



# Full wwPDB X-ray Structure Validation Report

Jun 16, 2014 – 07:48 PM BST

PDB ID : 4V9K  
Title : 70S ribosome translocation intermediate GDPNP-I containing elongation factor EFG/GDPNP, mRNA, and tRNA bound in the pe\*/E state.  
Authors : Zhou, J.; Lancaster, L.; Donohue, J.P.; Noller, H.F.  
Deposited on : 2013-04-24  
Resolution : 3.50 Å(reported)

This is a full wwPDB validation report for a publicly released PDB entry.  
We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)  
A user guide is available at <http://wwpdb.org/ValidationPDFNotes.html>

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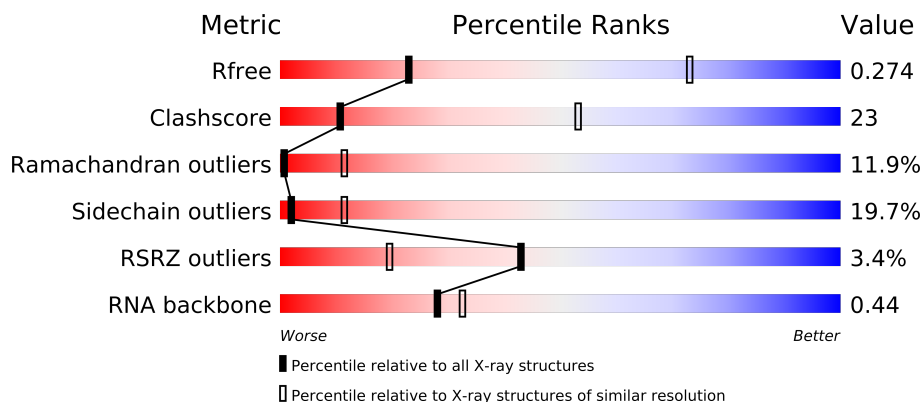
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity : 4.02b-467  
Mogul : 1.16 November 2013  
Xtriage (Phenix) : dev-1323  
EDS : stable23397  
Percentile statistics : 21963  
Refmac : 5.8.0049  
CCP4 : 6.3.0 (Settle)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)  
Validation Pipeline (wwPDB-VP) : stable23397

# 1 Overall quality at a glance

The reported resolution of this entry is 3.50 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	66092	1243 (3.70-3.30)
Clashscore	79885	1039 (3.66-3.34)
Ramachandran outliers	78287	1000 (3.66-3.34)
Sidechain outliers	78261	1000 (3.66-3.34)
RSRZ outliers	66119	1243 (3.70-3.30)
RNA backbone	1838	1007 (4.22-2.76)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density.

Mol	Chain	Length	Quality of chain
1	AB	235	
1	CB	235	
2	AC	207	
2	CC	207	
3	AD	208	
3	CD	208	
4	AE	151	
4	CE	151	
5	AF	101	
5	CF	101	
6	AG	155	
6	CG	155	

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Mol	Chain	Length	Quality of chain
7	AH	138	
7	CH	138	
8	AI	127	
8	CI	127	
9	AJ	99	
9	CJ	99	
10	AK	119	
10	CK	119	
11	AL	125	
11	CL	125	
12	AM	125	
12	CM	125	
13	AN	60	
13	CN	60	
14	AO	88	
14	CO	88	
15	AP	84	
15	CP	84	
16	AQ	100	
16	CQ	100	
17	AR	70	
17	CR	70	
18	AS	79	
18	CS	79	
19	AT	99	
19	CT	99	
20	AY	687	
20	CY	687	
21	AA	1511	
21	CA	1511	
22	AW	77	
22	CW	77	
23	AV	23	
23	CV	23	
24	AU	6	
24	CU	6	
25	BC	228	
25	DC	228	
26	BD	275	
26	DD	275	
27	BE	205	
27	DE	205	

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Mol	Chain	Length	Quality of chain
28	BF	208	
28	DF	208	
29	BG	181	
29	DG	181	
30	BH	167	
30	DH	167	
31	BJ	170	
31	DJ	170	
32	BK	140	
32	DK	140	
33	BN	138	
33	DN	138	
34	BO	122	
34	DO	122	
35	BP	146	
35	DP	146	
36	BQ	141	
36	DQ	141	
37	BR	117	
37	DR	117	
38	BS	99	
38	DS	99	
39	BT	138	
39	DT	138	
40	BU	117	
40	DU	117	
41	BV	101	
41	DV	101	
42	BW	113	
42	DW	113	
43	BX	93	
43	DX	93	
44	BY	107	
44	DY	107	
45	BZ	185	
45	DZ	185	
46	B0	84	
46	D0	84	
47	B2	71	
47	D2	71	
48	B3	60	
48	D3	60	

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Mol	Chain	Length	Quality of chain
49	B5	59	
49	D5	59	
50	B6	50	
50	D6	50	
51	B7	49	
51	D7	49	
52	B8	64	
52	D8	64	
53	B9	37	
53	D9	37	
54	Bf	31	
54	Bg	31	
54	Df	31	
54	Dg	31	
55	Bh	30	
55	Dh	30	
56	B1	93	
56	D1	93	
57	B4	35	
57	D4	35	
58	Be	102	
58	De	102	
59	BA	2879	
59	DA	2879	
60	BB	119	
60	DB	119	

## 2 Entry composition

There are 62 unique types of molecules in this entry. The entry contains 308422 atoms, of which 0 are hydrogen and 0 are deuterium.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	AB	235	Total	C	N	O	S	0	0	0
			1910	1218	342	345	5			
1	CB	235	Total	C	N	O	S	0	0	0
			1910	1218	342	345	5			

- Molecule 2 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	AC	207	Total	C	N	O	S	0	0	0
			1621	1022	315	283	1			
2	CC	207	Total	C	N	O	S	0	0	0
			1621	1022	315	283	1			

- Molecule 3 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	AD	208	Total	C	N	O	S	0	0	0
			1703	1066	339	291	7			
3	CD	208	Total	C	N	O	S	0	0	0
			1703	1066	339	291	7			

- Molecule 4 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	AE	151	Total	C	N	O	S	0	0	0
			1156	729	218	205	4			
4	CE	151	Total	C	N	O	S	0	0	0
			1156	729	218	205	4			

- Molecule 5 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	AF	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			
5	CF	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			

- Molecule 6 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	AG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			
6	CG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			

- Molecule 7 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	AH	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			
7	CH	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			

- Molecule 8 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
8	AI	127	Total	C	N	O	0	0	0
			1011	639	198	174			
8	CI	127	Total	C	N	O	0	0	0
			1011	639	198	174			

- Molecule 9 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	AJ	99	Total	C	N	O	S	0	0	0
			802	504	157	140	1			
9	CJ	99	Total	C	N	O	S	0	0	0
			802	504	157	140	1			

- Molecule 10 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	AK	119	Total	C	N	O	S	0	0	0
			885	549	168	165	3			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	CK	119	Total	C	N	O	S	0	0	0
			885	549	168	165	3			

- Molecule 11 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	AL	125	Total	C	N	O	S	0	0	0
			976	614	196	165	1			
11	CL	125	Total	C	N	O	S	0	0	0
			976	614	196	165	1			

- Molecule 12 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	AM	125	Total	C	N	O	S	0	0	0
			997	617	207	171	2			
12	CM	125	Total	C	N	O	S	0	0	0
			997	617	207	171	2			

- Molecule 13 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	AN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			
13	CN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			

- Molecule 14 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	AO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			
14	CO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			

- Molecule 15 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	AP	84	Total	C	N	O	S	0	0	0
			706	446	140	119	1			
15	CP	84	Total	C	N	O	S	0	0	0
			706	446	140	119	1			

- Molecule 16 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	AQ	100	Total	C	N	O	S	0	0	0
			835	534	156	143	2			
16	CQ	100	Total	C	N	O	S	0	0	0
			835	534	156	143	2			

- Molecule 17 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	AR	70	Total	C	N	O		0	0	0
			574	367	112	95				
17	CR	70	Total	C	N	O		0	0	0
			574	367	112	95				

- Molecule 18 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	AS	79	Total	C	N	O	S	0	0	0
			634	405	115	112	2			
18	CS	79	Total	C	N	O	S	0	0	0
			634	405	115	112	2			

- Molecule 19 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	AT	99	Total	C	N	O	S	0	0	0
			762	469	162	129	2			
19	CT	99	Total	C	N	O	S	0	0	0
			762	469	162	129	2			

- Molecule 20 is a protein called Elongation factor G.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	AY	687	Total	C	N	O	S	0	0	0
			5380	3414	922	1024	20			
20	CY	687	Total	C	N	O	S	0	0	0
			5380	3414	922	1024	20			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AY	129	LYS	HIS	CONFLICT	UNP Q72I01

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Chain	Residue	Modelled	Actual	Comment	Reference
AY	226	ASN	HIS	CONFLICT	UNP Q72I01
CY	129	LYS	HIS	CONFLICT	UNP Q72I01
CY	226	ASN	HIS	CONFLICT	UNP Q72I01

- Molecule 21 is a RNA chain called ribosomal RNA 16S.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	AA	1511	Total	C	N	O	P	0	0	0
			32474	14455	6015	10494	1510			
21	CA	1511	Total	C	N	O	P	0	0	0
			32474	14455	6015	10494	1510			

- Molecule 22 is a RNA chain called transfer RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	AW	77	Total	C	N	O	P	0	0	0
			1635	732	291	536	76			
22	CW	77	Total	C	N	O	P	0	0	0
			1635	732	291	536	76			

- Molecule 23 is a RNA chain called messenger RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	AV	23	Total	C	N	O	P	0	0	0
			503	227	106	148	22			
23	CV	23	Total	C	N	O	P	0	0	0
			503	227	106	148	22			

- Molecule 24 is a protein called VIOMYCIN.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
24	AU	6	Total	C	N	O	0	0	0
			48	25	13	10			
24	CU	6	Total	C	N	O	0	0	0
			48	25	13	10			

- Molecule 25 is a protein called 50S ribosomal protein L1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	BC	228	Total	C	N	O	S	0	0	0
			1742	1101	319	319	3			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	DC	228	Total	C	N	O	S	0	0	0
			1742	1101	319	319	3			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BC	20	VAL	ILE	CONFLICT	UNP Q72GV9
BC	28	ARG	HIS	CONFLICT	UNP Q72GV9
DC	20	VAL	ILE	CONFLICT	UNP Q72GV9
DC	28	ARG	HIS	CONFLICT	UNP Q72GV9

- Molecule 26 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	BD	275	Total	C	N	O	S	0	0	0
			2145	1353	428	361	3			
26	DD	275	Total	C	N	O	S	0	0	0
			2145	1353	428	361	3			

- Molecule 27 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	BE	205	Total	C	N	O	S	0	0	0
			1569	991	300	272	6			
27	DE	205	Total	C	N	O	S	0	0	0
			1569	991	300	272	6			

- Molecule 28 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	BF	208	Total	C	N	O	S	0	0	0
			1628	1037	304	284	3			
28	DF	208	Total	C	N	O	S	0	0	0
			1628	1037	304	284	3			

There are 10 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BF	2	LYS	-	INSERTION	UNP Q72I05
BF	3	GLU	-	INSERTION	UNP Q72I05
BF	4	VAL	-	INSERTION	UNP Q72I05

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Chain	Residue	Modelled	Actual	Comment	Reference
BF	5	ALA	-	INSERTION	UNP Q72I05
BF	6	VAL	-	INSERTION	UNP Q72I05
DF	2	LYS	-	INSERTION	UNP Q72I05
DF	3	GLU	-	INSERTION	UNP Q72I05
DF	4	VAL	-	INSERTION	UNP Q72I05
DF	5	ALA	-	INSERTION	UNP Q72I05
DF	6	VAL	-	INSERTION	UNP Q72I05

- Molecule 29 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	BG	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			
29	DG	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BG	5	VAL	LEU	CONFLICT	UNP Q72I16
DG	5	VAL	LEU	CONFLICT	UNP Q72I16

- Molecule 30 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	BH	167	Total	C	N	O	S	0	0	0
			1274	806	238	229	1			
30	DH	167	Total	C	N	O	S	0	0	0
			1274	806	238	229	1			

- Molecule 31 is a protein called 50S RIBOSOMAL PROTEIN L10.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
31	BJ	170	Total	C	N	O	0	0	0
			851	510	170	171			
31	DJ	170	Total	C	N	O	0	0	0
			851	510	170	171			

- Molecule 32 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	BK	140	Total	C	N	O	S	0	0	0
			1035	659	183	188	5			
32	DK	140	Total	C	N	O	S	0	0	0
			1035	659	183	188	5			

- Molecule 33 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	BN	138	Total	C	N	O	S	0	0	0
			1104	712	206	182	4			
33	DN	138	Total	C	N	O	S	0	0	0
			1104	712	206	182	4			

- Molecule 34 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	BO	122	Total	C	N	O	S	0	0	0
			933	588	171	170	4			
34	DO	122	Total	C	N	O	S	0	0	0
			933	588	171	170	4			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BO	69	ILE	VAL	CONFLICT	UNP Q72I14
DO	69	ILE	VAL	CONFLICT	UNP Q72I14

- Molecule 35 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	BP	146	Total	C	N	O	S	0	0	0
			1114	692	227	193	2			
35	DP	146	Total	C	N	O	S	0	0	0
			1114	692	227	193	2			

- Molecule 36 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	BQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			
36	DQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BQ	32	TYR	PHE	CONFLICT	UNP Q72I11
DQ	32	TYR	PHE	CONFLICT	UNP Q72I11

- Molecule 37 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
37	BR	117	Total	C	N	O	0	0	0
			960	599	202	159			
37	DR	117	Total	C	N	O	0	0	0
			960	599	202	159			

- Molecule 38 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
38	BS	99	Total	C	N	O	0	0	0
			775	488	155	132			
38	DS	99	Total	C	N	O	0	0	0
			775	488	155	132			

- Molecule 39 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	BT	138	Total	C	N	O	S	0	0	0
			1147	713	235	198	1			
39	DT	138	Total	C	N	O	S	0	0	0
			1147	713	235	198	1			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BT	123	GLN	LYS	CONFLICT	UNP Q72JU9
BT	135	ALA	VAL	CONFLICT	UNP Q72JU9
DT	123	GLN	LYS	CONFLICT	UNP Q72JU9
DT	135	ALA	VAL	CONFLICT	UNP Q72JU9

- Molecule 40 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	BU	117	Total	C	N	O	S	0	0	0
			964	610	202	151	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	DU	117	Total	C	N	O	S	0	0	0
			964	610	202	151	1			

- Molecule 41 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	BV	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			
41	DV	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			

- Molecule 42 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	BW	113	Total	C	N	O	S	0	0	0
			900	566	177	155	2			
42	DW	113	Total	C	N	O	S	0	0	0
			900	566	177	155	2			

- Molecule 43 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
43	BX	93	Total	C	N	O	0	0	0
			734	477	132	125			
43	DX	93	Total	C	N	O	0	0	0
			734	477	132	125			

- Molecule 44 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	BY	107	Total	C	N	O	S	0	0	0
			818	524	155	134	5			
44	DY	107	Total	C	N	O	S	0	0	0
			818	524	155	134	5			

- Molecule 45 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	BZ	185	Total	C	N	O	S	0	0	0
			1473	939	262	270	2			
45	DZ	185	Total	C	N	O	S	0	0	0
			1473	939	262	270	2			

- Molecule 46 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
46	B0	84	Total	C	N	O	S	0	0	0
			662	410	140	111	1			
46	D0	84	Total	C	N	O	S	0	0	0
			662	410	140	111	1			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B0	11	ARG	LYS	CONFLICT	UNP Q72HR3
D0	11	ARG	LYS	CONFLICT	UNP Q72HR3

- Molecule 47 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
47	B2	71	Total	C	N	O	S	0	0	0
			598	370	121	106	1			
47	D2	71	Total	C	N	O	S	0	0	0
			598	370	121	106	1			

- Molecule 48 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
48	B3	60	Total	C	N	O	S	0	0	0
			477	303	91	82	1			
48	D3	60	Total	C	N	O	S	0	0	0
			477	303	91	82	1			

- Molecule 49 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
49	B5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			
49	D5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B5	29	THR	ILE	CONFLICT	UNP P62652
D5	29	THR	ILE	CONFLICT	UNP P62652

- Molecule 50 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
50	B6	50	Total	C	N	O	S	0	0	0
			433	270	88	71	4			
50	D6	50	Total	C	N	O	S	0	0	0
			433	270	88	71	4			

- Molecule 51 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
51	B7	49	Total	C	N	O	S	0	0	0
			430	263	108	57	2			
51	D7	49	Total	C	N	O	S	0	0	0
			430	263	108	57	2			

- Molecule 52 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
52	B8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			
52	D8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			

- Molecule 53 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	B9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			
53	D9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			

- Molecule 54 is a protein called 50S RIBOSOMAL PROTEIN L7/L12.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
54	Bf	31	Total	C	N	O	0	0	0
			156	93	31	32			
54	Bg	31	Total	C	N	O	0	0	0
			156	93	31	32			
54	Df	31	Total	C	N	O	0	0	0
			156	93	31	32			
54	Dg	31	Total	C	N	O	0	0	0
			156	93	31	32			

- Molecule 55 is a protein called 50S RIBOSOMAL PROTEIN L7/L12.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
55	Bh	30	Total	C	N	O	0	0	0
			151	90	30	31			
55	Dh	30	Total	C	N	O	0	0	0
			151	90	30	31			

- Molecule 56 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
56	B1	93	Total	C	N	O	S	0	0	0
			732	460	145	126	1			
56	D1	93	Total	C	N	O	S	0	0	0
			732	460	145	126	1			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B1	81	LYS	ARG	CONFLICT	UNP Q72G84
D1	81	LYS	ARG	CONFLICT	UNP Q72G84

- Molecule 57 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
57	B4	35	Total	C	N	O	S	0	0	0
			271	174	44	50	3			
57	D4	35	Total	C	N	O	S	0	0	0
			271	174	44	50	3			

- Molecule 58 is a protein called 50S ribosomal protein L7/L12.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
58	Be	102	Total	C	N	O	0	0	0
			686	430	119	137			
58	De	102	Total	C	N	O	0	0	0
			686	430	119	137			

- Molecule 59 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
59	BA	2879	Total	C	N	O	P	0	0	0
			61997	27594	11582	19943	2878			

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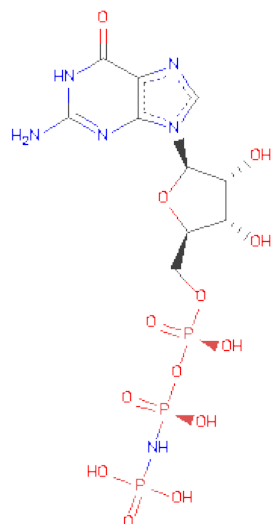
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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
59	DA	2879	Total	C	N	O	P	0	0	0
			61997	27594	11582	19943	2878			

- Molecule 60 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
60	BB	119	Total	C	N	O	P	0	0	0
			2551	1136	471	826	118			
60	DB	119	Total	C	N	O	P	0	0	0
			2551	1136	471	826	118			

- Molecule 61 is PHOSPHOAMINOPHOSPHONICACID-GUANYLATE ESTER (three-letter code: GNP) (formula:  $C_{10}H_{17}N_6O_{13}P_3$ ).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
61	AY	1	Total	C	N	O	P	0	0
			32	10	6	13	3		
61	CY	1	Total	C	N	O	P	0	0
			32	10	6	13	3		

- Molecule 62 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
62	AY	1	Total	Mg	0	0
			1	1		

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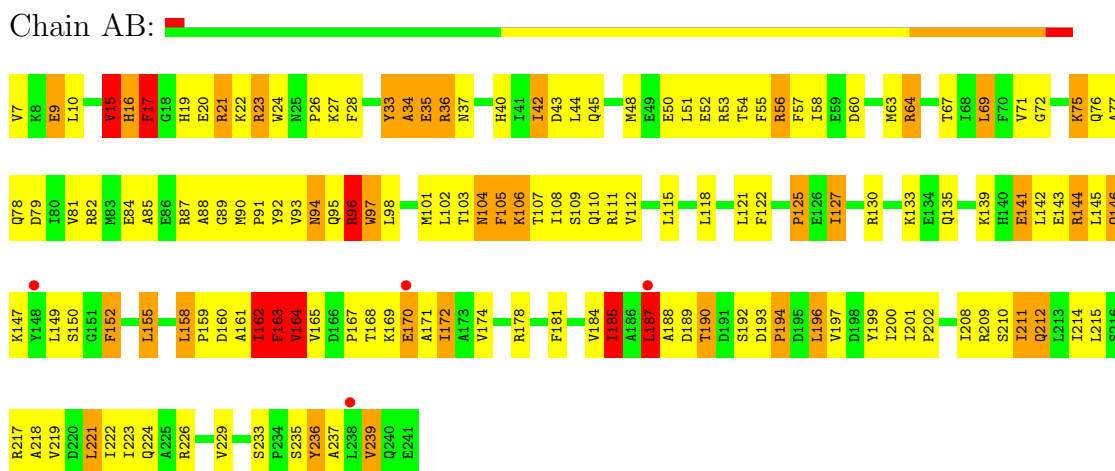
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
62	CY	1	Total	Mg	0	0
			1	1		

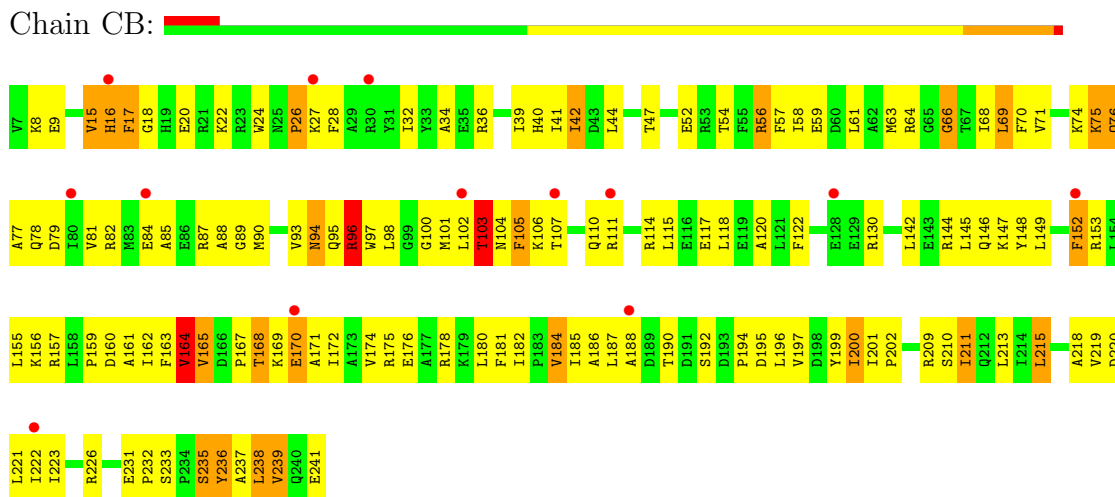
### 3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ( $RSRZ > 2$ ). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

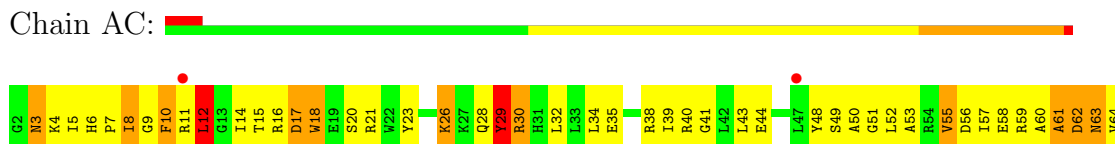
#### • Molecule 1: 30S ribosomal protein S2

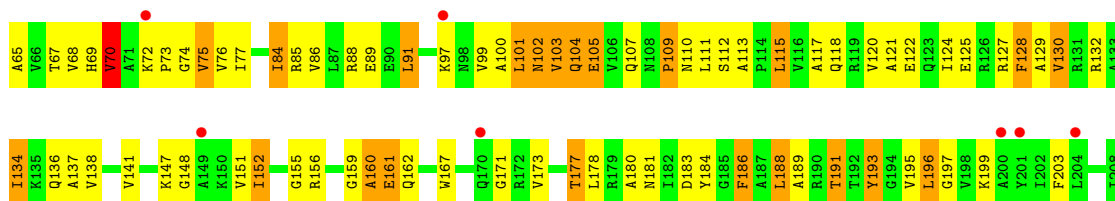


#### • Molecule 1: 30S ribosomal protein S2



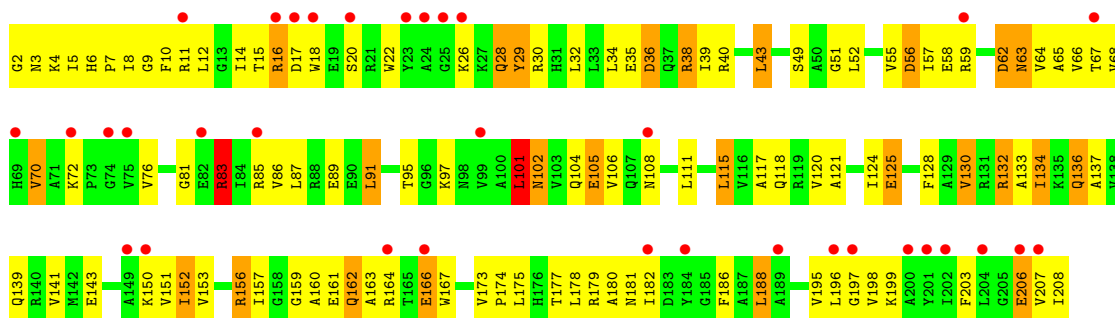
#### • Molecule 2: 30S ribosomal protein S3





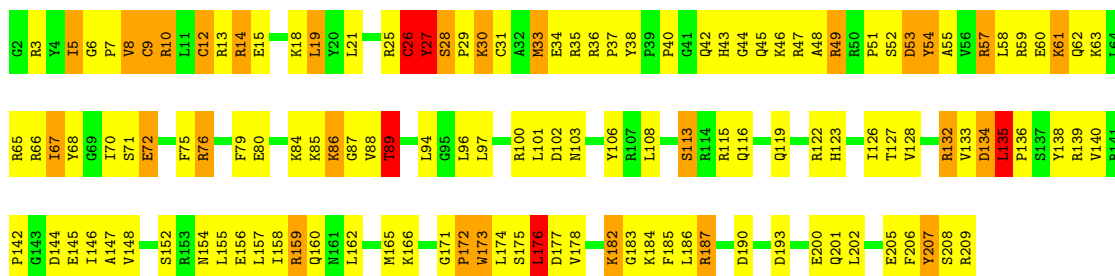
• Molecule 2: 30S ribosomal protein S3

Chain CC:



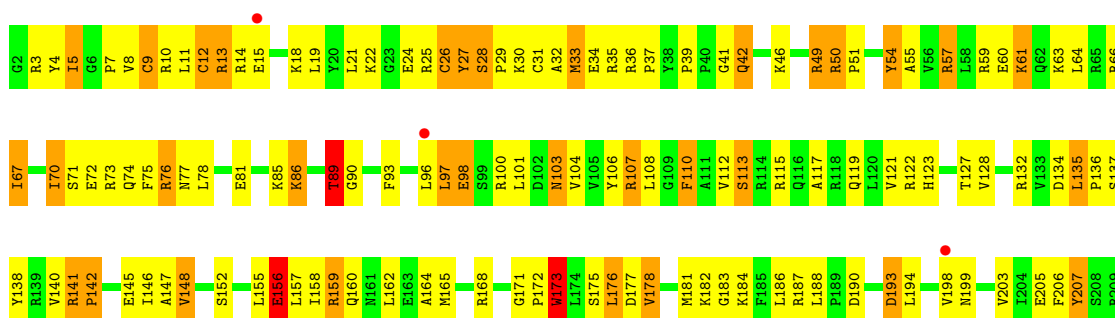
• Molecule 3: 30S ribosomal protein S4

Chain AD:



• Molecule 3: 30S ribosomal protein S4

Chain CD:



• Molecule 4: 30S ribosomal protein S5

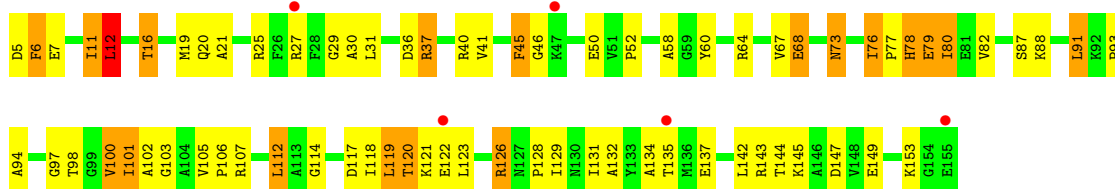
Chain AE:





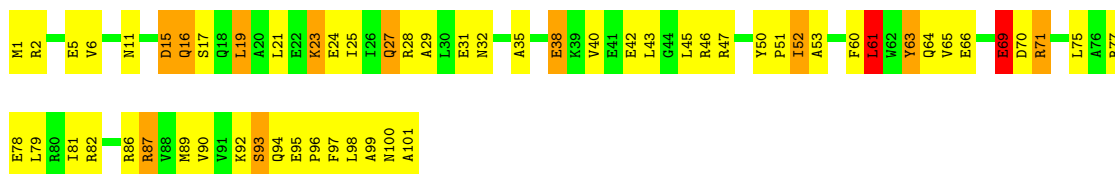
- Molecule 4: 30S ribosomal protein S5

Chain CE:



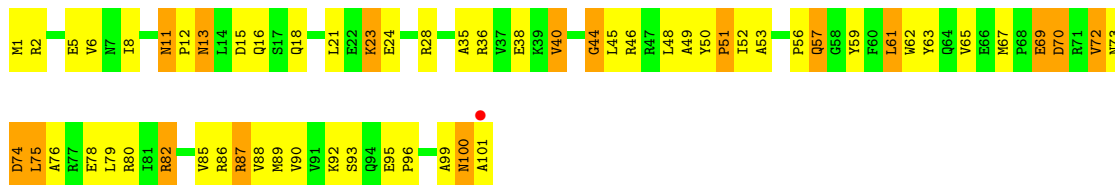
- Molecule 5: 30S ribosomal protein S6

Chain AF:



- Molecule 5: 30S ribosomal protein S6

Chain CF:



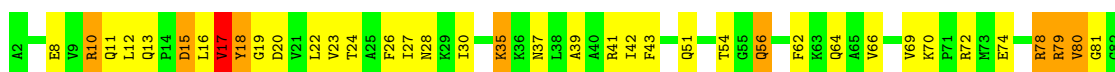
- Molecule 6: 30S ribosomal protein S7

Chain AG:



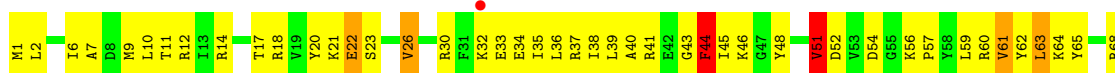
- Molecule 6: 30S ribosomal protein S7

Chain CG:



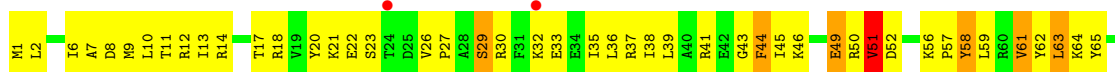
• Molecule 7: 30S ribosomal protein S8

Chain AH:



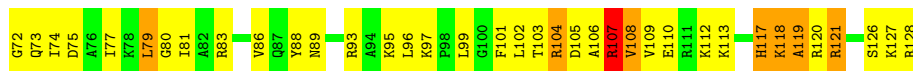
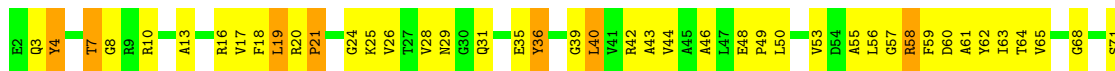
• Molecule 7: 30S ribosomal protein S8

Chain CH:



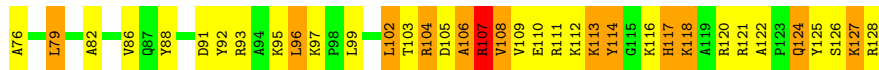
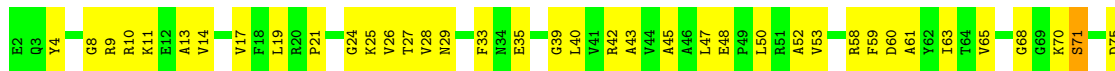
• Molecule 8: 30S ribosomal protein S9

Chain AI:



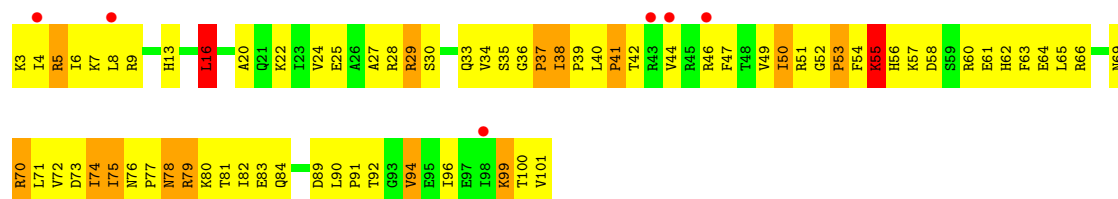
• Molecule 8: 30S ribosomal protein S9

Chain CI:



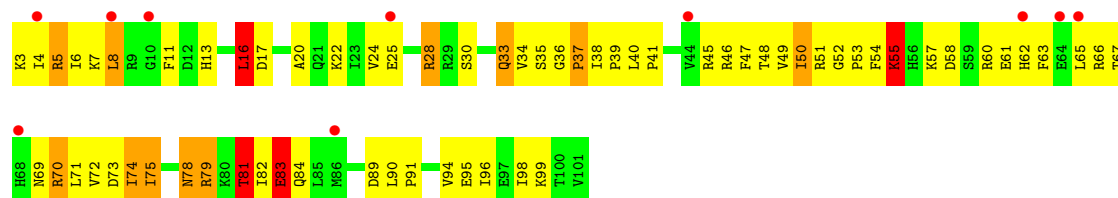
• Molecule 9: 30S ribosomal protein S10

Chain AJ: 



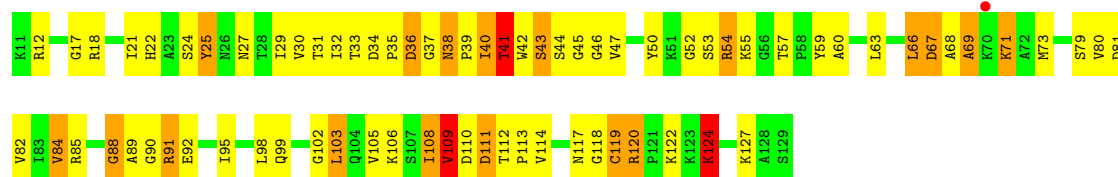
- Molecule 9: 30S ribosomal protein S10

Chain CJ: 



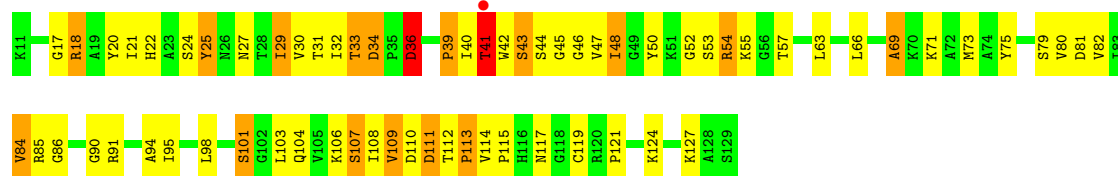
- Molecule 10: 30S ribosomal protein S11

Chain AK: 



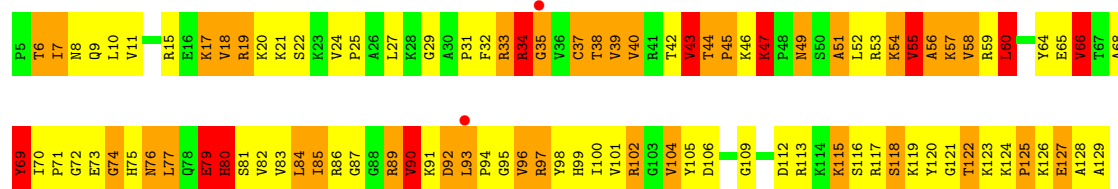
- Molecule 10: 30S ribosomal protein S11

Chain CK: 



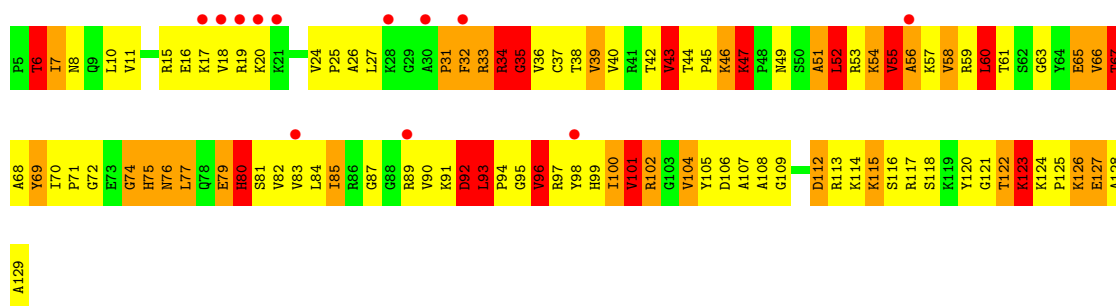
- Molecule 11: 30S ribosomal protein S12

Chain AL: 



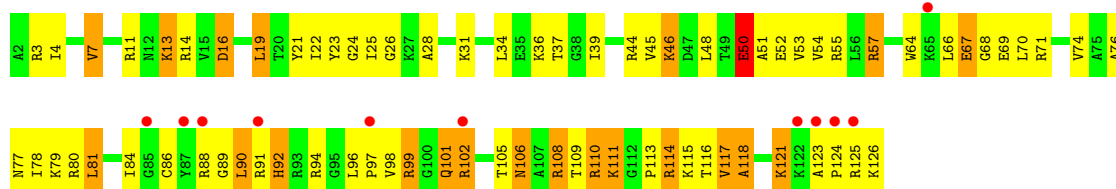
- Molecule 11: 30S ribosomal protein S12

Chain CL: 



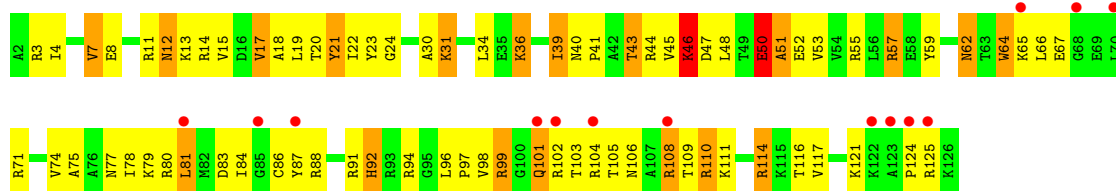
- Molecule 12: 30S ribosomal protein S13

Chain AM:



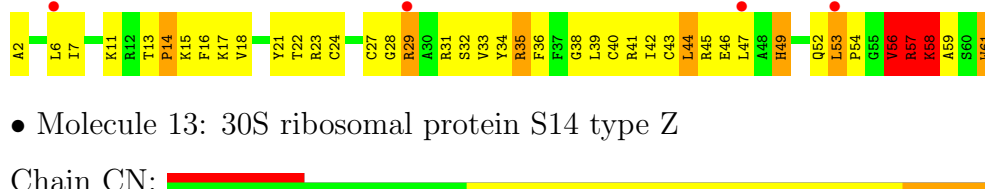
- Molecule 12: 30S ribosomal protein S13

Chain CM:



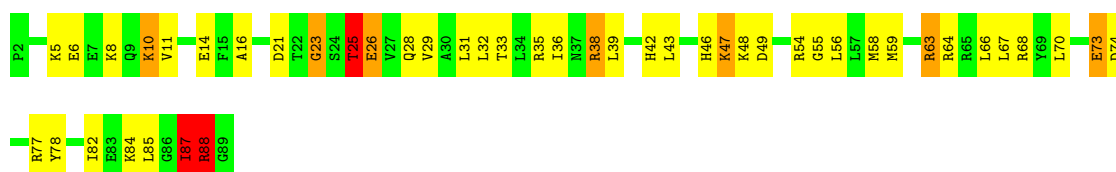
- Molecule 13: 30S ribosomal protein S14 type Z

Chain AN:

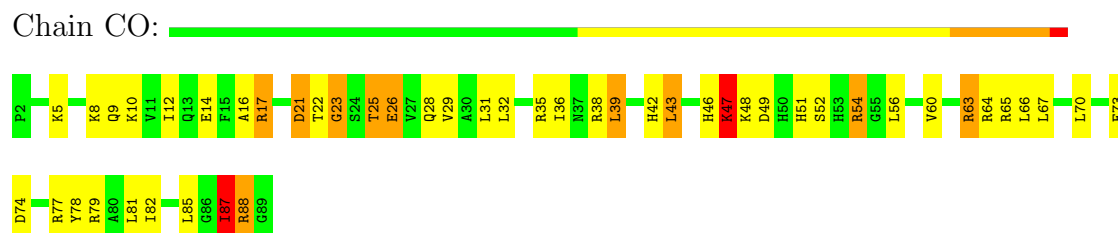


- Molecule 13: 30S ribosomal protein S14 type Z

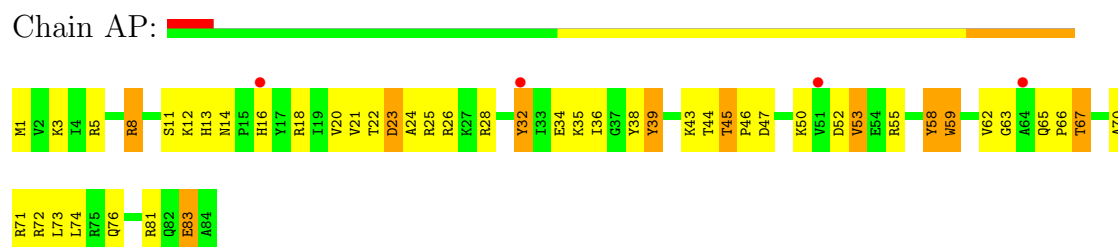
Chain CN:



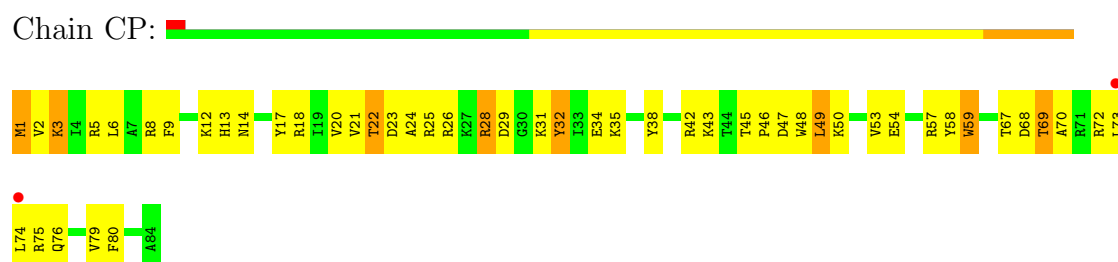
- Molecule 14: 30S ribosomal protein S15



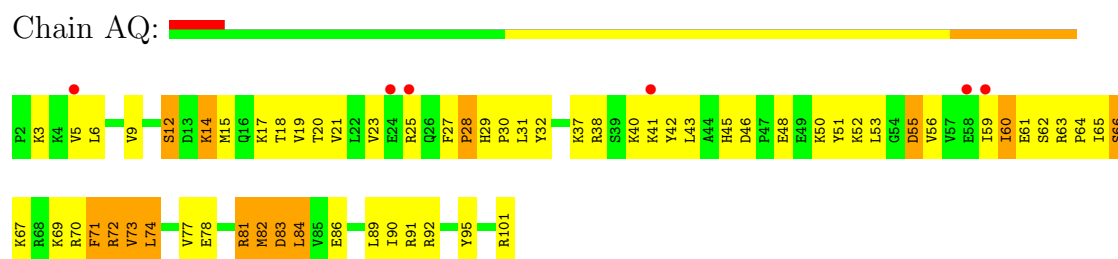
- Molecule 15: 30S ribosomal protein S16



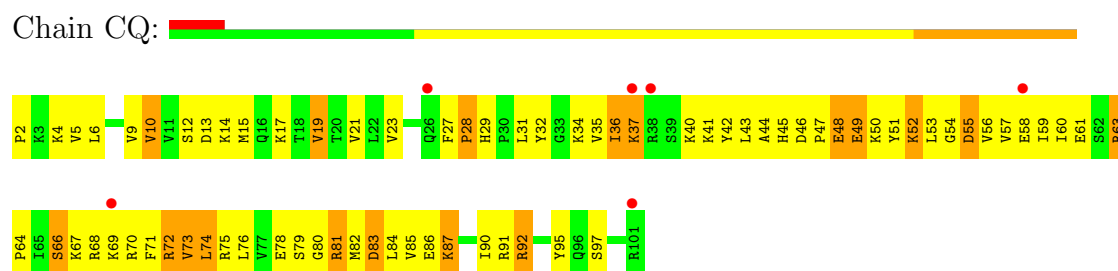
- Molecule 15: 30S ribosomal protein S16



- Molecule 16: 30S ribosomal protein S17



- Molecule 16: 30S ribosomal protein S17



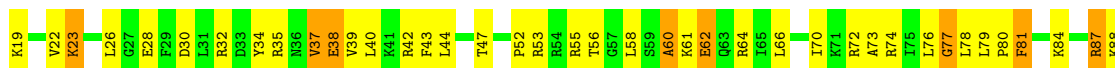
- Molecule 17: 30S ribosomal protein S18





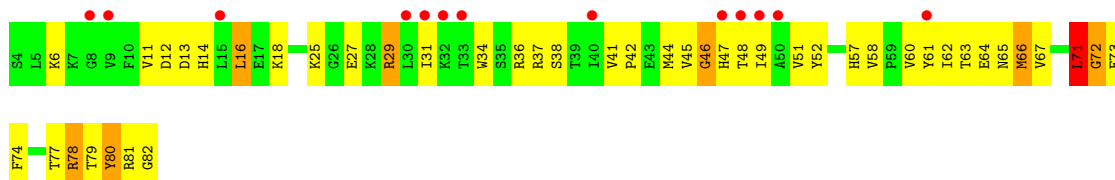
- Molecule 17: 30S ribosomal protein S18

Chain CR:



- Molecule 18: 30S ribosomal protein S19

Chain AS:



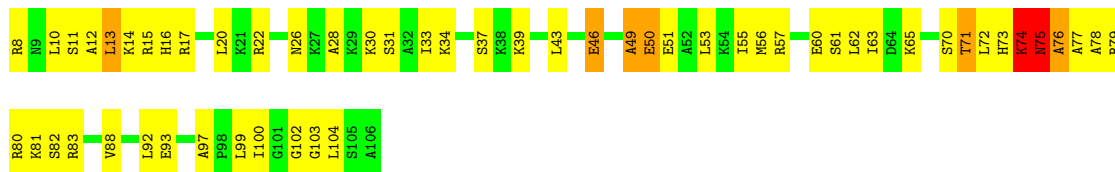
- Molecule 18: 30S ribosomal protein S19

Chain CS:



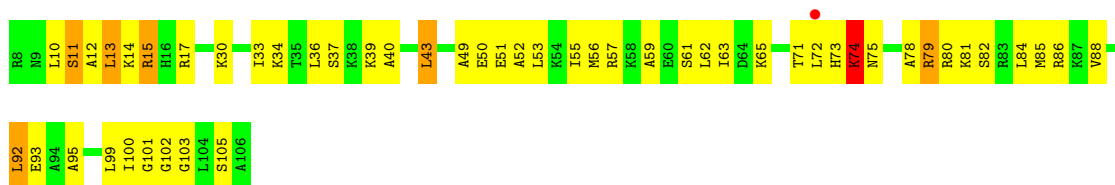
- Molecule 19: 30S ribosomal protein S20

Chain AT:



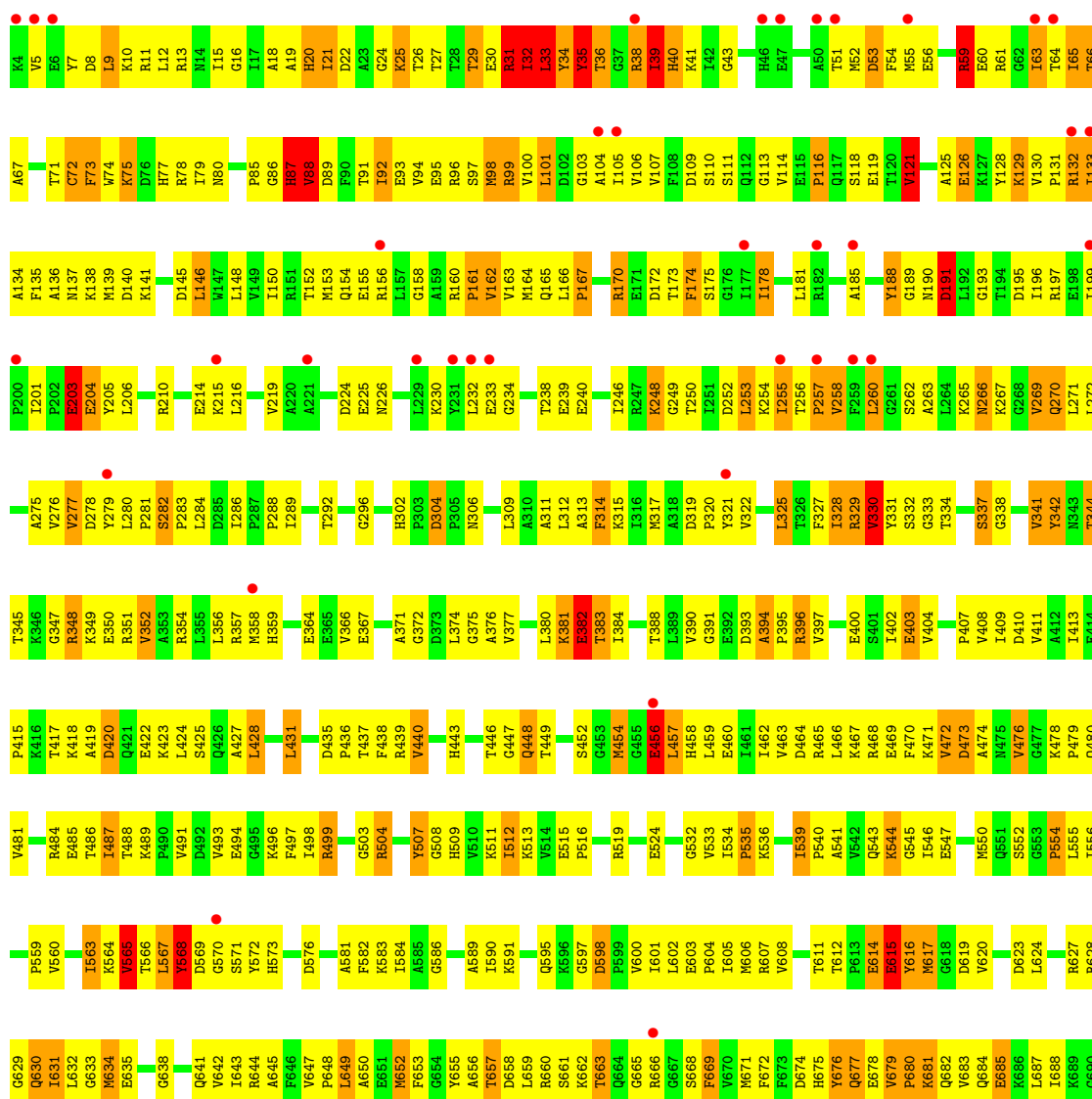
- Molecule 19: 30S ribosomal protein S20

Chain CT:



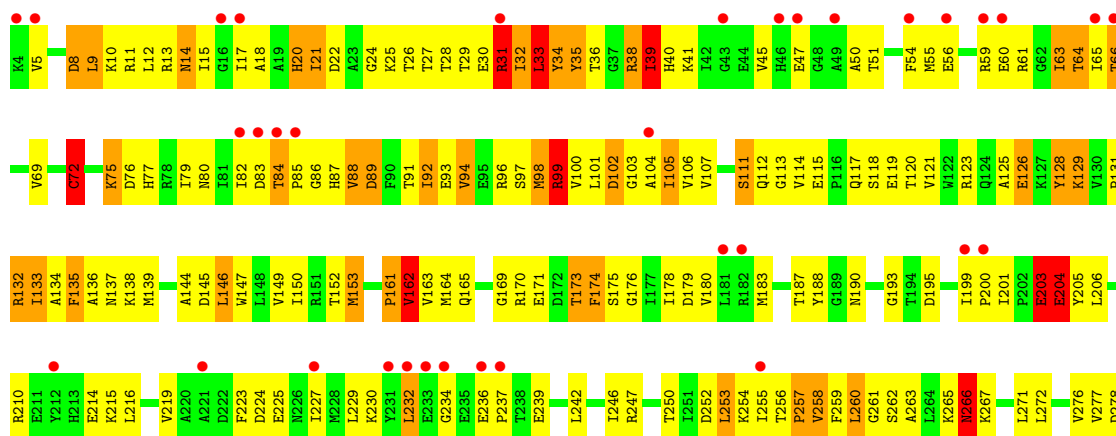
- Molecule 20: Elongation factor G

Chain AY:



• Molecule 20: Elongation factor G

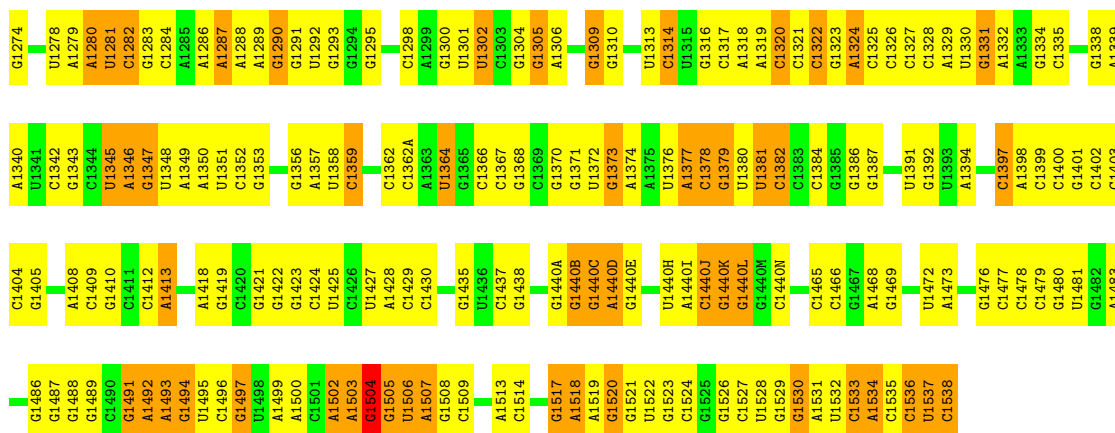
Chain CY:





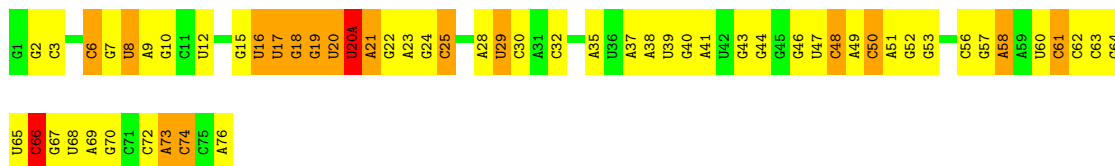


U1211	C1129	A1044	G976	A907	G829	C756	C680	C599	G590	A440	G362	U294	C218	A151	G688
U1212	A1130	C1045	A977	A908	U833	U757	C680	C600	U551	A441	U365	C295	C219	A152	C68F
A1213	G1131	U1049	C978	A909	U834	G758	A687	U603	A532	C442	U366	U296	C220	C153	G68G
G1214	C979	C834	C978	C910	C834	C762	G688	U604	A533	C443	U367	A298	C221	G156	G68H
G1215	C980	U911	G835	U911	U835	G763	G689	U605	U534	C444	U368	A299	G226	G157	G68I
G1216	C981	C912	G836	U912	G836	G764	G690	U606	A535	C445	U369	A300	U229	G158	G68J
C1217	U1136	C1054	G837	G916	G837	G765	G691	A608	C536	C446	C372	G301	G230	G159	G68K
C1218	U1137	A1055	C985	G917	G838	G766	U692	A609	G537	C447	C373	G302	G231	A160	U68L
U1219	G1138	U1056	A986	G918	U838A	A765	G693	G610	G538	C448	A374	A303	G232	A161	U68M
G1220	C1139	G1057	C986	A918	C838B	A767	G694	A610	G541	A452	A375	U304	G233	A162	U68N
G1221	C1140	U1058	U992	A919	U839C	A768	G695	G611	C542	A453	G376	G305	C234	G163	G68O
G1222	C1141	G1059	G993	U920	C948	G769	A696	C612	C543	U454	U387	G306	C235	G164	G68P
G1223	C1142	C1060	A994	U921	C949	G770	A697	C613	G544	C457	A382	C307	G236	C165	U68Q
G1224	G1143	G1061	C995	G922	U850	C771	U697	C614	C545	C458	A383	C308	U237	G166	G68R
A1225	G1144	U1062	U999	A923	G851	G772	C701	A614	C546	C459	A384	G309	C240	G167	C68S
C1226	C1145	C1063	C924	C924	G858	G773	A702	C615	C547	C459B	C385	G310	C241	G168	G68T
A1227	A1146	U1064	A1000	G925	A859	G774	A703	G616	A547	A458	C386	C311	A243	C169	C68Y
C1228	C1147	U1065	G1001	G926	A860	G775	A704	G617	C548	A459	U387	A312	U244	U170	G104
A1229	U1148	G1066	G1002	G927	A861	A777	A705	C620	C549	G475	G388	A313	C245	A171	G105
C1230	C1149	U1067	U1003	G928	C861	G778	U706	A621	U551	U480	A389	A314	G247	A172	G106
G1231	U1150	C1068	A1004	G929	U862	C779	C707	G628	U552	A481	C390	G316	G251	A173	G107
U1232	A1151	U1070	A1005	G933	U863	A780	A708	U710	A553	A482	C391	G317	G252	A174	C106
C1234	A1152	U1071	C1006	G934	A864	A781	C707	G629	C554	A483	G392	A321	G253	C176	G108
U1235	U1079	A1080	C1007	A935	A865	C784	G711	C634	C555	A484	G393	A322	G254	A175	A109
A1286	C1158	U1081	G1008	A936	C866	G785	A712	G635	C556	G485	G394	G323	G255	C177	C110
C1237	U1159	U1085	G1009	A937	C867	G786	G713	U636	U559	G490	A397	U323	U256	G111	G112
A1238	C1160	U1086	G1010	A938	C868	A787	G714	G637	C562	G491	C401	A324	G257	G113	G114
C1161	G1087	U1087	A1012	G939	U870	U788	A715	G642	C563	G492	C402	A325	G258	A185	C186
U1240	C1162	U1088	G1013	C940	U871	U789	A716	A643	C564	G493	C403	A326	G259	C186A	C186B
G1241	G1089	G1089	A1014	C941	A872	C717	C717	C643	C565	G494	C404	A327	G260	C186C	C186D
A1245	G1171	G1094	A1015	G942	A873	A792	G721	C644	C566	G495	C405	A328	A262	A116	G115
C1246	G1172	U1095	A1016	U943	A874	U793	A722	C645	U565	A496	C406	C330	A263	G117	G118
U1247	G1173	C1096	G1017	G944	C875	A794	U723	U646	G566	A497	C407	G331	U264	U119	U120
A1248	U1178	C1097	C1018	G945	C876	G724	U724	C647	G567	U498	C408	G332	G265	A120	A121
C1249	A1179	U1097	A1019	A946	C877	A802	G725	A648	C568	C501	G409	G333	G266	U186I	U186J
A1250	U1180	U1020	G1021	G947	C878	G803	C736	G649	C569	G505	G410	A338	C267	G186K	G186L
A1251	G1181	C1022	G1022	U950	C880	C805	A728	A653	A572	G506	A411	A339	C268	G186M	G186N
C1253	C1103	G1023	G881	G951	C881	G806	G730	G657	A573	C507	A412	U340	C269	U125	U126
G1254	G1187	G1024	C882	U952	C882	G809	C735	G658	A574	C508	A413	C341	G270	G126	G127
C1255	A1188	U1025	C883	G953	C883	C810	C736	U659	G575	A509	A414	A344	C271	U186P	U186Q
A1256	G1189	G1026	U884	G954	U884	C811	G736	G660	G576	A510	U423	C345	C272	G127	G128
U1257	C1107	C1027	G885	U955	G885	C812	A737	G661	C577	C511	C422	C346	A273	G191	G192
G1258	G1108	U1028	A889	U960	A889	U813	C738	A663	C578	U512	G423	G346	C277	U129	U130
C1259	C1109	C1028A	G890	U961	C890	A814	G739	G664	U580	C513	G424	G347	G278	A130	A131
U1194	A1110	U1028B	C962	C962	U891	A815	G741	A665	G581	C514	G425	G348	A279	C194	C195
C1195	C1111	G1028C	A892	G963	A892	A816	G742	G666	U582	C515	U427	A351	C280	A196	A197
U1196	C1114	A1028F	C893	G964	C893	C817	U743	G667	A583	G518	U428	C352	G281	A198	A199
C1262	C1115	G1028G	G894	G965	G894	G818	C744	G668	G584	G521	U429	A353	G286	C136	C137
C1263	G1197	U1028H	G895	G966	G895	A819	C745	U669	C586	C522	A431	A354	U287	G200	G201
G1265	C1118	G1028I	G896	A968	G896	U820	G746	G670	U587	C523	A432	C355	G288	C201A	U201B
A1204	C1119	A1035	C999	A969	C999	G821	C748	G671	C590	G524	A433	A356	G289	U201C	G291
U1205	G1036	G1036	A900	C970	A900	G821	C749	G672	C525	G525	A434	G357	C290	U201D	G292
A1268	G1206	C1037	G971	G971	A901	G824	G750	U673	C526	G527	C435	U358	C291	G144	G145
C1270	G1207	U1125	C972	C972	G902	G825	G751	G674	C527	G528	C436	U359	C292	G146	G147
G1271	C1208	U1126	G973	G973	G903	G826	A753	G675	G597	C529	U437	A360	G293	C217	C218
U1272	C1209	G1127	A974	A974	G904	U827	C754	A676	U598	G529	G438	G361			
G1273	C1210	C1128	G906	A975	G906	A828	G755	U677							



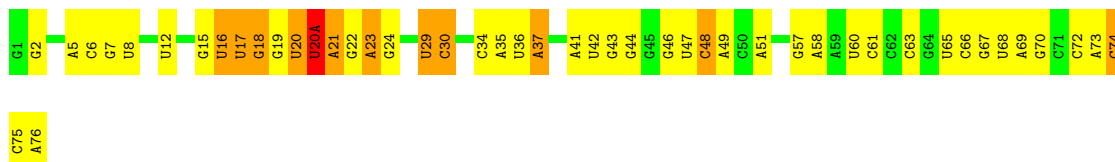
- Molecule 22: transfer RNA

Chain AW: 



- Molecule 22: transfer RNA

Chain CW: 



- Molecule 23: messenger RNA

Chain AV: 



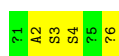
- Molecule 23: messenger RNA

Chain CV: 



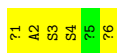
- Molecule 24: VIOMYCIN

Chain AU: 



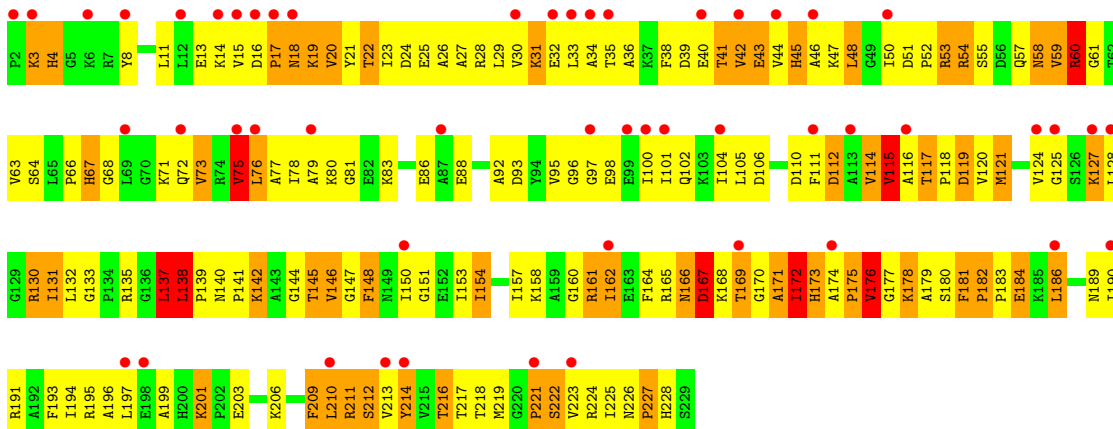
- Molecule 24: VIOMYCIN

Chain CU:



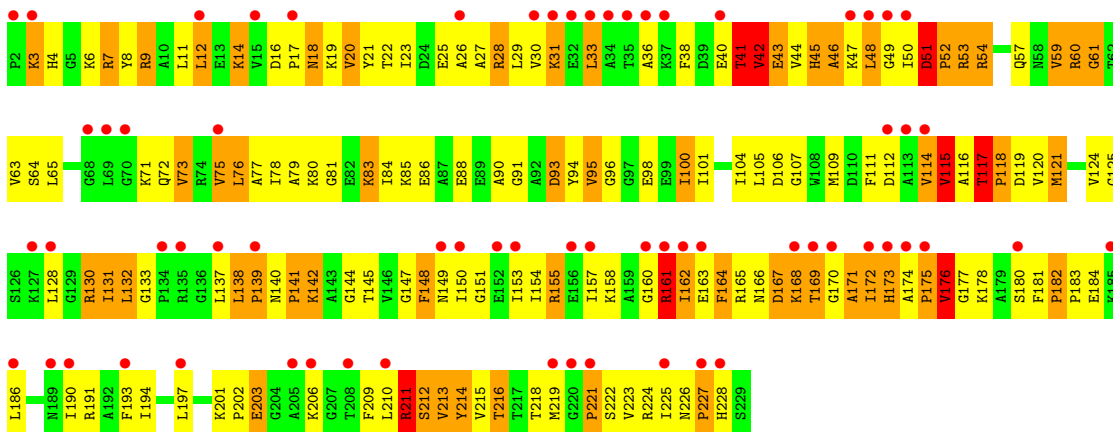
- Molecule 25: 50S ribosomal protein L1

Chain BC:



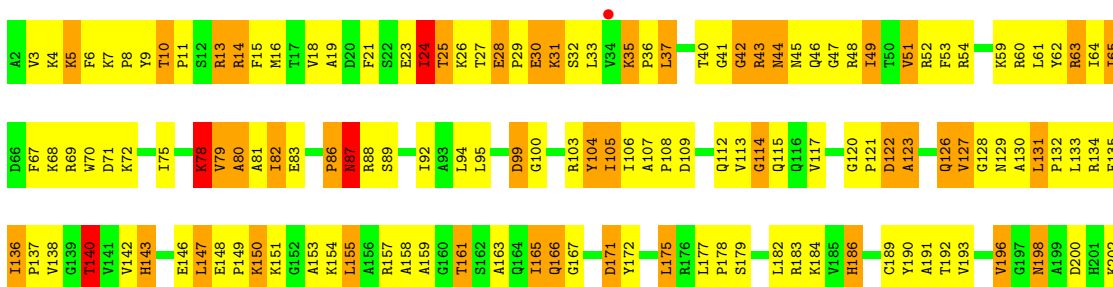
- Molecule 25: 50S ribosomal protein L1

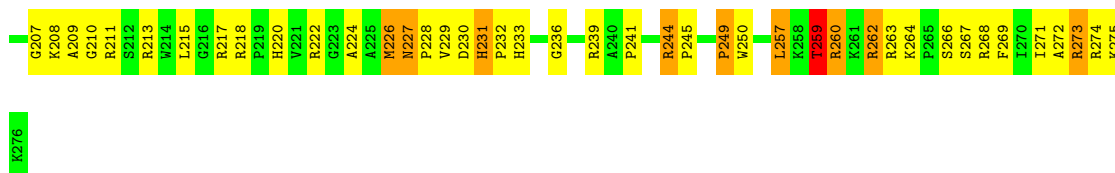
Chain DC:



- Molecule 26: 50S ribosomal protein L2

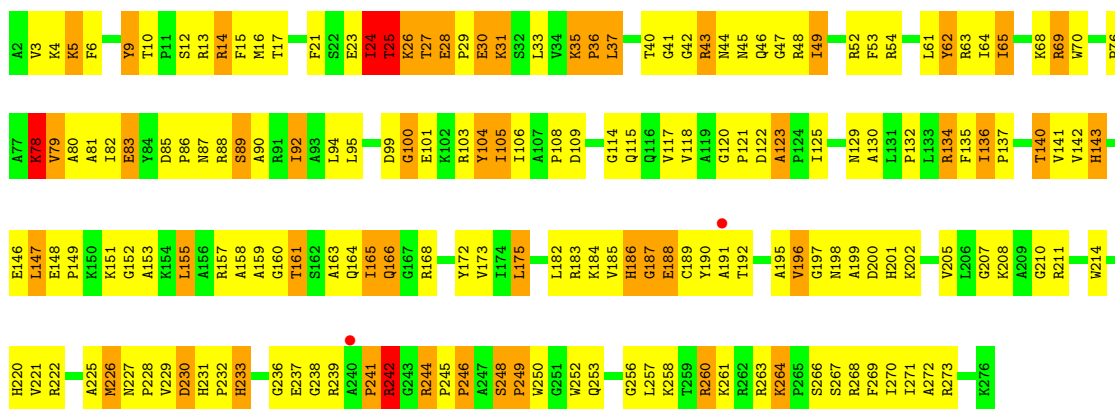
Chain BD:





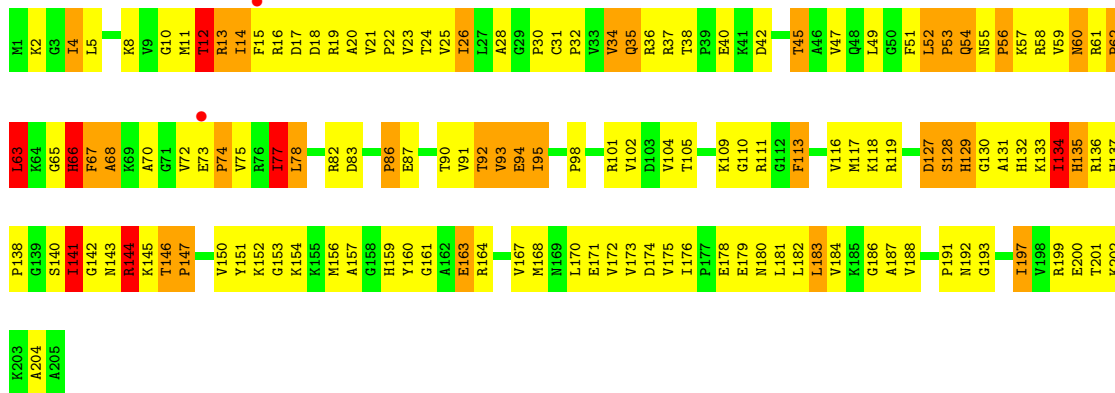
- Molecule 26: 50S ribosomal protein L2

Chain DD: ■



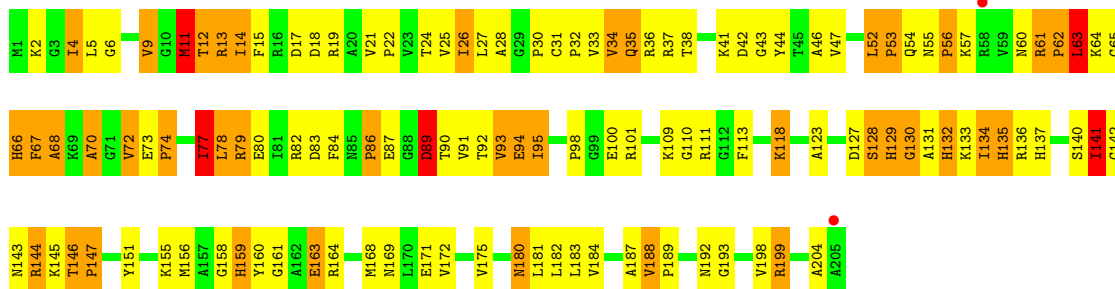
- Molecule 27: 50S ribosomal protein L3

Chain BE: ■



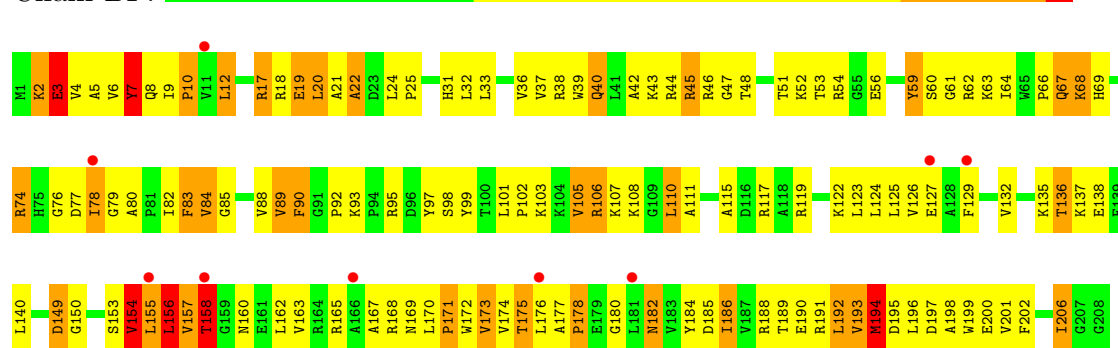
- Molecule 27: 50S ribosomal protein L3

Chain DE: ■



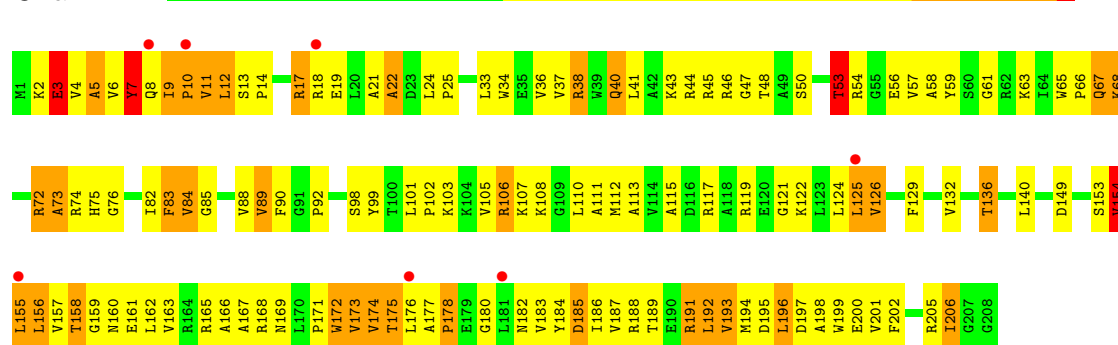
- Molecule 28: 50S ribosomal protein L4

Chain BF:



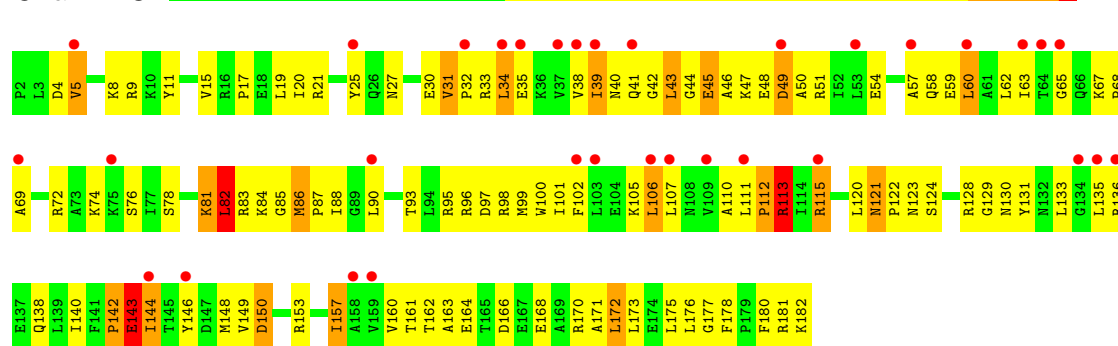
- Molecule 28: 50S ribosomal protein L4

Chain DF:



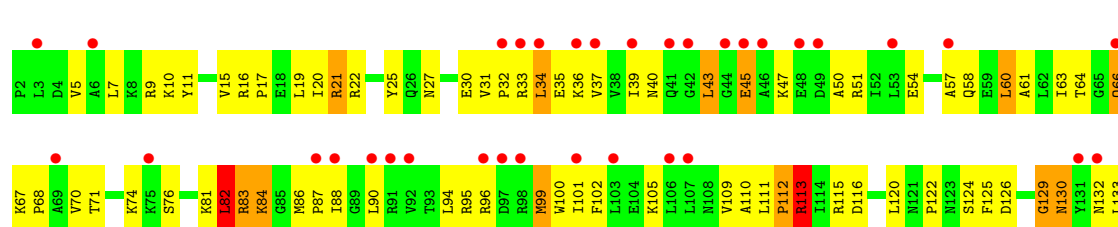
- Molecule 29: 50S ribosomal protein L5

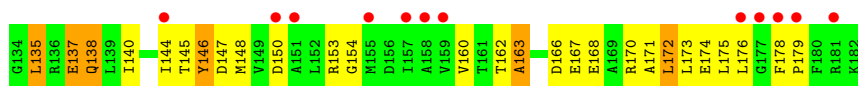
Chain BG:



- Molecule 29: 50S ribosomal protein L5

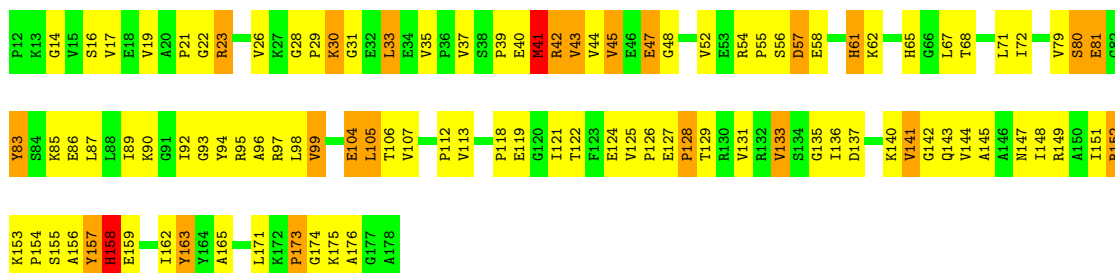
Chain DG:





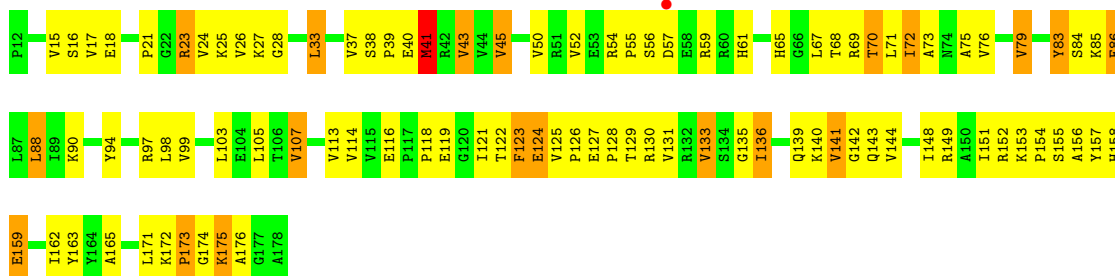
- Molecule 30: 50S ribosomal protein L6

Chain BH:



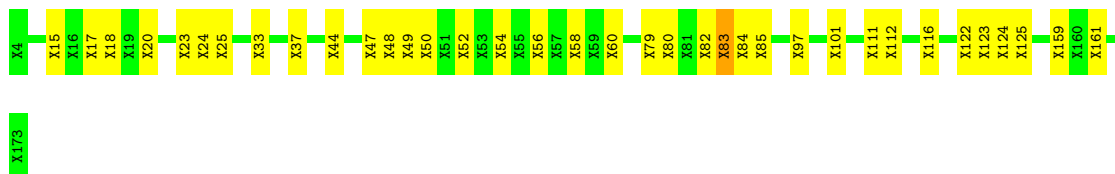
- Molecule 30: 50S ribosomal protein L6

Chain DH:



- Molecule 31: 50S RIBOSOMAL PROTEIN L10

Chain BJ:



- Molecule 31: 50S RIBOSOMAL PROTEIN L10

Chain DJ:



- Molecule 32: 50S ribosomal protein L11

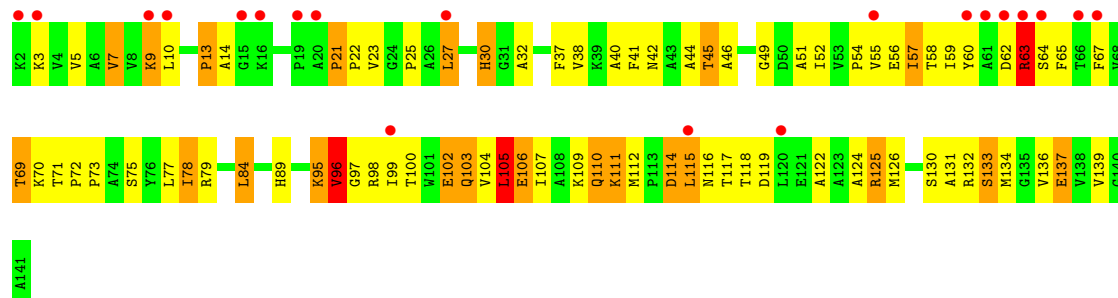
Chain BK:





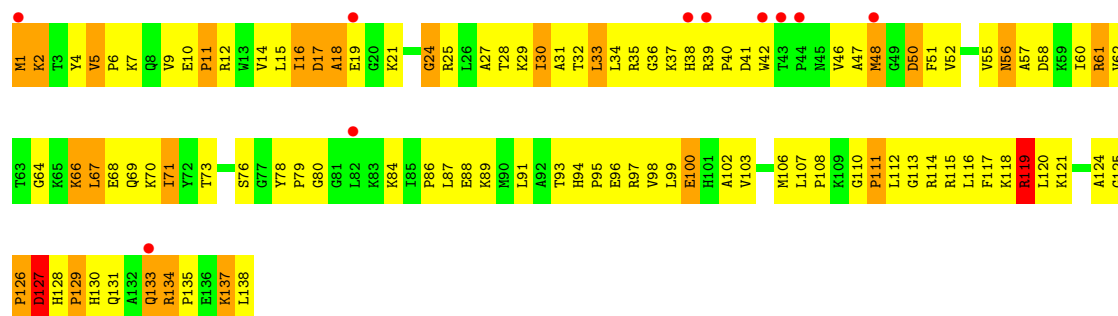
• Molecule 32: 50S ribosomal protein L11

Chain DK:



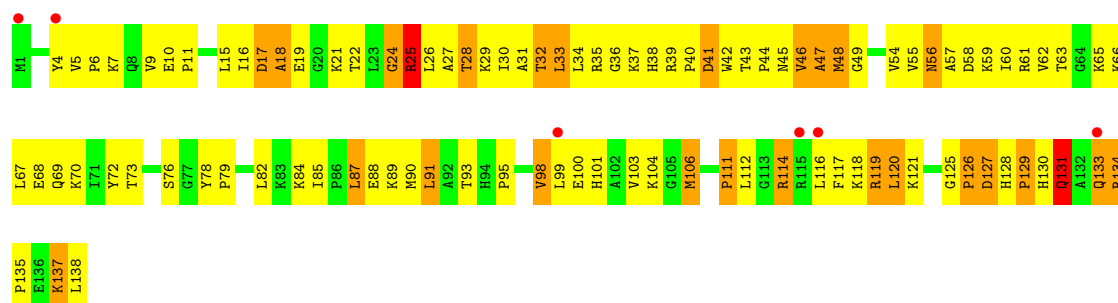
• Molecule 33: 50S ribosomal protein L13

Chain BN:



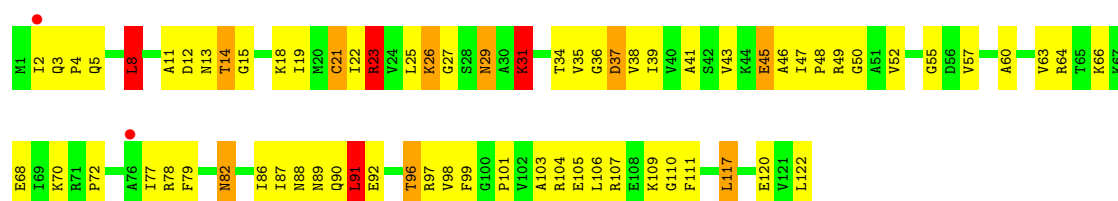
• Molecule 33: 50S ribosomal protein L13

Chain DN:



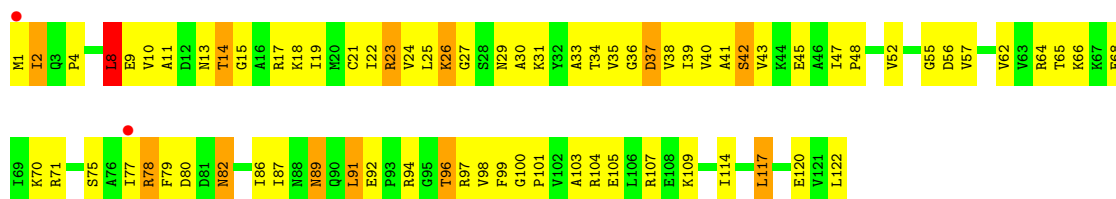
• Molecule 34: 50S ribosomal protein L14

Chain BO:



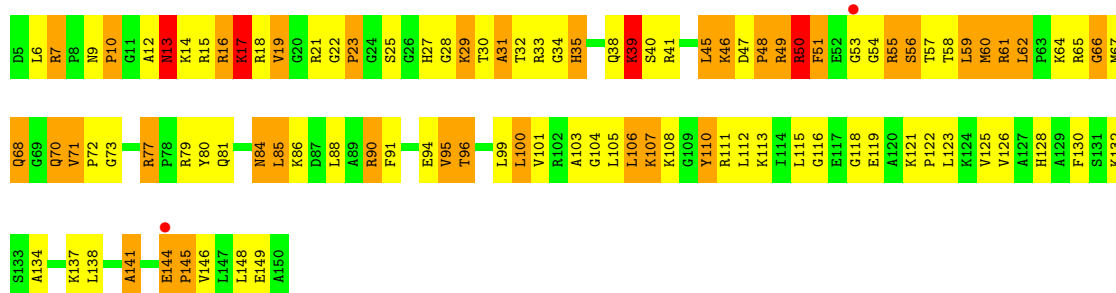
- Molecule 34: 50S ribosomal protein L14

Chain DO:



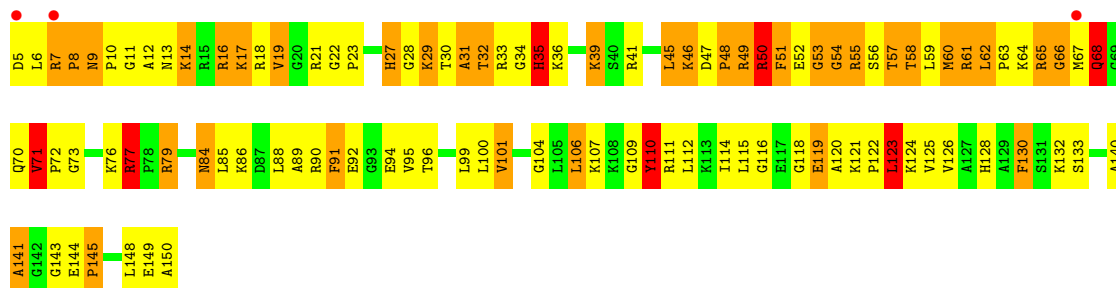
- Molecule 35: 50S ribosomal protein L15

Chain BP:



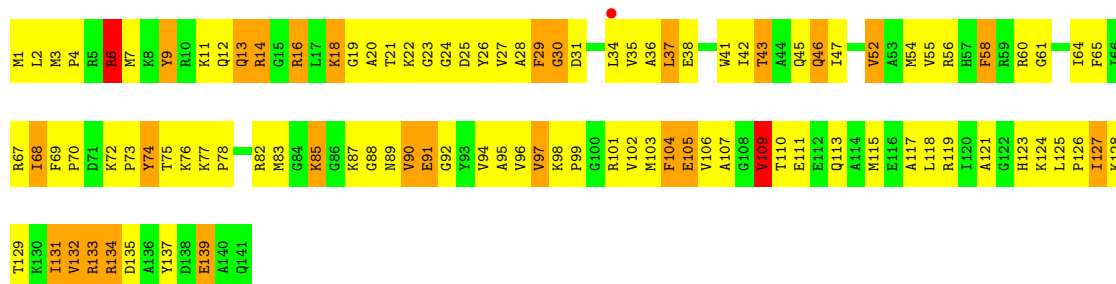
- Molecule 35: 50S ribosomal protein L15

Chain DP:



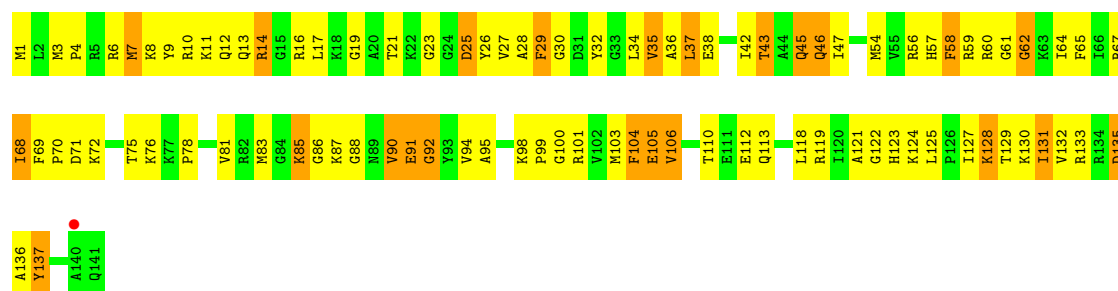
- Molecule 36: 50S ribosomal protein L16

Chain BQ:



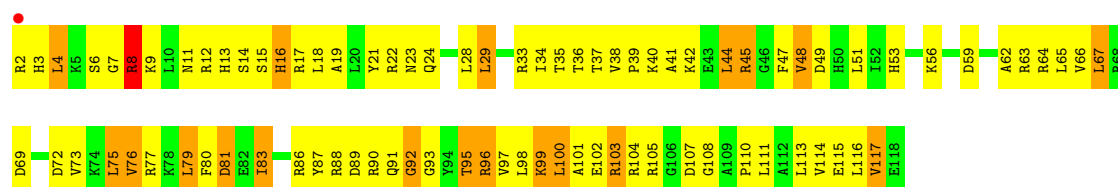
- Molecule 36: 50S ribosomal protein L16

Chain DQ:



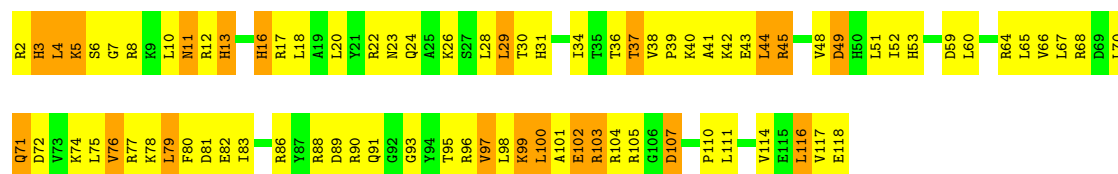
- Molecule 37: 50S ribosomal protein L17

Chain BR:



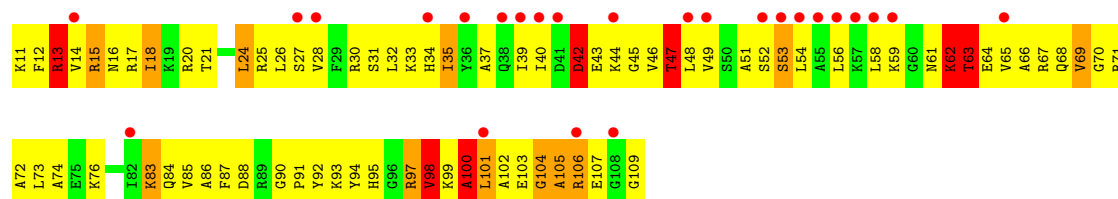
- Molecule 37: 50S ribosomal protein L17

Chain DR:



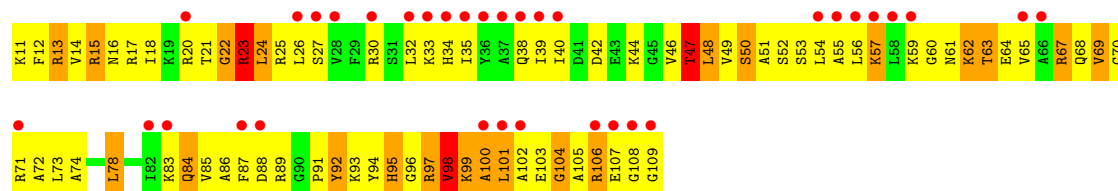
- Molecule 38: 50S ribosomal protein L18

Chain BS:



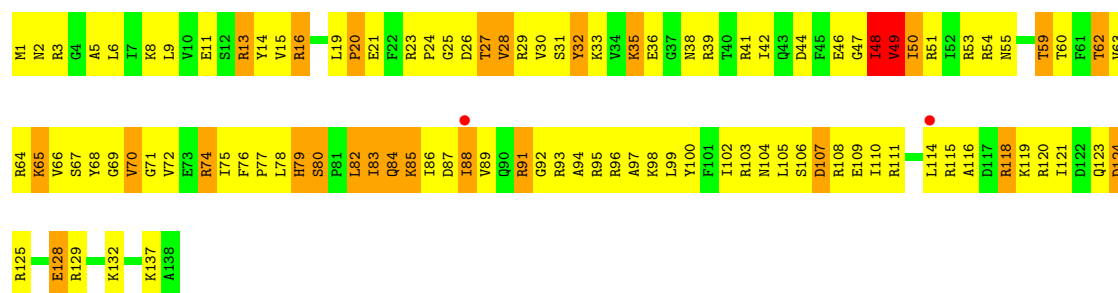
- Molecule 38: 50S ribosomal protein L18

Chain DS:



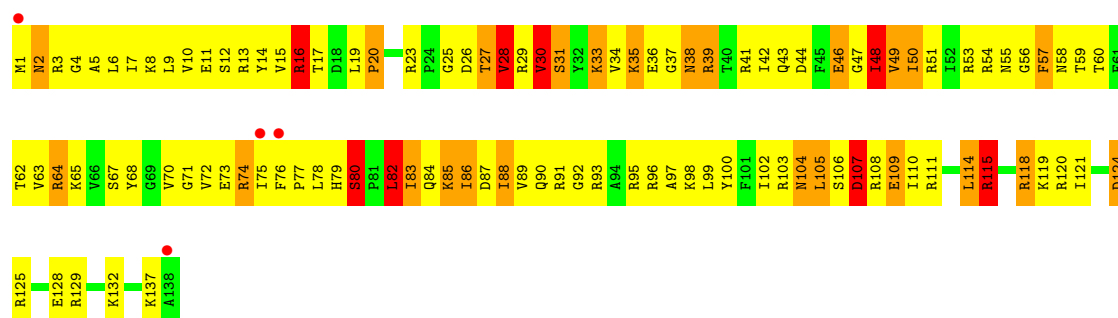
- Molecule 39: 50S ribosomal protein L19

Chain BT:



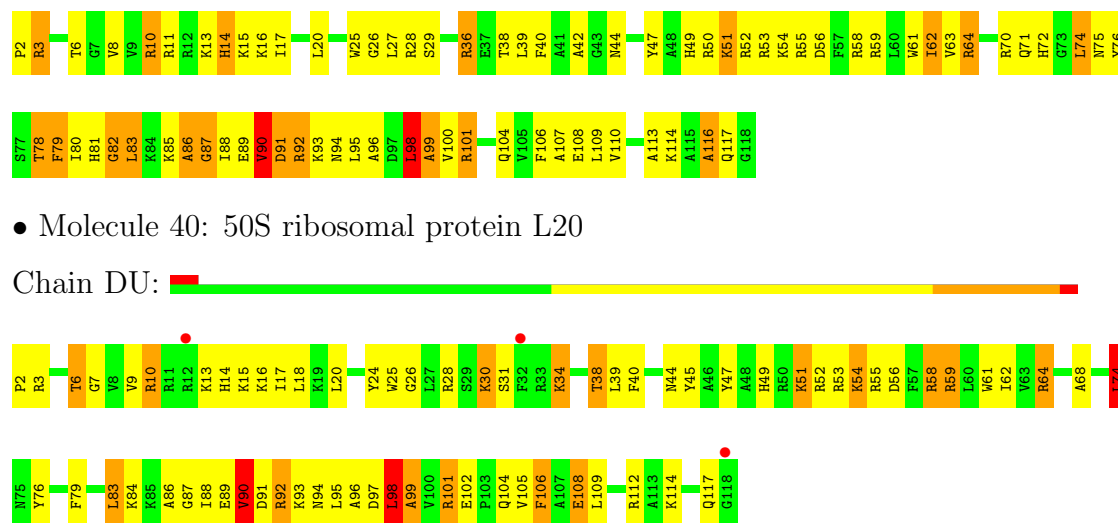
- Molecule 39: 50S ribosomal protein L19

Chain DT:



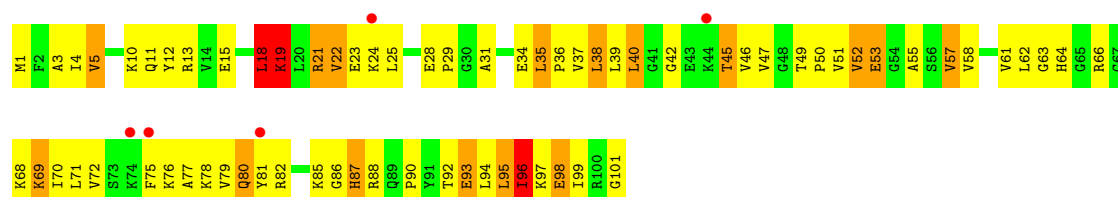
- Molecule 40: 50S ribosomal protein L20

Chain BU:



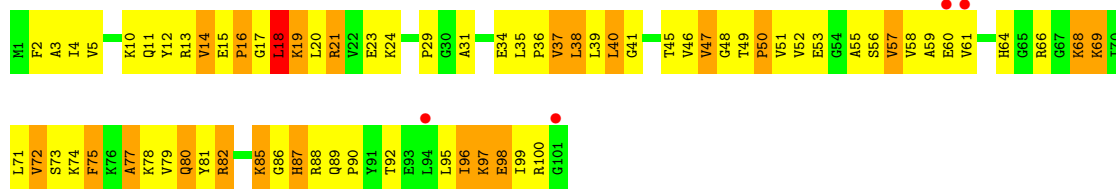
- Molecule 41: 50S ribosomal protein L21

Chain BV:



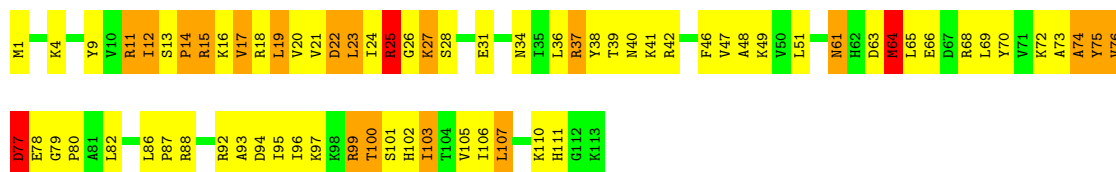
- Molecule 41: 50S ribosomal protein L21

Chain DV:



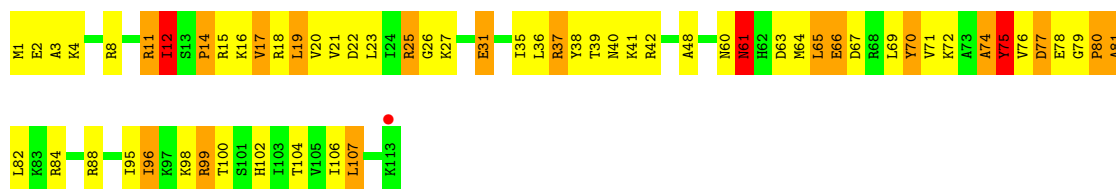
- Molecule 42: 50S ribosomal protein L22

Chain BW:



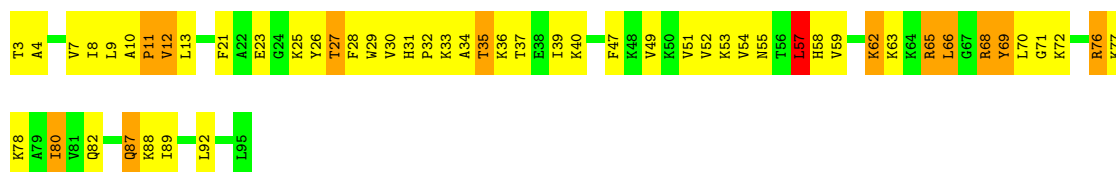
- Molecule 42: 50S ribosomal protein L22

Chain DW:



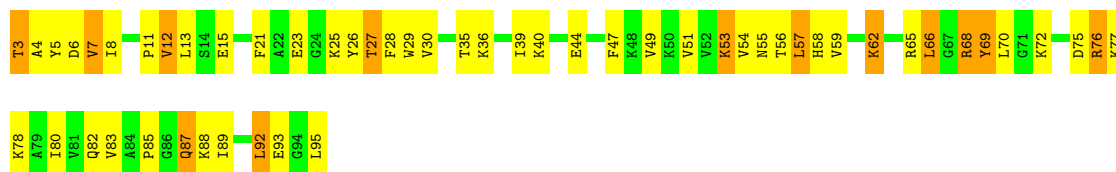
- Molecule 43: 50S ribosomal protein L23

Chain BX:



- Molecule 43: 50S ribosomal protein L23

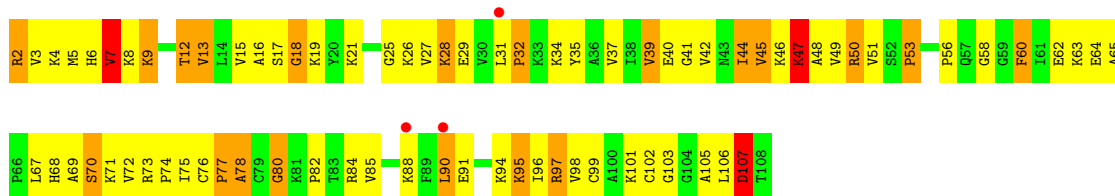
Chain DX:



- Molecule 44: 50S ribosomal protein L24

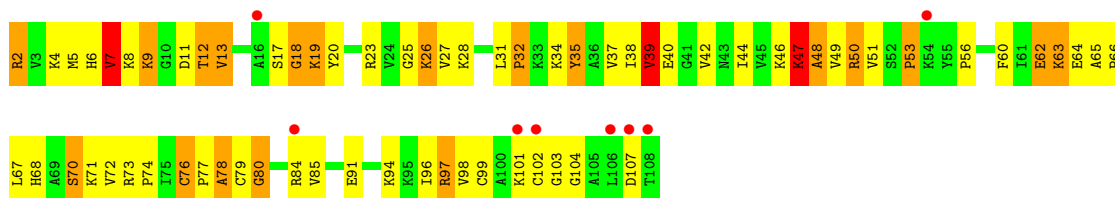
Chain BY:





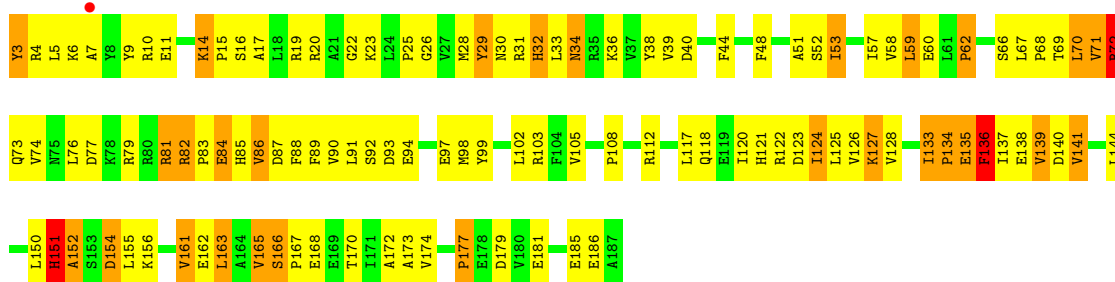
• Molecule 44: 50S ribosomal protein L24

Chain DY:



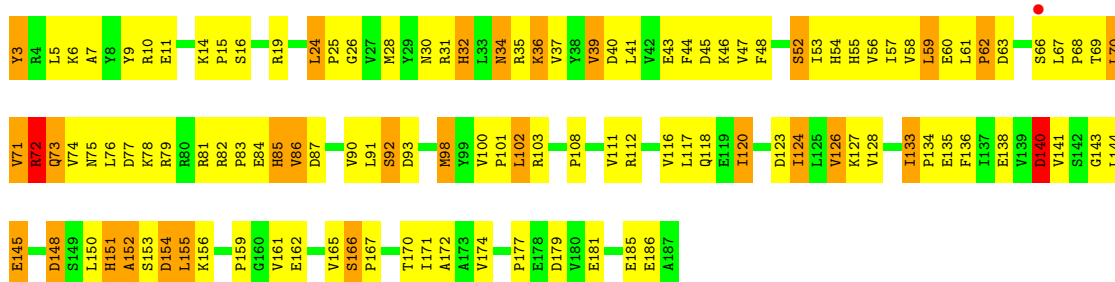
• Molecule 45: 50S ribosomal protein L25

Chain BZ:



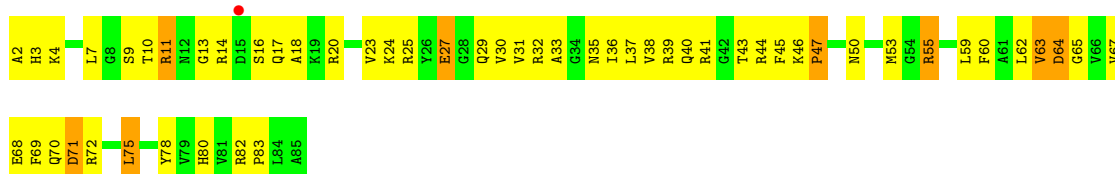
• Molecule 45: 50S ribosomal protein L25

Chain DZ:

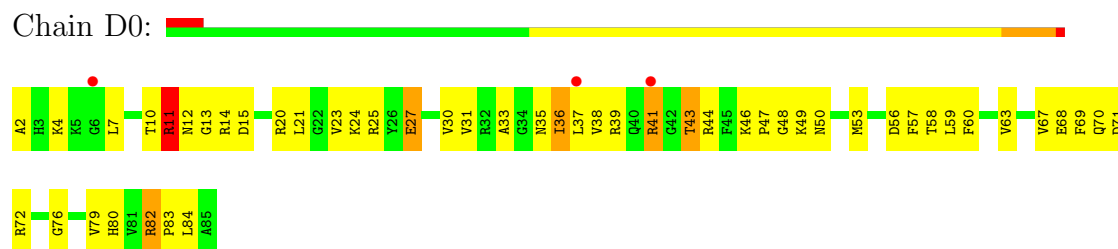


• Molecule 46: 50S ribosomal protein L27

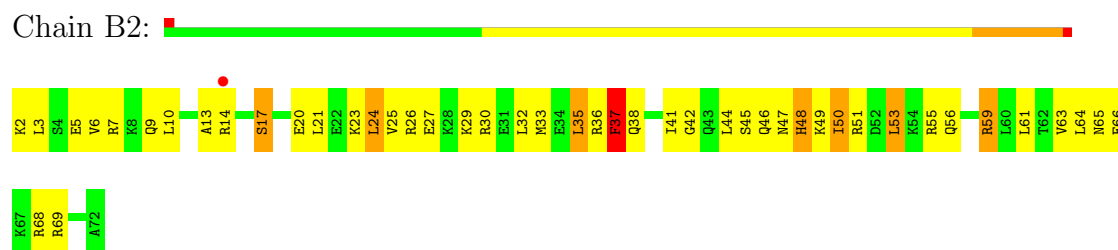
Chain B0:



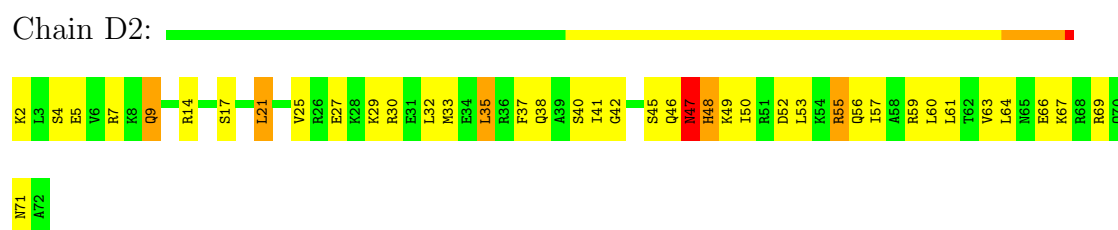
- Molecule 46: 50S ribosomal protein L27



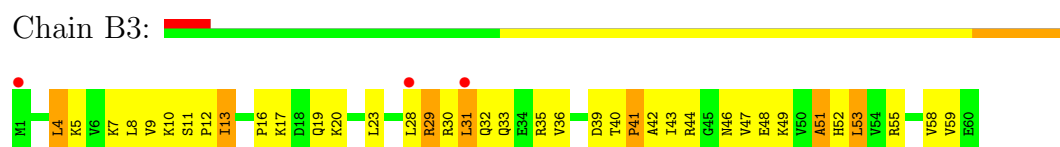
- Molecule 47: 50S ribosomal protein L29



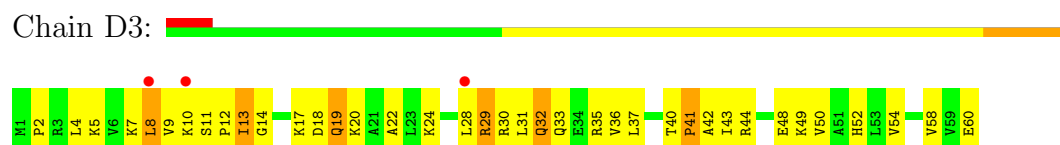
- Molecule 47: 50S ribosomal protein L29



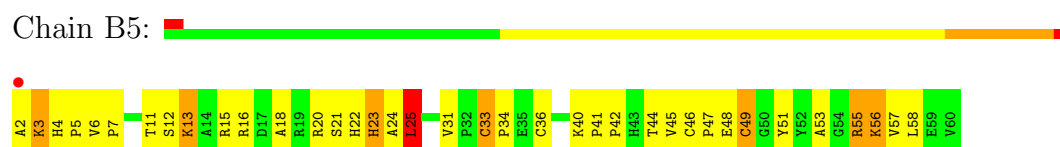
- Molecule 48: 50S ribosomal protein L30



- Molecule 48: 50S ribosomal protein L30

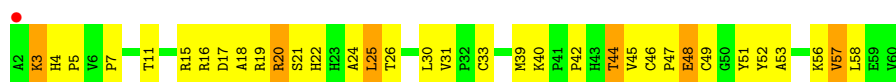


- Molecule 49: 50S ribosomal protein L32



- Molecule 49: 50S ribosomal protein L32





- Molecule 50: 50S ribosomal protein L33

Chain B6:



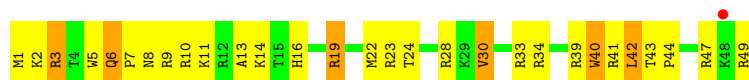
- Molecule 50: 50S ribosomal protein L33

Chain D6:



- Molecule 51: 50S ribosomal protein L34

Chain B7:



- Molecule 51: 50S ribosomal protein L34

Chain D7:



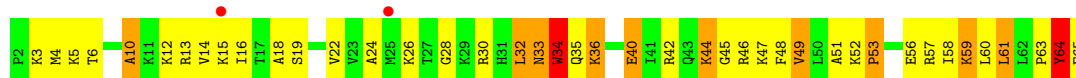
- Molecule 52: 50S ribosomal protein L35

Chain B8:



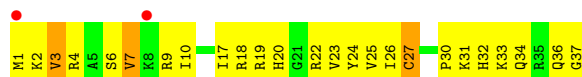
- Molecule 52: 50S ribosomal protein L35

Chain D8:



- Molecule 53: 50S ribosomal protein L36

Chain B9:



- Molecule 53: 50S ribosomal protein L36

Chain D9: 



- Molecule 54: 50S RIBOSOMAL PROTEIN L7/L12

Chain Bf: 

There are no outlier residues recorded for this chain.

- Molecule 54: 50S RIBOSOMAL PROTEIN L7/L12

Chain Bg: 

There are no outlier residues recorded for this chain.

- Molecule 54: 50S RIBOSOMAL PROTEIN L7/L12

Chain Df: 

There are no outlier residues recorded for this chain.

- Molecule 54: 50S RIBOSOMAL PROTEIN L7/L12

Chain Dg: 

There are no outlier residues recorded for this chain.

- Molecule 55: 50S RIBOSOMAL PROTEIN L7/L12

Chain Bh: 

There are no outlier residues recorded for this chain.

- Molecule 55: 50S RIBOSOMAL PROTEIN L7/L12

Chain Dh: 

There are no outlier residues recorded for this chain.

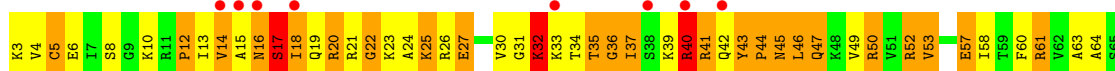
- Molecule 56: 50S ribosomal protein L28

Chain B1: 



- Molecule 56: 50S ribosomal protein L28

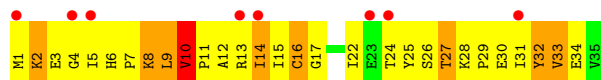
Chain D1: 





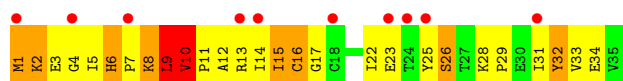
- Molecule 57: 50S ribosomal protein L31

Chain B4:



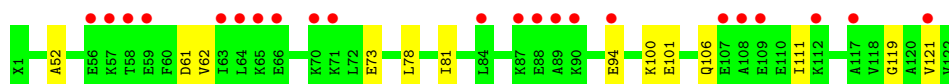
- Molecule 57: 50S ribosomal protein L31

Chain D4:



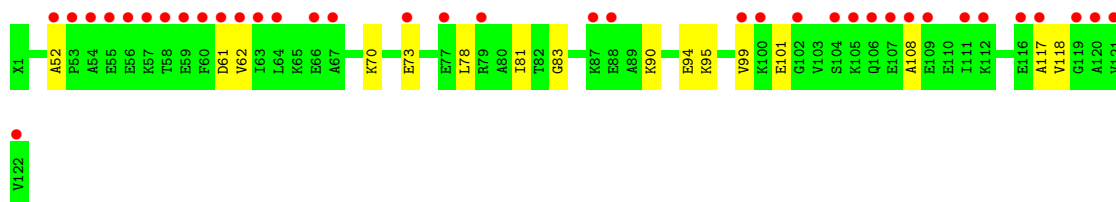
- Molecule 58: 50S ribosomal protein L7/L12

Chain Be:



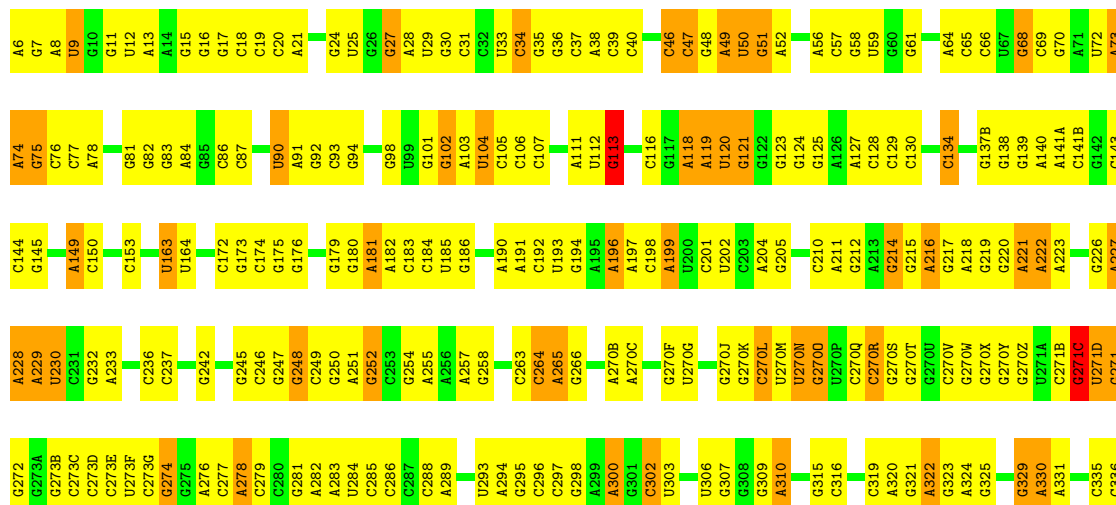
- Molecule 58: 50S ribosomal protein L7/L12

Chain De:



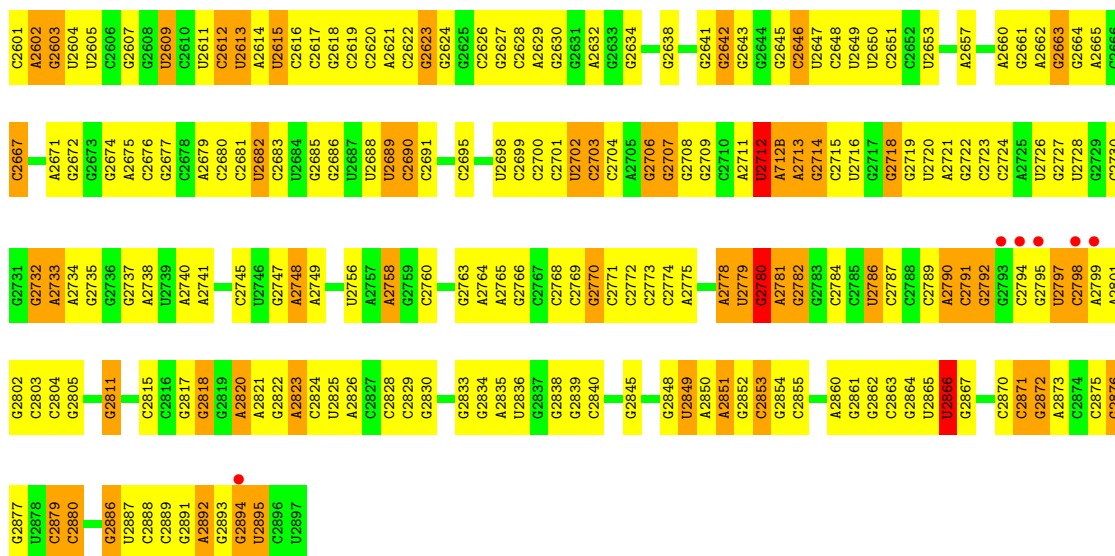
- Molecule 59: 23S ribosomal RNA

Chain BA:



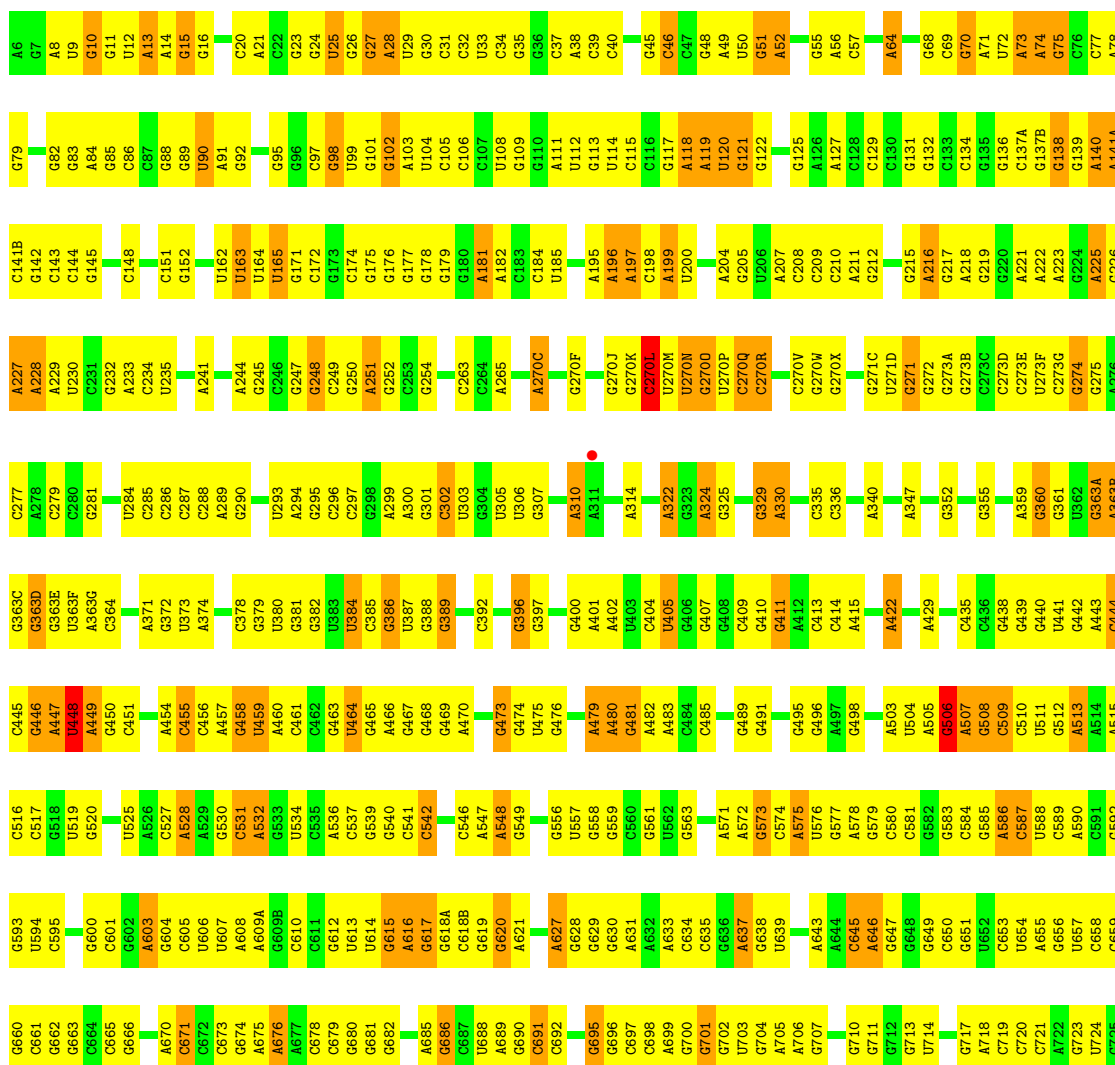
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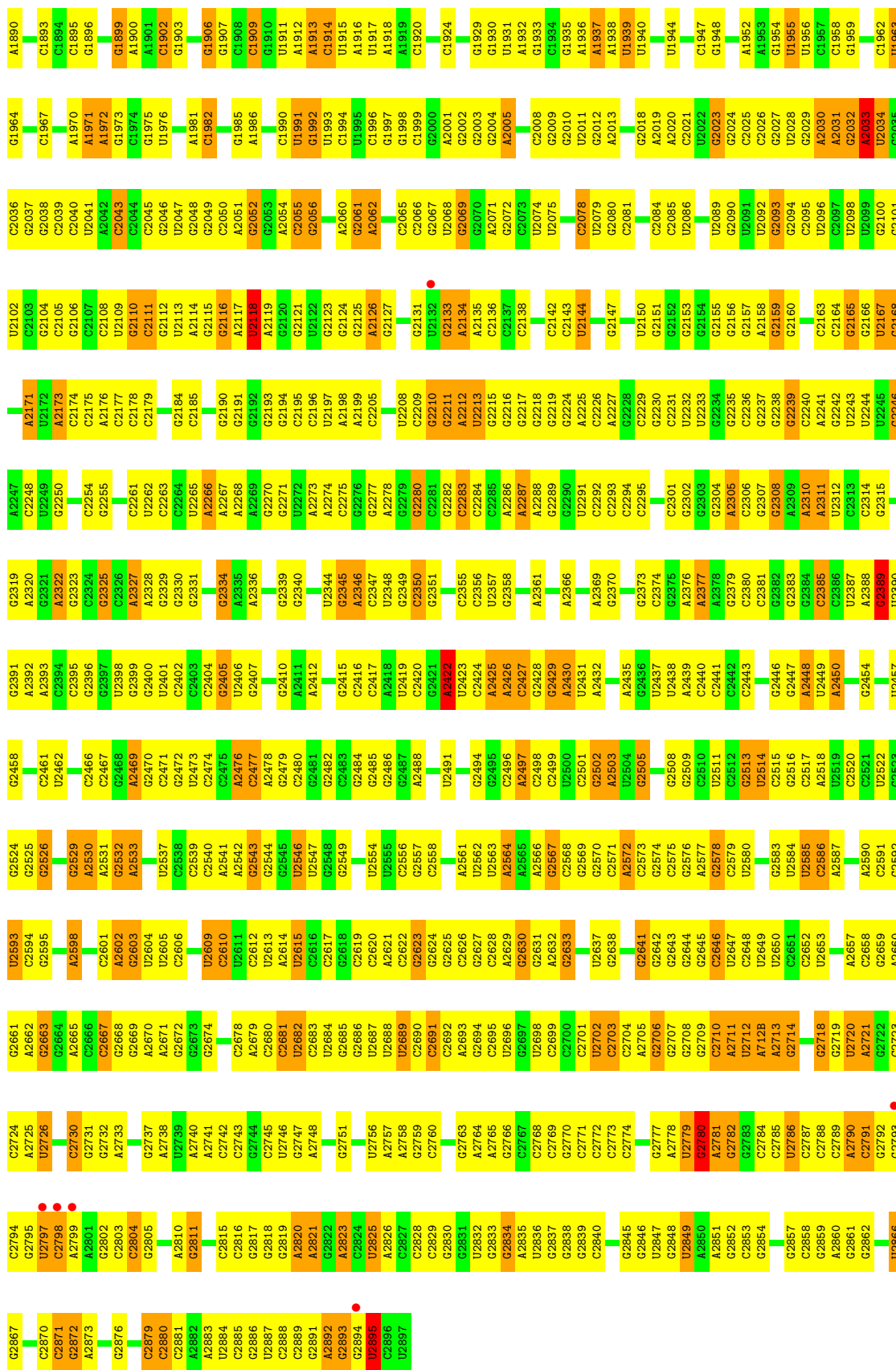


### • Molecule 59: 23S ribosomal RNA

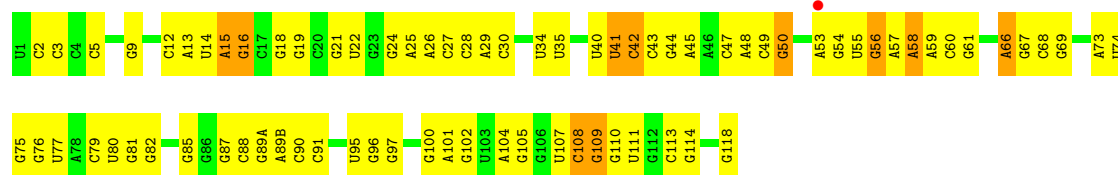
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G1813	C1711	G1636	C1558	G1490	G1422	A1354	A1287	G1216	G1144	U1078	C1005	G942	G809	C732	C732
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G1828	G1755	C1648	C1502	C1502	G1436	G1368	G1303	U1234	G1160	U1090	C1017	C955	A821	C748	C748
C1830	U1756	G1651	C1505	C1505	U1438	G1369	C1306	G1235	C1161	G1091	C1018	C956	U822	C749	C749
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G1839	G1772	A1655	A1587	A1511	G1442	G1374	G1312	G1239	G1165	U1097	U1023	A960	A829	U762	U762
G1840	G1773	A1656	C1588	G1512	G1443	C1375	G1313	U1240	C1166	U1098	G1024	C961	A830	U763	U763
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G1845	G1779	A1668	C1599	G1525	U1448	A1381	U1323	G1245	G1173	U1105	G1029	C968	U839	G768	G768
G1846	A1780	A1669	C1600	G1526	A1449	C1382	C1324	A1246	G1174	U1106	G1030	U969	C840	G771	G771
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U1864	C1790	U1680	A1610	A1536	G1465	C1403	G1333	G1260	C1196	G1122	G1055	A983	G855	A784	A784
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C1882	C1795	A1689	C1615	U1541	C1470	C1408	G1338	U1266	C1201	G1127	U1060	G990	A861	C790	C790
G1883	U1796	A1690	C1616	G1542	A1471	C1409	U1339	G1267	C1202	U1132	G1061	A988	G862	C791	C791
A1884	C1797	U1691	A1617	A1543	G1472	G1410	U1340	U1268	G1203	U1133	G1062	A989	A863	G792	G792
A1885	U1798	U1692	G1618	C1544	C1476	C1411	A1269	A1269	A1204	U1134	C991	C991	A864	A793	A793
A1886	G1799	G1693	A1545	A1477	A1412	A1412	C1270	C1270	U1205	G1135	G993	C992	C865	G794	G794
C1887	U1800	C1694	U1546	G1478	G1478	G1413	G1343	G1271	G1206	U1136	U1065	C994	A866	C795	C795
G1888	G1801	G1695	C1547	G1479	G1414	G1414	G1344	A1272	C1207	G1137	U1066	C995	C867	C796	C796
A1889	A1802	G1696	C1548	U1480	G1481	U1415	G1345	C1345	G1210	G1138	U1067	A996	U868	G799	G799
G1889	U1803	G1697	C1548	U1481	G1482	U1416	G1346	G1346	G1139	G1139	A1067	C998	G869	G934	G934
A1890	C1804	A1698	C1549	G1483	G1483	C1417	G1347	A1276	U1211	C1140	A1070	C998	A870	A800	A800

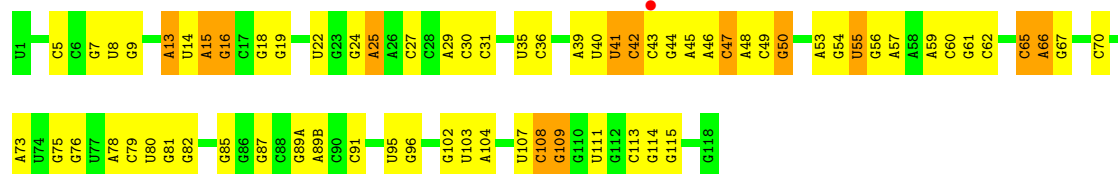


Chain BB:



- Molecule 60: 5S ribosomal RNA

Chain DB:



## 4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	306.01Å 673.49Å 351.98Å 90.00° 92.69° 90.00°	Depositor
Resolution (Å)	40.00 – 3.50 131.34 – 3.50	Depositor EDS
% Data completeness (in resolution range)	(Not available) (40.00-3.50) 74.9 (131.34-3.50)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.30 (at 3.49Å)	Xtriage
Refinement program	CNS 1.2	Depositor
R, $R_{free}$	0.262 , 0.309 0.259 , 0.274	Depositor DCC
$R_{free}$ test set	38188 reflections (5.25%)	DCC
Wilson B-factor (Å <sup>2</sup> )	80.5	Xtriage
Anisotropy	0.125	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.25 , 72.9	EDS
Estimated twinning fraction	0.247 for h,-k,-l	Xtriage
L-test for twinning	$\langle  L  \rangle = 0.26$ , $\langle L^2 \rangle = 0.11$	Xtriage
Outliers	0 of 765681 reflections	Xtriage
$F_o, F_c$ correlation	0.85	EDS
Total number of atoms	308422	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	76.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.50% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

## 5 Model quality ⓘ

### 5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: GNP, DPP, MG, KBE, UAL, 5OH

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 5$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z  > 5$	RMSZ	$\# Z  > 5$
1	AB	0.42	0/1945	0.73	4/2621 (0.2%)
1	CB	0.40	0/1945	0.69	1/2621 (0.0%)
2	AC	0.35	0/1645	0.60	0/2216
2	CC	0.33	0/1645	0.58	1/2216 (0.0%)
3	AD	0.37	0/1733	0.60	0/2318
3	CD	0.34	0/1733	0.61	0/2318
4	AE	0.35	0/1172	0.63	1/1576 (0.1%)
4	CE	0.34	0/1172	0.63	1/1576 (0.1%)
5	AF	0.38	0/856	0.67	2/1154 (0.2%)
5	CF	0.35	0/856	0.64	1/1154 (0.1%)
6	AG	0.34	0/1276	0.58	0/1709
6	CG	0.35	0/1276	0.58	0/1709
7	AH	0.34	0/1136	0.58	0/1527
7	CH	0.33	0/1136	0.57	0/1527
8	AI	0.36	0/1029	0.63	1/1378 (0.1%)
8	CI	0.36	0/1029	0.61	1/1378 (0.1%)
9	AJ	0.37	0/815	0.64	1/1095 (0.1%)
9	CJ	0.33	0/815	0.65	1/1095 (0.1%)
10	AK	0.40	0/900	0.65	0/1213
10	CK	0.37	0/900	0.63	0/1213
11	AL	0.47	0/992	0.89	3/1327 (0.2%)
11	CL	0.47	0/992	0.88	4/1327 (0.3%)
12	AM	0.33	0/1008	0.61	0/1347
12	CM	0.32	0/1008	0.58	0/1347
13	AN	0.37	0/501	0.57	0/664
13	CN	0.35	0/501	0.57	0/664
14	AO	0.39	0/745	0.62	0/992
14	CO	0.35	0/745	0.59	0/992
15	AP	0.34	0/722	0.58	0/970
15	CP	0.33	0/722	0.56	0/970
16	AQ	0.45	0/848	0.75	0/1131
16	CQ	0.42	0/848	0.71	0/1131

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
17	AR	0.33	0/579	0.59	0/768
17	CR	0.31	0/579	0.57	0/768
18	AS	0.32	0/647	0.59	0/870
18	CS	0.31	0/647	0.56	0/870
19	AT	0.36	0/764	0.57	0/1006
19	CT	0.37	0/764	0.62	0/1006
20	AY	0.47	6/5481 (0.1%)	0.72	5/7418 (0.1%)
20	CY	0.52	7/5481 (0.1%)	0.76	12/7418 (0.2%)
21	AA	0.39	0/36351	0.97	36/56736 (0.1%)
21	CA	0.38	0/36351	0.95	35/56736 (0.1%)
22	AW	0.40	0/1827	1.06	9/2845 (0.3%)
22	CW	0.41	1/1827 (0.1%)	1.06	9/2845 (0.3%)
23	AV	0.78	1/568 (0.2%)	1.49	16/886 (1.8%)
23	CV	0.95	3/568 (0.5%)	1.74	19/886 (2.1%)
24	AU	1.05	0/11	1.28	0/13
24	CU	1.06	0/11	1.28	0/13
25	BC	0.44	0/1774	0.74	1/2391 (0.0%)
25	DC	0.50	1/1774 (0.1%)	0.76	0/2391
26	BD	0.38	0/2195	0.65	0/2955
26	DD	0.38	0/2195	0.67	0/2955
27	BE	0.39	0/1602	0.69	1/2160 (0.0%)
27	DE	0.35	0/1602	0.67	1/2160 (0.0%)
28	BF	0.41	0/1663	0.80	5/2249 (0.2%)
28	DF	0.41	0/1663	0.79	4/2249 (0.2%)
29	BG	0.57	1/1499 (0.1%)	0.60	0/2016
29	DG	0.59	1/1499 (0.1%)	0.67	3/2016 (0.1%)
30	BH	0.34	0/1298	0.59	0/1751
30	DH	0.34	0/1298	0.62	0/1751
32	BK	0.34	0/1054	0.60	0/1427
32	DK	0.34	0/1054	0.56	1/1427 (0.1%)
33	BN	0.58	0/1131	0.85	0/1525
33	DN	0.54	0/1131	0.80	0/1525
34	BO	0.36	0/943	0.65	1/1269 (0.1%)
34	DO	0.36	0/943	0.64	1/1269 (0.1%)
35	BP	0.34	0/1131	0.71	0/1504
35	DP	0.34	0/1131	0.71	0/1504
36	BQ	0.37	0/1143	0.64	0/1527
36	DQ	0.36	0/1143	0.60	0/1527
37	BR	0.38	0/974	0.65	0/1302
37	DR	0.34	0/974	0.62	1/1302 (0.1%)
38	BS	0.40	0/783	0.76	0/1041
38	DS	0.40	0/783	0.75	0/1041
39	BT	0.39	0/1161	0.76	3/1549 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
39	DT	0.37	0/1161	0.67	0/1549
40	BU	0.39	0/982	0.67	1/1306 (0.1%)
40	DU	0.42	0/982	0.68	1/1306 (0.1%)
41	BV	0.37	0/790	0.66	0/1057
41	DV	0.38	0/790	0.71	0/1057
42	BW	0.38	0/911	0.65	0/1220
42	DW	0.37	0/911	0.65	0/1220
43	BX	0.35	0/748	0.59	1/1004 (0.1%)
43	DX	0.35	0/748	0.60	0/1004
44	BY	0.35	0/831	0.65	0/1108
44	DY	0.34	0/831	0.60	0/1108
45	BZ	0.33	0/1505	0.60	0/2042
45	DZ	0.32	0/1505	0.59	0/2042
46	B0	0.33	0/671	0.55	0/892
46	D0	0.31	0/671	0.56	0/892
47	B2	0.37	0/600	0.65	1/793 (0.1%)
47	D2	0.34	0/600	0.60	0/793
48	B3	0.34	0/482	0.63	0/646
48	D3	0.31	0/482	0.58	0/646
49	B5	0.33	0/473	0.58	0/639
49	D5	0.34	0/473	0.60	0/639
50	B6	0.38	0/440	0.81	0/586
50	D6	0.35	0/440	0.79	1/586 (0.2%)
51	B7	0.38	0/438	0.62	0/575
51	D7	0.48	0/438	0.69	0/575
52	B8	0.37	0/525	0.67	0/691
52	D8	0.36	0/525	0.64	0/691
53	B9	0.32	0/310	0.55	0/407
53	D9	0.29	0/310	0.55	0/407
56	B1	0.53	0/739	0.83	1/981 (0.1%)
56	D1	0.54	0/739	0.84	2/981 (0.2%)
57	B4	0.40	0/276	0.65	0/372
57	D4	0.45	0/276	0.66	0/372
58	Be	0.36	0/538	0.55	0/715
58	De	0.35	0/538	0.61	0/715
59	BA	0.41	2/69437 (0.0%)	0.99	82/108401 (0.1%)
59	DA	0.40	1/69437 (0.0%)	0.97	72/108401 (0.1%)
60	BB	0.34	0/2853	0.93	0/4451
60	DB	0.34	0/2853	0.90	1/4451 (0.0%)
All	All	0.40	24/330902 (0.0%)	0.90	348/492664 (0.1%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is

detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	AB	0	2
1	CB	0	1
10	AK	0	1
11	AL	0	1
11	CL	0	1
20	AY	0	3
20	CY	0	8
25	BC	0	3
25	DC	0	2
26	DD	0	1
28	BF	0	2
28	DF	0	2
29	BG	0	1
29	DG	0	1
31	BJ	0	1
31	DJ	0	1
38	BS	0	2
38	DS	0	2
39	BT	0	2
39	DT	0	1
42	DW	0	1
56	B1	0	2
56	D1	0	3
All	All	0	44

All (24) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
20	CY	502	GLY	C-O	18.54	1.53	1.23
29	DG	112	PRO	CA-C	17.59	1.88	1.52
29	BG	112	PRO	CA-C	17.54	1.88	1.52
23	CV	16	A	O3'-P	-10.50	1.48	1.61
20	AY	499	ARG	C-N	9.84	1.56	1.34
20	CY	504	ARG	C-N	8.54	1.48	1.33
22	CW	37	A	O3'-P	-8.36	1.51	1.61
23	CV	15	A	N9-C4	-7.84	1.33	1.37
59	BA	2780	G	N7-C5	-6.61	1.35	1.39
20	CY	499	ARG	C-N	6.39	1.48	1.34
25	DC	46	ALA	CA-CB	6.31	1.65	1.52
23	AV	16	A	N9-C4	6.21	1.41	1.37
59	DA	2780	G	N7-C5	-6.19	1.35	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
23	CV	16	A	N9-C4	6.18	1.41	1.37
20	CY	31	ARG	C-O	6.18	1.35	1.23
20	AY	61	ARG	N-CA	6.13	1.58	1.46
20	AY	72	CYS	CB-SG	5.78	1.92	1.82
59	BA	2780	G	N9-C8	-5.77	1.33	1.37
20	AY	61	ARG	C-N	-5.72	1.22	1.33
20	CY	72	CYS	CA-CB	-5.62	1.41	1.53
20	AY	59	ARG	C-N	5.57	1.46	1.34
20	CY	33	LEU	CA-C	-5.30	1.39	1.52
20	CY	33	LEU	N-CA	5.27	1.56	1.46
20	AY	31	ARG	C-O	5.13	1.33	1.23

All (348) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	CW	37	A	P-O3'-C3'	19.49	143.09	119.70
23	CV	16	A	P-O3'-C3'	18.93	142.41	119.70
20	CY	502	GLY	O-C-N	-12.85	101.35	123.20
20	CY	502	GLY	CA-C-N	12.59	141.38	116.20
20	CY	502	GLY	C-N-CA	11.35	146.14	122.30
23	CV	15	A	N1-C6-N6	-10.80	112.12	118.60
23	CV	16	A	O3'-P-O5'	-10.76	83.56	104.00
29	DG	116	ASP	O-C-N	-10.28	106.25	122.70
28	DF	193	VAL	N-CA-C	-10.27	83.28	111.00
23	CV	18	G	C8-N9-C4	-9.98	102.41	106.40
59	DA	645	C	C2-N1-C1'	9.76	129.54	118.80
59	BA	645	C	C2-N1-C1'	9.30	129.03	118.80
23	CV	15	A	C8-N9-C4	9.20	109.48	105.80
22	CW	74	C	C2-N1-C1'	9.09	128.80	118.80
23	AV	15	A	N1-C6-N6	-9.09	113.15	118.60
23	AV	15	A	C2-N3-C4	9.02	115.11	110.60
21	CA	1137	C	C2-N1-C1'	8.93	128.62	118.80
59	BA	163	U	C2-N1-C1'	8.85	128.32	117.70
22	AW	74	C	N1-C2-O2	8.78	124.17	118.90
20	CY	503	GLY	O-C-N	-8.59	108.95	122.70
23	CV	18	G	C2'-C3'-O3'	8.53	128.28	109.50
23	CV	15	A	C4-C5-C6	-8.47	112.76	117.00
59	BA	1493	C	N1-C2-O2	8.39	123.93	118.90
23	CV	16	A	OP1-P-O3'	8.38	123.64	105.20
20	CY	33	LEU	CA-CB-CG	8.38	134.57	115.30
23	AV	15	A	C4-C5-C6	-8.30	112.85	117.00
59	DA	645	C	N1-C2-O2	8.29	123.88	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	AW	74	C	C2-N1-C1'	8.28	127.91	118.80
21	CA	723	U	C2-N1-C1'	8.20	127.54	117.70
59	BA	1493	C	C2-N1-C1'	8.19	127.81	118.80
23	AV	15	A	N1-C2-N3	-8.16	125.22	129.30
23	CV	15	A	C5-C6-N1	8.16	121.78	117.70
28	BF	193	VAL	N-CA-C	-8.14	89.03	111.00
20	CY	72	CYS	CB-CA-C	-8.07	94.26	110.40
21	CA	1158	C	C2-N1-C1'	7.97	127.57	118.80
21	AA	1158	C	C2-N1-C1'	7.95	127.54	118.80
21	CA	1137	C	N1-C2-O2	7.94	123.67	118.90
59	BA	2779	U	OP1-P-O3'	-7.89	87.85	105.20
20	AY	33	LEU	CA-CB-CG	7.82	133.28	115.30
59	BA	2780	G	O5'-P-OP1	-7.75	98.72	105.70
21	CA	201(C)	U	C2-N1-C1'	7.71	126.95	117.70
23	AV	18	G	C6-N1-C2	7.60	129.66	125.10
22	CW	74	C	N1-C2-O2	7.38	123.33	118.90
59	BA	527	C	C6-N1-C2	-7.35	117.36	120.30
23	CV	15	A	C6-C5-N7	7.32	137.42	132.30
59	DA	270(L)	C	N1-C2-O2	7.29	123.28	118.90
59	DA	645	C	C6-N1-C1'	-7.26	112.08	120.80
59	BA	2780	G	O4'-C1'-N9	7.24	114.00	108.20
21	AA	421	U	C2-N1-C1'	7.23	126.37	117.70
22	CW	37	A	OP1-P-O3'	7.18	121.01	105.20
59	DA	1022	G	N3-C4-C5	-7.15	125.02	128.60
59	BA	2593	U	C6-N1-C2	-7.14	116.72	121.00
21	AA	1137	C	C2-N1-C1'	7.08	126.59	118.80
59	BA	645	C	C6-N1-C2	-7.06	117.47	120.30
39	BT	48	ILE	CB-CA-C	-7.06	97.48	111.60
20	CY	72	CYS	CA-CB-SG	-7.05	101.30	114.00
21	AA	201(C)	U	C2-N1-C1'	7.05	126.16	117.70
59	DA	163	U	C2-N1-C1'	7.05	126.16	117.70
21	CA	1158	C	N1-C2-O2	7.05	123.13	118.90
23	AV	18	G	C2'-C3'-O3'	7.03	124.96	109.50
29	DG	116	ASP	CA-C-N	7.01	132.63	117.20
59	DA	1963	U	C2-N1-C1'	6.94	126.03	117.70
28	DF	155	LEU	N-CA-C	-6.90	92.38	111.00
23	AV	18	G	C4'-C3'-O3'	6.89	126.77	113.00
28	BF	155	LEU	N-CA-C	-6.86	92.48	111.00
21	CA	1137	C	C6-N1-C1'	-6.85	112.58	120.80
20	CY	72	CYS	N-CA-CB	-6.80	98.36	110.60
22	AW	74	C	N3-C2-O2	-6.80	117.14	121.90
59	DA	1963	U	N1-C2-O2	6.79	127.56	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
59	BA	2402	C	N1-C2-O2	6.78	122.97	118.90
59	BA	1396	U	C2-N1-C1'	6.77	125.82	117.70
59	BA	645	C	N1-C2-O2	6.74	122.95	118.90
59	BA	645	C	C5-C6-N1	6.74	124.37	121.00
23	CV	15	A	N7-C8-N9	-6.73	110.43	113.80
28	BF	156	LEU	CA-CB-CG	6.73	130.78	115.30
22	AW	73	A	C8-N9-C4	-6.72	103.11	105.80
23	AV	19	G	C4-N9-C1'	6.72	135.24	126.50
8	AI	58	ARG	NE-CZ-NH1	6.71	123.65	120.30
59	BA	2585	U	C2-N1-C1'	6.70	125.74	117.70
21	AA	1378	C	C2-N1-C1'	6.70	126.17	118.80
8	CI	58	ARG	NE-CZ-NH1	6.69	123.65	120.30
23	AV	15	A	C5-C6-N1	6.68	121.04	117.70
20	CY	503	GLY	C-N-CA	6.66	138.36	121.70
21	AA	962	C	C6-N1-C2	-6.65	117.64	120.30
59	BA	2780	G	C4-C5-C6	6.65	122.79	118.80
21	AA	1267	C	C6-N1-C2	-6.64	117.64	120.30
21	AA	1145	C	C6-N1-C2	-6.62	117.65	120.30
59	BA	2866	U	C2-N1-C1'	6.59	125.61	117.70
59	DA	2780	G	O5'-P-OP1	-6.55	99.80	105.70
59	DA	448	U	N1-C2-O2	6.55	127.38	122.80
59	BA	1314	C	C2-N1-C1'	6.54	126.00	118.80
23	CV	18	G	N7-C8-N9	6.54	116.37	113.10
59	BA	1139	G	O5'-P-OP2	-6.53	99.82	105.70
59	BA	1211	U	C2-N1-C1'	6.52	125.53	117.70
21	CA	748	C	P-O3'-C3'	6.52	127.53	119.70
59	DA	2780	G	C4-C5-C6	6.51	122.71	118.80
21	CA	924	C	C6-N1-C2	-6.46	117.72	120.30
59	BA	1963	U	C2-N1-C1'	6.46	125.45	117.70
59	DA	1396	U	C2-N1-C1'	6.44	125.43	117.70
1	AB	163	PHE	N-CA-C	-6.41	93.70	111.00
22	CW	74	C	C6-N1-C1'	-6.40	113.12	120.80
23	AV	17	U	N3-C4-O4	6.39	123.87	119.40
11	CL	55	VAL	CB-CA-C	-6.38	99.28	111.40
20	CY	72	CYS	N-CA-C	6.38	128.22	111.00
59	DA	2780	G	N1-C6-O6	6.35	123.71	119.90
40	DU	98	LEU	CA-CB-CG	6.35	129.90	115.30
23	AV	16	A	O5'-P-OP2	6.30	118.26	110.70
21	CA	1128	C	C2-N1-C1'	6.29	125.72	118.80
59	BA	270(L)	C	N1-C2-O2	6.29	122.67	118.90
21	CA	1158	C	C6-N1-C1'	-6.29	113.26	120.80
59	BA	1963	U	N1-C2-O2	6.27	127.19	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
59	BA	1979	C	C6-N1-C2	-6.26	117.79	120.30
59	DA	1420	U	C2-N1-C1'	6.21	125.15	117.70
59	DA	448	U	N3-C2-O2	-6.21	117.85	122.20
59	BA	2585	U	N1-C2-O2	6.21	127.14	122.80
59	BA	645	C	C6-N1-C1'	-6.20	113.36	120.80
59	DA	1314	C	C2-N1-C1'	6.20	125.62	118.80
4	CE	12	LEU	CA-CB-CG	6.19	129.54	115.30
4	AE	12	LEU	CA-CB-CG	6.19	129.53	115.30
23	CV	18	G	N3-C4-C5	-6.18	125.51	128.60
21	CA	881	G	C8-N9-C4	-6.17	103.93	106.40
11	CL	60	LEU	CA-CB-CG	6.17	129.50	115.30
21	AA	723	U	C2-N1-C1'	6.17	125.10	117.70
20	CY	503	GLY	CA-C-N	6.16	130.76	117.20
59	DA	676	A	O4'-C1'-N9	6.16	113.13	108.20
21	AA	1158	C	C6-N1-C1'	-6.14	113.43	120.80
59	BA	2690	C	C6-N1-C2	6.14	122.75	120.30
59	DA	1909	C	C2-N1-C1'	6.12	125.54	118.80
22	AW	74	C	C6-N1-C1'	-6.12	113.45	120.80
59	BA	2476	A	O4'-C1'-N9	6.11	113.09	108.20
22	CW	20(A)	U	P-O3'-C3'	6.11	127.03	119.70
59	DA	2585	U	C2-N1-C1'	6.11	125.03	117.70
59	DA	1313	U	C2-N1-C1'	6.09	125.00	117.70
59	BA	758	C	N3-C2-O2	-6.06	117.66	121.90
59	BA	1493	C	C6-N1-C1'	-6.02	113.58	120.80
22	CW	74	C	N3-C2-O2	-6.01	117.69	121.90
59	DA	270(L)	C	N3-C2-O2	-6.00	117.70	121.90
21	AA	421	U	N1-C2-O2	5.98	126.99	122.80
21	AA	543	C	C6-N1-C2	-5.97	117.91	120.30
1	AB	187	LEU	CA-CB-CG	5.97	129.02	115.30
23	CV	19	G	C4-N9-C1'	5.96	134.25	126.50
59	DA	2780	G	C6-C5-N7	-5.96	126.82	130.40
21	CA	872	A	O4'-C1'-N9	5.95	112.96	108.20
59	BA	687	C	N3-C2-O2	-5.94	117.74	121.90
39	BT	78	LEU	CA-CB-CG	5.93	128.95	115.30
56	B1	40	ARG	N-CA-C	5.92	126.98	111.00
59	BA	1313	U	C2-N1-C1'	5.91	124.79	117.70
40	BU	98	LEU	CA-CB-CG	5.89	128.85	115.30
11	AL	34	ARG	N-CA-C	5.87	126.85	111.00
59	DA	2780	G	N3-C4-N9	5.86	129.52	126.00
59	DA	645	C	N3-C2-O2	-5.86	117.80	121.90
59	BA	1396	U	N1-C2-O2	5.85	126.89	122.80
27	DE	63	LEU	CA-CB-CG	5.84	128.74	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
21	AA	1158	C	N1-C2-O2	5.84	122.40	118.90
20	AY	503	GLY	O-C-N	-5.83	113.38	122.70
59	BA	163	U	C5-C6-N1	5.82	125.61	122.70
59	DA	2585	U	N1-C2-O2	5.82	126.87	122.80
21	AA	1009	G	O4'-C1'-N9	5.81	112.84	108.20
59	BA	1248	G	P-O3'-C3'	5.80	126.66	119.70
59	BA	1396	U	N3-C2-O2	-5.80	118.14	122.20
59	DA	2779	U	OP2-P-O3'	5.77	117.89	105.20
59	BA	163	U	C6-N1-C1'	-5.76	113.13	121.20
50	D6	9	LEU	CA-CB-CG	5.76	128.56	115.30
21	AA	115	G	P-O3'-C3'	5.75	126.60	119.70
20	CY	33	LEU	CA-C-N	-5.75	104.55	117.20
21	AA	421	U	N3-C2-O2	-5.75	118.18	122.20
59	BA	466	A	O5'-P-OP1	-5.74	100.53	105.70
59	BA	1493	C	N3-C2-O2	-5.74	117.89	121.90
21	CA	723	U	C6-N1-C1'	-5.74	113.17	121.20
5	AF	19	LEU	CA-CB-CG	5.72	128.47	115.30
23	CV	16	A	C5'-C4'-C3'	5.72	125.16	116.00
59	BA	1314	C	C6-N1-C1'	-5.72	113.94	120.80
21	CA	1504	G	P-O3'-C3'	5.72	126.56	119.70
21	AA	201(C)	U	N1-C2-O2	5.71	126.80	122.80
59	BA	2306	C	C6-N1-C2	-5.70	118.02	120.30
21	CA	201(C)	U	C5-C6-N1	5.70	125.55	122.70
59	DA	2779	U	OP1-P-O3'	-5.68	92.70	105.20
59	DA	270(L)	C	C2-N1-C1'	5.68	125.04	118.80
23	CV	18	G	C4'-C3'-O3'	5.67	124.34	113.00
21	CA	1128	C	N1-C2-O2	5.66	122.30	118.90
23	AV	17	U	N3-C2-O2	5.66	126.16	122.20
59	BA	1417	C	C6-N1-C2	-5.64	118.04	120.30
21	CA	1137	C	N3-C2-O2	-5.64	117.95	121.90
59	DA	1315	C	N1-C2-O2	5.64	122.29	118.90
21	AA	1137	C	C6-N1-C2	-5.64	118.04	120.30
59	BA	1048	A	N1-C6-N6	5.64	121.98	118.60
59	BA	474	G	P-O3'-C3'	5.64	126.47	119.70
59	BA	1779	U	C2-N1-C1'	5.63	124.46	117.70
25	BC	138	LEU	CA-CB-CG	5.63	128.25	115.30
21	CA	723	U	N1-C2-O2	5.62	126.74	122.80
21	CA	201(C)	U	N1-C2-O2	5.62	126.73	122.80
56	D1	40	ARG	N-CA-C	5.62	126.17	111.00
21	AA	992	U	P-O3'-C3'	5.62	126.44	119.70
59	BA	1420	U	N1-C2-O2	5.62	126.73	122.80
47	B2	24	LEU	CA-CB-CG	5.61	128.20	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
59	DA	90	U	C2-N1-C1'	5.60	124.42	117.70
59	BA	2780	G	C4-C5-N7	-5.60	108.56	110.80
22	AW	20(A)	U	P-O3'-C3'	5.60	126.42	119.70
21	CA	992	U	P-O3'-C3'	5.59	126.41	119.70
59	DA	2895	U	C2-N1-C1'	5.59	124.41	117.70
21	AA	1129	C	N1-C2-O2	5.59	122.25	118.90
59	BA	163	U	N1-C2-O2	5.59	126.71	122.80
59	BA	2402	C	N3-C2-O2	-5.58	117.99	121.90
22	CW	74	C	C6-N1-C2	-5.58	118.07	120.30
22	AW	66	C	C6-N1-C2	-5.57	118.07	120.30
27	BE	63	LEU	CA-CB-CG	5.57	128.12	115.30
59	DA	1396	U	N1-C2-O2	5.57	126.70	122.80
5	AF	61	LEU	CA-CB-CG	5.56	128.09	115.30
59	BA	2021	C	C6-N1-C2	5.55	122.52	120.30
21	AA	1381	U	O4'-C1'-N1	5.54	112.64	108.20
23	AV	16	A	N9-C4-C5	-5.53	103.59	105.80
59	BA	2007	C	C6-N1-C2	-5.53	118.09	120.30
28	DF	156	LEU	CA-CB-CG	5.52	128.00	115.30
23	CV	16	A	N9-C4-C5	-5.52	103.59	105.80
59	DA	2111	C	C6-N1-C2	-5.51	118.09	120.30
20	AY	61	ARG	C-N-CA	-5.51	110.73	122.30
11	AL	55	VAL	CB-CA-C	-5.51	100.94	111.40
59	BA	2866	U	C5-C6-N1	5.50	125.45	122.70
59	BA	1022	G	P-O3'-C3'	5.50	126.30	119.70
23	CV	17	U	C6-N1-C2	-5.50	117.70	121.00
59	BA	1378	A	O4'-C1'-N9	5.49	112.59	108.20
59	DA	2710	C	C6-N1-C2	-5.48	118.11	120.30
21	AA	1137	C	N1-C2-O2	5.47	122.18	118.90
21	CA	421	U	C2-N1-C1'	5.47	124.26	117.70
59	BA	2780	G	N1-C2-N3	5.46	127.18	123.90
59	DA	645	C	C5-C6-N1	5.46	123.73	121.00
59	BA	758	C	N1-C2-O2	5.45	122.17	118.90
60	DB	31	C	C6-N1-C2	-5.45	118.12	120.30
21	AA	1126	U	C2-N1-C1'	5.44	124.23	117.70
59	BA	2092	U	N1-C2-O2	5.43	126.60	122.80
11	AL	60	LEU	CA-CB-CG	5.43	127.79	115.30
59	BA	113	G	C4-N9-C1'	5.43	133.55	126.50
1	AB	162	ILE	CB-CA-C	5.42	122.44	111.60
20	AY	32	ILE	CB-CA-C	5.41	122.41	111.60
59	DA	2804	C	C6-N1-C2	-5.41	118.14	120.30
59	DA	448	U	C2-N1-C1'	5.40	124.18	117.70
21	AA	1064	G	P-O3'-C3'	5.38	126.16	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
59	DA	1396	U	N3-C2-O2	-5.38	118.43	122.20
23	AV	19	G	C8-N9-C1'	-5.38	120.01	127.00
2	CC	188	LEU	CA-CB-CG	5.37	127.65	115.30
23	CV	19	G	C8-N9-C1'	-5.37	120.02	127.00
23	AV	18	G	N1-C2-N3	-5.37	120.68	123.90
59	DA	2033	A	N9-C4-C5	5.36	107.94	105.80
59	DA	2033	A	C8-N9-C4	-5.35	103.66	105.80
59	BA	687	C	N1-C2-O2	5.34	122.11	118.90
21	CA	68(H)	G	N1-C6-O6	-5.34	116.70	119.90
34	DO	8	LEU	CA-CB-CG	5.34	127.58	115.30
11	CL	35	GLY	N-CA-C	5.33	126.43	113.10
21	AA	365	U	C2-N1-C1'	5.32	124.08	117.70
28	DF	174	VAL	N-CA-C	-5.31	96.65	111.00
21	AA	1128	C	C2-N1-C1'	5.31	124.64	118.80
22	CW	30	C	C6-N1-C2	-5.31	118.18	120.30
59	BA	271(C)	G	P-O3'-C3'	5.31	126.07	119.70
59	DA	2118	U	C2-N1-C1'	5.31	124.07	117.70
21	CA	1064	G	P-O3'-C3'	5.30	126.06	119.70
21	CA	201(C)	U	N3-C2-O2	-5.30	118.49	122.20
59	BA	1420	U	C2-N1-C1'	5.30	124.06	117.70
9	CJ	16	LEU	CA-CB-CG	5.29	127.47	115.30
59	DA	1680	U	C2-N1-C1'	-5.29	111.35	117.70
21	CA	748	C	OP2-P-O3'	5.29	116.83	105.20
59	DA	1664	A	C8-N9-C4	-5.28	103.69	105.80
59	DA	933	A	O4'-C1'-N9	5.28	112.42	108.20
21	CA	838(A)	U	C2-N1-C1'	5.27	124.02	117.70
21	CA	421	U	N3-C2-O2	-5.26	118.52	122.20
21	AA	1378	C	N1-C2-O2	5.26	122.06	118.90
59	BA	1837	C	C2-N1-C1'	5.26	124.59	118.80
59	DA	165	U	O4'-C1'-N1	5.26	112.41	108.20
59	BA	2174	C	C6-N1-C2	-5.25	118.20	120.30
59	DA	935	C	C2-N1-C1'	5.25	124.57	118.80
59	BA	1420	U	N3-C2-O2	-5.23	118.54	122.20
59	DA	2032	G	C8-N9-C4	-5.23	104.31	106.40
21	AA	1086	U	C2-N1-C1'	5.23	123.98	117.70
59	DA	1963	U	N3-C2-O2	-5.23	118.54	122.20
59	DA	2598	A	N1-C6-N6	5.22	121.73	118.60
59	DA	1139	G	O5'-P-OP2	-5.22	101.00	105.70
21	CA	421	U	N1-C2-O2	5.22	126.45	122.80
59	BA	270(L)	C	N3-C2-O2	-5.21	118.25	121.90
59	DA	840	C	C6-N1-C2	-5.21	118.22	120.30
20	AY	503	GLY	C-N-CA	5.21	134.72	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
59	DA	1776	G	C6-C5-N7	-5.21	127.28	130.40
59	BA	2792	G	C8-N9-C4	-5.20	104.32	106.40
21	CA	351	G	N3-C4-C5	-5.20	126.00	128.60
59	DA	2730	C	C2-N1-C1'	5.20	124.52	118.80
59	BA	2092	U	N3-C2-O2	-5.20	118.56	122.20
21	CA	351	G	C8-N9-C4	-5.20	104.32	106.40
59	DA	2055	C	C6-N1-C2	-5.20	118.22	120.30
59	DA	165	U	C2-N1-C1'	5.19	123.93	117.70
59	BA	1673	U	O4'-C1'-N1	5.18	112.35	108.20
56	D1	17	SER	N-CA-C	-5.18	97.02	111.00
28	BF	156	LEU	C-N-CA	-5.17	108.77	121.70
59	BA	1078	U	C2-N1-C1'	5.17	123.91	117.70
1	CB	66	GLY	N-CA-C	5.17	126.03	113.10
59	DA	1909	C	C6-N1-C1'	-5.17	114.59	120.80
22	AW	73	A	N7-C8-N9	5.17	116.38	113.80
21	AA	962	C	C5-C6-N1	5.17	123.58	121.00
59	DA	1314	C	C6-N1-C2	-5.16	118.23	120.30
28	BF	157	VAL	CB-CA-C	5.16	121.20	111.40
59	BA	2866	U	N1-C2-O2	5.16	126.41	122.80
21	AA	235	C	C6-N1-C2	5.16	122.36	120.30
23	AV	17	U	N3-C4-C5	-5.15	111.51	114.60
5	CF	75	LEU	CA-CB-CG	5.15	127.15	115.30
37	DR	116	LEU	CA-CB-CG	5.15	127.15	115.30
59	DA	2780	G	C5-N7-C8	5.15	106.88	104.30
21	AA	1128	C	N1-C2-O2	5.13	121.98	118.90
43	BX	57	LEU	CA-CB-CG	5.13	127.10	115.30
59	BA	2422	A	OP1-P-O3'	5.13	116.48	105.20
22	AW	50	C	C2-N1-C1'	-5.12	113.16	118.80
59	DA	1776	G	C4-N9-C1'	5.11	133.15	126.50
34	BO	8	LEU	CA-CB-CG	5.11	127.05	115.30
32	DK	105	LEU	CA-CB-CG	5.10	127.04	115.30
21	AA	1083	U	O4'-C1'-N1	5.10	112.28	108.20
21	AA	1190	G	C4-N9-C1'	5.10	133.12	126.50
11	CL	34	ARG	N-CA-C	5.10	124.76	111.00
59	DA	1313	U	C5-C6-N1	5.09	125.25	122.70
39	BT	79	HIS	N-CA-C	5.09	124.74	111.00
21	AA	443	C	N1-C2-O2	5.08	121.95	118.90
59	BA	2581	G	N3-C4-N9	5.08	129.05	126.00
59	DA	270(L)	C	C6-N1-C2	-5.08	118.27	120.30
21	AA	1504	G	P-O3'-C3'	5.08	125.79	119.70
21	CA	1009	G	O4'-C1'-N9	5.08	112.26	108.20
59	BA	1872	A	N1-C6-N6	5.07	121.64	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
59	DA	1378	A	O4'-C1'-N9	5.07	112.25	108.20
59	DA	1776	G	C4-C5-N7	5.06	112.83	110.80
59	DA	1909	C	N1-C2-O2	5.06	121.94	118.90
59	DA	897	C	C2-N1-C1'	5.06	124.37	118.80
59	BA	1493	C	C5-C6-N1	5.06	123.53	121.00
59	BA	2712	U	N3-C2-O2	-5.05	118.66	122.20
21	AA	68(H)	G	O4'-C1'-N9	5.04	112.23	108.20
59	DA	691	C	C6-N1-C2	-5.04	118.28	120.30
59	BA	2118	U	C2-N1-C1'	5.03	123.74	117.70
59	DA	302	C	O4'-C1'-N1	5.03	112.23	108.20
9	AJ	16	LEU	CA-CB-CG	5.03	126.87	115.30
59	BA	1314	C	N1-C2-O2	5.03	121.92	118.90
59	DA	2389	G	N3-C4-N9	-5.03	122.98	126.00
21	CA	687	A	P-O3'-C3'	5.03	125.73	119.70
29	DG	116	ASP	C-N-CA	5.03	134.27	121.70
1	AB	185	ILE	O-C-N	5.03	130.74	122.70
59	DA	2473	U	C2-N1-C1'	5.03	123.73	117.70
59	BA	2585	U	N3-C2-O2	-5.02	118.69	122.20
59	DA	506	G	O4'-C1'-N9	5.02	112.22	108.20
59	DA	2422	A	P-O3'-C3'	5.02	125.72	119.70
21	CA	717	C	C2-N1-C1'	5.01	124.31	118.80
59	BA	2422	A	C8-N9-C4	-5.01	103.80	105.80
21	CA	115	G	P-O3'-C3'	5.01	125.71	119.70
59	BA	2056	G	C4-C5-N7	5.00	112.80	110.80
59	BA	476	G	C8-N9-C4	-5.00	104.40	106.40
59	BA	479	A	N1-C6-N6	-5.00	115.60	118.60
59	DA	935	C	C6-N1-C2	-5.00	118.30	120.30

There are no chirality outliers.

All (44) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	AB	162	ILE	Peptide
1	AB	163	PHE	Peptide
10	AK	109	VAL	Peptide
11	AL	57	LYS	Peptide
20	AY	31	ARG	Peptide
20	AY	34	TYR	Peptide
20	AY	630	GLN	Peptide
56	B1	16	ASN	Peptide
56	B1	17	SER	Peptide
25	BC	171	ALA	Peptide

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Mol	Chain	Res	Type	Group
25	BC	60	ARG	Peptide
25	BC	88	GLU	Peptide
28	BF	154	VAL	Peptide
28	BF	173	VAL	Peptide
29	BG	113	ARG	Peptide
31	BJ	83	UNK	Peptide
38	BS	100	ALA	Peptide
38	BS	46	VAL	Peptide
39	BT	28	VAL	Peptide
39	BT	48	ILE	Peptide
1	CB	163	PHE	Peptide
11	CL	32	PHE	Peptide
20	CY	162	VAL	Peptide
20	CY	31	ARG	Peptide
20	CY	32	ILE	Peptide
20	CY	329	ARG	Peptide
20	CY	34	TYR	Peptide
20	CY	502	GLY	Mainchain,Peptide
20	CY	630	GLN	Peptide
56	D1	16	ASN	Peptide
56	D1	17	SER	Peptide
56	D1	18	ILE	Peptide
25	DC	171	ALA	Peptide
25	DC	211	ARG	Peptide
26	DD	78	LYS	Peptide
28	DF	154	VAL	Peptide
28	DF	173	VAL	Peptide
29	DG	113	ARG	Peptide
31	DJ	83	UNK	Peptide
38	DS	100	ALA	Peptide
38	DS	46	VAL	Peptide
39	DT	28	VAL	Peptide
42	DW	75	TYR	Peptide

## 5.2 Close contacts ⓘ

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogens added by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, and the number in parentheses is this value normalized per 1000 atoms of the molecule in the chain. The Symm-Clashes column gives symmetry related clashes, in the same way as for the Clashes column.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	AB	1910	0	1957	131	0
1	CB	1910	0	1957	98	0
2	AC	1621	0	1688	88	0
2	CC	1621	0	1688	67	0
3	AD	1703	0	1763	111	0
3	CD	1703	0	1763	120	0
4	AE	1156	0	1213	72	0
4	CE	1156	0	1213	54	0
5	AF	843	0	857	40	0
5	CF	843	0	857	40	0
6	AG	1257	0	1296	60	0
6	CG	1257	0	1296	61	0
7	AH	1116	0	1177	81	0
7	CH	1116	0	1177	73	0
8	AI	1011	0	1043	75	5
8	CI	1011	0	1043	54	0
9	AJ	802	0	849	71	0
9	CJ	802	0	849	61	0
10	AK	885	0	904	62	0
10	CK	885	0	904	61	0
11	AL	976	0	1062	110	0
11	CL	976	0	1062	113	0
12	AM	997	0	1072	76	0
12	CM	997	0	1072	72	5
13	AN	492	0	529	39	0
13	CN	492	0	529	35	0
14	AO	734	0	771	42	0
14	CO	734	0	771	42	0
15	AP	706	0	725	38	0
15	CP	706	0	725	39	0
16	AQ	835	0	906	63	0
16	CQ	835	0	906	63	0
17	AR	574	0	644	44	0
17	CR	574	0	644	36	0
18	AS	634	0	655	38	0
18	CS	634	0	655	33	0
19	AT	762	0	859	48	0
19	CT	762	0	859	32	0
20	AY	5380	0	5433	360	0
20	CY	5380	0	5435	346	0
21	AA	32474	0	16393	910	0
21	CA	32474	0	16393	851	0
22	AW	1635	0	831	64	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
22	CW	1635	0	831	55	0
23	AV	503	0	252	25	0
23	CV	503	0	252	34	0
24	AU	48	0	39	9	0
24	CU	48	0	39	9	0
25	BC	1742	0	1798	160	0
25	DC	1742	0	1798	148	0
26	BD	2145	0	2234	172	0
26	DD	2145	0	2234	164	0
27	BE	1569	0	1634	147	0
27	DE	1569	0	1634	122	0
28	BF	1628	0	1680	146	0
28	DF	1628	0	1680	141	0
29	BG	1474	0	1535	102	0
29	DG	1474	0	1535	82	0
30	BH	1274	0	1342	76	0
30	DH	1274	0	1342	73	0
31	BJ	851	0	197	29	0
31	DJ	851	0	196	25	0
32	BK	1035	0	1082	58	0
32	DK	1035	0	1082	57	0
33	BN	1104	0	1180	114	0
33	DN	1104	0	1180	115	0
34	BO	933	0	996	57	0
34	DO	933	0	996	71	0
35	BP	1114	0	1187	95	0
35	DP	1114	0	1187	111	0
36	BQ	1122	0	1179	81	0
36	DQ	1122	0	1179	65	0
37	BR	960	0	1021	77	0
37	DR	960	0	1021	71	0
38	BS	775	0	835	74	0
38	DS	775	0	835	76	0
39	BT	1147	0	1207	90	0
39	DT	1147	0	1207	111	0
40	BU	964	0	1022	85	0
40	DU	964	0	1022	76	0
41	BV	779	0	852	48	0
41	DV	779	0	852	62	0
42	BW	900	0	964	64	0
42	DW	900	0	964	57	0
43	BX	734	0	789	40	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
43	DX	734	0	789	42	0
44	BY	818	0	908	63	0
44	DY	818	0	908	58	0
45	BZ	1473	0	1497	89	0
45	DZ	1473	0	1497	81	0
46	B0	662	0	688	43	0
46	D0	662	0	688	40	0
47	B2	598	0	653	37	0
47	D2	598	0	653	28	0
48	B3	477	0	529	25	0
48	D3	477	0	529	25	0
49	B5	459	0	477	35	0
49	D5	459	0	477	34	0
50	B6	433	0	461	36	0
50	D6	433	0	461	36	0
51	B7	430	0	480	44	0
51	D7	430	0	480	32	0
52	B8	517	0	582	48	0
52	D8	517	0	582	50	0
53	B9	307	0	336	23	0
53	D9	307	0	335	20	0
54	Bf	156	0	41	0	0
54	Bg	156	0	39	0	0
54	Df	156	0	41	0	0
54	Dg	156	0	39	0	0
55	Bh	151	0	39	0	0
55	Dh	151	0	37	0	0
56	B1	732	0	808	88	0
56	D1	732	0	808	76	0
57	B4	271	0	284	31	0
57	D4	271	0	284	20	0
58	Be	686	0	620	0	0
58	De	686	0	619	0	0
59	BA	61997	0	31250	1815	0
59	DA	61997	0	31250	1738	0
60	BB	2551	0	1295	76	0
60	DB	2551	0	1295	70	0
61	AY	32	0	13	17	0
61	CY	32	0	13	32	0
62	AY	1	0	0	0	0
62	CY	1	0	0	0	0
All	All	308422	0	213301	11743	5

Clashscore is defined as the number of clashes calculated for the entry per 1000 atoms (including hydrogens) of the entry. The overall clashscore for this entry is 23.

All (11743) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:CW:37:A:C2	23:CV:16:A:C2	1.85	1.57
20:AY:33:LEU:HD21	20:AY:34:TYR:CE2	1.42	1.54
20:AY:33:LEU:HD21	20:AY:34:TYR:CD2	1.54	1.43
20:AY:33:LEU:CD2	20:AY:34:TYR:CD2	2.00	1.42
20:AY:138:LYS:NZ	61:AY:701:GNP:N3	1.61	1.42
29:DG:112:PRO:CA	29:DG:112:PRO:C	1.88	1.41
29:BG:112:PRO:CA	29:BG:112:PRO:C	1.87	1.40
20:CY:138:LYS:HE2	61:CY:701:GNP:C4	1.55	1.33
20:CY:138:LYS:HG2	61:CY:701:GNP:C6	1.57	1.31
20:CY:30:GLU:O	20:CY:33:LEU:N	1.69	1.24
20:AY:138:LYS:NZ	61:AY:701:GNP:C2	2.03	1.21
59:DA:2133:G:H21	59:DA:2158:A:N6	1.39	1.19
59:BA:2133:G:H21	59:BA:2158:A:N6	1.40	1.18
59:DA:2133:G:N2	59:DA:2158:A:H62	1.42	1.17
33:BN:5:VAL:O	33:BN:7:LYS:NZ	1.80	1.15
20:CY:137:ASN:ND2	20:CY:263:ALA:H	1.45	1.15
59:BA:270(J):G:H1	59:BA:270(R):C:N4	1.43	1.15
22:AW:37:A:C2	23:AV:16:A:N3	2.15	1.15
59:DA:1170:G:H1	59:DA:1179:C:N4	1.46	1.12
21:CA:1028(B):C:N4	21:CA:1028(G):G:H1	1.49	1.11
59:DA:281:G:H21	59:DA:359:A:N6	1.48	1.11
29:BG:113:ARG:CG	57:B4:34:GLU:OE2	1.99	1.10
22:CW:37:A:C2	23:CV:16:A:N3	2.19	1.10
20:AY:33:LEU:CD2	20:AY:34:TYR:CE2	2.29	1.09
20:CY:138:LYS:HG2	61:CY:701:GNP:N1	1.66	1.09
59:BA:2133:G:N2	59:BA:2158:A:H62	1.48	1.09
59:DA:281:G:N2	59:DA:359:A:H62	1.49	1.09
33:BN:118:LYS:NZ	59:BA:2780:G:OP2	1.85	1.09
59:DA:1436:G:H1	59:DA:1556:C:N4	1.50	1.08
59:DA:2093:G:H1	59:DA:2196:C:N4	1.51	1.07
59:DA:814:C:N4	59:DA:1193:G:H1	1.53	1.07
20:CY:25:LYS:HG3	61:CY:701:GNP:O1B	1.56	1.06
26:BD:44:ASN:HB2	26:BD:49:ILE:HA	1.38	1.05
22:CW:37:A:H2	23:CV:16:A:N3	1.54	1.04
29:BG:113:ARG:HG2	57:B4:34:GLU:OE2	1.52	1.04
21:AA:815:A:N1	21:AA:1508:G:N2	2.05	1.04
11:AL:33:ARG:HB3	11:AL:60:LEU:HD12	1.38	1.04
20:AY:33:LEU:HD23	20:AY:34:TYR:CD2	1.92	1.04
21:AA:815:A:H2	21:AA:1527:C:O2	1.39	1.03

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:CY:138:LYS:HE2	61:CY:701:GNP:N9	1.74	1.03
59:BA:281:G:H21	59:BA:359:A:H62	1.04	1.03
33:DN:70:LYS:NZ	59:DA:1139:G:OP2	1.91	1.02
21:AA:1493:A:OP1	24:AU:2:DPP:HA	1.60	1.02
21:CA:1124:G:H1	21:CA:1149:C:N4	1.59	1.01
45:BZ:151:HIS:HB3	45:BZ:170:THR:HA	1.43	1.00
59:BA:2778:A:N3	59:BA:2780:G:N2	2.08	1.00
21:AA:112:G:H1	21:AA:315:A:H61	1.09	1.00
20:AY:32:ILE:O	20:AY:34:TYR:N	1.95	1.00
59:DA:122:G:H1	59:DA:129:C:H42	1.05	1.00
22:AW:37:A:C2	23:AV:16:A:C2	2.51	0.99
1:CB:87:ARG:HH22	1:CB:233:SER:H	1.11	0.99
59:DA:270(J):G:H1	59:DA:270(R):C:N4	1.61	0.99
59:DA:1346:G:H1	59:DA:1600:C:N4	1.58	0.99
21:CA:1127:G:N2	21:CA:1145:C:N3	2.09	0.99
59:DA:949:C:H42	59:DA:968:G:H1	1.08	0.98
59:DA:947:G:H1	59:DA:970:C:N4	1.62	0.98
59:DA:852:G:H1	59:DA:925:C:H42	1.05	0.98
21:CA:1127:G:H1	21:CA:1145:C:H42	1.00	0.98
59:DA:1663:C:H42	59:DA:1997:G:H1	1.06	0.98
21:AA:1127:G:N2	21:AA:1145:C:N3	2.11	0.98
59:DA:2121:G:H1	59:DA:2177:C:H42	0.99	0.98
59:DA:2138:C:N4	59:DA:2153:G:H1	1.62	0.98
59:BA:2457:U:H3	59:BA:2494:G:H1	1.08	0.97
59:BA:2794:C:H42	59:BA:2802:G:H1	1.09	0.97
59:DA:1347:G:H1	59:DA:1599:C:H42	1.08	0.97
59:DA:1417:C:H42	59:DA:1581:G:H1	1.04	0.97
59:BA:817:C:H42	59:BA:1190:G:H1	1.11	0.96
21:AA:1003:G:N1	21:AA:1037:C:O2	1.99	0.96
59:BA:2119:A:H61	59:BA:2168:G:H21	1.01	0.96
59:DA:2466:C:H42	59:DA:2484:G:H1	1.10	0.96
27:BE:61:ARG:HB3	27:BE:62:PRO:HD2	1.47	0.96
21:AA:815:A:C2	21:AA:1527:C:O2	2.18	0.95
59:BA:273(G):C:H42	59:BA:363(A):G:H1	1.14	0.95
21:CA:1536:C:H42	23:CV:9:G:H1	1.12	0.95
59:DA:273(G):C:H42	59:DA:363(A):G:H1	0.99	0.95
59:BA:1013:C:N4	59:BA:1149:G:H1	1.65	0.95
20:AY:22:ASP:HB3	61:AY:701:GNP:H5'2	1.45	0.94
4:AE:126:ARG:HE	21:AA:9:G:H5"	1.31	0.94
21:CA:1405:G:H1	21:CA:1496:C:H42	1.13	0.94
22:CW:37:A:N1	23:CV:16:A:C2	2.34	0.94
20:CY:64:THR:HG21	61:CY:701:GNP:O3G	1.65	0.94

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:1013:C:H42	59:DA:1149:G:H1	1.10	0.94
25:DC:47:LYS:HB3	25:DC:212:SER:HB2	1.48	0.94
21:AA:663:A:H61	21:AA:742:G:H1	1.11	0.94
59:BA:814:C:H42	59:BA:1193:G:H1	1.12	0.94
59:DA:1002:G:H1	59:DA:1153:C:H42	1.05	0.94
40:BU:59:ARG:HH22	59:BA:1154:G:H5"	1.29	0.94
21:CA:68(A):G:H1	21:CA:68(Y):C:H42	1.14	0.94
21:CA:1124:G:H1	21:CA:1149:C:H42	0.97	0.94
33:DN:49:GLY:O	33:DN:119:ARG:NH1	2.01	0.94
59:DA:678:C:H42	59:DA:799:G:H1	0.94	0.94
21:CA:1003:G:N1	21:CA:1037:C:O2	2.00	0.94
26:DD:44:ASN:HB2	26:DD:49:ILE:HA	1.48	0.94
22:CW:37:A:N1	23:CV:16:A:N1	2.16	0.93
20:CY:137:ASN:HD21	20:CY:263:ALA:H	1.14	0.93
31:DJ:54:UNK:HA	31:DJ:79:UNK:HA	1.47	0.93
59:BA:1013:C:H42	59:BA:1149:G:H1	0.97	0.93
59:BA:2398:U:H3	59:BA:2418:A:H61	1.07	0.93
59:BA:306:U:H3	59:BA:310:A:H62	1.11	0.93
59:DA:286:C:H42	59:DA:355:G:H1	1.03	0.93
21:AA:1405:G:H1	21:AA:1496:C:H42	1.03	0.93
59:DA:1840:G:H1	59:DA:1902:C:H42	0.94	0.93
11:AL:56:ALA:HB3	11:AL:68:ALA:HB3	1.51	0.93
56:D1:25:LYS:HG2	56:D1:34:THR:HA	1.49	0.93
21:CA:376:G:H1	21:CA:387:U:H3	1.17	0.93
59:DA:20:C:H42	59:DA:520:G:H1	1.15	0.93
20:AY:633:GLY:HA3	20:AY:644:ARG:HB2	1.51	0.92
22:AW:53:G:H1	22:AW:61:C:N4	1.66	0.92
59:BA:1170:G:H1	59:BA:1179:C:H42	1.17	0.92
59:DA:949:C:N3	59:DA:968:G:N2	2.17	0.92
59:DA:610:C:H42	59:DA:618(A):G:H1	1.14	0.92
59:BA:1347:G:H1	59:BA:1599:C:H42	1.16	0.92
59:DA:704:G:HO2'	59:DA:726:G:H1	1.15	0.92
11:CL:54:LYS:HD3	11:CL:70:ILE:HG12	1.50	0.92
59:DA:854:G:H1	59:DA:923:C:H42	0.92	0.92
21:CA:151:A:H62	21:CA:170:U:H3	0.99	0.91
21:CA:1127:G:H1	21:CA:1145:C:N4	1.68	0.91
22:AW:53:G:H1	22:AW:61:C:H42	0.92	0.91
59:BA:565:C:H42	59:BA:576:U:H3	1.16	0.91
3:CD:157:LEU:HA	3:CD:160:GLN:HB2	1.50	0.91
59:DA:2642:G:H1	59:DA:2772:C:H42	1.17	0.91
59:DA:270(F):G:H1	59:DA:270(V):C:H42	0.95	0.91
21:CA:1028(C):G:N2	21:CA:1028(F):A:C8	2.38	0.91

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:1311:G:H21	59:BA:1603:A:H62	1.18	0.91
59:DA:1324:G:H1	59:DA:1330:C:H42	1.16	0.91
59:DA:1906:G:H1	59:DA:1924:C:H42	1.18	0.91
21:CA:68(F):C:N3	21:CA:68(T):G:N2	2.18	0.91
51:B7:39:ARG:HH22	51:B7:42:LEU:HB2	1.36	0.91
59:BA:8:A:N1	59:BA:2895:U:O4	2.04	0.90
59:DA:852:G:N2	59:DA:925:C:N3	2.19	0.90
56:B1:45:ASN:HB2	59:BA:397:G:H5"	1.50	0.90
20:CY:32:ILE:O	20:CY:34:TYR:N	2.05	0.90
59:DA:882:G:N2	59:DA:894:C:N3	2.19	0.90
59:DA:884:C:H42	59:DA:892:G:H1	1.20	0.90
59:BA:979:G:H2'	59:BA:982:C:H41	1.37	0.90
59:BA:1025:G:H1	59:BA:1139:G:H1	1.20	0.90
59:BA:1076:C:H2'	59:BA:1077:A:H4'	1.53	0.90
21:CA:815:A:C2	21:CA:1527:C:O2	2.25	0.90
28:BF:4:VAL:HA	28:BF:22:ALA:HB3	1.54	0.89
33:BN:48:MET:SD	33:BN:48:MET:N	2.43	0.89
59:DA:882:G:H1	59:DA:894:C:H42	1.19	0.89
9:AJ:49:VAL:HG21	13:AN:41:ARG:HB2	1.54	0.89
3:CD:175:SER:HB3	3:CD:184:LYS:HB2	1.53	0.89
59:DA:681:G:H1	59:DA:796:C:H42	0.99	0.89
38:BS:15:ARG:HB3	38:BS:18:ILE:HB	1.53	0.89
21:CA:68(F):C:H42	21:CA:68(T):G:H1	0.91	0.89
20:AY:33:LEU:CD2	20:AY:34:TYR:HD2	1.81	0.88
6:CG:88:PRO:HD2	6:CG:151:TYR:HB2	1.54	0.88
21:AA:891:U:H3	21:AA:907:A:H62	1.22	0.88
21:AA:1261:A:H62	21:AA:1274:G:H21	1.19	0.88
22:CW:15:G:N2	22:CW:48:C:H42	1.71	0.88
25:DC:169:THR:HB	59:DA:2178:C:H1'	1.56	0.88
51:D7:34:ARG:HD3	51:D7:42:LEU:HB3	1.54	0.88
8:CI:107:ARG:HA	21:CA:1347:G:H5'	1.56	0.88
20:CY:137:ASN:ND2	20:CY:263:ALA:N	2.22	0.88
45:BZ:103:ARG:HB3	45:BZ:138:GLU:HA	1.55	0.88
59:DA:854:G:H1	59:DA:923:C:N4	1.70	0.88
59:DA:1411:C:H42	59:DA:1591:G:H1	0.88	0.88
45:BZ:15:PRO:HB3	60:BB:76:G:H5"	1.55	0.88
33:BN:78:TYR:CD2	59:BA:2642:G:H5'	2.09	0.88
44:DY:46:LYS:H	44:DY:62:GLU:HB2	1.39	0.88
59:DA:678:C:N4	59:DA:799:G:H1	1.72	0.88
14:CO:8:LYS:HE3	14:CO:31:LEU:HD21	1.54	0.88
39:BT:49:VAL:HA	39:BT:63:VAL:HA	1.53	0.88
21:CA:1028(B):C:N4	21:CA:1028(G):G:N1	2.21	0.87

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:1411:C:N4	59:DA:1591:G:H1	1.71	0.87
14:CO:82:ILE:HG13	14:CO:87:ILE:HG13	1.56	0.87
59:DA:2093:G:N2	59:DA:2196:C:N3	2.23	0.87
59:BA:1418:G:H21	59:BA:1580:A:H62	1.16	0.87
59:DA:1782:C:H42	59:DA:2586:C:H42	1.18	0.87
59:BA:1899:G:H22	59:BA:1902:C:H41	1.22	0.87
59:DA:783:A:H2'	59:DA:784:A:H4'	1.56	0.87
59:DA:1345:C:H42	59:DA:1601:G:H1	1.20	0.87
20:CY:138:LYS:CE	61:CY:701:GNP:C4	2.48	0.87
11:AL:58:VAL:HG12	11:AL:60:LEU:H	1.40	0.87
59:DA:884:C:N3	59:DA:892:G:N2	2.23	0.87
39:BT:29:ARG:HB2	39:BT:88:ILE:HG13	1.56	0.87
59:DA:852:G:H1	59:DA:925:C:N4	1.73	0.87
21:CA:68(F):C:N4	21:CA:68(T):G:H1	1.72	0.87
60:BB:30:C:H1'	60:BB:57:A:H61	1.40	0.86
22:AW:6:C:H42	22:AW:67:G:H1	1.20	0.86
59:DA:1207:C:H42	59:DA:1239:G:H1	1.19	0.86
20:AY:63:ILE:CG1	61:AY:701:GNP:O1G	2.22	0.86
45:DZ:151:HIS:HB3	45:DZ:170:THR:HA	1.57	0.86
59:DA:2794:C:H42	59:DA:2802:G:H1	1.23	0.86
21:AA:1246:C:H42	21:AA:1291:G:H1	1.23	0.86
59:BA:1935:G:H3'	59:BA:1962:C:H42	1.39	0.86
59:DA:1059:G:N1	59:DA:1079:C:N4	2.22	0.86
38:DS:86:ALA:O	38:DS:106:ARG:NH1	2.09	0.86
59:DA:273(G):C:N4	59:DA:363(A):G:H1	1.74	0.86
59:DA:882:G:H1	59:DA:894:C:N4	1.73	0.86
21:CA:443:C:H42	21:CA:491:G:H1	1.23	0.86
21:CA:590:C:H42	21:CA:649:G:H1	1.20	0.86
59:DA:1436:G:N2	59:DA:1556:C:N3	2.22	0.86
59:DA:1840:G:H1	59:DA:1902:C:N4	1.71	0.86
59:DA:817:C:H42	59:DA:1190:G:H1	1.24	0.86
20:AY:33:LEU:HD21	20:AY:34:TYR:HE2	1.37	0.86
22:AW:37:A:H2	23:AV:16:A:N3	1.71	0.86
21:AA:1503:A:H61	23:AV:14:A:H3'	1.40	0.86
59:DA:2121:G:H1	59:DA:2177:C:N4	1.73	0.86
33:DN:9:VAL:HG21	33:DN:39:ARG:HH12	1.39	0.86
16:CQ:27:PHE:HB3	16:CQ:36:ILE:HG13	1.56	0.86
59:BA:460:A:H62	59:BA:469:G:H21	1.24	0.86
21:AA:976:G:H22	21:AA:1362(A):C:H5''	1.41	0.86
59:DA:1411:C:N3	59:DA:1591:G:N2	2.23	0.85
20:AY:34:TYR:CD1	20:AY:35:TYR:N	2.43	0.85
20:CY:138:LYS:CG	61:CY:701:GNP:C6	2.51	0.85

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:671:C:N4	59:DA:809:G:H1	1.73	0.85
1:AB:35:GLU:HA	1:AB:40:HIS:HA	1.58	0.85
20:AY:33:LEU:HD23	20:AY:34:TYR:H	1.41	0.85
45:BZ:102:LEU:HD11	45:BZ:124:ILE:HG23	1.57	0.85
41:BV:24:LYS:HB3	59:BA:1162:G:H4'	1.58	0.85
11:AL:35:GLY:HA2	11:AL:58:VAL:HG13	1.59	0.85
31:DJ:25:UNK:HA	31:DJ:80:UNK:HA	1.57	0.85
21:AA:68(E):G:N1	21:AA:68(U):U:O2	2.09	0.85
38:BS:27:SER:HA	38:BS:88:ASP:HB3	1.56	0.85
53:D9:22:ARG:HH11	53:D9:35:ARG:HH12	1.20	0.85
29:DG:112:PRO:C	29:DG:112:PRO:HA	1.95	0.85
49:D5:3:LYS:HG2	49:D5:5:PRO:HD2	1.57	0.85
3:AD:26:CYS:HA	3:AD:31:CYS:HA	1.58	0.85
25:DC:40:GLU:O	25:DC:42:VAL:N	2.09	0.85
42:DW:18:ARG:HH11	42:DW:76:VAL:HG13	1.41	0.85
25:BC:46:ALA:HB3	25:BC:172:ILE:HG22	1.58	0.85
20:AY:33:LEU:CG	20:AY:34:TYR:HD2	1.90	0.84
21:CA:152:A:N6	21:CA:169:C:O2	2.09	0.84
41:DV:24:LYS:HB3	59:DA:1162:G:H4'	1.58	0.84
59:DA:2701:C:H42	59:DA:2706:G:H1	1.22	0.84
59:DA:2293:C:H42	59:DA:2339:G:H1	1.25	0.84
29:BG:122:PRO:HB3	29:BG:170:ARG:HH21	1.41	0.84
28:BF:155:LEU:HD22	28:BF:186:ILE:HB	1.59	0.84
59:DA:360:G:H2'	59:DA:361:G:H8	1.43	0.84
28:DF:38:ARG:HH22	59:DA:661:C:H5'	1.41	0.84
36:BQ:16:ARG:NH2	59:BA:953:A:OP2	2.10	0.84
59:DA:671:C:H42	59:DA:809:G:H1	0.88	0.84
39:BT:50:ILE:HA	39:BT:99:LEU:HD12	1.60	0.84
20:CY:56:GLU:HB2	20:CY:59:ARG:HE	1.41	0.84
21:AA:411:A:C2	21:AA:430:A:N6	2.45	0.84
27:DE:61:ARG:HH21	59:DA:2810:A:H2'	1.43	0.84
59:DA:86:C:HO2'	59:DA:104:U:HO2'	1.18	0.84
38:BS:67:ARG:HH11	38:BS:98:VAL:HB	1.43	0.84
39:DT:106:SER:HB2	39:DT:110:ILE:HG12	1.60	0.84
59:DA:1646:C:H5''	59:DA:1647:G:H5''	1.58	0.83
31:BJ:54:UNK:HA	31:BJ:79:UNK:HA	1.58	0.83
45:BZ:76:LEU:HD22	45:BZ:83:PRO:HA	1.57	0.83
11:CL:33:ARG:HB3	11:CL:60:LEU:HD12	1.60	0.83
11:CL:54:LYS:HG2	11:CL:70:ILE:HG23	1.61	0.83
21:AA:372:C:H42	21:AA:389:A:H62	1.23	0.83
9:CJ:40:LEU:HD22	9:CJ:41:PRO:HD2	1.60	0.83
59:DA:1018:C:H42	59:DA:1144:G:H1	1.25	0.83

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:2020:A:N1	59:DA:2034:U:O4	2.10	0.83
59:DA:8:A:N1	59:DA:2895:U:O4	2.12	0.83
38:DS:101:LEU:HD22	38:DS:104:GLY:HA3	1.60	0.83
30:DH:41:MET:HE1	30:DH:43:VAL:HG13	1.60	0.83
22:CW:37:A:C2	23:CV:16:A:N1	2.46	0.83
39:BT:119:LYS:HG2	39:BT:123:GLN:HE22	1.43	0.83
27:BE:13:ARG:HA	27:BE:21:VAL:O	1.78	0.83
59:BA:1791:A:N6	59:BA:1828:G:O2'	2.11	0.83
20:AY:10:LYS:O	20:AY:13:ARG:NH1	2.10	0.83
59:BA:1056:G:H4'	59:BA:1086:A:H8	1.43	0.83
59:BA:711:G:H1	59:BA:720:C:H42	1.27	0.83
28:BF:63:LYS:HG3	28:BF:76:GLY:HA2	1.60	0.83
1:AB:178:ARG:HG3	7:AH:72:PRO:HA	1.61	0.83
59:BA:2690:C:N4	59:BA:2713:A:O2'	2.12	0.82
20:CY:137:ASN:HD21	20:CY:263:ALA:N	1.75	0.82
35:BP:23:PRO:HD2	35:BP:33:ARG:HE	1.44	0.82
25:DC:43:GLU:HB2	25:DC:216:THR:HG23	1.61	0.82
1:AB:78:GLN:HG3	1:AB:94:ASN:HB2	1.59	0.82
59:BA:1439:A:H62	59:BA:1552:G:N2	1.78	0.82
22:CW:15:G:H22	22:CW:48:C:H42	1.22	0.82
21:CA:1343:G:N2	21:CA:1349:A:O2'	2.11	0.82
20:CY:163:VAL:HG13	20:CY:258:VAL:HG23	1.59	0.82
26:DD:260:ARG:NH1	59:DA:1799:G:OP1	2.12	0.82
38:BS:39:ILE:HD11	38:BS:73:LEU:HD21	1.59	0.82
35:DP:45:LEU:HG	35:DP:46:LYS:HD2	1.61	0.82
21:AA:1363:A:H4'	21:AA:1364:U:H5''	1.60	0.82
47:D2:14:ARG:HG2	47:D2:63:VAL:HG11	1.59	0.82
21:AA:1127:G:H1	21:AA:1145:C:H42	1.24	0.82
20:CY:524:GLU:HB2	20:CY:564:LYS:HG3	1.61	0.82
60:DB:5:C:O2'	60:DB:27:C:O2	1.98	0.82
25:BC:41:THR:O	25:BC:176:VAL:N	2.12	0.82
8:AI:17:VAL:HG21	8:AI:80:GLY:HA3	1.61	0.82
25:DC:138:LEU:HD22	25:DC:139:PRO:HD2	1.61	0.82
59:DA:1436:G:H1	59:DA:1556:C:H42	0.87	0.82
59:DA:270(J):G:H1	59:DA:270(R):C:H42	1.24	0.82
28:DF:103:LYS:HE2	28:DF:107:LYS:HE3	1.62	0.82
59:BA:1418:G:N2	59:BA:1580:A:H62	1.75	0.82
59:DA:273(A):G:H1	59:DA:364:C:H42	1.23	0.82
29:BG:112:PRO:HA	29:BG:112:PRO:C	1.95	0.82
32:BK:134:MET:HG2	59:BA:1063:G:H5'	1.60	0.82
59:DA:1530:G:O6	59:DA:1541:U:O2	1.98	0.82
27:DE:13:ARG:HA	27:DE:21:VAL:O	1.80	0.82

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:AL:92:ASP:HB2	11:AL:93:LEU:HG	1.61	0.81
33:DN:9:VAL:HG21	33:DN:39:ARG:NH1	1.95	0.81
42:DW:84:ARG:NH2	59:DA:1322:A:O2'	2.13	0.81
11:AL:85:ILE:HG23	11:AL:98:TYR:HB3	1.61	0.81
1:CB:236:TYR:HA	1:CB:239:VAL:HB	1.60	0.81
20:AY:30:GLU:HB2	20:AY:51:THR:HG22	1.60	0.81
25:DC:46:ALA:HA	25:DC:212:SER:O	1.81	0.81
59:BA:2398:U:H3	59:BA:2418:A:N6	1.77	0.81
59:DA:270(F):G:H1	59:DA:270(V):C:N4	1.77	0.81
21:CA:1422:G:H5''	34:DO:48:PRO:HB3	1.62	0.81
32:BK:3:LYS:HE3	32:BK:29:GLN:HG3	1.62	0.81
59:DA:293:U:H3	59:DA:347:A:H61	1.27	0.81
56:D1:46:LEU:O	56:D1:47:GLN:NE2	2.14	0.81
49:D5:15:ARG:NH1	59:DA:2046:G:OP1	2.13	0.81
26:BD:260:ARG:NH1	59:BA:1799:G:OP1	2.14	0.81
3:AD:147:ALA:HB2	3:AD:182:LYS:HG3	1.62	0.81
13:AN:34:TYR:HA	21:AA:1358:U:H5''	1.61	0.81
46:B0:11:ARG:HH12	59:BA:2279:G:H5''	1.45	0.81
59:DA:2265:U:H3'	59:DA:2266:A:H8	1.45	0.81
59:DA:1830:C:H42	59:DA:1975:G:H1	1.26	0.81
37:DR:90:ARG:NH1	59:DA:2880:C:O2'	2.12	0.81
12:CM:91:ARG:NH2	21:CA:1226:C:OP2	2.14	0.81
27:BE:61:ARG:HD2	59:BA:2811:G:H5'	1.62	0.81
30:BH:35:VAL:HG11	30:BH:71:LEU:HB3	1.62	0.81
59:DA:2287:A:H62	59:DA:2344:U:H3	1.28	0.81
37:DR:31:HIS:HB2	37:DR:34:ILE:HD11	1.62	0.81
36:BQ:87:LYS:NZ	59:BA:955:C:OP1	2.14	0.81
59:BA:2135:A:H4'	59:BA:2160:G:H4'	1.63	0.81
59:DA:884:C:N4	59:DA:892:G:H1	1.77	0.81
59:BA:15:G:H1	59:BA:525:U:H3	1.29	0.81
6:CG:113:GLU:HB2	6:CG:119:ARG:HG2	1.63	0.81
36:DQ:12:GLN:HA	59:DA:910:A:H62	1.46	0.81
59:DA:681:G:H1	59:DA:796:C:N4	1.78	0.80
38:BS:86:ALA:O	38:BS:106:ARG:NH1	2.14	0.80
52:D8:14:VAL:HG23	52:D8:24:ALA:HB2	1.63	0.80
21:AA:309:G:H2'	21:AA:310:G:H8	1.46	0.80
20:CY:137:ASN:HD22	20:CY:262:SER:HA	1.46	0.80
59:DA:1311:G:H21	59:DA:1603:A:H62	1.26	0.80
2:AC:56:ASP:HB2	2:AC:67:THR:HB	1.62	0.80
33:DN:101:HIS:O	33:DN:101:HIS:ND1	2.13	0.80
59:BA:273(G):C:N4	59:BA:363(A):G:H1	1.80	0.80
59:BA:1439:A:H62	59:BA:1552:G:H21	1.30	0.80

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:BD:244:ARG:HE	59:BA:1902:C:H1'	1.44	0.80
60:BB:81:G:H1	60:BB:95:U:H3	1.29	0.80
21:CA:936:C:H42	21:CA:1379:G:H1	1.27	0.80
51:B7:9:ARG:NH2	59:BA:1311:G:N7	2.27	0.80
21:AA:737:A:H2'	21:AA:738:C:H6	1.47	0.80
22:CW:37:A:N3	23:CV:16:A:C2	2.49	0.80
45:DZ:102:LEU:HD11	45:DZ:124:ILE:HG23	1.63	0.80
11:CL:70:ILE:HG13	11:CL:72:GLY:H	1.46	0.80
6:AG:79:ARG:HB3	21:AA:1381:U:H1'	1.63	0.80
44:BY:85:VAL:HA	44:BY:94:LYS:HA	1.64	0.80
42:DW:11:ARG:HH12	42:DW:12:ILE:HD13	1.47	0.80
39:BT:55:ASN:H	39:BT:59:THR:HB	1.47	0.80
10:CK:18:ARG:HB3	10:CK:81:ASP:HB2	1.63	0.80
21:AA:1076:C:H42	21:AA:1081:G:H1	1.30	0.80
20:CY:72:CYS:SG	20:CY:79:ILE:N	2.55	0.80
59:DA:15:G:H1	59:DA:525:U:H3	1.30	0.80
2:AC:191:THR:HG23	2:AC:196:LEU:HD21	1.64	0.80
22:CW:15:G:H22	22:CW:48:C:N4	1.79	0.79
59:BA:853:G:H1	59:BA:924:C:H42	1.28	0.79
21:CA:666:G:OP2	21:CA:725:G:N2	2.16	0.79
30:BH:119:GLU:O	30:BH:140:LYS:NZ	2.15	0.79
59:DA:1992:G:N2	59:DA:1996:C:O2'	2.15	0.79
36:BQ:70:PRO:HA	36:BQ:95:ALA:HB2	1.64	0.79
27:BE:65:GLY:HA2	27:BE:70:ALA:HA	1.65	0.79
38:DS:106:ARG:HE	38:DS:108:GLY:HA2	1.48	0.79
59:DA:978:G:H1	59:DA:985:C:H42	1.29	0.79
25:DC:118:PRO:HD3	25:DC:147:GLY:HA2	1.63	0.79
49:B5:22:HIS:NE2	59:BA:2045:C:O2	2.15	0.79
59:BA:306:U:O4	59:BA:310:A:N7	2.15	0.79
59:BA:273(B):G:H1	59:BA:363(F):U:H3	1.28	0.79
41:DV:77:ALA:O	41:DV:79:VAL:N	2.16	0.79
59:DA:610:C:N4	59:DA:618(A):G:H1	1.80	0.79
21:AA:411:A:H2	21:AA:430:A:H62	1.26	0.79
1:CB:71:VAL:HB	1:CB:164:VAL:HG22	1.65	0.79
59:BA:884:C:C2	59:BA:892:G:N2	2.50	0.79
39:DT:25:GLY:HA3	39:DT:92:GLY:HA2	1.65	0.79
26:DD:13:ARG:NH1	59:DA:729:G:OP2	2.16	0.79
45:BZ:60:GLU:HA	45:BZ:66:SER:HA	1.65	0.79
41:BV:39:LEU:HA	41:BV:47:VAL:HG11	1.65	0.79
59:DA:136:G:H1	59:DA:143:C:H42	1.31	0.79
59:DA:2576:G:O2'	59:DA:2579:C:OP2	2.01	0.79
20:CY:25:LYS:NZ	61:CY:701:GNP:PB	2.55	0.79

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
38:BS:40:ILE:HA	38:BS:47:THR:HA	1.63	0.79
25:BC:79:ALA:HB1	25:BC:83:LYS:HB2	1.64	0.79
21:AA:563:A:H5''	21:AA:564:C:H5	1.48	0.79
44:DY:102:CYS:SG	44:DY:103:GLY:N	2.56	0.79
59:DA:1417:C:N4	59:DA:1581:G:H1	1.81	0.79
26:BD:87:ASN:N	26:BD:87:ASN:OD1	2.14	0.79
30:BH:22:GLY:HA2	30:BH:39:PRO:HG3	1.64	0.79
59:BA:1439:A:N6	59:BA:1552:G:H21	1.81	0.78
21:AA:68(G):G:H1	21:AA:68(S):C:N4	1.80	0.78
59:DA:1449:G:O6	59:DA:1462:C:N3	2.17	0.78
44:DY:51:VAL:HG12	44:DY:53:PRO:HD2	1.62	0.78
59:BA:2447:G:O2'	59:BA:2500:U:OP2	2.00	0.78
25:DC:51:ASP:O	25:DC:53:ARG:N	2.16	0.78
29:BG:113:ARG:HG3	57:B4:34:GLU:OE2	1.80	0.78
43:BX:34:ALA:O	43:BX:77:LYS:NZ	2.16	0.78
27:DE:168:MET:O	59:DA:2730:C:O2'	2.02	0.78
20:CY:413:ILE:HG13	20:CY:415:PRO:HD3	1.64	0.78
28:DF:4:VAL:HA	28:DF:22:ALA:HB3	1.65	0.78
21:AA:673:G:H1	21:AA:717:C:H42	1.31	0.78
59:DA:1248:G:H3'	59:DA:1249:U:H5''	1.65	0.78
51:B7:9:ARG:NH1	51:B7:47:ARG:O	2.16	0.78
25:BC:214:TYR:HB3	25:BC:222:SER:HB2	1.66	0.78
28:BF:167:ALA:HA	28:BF:170:LEU:HD23	1.64	0.78
21:AA:68(G):G:H1	21:AA:68(S):C:H42	1.27	0.78
1:AB:84:GLU:HB3	1:AB:219:VAL:HG21	1.65	0.78
25:DC:23:ILE:HD13	25:DC:191:ARG:HG2	1.65	0.78
33:BN:9:VAL:HG21	33:BN:39:ARG:HH12	1.46	0.78
26:BD:79:VAL:HG12	26:BD:80:ALA:H	1.47	0.78
21:CA:1028(B):C:C4	21:CA:1028(G):G:N1	2.49	0.78
31:BJ:25:UNK:HA	31:BJ:80:UNK:HA	1.66	0.78
59:BA:2794:C:N4	59:BA:2802:G:H1	1.81	0.78
59:DA:1347:G:H1	59:DA:1599:C:N4	1.82	0.78
59:BA:2119:A:N6	59:BA:2168:G:H21	1.80	0.78
59:DA:1002:G:H1	59:DA:1153:C:N4	1.81	0.78
2:AC:8:ILE:HD11	2:AC:184:TYR:HB3	1.65	0.78
4:AE:35:GLY:H	4:AE:112:LEU:HD12	1.49	0.78
52:B8:62:LEU:HD13	59:BA:242:G:H5''	1.65	0.78
21:AA:1345:U:O2	21:AA:1376:U:O2	2.02	0.78
21:AA:566:G:H4'	21:AA:567:G:H5'	1.64	0.78
38:DS:27:SER:HA	38:DS:88:ASP:HB3	1.64	0.78
35:DP:88:LEU:HD11	35:DP:123:LEU:HD21	1.66	0.78
41:BV:40:LEU:HD22	41:BV:45:THR:HB	1.64	0.78

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:AA:1127:G:H1	21:AA:1145:C:N4	1.79	0.78
59:DA:1387:C:H42	59:DA:1400:G:H1	1.30	0.78
49:B5:3:LYS:HG2	49:B5:5:PRO:HD2	1.65	0.78
26:BD:8:PRO:HA	26:BD:14:ARG:HA	1.64	0.78
36:BQ:124:LYS:NZ	59:BA:2467:C:O2	2.18	0.77
12:AM:4:ILE:HG23	12:AM:57:ARG:HB2	1.66	0.77
9:CJ:50:ILE:HG12	9:CJ:52:GLY:H	1.47	0.77
59:BA:881:G:O6	59:BA:895:U:N3	2.14	0.77
30:DH:149:ARG:HE	30:DH:163:TYR:HA	1.47	0.77
14:AO:82:ILE:HG13	14:AO:87:ILE:HG13	1.65	0.77
45:DZ:52:SER:OG	45:DZ:53:ILE:N	2.15	0.77
59:BA:769:G:H2'	59:BA:770:G:H8	1.50	0.77
20:AY:30:GLU:O	20:AY:33:LEU:N	2.18	0.77
21:AA:666:G:OP2	21:AA:725:G:N2	2.13	0.77
21:AA:1405:G:H1	21:AA:1496:C:N4	1.81	0.77
41:BV:47:VAL:HG12	41:BV:52:VAL:HB	1.66	0.77
21:CA:1261:A:H62	21:CA:1274:G:H21	1.31	0.77
16:AQ:12:SER:HB2	16:AQ:14:LYS:HG3	1.66	0.77
36:BQ:58:PHE:HZ	36:BQ:64:ILE:HD11	1.50	0.77
26:DD:21:PHE:O	26:DD:25:THR:OG1	2.02	0.77
6:AG:51:GLN:NE2	6:AG:56:GLN:O	2.17	0.77
8:AI:17:VAL:HG13	8:AI:63:ILE:HD12	1.66	0.77
59:BA:1646:C:H5''	59:BA:1647:G:H5''	1.66	0.77
59:DA:1536:A:OP2	59:DA:1537:C:N4	2.17	0.77
8:AI:107:ARG:HA	21:AA:1347:G:H5'	1.65	0.77
20:AY:59:ARG:HD3	20:AY:65:ILE:H	1.48	0.77
37:BR:18:LEU:HB3	37:BR:22:ARG:HE	1.48	0.77
14:CO:54:ARG:HH21	21:CA:579:G:H4'	1.47	0.77
44:BY:46:LYS:H	44:BY:62:GLU:HB2	1.50	0.77
21:CA:813:U:H2'	21:CA:814:A:H8	1.48	0.77
25:DC:150:ILE:HA	25:DC:153:ILE:HB	1.66	0.77
3:CD:26:CYS:HA	3:CD:31:CYS:HA	1.66	0.77
59:DA:949:C:N4	59:DA:968:G:H1	1.83	0.77
28:BF:9:ILE:HG21	28:BF:124:LEU:HA	1.66	0.77
20:AY:98:MET:HG2	20:AY:125:ALA:HB1	1.67	0.77
37:BR:104:ARG:HB2	37:BR:111:LEU:HD21	1.65	0.77
20:CY:72:CYS:CB	20:CY:79:ILE:H	1.98	0.77
9:CJ:13:HIS:HA	9:CJ:16:LEU:HD12	1.66	0.77
28:BF:45:ARG:HD2	59:BA:443:A:C5	2.20	0.77
59:DA:1013:C:N4	59:DA:1149:G:H1	1.82	0.77
59:DA:883:G:N2	59:DA:893:C:N3	2.32	0.77
51:B7:22:MET:O	51:B7:28:ARG:NH1	2.17	0.77

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:2503:A:O2'	59:DA:2505:G:OP2	2.03	0.77
25:DC:45:HIS:ND1	25:DC:171:ALA:O	2.17	0.77
33:DN:48:MET:N	33:DN:48:MET:SD	2.57	0.77
39:DT:64:ARG:HH12	39:DT:103:ARG:HG2	1.48	0.77
34:DO:66:LYS:HG2	59:DA:1665:A:H5''	1.67	0.77
21:CA:1006:C:H42	21:CA:1023:G:H1	1.32	0.77
21:CA:933:G:H1	21:CA:1384:C:H42	1.33	0.77
20:AY:627:ARG:NH2	20:AY:658:ASP:OD1	2.18	0.77
14:AO:48:LYS:HB2	21:AA:668:G:H4'	1.65	0.77
59:DA:883:G:N2	59:DA:893:C:C2	2.53	0.76
39:BT:27:THR:HG22	39:BT:49:VAL:HB	1.65	0.76
9:CJ:49:VAL:HG21	13:CN:41:ARG:HB2	1.67	0.76
20:CY:511:LYS:HB2	20:CY:569:ASP:HB3	1.67	0.76
29:BG:76:SER:HA	29:BG:83:ARG:HB3	1.65	0.76
4:AE:14:ARG:HG2	4:AE:16:THR:HG23	1.66	0.76
26:BD:13:ARG:NH1	59:BA:729:G:OP2	2.18	0.76
30:BH:85:LYS:HD2	30:BH:133:VAL:HB	1.65	0.76
43:DX:29:TRP:HA	43:DX:78:LYS:HA	1.65	0.76
59:BA:817:C:N4	59:BA:1190:G:H1	1.83	0.76
35:DP:18:ARG:NH1	59:DA:662:G:OP1	2.18	0.76
21:CA:992:U:H3	21:CA:1044:A:H62	1.31	0.76
37:DR:12:ARG:HB3	37:DR:16:HIS:HB3	1.67	0.76
7:CH:96:GLY:HA2	7:CH:130:GLY:HA3	1.67	0.76
60:BB:81:G:O6	60:BB:95:U:O2	2.04	0.76
26:BD:224:ALA:HB2	26:BD:233:HIS:HD1	1.50	0.76
59:BA:1434:A:H61	59:BA:1558:A:H62	1.31	0.76
56:D1:19:GLN:NE2	59:DA:2233:U:OP2	2.17	0.76
59:BA:1296:G:H1	59:BA:1644:C:H42	1.33	0.76
27:BE:143:ASN:ND2	27:BE:146:THR:O	2.19	0.76
43:DX:5:TYR:HA	43:DX:7:VAL:HG23	1.67	0.76
36:DQ:43:THR:HA	36:DQ:94:VAL:HG12	1.67	0.76
20:CY:117:GLN:NE2	20:CY:665:GLY:O	2.19	0.76
21:AA:1315:U:HO2'	21:AA:1360:A:HO2'	1.27	0.76
41:DV:4:ILE:HB	41:DV:40:LEU:HB2	1.67	0.76
59:BA:2111:C:O2	59:BA:2118:U:O2'	2.03	0.76
21:AA:151:A:H62	21:AA:170:U:H3	1.31	0.76
18:CS:36:ARG:NH1	18:CS:52:TYR:O	2.19	0.76
21:AA:595:G:H1'	21:AA:596:C:H5	1.51	0.76
48:B3:17:LYS:NZ	59:BA:969:U:OP1	2.14	0.76
25:DC:48:LEU:HD13	25:DC:50:ILE:HG13	1.68	0.76
11:AL:39:VAL:HG12	11:AL:40:VAL:H	1.50	0.76
59:DA:784:A:N6	59:DA:2072:G:O2'	2.19	0.76

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:CB:235:SER:O	1:CB:237:ALA:N	2.18	0.76
26:DD:78:LYS:HD3	26:DD:114:GLY:HA2	1.66	0.76
21:AA:1306:A:N6	21:AA:1331:G:O2'	2.18	0.76
59:BA:577:G:H5'	59:BA:2502:G:H21	1.50	0.76
21:AA:576:G:N7	21:AA:881:G:H1'	2.00	0.76
32:BK:54:PRO:HB2	32:BK:70:LYS:HD3	1.66	0.76
59:DA:2791:C:OP1	59:DA:2893:G:N2	2.18	0.76
49:B5:46:CYS:HB3	49:B5:49:CYS:HB2	1.67	0.76
20:CY:25:LYS:HZ2	61:CY:701:GNP:PB	2.09	0.76
59:BA:1024:G:H3'	59:BA:1025:G:H5''	1.67	0.76
21:CA:1536:C:N4	23:CV:9:G:H1	1.81	0.76
20:AY:617:MET:HA	20:AY:620:VAL:HG22	1.68	0.76
59:BA:1972:A:H2'	59:BA:1973:G:H8	1.48	0.76
59:DA:1541:U:H3'	59:DA:1542:G:H3'	1.68	0.76
28:DF:122:LYS:HD2	28:DF:191:ARG:HH21	1.50	0.76
20:CY:138:LYS:HG2	61:CY:701:GNP:C5	2.15	0.76
21:CA:1503:A:N6	23:CV:14:A:H3'	2.00	0.76
38:DS:17:ARG:O	38:DS:21:THR:N	2.17	0.76
28:DF:191:ARG:O	28:DF:193:VAL:N	2.19	0.76
3:CD:57:ARG:HB3	3:CD:206:PHE:HB2	1.67	0.76
59:DA:1315:C:H42	59:DA:1337:G:H1	1.32	0.76
20:CY:608:VAL:HG12	20:CY:645:ALA:HB3	1.65	0.76
29:DG:36:LYS:HB3	29:DG:95:ARG:HH12	1.50	0.76
26:DD:222:ARG:NH2	59:DA:1828:G:OP2	2.18	0.76
41:BV:55:ALA:HB1	41:BV:101:GLY:HA2	1.66	0.76
1:AB:27:LYS:HD2	1:AB:27:LYS:H	1.51	0.76
36:BQ:85:LYS:HD2	46:B0:7:LEU:HB3	1.66	0.76
27:DE:37:ARG:NH1	27:DE:42:ASP:OD1	2.18	0.75
3:AD:72:GLU:HA	3:AD:75:PHE:HB3	1.67	0.75
11:AL:113:ARG:HE	11:AL:115:LYS:HB3	1.50	0.75
11:AL:70:ILE:HG13	11:AL:72:GLY:H	1.49	0.75
21:CA:1405:G:H1	21:CA:1496:C:N4	1.84	0.75
21:CA:68(A):G:H1	21:CA:68(Y):C:N4	1.84	0.75
41:BV:66:ARG:HA	41:BV:90:PRO:HA	1.68	0.75
36:DQ:42:ILE:HD11	36:DQ:95:ALA:HB3	1.68	0.75
21:AA:1403:C:O2	21:AA:1499:A:N6	2.20	0.75
21:CA:962:C:H42	21:CA:973:G:H1	1.31	0.75
59:DA:1825:A:H2'	59:DA:1826:G:H8	1.52	0.75
20:AY:138:LYS:NZ	61:AY:701:GNP:C4	2.48	0.75
20:AY:33:LEU:CG	20:AY:34:TYR:CD2	2.66	0.75
27:BE:143:ASN:ND2	59:BA:2572:A:OP2	2.16	0.75
35:BP:62:LEU:HB3	59:BA:2393:A:H5''	1.68	0.75

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:AG:4:ARG:HG3	21:AA:932:C:H5''	1.67	0.75
49:D5:46:CYS:HB3	49:D5:49:CYS:HB2	1.68	0.75
35:DP:124:LYS:HD3	35:DP:143:GLY:HA3	1.68	0.75
26:BD:54:ARG:NH2	59:BA:1815:A:OP2	2.16	0.75
59:BA:1613:G:H2'	59:BA:1617:C:H42	1.49	0.75
25:DC:213:VAL:HG11	25:DC:225:ILE:HG12	1.68	0.75
33:DN:5:VAL:O	33:DN:7:LYS:NZ	2.19	0.75
59:BA:1286:A:O2'	59:BA:1288:U:OP2	2.04	0.75
59:DA:2282:G:H1	59:DA:2427:C:H42	1.32	0.75
27:DE:189:PRO:HA	59:DA:2680:C:H5'	1.69	0.75
2:AC:60:ALA:H	2:AC:63:ASN:HB3	1.50	0.75
59:BA:1536:A:OP2	59:BA:1537:C:N4	2.19	0.75
26:BD:105:ILE:HD13	26:BD:106:ILE:H	1.51	0.75
26:BD:61:LEU:O	26:BD:63:ARG:NH1	2.19	0.75
20:AY:22:ASP:HB3	61:AY:701:GNP:C5'	2.15	0.75
59:DA:1275:A:OP2	59:DA:1646:C:N4	2.20	0.75
42:BW:92:ARG:NH1	59:BA:2014:A:O2'	2.19	0.75
59:BA:221:A:H62	59:BA:427:U:H3	1.31	0.75
48:B3:8:LEU:HD12	48:B3:28:LEU:HG	1.69	0.75
16:AQ:67:LYS:HD2	21:AA:266:G:C8	2.22	0.75
59:BA:814:C:N4	59:BA:1193:G:H1	1.85	0.75
21:AA:68(G):G:H3'	21:AA:68(H):G:H4'	1.69	0.75
36:DQ:34:LEU:HD23	36:DQ:104:PHE:HE1	1.51	0.75
1:CB:171:ALA:HA	1:CB:174:VAL:HB	1.69	0.75
3:CD:24:GLU:HG2	3:CD:112:VAL:HG11	1.67	0.75
30:DH:83:TYR:HB2	30:DH:135:GLY:H	1.51	0.75
1:CB:88:ALA:HB1	1:CB:222:ILE:HD11	1.66	0.75
25:BC:138:LEU:HD22	25:BC:139:PRO:HD2	1.69	0.75
25:BC:48:LEU:HD13	25:BC:50:ILE:HG13	1.68	0.75
33:DN:25:ARG:HH22	59:DA:114(B):A:H4'	1.51	0.75
30:DH:113:VAL:HG11	30:DH:151:ILE:HD13	1.69	0.75
37:DR:45:ARG:HG2	37:DR:97:VAL:HG21	1.68	0.75
2:AC:199:LYS:NZ	21:AA:1059:C:OP2	2.19	0.75
59:DA:1854:A:H62	59:DA:1888:G:H8	1.34	0.75
20:CY:35:TYR:HD1	20:CY:36:THR:N	1.83	0.75
27:BE:117:MET:HG3	27:BE:136:ARG:HG3	1.68	0.75
59:BA:1530:G:O6	59:BA:1541:U:O2	2.05	0.75
59:DA:1000:A:OP2	59:DA:1154:G:N1	2.20	0.74
26:BD:264:LYS:HD3	26:BD:266:SER:H	1.51	0.74
42:DW:81:ALA:HB1	42:DW:98:LYS:O	1.87	0.74
28:DF:63:LYS:HE3	28:DF:67:GLN:HB2	1.69	0.74
11:CL:7:ILE:HA	11:CL:10:LEU:HD12	1.69	0.74

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:AA:1026:G:O6	21:AA:1035:A:N1	2.20	0.74
38:BS:35:ILE:HB	38:BS:53:SER:HB3	1.69	0.74
33:DN:41:ASP:HA	40:DU:64:ARG:HH11	1.51	0.74
21:AA:186(E):C:O2	21:AA:186(L):G:N2	2.20	0.74
9:AJ:39:PRO:HB3	9:AJ:70:ARG:HH21	1.53	0.74
59:BA:784:A:N6	59:BA:2072:G:O2'	2.20	0.74
40:BU:47:TYR:OH	59:BA:992:C:OP1	2.05	0.74
59:DA:1483:G:H1	59:DA:1506:C:H42	1.35	0.74
29:DG:173:LEU:HB3	29:DG:178:PHE:HB2	1.67	0.74
3:AD:171:GLY:O	3:AD:173:TRP:N	2.19	0.74
3:AD:173:TRP:HD1	3:AD:186:LEU:H	1.33	0.74
57:B4:14:ILE:HG13	57:B4:22:ILE:HB	1.67	0.74
22:AW:43:G:H2'	22:AW:44:G:H8	1.51	0.74
49:B5:11:THR:HG21	59:BA:1264:G:H5'	1.69	0.74
59:DA:2689:U:OP2	59:DA:2872:G:N2	2.21	0.74
20:AY:165:GLN:HE21	20:AY:260:LEU:HD22	1.52	0.74
59:DA:1800:C:H42	59:DA:1817:G:N2	1.84	0.74
60:DB:24:G:C6	60:DB:56:G:N3	2.55	0.74
1:AB:143:GLU:HA	1:AB:146:GLN:HB2	1.69	0.74
59:BA:670:A:H4'	59:BA:671:C:H5'	1.70	0.74
20:CY:138:LYS:HE2	61:CY:701:GNP:C5	2.18	0.74
33:BN:34:LEU:HD21	33:BN:120:LEU:HD12	1.69	0.74
26:BD:244:ARG:NH2	59:BA:1902:C:O2	2.20	0.74
6:AG:51:GLN:HG3	6:AG:58:PRO:HD3	1.67	0.74
21:AA:1260:C:H5'	21:AA:1284:C:H4'	1.69	0.74
30:DH:23:ARG:HD2	30:DH:25:LYS:HE2	1.69	0.74
53:D9:25:VAL:HB	53:D9:34:GLN:HB2	1.69	0.74
43:DX:53:LYS:HB3	43:DX:82:GLN:HB3	1.68	0.74
59:DA:884:C:C2	59:DA:892:G:N2	2.55	0.74
3:CD:57:ARG:NH1	3:CD:205:GLU:OE2	2.20	0.74
4:CE:76:ILE:HG13	4:CE:93:PRO:HG3	1.70	0.74
11:CL:35:GLY:HA2	11:CL:58:VAL:HG13	1.70	0.74
59:DA:1059:G:C6	59:DA:1079:C:N4	2.55	0.74
59:BA:1516:U:H2'	59:BA:1517:G:C8	2.22	0.74
32:BK:51:ALA:HB1	32:BK:72:PRO:HB3	1.70	0.74
41:DV:87:HIS:HE1	59:DA:1163:G:H21	1.33	0.74
37:BR:41:ALA:HB1	37:BR:97:VAL:HG11	1.70	0.74
12:AM:91:ARG:HB3	12:AM:96:LEU:HB2	1.69	0.74
57:B4:11:PRO:HA	57:B4:25:TYR:HA	1.68	0.74
56:B1:76:ARG:HH22	56:B1:95:LEU:HD13	1.53	0.74
11:CL:47:LYS:NZ	21:CA:1492:A:OP2	2.12	0.74
25:BC:63:VAL:HG12	25:BC:162:ILE:HB	1.68	0.74

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
35:BP:61:ARG:HD3	52:B8:13:ARG:HD2	1.69	0.74
19:CT:65:LYS:NZ	21:CA:195:A:OP1	2.21	0.74
25:DC:61:GLY:O	25:DC:163:GLU:HA	1.86	0.74
59:DA:2514:U:H3	59:DA:2570:G:H1	1.36	0.74
34:DO:14:THR:HG21	34:DO:86:ILE:HD12	1.69	0.74
20:CY:30:GLU:HG3	20:CY:31:ARG:HH11	1.51	0.74
21:AA:1505:G:O2'	23:AV:15:A:H2'	1.88	0.74
56:D1:19:GLN:HB3	56:D1:40:ARG:HD3	1.69	0.74
29:BG:138:GLN:HE22	29:BG:144:ILE:HD13	1.53	0.74
32:BK:130:SER:OG	59:BA:1059:G:N2	2.19	0.74
21:AA:1500:A:OP2	21:AA:1504:G:O2'	2.06	0.74
59:DA:273(A):G:H1	59:DA:364:C:N4	1.86	0.74
11:CL:85:ILE:HG23	11:CL:98:TYR:HB3	1.70	0.74
59:BA:270(J):G:H1	59:BA:270(R):C:H42	0.75	0.73
44:DY:7:VAL:HG21	59:DA:336:C:H4'	1.68	0.73
20:CY:633:GLY:HA3	20:CY:644:ARG:HB2	1.69	0.73
48:D3:22:ALA:HB2	48:D3:49:LYS:HD3	1.70	0.73
35:BP:67:MET:H	59:BA:2415:G:H4'	1.52	0.73
20:AY:133:ILE:HG22	20:AY:257:PRO:HG2	1.69	0.73
20:CY:659:LEU:O	20:CY:663:THR:OG1	2.06	0.73
59:BA:729:G:H2'	59:BA:1775:U:H1'	1.70	0.73
20:CY:614:GLU:HA	20:CY:617:MET:HB3	1.70	0.73
10:AK:27:ASN:HD21	10:AK:45:GLY:H	1.33	0.73
35:DP:23:PRO:HD2	35:DP:33:ARG:HE	1.53	0.73
40:BU:36:ARG:NH1	59:BA:1252:G:N7	2.35	0.73
20:AY:661:SER:OG	59:BA:2660:A:N7	2.21	0.73
15:AP:43:LYS:NZ	21:AA:452:A:OP1	2.20	0.73
20:AY:30:GLU:O	20:AY:33:LEU:HD22	1.89	0.73
11:CL:82:VAL:HB	11:CL:105:TYR:HB2	1.70	0.73
20:CY:54:PHE:HB2	20:CY:60:GLU:HA	1.71	0.73
36:DQ:124:LYS:NZ	59:DA:2467:C:O2	2.22	0.73
21:AA:112:G:H1	21:AA:315:A:N6	1.84	0.73
59:DA:270(J):G:N1	59:DA:270(R):C:N4	2.32	0.73
59:DA:1059:G:N2	59:DA:1079:C:N3	2.36	0.73
28:BF:101:LEU:HD12	28:BF:102:PRO:HD2	1.70	0.73
28:DF:53:THR:OG1	28:DF:54:ARG:N	2.20	0.73
21:CA:670:G:H1	21:CA:736:C:H42	1.36	0.73
20:AY:18:ALA:HA	20:AY:25:LYS:HD3	1.69	0.73
12:AM:52:GLU:HA	12:AM:55:ARG:HG2	1.71	0.73
21:CA:107:G:H3'	21:CA:108:G:H21	1.54	0.73
6:AG:30:ILE:HG22	6:AG:39:ALA:HB1	1.69	0.73
39:BT:107:ASP:O	39:BT:111:ARG:NH2	2.21	0.73

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:CW:37:A:C2	23:CV:16:A:H2	1.99	0.73
57:B4:33:VAL:HG12	57:B4:34:GLU:HG3	1.71	0.73
11:AL:45:PRO:O	11:AL:47:LYS:N	2.22	0.73
25:DC:214:TYR:HB3	25:DC:222:SER:HB2	1.70	0.73
43:DX:12:VAL:HA	43:DX:29:TRP:HE1	1.54	0.73
33:DN:27:ALA:HA	33:DN:30:ILE:HB	1.69	0.73
11:AL:45:PRO:HG2	11:AL:49:ASN:HB2	1.70	0.73
59:DA:1324:G:H1	59:DA:1330:C:N4	1.87	0.73
21:AA:68(F):C:H2'	21:AA:68(G):G:H8	1.54	0.73
28:DF:9:ILE:HG21	28:DF:124:LEU:HA	1.68	0.73
26:BD:92:ILE:HG22	26:BD:106:ILE:HA	1.69	0.73
34:BO:63:VAL:HG12	34:BO:106:LEU:HD11	1.69	0.73
21:CA:922:G:H2'	21:CA:923:A:C8	2.23	0.73
30:BH:83:TYR:HB2	30:BH:135:GLY:H	1.52	0.73
59:DA:1487:G:H1	59:DA:1502:C:H42	1.35	0.73
20:AY:137:ASN:ND2	61:AY:701:GNP:O6	2.20	0.73
52:B8:13:ARG:NH2	59:BA:250:G:OP2	2.21	0.73
59:BA:1058:G:H2'	59:BA:1059:G:H8	1.51	0.73
44:DY:13:VAL:HG21	44:DY:74:PRO:HA	1.69	0.73
48:D3:8:LEU:HD12	48:D3:28:LEU:HD12	1.69	0.73
59:BA:198:C:H42	59:BA:248:G:H1	1.37	0.73
6:CG:78:ARG:HB2	6:CG:156:TRP:HB3	1.69	0.73
11:CL:39:VAL:HG12	11:CL:40:VAL:H	1.54	0.73
10:CK:85:ARG:HG2	10:CK:111:ASP:HB3	1.69	0.73
59:DA:1782:C:N4	59:DA:2586:C:H42	1.86	0.73
4:CE:50:GLU:HG3	4:CE:52:PRO:HD2	1.70	0.73
59:BA:1358:G:N1	59:BA:1372:U:OP2	2.19	0.73
2:AC:20:SER:HB3	2:AC:57:ILE:HD12	1.71	0.73
59:BA:681:G:H1	59:BA:796:C:H42	1.33	0.73
59:DA:2089:U:H3	59:DA:2230:G:H1	1.37	0.73
45:DZ:72:ARG:HH12	60:DB:103:U:H4'	1.53	0.73
59:DA:947:G:H1	59:DA:970:C:H42	0.82	0.73
39:DT:49:VAL:HA	39:DT:63:VAL:HA	1.70	0.73
39:DT:95:ARG:NH1	59:DA:2849:U:OP2	2.20	0.73
21:CA:231:G:H2'	21:CA:232:G:H8	1.54	0.73
21:CA:151:A:N7	21:CA:170:U:O4	2.22	0.72
1:AB:171:ALA:HA	1:AB:174:VAL:HB	1.71	0.72
20:CY:256:THR:O	20:CY:258:VAL:N	2.22	0.72
59:DA:404:C:H4'	59:DA:405:U:H5'	1.70	0.72
59:BA:1854:A:H62	59:BA:1888:G:H8	1.35	0.72
50:B6:15:GLU:HG3	50:B6:47:THR:HG21	1.71	0.72
20:CY:30:GLU:O	20:CY:33:LEU:CA	2.37	0.72

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:BF:154:VAL:HB	28:BF:156:LEU:HB2	1.71	0.72
28:BF:156:LEU:H	28:BF:176:LEU:H	1.36	0.72
20:AY:614:GLU:O	20:AY:617:MET:N	2.22	0.72
11:AL:79:GLU:O	11:AL:80:HIS:ND1	2.20	0.72
21:AA:231:G:H2'	21:AA:232:G:H8	1.54	0.72
59:DA:131:G:H2'	59:DA:132:G:H8	1.54	0.72
28:BF:92:PRO:HA	28:BF:95:ARG:HH22	1.53	0.72
59:DA:1024:G:H3'	59:DA:1025:G:H5''	1.71	0.72
33:DN:63:THR:OG1	59:DA:1141:U:OP2	2.06	0.72
29:BG:58:GLN:HA	29:BG:68:PRO:HG3	1.69	0.72
39:BT:91:ARG:O	39:BT:120:ARG:NH2	2.21	0.72
41:DV:66:ARG:HA	41:DV:90:PRO:HA	1.71	0.72
56:B1:21:ARG:NH2	56:B1:38:SER:OG	2.22	0.72
2:CC:6:HIS:HB3	2:CC:9:GLY:H	1.54	0.72
59:BA:307:G:N2	59:BA:310:A:OP2	2.22	0.72
59:DA:1899:G:N2	59:DA:1902:C:H41	1.88	0.72
21:CA:68(H):G:H21	21:CA:68(S):C:N4	1.88	0.72
21:AA:411:A:H2	21:AA:430:A:N6	1.82	0.72
26:BD:78:LYS:HD3	26:BD:114:GLY:HA2	1.71	0.72
20:CY:515:GLU:HG2	20:CY:516:PRO:HD2	1.70	0.72
28:DF:101:LEU:HD12	28:DF:102:PRO:HD2	1.71	0.72
34:BO:107:ARG:HH21	39:BT:35:LYS:HG2	1.54	0.72
11:CL:31:PRO:HG3	21:CA:553:A:H1'	1.70	0.72
22:AW:15:G:N2	22:AW:48:C:H42	1.87	0.72
27:DE:111:ARG:HG2	37:DR:2:ARG:HE	1.54	0.72
26:DD:136:ILE:O	26:DD:168:ARG:NH2	2.22	0.72
44:BY:102:CYS:SG	44:BY:103:GLY:N	2.60	0.72
38:BS:103:GLU:O	38:BS:105:ALA:N	2.22	0.72
15:AP:23:ASP:O	15:AP:25:ARG:N	2.22	0.72
20:CY:428:LEU:HD13	20:CY:440:VAL:HG21	1.71	0.72
53:D9:22:ARG:HH12	59:DA:2741:A:H5''	1.54	0.72
25:BC:150:ILE:HA	25:BC:153:ILE:HB	1.69	0.72
20:AY:674:ASP:OD1	20:AY:675:HIS:ND1	2.22	0.72
59:DA:976:C:H2'	59:DA:977:G:H8	1.53	0.72
50:D6:30:THR:O	50:D6:32:ASN:N	2.20	0.72
21:CA:1065:U:OP2	21:CA:1190:G:N2	2.22	0.72
29:DG:122:PRO:HB3	29:DG:170:ARG:HH21	1.53	0.72
44:BY:13:VAL:HG21	44:BY:74:PRO:HA	1.72	0.72
59:DA:1346:G:H1	59:DA:1600:C:H42	0.79	0.72
1:AB:167:PRO:HG2	1:AB:192:SER:HB3	1.70	0.72
20:CY:133:ILE:HG22	20:CY:257:PRO:HG2	1.70	0.72
21:AA:737:A:H2'	21:AA:738:C:C6	2.24	0.72

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:DC:121:MET:O	25:DC:125:GLY:N	2.22	0.72
28:DF:197:ASP:OD2	28:DF:198:ALA:N	2.23	0.72
26:DD:222:ARG:N	59:DA:1789:A:OP1	2.14	0.72
25:BC:139:PRO:HA	25:BC:145:THR:HG21	1.72	0.72
10:CK:112:THR:O	17:CR:84:LYS:NZ	2.21	0.72
3:CD:147:ALA:HB2	3:CD:182:LYS:HG3	1.72	0.72
59:BA:2643:G:H1	59:BA:2771:C:H42	1.38	0.72
35:BP:38:GLN:HG3	35:BP:39:LYS:H	1.53	0.72
25:BC:43:GLU:HB2	25:BC:216:THR:HG23	1.72	0.72
59:BA:1972:A:H2'	59:BA:1973:G:C8	2.25	0.72
2:AC:186:PHE:HB2	2:AC:199:LYS:HG2	1.72	0.72
59:BA:271:G:H2'	59:BA:272:G:H8	1.53	0.72
10:AK:50:TYR:HB3	10:AK:55:LYS:HA	1.72	0.72
21:AA:406:G:H2'	21:AA:407:G:H8	1.55	0.72
36:DQ:135:ASP:O	36:DQ:137:TYR:N	2.22	0.72
14:CO:74:ASP:HB3	14:CO:77:ARG:HG2	1.72	0.72
59:BA:397:G:O2'	59:BA:2230:G:N2	2.21	0.72
59:DA:1317:A:H61	59:DA:1335:U:H3	1.38	0.72
59:DA:144:C:H2'	59:DA:145:G:H8	1.54	0.72
53:B9:22:ARG:HB2	53:B9:24:TYR:HE1	1.53	0.72
50:D6:15:GLU:HB2	50:D6:20:ASN:HB2	1.70	0.72
59:BA:1664:A:H61	59:BA:1996:C:H42	1.38	0.72
59:BA:2237:G:O2'	59:BA:2239:G:N7	2.22	0.72
21:CA:1124:G:N2	21:CA:1149:C:N3	2.31	0.72
39:DT:50:ILE:HA	39:DT:99:LEU:HD12	1.72	0.72
59:DA:994:C:H42	59:DA:1160:G:H1	1.38	0.72
20:CY:93:GLU:O	20:CY:97:SER:OG	2.07	0.72
16:AQ:60:ILE:O	16:AQ:62:SER:OG	2.07	0.72
59:BA:1336:A:H2'	59:BA:1337:G:C8	2.25	0.72
59:BA:281:G:N2	59:BA:359:A:H62	1.84	0.71
59:DA:270(J):G:N2	59:DA:270(R):C:N3	2.36	0.71
11:CL:90:VAL:HG22	11:CL:96:VAL:HG11	1.70	0.71
9:CJ:55:LYS:HG2	21:CA:963:G:H21	1.55	0.71
50:D6:15:GLU:HG3	50:D6:47:THR:HG21	1.71	0.71
14:CO:39:LEU:HD12	14:CO:56:LEU:HB2	1.71	0.71
59:DA:573:G:N1	59:DA:2031:A:OP2	2.21	0.71
37:BR:76:VAL:HA	37:BR:79:LEU:HB2	1.72	0.71
1:AB:223:ILE:HA	1:AB:226:ARG:HB2	1.71	0.71
27:BE:156:MET:HE3	27:BE:157:ALA:H	1.54	0.71
27:BE:98:PRO:HG3	27:BE:174:ASP:HA	1.72	0.71
59:BA:1347:G:H1	59:BA:1599:C:N4	1.88	0.71
3:CD:18:LYS:HB3	3:CD:33:MET:HG2	1.71	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:AE:50:GLU:HG3	4:AE:52:PRO:HD2	1.70	0.71
59:DA:382:G:H1	59:DA:392:C:H42	1.38	0.71
2:CC:130:VAL:HG21	2:CC:157:ILE:HG23	1.72	0.71
38:DS:15:ARG:HB3	38:DS:18:ILE:HB	1.71	0.71
29:BG:43:LEU:HB3	29:BG:45:GLU:HG2	1.70	0.71
38:BS:105:ALA:O	38:BS:107:GLU:N	2.23	0.71
4:AE:75:THR:OG1	4:AE:76:ILE:N	2.22	0.71
40:DU:6:THR:HG21	40:DU:10:ARG:HH21	1.54	0.71
11:CL:56:ALA:HB3	11:CL:68:ALA:HB3	1.72	0.71
45:BZ:14:LYS:HD2	45:BZ:17:ALA:H	1.54	0.71
20:AY:616:TYR:HB2	20:AY:663:THR:HG22	1.72	0.71
56:B1:91:LYS:HA	56:B1:94:LEU:HD22	1.73	0.71
20:CY:10:LYS:HG2	20:CY:284:LEU:HD22	1.70	0.71
21:CA:112:G:H1	21:CA:315:A:H61	1.38	0.71
40:BU:85:LYS:HZ2	40:BU:116:ALA:HB1	1.56	0.71
59:BA:33:U:O4	59:BA:446:G:O2'	2.09	0.71
26:BD:131:LEU:HD23	26:BD:132:PRO:HD2	1.72	0.71
37:BR:105:ARG:HH12	42:BW:40:ASN:HA	1.54	0.71
59:BA:1047:G:HO2'	59:BA:1110:G:H1	0.74	0.71
25:DC:16:ASP:O	25:DC:18:ASN:N	2.23	0.71
21:AA:888:G:H3'	21:AA:889:A:H5''	1.72	0.71
20:CY:35:TYR:HE2	20:CY:72:CYS:HA	1.54	0.71
36:DQ:14:ARG:NH1	59:DA:958:U:OP2	2.24	0.71
27:BE:77:ILE:HG22	27:BE:78:LEU:H	1.55	0.71
21:AA:634:C:H2'	21:AA:635:G:H8	1.55	0.71
26:BD:157:ARG:NH2	59:BA:1817:G:H3'	2.05	0.71
10:CK:33:THR:HA	10:CK:39:PRO:HA	1.73	0.71
10:CK:31:THR:HA	10:CK:42:TRP:HA	1.71	0.71
37:DR:76:VAL:HA	37:DR:79:LEU:HB2	1.73	0.71
33:BN:25:ARG:NH1	59:BA:1143:A:OP1	2.21	0.71
38:BS:70:GLY:HA3	38:BS:99:LYS:HD2	1.73	0.71
59:BA:1326:U:O2'	59:BA:2010:G:O2'	2.08	0.71
14:AO:54:ARG:NH1	21:AA:728:A:OP1	2.24	0.71
11:AL:117:ARG:HD3	11:AL:125:PRO:HD3	1.72	0.71
42:BW:38:TYR:HE2	49:B5:41:PRO:HD3	1.54	0.71
7:AH:38:ILE:HD13	7:AH:41:ARG:HH12	1.56	0.71
25:DC:52:PRO:HG3	25:DC:168:LYS:HA	1.71	0.71
36:BQ:42:ILE:HG23	36:BQ:97:VAL:HG21	1.72	0.71
28:DF:125:LEU:HA	28:DF:194:MET:HB2	1.73	0.71
11:AL:118:SER:OG	21:AA:35:G:N2	2.24	0.71
20:AY:516:PRO:HA	20:AY:563:ILE:HA	1.71	0.71
59:DA:1083:U:O2'	59:DA:1085:A:N7	2.18	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
38:DS:35:ILE:H	38:DS:53:SER:HB3	1.55	0.71
11:CL:6:THR:O	11:CL:8:ASN:N	2.22	0.71
50:B6:28:ARG:O	50:B6:28:ARG:NH1	2.23	0.71
19:CT:74:LYS:HG2	19:CT:75:ASN:H	1.55	0.71
59:BA:281:G:H21	59:BA:359:A:N6	1.83	0.71
14:CO:39:LEU:HB3	14:CO:56:LEU:HD13	1.72	0.71
43:BX:49:VAL:HG12	43:BX:87:GLN:HB3	1.72	0.71
37:BR:7:GLY:O	37:BR:8:ARG:NE	2.23	0.71
51:D7:21:ARG:HB3	51:D7:31:LEU:HD11	1.73	0.71
21:CA:201:C:H42	21:CA:216:G:H1	1.39	0.71
59:BA:532:A:OP1	59:BA:561:G:N2	2.24	0.71
59:BA:2133:G:H21	59:BA:2158:A:H62	0.76	0.70
9:AJ:51:ARG:NH1	21:AA:1061:G:OP1	2.23	0.70
26:BD:222:ARG:N	59:BA:1789:A:OP1	2.24	0.70
25:DC:162:ILE:HG21	25:DC:193:PHE:HE1	1.55	0.70
50:D6:19:ARG:O	50:D6:20:ASN:ND2	2.23	0.70
42:BW:25:ARG:HH22	42:BW:75:TYR:H	1.38	0.70
27:BE:176:ILE:HB	27:BE:181:LEU:HB2	1.73	0.70
14:AO:38:ARG:HH11	14:AO:38:ARG:HA	1.56	0.70
21:AA:663:A:N6	21:AA:742:G:H1	1.87	0.70
20:CY:467:LYS:HA	20:CY:472:VAL:H	1.56	0.70
28:DF:2:LYS:O	28:DF:4:VAL:N	2.23	0.70
11:AL:34:ARG:HD3	11:AL:82:VAL:HG13	1.71	0.70
22:AW:15:G:H22	22:AW:48:C:H42	1.39	0.70
36:BQ:34:LEU:HB2	36:BQ:118:LEU:HD22	1.73	0.70
20:CY:342:TYR:HB3	20:CY:390:VAL:HG23	1.73	0.70
22:AW:20:U:H1'	22:AW:20(A):U:H2'	1.73	0.70
46:B0:46:LYS:HG3	46:B0:47:PRO:HD2	1.73	0.70
17:CR:61:LYS:NZ	21:CA:836:G:OP1	2.23	0.70
12:AM:3:ARG:HH12	12:AM:7:VAL:HG22	1.55	0.70
59:BA:2892:A:H2'	59:BA:2893:G:H5'	1.72	0.70
32:BK:102:GLU:O	32:BK:104:VAL:N	2.24	0.70
15:AP:1:MET:N	21:AA:135:C:N3	2.38	0.70
38:DS:70:GLY:HA3	38:DS:99:LYS:HG3	1.73	0.70
3:CD:33:MET:SD	3:CD:33:MET:N	2.63	0.70
20:AY:550:MET:HG2	20:AY:560:VAL:H	1.56	0.70
42:BW:72:LYS:H	42:BW:107:LEU:HA	1.56	0.70
33:DN:56:ASN:HA	33:DN:125:GLY:H	1.56	0.70
8:AI:117:HIS:O	8:AI:119:ALA:N	2.22	0.70
7:CH:46:LYS:HB3	7:CH:62:TYR:HB2	1.71	0.70
13:AN:33:VAL:HA	13:AN:40:CYS:HA	1.71	0.70
46:D0:25:ARG:HH12	59:DA:2355:C:H5'	1.56	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:CL:93:LEU:O	11:CL:95:GLY:N	2.24	0.70
26:BD:222:ARG:NH2	59:BA:1828:G:OP2	2.23	0.70
28:BF:107:LYS:HZ2	28:BF:110:LEU:HD22	1.57	0.70
12:CM:78:ILE:HD11	21:CA:1309:G:H5'	1.72	0.70
34:DO:43:VAL:HB	34:DO:55:GLY:H	1.55	0.70
59:DA:2454:G:H1	59:DA:2498:C:H42	1.39	0.70
20:AY:415:PRO:HG3	20:AY:424:LEU:HD21	1.72	0.70
20:CY:201:ILE:HG21	20:CY:206:LEU:HB2	1.72	0.70
21:CA:293:G:O6	21:CA:304:U:O2	2.09	0.70
3:AD:122:ARG:HD3	3:AD:136:PRO:HD3	1.73	0.70
12:CM:3:ARG:HH12	12:CM:7:VAL:HG22	1.57	0.70
38:DS:38:GLN:HG2	38:DS:50:SER:HB2	1.72	0.70
20:AY:33:LEU:HG	20:AY:34:TYR:HD2	1.54	0.70
59:DA:1014:U:O4	59:DA:1148:A:N1	2.24	0.70
33:DN:41:ASP:CA	40:DU:64:ARG:HH11	2.05	0.70
56:B1:16:ASN:HB3	59:BA:381:G:H5''	1.71	0.70
7:AH:97:VAL:HG13	7:AH:98:LYS:HG2	1.73	0.70
59:DA:2119:A:H61	59:DA:2168:G:H21	1.39	0.70
10:CK:50:TYR:HB3	10:CK:55:LYS:HA	1.71	0.70
9:AJ:56:HIS:ND1	21:AA:1060:C:O2'	2.21	0.70
59:DA:1782:C:H42	59:DA:2586:C:N4	1.89	0.70
28:BF:154:VAL:CG2	28:BF:173:VAL:HG13	2.21	0.70
38:BS:85:VAL:HG22	38:BS:106:ARG:HG3	1.73	0.70
40:DU:92:ARG:HD3	40:DU:95:LEU:HG	1.74	0.70
59:DA:2780:G:H4'	59:DA:2781:A:OP2	1.92	0.70
1:CB:167:PRO:O	1:CB:171:ALA:HB2	1.91	0.70
25:BC:121:MET:O	25:BC:125:GLY:N	2.24	0.70
52:B8:56:GLU:HA	52:B8:59:LYS:HE2	1.73	0.70
20:CY:493:VAL:HB	20:CY:512:ILE:HD11	1.73	0.70
15:CP:20:VAL:HG23	15:CP:35:LYS:HA	1.73	0.70
59:DA:2133:G:N2	59:DA:2158:A:N6	2.15	0.70
59:DA:1336:A:H2'	59:DA:1337:G:C8	2.26	0.70
26:DD:268:ARG:NH1	59:DA:2224:G:OP1	2.24	0.70
14:CO:48:LYS:HB2	21:CA:668:G:H4'	1.74	0.70
15:AP:81:ARG:HG2	15:AP:83:GLU:H	1.55	0.70
8:AI:118:LYS:NZ	21:AA:1370:G:O6	2.25	0.70
35:DP:56:SER:O	35:DP:58:THR:N	2.24	0.70
2:AC:101:LEU:HD12	2:AC:102:ASN:H	1.56	0.70
59:DA:2304:G:H22	59:DA:2312:U:H3	1.38	0.70
59:DA:2641:G:O6	59:DA:2773:C:N3	2.24	0.70
57:D4:10:VAL:HG22	57:D4:11:PRO:HD2	1.74	0.70
13:CN:24:CYS:HA	13:CN:39:LEU:HA	1.73	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:2653:U:H3	59:BA:2667:C:H42	1.39	0.70
59:BA:1441:G:H2'	59:BA:1442:G:H8	1.56	0.70
59:DA:307:G:N2	59:DA:310:A:OP2	2.21	0.70
21:AA:1040:U:H2'	21:AA:1041:A:H8	1.57	0.70
21:CA:7:G:H5'	21:CA:298:A:H5'	1.73	0.70
3:AD:57:ARG:HB3	3:AD:206:PHE:HB2	1.71	0.70
25:DC:30:VAL:HG13	25:DC:33:LEU:HB2	1.74	0.70
20:AY:22:ASP:O	61:AY:701:GNP:O1B	2.10	0.70
11:AL:70:ILE:HA	11:AL:100:ILE:HB	1.73	0.70
28:BF:154:VAL:HG13	28:BF:191:ARG:CB	2.20	0.70
21:CA:664:G:N2	21:CA:741:G:O6	2.24	0.70
59:BA:1541:U:H3'	59:BA:1542:G:H3'	1.73	0.70
26:DD:263:ARG:NH1	59:DA:2227:A:OP1	2.22	0.70
49:D5:22:HIS:NE2	59:DA:2045:C:O2	2.25	0.70
7:AH:68:ARG:HG3	7:AH:74:PRO:HB3	1.73	0.70
60:DB:85:G:O6	60:DB:91:C:N3	2.24	0.70
10:AK:33:THR:HG22	10:AK:39:PRO:HB3	1.74	0.70
59:BA:29:U:H2'	59:BA:30:G:C8	2.26	0.70
59:BA:846:C:H4'	59:BA:847:U:H5'	1.73	0.70
46:B0:82:ARG:HG2	46:B0:83:PRO:HD2	1.74	0.70
59:DA:273(B):G:H1	59:DA:363(F):U:H3	1.40	0.70
20:AY:534:ILE:HD11	20:AY:570:GLY:HA3	1.74	0.70
56:D1:52:ARG:HA	56:D1:57:GLU:HA	1.74	0.70
3:CD:108:LEU:HD21	3:CD:183:GLY:HA3	1.73	0.70
59:BA:2246:G:O6	59:BA:2258:C:N4	2.19	0.70
7:AH:30:ARG:HD3	21:AA:590:C:H5'	1.73	0.70
60:DB:81:G:H1	60:DB:95:U:H3	1.40	0.70
32:DK:116:ASN:HB2	59:DA:1058:G:H1'	1.72	0.70
38:BS:47:THR:HG1	60:BB:113:C:HO2'	1.32	0.70
59:DA:1825:A:H2'	59:DA:1826:G:C8	2.27	0.70
27:BE:25:VAL:HG13	27:BE:183:LEU:HG	1.72	0.70
59:DA:2886:G:H2'	59:DA:2887:U:C6	2.27	0.70
11:AL:43:VAL:HG11	11:AL:93:LEU:HA	1.73	0.69
3:AD:33:MET:O	3:AD:35:ARG:N	2.24	0.69
20:CY:247:ARG:NH1	20:CY:278:ASP:O	2.24	0.69
26:DD:118:VAL:N	26:DD:129:ASN:OD1	2.22	0.69
34:BO:98:VAL:HG13	34:BO:117:LEU:HD13	1.72	0.69
25:BC:218:THR:HG22	25:BC:219:MET:HG2	1.74	0.69
21:AA:1127:G:N2	21:AA:1145:C:C2	2.59	0.69
21:CA:815:A:H2	21:CA:1527:C:O2	1.72	0.69
6:CG:111:ARG:HB3	6:CG:113:GLU:HG2	1.74	0.69
2:CC:56:ASP:HB2	2:CC:67:THR:HB	1.74	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:AA:781:A:H4'	21:AA:1522:U:O2'	1.92	0.69
21:AA:1352:C:H2'	21:AA:1353:G:C8	2.27	0.69
25:BC:47:LYS:HB3	25:BC:212:SER:HB2	1.74	0.69
46:D0:20:ARG:HD2	46:D0:20:ARG:H	1.56	0.69
41:BV:78:LYS:NZ	59:BA:568:U:O4	2.19	0.69
59:BA:2066:C:H2'	59:BA:2067:G:C8	2.28	0.69
19:AT:75:ASN:O	19:AT:78:ALA:N	2.24	0.69
21:CA:680:C:H42	21:CA:710:G:H1	1.40	0.69
51:B7:5:TRP:HD1	59:BA:1612:C:H4'	1.56	0.69
21:CA:1127:G:H21	21:CA:1147:C:H42	1.40	0.69
11:CL:93:LEU:HB2	11:CL:96:VAL:HG22	1.74	0.69
59:DA:854:G:N2	59:DA:923:C:N3	2.35	0.69
51:B7:34:ARG:HE	51:B7:42:LEU:HD13	1.56	0.69
1:AB:95:GLN:O	1:AB:97:TRP:N	2.25	0.69
28:DF:191:ARG:HB3	28:DF:193:VAL:HG23	1.73	0.69
20:AY:256:THR:O	20:AY:258:VAL:N	2.26	0.69
11:AL:25:PRO:HA	11:AL:27:LEU:HG	1.73	0.69
59:BA:1683:C:H2'	59:BA:1684:C:C6	2.27	0.69
33:BN:78:TYR:CG	59:BA:2642:G:H5'	2.27	0.69
38:BS:67:ARG:HA	38:BS:99:LYS:HB3	1.73	0.69
59:BA:1516:U:H2'	59:BA:1517:G:H8	1.56	0.69
46:D0:23:VAL:HG12	46:D0:38:VAL:HG22	1.74	0.69
21:AA:1270:C:H2'	21:AA:1271:G:C8	2.26	0.69
59:DA:1051:G:H1	59:DA:1108:U:H3	1.39	0.69
15:CP:38:TYR:CZ	15:CP:50:LYS:HG3	2.27	0.69
37:DR:23:ASN:HD21	59:DA:1277:G:H1'	1.56	0.69
20:CY:34:TYR:OH	20:CY:47:GLU:O	2.09	0.69
20:CY:138:LYS:CG	61:CY:701:GNP:N1	2.53	0.69
21:AA:975:A:H4'	21:AA:976:G:H5''	1.75	0.69
3:AD:61:LYS:HD3	3:AD:75:PHE:HE2	1.57	0.69
59:BA:610:C:H42	59:BA:618(A):G:H1	1.40	0.69
35:BP:66:GLY:HA3	59:BA:631:A:H1'	1.75	0.69
7:AH:86:ILE:HG21	7:AH:133:LEU:HD13	1.72	0.69
32:BK:77:LEU:HD12	32:BK:107:ILE:HD12	1.74	0.69
20:CY:227:ILE:HA	20:CY:230:LYS:HB3	1.73	0.69
8:CI:110:GLU:OE2	8:CI:113:LYS:NZ	2.24	0.69
22:AW:69:A:H2'	22:AW:70:G:H8	1.57	0.69
59:DA:2466:C:N4	59:DA:2484:G:H1	1.89	0.69
59:DA:2642:G:H1	59:DA:2772:C:N4	1.89	0.69
20:CY:87:HIS:NE2	20:CY:120:THR:OG1	2.25	0.69
39:DT:91:ARG:O	39:DT:120:ARG:NH2	2.21	0.69
1:AB:91:PRO:HG2	1:AB:155:LEU:HD23	1.73	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:AA:438:G:O2'	21:AA:494:U:O4	2.08	0.69
20:AY:428:LEU:HA	20:AY:431:LEU:HD22	1.74	0.69
18:AS:71:LEU:O	18:AS:73:GLU:N	2.25	0.69
32:BK:6:ALA:HB3	32:BK:59:ILE:HG22	1.73	0.69
5:AF:23:LYS:NZ	5:AF:63:TYR:OH	2.23	0.69
44:BY:7:VAL:HG21	59:BA:336:C:H4'	1.74	0.69
20:CY:35:TYR:CE2	20:CY:72:CYS:HA	2.27	0.69
20:CY:72:CYS:HB3	20:CY:79:ILE:O	1.92	0.69
59:BA:1086:A:O2'	59:BA:1087:G:N7	2.25	0.69
7:CH:30:ARG:HD3	21:CA:590:C:H5'	1.74	0.69
3:AD:33:MET:HG3	3:AD:37:PRO:HB3	1.74	0.69
28:BF:156:LEU:HB3	28:BF:175:THR:HA	1.75	0.69
44:DY:85:VAL:HG21	59:DA:297:C:H5''	1.73	0.69
28:DF:63:LYS:HG3	28:DF:76:GLY:HA2	1.75	0.69
59:BA:783:A:H2'	59:BA:784:A:H4'	1.75	0.69
7:AH:111:ILE:HG22	7:AH:120:THR:HA	1.74	0.69
9:AJ:40:LEU:HD22	9:AJ:41:PRO:HD2	1.72	0.69
59:DA:1019:U:H2'	59:DA:1020:A:C8	2.28	0.69
59:DA:1806:C:H42	59:DA:1811:G:H1	1.38	0.69
33:BN:114:ARG:HH11	33:BN:114:ARG:CB	2.05	0.69
59:DA:2068:U:H3	59:DA:2430:A:H2	1.41	0.69
20:AY:604:PRO:HA	20:AY:676:TYR:HB3	1.74	0.69
20:CY:294:PRO:HD3	20:CY:397:VAL:HA	1.74	0.69
21:CA:47:C:H42	21:CA:361:G:H1	1.40	0.69
8:CI:127:LYS:O	21:CA:966:G:O2'	2.10	0.69
27:DE:9:VAL:HG12	39:DT:8:LYS:HE3	1.75	0.69
39:BT:95:ARG:NH1	59:BA:2849:U:OP2	2.26	0.69
29:DG:150:ASP:OD2	29:DG:153:ARG:NH2	2.24	0.69
25:BC:213:VAL:HG11	25:BC:225:ILE:HG12	1.74	0.69
1:CB:88:ALA:HB2	1:CB:219:VAL:HG13	1.74	0.69
21:CA:231:G:H2'	21:CA:232:G:C8	2.27	0.69
56:D1:86:SER:HB2	56:D1:89:GLU:HB2	1.74	0.69
19:AT:43:LEU:HD22	19:AT:51:GLU:HB3	1.74	0.69
59:DA:2008:C:H2'	59:DA:2009:G:C8	2.28	0.69
44:BY:2:ARG:HH11	44:BY:2:ARG:HA	1.57	0.69
21:CA:41:G:H2'	21:CA:42:G:H8	1.58	0.69
59:DA:873:G:H1	59:DA:904:C:H42	1.39	0.69
59:BA:2795:G:H3'	59:BA:2797:U:H5''	1.75	0.69
59:DA:1358:G:N1	59:DA:1372:U:OP2	2.23	0.69
14:AO:39:LEU:HD12	14:AO:56:LEU:HB2	1.74	0.69
29:BG:20:ILE:HG22	29:BG:25:TYR:HB2	1.75	0.69
28:BF:60:SER:HB3	28:BF:62:ARG:HG2	1.75	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:CE:98:THR:OG1	21:CA:6:G:N2	2.24	0.69
45:BZ:118:GLN:NE2	59:BA:873:G:O2'	2.24	0.69
20:AY:413:ILE:HB	20:AY:476:VAL:HG13	1.75	0.69
11:CL:25:PRO:HA	11:CL:27:LEU:HG	1.74	0.69
59:BA:1411:C:N3	59:BA:1591:G:N2	2.39	0.69
26:DD:256:GLY:O	59:DA:1843:C:O2'	2.11	0.69
21:CA:137:C:H42	21:CA:226:G:H1	1.41	0.69
60:DB:18:G:H1	60:DB:65:C:H42	1.40	0.69
17:AR:26:LEU:HD13	17:AR:39:VAL:HG22	1.75	0.69
20:AY:63:ILE:HG12	61:AY:701:GNP:O1G	1.93	0.68
21:CA:936:C:N4	21:CA:1379:G:H1	1.90	0.68
28:DF:182:ASN:HD21	28:DF:184:TYR:HB3	1.57	0.68
20:AY:163:VAL:HG13	20:AY:258:VAL:HG23	1.75	0.68
20:AY:161:PRO:O	20:AY:256:THR:N	2.25	0.68
31:DJ:50:UNK:H	31:DJ:82:UNK:HA	1.58	0.68
59:BA:2521:C:O2'	59:BA:2564:A:N3	2.24	0.68
36:BQ:12:GLN:HA	59:BA:910:A:H62	1.57	0.68
26:DD:165:ILE:O	26:DD:166:GLN:HB2	1.93	0.68
28:DF:44:ARG:HB3	59:DA:615:G:H21	1.56	0.68
59:DA:244:A:H62	59:DA:254:G:H21	1.40	0.68
23:AV:6:G:H2'	23:AV:7:G:C8	2.29	0.68
25:BC:102:GLN:OE1	25:BC:127:LYS:NZ	2.26	0.68
59:DA:2133:G:H21	59:DA:2158:A:H62	0.74	0.68
20:CY:9:LEU:HD11	20:CY:303:PRO:HB2	1.76	0.68
23:AV:18:G:O2'	23:AV:19:G:C8	2.46	0.68
59:DA:1516:U:H2'	59:DA:1517:G:C8	2.29	0.68
18:AS:29:ARG:NH2	59:BA:887:A:OP1	2.26	0.68
21:AA:865:A:N3	21:AA:918:A:O2'	2.27	0.68
44:DY:85:VAL:HA	44:DY:94:LYS:HA	1.73	0.68
42:BW:18:ARG:HH12	42:BW:77:ASP:HA	1.59	0.68
42:BW:78:GLU:O	59:BA:24:G:O2'	2.10	0.68
59:BA:639:U:H3	59:BA:649:G:H1	1.41	0.68
34:BO:66:LYS:HG2	59:BA:1665:A:H5''	1.75	0.68
4:AE:37:ARG:NH2	4:AE:111:GLU:O	2.26	0.68
11:AL:71:PRO:HG2	11:AL:102:ARG:HB2	1.74	0.68
59:DA:578:A:OP1	59:DA:1255:U:O2'	2.10	0.68
59:BA:976:C:H2'	59:BA:977:G:H8	1.58	0.68
59:DA:1049:C:H1'	59:DA:1113:U:H4'	1.75	0.68
37:BR:12:ARG:HB3	37:BR:16:HIS:HB3	1.76	0.68
22:CW:23:A:H2'	22:CW:24:G:C8	2.28	0.68
20:CY:29:THR:O	20:CY:32:ILE:HB	1.94	0.68
59:DA:286:C:N4	59:DA:355:G:H1	1.86	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:AQ:14:LYS:HD3	21:AA:275:G:H5'	1.75	0.68
3:CD:115:ARG:HB3	21:CA:407:G:H5''	1.76	0.68
59:BA:2047:U:O2'	59:BA:2823:A:N1	2.26	0.68
35:BP:6:LEU:HD23	35:BP:9:ASN:HB2	1.74	0.68
59:BA:2250:G:O2'	59:BA:2496:C:OP1	2.11	0.68
59:BA:661:C:H2'	59:BA:662:G:H8	1.58	0.68
59:BA:1767:C:H42	59:BA:1985:G:H1	1.40	0.68
9:CJ:6:ILE:HG23	9:CJ:72:VAL:HB	1.76	0.68
47:B2:14:ARG:HG2	47:B2:63:VAL:HG11	1.76	0.68
16:CQ:63:ARG:NH2	21:CA:130:A:H5'	2.09	0.68
11:CL:49:ASN:ND2	21:CA:529:G:O6	2.26	0.68
59:DA:273(G):C:H3'	59:DA:274:G:H5''	1.74	0.68
57:B4:10:VAL:HG22	57:B4:11:PRO:HD2	1.76	0.68
14:CO:70:LEU:HD11	14:CO:77:ARG:HD2	1.74	0.68
18:AS:31:ILE:HD11	18:AS:49:ILE:HG22	1.76	0.68
25:DC:101:ILE:HD12	25:DC:104:ILE:HD12	1.76	0.68
2:AC:18:TRP:NE1	13:AN:53:LEU:O	2.25	0.68
29:BG:173:LEU:HB3	29:BG:178:PHE:HB2	1.74	0.68
27:DE:134:ILE:HB	27:DE:137:HIS:HB2	1.75	0.68
50:D6:53:LYS:HG3	50:D6:54:ILE:HG12	1.75	0.68
59:BA:404:C:H4'	59:BA:405:U:H5'	1.75	0.68
59:BA:694:U:O2	59:BA:768:G:O6	2.12	0.68
59:DA:2080:G:H1	59:DA:2240:C:H42	1.40	0.68
30:DH:85:LYS:HD2	30:DH:133:VAL:HB	1.75	0.68
21:CA:131:C:HO2'	21:CA:262:A:HO2'	1.37	0.68
56:B1:19:GLN:NE2	59:BA:2233:U:OP2	2.26	0.68
7:CH:21:LYS:O	7:CH:23:SER:N	2.27	0.68
26:DD:134:ARG:HG3	26:DD:135:PHE:HD1	1.58	0.68
35:DP:79:ARG:HH22	35:DP:109:GLY:HA2	1.58	0.68
11:CL:71:PRO:HG2	11:CL:102:ARG:HG2	1.75	0.68
39:BT:29:ARG:HA	39:BT:46:GLU:HB3	1.76	0.68
44:DY:32:PRO:HD2	44:DY:34:LYS:H	1.58	0.68
21:AA:107:G:H3'	21:AA:108:G:H21	1.59	0.68
4:CE:144:THR:H	4:CE:147:ASP:HB2	1.58	0.68
59:DA:2250:G:O2'	59:DA:2496:C:OP1	2.10	0.68
45:DZ:69:THR:HA	45:DZ:91:LEU:HG	1.76	0.68
59:BA:688:U:H2'	59:BA:689:A:H8	1.58	0.68
51:D7:10:ARG:NH1	59:DA:771:G:OP1	2.27	0.68
34:DO:14:THR:HG22	34:DO:52:VAL:HG21	1.74	0.68
32:DK:106:GLU:HA	32:DK:109:LYS:HD3	1.76	0.68
43:BX:66:LEU:HD12	43:BX:69:TYR:HB2	1.75	0.68
26:BD:262:ARG:HD3	59:BA:2085:C:H5''	1.76	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:BG:67:LYS:HE2	57:B4:5:ILE:HD11	1.75	0.68
20:AY:63:ILE:HD11	61:AY:701:GNP:O1G	1.94	0.68
59:DA:1270:C:H5''	59:DA:1271:G:H5''	1.76	0.68
51:B7:34:ARG:NH1	59:BA:467:G:OP1	2.25	0.68
52:D8:53:PRO:HA	52:D8:56:GLU:HB2	1.74	0.68
21:AA:1284:C:H3'	21:AA:1285:A:H8	1.58	0.68
9:AJ:40:LEU:HB3	9:AJ:69:ASN:HB3	1.76	0.68
6:AG:103:TRP:HZ3	6:AG:138:LYS:HA	1.59	0.68
34:DO:68:GLU:HB3	34:DO:78:ARG:HB3	1.76	0.68
35:DP:67:MET:H	59:DA:2415:G:H4'	1.58	0.68
21:CA:713:G:H21	21:CA:777:A:H1'	1.58	0.68
50:B6:30:THR:O	50:B6:32:ASN:N	2.27	0.68
45:BZ:52:SER:OG	45:BZ:53:ILE:N	2.27	0.68
26:DD:148:GLU:HB3	26:DD:151:LYS:HG3	1.76	0.68
39:BT:106:SER:HB2	39:BT:110:ILE:HG12	1.76	0.68
21:CA:946:A:H2'	21:CA:947:G:C8	2.28	0.68
1:CB:115:LEU:HA	1:CB:118:LEU:HD12	1.75	0.68
1:AB:209:ARG:HA	1:AB:212:GLN:HB2	1.73	0.68
59:BA:270(J):G:N2	59:BA:270(R):C:N3	2.34	0.67
51:D7:30:VAL:O	51:D7:34:ARG:HG2	1.94	0.67
59:BA:884:C:N3	59:BA:892:G:N2	2.41	0.67
39:DT:49:VAL:HG23	39:DT:63:VAL:HG12	1.75	0.67
59:BA:1270:C:H42	59:BA:2010:G:H1	1.42	0.67
56:B1:25:LYS:HG3	56:B1:34:THR:HA	1.75	0.67
46:B0:40:GLN:OE1	46:B0:44:ARG:N	2.27	0.67
45:BZ:126:VAL:HG12	45:BZ:163:LEU:HA	1.76	0.67
21:AA:147:G:H1	21:AA:175:C:H42	1.39	0.67
39:DT:55:ASN:H	39:DT:59:THR:HB	1.60	0.67
48:D3:9:VAL:HG23	48:D3:10:LYS:H	1.58	0.67
59:BA:2133:G:N2	59:BA:2158:A:N6	2.21	0.67
11:AL:92:ASP:OD1	11:AL:92:ASP:N	2.26	0.67
11:CL:89:ARG:HA	11:CL:96:VAL:HB	1.76	0.67
4:AE:76:ILE:HD11	4:AE:93:PRO:HD3	1.76	0.67
26:BD:88:ARG:NH2	59:BA:1817:G:OP1	2.26	0.67
33:DN:40:PRO:HB3	40:DU:68:ALA:HB2	1.73	0.67
20:CY:357:ARG:NH1	20:CY:373:ASP:OD1	2.27	0.67
20:AY:91:THR:O	20:AY:93:GLU:N	2.28	0.67
38:DS:105:ALA:O	38:DS:107:GLU:N	2.27	0.67
7:CH:14:ARG:NH1	21:CA:876:G:O5'	2.27	0.67
7:AH:48:TYR:HB2	7:AH:59:LEU:HD21	1.74	0.67
42:BW:68:ARG:HG2	42:BW:110:LYS:HD3	1.76	0.67
28:BF:45:ARG:HH22	59:BA:444:C:P	2.17	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:AY:623:ASP:HB3	20:AY:662:LYS:HE2	1.75	0.67
28:DF:7:TYR:HD2	28:DF:19:GLU:HG3	1.59	0.67
40:BU:95:LEU:HD21	41:BV:13:ARG:HB2	1.75	0.67
10:CK:41:THR:HB	10:CK:71:LYS:HB2	1.76	0.67
11:CL:58:VAL:HG12	11:CL:60:LEU:H	1.58	0.67
21:CA:68(F):C:H2'	21:CA:68(G):G:H8	1.58	0.67
59:BA:979:G:H2'	59:BA:982:C:N4	2.09	0.67
40:BU:47:TYR:HA	40:BU:50:ARG:HD2	1.76	0.67
21:AA:129(A):G:H4'	21:AA:130:A:H5''	1.75	0.67
40:BU:82:GLY:O	40:BU:86:ALA:N	2.23	0.67
42:BW:14:PRO:HG3	42:BW:78:GLU:HB2	1.75	0.67
21:CA:401:C:O2'	21:CA:621:A:N3	2.27	0.67
3:CD:190:ASP:H	3:CD:193:ASP:HB2	1.59	0.67
40:BU:81:HIS:CE1	59:BA:1151:G:H5''	2.29	0.67
59:DA:1207:C:N4	59:DA:1239:G:H1	1.91	0.67
21:AA:1246:C:N4	21:AA:1291:G:H1	1.92	0.67
59:DA:1800:C:H42	59:DA:1817:G:H22	1.42	0.67
52:D8:16:ILE:HG22	52:D8:22:VAL:HG22	1.77	0.67
43:DX:59:VAL:O	43:DX:76:ARG:NH1	2.26	0.67
59:DA:2115:G:O2'	59:DA:2171:A:N6	2.28	0.67
60:DB:14:U:O3'	60:DB:107:U:O2'	2.12	0.67
5:AF:95:GLU:O	17:AR:32:ARG:NH1	2.27	0.67
3:AD:13:ARG:NH1	3:AD:38:TYR:O	2.27	0.67
7:CH:68:ARG:HG3	7:CH:74:PRO:HB3	1.75	0.67
6:CG:137:LYS:HA	6:CG:140:ASP:HB2	1.76	0.67
21:CA:1057:G:H2'	21:CA:1058:G:O4'	1.95	0.67
59:DA:1497:U:H5'	59:DA:1498:C:C5	2.29	0.67
60:BB:5:C:O2'	60:BB:27:C:O2	2.11	0.67
25:DC:61:GLY:HA3	25:DC:164:PHE:CD1	2.30	0.67
20:AY:486:THR:OG1	20:AY:487:ILE:N	2.28	0.67
59:BA:2450:A:OP1	59:BA:2497:A:O2'	2.12	0.67
53:B9:25:VAL:HB	53:B9:34:GLN:HB2	1.76	0.67
20:AY:504:ARG:NH1	21:AA:1495:U:OP2	2.27	0.67
45:BZ:133:ILE:O	45:BZ:135:GLU:N	2.28	0.67
20:CY:509:HIS:HB3	20:CY:571:SER:HB3	1.76	0.67
28:BF:46:ARG:O	28:BF:48:THR:N	2.28	0.67
13:CN:47:LEU:HB3	13:CN:53:LEU:HD12	1.77	0.67
20:AY:74:TRP:O	20:AY:77:HIS:N	2.23	0.67
59:DA:2123:G:H1	59:DA:2175:C:H42	1.43	0.67
25:DC:47:LYS:HG3	25:DC:47:LYS:O	1.95	0.67
26:BD:244:ARG:NH1	59:BA:1841:U:O2'	2.28	0.67
56:B1:76:ARG:NH2	56:B1:94:LEU:O	2.26	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:AQ:71:PHE:CZ	21:AA:235:C:H4'	2.29	0.67
8:AI:110:GLU:OE2	8:AI:113:LYS:NZ	2.27	0.67
57:D4:28:LYS:HB3	57:D4:31:ILE:HD11	1.77	0.67
29:DG:47:LYS:HA	29:DG:82:LEU:HG	1.75	0.67
2:AC:161:GLU:HG2	21:AA:1055:A:H4'	1.76	0.67
27:BE:118:LYS:NZ	59:BA:2724:C:OP1	2.20	0.67
27:BE:109:LYS:HE3	59:BA:2680:C:H5''	1.77	0.67
59:DA:20:C:N4	59:DA:520:G:H1	1.89	0.67
21:CA:590:C:N3	21:CA:649:G:N2	2.36	0.67
37:BR:18:LEU:HD13	37:BR:22:ARG:HH21	1.59	0.67
56:B1:19:GLN:HB3	56:B1:40:ARG:HD3	1.76	0.67
25:DC:30:VAL:HG22	25:DC:33:LEU:HD12	1.76	0.67
21:CA:789:U:N3	21:CA:792:A:OP2	2.23	0.67
42:DW:38:TYR:HD2	49:D5:30:LEU:HD21	1.60	0.67
39:BT:124:ASP:HB3	39:BT:125:ARG:HH21	1.60	0.67
46:D0:44:ARG:NH1	59:DA:2330:G:O2'	2.28	0.67
59:BA:1936:A:P	59:BA:1961:C:H41	2.18	0.67
25:BC:30:VAL:HG13	25:BC:33:LEU:HB2	1.75	0.67
39:DT:33:LYS:HG2	39:DT:43:GLN:HB3	1.77	0.67
27:DE:61:ARG:HG3	59:DA:2811:G:OP1	1.95	0.67
59:DA:380:U:H2'	59:DA:381:G:H8	1.59	0.67
20:AY:163:VAL:HG12	20:AY:164:MET:H	1.59	0.67
59:DA:872:A:H61	59:DA:905:U:H3	1.42	0.67
59:BA:1411:C:H42	59:BA:1591:G:H1	1.43	0.67
35:BP:56:SER:O	35:BP:58:THR:N	2.28	0.67
29:DG:43:LEU:HB3	29:DG:45:GLU:HG2	1.77	0.67
59:BA:2328:A:H2'	59:BA:2329:G:C8	2.29	0.67
59:BA:119:A:H4'	59:BA:120:U:H5'	1.77	0.67
21:AA:1256:A:N6	21:AA:1278:U:OP2	2.26	0.67
43:BX:40:LYS:HG3	43:BX:51:VAL:HB	1.77	0.67
59:DA:1214:A:H2'	59:DA:1215:G:H8	1.60	0.67
21:AA:1028(C):G:N2	21:AA:1028(F):A:C8	2.62	0.67
43:DX:62:LYS:NZ	59:DA:1338:G:N7	2.42	0.67
35:DP:66:GLY:HA3	59:DA:631:A:H1'	1.77	0.67
21:CA:153:C:H42	21:CA:168:G:H1	1.42	0.67
59:DA:528:A:H2	59:DA:2043:C:H4'	1.60	0.67
35:DP:32:THR:OG1	35:DP:35:HIS:O	2.13	0.67
43:BX:12:VAL:HA	43:BX:29:TRP:CD1	2.30	0.67
32:DK:13:PRO:HA	32:DK:52:ILE:HA	1.76	0.67
8:CI:10:ARG:NH2	8:CI:105:ASP:OD1	2.28	0.67
47:B2:33:MET:O	47:B2:37:PHE:HB2	1.94	0.67
1:AB:104:ASN:ND2	21:AA:1074:G:O4'	2.28	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:1030:G:H1	59:DA:1124:C:H42	1.43	0.67
20:CY:91:THR:O	20:CY:93:GLU:N	2.28	0.66
59:BA:568:U:N3	59:BA:571:A:OP2	2.28	0.66
52:B8:46:ARG:NH1	59:BA:649:G:O2'	2.29	0.66
34:DO:23:ARG:HH22	34:DO:31:LYS:HG2	1.57	0.66
2:CC:29:TYR:OH	13:CN:54:PRO:O	2.12	0.66
2:CC:59:ARG:HD3	2:CC:64:VAL:HG22	1.76	0.66
8:CI:61:ALA:HB1	8:CI:63:ILE:HD11	1.76	0.66
21:AA:1328:C:H2'	21:AA:1329:A:H8	1.59	0.66
22:CW:18:G:O2'	22:CW:57:G:N2	2.28	0.66
59:DA:740:U:H2'	59:DA:741:G:H8	1.58	0.66
20:AY:631:ILE:HG22	20:AY:632:LEU:N	2.10	0.66
38:DS:22:GLY:O	38:DS:23:ARG:NE	2.28	0.66
28:BF:154:VAL:HG23	28:BF:173:VAL:HG13	1.77	0.66
37:DR:90:ARG:HH12	59:DA:2881:C:H5'	1.61	0.66
59:DA:2526:G:H5'	59:DA:2743:C:H5'	1.76	0.66
56:B1:43:TYR:OH	59:BA:1365:A:OP1	2.12	0.66
1:CB:42:ILE:HD11	1:CB:202:PRO:HB2	1.77	0.66
56:D1:26:ARG:O	56:D1:32:LYS:N	2.25	0.66
59:BA:2287:A:H62	59:BA:2344:U:H3	1.43	0.66
20:AY:138:LYS:NZ	61:AY:701:GNP:N2	2.43	0.66
22:AW:37:A:N1	23:AV:16:A:C2	2.63	0.66
27:DE:127:ASP:HA	27:DE:135:HIS:NE2	2.11	0.66
26:DD:134:ARG:HE	26:DD:135:PHE:HE1	1.41	0.66
32:BK:12:LEU:HD12	32:BK:55:VAL:HG11	1.76	0.66
12:AM:31:LYS:HA	12:AM:34:LEU:HD12	1.77	0.66
20:CY:216:LEU:HD21	20:CY:246:ILE:HD11	1.77	0.66
59:BA:1455:G:O2'	59:BA:2853:C:OP1	2.14	0.66
59:DA:700:G:H1	59:DA:732:C:H42	1.44	0.66
21:AA:710:G:H2'	21:AA:711:G:H8	1.60	0.66
50:D6:5:VAL:HB	59:DA:2283:C:H5'	1.76	0.66
43:DX:36:LYS:N	59:DA:1599:C:OP1	2.28	0.66
11:CL:100:ILE:HG22	11:CL:101:VAL:H	1.60	0.66
38:BS:20:ARG:CZ	38:BS:88:ASP:HA	2.25	0.66
2:AC:59:ARG:HH11	2:AC:64:VAL:HG22	1.59	0.66
16:AQ:66:SER:O	16:AQ:70:ARG:NH1	2.27	0.66
27:BE:136:ARG:HG2	59:BA:1656:C:H5''	1.77	0.66
35:BP:59:LEU:HA	35:BP:61:ARG:CZ	2.26	0.66
28:BF:37:VAL:HA	28:BF:40:GLN:HE22	1.60	0.66
5:CF:6:VAL:HG22	5:CF:90:VAL:HG13	1.76	0.66
20:AY:342:TYR:HB3	20:AY:390:VAL:HG23	1.76	0.66
59:DA:2047:U:H2'	59:DA:2048:G:C8	2.30	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:AM:24:GLY:HA3	12:AM:66:LEU:HG	1.76	0.66
4:AE:148:VAL:HG13	4:AE:152:ARG:HD2	1.77	0.66
21:AA:713:G:H21	21:AA:777:A:H1'	1.59	0.66
45:DZ:140:ASP:N	45:DZ:140:ASP:OD2	2.27	0.66
2:AC:180:ALA:HB1	2:AC:203:PHE:HE1	1.60	0.66
59:DA:2138:C:H42	59:DA:2153:G:H1	0.79	0.66
11:CL:87:GLY:HA2	11:CL:98:TYR:H	1.60	0.66
7:AH:112:LEU:HB3	7:AH:133:LEU:HD23	1.77	0.66
21:CA:677:U:H3	21:CA:713:G:H22	1.43	0.66
30:BH:28:GLY:HA3	30:BH:79:VAL:HB	1.77	0.66
59:BA:2829:C:H2'	59:BA:2830:G:H8	1.60	0.66
36:BQ:43:THR:HA	36:BQ:94:VAL:HG12	1.78	0.66
59:DA:2633:G:H1	59:DA:2785:C:H42	1.41	0.66
29:BG:150:ASP:OD2	29:BG:153:ARG:NH2	2.28	0.66
59:BA:787:U:H5''	59:BA:788:A:H5'	1.78	0.66
59:DA:884:C:N3	59:DA:892:G:C2	2.64	0.66
51:D7:33:ARG:HB2	51:D7:34:ARG:HH12	1.60	0.66
59:BA:2642:G:H1	59:BA:2772:C:H42	1.42	0.66
45:BZ:74:VAL:HG12	45:BZ:76:LEU:HD21	1.78	0.66
16:AQ:66:SER:OG	16:AQ:67:LYS:N	2.24	0.66
26:BD:136:ILE:HG12	26:BD:137:PRO:HD2	1.78	0.66
4:AE:152:ARG:NH2	7:AH:138:TRP:OXT	2.27	0.66
26:DD:264:LYS:HD3	26:DD:266:SER:H	1.59	0.66
22:CW:72:C:H2'	22:CW:73:A:O4'	1.96	0.66
25:BC:19:LYS:HD3	25:BC:21:TYR:HE1	1.59	0.66
59:BA:1588:C:H2'	59:BA:1589:C:C6	2.30	0.66
59:BA:2123:G:H1	59:BA:2175:C:H42	1.43	0.66
39:DT:107:ASP:N	39:DT:109:GLU:OE1	2.28	0.66
4:AE:84:PHE:O	4:AE:87:SER:OG	2.13	0.66
59:DA:681:G:H2'	59:DA:682:G:C8	2.31	0.66
59:DA:2293:C:N4	59:DA:2339:G:H1	1.94	0.66
59:BA:1248:G:O2'	59:BA:1249:U:OP1	2.12	0.66
59:BA:1825:A:H2'	59:BA:1826:G:H8	1.60	0.66
59:DA:392:C:H5''	59:DA:409:C:H5''	1.78	0.66
12:CM:109:THR:OG1	21:CA:947:G:O3'	2.14	0.66
59:DA:2047:U:H2'	59:DA:2048:G:H8	1.61	0.66
2:AC:180:ALA:HB1	2:AC:203:PHE:CE1	2.30	0.66
49:D5:11:THR:HG21	59:DA:1264:G:H5'	1.77	0.66
29:DG:27:ASN:HB3	29:DG:30:GLU:HB3	1.78	0.66
22:AW:12:U:H3	22:AW:23:A:H61	1.41	0.66
21:CA:634:C:H2'	21:CA:635:G:H8	1.59	0.66
59:DA:2698:U:H2'	59:DA:2699:C:C6	2.30	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:AD:53:ASP:N	3:AD:53:ASP:OD1	2.29	0.66
40:BU:76:TYR:CZ	40:BU:80:ILE:HG13	2.30	0.66
39:DT:29:ARG:HA	39:DT:46:GLU:HB3	1.78	0.66
11:AL:58:VAL:HG12	11:AL:60:LEU:N	2.11	0.66
21:CA:590:C:N4	21:CA:649:G:H1	1.91	0.66
28:BF:195:ASP:OD2	28:BF:196:LEU:N	2.29	0.66
25:DC:64:SER:HA	25:DC:160:GLY:HA3	1.78	0.66
21:CA:429:U:H1'	21:CA:430:A:H5''	1.78	0.66
21:CA:1085:U:H3'	21:CA:1086:U:H5	1.60	0.66
34:BO:23:ARG:HH12	34:BO:31:LYS:HG2	1.60	0.66
25:BC:27:ALA:O	25:BC:31:LYS:HB2	1.96	0.66
9:CJ:3:LYS:HG3	9:CJ:4:ILE:HD12	1.78	0.66
59:BA:918:A:N3	60:BB:80:U:O2'	2.24	0.66
4:AE:98:THR:HB	4:AE:117:ASP:HB3	1.77	0.66
20:AY:30:GLU:HA	20:AY:33:LEU:H	1.60	0.66
11:AL:90:VAL:HG22	11:AL:96:VAL:HG11	1.78	0.66
35:DP:17:LYS:NZ	35:DP:19:VAL:O	2.29	0.66
25:DC:60:ARG:HE	25:DC:142:LYS:HB3	1.61	0.66
5:AF:94:GLN:OE1	17:AR:72:ARG:NH2	2.28	0.66
59:DA:1434:A:H2'	59:DA:1435:G:C8	2.30	0.66
21:AA:123:C:O2'	21:AA:290:C:O2	2.14	0.66
45:BZ:97:GLU:HB3	45:BZ:125:LEU:HD11	1.78	0.66
3:CD:171:GLY:O	3:CD:173:TRP:N	2.23	0.66
59:BA:1015:G:H2'	59:BA:1016:G:C8	2.31	0.66
47:D2:27:GLU:HA	47:D2:30:ARG:HD3	1.78	0.66
20:AY:679:VAL:HB	20:AY:683:VAL:HB	1.78	0.66
59:DA:864:G:H1'	59:DA:914:C:H42	1.60	0.66
12:CM:94:ARG:HE	18:CS:81:ARG:HB3	1.61	0.66
59:DA:2892:A:H2'	59:DA:2893:G:H5'	1.78	0.66
49:D5:33:CYS:HA	49:D5:40:LYS:HE3	1.77	0.66
59:BA:1270:C:H5''	59:BA:1271:G:H5''	1.78	0.66
3:AD:205:GLU:OE2	4:AE:100:VAL:N	2.29	0.66
40:BU:25:TRP:HD1	40:BU:26:GLY:H	1.42	0.66
38:DS:89:ARG:HG2	38:DS:92:TYR:HB3	1.78	0.66
41:DV:56:SER:H	41:DV:100:ARG:HG3	1.60	0.66
27:BE:129:HIS:HE1	59:BA:1993:U:H4'	1.61	0.66
41:BV:58:VAL:HB	41:BV:98:GLU:HG3	1.78	0.66
20:CY:352:VAL:HG12	20:CY:380:LEU:HD11	1.77	0.66
21:CA:328:C:H4'	21:CA:329:A:H5'	1.78	0.66
35:BP:47:ASP:OD1	35:BP:50:ARG:NH2	2.26	0.66
21:CA:1503:A:H61	23:CV:14:A:H3'	1.60	0.65
25:BC:46:ALA:N	25:BC:171:ALA:O	2.29	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:AA:68(F):C:H2'	21:AA:68(G):G:C8	2.31	0.65
59:DA:1286:A:O2'	59:DA:1288:U:OP2	2.14	0.65
59:BA:1731:G:HO2'	59:BA:1732:A:H8	1.43	0.65
35:BP:96:THR:HA	35:BP:126:VAL:HB	1.78	0.65
21:CA:38:G:N2	21:CA:397:A:OP1	2.28	0.65
36:BQ:46:GLN:HG2	36:BQ:126:PRO:HD3	1.78	0.65
59:BA:1019:U:H2'	59:BA:1020:A:C8	2.30	0.65
59:BA:2068:U:H3	59:BA:2430:A:H2	1.44	0.65
45:DZ:145:GLU:HB3	45:DZ:148:ASP:HB2	1.76	0.65
59:BA:2646:C:OP2	59:BA:2732:G:O2'	2.14	0.65
59:DA:1906:G:H1	59:DA:1924:C:N4	1.90	0.65
38:BS:25:ARG:HA	38:BS:86:ALA:HB3	1.77	0.65
31:BJ:58:UNK:O	31:BJ:60:UNK:N	2.28	0.65
59:DA:1538:G:H2'	59:DA:1539:G:C8	2.31	0.65
28:DF:185:ASP:OD2	28:DF:188:ARG:NH2	2.27	0.65
59:DA:2089:U:O2	59:DA:2230:G:N2	2.29	0.65
21:AA:864:A:H2'	21:AA:865:A:C8	2.32	0.65
21:AA:816:A:OP2	21:AA:1526:G:O2'	2.13	0.65
50:B6:35:GLU:HB3	50:B6:51:GLU:HB2	1.76	0.65
25:BC:172:ILE:HD13	25:BC:173:HIS:N	2.11	0.65
21:AA:68(I):G:O6	21:AA:68(Q):U:O4	2.15	0.65
40:DU:90:VAL:HG11	41:DV:39:LEU:HG	1.77	0.65
1:CB:167:PRO:HG2	1:CB:192:SER:HB3	1.77	0.65
59:DA:83:G:N2	59:DA:103:A:OP2	2.24	0.65
27:DE:159:HIS:HB3	59:DA:2621:A:H4'	1.76	0.65
34:DO:64:ARG:HH21	34:DO:101:PRO:HD2	1.60	0.65
20:CY:14:ASN:HD21	20:CY:80:ASN:HD22	1.43	0.65
59:DA:813:U:H2'	59:DA:814:C:H6	1.61	0.65
25:BC:42:VAL:O	25:BC:216:THR:N	2.29	0.65
28:BF:167:ALA:HB1	28:BF:173:VAL:HG11	1.77	0.65
7:CH:96:GLY:H	7:CH:99:GLU:HB2	1.62	0.65
32:BK:13:PRO:HB3	32:BK:52:ILE:HG12	1.78	0.65
59:BA:1058:G:H2'	59:BA:1059:G:C8	2.31	0.65
32:BK:30:HIS:CD2	32:BK:59:ILE:HB	2.32	0.65
23:AV:18:G:O2'	23:AV:19:G:N7	2.29	0.65
10:CK:32:ILE:N	10:CK:41:THR:O	2.28	0.65
59:DA:151:C:H42	59:DA:175:G:H1	1.44	0.65
40:DU:87:GLY:O	40:DU:89:GLU:N	2.28	0.65
22:AW:18:G:N2	22:AW:58:A:O4'	2.29	0.65
18:CS:6:LYS:HD3	18:CS:6:LYS:H	1.61	0.65
30:BH:113:VAL:HG11	30:BH:151:ILE:HD13	1.78	0.65
59:BA:2708:G:H2'	59:BA:2709:G:C8	2.31	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:AA:603:U:H2'	21:AA:604:G:H8	1.61	0.65
59:DA:947:G:N2	59:DA:970:C:N3	2.37	0.65
38:DS:99:LYS:HG2	38:DS:101:LEU:H	1.60	0.65
22:AW:69:A:H2'	22:AW:70:G:C8	2.32	0.65
59:DA:812:C:HO2'	59:DA:1226:A:HO2'	1.43	0.65
59:BA:360:G:H2'	59:BA:361:G:H8	1.60	0.65
49:B5:20:ARG:NH2	59:BA:1266:G:OP2	2.24	0.65
12:CM:99:ARG:HB3	12:CM:101:GLN:HG3	1.79	0.65
27:BE:102:VAL:HG12	27:BE:200:GLU:HA	1.78	0.65
21:AA:1321:C:H3'	21:AA:1322:C:H5''	1.78	0.65
45:BZ:166:SER:H	45:BZ:167:PRO:HA	1.61	0.65
30:DH:98:LEU:HD13	30:DH:125:VAL:HG23	1.77	0.65
6:AG:5:ARG:NH2	21:AA:1091:U:OP1	2.29	0.65
39:BT:26:ASP:OD2	39:BT:27:THR:N	2.25	0.65
39:BT:49:VAL:O	39:BT:50:ILE:HG13	1.97	0.65
59:DA:1345:C:N4	59:DA:1601:G:H1	1.94	0.65
3:AD:145:GLU:HG2	3:AD:182:LYS:HG2	1.76	0.65
25:BC:75:VAL:HG11	25:BC:154:ILE:HD11	1.78	0.65
21:CA:973:G:H3'	21:CA:974:A:H5''	1.77	0.65
40:BU:53:ARG:NH2	59:BA:994:C:OP1	2.29	0.65
20:AY:135:PHE:HA	20:AY:260:LEU:HA	1.79	0.65
19:AT:79:ARG:O	19:AT:82:SER:OG	2.14	0.65
59:BA:2853:C:H2'	59:BA:2854:G:H8	1.61	0.65
37:BR:64:ARG:NH2	59:BA:2851:A:O2'	2.30	0.65
59:BA:1759:A:H1'	59:BA:2711:A:C2	2.31	0.65
20:CY:485:GLU:HB3	20:CY:601:ILE:HG23	1.78	0.65
59:DA:2690:C:N4	59:DA:2713:A:O2'	2.29	0.65
59:BA:1583:A:O2'	59:BA:1586:A:N6	2.30	0.65
20:AY:348:ARG:O	20:AY:350:GLU:N	2.29	0.65
51:D7:29:LYS:HD2	59:DA:210:C:OP1	1.97	0.65
21:AA:673:G:H1	21:AA:717:C:N4	1.94	0.65
25:BC:132:LEU:O	25:BC:137:LEU:N	2.29	0.65
20:AY:107:VAL:HG13	20:AY:135:PHE:HB3	1.78	0.65
59:DA:1095:A:H2'	59:DA:1096:A:C8	2.32	0.65
10:CK:82:VAL:HB	10:CK:108:ILE:HA	1.79	0.65
1:AB:115:LEU:HD22	1:AB:145:LEU:HB3	1.77	0.65
59:DA:1639:U:H2'	59:DA:1640:C:H5''	1.78	0.65
10:AK:34:ASP:O	10:AK:36:ASP:N	2.29	0.65
21:AA:1015:A:H2'	21:AA:1016:A:C8	2.31	0.65
46:B0:68:GLU:HG3	46:B0:80:HIS:HB2	1.78	0.65
59:BA:1931:U:H2'	59:BA:1932:A:H8	1.60	0.65
14:CO:21:ASP:OD2	21:CA:750:G:O2'	2.14	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
45:BZ:144:LEU:HD21	45:BZ:150:LEU:HD13	1.77	0.65
36:BQ:13:GLN:HG2	59:BA:954:G:H5''	1.78	0.65
28:DF:90:PHE:HB3	59:DA:588:U:H1'	1.78	0.65
14:AO:64:ARG:NH2	21:AA:581:G:O3'	2.30	0.65
12:AM:109:THR:OG1	21:AA:947:G:O3'	2.15	0.65
32:BK:10:LEU:HD22	32:BK:11:GLN:HG2	1.78	0.65
21:CA:131:C:O2'	21:CA:262:A:O2'	2.12	0.65
59:DA:1019:U:H2'	59:DA:1020:A:H8	1.60	0.65
21:AA:458(A):G:H21	21:AA:458(E):A:H62	1.45	0.65
9:AJ:33:GLN:O	9:AJ:75:ILE:HG13	1.97	0.65
44:BY:51:VAL:HG12	44:BY:53:PRO:HD2	1.79	0.65
42:DW:72:LYS:H	42:DW:107:LEU:HA	1.62	0.65
59:DA:2816:C:H42	59:DA:2830:G:H1	1.45	0.65
20:CY:560:VAL:HG12	20:CY:563:ILE:HD11	1.79	0.65
16:AQ:81:ARG:HE	16:AQ:81:ARG:HA	1.62	0.65
59:BA:1105:U:H2'	59:BA:1106:G:C8	2.31	0.65
27:DE:2:LYS:NZ	27:DE:95:ILE:O	2.29	0.65
59:BA:392:C:H5''	59:BA:409:C:H5''	1.79	0.65
23:CV:4:A:N6	23:CV:6:G:N7	2.44	0.65
40:DU:55:ARG:HD3	59:DA:1155:A:H5'	1.77	0.65
20:CY:27:THR:O	20:CY:30:GLU:HG2	1.97	0.65
59:DA:122:G:H1	59:DA:129:C:N4	1.87	0.65
27:BE:63:LEU:HB2	27:BE:65:GLY:H	1.62	0.65
21:CA:1500:A:H5''	21:CA:1508:G:H5''	1.79	0.65
59:DA:1608:A:O2'	59:DA:1610:A:OP2	2.15	0.65
59:DA:1776:G:H1	59:DA:1788:C:H42	1.45	0.65
59:DA:1497:U:H5'	59:DA:1498:C:H5	1.59	0.65
20:AY:116:PRO:O	20:AY:119:GLU:HG3	1.96	0.65
24:AU:4:SER:HB3	24:AU:6:5OH:NQ	2.11	0.65
59:DA:717:G:H2'	59:DA:718:A:O4'	1.95	0.65
26:DD:54:ARG:NH1	59:DA:1815:A:OP2	2.24	0.65
20:CY:313:ALA:HA	20:CY:328:ILE:HA	1.79	0.65
21:AA:510:A:N3	21:AA:543:C:H1'	2.12	0.65
59:DA:1899:G:H21	59:DA:1902:C:H41	1.45	0.65
25:BC:23:ILE:HG21	25:BC:191:ARG:HG2	1.78	0.65
59:DA:26:G:N2	59:DA:513:A:OP2	2.30	0.65
2:AC:193:TYR:HA	21:AA:1206:G:H4'	1.78	0.65
6:AG:69:VAL:HG12	6:AG:71:PRO:HD3	1.79	0.65
24:AU:4:SER:CA	59:BA:1914:C:OP2	2.45	0.65
59:DA:2707:G:H2'	59:DA:2708:G:H8	1.62	0.65
46:D0:82:ARG:HG2	46:D0:83:PRO:HD2	1.79	0.65
41:BV:22:VAL:HG11	41:BV:94:LEU:HD12	1.79	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:1871:A:H2'	59:BA:1872:A:C8	2.32	0.65
1:CB:100:GLY:O	1:CB:104:ASN:N	2.24	0.65
59:BA:949:C:H42	59:BA:968:G:H1	1.43	0.65
11:AL:87:GLY:HA2	11:AL:98:TYR:H	1.61	0.64
35:BP:27:HIS:HE1	59:BA:814:C:H41	1.43	0.64
60:BB:24:G:C6	60:BB:56:G:N3	2.65	0.64
59:BA:1825:A:H2'	59:BA:1826:G:C8	2.33	0.64
10:CK:33:THR:HG22	10:CK:39:PRO:HB3	1.79	0.64
22:AW:35:A:H2	23:AV:18:G:H1	1.43	0.64
5:AF:6:VAL:HG22	5:AF:90:VAL:HG13	1.78	0.64
33:DN:15:LEU:HD21	33:DN:55:VAL:HG13	1.79	0.64
27:DE:98:PRO:HA	27:DE:172:VAL:HG13	1.77	0.64
31:BJ:33:UNK:O	31:BJ:37:UNK:N	2.31	0.64
43:DX:57:LEU:HB3	59:DA:1341:U:H4'	1.79	0.64
20:AY:611:THR:HA	20:AY:642:VAL:HG22	1.79	0.64
21:CA:384:G:H2'	21:CA:385:C:C6	2.31	0.64
59:BA:1490:A:O3'	59:BA:1494:A:N6	2.25	0.64
2:AC:128:PHE:HD1	2:AC:129:ALA:H	1.45	0.64
21:CA:1040:U:H2'	21:CA:1041:A:C8	2.33	0.64
27:BE:116:VAL:HG11	27:BE:138:PRO:HB3	1.78	0.64
11:CL:84:LEU:HB2	11:CL:104:VAL:HG12	1.78	0.64
27:DE:65:GLY:HA2	27:DE:70:ALA:HA	1.79	0.64
38:DS:84:GLN:HA	38:DS:106:ARG:HG2	1.79	0.64
2:AC:199:LYS:HE3	21:AA:1058:G:H5''	1.80	0.64
42:BW:37:ARG:HG3	42:BW:38:TYR:HD1	1.61	0.64
34:BO:87:ILE:HD13	34:BO:91:LEU:HD23	1.78	0.64
34:DO:34:THR:OG1	34:DO:35:VAL:N	2.30	0.64
7:AH:96:GLY:H	7:AH:99:GLU:HB2	1.63	0.64
15:CP:75:ARG:HE	15:CP:80:PHE:HD1	1.43	0.64
2:CC:58:GLU:HB2	2:CC:65:ALA:HB3	1.79	0.64
19:CT:51:GLU:O	19:CT:55:ILE:HG12	1.97	0.64
21:CA:673:G:H2'	21:CA:674:G:C8	2.32	0.64
33:DN:24:GLY:O	33:DN:26:LEU:N	2.30	0.64
24:CU:4:SER:HB3	24:CU:6:5OH:NQ	2.11	0.64
38:BS:99:LYS:HG3	38:BS:101:LEU:H	1.63	0.64
21:CA:813:U:H2'	21:CA:814:A:C8	2.32	0.64
37:BR:13:HIS:O	37:BR:16:HIS:N	2.29	0.64
56:D1:63:ALA:HB3	56:D1:66:HIS:HB2	1.79	0.64
21:CA:1251:A:H2'	21:CA:1252:A:C8	2.32	0.64
59:DA:702:G:H1	59:DA:730:C:H42	1.45	0.64
7:AH:89:PRO:HA	7:AH:92:ARG:HH12	1.62	0.64
59:BA:11:G:N2	59:BA:2628:C:OP1	2.23	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:CQ:73:VAL:O	16:CQ:74:LEU:HB2	1.96	0.64
20:AY:438:PHE:HB2	20:AY:452:SER:O	1.98	0.64
19:CT:49:ALA:O	19:CT:52:ALA:N	2.29	0.64
1:CB:9:GLU:OE1	1:CB:9:GLU:N	2.30	0.64
21:AA:810:C:H2'	21:AA:811:C:C6	2.32	0.64
56:D1:3:LYS:HG3	56:D1:4:VAL:HG12	1.79	0.64
60:DB:40:U:H3'	60:DB:41:U:H5''	1.78	0.64
21:AA:674:G:H2'	21:AA:675:A:H8	1.63	0.64
59:BA:1248:G:H3'	59:BA:1249:U:H5''	1.78	0.64
28:BF:46:ARG:NH2	59:BA:441:U:O2	2.28	0.64
59:BA:270(C):A:O2'	59:BA:364:C:O2	2.14	0.64
6:AG:74:GLU:OE1	6:AG:76:ARG:NH1	2.30	0.64
36:BQ:68:ILE:HD12	36:BQ:103:MET:HB2	1.78	0.64
28:DF:111:ALA:HB2	28:DF:206:ILE:HG21	1.79	0.64
6:CG:126:ASP:HB3	6:CG:131:LYS:O	1.98	0.64
59:BA:69:C:O2	59:BA:73:A:O2'	2.11	0.64
36:DQ:110:THR:HB	36:DQ:113:GLN:HB2	1.79	0.64
59:BA:141(A):A:H8	59:BA:1595:G:H21	1.45	0.64
45:BZ:10:ARG:NH2	45:BZ:26:GLY:O	2.30	0.64
9:AJ:50:ILE:HG22	9:AJ:60:ARG:HD3	1.78	0.64
59:BA:460:A:H62	59:BA:469:G:N2	1.93	0.64
41:DV:89:GLN:HE22	59:DA:1162:G:H1'	1.62	0.64
37:DR:41:ALA:HB1	37:DR:97:VAL:HG11	1.79	0.64
27:BE:136:ARG:HB3	59:BA:1657:C:P	2.38	0.64
20:AY:438:PHE:HE1	20:AY:462:ILE:HG13	1.61	0.64
27:BE:159:HIS:HB3	59:BA:2621:A:H4'	1.78	0.64
59:DA:1484:G:O6	59:DA:1505:C:N3	2.31	0.64
36:BQ:82:ARG:NH1	59:BA:2251:G:N7	2.45	0.64
21:CA:354:G:H21	21:CA:388:G:H2'	1.63	0.64
6:CG:91:VAL:O	6:CG:96:GLN:NE2	2.30	0.64
28:BF:3:GLU:HA	28:BF:24:LEU:HB2	1.78	0.64
36:BQ:27:VAL:O	36:BQ:29:PHE:N	2.28	0.64
3:AD:33:MET:SD	3:AD:33:MET:N	2.71	0.64
21:AA:1381:U:H2'	21:AA:1382:C:C6	2.32	0.64
28:BF:46:ARG:NH1	59:BA:441:U:O2'	2.31	0.64
59:DA:1526:G:H1	59:DA:154(B):C:H42	1.46	0.64
59:BA:752:A:OP2	59:BA:752:A:H8	1.81	0.64
21:CA:582:U:OP2	21:CA:758:G:N1	2.26	0.64
26:DD:35:LYS:HD3	26:DD:61:LEU:HG	1.80	0.64
20:CY:276:VAL:HA	20:CY:280:LEU:HD23	1.79	0.64
28:DF:157:VAL:O	28:DF:193:VAL:O	2.15	0.64
37:DR:45:ARG:HB2	37:DR:95:THR:HG21	1.78	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
32:BK:13:PRO:HA	32:BK:52:ILE:HA	1.77	0.64
35:DP:59:LEU:O	52:D8:13:ARG:NH1	2.30	0.64
11:AL:102:ARG:HG3	11:AL:109:GLY:HA2	1.79	0.64
2:AC:18:TRP:O	2:AC:21:ARG:NH1	2.31	0.64
11:CL:102:ARG:HB3	11:CL:109:GLY:H	1.61	0.64
59:BA:2329:G:H2'	59:BA:2330:G:C8	2.32	0.64
35:BP:53:GLY:HA2	59:BA:832:G:H21	1.62	0.64
30:DH:98:LEU:HD22	30:DH:125:VAL:H	1.63	0.64
59:BA:1802:A:H2'	59:BA:1803:A:C8	2.33	0.64
43:BX:59:VAL:O	43:BX:76:ARG:NH1	2.31	0.64
59:DA:2263:C:H42	59:DA:2277:G:H1	1.45	0.64
21:CA:105:G:H2'	21:CA:106:C:C6	2.32	0.64
33:DN:41:ASP:C	40:DU:64:ARG:HH11	2.02	0.64
25:BC:140:ASN:O	25:BC:142:LYS:N	2.31	0.64
38:BS:70:GLY:O	38:BS:74:ALA:N	2.30	0.64
38:BS:97:ARG:O	38:BS:99:LYS:N	2.30	0.64
38:BS:73:LEU:HA	38:BS:76:LYS:HE2	1.79	0.64
25:DC:81:GLY:O	25:DC:84:ILE:HB	1.97	0.64
37:BR:79:LEU:HB3	37:BR:80:PHE:HD2	1.63	0.64
25:DC:26:ALA:HA	25:DC:30:VAL:HG23	1.80	0.64
33:BN:114:ARG:HB2	33:BN:114:ARG:HH11	1.62	0.64
21:CA:41:G:H2'	21:CA:42:G:C8	2.32	0.64
59:DA:2711:A:H5''	59:DA:2712:U:H5'	1.79	0.64
25:DC:73:VAL:HG23	25:DC:112:ASP:HB3	1.79	0.64
59:BA:184:C:O3'	59:BA:217:G:N2	2.25	0.64
10:CK:22:HIS:HB3	10:CK:29:ILE:HG23	1.80	0.64
26:BD:172:TYR:HD1	26:BD:184:LYS:HB3	1.63	0.64
39:BT:20:PRO:HG2	39:BT:86:ILE:HG23	1.79	0.64
20:CY:72:CYS:HB2	20:CY:79:ILE:H	1.61	0.64
8:AI:16:ARG:HB3	8:AI:64:THR:HB	1.79	0.64
9:AJ:51:ARG:HB3	21:AA:1060:C:H5'	1.80	0.64
21:AA:1246:C:N3	21:AA:1291:G:N2	2.38	0.64
25:BC:216:THR:HB	25:BC:222:SER:HB3	1.80	0.64
1:AB:71:VAL:HB	1:AB:164:VAL:HG22	1.80	0.64
59:DA:2265:U:H3'	59:DA:2266:A:C8	2.31	0.64
11:AL:84:LEU:H	11:AL:104:VAL:HG11	1.62	0.64
12:CM:81:LEU:HD11	12:CM:88:ARG:HH21	1.62	0.64
26:BD:171:ASP:OD2	26:BD:171:ASP:N	2.29	0.64
30:DH:157:TYR:CZ	59:DA:2531:A:H5''	2.31	0.64
14:AO:21:ASP:OD2	21:AA:750:G:O2'	2.16	0.64
26:BD:165:ILE:O	26:BD:166:GLN:HB2	1.96	0.64
21:AA:692:U:H1'	21:AA:695:A:N7	2.13	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:CA:68(J):G:H2'	21:CA:68(K):U:O4'	1.98	0.64
21:CA:858:G:N2	21:CA:870:U:OP2	2.26	0.64
47:D2:21:LEU:O	47:D2:25:VAL:HG23	1.96	0.64
59:DA:882:G:N2	59:DA:894:C:C2	2.66	0.64
38:BS:17:ARG:O	38:BS:21:THR:N	2.31	0.64
59:BA:1899:G:N2	59:BA:1902:C:H41	1.92	0.64
33:DN:41:ASP:HA	40:DU:64:ARG:NH1	2.12	0.64
59:DA:659:C:H2'	59:DA:660:G:H8	1.63	0.64
3:AD:128:VAL:HG22	3:AD:146:ILE:HG23	1.79	0.64
52:D8:22:VAL:HB	52:D8:53:PRO:HB3	1.79	0.64
1:AB:211:ILE:O	1:AB:215:LEU:HB2	1.97	0.64
21:AA:1315:U:O2'	21:AA:1360:A:O2'	2.06	0.64
59:BA:2401:U:O4	59:BA:2415:G:O6	2.16	0.64
48:D3:7:LYS:HE2	48:D3:32:GLN:HA	1.80	0.64
19:AT:74:LYS:HG2	19:AT:75:ASN:H	1.60	0.64
4:CE:119:LEU:HD11	21:CA:6:G:H2'	1.80	0.64
59:BA:2853:C:H2'	59:BA:2854:G:C8	2.33	0.64
59:DA:2829:C:H2'	59:DA:2830:G:C8	2.33	0.64
2:AC:23:TYR:OH	2:AC:26:LYS:NZ	2.31	0.64
39:BT:98:LYS:HG2	59:BA:2718:G:H4'	1.78	0.64
21:AA:833:U:H3	21:AA:853:G:H1	1.45	0.64
29:DG:76:SER:HA	29:DG:83:ARG:HB3	1.80	0.64
44:DY:42:VAL:HG21	44:DY:67:LEU:HD22	1.79	0.63
43:DX:12:VAL:HA	43:DX:29:TRP:NE1	2.12	0.63
35:BP:39:LYS:HE3	35:BP:40:SER:H	1.62	0.63
26:BD:67:PHE:HE1	26:BD:157:ARG:HH11	1.45	0.63
3:CD:173:TRP:HB2	3:CD:186:LEU:HB2	1.79	0.63
50:D6:16:CYS:HB3	50:D6:17:LYS:HD2	1.80	0.63
21:AA:928:G:H2'	21:AA:929:G:H8	1.63	0.63
25:BC:16:ASP:O	25:BC:18:ASN:N	2.31	0.63
21:AA:68(J):G:H2'	21:AA:68(K):U:O4'	1.98	0.63
21:AA:1237:C:H3'	21:AA:1336:C:H41	1.61	0.63
33:DN:137:LYS:HB3	33:DN:137:LYS:HZ2	1.63	0.63
59:DA:2508:G:H1	59:DA:2580:U:H3	1.45	0.63
59:BA:1129:A:N6	59:BA:2491:U:OP1	2.31	0.63
22:CW:37:A:H2	23:CV:16:A:C4	2.16	0.63
20:CY:34:TYR:O	20:CY:35:TYR:CG	2.51	0.63
59:DA:1663:C:N4	59:DA:1997:G:H1	1.88	0.63
41:BV:24:LYS:HA	41:BV:92:THR:HG23	1.80	0.63
21:CA:1006:C:N3	21:CA:1023:G:N2	2.39	0.63
56:B1:18:ILE:HA	56:B1:41:ARG:H	1.63	0.63
34:DO:68:GLU:OE2	34:DO:78:ARG:NH1	2.30	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:CY:311:ALA:HA	20:CY:330:VAL:O	1.97	0.63
32:DK:44:ALA:O	32:DK:46:ALA:N	2.31	0.63
8:AI:50:LEU:HB3	8:AI:56:LEU:HA	1.78	0.63
60:BB:18:G:H2'	60:BB:19:G:C8	2.34	0.63
9:CJ:78:ASN:N	9:CJ:78:ASN:OD1	2.31	0.63
44:DY:97:ARG:NE	59:DA:300:A:OP1	2.29	0.63
39:DT:119:LYS:NZ	59:DA:2867:G:OP2	2.20	0.63
30:BH:158:HIS:CG	30:BH:159:GLU:H	2.16	0.63
20:CY:420:ASP:HA	20:CY:423:LYS:HE2	1.80	0.63
20:AY:72:CYS:HB3	20:AY:79:ILE:O	1.99	0.63
59:BA:860:U:H2'	59:BA:861:A:H8	1.63	0.63
44:BY:2:ARG:NH2	59:BA:106:C:O2	2.31	0.63
35:DP:66:GLY:HA2	59:DA:2415:G:H4'	1.79	0.63
21:CA:1040:U:H2'	21:CA:1041:A:H8	1.63	0.63
59:BA:137(B):G:H1	59:BA:141(B):C:H42	1.46	0.63
42:BW:11:ARG:NH2	42:BW:99:ARG:O	2.31	0.63
59:DA:1203:G:H21	59:DA:1242:A:H62	1.46	0.63
29:DG:124:SER:OG	29:DG:132:ASN:O	2.16	0.63
29:DG:105:LYS:HE3	57:D4:26:SER:HB3	1.80	0.63
22:CW:35:A:H2	23:CV:18:G:H1	1.46	0.63
44:DY:76:CYS:SG	44:DY:99:CYS:HB3	2.39	0.63
28:BF:90:PHE:HB3	59:BA:588:U:H1'	1.80	0.63
12:AM:114:ARG:HG2	21:AA:1228:C:H5''	1.81	0.63
59:DA:78:A:H2'	59:DA:79:G:H8	1.63	0.63
59:DA:1347:G:H2'	59:DA:1348:G:H8	1.64	0.63
59:BA:1190:G:H2'	59:BA:1191:G:C8	2.34	0.63
59:BA:1601:G:H5'	59:BA:1602:U:OP2	1.98	0.63
45:BZ:19:ARG:NH2	60:BB:76:G:O3'	2.31	0.63
20:CY:150:ILE:HG23	20:CY:161:PRO:HG3	1.81	0.63
27:BE:119:ARG:NH1	27:BE:156:MET:O	2.30	0.63
28:DF:3:GLU:HA	28:DF:24:LEU:HB2	1.80	0.63
15:CP:43:LYS:NZ	21:CA:452:A:OP1	2.31	0.63
2:AC:113:ALA:N	2:AC:183:ASP:OD2	2.32	0.63
37:BR:100:LEU:HD22	37:BR:101:ALA:H	1.63	0.63
59:BA:2593:U:H2'	59:BA:2594:C:C6	2.34	0.63
7:CH:63:LEU:H	7:CH:63:LEU:HD22	1.63	0.63
4:AE:109:ILE:HG22	4:AE:110:LEU:HD23	1.79	0.63
59:BA:1230:C:H2'	59:BA:1231:G:H8	1.63	0.63
2:AC:29:TYR:OH	13:AN:54:PRO:O	2.17	0.63
21:AA:1422:G:H5''	34:BO:48:PRO:HB3	1.81	0.63
33:BN:25:ARG:HH22	59:BA:114(B):A:H4'	1.63	0.63
11:CL:80:HIS:NE2	20:CY:425:SER:HB3	2.13	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:BC:157:ILE:HA	25:BC:160:GLY:O	1.98	0.63
56:D1:17:SER:HG	56:D1:42:GLN:H	1.46	0.63
20:CY:87:HIS:HD2	20:CY:121:VAL:HG22	1.63	0.63
49:B5:40:LYS:HB3	49:B5:46:CYS:HB2	1.79	0.63
1:CB:168:THR:HG23	1:CB:192:SER:HB2	1.80	0.63
1:CB:84:GLU:HB3	1:CB:219:VAL:HG21	1.80	0.63
56:B1:88:LYS:HA	56:B1:91:LYS:HD3	1.79	0.63
10:CK:84:VAL:HG23	10:CK:110:ASP:HA	1.81	0.63
16:AQ:60:ILE:O	16:AQ:71:PHE:HA	1.97	0.63
3:CD:19:LEU:HD22	3:CD:67:ILE:HB	1.79	0.63
5:CF:48:LEU:H	5:CF:57:GLN:HA	1.63	0.63
21:AA:142:G:N1	21:AA:221:C:O2	2.30	0.63
26:DD:143:HIS:CD2	26:DD:196:VAL:HG13	2.34	0.63
27:DE:93:VAL:HB	27:DE:175:VAL:HG23	1.79	0.63
3:AD:157:LEU:HA	3:AD:160:GLN:HB2	1.80	0.63
10:CK:98:LEU:O	10:CK:101:SER:OG	2.17	0.63
20:AY:313:ALA:HA	20:AY:328:ILE:HA	1.79	0.63
21:CA:1264:C:H2'	21:CA:1265:G:C8	2.33	0.63
59:DA:1755:A:H61	59:DA:2694:G:H21	1.45	0.63
35:BP:77:ARG:NH2	59:BA:2405:G:OP1	2.31	0.63
59:BA:2301:C:H2'	59:BA:2302:G:H8	1.63	0.63
2:AC:9:GLY:HA2	2:AC:12:LEU:HD11	1.81	0.63
59:DA:373:U:H2'	59:DA:374:A:C8	2.33	0.63
6:AG:24:THR:HA	6:AG:27:ILE:HD12	1.81	0.63
41:DV:59:ALA:HA	41:DV:96:ILE:HA	1.81	0.63
15:AP:38:TYR:CE2	15:AP:50:LYS:HG3	2.34	0.63
4:CE:11:ILE:HG22	4:CE:12:LEU:HD13	1.81	0.63
20:CY:30:GLU:HB2	20:CY:51:THR:HG22	1.80	0.63
33:BN:4:TYR:OH	33:BN:6:PRO:HA	1.97	0.63
31:DJ:25:UNK:N	31:DJ:112:UNK:N	2.47	0.63
30:DH:41:MET:HE2	30:DH:52:VAL:HG13	1.80	0.63
56:D1:16:ASN:HB3	59:DA:381:G:H5'	1.81	0.63
37:DR:97:VAL:HG13	37:DR:114:VAL:HG22	1.79	0.63
35:DP:59:LEU:HA	35:DP:61:ARG:CZ	2.28	0.63
44:DY:31:LEU:HD22	44:DY:32:PRO:HB3	1.79	0.63
35:BP:45:LEU:HD21	59:BA:832:G:H5'	1.81	0.63
21:AA:955:U:O2'	21:AA:1227:A:N6	2.31	0.63
26:BD:147:LEU:HD23	26:BD:148:GLU:HB2	1.81	0.63
30:BH:97:ARG:HG2	30:BH:99:VAL:H	1.64	0.63
59:DA:1771:C:H2'	59:DA:1772:G:C8	2.34	0.63
59:BA:2178:C:H2'	59:BA:2179:C:H6	1.63	0.63
12:AM:101:GLN:NE2	21:AA:949:A:OP1	2.31	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
56:D1:12:PRO:HA	56:D1:44:PRO:HD3	1.81	0.63
13:CN:31:ARG:NH2	21:CA:977:A:OP1	2.31	0.63
20:AY:428:LEU:HD22	20:AY:440:VAL:HG11	1.81	0.63
20:CY:357:ARG:HH12	20:CY:370:LYS:HD3	1.63	0.63
59:DA:1434:A:H2'	59:DA:1435:G:H8	1.63	0.63
21:AA:123:C:OP1	21:AA:311:C:O2'	2.17	0.63
59:BA:141(A):A:N6	59:BA:1595:G:O2'	2.32	0.63
26:DD:85:ASP:HB2	26:DD:92:ILE:HG12	1.80	0.63
49:D5:7:PRO:HA	59:DA:2615:U:C2	2.34	0.63
59:DA:2793:G:H1	59:DA:2803:C:H42	1.47	0.63
1:AB:53:ARG:HH21	1:AB:199:TYR:HD2	1.45	0.63
21:CA:1281:U:H5'	21:CA:1282:C:H5	1.64	0.63
56:B1:44:PRO:HB3	59:BA:396:G:H4'	1.80	0.63
37:DR:105:ARG:HH12	42:DW:40:ASN:HA	1.63	0.63
59:DA:828:U:H4'	59:DA:831:G:C2	2.34	0.63
6:CG:15:ASP:HB3	6:CG:20:ASP:H	1.64	0.63
11:CL:70:ILE:HG22	11:CL:100:ILE:HG13	1.80	0.63
59:BA:1056:G:H4'	59:BA:1086:A:C8	2.31	0.63
39:BT:50:ILE:N	39:BT:62:THR:O	2.31	0.63
59:BA:1934:C:H2'	59:BA:1935:G:H8	1.63	0.63
38:BS:25:ARG:HH12	60:BB:9:G:H5'	1.63	0.63
38:BS:74:ALA:CB	38:BS:104:GLY:HA2	2.28	0.63
26:DD:210:GLY:HA2	59:DA:764:A:H5'	1.80	0.63
44:DY:49:VAL:HA	59:DA:483:A:H4'	1.81	0.63
59:BA:1434:A:H2'	59:BA:1435:G:C8	2.33	0.63
21:AA:231:G:H2'	21:AA:232:G:C8	2.34	0.63
56:B1:23:LYS:HE2	56:B1:33:LYS:HD3	1.80	0.63
12:CM:125:ARG:NH1	21:CA:969:A:N1	2.46	0.63
11:AL:71:PRO:HD2	11:AL:102:ARG:HD3	1.79	0.63
59:BA:1496:A:H2'	59:BA:1498:C:C4	2.34	0.63
20:AY:203:GLU:O	20:AY:205:TYR:N	2.32	0.63
3:CD:141:ARG:HE	3:CD:142:PRO:HD2	1.64	0.63
15:CP:67:THR:H	15:CP:70:ALA:HB3	1.64	0.63
2:AC:134:ILE:HD13	2:AC:137:ALA:HB3	1.79	0.63
20:CY:458:HIS:O	20:CY:461:ILE:HG13	1.99	0.63
3:CD:59:ARG:HH11	3:CD:59:ARG:HA	1.64	0.63
21:AA:1266:G:N2	21:AA:1269:A:OP2	2.31	0.63
35:DP:41:ARG:HE	35:DP:45:LEU:HD22	1.64	0.63
59:DA:2691:C:H5'	59:DA:2872:G:H5''	1.80	0.63
7:AH:21:LYS:O	7:AH:23:SER:N	2.32	0.63
32:DK:79:ARG:HA	32:DK:84:LEU:HB3	1.81	0.63
46:B0:43:THR:H	59:BA:2331:G:H4'	1.64	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:814:C:H42	59:DA:1193:G:H1	0.75	0.62
21:AA:1391:U:H2'	21:AA:1392:G:H8	1.62	0.62
21:CA:1127:G:H21	21:CA:1147:C:N4	1.96	0.62
35:BP:27:HIS:CE1	59:BA:814:C:H41	2.16	0.62
51:D7:39:ARG:HH12	51:D7:42:LEU:HB2	1.64	0.62
22:CW:51:A:H61	22:CW:63:C:H42	1.45	0.62
36:DQ:70:PRO:HA	36:DQ:95:ALA:HB2	1.80	0.62
6:CG:78:ARG:HG3	6:CG:79:ARG:N	2.14	0.62
33:DN:125:GLY:HA3	33:DN:126:PRO:O	1.99	0.62
21:AA:1270:C:H2'	21:AA:1271:G:H8	1.64	0.62
21:AA:108:G:OP2	21:AA:108:G:N2	2.32	0.62
2:CC:59:ARG:HA	2:CC:63:ASN:O	1.99	0.62
30:BH:33:LEU:HD22	30:BH:79:VAL:HG13	1.81	0.62
34:BO:34:THR:OG1	34:BO:35:VAL:N	2.25	0.62
33:BN:137:LYS:HZ3	33:BN:137:LYS:HA	1.63	0.62
36:DQ:37:LEU:HD21	36:DQ:130:LYS:HB2	1.81	0.62
21:AA:299:G:H2'	21:AA:300:A:C8	2.34	0.62
59:DA:1090:U:H2'	59:DA:1091:G:C8	2.34	0.62
14:AO:32:LEU:HD23	14:AO:35:ARG:HH11	1.64	0.62
21:CA:573:A:N3	21:CA:883:C:O2'	2.25	0.62
21:AA:109:A:H8	21:AA:327:A:H5'	1.63	0.62
59:BA:2210:G:N3	59:BA:2210:G:H3'	2.14	0.62
19:AT:12:ALA:HA	19:AT:15:ARG:HB2	1.81	0.62
20:AY:63:ILE:CD1	61:AY:701:GNP:O1G	2.46	0.62
40:BU:59:ARG:HD2	59:BA:1009:A:O4'	1.99	0.62
11:CL:58:VAL:HG11	11:CL:60:LEU:HD13	1.81	0.62
14:CO:8:LYS:NZ	21:CA:658:G:OP1	2.24	0.62
25:DC:139:PRO:HA	25:DC:145:THR:HG21	1.80	0.62
59:DA:1340:U:H4'	59:DA:1394:U:H1'	1.81	0.62
40:DU:106:PHE:O	40:DU:109:LEU:N	2.32	0.62
30:DH:118:PRO:HG2	30:DH:121:ILE:HD11	1.80	0.62
29:BG:32:PRO:HA	29:BG:162:THR:HB	1.81	0.62
59:DA:863:A:H2'	59:DA:864:G:H8	1.63	0.62
30:BH:41:MET:HA	30:BH:55:PRO:HD3	1.81	0.62
38:BS:28:VAL:HG12	38:BS:37:ALA:HA	1.81	0.62
21:AA:5:U:O2'	21:AA:6:G:N3	2.28	0.62
39:BT:53:ARG:HH22	39:BT:60:THR:HG23	1.63	0.62
9:AJ:20:ALA:HB1	9:AJ:37:PRO:HB3	1.81	0.62
35:DP:65:ARG:NH2	52:D8:15:LYS:HB2	2.14	0.62
37:BR:88:ARG:NH2	37:BR:89:ASP:OD2	2.32	0.62
37:BR:96:ARG:HB2	37:BR:117:VAL:HG22	1.81	0.62
11:CL:66:VAL:HG12	11:CL:67:THR:N	2.14	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
52:D8:33:ASN:ND2	59:DA:2420:C:OP2	2.24	0.62
15:AP:59:TRP:HA	15:AP:59:TRP:CE3	2.32	0.62
42:DW:18:ARG:NH1	42:DW:76:VAL:HG13	2.13	0.62
59:BA:686:G:H21	59:BA:788:A:H61	1.48	0.62
59:BA:792:G:N3	59:BA:2072:G:O2'	2.28	0.62
52:B8:11:LYS:HE3	52:B8:65:GLU:HG3	1.81	0.62
59:DA:740:U:H2'	59:DA:741:G:C8	2.34	0.62
59:DA:2135:A:H4'	59:DA:2160:G:H4'	1.81	0.62
26:BD:226:MET:HG2	59:BA:782:A:C2	2.34	0.62
59:DA:2448:A:H3'	59:DA:2449:U:H2'	1.80	0.62
59:DA:506:G:H5'	59:DA:509:C:H1'	1.81	0.62
21:CA:32:A:O2'	21:CA:48:C:N4	2.32	0.62
59:BA:2323:G:H21	59:BA:2337:G:H1'	1.62	0.62
42:BW:51:LEU:HD23	42:BW:105:VAL:HG11	1.81	0.62
12:AM:86:CYS:O	12:AM:90:LEU:N	2.24	0.62
21:AA:774:G:H1	21:AA:805:C:H42	1.47	0.62
59:DA:216:A:H2'	59:DA:217:G:O4'	1.99	0.62
33:BN:41:ASP:HA	40:BU:64:ARG:HH11	1.63	0.62
21:CA:1507:A:O5'	23:CV:15:A:N6	2.32	0.62
51:D7:33:ARG:HB2	51:D7:34:ARG:NH1	2.15	0.62
15:AP:5:ARG:HB2	21:AA:376:G:H5''	1.81	0.62
35:DP:58:THR:O	35:DP:61:ARG:NE	2.31	0.62
20:CY:292:THR:HG23	20:CY:398:ILE:HB	1.80	0.62
29:BG:4:ASP:HA	29:BG:8:LYS:HD3	1.82	0.62
1:AB:15:VAL:HG11	1:AB:209:ARG:HH21	1.64	0.62
9:AJ:34:VAL:HG13	9:AJ:74:ILE:HG22	1.82	0.62
7:AH:96:GLY:HA2	7:AH:130:GLY:HA3	1.81	0.62
35:DP:54:GLY:HA3	59:DA:826:U:O2'	2.00	0.62
21:AA:1281:U:H5'	21:AA:1282:C:H5	1.64	0.62
9:CJ:35:SER:HB3	9:CJ:73:ASP:HB2	1.81	0.62
37:BR:42:LYS:O	37:BR:45:ARG:HG3	1.98	0.62
59:DA:2692:C:H2'	59:DA:2693:A:H8	1.65	0.62
21:AA:591:U:H2'	21:AA:592:G:C8	2.35	0.62
2:CC:35:GLU:HA	2:CC:38:ARG:HG3	1.80	0.62
59:DA:371:A:H61	59:DA:401:A:H3'	1.64	0.62
11:AL:53:ARG:HG3	11:AL:69:TYR:CE1	2.33	0.62
23:CV:8:A:H2'	23:CV:9:G:H8	1.65	0.62
23:CV:8:A:O2'	23:CV:9:G:OP1	2.17	0.62
59:BA:565:C:N4	59:BA:576:U:H3	1.93	0.62
59:BA:1790:C:H2'	59:BA:1791:A:C5	2.34	0.62
8:AI:19:LEU:HD22	8:AI:59:PHE:HB3	1.82	0.62
6:AG:78:ARG:HB3	6:AG:85:TYR:HB2	1.80	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:CK:81:ASP:HA	10:CK:106:LYS:O	1.99	0.62
25:BC:153:ILE:O	25:BC:157:ILE:HG13	2.00	0.62
11:AL:15:ARG:HH12	21:AA:563:A:H2'	1.65	0.62
29:BG:149:VAL:HG23	29:BG:153:ARG:HE	1.64	0.62
7:AH:119:LEU:HD22	7:AH:124:ALA:HA	1.81	0.62
39:DT:35:LYS:HD2	39:DT:41:ARG:HD2	1.81	0.62
35:BP:85:LEU:HD11	35:BP:137:LYS:HB2	1.80	0.62
46:D0:39:ARG:NH1	46:D0:56:ASP:OD1	2.33	0.62
39:DT:129:ARG:HE	39:DT:129:ARG:HA	1.64	0.62
21:CA:1358:U:O2'	21:CA:1359:C:O4'	2.17	0.62
59:BA:1061:U:H4'	59:BA:1070:A:H1'	1.81	0.62
40:DU:15:LYS:NZ	59:DA:1217:C:OP2	2.23	0.62
56:D1:34:THR:HG23	56:D1:35:THR:H	1.63	0.62
14:CO:82:ILE:HD11	14:CO:88:ARG:HB2	1.81	0.62
59:DA:1058:G:H2'	59:DA:1059:G:H8	1.64	0.62
59:DA:1310:G:O2'	59:DA:1611:C:OP1	2.17	0.62
59:DA:1315:C:N4	59:DA:1337:G:H1	1.97	0.62
16:AQ:67:LYS:HG2	21:AA:266:G:H3'	1.79	0.62
3:CD:28:SER:HB2	3:CD:29:PRO:HD2	1.81	0.62
59:DA:1214:A:H2'	59:DA:1215:G:C8	2.35	0.62
27:DE:172:VAL:HA	27:DE:184:VAL:HG12	1.82	0.62
59:DA:401:A:H2'	59:DA:402:A:H8	1.64	0.62
56:D1:30:VAL:HG12	59:DA:2396:G:H1'	1.79	0.62
27:BE:151:TYR:HD2	33:BN:79:PRO:CG	2.12	0.62
31:BJ:25:UNK:N	31:BJ:112:UNK:N	2.48	0.62
59:BA:1654:A:H2'	59:BA:1655:A:H8	1.65	0.62
59:BA:2047:U:H2'	59:BA:2048:G:C8	2.34	0.62
20:AY:413:ILE:HD13	20:AY:476:VAL:HG22	1.82	0.62
16:CQ:13:ASP:HA	16:CQ:19:VAL:HG12	1.82	0.62
34:BO:77:ILE:HB	39:BT:74:ARG:HG2	1.82	0.62
59:BA:582:G:H2'	59:BA:583:G:C8	2.34	0.62
8:AI:99:LEU:HB3	8:AI:101:PHE:CE1	2.34	0.62
45:DZ:40:ASP:HB3	45:DZ:43:GLU:HG2	1.81	0.62
21:AA:1394:A:N7	21:AA:1501:C:H4'	2.15	0.62
21:CA:481:G:O2'	21:CA:483:C:N4	2.33	0.62
33:DN:103:VAL:O	33:DN:106:MET:N	2.32	0.62
43:DX:11:PRO:HG3	47:D2:41:ILE:HG22	1.80	0.62
21:AA:1440(H):U:H4'	21:AA:1440(I):A:C5	2.34	0.62
1:CB:78:GLN:HG3	1:CB:94:ASN:HB2	1.82	0.62
20:AY:27:THR:O	20:AY:30:GLU:HG2	1.99	0.62
59:BA:612:G:N2	59:BA:616:A:O2'	2.32	0.62
59:DA:1487:G:H1	59:DA:1502:C:N4	1.98	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:AA:500:G:O6	21:AA:545:C:N3	2.33	0.62
42:BW:9:TYR:H	42:BW:102:HIS:CE1	2.17	0.62
10:CK:53:SER:HB2	21:CA:694:A:H5''	1.82	0.62
37:DR:20:LEU:HD11	59:DA:1277:G:H4'	1.82	0.62
59:BA:976:C:H2'	59:BA:977:G:C8	2.35	0.62
21:CA:713:G:H2'	21:CA:714:G:C8	2.35	0.62
15:AP:59:TRP:HA	15:AP:59:TRP:HE3	1.64	0.62
16:AQ:9:VAL:HA	16:AQ:56:VAL:HG22	1.81	0.62
56:D1:76:ARG:NH2	56:D1:94:LEU:O	2.33	0.62
21:AA:922:G:H2'	21:AA:923:A:C8	2.35	0.62
59:DA:1802:A:OP1	59:DA:1814:G:N1	2.33	0.62
26:DD:186:HIS:O	26:DD:188:GLU:N	2.32	0.62
4:CE:40:ARG:HG2	4:CE:68:GLU:HB3	1.81	0.62
33:BN:34:LEU:HD11	33:BN:119:ARG:O	2.00	0.62
11:AL:58:VAL:HG11	11:AL:60:LEU:HD13	1.82	0.62
38:DS:40:ILE:HA	38:DS:47:THR:HA	1.82	0.62
21:CA:977:A:HO2'	21:CA:981:U:H3	1.48	0.62
59:BA:962:G:HO2'	59:BA:2496:C:HO2'	1.46	0.62
59:BA:856:C:H2'	59:BA:857:C:C6	2.34	0.62
12:CM:88:ARG:HA	12:CM:98:VAL:HG13	1.81	0.62
52:D8:42:ARG:NH2	59:DA:2348:U:OP2	2.32	0.62
2:CC:133:ALA:HA	2:CC:136:GLN:HB2	1.81	0.62
36:DQ:10:ARG:HB3	36:DQ:90:VAL:HG11	1.79	0.62
1:CB:159:PRO:O	1:CB:161:ALA:N	2.32	0.62
59:BA:181:A:H2'	59:BA:182:A:C8	2.35	0.62
21:CA:448:A:OP2	21:CA:485:G:N1	2.22	0.62
56:B1:26:ARG:HG3	56:B1:27:GLU:HG2	1.82	0.62
59:BA:1028:A:OP2	59:BA:1126:A:N6	2.26	0.62
33:BN:11:PRO:HB2	33:BN:51:PHE:HE1	1.64	0.62
3:AD:86:LYS:HD3	3:AD:87:GLY:H	1.65	0.62
59:DA:681:G:N2	59:DA:796:C:N3	2.34	0.62
6:CG:151:TYR:HA	6:CG:154:TYR:HB2	1.81	0.62
27:BE:152:LYS:NZ	59:BA:2620:C:OP2	2.31	0.62
20:CY:117:GLN:O	20:CY:120:THR:OG1	2.18	0.62
20:AY:659:LEU:O	20:AY:663:THR:OG1	2.18	0.62
29:DG:36:LYS:HB3	29:DG:95:ARG:NH1	2.14	0.62
46:D0:12:ASN:ND2	59:DA:2277:G:OP2	2.30	0.62
35:DP:9:ASN:H	35:DP:10:PRO:HD3	1.65	0.62
27:DE:4:ILE:HD12	27:DE:28:ALA:HB1	1.82	0.62
59:DA:88:G:H2'	59:DA:89:G:H8	1.65	0.62
59:BA:278:A:N1	59:BA:362:U:O4	2.33	0.62
3:AD:19:LEU:HD23	3:AD:67:ILE:HB	1.82	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:AB:98:LEU:N	1:AB:101:MET:SD	2.73	0.62
59:BA:1486:A:H2'	59:BA:1487:G:C8	2.35	0.62
46:D0:4:LYS:HE2	46:D0:7:LEU:HD12	1.81	0.62
7:AH:46:LYS:HB3	7:AH:62:TYR:HB2	1.82	0.62
59:DA:852:G:H2'	59:DA:853:G:C8	2.34	0.61
11:CL:70:ILE:HG13	11:CL:72:GLY:N	2.15	0.61
21:AA:1355:G:H2'	21:AA:1356:G:C8	2.35	0.61
41:BV:4:ILE:HG22	41:BV:39:LEU:HB2	1.82	0.61
25:BC:139:PRO:O	25:BC:145:THR:OG1	2.17	0.61
59:DA:918:A:N3	60:DB:80:U:O2'	2.31	0.61
59:BA:20:C:H2'	59:BA:21:A:C8	2.35	0.61
3:CD:128:VAL:HG13	3:CD:146:ILE:HG13	1.81	0.61
25:DC:182:PRO:O	25:DC:186:LEU:HD12	2.00	0.61
59:DA:141(A):A:H8	59:DA:1595:G:H21	1.47	0.61
21:CA:157:G:H1	21:CA:164:U:H3	1.47	0.61
36:BQ:9:TYR:OH	59:BA:912:C:OP1	2.17	0.61
3:AD:108:LEU:HD13	3:AD:174:LEU:HB3	1.79	0.61
30:DH:139:GLN:NE2	59:DA:2745:C:O2	2.32	0.61
26:BD:28:GLU:H	26:BD:29:PRO:HD2	1.65	0.61
19:AT:103:GLY:HA2	21:AA:192:U:H1'	1.82	0.61
21:AA:956:U:H2'	21:AA:957:U:C6	2.35	0.61
20:AY:162:VAL:HG21	20:AY:219:VAL:HG11	1.81	0.61
45:DZ:7:ALA:O	45:DZ:62:PRO:HD2	1.99	0.61
37:DR:26:LYS:HZ3	59:DA:1294:U:H4'	1.65	0.61
21:AA:1172:C:H2'	21:AA:1173:G:H8	1.65	0.61
59:DA:868:U:H3	59:DA:909:A:H61	1.48	0.61
28:BF:154:VAL:HG13	28:BF:191:ARG:HB2	1.80	0.61
38:DS:67:ARG:HA	38:DS:99:LYS:HB3	1.80	0.61
52:B8:4:MET:HG3	52:B8:61:LEU:HD23	1.82	0.61
26:BD:108:PRO:HA	26:BD:196:VAL:HA	1.82	0.61
2:CC:6:HIS:CG	13:CN:49:HIS:HB3	2.35	0.61
22:AW:15:G:H22	22:AW:48:C:N4	1.97	0.61
2:CC:134:ILE:HD11	2:CC:151:VAL:HG11	1.82	0.61
16:CQ:63:ARG:HH21	21:CA:130:A:H5'	1.66	0.61
27:DE:109:LYS:NZ	59:DA:2681:C:OP2	2.27	0.61
29:BG:84:LYS:H	29:BG:84:LYS:HD2	1.64	0.61
40:BU:59:ARG:NH2	59:BA:1154:G:H5''	2.09	0.61
51:B7:30:VAL:O	51:B7:34:ARG:HG2	2.00	0.61
44:DY:2:ARG:CZ	59:DA:106:C:H1'	2.31	0.61
60:DB:24:G:N1	60:DB:56:G:N2	2.49	0.61
26:DD:220:HIS:N	59:DA:1790:C:OP1	2.34	0.61
35:DP:94:GLU:HG2	35:DP:124:LYS:HB2	1.81	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:BE:98:PRO:HA	27:BE:172:VAL:HG13	1.82	0.61
4:CE:101:ILE:HD11	4:CE:119:LEU:HD22	1.83	0.61
7:CH:21:LYS:NZ	21:CA:828:A:OP1	2.34	0.61
59:DA:2328:A:H2'	59:DA:2329:G:C8	2.35	0.61
59:BA:2593:U:H3	59:BA:2600:A:H61	1.46	0.61
28:DF:168:ARG:HA	28:DF:175:THR:HG21	1.82	0.61
16:CQ:28:PRO:HA	16:CQ:35:VAL:HA	1.80	0.61
5:CF:100:ASN:ND2	17:CR:23:LYS:O	2.31	0.61
20:CY:505:GLY:HA3	20:CY:576:ASP:HA	1.80	0.61
1:CB:103:THR:OG1	1:CB:176:GLU:OE1	2.18	0.61
8:AI:128:ARG:NH1	22:AW:32:C:OP1	2.29	0.61
59:DA:2084:C:H42	59:DA:2235:G:H1	1.46	0.61
44:BY:31:LEU:HD22	44:BY:32:PRO:HB3	1.81	0.61
59:DA:689:A:H2'	59:DA:690:G:C8	2.35	0.61
59:DA:922:U:H2'	59:DA:923:C:C6	2.35	0.61
28:BF:188:ARG:HG3	28:BF:189:THR:HG23	1.83	0.61
21:AA:736:C:H2'	21:AA:737:A:C8	2.35	0.61
20:AY:276:VAL:HA	20:AY:280:LEU:HD23	1.83	0.61
56:D1:27:GLU:HA	56:D1:31:GLY:HA2	1.81	0.61
59:DA:2437:U:H2'	59:DA:2438:U:H6	1.65	0.61
10:AK:12:ARG:HH22	10:AK:38:ASN:HB3	1.65	0.61
59:BA:374:A:H62	59:BA:400:G:H21	1.47	0.61
17:CR:73:ALA:HB3	17:CR:79:LEU:HD12	1.81	0.61
44:BY:71:LYS:NZ	59:BA:329:G:N7	2.48	0.61
6:CG:26:PHE:O	6:CG:30:ILE:HG13	2.00	0.61
20:CY:107:VAL:HG13	20:CY:135:PHE:HB3	1.81	0.61
25:DC:47:LYS:HE3	25:DC:211:ARG:HH21	1.65	0.61
9:AJ:50:ILE:HA	9:AJ:60:ARG:HG2	1.83	0.61
21:CA:443:C:N4	21:CA:491:G:H1	1.95	0.61
59:DA:1018:C:N4	59:DA:1144:G:H1	1.98	0.61
21:AA:1380:U:H4'	21:AA:1381:U:H5'	1.81	0.61
59:DA:1538:G:H2'	59:DA:1539:G:H8	1.64	0.61
56:D1:18:ILE:HG21	59:DA:380:U:H4'	1.82	0.61
28:DF:193:VAL:O	28:DF:194:MET:HG2	2.00	0.61
26:BD:157:ARG:HE	59:BA:1818:U:H2'	1.66	0.61
19:AT:81:LYS:NZ	21:AA:185:A:N3	2.48	0.61
56:B1:34:THR:HG23	56:B1:35:THR:H	1.65	0.61
39:DT:56:GLY:H	39:DT:59:THR:HB	1.64	0.61
8:AI:8:GLY:HA2	8:AI:79:LEU:HB3	1.83	0.61
19:AT:102:GLY:O	21:AA:191:G:O2'	2.16	0.61
59:DA:2643:G:H1	59:DA:2771:C:H42	1.47	0.61
59:BA:90:U:O2'	59:BA:91:A:O4'	2.10	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:AR:74:ARG:NH2	21:AA:718:G:H1	1.98	0.61
26:DD:231:HIS:O	26:DD:233:HIS:N	2.34	0.61
10:CK:21:ILE:HG12	10:CK:30:VAL:HG12	1.83	0.61
21:CA:563:A:O2'	21:CA:567:G:OP2	2.18	0.61
45:DZ:54:HIS:HB3	45:DZ:101:PRO:HG3	1.82	0.61
25:BC:114:VAL:O	25:BC:116:ALA:N	2.32	0.61
33:BN:24:GLY:HA3	59:BA:1140:C:H5'	1.83	0.61
59:BA:566:U:H3	59:BA:575:A:H61	1.49	0.61
3:AD:177:ASP:HB2	3:AD:182:LYS:H	1.66	0.61
36:BQ:58:PHE:CZ	36:BQ:64:ILE:HD11	2.32	0.61
21:CA:816:A:OP2	21:CA:1526:G:O2'	2.17	0.61
56:B1:25:LYS:NZ	56:B1:34:THR:OG1	2.26	0.61
59:BA:1230:C:H2'	59:BA:1231:G:C8	2.36	0.61
33:BN:137:LYS:NZ	33:BN:137:LYS:HA	2.15	0.61
12:AM:81:LEU:HD11	12:AM:88:ARG:HH21	1.66	0.61
17:AR:44:LEU:HG	17:AR:48:GLY:HA2	1.81	0.61
21:AA:1022:G:H2'	21:AA:1023:G:O4'	2.01	0.61
33:BN:47:ALA:HB1	33:BN:116:LEU:HD21	1.81	0.61
34:BO:88:ASN:ND2	34:BO:92:GLU:O	2.34	0.61
43:DX:40:LYS:HG3	43:DX:51:VAL:HB	1.83	0.61
59:BA:1782:C:H1'	59:BA:2609:U:H5'	1.83	0.61
20:CY:265:LYS:O	20:CY:267:LYS:N	2.33	0.61
27:BE:168:MET:O	59:BA:2730:C:O2'	2.18	0.61
59:DA:2093:G:H1	59:DA:2196:C:H42	0.73	0.61
38:DS:97:ARG:O	38:DS:99:LYS:N	2.34	0.61
59:BA:711:G:H1	59:BA:720:C:N4	1.96	0.61
26:DD:157:ARG:NH2	59:DA:1817:G:H3'	2.16	0.61
29:DG:19:LEU:HD11	29:DG:172:LEU:HB2	1.81	0.61
59:BA:2795:G:H21	59:BA:2801:A:H62	1.48	0.61
59:DA:1326:U:H2'	59:DA:1327:C:O4'	2.01	0.61
21:AA:1511:G:H2'	21:AA:1512:U:O4'	2.01	0.61
26:BD:68:LYS:NZ	59:BA:2209:C:OP1	2.34	0.61
51:D7:40:TRP:CE3	59:DA:459:U:H5''	2.36	0.61
27:BE:38:THR:HG23	27:BE:40:GLU:H	1.65	0.61
11:AL:29:GLY:O	11:AL:31:PRO:HD3	1.99	0.61
20:AY:497:PHE:HB3	20:AY:508:GLY:H	1.63	0.61
38:BS:34:HIS:CG	38:BS:54:LEU:HB3	2.36	0.61
8:AI:127:LYS:O	21:AA:966:G:O2'	2.17	0.61
21:AA:139:G:H2'	21:AA:140:A:C8	2.36	0.61
30:BH:98:LEU:HD22	30:BH:125:VAL:H	1.66	0.61
21:CA:1026:G:O6	21:CA:1035:A:N1	2.32	0.61
21:AA:1072:G:H2'	21:AA:1073:U:C6	2.35	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:CC:52:LEU:HD13	2:CC:68:VAL:HG13	1.81	0.61
5:CF:12:PRO:O	5:CF:13:ASN:ND2	2.32	0.61
20:CY:64:THR:CG2	61:CY:701:GNP:O3G	2.41	0.61
59:DA:1400:G:H2'	59:DA:1401:G:C8	2.36	0.61
20:AY:59:ARG:HB3	20:AY:64:THR:HA	1.83	0.61
40:DU:91:ASP:O	40:DU:95:LEU:HB2	2.00	0.61
59:BA:970:C:O2	59:BA:984:A:O2'	2.15	0.61
59:DA:2789:C:H2'	59:DA:2790:A:H4'	1.82	0.61
50:D6:8:LYS:HZ2	50:D6:27:LYS:HB2	1.66	0.61
25:BC:33:LEU:HB3	25:BC:221:PRO:HG2	1.82	0.61
35:BP:48:PRO:O	35:BP:51:PHE:N	2.23	0.61
51:D7:40:TRP:CE3	59:DA:459:U:H3'	2.36	0.61
19:AT:61:SER:O	19:AT:65:LYS:HG2	2.00	0.61
51:B7:49:ARG:NH2	59:BA:1309:G:N7	2.49	0.61
3:CD:50:ARG:NH1	3:CD:51:PRO:O	2.33	0.61
11:AL:93:LEU:HB2	11:AL:96:VAL:HG22	1.82	0.61
21:AA:838(B):C:OP1	59:DA:1583:A:N6	2.33	0.61
59:BA:2398:U:O2	59:BA:2418:A:N1	2.34	0.61
22:AW:6:C:N4	22:AW:67:G:H1	1.97	0.61
59:DA:1817:G:H2'	59:DA:1818:U:H5'	1.83	0.61
59:DA:1603:A:H5'	59:DA:1604:C:OP2	2.00	0.61
28:BF:45:ARG:NH2	59:BA:443:A:H3'	2.14	0.61
21:CA:933:G:H1	21:CA:1384:C:N4	1.98	0.61
59:DA:1999:C:H5''	59:DA:2723:C:O2'	2.00	0.61
29:BG:11:TYR:O	29:BG:15:VAL:HB	2.00	0.61
11:CL:71:PRO:HD2	11:CL:102:ARG:HD3	1.83	0.61
22:CW:17:U:H5'	22:CW:18:G:O5'	2.01	0.61
49:D5:19:ARG:NH1	59:DA:1266:G:OP2	2.33	0.61
33:BN:73:THR:HG22	33:BN:84:LYS:HB3	1.81	0.61
60:BB:14:U:O3'	60:BB:107:U:O2'	2.14	0.61
53:B9:23:VAL:HB	53:B9:36:GLN:HG3	1.82	0.61
21:AA:1532:U:O2'	23:AV:12:A:N6	2.33	0.61
7:AH:134:ILE:HG22	7:AH:135:CYS:HB3	1.83	0.61
21:CA:34:C:H2'	21:CA:35:G:C8	2.36	0.61
35:BP:88:LEU:HD11	35:BP:123:LEU:HD21	1.82	0.61
45:BZ:7:ALA:HB2	45:BZ:59:LEU:HB2	1.83	0.61
4:CE:149:GLU:O	4:CE:153:LYS:HB2	2.01	0.61
36:DQ:26:TYR:O	36:DQ:67:ARG:NH1	2.34	0.61
37:BR:90:ARG:NH2	59:BA:2880:C:O3'	2.30	0.61
26:BD:41:GLY:HA3	59:BA:692:C:H4'	1.83	0.61
20:CY:137:ASN:ND2	20:CY:138:LYS:H	1.99	0.61
27:DE:61:ARG:O	27:DE:63:LEU:N	2.34	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
56:B1:18:ILE:HG21	59:BA:380:U:H4'	1.82	0.61
21:CA:259:G:H1	21:CA:267:C:H42	1.48	0.61
21:AA:105:G:H2'	21:AA:106:C:C6	2.36	0.61
21:AA:573:A:N3	21:AA:883:C:O2'	2.32	0.61
20:CY:552:SER:O	20:CY:591:LYS:NZ	2.34	0.61
21:AA:1338:G:H21	22:AW:41:A:H1'	1.65	0.61
45:DZ:61:LEU:O	45:DZ:63:ASP:N	2.33	0.61
17:CR:66:LEU:O	17:CR:70:ILE:HG13	2.00	0.61
21:CA:778:G:H2'	21:CA:779:C:O4'	2.00	0.61
21:AA:410:G:H21	21:AA:432:A:H62	1.49	0.61
20:CY:25:LYS:NZ	61:CY:701:GNP:O1B	2.33	0.60
11:CL:53:ARG:HG3	11:CL:69:TYR:CE1	2.36	0.60
6:CG:74:GLU:O	6:CG:88:PRO:HA	2.01	0.60
60:BB:29:A:O2'	60:BB:58:A:N1	2.33	0.60
59:DA:1800:C:N4	59:DA:1817:G:H22	1.99	0.60
6:AG:57:GLU:CD	6:AG:57:GLU:H	2.03	0.60
59:DA:603:A:N6	59:DA:655:A:H1'	2.16	0.60
59:DA:2224:G:H4'	59:DA:2226:C:C2	2.35	0.60
52:D8:5:LYS:NZ	59:DA:254:G:N7	2.43	0.60
59:BA:1766:U:H3	59:BA:1986:A:H61	1.47	0.60
59:DA:742:G:H2'	59:DA:743:G:H8	1.66	0.60
59:DA:862:G:H2'	59:DA:863:A:O4'	2.00	0.60
4:AE:105:VAL:HG11	4:AE:131:ILE:HG22	1.81	0.60
15:CP:1:MET:O	15:CP:3:LYS:NZ	2.34	0.60
59:BA:2671:A:H2'	59:BA:2672:G:H8	1.66	0.60
35:DP:62:LEU:HB3	59:DA:2393:A:H5''	1.83	0.60
21:CA:1347:G:N1	21:CA:1374:A:OP2	2.19	0.60
3:AD:18:LYS:HB3	3:AD:33:MET:HG2	1.83	0.60
25:BC:60:ARG:HE	25:BC:142:LYS:HB3	1.66	0.60
30:BH:23:ARG:NE	30:BH:23:ARG:H	1.99	0.60
41:DV:4:ILE:HG22	41:DV:39:LEU:HB2	1.83	0.60
2:AC:59:ARG:HA	2:AC:63:ASN:O	2.01	0.60
1:CB:211:ILE:O	1:CB:215:LEU:HB2	2.00	0.60
27:BE:132:HIS:ND1	59:BA:1658:C:OP1	2.33	0.60
21:AA:501:C:H1'	21:AA:549:C:H1'	1.83	0.60
21:AA:1040:U:H2'	21:AA:1041:A:C8	2.36	0.60
32:BK:30:HIS:CE1	32:BK:32:ALA:HB2	2.36	0.60
12:AM:14:ARG:HA	12:AM:44:ARG:HA	1.84	0.60
29:DG:30:GLU:HB2	60:DB:57:A:H1'	1.83	0.60
35:BP:95:VAL:HA	35:BP:99:LEU:HD23	1.82	0.60
53:B9:6:SER:HB3	59:BA:2466:C:H5''	1.81	0.60
26:BD:154:LYS:NZ	59:BA:1801:G:OP2	2.22	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
46:D0:72:ARG:O	46:D0:76:GLY:N	2.28	0.60
59:DA:1796:U:H2'	59:DA:1797:C:C6	2.36	0.60
21:CA:156:G:H1	21:CA:165:C:H42	1.49	0.60
20:AY:145:ASP:CG	20:AY:146:LEU:H	2.04	0.60
20:CY:679:VAL:HB	20:CY:683:VAL:HB	1.83	0.60
47:B2:27:GLU:HA	47:B2:30:ARG:HD3	1.83	0.60
2:CC:39:ILE:O	2:CC:43:LEU:HB2	2.00	0.60
21:CA:390:C:H2'	21:CA:391:G:H8	1.65	0.60
4:CE:29:GLY:HA2	4:CE:46:GLY:O	2.01	0.60
19:CT:79:ARG:O	19:CT:82:SER:OG	2.15	0.60
33:BN:108:PRO:HB3	59:BA:1008:C:OP2	2.02	0.60
35:BP:25:SER:HA	59:BA:811:U:H2'	1.82	0.60
59:DA:532:A:OP1	59:DA:561:G:N2	2.34	0.60
59:DA:978:G:H1	59:DA:985:C:N4	1.98	0.60
25:BC:115:VAL:HG11	25:BC:154:ILE:HD11	1.84	0.60
36:DQ:43:THR:HB	36:DQ:46:GLN:HB2	1.83	0.60
49:D5:40:LYS:HB3	49:D5:46:CYS:HB2	1.82	0.60
50:D6:27:LYS:NZ	50:D6:30:THR:H	1.99	0.60
27:BE:172:VAL:HA	27:BE:184:VAL:HG12	1.83	0.60
59:DA:137(B):G:H1	59:DA:141(B):C:N4	1.99	0.60
23:CV:17:U:H2'	23:CV:18:G:C8	2.36	0.60
29:DG:25:TYR:OH	29:DG:168:GLU:OE1	2.18	0.60
21:CA:1229:A:O2'	22:CW:30:C:OP1	2.19	0.60
59:DA:85:G:N1	59:DA:97:C:O2	2.27	0.60
7:AH:63:LEU:H	7:AH:63:LEU:HD22	1.64	0.60
59:BA:1811:G:H2'	59:BA:1812:A:H8	1.65	0.60
34:BO:68:GLU:HB3	34:BO:78:ARG:HB3	1.83	0.60
2:AC:35:GLU:O	2:AC:39:ILE:HG13	2.02	0.60
27:DE:110:GLY:N	59:DA:2821:A:OP1	2.26	0.60
8:AI:71:SER:HA	8:AI:74:ILE:HD12	1.81	0.60
32:DK:56:GLU:O	32:DK:67:PHE:HA	2.01	0.60
21:CA:774:G:H1	21:CA:805:C:H42	1.49	0.60
36:DQ:62:GLY:HA2	45:DZ:116:VAL:HG21	1.82	0.60
23:AV:8:A:H2'	23:AV:9:G:C8	2.36	0.60
47:B2:32:LEU:HB2	47:B2:53:LEU:HD22	1.82	0.60
20:AY:13:ARG:HB2	20:AY:79:ILE:HG12	1.83	0.60
21:AA:314:C:H2'	21:AA:315:A:C8	2.36	0.60
27:BE:61:ARG:CB	27:BE:62:PRO:HD2	2.28	0.60
60:BB:59:A:H2'	60:BB:60:C:O4'	2.00	0.60
59:DA:670:A:H4'	59:DA:671:C:H5'	1.83	0.60
38:DS:70:GLY:C	38:DS:101:LEU:HD21	2.21	0.60
15:AP:26:ARG:NH2	21:AA:310:G:OP1	2.34	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:AA:1076:C:N4	21:AA:1081:G:H1	1.96	0.60
21:CA:660:G:H1	21:CA:745:C:H42	1.49	0.60
7:AH:87:SER:OG	7:AH:93:VAL:N	2.34	0.60
22:AW:12:U:H1'	22:AW:24:G:H22	1.64	0.60
14:AO:63:ARG:HD2	14:AO:67:LEU:HD11	1.82	0.60
46:D0:82:ARG:HH21	46:D0:84:LEU:HA	1.66	0.60
6:CG:22:LEU:HG	6:CG:62:PHE:HE2	1.66	0.60
4:CE:102:ALA:HB1	4:CE:106:PRO:HB2	1.83	0.60
1:AB:28:PHE:CE1	1:AB:190:THR:HA	2.36	0.60
31:BJ:97:UNK:O	31:BJ:101:UNK:N	2.34	0.60
21:AA:120:A:H2'	21:AA:121:C:H4'	1.83	0.60
59:DA:575:A:OP2	59:DA:2499:C:O2'	2.18	0.60
56:B1:3:LYS:HG3	56:B1:4:VAL:HG12	1.83	0.60
35:DP:64:LYS:HZ1	59:DA:2417:C:P	2.24	0.60
59:BA:1510:A:H2'	59:BA:1511:A:O4'	2.00	0.60
29:BG:112:PRO:CA	29:BG:113:ARG:N	2.62	0.60
21:AA:1003:G:C2	21:AA:1037:C:O2	2.54	0.60
27:BE:62:PRO:HD3	59:BA:2787:C:O4'	2.02	0.60
59:BA:863:A:O2'	60:BB:100:G:O2'	2.18	0.60
28:BF:191:ARG:O	28:BF:193:VAL:N	2.35	0.60
59:DA:2629:A:O2'	59:DA:2895:U:O4	2.19	0.60
14:AO:82:ILE:HD11	14:AO:88:ARG:HB2	1.83	0.60
21:CA:1006:C:N4	21:CA:1023:G:H1	1.98	0.60
21:AA:501:C:H2'	21:AA:502:G:C8	2.37	0.60
59:BA:2136:C:N3	59:BA:2155:G:N2	2.49	0.60
12:AM:14:ARG:NH2	12:AM:16:ASP:OD1	2.34	0.60
34:BO:35:VAL:HG11	34:BO:103:ALA:HB3	1.84	0.60
34:BO:82:ASN:ND2	59:BA:1666:G:OP1	2.35	0.60
21:CA:1268:A:N3	21:CA:1326:C:O2'	2.34	0.60
59:BA:1199:U:H2'	59:BA:1200:C:C6	2.36	0.60
39:BT:64:ARG:HH12	39:BT:103:ARG:HA	1.66	0.60
51:B7:19:ARG:HB2	59:BA:125:G:H5''	1.83	0.60
26:BD:257:LEU:O	59:BA:1797:C:H4'	2.02	0.60
59:DA:1948:G:H1	59:DA:1958:C:H42	1.50	0.60
11:CL:34:ARG:HD3	11:CL:82:VAL:HG13	1.82	0.60
38:DS:63:THR:OG1	60:DB:50:G:OP1	2.16	0.60
26:DD:208:LYS:NZ	59:DA:729:G:O5'	2.33	0.60
33:DN:118:LYS:NZ	59:DA:2780:G:OP1	2.22	0.60
21:CA:946:A:H2'	21:CA:947:G:H8	1.66	0.60
35:BP:49:ARG:O	35:BP:50:ARG:NH2	2.33	0.60
46:D0:11:ARG:O	46:D0:14:ARG:NH2	2.34	0.60
1:CB:161:ALA:HB1	1:CB:185:ILE:HG12	1.82	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:1796:U:H2'	59:BA:1797:C:C6	2.37	0.60
30:BH:30:LYS:HG2	30:BH:81:GLU:HG2	1.82	0.60
20:CY:604:PRO:HB2	20:CY:649:LEU:HD12	1.84	0.60
44:DY:73:ARG:HD2	59:DA:335:C:H4'	1.82	0.60
5:CF:2:ARG:HG2	5:CF:92:LYS:HE2	1.82	0.60
12:CM:50:GLU:O	12:CM:53:VAL:N	2.35	0.60
21:CA:748:C:O2'	21:CA:749:C:OP2	2.13	0.60
21:CA:1408:A:H61	24:CU:1:KBE:HAA	1.67	0.60
59:BA:2494:G:H2'	59:BA:2495:G:H8	1.66	0.60
8:CI:120:ARG:HG3	21:CA:1348:U:H4'	1.83	0.60
20:CY:18:ALA:HB1	20:CY:121:VAL:HG11	1.83	0.60
30:BH:41:MET:HB2	30:BH:54:ARG:HA	1.84	0.60
59:BA:447:A:H4'	59:BA:448:U:H5'	1.84	0.60
59:BA:2698:U:H2'	59:BA:2699:C:C6	2.37	0.60
1:CB:24:TRP:HZ3	1:CB:26:PRO:HA	1.65	0.60
40:DU:34:LYS:NZ	59:DA:2018:G:N3	2.50	0.60
21:AA:137:C:H42	21:AA:226:G:H1	1.49	0.60
21:CA:114:U:H2'	21:CA:115:G:C8	2.37	0.60
29:DG:145:THR:OG1	29:DG:146:TYR:N	2.27	0.60
38:DS:51:ALA:HB1	38:DS:69:VAL:HG22	1.82	0.60
59:DA:119:A:H4'	59:DA:120:U:H5'	1.83	0.60
59:BA:307:G:H21	59:BA:330:A:H62	1.48	0.60
21:CA:1491:G:H5''	21:CA:1492:A:OP2	2.02	0.60
60:BB:30:C:O2'	60:BB:57:A:N1	2.31	0.60
59:DA:1059:G:H1	59:DA:1079:C:N4	2.00	0.60
20:CY:118:SER:HA	20:CY:121:VAL:HG23	1.83	0.60
21:AA:545:C:O2'	21:AA:549:C:OP1	2.19	0.60
21:AA:34:C:H2'	21:AA:35:G:C8	2.37	0.60
44:BY:7:VAL:HG11	59:BA:336:C:H5''	1.83	0.60
35:BP:70:GLN:H	59:BA:245:G:H5'	1.66	0.60
4:CE:11:ILE:O	4:CE:31:LEU:HB3	2.01	0.60
52:B8:33:ASN:HD22	59:BA:2419:U:P	2.25	0.60
59:DA:2557:G:H2'	59:DA:2558:C:C6	2.36	0.60
8:CI:71:SER:HB3	21:CA:1372:U:H5''	1.84	0.60
27:DE:131:ALA:HB1	27:DE:133:LYS:HG3	1.84	0.60
59:DA:37:C:H2'	59:DA:38:A:C8	2.37	0.60
20:AY:338:GLY:O	20:AY:351:ARG:NH2	2.34	0.60
42:BW:36:LEU:HD13	42:BW:48:ALA:HA	1.84	0.60
33:DN:61:ARG:HH11	33:DN:61:ARG:HG2	1.67	0.60
9:AJ:50:ILE:HG13	9:AJ:52:GLY:H	1.67	0.60
27:BE:22:PRO:O	27:BE:186:GLY:N	2.31	0.60
1:AB:167:PRO:O	1:AB:171:ALA:HB2	2.00	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:DF:105:VAL:HG22	59:DA:600:G:H1'	1.82	0.60
40:BU:95:LEU:O	40:BU:98:LEU:HB3	2.01	0.60
35:BP:45:LEU:HG	35:BP:46:LYS:HD2	1.83	0.60
59:BA:2466:C:H42	59:BA:2484:G:H1	1.49	0.60
59:DA:2817:G:H21	59:DA:2836:U:H1'	1.67	0.60
59:DA:299:A:N1	59:DA:322:A:O2'	2.30	0.60
34:DO:25:LEU:HB3	34:DO:38:VAL:HG23	1.84	0.60
45:DZ:144:LEU:HD21	45:DZ:150:LEU:HD22	1.84	0.60
21:CA:1513:A:H2'	21:CA:1514:C:C6	2.37	0.60
59:DA:1972:A:H2'	59:DA:1973:G:H8	1.67	0.60
30:DH:175:LYS:HD3	30:DH:176:ALA:H	1.66	0.60
59:DA:1844:C:H42	59:DA:1896:G:H1	1.48	0.60
3:CD:155:LEU:HB3	3:CD:158:ILE:HD13	1.83	0.60
35:BP:122:PRO:HG3	35:BP:141:ALA:HB3	1.83	0.60
59:BA:850:C:H2'	59:BA:851:U:O4'	2.02	0.60
59:BA:1771:C:H2'	59:BA:1772:G:C8	2.35	0.60
9:CJ:79:ARG:HH22	9:CJ:82:ILE:HD12	1.66	0.60
22:CW:37:A:N1	23:CV:16:A:C6	2.70	0.60
26:DD:244:ARG:NH1	59:DA:1841:U:O2'	2.34	0.60
42:DW:19:LEU:HD12	49:D5:25:LEU:H	1.66	0.60
20:CY:255:ILE:HG23	20:CY:257:PRO:HD3	1.84	0.60
52:D8:56:GLU:HA	52:D8:59:LYS:HE2	1.84	0.60
42:DW:11:ARG:NH2	42:DW:99:ARG:O	2.34	0.60
26:BD:59:LYS:HB3	59:BA:1568:G:H4'	1.82	0.60
20:AY:150:ILE:HA	20:AY:153:MET:SD	2.42	0.60
59:DA:655:A:H2'	59:DA:656:G:O4'	2.02	0.60
59:BA:1817:G:H2'	59:BA:1818:U:H5'	1.84	0.60
42:BW:38:TYR:CE2	49:B5:41:PRO:HD3	2.37	0.60
14:CO:43:LEU:HD22	14:CO:47:LYS:HA	1.83	0.60
4:CE:98:THR:HB	4:CE:117:ASP:HB3	1.84	0.60
34:DO:104:ARG:NE	34:DO:122:LEU:O	2.34	0.60
26:BD:148:GLU:HB3	26:BD:151:LYS:HG3	1.83	0.60
21:CA:566:G:H4'	21:CA:567:G:H5'	1.84	0.60
59:DA:1230:C:H2'	59:DA:1231:G:C8	2.37	0.60
32:BK:19:PRO:HD3	32:BK:34:ILE:HD11	1.83	0.60
21:AA:892:A:O2'	21:AA:1415:G:H4'	2.02	0.60
59:BA:637:A:N1	59:BA:651:G:O2'	2.29	0.60
37:BR:53:HIS:CD2	59:BA:2840:C:H5''	2.36	0.60
59:DA:1102:C:H2'	59:DA:1103:A:H8	1.67	0.60
35:BP:104:GLY:H	35:BP:105:LEU:HD12	1.66	0.60
42:BW:20:VAL:HA	49:B5:25:LEU:HD22	1.82	0.60
21:CA:1316:G:N1	21:CA:1319:A:OP2	2.35	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:AY:543:GLN:O	20:AY:545:GLY:N	2.34	0.60
28:BF:77:ASP:OD1	28:BF:77:ASP:N	2.32	0.60
21:AA:1262:C:H2'	21:AA:1263:C:C6	2.36	0.60
59:BA:1139:G:O2'	59:BA:1143:A:N1	2.33	0.59
44:DY:9:LYS:O	44:DY:28:LYS:NZ	2.23	0.59
59:BA:769:G:H2'	59:BA:770:G:C8	2.34	0.59
59:DA:1536:A:H3'	59:DA:1537:C:C6	2.37	0.59
32:BK:54:PRO:HD2	32:BK:70:LYS:HB2	1.83	0.59
20:CY:9:LEU:H	20:CY:12:LEU:HD23	1.67	0.59
6:AG:71:PRO:HB3	6:AG:138:LYS:HG2	1.84	0.59
27:DE:91:VAL:HB	27:DE:95:ILE:HD12	1.84	0.59
21:CA:390:C:H2'	21:CA:391:G:C8	2.37	0.59
59:DA:1268:A:H2'	59:DA:1269:A:O4'	2.01	0.59
33:DN:73:THR:HB	33:DN:82:LEU:HD11	1.82	0.59
47:D2:45:SER:O	47:D2:46:GLN:NE2	2.35	0.59
59:BA:1024:G:OP2	59:BA:1025:G:H3'	2.01	0.59
59:DA:814:C:N3	59:DA:1193:G:N2	2.39	0.59
59:DA:1346:G:N2	59:DA:1600:C:N3	2.42	0.59
26:DD:157:ARG:NH2	59:DA:1818:U:H6	1.99	0.59
59:BA:1295:C:H2'	59:BA:1296:G:H8	1.67	0.59
4:AE:109:ILE:HD12	4:AE:135:THR:HB	1.84	0.59
59:DA:401:A:H2'	59:DA:402:A:C8	2.37	0.59
32:DK:30:HIS:CE1	32:DK:32:ALA:HB2	2.37	0.59
57:B4:15:ILE:HD12	57:B4:32:TYR:HD2	1.66	0.59
59:DA:2136:C:N3	59:DA:2155:G:N2	2.44	0.59
37:BR:44:LEU:O	37:BR:48:VAL:HG23	2.02	0.59
21:AA:398:C:H2'	21:AA:399:G:C8	2.37	0.59
59:DA:819:A:OP2	59:DA:1187:G:N2	2.31	0.59
59:BA:1748:G:H2'	59:BA:1749:A:C8	2.37	0.59
21:AA:605:U:H2'	21:AA:606:G:C8	2.38	0.59
21:AA:1440(J):C:H1'	21:AA:1440(K):G:N2	2.17	0.59
20:CY:34:TYR:HB3	20:CY:36:THR:HG23	1.83	0.59
59:DA:1417:C:O2'	59:DA:1587:A:N3	2.29	0.59
35:BP:21:ARG:HH21	35:BP:29:LYS:HE3	1.67	0.59
3:CD:8:VAL:HG22	21:CA:430:A:OP2	2.02	0.59
39:DT:49:VAL:HG22	39:DT:50:ILE:H	1.67	0.59
37:BR:97:VAL:HA	37:BR:113:LEU:O	2.02	0.59
4:AE:127:ASN:HD21	21:AA:18:C:H5''	1.67	0.59
39:BT:121:ILE:O	39:BT:125:ARG:HG2	2.02	0.59
40:BU:25:TRP:O	40:BU:28:ARG:HG2	2.02	0.59
21:AA:691:G:H2'	21:AA:692:U:C6	2.37	0.59
59:BA:877:U:H3	59:BA:899:A:H2	1.49	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:AA:1468:A:H2'	21:AA:1469:G:O4'	2.01	0.59
59:DA:1707:G:H1	59:DA:1751:C:H42	1.48	0.59
59:DA:900:A:H2'	59:DA:901:A:O4'	2.01	0.59
4:AE:40:ARG:HG2	4:AE:68:GLU:HB3	1.85	0.59
7:CH:95:VAL:HG21	7:CH:133:LEU:HD12	1.82	0.59
5:AF:69:GLU:O	5:AF:71:ARG:N	2.35	0.59
27:DE:66:HIS:O	27:DE:68:ALA:N	2.35	0.59
39:BT:27:THR:O	39:BT:87:ASP:HB2	2.02	0.59
44:DY:94:LYS:HG3	44:DY:102:CYS:HB2	1.84	0.59
21:CA:1022:G:H2'	21:CA:1023:G:O4'	2.03	0.59
16:AQ:73:VAL:O	16:AQ:74:LEU:HB2	2.02	0.59
11:AL:117:ARG:HD3	11:AL:125:PRO:CD	2.31	0.59
9:AJ:62:HIS:CD2	13:AN:61:TRP:HZ3	2.20	0.59
56:D1:88:LYS:NZ	59:DA:1361:G:OP1	2.34	0.59
5:AF:50:TYR:OH	17:AR:74:ARG:O	2.19	0.59
45:BZ:5:LEU:HD11	45:BZ:44:PHE:HA	1.84	0.59
34:DO:2:ILE:HB	34:DO:33:ALA:HB3	1.83	0.59
21:AA:481:G:O2'	21:AA:483:C:N4	2.36	0.59
19:CT:14:LYS:NZ	21:CA:104:G:O6	2.23	0.59
59:BA:830:G:N2	59:BA:2445:G:O2'	2.34	0.59
20:AY:329:ARG:HH21	20:AY:372:GLY:HA2	1.67	0.59
4:AE:144:THR:H	4:AE:147:ASP:HB2	1.65	0.59
20:AY:380:LEU:HD23	20:AY:383:THR:HG21	1.85	0.59
51:D7:8:ASN:HB3	51:D7:11:LYS:HB3	1.83	0.59
11:CL:77:LEU:HB3	11:CL:81:SER:OG	2.03	0.59
32:BK:90:LYS:HG2	59:BA:1076:C:H1'	1.84	0.59
25:DC:132:LEU:O	25:DC:137:LEU:N	2.33	0.59
49:B5:40:LYS:HE2	49:B5:46:CYS:HB2	1.83	0.59
26:BD:83:GLU:OE1	26:BD:104:TYR:OH	2.18	0.59
11:AL:109:GLY:HA3	11:AL:121:GLY:HA3	1.84	0.59
59:DA:137(B):G:H1	59:DA:141(B):C:H42	1.51	0.59
35:BP:95:VAL:HG23	35:BP:125:VAL:HA	1.83	0.59
33:DN:103:VAL:HG11	33:DN:120:LEU:HD13	1.84	0.59
11:CL:124:LYS:O	11:CL:126:LYS:N	2.32	0.59
3:CD:89:THR:OG1	4:CE:97:GLY:O	2.20	0.59
36:BQ:54:MET:HG2	36:BQ:117:ALA:HB1	1.84	0.59
51:D7:13:ALA:O	51:D7:17:GLY:N	2.35	0.59
59:BA:1858:G:H1'	59:BA:1884:A:N6	2.17	0.59
28:BF:54:ARG:NH1	59:BA:673:C:OP1	2.35	0.59
59:DA:2853:C:H2'	59:DA:2854:G:H8	1.68	0.59
15:AP:45:THR:O	15:AP:47:ASP:N	2.34	0.59
21:AA:618:C:H5''	21:AA:619:U:H5''	1.84	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:DH:97:ARG:HD3	30:DH:99:VAL:HB	1.84	0.59
20:AY:35:TYR:HE2	20:AY:72:CYS:HA	1.67	0.59
11:AL:93:LEU:O	11:AL:95:GLY:N	2.35	0.59
25:DC:41:THR:O	25:DC:176:VAL:N	2.36	0.59
37:DR:64:ARG:NH2	59:DA:2851:A:O2'	2.35	0.59
28:BF:154:VAL:HG12	28:BF:156:LEU:HA	1.83	0.59
28:BF:156:LEU:HD23	28:BF:175:THR:HB	1.83	0.59
38:BS:26:LEU:HG	38:BS:39:ILE:HG13	1.84	0.59
28:DF:117:ARG:HB2	28:DF:186:ILE:HD11	1.85	0.59
28:DF:10:PRO:HG3	28:DF:19:GLU:HA	1.85	0.59
21:AA:186(L):G:H2'	21:AA:186(M):G:C8	2.38	0.59
20:CY:8:ASP:HB3	20:CY:10:LYS:H	1.68	0.59
39:DT:89:VAL:HG12	39:DT:91:ARG:HG3	1.85	0.59
34:DO:77:ILE:HD13	39:DT:74:ARG:HG2	1.84	0.59
21:AA:714:G:H2'	21:AA:715:A:C8	2.38	0.59
9:AJ:28:ARG:HG3	9:AJ:34:VAL:HB	1.83	0.59
44:DY:76:CYS:O	44:DY:78:ALA:N	2.36	0.59
21:AA:592:G:H2'	21:AA:593:G:H8	1.66	0.59
20:CY:682:GLN:HA	20:CY:685:GLU:HB2	1.83	0.59
21:CA:421:U:O2'	21:CA:423:G:O6	2.16	0.59
3:AD:155:LEU:O	3:AD:159:ARG:NE	2.35	0.59
18:CS:71:LEU:O	18:CS:73:GLU:N	2.35	0.59
20:CY:675:HIS:NE2	20:CY:677:GLN:OE1	2.35	0.59
3:AD:190:ASP:H	3:AD:193:ASP:HB2	1.66	0.59
59:DA:1094:U:N3	59:DA:1097:U:OP2	2.34	0.59
35:DP:92:GLU:OE1	35:DP:121:LYS:NZ	2.27	0.59
21:AA:1234:C:H2'	21:AA:1235:U:O4'	2.03	0.59
12:CM:31:LYS:HA	12:CM:34:LEU:HB2	1.84	0.59
25:DC:44:VAL:HB	25:DC:174:ALA:HB3	1.85	0.59
21:CA:1327:C:H2'	21:CA:1328:C:C6	2.38	0.59
20:AY:31:ARG:HA	20:AY:33:LEU:HD22	1.85	0.59
59:DA:1324:G:H1'	59:DA:1616:A:N6	2.18	0.59
21:CA:1507:A:P	23:CV:15:A:H61	2.25	0.59
21:AA:501:C:O2	21:AA:549:C:O2'	2.15	0.59
59:DA:307:G:H21	59:DA:330:A:H62	1.51	0.59
59:DA:2818:G:O6	59:DA:2828:C:N3	2.35	0.59
59:DA:1231:G:H2'	59:DA:1232:G:C8	2.36	0.59
21:CA:1427:U:H2'	21:CA:1428:A:H8	1.68	0.59
26:DD:17:THR:HG1	26:DD:205:VAL:H	1.51	0.59
20:AY:493:VAL:HB	20:AY:512:ILE:HD11	1.84	0.59
26:DD:226:MET:HG2	59:DA:782:A:C2	2.38	0.59
59:DA:1468:C:H2'	59:DA:1469:A:C8	2.38	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:322:A:O4'	59:BA:340:A:H1'	2.03	0.59
15:CP:59:TRP:HA	15:CP:59:TRP:CE3	2.38	0.59
59:DA:2134:A:H2	59:DA:2159:G:HO2'	1.51	0.59
26:DD:88:ARG:NH2	59:DA:1817:G:OP1	2.34	0.59
3:CD:22:LYS:H	3:CD:26:CYS:HB2	1.67	0.59
16:AQ:51:TYR:HE2	16:AQ:73:VAL:HG21	1.65	0.59
59:BA:198:C:N4	59:BA:248:G:H1	2.00	0.59
60:DB:66:A:N6	60:DB:108:C:OP2	2.35	0.59
32:BK:105:LEU:HD23	32:BK:106:GLU:H	1.66	0.59
1:AB:118:LEU:HD22	1:AB:142:LEU:HG	1.85	0.59
25:DC:59:VAL:HG13	25:DC:202:PRO:HD3	1.84	0.59
59:DA:828:U:H4'	59:DA:831:G:N1	2.17	0.59
6:CG:22:LEU:HG	6:CG:62:PHE:CE2	2.38	0.59
21:AA:892:A:H2'	21:AA:893:C:C6	2.37	0.59
59:BA:1748:G:H2'	59:BA:1749:A:H8	1.68	0.59
59:DA:2023:G:H5'	59:DA:2617:C:H4'	1.85	0.59
40:BU:96:ALA:O	40:BU:99:ALA:N	2.31	0.59
52:B8:22:VAL:HG21	52:B8:53:PRO:O	2.02	0.59
30:DH:16:SER:N	30:DH:27:LYS:O	2.34	0.59
12:CM:86:CYS:HB3	18:CS:74:PHE:HE1	1.68	0.59
21:AA:293:G:O6	21:AA:304:U:O2	2.21	0.59
44:BY:76:CYS:O	44:BY:78:ALA:N	2.36	0.59
6:AG:98:SER:HA	6:AG:101:LEU:HD12	1.83	0.59
59:DA:848:G:C2	59:DA:933:A:H1'	2.37	0.59
10:AK:82:VAL:HB	10:AK:108:ILE:HA	1.85	0.59
18:CS:62:ILE:HA	18:CS:66:MET:HG3	1.85	0.59
59:DA:1861:G:H2'	59:DA:1862:G:H8	1.67	0.59
11:AL:39:VAL:HB	11:AL:55:VAL:HG11	1.85	0.59
59:DA:855:G:H1	59:DA:922:U:H3	1.51	0.59
59:BA:686:G:H21	59:BA:788:A:N6	2.01	0.59
33:DN:39:ARG:HH21	33:DN:41:ASP:HB3	1.68	0.59
25:DC:216:THR:HA	25:DC:221:PRO:O	2.03	0.59
31:BJ:58:UNK:C	31:BJ:60:UNK:N	2.64	0.59
1:CB:215:LEU:O	1:CB:218:ALA:N	2.35	0.59
3:AD:173:TRP:HB2	3:AD:186:LEU:HB2	1.85	0.59
25:DC:63:VAL:HG12	25:DC:162:ILE:HB	1.84	0.59
59:BA:1317:A:H61	59:BA:1335:U:H3	1.51	0.59
37:BR:79:LEU:HB3	37:BR:80:PHE:CD2	2.38	0.59
20:CY:11:ARG:HD3	20:CY:40:HIS:CE1	2.37	0.59
22:AW:20:U:OP1	59:BA:2112:G:O2'	2.19	0.59
13:CN:24:CYS:HB3	13:CN:28:GLY:H	1.68	0.59
60:DB:18:G:H2'	60:DB:19:G:C8	2.37	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:DC:28:ARG:HE	25:DC:183:PRO:HB2	1.68	0.59
59:BA:2649:U:H2'	59:BA:2650:U:C6	2.37	0.59
4:CE:121:LYS:HG3	4:CE:122:GLU:H	1.67	0.59
8:AI:10:ARG:HG2	8:AI:105:ASP:HB2	1.84	0.59
59:DA:2669:G:H2'	59:DA:2670:A:H8	1.67	0.59
36:BQ:74:TYR:N	36:BQ:90:VAL:O	2.36	0.59
28:DF:89:VAL:HG21	59:DA:586:A:H5'	1.85	0.59
34:DO:37:ASP:OD1	34:DO:37:ASP:N	2.36	0.59
33:BN:58:ASP:HB3	33:BN:124:ALA:HB1	1.84	0.59
59:DA:1674:G:H21	59:DA:1677:A:H61	1.50	0.59
7:AH:44:PHE:CE1	7:AH:80:ILE:HG13	2.38	0.59
9:CJ:89:ASP:OD1	9:CJ:90:LEU:N	2.35	0.59
40:DU:56:ASP:O	40:DU:59:ARG:HB3	2.03	0.59
21:AA:112:G:N2	21:AA:315:A:N1	2.47	0.59
56:D1:81:LYS:HE2	59:DA:270(J):G:H5''	1.85	0.59
59:BA:198:C:H2'	59:BA:199:A:H5''	1.85	0.59
59:DA:134:C:H42	59:DA:145:G:H1	1.50	0.59
33:BN:114:ARG:HB2	33:BN:114:ARG:NH1	2.17	0.59
21:AA:960:U:H2'	21:AA:1225:A:H62	1.67	0.59
59:DA:77:C:H42	59:DA:109:G:H1	1.51	0.59
49:D5:16:ARG:NH1	59:DA:1263:U:OP1	2.32	0.59
21:AA:371:G:O2'	21:AA:373:A:N7	2.35	0.59
38:BS:68:GLN:O	38:BS:72:ALA:N	2.31	0.59
21:AA:1137:C:O2'	21:AA:1138:G:N2	2.36	0.59
42:BW:4:LYS:HA	42:BW:106:ILE:HG12	1.85	0.59
38:DS:47:THR:O	38:DS:48:LEU:HB2	2.03	0.58
59:BA:719:C:H2'	59:BA:720:C:C6	2.37	0.58
56:B1:22:GLY:O	56:B1:37:ILE:N	2.35	0.58
21:CA:1309:G:H2'	21:CA:1310:G:C8	2.37	0.58
59:DA:137(B):G:O2'	59:DA:138:G:N2	2.36	0.58
53:B9:7:VAL:HG12	53:B9:34:GLN:HB3	1.84	0.58
21:AA:710:G:H2'	21:AA:711:G:C8	2.36	0.58
34:DO:64:ARG:HG2	34:DO:79:PHE:CD2	2.37	0.58
45:DZ:73:GLN:OE1	60:DB:102:G:N2	2.33	0.58
46:B0:27:GLU:HA	46:B0:67:VAL:HB	1.84	0.58
2:CC:156:ARG:NE	2:CC:159:GLY:O	2.36	0.58
6:CG:80:VAL:HB	6:CG:83:ALA:HB3	1.85	0.58
45:DZ:5:LEU:HD12	45:DZ:47:VAL:HG11	1.84	0.58
30:DH:103:LEU:HG	30:DH:105:LEU:HD22	1.84	0.58
32:BK:100:THR:OG1	32:BK:101:TRP:N	2.35	0.58
59:BA:128:C:H2'	59:BA:129:C:H6	1.68	0.58
1:AB:85:ALA:O	1:AB:89:GLY:N	2.36	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:AD:127:THR:HA	3:AD:132:ARG:HA	1.85	0.58
21:AA:1404:C:H2'	21:AA:1405:G:C8	2.37	0.58
28:BF:158:THR:HB	28:BF:194:MET:HA	1.85	0.58
26:BD:220:HIS:N	59:BA:1790:C:OP1	2.36	0.58
3:AD:145:GLU:HA	3:AD:184:LYS:HA	1.85	0.58
12:CM:91:ARG:HH21	12:CM:96:LEU:HD13	1.68	0.58
59:DA:136:G:H1	59:DA:143:C:N4	1.99	0.58
11:CL:39:VAL:C	11:CL:55:VAL:HG21	2.24	0.58
56:B1:21:ARG:NH1	56:B1:22:GLY:O	2.37	0.58
13:CN:25:VAL:H	13:CN:39:LEU:HD23	1.68	0.58
35:BP:17:LYS:HE3	59:BA:662:G:H4'	1.85	0.58
59:DA:528:A:C2	59:DA:2043:C:H4'	2.38	0.58
21:AA:777:A:H2'	21:AA:778:G:C8	2.38	0.58
5:AF:92:LYS:O	5:AF:94:GLN:N	2.34	0.58
59:BA:949:C:N3	59:BA:968:G:N2	2.47	0.58
59:BA:270(C):A:H62	59:BA:270(Y):G:H21	1.50	0.58
1:CB:152:PHE:CE1	1:CB:155:LEU:HB3	2.38	0.58
20:AY:215:LYS:O	20:AY:219:VAL:N	2.34	0.58
21:CA:438:G:O2'	21:CA:494:U:O4	2.16	0.58
59:DA:1937:A:N7	59:DA:1939:U:H2'	2.18	0.58
59:DA:1429:G:H2'	59:DA:1430:C:C6	2.37	0.58
59:BA:2861:G:H2'	59:BA:2862:G:H8	1.68	0.58
40:DU:61:TRP:CE2	40:DU:94:ASN:HB2	2.38	0.58
21:AA:1113:C:H2'	21:AA:1114:C:C6	2.38	0.58
20:AY:16:GLY:H	20:AY:104:ALA:HA	1.67	0.58
59:BA:2529:G:OP2	59:BA:2530:A:H8	1.85	0.58
17:AR:30:ASP:OD2	17:AR:33:ASP:HB2	2.03	0.58
15:CP:23:ASP:O	15:CP:25:ARG:N	2.35	0.58
59:DA:1347:G:H2'	59:DA:1348:G:C8	2.37	0.58
35:BP:25:SER:OG	35:BP:27:HIS:O	2.21	0.58
51:B7:30:VAL:HG21	59:BA:466:A:H4'	1.85	0.58
1:AB:171:ALA:HA	1:AB:174:VAL:H	1.68	0.58
21:CA:409:G:H1	21:CA:433:C:H42	1.49	0.58
41:DV:87:HIS:HE1	59:DA:1163:G:N2	2.01	0.58
46:D0:27:GLU:HB3	46:D0:68:GLU:HA	1.85	0.58
40:BU:28:ARG:HD3	40:BU:38:THR:OG1	2.04	0.58
59:BA:1019:U:C2	59:BA:1020:A:N7	2.71	0.58
34:BO:103:ALA:HB1	34:BO:105:GLU:OE1	2.02	0.58
2:CC:68:VAL:HG12	2:CC:70:VAL:HG22	1.85	0.58
35:DP:62:LEU:H	35:DP:62:LEU:HD23	1.67	0.58
59:BA:1796:U:H2'	59:BA:1797:C:H6	1.68	0.58
21:AA:571:U:H5''	21:AA:819:A:C4	2.38	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
47:D2:9:GLN:HE22	47:D2:56:GLN:HG2	1.68	0.58
59:DA:11:G:N2	59:DA:2628:C:OP1	2.35	0.58
30:BH:89:ILE:HG22	30:BH:162:ILE:HG12	1.85	0.58
6:AG:140:ASP:HA	6:AG:143:ARG:HD2	1.86	0.58
59:DA:1258:C:H2'	59:DA:1259:G:H8	1.68	0.58
45:BZ:72:ARG:NH2	60:BB:104:A:OP1	2.36	0.58
20:CY:409:ILE:HD11	20:CY:657:THR:H	1.68	0.58
20:AY:443:HIS:HE2	20:AY:480:GLN:HB2	1.68	0.58
59:BA:112:U:H2'	59:BA:113:G:H8	1.68	0.58
21:CA:197:A:C6	21:CA:221:C:H4'	2.39	0.58
27:DE:25:VAL:HG22	27:DE:183:LEU:HG	1.84	0.58
8:AI:20:ARG:O	8:AI:60:ASP:N	2.36	0.58
49:B5:3:LYS:HE3	49:B5:5:PRO:HG2	1.85	0.58
20:AY:56:GLU:HB2	20:AY:59:ARG:HE	1.67	0.58
46:D0:23:VAL:HG21	59:DA:857:C:H4'	1.86	0.58
13:CN:60:SER:HB3	21:CA:1187:G:H21	1.68	0.58
12:AM:66:LEU:HB3	12:AM:67:GLU:HG2	1.84	0.58
35:BP:55:ARG:HH12	59:BA:2358:G:H1	1.51	0.58
22:CW:35:A:H2	23:CV:18:G:N1	2.02	0.58
21:AA:923:A:H2'	21:AA:924:C:O4'	2.04	0.58
19:AT:49:ALA:HB1	19:AT:53:LEU:HD23	1.85	0.58
11:CL:16:GLU:O	21:CA:562:C:O2'	2.10	0.58
30:BH:152:ARG:HB3	30:BH:162:ILE:HG13	1.84	0.58
29:BG:48:GLU:O	29:BG:50:ALA:N	2.35	0.58
20:AY:41:LYS:HG2	20:AY:43:GLY:H	1.68	0.58
21:AA:1158:C:O2'	21:AA:1160:G:OP1	2.14	0.58
19:CT:10:LEU:HG	19:CT:11:SER:H	1.68	0.58
45:DZ:10:ARG:HG2	45:DZ:11:GLU:H	1.68	0.58
11:AL:6:THR:O	11:AL:8:ASN:N	2.35	0.58
26:DD:147:LEU:HD13	26:DD:155:LEU:HD11	1.85	0.58
21:CA:743:U:H2'	21:CA:744:C:C6	2.38	0.58
33:BN:61:ARG:HH11	33:BN:61:ARG:HG2	1.67	0.58
59:BA:2557:G:H2'	59:BA:2558:C:C6	2.39	0.58
29:DG:112:PRO:CA	29:DG:113:ARG:N	2.62	0.58
21:CA:1144:G:H21	21:CA:1146:A:H62	1.52	0.58
21:CA:1404:C:H2'	21:CA:1405:G:C8	2.38	0.58
59:DA:1148:A:H2'	59:DA:1149:G:C8	2.38	0.58
42:DW:18:ARG:NH2	59:DA:517:C:O2'	2.35	0.58
11:CL:45:PRO:O	11:CL:47:LYS:N	2.37	0.58
28:BF:7:TYR:HD2	28:BF:19:GLU:HG3	1.67	0.58
21:AA:973:G:H3'	21:AA:974:A:H5''	1.84	0.58
59:DA:1207:C:N3	59:DA:1239:G:N2	2.45	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:AA:673:G:H2'	21:AA:674:G:C8	2.38	0.58
9:CJ:50:ILE:HA	9:CJ:60:ARG:HA	1.84	0.58
27:BE:143:ASN:HD21	59:BA:2572:A:P	2.26	0.58
20:AY:616:TYR:CB	20:AY:663:THR:HA	2.33	0.58
59:BA:2008:C:H2'	59:BA:2009:G:H8	1.67	0.58
37:DR:96:ARG:N	37:DR:117:VAL:HG21	2.19	0.58
49:B5:7:PRO:HA	59:BA:2615:U:C2	2.38	0.58
32:BK:14:ALA:HB3	32:BK:51:ALA:H	1.69	0.58
2:AC:73:PRO:HD3	2:AC:105:GLU:HB3	1.84	0.58
59:DA:329:G:H8	59:DA:329:G:P	2.26	0.58
29:BG:173:LEU:O	29:BG:178:PHE:N	2.37	0.58
25:BC:30:VAL:HG22	25:BC:33:LEU:HD12	1.85	0.58
59:BA:448:U:H3'	59:BA:449:A:H8	1.68	0.58
3:CD:72:GLU:HG3	21:CA:546:G:OP2	2.04	0.58
21:CA:545:C:O2'	21:CA:549:C:OP1	2.21	0.58
20:AY:543:GLN:O	20:AY:546:ILE:N	2.22	0.58
3:AD:155:LEU:HB3	3:AD:158:ILE:HD13	1.84	0.58
59:DA:2125:G:H21	59:DA:2173:A:H62	1.51	0.58
21:AA:287:U:H2'	21:AA:288:A:C8	2.39	0.58
8:CI:24:GLY:N	8:CI:60:ASP:OD2	2.33	0.58
1:AB:48:MET:HA	1:AB:51:LEU:HB2	1.85	0.58
3:AD:144:ASP:O	3:AD:185:PHE:N	2.36	0.58
21:AA:1310:G:H2'	21:AA:1311:G:O4'	2.03	0.58
44:BY:8:LYS:HB3	44:BY:28:LYS:HZ3	1.68	0.58
59:DA:836:G:H2'	59:DA:837:C:C6	2.38	0.58
59:DA:1655:A:C2	59:DA:2049:G:H5''	2.38	0.58
21:AA:1427:U:H2'	21:AA:1428:A:C8	2.38	0.58
33:BN:6:PRO:C	33:BN:7:LYS:HZ2	2.06	0.58
59:DA:270(J):G:C6	59:DA:270(R):C:N4	2.72	0.58
46:B0:2:ALA:HA	59:BA:2494:G:H5'	1.86	0.58
56:D1:35:THR:OG1	56:D1:36:GLY:N	2.36	0.58
15:CP:5:ARG:NH2	15:CP:26:ARG:O	2.35	0.58
33:DN:41:ASP:HA	40:DU:64:ARG:HE	1.69	0.58
38:BS:63:THR:OG1	60:BB:50:G:OP1	2.16	0.58
30:DH:55:PRO:HG2	30:DH:61:HIS:CE1	2.38	0.58
25:BC:79:ALA:O	25:BC:81:GLY:N	2.37	0.58
11:AL:15:ARG:HB3	21:AA:562:C:H1'	1.84	0.58
21:AA:151:A:N7	21:AA:170:U:O4	2.36	0.58
50:B6:15:GLU:HB2	50:B6:20:ASN:HB2	1.86	0.58
59:BA:560:C:H2'	59:BA:561:G:H8	1.69	0.58
59:BA:1591:G:H2'	59:BA:1592:C:C6	2.39	0.58
11:AL:74:GLY:O	11:AL:102:ARG:NH2	2.37	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:1871:A:H2'	59:DA:1872:A:C8	2.39	0.58
3:CD:64:LEU:HB2	3:CD:198:VAL:HG11	1.86	0.58
20:AY:344:THR:HB	20:AY:388:THR:HB	1.86	0.58
21:AA:5:U:O2'	21:AA:6:G:O5'	2.22	0.58
20:AY:512:ILE:HA	20:AY:567:LEU:HD12	1.85	0.58
21:AA:1309:G:H2'	21:AA:1310:G:C8	2.39	0.58
4:CE:78:HIS:CD2	4:CE:78:HIS:H	2.22	0.58
59:BA:2804:C:H2'	59:BA:2805:G:C8	2.38	0.58
59:DA:576:U:H2'	59:DA:577:G:C8	2.39	0.58
59:BA:1208:C:H2'	59:BA:1209:G:H8	1.69	0.58
29:BG:65:GLY:HA2	57:B4:27:THR:HB	1.86	0.58
59:DA:1403:C:H5''	59:DA:1471:A:H1'	1.86	0.58
20:AY:573:HIS:HB3	20:AY:576:ASP:HB2	1.86	0.58
44:BY:26:LYS:H	44:BY:40:GLU:HG2	1.69	0.58
59:BA:2119:A:C2	59:BA:2171:A:H1'	2.38	0.58
59:BA:307:G:N2	59:BA:309:G:H3'	2.18	0.58
56:D1:37:ILE:HG12	59:DA:200:U:H4'	1.86	0.58
2:AC:88:ARG:HH21	2:AC:100:ALA:HA	1.68	0.58
19:CT:61:SER:O	19:CT:65:LYS:HG2	2.04	0.58
20:AY:133:ILE:HD12	20:AY:280:LEU:HD21	1.86	0.58
45:BZ:97:GLU:HG2	45:BZ:127:LYS:HB3	1.84	0.58
27:BE:2:LYS:NZ	27:BE:95:ILE:O	2.36	0.58
41:BV:10:LYS:NZ	41:BV:23:GLU:OE1	2.30	0.58
59:BA:270(C):A:H62	59:BA:270(Y):G:N2	2.01	0.58
21:CA:1228:C:H2'	21:CA:1229:A:H8	1.68	0.58
22:CW:69:A:H2'	22:CW:70:G:C8	2.39	0.58
59:BA:273(C):C:H2'	59:BA:273(D):C:C6	2.39	0.58
59:BA:845:G:OP2	59:BA:845:G:N2	2.32	0.58
1:CB:178:ARG:HG3	7:CH:72:PRO:HA	1.86	0.58
43:BX:11:PRO:O	43:BX:13:LEU:N	2.36	0.58
33:BN:30:ILE:HG23	33:BN:52:VAL:HG11	1.83	0.58
39:DT:5:ALA:O	39:DT:9:LEU:HG	2.03	0.58
28:DF:82:ILE:HD13	59:DA:673:C:H4'	1.86	0.58
21:AA:55:A:H62	21:AA:357:G:H21	1.49	0.58
60:BB:40:U:H3'	60:BB:41:U:H5''	1.84	0.58
59:BA:2119:A:H2	59:BA:2171:A:H1'	1.67	0.58
26:DD:44:ASN:CB	26:DD:49:ILE:HA	2.30	0.58
27:DE:66:HIS:CD2	59:DA:2786:U:H4'	2.38	0.58
21:AA:891:U:O4	21:AA:907:A:N7	2.37	0.58
60:BB:24:G:H1	60:BB:59:A:H61	1.49	0.58
21:AA:372:C:N4	21:AA:389:A:H62	1.99	0.58
59:BA:1295:C:H2'	59:BA:1296:G:C8	2.39	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:AQ:67:LYS:HD2	21:AA:266:G:H8	1.68	0.58
11:AL:84:LEU:HD22	11:AL:104:VAL:HG12	1.86	0.58
1:CB:118:LEU:HD13	1:CB:142:LEU:HA	1.85	0.58
42:BW:99:ARG:NH1	59:BA:1262:A:OP1	2.37	0.58
21:AA:192:U:H2'	21:AA:193:C:H6	1.67	0.58
28:DF:154:VAL:HG23	28:DF:173:VAL:HG22	1.86	0.58
17:AR:74:ARG:HH22	21:AA:718:G:H1	1.50	0.58
47:B2:38:GLN:HA	47:B2:41:ILE:HG23	1.84	0.58
45:DZ:15:PRO:HG3	60:DB:76:G:H5''	1.86	0.58
41:BV:87:HIS:HE1	59:BA:1163:G:H21	1.51	0.58
47:D2:4:SER:HA	47:D2:7:ARG:HD2	1.85	0.58
21:CA:1255:G:H2'	21:CA:1258:G:H21	1.69	0.58
10:CK:17:GLY:O	10:CK:80:VAL:HA	2.04	0.58
21:AA:62:U:H2'	21:AA:63:C:C6	2.39	0.58
10:AK:81:ASP:HA	10:AK:106:LYS:O	2.02	0.58
10:AK:111:ASP:HA	17:AR:84:LYS:HG3	1.86	0.58
21:CA:287:U:H2'	21:CA:288:A:C8	2.38	0.58
13:AN:35:ARG:HD3	13:AN:36:PHE:N	2.18	0.58
59:DA:270(W):G:H2'	59:DA:270(X):G:H8	1.68	0.58
59:DA:2011:U:H2'	59:DA:2012:G:O4'	2.04	0.58
21:CA:1401:G:H5''	23:CV:22:A:H62	1.68	0.58
33:BN:112:LEU:HD23	33:BN:113:GLY:H	1.68	0.58
20:CY:35:TYR:CD1	20:CY:36:THR:N	2.70	0.58
21:CA:1148:U:H2'	21:CA:1149:C:O4'	2.04	0.58
59:DA:516:C:H2'	59:DA:517:C:C6	2.39	0.58
59:BA:684:G:H21	59:BA:788:A:P	2.27	0.58
42:BW:25:ARG:CZ	42:BW:74:ALA:HB3	2.34	0.58
33:DN:56:ASN:HA	33:DN:125:GLY:N	2.19	0.58
59:BA:2795:G:H3'	59:BA:2797:U:C5'	2.34	0.58
59:BA:910:A:H2'	59:BA:911:A:C8	2.38	0.58
26:DD:63:ARG:HB3	26:DD:104:TYR:CE1	2.39	0.58
20:CY:457:LEU:HD13	59:DA:2662:A:H4'	1.86	0.58
51:D7:40:TRP:CZ2	59:DA:458:G:H1'	2.39	0.58
19:AT:65:LYS:NZ	21:AA:195:A:OP1	2.23	0.58
51:B7:10:ARG:NH1	59:BA:771:G:OP1	2.36	0.58
59:DA:2136:C:H42	59:DA:2155:G:H1	1.52	0.58
59:BA:2861:G:H2'	59:BA:2862:G:C8	2.38	0.58
6:AG:111:ARG:HB3	6:AG:113:GLU:HG2	1.85	0.58
21:CA:811:C:O2'	21:CA:901:A:N1	2.37	0.58
17:CR:38:GLU:O	17:CR:42:ARG:HG3	2.03	0.58
45:BZ:134:PRO:HG3	45:BZ:161:VAL:HG11	1.84	0.58
59:BA:83:G:H22	59:BA:102:G:H2'	1.68	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:BH:87:LEU:HD21	30:BH:145:ALA:HB1	1.86	0.58
59:DA:1588:C:H2'	59:DA:1589:C:C6	2.38	0.58
59:DA:270(K):G:C2	59:DA:270(L):C:H1'	2.39	0.58
12:CM:91:ARG:HH22	12:CM:103:THR:HG21	1.68	0.58
56:D1:16:ASN:HB3	59:DA:381:G:C5'	2.34	0.58
32:BK:11:GLN:O	32:BK:13:PRO:HD3	2.04	0.58
59:BA:1110:G:HO2'	59:BA:1111:A:H8	1.51	0.58
6:AG:138:LYS:O	6:AG:142:GLU:HG2	2.04	0.58
40:BU:92:ARG:NH1	41:BV:11:GLN:O	2.37	0.58
18:CS:6:LYS:HG2	18:CS:7:LYS:H	1.69	0.58
21:AA:1016:A:H8	21:AA:1016:A:O5'	1.87	0.58
21:AA:828:A:H2'	21:AA:829:G:O4'	2.03	0.58
15:AP:34:GLU:O	15:AP:36:ILE:HG12	2.03	0.58
44:BY:17:SER:OG	44:BY:18:GLY:N	2.37	0.58
1:CB:24:TRP:CZ3	1:CB:26:PRO:HA	2.38	0.58
20:AY:314:PHE:HZ	20:AY:374:LEU:HD23	1.69	0.58
29:DG:15:VAL:HG22	29:DG:175:LEU:HB2	1.85	0.58
26:DD:14:ARG:NH2	59:DA:1693:U:O2'	2.37	0.58
21:CA:894:G:H2'	21:CA:895:G:H8	1.69	0.58
33:BN:15:LEU:HB2	33:BN:134:ARG:HG2	1.84	0.58
59:BA:1090:U:H2'	59:BA:1091:G:C8	2.38	0.58
6:CG:54:THR:OG1	6:CG:56:GLN:OE1	2.21	0.58
21:AA:636:U:H2'	21:AA:637:G:H8	1.69	0.58
59:DA:2105:C:H2'	59:DA:2106:G:C8	2.39	0.58
59:BA:1681:G:N3	59:BA:1762:A:H2'	2.18	0.58
21:AA:1506:U:O2'	21:AA:1507:A:OP1	2.20	0.57
25:DC:46:ALA:HA	25:DC:212:SER:C	2.23	0.57
21:AA:413:G:O2'	21:AA:428:G:N2	2.37	0.57
31:BJ:58:UNK:HA	59:BA:1107:G:OP1	2.02	0.57
59:BA:242:G:N2	59:BA:255:A:OP2	2.24	0.57
21:CA:737:A:H2'	21:CA:738:C:C6	2.39	0.57
56:B1:23:LYS:NZ	56:B1:33:LYS:HB3	2.19	0.57
21:CA:112:G:H1	21:CA:315:A:N6	2.02	0.57
26:BD:132:PRO:HG3	26:BD:190:TYR:CE1	2.38	0.57
59:BA:1939:U:H3'	59:BA:1940:U:C5'	2.34	0.57
8:AI:121:ARG:NH1	21:AA:1343:G:O2'	2.37	0.57
25:BC:118:PRO:HD3	25:BC:147:GLY:HA2	1.86	0.57
59:DA:712(B):A:H5''	59:DA:2713:A:OP2	2.04	0.57
33:DN:106:MET:CE	59:DA:1006:C:H1'	2.34	0.57
59:DA:688:U:H2'	59:DA:689:A:H8	1.68	0.57
29:DG:171:ALA:O	29:DG:175:LEU:HG	2.03	0.57
18:AS:37:ARG:HH21	21:AA:1318:A:H1'	1.69	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:1793:C:H2'	59:DA:1794:U:C6	2.39	0.57
59:BA:2685:G:H2'	59:BA:2686:G:H8	1.69	0.57
47:B2:9:GLN:HE22	47:B2:56:GLN:HB3	1.68	0.57
33:DN:67:LEU:HD12	33:DN:87:LEU:HD13	1.86	0.57
59:DA:20:C:H2'	59:DA:21:A:C8	2.40	0.57
59:BA:863:A:HO2'	60:BB:100:G:HO2'	1.51	0.57
30:DH:68:THR:HA	30:DH:71:LEU:HD12	1.85	0.57
1:AB:167:PRO:HD3	1:AB:188:ALA:HA	1.85	0.57
59:DA:28:A:H1'	59:DA:513:A:C2	2.39	0.57
59:DA:1791:A:N6	59:DA:1828:G:O2'	2.34	0.57
59:DA:2678:C:H2'	59:DA:2679:A:C8	2.39	0.57
50:B6:19:ARG:O	50:B6:20:ASN:ND2	2.34	0.57
59:BA:1441:G:H2'	59:BA:1442:G:C8	2.39	0.57
29:BG:15:VAL:HG13	29:BG:19:LEU:HD12	1.85	0.57
27:BE:66:HIS:CG	27:BE:67:PHE:N	2.72	0.57
29:DG:43:LEU:HD23	29:DG:88:ILE:HD13	1.86	0.57
59:DA:863:A:H2'	59:DA:864:G:C8	2.39	0.57
59:DA:2830:G:O2'	59:DA:2883:A:N1	2.31	0.57
36:DQ:119:ARG:O	36:DQ:123:HIS:HB2	2.04	0.57
20:CY:359:HIS:O	20:CY:361:ASN:N	2.37	0.57
10:CK:63:LEU:O	10:CK:66:LEU:HB3	2.04	0.57
59:BA:2719:G:N2	59:BA:2872:G:H1	2.02	0.57
21:CA:1376:U:H2'	21:CA:1377:A:C8	2.39	0.57
10:AK:69:ALA:O	10:AK:73:MET:HG2	2.04	0.57
59:DA:2104:G:O6	59:DA:2185:C:N3	2.37	0.57
59:DA:911:A:H5''	59:DA:912:C:H5''	1.85	0.57
21:AA:877:C:H2'	21:AA:878:G:H8	1.68	0.57
21:CA:1118:C:H2'	21:CA:1119:C:C6	2.39	0.57
1:CB:96:ARG:NE	1:CB:96:ARG:H	2.01	0.57
46:D0:46:LYS:HG2	46:D0:47:PRO:HD2	1.86	0.57
60:DB:60:C:H2'	60:DB:61:G:C8	2.38	0.57
59:BA:1178:C:H2'	59:BA:1179:C:C6	2.40	0.57
28:BF:45:ARG:HD2	59:BA:443:A:C6	2.40	0.57
10:AK:53:SER:C	10:AK:55:LYS:H	2.07	0.57
40:BU:75:ASN:O	40:BU:78:THR:OG1	2.21	0.57
21:CA:199:G:O6	21:CA:218:C:N3	2.37	0.57
59:BA:920:G:H2'	59:BA:921:G:C8	2.38	0.57
21:AA:1513:A:H2'	21:AA:1514:C:C6	2.40	0.57
26:DD:105:ILE:HD13	26:DD:106:ILE:N	2.19	0.57
14:AO:32:LEU:HA	14:AO:35:ARG:HD2	1.87	0.57
37:DR:26:LYS:O	37:DR:30:THR:OG1	2.15	0.57
12:CM:45:VAL:HG23	12:CM:48:LEU:HD12	1.86	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
33:DN:61:ARG:HG2	33:DN:61:ARG:NH1	2.20	0.57
26:DD:258:LYS:NZ	59:DA:1844:C:O3'	2.23	0.57
59:DA:1258:C:H2'	59:DA:1259:G:C8	2.40	0.57
40:BU:90:VAL:O	40:BU:91:ASP:HB2	2.03	0.57
59:BA:1538:G:H2'	59:BA:1539:G:C8	2.39	0.57
59:BA:263:C:H2'	59:BA:264:C:O4'	2.04	0.57
21:AA:249:U:H2'	21:AA:250:A:H8	1.69	0.57
45:BZ:67:LEU:HD12	45:BZ:68:PRO:HD2	1.84	0.57
15:CP:53:VAL:HG12	15:CP:79:VAL:HG22	1.84	0.57
26:DD:125:ILE:HG21	26:DD:137:PRO:HG2	1.85	0.57
59:DA:1623:G:H2'	59:DA:1624:G:H8	1.69	0.57
59:DA:1357:U:H3	59:DA:1374:G:H1	1.52	0.57
27:DE:46:ALA:HB2	27:DE:82:ARG:HA	1.86	0.57
53:B9:9:ARG:HH21	59:BA:1033:U:H5''	1.69	0.57
41:BV:62:LEU:N	41:BV:93:GLU:O	2.28	0.57
29:BG:31:VAL:O	29:BG:33:ARG:HG3	2.04	0.57
59:BA:2306:C:H5''	59:BA:2307:G:C8	2.39	0.57
20:AY:33:LEU:CD2	20:AY:34:TYR:H	2.15	0.57
59:BA:270(J):G:H2'	59:BA:270(K):G:O4'	2.04	0.57
11:CL:104:VAL:HG23	11:CL:106:ASP:H	1.68	0.57
51:D7:30:VAL:O	51:D7:34:ARG:NH1	2.38	0.57
51:D7:34:ARG:NH1	59:DA:467:G:OP1	2.37	0.57
36:DQ:14:ARG:NH2	59:DA:956:G:OP2	2.36	0.57
59:BA:1296:G:H1	59:BA:1644:C:N4	2.01	0.57
59:DA:1775:U:H2'	59:DA:1776:G:O4'	2.05	0.57
21:CA:921:U:H2'	21:CA:922:G:O4'	2.04	0.57
59:DA:379:G:O2'	59:DA:2232:U:OP1	2.22	0.57
28:BF:51:THR:H	28:BF:92:PRO:HG2	1.68	0.57
37:BR:63:ARG:HE	37:BR:76:VAL:HG13	1.69	0.57
13:CN:27:CYS:SG	13:CN:28:GLY:N	2.78	0.57
1:AB:15:VAL:HG23	1:AB:16:HIS:CE1	2.39	0.57
49:D5:30:LEU:HD13	49:D5:39:MET:HB3	1.84	0.57
59:BA:1266:G:O2'	59:BA:2012:G:O6	2.20	0.57
59:BA:382:G:H1	59:BA:392:C:H42	1.52	0.57
4:CE:78:HIS:O	4:CE:79:GLU:HB3	2.03	0.57
6:AG:116:ALA:O	6:AG:120:ILE:HG12	2.05	0.57
21:AA:958:A:N3	21:AA:985:C:O2'	2.32	0.57
21:AA:384:G:H2'	21:AA:385:C:C6	2.39	0.57
21:CA:859:A:OP2	21:CA:869:G:N1	2.36	0.57
27:BE:5:LEU:HB2	27:BE:31:CYS:SG	2.44	0.57
34:DO:9:GLU:HB3	34:DO:18:LYS:HE3	1.85	0.57
59:DA:2425:A:H4'	59:DA:2426:A:H5'	1.85	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:AL:42:THR:HA	11:AL:52:LEU:HA	1.86	0.57
11:AL:83:VAL:HG11	11:AL:100:ILE:HD13	1.87	0.57
60:DB:24:G:O2'	60:DB:27:C:N4	2.38	0.57
59:BA:149(B):A:C2	59:BA:1530:G:H1'	2.40	0.57
36:BQ:34:LEU:HD12	36:BQ:131:ILE:HG23	1.87	0.57
16:CQ:60:ILE:O	16:CQ:71:PHE:HA	2.05	0.57
27:DE:4:ILE:HD13	27:DE:5:LEU:N	2.19	0.57
3:AD:19:LEU:HD13	3:AD:21:LEU:HD11	1.85	0.57
59:BA:1377:G:H5''	59:BA:1378:A:OP2	2.04	0.57
38:BS:12:PHE:CE1	38:BS:91:PRO:HB3	2.40	0.57
21:AA:1187:G:H2'	21:AA:1188:A:C8	2.40	0.57
7:CH:38:ILE:HD13	7:CH:41:ARG:HH12	1.69	0.57
2:AC:28:GLN:HB3	2:AC:32:LEU:HD21	1.86	0.57
7:AH:11:THR:HA	7:AH:14:ARG:HD2	1.87	0.57
59:DA:628:G:H2'	59:DA:629:G:C8	2.39	0.57
39:DT:83:ILE:HD12	39:DT:84:GLN:HG2	1.87	0.57
12:AM:48:LEU:HD13	12:AM:53:VAL:HG22	1.86	0.57
59:DA:541:C:H2'	59:DA:542:C:C6	2.39	0.57
20:AY:649:LEU:HA	20:AY:652:MET:HB3	1.86	0.57
5:AF:5:GLU:HG3	5:AF:93:SER:HA	1.85	0.57
40:BU:87:GLY:O	40:BU:89:GLU:N	2.37	0.57
24:CU:6:5OH:HS	24:CU:6:5OH:N	2.19	0.57
51:B7:39:ARG:HH12	51:B7:43:THR:H	1.52	0.57
59:DA:882:G:C2	59:DA:894:C:N3	2.72	0.57
59:BA:863:A:H2'	59:BA:864:G:H8	1.69	0.57
38:BS:30:ARG:HH21	38:BS:33:LYS:HA	1.68	0.57
59:DA:149(B):A:O2'	59:DA:1530:G:N2	2.38	0.57
21:AA:1358:U:O2'	21:AA:1359:C:O4'	2.21	0.57
59:BA:1275:A:OP2	59:BA:1646:C:N4	2.33	0.57
37:DR:45:ARG:O	37:DR:49:ASP:HB2	2.04	0.57
15:AP:39:TYR:OH	15:AP:72:ARG:NH2	2.37	0.57
34:BO:36:GLY:HA2	34:BO:106:LEU:HD23	1.86	0.57
21:CA:232:G:H21	21:CA:263:A:H2	1.52	0.57
42:BW:37:ARG:HG3	42:BW:38:TYR:CD1	2.39	0.57
59:BA:2829:C:H2'	59:BA:2830:G:C8	2.39	0.57
25:BC:4:HIS:O	25:BC:8:TYR:HB3	2.04	0.57
24:AU:4:SER:C	59:BA:1914:C:OP2	2.43	0.57
24:AU:6:5OH:HS	24:AU:6:5OH:N	2.19	0.57
59:DA:1090:U:H2'	59:DA:1091:G:H8	1.68	0.57
12:AM:86:CYS:HB3	18:AS:74:PHE:CE1	2.39	0.57
11:CL:118:SER:OG	21:CA:35:G:N2	2.38	0.57
39:BT:64:ARG:HH22	39:BT:103:ARG:HA	1.69	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:273(D):C:H42	59:BA:363(D):G:H1	1.53	0.57
20:CY:302:HIS:O	20:CY:332:SER:OG	2.21	0.57
28:DF:48:THR:O	59:DA:442:G:N2	2.34	0.57
21:AA:50:A:H1'	21:AA:52:G:C8	2.40	0.57
29:DG:57:ALA:HB1	29:DG:90:LEU:HD22	1.86	0.57
34:BO:11:ALA:HB1	34:BO:99:PHE:HB2	1.86	0.57
10:AK:84:VAL:HG23	10:AK:110:ASP:HA	1.87	0.57
59:BA:1170:G:H1	59:BA:1179:C:N4	1.96	0.57
22:AW:63:C:H2'	22:AW:64:G:C8	2.40	0.57
44:DY:17:SER:HB3	44:DY:71:LYS:HB3	1.85	0.57
59:DA:1535:U:H2'	59:DA:1536:A:H5'	1.85	0.57
4:AE:16:THR:HG21	21:AA:1080:A:H5''	1.86	0.57
37:DR:49:ASP:HB3	59:DA:2839:G:H4'	1.87	0.57
20:AY:533:VAL:HG12	20:AY:534:ILE:HG13	1.87	0.57
60:DB:81:G:O6	60:DB:95:U:O2	2.22	0.57
1:AB:118:LEU:HD13	1:AB:142:LEU:HA	1.87	0.57
36:BQ:12:GLN:HG3	36:BQ:72:LYS:HZ1	1.68	0.57
42:DW:69:LEU:HD13	42:DW:107:LEU:HD21	1.85	0.57
39:BT:20:PRO:HD2	39:BT:85:LYS:NZ	2.19	0.57
56:D1:76:ARG:HH22	56:D1:95:LEU:HD13	1.70	0.57
28:DF:167:ALA:HB1	28:DF:173:VAL:HG11	1.87	0.57
47:B2:66:GLU:O	47:B2:69:ARG:HG2	2.05	0.57
4:CE:78:HIS:HB2	7:CH:104:ARG:HG3	1.86	0.57
21:AA:354:G:H21	21:AA:388:G:H2'	1.70	0.57
36:DQ:7:MET:HG2	59:DA:870:A:H4'	1.86	0.57
20:AY:9:LEU:HB3	20:AY:284:LEU:HD12	1.86	0.57
20:CY:543:GLN:O	20:CY:546:ILE:N	2.28	0.57
10:AK:24:SER:OG	10:AK:25:TYR:N	2.36	0.57
21:AA:822:C:H2'	21:AA:823:G:C8	2.40	0.57
59:DA:1636:C:H2'	59:DA:1637:A:C8	2.40	0.57
59:BA:2789:C:H2'	59:BA:2790:A:H4'	1.86	0.57
21:AA:1131:G:H1	21:AA:1143:G:H21	1.53	0.57
8:CI:126:SER:O	8:CI:128:ARG:N	2.37	0.57
39:BT:32:TYR:HD2	39:BT:32:TYR:H	1.52	0.57
59:BA:2641:G:O6	59:BA:2773:C:N3	2.37	0.57
51:B7:40:TRP:CE3	59:BA:459:U:H5''	2.39	0.57
20:CY:56:GLU:HB2	20:CY:59:ARG:NE	2.15	0.57
38:BS:74:ALA:HB1	38:BS:104:GLY:HA2	1.86	0.57
26:BD:231:HIS:O	26:BD:233:HIS:N	2.38	0.57
27:BE:143:ASN:HB3	27:BE:147:PRO:HD2	1.86	0.57
59:DA:2391:G:O2'	59:DA:2424:C:N4	2.37	0.57
20:AY:660:ARG:HB3	59:BA:2660:A:C6	2.40	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:1159:U:H2'	59:DA:1160:G:H8	1.69	0.57
4:AE:100:VAL:HA	4:AE:118:ILE:HG22	1.85	0.57
8:CI:112:LYS:NZ	8:CI:116:LYS:O	2.37	0.57
21:AA:438:G:H21	21:AA:497:A:H62	1.53	0.57
31:DJ:50:UNK:O	31:DJ:82:UNK:N	2.37	0.57
40:BU:25:TRP:CD1	40:BU:26:GLY:N	2.71	0.57
9:AJ:6:ILE:HG23	9:AJ:72:VAL:HB	1.87	0.57
13:CN:34:TYR:HE2	21:CA:1357:A:HO2'	1.53	0.57
28:DF:172:TRP:CD1	28:DF:173:VAL:HG23	2.40	0.57
59:DA:2437:U:H2'	59:DA:2438:U:C6	2.40	0.57
29:DG:166:ASP:OD2	29:DG:167:GLU:N	2.37	0.57
59:BA:1224:C:H5	59:BA:1225:G:C5	2.23	0.57
59:BA:2389:G:H5''	59:BA:2390:U:O4'	2.04	0.57
50:B6:11:LEU:HD12	50:B6:26:ASN:HB2	1.86	0.57
21:AA:939:G:H2'	21:AA:940:C:C6	2.39	0.57
7:CH:33:GLU:OE1	7:CH:50:ARG:NE	2.36	0.57
38:BS:93:LYS:HB2	60:BB:47:C:O2'	2.05	0.57
11:AL:123:LYS:HD3	21:AA:37:U:OP1	2.05	0.57
20:AY:54:PHE:HB2	20:AY:60:GLU:HA	1.86	0.57
29:BG:27:ASN:HB3	29:BG:30:GLU:HB3	1.86	0.57
59:DA:2794:C:N4	59:DA:2802:G:H1	1.99	0.57
3:AD:12:CYS:HB3	3:AD:33:MET:SD	2.44	0.57
9:CJ:40:LEU:HB3	9:CJ:69:ASN:HB2	1.86	0.57
60:DB:43:C:H2'	60:DB:44:G:H5''	1.87	0.57
25:DC:128:LEU:HB3	25:DC:132:LEU:HG	1.87	0.57
25:DC:128:LEU:HD13	25:DC:132:LEU:HD11	1.86	0.57
26:DD:207:GLY:H	26:DD:211:ARG:HD3	1.70	0.57
20:AY:276:VAL:O	20:AY:280:LEU:HB2	2.05	0.57
37:BR:4:LEU:HD22	37:BR:7:GLY:HA2	1.86	0.57
9:CJ:6:ILE:HB	9:CJ:98:ILE:HG23	1.86	0.57
59:DA:2283:C:N3	59:DA:2325:G:O6	2.38	0.57
16:CQ:19:VAL:HG23	16:CQ:44:ALA:HB3	1.87	0.57
26:DD:37:LEU:HB3	26:DD:62:TYR:HB3	1.87	0.57
27:DE:4:ILE:HD13	27:DE:5:LEU:H	1.69	0.57
59:DA:2692:C:H2'	59:DA:2693:A:C8	2.39	0.57
59:BA:1068:G:O6	59:BA:1069:A:N6	2.38	0.57
59:DA:1320:C:H42	59:DA:1331:A:H62	1.52	0.57
59:DA:33:U:O4	59:DA:446:G:O2'	2.23	0.57
59:BA:2671:A:H2'	59:BA:2672:G:C8	2.40	0.57
43:BX:11:PRO:HG3	47:B2:41:ILE:HG22	1.87	0.57
59:DA:2446:G:N7	59:DA:2501:C:O2'	2.36	0.57
36:DQ:19:GLY:HA2	36:DQ:98:LYS:HB3	1.86	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:CD:127:THR:HA	3:CD:132:ARG:HA	1.86	0.57
21:CA:1088:G:H2'	21:CA:1089:G:H8	1.70	0.57
38:BS:42:ASP:O	38:BS:44:LYS:N	2.38	0.57
16:CQ:6:LEU:HD13	16:CQ:23:VAL:HG11	1.87	0.57
41:DV:85:LYS:NZ	59:DA:815:C:OP1	2.27	0.57
59:BA:2510:C:H2'	59:BA:2511:U:C6	2.40	0.57
59:BA:2701:C:H2'	59:BA:2702:U:H2'	1.87	0.57
33:DN:127:ASP:OD1	33:DN:127:ASP:N	2.36	0.57
15:CP:69:THR:HA	15:CP:72:ARG:HB2	1.87	0.57
59:BA:1086:A:H4'	59:BA:1103:A:H2	1.70	0.57
27:BE:152:LYS:O	33:BN:78:TYR:CD2	2.57	0.57
44:DY:46:LYS:HE3	44:DY:48:ALA:HB2	1.86	0.57
20:CY:55:MET:SD	20:CY:59:ARG:NH1	2.78	0.57
39:BT:119:LYS:HG2	39:BT:123:GLN:NE2	2.15	0.57
59:BA:957:A:N1	59:BA:2458:G:H4'	2.20	0.57
28:DF:157:VAL:HG12	28:DF:192:LEU:HA	1.86	0.57
59:DA:2678:C:H2'	59:DA:2679:A:H8	1.70	0.57
27:DE:111:ARG:HG2	37:DR:2:ARG:NE	2.20	0.57
42:BW:76:VAL:HA	42:BW:102:HIS:O	2.05	0.57
27:BE:109:LYS:HE2	27:BE:191:PRO:HA	1.85	0.57
1:CB:68:ILE:HG12	1:CB:161:ALA:HB3	1.87	0.57
44:BY:76:CYS:HB2	44:BY:96:ILE:HG21	1.85	0.57
21:AA:373:A:H4'	21:AA:480:U:O2'	2.05	0.57
30:BH:107:VAL:HG21	30:BH:152:ARG:HB2	1.86	0.57
45:BZ:69:THR:HG22	45:BZ:90:VAL:HA	1.87	0.57
26:BD:70:TRP:CE2	26:BD:150:LYS:HD3	2.39	0.57
5:CF:8:ILE:HD11	5:CF:79:LEU:HD13	1.86	0.57
59:DA:1076:C:H2'	59:DA:1077:A:H4'	1.86	0.57
38:DS:30:ARG:HH21	38:DS:33:LYS:HA	1.69	0.57
5:AF:35:ALA:HB1	5:AF:65:VAL:HG21	1.85	0.57
20:AY:265:LYS:O	20:AY:267:LYS:N	2.38	0.57
59:DA:2210:G:N3	59:DA:2210:G:H3'	2.19	0.57
59:BA:2368:C:H2'	59:BA:2369:A:H8	1.70	0.57
19:CT:63:ILE:HG21	19:CT:81:LYS:HG3	1.86	0.57
20:AY:24:GLY:HA2	61:AY:701:GNP:H8	1.86	0.56
33:BN:31:ALA:HB1	33:BN:107:LEU:HD21	1.87	0.56
59:BA:817:C:O2'	59:BA:932:G:N2	2.38	0.56
40:DU:62:ILE:HD12	40:DU:76:TYR:CE1	2.40	0.56
59:BA:1935:G:H3'	59:BA:1962:C:N4	2.16	0.56
20:CY:59:ARG:HD3	20:CY:65:ILE:H	1.70	0.56
31:BJ:54:UNK:CA	31:BJ:79:UNK:HA	2.31	0.56
6:AG:78:ARG:HG3	6:AG:156:TRP:HB3	1.86	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
44:BY:9:LYS:HE2	44:BY:103:GLY:HA3	1.87	0.56
21:AA:68(N):U:H3'	21:AA:68(O):A:C8	2.40	0.56
32:BK:10:LEU:HD22	32:BK:11:GLN:H	1.69	0.56
16:AQ:61:GLU:HA	16:AQ:71:PHE:CD1	2.40	0.56
21:CA:692:U:H2'	21:CA:694:A:OP2	2.05	0.56
59:BA:31:C:O3'	59:BA:1238:G:H5'	2.05	0.56
26:BD:262:ARG:HH11	59:BA:2085:C:H4'	1.69	0.56
39:DT:53:ARG:HH21	59:DA:2683:C:H5''	1.70	0.56
3:AD:13:ARG:HH22	3:AD:36:ARG:HG3	1.69	0.56
10:AK:119:CYS:HB3	21:AA:778:G:H1'	1.86	0.56
21:AA:603:U:H2'	21:AA:604:G:C8	2.39	0.56
26:BD:147:LEU:HD22	26:BD:154:LYS:HG3	1.86	0.56
9:CJ:79:ARG:O	9:CJ:83:GLU:HB2	2.04	0.56
44:BY:28:LYS:HD3	44:BY:37:VAL:HB	1.87	0.56
35:BP:7:ARG:HA	35:BP:10:PRO:HG3	1.87	0.56
20:CY:486:THR:OG1	20:CY:487:ILE:N	2.34	0.56
37:DR:100:LEU:HD13	37:DR:101:ALA:H	1.70	0.56
26:BD:16:MET:HB2	26:BD:207:GLY:HA3	1.87	0.56
41:DV:31:ALA:O	41:DV:61:VAL:HG12	2.05	0.56
21:AA:1085:U:H3'	21:AA:1086:U:H5	1.69	0.56
11:AL:58:VAL:HG11	11:AL:85:ILE:HG12	1.86	0.56
56:D1:25:LYS:HB3	59:DA:388:G:OP2	2.04	0.56
28:DF:107:LYS:NZ	59:DA:618(A):G:H5''	2.20	0.56
11:CL:33:ARG:HG3	11:CL:34:ARG:H	1.70	0.56
9:AJ:55:LYS:HE2	21:AA:973:G:H1'	1.86	0.56
3:CD:5:ILE:HG21	21:CA:406:G:H5''	1.87	0.56
11:AL:124:LYS:O	11:AL:126:LYS:N	2.37	0.56
59:DA:2144:U:H2'	59:DA:2147:G:H1	1.71	0.56
59:BA:569:U:H5'	59:BA:946:G:H1'	1.87	0.56
22:AW:68:U:H2'	22:AW:69:A:C8	2.39	0.56
31:DJ:23:UNK:O	31:DJ:85:UNK:N	2.38	0.56
43:BX:12:VAL:HG21	43:BX:27:THR:HG23	1.87	0.56
40:BU:25:TRP:CZ2	59:BA:17:G:H4'	2.40	0.56
49:B5:20:ARG:HA	49:B5:23:HIS:CD2	2.40	0.56
35:DP:8:PRO:HG3	59:DA:1242:A:N1	2.20	0.56
59:DA:108:U:H2'	59:DA:109:G:H8	1.69	0.56
17:AR:82:THR:HB	21:AA:718:G:H22	1.70	0.56
59:DA:1201:C:H42	59:DA:1244:G:H1	1.53	0.56
59:BA:741:G:H2'	59:BA:742:G:H8	1.69	0.56
59:BA:2075:U:O4	59:BA:2077:A:N7	2.38	0.56
59:DA:1547:C:H2'	59:DA:1548:C:C6	2.39	0.56
4:AE:102:ALA:HB2	4:AE:120:THR:HG23	1.86	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
41:BV:69:LYS:NZ	41:BV:86:GLY:O	2.36	0.56
20:AY:137:ASN:HD21	20:AY:263:ALA:H	1.52	0.56
59:BA:1135:C:N4	59:BA:1138:G:OP2	2.28	0.56
59:DA:2889:C:H2'	59:DA:2891:G:O4'	2.05	0.56
59:BA:1057:A:N7	59:BA:1086:A:H2'	2.21	0.56
28:BF:8:GLN:HB2	28:BF:22:ALA:HB2	1.87	0.56
41:BV:64:HIS:HA	41:BV:92:THR:HA	1.86	0.56
41:DV:24:LYS:HA	41:DV:92:THR:HG23	1.86	0.56
28:BF:153:SER:HB2	28:BF:189:THR:HB	1.87	0.56
28:BF:154:VAL:HG13	28:BF:191:ARG:HB3	1.87	0.56
59:DA:360:G:H2'	59:DA:361:G:C8	2.32	0.56
8:CI:118:LYS:HB3	21:CA:1349:A:OP1	2.05	0.56
38:BS:65:VAL:O	38:BS:69:VAL:N	2.33	0.56
25:BC:71:LYS:HG3	25:BC:72:GLN:H	1.70	0.56
20:AY:55:MET:HB3	20:AY:59:ARG:HD2	1.88	0.56
21:AA:1347:G:N1	21:AA:1374:A:OP2	2.32	0.56
44:BY:44:ILE:HG22	44:BY:45:VAL:H	1.70	0.56
26:DD:78:LYS:O	26:DD:78:LYS:NZ	2.31	0.56
48:B3:8:LEU:HD22	48:B3:31:LEU:HA	1.86	0.56
16:AQ:51:TYR:CE2	16:AQ:73:VAL:HG11	2.41	0.56
27:BE:134:ILE:HG12	27:BE:135:HIS:H	1.70	0.56
56:D1:45:ASN:HB3	59:DA:397:G:H5''	1.88	0.56
50:D6:28:ARG:O	50:D6:30:THR:N	2.38	0.56
3:AD:115:ARG:HB3	21:AA:407:G:H5''	1.87	0.56
37:BR:103:ARG:HG2	37:BR:110:PRO:HA	1.85	0.56
57:D4:11:PRO:O	57:D4:29:PRO:HA	2.05	0.56
37:DR:23:ASN:ND2	59:DA:1277:G:H1'	2.20	0.56
59:DA:1278:A:H2'	59:DA:1279:G:C8	2.40	0.56
36:BQ:65:PHE:HZ	45:BZ:118:GLN:HG3	1.69	0.56
59:BA:689:A:H2'	59:BA:690:G:C8	2.40	0.56
59:DA:1513:C:H2'	59:DA:1514:U:O4'	2.05	0.56
45:BZ:141:VAL:HG13	45:BZ:144:LEU:HD23	1.87	0.56
21:CA:68(N):U:H3'	21:CA:68(O):A:C8	2.39	0.56
59:BA:1231:G:H2'	59:BA:1232:G:C8	2.40	0.56
20:AY:328:ILE:HG13	20:AY:375:GLY:O	2.06	0.56
26:BD:147:LEU:HD12	26:BD:183:ARG:HD3	1.87	0.56
37:BR:45:ARG:O	37:BR:49:ASP:HB2	2.05	0.56
43:DX:11:PRO:O	43:DX:13:LEU:N	2.35	0.56
59:BA:1028:A:H2'	59:BA:1029:A:C8	2.40	0.56
35:DP:119:GLU:O	35:DP:121:LYS:N	2.39	0.56
17:AR:30:ASP:O	17:AR:36:ASN:ND2	2.38	0.56
45:DZ:36:LYS:HD3	45:DZ:36:LYS:H	1.69	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:819:A:OP2	59:BA:1187:G:N2	2.31	0.56
41:DV:35:LEU:HB2	41:DV:57:VAL:O	2.05	0.56
3:CD:135:LEU:HG	21:CA:620:C:C2	2.40	0.56
21:CA:299:G:H2'	21:CA:300:A:C8	2.40	0.56
5:AF:15:ASP:OD2	5:AF:17:SER:OG	2.17	0.56
3:CD:164:ALA:O	3:CD:168:ARG:NH1	2.39	0.56
21:AA:1148:U:H2'	21:AA:1149:C:O4'	2.04	0.56
1:CB:15:VAL:HG21	1:CB:209:ARG:HE	1.70	0.56
59:BA:1793:C:H2'	59:BA:1794:U:C6	2.40	0.56
47:D2:32:LEU:HD13	47:D2:53:LEU:HB3	1.86	0.56
59:BA:659:C:H2'	59:BA:660:G:H8	1.71	0.56
59:DA:829:A:C8	59:DA:2248:C:H5'	2.41	0.56
59:DA:1750:G:O2'	59:DA:2860:A:N1	2.33	0.56
40:DU:25:TRP:HD1	40:DU:26:GLY:N	2.04	0.56
6:CG:102:ARG:HD2	21:CA:940:C:OP1	2.06	0.56
14:CO:64:ARG:HH21	21:CA:581:G:H4'	1.70	0.56
59:DA:1213:A:H62	59:DA:1236:G:H1'	1.70	0.56
59:DA:286:C:N3	59:DA:355:G:N2	2.45	0.56
59:BA:1604:C:H2'	59:BA:1605:C:C6	2.41	0.56
60:DB:24:G:N1	60:DB:56:G:C2	2.74	0.56
56:D1:39:LYS:NZ	56:D1:40:ARG:O	2.38	0.56
50:D6:27:LYS:HZ1	50:D6:29:ASN:HB3	1.70	0.56
40:DU:6:THR:HG21	40:DU:10:ARG:NH2	2.21	0.56
35:DP:8:PRO:O	35:DP:9:ASN:ND2	2.38	0.56
9:CJ:5:ARG:HB3	9:CJ:99:LYS:O	2.05	0.56
14:AO:70:LEU:HD12	14:AO:73:GLU:HB2	1.86	0.56
39:DT:121:ILE:O	39:DT:125:ARG:HG2	2.05	0.56
42:DW:36:LEU:HD13	42:DW:48:ALA:HA	1.86	0.56
39:DT:93:ARG:HD2	39:DT:115:ARG:HG3	1.87	0.56
9:CJ:62:HIS:NE2	21:CA:1368:G:OP1	2.32	0.56
21:AA:1028(H):G:H2'	21:AA:1033:G:C8	2.40	0.56
35:DP:86:LYS:HD3	35:DP:118:GLY:HA2	1.88	0.56
59:DA:2601:C:N4	59:DA:2603:G:O6	2.38	0.56
20:AY:137:ASN:ND2	20:AY:138:LYS:H	2.03	0.56
20:CY:32:ILE:O	20:CY:34:TYR:C	2.43	0.56
59:BA:2178:C:H2'	59:BA:2179:C:C6	2.41	0.56
25:DC:153:ILE:O	25:DC:157:ILE:HG13	2.05	0.56
26:BD:106:ILE:HG13	26:BD:107:ALA:H	1.70	0.56
6:CG:79:ARG:NH2	6:CG:156:TRP:HB2	2.21	0.56
59:DA:131:G:H2'	59:DA:132:G:C8	2.37	0.56
21:CA:714:G:H2'	21:CA:715:A:C8	2.41	0.56
59:BA:950:G:H2'	59:BA:951:C:C6	2.40	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:CQ:51:TYR:CE2	16:CQ:73:VAL:HG11	2.41	0.56
1:AB:57:PHE:CE2	1:AB:185:ILE:HD11	2.41	0.56
21:CA:510:A:N3	21:CA:543:C:H1'	2.20	0.56
18:AS:80:TYR:CZ	21:AA:956:U:H4'	2.40	0.56
20:CY:662:LYS:HE3	30:DH:175:LYS:HG2	1.87	0.56
20:CY:229:LEU:HA	20:CY:232:LEU:HB2	1.88	0.56
10:AK:91:ARG:NH1	10:AK:92:GLU:OE1	2.38	0.56
26:BD:227:ASN:HB2	26:BD:228:PRO:HD2	1.88	0.56
40:BU:42:ALA:HB1	59:BA:534:U:H5'	1.86	0.56
20:AY:554:PRO:HB3	20:AY:595:GLN:HE21	1.69	0.56
20:AY:154:GLN:HA	20:AY:158:GLY:HA2	1.88	0.56
33:BN:67:LEU:HA	33:BN:87:LEU:HD12	1.87	0.56
59:BA:1025:G:O6	59:BA:1139:G:N2	2.27	0.56
32:DK:130:SER:O	32:DK:133:SER:OG	2.22	0.56
33:DN:42:TRP:N	40:DU:64:ARG:HE	2.04	0.56
3:AD:31:CYS:HB3	3:AD:33:MET:SD	2.45	0.56
42:DW:80:PRO:O	42:DW:100:THR:HG22	2.06	0.56
25:BC:151:GLY:HA2	25:BC:154:ILE:HB	1.86	0.56
32:BK:14:ALA:HA	32:BK:41:PHE:HE2	1.69	0.56
12:AM:91:ARG:NH1	12:AM:97:PRO:O	2.38	0.56
50:D6:15:GLU:OE2	50:D6:20:ASN:ND2	2.39	0.56
59:BA:531:C:OP1	59:BA:561:G:N1	2.36	0.56
59:BA:184:C:H2'	59:BA:185:U:C6	2.40	0.56
59:DA:1565:C:O2'	59:DA:1567:A:N7	2.29	0.56
12:AM:77:ASN:HA	12:AM:80:ARG:HG3	1.88	0.56
32:DK:30:HIS:CD2	32:DK:59:ILE:HB	2.41	0.56
37:DR:100:LEU:HB3	37:DR:111:LEU:HB2	1.88	0.56
37:BR:36:THR:OG1	37:BR:37:THR:N	2.36	0.56
21:AA:1472:U:H2'	21:AA:1473:A:C8	2.41	0.56
36:BQ:2:LEU:HB3	36:BQ:69:PHE:CE1	2.41	0.56
30:BH:19:VAL:HG21	30:BH:44:VAL:HA	1.86	0.56
32:BK:114:ASP:OD1	32:BK:114:ASP:N	2.39	0.56
59:DA:55:G:O2'	59:DA:127:A:N1	2.36	0.56
12:CM:4:ILE:HG23	12:CM:57:ARG:HB2	1.88	0.56
60:DB:9:G:H1	60:DB:111:U:H3	1.53	0.56
8:CI:9:ARG:HG2	8:CI:13:ALA:O	2.05	0.56
6:AG:57:GLU:HB3	6:AG:58:PRO:HD2	1.88	0.56
40:DU:92:ARG:NH1	41:DV:11:GLN:O	2.35	0.56
33:BN:111:PRO:O	33:BN:114:ARG:HB2	2.06	0.56
34:DO:103:ALA:HB1	34:DO:105:GLU:OE1	2.06	0.56
21:AA:1536:C:H42	23:AV:9:G:H1	1.53	0.56
59:DA:1861:G:H2'	59:DA:1862:G:C8	2.41	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
41:BV:81:TYR:CE2	59:BA:1187:G:H5''	2.41	0.56
21:AA:1150:U:O4	21:AA:1151:A:N6	2.38	0.56
59:DA:1405:U:H2'	59:DA:1406:U:C6	2.40	0.56
21:CA:339:C:H2'	21:CA:340:U:C6	2.40	0.56
20:AY:509:HIS:HB3	20:AY:571:SER:HB3	1.88	0.56
8:CI:4:TYR:CE1	8:CI:21:PRO:HD3	2.41	0.56
27:DE:11:MET:HA	27:DE:24:THR:HA	1.88	0.56
59:DA:558:G:H2'	59:DA:559:G:H8	1.70	0.56
59:BA:1346:G:H1	59:BA:1600:C:H42	1.52	0.56
59:BA:879:G:H2'	59:BA:880:G:C8	2.41	0.56
21:CA:143:A:H5'	21:CA:196:A:N1	2.21	0.56
19:AT:14:LYS:HA	19:AT:17:ARG:HH21	1.71	0.56
43:DX:36:LYS:HA	43:DX:39:ILE:HD12	1.88	0.56
22:CW:15:G:P	22:CW:16:U:H3	2.29	0.56
59:BA:863:A:H2'	59:BA:864:G:C8	2.41	0.56
3:AD:35:ARG:HB3	21:AA:412:A:H2	1.71	0.56
29:BG:124:SER:HG	59:BA:2303:G:HO2'	1.52	0.56
28:BF:156:LEU:HA	28:BF:191:ARG:O	2.06	0.56
34:DO:98:VAL:HG22	34:DO:117:LEU:HB3	1.88	0.56
21:CA:741:G:H3'	21:CA:742:G:H8	1.71	0.56
59:DA:248:G:C2	59:DA:2431:U:H4'	2.40	0.56
41:DV:18:LEU:H	41:DV:96:ILE:HD11	1.70	0.56
59:BA:2476:A:H2'	59:BA:2477:C:H5'	1.87	0.56
29:BG:31:VAL:O	29:BG:33:ARG:N	2.39	0.56
59:DA:2440:C:H5''	59:DA:2587:A:H4'	1.88	0.56
21:AA:1288:A:N1	21:AA:1371:G:H1'	2.21	0.56
21:CA:701:C:O2	21:CA:703:G:N2	2.37	0.56
3:AD:162:LEU:HD22	3:AD:178:VAL:HG13	1.86	0.56
26:BD:31:LYS:HG3	26:BD:33:LEU:H	1.70	0.56
38:DS:68:GLN:O	38:DS:72:ALA:N	2.35	0.56
57:D4:14:ILE:O	57:D4:16:CYS:N	2.39	0.56
45:BZ:117:LEU:HD11	45:BZ:172:ALA:HB1	1.88	0.56
19:CT:84:LEU:O	19:CT:88:VAL:HG23	2.06	0.56
59:BA:270(J):G:N1	59:BA:270(R):C:N4	2.20	0.56
59:BA:8:A:N1	59:BA:2895:U:C4	2.74	0.56
27:BE:151:TYR:HD2	33:BN:79:PRO:HG3	1.71	0.56
38:DS:25:ARG:HA	38:DS:86:ALA:HB3	1.87	0.56
16:AQ:67:LYS:HD3	21:AA:254:G:OP2	2.05	0.56
9:AJ:16:LEU:HD11	9:AJ:70:ARG:HD3	1.86	0.56
21:CA:292:G:C5	21:CA:293:G:H1'	2.40	0.56
59:BA:2085:C:H42	59:BA:2234:G:H1	1.53	0.56
20:CY:555:LEU:HD21	20:CY:599:PRO:HB3	1.88	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
34:DO:105:GLU:OE1	34:DO:105:GLU:N	2.35	0.56
4:CE:45:PHE:HZ	21:CA:1079:G:H5''	1.71	0.56
9:CJ:5:ARG:NH2	9:CJ:73:ASP:OD2	2.39	0.56
48:B3:40:THR:O	48:B3:43:ILE:N	2.38	0.56
26:DD:125:ILE:HG12	26:DD:137:PRO:HG2	1.87	0.56
27:BE:4:ILE:HD13	27:BE:5:LEU:N	2.20	0.56
12:CM:23:TYR:OH	12:CM:71:ARG:HG3	2.06	0.56
19:AT:34:LYS:O	19:AT:37:SER:OG	2.22	0.56
2:AC:61:ALA:O	2:AC:62:ASP:HB2	2.04	0.56
21:CA:1486:G:H2'	21:CA:1487:G:O4'	2.06	0.56
7:CH:94:TYR:OH	21:CA:597:G:N2	2.39	0.56
22:CW:7:G:O6	22:CW:49:A:N6	2.39	0.56
21:CA:1412:C:H2'	21:CA:1413:A:C8	2.41	0.56
59:DA:594:U:H2'	59:DA:595:C:C6	2.41	0.56
59:BA:1429:G:H2'	59:BA:1430:C:C6	2.41	0.56
59:DA:1138:G:H2'	59:DA:1139:G:O4'	2.06	0.56
11:CL:60:LEU:HD23	11:CL:63:GLY:O	2.05	0.56
28:BF:7:TYR:CZ	28:BF:10:PRO:HD3	2.41	0.56
9:AJ:55:LYS:HG3	21:AA:973:G:O4'	2.06	0.56
25:DC:20:VAL:HG13	25:DC:226:ASN:HB2	1.87	0.56
21:AA:429:U:H1'	21:AA:430:A:H5''	1.88	0.56
26:DD:157:ARG:NH2	59:DA:1818:U:O5'	2.39	0.56
8:AI:21:PRO:HA	8:AI:60:ASP:H	1.70	0.56
59:BA:853:G:H1	59:BA:924:C:N4	2.02	0.56
21:AA:102:G:H2'	21:AA:103:C:C6	2.41	0.56
59:DA:1335:U:H2'	59:DA:1336:A:C8	2.41	0.56
9:CJ:54:PHE:CG	9:CJ:55:LYS:N	2.74	0.56
12:AM:52:GLU:OE2	12:AM:55:ARG:NH2	2.37	0.56
21:AA:263:A:H2'	21:AA:264:U:C6	2.41	0.56
59:BA:676:A:C8	59:BA:2443:C:H1'	2.41	0.56
19:AT:63:ILE:HG23	19:AT:77:ALA:HB1	1.86	0.56
35:BP:68:GLN:HE22	52:B8:12:LYS:HG2	1.71	0.56
59:DA:1811:G:H2'	59:DA:1812:A:H8	1.71	0.56
34:DO:68:GLU:OE1	59:DA:2684:U:O2'	2.24	0.56
8:CI:10:ARG:HD3	8:CI:75:ASP:HB3	1.86	0.56
59:BA:17:G:H2'	59:BA:18:C:C6	2.40	0.56
59:DA:1327:C:H3'	59:DA:1328:G:C8	2.41	0.56
6:AG:94:ARG:O	6:AG:98:SER:OG	2.17	0.56
45:BZ:69:THR:HA	45:BZ:91:LEU:HG	1.86	0.56
32:DK:124:ALA:HB3	32:DK:125:ARG:CZ	2.36	0.56
44:BY:42:VAL:HG21	44:BY:67:LEU:HD13	1.88	0.56
21:CA:765:G:N1	21:CA:812:C:O2'	2.36	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:AB:50:GLU:O	1:AB:54:THR:OG1	2.08	0.56
44:BY:97:ARG:NH2	59:BA:300:A:OP1	2.38	0.56
59:BA:1405:U:H2'	59:BA:1406:U:C6	2.41	0.56
7:CH:12:ARG:NH2	21:CA:825:G:O2'	2.31	0.56
19:CT:103:GLY:HA2	21:CA:192:U:H1'	1.88	0.56
59:DA:2604:U:H2'	59:DA:2605:U:H6	1.70	0.56
59:DA:679:C:H2'	59:DA:680:G:H8	1.71	0.56
59:DA:1412:A:H61	59:DA:1590:U:H3	1.53	0.56
21:CA:1028(B):C:N3	21:CA:1028(G):G:N2	2.50	0.55
33:BN:25:ARG:O	33:BN:28:THR:HB	2.06	0.55
11:AL:35:GLY:CA	11:AL:58:VAL:HG13	2.35	0.55
8:AI:16:ARG:HH12	21:AA:1128:C:H4'	1.71	0.55
56:B1:77:ALA:HB1	56:B1:82:LEU:HD21	1.89	0.55
29:BG:68:PRO:HB2	29:BG:90:LEU:HD11	1.86	0.55
35:DP:53:GLY:C	35:DP:55:ARG:H	2.09	0.55
5:AF:97:PHE:HB3	17:AR:32:ARG:HD3	1.87	0.55
59:BA:1731:G:O2'	59:BA:1732:A:H8	1.88	0.55
27:BE:30:PRO:HA	27:BE:92:THR:HG22	1.88	0.55
59:DA:1638:C:H2'	59:DA:1639:U:O4'	2.05	0.55
21:AA:928:G:H2'	21:AA:929:G:C8	2.40	0.55
30:BH:62:LYS:HB3	59:BA:2749:A:H4'	1.88	0.55
17:AR:74:ARG:NH2	17:AR:81:PHE:O	2.39	0.55
12:CM:40:ASN:O	12:CM:43:THR:HB	2.07	0.55
21:CA:892:A:H2'	21:CA:893:C:C6	2.40	0.55
21:CA:891:U:H3	21:CA:907:A:H62	1.55	0.55
59:BA:270(W):G:H2'	59:BA:270(X):G:C8	2.41	0.55
59:BA:1165:U:H3	59:BA:1184:G:H1	1.54	0.55
1:AB:194:PRO:HB2	1:AB:200:ILE:HD13	1.88	0.55
59:BA:822:U:H5	59:BA:944:G:H1'	1.71	0.55
21:AA:394:G:H2'	21:AA:395:C:H6	1.71	0.55
16:CQ:9:VAL:HA	16:CQ:56:VAL:HG22	1.87	0.55
1:AB:60:ASP:HA	1:AB:63:MET:HG2	1.87	0.55
10:AK:21:ILE:HD11	10:AK:98:LEU:HD11	1.87	0.55
46:D0:49:LYS:HB2	46:D0:80:HIS:HB3	1.87	0.55
52:D8:4:MET:HE1	59:DA:592:G:H21	1.71	0.55
59:DA:2133:G:O2'	59:DA:2157:G:N1	2.40	0.55
33:DN:39:ARG:NH2	33:DN:41:ASP:HB3	2.21	0.55
25:BC:169:THR:O	25:BC:171:ALA:N	2.37	0.55
25:BC:48:LEU:O	25:BC:211:ARG:NH2	2.37	0.55
26:DD:88:ARG:HE	59:DA:1817:G:H5''	1.71	0.55
25:DC:133:GLY:N	25:DC:138:LEU:HB2	2.22	0.55
34:DO:15:GLY:O	34:DO:47:ILE:N	2.34	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
56:D1:18:ILE:H	56:D1:42:GLN:HB2	1.71	0.55
21:CA:217:C:O2'	21:CA:458(C):G:O6	2.16	0.55
2:AC:84:ILE:HG12	2:AC:101:LEU:HD22	1.88	0.55
59:DA:1278:A:H2'	59:DA:1279:G:H8	1.71	0.55
21:AA:865:A:H2'	21:AA:866:C:C6	2.41	0.55
59:BA:661:C:H2'	59:BA:662:G:C8	2.39	0.55
39:DT:53:ARG:NH1	39:DT:60:THR:OG1	2.38	0.55
59:BA:214:G:H1'	59:BA:216:A:O2'	2.06	0.55
2:AC:6:HIS:HB3	2:AC:9:GLY:H	1.71	0.55
12:CM:15:VAL:HG23	12:CM:34:LEU:HD13	1.88	0.55
59:BA:740:U:N3	59:BA:758:C:H1'	2.21	0.55
29:DG:31:VAL:O	29:DG:33:ARG:HG3	2.07	0.55
15:AP:67:THR:O	15:AP:71:ARG:HG3	2.06	0.55
59:BA:2817:G:O2'	59:BA:2836:U:O2	2.14	0.55
28:BF:198:ALA:HA	28:BF:201:VAL:HB	1.88	0.55
21:AA:642:A:H2'	21:AA:643:C:C6	2.41	0.55
57:B4:28:LYS:HB3	57:B4:31:ILE:HD11	1.88	0.55
13:AN:21:TYR:OH	13:AN:23:ARG:NH2	2.40	0.55
21:CA:1109:C:H2'	21:CA:1110:A:O4'	2.06	0.55
20:AY:381:LYS:NZ	21:AA:358:U:OP1	2.36	0.55
59:DA:1127:A:N7	59:DA:2488:A:O2'	2.37	0.55
36:DQ:76:LYS:NZ	59:DA:957:A:OP1	2.39	0.55
59:BA:788:A:OP1	59:BA:791:C:N4	2.39	0.55
59:DA:2178:C:H2'	59:DA:2179:C:H6	1.71	0.55
7:CH:30:ARG:NH1	21:CA:590:C:OP2	2.40	0.55
21:CA:993:G:H1	21:CA:1045:C:H42	1.52	0.55
26:BD:35:LYS:HD3	26:BD:61:LEU:HG	1.87	0.55
50:D6:27:LYS:HZ1	50:D6:30:THR:H	1.53	0.55
21:AA:406:G:H2'	21:AA:407:G:C8	2.40	0.55
59:BA:2443:C:H2'	59:BA:2444:G:C8	2.42	0.55
29:DG:138:GLN:HB2	29:DG:153:ARG:O	2.07	0.55
60:BB:110:G:H2'	60:BB:111:U:O4'	2.07	0.55
1:AB:15:VAL:HG11	1:AB:209:ARG:NH2	2.21	0.55
59:BA:360:G:H2'	59:BA:361:G:C8	2.42	0.55
12:CM:98:VAL:HB	12:CM:99:ARG:CZ	2.36	0.55
23:CV:6:G:H2'	23:CV:7:G:C8	2.41	0.55
34:BO:91:LEU:HD11	34:BO:111:PHE:CE1	2.41	0.55
21:CA:255:G:H2'	21:CA:256:U:C6	2.42	0.55
27:DE:34:VAL:HG22	27:DE:35:GLN:H	1.70	0.55
28:BF:169:ASN:ND2	59:BA:322:A:H3'	2.21	0.55
21:AA:394:G:H2'	21:AA:395:C:C6	2.41	0.55
22:AW:19:G:H1	22:AW:56:C:H42	1.54	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:AD:134:ASP:OD2	3:AD:134:ASP:N	2.38	0.55
59:DA:1028:A:N3	59:DA:2486:G:O2'	2.30	0.55
10:AK:88:GLY:O	10:AK:90:GLY:N	2.39	0.55
20:CY:25:LYS:NZ	61:CY:701:GNP:O3G	2.39	0.55
27:BE:62:PRO:HG3	59:BA:2786:U:O2	2.06	0.55
33:BN:78:TYR:HB2	59:BA:2642:G:OP1	2.07	0.55
59:DA:817:C:O2'	59:DA:839:U:OP1	2.20	0.55
25:BC:40:GLU:O	25:BC:42:VAL:N	2.39	0.55
21:CA:1422:G:H2'	21:CA:1423:G:H8	1.72	0.55
15:AP:26:ARG:HH22	21:AA:310:G:H5''	1.71	0.55
59:DA:27:G:N2	59:DA:512:G:O2'	2.30	0.55
27:BE:132:HIS:HA	27:BE:135:HIS:HD1	1.69	0.55
25:DC:63:VAL:HB	25:DC:164:PHE:HZ	1.71	0.55
59:BA:681:G:H2'	59:BA:682:G:C8	2.41	0.55
50:B6:37:ARG:NH2	59:BA:2344:U:O2'	2.39	0.55
20:AY:460:GLU:HA	20:AY:463:VAL:HB	1.88	0.55
59:BA:1595:G:H2'	59:BA:1596:A:H8	1.71	0.55
4:AE:33:VAL:HG11	4:AE:109:ILE:HA	1.88	0.55
17:AR:66:LEU:O	17:AR:70:ILE:HG13	2.06	0.55
33:BN:61:ARG:HG2	33:BN:61:ARG:NH1	2.20	0.55
45:BZ:29:TYR:HA	45:BZ:33:LEU:O	2.06	0.55
15:AP:58:TYR:O	15:AP:62:VAL:HG13	2.06	0.55
27:BE:37:ARG:HD2	27:BE:42:ASP:CG	2.26	0.55
21:CA:1437:C:H2'	21:CA:1438:G:C8	2.41	0.55
59:BA:2674:G:H2'	59:BA:2675:A:C8	2.41	0.55
21:AA:279:A:OP1	21:AA:280:C:O2'	2.19	0.55
21:CA:372:C:H42	21:CA:389:A:H62	1.54	0.55
20:CY:417:THR:O	20:CY:419:ALA:N	2.35	0.55
52:D8:18:ALA:HB3	59:DA:651:G:H5''	1.88	0.55
26:BD:81:ALA:HA	26:BD:113:VAL:HG12	1.88	0.55
4:AE:78:HIS:O	4:AE:79:GLU:HB3	2.06	0.55
20:AY:35:TYR:HD1	20:AY:36:THR:N	2.04	0.55
3:AD:25:ARG:O	3:AD:27:TYR:N	2.31	0.55
20:CY:15:ILE:HD12	20:CY:105:ILE:HD11	1.88	0.55
21:AA:949:A:H2'	21:AA:950:U:C6	2.42	0.55
1:CB:164:VAL:HG12	1:CB:186:ALA:HB1	1.89	0.55
31:BJ:111:UNK:H	31:BJ:116:UNK:HA	1.72	0.55
59:DA:380:U:H2'	59:DA:381:G:C8	2.40	0.55
20:CY:660:ARG:O	20:CY:665:GLY:N	2.40	0.55
50:D6:28:ARG:HD3	50:D6:29:ASN:N	2.21	0.55
1:AB:111:ARG:HB3	1:AB:145:LEU:HD11	1.89	0.55
29:BG:11:TYR:HB2	29:BG:176:LEU:HD21	1.88	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:403:U:H4'	59:BA:404:C:H5'	1.89	0.55
45:DZ:30:ASN:HB2	45:DZ:90:VAL:HB	1.87	0.55
59:BA:17:G:H2'	59:BA:18:C:H6	1.71	0.55
43:DX:49:VAL:HG12	43:DX:87:GLN:HB3	1.88	0.55
2:CC:66:VAL:HG12	2:CC:68:VAL:HG23	1.88	0.55
48:B3:42:ALA:O	59:BA:851:U:O2'	2.24	0.55
40:DU:25:TRP:HD1	40:DU:26:GLY:H	1.54	0.55
20:AY:95:GLU:HB3	20:AY:99:ARG:HH21	1.70	0.55
20:AY:311:ALA:HA	20:AY:330:VAL:O	2.06	0.55
36:BQ:30:GLY:HA2	36:BQ:107:ALA:HB2	1.89	0.55
35:DP:47:ASP:HB3	35:DP:51:PHE:HB2	1.89	0.55
59:BA:1669:A:O3'	59:BA:2549:G:H5'	2.05	0.55
59:BA:2270:G:H2'	59:BA:2271:G:O4'	2.06	0.55
21:AA:436:C:H2'	21:AA:437:U:O4'	2.07	0.55
20:AY:34:TYR:O	20:AY:35:TYR:CG	2.59	0.55
23:CV:8:A:H2'	23:CV:9:G:C8	2.42	0.55
59:BA:812:C:H1'	59:BA:1250:G:C2	2.42	0.55
33:DN:39:ARG:C	33:DN:41:ASP:H	2.09	0.55
53:D9:22:ARG:NH2	59:DA:2741:A:OP1	2.39	0.55
20:CY:163:VAL:HG13	20:CY:258:VAL:CG2	2.32	0.55
59:DA:1800:C:N3	59:DA:1817:G:N1	2.53	0.55
26:DD:88:ARG:HB3	59:DA:1817:G:H5''	1.88	0.55
44:DY:85:VAL:HG12	44:DY:94:LYS:HB3	1.88	0.55
20:CY:20:HIS:CD2	20:CY:21:ILE:HG23	2.42	0.55
21:AA:947:G:H2'	21:AA:948:C:H6	1.72	0.55
28:DF:194:MET:HE3	28:DF:198:ALA:HB3	1.88	0.55
59:DA:1486:A:H2'	59:DA:1487:G:C8	2.42	0.55
59:BA:1937:A:N7	59:BA:1939:U:H2'	2.20	0.55
59:BA:2066:C:H2'	59:BA:2067:G:H8	1.70	0.55
45:DZ:30:ASN:O	45:DZ:32:HIS:N	2.34	0.55
1:CB:118:LEU:O	1:CB:122:PHE:HB2	2.06	0.55
1:AB:235:SER:O	1:AB:237:ALA:N	2.39	0.55
29:DG:51:ARG:HH12	29:DG:88:ILE:HD12	1.71	0.55
16:CQ:66:SER:O	16:CQ:70:ARG:NH1	2.39	0.55
59:BA:1200:C:H2'	59:BA:1201:C:C6	2.42	0.55
21:AA:352:C:H4'	21:AA:354:G:OP1	2.06	0.55
1:CB:223:ILE:HA	1:CB:226:ARG:HB2	1.88	0.55
28:BF:111:ALA:HB2	28:BF:206:ILE:HG21	1.87	0.55
33:BN:55:VAL:HB	33:BN:126:PRO:HA	1.88	0.55
20:CY:438:PHE:HE1	20:CY:462:ILE:HG13	1.72	0.55
35:BP:115:LEU:HA	35:BP:134:ALA:HB2	1.88	0.55
21:CA:1440(J):C:H1'	21:CA:1440(K):G:N2	2.22	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:465:G:H2'	59:DA:466:A:C8	2.42	0.55
59:BA:1324:G:H1'	59:BA:1616:A:N6	2.21	0.55
21:AA:838(A):U:H5'	59:DA:1583:A:H61	1.72	0.55
49:B5:18:ALA:HB1	59:BA:2045:C:H4'	1.88	0.55
60:BB:113:C:N4	60:BB:114:G:O6	2.40	0.55
3:CD:8:VAL:HG23	3:CD:9:CYS:H	1.71	0.55
59:BA:265:A:N6	59:BA:427:U:O2'	2.35	0.55
20:AY:246:ILE:HA	20:AY:255:ILE:HD13	1.87	0.55
28:BF:52:LYS:HB3	28:BF:56:GLU:HB2	1.89	0.55
8:AI:117:HIS:HB2	8:AI:121:ARG:HB3	1.88	0.55
56:B1:20:ARG:H	56:B1:40:ARG:HB2	1.71	0.55
32:BK:103:GLN:O	32:BK:107:ILE:HG12	2.06	0.55
16:CQ:67:LYS:HD2	21:CA:266:G:C8	2.40	0.55
59:DA:1086:A:H4'	59:DA:1103:A:H2	1.72	0.55
47:D2:42:GLY:O	47:D2:45:SER:OG	2.22	0.55
21:CA:1328:C:H2'	21:CA:1329:A:H8	1.70	0.55
7:AH:14:ARG:HE	7:AH:83:ILE:HD13	1.71	0.55
59:DA:2593:U:H2'	59:DA:2594:C:C6	2.42	0.55
3:CD:70:ILE:HG12	3:CD:71:SER:N	2.21	0.55
4:AE:146:ALA:O	4:AE:150:ARG:NE	2.37	0.55
5:CF:50:TYR:OH	17:CR:77:GLY:N	2.38	0.55
50:D6:23:THR:HG21	59:DA:2419:U:OP1	2.07	0.55
21:CA:1256:A:N6	21:CA:1278:U:O4'	2.39	0.55
12:CM:104:ARG:NH2	21:CA:954:G:O6	2.37	0.55
13:CN:15:LYS:HD3	13:CN:16:PHE:CZ	2.42	0.55
7:CH:7:ALA:HA	7:CH:10:LEU:HD12	1.88	0.55
21:CA:1321:C:H3'	21:CA:1322:C:H5''	1.89	0.55
48:D3:35:ARG:HB3	48:D3:37:LEU:HD13	1.89	0.55
21:CA:1237:C:H4'	21:CA:1334:G:H21	1.71	0.55
38:BS:13:ARG:O	38:BS:15:ARG:N	2.39	0.55
35:DP:122:PRO:HG3	35:DP:141:ALA:HB3	1.87	0.55
37:DR:13:HIS:O	37:DR:16:HIS:N	2.39	0.55
59:DA:1336:A:H2'	59:DA:1337:G:H8	1.72	0.55
21:CA:112:G:N2	21:CA:315:A:N1	2.54	0.55
20:AY:515:GLU:O	20:AY:564:LYS:N	2.33	0.55
56:B1:16:ASN:HB3	59:BA:381:G:C5'	2.37	0.55
34:BO:98:VAL:HG22	34:BO:117:LEU:HD22	1.87	0.55
59:BA:2828:C:H2'	59:BA:2829:C:C6	2.41	0.55
59:DA:860:U:H2'	59:DA:861:A:C8	2.42	0.55
25:BC:76:LEU:HD11	25:BC:100:ILE:HG21	1.89	0.55
37:BR:24:GLN:O	37:BR:28:LEU:HB2	2.06	0.55
37:BR:28:LEU:HG	37:BR:34:ILE:HD13	1.89	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:AY:191:ASP:O	20:AY:266:ASN:N	2.40	0.55
27:BE:105:THR:HB	27:BE:197:ILE:HG12	1.88	0.55
1:CB:111:ARG:HE	1:CB:145:LEU:HD21	1.71	0.55
1:CB:145:LEU:HD12	1:CB:149:LEU:HD12	1.87	0.55
27:BE:140:SER:HB2	59:BA:2578:G:C5	2.42	0.55
59:BA:270(N):U:H4'	59:BA:270(O):G:H5'	1.87	0.55
27:BE:150:VAL:HG21	59:BA:2618:G:H21	1.71	0.55
21:AA:1118:C:H2'	21:AA:1119:C:H6	1.70	0.55
21:AA:404:U:H2'	21:AA:405:U:H6	1.70	0.55
53:B9:2:LYS:HD2	59:BA:2526:G:O2'	2.07	0.55
39:BT:70:VAL:HG12	39:BT:71:GLY:H	1.72	0.55
59:DA:676:A:H8	59:DA:2069:G:H21	1.54	0.55
3:CD:103:ASN:HA	3:CD:106:TYR:HB3	1.88	0.55
26:DD:130:ALA:HB1	26:DD:190:TYR:HD2	1.71	0.55
26:DD:244:ARG:HB2	59:DA:1902:C:O2'	2.06	0.55
28:BF:6:VAL:HG21	28:BF:9:ILE:HG12	1.88	0.55
32:DK:133:SER:HB3	59:DA:1088:A:H62	1.71	0.55
59:DA:1542:G:OP2	59:DA:1543:A:H5'	2.07	0.55
21:AA:1356:G:H2'	21:AA:1357:A:C8	2.42	0.55
6:AG:78:ARG:HD3	6:AG:85:TYR:HD1	1.71	0.55
42:DW:80:PRO:O	42:DW:81:ALA:HB2	2.07	0.55
37:BR:22:ARG:HH11	37:BR:69:ASP:HA	1.72	0.55
28:BF:45:ARG:HD3	28:BF:97:TYR:HD2	1.71	0.55
59:DA:2788:C:H2'	59:DA:2789:C:C6	2.42	0.55
20:CY:616:TYR:HB3	20:CY:663:THR:HA	1.89	0.55
59:DA:198:C:H4'	59:DA:2243:U:H4'	1.87	0.55
29:BG:171:ALA:O	29:BG:175:LEU:HG	2.07	0.55
45:DZ:30:ASN:ND2	45:DZ:90:VAL:O	2.40	0.55
59:BA:1494:A:H4'	59:BA:1496:A:N1	2.22	0.55
21:AA:1421:G:H2'	21:AA:1422:G:O4'	2.07	0.55
3:CD:61:LYS:HD3	3:CD:75:PHE:HE2	1.72	0.55
36:DQ:19:GLY:O	45:DZ:79:ARG:HD3	2.07	0.55
56:D1:6:GLU:HG3	56:D1:61:ARG:HB2	1.89	0.55
13:CN:19:ARG:HG2	21:CA:980:C:H1'	1.87	0.55
26:DD:172:TYR:CD1	26:DD:184:LYS:HB3	2.42	0.55
21:CA:1350:A:H2'	21:CA:1351:U:C6	2.42	0.55
51:D7:5:TRP:HD1	59:DA:1612:C:H5''	1.71	0.55
35:BP:86:LYS:HD3	35:BP:119:GLU:H	1.72	0.55
21:CA:56:U:O4	21:CA:356:A:N1	2.40	0.55
35:DP:95:VAL:HA	35:DP:99:LEU:HD23	1.88	0.55
26:DD:160:GLY:HA3	26:DD:199:ALA:HB2	1.88	0.55
19:AT:10:LEU:HG	19:AT:11:SER:H	1.72	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:AY:77:HIS:CE1	20:AY:277:VAL:HG21	2.42	0.55
59:BA:307:G:H21	59:BA:330:A:N6	2.05	0.55
26:BD:244:ARG:NH2	59:BA:1841:U:H1'	2.21	0.55
25:DC:11:LEU:HD13	25:DC:221:PRO:HD3	1.89	0.55
28:BF:154:VAL:O	28:BF:156:LEU:N	2.39	0.55
21:CA:1422:G:H1	21:CA:1478:C:H42	1.55	0.55
4:AE:35:GLY:N	4:AE:112:LEU:HD12	2.22	0.55
26:BD:8:PRO:HB2	59:BA:1695:G:C8	2.42	0.55
3:CD:33:MET:O	3:CD:35:ARG:N	2.37	0.55
59:DA:2241:A:H2'	59:DA:2242:G:C8	2.42	0.55
18:CS:36:ARG:HH22	18:CS:75:ALA:HB3	1.72	0.55
28:DF:155:LEU:HD12	28:DF:176:LEU:HB3	1.89	0.55
11:AL:113:ARG:NE	11:AL:115:LYS:HB3	2.22	0.55
9:AJ:39:PRO:HB3	9:AJ:70:ARG:NH2	2.20	0.55
20:AY:249:GLY:HA3	20:AY:255:ILE:HD12	1.88	0.55
59:BA:1335:U:H2'	59:BA:1336:A:C8	2.42	0.55
12:AM:28:ALA:CB	21:AA:1328:C:H5''	2.37	0.55
59:DA:1434:A:H61	59:DA:1558:A:H62	1.55	0.55
26:BD:165:ILE:O	26:BD:175:LEU:HA	2.06	0.55
60:BB:18:G:H2'	60:BB:19:G:H8	1.71	0.55
12:AM:108:ARG:HE	12:AM:114:ARG:HG3	1.72	0.55
37:BR:40:LYS:O	37:BR:44:LEU:HB2	2.07	0.55
40:DU:25:TRP:CD1	40:DU:26:GLY:N	2.74	0.55
37:DR:88:ARG:NH2	37:DR:89:ASP:OD2	2.40	0.55
30:DH:127:GLU:O	30:DH:129:THR:N	2.31	0.55
12:CM:105:THR:O	12:CM:114:ARG:NH1	2.40	0.55
38:DS:109:GLY:OXT	59:DA:2376:A:O2'	2.20	0.55
29:DG:60:LEU:O	29:DG:63:ILE:HG12	2.07	0.55
59:BA:473:G:H5''	59:BA:508:G:N2	2.20	0.55
52:D8:61:LEU:HD11	59:DA:593:G:O2'	2.07	0.55
59:BA:273(G):C:N3	59:BA:363(A):G:N2	2.52	0.54
40:DU:62:ILE:HD12	40:DU:76:TYR:HE1	1.70	0.54
31:BJ:25:UNK:CA	31:BJ:80:UNK:HA	2.35	0.54
25:DC:88:GLU:HG3	25:DC:95:VAL:HG21	1.88	0.54
28:DF:188:ARG:HG3	28:DF:189:THR:HG23	1.90	0.54
20:AY:136:ALA:O	20:AY:139:MET:HG2	2.07	0.54
21:CA:835:U:H2'	21:CA:836:G:H8	1.72	0.54
34:DO:64:ARG:O	34:DO:82:ASN:HA	2.07	0.54
6:CG:72:ARG:O	6:CG:91:VAL:N	2.40	0.54
39:BT:19:LEU:HD13	39:BT:85:LYS:HD2	1.88	0.54
59:BA:2683:C:N4	59:BA:2727:G:O2'	2.39	0.54
59:DA:2853:C:H2'	59:DA:2854:G:C8	2.42	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:AA:1235:U:H2'	21:AA:1236:A:O4'	2.06	0.54
20:CY:438:PHE:HB2	20:CY:452:SER:O	2.06	0.54
21:CA:781:A:N6	21:CA:802:A:H1'	2.22	0.54
50:D6:37:ARG:NH2	59:DA:2286:A:N7	2.55	0.54
27:DE:72:VAL:HG12	27:DE:73:GLU:H	1.71	0.54
33:DN:85:ILE:HG21	33:DN:90:MET:HE3	1.89	0.54
26:BD:263:ARG:HG2	59:BA:2227:A:H5'	1.88	0.54
10:CK:117:ASN:OD1	21:CA:716:A:O2'	2.25	0.54
22:CW:43:G:H2'	22:CW:44:G:H8	1.72	0.54
59:BA:2089:U:H2'	59:BA:2090:G:C8	2.41	0.54
9:AJ:57:LYS:HE3	21:AA:972:C:OP2	2.06	0.54
33:DN:41:ASP:OD2	40:DU:64:ARG:NH1	2.40	0.54
59:BA:460:A:N6	59:BA:469:G:H21	1.99	0.54
20:CY:134:ALA:HB2	20:CY:258:VAL:HG12	1.90	0.54
39:DT:27:THR:O	39:DT:87:ASP:HB2	2.06	0.54
40:DU:95:LEU:O	40:DU:98:LEU:HB3	2.07	0.54
37:DR:42:LYS:O	37:DR:45:ARG:HG3	2.08	0.54
20:CY:617:MET:HA	20:CY:620:VAL:HG22	1.89	0.54
10:CK:108:ILE:HD13	17:CR:87:ARG:HG2	1.89	0.54
59:DA:2230:G:H2'	59:DA:2231:C:C6	2.42	0.54
21:AA:634:C:H2'	21:AA:635:G:C8	2.41	0.54
21:CA:509:A:N3	21:CA:543:C:O2'	2.34	0.54
17:CR:74:ARG:NH2	17:CR:81:PHE:O	2.40	0.54
1:AB:19:HIS:CG	1:AB:20:GLU:H	2.25	0.54
20:AY:41:LYS:HE2	20:AY:43:GLY:HA3	1.88	0.54
20:AY:38:ARG:O	20:AY:39:ILE:HB	2.07	0.54
33:BN:87:LEU:O	33:BN:91:LEU:HG	2.07	0.54
29:BG:142:PRO:HB2	57:B4:31:ILE:HG12	1.89	0.54
59:BA:1259:G:H2'	59:BA:1260:G:C8	2.42	0.54
21:AA:1062:U:H2'	21:AA:1063:C:C6	2.43	0.54
59:DA:938:G:H2'	59:DA:939:G:C8	2.42	0.54
20:CY:538:TYR:OH	20:CY:577:SER:O	2.19	0.54
21:AA:338:A:O5'	34:BO:97:ARG:NH2	2.41	0.54
20:AY:511:LYS:HD2	20:AY:569:ASP:HB3	1.89	0.54
52:D8:26:LYS:HG2	52:D8:47:LYS:HG3	1.89	0.54
26:DD:140:THR:HG22	26:DD:141:VAL:H	1.71	0.54
5:AF:28:ARG:NH1	5:CF:28:ARG:HD2	2.22	0.54
59:BA:614:U:H4'	59:BA:615:G:OP1	2.07	0.54
26:DD:109:ASP:HB2	26:DD:197:GLY:HA2	1.90	0.54
21:AA:315:A:H4'	21:AA:317:G:OP2	2.08	0.54
21:CA:523:A:H1'	21:CA:527:G:H22	1.71	0.54
1:AB:96:ARG:HG2	21:AA:1100:C:H5	1.72	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:AB:170:GLU:O	1:AB:174:VAL:HG23	2.08	0.54
20:CY:164:MET:HE2	20:CY:259:PHE:CZ	2.41	0.54
8:AI:28:VAL:HG13	8:AI:63:ILE:HB	1.88	0.54
20:AY:106:VAL:HG23	20:AY:132:ARG:HG3	1.90	0.54
20:AY:150:ILE:HG23	20:AY:161:PRO:HG3	1.88	0.54
20:AY:420:ASP:HB3	20:AY:472:VAL:HG12	1.90	0.54
59:BA:380:U:H2'	59:BA:381:G:C8	2.42	0.54
60:DB:81:G:H3'	60:DB:82:G:H8	1.71	0.54
28:BF:68:LYS:HE2	59:BA:2444:G:OP2	2.08	0.54
21:AA:1237:C:H3'	21:AA:1336:C:N4	2.23	0.54
34:BO:105:GLU:N	34:BO:105:GLU:OE1	2.38	0.54
59:DA:1677:A:H2'	59:DA:1678:G:C8	2.43	0.54
59:BA:2689:U:OP2	59:BA:2872:G:N2	2.40	0.54
21:CA:953:G:H2'	21:CA:954:G:O4'	2.08	0.54
10:CK:117:ASN:O	21:CA:716:A:O2'	2.25	0.54
52:D8:28:GLY:N	52:D8:44:LYS:HZ1	2.05	0.54
31:BJ:23:UNK:O	31:BJ:85:UNK:N	2.41	0.54
21:CA:27:G:H2'	21:CA:28:G:H8	1.71	0.54
59:DA:2461:C:H2'	59:DA:2462:U:C6	2.43	0.54
25:BC:51:ASP:O	25:BC:166:ASN:ND2	2.41	0.54
32:BK:131:ALA:HB1	32:BK:136:VAL:HG13	1.87	0.54
33:BN:57:ALA:HB1	33:BN:60:ILE:HD11	1.89	0.54
20:CY:165:GLN:HE21	20:CY:260:LEU:H	1.55	0.54
13:CN:32:SER:OG	21:CA:975:A:O2'	2.25	0.54
42:DW:14:PRO:O	42:DW:16:LYS:N	2.40	0.54
13:AN:29:ARG:HH11	13:AN:31:ARG:HB2	1.71	0.54
44:DY:17:SER:OG	44:DY:18:GLY:N	2.38	0.54
59:BA:454:A:H8	59:BA:454:A:OP1	1.91	0.54
28:DF:183:VAL:O	28:DF:187:VAL:HG23	2.07	0.54
59:BA:610:C:N4	59:BA:618(A):G:H1	2.06	0.54
6:CG:156:TRP:HH2	21:CA:1378:C:N3	2.05	0.54
56:D1:45:ASN:OD1	56:D1:64:ALA:HB2	2.08	0.54
59:BA:1111:A:N3	59:BA:1112:G:H1'	2.23	0.54
59:BA:519:U:H2'	59:BA:520:G:C8	2.42	0.54
40:BU:25:TRP:HD1	40:BU:26:GLY:N	2.05	0.54
12:AM:108:ARG:HH11	12:AM:108:ARG:HA	1.72	0.54
9:CJ:5:ARG:HH21	9:CJ:71:LEU:HD21	1.73	0.54
21:AA:1532:U:HO2'	23:AV:12:A:H61	1.55	0.54
45:BZ:30:ASN:O	45:BZ:32:HIS:N	2.36	0.54
3:CD:135:LEU:HG	21:CA:620:C:N3	2.22	0.54
30:BH:19:VAL:HG23	30:BH:45:VAL:HG23	1.89	0.54
10:AK:43:SER:HB2	10:AK:67:ASP:HB3	1.88	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:AK:67:ASP:O	10:AK:71:LYS:HD3	2.06	0.54
59:BA:1688:U:N3	59:BA:1698:A:N7	2.55	0.54
21:AA:272:C:H2'	21:AA:273:A:H8	1.72	0.54
25:BC:144:GLY:HA3	25:BC:161:ARG:NH2	2.22	0.54
59:DA:1690:A:H2'	59:DA:1691:C:O4'	2.07	0.54
59:BA:734:A:O2'	59:BA:1635:G:H5'	2.06	0.54
21:AA:1009:G:H1	21:AA:1020:U:H3	1.54	0.54
59:BA:1113:U:H2'	59:BA:1114:G:C8	2.43	0.54
21:CA:1493:A:OP1	24:CU:2:DPP:HA	2.07	0.54
39:DT:2:ASN:O	39:DT:4:GLY:N	2.40	0.54
42:DW:20:VAL:HA	49:D5:25:LEU:HD22	1.88	0.54
45:BZ:19:ARG:HH22	60:BB:76:G:H4'	1.73	0.54
39:BT:48:ILE:O	39:BT:49:VAL:O	2.25	0.54
38:DS:95:HIS:O	38:DS:97:ARG:N	2.33	0.54
1:AB:164:VAL:HG13	1:AB:170:GLU:HB2	1.88	0.54
59:BA:712(B):A:H5''	59:BA:2713:A:OP2	2.07	0.54
56:D1:21:ARG:HG3	59:DA:2080:G:H5''	1.89	0.54
1:CB:84:GLU:HG3	1:CB:215:LEU:HB3	1.90	0.54
57:B4:13:ARG:O	57:B4:14:ILE:HG12	2.08	0.54
7:AH:101:PRO:HG3	7:AH:133:LEU:HD11	1.90	0.54
40:BU:98:LEU:O	40:BU:101:ARG:N	2.36	0.54
59:BA:2292:C:H2'	59:BA:2293:C:C6	2.43	0.54
59:DA:2283:C:H2'	59:DA:2284:C:O4'	2.08	0.54
1:CB:196:LEU:HD12	1:CB:197:VAL:HG23	1.89	0.54
45:BZ:72:ARG:HH22	60:BB:104:A:P	2.30	0.54
59:DA:270(W):G:H2'	59:DA:270(X):G:C8	2.42	0.54
41:BV:63:GLY:O	41:BV:93:GLU:N	2.35	0.54
28:BF:197:ASP:OD2	28:BF:198:ALA:N	2.34	0.54
5:AF:24:GLU:OE1	5:CF:28:ARG:NH1	2.41	0.54
44:BY:49:VAL:HA	59:BA:483:A:H4'	1.88	0.54
1:AB:21:ARG:O	1:AB:23:ARG:N	2.41	0.54
5:CF:1:MET:HB2	5:CF:67:MET:O	2.07	0.54
59:BA:2020:A:N1	59:BA:2034:U:O4	2.40	0.54
29:DG:94:LEU:HB3	29:DG:99:MET:HB2	1.90	0.54
35:DP:84:ASN:HA	35:DP:116:GLY:HA3	1.90	0.54
26:BD:210:GLY:HA2	59:BA:764:A:H5'	1.89	0.54
59:DA:1659:U:H3	59:DA:2001:A:H61	1.55	0.54
5:AF:99:ALA:N	17:AR:29:PHE:O	2.39	0.54
59:BA:428:A:H2'	59:BA:429:A:O4'	2.07	0.54
21:AA:627:G:H2'	21:AA:628:G:H8	1.72	0.54
21:AA:27:G:H2'	21:AA:28:G:C8	2.43	0.54
59:DA:1139:G:O2'	59:DA:1143:A:N1	2.36	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:AA:1127:G:H21	21:AA:1147:C:N4	2.06	0.54
13:AN:29:ARG:NH1	21:AA:974:A:OP2	2.40	0.54
32:DK:115:LEU:HD21	32:DK:126:MET:SD	2.48	0.54
25:DC:40:GLU:N	25:DC:218:THR:OG1	2.41	0.54
25:BC:63:VAL:HB	25:BC:164:PHE:CZ	2.42	0.54
28:BF:154:VAL:CB	28:BF:156:LEU:HB2	2.37	0.54
20:CY:163:VAL:HG12	20:CY:164:MET:H	1.73	0.54
12:AM:99:ARG:HB3	12:AM:101:GLN:HG3	1.90	0.54
60:DB:24:G:C2	60:DB:56:G:N2	2.76	0.54
44:DY:28:LYS:HD3	44:DY:37:VAL:HB	1.90	0.54
59:BA:2008:C:H2'	59:BA:2009:G:C8	2.41	0.54
12:AM:91:ARG:NH2	21:AA:1226:C:OP2	2.40	0.54
21:AA:1055:A:H8	21:AA:1055:A:O5'	1.90	0.54
43:BX:10:ALA:HB3	43:BX:29:TRP:HB2	1.89	0.54
18:AS:78:ARG:CZ	21:AA:1225:A:H5'	2.38	0.54
36:DQ:68:ILE:HD13	36:DQ:68:ILE:H	1.72	0.54
59:DA:2350:C:H2'	59:DA:2351:G:O4'	2.08	0.54
59:BA:182:A:N3	59:BA:433:C:O2'	2.31	0.54
59:DA:1407:C:H42	59:DA:1595:G:H1	1.54	0.54
59:BA:2719:G:H21	59:BA:2872:G:H1	1.55	0.54
26:BD:70:TRP:CZ2	26:BD:150:LYS:HA	2.42	0.54
3:CD:98:GLU:O	3:CD:103:ASN:ND2	2.30	0.54
21:CA:1245:A:H61	21:CA:1292:U:H3	1.55	0.54
25:DC:76:LEU:HA	25:DC:93:ASP:O	2.07	0.54
27:BE:131:ALA:HB1	27:BE:133:LYS:HG3	1.89	0.54
32:DK:99:ILE:HG13	32:DK:136:VAL:HG21	1.88	0.54
17:AR:59:SER:OG	17:AR:62:GLU:OE2	2.25	0.54
21:CA:636:U:H2'	21:CA:637:G:H8	1.72	0.54
59:BA:528:A:H2'	59:BA:2042:A:N1	2.22	0.54
26:DD:146:GLU:HA	26:DD:153:ALA:HA	1.88	0.54
30:DH:56:SER:OG	30:DH:57:ASP:N	2.40	0.54
29:BG:39:ILE:HG23	29:BG:157:ILE:HG23	1.90	0.54
27:BE:15:PHE:CD1	39:BT:80:SER:HB3	2.42	0.54
28:BF:123:LEU:H	28:BF:123:LEU:HD23	1.72	0.54
59:BA:618(B):C:H2'	59:BA:619:G:O4'	2.08	0.54
27:DE:61:ARG:CG	27:DE:62:PRO:HD2	2.37	0.54
9:CJ:69:ASN:O	9:CJ:70:ARG:HD2	2.08	0.54
27:DE:12:THR:O	59:DA:2682:U:H1'	2.08	0.54
59:DA:15:G:H2'	59:DA:16:G:H8	1.73	0.54
28:DF:8:GLN:HB2	28:DF:22:ALA:HB2	1.90	0.54
5:CF:90:VAL:O	21:CA:736:C:O2'	2.21	0.54
20:CY:8:ASP:HB3	20:CY:11:ARG:H	1.73	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:AA:729:A:H2'	21:AA:730:G:H8	1.73	0.54
8:AI:113:LYS:HB2	8:AI:119:ALA:HA	1.90	0.54
9:CJ:4:ILE:HD13	9:CJ:74:ILE:HG12	1.89	0.54
45:BZ:144:LEU:HD11	45:BZ:150:LEU:HD22	1.89	0.54
59:DA:1006:C:H2'	59:DA:1007:C:C6	2.43	0.54
21:CA:501:C:H1'	21:CA:549:C:H1'	1.89	0.54
59:BA:1113:U:H2'	59:BA:1114:G:H8	1.72	0.54
21:CA:382:A:H2'	21:CA:383:A:C8	2.42	0.54
9:AJ:44:VAL:HG22	9:AJ:66:ARG:HA	1.90	0.54
59:DA:2522:U:H3	59:DA:2543:G:H1	1.56	0.54
20:CY:475:ASN:O	20:CY:477:GLY:N	2.40	0.54
35:BP:54:GLY:HA3	59:BA:826:U:H1'	1.90	0.54
59:BA:1641:A:H2'	59:BA:1642:G:O4'	2.07	0.54
39:BT:36:GLU:HB3	39:BT:39:ARG:O	2.08	0.54
35:DP:101:VAL:HG12	35:DP:106:LEU:HD22	1.89	0.54
27:DE:36:ARG:HH22	27:DE:86:PRO:HG2	1.73	0.54
59:DA:720:C:H2'	59:DA:721:C:H6	1.72	0.54
59:BA:2886:G:H2'	59:BA:2887:U:C6	2.43	0.54
59:DA:468:G:H2'	59:DA:469:G:O4'	2.08	0.54
28:DF:43:LYS:HA	28:DF:98:SER:HB3	1.90	0.54
40:DU:74:LEU:HD13	40:DU:74:LEU:H	1.71	0.54
18:CS:13:ASP:N	18:CS:13:ASP:OD2	2.34	0.54
45:DZ:34:ASN:ND2	45:DZ:34:ASN:O	2.32	0.54
35:DP:27:HIS:CG	35:DP:28:GLY:N	2.76	0.54
59:DA:2176:A:H2'	59:DA:2177:C:C6	2.43	0.54
35:BP:21:ARG:NH1	59:BA:1192:G:OP2	2.41	0.54
11:CL:45:PRO:HA	11:CL:92:ASP:HB3	1.89	0.54
21:CA:68(P):C:H2'	21:CA:68(Q):U:C6	2.43	0.54
59:DA:681:G:H2'	59:DA:682:G:H8	1.69	0.54
41:BV:4:ILE:HA	41:BV:12:TYR:O	2.08	0.54
28:DF:176:LEU:HG	28:DF:177:ALA:H	1.72	0.54
28:DF:113:ALA:HB1	28:DF:186:ILE:HG21	1.90	0.54
1:CB:167:PRO:HD3	1:CB:188:ALA:HA	1.90	0.54
10:CK:84:VAL:HG11	10:CK:95:ILE:HD11	1.90	0.54
21:CA:263:A:H2'	21:CA:264:U:H6	1.71	0.54
59:BA:271:G:H2'	59:BA:272:G:C8	2.38	0.54
56:B1:18:ILE:HA	56:B1:41:ARG:N	2.22	0.54
59:DA:2111:C:H41	59:DA:2147:G:N2	2.06	0.54
28:DF:25:PRO:HG2	28:DF:119:ARG:HE	1.73	0.54
59:DA:1123:C:H2'	59:DA:1124:C:H6	1.71	0.54
21:AA:1328:C:H2'	21:AA:1329:A:C8	2.41	0.54
27:BE:128:SER:O	27:BE:130:GLY:N	2.41	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
45:BZ:108:PRO:HB3	45:BZ:144:LEU:H	1.73	0.54
9:AJ:34:VAL:HG22	9:AJ:74:ILE:HB	1.90	0.54
33:DN:137:LYS:NZ	33:DN:137:LYS:HB3	2.23	0.54
21:AA:1065:U:H4'	21:AA:1066:C:H5'	1.90	0.54
20:AY:497:PHE:O	20:AY:507:TYR:HB2	2.07	0.54
32:DK:9:LYS:HD3	32:DK:9:LYS:H	1.72	0.54
20:CY:604:PRO:HA	20:CY:676:TYR:HB3	1.89	0.54
26:DD:147:LEU:HB2	26:DD:155:LEU:HD21	1.90	0.54
59:BA:2306:C:H3'	59:BA:2307:G:H8	1.72	0.54
29:DG:11:TYR:OH	29:DG:16:ARG:NH2	2.37	0.54
35:DP:47:ASP:O	59:DA:666:G:H5'	2.07	0.54
21:AA:272:C:H2'	21:AA:273:A:C8	2.43	0.54
4:AE:41:VAL:HG21	4:AE:139:LEU:HD13	1.90	0.54
32:DK:71:THR:HG21	32:DK:114:ASP:HB3	1.89	0.54
59:BA:2345:G:H1'	59:BA:2382:G:H5'	1.90	0.54
27:BE:47:VAL:HG21	27:BE:86:PRO:HD3	1.89	0.54
45:BZ:139:VAL:HG11	45:BZ:155:LEU:HB2	1.90	0.54
6:AG:91:VAL:HB	6:AG:96:GLN:HG2	1.90	0.54
59:BA:2352:A:H2'	59:BA:2353:G:O4'	2.08	0.54
59:BA:503:A:H4'	59:BA:504:U:H5''	1.89	0.54
59:DA:2025:C:H2'	59:DA:2026:C:C6	2.42	0.54
8:CI:13:ALA:HB2	8:CI:68:GLY:HA3	1.90	0.54
59:DA:949:C:C2	59:DA:968:G:N2	2.69	0.54
59:DA:2121:G:N2	59:DA:2177:C:N3	2.47	0.54
59:BA:1148:A:H2'	59:BA:1149:G:C8	2.43	0.54
25:DC:45:HIS:CG	25:DC:173:HIS:CD2	2.96	0.54
59:DA:1782:C:O2	59:DA:2609:U:H5'	2.08	0.54
49:D5:5:PRO:HB2	59:DA:2614:A:H5'	1.90	0.54
30:DH:40:GLU:O	30:DH:41:MET:HB3	2.08	0.54
25:DC:144:GLY:HA3	25:DC:161:ARG:NH2	2.22	0.54
28:BF:42:ALA:HA	28:BF:45:ARG:HG3	1.90	0.54
1:AB:24:TRP:HZ3	1:AB:26:PRO:HA	1.73	0.54
21:CA:977:A:O2'	21:CA:981:U:N3	2.37	0.54
27:DE:143:ASN:HB3	27:DE:147:PRO:HD2	1.88	0.54
59:BA:198:C:H4'	59:BA:2243:U:H4'	1.89	0.54
11:AL:32:PHE:HB3	11:AL:84:LEU:HG	1.90	0.54
26:BD:88:ARG:HB3	59:BA:1817:G:H5''	1.88	0.54
46:D0:27:GLU:HA	46:D0:67:VAL:HB	1.90	0.54
59:DA:198:C:H2'	59:DA:199:A:H5''	1.89	0.54
59:DA:872:A:N1	59:DA:905:U:O2	2.41	0.54
34:DO:64:ARG:NH2	34:DO:100:GLY:HA3	2.23	0.54
16:CQ:57:VAL:HG12	16:CQ:76:LEU:HA	1.89	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:AR:40:LEU:HD12	17:AR:70:ILE:HG12	1.90	0.54
20:AY:145:ASP:OD2	20:AY:148:LEU:N	2.40	0.54
59:BA:822:U:C5	59:BA:944:G:H1'	2.43	0.54
30:DH:158:HIS:CG	30:DH:159:GLU:H	2.26	0.54
33:BN:129:PRO:O	33:BN:131:GLN:N	2.41	0.54
59:DA:964:C:O2'	59:DA:2273:A:N3	2.41	0.54
59:DA:1165:U:H2'	59:DA:1166:C:C6	2.43	0.54
45:BZ:99:TYR:HB3	45:BZ:123:ASP:HB2	1.89	0.54
59:BA:1856:G:H2'	59:BA:1857:G:O4'	2.07	0.54
56:B1:53:VAL:HG22	56:B1:74:VAL:HG13	1.90	0.54
12:CM:8:GLU:OE1	12:CM:22:ILE:HG23	2.07	0.54
30:DH:119:GLU:O	30:DH:140:LYS:NZ	2.29	0.54
25:BC:78:ILE:HG13	25:BC:101:ILE:HD13	1.89	0.54
49:B5:15:ARG:HH11	49:B5:15:ARG:HA	1.72	0.54
27:BE:54:GLN:HB2	27:BE:75:VAL:HB	1.88	0.54
21:CA:1483:A:HO2'	59:DA:1947:C:HO2'	1.55	0.54
59:BA:1999:C:H5''	59:BA:2723:C:O2'	2.07	0.54
21:CA:1496:C:H2'	21:CA:1497:G:O4'	2.08	0.54
59:DA:883:G:H2'	59:DA:884:C:C6	2.43	0.54
22:AW:63:C:H2'	22:AW:64:G:H8	1.73	0.54
31:BJ:25:UNK:C	31:BJ:111:UNK:HA	2.38	0.54
11:AL:113:ARG:NH2	11:AL:116:SER:OG	2.40	0.54
21:AA:255:G:H2'	21:AA:256:U:C6	2.43	0.54
59:BA:1654:A:N1	59:BA:2048:G:O2'	2.37	0.54
18:AS:82:GLY:HA3	21:AA:1226:C:H4'	1.90	0.54
56:B1:76:ARG:HH12	56:B1:95:LEU:HD22	1.73	0.54
20:AY:457:LEU:HD13	59:BA:2662:A:H4'	1.89	0.54
21:AA:232:G:H2'	21:AA:233:C:H5'	1.89	0.54
59:DA:2212:A:H1'	59:DA:2215:G:C4	2.43	0.54
19:AT:78:ALA:HA	19:AT:81:LYS:HD3	1.90	0.54
26:DD:134:ARG:HG3	26:DD:135:PHE:CD1	2.42	0.54
9:CJ:24:VAL:HG21	9:CJ:37:PRO:HG3	1.89	0.54
59:DA:2712:U:H1'	59:DA:712(B):A:C8	2.43	0.54
21:CA:672:U:H2'	21:CA:673:G:H8	1.73	0.54
1:AB:162:ILE:HG23	1:AB:185:ILE:O	2.08	0.54
36:DQ:36:ALA:HA	36:DQ:129:THR:HG22	1.90	0.54
19:AT:102:GLY:C	19:AT:104:LEU:H	2.10	0.54
52:B8:33:ASN:ND2	59:BA:2419:U:O5'	2.40	0.54
28:DF:72:ARG:HD2	28:DF:73:ALA:H	1.73	0.54
21:AA:287:U:H2'	21:AA:288:A:H8	1.73	0.54
60:DB:60:C:H2'	60:DB:61:G:H8	1.73	0.54
59:BA:1698:A:H5'	59:BA:1700:A:O2'	2.07	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:2375:G:C2	59:BA:2377:A:H5''	2.43	0.54
1:AB:34:ALA:HA	1:AB:36:ARG:NH1	2.23	0.54
32:DK:100:THR:HG22	32:DK:139:VAL:HB	1.89	0.54
21:AA:1476:G:H2'	21:AA:1477:C:C6	2.43	0.54
21:CA:533:A:O2'	21:CA:536:C:N4	2.40	0.54
21:CA:979:C:OP1	21:CA:1223:C:N4	2.41	0.54
59:BA:745:G:O2'	59:BA:750:A:N6	2.40	0.54
59:BA:1428:C:N4	59:BA:1570:A:OP2	2.37	0.54
21:CA:1218:C:H2'	21:CA:1219:U:C6	2.43	0.54
59:BA:1769:G:O2'	59:BA:1958:C:OP1	2.26	0.54
36:DQ:69:PHE:CE2	36:DQ:71:ASP:HB3	2.42	0.54
46:B0:71:ASP:OD1	46:B0:71:ASP:N	2.41	0.54
20:CY:139:MET:SD	20:CY:144:ALA:HB1	2.48	0.53
33:BN:66:LYS:HE3	59:BA:1022:G:O6	2.08	0.53
33:DN:67:LEU:HA	33:DN:87:LEU:HD12	1.89	0.53
21:CA:68(H):G:H21	21:CA:68(S):C:H41	1.52	0.53
38:BS:11:LYS:HD2	38:BS:13:ARG:HD3	1.89	0.53
60:BB:60:C:H2'	60:BB:61:G:C8	2.43	0.53
33:DN:42:TRP:N	40:DU:64:ARG:NE	2.56	0.53
46:B0:11:ARG:O	46:B0:14:ARG:NH2	2.41	0.53
59:DA:26:G:H1'	59:DA:515:A:H61	1.74	0.53
26:DD:79:VAL:HG12	26:DD:80:ALA:N	2.23	0.53
25:DC:162:ILE:HG21	25:DC:193:PHE:CE1	2.39	0.53
10:CK:108:ILE:HG21	17:CR:88:LYS:H	1.71	0.53
56:B1:16:ASN:ND2	59:BA:381:G:OP1	2.41	0.53
40:BU:92:ARG:HG2	40:BU:95:LEU:H	1.73	0.53
59:BA:858:U:O2	59:BA:2268:A:H2'	2.08	0.53
27:BE:2:LYS:H	27:BE:200:GLU:HB3	1.72	0.53
27:DE:5:LEU:HB2	27:DE:31:CYS:SG	2.47	0.53
59:BA:2336:A:H3'	59:BA:2337:G:H8	1.72	0.53
37:BR:90:ARG:NH1	59:BA:2880:C:O2'	2.39	0.53
26:DD:227:ASN:OD1	26:DD:230:ASP:HB2	2.08	0.53
21:AA:143:A:H5'	21:AA:196:A:N1	2.23	0.53
18:AS:41:VAL:HG22	18:AS:44:MET:HG3	1.89	0.53
21:CA:166:G:H2'	21:CA:167:G:C8	2.44	0.53
7:CH:1:MET:HB2	21:CA:824:C:H4'	1.90	0.53
59:DA:176:G:H3'	59:DA:177:G:N2	2.23	0.53
7:CH:121:ASP:OD2	7:CH:122:ARG:N	2.35	0.53
48:B3:30:ARG:HH12	59:BA:1159:U:P	2.30	0.53
59:BA:1065:U:H3'	59:BA:1066:U:H6	1.74	0.53
15:AP:8:ARG:HH12	21:AA:391:G:H5''	1.73	0.53
22:CW:37:A:C2	23:CV:16:A:C4	2.94	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:CY:138:LYS:HE2	61:CY:701:GNP:N3	2.19	0.53
20:CY:24:GLY:CA	61:CY:701:GNP:H8	2.39	0.53
33:BN:7:LYS:NZ	33:BN:7:LYS:N	2.56	0.53
11:AL:89:ARG:O	11:AL:90:VAL:HG13	2.08	0.53
59:DA:20:C:H2'	59:DA:21:A:H8	1.71	0.53
9:AJ:54:PHE:O	9:AJ:56:HIS:N	2.40	0.53
59:DA:1784:A:H4'	59:DA:1785:A:H5''	1.88	0.53
25:DC:131:ILE:HG12	25:DC:132:LEU:HD23	1.90	0.53
59:DA:1337:G:H2'	59:DA:1338:G:O4'	2.08	0.53
40:BU:83:LEU:HD13	40:BU:113:ALA:HB2	1.90	0.53
39:DT:23:ARG:HH11	39:DT:120:ARG:HH11	1.57	0.53
29:BG:25:TYR:OH	29:BG:168:GLU:OE1	2.26	0.53
59:BA:1985:G:C2	59:BA:1986:A:C8	2.97	0.53
35:DP:111:ARG:HB3	35:DP:128:HIS:CG	2.43	0.53
21:CA:329:A:C5	21:CA:332:G:C6	2.96	0.53
21:AA:1216:G:H2'	21:AA:1217:C:H6	1.74	0.53
59:BA:216:A:H2'	59:BA:217:G:O4'	2.08	0.53
10:AK:124:LYS:HE2	21:AA:692:U:OP1	2.08	0.53
21:AA:297:G:N2	21:AA:300:A:OP2	2.34	0.53
35:DP:65:ARG:HH22	52:D8:15:LYS:HB2	1.73	0.53
3:AD:86:LYS:NZ	3:AD:89:THR:HG23	2.23	0.53
59:DA:88:G:H2'	59:DA:89:G:C8	2.43	0.53
21:AA:1427:U:H2'	21:AA:1428:A:H8	1.73	0.53
46:D0:47:PRO:HG3	46:D0:53:MET:HB2	1.90	0.53
14:CO:12:ILE:HG21	14:CO:22:THR:HG22	1.90	0.53
41:DV:58:VAL:HB	41:DV:98:GLU:HG3	1.89	0.53
20:AY:302:HIS:O	20:AY:332:SER:OG	2.23	0.53
12:CM:80:ARG:HA	12:CM:83:ASP:OD1	2.08	0.53
6:AG:80:VAL:O	6:AG:82:GLY:N	2.40	0.53
21:CA:1440(E):G:H1	21:CA:1440(N):C:H42	1.55	0.53
21:CA:729:A:H2'	21:CA:730:G:H8	1.71	0.53
34:BO:15:GLY:HA2	34:BO:47:ILE:HD12	1.90	0.53
21:CA:1016:A:H8	21:CA:1016:A:O5'	1.91	0.53
7:CH:91:ARG:NH2	21:CA:564:C:O2'	2.41	0.53
21:CA:762:C:H2'	21:CA:763:G:C8	2.43	0.53
9:AJ:55:LYS:H	9:AJ:55:LYS:HE3	1.73	0.53
29:BG:170:ARG:HH12	29:BG:182:LYS:HG2	1.74	0.53
38:BS:51:ALA:HB1	38:BS:69:VAL:HG22	1.90	0.53
2:AC:8:ILE:HD12	2:AC:16:ARG:CZ	2.38	0.53
28:DF:7:TYR:CZ	28:DF:10:PRO:HD3	2.44	0.53
21:AA:266:G:O2'	21:AA:268:C:OP2	2.17	0.53
3:AD:173:TRP:HA	3:AD:186:LEU:HD12	1.89	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:1487:G:H2'	59:DA:1488:G:H8	1.73	0.53
2:AC:17:ASP:HB3	2:AC:21:ARG:NH1	2.24	0.53
21:CA:828:A:H2'	21:CA:829:G:O4'	2.08	0.53
59:BA:388:G:H5'	59:BA:389:G:OP2	2.08	0.53
43:BX:55:ASN:ND2	59:BA:1398:C:OP1	2.36	0.53
43:BX:55:ASN:HB2	43:BX:80:ILE:HG12	1.90	0.53
10:AK:120:ARG:HH22	21:AA:1525:G:P	2.31	0.53
59:DA:2784:C:H2'	59:DA:2785:C:C6	2.44	0.53
22:AW:23:A:H2'	22:AW:24:G:C8	2.43	0.53
20:AY:684:GLN:O	20:AY:688:ILE:HG12	2.08	0.53
59:BA:2851:A:H2'	59:BA:2852:G:O4'	2.08	0.53
59:DA:2708:G:H2'	59:DA:2709:G:C8	2.43	0.53
39:BT:84:GLN:O	39:BT:86:ILE:N	2.42	0.53
59:DA:322:A:O4'	59:DA:340:A:H1'	2.07	0.53
52:D8:32:LEU:HD12	52:D8:36:LYS:HG2	1.90	0.53
21:AA:192:U:H2'	21:AA:193:C:C6	2.43	0.53
52:B8:16:ILE:HG22	52:B8:22:VAL:HG22	1.90	0.53
45:BZ:89:PHE:CE2	60:BB:104:A:H4'	2.43	0.53
59:BA:2556:C:H2'	59:BA:2557:G:O4'	2.08	0.53
59:BA:1462:C:H4'	59:BA:2703:C:H5'	1.90	0.53
59:DA:2604:U:H2'	59:DA:2605:U:C6	2.43	0.53
22:AW:57:G:N3	22:AW:57:G:H2'	2.22	0.53
6:AG:63:LYS:O	6:AG:67:GLU:HB3	2.09	0.53
7:AH:107:LEU:H	7:AH:107:LEU:HD23	1.74	0.53
59:BA:922:U:H2'	59:BA:923:C:C6	2.43	0.53
59:BA:655:A:H2'	59:BA:656:G:O4'	2.07	0.53
19:CT:105:SER:HB3	21:CA:186(P):U:O2	2.09	0.53
59:DA:2471:C:N4	59:DA:2476:A:O2'	2.40	0.53
30:BH:118:PRO:HG2	30:BH:121:ILE:HD11	1.89	0.53
59:BA:1757:U:H5'	59:BA:1758:G:H5''	1.90	0.53
59:BA:482:A:H1'	59:BA:498:G:N2	2.23	0.53
36:DQ:32:TYR:HB2	36:DQ:106:VAL:HG23	1.91	0.53
59:DA:2208:U:H3	59:DA:2216:G:H1	1.56	0.53
21:CA:1008:C:H42	21:CA:1021:G:H1	1.55	0.53
20:CY:31:ARG:HA	20:CY:33:LEU:HB2	1.90	0.53
25:BC:41:THR:O	25:BC:42:VAL:HB	2.08	0.53
21:AA:950:U:H2'	21:AA:951:G:H8	1.72	0.53
26:BD:79:VAL:HG12	26:BD:80:ALA:N	2.20	0.53
21:CA:406:G:H2'	21:CA:407:G:H8	1.74	0.53
59:BA:984:A:H5''	59:BA:985:C:H5	1.73	0.53
49:D5:40:LYS:HE2	49:D5:46:CYS:HB2	1.91	0.53
59:BA:2047:U:H2'	59:BA:2048:G:H8	1.71	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:AY:20:HIS:CD2	20:AY:21:ILE:HG23	2.44	0.53
39:BT:89:VAL:HG12	39:BT:91:ARG:HG3	1.91	0.53
21:CA:1309:G:H2'	21:CA:1310:G:H8	1.73	0.53
21:CA:1306:A:H1'	21:CA:1332:A:N1	2.24	0.53
46:D0:11:ARG:HH22	59:DA:2278:A:H3'	1.73	0.53
28:BF:89:VAL:HG21	59:BA:586:A:H5'	1.89	0.53
26:DD:63:ARG:NH2	59:DA:1568:G:OP2	2.40	0.53
46:D0:36:ILE:HA	46:D0:60:PHE:HA	1.89	0.53
12:CM:39:ILE:HG13	12:CM:52:GLU:HB3	1.91	0.53
50:B6:23:THR:O	50:B6:23:THR:OG1	2.22	0.53
10:AK:42:TRP:HE1	21:AA:686:U:H4'	1.74	0.53
4:AE:79:GLU:HB2	4:AE:92:LYS:HA	1.90	0.53
4:AE:137:GLU:HA	4:AE:140:ARG:HB3	1.91	0.53
59:DA:2529:G:OP2	59:DA:2530:A:H8	1.91	0.53
59:BA:1175:U:H5	59:BA:1177:A:C6	2.26	0.53
59:BA:49:A:H5''	59:BA:51:G:O4'	2.08	0.53
19:CT:86:ARG:HG3	21:CA:186(A):C:H5''	1.89	0.53
59:BA:735:A:N6	59:BA:761:A:O2'	2.41	0.53
5:AF:38:GLU:HB2	5:AF:64:GLN:HB3	1.90	0.53
59:BA:2182:G:H2'	59:BA:2183:C:H6	1.72	0.53
20:AY:35:TYR:CD1	20:AY:36:THR:N	2.77	0.53
59:DA:813:U:H2'	59:DA:814:C:C6	2.42	0.53
11:AL:86:ARG:HH21	11:AL:99:HIS:CG	2.27	0.53
21:CA:1127:G:N2	21:CA:1145:C:C2	2.74	0.53
15:CP:6:LEU:HD23	15:CP:17:TYR:CG	2.43	0.53
11:CL:90:VAL:HG23	11:CL:92:ASP:OD1	2.08	0.53
39:BT:49:VAL:CA	39:BT:63:VAL:HA	2.31	0.53
59:DA:1058:G:H2'	59:DA:1059:G:C8	2.43	0.53
32:DK:130:SER:OG	59:DA:1059:G:N2	2.24	0.53
59:DA:817:C:N4	59:DA:1190:G:H1	2.01	0.53
25:BC:47:LYS:HD3	25:BC:169:THR:O	2.08	0.53
36:BQ:77:LYS:HG2	36:BQ:88:GLY:HA2	1.91	0.53
32:BK:56:GLU:O	32:BK:67:PHE:HA	2.07	0.53
11:CL:39:VAL:HB	11:CL:55:VAL:HG11	1.88	0.53
21:CA:263:A:H2'	21:CA:264:U:C6	2.44	0.53
36:DQ:135:ASP:C	36:DQ:137:TYR:H	2.11	0.53
20:AY:560:VAL:HG12	20:AY:563:ILE:HD11	1.89	0.53
8:CI:112:LYS:HG3	8:CI:117:HIS:O	2.08	0.53
35:BP:71:VAL:HG12	59:BA:389:G:H1	1.73	0.53
43:BX:12:VAL:HA	43:BX:29:TRP:NE1	2.23	0.53
59:BA:16:G:H2'	59:BA:17:G:H8	1.72	0.53
48:B3:40:THR:O	48:B3:42:ALA:N	2.42	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:AY:314:PHE:HE2	20:AY:329:ARG:HB3	1.72	0.53
4:AE:77:PRO:HB3	4:AE:144:THR:HG22	1.90	0.53
21:CA:1328:C:H2'	21:CA:1329:A:C8	2.44	0.53
59:DA:628:G:H2'	59:DA:629:G:H8	1.73	0.53
60:DB:8:U:H2'	60:DB:9:G:H8	1.73	0.53
59:DA:1494:A:O2'	59:DA:1496:A:OP2	2.25	0.53
21:CA:612:C:H42	21:CA:628:G:H1	1.57	0.53
21:CA:17:U:H2'	21:CA:18:C:C6	2.44	0.53
59:BA:1839:G:H2'	59:BA:1840:G:C8	2.44	0.53
4:AE:36:ASP:O	4:AE:38:GLN:N	2.40	0.53
59:BA:2428:G:H5''	59:BA:2429:G:O5'	2.09	0.53
39:DT:38:ASN:N	39:DT:38:ASN:OD1	2.41	0.53
39:BT:16:ARG:HB2	39:BT:79:HIS:ND1	2.23	0.53
38:DS:59:LYS:HB3	38:DS:65:VAL:HG22	1.89	0.53
26:BD:161:THR:HG21	59:BA:1819:A:OP1	2.09	0.53
59:BA:134:C:H42	59:BA:145:G:H1	1.57	0.53
20:CY:24:GLY:HA3	61:CY:701:GNP:C8	2.38	0.53
21:AA:1391:U:H2'	21:AA:1392:G:C8	2.42	0.53
35:BP:23:PRO:HB2	35:BP:33:ARG:HG3	1.91	0.53
36:BQ:76:LYS:NZ	36:BQ:77:LYS:O	2.35	0.53
41:BV:38:LEU:O	41:BV:39:LEU:HD13	2.09	0.53
21:AA:68(N):U:H5''	21:AA:68(O):A:OP2	2.08	0.53
59:DA:2505:G:O6	59:DA:2610:C:O2	2.26	0.53
59:BA:149(B):A:H2	59:BA:1530:G:H1'	1.73	0.53
7:CH:49:GLU:OE2	7:CH:62:TYR:OH	2.16	0.53
59:DA:2773:C:H2'	59:DA:2774:C:H6	1.72	0.53
59:DA:2886:G:H2'	59:DA:2887:U:H6	1.73	0.53
21:AA:866:C:C4	21:AA:867:G:H1'	2.44	0.53
42:BW:78:GLU:HG2	42:BW:79:GLY:O	2.09	0.53
2:CC:199:LYS:NZ	21:CA:1059:C:OP2	2.41	0.53
21:AA:810:C:H2'	21:AA:811:C:H6	1.72	0.53
34:BO:77:ILE:HD13	39:BT:74:ARG:HG2	1.89	0.53
1:CB:57:PHE:CE2	1:CB:185:ILE:HD11	2.44	0.53
25:DC:186:LEU:O	25:DC:190:ILE:HG12	2.08	0.53
17:CR:74:ARG:HE	17:CR:81:PHE:HA	1.73	0.53
43:DX:49:VAL:HB	43:DX:83:VAL:HG11	1.91	0.53
20:AY:546:ILE:HA	20:AY:590:ILE:HG13	1.91	0.53
45:DZ:75:ASN:OD1	60:DB:75:G:N2	2.41	0.53
26:DD:155:LEU:HD22	26:DD:155:LEU:H	1.74	0.53
59:BA:740:U:H2'	59:BA:741:G:C8	2.43	0.53
20:CY:438:PHE:CE1	20:CY:462:ILE:HG13	2.44	0.53
29:DG:130:ASN:ND2	29:DG:160:VAL:HG13	2.23	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:CY:394:ALA:O	20:CY:396:ARG:N	2.41	0.53
40:BU:20:LEU:HB3	40:BU:39:LEU:HD11	1.90	0.53
2:CC:150:LYS:HD2	2:CC:167:TRP:HE1	1.74	0.53
56:D1:49:VAL:O	56:D1:60:PHE:HB2	2.08	0.53
27:BE:104:VAL:HG23	27:BE:170:LEU:HD13	1.91	0.53
45:BZ:25:PRO:HA	45:BZ:38:TYR:CB	2.39	0.53
38:BS:35:ILE:HD13	38:BS:66:ALA:HB2	1.90	0.53
16:CQ:27:PHE:HD2	16:CQ:36:ILE:HD11	1.74	0.53
20:CY:276:VAL:O	20:CY:280:LEU:HB2	2.09	0.53
38:BS:39:ILE:HB	38:BS:49:VAL:H	1.73	0.53
60:BB:81:G:O6	60:BB:95:U:C2	2.61	0.53
10:CK:18:ARG:HA	10:CK:81:ASP:H	1.73	0.53
52:B8:60:LEU:HD12	52:B8:61:LEU:N	2.23	0.53
21:AA:1070:U:H2'	21:AA:1071:C:C6	2.44	0.53
30:BH:137:ASP:O	30:BH:141:VAL:HG23	2.08	0.53
21:AA:1360:A:H2'	21:AA:1361:G:O4'	2.08	0.53
9:AJ:13:HIS:HA	9:AJ:16:LEU:HD12	1.89	0.53
32:BK:126:MET:HE1	59:BA:1059:G:H1'	1.90	0.53
32:BK:130:SER:CB	59:BA:1059:G:H21	2.21	0.53
10:CK:108:ILE:HB	17:CR:87:ARG:H	1.71	0.53
20:CY:206:LEU:O	20:CY:210:ARG:NH1	2.42	0.53
12:CM:125:ARG:O	21:CA:966:G:H5'	2.09	0.53
12:AM:16:ASP:HA	12:AM:34:LEU:HD11	1.91	0.53
36:BQ:27:VAL:HG21	36:BQ:133:ARG:O	2.09	0.53
21:AA:574:A:HO2'	21:AA:882:C:HO2'	1.57	0.53
9:CJ:45:ARG:NH1	21:CA:1255:G:OP1	2.41	0.53
28:BF:38:ARG:NH1	59:BA:660:G:O3'	2.37	0.53
21:CA:1493:A:OP2	21:CA:1493:A:H8	1.92	0.53
59:BA:1569:A:H2'	59:BA:1570:A:C8	2.43	0.53
59:BA:1065:U:H3'	59:BA:1066:U:C6	2.44	0.53
11:AL:17:LYS:HE2	11:AL:18:VAL:HG22	1.91	0.53
21:AA:669:U:H2'	21:AA:670:G:C8	2.43	0.53
59:DA:1669:A:C2	59:DA:1994:C:H1'	2.42	0.53
4:AE:101:ILE:HG13	4:AE:101:ILE:O	2.09	0.53
59:BA:27:G:N1	59:BA:512:G:O2'	2.41	0.53
59:BA:2734:A:H62	59:BA:2770:G:H21	1.57	0.53
26:DD:42:GLY:O	26:DD:43:ARG:HG3	2.08	0.53
20:AY:63:ILE:HG13	61:AY:701:GNP:O1G	2.07	0.53
59:BA:862:G:H2'	59:BA:863:A:O4'	2.09	0.53
25:DC:11:LEU:HD23	25:DC:14:LYS:HG3	1.91	0.53
36:BQ:42:ILE:HD11	36:BQ:95:ALA:HB3	1.90	0.53
20:AY:59:ARG:HD3	20:AY:65:ILE:N	2.23	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:BG:78:SER:HA	29:BG:83:ARG:HE	1.74	0.53
4:AE:27:ARG:NH1	21:AA:1071:C:OP1	2.42	0.53
4:CE:19:MET:O	21:CA:921:U:O2'	2.23	0.53
28:DF:108:LYS:NZ	59:DA:601:C:OP1	2.41	0.53
40:BU:49:HIS:HA	40:BU:52:ARG:HB3	1.91	0.53
46:B0:47:PRO:HG3	46:B0:53:MET:HB2	1.90	0.53
59:DA:1806:C:N4	59:DA:1811:G:H1	2.05	0.53
59:BA:1851:U:H2'	59:BA:1852:C:C6	2.44	0.53
12:AM:116:THR:HA	21:AA:1228:C:H4'	1.90	0.53
1:CB:78:GLN:O	1:CB:81:VAL:HG22	2.09	0.53
26:DD:257:LEU:O	59:DA:1797:C:H4'	2.08	0.53
21:CA:1427:U:H2'	21:CA:1428:A:C8	2.44	0.53
59:BA:273(E):C:H2'	59:BA:273(F):U:C6	2.44	0.53
41:BV:70:ILE:O	41:BV:86:GLY:HA2	2.08	0.53
28:BF:137:LYS:NZ	59:BA:319:C:OP2	2.40	0.53
21:AA:1118:C:H2'	21:AA:1119:C:C6	2.44	0.53
59:BA:2033:A:O2'	59:BA:2034:U:H5''	2.09	0.53
27:DE:47:VAL:HG21	27:DE:86:PRO:HD3	1.90	0.53
21:CA:728:A:H2'	21:CA:729:A:C8	2.44	0.53
56:B1:29:GLY:O	59:BA:2396:G:O2'	2.26	0.53
59:DA:443:A:H2	59:DA:1245:G:N3	2.06	0.53
4:CE:80:ILE:HG13	4:CE:82:VAL:HG23	1.91	0.53
37:DR:4:LEU:HD22	37:DR:7:GLY:HA2	1.90	0.53
27:BE:59:VAL:HG21	27:BE:73:GLU:HB2	1.90	0.53
19:CT:72:LEU:HD11	19:CT:80:ARG:HH11	1.74	0.53
30:BH:173:PRO:O	30:BH:175:LYS:N	2.42	0.53
43:BX:8:ILE:HA	43:BX:30:VAL:HG12	1.91	0.53
21:AA:313:A:H2'	21:AA:314:C:C6	2.44	0.53
59:BA:1148:A:H2'	59:BA:1149:G:H8	1.73	0.53
27:BE:153:GLY:N	59:BA:2620:C:OP1	2.41	0.53
25:BC:172:ILE:HD12	25:BC:193:PHE:HZ	1.73	0.53
52:B8:60:LEU:HD12	52:B8:61:LEU:H	1.74	0.53
25:DC:144:GLY:HA2	25:DC:153:ILE:HG21	1.90	0.53
3:CD:115:ARG:NH1	21:CA:407:G:OP1	2.42	0.53
20:AY:126:GLU:HB3	20:AY:130:VAL:HG12	1.89	0.53
26:BD:10:THR:HG23	26:BD:13:ARG:HB3	1.90	0.53
56:D1:20:ARG:O	56:D1:22:GLY:N	2.37	0.53
13:AN:17:LYS:HD2	21:AA:1316:G:H5''	1.90	0.53
41:DV:47:VAL:HG23	41:DV:48:GLY:O	2.09	0.53
28:DF:182:ASN:OD1	28:DF:183:VAL:N	2.42	0.53
2:AC:88:ARG:NH2	2:AC:100:ALA:HA	2.23	0.53
21:AA:1260:C:H4'	21:AA:1283:G:O2'	2.07	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
53:D9:16:VAL:HG22	53:D9:25:VAL:HG22	1.89	0.53
12:AM:37:THR:HB	12:AM:55:ARG:HG3	1.91	0.53
59:BA:2243:U:H2'	59:BA:2244:U:C6	2.44	0.53
59:BA:1887:C:H3'	59:BA:1888:G:H5''	1.91	0.53
11:AL:104:VAL:HG23	11:AL:106:ASP:H	1.74	0.53
40:BU:52:ARG:HH12	59:BA:560:C:H4'	1.73	0.53
35:DP:32:THR:OG1	35:DP:32:THR:O	2.26	0.53
40:DU:16:LYS:NZ	59:DA:1226:A:OP1	2.35	0.53
59:DA:589:C:H2'	59:DA:590:A:C8	2.44	0.53
51:D7:11:LYS:NZ	59:DA:685:A:OP1	2.42	0.53
59:DA:849:A:N6	59:DA:929:G:H1'	2.24	0.53
27:BE:4:ILE:HD12	27:BE:28:ALA:HB1	1.89	0.53
45:BZ:123:ASP:OD1	45:BZ:123:ASP:N	2.40	0.53
2:CC:40:ARG:NH1	13:CN:52:GLN:HB3	2.23	0.53
21:CA:1062:U:H2'	21:CA:1063:C:C6	2.44	0.53
59:DA:2649:U:H2'	59:DA:2650:U:H6	1.74	0.53
17:AR:71:LYS:O	17:AR:75:ILE:HG12	2.08	0.53
21:CA:186(E):C:H42	21:CA:186(L):G:H1	1.57	0.53
21:CA:605:U:H2'	21:CA:606:G:C8	2.44	0.53
59:DA:1728:G:H1'	59:DA:1732:A:N6	2.23	0.53
47:B2:48:HIS:CD2	47:B2:49:LYS:H	2.27	0.53
59:BA:223:A:O2'	59:BA:420:C:O2	2.25	0.53
21:AA:609:A:H2'	21:AA:610:G:H8	1.74	0.53
26:BD:72:LYS:HB3	26:BD:75:ILE:HB	1.90	0.53
59:BA:1470:G:O2'	59:BA:1522:G:O6	2.26	0.53
20:CY:25:LYS:NZ	61:CY:701:GNP:PG	2.81	0.53
21:AA:838(A):U:H4'	21:AA:838(B):C:C5	2.43	0.53
11:CL:46:LYS:O	11:CL:47:LYS:HE2	2.09	0.53
39:BT:50:ILE:HG12	39:BT:99:LEU:HB2	1.91	0.53
25:BC:172:ILE:HD13	25:BC:173:HIS:H	1.74	0.53
30:BH:37:VAL:HG11	30:BH:68:THR:HG23	1.91	0.53
10:CK:18:ARG:HD2	10:CK:20:TYR:HE1	1.74	0.53
59:BA:1477:A:H2'	59:BA:1478:G:O4'	2.08	0.53
56:D1:41:ARG:HH22	56:D1:43:TYR:HB2	1.73	0.53
28:DF:158:THR:O	28:DF:178:PRO:HD3	2.09	0.53
59:DA:1788:C:H2'	59:DA:1789:A:O4'	2.09	0.53
59:BA:248:G:O5'	59:BA:249:C:H5''	2.09	0.53
59:BA:77:C:H2'	59:BA:78:A:H8	1.74	0.53
59:DA:139:G:N2	59:DA:1596:A:H4'	2.24	0.53
59:DA:1123:C:H2'	59:DA:1124:C:C6	2.44	0.53
21:CA:266:G:O2'	21:CA:268:C:OP2	2.24	0.53
21:AA:142:G:O6	21:AA:221:C:N3	2.42	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:CB:155:LEU:HD11	1:CB:159:PRO:HG3	1.90	0.53
44:BY:16:ALA:HA	44:BY:21:LYS:NZ	2.24	0.53
34:BO:8:LEU:HB2	34:BO:82:ASN:O	2.08	0.53
47:B2:65:ASN:O	47:B2:69:ARG:N	2.42	0.53
59:DA:1405:U:H2'	59:DA:1406:U:H6	1.74	0.53
59:DA:2622:C:H2'	59:DA:2623:G:O4'	2.08	0.53
14:CO:60:VAL:O	14:CO:63:ARG:HG3	2.08	0.53
59:BA:2583:G:H2'	59:BA:2584:U:O4'	2.08	0.53
43:BX:21:PHE:HE2	43:BX:26:TYR:HA	1.72	0.53
21:CA:24:U:H2'	21:CA:25:C:C6	2.44	0.53
59:DA:2004:G:H2'	59:DA:2005:A:O4'	2.09	0.53
59:DA:2100:G:H2'	59:DA:2101:G:H8	1.73	0.53
2:AC:109:PRO:O	2:AC:111:LEU:N	2.37	0.53
21:CA:1068:G:H1	21:CA:1107:C:H42	1.56	0.53
20:AY:634:MET:SD	20:AY:634:MET:N	2.82	0.53
4:AE:19:MET:CG	21:AA:15:G:H1'	2.39	0.53
59:BA:605:C:H1'	59:BA:657:U:O2'	2.09	0.53
59:BA:510:C:C4	59:BA:511:U:C4	2.97	0.53
28:DF:107:LYS:HZ1	59:DA:618(A):G:H5''	1.73	0.52
21:CA:1492:A:H5'	24:CU:6:5OH:HNP	1.75	0.52
16:AQ:71:PHE:HZ	21:AA:235:C:H4'	1.73	0.52
10:CK:53:SER:N	21:CA:695:A:OP2	2.38	0.52
21:CA:695:A:H2'	21:CA:696:A:C8	2.44	0.52
25:DC:21:TYR:O	25:DC:25:GLU:HB2	2.09	0.52
39:BT:102:ILE:O	39:BT:106:SER:OG	2.22	0.52
59:BA:2522:U:O2'	59:BA:2647:U:OP1	2.24	0.52
18:AS:78:ARG:HH12	21:AA:1223:C:P	2.32	0.52
45:BZ:166:SER:OG	45:BZ:168:GLU:N	2.42	0.52
7:AH:95:VAL:O	7:AH:131:GLY:N	2.42	0.52
16:CQ:17:LYS:NZ	21:CA:256:U:H5'	2.25	0.52
59:DA:2531:A:N3	59:DA:2658:C:O2'	2.35	0.52
12:AM:105:THR:OG1	12:AM:106:ASN:N	2.41	0.52
3:CD:63:LYS:O	3:CD:67:ILE:HG22	2.09	0.52
59:DA:373:U:H2'	59:DA:374:A:H8	1.74	0.52
42:BW:13:SER:HB3	42:BW:16:LYS:HE2	1.90	0.52
12:CM:86:CYS:HB3	18:CS:74:PHE:CE1	2.43	0.52
21:AA:1114:C:H2'	21:AA:1115:C:H6	1.74	0.52
59:DA:2163:C:H2'	59:DA:2164:C:C6	2.44	0.52
59:DA:2246:G:H1'	59:DA:2426:A:C2	2.44	0.52
44:BY:42:VAL:HG12	44:BY:65:ALA:HB3	1.90	0.52
22:AW:62:C:O2'	25:BC:54:ARG:NH2	2.41	0.52
59:BA:144:C:H2'	59:BA:145:G:H8	1.74	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:CM:59:TYR:HA	12:CM:62:ASN:HB2	1.90	0.52
3:CD:117:ALA:O	3:CD:121:VAL:HG23	2.09	0.52
21:CA:1211:U:H1'	21:CA:1213:A:C2	2.44	0.52
30:BH:149:ARG:NE	30:BH:163:TYR:HA	2.24	0.52
59:DA:1641:A:H2'	59:DA:1642:G:O4'	2.09	0.52
21:AA:1252:A:H2'	21:AA:1253:G:C8	2.45	0.52
31:DJ:122:UNK:O	31:DJ:124:UNK:N	2.42	0.52
51:D7:7:PRO:HA	59:DA:686:G:C8	2.44	0.52
33:BN:42:TRP:CD1	40:BU:63:VAL:HG11	2.44	0.52
33:BN:46:VAL:HG13	33:BN:48:MET:HG3	1.91	0.52
25:DC:47:LYS:HB3	25:DC:212:SER:CB	2.30	0.52
22:AW:53:G:N2	22:AW:61:C:N3	2.48	0.52
11:CL:69:TYR:OH	21:CA:522:C:OP2	2.27	0.52
59:BA:1603:A:H3'	59:BA:1604:C:H6	1.75	0.52
21:CA:815:A:N3	21:CA:1527:C:H1'	2.25	0.52
3:AD:25:ARG:HB2	21:AA:409:G:H5"	1.91	0.52
38:BS:52:SER:C	38:BS:69:VAL:HG21	2.30	0.52
20:AY:616:TYR:HB3	20:AY:662:LYS:O	2.09	0.52
40:BU:51:LYS:HA	40:BU:54:LYS:HD2	1.91	0.52
59:BA:848:G:C2	59:BA:933:A:H1'	2.45	0.52
21:CA:1234:C:H4'	21:CA:1364:U:H1'	1.91	0.52
59:DA:2649:U:H2'	59:DA:2650:U:C6	2.44	0.52
48:D3:41:PRO:HA	48:D3:44:ARG:HG3	1.92	0.52
41:DV:51:VAL:O	41:DV:53:GLU:N	2.42	0.52
8:CI:47:LEU:HG	8:CI:50:LEU:HD12	1.92	0.52
29:DG:67:LYS:HE2	57:D4:5:ILE:HD11	1.91	0.52
60:DB:29:A:H1'	60:DB:59:A:C2	2.45	0.52
31:BJ:122:UNK:O	31:BJ:124:UNK:N	2.41	0.52
3:AD:68:TYR:CE2	3:AD:97:LEU:HB3	2.44	0.52
20:AY:539:ILE:H	20:AY:540:PRO:CD	2.22	0.52
39:BT:129:ARG:HE	39:BT:129:ARG:HA	1.73	0.52
20:CY:533:VAL:O	20:CY:535:PRO:HD3	2.09	0.52
42:BW:1:MET:HB3	42:BW:64:MET:SD	2.49	0.52
59:DA:948:G:C6	59:DA:949:C:C4	2.98	0.52
21:AA:1026:G:H1	21:AA:1035:A:H2	1.57	0.52
38:BS:70:GLY:C	38:BS:101:LEU:HD21	2.29	0.52
50:D6:24:GLU:OE1	59:DA:2346:A:O2'	2.27	0.52
4:AE:14:ARG:O	4:AE:28:PHE:HA	2.09	0.52
21:CA:1392:G:O2'	21:CA:1502:A:OP1	2.27	0.52
37:DR:2:ARG:HD3	59:DA:2723:C:H5"	1.92	0.52
42:BW:25:ARG:NH2	42:BW:74:ALA:HB3	2.24	0.52
56:D1:52:ARG:HH12	59:DA:2213:U:H4'	1.74	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:1871:A:H2'	59:BA:1872:A:H8	1.74	0.52
39:BT:53:ARG:NH1	39:BT:53:ARG:HB3	2.24	0.52
9:CJ:38:ILE:HG23	9:CJ:71:LEU:HB3	1.90	0.52
35:DP:62:LEU:H	35:DP:62:LEU:CD2	2.22	0.52
59:BA:1200:C:H2'	59:BA:1201:C:H6	1.73	0.52
59:DA:780:G:H2'	59:DA:782:A:C5	2.44	0.52
18:CS:46:GLY:HA2	18:CS:62:ILE:HG23	1.90	0.52
59:BA:2674:G:H2'	59:BA:2675:A:H8	1.75	0.52
21:CA:63:C:H5''	21:CA:383:A:H61	1.74	0.52
30:DH:158:HIS:CD2	30:DH:159:GLU:H	2.28	0.52
26:DD:101:GLU:OE2	59:DA:1491:G:O2'	2.25	0.52
21:CA:1157:A:H4'	21:CA:1158:C:O5'	2.09	0.52
59:BA:906:G:C2	59:BA:907:U:H1'	2.45	0.52
26:DD:68:LYS:HG2	26:DD:152:GLY:HA2	1.91	0.52
12:AM:23:TYR:OH	12:AM:71:ARG:HG3	2.09	0.52
59:BA:2212:A:H1'	59:BA:2215:G:C4	2.44	0.52
22:AW:10:G:H1	22:AW:25:C:H42	1.56	0.52
59:BA:1661:G:H2'	59:BA:1662:C:H6	1.74	0.52
43:BX:71:GLY:HA3	59:BA:64:A:H4'	1.90	0.52
21:CA:1239:A:H2'	21:CA:1298:C:H42	1.73	0.52
3:CD:42:GLN:N	21:CA:541:G:O2'	2.31	0.52
14:CO:51:HIS:CE1	21:CA:667:G:H4'	2.44	0.52
39:DT:132:LYS:O	39:DT:132:LYS:HD3	2.09	0.52
1:AB:106:LYS:HD2	1:AB:106:LYS:H	1.73	0.52
4:CE:6:PHE:CD2	4:CE:36:ASP:HB3	2.44	0.52
11:AL:69:TYR:HB3	11:AL:99:HIS:CD2	2.44	0.52
15:CP:5:ARG:NH1	21:CA:376:G:O3'	2.40	0.52
6:CG:74:GLU:CD	6:CG:95:ARG:HH21	2.10	0.52
26:BD:244:ARG:HB2	59:BA:1902:C:O2'	2.08	0.52
25:DC:4:HIS:HB3	25:DC:8:TYR:HD2	1.75	0.52
39:DT:25:GLY:O	39:DT:114:LEU:HD11	2.10	0.52
57:D4:3:GLU:HG2	60:DB:43:C:OP1	2.08	0.52
20:CY:272:LEU:O	20:CY:276:VAL:HG23	2.09	0.52
25:BC:75:VAL:HA	25:BC:112:ASP:O	2.08	0.52
56:B1:58:ILE:HD11	56:B1:60:PHE:CD2	2.44	0.52
59:BA:1336:A:H2'	59:BA:1337:G:H8	1.71	0.52
42:BW:17:VAL:HB	42:BW:76:VAL:HG21	1.91	0.52
14:AO:38:ARG:NH1	14:AO:38:ARG:HA	2.24	0.52
31:DJ:24:UNK:HA	31:DJ:84:UNK:C	2.40	0.52
59:BA:2291:U:H2'	59:BA:2292:C:C6	2.45	0.52
41:DV:55:ALA:HB1	41:DV:100:ARG:O	2.09	0.52
21:AA:1216:G:H2'	21:AA:1217:C:C6	2.44	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:2461:C:H2'	59:BA:2462:U:C6	2.44	0.52
26:DD:108:PRO:HB3	26:DD:143:HIS:NE2	2.25	0.52
34:BO:77:ILE:HD11	39:BT:72:VAL:HB	1.90	0.52
26:DD:226:MET:HE2	26:DD:230:ASP:HB3	1.91	0.52
28:BF:169:ASN:HD22	59:BA:322:A:H5''	1.74	0.52
29:DG:33:ARG:NH2	29:DG:162:THR:OG1	2.43	0.52
2:CC:40:ARG:CZ	13:CN:52:GLN:HB3	2.38	0.52
35:BP:108:LYS:HE3	59:BA:622:G:OP2	2.10	0.52
1:CB:238:LEU:HA	1:CB:241:GLU:HG2	1.89	0.52
2:CC:137:ALA:O	2:CC:141:VAL:HG23	2.09	0.52
26:BD:159:ALA:HB1	26:BD:198:ASN:O	2.10	0.52
41:BV:35:LEU:HB2	41:BV:57:VAL:O	2.09	0.52
21:AA:786:G:H2'	21:AA:787:A:C8	2.44	0.52
59:BA:2604:U:H2'	59:BA:2605:U:C6	2.45	0.52
59:DA:284:U:H2'	59:DA:285:C:C6	2.45	0.52
4:CE:16:THR:HG21	21:CA:1080:A:H5''	1.91	0.52
59:DA:2306:C:H5''	59:DA:2307:G:N7	2.24	0.52
13:CN:6:LEU:HB3	13:CN:23:ARG:NH2	2.24	0.52
22:AW:72:C:H2'	22:AW:73:A:O4'	2.08	0.52
28:DF:161:GLU:O	28:DF:165:ARG:HG2	2.09	0.52
2:CC:180:ALA:HB1	2:CC:203:PHE:CE1	2.45	0.52
59:DA:950:G:H2'	59:DA:951:C:C6	2.44	0.52
26:BD:4:LYS:NZ	26:BD:19:ALA:O	2.43	0.52
16:AQ:21:VAL:O	16:AQ:41:LYS:HA	2.10	0.52
20:AY:30:GLU:O	20:AY:33:LEU:CD2	2.56	0.52
8:CI:107:ARG:HD3	21:CA:1347:G:C8	2.44	0.52
39:BT:49:VAL:HA	39:BT:63:VAL:CA	2.35	0.52
53:D9:22:ARG:HB2	53:D9:24:TYR:HE1	1.74	0.52
28:BF:153:SER:HA	28:BF:172:TRP:O	2.10	0.52
38:BS:59:LYS:HB3	38:BS:65:VAL:HG22	1.91	0.52
60:DB:24:G:C6	60:DB:56:G:C2	2.97	0.52
12:CM:96:LEU:O	12:CM:110:ARG:HD2	2.09	0.52
1:CB:71:VAL:O	1:CB:165:VAL:N	2.41	0.52
59:BA:884:C:N3	59:BA:892:G:C2	2.78	0.52
59:BA:577:G:H5'	59:BA:2502:G:N2	2.21	0.52
26:BD:92:ILE:HD13	26:BD:104:TYR:CE2	2.44	0.52
45:DZ:72:ARG:HH22	60:DB:104:A:P	2.32	0.52
21:CA:314:C:H2'	21:CA:315:A:H8	1.74	0.52
37:DR:67:LEU:HD21	37:DR:76:VAL:HG11	1.90	0.52
42:BW:75:TYR:O	42:BW:76:VAL:HB	2.09	0.52
59:BA:2426:A:H3'	59:BA:2427:C:C5'	2.40	0.52
26:DD:165:ILE:O	26:DD:175:LEU:HA	2.09	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:AA:147:G:H1	21:AA:175:C:N4	2.08	0.52
60:DB:14:U:OP2	60:DB:70:C:O2'	2.26	0.52
25:DC:60:ARG:HE	25:DC:142:LYS:CB	2.22	0.52
21:AA:692:U:H2'	21:AA:694:A:OP2	2.10	0.52
30:BH:41:MET:HE3	30:BH:43:VAL:HG13	1.91	0.52
18:AS:60:VAL:HG21	18:AS:74:PHE:HB2	1.92	0.52
25:DC:44:VAL:O	25:DC:172:ILE:O	2.28	0.52
18:AS:52:TYR:OH	21:AA:986:A:N3	2.37	0.52
3:AD:166:LYS:HE3	3:AD:178:VAL:HG11	1.92	0.52
59:BA:300:A:N3	59:BA:319:C:H1'	2.25	0.52
59:BA:602:G:O3'	59:BA:603:A:H4'	2.08	0.52
12:CM:66:LEU:HB3	12:CM:67:GLU:HG2	1.91	0.52
8:AI:40:LEU:HD22	8:AI:42:ARG:HG3	1.92	0.52
25:BC:28:ARG:HG3	25:BC:183:PRO:HB3	1.90	0.52
21:CA:271:C:H2'	21:CA:272:C:C6	2.44	0.52
41:DV:69:LYS:HE3	41:DV:86:GLY:HA3	1.90	0.52
21:AA:219:C:H2'	21:AA:220:G:H8	1.74	0.52
59:DA:2667:C:H2'	59:DA:2668:G:O4'	2.10	0.52
34:BO:22:ILE:HD12	59:BA:1952:A:C2	2.44	0.52
25:BC:52:PRO:HA	25:BC:167:ASP:O	2.10	0.52
59:BA:871:U:H2'	59:BA:872:A:C8	2.45	0.52
1:CB:79:ASP:O	1:CB:82:ARG:HG2	2.10	0.52
21:CA:145:G:H1	21:CA:177:C:H42	1.58	0.52
59:DA:1170:G:H2'	59:DA:1171:G:H8	1.74	0.52
59:BA:1006:C:H2'	59:BA:1007:C:C6	2.43	0.52
59:BA:2778:A:HO2'	59:BA:2780:G:HO2'	1.53	0.52
33:BN:64:GLY:HA3	33:BN:66:LYS:HG2	1.92	0.52
59:DA:968:G:H2'	59:DA:969:U:C6	2.45	0.52
59:DA:853:G:H1	59:DA:924:C:H42	1.57	0.52
59:BA:775:G:N3	59:BA:777:A:N6	2.58	0.52
59:BA:1077:A:C2	59:BA:1088:A:H2'	2.45	0.52
59:DA:532:A:N1	59:DA:2020:A:H1'	2.25	0.52
27:BE:12:THR:O	59:BA:2682:U:H1'	2.08	0.52
1:AB:71:VAL:HG22	1:AB:93:VAL:HB	1.90	0.52
3:CD:30:LYS:HD3	3:CD:35:ARG:HH11	1.74	0.52
56:D1:17:SER:HG	56:D1:42:GLN:N	2.08	0.52
3:CD:25:ARG:HB2	21:CA:409:G:H5''	1.92	0.52
20:AY:110:SER:OG	20:AY:136:ALA:O	2.28	0.52
27:DE:147:PRO:HG3	27:DE:151:TYR:OH	2.10	0.52
59:DA:2304:G:N2	59:DA:2312:U:H3	2.06	0.52
32:BK:27:LEU:HB3	32:BK:32:ALA:HB3	1.90	0.52
59:BA:2327:A:H2'	59:BA:2328:A:C8	2.44	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
41:DV:56:SER:HB2	41:DV:100:ARG:HE	1.75	0.52
35:BP:96:THR:HG23	35:BP:99:LEU:HB2	1.90	0.52
59:BA:1595:G:H2'	59:BA:1596:A:C8	2.45	0.52
21:AA:1537:U:O2'	21:AA:1538:C:OP1	2.27	0.52
13:CN:18:VAL:HG11	21:CA:1316:G:H4'	1.90	0.52
59:BA:128:C:H2'	59:BA:129:C:C6	2.44	0.52
25:BC:58:ASN:O	25:BC:165:ARG:HG3	2.10	0.52
59:DA:1728:G:H1'	59:DA:1732:A:H61	1.74	0.52
48:D3:40:THR:O	48:D3:42:ALA:N	2.42	0.52
32:BK:8:VAL:HG21	32:BK:26:ALA:HB1	1.91	0.52
27:DE:129:HIS:NE2	59:DA:1675:C:N3	2.58	0.52
60:DB:15:A:H3'	60:DB:16:G:H8	1.74	0.52
14:AO:55:GLY:HA2	14:AO:58:MET:HG2	1.92	0.52
31:BJ:49:UNK:C	31:BJ:82:UNK:HA	2.40	0.52
27:DE:199:ARG:HH11	27:DE:199:ARG:HB2	1.75	0.52
20:AY:7:TYR:OH	20:AY:371:ALA:O	2.26	0.52
51:D7:48:LYS:HG2	59:DA:125:G:N2	2.23	0.52
21:CA:881:G:H2'	21:CA:882:C:O4'	2.10	0.52
21:CA:68(A):G:H2'	21:CA:68(B):G:C8	2.44	0.52
42:DW:21:VAL:C	42:DW:23:LEU:H	2.13	0.52
59:DA:817:C:H2'	59:DA:818:G:O4'	2.10	0.52
41:DV:64:HIS:ND1	41:DV:92:THR:HG22	2.24	0.52
56:D1:15:ALA:H	56:D1:41:ARG:HG2	1.74	0.52
40:DU:95:LEU:HD22	41:DV:13:ARG:HB2	1.90	0.52
28:DF:12:LEU:HD22	28:DF:17:ARG:HB3	1.91	0.52
25:BC:131:ILE:HG12	25:BC:132:LEU:N	2.25	0.52
59:BA:1853:A:H2'	59:BA:1854:A:C8	2.45	0.52
28:BF:93:LYS:H	28:BF:95:ARG:CZ	2.22	0.52
50:D6:47:THR:OG1	50:D6:48:VAL:N	2.39	0.52
59:DA:1159:U:H2'	59:DA:1160:G:C8	2.44	0.52
46:D0:31:VAL:HG11	46:D0:37:LEU:HD21	1.91	0.52
59:DA:1049:C:O2	59:DA:2751:G:N1	2.38	0.52
59:BA:1728:G:H1'	59:BA:1732:A:H62	1.73	0.52
3:CD:15:GLU:OE2	3:CD:63:LYS:HG3	2.10	0.52
39:DT:129:ARG:NE	39:DT:129:ARG:HA	2.25	0.52
59:BA:1811:G:H2'	59:BA:1812:A:C8	2.43	0.52
21:CA:116:A:O5'	21:CA:116:A:H8	1.93	0.52
28:BF:82:ILE:HD13	59:BA:673:C:H4'	1.90	0.52
28:DF:75:HIS:NE2	59:DA:1256:G:O2'	2.39	0.52
60:BB:40:U:H3'	60:BB:41:U:C5'	2.39	0.52
41:DV:35:LEU:HB2	41:DV:57:VAL:HG13	1.92	0.52
33:BN:125:GLY:HA3	33:BN:126:PRO:O	2.09	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:464:U:C4	59:DA:465:G:C6	2.97	0.52
21:AA:911:U:H2'	21:AA:912:C:C6	2.44	0.52
21:AA:943:U:O4	21:AA:1340:A:N1	2.43	0.52
10:CK:27:ASN:HD21	10:CK:44:SER:HB2	1.74	0.52
7:CH:69:ARG:HG2	7:CH:70:GLN:H	1.75	0.52
29:DG:110:ALA:O	29:DG:140:ILE:HD12	2.10	0.52
59:DA:45:G:H2'	59:DA:215:G:C8	2.45	0.52
20:CY:499:ARG:NH2	59:DA:1911:U:O3'	2.43	0.52
48:B3:4:LEU:HD23	48:B3:58:VAL:HG13	1.91	0.52
59:DA:1476:C:H2'	59:DA:1477:A:C8	2.44	0.52
12:CM:14:ARG:HG3	12:CM:44:ARG:HH11	1.75	0.52
21:CA:1004:A:O2'	21:CA:1037:C:O2	2.26	0.52
3:AD:35:ARG:HD3	21:AA:412:A:C2	2.44	0.52
25:DC:11:LEU:HA	25:DC:14:LYS:HG3	1.91	0.52
25:BC:46:ALA:HA	25:BC:212:SER:O	2.10	0.52
28:BF:158:THR:CB	28:BF:194:MET:HA	2.40	0.52
38:BS:71:ARG:O	38:BS:74:ALA:HB3	2.10	0.52
59:DA:1536:A:H5''	59:DA:1537:C:OP2	2.10	0.52
21:CA:993:G:H2'	21:CA:995:C:H41	1.74	0.52
21:AA:1401:G:H2'	21:AA:1402:C:O4'	2.10	0.52
2:AC:59:ARG:NH1	2:AC:97:LYS:HD2	2.25	0.52
59:BA:1059:G:C6	59:BA:1079:C:N4	2.77	0.52
16:AQ:63:ARG:HG3	21:AA:130:A:C8	2.45	0.52
5:AF:61:LEU:HB2	5:AF:63:TYR:HE2	1.74	0.52
36:BQ:65:PHE:HB2	36:BQ:105:GLU:HG2	1.92	0.52
60:DB:18:G:H1	60:DB:65:C:N4	2.07	0.52
22:AW:2:G:H2'	22:AW:3:C:O4'	2.10	0.52
40:BU:92:ARG:HB3	40:BU:95:LEU:HB2	1.92	0.52
35:DP:8:PRO:HG3	59:DA:1242:A:C2	2.45	0.52
56:B1:12:PRO:HA	56:B1:44:PRO:HD3	1.91	0.52
17:CR:74:ARG:HG3	17:CR:79:LEU:HB3	1.91	0.52
17:CR:79:LEU:HD23	17:CR:80:PRO:HD2	1.91	0.52
20:AY:11:ARG:HD3	20:AY:40:HIS:CE1	2.45	0.52
59:BA:741:G:H2'	59:BA:742:G:C8	2.44	0.52
10:AK:46:GLY:C	21:AA:688:G:H5'	2.29	0.52
59:DA:1496:A:H1'	59:DA:1577:C:O2'	2.10	0.52
59:BA:1916:A:H2'	59:BA:1917:U:O4'	2.09	0.52
28:BF:135:LYS:HB3	28:BF:138:GLU:HG2	1.92	0.52
37:DR:18:LEU:HB3	37:DR:22:ARG:HE	1.74	0.52
21:AA:1208:C:H2'	21:AA:1209:C:O4'	2.09	0.52
59:DA:476:G:N1	59:DA:479:A:OP2	2.35	0.52
3:AD:76:ARG:NH1	3:AD:207:TYR:OH	2.43	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:CY:139:MET:H	20:CY:262:SER:HB2	1.75	0.52
59:BA:273(G):C:H3'	59:BA:274:G:H5''	1.91	0.52
59:BA:813:U:H2'	59:BA:814:C:H6	1.74	0.52
1:AB:71:VAL:HB	1:AB:164:VAL:CG2	2.40	0.52
34:DO:75:SER:HB2	39:DT:75:ILE:O	2.10	0.52
28:DF:158:THR:OG1	28:DF:159:GLY:N	2.43	0.52
26:BD:54:ARG:HH22	59:BA:1815:A:P	2.32	0.52
59:BA:1326:U:H2'	59:BA:1327:C:O4'	2.10	0.52
59:BA:2009:G:H2'	59:BA:2010:G:H8	1.73	0.52
26:BD:63:ARG:NH2	59:BA:1568:G:OP1	2.42	0.52
27:BE:113:PHE:CE1	59:BA:1655:A:H1'	2.45	0.52
50:D6:13:CYS:SG	50:D6:22:ALA:HB3	2.49	0.52
18:AS:36:ARG:HB2	18:AS:72:GLY:HA3	1.90	0.52
11:AL:119:LYS:O	11:AL:121:GLY:N	2.36	0.52
59:DA:861:A:H2'	59:DA:862:G:O4'	2.10	0.52
59:BA:137(B):G:H1	59:BA:141(B):C:N4	2.08	0.52
15:CP:59:TRP:HA	15:CP:59:TRP:HE3	1.73	0.52
21:CA:861:G:O2'	21:CA:874:G:O2'	2.26	0.52
10:AK:21:ILE:HG12	10:AK:30:VAL:HG12	1.91	0.52
59:BA:1324:G:H1'	59:BA:1616:A:C6	2.44	0.52
21:AA:627:G:H2'	21:AA:628:G:C8	2.45	0.52
59:BA:2376:A:H2'	59:BA:2377:A:O4'	2.10	0.52
14:CO:49:ASP:OD2	14:CO:52:SER:OG	2.27	0.52
59:BA:1366:A:H2'	59:BA:1367:A:C8	2.45	0.52
52:B8:47:LYS:HE2	59:BA:2361:A:P	2.49	0.52
59:BA:1471:A:H2'	59:BA:1472:A:O4'	2.10	0.52
21:CA:45:U:H2'	21:CA:46:G:H8	1.74	0.52
59:DA:271:G:H2'	59:DA:272:G:C8	2.44	0.52
45:DZ:60:GLU:HA	45:DZ:66:SER:HA	1.92	0.52
35:BP:15:ARG:HB2	59:BA:598:G:H5'	1.91	0.52
26:DD:161:THR:HG21	59:DA:1819:A:OP1	2.10	0.52
36:BQ:21:THR:O	36:BQ:23:GLY:N	2.37	0.52
57:B4:16:CYS:HB3	57:B4:34:GLU:O	2.10	0.52
8:AI:16:ARG:HD3	21:AA:1147:C:H1'	1.92	0.52
59:DA:883:G:H1	59:DA:893:C:H42	1.58	0.52
25:DC:7:ARG:O	25:DC:11:LEU:HG	2.10	0.52
25:BC:191:ARG:O	25:BC:195:ARG:HG3	2.09	0.52
25:BC:213:VAL:CG2	25:BC:227:PRO:HB3	2.39	0.52
59:DA:1604:C:H2'	59:DA:1605:C:C6	2.45	0.52
21:AA:1206:G:H2'	21:AA:1207:G:O4'	2.10	0.52
59:DA:450:G:OP1	59:DA:1248:G:N2	2.42	0.52
21:CA:923:A:H2'	21:CA:924:C:O4'	2.10	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:DE:136:ARG:NH2	59:DA:1998:G:OP2	2.43	0.52
12:AM:26:GLY:H	21:AA:1329:A:H5''	1.75	0.52
20:AY:631:ILE:O	20:AY:645:ALA:HA	2.09	0.52
59:BA:918:A:OP2	59:BA:2268:A:N6	2.40	0.52
21:AA:960:U:H4'	21:AA:961:U:H5''	1.91	0.52
4:CE:31:LEU:HA	4:CE:45:PHE:HB2	1.91	0.52
33:DN:34:LEU:HD21	33:DN:120:LEU:HD12	1.92	0.52
28:DF:171:PRO:C	28:DF:173:VAL:H	2.14	0.52
40:DU:61:TRP:CD2	40:DU:94:ASN:HB2	2.45	0.52
59:DA:55:G:N2	59:DA:115:C:N3	2.48	0.52
44:BY:84:ARG:HE	44:BY:97:ARG:HD2	1.75	0.52
59:DA:938:G:H2'	59:DA:939:G:H8	1.75	0.52
26:BD:158:ALA:N	26:BD:161:THR:OG1	2.43	0.52
59:DA:1224:C:H5	59:DA:1225:G:C4	2.28	0.52
2:CC:12:LEU:HB2	13:CN:57:ARG:NH2	2.25	0.52
46:B0:25:ARG:HB2	46:B0:37:LEU:HD22	1.91	0.52
59:BA:914:C:H2'	59:BA:915:C:H5'	1.92	0.52
6:CG:98:SER:HA	6:CG:101:LEU:HD12	1.92	0.52
18:CS:29:ARG:O	18:CS:48:THR:OG1	2.28	0.52
11:AL:38:THR:HG23	11:AL:57:LYS:HD3	1.91	0.52
22:AW:29:U:H2'	22:AW:30:C:O4'	2.08	0.52
17:CR:72:ARG:O	17:CR:76:LEU:HG	2.10	0.52
11:CL:113:ARG:CZ	11:CL:115:LYS:HB3	2.40	0.52
9:AJ:29:ARG:NH2	9:AJ:80:LYS:HD3	2.25	0.52
59:BA:1602:U:H3'	59:BA:1603:A:H5''	1.91	0.51
21:CA:68(F):C:H2'	21:CA:68(G):G:C8	2.44	0.51
20:CY:133:ILE:HD12	20:CY:280:LEU:HD21	1.93	0.51
12:CM:96:LEU:HD11	18:CS:82:GLY:O	2.10	0.51
56:D1:17:SER:OG	56:D1:42:GLN:N	2.43	0.51
59:DA:2789:C:H1'	59:DA:2892:A:N1	2.25	0.51
1:AB:196:LEU:HD13	1:AB:197:VAL:HG23	1.93	0.51
16:AQ:67:LYS:HE3	21:AA:267:C:OP2	2.09	0.51
11:AL:101:VAL:HB	11:AL:104:VAL:HG13	1.92	0.51
41:DV:66:ARG:HG2	41:DV:88:ARG:HB2	1.92	0.51
14:CO:25:THR:O	14:CO:29:VAL:HG23	2.09	0.51
59:DA:857:C:N4	59:DA:858:U:O4	2.43	0.51
1:AB:15:VAL:HG21	1:AB:209:ARG:HE	1.75	0.51
27:BE:92:THR:OG1	27:BE:93:VAL:N	2.43	0.51
59:BA:1583:A:H61	21:CA:838(A):U:H5'	1.74	0.51
45:BZ:10:ARG:HG2	45:BZ:11:GLU:H	1.76	0.51
26:BD:186:HIS:CD2	59:BA:2218:G:H5''	2.45	0.51
47:D2:38:GLN:HA	47:D2:41:ILE:HG23	1.91	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:CA:116:A:H2'	21:CA:117:G:O4'	2.10	0.51
59:DA:1056:G:H4'	59:DA:1086:A:H8	1.75	0.51
4:CE:78:HIS:CD2	4:CE:79:GLU:H	2.28	0.51
21:CA:892:A:H2'	21:CA:893:C:H6	1.74	0.51
21:AA:249:U:H2'	21:AA:250:A:C8	2.45	0.51
21:CA:860:A:H2'	21:CA:861:G:O4'	2.10	0.51
10:AK:30:VAL:O	10:AK:42:TRP:HA	2.10	0.51
10:AK:99:GLN:HG2	10:AK:105:VAL:HG21	1.91	0.51
21:AA:551:U:H2'	21:AA:552:U:C6	2.45	0.51
20:AY:682:GLN:HA	20:AY:685:GLU:HB2	1.91	0.51
18:AS:63:THR:N	18:AS:66:MET:SD	2.79	0.51
26:DD:142:VAL:HG13	26:DD:163:ALA:HB3	1.92	0.51
36:BQ:14:ARG:HD2	36:BQ:14:ARG:H	1.75	0.51
28:BF:171:PRO:HA	59:BA:1205:U:C4	2.45	0.51
1:CB:54:THR:O	1:CB:58:ILE:HG12	2.10	0.51
40:DU:49:HIS:ND1	59:DA:534:U:O2'	2.35	0.51
20:CY:137:ASN:ND2	20:CY:262:SER:HA	2.22	0.51
11:AL:56:ALA:C	11:AL:58:VAL:HG23	2.31	0.51
21:AA:1127:G:C2	21:AA:1145:C:N3	2.78	0.51
45:BZ:85:HIS:HE2	60:BB:75:G:HO2'	1.58	0.51
45:BZ:102:LEU:HD21	45:BZ:124:ILE:HD12	1.93	0.51
59:DA:747:U:C4	59:DA:2613:U:C4	2.98	0.51
12:CM:91:ARG:HA	12:CM:94:ARG:HB2	1.93	0.51
1:CB:69:LEU:HB3	1:CB:71:VAL:HG23	1.92	0.51
44:DY:11:ASP:O	44:DY:27:VAL:HA	2.10	0.51
8:AI:107:ARG:CA	21:AA:1347:G:H5'	2.37	0.51
42:BW:12:ILE:HG21	42:BW:17:VAL:HG13	1.92	0.51
36:BQ:36:ALA:HB1	36:BQ:127:ILE:HD11	1.90	0.51
59:BA:516:C:H2'	59:BA:517:C:C6	2.46	0.51
22:CW:23:A:H2'	22:CW:24:G:H8	1.74	0.51
32:DK:103:GLN:O	32:DK:107:ILE:HG12	2.10	0.51
1:AB:16:HIS:CD2	1:AB:210:SER:HA	2.45	0.51
21:AA:776:G:O2'	21:AA:777:A:H8	1.93	0.51
21:AA:979:C:OP1	21:AA:1223:C:N4	2.42	0.51
22:CW:35:A:C2	23:CV:18:G:N1	2.78	0.51
59:BA:589:C:H2'	59:BA:590:A:C8	2.45	0.51
14:AO:35:ARG:HG3	14:AO:59:MET:SD	2.50	0.51
59:DA:2135:A:N6	59:DA:2156:G:O2'	2.41	0.51
3:CD:155:LEU:O	3:CD:159:ARG:NE	2.43	0.51
12:CM:15:VAL:HG13	12:CM:43:THR:O	2.10	0.51
33:BN:27:ALA:HA	33:BN:30:ILE:HD12	1.92	0.51
28:DF:46:ARG:NH1	59:DA:441:U:O2'	2.44	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:AE:19:MET:SD	4:AE:24:ARG:HB3	2.50	0.51
59:DA:1441:G:H2'	59:DA:1442:G:H8	1.75	0.51
59:DA:2261:C:H2'	59:DA:2262:U:H6	1.74	0.51
18:AS:77:THR:HG21	21:AA:1221:G:O3'	2.10	0.51
21:CA:123:C:OP1	21:CA:311:C:O2'	2.25	0.51
7:CH:64:LYS:HG2	7:CH:79:VAL:HG21	1.91	0.51
11:AL:65:GLU:O	11:AL:66:VAL:HG22	2.09	0.51
21:AA:320:C:H2'	21:AA:321:A:C8	2.45	0.51
59:BA:2585:U:H2'	59:BA:2585:U:O2	2.10	0.51
59:BA:1513:C:H2'	59:BA:1514:U:O4'	2.09	0.51
20:CY:443:HIS:HB2	20:CY:448:GLN:HG2	1.92	0.51
23:CV:14:A:H5'	23:CV:15:A:OP2	2.10	0.51
27:BE:24:THR:HG22	27:BE:186:GLY:HA2	1.91	0.51
36:DQ:14:ARG:HA	36:DQ:72:LYS:HE3	1.91	0.51
26:DD:24:ILE:HG23	26:DD:25:THR:H	1.75	0.51
20:AY:98:MET:HG3	20:AY:130:VAL:HG21	1.92	0.51
39:DT:50:ILE:HG22	39:DT:51:ARG:HB3	1.92	0.51
26:BD:11:PRO:O	26:BD:13:ARG:N	2.41	0.51
33:DN:4:TYR:CZ	33:DN:6:PRO:HA	2.45	0.51
59:BA:1657:C:H2'	59:BA:1658:C:C6	2.45	0.51
34:DO:14:THR:CG2	34:DO:52:VAL:HG21	2.41	0.51
10:CK:85:ARG:NH1	21:CA:707:C:OP1	2.43	0.51
11:AL:32:PHE:HZ	21:AA:33:A:N3	2.08	0.51
28:DF:102:PRO:HB3	59:DA:606:U:H5''	1.93	0.51
21:CA:745:C:H1'	21:CA:836:G:O2'	2.09	0.51
29:DG:27:ASN:HD21	60:DB:57:A:H8	1.59	0.51
22:AW:12:U:H3	22:AW:23:A:N6	2.08	0.51
20:AY:648:PRO:O	20:AY:650:ALA:N	2.44	0.51
16:CQ:21:VAL:HG23	16:CQ:44:ALA:HB2	1.92	0.51
59:DA:72:U:C4	59:DA:112:U:H4'	2.45	0.51
28:DF:169:ASN:ND2	59:DA:322:A:H3'	2.25	0.51
28:DF:156:LEU:HG	28:DF:156:LEU:O	2.11	0.51
30:BH:98:LEU:HD13	30:BH:125:VAL:HG23	1.91	0.51
12:CM:116:THR:HA	21:CA:1228:C:H4'	1.92	0.51
27:DE:53:PRO:HA	27:DE:74:PRO:HA	1.92	0.51
52:B8:33:ASN:O	52:B8:35:GLN:N	2.42	0.51
59:BA:557:U:H2'	59:BA:558:G:C8	2.46	0.51
36:DQ:9:TYR:OH	59:DA:911:A:H2'	2.10	0.51
50:D6:12:GLU:OE1	59:DA:2419:U:O2'	2.17	0.51
27:DE:118:LYS:NZ	59:DA:2724:C:OP1	2.29	0.51
53:D9:10:ILE:HG13	53:D9:11:CYS:N	2.26	0.51
60:BB:88:C:H2'	60:BB:89(A):G:O4'	2.09	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:594:U:H2'	59:BA:595:C:C6	2.45	0.51
40:BU:106:PHE:O	40:BU:109:LEU:N	2.42	0.51
35:BP:12:ALA:O	35:BP:13:ASN:HB3	2.10	0.51
59:DA:1111:A:N3	59:DA:1112:G:H1'	2.25	0.51
39:DT:6:LEU:O	39:DT:10:VAL:HG23	2.10	0.51
16:CQ:92:ARG:O	16:CQ:95:TYR:HB2	2.10	0.51
33:BN:40:PRO:HD3	40:BU:71:GLN:NE2	2.26	0.51
28:BF:176:LEU:HG	28:BF:177:ALA:N	2.24	0.51
59:DA:1830:C:N4	59:DA:1975:G:H1	2.04	0.51
25:DC:157:ILE:HA	25:DC:160:GLY:O	2.11	0.51
28:BF:45:ARG:HD3	28:BF:97:TYR:CD2	2.46	0.51
56:D1:44:PRO:HA	59:DA:396:G:O2'	2.09	0.51
29:BG:144:ILE:HG13	29:BG:148:MET:HG3	1.92	0.51
3:CD:145:GLU:HG2	3:CD:182:LYS:HG2	1.92	0.51
50:D6:19:ARG:HG2	59:DA:2400:G:H4'	1.91	0.51
12:CM:78:ILE:HD12	12:CM:92:HIS:CE1	2.46	0.51
59:DA:2454:G:H1	59:DA:2498:C:N4	2.07	0.51
59:DA:2115:G:H4'	59:DA:2167:U:H1'	1.93	0.51
59:DA:1480:G:H1	59:DA:1513:C:H42	1.57	0.51
42:DW:3:ALA:O	42:DW:106:ILE:HA	2.10	0.51
16:CQ:67:LYS:HG2	21:CA:267:C:OP2	2.10	0.51
21:AA:1228:C:H2'	21:AA:1229:A:H8	1.76	0.51
1:CB:162:ILE:HG22	1:CB:184:VAL:HA	1.93	0.51
28:DF:154:VAL:HG12	28:DF:156:LEU:HA	1.92	0.51
37:BR:28:LEU:HD22	37:BR:29:LEU:HD13	1.92	0.51
6:AG:137:LYS:HA	6:AG:140:ASP:HB2	1.92	0.51
35:DP:106:LEU:HD12	35:DP:112:LEU:HD23	1.91	0.51
5:CF:61:LEU:HB2	5:CF:63:TYR:HE2	1.76	0.51
37:BR:51:LEU:HD11	37:BR:66:VAL:HA	1.92	0.51
6:AG:151:TYR:HA	6:AG:154:TYR:CD1	2.45	0.51
59:BA:2781:A:H5'	59:BA:2782:G:O4'	2.11	0.51
1:CB:18:GLY:HA3	1:CB:41:ILE:HA	1.93	0.51
21:CA:373:A:H4'	21:CA:480:U:O2'	2.11	0.51
45:DZ:19:ARG:HD3	45:DZ:84:GLU:HG3	1.90	0.51
21:CA:591:U:H2'	21:CA:592:G:C8	2.45	0.51
59:DA:70:G:H1'	59:DA:73:A:N3	2.25	0.51
21:CA:1145:C:O2'	21:CA:1146:A:OP2	2.29	0.51
59:BA:817:C:N3	59:BA:1190:G:N2	2.48	0.51
56:D1:25:LYS:HB3	59:DA:388:G:P	2.50	0.51
25:BC:45:HIS:ND1	25:BC:171:ALA:O	2.36	0.51
59:DA:2701:C:N4	59:DA:2706:G:H1	2.02	0.51
30:DH:37:VAL:HG12	30:DH:38:SER:O	2.10	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:DC:132:LEU:HB3	25:DC:138:LEU:N	2.25	0.51
52:D8:14:VAL:HG21	52:D8:22:VAL:HG12	1.92	0.51
44:BY:44:ILE:O	44:BY:62:GLU:HB3	2.10	0.51
21:CA:992:U:O2'	21:CA:993:G:OP2	2.17	0.51
16:AQ:51:TYR:CZ	16:AQ:73:VAL:HG11	2.45	0.51
16:AQ:45:HIS:H	16:AQ:72:ARG:HA	1.75	0.51
21:AA:501:C:H2'	21:AA:502:G:H8	1.73	0.51
35:BP:66:GLY:O	35:BP:68:GLN:N	2.42	0.51
59:DA:1019:U:C2	59:DA:1020:A:N7	2.79	0.51
29:BG:8:LYS:O	29:BG:11:TYR:HB3	2.10	0.51
28:DF:33:LEU:O	28:DF:37:VAL:HG23	2.10	0.51
39:DT:36:GLU:HB3	39:DT:39:ARG:O	2.11	0.51
20:CY:14:ASN:ND2	20:CY:80:ASN:HD22	2.08	0.51
41:DV:17:GLY:HA2	41:DV:96:ILE:HG13	1.92	0.51
20:AY:201:ILE:HG21	20:AY:206:LEU:HB2	1.93	0.51
39:BT:74:ARG:HD2	39:BT:76:PHE:CZ	2.46	0.51
15:AP:21:VAL:HG11	15:AP:59:TRP:HE1	1.76	0.51
59:DA:577:G:O2'	59:DA:1254:A:OP1	2.28	0.51
7:CH:7:ALA:HB2	7:CH:85:ARG:HE	1.75	0.51
31:BJ:23:UNK:O	31:BJ:84:UNK:C	2.58	0.51
1:AB:33:TYR:HD2	1:AB:34:ALA:H	1.58	0.51
18:AS:44:MET:O	18:AS:46:GLY:N	2.44	0.51
59:DA:1727:U:H2'	59:DA:1728:G:O4'	2.10	0.51
59:DA:2100:G:H2'	59:DA:2101:G:C8	2.45	0.51
59:DA:1819:A:H4'	59:DA:1820:U:H5''	1.91	0.51
59:DA:1440:G:H2'	59:DA:1441:G:H8	1.76	0.51
3:CD:74:GLN:O	3:CD:78:LEU:HG	2.11	0.51
59:BA:2391:G:H1'	59:BA:2424:C:H41	1.75	0.51
35:BP:112:LEU:H	35:BP:128:HIS:HB2	1.74	0.51
21:CA:1534:A:O5'	21:CA:1534:A:H8	1.93	0.51
21:AA:857:C:H2'	21:AA:858:G:O4'	2.09	0.51
20:AY:485:GLU:HB3	20:AY:601:ILE:HG23	1.92	0.51
38:BS:102:ALA:HA	38:BS:109:GLY:H	1.75	0.51
44:BY:47:LYS:HD2	59:BA:481:G:OP2	2.10	0.51
14:AO:8:LYS:HE3	14:AO:31:LEU:HD21	1.93	0.51
30:BH:14:GLY:O	30:BH:29:PRO:HD3	2.10	0.51
6:AG:20:ASP:HB2	6:AG:23:VAL:HG23	1.92	0.51
21:AA:800:G:H8	21:AA:800:G:O5'	1.94	0.51
50:B6:22:ALA:HB2	50:B6:39:TYR:CE2	2.46	0.51
11:CL:42:THR:HA	11:CL:52:LEU:HA	1.93	0.51
21:CA:1507:A:H2'	21:CA:1508:G:H8	1.76	0.51
28:BF:12:LEU:HD22	28:BF:17:ARG:HB3	1.92	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:1059:G:N1	59:DA:1079:C:C4	2.77	0.51
25:DC:41:THR:HB	25:DC:43:GLU:HG3	1.92	0.51
21:AA:411:A:O2'	21:AA:413:G:H5'	2.10	0.51
9:CJ:8:LEU:HB3	9:CJ:16:LEU:HD23	1.93	0.51
59:DA:2629:A:H8	59:DA:2895:U:O4	1.92	0.51
25:DC:53:ARG:HD3	25:DC:53:ARG:N	2.24	0.51
29:BG:98:ARG:HH11	57:B4:9:LEU:HG	1.75	0.51
28:BF:103:LYS:HG2	28:BF:107:LYS:HG2	1.93	0.51
20:AY:415:PRO:HG2	20:AY:420:ASP:HB2	1.92	0.51
21:CA:966:G:C2	21:CA:967:C:C2	2.99	0.51
59:BA:688:U:H2'	59:BA:689:A:C8	2.42	0.51
27:BE:109:LYS:NZ	59:BA:2681:C:OP2	2.37	0.51
25:BC:30:VAL:HA	25:BC:33:LEU:H	1.76	0.51
20:CY:246:ILE:O	20:CY:250:THR:OG1	2.19	0.51
59:BA:2267:A:H5''	59:BA:2268:A:H5''	1.93	0.51
59:DA:914:C:H2'	59:DA:915:C:H5'	1.92	0.51
59:BA:1496:A:H1'	59:BA:1577:C:O2'	2.11	0.51
12:AM:108:ARG:HH22	12:AM:111:LYS:HZ3	1.59	0.51
27:DE:4:ILE:HG22	27:DE:198:VAL:HB	1.93	0.51
4:AE:86:ALA:O	4:AE:125:SER:N	2.40	0.51
5:AF:96:PRO:HB3	17:AR:30:ASP:OD2	2.11	0.51
21:CA:743:U:H2'	21:CA:744:C:H6	1.74	0.51
59:BA:843:G:H2'	59:BA:844:C:H5'	1.92	0.51
59:DA:1440:G:H2'	59:DA:1441:G:C8	2.46	0.51
5:AF:77:ARG:O	5:AF:81:ILE:HG13	2.10	0.51
21:AA:382:A:H2'	21:AA:383:A:C8	2.45	0.51
59:BA:2173:A:OP1	59:BA:2173:A:H8	1.93	0.51
42:DW:75:TYR:O	42:DW:104:THR:N	2.41	0.51
21:AA:764:C:H2'	21:AA:765:G:C8	2.45	0.51
59:DA:1176:G:H3'	59:DA:1177:A:H8	1.74	0.51
34:BO:21:CYS:HB2	34:BO:39:ILE:HD12	1.92	0.51
21:CA:1137:C:O2	21:CA:1137:C:H2'	2.09	0.51
34:BO:41:ALA:O	34:BO:57:VAL:HA	2.11	0.51
33:BN:31:ALA:HB2	33:BN:103:VAL:HG13	1.91	0.51
33:BN:35:ARG:HB3	33:BN:42:TRP:HZ3	1.75	0.51
60:BB:24:G:O2'	60:BB:27:C:N4	2.44	0.51
49:D5:4:HIS:HB3	59:DA:2577:A:H1'	1.93	0.51
25:DC:131:ILE:HG12	25:DC:132:LEU:N	2.25	0.51
3:AD:146:ILE:N	3:AD:183:GLY:O	2.43	0.51
45:DZ:102:LEU:H	45:DZ:102:LEU:HD12	1.74	0.51
21:AA:1386:G:H2'	21:AA:1387:G:H8	1.74	0.51
59:BA:536:A:H2'	59:BA:537:C:C6	2.46	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:AY:135:PHE:CD1	20:AY:272:LEU:HD22	2.46	0.51
28:BF:180:GLY:HA3	59:BA:616:A:C4	2.45	0.51
22:AW:20(A):U:H1'	22:AW:21:A:OP1	2.11	0.51
59:DA:2243:U:H2'	59:DA:2244:U:C6	2.45	0.51
60:DB:18:G:H2'	60:DB:19:G:H8	1.75	0.51
45:DZ:3:TYR:N	45:DZ:56:VAL:O	2.44	0.51
56:B1:25:LYS:HB3	59:BA:388:G:OP2	2.11	0.51
39:DT:33:LYS:NZ	39:DT:74:ARG:HH22	2.08	0.51
59:DA:2047:U:O2'	59:DA:2823:A:N1	2.44	0.51
21:CA:672:U:H2'	21:CA:673:G:C8	2.45	0.51
16:CQ:13:ASP:O	16:CQ:15:MET:N	2.37	0.51
20:AY:462:ILE:O	20:AY:466:LEU:N	2.44	0.51
20:AY:466:LEU:HA	20:AY:470:PHE:HD2	1.74	0.51
13:AN:57:ARG:O	13:AN:59:ALA:N	2.43	0.51
59:BA:1639:U:O2'	59:BA:2699:C:H4'	2.11	0.51
42:BW:19:LEU:HD12	49:B5:25:LEU:H	1.74	0.51
57:B4:15:ILE:HB	57:B4:32:TYR:HB3	1.92	0.51
28:BF:165:ARG:HD3	28:BF:168:ARG:NH1	2.25	0.51
59:BA:111:A:H2'	59:BA:112:U:O4'	2.11	0.51
45:BZ:25:PRO:HA	45:BZ:38:TYR:HB3	1.92	0.51
43:BX:26:TYR:OH	43:BX:88:LYS:HB2	2.11	0.51
53:D9:10:ILE:HD11	53:D9:32:HIS:NE2	2.26	0.51
45:DZ:166:SER:H	45:DZ:167:PRO:HA	1.75	0.51
4:AE:149:GLU:HB3	4:AE:153:LYS:HE3	1.91	0.51
21:CA:1429:C:H2'	21:CA:1430:C:C6	2.46	0.51
3:AD:49:ARG:NE	3:AD:49:ARG:HA	2.25	0.51
2:AC:48:TYR:OH	2:AC:122:GLU:OE2	2.28	0.51
21:AA:1140:C:H2'	21:AA:1141:C:C6	2.45	0.51
27:BE:34:VAL:HG22	27:BE:35:GLN:H	1.76	0.51
2:AC:117:ALA:HA	2:AC:120:VAL:HB	1.92	0.51
2:CC:195:VAL:HG11	21:CA:1205:U:H4'	1.91	0.51
59:DA:2884:U:H2'	59:DA:2885:C:O4'	2.11	0.51
59:DA:1119:C:H2'	59:DA:1120:G:H8	1.75	0.51
21:AA:1035:A:H2'	21:AA:1036:G:H8	1.75	0.51
27:DE:61:ARG:NH1	59:DA:2632:A:O2'	2.42	0.51
21:AA:1261:A:N6	21:AA:1274:G:H21	2.00	0.51
21:CA:490:G:H2'	21:CA:491:G:C8	2.46	0.51
25:BC:22:THR:HA	25:BC:225:ILE:O	2.11	0.51
35:DP:36:LYS:HG2	35:DP:41:ARG:HB3	1.93	0.51
37:DR:90:ARG:NH1	59:DA:2881:C:H5'	2.24	0.51
6:CG:111:ARG:HE	6:CG:123:GLU:HB2	1.75	0.51
44:DY:68:HIS:HB3	44:DY:71:LYS:HE2	1.92	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:AA:68(P):C:H2'	21:AA:68(Q):U:C6	2.45	0.51
49:B5:3:LYS:HE2	49:B5:3:LYS:H	1.76	0.51
25:DC:150:ILE:O	25:DC:154:ILE:HG13	2.10	0.51
39:DT:49:VAL:O	39:DT:50:ILE:HG13	2.10	0.51
7:CH:100:ILE:HG22	7:CH:101:PRO:O	2.11	0.51
41:DV:39:LEU:HD12	41:DV:47:VAL:HG21	1.92	0.51
25:BC:133:GLY:N	25:BC:138:LEU:HB2	2.25	0.51
20:AY:85:PRO:HB3	20:AY:94:VAL:HA	1.93	0.51
50:D6:41:PRO:HD3	50:D6:47:THR:HG22	1.91	0.51
59:DA:573:G:H1	59:DA:2031:A:P	2.34	0.51
26:DD:117:VAL:HG12	26:DD:129:ASN:HD21	1.74	0.51
21:CA:129(A):G:N2	21:CA:186(J):G:OP2	2.32	0.51
59:DA:2329:G:H2'	59:DA:2330:G:H8	1.75	0.51
21:AA:778:G:H2'	21:AA:779:C:O4'	2.11	0.51
21:AA:125:U:H2'	21:AA:126:G:C8	2.46	0.51
6:CG:26:PHE:HB2	6:CG:62:PHE:HZ	1.76	0.51
25:BC:76:LEU:HD12	25:BC:93:ASP:O	2.10	0.51
59:BA:1378:A:H2'	59:BA:1380:G:N7	2.25	0.51
21:AA:483:C:H3'	21:AA:484:G:H8	1.76	0.51
31:BJ:24:UNK:HA	31:BJ:84:UNK:C	2.41	0.51
20:CY:136:ALA:HB3	20:CY:260:LEU:HB2	1.93	0.51
60:BB:89(A):G:H2'	60:BB:89(B):A:C8	2.46	0.51
2:AC:48:TYR:O	2:AC:50:ALA:N	2.44	0.51
21:AA:644:G:H2'	21:AA:645:C:O4'	2.11	0.51
21:AA:1000:A:H2'	21:AA:1001:G:O4'	2.10	0.51
25:BC:201:LYS:HB2	25:BC:209:PHE:HE2	1.76	0.51
24:AU:3:SER:HB2	59:BA:1913:A:O2'	2.11	0.51
27:DE:123:ALA:HB3	59:DA:2511:U:H5''	1.92	0.51
5:AF:16:GLN:O	5:AF:19:LEU:HB3	2.10	0.51
59:BA:1750:G:O2'	59:BA:2860:A:N1	2.43	0.51
20:CY:215:LYS:O	20:CY:219:VAL:N	2.37	0.51
21:CA:1018:C:H2'	21:CA:1019:C:C6	2.45	0.51
59:DA:1670:C:H2'	59:DA:1671:U:O4'	2.09	0.51
27:BE:201:THR:OG1	27:BE:202:LYS:N	2.44	0.51
27:BE:60:ASN:OD1	27:BE:61:ARG:N	2.44	0.51
21:CA:68(P):C:H2'	21:CA:68(Q):U:H6	1.75	0.51
59:BA:1102:C:H2'	59:BA:1103:A:H8	1.76	0.51
26:BD:244:ARG:HH22	59:BA:1841:U:H1'	1.76	0.51
28:BF:127:GLU:HA	28:BF:195:ASP:OD2	2.11	0.51
25:BC:72:GLN:OE1	25:BC:73:VAL:N	2.43	0.51
44:DY:8:LYS:HB3	44:DY:28:LYS:HZ1	1.75	0.51
3:CD:3:ARG:O	3:CD:5:ILE:N	2.44	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:1426:G:H5''	59:BA:1559:G:O6	2.11	0.51
28:DF:187:VAL:HG12	35:DP:7:ARG:HH22	1.76	0.51
11:AL:113:ARG:HE	11:AL:116:SER:H	1.58	0.51
59:DA:2389:G:H5''	59:DA:2390:U:O4'	2.10	0.51
33:DN:27:ALA:O	33:DN:31:ALA:N	2.38	0.51
21:CA:16:A:N1	21:CA:919:A:H2	2.09	0.51
59:BA:271(B):C:H1'	59:BA:272:G:H1'	1.93	0.51
16:AQ:60:ILE:HG12	16:AQ:61:GLU:N	2.24	0.51
20:CY:8:ASP:HB2	20:CY:11:ARG:NE	2.25	0.51
26:BD:62:TYR:HE2	26:BD:88:ARG:HH22	1.58	0.51
20:AY:424:LEU:HA	20:AY:427:ALA:HB3	1.93	0.51
59:BA:629:G:O2'	59:BA:639:U:O2	2.28	0.51
52:B8:8:LYS:HE3	59:BA:245:G:O6	2.10	0.51
42:DW:37:ARG:HG3	42:DW:38:TYR:CD1	2.46	0.51
53:D9:33:LYS:NZ	59:DA:2526:G:O3'	2.44	0.51
30:BH:104:GLU:HA	30:BH:113:VAL:O	2.11	0.51
59:DA:2834:G:H1'	59:DA:2883:A:N6	2.26	0.51
59:BA:2593:U:H3	59:BA:2600:A:N6	2.08	0.51
59:DA:826:U:H5''	59:DA:2429:G:P	2.51	0.51
12:AM:84:ILE:HD13	18:AS:74:PHE:CZ	2.45	0.51
27:DE:34:VAL:HG11	27:DE:78:LEU:HD22	1.92	0.51
45:DZ:10:ARG:NH2	45:DZ:26:GLY:O	2.43	0.51
45:BZ:58:VAL:HA	45:BZ:68:PRO:HA	1.91	0.51
28:DF:46:ARG:O	28:DF:48:THR:N	2.44	0.51
33:BN:127:ASP:OD1	33:BN:127:ASP:N	2.40	0.51
21:AA:834:C:H2'	21:AA:835:U:O4'	2.11	0.51
3:CD:14:ARG:HG3	3:CD:66:ARG:HH12	1.76	0.51
21:CA:1151:A:HO2'	21:CA:1152:A:H8	1.59	0.51
59:BA:270(B):A:N6	59:BA:270(Z):G:H1'	2.26	0.51
6:CG:16:LEU:HD22	8:CI:42:ARG:HA	1.93	0.51
3:AD:172:PRO:O	3:AD:187:ARG:NH1	2.44	0.51
2:CC:28:GLN:HB2	2:CC:32:LEU:HD11	1.92	0.51
9:AJ:78:ASN:O	9:AJ:81:THR:OG1	2.28	0.51
3:AD:15:GLU:HB3	3:AD:63:LYS:HE2	1.92	0.51
56:B1:10:LYS:NZ	59:BA:397:G:OP2	2.43	0.51
44:DY:62:GLU:CD	44:DY:63:LYS:H	2.14	0.51
14:CO:85:LEU:HD22	14:CO:87:ILE:HG12	1.91	0.51
33:DN:42:TRP:H	40:DU:64:ARG:HE	1.59	0.51
51:B7:40:TRP:CE3	59:BA:459:U:H3'	2.46	0.51
30:DH:54:ARG:HB3	30:DH:65:HIS:HB2	1.93	0.51
20:CY:163:VAL:HA	20:CY:258:VAL:HG22	1.92	0.51
49:B5:18:ALA:O	49:B5:21:SER:N	2.44	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
44:DY:27:VAL:O	44:DY:28:LYS:HB3	2.11	0.51
56:D1:15:ALA:HA	56:D1:40:ARG:O	2.10	0.51
13:CN:29:ARG:NH1	21:CA:974:A:OP2	2.44	0.51
16:AQ:17:LYS:HA	16:AQ:46:ASP:O	2.11	0.51
56:B1:90:ILE:O	56:B1:94:LEU:HD13	2.10	0.51
9:CJ:61:GLU:OE2	13:CN:49:HIS:NE2	2.45	0.51
59:DA:307:G:H21	59:DA:330:A:N6	2.08	0.51
40:BU:11:ARG:HH22	59:BA:29:U:H4'	1.76	0.51
59:BA:2065:C:H2'	59:BA:2066:C:H6	1.76	0.51
59:DA:198:C:H42	59:DA:248:G:H1	1.59	0.51
31:DJ:24:UNK:HA	31:DJ:84:UNK:O	2.11	0.51
59:DA:2784:C:H2'	59:DA:2785:C:H6	1.76	0.51
59:BA:920:G:H2'	59:BA:921:G:H8	1.74	0.51
59:BA:1931:U:H2'	59:BA:1932:A:C8	2.42	0.51
27:DE:93:VAL:HG12	27:DE:182:LEU:HD13	1.92	0.51
15:AP:18:ARG:HA	15:AP:38:TYR:HA	1.93	0.51
45:BZ:7:ALA:O	45:BZ:62:PRO:HD2	2.11	0.51
21:CA:1255:G:N2	21:CA:1259:C:O2	2.44	0.51
45:BZ:4:ARG:HA	45:BZ:58:VAL:O	2.11	0.51
27:DE:82:ARG:NE	59:DA:2637:U:OP1	2.43	0.51
34:DO:9:GLU:HA	34:DO:18:LYS:HA	1.92	0.51
60:BB:66:A:N6	60:BB:108:C:OP2	2.44	0.51
56:D1:67:ILE:N	56:D1:68:PRO:HD2	2.26	0.51
3:CD:42:GLN:H	21:CA:541:G:HO2'	1.58	0.51
40:BU:61:TRP:CD2	40:BU:94:ASN:HB2	2.45	0.51
11:CL:127:GLU:O	11:CL:129:ALA:N	2.42	0.51
32:DK:41:PHE:HB2	32:DK:69:THR:HG21	1.92	0.51
47:D2:29:LYS:HG2	47:D2:57:ILE:HD12	1.93	0.51
59:BA:270(F):G:H2'	59:BA:270(G):U:C6	2.45	0.51
21:CA:11:G:H1	21:CA:23:C:H42	1.58	0.51
5:CF:5:GLU:HG2	5:CF:62:TRP:HZ2	1.76	0.51
4:CE:131:ILE:O	4:CE:135:THR:OG1	2.24	0.51
45:BZ:120:ILE:HG22	45:BZ:121:HIS:ND1	2.26	0.51
59:DA:697:C:H2'	59:DA:698:C:C6	2.46	0.51
34:BO:19:ILE:HG22	34:BO:43:VAL:HG22	1.93	0.51
59:BA:1120:G:H2'	59:BA:1121:C:C6	2.46	0.51
1:AB:82:ARG:NH2	1:AB:92:TYR:OH	2.40	0.51
36:DQ:11:LYS:NZ	36:DQ:88:GLY:H	2.09	0.51
28:BF:25:PRO:HD3	28:BF:115:ALA:HB1	1.93	0.51
34:DO:71:ARG:HH11	34:DO:71:ARG:HB3	1.76	0.51
21:CA:1028(B):C:N4	21:CA:1028(G):G:C6	2.79	0.50
33:BN:41:ASP:CA	40:BU:64:ARG:HE	2.24	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:852:G:N2	59:DA:925:C:C2	2.75	0.50
25:BC:47:LYS:HB2	25:BC:169:THR:O	2.12	0.50
9:CJ:8:LEU:HB3	9:CJ:16:LEU:CD2	2.42	0.50
59:DA:1448:G:H2'	59:DA:149(B):A:C8	2.46	0.50
56:D1:22:GLY:O	56:D1:37:ILE:N	2.43	0.50
59:DA:2781:A:H5'	59:DA:2782:G:H5'	1.93	0.50
59:BA:221:A:H4'	59:BA:222:A:O5'	2.10	0.50
20:AY:136:ALA:H	20:AY:260:LEU:CB	2.24	0.50
20:AY:656:ALA:O	20:AY:660:ARG:HG2	2.11	0.50
21:CA:737:A:H2'	21:CA:738:C:H6	1.76	0.50
20:AY:19:ALA:H	20:AY:25:LYS:HE2	1.77	0.50
10:CK:108:ILE:HG21	17:CR:88:LYS:N	2.26	0.50
33:DN:56:ASN:H	33:DN:126:PRO:HA	1.76	0.50
59:DA:919:G:H4'	60:DB:81:G:O2'	2.11	0.50
28:BF:62:ARG:HB3	59:BA:797:C:OP2	2.11	0.50
59:BA:887:A:H1'	59:BA:889:C:C5	2.46	0.50
21:AA:17:U:H2'	21:AA:18:C:C6	2.46	0.50
34:DO:77:ILE:HB	39:DT:74:ARG:HG2	1.92	0.50
1:AB:103:THR:HB	21:AA:1074:G:H4'	1.93	0.50
20:AY:679:VAL:HG23	20:AY:684:GLN:HB2	1.91	0.50
59:BA:16:G:H2'	59:BA:17:G:C8	2.45	0.50
35:DP:6:LEU:HG	35:DP:8:PRO:HD2	1.93	0.50
12:AM:86:CYS:HB3	18:AS:74:PHE:HE1	1.74	0.50
33:DN:106:MET:HE1	59:DA:1006:C:H1'	1.93	0.50
4:AE:20:GLN:HA	21:AA:922:G:H4'	1.93	0.50
59:BA:19:C:H2'	59:BA:20:C:C6	2.47	0.50
59:DA:1844:C:H2'	59:DA:1845:G:O4'	2.11	0.50
27:DE:183:LEU:HD21	39:DT:11:GLU:HG2	1.93	0.50
38:DS:54:LEU:HD13	38:DS:60:GLY:HA2	1.93	0.50
59:DA:55:G:H1	59:DA:115:C:H42	1.58	0.50
59:BA:319:C:H2'	59:BA:320:A:C8	2.45	0.50
59:DA:2471:C:H2'	59:DA:2472:G:O4'	2.12	0.50
59:DA:2208:U:H2'	59:DA:2209:C:C6	2.46	0.50
3:CD:122:ARG:HA	3:CD:134:ASP:O	2.11	0.50
59:BA:1750:G:H2'	59:BA:1751:C:C6	2.47	0.50
3:CD:203:VAL:O	3:CD:207:TYR:HB2	2.11	0.50
59:DA:1234:U:H2'	59:DA:1235:G:O4'	2.10	0.50
59:BA:39:C:H2'	59:BA:40:C:C6	2.46	0.50
21:CA:911:U:H2'	21:CA:912:C:C6	2.47	0.50
20:AY:309:LEU:HG	20:AY:391:GLY:HA3	1.93	0.50
21:CA:551:U:H2'	21:CA:552:U:C6	2.46	0.50
1:AB:67:THR:HB	1:AB:90:MET:SD	2.50	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:DG:144:ILE:HG13	29:DG:148:MET:HG3	1.92	0.50
32:BK:82:ALA:HB1	32:BK:97:GLY:HA3	1.93	0.50
3:AD:138:TYR:CE1	21:AA:620:C:H4'	2.46	0.50
21:AA:1440(A):G:H4'	21:AA:1440(B):G:C8	2.46	0.50
21:CA:1134:G:H1	21:CA:1140:C:H42	1.59	0.50
8:CI:107:ARG:NE	21:CA:1347:G:H5''	2.27	0.50
59:DA:784:A:O2'	59:DA:785:G:H5''	2.12	0.50
15:AP:5:ARG:NH1	21:AA:376:G:O3'	2.44	0.50
59:BA:255:A:HO2'	59:BA:384:U:H5	1.59	0.50
28:DF:182:ASN:ND2	28:DF:185:ASP:OD1	2.30	0.50
26:DD:207:GLY:O	59:DA:1791:A:O2'	2.23	0.50
20:CY:210:ARG:O	20:CY:214:GLU:HG2	2.10	0.50
1:AB:115:LEU:O	1:AB:118:LEU:HB2	2.12	0.50
4:CE:94:ALA:HB2	4:CE:119:LEU:HD23	1.93	0.50
47:B2:14:ARG:HG2	47:B2:63:VAL:HG21	1.92	0.50
34:DO:104:ARG:HH21	39:DT:33:LYS:HE3	1.75	0.50
26:BD:172:TYR:CD1	26:BD:184:LYS:HB3	2.43	0.50
26:DD:86:PRO:HB3	59:DA:1567:A:P	2.50	0.50
59:BA:1201:C:H2'	59:BA:1202:C:H6	1.76	0.50
59:BA:2306:C:H3'	59:BA:2307:G:C8	2.45	0.50
22:AW:19:G:H22	22:AW:56:C:H42	1.58	0.50
25:BC:165:ARG:HG2	25:BC:166:ASN:H	1.75	0.50
59:DA:1165:U:H2'	59:DA:1166:C:H6	1.76	0.50
29:DG:130:ASN:HD21	29:DG:160:VAL:HG13	1.76	0.50
11:CL:123:LYS:HD3	21:CA:37:U:OP1	2.12	0.50
2:CC:86:VAL:O	2:CC:89:GLU:HB2	2.11	0.50
21:AA:894:G:H2'	21:AA:895:G:C8	2.46	0.50
21:AA:757:U:H2'	21:AA:758:G:O4'	2.11	0.50
33:DN:100:GLU:HB3	33:DN:117:PHE:HZ	1.77	0.50
47:B2:17:SER:O	47:B2:21:LEU:HB2	2.12	0.50
27:BE:16:ARG:HD2	27:BE:17:ASP:HB2	1.92	0.50
19:CT:30:LYS:O	19:CT:34:LYS:HG3	2.11	0.50
21:CA:770:C:O2'	21:CA:899:C:N3	2.42	0.50
15:AP:32:TYR:HH	21:AA:608:A:HO2'	1.57	0.50
59:BA:122(A):C:H42	59:BA:1228:G:H1	1.59	0.50
3:AD:59:ARG:HA	3:AD:59:ARG:HH11	1.75	0.50
21:AA:316:G:O3'	21:AA:353:A:N6	2.44	0.50
59:BA:1672:C:H4'	59:BA:2553:G:H4'	1.93	0.50
39:BT:62:THR:OG1	39:BT:75:ILE:HG12	2.12	0.50
33:DN:38:HIS:CG	33:DN:39:ARG:N	2.79	0.50
3:AD:28:SER:O	3:AD:30:LYS:N	2.44	0.50
25:DC:42:VAL:O	25:DC:43:GLU:C	2.50	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
60:DB:49:C:H2'	60:DB:50:G:C8	2.45	0.50
1:AB:96:ARG:HD3	21:AA:1099:G:OP1	2.11	0.50
8:AI:17:VAL:HA	8:AI:63:ILE:HG23	1.93	0.50
6:CG:119:ARG:HH22	21:CA:1240:U:H5	1.58	0.50
52:D8:10:ALA:O	52:D8:14:VAL:HG12	2.11	0.50
12:AM:54:VAL:HA	12:AM:57:ARG:HE	1.76	0.50
21:CA:1261:A:H62	21:CA:1274:G:N2	2.03	0.50
8:AI:107:ARG:HB3	21:AA:1347:G:H8	1.77	0.50
3:CD:35:ARG:HD3	21:CA:412:A:H2	1.75	0.50
1:CB:167:PRO:HD3	1:CB:187:LEU:O	2.11	0.50
35:BP:59:LEU:O	52:B8:13:ARG:NH1	2.44	0.50
59:BA:1991:U:O2'	59:BA:1992:G:H5'	2.12	0.50
16:AQ:5:VAL:HG12	16:AQ:60:ILE:HG13	1.94	0.50
59:BA:2088:G:N2	59:BA:2231:C:N3	2.56	0.50
2:CC:152:ILE:HG12	2:CC:199:LYS:HB2	1.94	0.50
8:CI:17:VAL:HG22	8:CI:63:ILE:HD12	1.93	0.50
59:BA:2850:A:H2'	59:BA:2851:A:C8	2.46	0.50
56:D1:91:LYS:HA	56:D1:94:LEU:HD22	1.93	0.50
21:AA:1172:C:H2'	21:AA:1173:G:C8	2.45	0.50
7:AH:85:ARG:NH1	7:AH:134:ILE:HG23	2.26	0.50
18:CS:71:LEU:C	18:CS:73:GLU:H	2.14	0.50
20:AY:16:GLY:O	20:AY:105:ILE:HG12	2.12	0.50
20:AY:649:LEU:CA	20:AY:652:MET:HB3	2.40	0.50
4:AE:6:PHE:CD2	4:AE:36:ASP:HB3	2.45	0.50
29:DG:67:LYS:NZ	29:DG:68:PRO:HD2	2.26	0.50
36:DQ:11:LYS:HZ3	36:DQ:88:GLY:H	1.59	0.50
21:AA:359:U:H2'	21:AA:360:A:C8	2.47	0.50
59:DA:1935:G:H3'	59:DA:1962:C:H42	1.76	0.50
46:B0:24:LYS:HG3	46:B0:36:ILE:CD1	2.42	0.50
36:BQ:110:THR:HB	36:BQ:113:GLN:H	1.75	0.50
48:D3:12:PRO:C	48:D3:20:LYS:HZ1	2.12	0.50
59:BA:2876:G:H2'	59:BA:2877:G:H8	1.76	0.50
21:CA:1472:U:H2'	21:CA:1473:A:C8	2.47	0.50
59:DA:460:A:H2'	59:DA:461:C:O4'	2.11	0.50
10:AK:17:GLY:O	10:AK:80:VAL:HA	2.10	0.50
59:BA:596:G:H2'	59:BA:597:U:O4'	2.11	0.50
11:CL:43:VAL:HG12	11:CL:44:THR:H	1.75	0.50
12:CM:102:ARG:HG2	12:CM:106:ASN:H	1.76	0.50
27:BE:60:ASN:O	27:BE:61:ARG:HB2	2.11	0.50
27:BE:61:ARG:HB3	27:BE:62:PRO:CD	2.32	0.50
33:DN:41:ASP:HA	40:DU:64:ARG:NE	2.27	0.50
27:BE:14:ILE:HG23	39:BT:14:TYR:OH	2.12	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:AB:174:VAL:O	1:AB:178:ARG:HB2	2.11	0.50
59:DA:1533:C:H42	59:DA:1538:G:H1	1.57	0.50
39:DT:27:THR:HG22	39:DT:49:VAL:HB	1.92	0.50
7:CH:100:ILE:HB	7:CH:125:ARG:HH21	1.76	0.50
20:CY:608:VAL:HG13	20:CY:609:GLU:O	2.12	0.50
59:BA:2393:A:H62	59:BA:2422:A:H61	1.60	0.50
6:AG:4:ARG:HG2	21:AA:932:C:OP1	2.11	0.50
59:BA:1532:C:H2'	59:BA:1533:C:C6	2.46	0.50
59:DA:1483:G:H1	59:DA:1506:C:N4	2.08	0.50
59:BA:1356:G:H2'	59:BA:1357:U:O4'	2.12	0.50
20:AY:550:MET:O	20:AY:560:VAL:HG23	2.10	0.50
42:BW:17:VAL:O	42:BW:21:VAL:HG23	2.11	0.50
59:BA:568:U:O2	59:BA:570:G:H8	1.94	0.50
59:BA:676:A:H8	59:BA:2443:C:H1'	1.76	0.50
26:DD:187:GLY:C	26:DD:189:CYS:H	2.14	0.50
22:AW:12:U:H1'	22:AW:24:G:N2	2.26	0.50
59:DA:860:U:H2'	59:DA:861:A:H8	1.75	0.50
35:BP:55:ARG:NH1	59:BA:2358:G:H1	2.08	0.50
21:CA:1251:A:H2'	21:CA:1252:A:H8	1.77	0.50
7:AH:119:LEU:H	7:AH:119:LEU:HD12	1.77	0.50
46:D0:36:ILE:HD13	46:D0:39:ARG:HG2	1.94	0.50
6:CG:30:ILE:HG22	6:CG:39:ALA:HB1	1.93	0.50
21:CA:773:G:H1	21:CA:806:C:H42	1.59	0.50
51:B7:10:ARG:HG3	59:BA:125:G:C5	2.47	0.50
35:BP:86:LYS:HB2	35:BP:118:GLY:HA3	1.94	0.50
31:BJ:50:UNK:O	31:BJ:82:UNK:N	2.45	0.50
59:BA:2848:G:O2'	59:BA:2867:G:N2	2.31	0.50
59:BA:1094:U:H1'	59:BA:1097:U:C5	2.47	0.50
59:DA:998:C:H2'	59:DA:999:U:O4'	2.10	0.50
1:AB:55:PHE:HA	1:AB:58:ILE:HB	1.93	0.50
48:D3:11:SER:OG	48:D3:13:ILE:HG12	2.12	0.50
37:BR:72:ASP:HB3	37:BR:75:LEU:H	1.76	0.50
10:AK:117:ASN:ND2	21:AA:716:A:O2'	2.44	0.50
33:DN:133:GLN:HG2	33:DN:135:PRO:HD3	1.93	0.50
39:BT:3:ARG:HD3	39:BT:6:LEU:HD13	1.92	0.50
59:DA:2861:G:H2'	59:DA:2862:G:H8	1.76	0.50
59:DA:1916:A:H2'	59:DA:1917:U:O4'	2.11	0.50
26:DD:90:ALA:HB2	26:DD:159:ALA:HA	1.93	0.50
37:DR:51:LEU:HD11	37:DR:66:VAL:HG13	1.92	0.50
56:B1:67:ILE:N	56:B1:68:PRO:HD2	2.26	0.50
22:AW:74:C:O2	22:AW:74:C:H2'	2.11	0.50
30:BH:80:SER:OG	30:BH:80:SER:O	2.26	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
37:BR:11:ASN:O	37:BR:17:ARG:NE	2.30	0.50
1:AB:7:VAL:N	1:AB:9:GLU:OE1	2.45	0.50
20:AY:33:LEU:HD23	20:AY:34:TYR:CG	2.45	0.50
20:CY:138:LYS:CE	61:CY:701:GNP:N9	2.62	0.50
33:BN:4:TYR:CG	33:BN:5:VAL:N	2.80	0.50
59:DA:1139:G:H8	59:DA:1139:G:O5'	1.95	0.50
59:DA:2642:G:N2	59:DA:2772:C:N3	2.46	0.50
27:DE:61:ARG:CB	27:DE:62:PRO:HD2	2.42	0.50
59:DA:1409:C:H2'	59:DA:1410:G:C8	2.47	0.50
38:DS:13:ARG:O	38:DS:15:ARG:N	2.43	0.50
25:BC:45:HIS:O	25:BC:212:SER:O	2.30	0.50
38:BS:64:GLU:HA	38:BS:67:ARG:HG3	1.92	0.50
45:BZ:82:ARG:CZ	45:BZ:82:ARG:HB3	2.41	0.50
44:DY:8:LYS:HZ3	44:DY:70:SER:HA	1.77	0.50
59:DA:1462:C:H4'	59:DA:2703:C:H5'	1.94	0.50
2:AC:11:ARG:O	2:AC:16:ARG:N	2.44	0.50
59:DA:1533:C:H2'	59:DA:1534:G:O4'	2.11	0.50
26:BD:106:ILE:HG23	26:BD:108:PRO:HD3	1.92	0.50
13:AN:45:ARG:O	13:AN:49:HIS:HB2	2.12	0.50
27:DE:143:ASN:ND2	27:DE:146:THR:O	2.45	0.50
27:DE:146:THR:O	59:DA:2571:C:O2'	2.28	0.50
59:DA:994:C:N4	59:DA:1160:G:H1	2.07	0.50
21:AA:235:C:H2'	21:AA:236:G:C8	2.47	0.50
21:CA:836:G:C6	21:CA:851:G:C6	2.99	0.50
52:B8:15:LYS:HG2	52:B8:65:GLU:OXT	2.11	0.50
37:BR:13:HIS:O	37:BR:15:SER:N	2.44	0.50
59:BA:2250:G:H8	59:BA:2496:C:H5''	1.77	0.50
35:BP:41:ARG:HH11	59:BA:832:G:H5''	1.76	0.50
12:AM:111:LYS:HE3	21:AA:1227:A:OP1	2.11	0.50
20:AY:312:LEU:HD12	20:AY:388:THR:HA	1.93	0.50
25:BC:114:VAL:C	25:BC:116:ALA:H	2.12	0.50
38:DS:34:HIS:ND1	38:DS:54:LEU:O	2.44	0.50
59:DA:592:G:H1	59:DA:665:C:H42	1.59	0.50
28:BF:44:ARG:HB3	59:BA:615:G:H21	1.76	0.50
1:AB:33:TYR:HD2	1:AB:34:ALA:N	2.09	0.50
4:AE:19:MET:HG3	21:AA:15:G:H1'	1.92	0.50
3:AD:135:LEU:HG	21:AA:620:C:C2	2.47	0.50
52:B8:17:THR:O	52:B8:19:SER:N	2.42	0.50
15:CP:45:THR:O	15:CP:47:ASP:N	2.45	0.50
59:BA:270(S):G:H2'	59:BA:270(T):G:H8	1.76	0.50
21:AA:1388:C:H2'	21:AA:1389:C:C6	2.46	0.50
21:CA:1440(A):G:H5''	21:CA:1440(B):G:O4'	2.11	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:AH:121:ASP:OD2	7:AH:122:ARG:N	2.35	0.50
40:DU:54:LYS:HB3	40:DU:58:ARG:HH21	1.76	0.50
59:BA:82:G:H5''	59:BA:296:C:H5'	1.93	0.50
3:CD:162:LEU:HD11	3:CD:181:MET:CG	2.41	0.50
38:DS:32:LEU:HD11	60:DB:30:C:H5	1.76	0.50
59:DA:485:C:H42	59:DA:495:G:H1	1.59	0.50
56:B1:70:VAL:HA	56:B1:73:LEU:HB2	1.94	0.50
19:CT:37:SER:O	19:CT:40:ALA:HB3	2.11	0.50
59:BA:302:C:H2'	59:BA:303:U:C6	2.47	0.50
59:DA:2524:G:H1	59:DA:2539:C:H42	1.58	0.50
13:CN:3:ARG:NH1	21:CA:1204:A:OP2	2.45	0.50
39:BT:132:LYS:HD3	39:BT:132:LYS:O	2.11	0.50
59:DA:778:G:C5	59:DA:779:U:C4	2.99	0.50
19:CT:85:MET:SD	21:CA:186:C:O2'	2.63	0.50
15:CP:5:ARG:HB2	21:CA:376:G:H5''	1.94	0.50
11:CL:84:LEU:H	11:CL:104:VAL:HG11	1.77	0.50
25:DC:213:VAL:HG11	25:DC:225:ILE:CG1	2.41	0.50
14:CO:67:LEU:HD11	14:CO:87:ILE:HD12	1.92	0.50
60:BB:21:G:H2'	60:BB:22:U:O4'	2.11	0.50
25:BC:23:ILE:HD13	25:BC:191:ARG:HG2	1.93	0.50
25:BC:47:LYS:HD2	25:BC:48:LEU:N	2.27	0.50
28:BF:157:VAL:HG12	28:BF:192:LEU:HG	1.93	0.50
38:BS:97:ARG:O	38:BS:100:ALA:N	2.33	0.50
59:BA:384:U:O5'	59:BA:384:U:H6	1.94	0.50
3:CD:30:LYS:HB3	3:CD:35:ARG:HG2	1.93	0.50
3:CD:33:MET:HG3	3:CD:37:PRO:HB3	1.92	0.50
59:BA:1264:G:O3'	59:BA:2615:U:H5'	2.11	0.50
50:D6:39:TYR:HB3	50:D6:49:HIS:CD2	2.46	0.50
37:BR:77:ARG:O	37:BR:81:ASP:HB2	2.12	0.50
3:AD:122:ARG:HH21	21:AA:403:C:H4'	1.77	0.50
59:BA:2443:C:H2'	59:BA:2444:G:H8	1.75	0.50
28:DF:33:LEU:HD11	28:DF:112:MET:HG2	1.94	0.50
59:BA:2136:C:C2	59:BA:2155:G:N2	2.66	0.50
21:CA:328:C:H4'	21:CA:329:A:C5'	2.41	0.50
59:DA:2658:C:H2'	59:DA:2659:G:O4'	2.11	0.50
30:BH:41:MET:CB	30:BH:54:ARG:HA	2.41	0.50
2:AC:30:ARG:NH1	13:AN:35:ARG:O	2.44	0.50
21:AA:601:C:H2'	21:AA:602:A:C8	2.47	0.50
10:AK:84:VAL:HG11	10:AK:95:ILE:HD11	1.94	0.50
59:BA:1165:U:H2'	59:BA:1166:C:C6	2.46	0.50
59:DA:676:A:C8	59:DA:2443:C:H1'	2.46	0.50
21:AA:1252:A:H2'	21:AA:1253:G:H8	1.77	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
31:DJ:58:UNK:O	31:DJ:60:UNK:N	2.44	0.50
56:B1:79:GLY:HA3	59:BA:270(S):G:H1'	1.94	0.50
8:AI:13:ALA:HB2	8:AI:68:GLY:HA3	1.94	0.50
59:DA:1985:G:C2	59:DA:1986:A:C8	3.00	0.50
35:BP:138:LEU:HD23	35:BP:144:GLU:HB3	1.94	0.50
34:BO:25:LEU:HB3	34:BO:38:VAL:HG23	1.94	0.50
21:CA:1196:U:H5'	21:CA:1197:G:H5''	1.93	0.50
6:CG:118:VAL:O	6:CG:122:HIS:HB2	2.12	0.50
59:BA:2140:C:H2'	59:BA:2141:G:H8	1.76	0.50
59:BA:852:G:H1	59:BA:925:C:H42	1.57	0.50
3:CD:96:LEU:HD11	3:CD:188:LEU:HD23	1.94	0.50
20:AY:140:ASP:OD1	20:AY:262:SER:OG	2.29	0.50
59:DA:2133:G:C2	59:DA:2158:A:N6	2.80	0.50
11:AL:45:PRO:HA	11:AL:92:ASP:HA	1.92	0.50
59:BA:787:U:OP1	59:BA:1780:A:N6	2.44	0.50
59:BA:861:A:H2'	59:BA:862:G:O4'	2.11	0.50
28:BF:170:LEU:HD12	28:BF:172:TRP:HE1	1.76	0.50
30:DH:18:GLU:HB3	30:DH:25:LYS:O	2.12	0.50
28:BF:103:LYS:HA	28:BF:106:ARG:CZ	2.42	0.50
59:BA:30:G:H2'	59:BA:31:C:C6	2.46	0.50
19:AT:74:LYS:HG2	19:AT:75:ASN:OD1	2.11	0.50
59:DA:873:G:H1	59:DA:904:C:N4	2.09	0.50
39:DT:53:ARG:NH1	59:DA:2684:U:OP1	2.45	0.50
1:AB:235:SER:HB2	1:AB:239:VAL:HG23	1.94	0.50
8:CI:26:VAL:HG13	8:CI:61:ALA:HB3	1.94	0.50
39:DT:46:GLU:HG3	39:DT:65:LYS:HZ1	1.76	0.50
9:CJ:33:GLN:N	9:CJ:75:ILE:HD11	2.25	0.50
3:CD:173:TRP:HA	3:CD:186:LEU:HD12	1.92	0.50
59:DA:1288:U:C2	59:DA:1327:C:C2	3.00	0.50
24:AU:4:SER:HA	59:BA:1914:C:OP2	2.12	0.50
20:CY:649:LEU:HA	20:CY:652:MET:HB3	1.93	0.50
59:DA:2018:G:H2'	59:DA:2019:A:O4'	2.11	0.50
60:DB:22:U:O2	60:DB:61:G:N2	2.40	0.50
21:AA:1028(H):G:H2'	21:AA:1033:G:H8	1.77	0.50
13:AN:7:ILE:HG22	13:AN:23:ARG:NE	2.27	0.50
59:BA:2212:A:H1'	59:BA:2215:G:C5	2.46	0.50
59:DA:2306:C:H3'	59:DA:2307:G:H8	1.76	0.50
20:CY:541:ALA:HB1	20:CY:583:LYS:HD3	1.94	0.50
7:CH:36:LEU:HD13	7:CH:61:VAL:HG11	1.93	0.50
20:CY:336:THR:HB	20:CY:339:SER:HB2	1.93	0.50
59:BA:926:A:H2'	59:BA:928:G:C8	2.46	0.50
59:DA:906:G:C2	59:DA:907:U:H1'	2.47	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:CA:999:U:H2'	21:CA:1000:A:H8	1.77	0.50
31:DJ:33:UNK:O	31:DJ:37:UNK:N	2.45	0.50
22:CW:20(A):U:H1'	22:CW:21:A:OP1	2.12	0.50
21:AA:520:A:N6	21:AA:529:G:H1'	2.27	0.50
29:BG:106:LEU:O	29:BG:111:LEU:HG	2.12	0.50
59:DA:1582:C:O2'	59:DA:1586:A:N3	2.45	0.50
25:DC:211:ARG:HB3	25:DC:211:ARG:CZ	2.41	0.50
40:DU:76:TYR:HE2	59:DA:1152:C:HO2'	1.59	0.50
59:DA:516:C:H2'	59:DA:517:C:H6	1.74	0.50
21:CA:1492:A:H5'	24:CU:6:5OH:NP	2.27	0.50
27:DE:63:LEU:C	27:DE:65:GLY:H	2.14	0.50
59:DA:795:C:H2'	59:DA:796:C:C6	2.46	0.50
59:DA:1410:G:H2'	59:DA:1411:C:C6	2.47	0.50
9:CJ:17:ASP:HB2	9:CJ:70:ARG:NH1	2.27	0.50
36:BQ:87:LYS:HB2	59:BA:2277:G:H5''	1.94	0.50
21:AA:1376:U:H2'	21:AA:1377:A:C8	2.47	0.50
25:DC:84:ILE:O	25:DC:88:GLU:N	2.42	0.50
59:BA:1248:G:C3'	59:BA:1249:U:H5''	2.42	0.50
27:BE:146:THR:HA	27:BE:147:PRO:C	2.32	0.50
28:DF:157:VAL:HG13	28:DF:194:MET:HG2	1.93	0.50
25:BC:132:LEU:HB2	25:BC:138:LEU:HD23	1.94	0.50
59:DA:1651:G:H2'	59:DA:1652:A:C8	2.46	0.50
28:DF:67:GLN:NE2	59:DA:674:G:O2'	2.40	0.50
59:BA:536:A:H2'	59:BA:537:C:H6	1.76	0.50
15:AP:1:MET:SD	15:AP:3:LYS:NZ	2.78	0.50
21:AA:917:G:H2'	21:AA:918:A:O4'	2.12	0.50
25:BC:32:GLU:HG3	25:BC:33:LEU:HD23	1.92	0.50
36:BQ:46:GLN:NE2	59:BA:2484:G:O3'	2.45	0.50
34:DO:8:LEU:HB2	34:DO:82:ASN:O	2.11	0.50
22:AW:17:U:H5'	22:AW:18:G:O5'	2.12	0.50
59:DA:2829:C:H2'	59:DA:2830:G:H8	1.74	0.50
60:DB:40:U:H3'	60:DB:41:U:C5'	2.40	0.50
48:B3:49:LYS:HD2	59:BA:851:U:H5'	1.93	0.50
12:CM:83:ASP:OD2	12:CM:84:ILE:HG13	2.12	0.50
20:AY:680:PRO:HB2	20:AY:682:GLN:NE2	2.27	0.50
21:CA:123:C:H5''	21:CA:311:C:O2'	2.12	0.50
59:BA:1094:U:H1'	59:BA:1097:U:H5	1.76	0.50
59:BA:716:A:C2	59:BA:717:G:H1'	2.46	0.50
27:BE:82:ARG:HH22	59:BA:2638:G:P	2.34	0.50
59:DA:971:C:O2'	59:DA:983:A:N3	2.40	0.50
28:BF:32:LEU:O	28:BF:36:VAL:HG23	2.11	0.50
40:DU:40:PHE:HZ	41:DV:82:ARG:HH21	1.59	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:846:C:H4'	59:DA:847:U:H5'	1.93	0.50
35:BP:101:VAL:HG12	35:BP:106:LEU:HD22	1.94	0.50
21:CA:301:G:H2'	21:CA:302:G:H8	1.76	0.50
21:CA:1126:U:H1'	21:CA:1280:A:C6	2.47	0.50
39:DT:15:VAL:O	39:DT:17:THR:N	2.45	0.50
59:DA:2747:G:H21	59:DA:2757:A:H62	1.59	0.50
13:AN:2:ALA:N	21:AA:1049:U:HO2'	2.10	0.50
6:AG:22:LEU:HG	6:AG:62:PHE:CE2	2.47	0.50
21:CA:925:G:H1	21:CA:1391:U:H3	1.59	0.50
59:BA:2171:A:H2'	59:BA:2172:U:C6	2.47	0.50
21:CA:1028(C):G:N2	21:CA:1028(F):A:H8	2.02	0.50
59:BA:1934:C:H2'	59:BA:1935:G:C8	2.45	0.50
25:BC:44:VAL:HB	25:BC:174:ALA:HB3	1.94	0.50
34:DO:96:THR:HG23	34:DO:97:ARG:HG3	1.92	0.50
26:DD:208:LYS:HG3	26:DD:210:GLY:H	1.77	0.50
33:BN:9:VAL:CG2	33:BN:39:ARG:HH12	2.19	0.50
59:DA:1386:C:H2'	59:DA:1387:C:C6	2.47	0.50
59:BA:1478:G:H2'	59:BA:1479:G:H8	1.77	0.50
2:AC:65:ALA:HA	2:AC:100:ALA:HB3	1.93	0.50
33:DN:31:ALA:O	33:DN:33:LEU:N	2.45	0.50
4:CE:20:GLN:HA	21:CA:922:G:H4'	1.94	0.50
33:DN:16:ILE:HG22	33:DN:17:ASP:H	1.77	0.50
9:AJ:40:LEU:HD11	21:AA:1280:A:H5'	1.94	0.50
46:D0:43:THR:H	59:DA:2331:G:H4'	1.77	0.50
9:CJ:20:ALA:HB1	9:CJ:37:PRO:HB3	1.94	0.50
21:CA:757:U:H2'	21:CA:758:G:O4'	2.12	0.50
26:DD:106:ILE:O	26:DD:108:PRO:HD3	2.12	0.50
15:AP:21:VAL:HG12	15:AP:34:GLU:H	1.75	0.50
21:AA:1276:G:N3	21:AA:1282:C:O2'	2.44	0.50
30:DH:142:GLY:C	59:DA:2745:C:H4'	2.33	0.50
22:AW:32:C:N3	22:AW:38:A:N6	2.58	0.50
27:DE:55:ASN:HB2	27:DE:74:PRO:O	2.12	0.50
59:DA:1230:C:H2'	59:DA:1231:G:H8	1.75	0.50
21:CA:954:G:H2'	21:CA:955:U:O4'	2.12	0.50
17:AR:60:ALA:HB2	21:AA:834:C:H5''	1.93	0.50
21:CA:636:U:H2'	21:CA:637:G:C8	2.47	0.50
59:BA:745:G:O6	59:BA:746:A:N6	2.44	0.50
59:DA:46:C:H42	59:DA:179:G:H1	1.58	0.50
47:B2:21:LEU:O	47:B2:24:LEU:HB3	2.12	0.50
48:B3:12:PRO:HG2	48:B3:13:ILE:HD13	1.94	0.50
59:DA:2085:C:H2'	59:DA:2086:U:O4'	2.12	0.50
9:AJ:5:ARG:HB2	9:AJ:5:ARG:HH11	1.77	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:CD:93:PHE:O	3:CD:97:LEU:HB2	2.12	0.50
59:BA:1923:U:H2'	59:BA:1924:C:C6	2.47	0.50
29:BG:128:ARG:NH1	59:BA:2316:C:H1'	2.27	0.50
59:BA:1764:G:H2'	59:BA:1765:C:H6	1.77	0.50
4:CE:126:ARG:HE	21:CA:9:G:H5''	1.76	0.50
21:CA:1206:G:H2'	21:CA:1207:G:O4'	2.12	0.50
59:DA:2792:G:H1	59:DA:2804:C:H42	1.59	0.50
21:AA:801:U:H2'	21:AA:802:A:H8	1.76	0.50
45:DZ:100:VAL:O	45:DZ:123:ASP:HA	2.12	0.50
15:AP:52:ASP:OD1	15:AP:55:ARG:HB2	2.12	0.50
59:DA:2314:C:H2'	59:DA:2315:G:H8	1.76	0.50
20:AY:34:TYR:HD1	20:AY:35:TYR:N	2.08	0.49
20:CY:25:LYS:HZ3	61:CY:701:GNP:PB	2.32	0.49
20:CY:72:CYS:HB2	20:CY:79:ILE:HD12	1.94	0.49
32:BK:133:SER:HB3	59:BA:1088:A:N6	2.27	0.49
59:BA:1935:G:N2	59:BA:1964:G:O4'	2.45	0.49
27:DE:13:ARG:HA	27:DE:21:VAL:C	2.31	0.49
34:DO:13:ASN:O	34:DO:15:GLY:N	2.45	0.49
59:DA:296:C:H2'	59:DA:297:C:C6	2.47	0.49
22:CW:63:C:H4'	25:DC:54:ARG:HH12	1.77	0.49
59:BA:947:G:H1	59:BA:970:C:H42	1.60	0.49
1:AB:26:PRO:HB2	1:AB:27:LYS:HZ2	1.77	0.49
21:AA:232:G:C2'	21:AA:233:C:H5'	2.42	0.49
3:AD:200:GLU:HG3	3:AD:201:GLN:N	2.27	0.49
42:BW:25:ARG:NH2	59:BA:519:U:H4'	2.27	0.49
59:DA:2243:U:H2'	59:DA:2244:U:H6	1.77	0.49
35:DP:68:GLN:NE2	52:D8:12:LYS:HG2	2.26	0.49
21:AA:776:G:HO2'	21:AA:777:A:H8	1.59	0.49
25:DC:140:ASN:O	25:DC:142:LYS:N	2.45	0.49
59:BA:2732:G:H3'	59:BA:2733:A:O4'	2.12	0.49
59:BA:949:C:N4	59:BA:968:G:H1	2.09	0.49
33:DN:24:GLY:C	33:DN:26:LEU:H	2.14	0.49
59:DA:2660:A:H2'	59:DA:2661:G:O4'	2.12	0.49
37:BR:86:ARG:C	37:BR:88:ARG:H	2.16	0.49
27:DE:78:LEU:O	27:DE:79:ARG:HD2	2.12	0.49
59:DA:2669:G:H2'	59:DA:2670:A:C8	2.46	0.49
47:D2:56:GLN:O	47:D2:60:LEU:HG	2.12	0.49
21:CA:810:C:H2'	21:CA:811:C:H6	1.77	0.49
27:BE:32:PRO:HA	27:BE:90:THR:HG23	1.94	0.49
21:CA:340:U:H2'	21:CA:341:C:O4'	2.11	0.49
59:BA:1173:G:H5''	59:BA:1174:A:OP2	2.12	0.49
59:DA:705:A:H2'	59:DA:706:A:O4'	2.12	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
53:B9:31:LYS:HE2	59:BA:2478:A:OP1	2.11	0.49
21:CA:1070:U:H3	21:CA:1105:A:H61	1.60	0.49
59:BA:1095:A:H2'	59:BA:1096:A:C8	2.46	0.49
21:CA:1172:C:H2'	21:CA:1173:G:H8	1.77	0.49
4:AE:17:ALA:HA	4:AE:26:PHE:HA	1.94	0.49
26:BD:155:LEU:HD22	26:BD:155:LEU:H	1.77	0.49
31:DJ:18:UNK:O	31:DJ:20:UNK:N	2.45	0.49
20:CY:542:VAL:HG23	20:CY:582:PHE:HB3	1.94	0.49
59:BA:2626:C:H2'	59:BA:2627:G:O4'	2.12	0.49
32:DK:117:THR:HB	59:DA:1081:U:O2'	2.11	0.49
35:DP:77:ARG:CZ	35:DP:77:ARG:HB3	2.42	0.49
36:DQ:58:PHE:CZ	36:DQ:64:ILE:HD11	2.47	0.49
26:BD:129:ASN:H	26:BD:193:VAL:CG1	2.25	0.49
59:DA:1292:U:H2'	59:DA:1293:C:C6	2.47	0.49
59:BA:121:G:H4'	59:BA:149:A:H5'	1.93	0.49
59:BA:2273:A:H2'	59:BA:2274:A:C8	2.46	0.49
29:DG:101:ILE:HG12	57:D4:25:TYR:O	2.13	0.49
20:AY:34:TYR:CG	20:AY:35:TYR:N	2.79	0.49
35:BP:25:SER:O	35:BP:30:THR:HG23	2.13	0.49
59:DA:1839:G:H2'	59:DA:1840:G:H8	1.76	0.49
11:CL:32:PHE:O	11:CL:84:LEU:HG	2.11	0.49
51:B7:42:LEU:O	51:B7:44:PRO:HD3	2.11	0.49
21:AA:963:G:N2	21:AA:972:C:O2	2.45	0.49
25:DC:45:HIS:N	25:DC:213:VAL:O	2.43	0.49
13:AN:32:SER:N	21:AA:976:G:OP1	2.45	0.49
1:AB:78:GLN:O	1:AB:81:VAL:HG22	2.12	0.49
35:DP:88:LEU:O	35:DP:91:PHE:N	2.45	0.49
59:BA:250:G:H2'	59:BA:251:A:C8	2.47	0.49
32:BK:115:LEU:HD21	32:BK:126:MET:SD	2.53	0.49
45:DZ:48:PHE:CZ	45:DZ:71:VAL:HG11	2.46	0.49
11:AL:82:VAL:HB	11:AL:105:TYR:HB2	1.94	0.49
40:BU:52:ARG:HH12	59:BA:560:C:C4'	2.24	0.49
39:DT:88:ILE:HG22	39:DT:89:VAL:N	2.27	0.49
25:DC:78:ILE:HG13	25:DC:101:ILE:HD13	1.93	0.49
21:CA:634:C:H2'	21:CA:635:G:C8	2.45	0.49
21:CA:1085:U:H3'	21:CA:1086:U:C5	2.42	0.49
59:DA:174:C:H2'	59:DA:175:G:O4'	2.12	0.49
30:BH:158:HIS:CG	30:BH:159:GLU:N	2.79	0.49
20:AY:160:ARG:HG2	20:AY:162:VAL:HG23	1.93	0.49
25:BC:76:LEU:HB2	25:BC:111:PHE:HB3	1.94	0.49
20:AY:148:LEU:O	20:AY:152:THR:OG1	2.28	0.49
2:AC:39:ILE:O	2:AC:43:LEU:HB2	2.12	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
51:B7:10:ARG:NH2	59:BA:1378:A:OP1	2.45	0.49
59:DA:1056:G:H4'	59:DA:1086:A:C8	2.48	0.49
3:AD:154:ASN:C	3:AD:159:ARG:HH21	2.15	0.49
59:DA:2591:C:H2'	59:DA:2592:G:C8	2.46	0.49
35:DP:96:THR:HA	35:DP:126:VAL:HB	1.93	0.49
27:DE:33:VAL:HG21	27:DE:36:ARG:NH2	2.27	0.49
59:BA:1427:A:H4'	59:BA:1428:C:O4'	2.12	0.49
59:BA:601:C:O2'	59:BA:605:C:H5''	2.13	0.49
21:AA:218:C:H4'	21:AA:458(C):G:N1	2.26	0.49
37:BR:9:LYS:NZ	37:BR:39:PRO:HB3	2.26	0.49
20:AY:87:HIS:O	20:AY:89:ASP:N	2.45	0.49
56:B1:13:ILE:HG13	56:B1:17:SER:CB	2.42	0.49
37:DR:36:THR:OG1	37:DR:37:THR:N	2.44	0.49
6:CG:99:LEU:HD13	6:CG:103:TRP:CZ2	2.47	0.49
39:BT:67:SER:O	39:BT:69:GLY:N	2.45	0.49
30:DH:28:GLY:HA3	30:DH:79:VAL:HB	1.93	0.49
45:BZ:34:ASN:ND2	45:BZ:34:ASN:O	2.41	0.49
20:CY:610:VAL:O	20:CY:642:VAL:HA	2.12	0.49
20:AY:467:LYS:HZ1	20:AY:474:ALA:HB3	1.76	0.49
28:DF:136:THR:HA	28:DF:166:ALA:HB1	1.94	0.49
59:DA:1955:U:O2'	59:DA:1956:U:H5'	2.13	0.49
34:BO:12:ASP:CG	34:BO:14:THR:HB	2.33	0.49
20:CY:28:THR:O	20:CY:32:ILE:HG12	2.13	0.49
26:DD:246:PRO:HD3	59:DA:1902:C:H5'	1.94	0.49
25:DC:22:THR:HA	25:DC:225:ILE:O	2.12	0.49
25:BC:177:GLY:O	25:BC:181:PHE:HB2	2.13	0.49
49:D5:15:ARG:HG2	59:DA:2021:C:OP1	2.13	0.49
59:DA:1799:G:N2	59:DA:1818:U:O2'	2.46	0.49
21:AA:1347:G:O2'	21:AA:1348:U:OP2	2.30	0.49
41:DV:4:ILE:HD11	41:DV:13:ARG:HG3	1.93	0.49
59:DA:2282:G:H1	59:DA:2427:C:N4	2.05	0.49
20:AY:153:MET:HE1	20:AY:258:VAL:HG11	1.92	0.49
20:AY:456:GLU:HG3	20:AY:657:THR:HB	1.93	0.49
28:BF:51:THR:N	28:BF:92:PRO:HG2	2.27	0.49
56:B1:22:GLY:O	56:B1:23:LYS:HB2	2.12	0.49
20:CY:428:LEU:HD22	20:CY:440:VAL:HG11	1.94	0.49
50:D6:27:LYS:NZ	50:D6:29:ASN:HB3	2.26	0.49
59:BA:2231:C:H2'	59:BA:2232:U:O4'	2.12	0.49
21:CA:694:A:H2'	21:CA:695:A:O4'	2.12	0.49
59:DA:2270:G:H2'	59:DA:2271:G:O4'	2.12	0.49
8:CI:108:VAL:O	8:CI:110:GLU:N	2.45	0.49
59:BA:118:A:C8	59:BA:119:A:C8	3.00	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:AA:712:A:H2'	21:AA:713:G:C8	2.47	0.49
26:DD:261:LYS:HD2	26:DD:264:LYS:HG2	1.94	0.49
2:AC:9:GLY:O	13:AN:58:LYS:HG3	2.12	0.49
11:CL:118:SER:CB	21:CA:35:G:H21	2.25	0.49
1:AB:19:HIS:CG	1:AB:20:GLU:N	2.80	0.49
27:DE:113:PHE:CE1	59:DA:1655:A:H1'	2.47	0.49
21:AA:1085:U:H3'	21:AA:1086:U:C5	2.47	0.49
59:BA:2526:G:H2'	59:BA:2527:C:C6	2.46	0.49
26:DD:172:TYR:HD1	26:DD:184:LYS:HB3	1.77	0.49
26:DD:202:LYS:HB3	59:DA:1820:U:C2	2.48	0.49
21:CA:302:G:N3	21:CA:556:C:H4'	2.27	0.49
56:B1:13:ILE:HG13	56:B1:17:SER:HB2	1.94	0.49
7:AH:1:MET:HB3	21:AA:824:C:H4'	1.94	0.49
16:AQ:6:LEU:HD13	16:AQ:23:VAL:HG11	1.94	0.49
59:DA:303:U:O4	59:DA:314:A:N1	2.45	0.49
28:BF:182:ASN:HD21	28:BF:184:TYR:HB3	1.78	0.49
59:BA:1289:C:O2'	59:BA:1330:C:H4'	2.12	0.49
59:BA:1844:C:H42	59:BA:1896:G:H1	1.60	0.49
6:CG:35:LYS:NZ	21:CA:1289:A:O2'	2.42	0.49
53:D9:19:ARG:HD3	59:DA:2756:U:OP2	2.11	0.49
51:D7:41:ARG:HB3	59:DA:463:G:O6	2.12	0.49
36:DQ:21:THR:OG1	36:DQ:99:PRO:O	2.29	0.49
20:CY:103:GLY:HA2	20:CY:131:PRO:HD2	1.93	0.49
47:B2:42:GLY:O	47:B2:45:SER:OG	2.19	0.49
59:BA:960:A:H8	59:BA:960:A:O5'	1.95	0.49
20:CY:536:LYS:H	20:CY:536:LYS:HD2	1.77	0.49
59:BA:980:A:N6	59:BA:981:A:N1	2.59	0.49
5:CF:35:ALA:HB1	5:CF:65:VAL:HG21	1.93	0.49
33:BN:115:ARG:O	33:BN:118:LYS:HB2	2.12	0.49
42:DW:14:PRO:O	42:DW:17:VAL:N	2.46	0.49
59:BA:2773:C:H2'	59:BA:2774:C:H6	1.77	0.49
57:D4:1:MET:HA	60:DB:43:C:H5''	1.95	0.49
60:BB:113:C:H2'	60:BB:114:G:C8	2.47	0.49
9:CJ:54:PHE:CD1	9:CJ:55:LYS:HD2	2.47	0.49
28:DF:63:LYS:NZ	28:DF:65:TRP:O	2.38	0.49
29:BG:41:GLN:HB2	29:BG:90:LEU:HB3	1.95	0.49
59:BA:1992:G:N2	59:BA:1996:C:O2	2.32	0.49
20:CY:512:ILE:HG22	20:CY:567:LEU:HD12	1.93	0.49
1:AB:118:LEU:HD13	1:AB:142:LEU:HD23	1.94	0.49
40:BU:92:ARG:HB2	41:BV:11:GLN:HB2	1.93	0.49
59:DA:1029:A:N6	59:DA:1125:G:O2'	2.41	0.49
20:AY:679:VAL:O	20:AY:681:LYS:N	2.45	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:211:A:H2'	59:DA:212:G:O4'	2.11	0.49
21:AA:695:A:H2'	21:AA:696:A:C8	2.47	0.49
28:BF:89:VAL:HG23	28:BF:90:PHE:N	2.27	0.49
26:DD:92:ILE:HG22	26:DD:106:ILE:HA	1.93	0.49
59:BA:448:U:O4	59:BA:582:G:N2	2.37	0.49
20:CY:573:HIS:HB3	20:CY:576:ASP:HB2	1.93	0.49
17:AR:74:ARG:HH21	17:AR:81:PHE:HD2	1.61	0.49
44:BY:8:LYS:H	44:BY:8:LYS:HD2	1.78	0.49
44:BY:8:LYS:NZ	44:BY:70:SER:HA	2.28	0.49
28:DF:75:HIS:HD2	28:DF:82:ILE:HD12	1.77	0.49
21:CA:287:U:H2'	21:CA:288:A:H8	1.78	0.49
21:CA:894:G:H2'	21:CA:895:G:C8	2.47	0.49
39:BT:66:VAL:HA	39:BT:71:GLY:HA2	1.92	0.49
22:CW:43:G:H2'	22:CW:44:G:C8	2.47	0.49
59:DA:1165:U:H3	59:DA:1184:G:H1	1.61	0.49
59:DA:699:A:N3	59:DA:1633:G:O2'	2.37	0.49
1:CB:85:ALA:O	1:CB:89:GLY:N	2.45	0.49
21:CA:803:G:C6	21:CA:804:U:C4	3.01	0.49
46:B0:23:VAL:HG12	46:B0:38:VAL:HG22	1.94	0.49
16:AQ:82:MET:O	16:AQ:84:LEU:N	2.46	0.49
59:BA:1938:A:H2	59:BA:2590:A:N3	2.10	0.49
59:DA:1531:C:H2'	59:DA:1532:C:C6	2.48	0.49
25:BC:196:ALA:HA	25:BC:199:ALA:HB3	1.94	0.49
20:CY:85:PRO:HB3	20:CY:94:VAL:HG22	1.94	0.49
60:BB:68:C:H3'	60:BB:69:G:H8	1.78	0.49
35:BP:16:ARG:O	35:BP:16:ARG:NH1	2.45	0.49
48:B3:7:LYS:HZ3	48:B3:9:VAL:HA	1.77	0.49
48:D3:24:LYS:NZ	59:DA:931:G:O2'	2.45	0.49
21:AA:1516:G:N2	21:AA:1519:A:OP2	2.43	0.49
19:AT:80:ARG:NH2	21:AA:260:G:OP1	2.45	0.49
16:CQ:10:VAL:HG12	16:CQ:54:GLY:H	1.78	0.49
25:DC:46:ALA:CA	25:DC:212:SER:O	2.57	0.49
59:BA:774:A:O2'	59:BA:777:A:N3	2.39	0.49
60:BB:21:G:C2	60:BB:22:U:H1'	2.47	0.49
25:BC:61:GLY:HA3	25:BC:164:PHE:CD1	2.47	0.49
21:CA:1381:U:H2'	21:CA:1382:C:C6	2.46	0.49
21:AA:68(G):G:O6	21:AA:68(H):G:N2	2.44	0.49
52:B8:61:LEU:HD21	59:BA:593:G:O2'	2.12	0.49
59:BA:895:U:O4	59:BA:897:C:N4	2.45	0.49
26:BD:224:ALA:N	59:BA:1826:G:OP1	2.37	0.49
43:DX:8:ILE:HG23	43:DX:28:PHE:HB3	1.94	0.49
28:DF:187:VAL:HG13	35:DP:5:ASP:N	2.28	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:BF:102:PRO:HA	59:BA:607:U:P	2.52	0.49
31:DJ:51:UNK:O	59:DA:1084:A:H5'	2.12	0.49
15:CP:20:VAL:HG11	15:CP:32:TYR:HD1	1.78	0.49
28:DF:112:MET:HA	28:DF:115:ALA:HB3	1.95	0.49
29:DG:43:LEU:HB2	29:DG:88:ILE:HG21	1.95	0.49
59:BA:2290:G:H2'	59:BA:2291:U:O4'	2.13	0.49
16:CQ:51:TYR:HE1	16:CQ:76:LEU:HB2	1.77	0.49
28:DF:202:PHE:CE1	28:DF:206:ILE:HG13	2.48	0.49
37:BR:96:ARG:N	37:BR:117:VAL:HG21	2.28	0.49
21:CA:1357:A:N6	21:CA:1358:U:O4	2.45	0.49
28:DF:154:VAL:HB	28:DF:173:VAL:HG13	1.94	0.49
59:BA:1628:G:H1	59:BA:1638:C:H42	1.60	0.49
59:DA:2049:G:N2	59:DA:2619:C:O2	2.41	0.49
22:CW:65:U:H2'	22:CW:66:C:H6	1.77	0.49
57:B4:2:LYS:NZ	60:BB:44:G:O6	2.45	0.49
21:AA:50:A:H4'	21:AA:51:A:H5'	1.95	0.49
20:AY:39:ILE:HG22	20:AY:40:HIS:ND1	2.28	0.49
59:DA:957:A:N1	59:DA:2458:G:H4'	2.27	0.49
59:BA:2356:C:H2'	59:BA:2357:U:O4'	2.13	0.49
59:BA:746:A:O2'	59:BA:2611:U:O2'	2.22	0.49
21:CA:763:G:H2'	21:CA:764:C:H6	1.78	0.49
43:BX:8:ILE:HG23	43:BX:28:PHE:HB3	1.93	0.49
22:AW:28:A:O2'	22:AW:29:U:H5'	2.12	0.49
49:B5:6:VAL:HG13	59:BA:2016:U:H1'	1.95	0.49
46:B0:16:SER:O	46:B0:18:ALA:N	2.46	0.49
20:CY:45:VAL:HB	20:CY:362:HIS:ND1	2.28	0.49
53:B9:3:VAL:HG13	53:B9:37:GLY:HA3	1.95	0.49
33:BN:12:ARG:O	33:BN:50:ASP:HB3	2.13	0.49
14:AO:25:THR:OG1	14:AO:26:GLU:N	2.42	0.49
26:BD:182:LEU:HD12	26:BD:271:ILE:HG23	1.95	0.49
28:BF:74:ARG:CZ	59:BA:674:G:H1'	2.42	0.49
16:AQ:15:MET:HB2	16:AQ:18:THR:HB	1.95	0.49
59:BA:2616:C:H2'	59:BA:2617:C:H6	1.77	0.49
56:B1:66:HIS:NE2	59:BA:372:G:H5''	2.28	0.49
59:BA:869:G:O2'	59:BA:870:A:H5'	2.12	0.49
21:CA:1409:C:H2'	21:CA:1410:G:C8	2.47	0.49
20:CY:138:LYS:HG2	61:CY:701:GNP:C2	2.37	0.49
25:BC:60:ARG:N	25:BC:164:PHE:O	2.46	0.49
38:BS:85:VAL:H	38:BS:106:ARG:HG2	1.77	0.49
12:AM:98:VAL:H	12:AM:99:ARG:NH2	2.10	0.49
59:DA:2079:U:H2'	59:DA:2080:G:O4'	2.13	0.49
28:DF:63:LYS:HA	28:DF:76:GLY:O	2.13	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:DD:168:ARG:HA	26:DD:173:VAL:HA	1.94	0.49
16:AQ:45:HIS:HB3	16:AQ:72:ARG:HA	1.93	0.49
37:BR:105:ARG:NH1	42:BW:40:ASN:HA	2.23	0.49
35:DP:55:ARG:HG3	35:DP:56:SER:O	2.12	0.49
1:AB:118:LEU:O	1:AB:122:PHE:HB2	2.13	0.49
7:CH:11:THR:HG21	21:CA:876:G:H1'	1.93	0.49
42:DW:38:TYR:CD2	49:D5:30:LEU:HD21	2.46	0.49
20:AY:668:SER:OG	20:AY:669:PHE:N	2.43	0.49
59:BA:857:C:N4	59:BA:858:U:O4	2.45	0.49
59:BA:919:G:C6	59:BA:920:G:C4	3.01	0.49
59:BA:1016:G:H2'	59:BA:1017:G:H8	1.77	0.49
35:BP:47:ASP:OD1	35:BP:49:ARG:HB2	2.13	0.49
27:BE:93:VAL:O	27:BE:95:ILE:N	2.46	0.49
41:BV:22:VAL:HG23	41:BV:23:GLU:O	2.13	0.49
26:DD:105:ILE:HD13	26:DD:106:ILE:HG22	1.93	0.49
36:DQ:37:LEU:HG	36:DQ:129:THR:HA	1.95	0.49
37:BR:89:ASP:HA	37:BR:91:GLN:NE2	2.28	0.49
11:CL:66:VAL:HG12	11:CL:67:THR:H	1.77	0.49
12:AM:81:LEU:HG	12:AM:88:ARG:HB2	1.94	0.49
56:D1:88:LYS:HA	56:D1:91:LYS:HB3	1.93	0.49
52:B8:36:LYS:HZ2	52:B8:37:SER:H	1.59	0.49
21:CA:1402:C:H2'	21:CA:1403:C:O4'	2.13	0.49
45:DZ:77:ASP:O	45:DZ:79:ARG:N	2.44	0.49
59:BA:1615:C:O2'	59:BA:1616:A:H5'	2.13	0.49
45:BZ:137:ILE:HG22	45:BZ:139:VAL:HG13	1.93	0.49
28:DF:41:LEU:HB3	59:DA:443:A:N6	2.28	0.49
20:AY:309:LEU:HD13	20:AY:333:GLY:HA3	1.95	0.49
59:DA:1918:A:O2'	59:DA:1920:C:N4	2.45	0.49
59:BA:1437:C:H2'	59:BA:1438:U:C6	2.48	0.49
25:DC:114:VAL:C	25:DC:116:ALA:H	2.15	0.49
44:BY:106:LEU:O	44:BY:107:ASP:HB2	2.13	0.49
43:BX:53:LYS:HB3	43:BX:82:GLN:HB3	1.94	0.49
20:AY:96:ARG:O	20:AY:100:VAL:HG12	2.13	0.49
59:DA:1667:G:O2'	59:DA:1991:U:O4	2.29	0.49
20:CY:203:GLU:O	20:CY:205:TYR:N	2.46	0.49
21:CA:1352:C:H2'	21:CA:1353:G:C8	2.46	0.49
26:DD:149:PRO:HG2	59:DA:2218:G:C4'	2.43	0.49
10:AK:44:SER:HB3	10:AK:47:VAL:HG23	1.94	0.49
59:BA:2601:C:N4	59:BA:2603:G:O6	2.46	0.49
59:DA:207:A:H2'	59:DA:208:C:O4'	2.12	0.49
59:DA:1210:A:H4'	59:DA:1211:U:O5'	2.12	0.49
29:BG:46:ALA:HA	29:BG:49:ASP:HB2	1.94	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:1416:G:H2'	59:DA:1417:C:C6	2.48	0.49
11:CL:83:VAL:HB	11:CL:100:ILE:HG23	1.93	0.49
21:AA:1060:C:H2'	21:AA:1061:G:O4'	2.13	0.49
59:BA:2774:C:H2'	59:BA:2775:A:O4'	2.13	0.49
59:BA:1418:G:H21	59:BA:1580:A:N6	1.98	0.49
59:DA:793:A:OP2	59:DA:2071:A:O2'	2.28	0.49
33:DN:9:VAL:CG2	33:DN:39:ARG:HH12	2.17	0.49
21:CA:1343:G:N2	21:CA:1349:A:HO2'	2.09	0.49
21:AA:971:G:N2	21:AA:1363:A:OP2	2.45	0.49
59:DA:270(C):A:O2'	59:DA:364:C:O2	2.24	0.49
21:CA:338:A:H3'	34:DO:97:ARG:NH1	2.28	0.49
60:BB:95:U:H2'	60:BB:96:G:C8	2.47	0.49
21:CA:813:U:H3'	21:CA:816:A:H62	1.78	0.49
46:B0:4:LYS:HE2	46:B0:7:LEU:HD12	1.95	0.49
13:AN:45:ARG:HH22	21:AA:1059:C:H4'	1.77	0.49
27:BE:136:ARG:HB3	59:BA:1657:C:OP1	2.12	0.49
26:BD:229:VAL:HG21	59:BA:793:A:H61	1.75	0.49
59:BA:1047:G:O3'	59:BA:1048:A:H8	1.95	0.49
26:BD:157:ARG:NH2	59:BA:1818:U:H6	2.11	0.49
59:BA:531:C:H3'	59:BA:561:G:H21	1.77	0.49
59:BA:1889:A:H2'	59:BA:1890:A:C8	2.47	0.49
59:BA:1491:G:H5''	59:BA:1494:A:N7	2.27	0.49
59:BA:59:U:H4'	59:BA:73:A:N7	2.27	0.49
59:BA:58:G:H1	59:BA:69:C:H42	1.59	0.49
20:AY:329:ARG:HD2	20:AY:374:LEU:HD11	1.94	0.49
7:AH:17:THR:HG21	7:AH:80:ILE:HB	1.93	0.49
21:AA:1426:C:H2'	21:AA:1427:U:C6	2.48	0.49
39:DT:124:ASP:HB3	39:DT:125:ARG:HH21	1.78	0.49
59:DA:2592:G:H2'	59:DA:2593:U:O4'	2.12	0.49
10:AK:43:SER:HB2	10:AK:71:LYS:HZ1	1.78	0.49
21:CA:1493:A:H5'	21:CA:1494:G:O5'	2.13	0.49
21:CA:763:G:H2'	21:CA:764:C:C6	2.47	0.49
59:BA:2182:G:H2'	59:BA:2183:C:C6	2.48	0.49
59:DA:1494:A:H4'	59:DA:1496:A:N1	2.28	0.49
21:CA:272:C:H2'	21:CA:273:A:H8	1.78	0.49
5:AF:75:LEU:O	5:AF:79:LEU:HG	2.12	0.49
59:BA:37:C:H2'	59:BA:38:A:C8	2.47	0.49
40:BU:13:LYS:O	40:BU:16:LYS:HB3	2.13	0.49
59:DA:842:G:H2'	59:DA:843:G:H8	1.77	0.49
20:AY:226:ASN:O	20:AY:230:LYS:HB2	2.13	0.49
59:BA:2622:C:H2'	59:BA:2623:G:O4'	2.13	0.49
21:AA:836:G:C6	21:AA:851:G:C6	3.01	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:2740:A:OP2	59:DA:2763:G:N2	2.37	0.49
43:DX:66:LEU:HD11	59:DA:64:A:N3	2.28	0.49
7:AH:94:TYR:CD2	21:AA:598:U:H4'	2.48	0.49
59:BA:56:A:H2'	59:BA:57:C:O4'	2.12	0.49
32:DK:21:PRO:HG3	32:DK:25:PRO:HD3	1.93	0.49
59:DA:2671:A:H2'	59:DA:2672:G:C8	2.48	0.49
18:CS:50:ALA:HA	18:CS:59:PRO:HA	1.93	0.49
42:BW:28:SER:HB3	42:BW:31:GLU:HG3	1.94	0.49
59:BA:2437:U:H2'	59:BA:2438:U:C6	2.48	0.49
11:AL:90:VAL:O	11:AL:92:ASP:N	2.41	0.49
59:DA:1417:C:N3	59:DA:1581:G:N2	2.48	0.49
21:AA:1003:G:N1	21:AA:1037:C:C2	2.60	0.49
42:DW:17:VAL:O	42:DW:21:VAL:HG23	2.13	0.49
21:CA:1508:G:H2'	21:CA:1509:C:C6	2.48	0.49
25:DC:214:TYR:O	25:DC:216:THR:HG22	2.13	0.49
20:CY:161:PRO:O	20:CY:256:THR:N	2.45	0.49
59:BA:892:G:H2'	59:BA:893:C:C6	2.48	0.49
21:AA:1345:U:C2	21:AA:1376:U:O2	2.65	0.49
28:DF:124:LEU:O	28:DF:194:MET:HB2	2.13	0.49
28:DF:201:VAL:HG13	28:DF:205:ARG:CZ	2.43	0.49
9:CJ:54:PHE:HB2	21:CA:1198:G:H21	1.78	0.49
16:AQ:67:LYS:C	16:AQ:69:LYS:H	2.16	0.49
59:BA:2401:U:C4	59:BA:2415:G:O6	2.65	0.49
20:AY:252:ASP:O	20:AY:253:LEU:HB2	2.12	0.49
28:BF:37:VAL:HA	28:BF:40:GLN:NE2	2.25	0.49
21:CA:691:G:H2'	21:CA:692:U:C6	2.48	0.49
2:AC:77:ILE:HD11	2:AC:103:VAL:HG21	1.94	0.49
35:DP:66:GLY:C	35:DP:68:GLN:H	2.15	0.49
59:DA:137(B):G:H2'	59:DA:139:G:N7	2.27	0.49
21:AA:712:A:H2'	21:AA:713:G:H8	1.77	0.49
42:BW:15:ARG:HD2	59:BA:1266:G:N7	2.28	0.49
59:DA:2828:C:H2'	59:DA:2829:C:C6	2.47	0.49
16:CQ:21:VAL:HG21	16:CQ:59:ILE:HG12	1.95	0.49
41:DV:95:LEU:O	41:DV:96:ILE:O	2.30	0.49
28:DF:154:VAL:O	28:DF:156:LEU:N	2.46	0.49
10:CK:69:ALA:O	10:CK:73:MET:HG2	2.13	0.49
28:DF:68:LYS:HG2	59:DA:2443:C:OP1	2.13	0.49
21:CA:27:G:H2'	21:CA:28:G:C8	2.48	0.49
25:BC:53:ARG:HE	25:BC:54:ARG:H	1.61	0.49
59:DA:2306:C:H3'	59:DA:2307:G:C8	2.47	0.49
21:AA:1434:A:H2'	21:AA:1435:G:O4'	2.12	0.49
31:DJ:58:UNK:HA	59:DA:1107:G:OP1	2.12	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:2875:C:H2'	59:BA:2876:G:O4'	2.13	0.49
47:D2:55:ARG:HB3	47:D2:59:ARG:NH2	2.27	0.49
5:CF:15:ASP:HB3	5:CF:18:GLN:HG3	1.93	0.49
60:DB:89(A):G:H2'	60:DB:89(B):A:C8	2.48	0.49
42:BW:86:LEU:HD12	42:BW:87:PRO:HD2	1.95	0.49
21:AA:1028(B):C:N4	21:AA:1028(G):G:H1	2.11	0.49
43:BX:35:THR:OG1	43:BX:37:THR:N	2.45	0.49
32:BK:60:TYR:O	32:BK:62:ASP:N	2.43	0.49
21:CA:201(B):U:H5''	21:CA:201(C):U:OP1	2.12	0.49
59:BA:1885:A:H2'	59:BA:1886:C:O4'	2.13	0.49
2:CC:108:ASN:HB3	2:CC:111:LEU:HD23	1.94	0.49
19:CT:57:ARG:NH1	19:CT:102:GLY:HA3	2.28	0.49
18:AS:13:ASP:HA	18:AS:16:LEU:HB2	1.94	0.49
11:AL:69:TYR:O	11:AL:70:ILE:HG23	2.12	0.49
25:DC:169:THR:O	25:DC:171:ALA:N	2.46	0.49
51:B7:40:TRP:CZ2	59:BA:458:G:H1'	2.47	0.49
31:BJ:52:UNK:CB	31:BJ:56:UNK:HA	2.43	0.49
9:CJ:13:HIS:HB2	9:CJ:70:ARG:HH12	1.78	0.49
20:CY:133:ILE:HD13	20:CY:133:ILE:H	1.78	0.49
20:CY:257:PRO:O	20:CY:259:PHE:N	2.43	0.49
44:DY:8:LYS:NZ	44:DY:70:SER:HA	2.27	0.49
52:B8:60:LEU:HD13	52:B8:64:TYR:HA	1.94	0.49
56:D1:42:GLN:OE1	59:DA:396:G:H1'	2.13	0.49
43:DX:28:PHE:HE1	43:DX:92:LEU:HD21	1.78	0.49
1:AB:24:TRP:CZ3	1:AB:26:PRO:HA	2.48	0.49
59:BA:1536:A:H5''	59:BA:1537:C:OP2	2.13	0.49
16:AQ:46:ASP:OD2	16:AQ:50:LYS:HG2	2.13	0.49
34:BO:104:ARG:HH12	39:BT:35:LYS:HG3	1.76	0.49
20:CY:512:ILE:HD13	20:CY:512:ILE:H	1.77	0.49
15:AP:81:ARG:HG3	21:AA:474:G:H5'	1.94	0.49
21:CA:137:C:N4	21:CA:226:G:H1	2.08	0.49
7:CH:14:ARG:O	7:CH:17:THR:OG1	2.26	0.49
42:BW:110:LYS:HE2	42:BW:111:HIS:NE2	2.27	0.49
59:DA:1864:U:OP1	59:DA:2410:G:O2'	2.17	0.49
23:AV:8:A:H2'	23:AV:9:G:H8	1.76	0.49
42:BW:20:VAL:O	42:BW:23:LEU:HB3	2.12	0.49
28:BF:168:ARG:NH2	59:BA:321:G:O3'	2.44	0.49
59:DA:1213:A:N6	59:DA:1236:G:H1'	2.27	0.49
59:BA:1114:G:H2'	59:BA:1115:G:O4'	2.13	0.49
59:BA:573:G:O2'	59:BA:574:C:H3'	2.13	0.49
28:DF:41:LEU:HB3	59:DA:443:A:H61	1.76	0.49
59:DA:1224:C:H5	59:DA:1225:G:C5	2.30	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:CN:57:ARG:O	13:CN:59:ALA:N	2.46	0.49
7:CH:64:LYS:HD2	7:CH:79:VAL:HG11	1.94	0.49
21:CA:1010:G:H1	21:CA:1019:C:H42	1.61	0.49
6:AG:118:VAL:O	6:AG:122:HIS:HB2	2.12	0.49
1:CB:95:GLN:HG3	1:CB:147:LYS:O	2.13	0.49
26:DD:53:PHE:HZ	26:DD:221:VAL:HG12	1.78	0.49
28:DF:34:TRP:CE2	35:DP:12:ALA:HB2	2.47	0.49
20:CY:237:PRO:HB2	20:CY:242:LEU:HD21	1.94	0.49
59:BA:2676:C:H2'	59:BA:2677:G:H8	1.78	0.49
59:BA:551:G:H2'	59:BA:552:G:C8	2.47	0.49
25:BC:178:LYS:O	25:BC:180:SER:N	2.37	0.49
29:BG:47:LYS:HA	29:BG:82:LEU:HG	1.95	0.49
1:CB:27:LYS:HD2	1:CB:27:LYS:H	1.77	0.49
59:DA:68:G:H2'	59:DA:69:C:C6	2.47	0.49
59:BA:1967:C:H2'	59:BA:1968:G:O4'	2.13	0.49
21:CA:1338:G:H2'	21:CA:1339:A:C8	2.48	0.49
11:AL:37:CYS:HA	11:AL:58:VAL:H	1.77	0.49
59:BA:2494:G:H2'	59:BA:2495:G:C8	2.46	0.49
59:DA:799:G:H2'	59:DA:800:A:C8	2.48	0.49
21:CA:1003:G:N1	21:CA:1037:C:C2	2.64	0.49
51:B7:39:ARG:NH1	51:B7:43:THR:H	2.09	0.49
59:BA:1841:U:H2'	59:BA:1842:G:C8	2.48	0.49
32:DK:133:SER:HB3	59:DA:1088:A:N6	2.27	0.49
59:DA:1310:G:O6	59:DA:1311:G:N2	2.46	0.49
21:AA:947:G:H2'	21:AA:948:C:C6	2.47	0.49
28:DF:155:LEU:HD13	28:DF:185:ASP:HB3	1.95	0.49
9:CJ:54:PHE:CE1	9:CJ:55:LYS:HD2	2.48	0.49
20:AY:409:ILE:HD11	20:AY:657:THR:H	1.77	0.49
10:CK:111:ASP:HA	17:CR:84:LYS:HE3	1.95	0.49
20:CY:428:LEU:HA	20:CY:431:LEU:HB2	1.95	0.49
2:CC:130:VAL:O	2:CC:134:ILE:HB	2.13	0.49
32:BK:106:GLU:HA	32:BK:109:LYS:HB2	1.95	0.49
1:AB:139:LYS:HA	1:AB:142:LEU:HD12	1.94	0.49
59:DA:248:G:N3	59:DA:2431:U:H4'	2.27	0.49
27:BE:109:LYS:HB2	37:BR:2:ARG:NH2	2.28	0.49
59:BA:1759:A:H1'	59:BA:2711:A:H2	1.76	0.49
39:BT:84:GLN:C	39:BT:86:ILE:H	2.15	0.49
4:CE:31:LEU:HA	4:CE:45:PHE:CB	2.43	0.49
59:BA:2208:U:H2'	59:BA:2209:C:C6	2.48	0.49
60:DB:78:A:H2'	60:DB:79:C:O4'	2.13	0.49
25:DC:28:ARG:HE	25:DC:183:PRO:CB	2.25	0.49
7:AH:20:TYR:HA	7:AH:65:TYR:CZ	2.47	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:1707:G:H1	59:DA:1751:C:N4	2.11	0.49
3:CD:86:LYS:NZ	3:CD:89:THR:HG23	2.28	0.49
47:B2:69:ARG:HH22	59:BA:111:A:H4'	1.77	0.49
20:CY:489:LYS:HD3	20:CY:597:GLY:HA2	1.94	0.49
7:CH:10:LEU:HB3	7:CH:83:ILE:HD12	1.94	0.49
29:DG:99:MET:O	29:DG:102:PHE:HB3	2.13	0.49
32:DK:131:ALA:HB1	32:DK:136:VAL:HG13	1.94	0.49
3:CD:11:LEU:HA	3:CD:14:ARG:HB3	1.95	0.49
25:DC:114:VAL:O	25:DC:116:ALA:N	2.45	0.49
21:AA:687:A:H62	21:AA:703:G:H21	1.60	0.49
22:CW:5:A:H2'	22:CW:6:C:C6	2.47	0.49
21:CA:1520:G:H2'	21:CA:1521:G:H8	1.77	0.49
11:CL:91:LYS:NZ	21:CA:526:C:OP2	2.45	0.49
53:B9:19:ARG:HG2	53:B9:20:HIS:CE1	2.48	0.49
13:AN:14:PRO:O	13:AN:16:PHE:N	2.46	0.49
21:CA:1304:G:C6	21:CA:1305:G:N1	2.81	0.49
41:BV:28:GLU:HB2	41:BV:31:ALA:HB3	1.95	0.49
59:DA:52:A:OP2	59:DA:117:G:N1	2.38	0.49
2:AC:121:ALA:HB1	2:AC:189:ALA:HB2	1.95	0.49
2:AC:188:LEU:HD22	2:AC:188:LEU:H	1.77	0.49
45:DZ:133:ILE:O	45:DZ:135:GLU:N	2.45	0.49
59:BA:2365:G:O2'	59:BA:2366:A:O4'	2.30	0.49
59:BA:901:A:H2'	59:BA:902:C:C6	2.48	0.49
6:CG:24:THR:HA	6:CG:27:ILE:HD12	1.94	0.49
59:BA:1956:U:H1'	59:BA:2552:U:OP1	2.13	0.49
59:BA:2025:C:H2'	59:BA:2026:C:C6	2.47	0.48
21:AA:1503:A:N6	23:AV:14:A:H3'	2.20	0.48
59:BA:1000:A:OP2	59:BA:1154:G:N1	2.38	0.48
25:DC:40:GLU:HA	25:DC:218:THR:H	1.78	0.48
21:AA:68(I):G:O6	21:AA:68(Q):U:C4	2.65	0.48
35:DP:122:PRO:HA	35:DP:141:ALA:O	2.13	0.48
40:DU:98:LEU:HD13	40:DU:99:ALA:N	2.27	0.48
28:BF:98:SER:OG	28:BF:99:TYR:N	2.45	0.48
11:CL:39:VAL:HG12	11:CL:40:VAL:N	2.24	0.48
56:D1:45:ASN:HB3	59:DA:397:G:OP1	2.12	0.48
59:BA:2259:G:H2'	59:BA:2260:C:C6	2.48	0.48
51:B7:6:GLN:OE1	51:B7:7:PRO:HD2	2.12	0.48
19:AT:51:GLU:O	19:AT:55:ILE:HG12	2.12	0.48
38:DS:78:LEU:HG	38:DS:105:ALA:CB	2.43	0.48
21:CA:402:G:H5'	21:CA:621:A:H1'	1.95	0.48
59:DA:1479:G:H2'	59:DA:1480:G:H8	1.77	0.48
59:BA:1728:G:H1'	59:BA:1732:A:N6	2.28	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:1576:U:H2'	59:BA:1577:C:C6	2.48	0.48
59:DA:108:U:H2'	59:DA:109:G:C8	2.46	0.48
4:AE:110:LEU:HB3	4:AE:115:VAL:HB	1.95	0.48
3:AD:21:LEU:O	3:AD:113:SER:OG	2.26	0.48
12:CM:116:THR:HG23	21:CA:1229:A:H5'	1.94	0.48
21:CA:1221:G:OP1	21:CA:1320:C:N4	2.46	0.48
59:BA:2650:U:H2'	59:BA:2651:C:H6	1.78	0.48
59:DA:1403:C:H5''	59:DA:1471:A:C1'	2.43	0.48
59:BA:2306:C:H5''	59:BA:2307:G:N7	2.27	0.48
57:D4:14:ILE:HG13	57:D4:22:ILE:HB	1.95	0.48
19:CT:88:VAL:HG12	19:CT:92:LEU:HG	1.95	0.48
59:DA:2376:A:H2'	59:DA:2377:A:O4'	2.13	0.48
5:CF:72:VAL:HG13	5:CF:73:ASN:H	1.78	0.48
59:BA:528:A:H2	59:BA:2043:C:H4'	1.78	0.48
21:CA:762:C:H2'	21:CA:763:G:H8	1.76	0.48
59:DA:2305:A:N1	59:DA:2306:C:H1'	2.28	0.48
5:CF:40:VAL:HA	5:CF:62:TRP:O	2.13	0.48
3:AD:59:ARG:NH1	3:AD:62:GLN:HB2	2.27	0.48
4:AE:138:ALA:O	4:AE:142:LEU:HG	2.13	0.48
35:DP:21:ARG:HG3	59:DA:663:G:H5''	1.93	0.48
60:BB:15:A:H3'	60:BB:16:G:H8	1.78	0.48
59:BA:383:U:H2'	59:BA:385:C:H5	1.77	0.48
59:DA:389:G:H1'	59:DA:2412:A:N3	2.28	0.48
59:BA:236:C:H2'	59:BA:237:C:H6	1.77	0.48
36:BQ:20:ALA:C	36:BQ:22:LYS:H	2.16	0.48
20:CY:139:MET:HB3	20:CY:174:PHE:HE1	1.78	0.48
20:CY:72:CYS:CB	20:CY:79:ILE:O	2.59	0.48
59:BA:1025:G:OP1	59:BA:1025:G:H8	1.95	0.48
59:BA:1133:U:O4	59:BA:2026:C:H1'	2.13	0.48
33:BN:118:LYS:O	33:BN:121:LYS:NZ	2.36	0.48
43:DX:35:THR:O	43:DX:39:ILE:HG13	2.14	0.48
21:AA:1005:A:O3'	21:AA:1037:C:H4'	2.12	0.48
59:BA:814:C:H2'	59:BA:815:C:C6	2.48	0.48
35:BP:27:HIS:CG	35:BP:28:GLY:N	2.80	0.48
22:AW:66:C:H2'	22:AW:67:G:H8	1.78	0.48
25:BC:211:ARG:O	25:BC:213:VAL:N	2.46	0.48
26:BD:78:LYS:NZ	26:BD:79:VAL:O	2.42	0.48
21:AA:1316:G:H2'	21:AA:1317:C:H5''	1.95	0.48
18:CS:36:ARG:HB2	18:CS:72:GLY:HA3	1.95	0.48
59:DA:1316:U:H2'	59:DA:1317:A:C8	2.48	0.48
26:BD:83:GLU:HG3	26:BD:92:ILE:HD11	1.95	0.48
20:AY:134:ALA:HB2	20:AY:258:VAL:HG12	1.95	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:616:A:H4'	59:BA:617:G:OP1	2.12	0.48
21:AA:232:G:H21	21:AA:263:A:H2	1.61	0.48
59:BA:2497:A:H8	59:BA:2497:A:OP2	1.96	0.48
21:CA:1306:A:N6	21:CA:1331:G:O2'	2.46	0.48
29:DG:51:ARG:NE	29:DG:51:ARG:HA	2.28	0.48
8:CI:105:ASP:CG	8:CI:106:ALA:H	2.15	0.48
18:CS:6:LYS:HD2	21:CA:1314:C:C6	2.47	0.48
6:CG:92:SER:O	6:CG:96:GLN:HG3	2.12	0.48
59:DA:141(A):A:N6	59:DA:1595:G:O2'	2.47	0.48
42:BW:16:LYS:O	42:BW:20:VAL:HG23	2.13	0.48
10:AK:30:VAL:HG21	10:AK:68:ALA:HB2	1.93	0.48
52:D8:46:ARG:NH2	59:DA:630:G:OP1	2.46	0.48
59:BA:1049:C:H2'	59:BA:1050:A:H8	1.78	0.48
21:AA:628:G:H2'	21:AA:629:G:O4'	2.13	0.48
21:AA:762:C:H2'	21:AA:763:G:C8	2.48	0.48
35:BP:101:VAL:HB	35:BP:107:LYS:HA	1.94	0.48
7:AH:94:TYR:CG	21:AA:598:U:H4'	2.48	0.48
15:AP:63:GLY:HA3	21:AA:227:G:H21	1.78	0.48
45:DZ:120:ILE:H	45:DZ:172:ALA:HA	1.78	0.48
59:DA:247:G:H4'	59:DA:386:G:C4	2.49	0.48
37:DR:86:ARG:HD2	37:DR:118:GLU:HG2	1.94	0.48
16:AQ:86:GLU:O	16:AQ:90:ILE:HG13	2.12	0.48
21:CA:1295:G:H21	21:CA:1302:U:H3	1.60	0.48
36:BQ:111:GLU:O	36:BQ:115:MET:HG2	2.13	0.48
10:CK:24:SER:OG	10:CK:25:TYR:N	2.46	0.48
20:CY:39:ILE:HG21	20:CY:76:ASP:OD2	2.12	0.48
20:CY:684:GLN:O	20:CY:688:ILE:N	2.47	0.48
5:CF:96:PRO:HA	17:CR:32:ARG:HB2	1.95	0.48
59:BA:2147:G:H8	59:BA:2147:G:H3'	1.79	0.48
47:B2:35:LEU:HD13	47:B2:50:ILE:HA	1.93	0.48
16:CQ:2:PRO:O	21:CA:127:G:O2'	2.30	0.48
21:CA:867:G:H2'	21:CA:868:C:H6	1.78	0.48
20:CY:497:PHE:HB3	20:CY:507:TYR:HB2	1.95	0.48
32:DK:54:PRO:HB2	32:DK:70:LYS:HD3	1.94	0.48
59:DA:766:C:H2'	59:DA:767:U:O4'	2.13	0.48
45:BZ:23:LYS:HG2	45:BZ:40:ASP:HA	1.95	0.48
11:AL:70:ILE:HG22	11:AL:100:ILE:HD12	1.94	0.48
11:CL:54:LYS:HD3	11:CL:70:ILE:CG1	2.32	0.48
11:CL:79:GLU:O	11:CL:80:HIS:ND1	2.47	0.48
11:CL:92:ASP:OD1	11:CL:92:ASP:N	2.45	0.48
45:BZ:19:ARG:HD3	45:BZ:84:GLU:HG3	1.95	0.48
38:DS:106:ARG:NE	38:DS:108:GLY:HA2	2.23	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:BC:216:THR:HG21	59:BA:2176:A:H1'	1.95	0.48
25:BC:45:HIS:HA	25:BC:172:ILE:O	2.13	0.48
25:BC:48:LEU:HD13	25:BC:50:ILE:CG1	2.39	0.48
28:BF:154:VAL:O	28:BF:174:VAL:O	2.31	0.48
1:AB:144:ARG:HH22	21:AA:1098:C:P	2.36	0.48
21:CA:1421:G:H2'	21:CA:1422:G:O4'	2.13	0.48
12:CM:96:LEU:HB3	12:CM:97:PRO:HD2	1.93	0.48
42:DW:12:ILE:HD13	42:DW:12:ILE:HA	1.63	0.48
26:BD:108:PRO:HB3	26:BD:143:HIS:CE1	2.48	0.48
21:AA:1057:G:H2'	21:AA:1058:G:O4'	2.12	0.48
27:BE:117:MET:CG	27:BE:136:ARG:HG3	2.42	0.48
20:AY:133:ILE:H	20:AY:133:ILE:HD13	1.78	0.48
59:DA:2399:G:H2'	59:DA:2400:G:O4'	2.12	0.48
59:BA:1338:G:O2'	59:BA:1393:A:N1	2.34	0.48
40:DU:10:ARG:NH1	59:DA:583:G:OP2	2.47	0.48
11:AL:124:LYS:HD2	11:AL:125:PRO:HD2	1.94	0.48
59:BA:104:U:H3'	59:BA:105:C:H6	1.77	0.48
59:BA:962:G:O2'	59:BA:2496:C:O2'	2.19	0.48
28:DF:110:LEU:HD23	28:DF:206:ILE:HD11	1.95	0.48
44:BY:17:SER:HB2	44:BY:71:LYS:HD2	1.94	0.48
39:DT:16:ARG:NH2	39:DT:83:ILE:O	2.44	0.48
21:CA:1016:A:H2'	21:CA:1017:G:O4'	2.14	0.48
21:AA:999:U:O4	21:AA:1000:A:N6	2.46	0.48
21:AA:895:G:H2'	21:AA:896:C:C6	2.48	0.48
33:DN:111:PRO:O	33:DN:114:ARG:HG3	2.13	0.48
46:B0:36:ILE:HG22	46:B0:60:PHE:HB3	1.95	0.48
59:BA:2478:A:H8	59:BA:2478:A:OP1	1.97	0.48
53:B9:26:ILE:HG22	53:B9:27:CYS:H	1.79	0.48
7:AH:34:GLU:HB3	7:AH:118:VAL:HG21	1.93	0.48
33:DN:57:ALA:O	33:DN:60:ILE:HG13	2.13	0.48
30:BH:96:ALA:HB3	30:BH:128:PRO:HA	1.94	0.48
59:BA:2040:C:H2'	59:BA:2041:U:H6	1.78	0.48
21:CA:642:A:H2'	21:CA:643:C:C6	2.48	0.48
59:DA:1657:C:H2'	59:DA:1658:C:C6	2.48	0.48
20:CY:83:ASP:N	20:CY:83:ASP:OD1	2.46	0.48
21:CA:316:G:OP2	21:CA:351:G:O2'	2.30	0.48
59:BA:1608:A:O2'	59:BA:1610:A:OP2	2.30	0.48
21:AA:518:C:H4'	21:AA:519:C:H6	1.78	0.48
21:AA:1087:G:H2'	21:AA:1088:G:H8	1.78	0.48
59:BA:2822:G:O2'	59:BA:2824:C:OP2	2.25	0.48
36:BQ:56:ARG:HD3	59:BA:2469:A:H4'	1.95	0.48
27:BE:61:ARG:O	27:BE:63:LEU:N	2.45	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:CA:1003:G:O6	21:CA:1037:C:N3	2.46	0.48
27:DE:63:LEU:C	27:DE:65:GLY:N	2.66	0.48
25:BC:47:LYS:HG3	25:BC:211:ARG:HH21	1.78	0.48
59:DA:1800:C:O2'	59:DA:1818:U:O4	2.31	0.48
59:DA:27:G:H1'	59:DA:513:A:H62	1.79	0.48
42:DW:8:ARG:NH2	59:DA:24:G:O3'	2.46	0.48
49:B5:3:LYS:HE3	49:B5:5:PRO:HD2	1.94	0.48
59:BA:1337:G:H2'	59:BA:1338:G:O4'	2.12	0.48
26:BD:132:PRO:HB2	26:BD:135:PHE:CD1	2.48	0.48
11:AL:117:ARG:NH2	21:AA:501:C:OP2	2.37	0.48
14:CO:46:HIS:O	14:CO:48:LYS:N	2.46	0.48
3:AD:123:HIS:CE1	21:AA:438:G:H4'	2.49	0.48
18:AS:29:ARG:CZ	59:BA:889:C:H42	2.27	0.48
39:DT:34:VAL:HG13	39:DT:39:ARG:HA	1.96	0.48
20:AY:519:ARG:NH2	20:AY:677:GLN:HB3	2.28	0.48
20:AY:603:GLU:OE2	20:AY:648:PRO:HB3	2.13	0.48
5:CF:48:LEU:N	5:CF:56:PRO:O	2.46	0.48
59:BA:329:G:H8	59:BA:329:G:P	2.36	0.48
59:BA:91:A:H2'	59:BA:92:G:O4'	2.12	0.48
41:DV:81:TYR:CE2	59:DA:1187:G:H5''	2.49	0.48
44:BY:8:LYS:HZ3	44:BY:70:SER:HA	1.77	0.48
47:B2:38:GLN:HG2	47:B2:41:ILE:HD13	1.94	0.48
21:AA:219:C:H2'	21:AA:220:G:C8	2.49	0.48
20:AY:467:LYS:NZ	20:AY:474:ALA:HB3	2.29	0.48
34:DO:27:GLY:H	34:DO:30:ALA:HB2	1.79	0.48
37:DR:98:LEU:HD23	37:DR:99:LYS:HE3	1.96	0.48
59:DA:1510:A:H2'	59:DA:1511:A:O4'	2.13	0.48
4:CE:91:LEU:HD13	4:CE:120:THR:HB	1.94	0.48
21:AA:1480:G:H2'	21:AA:1481:U:O4'	2.12	0.48
59:BA:1578:U:H2'	59:BA:1579:A:H8	1.77	0.48
19:CT:36:LEU:HB3	19:CT:59:ALA:HB2	1.95	0.48
3:AD:6:GLY:O	3:AD:8:VAL:N	2.47	0.48
59:DA:2583:G:H2'	59:DA:2584:U:O4'	2.13	0.48
59:DA:49:A:H5''	59:DA:51:G:O4'	2.12	0.48
1:AB:64:ARG:HE	1:AB:64:ARG:HB2	1.37	0.48
20:AY:30:GLU:O	20:AY:33:LEU:CB	2.62	0.48
20:CY:138:LYS:HE2	61:CY:701:GNP:C8	2.41	0.48
51:B7:39:ARG:HA	51:B7:39:ARG:CZ	2.43	0.48
38:BS:15:ARG:O	38:BS:18:ILE:N	2.46	0.48
38:BS:16:ASN:HB3	38:BS:20:ARG:NH2	2.27	0.48
31:DJ:112:UNK:O	31:DJ:114:UNK:N	2.46	0.48
28:BF:170:LEU:HB3	28:BF:173:VAL:HB	1.95	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:BQ:76:LYS:NZ	59:BA:957:A:OP1	2.41	0.48
11:AL:15:ARG:NH1	21:AA:563:A:N3	2.61	0.48
25:DC:91:GLY:H	25:DC:154:ILE:HG21	1.78	0.48
26:BD:51:VAL:HG21	26:BD:54:ARG:HG3	1.95	0.48
28:BF:101:LEU:O	28:BF:106:ARG:NH2	2.41	0.48
28:BF:180:GLY:HA3	59:BA:616:A:N3	2.29	0.48
21:CA:670:G:H1	21:CA:736:C:N4	2.09	0.48
39:BT:23:ARG:O	39:BT:25:GLY:N	2.46	0.48
27:BE:173:VAL:H	27:BE:184:VAL:HA	1.79	0.48
7:AH:38:ILE:HG21	7:AH:111:ILE:HG21	1.95	0.48
59:DA:2115:G:N1	59:DA:2118:U:OP1	2.46	0.48
35:DP:61:ARG:O	52:D8:13:ARG:HD3	2.13	0.48
59:DA:1811:G:H2'	59:DA:1812:A:C8	2.48	0.48
21:AA:864:A:O2'	21:AA:1078:U:O4	2.32	0.48
45:DZ:69:THR:HG22	45:DZ:90:VAL:HA	1.95	0.48
21:AA:145:G:H2'	21:AA:146:G:C8	2.49	0.48
20:AY:519:ARG:NH1	20:AY:678:GLU:H	2.11	0.48
59:BA:1497:U:H5''	59:BA:1498:C:C5	2.49	0.48
29:DG:84:LYS:HD2	29:DG:84:LYS:H	1.78	0.48
59:BA:1029:A:N6	59:BA:1125:G:O2'	2.46	0.48
59:BA:373:U:H2'	59:BA:374:A:C8	2.47	0.48
11:CL:117:ARG:NH2	21:CA:501:C:OP2	2.38	0.48
20:CY:681:LYS:O	20:CY:685:GLU:N	2.44	0.48
59:BA:1638:C:H2'	59:BA:1639:U:O4'	2.14	0.48
21:AA:892:A:H2'	21:AA:893:C:H6	1.78	0.48
21:AA:1137:C:H4'	21:AA:1138:G:C4	2.48	0.48
3:CD:135:LEU:HA	3:CD:135:LEU:HD13	1.66	0.48
21:CA:1440(J):C:O2'	21:CA:1440(K):G:N2	2.47	0.48
14:AO:26:GLU:OE1	14:AO:77:ARG:HD3	2.14	0.48
36:DQ:13:GLN:HG2	59:DA:954:G:O3'	2.13	0.48
21:CA:1161:C:H2'	21:CA:1162:C:C6	2.48	0.48
5:AF:98:LEU:HB2	17:AR:28:GLU:OE1	2.14	0.48
59:DA:1015:G:H2'	59:DA:1016:G:C8	2.49	0.48
46:B0:9:SER:OG	46:B0:10:THR:N	2.45	0.48
59:DA:548:A:C2	59:DA:549:G:H1'	2.48	0.48
21:AA:1432:G:O2'	21:AA:1433:A:H8	1.96	0.48
40:DU:31:SER:OG	59:DA:581:C:OP1	2.23	0.48
59:DA:1036:G:H2'	59:DA:1037:G:H8	1.79	0.48
11:AL:43:VAL:HG12	11:AL:44:THR:H	1.77	0.48
8:AI:20:ARG:N	8:AI:60:ASP:O	2.46	0.48
59:BA:1558:A:O3'	59:BA:1559:G:N2	2.34	0.48
28:DF:125:LEU:CA	28:DF:194:MET:HB2	2.41	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
37:DR:95:THR:C	37:DR:117:VAL:HG21	2.33	0.48
35:BP:64:LYS:HZ1	59:BA:2416:C:H5'	1.79	0.48
3:CD:177:ASP:HB2	3:CD:182:LYS:H	1.79	0.48
16:AQ:45:HIS:HB3	16:AQ:72:ARG:HG2	1.95	0.48
46:B0:47:PRO:HD3	46:B0:59:LEU:HD21	1.95	0.48
59:BA:848:G:H2'	59:BA:849:A:C8	2.48	0.48
27:DE:134:ILE:HG12	27:DE:135:HIS:H	1.77	0.48
35:BP:71:VAL:H	35:BP:72:PRO:CD	2.26	0.48
21:AA:146:G:H2'	21:AA:147:G:O4'	2.14	0.48
20:AY:608:VAL:HG22	20:AY:669:PHE:HB2	1.95	0.48
35:BP:46:LYS:HB3	35:BP:48:PRO:HA	1.95	0.48
9:AJ:27:ALA:CB	9:AJ:34:VAL:HG21	2.43	0.48
59:DA:702:G:H1	59:DA:730:C:N4	2.12	0.48
21:CA:258:G:H2'	21:CA:259:G:H8	1.78	0.48
21:CA:59:A:N6	21:CA:331:G:O2'	2.47	0.48
40:BU:10:ARG:O	40:BU:14:HIS:HB2	2.12	0.48
21:CA:501:C:O2'	21:CA:549:C:O2	2.27	0.48
26:DD:227:ASN:HB2	26:DD:228:PRO:HD2	1.95	0.48
59:DA:848:G:N2	59:DA:933:A:H1'	2.28	0.48
22:CW:69:A:H2'	22:CW:70:G:H8	1.77	0.48
10:AK:92:GLU:O	10:AK:95:ILE:HB	2.14	0.48
20:AY:11:ARG:HG3	20:AY:12:LEU:HD22	1.96	0.48
21:CA:701:C:OP1	21:CA:703:G:H5'	2.14	0.48
26:BD:274:ARG:NH2	59:BA:1798:U:H3'	2.29	0.48
59:BA:27:G:N2	59:BA:513:A:OP2	2.46	0.48
26:DD:43:ARG:HG2	59:DA:691:C:O2'	2.14	0.48
41:DV:86:GLY:H	59:DA:1224:C:HO2'	1.58	0.48
59:BA:2162:G:H5''	59:BA:2173:A:OP2	2.13	0.48
32:BK:97:GLY:O	32:BK:137:GLU:HG3	2.13	0.48
26:DD:52:ARG:HE	26:DD:53:PHE:HE1	1.62	0.48
20:CY:17:ILE:H	20:CY:83:ASP:CB	2.27	0.48
20:CY:176:GLY:HA3	20:CY:187:THR:HA	1.95	0.48
21:CA:1290:G:H2'	21:CA:1291:G:H8	1.79	0.48
21:CA:1440(C):G:H3'	21:CA:1440(D):A:H5'	1.96	0.48
21:CA:1537:U:O2'	21:CA:1538:C:OP1	2.30	0.48
4:CE:88:LYS:HB3	4:CE:123:LEU:HB2	1.94	0.48
59:DA:2567:G:H2'	59:DA:2568:C:C6	2.49	0.48
2:CC:11:ARG:HE	2:CC:182:ILE:H	1.61	0.48
13:AN:24:CYS:O	13:AN:28:GLY:N	2.43	0.48
9:AJ:36:GLY:HA3	21:AA:1123:A:H4'	1.95	0.48
59:DA:1464:C:H2'	59:DA:1465:G:C8	2.49	0.48
59:DA:289:A:H2'	59:DA:290:G:O4'	2.13	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
37:DR:29:LEU:HB3	37:DR:75:LEU:HD12	1.95	0.48
15:CP:9:PHE:HE2	15:CP:18:ARG:HB2	1.78	0.48
59:DA:1139:G:H2'	59:DA:1140:C:H6	1.79	0.48
59:BA:565:C:H2'	59:BA:566:U:O4'	2.14	0.48
42:DW:41:LYS:HB3	42:DW:42:ARG:H	1.55	0.48
22:AW:65:U:H2'	22:AW:66:C:C6	2.48	0.48
11:AL:10:LEU:HD21	11:AL:15:ARG:HE	1.79	0.48
4:AE:51:VAL:HB	4:AE:52:PRO:HD3	1.95	0.48
21:AA:1385:G:H2'	21:AA:1386:G:H8	1.78	0.48
2:AC:59:ARG:HH12	2:AC:97:LYS:HD2	1.78	0.48
35:DP:59:LEU:HG	52:D8:13:ARG:NH1	2.28	0.48
59:BA:2258:C:O2'	59:BA:2426:A:H4'	2.14	0.48
19:AT:43:LEU:O	19:AT:46:GLU:HB3	2.14	0.48
42:BW:78:GLU:HG3	42:BW:100:THR:O	2.13	0.48
35:DP:109:GLY:O	35:DP:111:ARG:N	2.46	0.48
6:CG:140:ASP:HA	6:CG:143:ARG:HD2	1.96	0.48
21:CA:105:G:H2'	21:CA:106:C:H6	1.75	0.48
3:CD:55:ALA:HB2	21:CA:509:A:H5''	1.96	0.48
39:BT:60:THR:HG22	39:BT:77:PRO:HA	1.95	0.48
12:AM:77:ASN:O	12:AM:81:LEU:HD22	2.14	0.48
30:DH:142:GLY:HA3	59:DA:2745:C:H4'	1.95	0.48
28:DF:153:SER:HA	28:DF:172:TRP:O	2.14	0.48
33:DN:61:ARG:NE	33:DN:61:ARG:HA	2.29	0.48
36:BQ:2:LEU:HB3	36:BQ:69:PHE:CZ	2.49	0.48
59:DA:56:A:H2'	59:DA:57:C:O4'	2.13	0.48
52:D8:4:MET:CE	59:DA:592:G:H21	2.26	0.48
21:CA:1103:C:H2'	21:CA:1104:G:O4'	2.14	0.48
9:AJ:44:VAL:HA	9:AJ:65:LEU:O	2.13	0.48
59:DA:719:C:H2'	59:DA:720:C:C6	2.49	0.48
59:BA:1999:C:H4'	59:BA:2723:C:O2	2.13	0.48
21:CA:186(L):G:H2'	21:CA:186(M):G:C8	2.49	0.48
20:CY:17:ILE:H	20:CY:83:ASP:HB3	1.79	0.48
48:B3:41:PRO:HA	48:B3:44:ARG:HB2	1.94	0.48
59:DA:2074:U:H2'	59:DA:2075:U:C6	2.48	0.48
21:AA:285:G:H2'	21:AA:286:G:H8	1.79	0.48
50:B6:53:LYS:HG3	50:B6:54:ILE:H	1.78	0.48
21:AA:658:G:H2'	21:AA:659:U:H6	1.77	0.48
21:AA:848:C:H2'	21:AA:849:C:C6	2.48	0.48
33:DN:54:VAL:N	33:DN:121:LYS:O	2.40	0.48
59:DA:184:C:H2'	59:DA:185:U:C6	2.49	0.48
9:AJ:79:ARG:HH12	9:AJ:82:ILE:HD12	1.78	0.48
33:DN:91:LEU:HD23	33:DN:98:VAL:HG11	1.96	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:AA:1319:A:O2'	21:AA:1323:G:N7	2.43	0.48
7:CH:86:ILE:HD11	7:CH:136:GLU:HG3	1.96	0.48
59:BA:144(B):A:H3'	59:BA:1445:C:H6	1.78	0.48
59:DA:775:G:C4	59:DA:794:G:C8	3.01	0.48
59:DA:1005:C:H42	59:DA:1138:G:H1	1.62	0.48
59:BA:817:C:O2'	59:BA:839:U:OP1	2.23	0.48
59:BA:2889:C:H2'	59:BA:2891:G:O4'	2.13	0.48
59:BA:2229:C:H2'	59:BA:2230:G:H8	1.78	0.48
41:BV:24:LYS:HD2	41:BV:90:PRO:HB2	1.96	0.48
25:BC:23:ILE:HG12	25:BC:225:ILE:HD12	1.96	0.48
1:AB:167:PRO:HD3	1:AB:187:LEU:O	2.14	0.48
21:AA:947:G:O2'	21:AA:1306:A:H4'	2.14	0.48
32:BK:68:VAL:HG12	32:BK:70:LYS:HE3	1.96	0.48
59:DA:2627:G:O2'	59:DA:2781:A:N1	2.42	0.48
21:AA:186(E):C:N3	21:AA:186(L):G:N2	2.48	0.48
33:DN:31:ALA:C	33:DN:33:LEU:H	2.16	0.48
59:DA:378:C:H2'	59:DA:379:G:C8	2.49	0.48
26:BD:133:LEU:HG	26:BD:189:CYS:O	2.13	0.48
44:DY:19:LYS:HB2	59:DA:329:G:O6	2.13	0.48
40:BU:11:ARG:HG2	40:BU:15:LYS:HE2	1.95	0.48
59:BA:2065:C:H2'	59:BA:2066:C:C6	2.49	0.48
44:BY:2:ARG:CZ	59:BA:106:C:H1'	2.44	0.48
29:BG:107:LEU:HD11	29:BG:178:PHE:CE1	2.49	0.48
59:DA:138:G:N1	59:DA:139:G:O6	2.47	0.48
41:DV:49:THR:OG1	41:DV:50:PRO:HD3	2.13	0.48
21:CA:1313:U:H2'	21:CA:1314:C:O4'	2.14	0.48
59:DA:974(B):C:OP2	59:DA:975:G:H5''	2.13	0.48
21:AA:953:G:H2'	21:AA:954:G:O4'	2.12	0.48
14:AO:32:LEU:O	14:AO:36:ILE:HG13	2.14	0.48
12:AM:77:ASN:O	12:AM:80:ARG:HB2	2.14	0.48
1:CB:197:VAL:HG12	1:CB:200:ILE:HG13	1.96	0.48
23:AV:8:A:O2'	23:AV:9:G:OP1	2.26	0.48
12:CM:51:ALA:O	12:CM:55:ARG:HG2	2.14	0.48
40:BU:93:LYS:O	40:BU:96:ALA:HB3	2.14	0.48
8:AI:10:ARG:HD3	8:AI:75:ASP:HB3	1.96	0.48
59:DA:1259:G:H2'	59:DA:1260:G:H8	1.78	0.48
6:CG:51:GLN:NE2	6:CG:56:GLN:O	2.33	0.48
4:AE:78:HIS:ND1	7:AH:104:ARG:HG3	2.27	0.48
59:BA:1049:C:H1'	59:BA:1113:U:H4'	1.95	0.48
17:AR:59:SER:OG	17:AR:60:ALA:N	2.45	0.48
59:BA:1820:U:H5''	59:BA:1821:A:C8	2.48	0.48
59:BA:144:C:H2'	59:BA:145:G:C8	2.49	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:2306:C:H5''	59:DA:2307:G:C8	2.49	0.48
59:DA:271:G:H2'	59:DA:272:G:H8	1.78	0.48
52:B8:17:THR:HG21	59:BA:650:C:H4'	1.96	0.48
14:AO:25:THR:O	14:AO:29:VAL:HG23	2.13	0.48
21:CA:201(A):U:O2'	21:CA:201(B):U:H5'	2.14	0.48
59:BA:807:U:H2'	59:BA:808:G:O4'	2.13	0.48
59:DA:98:G:H5'	59:DA:99:U:OP2	2.13	0.48
25:DC:27:ALA:O	25:DC:31:LYS:HB2	2.14	0.48
59:BA:276:A:H2'	59:BA:277:C:C6	2.48	0.48
34:DO:36:GLY:HA3	34:DO:109:LYS:HG3	1.95	0.48
59:DA:1710:C:H4'	59:DA:2858:C:N3	2.29	0.48
1:AB:107:THR:O	1:AB:110:GLN:HB2	2.14	0.48
16:CQ:64:PRO:O	21:CA:265:G:H5'	2.14	0.48
20:AY:552:SER:O	20:AY:591:LYS:NZ	2.33	0.48
59:DA:649:G:H2'	59:DA:650:C:C6	2.49	0.48
28:DF:50:SER:HA	28:DF:92:PRO:HB2	1.95	0.48
59:BA:1423:G:C2	59:BA:1424:G:C8	3.02	0.48
38:DS:71:ARG:O	38:DS:74:ALA:HB3	2.13	0.48
41:BV:77:ALA:O	41:BV:79:VAL:N	2.41	0.48
33:BN:36:GLY:O	33:BN:42:TRP:HB2	2.14	0.48
59:DA:882:G:N1	59:DA:894:C:N4	2.45	0.48
45:BZ:19:ARG:NH1	45:BZ:84:GLU:HG3	2.29	0.48
38:DS:13:ARG:H	38:DS:13:ARG:HE	1.61	0.48
25:DC:8:TYR:CD1	25:DC:11:LEU:HB2	2.48	0.48
29:DG:66:GLN:HB3	57:D4:6:HIS:NE2	2.29	0.48
8:AI:21:PRO:HA	8:AI:59:PHE:HA	1.96	0.48
27:DE:12:THR:HG22	39:DT:58:ASN:HD21	1.78	0.48
42:DW:82:LEU:HD13	42:DW:84:ARG:NE	2.29	0.48
21:AA:309:G:H2'	21:AA:310:G:C8	2.37	0.48
59:BA:242:G:O2'	59:BA:254:G:O6	2.25	0.48
39:DT:64:ARG:HH22	39:DT:103:ARG:HA	1.78	0.48
26:BD:224:ALA:HB2	26:BD:233:HIS:ND1	2.24	0.48
20:AY:616:TYR:O	20:AY:620:VAL:HG13	2.14	0.48
26:BD:108:PRO:HB3	26:BD:143:HIS:NE2	2.29	0.48
16:AQ:51:TYR:CE2	16:AQ:73:VAL:HG21	2.48	0.48
21:CA:128:G:H1	21:CA:233:C:H42	1.62	0.48
59:DA:605:C:H1'	59:DA:657:U:O2'	2.14	0.48
14:CO:29:VAL:HG22	14:CO:66:LEU:HB3	1.94	0.48
21:CA:458(A):G:O6	21:CA:458(C):G:H5''	2.13	0.48
35:DP:60:MET:HB3	59:DA:2392:A:H8	1.79	0.48
25:BC:29:LEU:O	25:BC:33:LEU:HG	2.14	0.48
29:DG:51:ARG:NH1	29:DG:54:GLU:HB2	2.29	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:1588:C:H2'	59:BA:1589:C:H6	1.75	0.48
30:DH:98:LEU:HB2	30:DH:125:VAL:HB	1.96	0.48
59:BA:140:A:N6	59:BA:141(A):A:N1	2.62	0.48
28:BF:3:GLU:CA	28:BF:24:LEU:HB2	2.44	0.48
3:CD:67:ILE:HG12	3:CD:67:ILE:O	2.14	0.48
33:BN:16:ILE:HD13	33:BN:137:LYS:HB2	1.94	0.48
14:AO:33:THR:HA	14:AO:36:ILE:HD12	1.96	0.48
4:CE:145:LYS:O	4:CE:149:GLU:HG2	2.13	0.48
21:AA:945:G:H1	21:AA:1236:A:H61	1.62	0.48
7:AH:44:PHE:HE1	7:AH:80:ILE:HA	1.78	0.48
21:AA:54:C:H42	21:AA:357:G:H1	1.60	0.48
21:CA:1102:A:H2'	21:CA:1103:C:C6	2.49	0.48
59:BA:1819:A:H4'	59:BA:1820:U:H5''	1.96	0.48
59:DA:1669:A:H4'	59:DA:2549:G:H4'	1.95	0.48
21:AA:609:A:H2'	21:AA:610:G:C8	2.49	0.48
14:AO:74:ASP:O	14:AO:77:ARG:HG2	2.13	0.48
59:BA:551:G:H2'	59:BA:552:G:H8	1.79	0.48
59:BA:901:A:H2'	59:BA:902:C:H6	1.79	0.48
20:CY:630:GLN:O	20:CY:646:PHE:HB2	2.13	0.48
21:AA:555:C:H2'	21:AA:556:C:C6	2.49	0.48
36:BQ:104:PHE:CZ	36:BQ:125:LEU:HD11	2.49	0.48
59:BA:192:C:H3'	59:BA:193:U:H6	1.79	0.48
8:AI:65:VAL:HG21	8:AI:73:GLN:HA	1.95	0.48
45:DZ:9:TYR:CE1	45:DZ:35:ARG:HD3	2.48	0.48
6:CG:66:VAL:O	6:CG:70:LYS:HG3	2.14	0.48
41:DV:10:LYS:NZ	41:DV:23:GLU:OE1	2.45	0.48
3:AD:54:TYR:CE2	21:AA:508:C:H4'	2.49	0.48
21:CA:671:G:H1	21:CA:735:C:H42	1.60	0.48
35:DP:132:LYS:HD2	35:DP:132:LYS:N	2.29	0.48
21:AA:614:A:H2'	21:AA:615:C:C6	2.48	0.48
7:AH:40:ALA:HA	7:AH:45:ILE:HG12	1.96	0.48
59:BA:2133:G:O2'	59:BA:2157:G:N2	2.46	0.48
11:AL:49:ASN:OD1	11:AL:49:ASN:N	2.47	0.48
11:AL:51:ALA:HB3	11:AL:53:ARG:NE	2.29	0.48
59:DA:120:U:H4'	59:DA:122:G:OP2	2.13	0.48
59:BA:1013:C:N3	59:BA:1149:G:N2	2.48	0.48
3:CD:156:GLU:HB2	3:CD:157:LEU:HD12	1.96	0.48
51:B7:41:ARG:HB3	59:BA:463:G:O6	2.14	0.48
59:DA:1591:G:H2'	59:DA:1592:C:C6	2.49	0.48
32:DK:115:LEU:HB3	32:DK:116:ASN:H	1.54	0.48
38:DS:21:THR:O	38:DS:23:ARG:N	2.47	0.48
59:DA:839:U:H2'	59:DA:840:C:C6	2.48	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:2706:G:H5''	59:DA:2851:A:H5''	1.96	0.48
59:DA:2851:A:H8	59:DA:2851:A:O5'	1.97	0.48
60:BB:90:C:H2'	60:BB:91:C:H6	1.79	0.48
29:DG:66:GLN:HG2	57:D4:1:MET:HG3	1.95	0.48
34:DO:13:ASN:OD1	34:DO:96:THR:HG22	2.14	0.48
1:AB:26:PRO:HB2	1:AB:27:LYS:NZ	2.28	0.48
30:DH:85:LYS:HG2	30:DH:141:VAL:HG13	1.95	0.48
37:DR:39:PRO:HA	37:DR:42:LYS:HD2	1.95	0.48
48:D3:18:ASP:HB2	48:D3:49:LYS:HE3	1.96	0.48
8:AI:112:LYS:NZ	8:AI:113:LYS:O	2.44	0.48
12:CM:75:ALA:O	12:CM:79:LYS:HG3	2.14	0.48
59:BA:245:G:H2'	59:BA:246:C:C6	2.49	0.48
34:DO:23:ARG:NH2	34:DO:31:LYS:HG2	2.27	0.48
60:BB:79:C:H2'	60:BB:80:U:O4'	2.13	0.48
59:BA:1019:U:H2'	59:BA:1020:A:H8	1.73	0.48
49:B5:20:ARG:HA	49:B5:23:HIS:HD2	1.76	0.48
14:AO:23:GLY:HA3	21:AA:750:G:N3	2.29	0.48
36:DQ:36:ALA:HB2	36:DQ:103:MET:SD	2.54	0.48
59:DA:1007:C:H5''	59:DA:1008:C:P	2.54	0.48
43:DX:11:PRO:HB3	47:D2:37:PHE:HE2	1.79	0.48
44:BY:76:CYS:HB2	44:BY:96:ILE:HG13	1.95	0.48
20:AY:448:GLN:NE2	20:AY:480:GLN:HG2	2.29	0.48
39:DT:16:ARG:HD2	39:DT:16:ARG:HA	1.54	0.48
59:BA:1384:A:N3	59:BA:1405:U:H1'	2.29	0.48
59:DA:679:C:H2'	59:DA:680:G:C8	2.47	0.48
13:AN:7:ILE:O	13:AN:11:LYS:HB2	2.13	0.48
1:CB:111:ARG:NH1	21:CA:1104:G:H4'	2.28	0.48
20:AY:511:LYS:HB2	20:AY:569:ASP:HB3	1.96	0.48
21:CA:975:A:H4'	21:CA:976:G:H5''	1.96	0.48
26:DD:158:ALA:N	26:DD:161:THR:OG1	2.47	0.48
20:AY:601:ILE:HG22	20:AY:602:LEU:H	1.79	0.48
15:AP:20:VAL:HG21	15:AP:32:TYR:CG	2.49	0.48
59:DA:1935:G:H3'	59:DA:1962:C:N4	2.28	0.48
21:CA:1197:G:H5'	21:CA:1197:G:H8	1.79	0.48
22:CW:19:G:H4'	22:CW:20:U:C5	2.49	0.48
4:AE:151:LEU:HB3	7:AH:79:VAL:HG22	1.96	0.48
45:DZ:25:PRO:HG2	45:DZ:85:HIS:HB2	1.95	0.48
51:B7:8:ASN:CG	51:B7:11:LYS:HB3	2.35	0.48
59:DA:165:U:H2'	59:DA:171:G:O4'	2.13	0.48
9:AJ:91:PRO:HB3	9:AJ:94:VAL:HG12	1.96	0.48
21:AA:1418:A:H1'	59:BA:1959:G:H1'	1.96	0.48
59:BA:2838:G:C6	59:BA:2839:G:C5	3.02	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:CA:942:G:H2'	21:CA:943:U:C6	2.49	0.48
8:AI:24:GLY:HA3	8:AI:57:GLY:HA2	1.95	0.48
14:CO:23:GLY:O	14:CO:28:GLN:NE2	2.38	0.48
59:BA:1022:G:H4'	59:BA:1023:U:H5'	1.96	0.47
21:AA:1003:G:N2	21:AA:1037:C:O2	2.47	0.47
20:AY:130:VAL:O	20:AY:132:ARG:HD3	2.14	0.47
14:AO:46:HIS:O	14:AO:47:LYS:HG2	2.13	0.47
30:BH:85:LYS:HD3	30:BH:141:VAL:HA	1.95	0.47
28:DF:117:ARG:O	28:DF:121:GLY:N	2.46	0.47
28:DF:12:LEU:HD13	28:DF:17:ARG:HG2	1.95	0.47
28:DF:193:VAL:O	28:DF:194:MET:CG	2.62	0.47
41:DV:87:HIS:CE1	59:DA:1163:G:H21	2.23	0.47
6:CG:78:ARG:HG2	6:CG:85:TYR:HB2	1.96	0.47
56:D1:45:ASN:HB2	59:DA:2230:G:O2'	2.14	0.47
50:B6:16:CYS:O	50:B6:18:ARG:N	2.47	0.47
50:D6:8:LYS:HD2	50:D6:27:LYS:HA	1.96	0.47
50:D6:20:ASN:OD1	50:D6:42:TRP:N	2.42	0.47
40:BU:82:GLY:HA3	40:BU:113:ALA:HB1	1.96	0.47
37:DR:48:VAL:O	37:DR:52:ILE:HG12	2.14	0.47
12:CM:74:VAL:O	12:CM:78:ILE:HG12	2.14	0.47
59:BA:1936:A:OP1	59:BA:1961:C:N4	2.45	0.47
59:DA:2525:G:H2'	59:DA:2526:G:H8	1.79	0.47
59:DA:2742:C:H2'	59:DA:2743:C:H6	1.79	0.47
59:BA:2292:C:H5''	59:BA:2378:A:H61	1.79	0.47
42:BW:15:ARG:HD2	59:BA:1266:G:C8	2.48	0.47
6:AG:5:ARG:HG3	6:AG:6:ARG:H	1.79	0.47
59:DA:140:A:H2'	59:DA:141(A):A:H5''	1.96	0.47
12:CM:31:LYS:HA	12:CM:34:LEU:HD12	1.96	0.47
44:BY:95:LYS:HG2	44:BY:101:LYS:H	1.79	0.47
15:CP:2:VAL:HA	15:CP:23:ASP:HA	1.96	0.47
15:CP:53:VAL:O	15:CP:57:ARG:HB2	2.14	0.47
7:AH:83:ILE:HG22	7:AH:137:VAL:HG13	1.96	0.47
41:BV:76:LYS:HB2	41:BV:81:TYR:HB3	1.94	0.47
59:DA:2605:U:H2'	59:DA:2606:C:C6	2.49	0.47
7:CH:10:LEU:O	7:CH:13:ILE:HB	2.14	0.47
48:D3:5:LYS:HA	48:D3:35:ARG:O	2.14	0.47
36:BQ:14:ARG:HH12	59:BA:958:U:H5'	1.79	0.47
21:CA:122:G:H2'	21:CA:123:C:H6	1.78	0.47
27:DE:27:LEU:HA	27:DE:181:LEU:HD13	1.95	0.47
48:B3:11:SER:OG	59:BA:989:G:OP2	2.20	0.47
21:AA:520:A:C2	21:AA:536:C:H1'	2.49	0.47
59:DA:1786:A:H4'	59:DA:1787:A:OP2	2.12	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:AY:494:GLU:HG3	20:AY:496:LYS:HB2	1.96	0.47
59:BA:2588:G:C6	59:BA:2607:G:C2	3.02	0.47
59:BA:2688:U:H6	59:BA:2721:A:H62	1.61	0.47
59:DA:2561:A:H2'	59:DA:2562:U:O4'	2.14	0.47
53:D9:13:LYS:O	53:D9:15:LYS:HD2	2.14	0.47
59:BA:2412:A:H2'	59:BA:2413:G:O4'	2.14	0.47
28:DF:83:PHE:CD2	59:DA:1257:C:H4'	2.49	0.47
59:BA:772:C:H2'	59:BA:773:U:C6	2.49	0.47
41:DV:15:GLU:HB3	41:DV:16:PRO:HD2	1.96	0.47
59:BA:406:G:C4	59:BA:407:G:H1'	2.48	0.47
4:CE:73:ASN:ND2	4:CE:73:ASN:O	2.40	0.47
59:DA:941:A:H3'	59:DA:942:G:H8	1.79	0.47
59:DA:2795:G:H3'	59:DA:2797:U:C5'	2.44	0.47
10:CK:79:SER:HA	10:CK:104:GLN:HB3	1.96	0.47
2:AC:148:GLY:HA2	2:AC:171:GLY:HA3	1.96	0.47
21:AA:621:A:H2'	21:AA:622:A:C8	2.49	0.47
59:DA:1681:G:N3	59:DA:1762:A:H2'	2.29	0.47
20:CY:25:LYS:CG	61:CY:701:GNP:O1B	2.45	0.47
33:BN:7:LYS:HZ2	33:BN:7:LYS:N	2.11	0.47
33:DN:116:LEU:HD23	33:DN:119:ARG:HG3	1.96	0.47
11:CL:35:GLY:HA3	11:CL:83:VAL:O	2.14	0.47
11:CL:45:PRO:CA	11:CL:92:ASP:HB3	2.44	0.47
28:BF:17:ARG:H	28:BF:17:ARG:HG3	1.36	0.47
44:DY:68:HIS:CE1	44:DY:70:SER:H	2.32	0.47
26:BD:231:HIS:CD2	26:BD:233:HIS:HB2	2.50	0.47
59:BA:220:G:H2'	59:BA:427:U:O4	2.14	0.47
48:B3:31:LEU:HD23	48:B3:32:GLN:H	1.79	0.47
20:CY:621:ILE:HD13	59:DA:1095:A:O4'	2.13	0.47
45:DZ:72:ARG:NH2	60:DB:104:A:OP1	2.47	0.47
59:DA:1999:C:H4'	59:DA:2723:C:O2	2.14	0.47
20:AY:550:MET:O	20:AY:559:PRO:HA	2.14	0.47
56:B1:18:ILE:H	56:B1:42:GLN:HB2	1.77	0.47
49:D5:22:HIS:NE2	59:DA:2045:C:H1'	2.29	0.47
25:BC:15:VAL:HG23	25:BC:17:PRO:HD3	1.96	0.47
59:DA:151:C:N4	59:DA:175:G:H1	2.11	0.47
20:CY:598:ASP:HA	20:CY:599:PRO:HD2	1.76	0.47
59:BA:588:U:H2'	59:BA:589:C:O4'	2.14	0.47
7:CH:63:LEU:HD23	7:CH:65:TYR:CZ	2.49	0.47
3:CD:15:GLU:HB3	3:CD:63:LYS:HE2	1.95	0.47
21:AA:197:A:C6	21:AA:221:C:H4'	2.49	0.47
9:AJ:63:PHE:HB3	13:AN:56:VAL:HG12	1.96	0.47
59:DA:1407:C:N3	59:DA:1595:G:N2	2.49	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
42:BW:19:LEU:HB3	49:B5:25:LEU:HB2	1.95	0.47
10:AK:85:ARG:NH1	21:AA:707:C:H5''	2.29	0.47
18:CS:78:ARG:HH12	21:CA:1223:C:P	2.37	0.47
21:CA:1015:A:H2'	21:CA:1016:A:C8	2.49	0.47
29:DG:67:LYS:HZ2	29:DG:68:PRO:HD2	1.79	0.47
51:D7:19:ARG:HD2	59:DA:125:G:OP2	2.14	0.47
37:BR:9:LYS:HZ1	37:BR:39:PRO:HB3	1.78	0.47
5:AF:98:LEU:HD13	5:AF:101:ALA:HB3	1.95	0.47
59:DA:1709:U:H2'	59:DA:1710:C:C6	2.49	0.47
3:AD:54:TYR:CE2	3:AD:55:ALA:HB2	2.48	0.47
59:BA:2740:A:OP2	59:BA:2763:G:N2	2.44	0.47
34:BO:70:LYS:HD3	59:BA:2728:U:OP1	2.14	0.47
59:BA:2489:G:C6	59:BA:2490:G:N1	2.82	0.47
59:BA:271(C):G:H1'	59:BA:271(D):U:OP2	2.13	0.47
1:CB:61:LEU:HD12	1:CB:64:ARG:HH21	1.79	0.47
44:DY:39:VAL:HB	44:DY:40:GLU:H	1.44	0.47
59:BA:1290:C:H2'	59:BA:1291:C:C6	2.49	0.47
9:AJ:35:SER:HB3	9:AJ:73:ASP:HB2	1.94	0.47
29:DG:61:ALA:HA	29:DG:64:THR:HG22	1.96	0.47
40:DU:17:ILE:O	40:DU:20:LEU:HB2	2.13	0.47
3:AD:103:ASN:HA	3:AD:106:TYR:HB3	1.95	0.47
1:CB:107:THR:O	1:CB:110:GLN:HB2	2.14	0.47
59:BA:324:A:N6	59:BA:338:G:O2'	2.46	0.47
7:CH:98:LYS:H	7:CH:98:LYS:HG2	1.44	0.47
5:CF:82:ARG:CZ	5:CF:82:ARG:HA	2.44	0.47
59:DA:2237:G:O2'	59:DA:2239:G:N7	2.39	0.47
20:AY:72:CYS:CB	20:AY:79:ILE:HB	2.44	0.47
20:CY:138:LYS:CE	61:CY:701:GNP:C5	2.85	0.47
59:BA:566:U:H3	59:BA:575:A:N6	2.10	0.47
27:BE:151:TYR:HB2	27:BE:154:LYS:HD3	1.95	0.47
32:DK:134:MET:HG2	59:DA:1063:G:H5'	1.96	0.47
44:BY:85:VAL:HG21	59:BA:297:C:H5''	1.97	0.47
13:AN:18:VAL:HG11	21:AA:1316:G:H4'	1.96	0.47
48:B3:17:LYS:HA	48:B3:17:LYS:HZ2	1.79	0.47
21:AA:1306:A:H2'	21:AA:1307:U:O4'	2.13	0.47
59:BA:2061:G:H5''	59:BA:2503:A:C2	2.49	0.47
29:BG:105:LYS:HE3	57:B4:26:SER:HB3	1.96	0.47
27:DE:144:ARG:HD3	59:DA:2572:A:C8	2.49	0.47
20:AY:164:MET:HE2	20:AY:279:TYR:CE2	2.49	0.47
48:D3:32:GLN:HB2	59:DA:1158:C:H4'	1.96	0.47
12:AM:3:ARG:NH2	12:AM:7:VAL:HG13	2.29	0.47
8:AI:113:LYS:H	8:AI:119:ALA:HA	1.79	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
56:B1:41:ARG:HB3	56:B1:41:ARG:HE	1.30	0.47
14:AO:39:LEU:HB3	14:AO:56:LEU:HD13	1.95	0.47
59:BA:797:C:H2'	59:BA:798:G:C8	2.50	0.47
9:CJ:24:VAL:HG13	9:CJ:34:VAL:HB	1.94	0.47
20:CY:14:ASN:HB3	20:CY:102:ASP:H	1.78	0.47
59:BA:2707:G:H2'	59:BA:2708:G:H8	1.79	0.47
9:AJ:74:ILE:HD12	9:AJ:75:ILE:HD12	1.97	0.47
59:BA:408:G:C6	59:BA:409:C:C4	3.02	0.47
2:AC:137:ALA:O	2:AC:141:VAL:HG23	2.14	0.47
46:B0:43:THR:HG22	59:BA:2331:G:O2'	2.14	0.47
17:CR:44:LEU:HD22	17:CR:79:LEU:HD22	1.97	0.47
52:B8:36:LYS:HA	52:B8:36:LYS:HZ3	1.78	0.47
22:CW:66:C:H2'	22:CW:67:G:H8	1.78	0.47
60:DB:61:G:H2'	60:DB:62:C:C6	2.49	0.47
21:CA:939:G:H2'	21:CA:940:C:C6	2.49	0.47
21:CA:339:C:H2'	21:CA:340:U:H6	1.79	0.47
12:CM:108:ARG:HH12	12:CM:111:LYS:HZ1	1.61	0.47
52:D8:47:LYS:HE2	59:DA:2361:A:P	2.54	0.47
21:AA:584:G:H1	21:AA:757:U:H3	1.61	0.47
59:BA:2147:G:H3'	59:BA:2147:G:C8	2.49	0.47
7:AH:6:ILE:O	7:AH:9:MET:HB3	2.14	0.47
52:B8:40:GLU:O	52:B8:44:LYS:N	2.47	0.47
21:AA:1398:A:OP2	23:AV:22:A:N6	2.46	0.47
21:CA:1178:G:N2	21:CA:1181:G:OP2	2.47	0.47
21:CA:184:G:H1	21:CA:193:C:H42	1.62	0.47
59:BA:471:A:N6	59:BA:472:A:N1	2.63	0.47
29:DG:34:LEU:HD22	29:DG:100:TRP:CZ2	2.49	0.47
59:BA:841:A:H2'	59:BA:842:G:H8	1.78	0.47
33:DN:129:PRO:O	33:DN:131:GLN:N	2.44	0.47
7:AH:7:ALA:HA	7:AH:10:LEU:HD12	1.96	0.47
59:DA:2037:G:H2'	59:DA:2038:G:H8	1.80	0.47
59:DA:2165:G:H2'	59:DA:2165:G:N3	2.29	0.47
59:BA:1882:C:H2'	59:BA:1883:G:O4'	2.14	0.47
13:CN:35:ARG:HD3	13:CN:36:PHE:H	1.80	0.47
6:AG:46:ALA:O	6:AG:50:ILE:HG13	2.13	0.47
20:AY:72:CYS:O	20:AY:78:ARG:HA	2.14	0.47
23:AV:14:A:H5'	23:AV:15:A:OP2	2.15	0.47
48:B3:29:ARG:NH2	59:BA:932:G:OP1	2.47	0.47
39:BT:47:GLY:HA3	39:BT:65:LYS:HB2	1.96	0.47
25:BC:22:THR:HA	25:BC:225:ILE:HB	1.96	0.47
38:BS:83:LYS:O	38:BS:106:ARG:HA	2.14	0.47
20:CY:256:THR:O	20:CY:258:VAL:HG13	2.15	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
38:BS:51:ALA:CB	38:BS:73:LEU:HB2	2.45	0.47
42:DW:79:GLY:HA2	59:DA:25:U:H5'	1.96	0.47
59:DA:27:G:H1'	59:DA:513:A:N6	2.30	0.47
2:AC:11:ARG:HD2	2:AC:15:THR:HB	1.95	0.47
59:BA:693:C:H42	59:BA:769:G:H1	1.63	0.47
8:AI:120:ARG:HB2	21:AA:1349:A:OP1	2.15	0.47
3:CD:30:LYS:C	3:CD:32:ALA:H	2.17	0.47
59:DA:2080:G:H2'	59:DA:2081:C:C6	2.50	0.47
56:B1:76:ARG:NH1	56:B1:95:LEU:HD22	2.29	0.47
29:BG:43:LEU:HB2	29:BG:88:ILE:CG2	2.45	0.47
26:DD:168:ARG:HG2	26:DD:173:VAL:HG12	1.97	0.47
21:CA:745:C:H5''	21:CA:851:G:O2'	2.14	0.47
59:DA:856:C:H2'	59:DA:857:C:C6	2.49	0.47
8:CI:112:LYS:NZ	8:CI:113:LYS:O	2.47	0.47
5:AF:42:GLU:HG2	5:AF:61:LEU:HB3	1.96	0.47
20:CY:344:THR:HB	20:CY:388:THR:HB	1.96	0.47
59:DA:915:C:H2'	59:DA:916:G:O4'	2.15	0.47
59:BA:59:U:H3	59:BA:68:G:H1	1.62	0.47
39:BT:84:GLN:O	39:BT:86:ILE:HG13	2.14	0.47
21:AA:691:G:H2'	21:AA:692:U:H6	1.79	0.47
39:BT:100:TYR:HB2	59:BA:2718:G:OP1	2.14	0.47
12:AM:108:ARG:HD2	12:AM:108:ARG:N	2.30	0.47
33:DN:35:ARG:NH1	59:DA:1007:C:H5'	2.29	0.47
1:CB:102:LEU:HD11	1:CB:159:PRO:HG2	1.96	0.47
45:DZ:7:ALA:HA	45:DZ:39:VAL:HG13	1.97	0.47
25:BC:77:ALA:HA	25:BC:114:VAL:O	2.14	0.47
21:AA:1532:U:HO2'	21:AA:1533:C:P	2.36	0.47
21:AA:1440(J):C:O2'	21:AA:1440(K):G:H5''	2.13	0.47
6:AG:101:LEU:O	6:AG:105:VAL:HG23	2.15	0.47
28:DF:88:VAL:HG13	28:DF:89:VAL:O	2.14	0.47
59:BA:127:A:H5''	59:BA:128:C:O4'	2.14	0.47
33:BN:133:GLN:OE1	33:BN:135:PRO:HG3	2.13	0.47
59:BA:1050:A:H2'	59:BA:1051:G:O4'	2.13	0.47
9:AJ:46:ARG:HE	21:AA:1253:G:H5'	1.79	0.47
13:CN:6:LEU:HB3	13:CN:23:ARG:HH22	1.79	0.47
32:DK:117:THR:OG1	32:DK:119:ASP:OD1	2.20	0.47
34:BO:14:THR:HG23	34:BO:52:VAL:HG11	1.95	0.47
36:DQ:21:THR:C	36:DQ:23:GLY:H	2.17	0.47
21:AA:259:G:H2'	21:AA:260:G:C8	2.50	0.47
21:CA:1247:U:H3	21:CA:1290:G:H1	1.62	0.47
16:AQ:27:PHE:CE2	16:AQ:30:PRO:HD3	2.50	0.47
59:DA:234:C:H2'	59:DA:235:U:C6	2.49	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:AG:126:ASP:O	6:AG:131:LYS:N	2.46	0.47
59:BA:2570:G:C2	59:BA:2571:C:C2	3.02	0.47
47:B2:20:GLU:HA	47:B2:23:LYS:HD2	1.97	0.47
59:BA:648:G:H4'	59:BA:2351:G:H5''	1.95	0.47
1:AB:221:LEU:HA	1:AB:224:GLN:HB3	1.96	0.47
2:AC:115:LEU:HA	2:AC:118:GLN:HB2	1.95	0.47
47:B2:59:ARG:HG2	47:B2:59:ARG:H	1.43	0.47
27:DE:156:MET:HE1	59:DA:2050:C:H1'	1.95	0.47
6:AG:31:MET:HG2	6:AG:32:ARG:N	2.28	0.47
22:CW:36:U:C5	22:CW:37:A:N7	2.82	0.47
59:BA:2134:A:N6	59:BA:2157:G:H1'	2.30	0.47
59:BA:270(J):G:C6	59:BA:270(R):C:N4	2.76	0.47
33:BN:31:ALA:HA	33:BN:34:LEU:HD23	1.97	0.47
41:BV:85:LYS:NZ	59:BA:815:C:OP1	2.35	0.47
31:DJ:54:UNK:CA	31:DJ:79:UNK:HA	2.34	0.47
56:B1:45:ASN:ND2	59:BA:2230:G:H1'	2.30	0.47
26:BD:244:ARG:HA	26:BD:245:PRO:HA	1.75	0.47
33:DN:42:TRP:O	40:DU:64:ARG:CZ	2.63	0.47
45:BZ:82:ARG:NH1	45:BZ:82:ARG:HB3	2.30	0.47
9:CJ:16:LEU:HD11	9:CJ:70:ARG:HD3	1.97	0.47
38:DS:95:HIS:CE1	60:DB:48:A:H4'	2.50	0.47
59:DA:1975:G:H2'	59:DA:1976:U:O4'	2.15	0.47
59:DA:959:A:O2'	59:DA:2457:U:O3'	2.30	0.47
36:DQ:12:GLN:HE21	36:DQ:72:LYS:HG3	1.79	0.47
21:AA:68(P):C:H2'	21:AA:68(Q):U:H6	1.79	0.47
7:CH:129:VAL:HB	7:CH:130:GLY:H	1.60	0.47
11:AL:81:SER:HA	11:AL:106:ASP:HB2	1.95	0.47
59:DA:601:C:O2'	59:DA:605:C:H5''	2.15	0.47
22:AW:7:G:O6	22:AW:49:A:N6	2.47	0.47
59:BA:30:G:H2'	59:BA:31:C:O4'	2.15	0.47
59:DA:210:C:H2'	59:DA:211:A:C8	2.49	0.47
21:AA:1218:C:H2'	21:AA:1219:U:C6	2.50	0.47
27:DE:100:GLU:O	27:DE:172:VAL:HG12	2.14	0.47
39:BT:19:LEU:HA	39:BT:20:PRO:HD3	1.79	0.47
59:DA:223:A:C8	59:DA:422:A:H1'	2.50	0.47
59:DA:454:A:H3'	59:DA:455:C:H6	1.79	0.47
59:DA:1259:G:H2'	59:DA:1260:G:C8	2.50	0.47
59:BA:2803:C:H2'	59:BA:2804:C:O4'	2.15	0.47
59:DA:1793:C:H2'	59:DA:1794:U:H6	1.76	0.47
16:AQ:91:ARG:HG2	21:AA:583:A:H4'	1.97	0.47
59:DA:627:A:O4'	59:DA:637:A:N6	2.48	0.47
17:AR:71:LYS:HD3	21:AA:719:C:H42	1.79	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:AL:57:LYS:O	11:AL:59:ARG:N	2.47	0.47
18:AS:77:THR:O	18:AS:79:THR:N	2.47	0.47
3:CD:122:ARG:HE	21:CA:403:C:H4'	1.78	0.47
36:DQ:11:LYS:HZ3	36:DQ:87:LYS:HB3	1.80	0.47
35:BP:81:GLN:HG2	35:BP:106:LEU:HG	1.97	0.47
45:DZ:123:ASP:N	45:DZ:123:ASP:OD1	2.48	0.47
32:DK:21:PRO:HA	32:DK:23:VAL:H	1.79	0.47
20:CY:239:GLU:HA	20:CY:242:LEU:HD12	1.97	0.47
59:BA:841:A:H2'	59:BA:842:G:C8	2.49	0.47
37:BR:23:ASN:ND2	59:BA:1277:G:H1'	2.30	0.47
8:AI:18:PHE:HB2	8:AI:62:TYR:O	2.15	0.47
28:BF:84:VAL:HB	28:BF:85:GLY:H	1.43	0.47
21:CA:1194:U:H2'	21:CA:1195:C:O4'	2.15	0.47
21:CA:950:U:H2'	21:CA:951:G:H8	1.79	0.47
20:CY:406:GLU:HG3	20:CY:407:PRO:HD2	1.96	0.47
44:BY:12:THR:HG23	44:BY:25:GLY:O	2.15	0.47
21:CA:60:A:H62	21:CA:110:C:N4	2.12	0.47
46:B0:70:GLN:HB3	46:B0:78:TYR:HB2	1.95	0.47
21:AA:782:A:O3'	21:AA:1515:C:H4'	2.14	0.47
34:DO:10:VAL:HG22	34:DO:17:ARG:O	2.15	0.47
59:BA:2737:G:H2'	59:BA:2738:A:C8	2.50	0.47
26:DD:45:ASN:O	26:DD:47:GLY:N	2.47	0.47
33:BN:6:PRO:C	33:BN:7:LYS:NZ	2.68	0.47
60:BB:76:G:H2'	60:BB:77:U:C6	2.49	0.47
51:B7:40:TRP:NE1	59:BA:458:G:O2'	2.48	0.47
25:BC:214:TYR:CE1	59:BA:2177:C:H4'	2.49	0.47
35:DP:16:ARG:HH12	59:DA:661:C:H4'	1.80	0.47
1:AB:72:GLY:O	1:AB:94:ASN:HA	2.14	0.47
38:BS:39:ILE:CD1	38:BS:73:LEU:HD21	2.37	0.47
2:AC:155:GLY:HA3	2:AC:196:LEU:HB3	1.96	0.47
4:AE:28:PHE:CG	4:AE:51:VAL:HG22	2.50	0.47
28:DF:195:ASP:OD2	28:DF:196:LEU:N	2.48	0.47
28:BF:99:TYR:HE2	28:BF:101:LEU:HB2	1.80	0.47
59:DA:447:A:O2'	59:DA:473:G:N7	2.40	0.47
46:D0:27:GLU:HG3	46:D0:69:PHE:HD1	1.79	0.47
37:DR:24:GLN:OE1	59:DA:1278:A:H5'	2.14	0.47
45:DZ:3:TYR:O	45:DZ:58:VAL:N	2.47	0.47
59:BA:2267:A:H5''	59:BA:2268:A:C5'	2.44	0.47
25:DC:59:VAL:HG12	25:DC:60:ARG:H	1.79	0.47
21:AA:1492:A:H5''	24:AU:6:5OH:HP	1.96	0.47
59:DA:2531:A:H3'	59:DA:2532:G:H8	1.80	0.47
3:CD:73:ARG:HB2	21:CA:546:G:OP1	2.14	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
45:DZ:10:ARG:HH21	45:DZ:26:GLY:N	2.13	0.47
59:BA:102:G:HO2'	59:BA:103:A:H8	1.61	0.47
59:BA:2702:U:H1'	59:BA:2703:C:H5	1.80	0.47
59:DA:1201:C:H2'	59:DA:1202:C:H6	1.80	0.47
16:AQ:38:ARG:HG2	21:AA:280:C:C2	2.49	0.47
35:DP:49:ARG:O	35:DP:50:ARG:HB3	2.15	0.47
27:DE:36:ARG:NH2	27:DE:86:PRO:HG2	2.30	0.47
7:AH:103:VAL:HB	7:AH:108:GLY:HA3	1.97	0.47
30:BH:175:LYS:HG2	30:BH:176:ALA:H	1.80	0.47
21:AA:552:U:H2'	21:AA:553:A:O4'	2.14	0.47
15:AP:32:TYR:OH	21:AA:608:A:O2'	2.30	0.47
3:AD:62:GLN:O	3:AD:65:ARG:HG3	2.15	0.47
21:CA:316:G:O3'	21:CA:353:A:N6	2.48	0.47
59:BA:1528:A:N7	59:BA:1543:A:H2	2.13	0.47
36:DQ:54:MET:HG3	36:DQ:121:ALA:HB2	1.96	0.47
40:DU:102:GLU:HG2	41:DV:2:PHE:HE1	1.79	0.47
17:CR:52:PRO:HG2	17:CR:55:ARG:HG2	1.95	0.47
59:DA:1524:G:H2'	59:DA:1525:G:O4'	2.14	0.47
59:BA:2534:A:H2'	59:BA:2535:G:O4'	2.13	0.47
5:AF:53:ALA:HB3	5:AF:86:ARG:NH1	2.29	0.47
51:D7:3:ARG:HB3	51:D7:4:THR:H	1.55	0.47
59:BA:414:C:H2'	59:BA:415:A:C8	2.49	0.47
20:CY:98:MET:C	20:CY:100:VAL:H	2.18	0.47
29:BG:35:GLU:OE2	29:BG:160:VAL:HG12	2.15	0.47
30:BH:153:LYS:HG3	30:BH:154:PRO:HD2	1.97	0.47
29:BG:86:MET:SD	29:BG:86:MET:N	2.88	0.47
45:BZ:93:ASP:OD1	45:BZ:93:ASP:N	2.48	0.47
8:CI:92:TYR:O	8:CI:96:LEU:HB2	2.15	0.47
15:CP:28:ARG:NE	15:CP:29:ASP:OD1	2.36	0.47
29:BG:113:ARG:HB2	57:B4:34:GLU:OE1	2.13	0.47
33:BN:41:ASP:HA	40:BU:64:ARG:HE	1.79	0.47
33:BN:35:ARG:C	33:BN:37:LYS:H	2.18	0.47
33:BN:42:TRP:N	40:BU:64:ARG:NE	2.63	0.47
21:CA:1003:G:C2	21:CA:1037:C:O2	2.65	0.47
21:CA:375:U:H2'	21:CA:376:G:C8	2.50	0.47
33:DN:78:TYR:CE1	59:DA:2642:G:H5'	2.49	0.47
21:CA:1506:U:H3'	23:CV:15:A:N6	2.30	0.47
6:CG:74:GLU:OE2	6:CG:95:ARG:NH2	2.35	0.47
51:D7:39:ARG:NH1	51:D7:39:ARG:HA	2.30	0.47
59:BA:860:U:H2'	59:BA:861:A:C8	2.46	0.47
59:DA:808:G:C6	59:DA:809:G:C6	3.02	0.47
3:AD:25:ARG:O	3:AD:28:SER:N	2.45	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:105:C:H2'	59:DA:106:C:C6	2.49	0.47
9:CJ:16:LEU:HD21	9:CJ:70:ARG:HB2	1.97	0.47
1:AB:71:VAL:HG11	1:AB:97:TRP:HD1	1.78	0.47
59:DA:1394:U:H2'	59:DA:1395:A:O4'	2.15	0.47
25:BC:115:VAL:HB	25:BC:150:ILE:HG23	1.97	0.47
25:BC:148:PHE:C	25:BC:150:ILE:H	2.17	0.47
25:BC:83:LYS:HD2	25:BC:148:PHE:CE1	2.50	0.47
20:CY:415:PRO:HD2	20:CY:421:GLN:OE1	2.14	0.47
21:AA:1345:U:O2	21:AA:1376:U:C2	2.68	0.47
59:BA:1534:G:N2	59:BA:1536:A:OP1	2.48	0.47
56:B1:58:ILE:HG12	56:B1:59:THR:N	2.28	0.47
48:D3:18:ASP:OD1	48:D3:19:GLN:HG2	2.15	0.47
35:DP:23:PRO:HB3	35:DP:29:LYS:HB2	1.96	0.47
21:AA:129(A):G:C6	21:AA:186(H):U:H4'	2.50	0.47
28:BF:92:PRO:HA	28:BF:95:ARG:NH2	2.26	0.47
14:CO:26:GLU:OE1	14:CO:77:ARG:HD3	2.15	0.47
14:CO:39:LEU:HD22	14:CO:42:HIS:HB3	1.97	0.47
59:BA:560:C:H2'	59:BA:561:G:C8	2.47	0.47
42:BW:21:VAL:O	42:BW:24:ILE:HG12	2.14	0.47
42:BW:22:ASP:HA	42:BW:25:ARG:HB2	1.96	0.47
36:BQ:38:GLU:OE2	36:BQ:127:ILE:HB	2.15	0.47
33:DN:17:ASP:OD2	33:DN:18:ALA:N	2.48	0.47
8:CI:111:ARG:CZ	21:CA:1187:G:H4'	2.44	0.47
29:BG:25:TYR:CZ	29:BG:32:PRO:HD3	2.49	0.47
27:BE:110:GLY:HA2	27:BE:161:GLY:HA3	1.96	0.47
39:DT:36:GLU:HG3	39:DT:37:GLY:N	2.29	0.47
20:AY:631:ILE:HG23	20:AY:643:ILE:HG23	1.95	0.47
21:AA:677:U:O2	21:AA:777:A:O2'	2.33	0.47
59:DA:1479:G:H2'	59:DA:1480:G:C8	2.49	0.47
59:DA:1558:A:H4'	59:DA:1559:G:H21	1.79	0.47
21:AA:1321:C:C3'	21:AA:1322:C:H5''	2.41	0.47
59:BA:2850:A:H2'	59:BA:2851:A:H8	1.80	0.47
59:DA:2712:U:O2'	59:DA:712(B):A:O5'	2.31	0.47
59:DA:2707:G:H2'	59:DA:2708:G:C8	2.46	0.47
7:AH:89:PRO:HA	7:AH:92:ARG:HH22	1.79	0.47
16:CQ:67:LYS:C	16:CQ:69:LYS:H	2.17	0.47
39:BT:20:PRO:HD2	39:BT:85:LYS:HZ3	1.79	0.47
26:BD:172:TYR:CD2	26:BD:186:HIS:HA	2.49	0.47
59:BA:1257:C:H2'	59:BA:1258:C:C6	2.49	0.47
37:DR:26:LYS:HZ2	37:DR:71:GLN:HB2	1.80	0.47
59:BA:2756:U:H3	59:BA:2758:A:H62	1.62	0.47
34:BO:68:GLU:OE2	34:BO:68:GLU:N	2.45	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
51:B7:19:ARG:CB	59:BA:125:G:H5''	2.44	0.47
42:BW:36:LEU:HB3	42:BW:48:ALA:HB2	1.96	0.47
9:CJ:79:ARG:CZ	9:CJ:79:ARG:HA	2.45	0.47
41:DV:74:LYS:HE3	41:DV:81:TYR:OH	2.14	0.47
18:CS:51:VAL:HG21	18:CS:71:LEU:HD22	1.97	0.47
44:BY:76:CYS:SG	44:BY:77:PRO:HD2	2.55	0.47
59:DA:1674:G:H21	59:DA:1677:A:N6	2.11	0.47
26:DD:125:ILE:HG12	26:DD:137:PRO:CG	2.44	0.47
20:AY:191:ASP:HB3	20:AY:265:LYS:HG2	1.95	0.47
21:AA:1472:U:H2'	21:AA:1473:A:H8	1.80	0.47
59:BA:1346:G:H1	59:BA:1600:C:N4	2.12	0.47
45:BZ:117:LEU:HD12	45:BZ:173:ALA:O	2.13	0.47
29:BG:142:PRO:HG2	29:BG:143:GLU:OE1	2.15	0.47
7:CH:83:ILE:HG12	7:CH:84:ARG:N	2.29	0.47
21:CA:768:A:H5'	21:CA:1524:C:O2'	2.15	0.47
59:BA:528:A:H2'	59:BA:2042:A:C2	2.50	0.47
59:BA:746:A:H3'	59:BA:2612:C:C5	2.50	0.47
2:CC:174:PRO:HA	21:CA:1107:C:H5''	1.96	0.47
20:AY:680:PRO:O	20:AY:682:GLN:N	2.47	0.47
53:D9:3:VAL:HG21	59:DA:2539:C:H4'	1.97	0.47
59:BA:807:U:C2	59:BA:808:G:C8	3.02	0.47
1:AB:217:ARG:O	1:AB:221:LEU:HB2	2.14	0.47
59:BA:2350:C:H2'	59:BA:2351:G:O4'	2.15	0.47
38:DS:56:LEU:O	38:DS:57:LYS:HB2	2.14	0.47
5:AF:89:MET:SD	17:AR:76:LEU:HD21	2.55	0.47
59:DA:2630:G:H2'	59:DA:2631:G:C8	2.49	0.47
21:CA:146:G:H1	21:CA:176:C:H42	1.62	0.47
59:DA:2379:G:H2'	59:DA:2380:C:C6	2.50	0.47
26:BD:142:VAL:HG23	26:BD:192:THR:O	2.14	0.47
3:CD:100:ARG:HD2	3:CD:137:SER:HA	1.96	0.47
8:AI:102:LEU:O	21:AA:1179:A:H4'	2.14	0.47
43:BX:65:ARG:HB2	43:BX:70:LEU:HD23	1.96	0.47
59:BA:1361:G:O6	59:BA:1370:C:N3	2.48	0.47
59:BA:2768:C:H2'	59:BA:2769:C:O4'	2.14	0.47
21:AA:589:C:O2'	21:AA:653:A:N6	2.40	0.47
5:AF:21:LEU:O	5:AF:25:ILE:HG12	2.14	0.47
21:CA:1011:G:H2'	21:CA:1012:U:O4'	2.14	0.47
18:CS:14:HIS:NE2	21:CA:1014:A:H4'	2.29	0.47
3:AD:10:ARG:HG2	3:AD:10:ARG:O	2.15	0.47
2:AC:3:ASN:N	2:AC:3:ASN:OD1	2.48	0.47
59:DA:761:A:H8	59:DA:761:A:O5'	1.97	0.47
59:BA:2543:G:H2'	59:BA:2544:G:C8	2.50	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:1708:C:H2'	59:BA:1709:U:C6	2.49	0.47
20:AY:72:CYS:HB3	20:AY:79:ILE:CA	2.45	0.47
33:BN:36:GLY:HA3	33:BN:48:MET:HE1	1.96	0.47
59:BA:817:C:H2'	59:BA:818:G:O4'	2.15	0.47
38:DS:85:VAL:HG23	38:DS:106:ARG:HH11	1.80	0.47
36:BQ:16:ARG:HG2	60:BB:90:C:OP1	2.15	0.47
2:AC:156:ARG:N	2:AC:196:LEU:HD12	2.29	0.47
59:DA:2061:G:H1'	59:DA:2503:A:N7	2.30	0.47
14:AO:46:HIS:O	14:AO:48:LYS:HG3	2.14	0.47
56:D1:41:ARG:HE	56:D1:41:ARG:HB3	1.41	0.47
49:B5:2:ALA:HA	59:BA:2015:A:H1'	1.96	0.47
40:BU:54:LYS:NZ	59:BA:994:C:H3'	2.29	0.47
37:BR:97:VAL:HG22	37:BR:114:VAL:HG13	1.97	0.47
37:BR:73:VAL:O	37:BR:77:ARG:HG3	2.14	0.47
35:DP:63:PRO:HB3	52:D8:13:ARG:HG2	1.96	0.47
59:BA:29:U:H2'	59:BA:30:G:H8	1.76	0.47
50:B6:27:LYS:HZ3	50:B6:30:THR:H	1.62	0.47
29:DG:81:LYS:HB3	29:DG:82:LEU:H	1.52	0.47
17:AR:69:THR:O	17:AR:72:ARG:HB2	2.14	0.47
59:BA:1268:A:H2'	59:BA:1269:A:O4'	2.15	0.47
42:DW:69:LEU:HD22	42:DW:107:LEU:HD22	1.97	0.47
21:AA:1512:U:H2'	21:AA:1513:A:C8	2.49	0.47
47:D2:21:LEU:HB3	47:D2:64:LEU:HD23	1.96	0.47
26:BD:146:GLU:O	26:BD:148:GLU:N	2.42	0.47
33:DN:99:LEU:O	33:DN:103:VAL:HG23	2.15	0.47
21:CA:1228:C:H2'	21:CA:1229:A:C8	2.48	0.47
8:AI:71:SER:O	8:AI:74:ILE:HB	2.15	0.47
59:BA:1858:G:HO2'	59:BA:1859:A:H8	1.61	0.47
52:B8:22:VAL:HB	52:B8:53:PRO:HB3	1.95	0.47
6:AG:116:ALA:HA	6:AG:119:ARG:HG3	1.96	0.47
50:B6:9:LEU:HD13	50:B6:26:ASN:HB3	1.96	0.47
21:CA:978:A:O2'	21:CA:1322:C:N3	2.41	0.47
29:DG:37:VAL:HB	29:DG:94:LEU:HB2	1.97	0.47
29:BG:102:PHE:HZ	29:BG:157:ILE:HD13	1.80	0.47
21:CA:1063:C:H42	21:CA:1193:G:H1	1.62	0.47
59:BA:65:C:H2'	59:BA:66:C:H6	1.79	0.47
46:B0:24:LYS:HE3	46:B0:39:ARG:HG3	1.97	0.47
20:CY:611:THR:HA	20:CY:642:VAL:HG22	1.96	0.47
59:DA:208:C:H2'	59:DA:209:C:H6	1.80	0.47
31:BJ:15:UNK:C	31:BJ:17:UNK:H	2.28	0.47
59:BA:623:G:H2'	59:BA:624:C:C6	2.50	0.47
19:AT:28:ALA:O	19:AT:31:SER:OG	2.27	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:2663:G:H3'	59:BA:2664:G:H8	1.80	0.47
59:DA:263:C:O2'	59:DA:429:A:N3	2.41	0.47
9:AJ:3:LYS:HG3	9:AJ:4:ILE:HD12	1.97	0.47
5:CF:76:ALA:O	5:CF:80:ARG:HG3	2.14	0.47
44:BY:75:ILE:HA	44:BY:80:GLY:HA2	1.97	0.47
40:DU:53:ARG:NH1	59:DA:536:A:OP1	2.48	0.47
1:CB:22:LYS:HG2	1:CB:40:HIS:HE2	1.80	0.47
59:DA:273(D):C:H42	59:DA:363(D):G:H1	1.63	0.47
59:BA:1118:C:H2'	59:BA:1119:C:O4'	2.15	0.47
21:CA:1208:C:H2'	21:CA:1209:C:O4'	2.14	0.47
21:AA:346:G:H4'	39:BT:41:ARG:NH2	2.30	0.47
8:CI:14:VAL:HG11	21:CA:1148:U:O2'	2.15	0.47
59:BA:813:U:H2'	59:BA:814:C:C6	2.49	0.47
11:CL:33:ARG:HG2	11:CL:60:LEU:HB3	1.96	0.47
51:B7:41:ARG:HD3	59:BA:462:C:H41	1.80	0.47
32:DK:75:SER:HA	32:DK:134:MET:SD	2.55	0.47
8:AI:17:VAL:CG2	8:AI:80:GLY:HA3	2.40	0.47
3:AD:176:LEU:HA	3:AD:183:GLY:HA2	1.97	0.47
6:CG:116:ALA:O	6:CG:120:ILE:HG12	2.15	0.47
1:CB:69:LEU:HD22	1:CB:69:LEU:HA	1.76	0.47
30:BH:22:GLY:H	30:BH:23:ARG:HH21	1.61	0.47
34:DO:1:MET:HB2	59:DA:1665:A:O2'	2.14	0.47
43:DX:92:LEU:HD22	43:DX:92:LEU:HA	1.69	0.47
21:AA:947:G:O2'	21:AA:1306:A:O2'	2.31	0.47
59:BA:1533:C:H2'	59:BA:1534:G:O4'	2.14	0.47
21:AA:1260:C:OP1	21:AA:1284:C:O2'	2.30	0.47
35:DP:30:THR:HG22	35:DP:31:ALA:N	2.30	0.47
59:BA:1356:G:C2	59:BA:1376:C:C2	3.03	0.47
16:AQ:62:SER:HB3	21:AA:186(I):U:O4	2.15	0.47
59:DA:2029:G:H2'	59:DA:2031:A:OP2	2.15	0.47
27:DE:164:ARG:HG2	59:DA:2773:C:H5''	1.96	0.47
8:CI:113:LYS:HD2	21:CA:1187:G:H5''	1.97	0.47
18:AS:73:GLU:HG2	21:AA:1320:C:H1'	1.97	0.47
35:BP:65:ARG:HH22	52:B8:15:LYS:HB2	1.79	0.47
25:DC:101:ILE:HD11	25:DC:124:VAL:HG13	1.97	0.47
27:BE:66:HIS:O	27:BE:68:ALA:N	2.47	0.47
45:DZ:70:LEU:HB2	45:DZ:91:LEU:HD21	1.97	0.47
59:BA:2343:C:H2'	59:BA:2344:U:C6	2.50	0.47
21:AA:713:G:H2'	21:AA:714:G:C8	2.50	0.47
40:BU:26:GLY:O	40:BU:29:SER:OG	2.28	0.47
59:BA:1497:U:H5''	59:BA:1498:C:H5	1.80	0.47
19:CT:49:ALA:HB1	19:CT:53:LEU:HD23	1.96	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:BF:90:PHE:CB	59:BA:588:U:H1'	2.43	0.47
27:DE:182:LEU:HD23	27:DE:198:VAL:HG21	1.97	0.47
25:BC:76:LEU:HA	25:BC:93:ASP:O	2.15	0.47
21:CA:34:C:H42	21:CA:550:G:H1	1.61	0.47
7:AH:63:LEU:HD23	7:AH:65:TYR:CZ	2.48	0.47
45:DZ:143:GLY:O	45:DZ:144:LEU:HD22	2.15	0.47
21:AA:1263:C:H2'	21:AA:1264:C:O4'	2.14	0.47
59:BA:273(D):C:H2'	59:BA:273(E):C:O4'	2.15	0.47
45:BZ:128:VAL:HG23	45:BZ:161:VAL:HA	1.97	0.47
21:AA:601:C:O2	21:AA:637:G:N1	2.37	0.47
14:CO:65:ARG:NH2	21:CA:581:G:OP1	2.48	0.47
32:BK:131:ALA:HB3	32:BK:132:ARG:HH12	1.80	0.47
59:BA:601:C:H2'	59:BA:602:G:O4'	2.15	0.47
36:BQ:14:ARG:CD	36:BQ:14:ARG:H	2.28	0.47
21:AA:894:G:H2'	21:AA:895:G:H8	1.80	0.47
2:CC:105:GLU:HG2	2:CC:106:VAL:N	2.29	0.47
34:DO:26:LYS:HB3	34:DO:27:GLY:H	1.50	0.47
21:AA:848:C:H2'	21:AA:849:C:H6	1.80	0.47
59:BA:2282:G:H5''	59:BA:2283:C:O4'	2.15	0.47
6:AG:87:VAL:HG13	6:AG:155:ARG:HG2	1.97	0.47
59:DA:2095:C:H2'	59:DA:2096:U:H6	1.80	0.47
59:BA:370:G:H4'	59:BA:371:A:OP2	2.15	0.47
59:DA:2695:C:H2'	59:DA:2696:U:C6	2.49	0.47
48:B3:10:LYS:HB3	48:B3:53:LEU:HA	1.96	0.47
27:DE:14:ILE:HG23	39:DT:14:TYR:CE1	2.50	0.47
21:CA:295:C:H2'	21:CA:296:U:O4'	2.15	0.47
25:DC:6:LYS:HA	25:DC:9:ARG:HD3	1.97	0.47
24:CU:3:SER:HB2	59:DA:1913:A:O2'	2.15	0.47
59:BA:1030:G:H2'	59:BA:1031:G:H8	1.80	0.47
52:D8:63:PRO:O	52:D8:65:GLU:HG2	2.14	0.47
21:AA:700:G:N3	21:AA:700:G:H2'	2.30	0.47
6:AG:42:ILE:HA	6:AG:42:ILE:HD13	1.84	0.47
20:CY:289:ILE:HD12	20:CY:289:ILE:H	1.78	0.47
5:CF:74:ASP:N	5:CF:74:ASP:OD1	2.47	0.47
59:DA:2564:A:H8	59:DA:2564:A:OP1	1.97	0.47
57:B4:16:CYS:HB3	57:B4:17:GLY:H	1.54	0.47
59:BA:1841:U:H2'	59:BA:1842:G:H8	1.80	0.47
25:BC:162:ILE:HD11	25:BC:175:PRO:HD2	1.97	0.47
60:BB:90:C:H2'	60:BB:91:C:C6	2.50	0.47
12:AM:98:VAL:HG12	12:AM:98:VAL:O	2.15	0.47
59:BA:883:G:H2'	59:BA:884:C:C6	2.50	0.47
30:BH:22:GLY:H	30:BH:23:ARG:NH2	2.13	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
52:B8:5:LYS:NZ	59:BA:254:G:N7	2.53	0.47
28:BF:45:ARG:NH2	59:BA:444:C:OP1	2.46	0.47
28:BF:42:ALA:O	28:BF:45:ARG:HB2	2.14	0.47
59:BA:1434:A:N6	59:BA:1558:A:H62	2.06	0.47
27:BE:134:ILE:CG1	27:BE:135:HIS:H	2.28	0.47
11:CL:7:ILE:O	11:CL:10:LEU:HB2	2.14	0.47
53:D9:9:ARG:NH2	53:D9:16:VAL:HB	2.30	0.47
29:BG:58:GLN:HB2	29:BG:62:LEU:HD13	1.97	0.47
39:BT:92:GLY:H	39:BT:116:ALA:HA	1.80	0.47
42:BW:18:ARG:HG2	42:BW:76:VAL:HG11	1.97	0.47
59:DA:2144:U:C2'	59:DA:2147:G:H1	2.28	0.47
8:CI:127:LYS:NZ	22:CW:34:C:OP2	2.26	0.47
20:CY:180:VAL:HG23	20:CY:216:LEU:HD12	1.97	0.47
29:DG:27:ASN:ND2	60:DB:57:A:O4'	2.47	0.47
27:BE:128:SER:HG	27:BE:129:HIS:CE1	2.33	0.47
40:DU:13:LYS:O	40:DU:16:LYS:HB3	2.15	0.47
21:AA:1223:C:OP2	21:AA:1224:G:H2'	2.14	0.47
42:DW:70:TYR:OH	42:DW:72:LYS:HG3	2.15	0.47
21:CA:1281:U:H4'	21:CA:1282:C:OP2	2.14	0.47
59:BA:373:U:O2'	59:BA:423:A:N3	2.46	0.47
25:BC:92:ALA:HB1	25:BC:95:VAL:HG22	1.97	0.47
39:DT:82:LEU:O	39:DT:83:ILE:HG13	2.14	0.47
39:DT:84:GLN:C	39:DT:86:ILE:H	2.17	0.47
21:AA:397:A:H3'	21:AA:397:A:N3	2.29	0.47
21:CA:688:G:H2'	21:CA:689:C:C6	2.49	0.47
59:DA:2471:C:N3	59:DA:2479:G:O6	2.48	0.47
59:BA:1758:G:N7	59:BA:2695:C:H4'	2.30	0.47
21:AA:669:U:H2'	21:AA:670:G:H8	1.80	0.47
43:BX:21:PHE:CE2	43:BX:26:TYR:HA	2.50	0.47
11:CL:114:LYS:N	21:CA:538:G:OP1	2.48	0.47
59:DA:2037:G:H2'	59:DA:2038:G:C8	2.50	0.47
59:BA:285:C:H2'	59:BA:286:C:C6	2.50	0.47
39:DT:20:PRO:HD2	39:DT:85:LYS:NZ	2.30	0.47
59:DA:2731:G:H2'	59:DA:2732:G:C8	2.50	0.47
59:BA:190:A:C6	59:BA:191:A:C6	3.03	0.47
59:DA:162:U:H2'	59:DA:164:U:C4	2.50	0.47
20:AY:422:GLU:O	20:AY:425:SER:HB2	2.15	0.47
21:CA:285:G:H2'	21:CA:286:G:H8	1.80	0.47
20:CY:309:LEU:O	20:CY:391:GLY:N	2.44	0.47
59:BA:210:C:H2'	59:BA:211:A:H8	1.80	0.47
16:CQ:86:GLU:O	16:CQ:90:ILE:HG13	2.15	0.47
30:DH:33:LEU:HD11	30:DH:75:ALA:HA	1.97	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:AS:11:VAL:HG22	18:AS:12:ASP:H	1.80	0.47
3:CD:54:TYR:CE2	21:CA:508:C:H4'	2.50	0.47
21:AA:485:G:O2'	21:AA:486:U:OP2	2.31	0.47
59:DA:2157:G:O5'	59:DA:2157:G:H8	1.99	0.46
40:DU:76:TYR:HE2	59:DA:1152:C:O2'	1.98	0.46
59:BA:1603:A:H3'	59:BA:1604:C:C6	2.50	0.46
51:B7:33:ARG:HB2	51:B7:34:ARG:NH1	2.30	0.46
38:DS:101:LEU:HA	38:DS:101:LEU:HD23	1.51	0.46
38:BS:51:ALA:HB3	38:BS:73:LEU:HB2	1.97	0.46
59:BA:853:G:H2'	59:BA:854:G:C8	2.50	0.46
21:AA:674:G:H2'	21:AA:675:A:C8	2.47	0.46
59:BA:1435:G:H2'	59:BA:1436:G:O4'	2.15	0.46
59:BA:1558:A:O2'	59:BA:1559:G:OP2	2.26	0.46
36:DQ:43:THR:HG22	36:DQ:45:GLN:HG2	1.96	0.46
21:AA:102:G:N3	21:AA:151:A:H2	2.14	0.46
26:BD:61:LEU:HB2	59:BA:1568:G:H5''	1.97	0.46
11:AL:80:HIS:HB3	11:AL:81:SER:H	1.52	0.46
59:DA:2398:U:H2'	59:DA:2399:G:C8	2.49	0.46
26:BD:67:PHE:HB3	26:BD:153:ALA:HB3	1.97	0.46
59:DA:2270:G:H3'	59:DA:2271:G:C8	2.50	0.46
59:BA:2646:C:H2'	59:BA:2647:U:O4'	2.14	0.46
16:CQ:68:ARG:NH2	21:CA:277:C:OP1	2.34	0.46
6:AG:74:GLU:O	6:AG:88:PRO:HA	2.15	0.46
9:AJ:64:GLU:HG2	13:AN:59:ALA:HB2	1.97	0.46
3:AD:19:LEU:HB2	3:AD:21:LEU:HG	1.98	0.46
59:DA:868:U:H3	59:DA:909:A:N6	2.13	0.46
21:CA:565:U:OP2	21:CA:566:G:O2'	2.19	0.46
52:B8:16:ILE:HA	52:B8:22:VAL:HA	1.97	0.46
7:CH:94:TYR:CD2	21:CA:598:U:H4'	2.50	0.46
47:B2:48:HIS:O	47:B2:51:ARG:HG2	2.15	0.46
59:BA:1661:G:H2'	59:BA:1662:C:C6	2.50	0.46
59:BA:1293:C:H6	59:BA:1293:C:O5'	1.98	0.46
27:DE:128:SER:O	27:DE:130:GLY:N	2.48	0.46
46:B0:31:VAL:O	46:B0:64:ASP:HA	2.15	0.46
3:AD:63:LYS:HB2	3:AD:63:LYS:HE3	1.69	0.46
39:BT:96:ARG:HG3	59:BA:2848:G:OP2	2.15	0.46
3:AD:85:LYS:NZ	21:AA:614:A:OP1	2.44	0.46
59:BA:2543:G:H2'	59:BA:2544:G:H8	1.79	0.46
45:DZ:76:LEU:HD22	45:DZ:83:PRO:HA	1.97	0.46
1:CB:231:GLU:HA	1:CB:232:PRO:HD3	1.84	0.46
21:AA:559:A:H4'	21:AA:560:U:H3'	1.97	0.46
45:DZ:117:LEU:HA	45:DZ:174:VAL:HG22	1.97	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:AY:411:VAL:HG23	20:AY:459:LEU:HD22	1.97	0.46
20:AY:131:PRO:HB3	20:AY:250:THR:HG22	1.97	0.46
59:BA:2798:C:H5''	59:BA:2799:A:OP2	2.15	0.46
59:BA:1674:G:H1'	59:BA:1676:A:H62	1.80	0.46
21:AA:794:A:H2'	21:AA:795:C:C6	2.51	0.46
36:BQ:6:ARG:HB3	36:BQ:6:ARG:HE	1.55	0.46
16:CQ:87:LYS:HE2	16:CQ:87:LYS:HB3	1.65	0.46
56:D1:50:ARG:NH1	59:DA:2205:C:OP2	2.48	0.46
20:CY:24:GLY:HA2	61:CY:701:GNP:H8	1.97	0.46
59:BA:1132:A:H2'	59:BA:1133:U:O4'	2.16	0.46
33:DN:67:LEU:O	33:DN:88:GLU:HB2	2.15	0.46
59:BA:987:G:O2'	59:BA:1000:A:N3	2.32	0.46
27:DE:60:ASN:OD1	27:DE:61:ARG:N	2.48	0.46
21:CA:1504:G:OP1	21:CA:1507:A:H4'	2.15	0.46
8:AI:39:GLY:HA2	21:AA:1291:G:H4'	1.97	0.46
39:DT:110:ILE:O	39:DT:114:LEU:N	2.49	0.46
8:AI:61:ALA:HB1	8:AI:63:ILE:HD11	1.98	0.46
44:DY:8:LYS:HG2	44:DY:72:VAL:HG23	1.97	0.46
59:DA:450:G:P	59:DA:1248:G:H22	2.37	0.46
40:DU:3:ARG:HB2	59:DA:445:C:H5''	1.98	0.46
28:DF:12:LEU:HB3	28:DF:126:VAL:HG12	1.98	0.46
28:DF:178:PRO:HB2	28:DF:201:VAL:HG11	1.97	0.46
59:BA:1283:G:N2	59:BA:1285:G:H3'	2.29	0.46
59:BA:784:A:O2'	59:BA:785:G:H5''	2.15	0.46
20:CY:5:VAL:HG13	20:CY:11:ARG:HH12	1.79	0.46
21:CA:292:G:N7	21:CA:293:G:H1'	2.30	0.46
56:B1:15:ALA:H	56:B1:41:ARG:HG2	1.81	0.46
26:DD:117:VAL:HG12	26:DD:129:ASN:ND2	2.31	0.46
21:CA:1187:G:H2'	21:CA:1188:A:C8	2.50	0.46
59:BA:2138:C:H42	59:BA:2153:G:H1	1.61	0.46
59:BA:1015:G:H2'	59:BA:1016:G:H8	1.79	0.46
20:AY:683:VAL:O	20:AY:687:LEU:HG	2.16	0.46
59:DA:83:G:N2	59:DA:102:G:H2'	2.30	0.46
21:AA:221:C:H2'	21:AA:222:U:C6	2.50	0.46
9:AJ:37:PRO:HA	9:AJ:72:VAL:HG22	1.97	0.46
59:DA:140:A:H62	59:DA:141(A):A:N6	2.13	0.46
59:DA:2084:C:N4	59:DA:2235:G:H1	2.12	0.46
17:AR:40:LEU:HB3	17:AR:79:LEU:HD11	1.96	0.46
59:DA:32:C:N4	59:DA:33:U:O4	2.48	0.46
38:DS:52:SER:C	38:DS:69:VAL:HG21	2.36	0.46
10:AK:60:ALA:HA	10:AK:63:LEU:HD12	1.96	0.46
33:DN:45:ASN:OD1	33:DN:45:ASN:N	2.48	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:BE:37:ARG:NH2	59:BA:2784:C:O2	2.48	0.46
35:DP:47:ASP:HB3	35:DP:48:PRO:O	2.15	0.46
49:B5:12:SER:HB2	49:B5:15:ARG:HG2	1.97	0.46
21:AA:20:U:H2'	21:AA:21:G:O4'	2.14	0.46
43:BX:26:TYR:CE2	43:BX:89:ILE:HD12	2.50	0.46
59:BA:64:A:H2'	59:BA:65:C:C6	2.50	0.46
59:BA:481:G:OP1	59:BA:481:G:H4'	2.14	0.46
33:DN:114:ARG:O	33:DN:117:PHE:N	2.48	0.46
40:DU:54:LYS:HE2	59:DA:995:C:OP2	2.15	0.46
59:DA:1291:C:H2'	59:DA:1292:U:C6	2.50	0.46
15:AP:63:GLY:HA3	21:AA:227:G:N2	2.29	0.46
59:BA:1663:C:N4	59:BA:1998:G:O6	2.48	0.46
21:AA:557:G:C6	21:AA:558:G:C2	3.03	0.46
59:DA:608:A:H2'	59:DA:609(A):A:C8	2.49	0.46
31:BJ:44:UNK:O	31:BJ:48:UNK:N	2.47	0.46
59:DA:1352:U:O2'	59:DA:1570:A:N3	2.47	0.46
30:BH:127:GLU:O	30:BH:129:THR:N	2.43	0.46
21:CA:1468:A:H2'	21:CA:1469:G:O4'	2.15	0.46
59:DA:1810:A:O5'	59:DA:1810:A:H8	1.98	0.46
47:B2:2:LYS:HD2	47:B2:5:GLU:HB2	1.97	0.46
21:AA:990:C:H2'	21:AA:991:U:O4'	2.16	0.46
59:DA:482:A:H1'	59:DA:498:G:N2	2.30	0.46
21:AA:1241:G:H2'	21:AA:1242:C:C6	2.50	0.46
21:CA:323:U:H2'	21:CA:324:G:O4'	2.14	0.46
45:BZ:151:HIS:HB2	45:BZ:152:ALA:H	1.28	0.46
56:D1:79:GLY:O	59:DA:270(J):G:H1'	2.15	0.46
25:DC:47:LYS:O	25:DC:211:ARG:O	2.33	0.46
11:CL:92:ASP:HB2	11:CL:93:LEU:H	1.30	0.46
59:BA:566:U:H2'	59:BA:567:A:O4'	2.15	0.46
33:DN:39:ARG:HB3	33:DN:41:ASP:H	1.79	0.46
1:AB:164:VAL:HG22	1:AB:170:GLU:HB3	1.97	0.46
21:AA:1081:G:H2'	21:AA:1082:G:H8	1.80	0.46
20:CY:415:PRO:HB2	20:CY:472:VAL:HG12	1.96	0.46
2:AC:8:ILE:O	2:AC:10:PHE:N	2.42	0.46
14:AO:78:TYR:O	14:AO:82:ILE:HG22	2.16	0.46
25:DC:115:VAL:HG11	25:DC:154:ILE:HD11	1.98	0.46
59:BA:444:C:O2'	59:BA:445:C:H5'	2.16	0.46
59:BA:2572:A:OP1	59:BA:2574:G:H4'	2.15	0.46
40:DU:98:LEU:O	40:DU:101:ARG:N	2.38	0.46
21:AA:1402:C:H2'	21:AA:1403:C:O4'	2.15	0.46
4:AE:127:ASN:ND2	21:AA:18:C:H5''	2.30	0.46
32:DK:107:ILE:HA	32:DK:110:GLN:NE2	2.31	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:BE:111:ARG:HG2	37:BR:2:ARG:HG3	1.97	0.46
59:BA:2123:G:H1	59:BA:2175:C:N4	2.09	0.46
59:BA:2706:G:H5''	59:BA:2851:A:H5''	1.98	0.46
21:CA:277:C:H2'	21:CA:278:G:H8	1.80	0.46
21:CA:68(K):U:H3'	21:CA:68(M):U:OP2	2.16	0.46
44:DY:84:ARG:HE	44:DY:97:ARG:HD2	1.80	0.46
30:BH:55:PRO:HG2	30:BH:61:HIS:CE1	2.50	0.46
12:AM:81:LEU:HD12	12:AM:86:CYS:SG	2.56	0.46
8:AI:99:LEU:HB3	8:AI:101:PHE:HE1	1.79	0.46
46:B0:27:GLU:OE2	59:BA:855:G:N2	2.38	0.46
59:BA:83:G:N2	59:BA:102:G:H2'	2.30	0.46
35:DP:11:GLY:HA2	59:DA:1244:G:H4'	1.98	0.46
52:D8:60:LEU:HD12	52:D8:61:LEU:N	2.29	0.46
52:D8:46:ARG:HG2	52:D8:47:LYS:H	1.80	0.46
31:BJ:24:UNK:HA	31:BJ:84:UNK:O	2.14	0.46
30:BH:90:LYS:HB2	30:BH:163:TYR:CE1	2.50	0.46
59:BA:1844:C:H2'	59:BA:1845:G:O4'	2.15	0.46
7:CH:97:VAL:HG12	21:CA:600:C:OP1	2.16	0.46
47:D2:48:HIS:ND1	59:DA:95:G:O2'	2.47	0.46
32:BK:37:PHE:CE2	32:BK:38:VAL:HG13	2.50	0.46
21:CA:1270:C:H2'	21:CA:1271:G:C8	2.50	0.46
59:DA:2294:C:H2'	59:DA:2295:C:H6	1.80	0.46
36:BQ:119:ARG:O	36:BQ:123:HIS:HB2	2.16	0.46
28:BF:160:ASN:OD1	28:BF:162:LEU:HB2	2.15	0.46
3:CD:21:LEU:O	3:CD:113:SER:OG	2.22	0.46
38:DS:42:ASP:O	38:DS:44:LYS:N	2.47	0.46
5:AF:43:LEU:HD23	5:AF:60:PHE:HB2	1.96	0.46
20:AY:544:LYS:HA	20:AY:547:GLU:HB2	1.97	0.46
47:D2:33:MET:HB2	47:D2:33:MET:HE2	1.81	0.46
59:DA:2150:U:H2'	59:DA:2151:G:C8	2.51	0.46
33:DN:70:LYS:HB3	33:DN:87:LEU:HB2	1.96	0.46
35:BP:25:SER:HB2	59:BA:812:C:H5'	1.97	0.46
56:B1:64:ALA:HB1	59:BA:398:G:OP1	2.16	0.46
27:DE:63:LEU:HB2	27:DE:65:GLY:H	1.80	0.46
14:CO:8:LYS:HZ1	21:CA:658:G:P	2.35	0.46
25:DC:41:THR:HG21	59:DA:2124:G:H4'	1.96	0.46
28:BF:154:VAL:CG1	28:BF:156:LEU:HB2	2.45	0.46
59:DA:1448:G:O2'	59:DA:1528:A:N6	2.48	0.46
25:DC:79:ALA:O	25:DC:81:GLY:N	2.49	0.46
40:BU:3:ARG:HB2	59:BA:445:C:H5''	1.98	0.46
26:BD:143:HIS:CD2	26:BD:196:VAL:HG22	2.51	0.46
27:BE:134:ILE:HG12	27:BE:135:HIS:N	2.30	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:BG:98:ARG:O	29:BG:101:ILE:HB	2.15	0.46
27:DE:144:ARG:O	59:DA:2052:G:O2'	2.33	0.46
20:AY:164:MET:HE2	20:AY:279:TYR:HE2	1.80	0.46
21:CA:108:G:N2	21:CA:108:G:OP2	2.49	0.46
56:B1:21:ARG:HH11	56:B1:23:LYS:HB2	1.80	0.46
42:BW:21:VAL:CG1	42:BW:74:ALA:HB1	2.46	0.46
19:AT:77:ALA:O	19:AT:81:LYS:HG3	2.15	0.46
8:CI:127:LYS:HE3	22:CW:34:C:H5''	1.97	0.46
28:DF:25:PRO:HD3	28:DF:115:ALA:HB1	1.97	0.46
6:AG:95:ARG:O	6:AG:99:LEU:HG	2.15	0.46
50:B6:8:LYS:HZ1	59:BA:2285:C:H5	1.62	0.46
7:AH:81:HIS:HB3	7:AH:138:TRP:HE3	1.79	0.46
21:CA:864:A:C6	21:CA:865:A:C6	3.03	0.46
21:CA:38:G:H1'	21:CA:397:A:N6	2.30	0.46
20:AY:463:VAL:HA	20:AY:466:LEU:HB2	1.97	0.46
34:BO:34:THR:H	34:BO:37:ASP:CG	2.18	0.46
20:AY:215:LYS:O	20:AY:219:VAL:HG23	2.14	0.46
21:AA:1341:U:H5'	22:AW:32:C:H5''	1.98	0.46
21:AA:105:G:C6	21:AA:106:C:N4	2.84	0.46
50:B6:23:THR:HG21	59:BA:2419:U:OP1	2.15	0.46
27:DE:82:ARG:HG3	27:DE:83:ASP:N	2.31	0.46
37:DR:102:GLU:O	37:DR:103:ARG:HB2	2.15	0.46
12:CM:108:ARG:HH12	12:CM:111:LYS:NZ	2.14	0.46
21:CA:979:C:N4	21:CA:1318:A:H61	2.12	0.46
18:CS:10:PHE:CE1	21:CA:1318:A:H4'	2.50	0.46
25:BC:28:ARG:HD2	25:BC:28:ARG:N	2.31	0.46
52:B8:47:LYS:HE3	59:BA:2360:A:H5''	1.96	0.46
36:BQ:14:ARG:NH1	59:BA:958:U:OP2	2.49	0.46
40:DU:52:ARG:HA	40:DU:52:ARG:HD2	1.72	0.46
16:CQ:95:TYR:C	16:CQ:97:SER:H	2.18	0.46
44:BY:47:LYS:HG3	44:BY:60:PHE:HE2	1.80	0.46
3:AD:49:ARG:O	3:AD:51:PRO:HD3	2.15	0.46
2:AC:68:VAL:HG12	2:AC:70:VAL:HG22	1.98	0.46
1:AB:79:ASP:O	1:AB:82:ARG:HG2	2.14	0.46
59:BA:1896:G:H2'	59:BA:1897:G:H8	1.80	0.46
59:DA:1711:C:H2'	59:DA:1712:C:C6	2.50	0.46
33:DN:131:GLN:HB3	33:DN:131:GLN:HE21	1.60	0.46
21:AA:559:A:H4'	21:AA:560:U:H5''	1.97	0.46
27:BE:45:THR:O	27:BE:83:ASP:N	2.46	0.46
59:DA:1930:G:HO2'	59:DA:1931:U:P	2.39	0.46
28:BF:78:ILE:O	28:BF:80:ALA:N	2.48	0.46
59:DA:886:C:O2	59:DA:889:C:H5	1.99	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:541:C:H2'	59:BA:542:C:C6	2.50	0.46
21:AA:1109:C:H2'	21:AA:1110:A:O4'	2.16	0.46
59:BA:1754:C:H2'	59:BA:1755:A:O4'	2.15	0.46
59:BA:480:A:N3	59:BA:499:U:O2'	2.44	0.46
26:BD:45:ASN:O	26:BD:47:GLY:N	2.48	0.46
26:DD:250:TRP:HB2	26:DD:252:TRP:CD1	2.50	0.46
1:CB:52:GLU:O	1:CB:56:ARG:HB2	2.15	0.46
8:AI:4:TYR:CD1	8:AI:4:TYR:N	2.83	0.46
59:BA:2131:G:H5'	59:BA:2133:G:C8	2.50	0.46
59:DA:1152:C:H2'	59:DA:1153:C:H6	1.79	0.46
59:BA:306:U:H2'	59:BA:307:G:O4'	2.15	0.46
59:DA:519:U:H2'	59:DA:520:G:C8	2.50	0.46
42:DW:21:VAL:HG12	42:DW:25:ARG:HH12	1.81	0.46
27:DE:12:THR:O	27:DE:22:PRO:HA	2.15	0.46
41:BV:4:ILE:O	41:BV:39:LEU:N	2.41	0.46
28:DF:10:PRO:HB2	28:DF:11:VAL:H	1.61	0.46
25:DC:164:PHE:N	25:DC:164:PHE:CD2	2.83	0.46
59:BA:617:G:H2'	59:BA:618(A):G:O4'	2.16	0.46
10:CK:109:VAL:HG13	17:CR:84:LYS:HB2	1.97	0.46
50:D6:11:LEU:HD12	50:D6:26:ASN:HB2	1.97	0.46
35:DP:79:ARG:HG3	35:DP:110:TYR:CD1	2.50	0.46
1:AB:235:SER:OG	1:AB:236:TYR:N	2.48	0.46
21:AA:175:C:H2'	21:AA:176:C:O4'	2.16	0.46
21:AA:679:C:H2'	21:AA:680:C:C6	2.50	0.46
59:BA:918:A:H5''	60:BB:97:G:O2'	2.16	0.46
59:DA:1558:A:O2'	59:DA:1559:G:OP2	2.27	0.46
21:AA:290:C:H2'	21:AA:291:C:O4'	2.16	0.46
27:DE:2:LYS:HA	27:DE:84:PHE:CD2	2.51	0.46
20:AY:438:PHE:CE1	20:AY:462:ILE:HG13	2.47	0.46
59:DA:299:A:N7	59:DA:300:A:N6	2.64	0.46
39:DT:35:LYS:HG3	39:DT:41:ARG:HH11	1.80	0.46
36:DQ:85:LYS:HD2	46:D0:7:LEU:HD22	1.98	0.46
59:BA:877:U:C4	59:BA:899:A:N1	2.84	0.46
59:BA:1858:G:O2'	59:BA:1859:A:H8	1.99	0.46
59:DA:2023:G:H4'	59:DA:2617:C:O3'	2.16	0.46
59:BA:2306:C:C4	59:BA:2307:G:H1'	2.50	0.46
59:BA:822:U:H2'	59:BA:823:G:H8	1.81	0.46
22:AW:19:G:H1'	22:AW:57:G:N2	2.31	0.46
59:BA:134:C:N4	59:BA:145:G:H1	2.13	0.46
59:BA:2781:A:H5'	59:BA:2782:G:O5'	2.15	0.46
21:CA:1440(A):G:H4'	21:CA:1440(B):G:C5	2.51	0.46
59:DA:74:A:H5''	59:DA:75:G:O4'	2.16	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:1419:A:C5	59:BA:1579:A:C6	3.04	0.46
27:DE:89:ASP:HB3	27:DE:90:THR:H	1.59	0.46
47:D2:66:GLU:O	47:D2:69:ARG:HG2	2.15	0.46
42:DW:65:LEU:HG	42:DW:67:ASP:H	1.81	0.46
59:DA:612:G:N2	59:DA:616:A:O2'	2.48	0.46
43:DX:55:ASN:ND2	59:DA:1342:A:H5'	2.31	0.46
59:DA:14:A:H2	59:DA:2624:G:N2	2.14	0.46
25:BC:194:ILE:HD13	25:BC:197:LEU:HD12	1.98	0.46
44:DY:79:CYS:SG	44:DY:80:GLY:N	2.89	0.46
56:B1:61:ARG:HH11	56:B1:61:ARG:HB3	1.80	0.46
20:CY:72:CYS:SG	20:CY:79:ILE:O	2.74	0.46
33:BN:4:TYR:CZ	33:BN:6:PRO:HA	2.50	0.46
11:AL:35:GLY:HA3	11:AL:83:VAL:O	2.16	0.46
11:AL:85:ILE:HD12	11:AL:85:ILE:HA	1.66	0.46
59:BA:814:C:H2'	59:BA:815:C:H6	1.80	0.46
11:CL:36:VAL:O	11:CL:80:HIS:HA	2.15	0.46
11:CL:80:HIS:HB3	11:CL:81:SER:H	1.46	0.46
59:DA:783:A:C4	59:DA:785:G:H1'	2.51	0.46
49:D5:4:HIS:HA	59:DA:2056:G:H22	1.80	0.46
28:BF:155:LEU:O	28:BF:191:ARG:C	2.54	0.46
28:BF:64:ILE:HG22	28:BF:76:GLY:O	2.15	0.46
59:BA:1799:G:H4'	59:BA:1800:C:O5'	2.14	0.46
36:BQ:11:LYS:NZ	36:BQ:88:GLY:H	2.13	0.46
2:AC:196:LEU:HD22	2:AC:196:LEU:H	1.80	0.46
25:BC:73:VAL:HG11	25:BC:157:ILE:HG22	1.98	0.46
26:BD:7:LYS:HB3	26:BD:8:PRO:HD2	1.98	0.46
26:BD:8:PRO:HB2	59:BA:1695:G:H8	1.80	0.46
40:DU:99:ALA:HB1	40:DU:106:PHE:CG	2.51	0.46
26:DD:78:LYS:O	26:DD:79:VAL:O	2.34	0.46
11:CL:7:ILE:O	11:CL:11:VAL:HG23	2.15	0.46
20:AY:164:MET:HE1	20:AY:181:LEU:HD13	1.98	0.46
59:BA:2081:C:H2'	59:BA:2082:A:H8	1.81	0.46
46:D0:24:LYS:O	46:D0:25:ARG:HD3	2.16	0.46
10:CK:53:SER:C	10:CK:55:LYS:H	2.18	0.46
57:D4:8:LYS:HB3	57:D4:9:LEU:H	1.58	0.46
59:DA:2211:G:C2'	59:DA:2212:A:H5''	2.45	0.46
59:BA:946:G:O6	59:BA:972:G:N2	2.49	0.46
21:CA:47:C:N4	21:CA:361:G:H1	2.08	0.46
2:CC:20:SER:HB2	2:CC:22:TRP:HE1	1.81	0.46
34:BO:4:PRO:HG2	34:BO:31:LYS:HD2	1.98	0.46
9:CJ:24:VAL:O	9:CJ:28:ARG:HG2	2.16	0.46
59:BA:2466:C:N4	59:BA:2484:G:H1	2.13	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:CA:59:A:H1'	21:CA:354:G:C2	2.50	0.46
26:DD:63:ARG:H	26:DD:87:ASN:HD21	1.62	0.46
21:AA:1275:A:H2'	21:AA:1276:G:O4'	2.16	0.46
46:D0:39:ARG:HD3	46:D0:58:THR:OG1	2.15	0.46
59:DA:690:G:O5'	59:DA:690:G:H8	1.99	0.46
59:BA:830:G:H4'	59:BA:831:G:OP2	2.15	0.46
21:CA:1234:C:H2'	21:CA:1235:U:O4'	2.15	0.46
27:BE:197:ILE:HD11	27:BE:199:ARG:HD3	1.98	0.46
21:CA:767:A:H2'	21:CA:768:A:O4'	2.16	0.46
59:BA:528:A:C2	59:BA:2043:C:H4'	2.51	0.46
4:AE:69:VAL:HG21	4:AE:139:LEU:HD22	1.97	0.46
59:BA:1570:A:O5'	59:BA:1570:A:H8	1.99	0.46
59:BA:27:G:H1'	59:BA:513:A:N6	2.30	0.46
21:CA:309:G:H2'	21:CA:310:G:H8	1.81	0.46
21:CA:309:G:H2'	21:CA:310:G:C8	2.51	0.46
3:CD:74:GLN:NE2	21:CA:403:C:OP2	2.49	0.46
5:CF:62:TRP:HB2	17:CR:35:ARG:HH12	1.79	0.46
59:DA:698:C:O2'	59:DA:734:A:N6	2.49	0.46
59:DA:734:A:O2'	59:DA:1635:G:H5'	2.16	0.46
59:DA:2861:G:H2'	59:DA:2862:G:C8	2.50	0.46
40:DU:40:PHE:HB3	41:DV:75:PHE:CE1	2.51	0.46
59:DA:842:G:H2'	59:DA:843:G:C8	2.51	0.46
20:CY:38:ARG:HD2	20:CY:41:LYS:O	2.16	0.46
59:DA:2345:G:N3	59:DA:2381:C:H2'	2.30	0.46
59:BA:2576:G:O2'	59:BA:2579:C:OP2	2.27	0.46
59:BA:725:G:C6	59:BA:726:G:N1	2.83	0.46
19:CT:12:ALA:HA	19:CT:15:ARG:HB2	1.97	0.46
20:AY:319:ASP:OD2	20:AY:321:TYR:HB2	2.15	0.46
59:DA:2837:G:H2'	59:DA:2838:G:H8	1.81	0.46
59:DA:2652:C:C4	59:DA:2653:U:C4	3.04	0.46
59:DA:2291:U:H2'	59:DA:2292:C:C6	2.51	0.46
21:CA:554:C:H2'	21:CA:555:C:C6	2.49	0.46
36:BQ:26:TYR:O	36:BQ:102:VAL:HG21	2.16	0.46
3:AD:126:ILE:HD13	3:AD:148:VAL:HG12	1.97	0.46
21:AA:1053:G:HO2'	21:AA:1199:U:H5	1.60	0.46
59:DA:1378:A:H2'	59:DA:1380:G:N7	2.31	0.46
41:DV:19:LYS:NZ	41:DV:21:ARG:O	2.48	0.46
50:D6:25:LYS:HE3	50:D6:25:LYS:HB2	1.66	0.46
2:CC:115:LEU:HA	2:CC:118:GLN:HB2	1.98	0.46
20:AY:138:LYS:HD3	20:AY:141:LYS:HD3	1.96	0.46
18:AS:64:GLU:OE2	29:BG:113:ARG:NH2	2.49	0.46
33:BN:34:LEU:HD13	33:BN:34:LEU:HA	1.74	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:2888:C:H2'	59:BA:2889:C:H6	1.81	0.46
59:DA:1324:G:H3'	59:DA:1325:G:C5'	2.45	0.46
38:DS:25:ARG:HB2	38:DS:40:ILE:HG23	1.97	0.46
51:B7:40:TRP:HE3	59:BA:460:A:OP2	1.98	0.46
21:AA:1355:G:H2'	21:AA:1356:G:H8	1.79	0.46
18:CS:82:GLY:HA3	21:CA:1226:C:H4'	1.98	0.46
46:D0:2:ALA:N	59:DA:2494:G:OP1	2.49	0.46
41:BV:39:LEU:HD13	41:BV:51:VAL:HA	1.97	0.46
39:DT:49:VAL:HA	39:DT:63:VAL:CA	2.43	0.46
59:DA:1776:G:H1	59:DA:1788:C:N4	2.10	0.46
26:DD:211:ARG:HA	26:DD:214:TRP:CD2	2.50	0.46
13:CN:29:ARG:HH11	13:CN:31:ARG:HB2	1.80	0.46
29:BG:98:ARG:NH1	57:B4:9:LEU:HG	2.30	0.46
20:CY:617:MET:O	20:CY:621:ILE:HD12	2.15	0.46
29:DG:170:ARG:O	29:DG:174:GLU:HG2	2.16	0.46
36:DQ:27:VAL:O	36:DQ:29:PHE:N	2.36	0.46
37:DR:52:ILE:HD12	37:DR:79:LEU:HD11	1.96	0.46
20:CY:206:LEU:HD12	20:CY:210:ARG:HH12	1.79	0.46
59:DA:2114:A:H2'	59:DA:2115:G:O4'	2.15	0.46
59:BA:2564:A:H2'	59:BA:2565:A:C8	2.51	0.46
36:BQ:12:GLN:HE21	36:BQ:72:LYS:HG3	1.79	0.46
59:DA:741:G:H2'	59:DA:742:G:C8	2.51	0.46
25:BC:20:VAL:HG11	25:BC:226:ASN:HB2	1.98	0.46
34:DO:101:PRO:HB3	34:DO:120:GLU:HG2	1.97	0.46
49:B5:20:ARG:HG3	49:B5:23:HIS:HD2	1.80	0.46
21:AA:769:G:H4'	21:AA:1513:A:H4'	1.98	0.46
46:D0:12:ASN:O	46:D0:14:ARG:N	2.48	0.46
20:CY:661:SER:OG	59:DA:2660:A:N7	2.40	0.46
30:BH:40:GLU:O	30:BH:41:MET:HB3	2.15	0.46
45:DZ:43:GLU:HG3	45:DZ:44:PHE:N	2.30	0.46
1:CB:74:LYS:O	1:CB:76:GLN:N	2.48	0.46
3:AD:87:GLY:O	3:AD:89:THR:N	2.49	0.46
59:DA:141(A):A:C8	59:DA:1408:C:H1'	2.50	0.46
59:DA:2745:C:H2'	59:DA:2746:U:C6	2.51	0.46
59:DA:688:U:H2'	59:DA:689:A:C8	2.50	0.46
59:DA:2643:G:H2'	59:DA:2644:G:O4'	2.16	0.46
10:CK:119:CYS:HB3	21:CA:778:G:H1'	1.97	0.46
59:BA:1770:G:H2'	59:BA:1771:C:C6	2.51	0.46
59:DA:685:A:C5	59:DA:774:A:C2	3.04	0.46
21:AA:370:C:H2'	21:AA:371:G:H8	1.81	0.46
59:BA:2557:G:H2'	59:BA:2558:C:H6	1.81	0.46
20:AY:9:LEU:O	20:AY:282:SER:OG	2.19	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:659:C:H2'	59:BA:660:G:C8	2.49	0.46
17:AR:60:ALA:HB1	17:AR:64:ARG:NH1	2.31	0.46
59:DA:1438:U:H2'	59:DA:1439:A:C8	2.50	0.46
6:AG:151:TYR:HD2	6:AG:154:TYR:HD1	1.63	0.46
2:AC:50:ALA:O	2:AC:70:VAL:HG12	2.16	0.46
59:DA:208:C:H2'	59:DA:209:C:C6	2.50	0.46
59:BA:540:G:H2'	59:BA:541:C:C6	2.51	0.46
59:BA:341:G:H2'	59:BA:342:G:O4'	2.16	0.46
59:BA:699:A:N3	59:BA:1633:G:O2'	2.45	0.46
50:B6:48:VAL:HG23	50:B6:49:HIS:H	1.81	0.46
3:CD:41:GLY:HA3	21:CA:542:G:H5'	1.98	0.46
21:CA:1288:A:N1	21:CA:1371:G:H1'	2.31	0.46
13:AN:39:LEU:HD11	13:AN:47:LEU:HD12	1.98	0.46
59:BA:584:C:H2'	59:BA:585:G:O4'	2.16	0.46
39:BT:31:SER:O	39:BT:83:ILE:HD11	2.16	0.46
5:CF:23:LYS:HE3	5:CF:23:LYS:HB3	1.81	0.46
45:BZ:154:ASP:OD2	45:BZ:154:ASP:N	2.49	0.46
36:BQ:35:VAL:HG23	36:BQ:101:ARG:C	2.36	0.46
30:DH:123:PHE:O	30:DH:124:GLU:HB2	2.16	0.46
20:AY:137:ASN:ND2	20:AY:263:ALA:H	2.13	0.46
59:DA:1139:G:H2'	59:DA:1140:C:C6	2.51	0.46
59:DA:1324:G:H3'	59:DA:1325:G:H4'	1.97	0.46
21:CA:490:G:H2'	21:CA:491:G:H8	1.81	0.46
59:DA:2702:U:H1'	59:DA:2703:C:H5	1.80	0.46
3:CD:9:CYS:CA	3:CD:12:CYS:HB2	2.45	0.46
26:BD:231:HIS:CG	26:BD:233:HIS:HB2	2.51	0.46
59:BA:1478:G:C2	59:BA:1479:G:N7	2.84	0.46
21:AA:1315:U:H2'	21:AA:1316:G:O4'	2.16	0.46
59:DA:2390:U:O2'	59:DA:2391:G:H5'	2.16	0.46
59:BA:1536:A:H3'	59:BA:1537:C:C6	2.51	0.46
49:B5:55:ARG:HD3	49:B5:56:LYS:N	2.31	0.46
20:AY:246:ILE:HB	20:AY:279:TYR:CE1	2.50	0.46
59:DA:2231:C:H2'	59:DA:2232:U:O4'	2.16	0.46
59:DA:144:C:H2'	59:DA:145:G:C8	2.43	0.46
33:DN:17:ASP:O	33:DN:18:ALA:HB2	2.14	0.46
19:AT:75:ASN:O	19:AT:77:ALA:N	2.48	0.46
21:CA:129(A):G:H4'	21:CA:130:A:H5''	1.98	0.46
27:BE:191:PRO:C	27:BE:193:GLY:H	2.20	0.46
59:DA:2329:G:H2'	59:DA:2330:G:C8	2.50	0.46
45:BZ:10:ARG:HH21	45:BZ:26:GLY:N	2.14	0.46
21:AA:152:A:H3'	21:AA:153:C:H6	1.81	0.46
21:AA:1533:C:H3'	21:AA:1534:A:O4'	2.16	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:AB:20:GLU:HB2	1:AB:190:THR:HB	1.98	0.46
12:CM:13:LYS:HE3	12:CM:21:TYR:HE1	1.80	0.46
21:AA:482:A:H2'	21:AA:483:C:O4'	2.16	0.46
28:BF:168:ARG:NE	59:BA:322:A:OP1	2.30	0.46
22:CW:67:G:H2'	22:CW:68:U:C6	2.51	0.46
21:CA:1401:G:H2'	21:CA:1402:C:O4'	2.16	0.46
39:DT:16:ARG:HB2	39:DT:79:HIS:ND1	2.31	0.46
10:AK:85:ARG:HA	10:AK:110:ASP:O	2.16	0.46
38:BS:42:ASP:O	38:BS:45:GLY:N	2.45	0.46
21:CA:939:G:C2	21:CA:940:C:C4	3.04	0.46
21:CA:689:C:H2'	21:CA:690:G:O4'	2.16	0.46
46:D0:48:GLY:HA3	46:D0:80:HIS:CD2	2.50	0.46
4:AE:78:HIS:HD1	7:AH:104:ARG:HG3	1.81	0.46
59:BA:1687:G:N1	59:BA:1700:A:OP1	2.36	0.46
59:BA:1176:G:H3'	59:BA:1177:A:H8	1.81	0.46
59:BA:27:G:N2	59:BA:512:G:O2'	2.49	0.46
43:BX:26:TYR:HE2	43:BX:89:ILE:HD12	1.80	0.46
14:AO:55:GLY:O	14:AO:58:MET:HB2	2.16	0.46
60:BB:87:G:N2	60:BB:89(B):A:OP2	2.39	0.46
3:AD:138:TYR:HE1	21:AA:620:C:H4'	1.80	0.46
3:CD:148:VAL:HG23	3:CD:181:MET:HB3	1.97	0.46
59:BA:965:C:H4'	59:BA:2273:A:H1'	1.97	0.46
43:BX:35:THR:HG21	59:BA:143:C:H5'	1.97	0.46
59:BA:2365:G:O5'	59:BA:2365:G:H8	1.98	0.46
9:AJ:35:SER:OG	21:AA:1124:G:H5''	2.15	0.46
20:CY:96:ARG:O	20:CY:100:VAL:HG12	2.16	0.46
26:DD:248:SER:O	26:DD:250:TRP:N	2.49	0.46
21:AA:980:C:C5	21:AA:981:U:C2	3.04	0.46
20:AY:337:SER:N	20:AY:367:GLU:O	2.29	0.46
2:AC:177:THR:HG22	2:AC:178:LEU:H	1.80	0.46
17:CR:26:LEU:HD13	17:CR:39:VAL:HG22	1.98	0.46
59:DA:1105:U:H2'	59:DA:1106:G:C8	2.51	0.46
14:AO:49:ASP:OD1	21:AA:667:G:H1'	2.16	0.46
59:DA:618(B):C:H2'	59:DA:619:G:O4'	2.16	0.46
20:CY:686:LYS:HD3	20:CY:687:LEU:HD23	1.98	0.46
2:AC:69:HIS:HA	2:AC:104:GLN:O	2.14	0.46
59:BA:2516:G:H2'	59:BA:2517:C:C6	2.51	0.46
59:BA:1234:U:H2'	59:BA:1235:G:O4'	2.15	0.46
10:CK:113:PRO:O	10:CK:115:PRO:HD3	2.16	0.46
7:AH:36:LEU:HD13	7:AH:61:VAL:HG11	1.97	0.46
30:BH:157:TYR:HD1	30:BH:171:LEU:HB3	1.80	0.46
16:CQ:91:ARG:HG2	21:CA:583:A:H4'	1.98	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:AY:524:GLU:O	20:AY:565:VAL:HG23	2.16	0.46
42:BW:47:VAL:HG22	42:BW:103:ILE:HG21	1.97	0.46
59:DA:1014:U:H3	59:DA:1148:A:H2	1.64	0.46
33:DN:41:ASP:CA	40:DU:64:ARG:HE	2.29	0.46
25:BC:44:VAL:O	25:BC:173:HIS:HA	2.16	0.46
35:DP:16:ARG:O	59:DA:661:C:O2'	2.33	0.46
39:DT:106:SER:HB2	39:DT:110:ILE:CG1	2.41	0.46
26:BD:209:ALA:HB2	59:BA:1790:C:H4'	1.96	0.46
59:BA:709:U:H2'	59:BA:710:G:C8	2.51	0.46
20:CY:150:ILE:HD12	20:CY:161:PRO:HB2	1.98	0.46
25:DC:115:VAL:HA	25:DC:144:GLY:O	2.16	0.46
20:CY:408:VAL:HG22	20:CY:454:MET:HA	1.98	0.46
59:BA:1079:C:C5	59:BA:1080:C:C4	3.03	0.46
28:BF:40:GLN:HA	28:BF:43:LYS:HG2	1.98	0.46
6:CG:79:ARG:H	6:CG:79:ARG:HD2	1.81	0.46
50:B6:17:LYS:O	50:B6:18:ARG:HB2	2.15	0.46
4:AE:93:PRO:HA	4:AE:118:ILE:HD12	1.98	0.46
21:CA:834:C:H2'	21:CA:835:U:O4'	2.16	0.46
59:BA:570:G:OP1	59:BA:972:G:O2'	2.25	0.46
29:BG:4:ASP:OD1	29:BG:9:ARG:HB2	2.16	0.46
59:DA:1516:U:H2'	59:DA:1517:G:H8	1.75	0.46
18:AS:29:ARG:HH22	59:BA:887:A:H4'	1.81	0.46
22:CW:12:U:H1'	22:CW:24:G:H22	1.81	0.46
45:DZ:30:ASN:CB	45:DZ:90:VAL:HB	2.46	0.46
32:DK:106:GLU:O	32:DK:110:GLN:HG3	2.16	0.46
21:CA:1306:A:H61	21:CA:1331:G:H1'	1.81	0.46
56:B1:34:THR:HG23	56:B1:35:THR:N	2.31	0.46
29:DG:47:LYS:HE2	29:DG:81:LYS:HB2	1.98	0.46
27:BE:111:ARG:H	27:BE:161:GLY:HA3	1.81	0.46
43:BX:12:VAL:HA	43:BX:29:TRP:HE1	1.81	0.46
30:BH:33:LEU:HD22	30:BH:79:VAL:CG1	2.45	0.46
21:AA:1016:A:H2'	21:AA:1017:G:O4'	2.16	0.46
20:AY:156:ARG:HH12	20:AY:666:ARG:HD2	1.80	0.46
32:DK:40:ALA:O	32:DK:44:ALA:HB2	2.15	0.46
20:AY:328:ILE:H	20:AY:328:ILE:HG13	1.61	0.46
52:D8:32:LEU:HB3	52:D8:33:ASN:H	1.46	0.46
21:AA:922:G:C6	21:AA:923:A:C6	3.03	0.46
4:CE:40:ARG:HA	4:CE:68:GLU:HA	1.98	0.46
12:CM:48:LEU:HD13	12:CM:53:VAL:HG22	1.98	0.46
21:CA:869:G:H4'	21:CA:872:A:C8	2.50	0.46
21:AA:37:U:H3	21:AA:397:A:H61	1.64	0.46
37:DR:103:ARG:HG2	37:DR:110:PRO:HA	1.98	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:1174:A:H3'	59:BA:1175:U:C5'	2.46	0.46
3:AD:62:GLN:O	3:AD:66:ARG:HG3	2.16	0.46
59:DA:548:A:OP2	59:DA:548:A:H8	1.99	0.46
41:DV:10:LYS:HB2	41:DV:10:LYS:HE3	1.82	0.46
59:BA:1675:C:H3'	59:BA:1676:A:H8	1.81	0.46
43:DX:55:ASN:HD22	59:DA:1342:A:H5'	1.81	0.46
7:AH:51:VAL:HG12	7:AH:52:ASP:H	1.80	0.46
30:BH:142:GLY:C	59:BA:2745:C:H4'	2.36	0.46
51:B7:2:LYS:HG3	59:BA:1620:G:O2'	2.16	0.46
21:CA:890:G:O2'	21:CA:906:G:O6	2.25	0.46
50:B6:46:HIS:NE2	59:BA:2372:G:O2'	2.46	0.46
39:DT:97:ALA:C	39:DT:98:LYS:HD2	2.36	0.46
21:AA:933:G:N2	21:AA:935:A:O4'	2.49	0.46
21:AA:65:U:H5''	21:AA:200:G:H4'	1.97	0.46
25:BC:186:LEU:O	25:BC:190:ILE:HG12	2.16	0.46
59:BA:1508:A:H2'	59:BA:1509:A:H4'	1.98	0.46
59:DA:1199:U:H2'	59:DA:1200:C:C6	2.51	0.46
37:DR:53:HIS:CD2	59:DA:2840:C:H5''	2.50	0.46
2:CC:117:ALA:HA	2:CC:120:VAL:HB	1.97	0.46
20:CY:335:LEU:HD12	20:CY:335:LEU:HA	1.74	0.46
11:AL:77:LEU:H	11:AL:77:LEU:HG	1.24	0.46
2:AC:91:LEU:HD22	2:AC:99:VAL:HG12	1.96	0.46
6:CG:11:GLN:HG2	6:CG:12:LEU:N	2.31	0.46
45:DZ:103:ARG:HB3	45:DZ:138:GLU:HG2	1.98	0.46
21:CA:784:C:H2'	21:CA:785:G:C8	2.51	0.46
21:AA:24:U:H2'	21:AA:25:C:C6	2.50	0.46
20:AY:137:ASN:ND2	20:AY:262:SER:HA	2.30	0.46
59:BA:2026:C:H2'	59:BA:2027:G:O4'	2.16	0.46
33:BN:35:ARG:HB3	33:BN:42:TRP:CZ3	2.51	0.46
21:AA:1127:G:H21	21:AA:1147:C:H42	1.63	0.46
15:CP:6:LEU:HD22	21:CA:375:U:H5''	1.98	0.46
11:CL:45:PRO:CB	11:CL:92:ASP:HB3	2.45	0.46
59:BA:464:U:C4	59:BA:465:G:C6	3.04	0.46
59:DA:1059:G:C2	59:DA:1079:C:N3	2.84	0.46
41:BV:66:ARG:HG2	41:BV:88:ARG:HD3	1.98	0.46
25:BC:60:ARG:HG2	25:BC:142:LYS:HD3	1.98	0.46
21:CA:1343:G:H21	21:CA:1349:A:HO2'	1.56	0.46
43:BX:32:PRO:C	43:BX:34:ALA:H	2.20	0.46
8:AI:120:ARG:HG3	21:AA:1348:U:H4'	1.98	0.46
25:DC:148:PHE:C	25:DC:150:ILE:H	2.20	0.46
56:D1:13:ILE:HG13	56:D1:17:SER:HB3	1.98	0.46
20:CY:631:ILE:O	20:CY:645:ALA:HA	2.15	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:AC:197:GLY:HA3	21:AA:1057:G:O3'	2.16	0.46
27:BE:134:ILE:HB	27:BE:137:HIS:HB2	1.97	0.46
34:BO:36:GLY:HA3	34:BO:109:LYS:HG3	1.98	0.46
59:DA:605:C:H2'	59:DA:606:U:C6	2.51	0.46
40:BU:74:LEU:HD11	40:BU:114:LYS:HD2	1.98	0.46
48:D3:9:VAL:O	48:D3:31:LEU:HD21	2.16	0.46
60:DB:13:A:N1	60:DB:70:C:H5'	2.30	0.46
8:CI:28:VAL:HG13	8:CI:63:ILE:HB	1.98	0.46
20:CY:485:GLU:OE2	20:CY:555:LEU:HB2	2.16	0.46
59:DA:588:U:H2'	59:DA:589:C:C6	2.51	0.46
42:DW:3:ALA:HB3	42:DW:107:LEU:HD13	1.97	0.46
27:DE:2:LYS:HA	27:DE:84:PHE:HD2	1.78	0.46
36:DQ:68:ILE:HG23	36:DQ:103:MET:HA	1.97	0.46
11:CL:15:ARG:HB3	21:CA:562:C:O2	2.16	0.46
21:CA:115:G:H1'	21:CA:116:A:N7	2.30	0.46
9:CJ:45:ARG:HA	21:CA:1254:C:OP1	2.17	0.46
21:AA:985:C:H2'	21:AA:986:A:C8	2.51	0.46
59:BA:2271:G:H2'	59:BA:2272:U:H6	1.79	0.46
21:CA:1523:G:H2'	21:CA:1524:C:C6	2.51	0.46
25:BC:51:ASP:HB3	25:BC:53:ARG:NH2	2.31	0.46
25:BC:54:ARG:HA	25:BC:54:ARG:NH2	2.31	0.46
26:BD:213:ARG:NH1	59:BA:764:A:N3	2.63	0.46
2:CC:87:LEU:O	2:CC:91:LEU:HB2	2.16	0.46
1:CB:95:GLN:HG3	1:CB:148:TYR:HA	1.98	0.46
26:DD:248:SER:C	26:DD:250:TRP:H	2.20	0.46
59:DA:2837:G:H2'	59:DA:2838:G:C8	2.51	0.46
21:AA:1478:C:H2'	21:AA:1479:C:C6	2.51	0.46
49:D5:44:THR:HG22	49:D5:45:VAL:H	1.79	0.46
25:DC:90:ALA:HB1	25:DC:155:ARG:HD3	1.98	0.46
3:AD:42:GLN:O	3:AD:46:LYS:NZ	2.34	0.46
20:AY:167:PRO:HB3	20:AY:174:PHE:CZ	2.50	0.46
21:CA:889:A:H8	21:CA:889:A:OP1	1.99	0.46
25:DC:203:GLU:N	25:DC:203:GLU:OE1	2.48	0.46
9:CJ:58:ASP:OD2	9:CJ:58:ASP:N	2.48	0.46
29:DG:135:LEU:HD11	29:DG:137:GLU:O	2.16	0.46
11:CL:57:LYS:O	11:CL:59:ARG:N	2.49	0.46
59:DA:2310:A:O2'	59:DA:2311:A:H5'	2.16	0.46
20:AY:29:THR:O	20:AY:32:ILE:HB	2.16	0.45
20:AY:26:THR:HB	61:AY:701:GNP:O2A	2.16	0.45
20:AY:13:ARG:HD3	20:AY:79:ILE:HG12	1.98	0.45
59:BA:1023:U:H2'	59:BA:1024:G:H5'	1.98	0.45
59:BA:2632:A:O2'	59:BA:2811:G:O2'	2.20	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
35:BP:30:THR:HG22	35:BP:31:ALA:H	1.82	0.45
26:DD:244:ARG:NH2	59:DA:1902:C:O2	2.49	0.45
39:BT:50:ILE:HG22	39:BT:51:ARG:N	2.31	0.45
38:BS:30:ARG:HH22	38:BS:62:LYS:HD2	1.81	0.45
38:BS:31:SER:HB2	60:BB:29:A:OP2	2.16	0.45
38:BS:95:HIS:H	38:BS:97:ARG:HH21	1.63	0.45
30:DH:37:VAL:HG21	30:DH:68:THR:HG23	1.96	0.45
59:DA:15:G:H2'	59:DA:16:G:C8	2.50	0.45
59:DA:2078:C:H2'	59:DA:2079:U:C6	2.51	0.45
59:DA:2240:C:H2'	59:DA:2241:A:H8	1.81	0.45
59:DA:2790:A:H2'	59:DA:2790:A:N3	2.31	0.45
27:BE:132:HIS:HA	27:BE:135:HIS:ND1	2.31	0.45
28:BF:39:TRP:CE2	28:BF:43:LYS:HE2	2.51	0.45
27:BE:77:ILE:HG21	59:BA:2634:G:O3'	2.17	0.45
59:DA:131:G:H1	59:DA:148:C:H42	1.64	0.45
13:AN:61:TRP:HZ2	21:AA:1368:G:O3'	1.99	0.45
46:D0:27:GLU:HG3	46:D0:69:PHE:CD1	2.51	0.45
59:BA:30:G:C5	59:BA:31:C:C4	3.04	0.45
1:AB:149:LEU:HD22	1:AB:152:PHE:HB3	1.99	0.45
20:CY:344:THR:HG22	20:CY:397:VAL:O	2.16	0.45
19:AT:39:LYS:HG3	19:AT:55:ILE:HG13	1.98	0.45
21:AA:864:A:C6	21:AA:865:A:C6	3.04	0.45
35:DP:111:ARG:HD3	35:DP:128:HIS:CD2	2.50	0.45
59:DA:2415:G:H2'	59:DA:2416:C:C6	2.51	0.45
59:BA:2327:A:N7	59:BA:2388:A:N6	2.64	0.45
59:DA:2043:C:C4	59:DA:2777:G:C2	3.04	0.45
59:BA:2342:C:H2'	59:BA:2343:C:O4'	2.16	0.45
42:DW:66:GLU:HA	42:DW:69:LEU:HG	1.97	0.45
56:D1:3:LYS:HB2	59:DA:1364:G:P	2.57	0.45
59:BA:217:G:H3'	59:BA:218:A:C8	2.51	0.45
26:DD:105:ILE:HG23	26:DD:106:ILE:O	2.16	0.45
59:DA:2662:A:H2'	59:DA:2663:G:O4'	2.16	0.45
17:AR:44:LEU:O	17:AR:45:SER:OG	2.26	0.45
59:DA:2393:A:H62	59:DA:2422:A:H61	1.64	0.45
2:CC:36:ASP:HA	2:CC:39:ILE:HD12	1.97	0.45
59:BA:1354:A:H62	59:BA:1377:G:H21	1.63	0.45
33:BN:133:GLN:HB3	33:BN:134:ARG:H	1.58	0.45
21:CA:1321:C:C3'	21:CA:1322:C:H5''	2.45	0.45
59:BA:1120:G:H2'	59:BA:1121:C:H6	1.81	0.45
43:DX:65:ARG:HG2	43:DX:66:LEU:N	2.31	0.45
18:CS:59:PRO:HG3	59:DA:887:A:H5''	1.98	0.45
2:CC:7:PRO:O	2:CC:11:ARG:HG2	2.16	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:AQ:27:PHE:CD1	16:AQ:28:PRO:HD2	2.51	0.45
59:BA:210:C:H2'	59:BA:211:A:C8	2.51	0.45
25:DC:155:ARG:HA	25:DC:155:ARG:HD2	1.63	0.45
8:CI:82:ALA:O	8:CI:86:VAL:HG23	2.16	0.45
59:DA:503:A:H4'	59:DA:504:U:H5''	1.97	0.45
52:D8:52:LYS:HE2	59:DA:2358:G:H21	1.82	0.45
59:BA:545:G:H2'	59:BA:547:A:OP2	2.15	0.45
59:DA:510:C:H2'	59:DA:511:U:O4'	2.17	0.45
21:AA:475:G:H2'	21:AA:476:G:C8	2.51	0.45
59:DA:2197:U:H1'	59:DA:2198:A:C8	2.52	0.45
21:AA:492:G:H2'	21:AA:493:G:O4'	2.16	0.45
59:DA:273(E):C:H2'	59:DA:273(F):U:C6	2.51	0.45
59:DA:579:G:O6	59:DA:1261:C:N3	2.49	0.45
41:BV:34:GLU:O	41:BV:36:PRO:HD3	2.16	0.45
59:DA:39:C:H2'	59:DA:40:C:C6	2.51	0.45
59:BA:1312:U:H5'	59:BA:1313:U:C5	2.51	0.45
59:BA:1320:C:H42	59:BA:1331:A:H62	1.63	0.45
21:CA:229:U:H2'	21:CA:230:G:C8	2.51	0.45
20:CY:25:LYS:HZ2	61:CY:701:GNP:PG	2.39	0.45
59:DA:1581:G:H2'	59:DA:1582:C:C6	2.51	0.45
59:BA:2399:G:H2'	59:BA:2400:G:O4'	2.15	0.45
51:B7:16:HIS:HE1	59:BA:684:G:H5'	1.80	0.45
25:DC:219:MET:SD	59:DA:2174:C:O2'	2.73	0.45
38:DS:97:ARG:O	38:DS:100:ALA:N	2.44	0.45
59:BA:1790:C:H2'	59:BA:1791:A:C4	2.50	0.45
59:BA:1439:A:N6	59:BA:1552:G:N2	2.48	0.45
30:BH:67:LEU:O	30:BH:71:LEU:HG	2.16	0.45
59:DA:1607:C:H4'	59:DA:1608:A:O5'	2.16	0.45
60:BB:81:G:H3'	60:BB:82:G:H8	1.80	0.45
44:DY:12:THR:HG23	44:DY:25:GLY:O	2.15	0.45
21:AA:1070:U:H2'	21:AA:1071:C:H6	1.81	0.45
59:DA:2789:C:C2'	59:DA:2790:A:H4'	2.44	0.45
59:BA:2392:A:H2'	59:BA:2393:A:O4'	2.17	0.45
37:DR:38:VAL:O	37:DR:41:ALA:HB3	2.16	0.45
37:BR:33:ARG:HD3	49:B5:55:ARG:NH1	2.31	0.45
56:B1:21:ARG:HD2	56:B1:22:GLY:C	2.36	0.45
59:BA:2643:G:H1	59:BA:2771:C:N4	2.08	0.45
20:AY:487:ILE:HB	20:AY:597:GLY:O	2.16	0.45
13:AN:40:CYS:O	13:AN:44:LEU:HB2	2.15	0.45
31:DJ:50:UNK:N	31:DJ:82:UNK:HA	2.26	0.45
29:BG:173:LEU:HD22	29:BG:178:PHE:CD1	2.50	0.45
29:DG:47:LYS:HD3	29:DG:81:LYS:HD2	1.98	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:2526:G:H1	59:DA:2537:U:H3	1.62	0.45
59:BA:918:A:C2	60:BB:80:U:H4'	2.51	0.45
49:B5:13:LYS:O	49:B5:16:ARG:HB3	2.16	0.45
26:DD:35:LYS:HZ1	26:DD:36:PRO:HA	1.81	0.45
39:BT:76:PHE:HA	39:BT:77:PRO:HD3	1.68	0.45
37:BR:83:ILE:HD12	37:BR:83:ILE:H	1.81	0.45
11:CL:15:ARG:NH1	21:CA:563:A:N3	2.64	0.45
32:DK:55:VAL:HG22	32:DK:56:GLU:H	1.81	0.45
47:B2:65:ASN:HA	47:B2:68:ARG:HB3	1.98	0.45
59:DA:836:G:H2'	59:DA:837:C:H6	1.81	0.45
21:AA:877:C:H2'	21:AA:878:G:C8	2.49	0.45
10:AK:91:ARG:NH1	17:AR:88:LYS:HD2	2.31	0.45
59:BA:740:U:H3	59:BA:758:C:H1'	1.81	0.45
46:B0:20:ARG:HD2	46:B0:20:ARG:N	2.31	0.45
25:BC:51:ASP:HB2	25:BC:54:ARG:HB2	1.98	0.45
30:DH:156:ALA:O	30:DH:158:HIS:ND1	2.49	0.45
51:D7:7:PRO:HG2	59:DA:1309:G:H4'	1.98	0.45
59:DA:1477:A:H2'	59:DA:1478:G:O4'	2.16	0.45
3:AD:76:ARG:HB2	3:AD:76:ARG:HH11	1.82	0.45
44:BY:47:LYS:HG3	44:BY:60:PHE:CE2	2.51	0.45
34:BO:43:VAL:HB	34:BO:55:GLY:H	1.81	0.45
15:CP:45:THR:C	15:CP:47:ASP:H	2.18	0.45
59:BA:2676:C:H2'	59:BA:2677:G:C8	2.51	0.45
21:AA:302:G:O2'	21:AA:556:C:H5"	2.16	0.45
45:DZ:9:TYR:HE1	45:DZ:35:ARG:HD3	1.81	0.45
59:DA:363(D):G:H2'	59:DA:363(E):G:C8	2.52	0.45
59:DA:2095:C:H2'	59:DA:2096:U:C6	2.51	0.45
39:DT:98:LYS:HE2	59:DA:2719:G:OP1	2.16	0.45
29:DG:129:GLY:HA3	29:DG:163:ALA:O	2.16	0.45
43:DX:21:PHE:CE2	43:DX:26:TYR:HA	2.52	0.45
59:BA:695:G:C4	59:BA:696:G:C8	3.04	0.45
59:BA:2747:G:H2'	59:BA:2748:A:C8	2.51	0.45
26:BD:138:VAL:HG23	26:BD:167:GLY:HA2	1.98	0.45
29:BG:51:ARG:HD3	29:BG:54:GLU:HB2	1.98	0.45
59:DA:1423:G:C2	59:DA:1424:G:C8	3.04	0.45
59:BA:46:C:H2'	59:BA:47:C:C6	2.51	0.45
59:BA:2863:C:H2'	59:BA:2864:G:O4'	2.16	0.45
26:BD:6:PHE:HE1	26:BD:18:VAL:HB	1.81	0.45
59:DA:1306:C:N3	59:DA:1622:G:O6	2.49	0.45
59:DA:2515:C:H42	59:DA:2569:G:H1	1.64	0.45
21:CA:647:C:H2'	21:CA:648:A:H8	1.81	0.45
59:BA:1217:C:H2'	59:BA:1218:C:O4'	2.15	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:358:U:O5'	59:BA:358:U:H6	1.98	0.45
59:BA:645:C:H2'	59:BA:645:C:O2	2.16	0.45
59:DA:952:G:C6	59:DA:966:G:C6	3.04	0.45
4:AE:126:ARG:NE	21:AA:9:G:H5''	2.14	0.45
59:BA:465:G:H2'	59:BA:466:A:C8	2.51	0.45
51:D7:34:ARG:CD	51:D7:42:LEU:HB3	2.37	0.45
38:DS:64:GLU:HA	38:DS:67:ARG:HG3	1.99	0.45
10:CK:18:ARG:HD2	10:CK:20:TYR:CE1	2.50	0.45
41:BV:52:VAL:HG13	41:BV:55:ALA:HB3	1.97	0.45
35:DP:122:PRO:O	35:DP:123:LEU:HB3	2.17	0.45
3:CD:12:CYS:HB3	3:CD:33:MET:CE	2.47	0.45
3:CD:9:CYS:HA	3:CD:12:CYS:HB2	1.98	0.45
3:CD:8:VAL:HG23	3:CD:9:CYS:N	2.31	0.45
59:BA:1973:G:C6	59:BA:1974:C:C4	3.05	0.45
21:AA:1386:G:H2'	21:AA:1387:G:C8	2.51	0.45
2:AC:58:GLU:O	2:AC:59:ARG:HG2	2.16	0.45
26:BD:83:GLU:HG3	26:BD:92:ILE:CD1	2.46	0.45
35:DP:31:ALA:C	35:DP:33:ARG:H	2.20	0.45
14:CO:25:THR:OG1	14:CO:26:GLU:N	2.46	0.45
50:D6:22:ALA:HB2	50:D6:39:TYR:CZ	2.51	0.45
59:DA:447:A:H4'	59:DA:448:U:H5'	1.97	0.45
33:DN:18:ALA:HB3	33:DN:56:ASN:OD1	2.16	0.45
56:B1:18:ILE:CG2	59:BA:380:U:H4'	2.46	0.45
20:AY:676:TYR:N	20:AY:676:TYR:CD2	2.84	0.45
59:BA:2865:U:H5''	59:BA:2866:U:OP2	2.15	0.45
59:BA:2866:U:H2'	59:BA:2866:U:O2	2.16	0.45
42:BW:79:GLY:HA2	59:BA:25:U:H5'	1.98	0.45
59:DA:1113:U:H2'	59:DA:1114:G:H8	1.81	0.45
35:BP:17:LYS:HD2	35:BP:19:VAL:O	2.16	0.45
10:AK:119:CYS:HB2	10:AK:120:ARG:H	1.51	0.45
9:CJ:24:VAL:HG22	9:CJ:34:VAL:HG11	1.98	0.45
40:DU:13:LYS:HD3	59:DA:1227:G:OP1	2.16	0.45
59:DA:812:C:OP1	59:DA:1251:C:H5'	2.16	0.45
42:DW:106:ILE:O	42:DW:107:LEU:HB3	2.16	0.45
59:BA:952:G:C6	59:BA:966:G:C6	3.04	0.45
5:AF:6:VAL:HG13	5:AF:90:VAL:HG22	1.98	0.45
21:CA:1356:G:H2'	21:CA:1357:A:C8	2.52	0.45
56:D1:90:ILE:O	56:D1:94:LEU:HD13	2.16	0.45
21:CA:163:C:H2'	21:CA:164:U:C6	2.52	0.45
18:CS:40:ILE:HD11	18:CS:71:LEU:HA	1.98	0.45
17:CR:37:VAL:HG23	17:CR:38:GLU:H	1.81	0.45
35:DP:85:LEU:HD23	35:DP:85:LEU:H	1.82	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
35:DP:126:VAL:HA	35:DP:145:PRO:CD	2.46	0.45
59:BA:2211:G:C2'	59:BA:2212:A:H5''	2.46	0.45
9:AJ:29:ARG:HH22	9:AJ:80:LYS:HD3	1.80	0.45
6:CG:37:ASN:O	6:CG:41:ARG:HG3	2.16	0.45
20:CY:45:VAL:HB	20:CY:362:HIS:CE1	2.52	0.45
21:AA:658:G:H2'	21:AA:659:U:C6	2.51	0.45
25:DC:9:ARG:HB2	25:DC:9:ARG:CZ	2.46	0.45
59:BA:695:G:H2'	59:BA:696:G:O4'	2.17	0.45
21:AA:908:A:H2'	21:AA:909:A:C8	2.51	0.45
47:D2:2:LYS:HD2	47:D2:5:GLU:OE1	2.16	0.45
20:AY:499:ARG:NH2	59:BA:1911:U:O3'	2.49	0.45
25:DC:117:THR:HG1	25:DC:120:VAL:HG13	1.82	0.45
34:DO:22:ILE:HD11	34:DO:42:SER:HB2	1.98	0.45
2:CC:139:GLN:O	2:CC:143:GLU:HB2	2.16	0.45
36:DQ:25:ASP:HB3	36:DQ:100:GLY:O	2.17	0.45
6:CG:69:VAL:O	6:CG:138:LYS:HG3	2.17	0.45
20:CY:69:VAL:HB	20:CY:82:ILE:HG12	1.98	0.45
59:DA:270(N):U:H4'	59:DA:270(O):G:H5'	1.98	0.45
27:BE:10:GLY:H	39:BT:8:LYS:HE2	1.81	0.45
21:CA:1400:C:H5'	23:CV:20:U:C4	2.52	0.45
34:BO:26:LYS:HB3	34:BO:27:GLY:H	1.52	0.45
3:CD:107:ARG:HD3	3:CD:107:ARG:HA	1.82	0.45
17:AR:19:LYS:HB3	17:AR:20:ALA:H	1.56	0.45
4:CE:25:ARG:HD3	4:CE:27:ARG:NH1	2.31	0.45
20:AY:357:ARG:NH2	20:AY:366:VAL:HG11	2.31	0.45
49:B5:42:PRO:HB2	59:BA:2815:C:O2'	2.16	0.45
4:AE:83:GLU:HB2	4:AE:88:LYS:HD3	1.98	0.45
59:DA:704:G:O2'	59:DA:726:G:N1	2.27	0.45
21:CA:522:C:H2'	21:CA:523:A:O4'	2.17	0.45
28:BF:7:TYR:HE1	28:BF:9:ILE:HD13	1.81	0.45
27:BE:152:LYS:HD3	59:BA:2620:C:OP1	2.15	0.45
38:BS:30:ARG:HD3	38:BS:35:ILE:HD12	1.97	0.45
25:BC:66:PRO:HD2	25:BC:189:ASN:HD22	1.81	0.45
60:BB:49:C:H2'	60:BB:50:G:C8	2.51	0.45
59:DA:1385:G:H1'	59:DA:1386:C:C6	2.51	0.45
8:AI:106:ALA:C	8:AI:107:ARG:HG2	2.36	0.45
44:BY:46:LYS:N	44:BY:62:GLU:HB2	2.27	0.45
21:CA:1006:C:H2'	21:CA:1007:C:C6	2.52	0.45
59:DA:2781:A:H5'	59:DA:2782:G:C5'	2.47	0.45
21:AA:1385:G:H2'	21:AA:1386:G:C8	2.52	0.45
29:BG:138:GLN:NE2	29:BG:144:ILE:HD13	2.28	0.45
21:CA:923:A:N6	21:CA:1392:G:O6	2.49	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:DG:122:PRO:O	29:DG:125:PHE:HD1	1.99	0.45
16:AQ:62:SER:OG	16:AQ:72:ARG:HB2	2.16	0.45
42:BW:65:LEU:O	42:BW:69:LEU:HG	2.17	0.45
7:AH:74:PRO:HB2	7:AH:76:PRO:HD3	1.99	0.45
21:AA:1287:A:H2	21:AA:1353:G:N3	2.15	0.45
32:BK:30:HIS:CD2	32:BK:30:HIS:C	2.89	0.45
29:BG:19:LEU:HG	29:BG:175:LEU:HD12	1.98	0.45
32:DK:72:PRO:HG2	32:DK:111:LYS:HZ1	1.80	0.45
21:CA:947:G:O2'	21:CA:1306:A:H4'	2.17	0.45
39:DT:56:GLY:O	39:DT:59:THR:HG22	2.17	0.45
27:BE:109:LYS:HB2	37:BR:2:ARG:CZ	2.47	0.45
59:BA:218:A:H2'	59:BA:219:G:O4'	2.16	0.45
1:AB:69:LEU:O	1:AB:163:PHE:HB3	2.17	0.45
9:AJ:24:VAL:HG21	9:AJ:37:PRO:HD3	1.98	0.45
37:BR:96:ARG:HB2	37:BR:117:VAL:CG2	2.45	0.45
59:BA:2322:A:H2'	59:BA:2323:G:O4'	2.17	0.45
21:AA:966:G:C2	21:AA:967:C:C2	3.05	0.45
34:BO:64:ARG:HG2	34:BO:79:PHE:CD2	2.50	0.45
18:CS:44:MET:O	18:CS:46:GLY:N	2.50	0.45
22:CW:70:G:H4'	59:DA:1893:C:O2'	2.16	0.45
5:CF:24:GLU:O	5:CF:28:ARG:HG3	2.17	0.45
26:BD:213:ARG:HD2	26:BD:217:ARG:O	2.17	0.45
59:BA:2612:C:H2'	59:BA:2613:U:H5'	1.97	0.45
21:CA:186(A):C:H2'	21:CA:186(B):C:C6	2.52	0.45
21:CA:910:C:H2'	21:CA:911:U:C6	2.51	0.45
21:AA:1440(A):G:H5''	21:AA:1440(B):G:O4'	2.16	0.45
59:DA:410:G:OP1	59:DA:411:G:H5'	2.17	0.45
41:BV:5:VAL:HG22	41:BV:37:VAL:HG23	1.98	0.45
40:DU:79:PHE:CE2	40:DU:83:LEU:HD21	2.52	0.45
59:BA:634:C:H2'	59:BA:635:C:C6	2.52	0.45
59:BA:1466:G:H2'	59:BA:1547:C:H41	1.80	0.45
33:DN:19:GLU:HB3	33:DN:59:LYS:HB3	1.98	0.45
21:AA:988:G:H2'	21:AA:989:C:O4'	2.17	0.45
25:BC:117:THR:OG1	25:BC:120:VAL:HG22	2.15	0.45
33:DN:66:LYS:O	33:DN:69:GLN:N	2.49	0.45
20:CY:101:LEU:O	20:CY:128:TYR:OH	2.09	0.45
29:BG:120:LEU:O	29:BG:181:ARG:HB3	2.16	0.45
45:BZ:79:ARG:HD2	45:BZ:79:ARG:HA	1.74	0.45
12:AM:11:ARG:O	12:AM:45:VAL:HG11	2.15	0.45
20:CY:86:GLY:C	20:CY:88:VAL:H	2.19	0.45
16:CQ:79:SER:OG	16:CQ:80:GLY:N	2.49	0.45
20:AY:327:PHE:CE1	20:AY:376:ALA:HB2	2.52	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:1407:C:H2'	59:BA:1408:C:C6	2.52	0.45
2:AC:152:ILE:H	2:AC:152:ILE:HG12	1.53	0.45
20:CY:387:ASP:N	20:CY:387:ASP:OD2	2.41	0.45
53:D9:36:GLN:HA	53:D9:36:GLN:HE21	1.81	0.45
21:AA:1255:G:H2'	21:AA:1258:G:H21	1.82	0.45
26:DD:183:ARG:HB2	26:DD:270:ILE:HG22	1.98	0.45
59:BA:247:G:H4'	59:BA:386:G:C5	2.51	0.45
3:CD:101:LEU:HB2	3:CD:138:TYR:HB3	1.99	0.45
56:D1:5:CYS:SG	56:D1:8:SER:N	2.72	0.45
11:AL:47:LYS:HE2	11:AL:47:LYS:HB2	1.88	0.45
59:DA:2175:C:H2'	59:DA:2176:A:C8	2.52	0.45
59:BA:816:C:H2'	59:BA:817:C:C6	2.51	0.45
51:B7:34:ARG:HB3	51:B7:39:ARG:HH21	1.82	0.45
51:B7:34:ARG:NH2	51:B7:42:LEU:HD22	2.32	0.45
27:DE:61:ARG:NH2	59:DA:2810:A:H2'	2.23	0.45
9:AJ:55:LYS:HE3	9:AJ:55:LYS:N	2.30	0.45
25:DC:167:ASP:OD1	25:DC:169:THR:HG23	2.16	0.45
38:DS:93:LYS:HB2	60:DB:47:C:O2'	2.17	0.45
59:BA:2712:U:O2'	59:BA:712(B):A:H3'	2.17	0.45
16:AQ:29:HIS:CD2	16:AQ:32:TYR:HB2	2.52	0.45
20:CY:569:ASP:OD2	20:CY:570:GLY:N	2.48	0.45
27:BE:144:ARG:HB3	27:BE:145:LYS:H	1.49	0.45
27:BE:113:PHE:HD1	59:BA:1654:A:C2	2.35	0.45
9:AJ:16:LEU:CD1	9:AJ:70:ARG:HD3	2.47	0.45
10:CK:84:VAL:N	10:CK:109:VAL:O	2.49	0.45
10:CK:86:GLY:HA2	10:CK:112:THR:HG23	1.98	0.45
59:BA:681:G:H1	59:BA:796:C:N4	2.07	0.45
27:DE:111:ARG:H	27:DE:161:GLY:HA3	1.81	0.45
59:DA:382:G:H1	59:DA:392:C:N4	2.12	0.45
21:CA:313:A:H2'	21:CA:314:C:C6	2.51	0.45
26:DD:76:PRO:HA	26:DD:118:VAL:HB	1.99	0.45
35:BP:68:GLN:NE2	52:B8:12:LYS:HG2	2.32	0.45
20:AY:484:ARG:HG3	20:AY:676:TYR:HE1	1.82	0.45
29:BG:15:VAL:O	29:BG:19:LEU:HB2	2.17	0.45
26:DD:165:ILE:HG22	26:DD:166:GLN:N	2.31	0.45
28:DF:37:VAL:O	28:DF:40:GLN:NE2	2.48	0.45
21:AA:1256:A:O3'	21:AA:1257:U:H4'	2.17	0.45
59:DA:1557:C:H5''	59:DA:1558:A:OP2	2.17	0.45
21:AA:577:G:O2'	21:AA:816:A:H2'	2.17	0.45
12:CM:98:VAL:HG12	12:CM:98:VAL:O	2.15	0.45
59:DA:77:C:H2'	59:DA:78:A:C8	2.51	0.45
10:CK:94:ALA:O	10:CK:98:LEU:HG	2.16	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:BH:41:MET:CE	30:BH:43:VAL:HG13	2.47	0.45
30:BH:58:GLU:OE1	30:BH:61:HIS:ND1	2.49	0.45
32:DK:27:LEU:O	32:DK:30:HIS:HB3	2.16	0.45
18:CS:73:GLU:HG2	21:CA:1320:C:H1'	1.98	0.45
59:DA:465:G:C6	59:DA:466:A:C6	3.04	0.45
59:BA:1049:C:H2'	59:BA:1050:A:C8	2.52	0.45
5:AF:100:ASN:ND2	17:AR:23:LYS:O	2.44	0.45
59:BA:608:A:H2'	59:BA:609(A):A:C8	2.51	0.45
21:AA:390:C:H2'	21:AA:391:G:C8	2.51	0.45
27:BE:56:PRO:O	27:BE:59:VAL:HG12	2.17	0.45
17:AR:75:ILE:HG13	21:AA:735:C:O2'	2.16	0.45
21:AA:1436:U:H2'	21:AA:1437:C:O4'	2.16	0.45
28:BF:25:PRO:HB3	28:BF:115:ALA:HB1	1.98	0.45
59:BA:2366:A:H2'	59:BA:2367:G:O4'	2.17	0.45
20:CY:76:ASP:O	20:CY:77:HIS:ND1	2.46	0.45
8:AI:65:VAL:HG22	8:AI:73:GLN:HG2	1.99	0.45
5:CF:80:ARG:NH2	5:CF:88:VAL:O	2.49	0.45
59:BA:257:A:H2'	59:BA:258:G:O4'	2.17	0.45
59:DA:2116:G:N7	59:DA:2166:G:N2	2.64	0.45
59:BA:1900:A:O2'	59:BA:1901:A:OP1	2.30	0.45
59:DA:1173:G:H5''	59:DA:1174:A:OP2	2.16	0.45
59:BA:393:C:H2'	59:BA:394:A:C8	2.51	0.45
5:AF:29:ALA:O	5:AF:32:ASN:HB2	2.16	0.45
31:BJ:123:UNK:C	31:BJ:125:UNK:H	2.28	0.45
59:BA:1963:U:H2'	59:BA:1963:U:O2	2.17	0.45
12:CM:36:LYS:NZ	12:CM:36:LYS:HA	2.31	0.45
26:BD:82:ILE:H	26:BD:82:ILE:HG13	1.68	0.45
3:AD:14:ARG:HD3	3:AD:14:ARG:HA	1.81	0.45
45:BZ:136:PHE:HD1	45:BZ:136:PHE:N	2.15	0.45
59:DA:2142:C:H2'	59:DA:2143:C:C6	2.51	0.45
21:AA:993:G:N7	21:AA:1213:A:N6	2.65	0.45
59:DA:71:A:N7	59:DA:114:U:H1'	2.32	0.45
59:DA:2133:G:O2'	59:DA:2157:G:N2	2.49	0.45
21:AA:1504:G:HO2'	21:AA:1505:G:P	2.39	0.45
8:CI:9:ARG:HG3	8:CI:14:VAL:HG23	1.98	0.45
21:AA:1002:G:H2'	21:AA:1003:G:O4'	2.17	0.45
51:B7:33:ARG:HB2	51:B7:34:ARG:HH12	1.80	0.45
59:BA:686:G:N2	59:BA:788:A:H61	2.12	0.45
59:BA:464:U:O2	59:BA:788:A:N6	2.50	0.45
59:BA:1102:C:H2'	59:BA:1103:A:C8	2.51	0.45
60:BB:54:G:H2'	60:BB:55:U:O4'	2.16	0.45
33:DN:43:THR:HB	33:DN:46:VAL:HG11	1.97	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:DH:41:MET:CB	30:DH:54:ARG:HA	2.46	0.45
1:AB:75:LYS:O	1:AB:78:GLN:HB3	2.17	0.45
1:AB:94:ASN:OD1	1:AB:95:GLN:NE2	2.49	0.45
52:D8:53:PRO:HA	52:D8:56:GLU:CB	2.46	0.45
2:AC:193:TYR:CD2	2:AC:193:TYR:N	2.85	0.45
59:BA:2447:G:H4'	59:BA:2448:A:O5'	2.16	0.45
3:CD:8:VAL:HG11	3:CD:115:ARG:CZ	2.46	0.45
56:D1:16:ASN:O	59:DA:380:U:O2'	2.19	0.45
43:DX:3:THR:O	43:DX:5:TYR:N	2.49	0.45
59:BA:969:U:H2'	59:BA:970:C:C6	2.51	0.45
21:AA:1305:G:O2'	21:AA:1331:G:N2	2.49	0.45
26:BD:35:LYS:HZ3	26:BD:61:LEU:HD11	1.81	0.45
21:CA:408:A:H2'	21:CA:409:G:C8	2.52	0.45
12:AM:37:THR:HG21	12:AM:55:ARG:O	2.16	0.45
59:DA:986:C:H2'	59:DA:987:G:O4'	2.16	0.45
53:B9:22:ARG:HB2	53:B9:24:TYR:CE1	2.43	0.45
21:AA:35:G:C6	21:AA:36:C:N4	2.85	0.45
59:DA:2115:G:H4'	59:DA:2167:U:C1'	2.46	0.45
14:CO:46:HIS:O	14:CO:47:LYS:HG2	2.17	0.45
35:DP:59:LEU:HG	52:D8:13:ARG:HH12	1.82	0.45
59:BA:628:G:H2'	59:BA:629:G:C8	2.52	0.45
27:DE:134:ILE:HG12	27:DE:135:HIS:N	2.30	0.45
32:DK:72:PRO:HG2	32:DK:111:LYS:NZ	2.31	0.45
59:BA:2084:C:H2'	59:BA:2085:C:H6	1.81	0.45
59:DA:2818:G:H2'	59:DA:2819:G:H8	1.82	0.45
16:CQ:46:ASP:OD1	16:CQ:49:GLU:HA	2.16	0.45
21:AA:769:G:H22	21:AA:811:C:H1'	1.80	0.45
29:DG:71:THR:HA	60:DB:41:U:O4	2.16	0.45
59:DA:225:A:H2'	59:DA:226:G:H5'	1.98	0.45
26:BD:151:LYS:HD2	59:BA:2208:U:H4'	1.99	0.45
59:DA:2661:G:C6	59:DA:2662:A:C2	3.04	0.45
56:D1:76:ARG:NH1	56:D1:95:LEU:HD22	2.31	0.45
17:CR:40:LEU:HB3	17:CR:79:LEU:HD11	1.98	0.45
44:BY:101:LYS:HE3	44:BY:105:ALA:HB2	1.99	0.45
21:CA:872:A:C4	21:CA:874:G:N7	2.85	0.45
37:DR:89:ASP:HA	37:DR:91:GLN:HE22	1.81	0.45
7:CH:110:ALA:HB3	7:CH:121:ASP:HB3	1.99	0.45
26:BD:71:ASP:OD2	26:BD:72:LYS:N	2.50	0.45
27:DE:128:SER:HG	27:DE:129:HIS:CE1	2.35	0.45
20:CY:499:ARG:HB2	20:CY:506:GLN:O	2.16	0.45
59:BA:211:A:H2'	59:BA:212:G:O4'	2.17	0.45
59:DA:1569:A:H2'	59:DA:1570:A:C8	2.52	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:AF:43:LEU:HB3	5:AF:60:PHE:HB2	1.98	0.45
52:D8:52:LYS:CE	59:DA:2358:G:H21	2.29	0.45
26:DD:41:GLY:HA3	59:DA:692:C:H4'	1.99	0.45
59:BA:150:C:H42	59:BA:176:G:H1	1.65	0.45
25:DC:71:LYS:HG3	25:DC:72:GLN:H	1.82	0.45
59:DA:1444:G:HO2'	59:DA:144(B):A:H8	1.64	0.45
59:DA:1431:U:H2'	59:DA:1432:C:C6	2.52	0.45
41:DV:72:VAL:HG11	59:DA:992:C:O3'	2.16	0.45
26:BD:24:ILE:HG23	26:BD:25:THR:H	1.82	0.45
27:DE:44:TYR:HE2	27:DE:80:GLU:OE1	2.00	0.45
21:CA:53:A:H61	21:CA:358:U:H3	1.64	0.45
59:DA:1914:C:H2'	59:DA:1915:U:O4'	2.16	0.45
16:CQ:37:LYS:HD2	16:CQ:37:LYS:N	2.32	0.45
16:CQ:4:LYS:HA	16:CQ:4:LYS:HD2	1.66	0.45
34:DO:114:ILE:H	34:DO:114:ILE:HG12	1.51	0.45
59:BA:1878:G:H2'	59:BA:1879:C:C6	2.51	0.45
8:AI:29:ASN:HB2	8:AI:36:TYR:HE1	1.82	0.45
20:CY:33:LEU:HG	20:CY:34:TYR:CD2	2.52	0.45
33:BN:102:ALA:HA	59:BA:1139:G:OP1	2.17	0.45
11:AL:54:LYS:HD3	11:AL:70:ILE:HD13	1.99	0.45
11:AL:90:VAL:C	11:AL:92:ASP:H	2.19	0.45
11:CL:95:GLY:C	11:CL:97:ARG:H	2.19	0.45
51:B7:42:LEU:C	51:B7:44:PRO:HD3	2.37	0.45
27:BE:164:ARG:HD3	59:BA:2774:C:OP1	2.17	0.45
27:BE:151:TYR:CD2	33:BN:79:PRO:HG2	2.52	0.45
25:BC:172:ILE:HD12	25:BC:193:PHE:CZ	2.51	0.45
25:BC:41:THR:HG21	59:BA:2124:G:H4'	1.97	0.45
25:BC:50:ILE:HG22	25:BC:57:GLN:HB3	1.99	0.45
29:BG:122:PRO:O	29:BG:124:SER:N	2.50	0.45
28:BF:157:VAL:O	28:BF:193:VAL:C	2.54	0.45
59:DA:1540:G:C2	59:DA:1541:U:H1'	2.52	0.45
25:BC:73:VAL:HG11	25:BC:157:ILE:CG2	2.47	0.45
9:CJ:49:VAL:HG22	9:CJ:50:ILE:H	1.81	0.45
16:AQ:43:LEU:HB3	16:AQ:69:LYS:HG2	1.99	0.45
59:BA:149(B):A:O2'	59:BA:1530:G:N2	2.50	0.45
28:BF:43:LYS:HA	28:BF:98:SER:HB2	1.99	0.45
37:BR:67:LEU:HD11	37:BR:76:VAL:HB	1.99	0.45
26:BD:134:ARG:HG3	26:BD:135:PHE:CD1	2.52	0.45
26:DD:132:PRO:HB2	26:DD:135:PHE:HB2	1.98	0.45
59:DA:83:G:H22	59:DA:102:G:H2'	1.81	0.45
21:AA:458(A):G:N2	21:AA:458(E):A:H62	2.13	0.45
9:CJ:78:ASN:O	9:CJ:81:THR:OG1	2.33	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:2300:G:H2'	59:BA:2301:C:C6	2.52	0.45
59:BA:780:G:H2'	59:BA:782:A:N7	2.32	0.45
59:DA:2395:C:H2'	59:DA:2396:G:O4'	2.17	0.45
59:DA:848:G:N7	59:DA:929:G:N2	2.65	0.45
47:B2:38:GLN:O	47:B2:41:ILE:HG12	2.16	0.45
12:AM:50:GLU:O	12:AM:53:VAL:N	2.50	0.45
59:BA:1186:G:H3'	59:BA:1187:G:C8	2.51	0.45
21:CA:687:A:N6	21:CA:701:C:O2	2.50	0.45
19:AT:30:LYS:O	19:AT:34:LYS:HG3	2.17	0.45
59:BA:1430:C:H42	59:BA:1563:G:H1	1.65	0.45
29:DG:11:TYR:OH	29:DG:33:ARG:HG2	2.17	0.45
57:B4:12:ALA:HA	57:B4:29:PRO:O	2.17	0.45
59:BA:1668:A:H4'	59:BA:1669:A:O5'	2.17	0.45
29:BG:102:PHE:CZ	29:BG:157:ILE:HG21	2.51	0.45
59:BA:64:A:H2'	59:BA:65:C:H6	1.82	0.45
37:BR:62:ALA:O	37:BR:66:VAL:HG23	2.16	0.45
59:BA:270(F):G:H1	59:BA:270(V):C:H42	1.64	0.45
48:D3:12:PRO:HB2	48:D3:20:LYS:HZ3	1.82	0.45
3:CD:162:LEU:HD11	3:CD:181:MET:HG2	1.99	0.45
21:CA:301:G:H2'	21:CA:302:G:C8	2.51	0.45
21:AA:448:A:P	21:AA:485:G:H22	2.39	0.45
36:BQ:26:TYR:HA	45:BZ:81:ARG:HH21	1.82	0.45
7:AH:56:LYS:HA	7:AH:57:PRO:HD2	1.82	0.45
59:DA:1932:A:H2'	59:DA:1933:G:O4'	2.16	0.45
20:AY:101:LEU:H	20:AY:101:LEU:HG	1.54	0.45
16:CQ:52:LYS:HG2	16:CQ:55:ASP:OD1	2.16	0.45
12:AM:76:ALA:O	12:AM:79:LYS:HB2	2.17	0.45
59:BA:2224:G:H4'	59:BA:2226:C:N3	2.31	0.45
59:BA:2870:C:H2'	59:BA:2871:C:O4'	2.16	0.45
27:BE:19:ARG:HE	34:BO:72:PRO:HB3	1.81	0.45
21:AA:1133:G:H2'	21:AA:1134:G:O4'	2.17	0.45
48:B3:5:LYS:HA	48:B3:35:ARG:O	2.16	0.45
59:DA:920:G:H2'	59:DA:921:G:O4'	2.17	0.45
34:DO:87:ILE:HD12	34:DO:91:LEU:HA	1.98	0.45
20:AY:289:ILE:HD12	20:AY:289:ILE:H	1.82	0.45
34:DO:56:ASP:OD2	34:DO:56:ASP:N	2.50	0.45
45:BZ:16:SER:O	45:BZ:20:ARG:HG2	2.16	0.45
20:AY:34:TYR:HD1	20:AY:35:TYR:O	1.99	0.45
21:AA:1392:G:O2'	21:AA:1502:A:OP1	2.34	0.45
59:BA:811:U:O2'	59:BA:812:C:H5"	2.16	0.45
28:DF:103:LYS:HA	28:DF:106:ARG:CZ	2.47	0.45
11:CL:35:GLY:HA2	11:CL:58:VAL:CG1	2.44	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:1270:C:O2'	59:DA:1325:G:H2'	2.16	0.45
59:DA:2811:G:N2	59:DA:2891:G:H1'	2.32	0.45
45:BZ:85:HIS:NE2	60:BB:75:G:O2'	2.48	0.45
33:DN:25:ARG:HA	33:DN:28:THR:OG1	2.16	0.45
59:DA:2033:A:O2'	59:DA:2034:U:H5''	2.17	0.45
40:BU:2:PRO:HD3	59:BA:444:C:OP2	2.16	0.45
59:BA:1557:C:H5''	59:BA:1558:A:OP2	2.17	0.45
11:CL:10:LEU:HB3	16:CQ:32:TYR:CD1	2.52	0.45
19:AT:71:THR:O	19:AT:73:HIS:N	2.50	0.45
19:AT:76:ALA:HA	19:AT:79:ARG:HE	1.82	0.45
59:DA:871:U:H2'	59:DA:872:A:C8	2.51	0.45
45:DZ:67:LEU:HD12	45:DZ:68:PRO:HD2	1.97	0.45
43:BX:69:TYR:N	43:BX:69:TYR:CD1	2.85	0.45
35:DP:67:MET:H	59:DA:2415:G:C4'	2.27	0.45
21:CA:1465:C:H2'	21:CA:1466:C:O4'	2.16	0.45
16:CQ:45:HIS:HB3	16:CQ:72:ARG:HG2	1.99	0.45
21:AA:696:A:O5'	21:AA:696:A:H8	1.99	0.45
7:CH:20:TYR:HA	7:CH:65:TYR:CZ	2.52	0.45
13:AN:56:VAL:HG12	13:AN:57:ARG:H	1.81	0.45
21:CA:346:G:H5'	21:CA:347:G:OP2	2.17	0.45
59:BA:182:A:H2'	59:BA:183:C:C6	2.52	0.45
59:DA:2643:G:H1	59:DA:2771:C:N4	2.13	0.45
20:AY:41:LYS:HG2	20:AY:43:GLY:N	2.31	0.45
59:DA:2104:G:N1	59:DA:2185:C:O2	2.36	0.45
36:DQ:7:MET:O	36:DQ:9:TYR:N	2.49	0.45
59:BA:2368:C:H2'	59:BA:2369:A:C8	2.51	0.45
57:D4:14:ILE:HA	57:D4:32:TYR:HA	1.98	0.45
17:AR:60:ALA:O	17:AR:64:ARG:HG3	2.16	0.45
59:BA:51:G:H4'	59:BA:52:A:H5'	1.98	0.45
26:BD:202:LYS:HB3	59:BA:1820:U:H1'	1.98	0.45
59:DA:1732:A:H2'	59:DA:1733:G:O4'	2.17	0.45
21:CA:272:C:H2'	21:CA:273:A:C8	2.52	0.45
59:DA:476:G:H1'	59:DA:480:A:N6	2.32	0.45
21:CA:123:C:O3'	21:CA:310:G:N2	2.49	0.45
28:BF:31:HIS:ND1	35:BP:13:ASN:OD1	2.49	0.45
41:DV:19:LYS:HG3	41:DV:20:LEU:N	2.31	0.45
59:DA:1199:U:H3	59:DA:1246:A:H61	1.64	0.45
21:CA:647:C:H2'	21:CA:648:A:C8	2.52	0.45
20:AY:210:ARG:O	20:AY:214:GLU:HG2	2.17	0.45
21:CA:1260:C:OP1	21:CA:1284:C:H4'	2.17	0.45
41:BV:19:LYS:NZ	41:BV:21:ARG:O	2.34	0.45
59:BA:2348:U:H2'	59:BA:2349:G:H8	1.82	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:DH:86:GLU:CD	30:DH:86:GLU:H	2.21	0.45
21:CA:1227:A:H2'	21:CA:1227:A:N3	2.32	0.45
12:AM:13:LYS:HE2	12:AM:13:LYS:HB2	1.84	0.45
29:BG:166:ASP:N	29:BG:166:ASP:OD2	2.48	0.45
21:AA:1424:C:H2'	21:AA:1425:U:C6	2.51	0.45
30:DH:144:VAL:O	30:DH:148:ILE:HG12	2.17	0.45
40:DU:2:PRO:HD3	59:DA:444:C:OP2	2.17	0.45
59:BA:1138:G:H2'	59:BA:1139:G:O4'	2.17	0.45
59:BA:2791:C:H5	59:BA:2794:C:H41	1.65	0.45
21:AA:741:G:H5'	21:AA:742:G:OP2	2.17	0.45
11:CL:93:LEU:HD12	11:CL:96:VAL:HG13	1.98	0.45
21:CA:68(I):G:O6	21:CA:68(Q):U:O4	2.35	0.45
59:BA:1935:G:N3	59:BA:1935:G:H2'	2.31	0.45
20:CY:150:ILE:HD11	20:CY:258:VAL:HG21	1.98	0.45
26:BD:266:SER:OG	59:BA:1800:C:OP1	2.33	0.45
59:BA:2459:A:C6	59:BA:2460:U:C2	3.05	0.45
42:DW:80:PRO:HB3	59:DA:26:G:OP1	2.17	0.45
21:CA:663:A:H61	21:CA:742:G:H1	1.65	0.45
8:AI:107:ARG:HH21	21:AA:1347:G:H5''	1.81	0.45
59:BA:577:G:O2'	59:BA:1254:A:OP1	2.31	0.45
1:CB:201:ILE:HA	1:CB:201:ILE:HD13	1.73	0.45
59:BA:785:G:H2'	59:BA:785:G:N3	2.32	0.45
59:BA:681:G:H2'	59:BA:682:G:O4'	2.17	0.45
59:DA:607:U:O4	59:DA:620:G:H5''	2.17	0.45
50:D6:26:ASN:HD22	50:D6:27:LYS:H	1.64	0.45
3:CD:177:ASP:HB2	3:CD:182:LYS:N	2.32	0.45
50:D6:15:GLU:OE2	50:D6:44:ARG:NH2	2.50	0.45
19:CT:73:HIS:C	19:CT:74:LYS:HZ2	2.20	0.45
42:BW:25:ARG:HH22	42:BW:75:TYR:N	2.11	0.45
19:AT:73:HIS:O	19:AT:74:LYS:NZ	2.47	0.45
59:DA:248:G:O5'	59:DA:249:C:H5''	2.17	0.45
59:BA:1766:U:H3	59:BA:1986:A:N6	2.12	0.45
11:CL:74:GLY:O	11:CL:102:ARG:NH2	2.48	0.45
59:DA:137(A):C:H2'	59:DA:137(B):G:C8	2.52	0.45
29:DG:50:ALA:O	29:DG:51:ARG:NH2	2.49	0.45
59:BA:1219:G:H1	59:BA:1230:C:H42	1.63	0.45
20:AY:312:LEU:HG	20:AY:313:ALA:H	1.81	0.45
3:CD:55:ALA:O	3:CD:59:ARG:HG2	2.17	0.45
27:DE:64:LYS:O	27:DE:67:PHE:HB3	2.17	0.45
59:BA:1186:G:H3'	59:BA:1187:G:H8	1.82	0.45
59:DA:557:U:H2'	59:DA:558:G:C8	2.52	0.45
20:AY:99:ARG:CZ	20:AY:403:GLU:HG2	2.47	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:2271:G:H2'	59:BA:2272:U:C6	2.52	0.45
32:DK:71:THR:HG21	32:DK:114:ASP:CB	2.46	0.45
2:CC:2:GLY:HA2	21:CA:1062:U:O4	2.17	0.45
21:CA:45:U:H2'	21:CA:46:G:C8	2.52	0.45
36:DQ:87:LYS:NZ	59:DA:955:C:OP1	2.43	0.45
59:DA:906:G:N2	59:DA:907:U:H1'	2.31	0.45
35:DP:77:ARG:NH1	59:DA:633:A:OP1	2.50	0.45
43:DX:65:ARG:HD3	43:DX:70:LEU:HG	1.98	0.45
5:CF:18:GLN:O	5:CF:21:LEU:HB3	2.17	0.45
43:BX:35:THR:O	43:BX:39:ILE:HG13	2.17	0.45
2:CC:8:ILE:HD12	2:CC:16:ARG:CZ	2.47	0.45
36:BQ:132:VAL:HG11	45:BZ:81:ARG:HH12	1.82	0.45
59:DA:2718:G:O2'	59:DA:2847:U:H5''	2.16	0.45
59:DA:270(O):G:H1'	59:DA:270(Q):C:O5'	2.17	0.45
13:CN:4:LYS:O	13:CN:7:ILE:HG12	2.16	0.45
14:CO:5:LYS:O	14:CO:9:GLN:HG2	2.16	0.45
25:DC:210:LEU:HD13	25:DC:227:PRO:O	2.17	0.45
42:DW:1:MET:HG3	42:DW:2:GLU:H	1.81	0.45
59:BA:1368:G:N1	59:BA:1369:G:C5	2.85	0.45
7:CH:52:ASP:HA	7:CH:58:TYR:H	1.81	0.45
59:BA:1474:C:H2'	59:BA:1475:G:H8	1.81	0.45
2:CC:161:GLU:HA	21:CA:1055:A:O2'	2.16	0.45
12:AM:117:VAL:HG12	12:AM:118:ALA:N	2.31	0.45
6:CG:64:GLN:HG3	6:CG:128:ALA:HA	1.99	0.45
20:CY:119:GLU:O	20:CY:123:ARG:HB2	2.17	0.45
21:AA:414:A:H2'	21:AA:415:A:C8	2.52	0.45
19:AT:88:VAL:O	19:AT:92:LEU:HG	2.17	0.45
11:AL:127:GLU:O	11:AL:129:ALA:N	2.49	0.45
26:BD:65:ILE:H	26:BD:65:ILE:HD13	1.82	0.45
59:DA:2798:C:H5''	59:DA:2799:A:OP2	2.17	0.45
28:DF:162:LEU:H	28:DF:162:LEU:HD12	1.81	0.45
20:AY:478:LYS:HA	20:AY:479:PRO:HD3	1.88	0.45
20:CY:24:GLY:HA3	61:CY:701:GNP:H8	1.98	0.45
11:CL:58:VAL:HB	11:CL:60:LEU:HD22	1.99	0.45
11:CL:81:SER:HB2	11:CL:83:VAL:HG13	1.98	0.45
11:CL:90:VAL:CG2	11:CL:96:VAL:HG11	2.43	0.45
33:DN:42:TRP:H	40:DU:64:ARG:NE	2.15	0.45
51:B7:40:TRP:CH2	59:BA:469:G:N1	2.85	0.45
45:BZ:124:ILE:HD13	45:BZ:124:ILE:H	1.82	0.45
30:DH:41:MET:HA	30:DH:55:PRO:HD3	1.99	0.45
30:DH:43:VAL:HG11	30:DH:72:ILE:HD12	1.99	0.45
36:DQ:12:GLN:HG3	36:DQ:72:LYS:HZ2	1.82	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
42:DW:8:ARG:HA	42:DW:102:HIS:ND1	2.32	0.45
41:BV:39:LEU:CD1	41:BV:51:VAL:HA	2.47	0.45
25:DC:53:ARG:HG2	25:DC:54:ARG:N	2.32	0.45
1:AB:211:ILE:HD13	1:AB:211:ILE:H	1.82	0.45
1:AB:88:ALA:HB2	1:AB:219:VAL:HG13	1.99	0.45
8:AI:107:ARG:HB3	21:AA:1347:G:H2'	1.99	0.45
59:BA:1425:G:H2'	59:BA:1426:G:C4	2.52	0.45
59:DA:1827:C:H2'	59:DA:1828:G:O4'	2.16	0.45
9:CJ:55:LYS:HG3	21:CA:973:G:O4'	2.16	0.45
3:CD:24:GLU:HA	3:CD:27:TYR:HD1	1.82	0.45
28:DF:66:PRO:O	28:DF:67:GLN:HB3	2.17	0.45
56:B1:82:LEU:HB3	56:B1:90:ILE:HD13	1.97	0.45
11:CL:85:ILE:HA	11:CL:85:ILE:HD12	1.72	0.45
59:DA:977:G:C6	59:DA:987:G:C6	3.05	0.45
59:DA:473:G:H5''	59:DA:508:G:N2	2.32	0.45
59:DA:1084:A:H2'	59:DA:1085:A:C8	2.52	0.45
14:CO:43:LEU:O	14:CO:47:LYS:N	2.50	0.45
25:DC:25:GLU:O	25:DC:29:LEU:HB2	2.16	0.45
59:BA:2426:A:H3'	59:BA:2427:C:H5''	1.98	0.45
1:AB:111:ARG:HE	1:AB:145:LEU:HD21	1.81	0.45
32:BK:30:HIS:CG	32:BK:59:ILE:HB	2.51	0.45
29:BG:19:LEU:HD13	29:BG:32:PRO:HG2	1.99	0.45
1:CB:142:LEU:O	1:CB:146:GLN:HB2	2.17	0.45
59:BA:245:G:H2'	59:BA:246:C:H6	1.82	0.45
20:AY:607:ARG:HA	20:AY:645:ALA:O	2.17	0.45
25:BC:11:LEU:HA	25:BC:14:LYS:HB2	1.99	0.45
2:CC:57:ILE:HA	2:CC:65:ALA:O	2.17	0.45
59:DA:227:A:C2	59:DA:2407:G:H1'	2.51	0.45
59:DA:414:C:H2'	59:DA:415:A:C8	2.52	0.45
20:AY:203:GLU:HB3	20:AY:204:GLU:H	1.51	0.45
25:BC:76:LEU:HD23	25:BC:104:ILE:HD11	1.98	0.45
3:AD:152:SER:HA	3:AD:155:LEU:HB2	1.99	0.45
22:CW:68:U:H2'	22:CW:69:A:C8	2.52	0.45
7:CH:38:ILE:HD13	7:CH:41:ARG:NH1	2.32	0.45
59:DA:2601:C:H5''	59:DA:2602:A:OP1	2.17	0.45
59:DA:558:G:H2'	59:DA:559:G:C8	2.51	0.45
59:BA:1431:U:H2'	59:BA:1432:C:O4'	2.16	0.45
15:AP:67:THR:H	15:AP:70:ALA:HB3	1.81	0.45
59:BA:1839:G:H2'	59:BA:1840:G:H8	1.81	0.45
27:DE:129:HIS:CE1	59:DA:1675:C:N3	2.85	0.45
59:DA:1120:G:C6	59:DA:1121:C:N4	2.85	0.45
26:DD:89:SER:OG	26:DD:90:ALA:N	2.50	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:1938:A:N1	59:BA:2590:A:H1'	2.32	0.45
21:CA:1286:A:H2'	21:CA:1287:A:H4'	1.99	0.45
18:CS:18:LYS:NZ	21:CA:1014:A:OP1	2.49	0.45
21:AA:448:A:H2'	21:AA:449:C:C6	2.51	0.45
26:DD:248:SER:OG	26:DD:250:TRP:HE3	2.00	0.45
21:AA:65:U:O2'	21:AA:381:C:OP1	2.35	0.45
59:BA:2002:G:H2'	59:BA:2003:G:C8	2.52	0.45
59:BA:697:C:H2'	59:BA:698:C:C6	2.52	0.45
4:AE:89:ILE:HG12	4:AE:91:LEU:HD23	1.98	0.45
3:AD:70:ILE:HG12	3:AD:71:SER:N	2.32	0.45
59:BA:35:G:H8	59:BA:35:G:O5'	1.99	0.45
21:AA:295:C:H2'	21:AA:296:U:O4'	2.17	0.45
33:BN:89:LYS:HA	33:BN:89:LYS:HD2	1.71	0.45
21:CA:1262:C:H2'	21:CA:1263:C:C6	2.53	0.45
1:CB:172:ILE:O	1:CB:175:ARG:HB3	2.17	0.45
59:DA:2193:G:H2'	59:DA:2194:G:C8	2.52	0.45
21:AA:760:G:C5	21:AA:761:G:C8	3.05	0.45
51:D7:2:LYS:HG3	59:DA:1620:G:O2'	2.17	0.45
21:AA:1409:C:H2'	21:AA:1410:G:C8	2.51	0.45
21:AA:1325:C:O2'	21:AA:1326:C:H5'	2.17	0.45
43:DX:93:GLU:O	43:DX:95:LEU:HD12	2.16	0.45
5:AF:27:GLN:HB3	5:AF:27:GLN:HE21	1.57	0.45
59:BA:1332:G:H5'	59:BA:1333:C:OP2	2.17	0.45
16:AQ:40:LYS:HD3	16:AQ:42:TYR:OH	2.15	0.45
26:BD:53:PHE:HB3	26:BD:218:ARG:HB2	1.98	0.45
59:DA:1663:C:H1'	59:DA:2686:G:H4'	2.00	0.44
11:CL:90:VAL:HB	21:CA:523:A:C2	2.52	0.44
59:DA:854:G:H2'	59:DA:855:G:C8	2.52	0.44
33:DN:78:TYR:CD1	59:DA:2642:G:H5'	2.52	0.44
59:BA:9:U:C2	59:BA:2629:A:N7	2.84	0.44
32:BK:93:ARG:HG2	45:BZ:112:ARG:NH2	2.31	0.44
9:AJ:54:PHE:CE1	9:AJ:55:LYS:HB2	2.51	0.44
25:DC:20:VAL:O	25:DC:225:ILE:HA	2.17	0.44
33:DN:39:ARG:C	33:DN:41:ASP:N	2.71	0.44
25:BC:45:HIS:ND1	25:BC:173:HIS:HD2	2.16	0.44
1:AB:141:GLU:O	1:AB:144:ARG:HB3	2.16	0.44
8:AI:28:VAL:HG22	8:AI:63:ILE:HG12	1.98	0.44
27:DE:21:VAL:HA	27:DE:22:PRO:HD2	1.74	0.44
59:DA:2287:A:N1	59:DA:2346:A:H2	2.16	0.44
26:DD:210:GLY:HA2	59:DA:764:A:C5'	2.44	0.44
11:AL:7:ILE:O	11:AL:11:VAL:HG23	2.17	0.44
39:DT:64:ARG:NH2	39:DT:103:ARG:HA	2.32	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:1436:G:H1	59:BA:1556:C:H42	1.65	0.44
56:D1:21:ARG:HD2	56:D1:22:GLY:N	2.32	0.44
56:D1:14:VAL:HA	56:D1:41:ARG:HD2	1.98	0.44
59:DA:1316:U:H2'	59:DA:1317:A:H8	1.82	0.44
37:DR:40:LYS:O	37:DR:44:LEU:HB2	2.17	0.44
20:CY:614:GLU:O	20:CY:617:MET:N	2.50	0.44
15:AP:72:ARG:HD2	21:AA:452:A:H1'	2.00	0.44
11:AL:104:VAL:HB	11:AL:105:TYR:H	1.39	0.44
20:CY:11:ARG:HG2	20:CY:12:LEU:HD22	1.99	0.44
21:CA:216:G:H2'	21:CA:217:C:C6	2.52	0.44
59:DA:2008:C:H2'	59:DA:2009:G:H8	1.79	0.44
50:B6:27:LYS:HG2	59:BA:2286:A:OP2	2.17	0.44
40:BU:92:ARG:HD3	40:BU:95:LEU:HG	1.99	0.44
42:DW:4:LYS:HA	42:DW:106:ILE:HG12	2.00	0.44
59:BA:1495:A:N3	59:BA:1495:A:H2'	2.33	0.44
21:CA:251:G:C6	21:CA:266:G:N1	2.86	0.44
12:AM:105:THR:HA	12:AM:114:ARG:NH2	2.32	0.44
59:BA:2592:G:C2'	59:BA:2593:U:H5'	2.47	0.44
59:BA:2476:A:C2'	59:BA:2477:C:H5'	2.47	0.44
7:AH:21:LYS:NZ	21:AA:828:A:OP1	2.47	0.44
52:D8:42:ARG:HH11	59:DA:2350:C:H5	1.65	0.44
25:DC:182:PRO:HB3	25:DC:183:PRO:HD2	1.98	0.44
20:CY:602:LEU:HB3	20:CY:676:TYR:HB2	1.98	0.44
44:BY:42:VAL:HB	44:BY:65:ALA:O	2.17	0.44
21:AA:642:A:H2'	21:AA:643:C:H6	1.82	0.44
5:CF:50:TYR:HA	5:CF:51:PRO:HD2	1.85	0.44
59:DA:1669:A:O3'	59:DA:2549:G:H5'	2.16	0.44
41:BV:35:LEU:HB2	41:BV:57:VAL:HG13	1.99	0.44
45:DZ:152:ALA:HA	45:DZ:167:PRO:O	2.16	0.44
2:CC:106:VAL:HG12	2:CC:108:ASN:H	1.82	0.44
37:DR:29:LEU:HD23	37:DR:70:LEU:HD11	1.98	0.44
7:AH:51:VAL:HG21	7:AH:60:ARG:HG3	1.99	0.44
30:BH:143:GLN:HG3	59:BA:2745:C:H1'	1.99	0.44
59:BA:1900:A:N1	59:BA:1970:A:C6	2.85	0.44
59:BA:1474:C:H2'	59:BA:1475:G:C8	2.52	0.44
6:CG:64:GLN:NE2	6:CG:128:ALA:O	2.50	0.44
59:BA:1711:C:H2'	59:BA:1712:C:C6	2.51	0.44
32:BK:117:THR:HB	59:BA:1082:U:H5'	1.99	0.44
32:BK:117:THR:O	32:BK:117:THR:OG1	2.32	0.44
36:BQ:52:VAL:O	36:BQ:55:VAL:N	2.50	0.44
21:AA:1102:A:H2'	21:AA:1103:C:C6	2.51	0.44
59:BA:130:C:O3'	59:BA:1349:A:H1'	2.16	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:DQ:86:GLY:HA2	46:D0:10:THR:HG23	1.99	0.44
26:BD:268:ARG:HH11	26:BD:269:PHE:HE1	1.65	0.44
35:BP:146:VAL:O	35:BP:148:LEU:N	2.38	0.44
59:BA:939:G:H2'	59:BA:940:G:H8	1.83	0.44
26:DD:241:PRO:HB3	59:DA:1971:A:C4	2.51	0.44
36:BQ:98:LYS:HA	36:BQ:99:PRO:HD3	1.83	0.44
34:DO:11:ALA:HB1	34:DO:99:PHE:H	1.82	0.44
20:AY:454:MET:H	20:AY:454:MET:HG3	1.44	0.44
31:DJ:111:UNK:H	31:DJ:116:UNK:HA	1.82	0.44
21:AA:505:G:C4	21:AA:535:A:C2	3.06	0.44
59:BA:2398:U:H2'	59:BA:2399:G:C8	2.52	0.44
26:DD:242:ARG:NE	59:DA:1902:C:OP1	2.50	0.44
42:DW:25:ARG:HH21	59:DA:519:U:H4'	1.81	0.44
21:AA:963:G:N2	21:AA:972:C:C2	2.85	0.44
59:DA:1785:A:H4'	59:DA:1982:C:H1'	1.98	0.44
38:BS:31:SER:OG	38:BS:32:LEU:N	2.49	0.44
25:BC:176:VAL:HB	25:BC:177:GLY:H	1.56	0.44
44:DY:2:ARG:NH2	59:DA:106:C:O2	2.50	0.44
38:BS:24:LEU:O	38:BS:86:ALA:N	2.47	0.44
21:AA:1098:C:H2'	21:AA:1099:G:O4'	2.17	0.44
8:CI:118:LYS:C	8:CI:120:ARG:H	2.21	0.44
21:AA:1356:G:H2'	21:AA:1357:A:H8	1.81	0.44
21:AA:1358:U:O2'	21:AA:1359:C:O5'	2.35	0.44
1:AB:215:LEU:O	1:AB:219:VAL:HG23	2.17	0.44
37:BR:18:LEU:HB3	37:BR:22:ARG:NE	2.23	0.44
21:CA:428:G:H4'	21:CA:429:U:OP1	2.17	0.44
21:CA:993:G:H2'	21:CA:995:C:N4	2.33	0.44
56:D1:43:TYR:CD2	56:D1:44:PRO:HD2	2.52	0.44
28:DF:125:LEU:HD22	28:DF:194:MET:SD	2.57	0.44
59:DA:473:G:H5''	59:DA:508:G:H22	1.82	0.44
40:BU:110:VAL:O	40:BU:114:LYS:HG3	2.17	0.44
37:DR:79:LEU:HB3	37:DR:80:PHE:CD2	2.53	0.44
21:AA:35:G:C6	21:AA:36:C:C4	3.05	0.44
59:BA:1937:A:C8	59:BA:1939:U:H5''	2.52	0.44
35:DP:57:THR:O	35:DP:57:THR:OG1	2.29	0.44
3:AD:58:LEU:HG	3:AD:206:PHE:CZ	2.52	0.44
19:AT:60:GLU:HG3	19:AT:81:LYS:HE3	1.99	0.44
29:BG:15:VAL:HA	29:BG:175:LEU:HD13	1.98	0.44
26:DD:165:ILE:HA	26:DD:175:LEU:HD22	1.99	0.44
27:DE:134:ILE:O	27:DE:136:ARG:N	2.43	0.44
34:DO:68:GLU:N	34:DO:68:GLU:OE2	2.51	0.44
46:B0:40:GLN:HE22	46:B0:45:PHE:H	1.64	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:AY:655:TYR:HD2	20:AY:669:PHE:HE2	1.64	0.44
30:BH:26:VAL:HB	30:BH:33:LEU:HD23	2.00	0.44
59:BA:1587:A:H2'	59:BA:1588:C:C6	2.52	0.44
40:BU:62:ILE:HG13	40:BU:76:TYR:CZ	2.53	0.44
21:AA:769:G:N2	21:AA:811:C:H1'	2.32	0.44
6:AG:76:ARG:HD2	6:AG:89:MET:SD	2.57	0.44
59:BA:137(B):G:H2'	59:BA:139:G:N7	2.32	0.44
12:AM:105:THR:HG22	21:AA:1229:A:N6	2.33	0.44
26:DD:92:ILE:HG13	26:DD:92:ILE:H	1.65	0.44
59:BA:1027:A:C6	59:BA:1126:A:C5	3.04	0.44
44:BY:76:CYS:SG	44:BY:99:CYS:HB3	2.58	0.44
59:DA:637:A:N1	59:DA:651:G:O2'	2.45	0.44
11:AL:18:VAL:HG23	11:AL:19:ARG:H	1.82	0.44
59:BA:223:A:C6	59:BA:422:A:C5	3.05	0.44
21:AA:763:G:H2'	21:AA:764:C:H6	1.82	0.44
26:BD:163:ALA:HA	26:BD:177:LEU:HA	1.99	0.44
8:AI:24:GLY:HA3	8:AI:58:ARG:N	2.33	0.44
34:DO:22:ILE:HD12	59:DA:1952:A:C4	2.52	0.44
28:DF:160:ASN:OD1	28:DF:163:VAL:HG23	2.17	0.44
34:DO:4:PRO:HA	34:DO:21:CYS:SG	2.57	0.44
40:DU:108:GLU:O	40:DU:112:ARG:HG2	2.17	0.44
59:DA:2870:C:H2'	59:DA:2871:C:O4'	2.17	0.44
20:AY:304:ASP:C	20:AY:306:ASN:H	2.20	0.44
48:D3:50:VAL:O	48:D3:54:VAL:HG22	2.17	0.44
35:DP:39:LYS:HB3	59:DA:806:C:OP2	2.16	0.44
18:AS:34:TRP:HA	18:AS:57:HIS:HE1	1.82	0.44
59:DA:2737:G:H2'	59:DA:2738:A:C8	2.52	0.44
1:AB:105:PHE:O	1:AB:109:SER:OG	2.28	0.44
43:DX:69:TYR:CD1	43:DX:69:TYR:N	2.85	0.44
59:DA:439:G:H2'	59:DA:440:G:C8	2.52	0.44
21:AA:216:G:H2'	21:AA:217:C:C6	2.51	0.44
59:BA:1136:G:C2	59:BA:1137:G:C5	3.06	0.44
21:AA:1504:G:OP1	21:AA:1507:A:O2'	2.20	0.44
59:BA:1394:U:H5''	59:BA:1604:C:OP1	2.16	0.44
45:BZ:19:ARG:HH12	45:BZ:85:HIS:HB2	1.82	0.44
28:BF:176:LEU:HD22	28:BF:185:ASP:OD2	2.17	0.44
28:BF:157:VAL:CG1	28:BF:192:LEU:HG	2.47	0.44
38:DS:67:ARG:NH1	38:DS:98:VAL:HB	2.33	0.44
1:AB:95:GLN:HG3	1:AB:147:LYS:O	2.18	0.44
21:AA:971:G:P	21:AA:1231:G:H21	2.40	0.44
12:CM:94:ARG:HD3	12:CM:94:ARG:HA	1.70	0.44
6:CG:116:ALA:O	6:CG:119:ARG:N	2.51	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
49:B5:34:PRO:HD2	49:B5:40:LYS:NZ	2.33	0.44
30:DH:85:LYS:HE2	30:DH:141:VAL:HG22	1.99	0.44
20:AY:165:GLN:HB2	20:AY:178:ILE:O	2.17	0.44
57:B4:10:VAL:O	57:B4:26:SER:N	2.50	0.44
20:CY:616:TYR:O	20:CY:620:VAL:HG13	2.17	0.44
59:DA:571:A:H1'	59:DA:573:G:C8	2.52	0.44
20:CY:183:MET:HE3	20:CY:210:ARG:HH21	1.82	0.44
56:B1:18:ILE:HG12	56:B1:20:ARG:HB3	1.98	0.44
59:BA:380:U:H2'	59:BA:381:G:H8	1.83	0.44
26:DD:253:GLN:OE1	59:DA:1843:C:H5'	2.18	0.44
56:B1:25:LYS:HB3	59:BA:388:G:P	2.58	0.44
10:CK:32:ILE:HB	10:CK:41:THR:HG23	2.00	0.44
2:CC:22:TRP:CB	2:CC:59:ARG:HB2	2.48	0.44
59:DA:757:U:H2'	59:DA:758:C:O4'	2.17	0.44
20:AY:655:TYR:HD2	20:AY:669:PHE:CE2	2.35	0.44
20:AY:603:GLU:HG2	20:AY:679:VAL:HG13	1.99	0.44
27:DE:79:ARG:HE	32:DK:63:ARG:HD2	101.60	0.44
12:CM:13:LYS:HE3	12:CM:21:TYR:CE1	2.52	0.44
28:BF:165:ARG:HB3	59:BA:321:G:O4'	2.18	0.44
33:BN:133:GLN:HG2	33:BN:135:PRO:HD3	2.00	0.44
33:BN:14:VAL:HG12	33:BN:15:LEU:N	2.32	0.44
1:CB:15:VAL:HB	1:CB:16:HIS:ND1	2.32	0.44
59:BA:1259:G:H2'	59:BA:1260:G:H8	1.81	0.44
59:BA:614:U:H4'	59:BA:615:G:H5'	2.00	0.44
40:DU:45:TYR:O	40:DU:49:HIS:ND1	2.51	0.44
59:BA:1922:G:H2'	59:BA:1923:U:O4'	2.17	0.44
59:BA:2602:A:O2'	59:BA:2603:G:OP1	2.33	0.44
29:BG:81:LYS:HB3	29:BG:82:LEU:H	1.59	0.44
59:BA:1955:U:O2'	59:BA:1956:U:H5'	2.17	0.44
59:BA:1423:G:O2'	59:BA:1499:C:H1'	2.17	0.44
51:D7:3:ARG:HA	51:D7:3:ARG:HD3	1.70	0.44
59:DA:1682:G:C5	59:DA:1683:C:C4	3.05	0.44
21:AA:991:U:H3	21:AA:1212:U:HO2'	1.63	0.44
47:D2:48:HIS:CG	47:D2:49:LYS:H	2.35	0.44
19:CT:15:ARG:HA	19:CT:15:ARG:HD3	1.68	0.44
28:DF:160:ASN:OD1	28:DF:162:LEU:HB2	2.17	0.44
20:CY:106:VAL:HG23	20:CY:132:ARG:HG3	1.99	0.44
59:BA:288:C:H2'	59:BA:289:A:H8	1.82	0.44
30:BH:106:THR:HG22	30:BH:112:PRO:HB3	1.98	0.44
38:DS:12:PHE:CD1	38:DS:91:PRO:HB3	2.52	0.44
45:BZ:48:PHE:CE2	45:BZ:71:VAL:HG11	2.53	0.44
10:CK:45:GLY:O	10:CK:48:ILE:HG12	2.18	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:DE:141:ILE:HB	27:DE:142:GLY:H	1.45	0.44
7:AH:12:ARG:HG2	21:AA:826:C:H4'	1.98	0.44
43:BX:36:LYS:HD2	59:BA:1598:C:H5'	1.99	0.44
25:DC:178:LYS:O	25:DC:180:SER:N	2.46	0.44
37:DR:74:LYS:H	37:DR:74:LYS:HG2	1.50	0.44
60:DB:25:A:H2'	60:DB:25:A:N3	2.32	0.44
21:AA:339:C:H2'	21:AA:340:U:C6	2.52	0.44
20:AY:72:CYS:HB3	20:AY:79:ILE:HB	1.98	0.44
11:AL:90:VAL:CG2	11:AL:96:VAL:HG11	2.47	0.44
21:CA:1144:G:N2	21:CA:1146:A:H62	2.14	0.44
33:DN:47:ALA:HB1	33:DN:116:LEU:HD21	1.98	0.44
25:DC:20:VAL:CG1	25:DC:226:ASN:HB2	2.47	0.44
59:DA:2056:G:N3	59:DA:2056:G:H2'	2.32	0.44
25:BC:45:HIS:CG	25:BC:173:HIS:CD2	3.04	0.44
20:CY:150:ILE:HG23	20:CY:161:PRO:CG	2.46	0.44
39:BT:54:ARG:O	59:BA:2845:G:H5''	2.18	0.44
44:DY:9:LYS:NZ	44:DY:103:GLY:HA3	2.32	0.44
14:AO:85:LEU:HD22	14:AO:87:ILE:HG12	1.99	0.44
21:CA:1261:A:N6	21:CA:1274:G:H21	2.08	0.44
39:DT:50:ILE:HG22	39:DT:51:ARG:N	2.32	0.44
32:BK:68:VAL:O	32:BK:70:LYS:NZ	2.38	0.44
27:DE:188:VAL:HA	27:DE:189:PRO:HD2	1.84	0.44
26:BD:35:LYS:HB3	26:BD:35:LYS:HE3	1.72	0.44
59:BA:1658:C:N4	59:BA:1659:U:O4	2.50	0.44
59:BA:2401:U:H3	59:BA:2415:G:H1	1.64	0.44
28:DF:36:VAL:HG22	28:DF:101:LEU:HD21	1.99	0.44
16:AQ:25:ARG:CZ	21:AA:237:C:H5''	2.48	0.44
11:AL:118:SER:CB	21:AA:35:G:H21	2.28	0.44
42:BW:12:ILE:O	42:BW:101:SER:OG	2.23	0.44
25:BC:118:PRO:O	25:BC:121:MET:HB2	2.17	0.44
39:DT:28:VAL:HB	39:DT:88:ILE:HB	1.99	0.44
59:DA:197:A:H61	59:DA:2431:U:H5'	1.83	0.44
59:DA:873:G:N2	59:DA:904:C:N3	2.55	0.44
45:DZ:58:VAL:HA	45:DZ:68:PRO:HA	1.98	0.44
59:BA:1936:A:H5'	59:BA:1936:A:N3	2.32	0.44
25:BC:8:TYR:HA	25:BC:11:LEU:HB2	2.00	0.44
59:BA:2266:A:H5'	59:BA:2267:A:C4	2.53	0.44
14:AO:63:ARG:HG3	14:AO:64:ARG:N	2.31	0.44
28:DF:5:ALA:HB2	28:DF:24:LEU:HD21	1.98	0.44
26:DD:105:ILE:HD13	26:DD:106:ILE:H	1.83	0.44
59:BA:2468:G:C8	59:BA:2476:A:N7	2.86	0.44
52:D8:33:ASN:O	52:D8:35:GLN:N	2.50	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:AM:81:LEU:HD11	12:AM:88:ARG:NH2	2.30	0.44
12:AM:89:GLY:HA2	12:AM:92:HIS:HB2	2.00	0.44
40:BU:10:ARG:NH1	59:BA:583:G:OP2	2.50	0.44
28:DF:175:THR:OG1	28:DF:175:THR:O	2.26	0.44
59:BA:877:U:N3	59:BA:899:A:C2	2.74	0.44
44:BY:15:VAL:HG12	44:BY:21:LYS:HA	2.00	0.44
32:DK:57:ILE:HG23	32:DK:67:PHE:HB3	1.98	0.44
47:B2:32:LEU:O	47:B2:36:ARG:HG2	2.17	0.44
21:CA:1327:C:H2'	21:CA:1328:C:H6	1.79	0.44
21:AA:1157:A:H4'	21:AA:1158:C:O5'	2.18	0.44
21:AA:38:G:H22	21:AA:397:A:C5'	2.30	0.44
45:BZ:30:ASN:ND2	45:BZ:90:VAL:O	2.51	0.44
21:CA:143:A:H2	21:CA:220:G:H22	1.66	0.44
28:BF:202:PHE:CZ	28:BF:206:ILE:HG13	2.52	0.44
38:DS:102:ALA:HA	38:DS:109:GLY:H	1.83	0.44
20:CY:165:GLN:NE2	20:CY:260:LEU:H	2.15	0.44
59:DA:1166:C:H2'	59:DA:1167:U:C6	2.52	0.44
38:DS:59:LYS:HE2	38:DS:61:ASN:HB3	2.00	0.44
59:BA:481:G:H2'	59:BA:507:A:N1	2.32	0.44
31:DJ:58:UNK:C	31:DJ:60:UNK:N	2.80	0.44
59:BA:1464:C:O2	59:BA:1528:A:H2	2.00	0.44
39:DT:20:PRO:HD2	39:DT:85:LYS:HZ3	1.82	0.44
59:DA:616:A:H4'	59:DA:617:G:OP1	2.18	0.44
45:DZ:103:ARG:HB3	45:DZ:138:GLU:HA	2.00	0.44
45:BZ:136:PHE:CD1	45:BZ:136:PHE:N	2.85	0.44
20:AY:66:THR:HB	20:AY:67:ALA:H	1.53	0.44
4:CE:103:GLY:HA2	21:CA:8:A:H1'	1.98	0.44
56:D1:53:VAL:HG13	56:D1:74:VAL:HG13	1.99	0.44
59:BA:2109:U:H3'	59:BA:2110:G:H8	1.82	0.44
30:DH:24:VAL:O	30:DH:26:VAL:HG23	2.17	0.44
9:CJ:7:LYS:NZ	21:CA:1279:A:OP1	2.50	0.44
59:DA:539:G:H2'	59:DA:540:G:H8	1.82	0.44
21:CA:645:C:H2'	21:CA:646:U:O4'	2.18	0.44
1:AB:108:ILE:O	1:AB:112:VAL:HG23	2.16	0.44
8:CI:103:THR:HA	21:CA:1179:A:O3'	2.18	0.44
2:AC:40:ARG:NH1	13:AN:52:GLN:HB3	2.33	0.44
27:DE:19:ARG:NH1	27:DE:19:ARG:HB3	2.32	0.44
21:CA:994:A:N3	21:CA:994:A:H2'	2.32	0.44
59:DA:584:C:H2'	59:DA:585:G:O4'	2.17	0.44
37:DR:78:LYS:HG2	37:DR:83:ILE:HD13	2.00	0.44
20:AY:72:CYS:HB3	20:AY:79:ILE:H	1.82	0.44
21:CA:68(H):G:H2'	21:CA:68(I):G:N7	2.32	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
45:BZ:112:ARG:NH2	59:BA:1077:A:OP1	2.51	0.44
3:AD:30:LYS:HB3	3:AD:35:ARG:HG2	1.98	0.44
59:DA:2851:A:H2'	59:DA:2852:G:C8	2.52	0.44
59:DA:2020:A:O2'	59:DA:2021:C:H5'	2.17	0.44
26:DD:65:ILE:H	26:DD:65:ILE:HD13	1.82	0.44
21:CA:1240:U:H4'	21:CA:1241:G:OP2	2.18	0.44
1:AB:211:ILE:HB	1:AB:215:LEU:HD12	1.98	0.44
40:BU:3:ARG:N	59:BA:445:C:OP1	2.49	0.44
39:DT:26:ASP:OD2	39:DT:48:ILE:HA	2.18	0.44
4:AE:28:PHE:HD1	4:AE:49:PRO:O	2.01	0.44
43:DX:59:VAL:HG21	43:DX:78:LYS:HG2	1.99	0.44
21:AA:946:A:N3	21:AA:1333:A:H2	2.16	0.44
28:DF:126:VAL:O	28:DF:195:ASP:HA	2.18	0.44
35:BP:59:LEU:HA	35:BP:61:ARG:NH1	2.32	0.44
28:DF:54:ARG:HA	28:DF:57:VAL:HG23	1.99	0.44
28:DF:57:VAL:C	28:DF:59:TYR:H	2.21	0.44
29:BG:57:ALA:HB2	29:BG:88:ILE:HD11	2.00	0.44
9:CJ:63:PHE:HZ	13:CN:49:HIS:HE2	1.66	0.44
22:AW:8:U:H4'	22:AW:48:C:H4'	1.99	0.44
21:AA:234:C:H2'	21:AA:235:C:C6	2.53	0.44
37:BR:73:VAL:O	37:BR:76:VAL:HG12	2.17	0.44
32:BK:105:LEU:O	32:BK:109:LYS:HG3	2.17	0.44
9:AJ:62:HIS:HD2	13:AN:61:TRP:HZ3	1.65	0.44
21:AA:866:C:O2'	21:AA:919:A:OP1	2.28	0.44
27:DE:134:ILE:CG1	27:DE:135:HIS:H	2.30	0.44
44:DY:32:PRO:HD2	44:DY:34:LYS:N	2.30	0.44
59:BA:2084:C:H2'	59:BA:2085:C:C6	2.52	0.44
39:DT:74:ARG:HD2	39:DT:76:PHE:CZ	2.53	0.44
20:AY:608:VAL:HG12	20:AY:645:ALA:HB3	2.00	0.44
59:BA:1589:C:H2'	59:BA:1590:U:O4'	2.17	0.44
59:BA:2068:U:N3	59:BA:2430:A:H2	2.11	0.44
59:DA:151:C:H2'	59:DA:152:G:O4'	2.17	0.44
41:BV:22:VAL:HG21	41:BV:94:LEU:HG	1.99	0.44
44:DY:96:ILE:HB	44:DY:99:CYS:HB2	2.00	0.44
41:DV:96:ILE:O	41:DV:97:LYS:HB2	2.17	0.44
4:CE:45:PHE:CZ	21:CA:1079:G:H5''	2.51	0.44
21:CA:346:G:H4'	39:DT:41:ARG:NH2	2.33	0.44
59:DA:1890:A:O5'	59:DA:1890:A:H8	2.01	0.44
11:CL:117:ARG:HB3	11:CL:122:THR:O	2.17	0.44
21:AA:574:A:N3	21:AA:883:C:H1'	2.32	0.44
20:CY:679:VAL:O	20:CY:681:LYS:N	2.51	0.44
27:DE:74:PRO:HG3	27:DE:77:ILE:O	2.18	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:AA:137:C:N4	21:AA:226:G:H1	2.14	0.44
10:AK:108:ILE:H	10:AK:109:VAL:HG23	1.81	0.44
57:B4:3:GLU:HG2	60:BB:43:C:OP1	2.17	0.44
59:BA:2734:A:H3'	59:BA:2735:G:H8	1.82	0.44
59:DA:2101:G:H2'	59:DA:2102:U:C6	2.51	0.44
56:B1:49:VAL:HG21	56:B1:67:ILE:HG23	1.99	0.44
26:DD:5:LYS:HD3	26:DD:6:PHE:O	2.18	0.44
17:CR:52:PRO:O	17:CR:56:THR:HG23	2.18	0.44
16:CQ:29:HIS:HB2	16:CQ:34:LYS:O	2.18	0.44
20:AY:584:ILE:HA	20:AY:584:ILE:HD12	1.89	0.44
21:CA:615:C:H2'	21:CA:616:G:O4'	2.18	0.44
59:DA:2541:A:O5'	59:DA:2541:A:H8	1.99	0.44
26:DD:122:ASP:OD2	26:DD:123:ALA:N	2.50	0.44
59:BA:1195:G:H2'	59:BA:1196:C:C6	2.53	0.44
59:DA:713:G:H2'	59:DA:714:U:C6	2.53	0.44
2:CC:164:ARG:NH1	2:CC:166:GLU:OE1	2.51	0.44
59:DA:2574:G:H2'	59:DA:2575:C:O4'	2.17	0.44
44:DY:65:ALA:HA	44:DY:66:PRO:HD3	1.87	0.44
26:BD:42:GLY:O	26:BD:43:ARG:HG3	2.18	0.44
33:DN:37:LYS:HB3	33:DN:37:LYS:HE2	1.78	0.44
20:CY:634:MET:SD	20:CY:634:MET:N	2.90	0.44
21:AA:1373:G:O5'	21:AA:1373:G:H8	2.00	0.44
53:B9:1:MET:N	53:B9:1:MET:SD	2.82	0.44
33:BN:35:ARG:NH1	59:BA:1007:C:OP1	2.47	0.44
21:AA:926:G:O2'	23:AV:15:A:H1'	2.18	0.44
59:BA:2811:G:N2	59:BA:2891:G:H1'	2.33	0.44
21:AA:664:G:O2'	21:AA:666:G:OP2	2.34	0.44
59:BA:1602:U:H3'	59:BA:1603:A:C5'	2.47	0.44
59:BA:2090:G:C2	59:BA:2230:G:C6	3.05	0.44
21:CA:1505:G:O2'	23:CV:15:A:H2'	2.17	0.44
60:BB:29:A:H2'	60:BB:30:C:C6	2.53	0.44
25:DC:216:THR:HB	25:DC:222:SER:HB3	1.99	0.44
20:CY:256:THR:HA	20:CY:257:PRO:HD2	1.80	0.44
3:AD:176:LEU:HB2	3:AD:177:ASP:H	1.53	0.44
43:DX:12:VAL:HA	43:DX:29:TRP:CD1	2.51	0.44
21:AA:1303:C:C4	21:AA:1304:G:C6	3.06	0.44
59:BA:1285:G:C5	59:BA:1329:U:C4	3.05	0.44
59:BA:1283:G:H22	59:BA:1285:G:H3'	1.83	0.44
6:CG:79:ARG:H	6:CG:79:ARG:CD	2.31	0.44
10:CK:110:ASP:HB3	17:CR:88:LYS:HG3	1.99	0.44
59:BA:795:C:H2'	59:BA:796:C:C6	2.52	0.44
40:BU:70:ARG:HA	40:BU:74:LEU:O	2.17	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
51:D7:28:ARG:HA	51:D7:31:LEU:HD12	1.99	0.44
51:B7:5:TRP:CD1	59:BA:1612:C:H4'	2.44	0.44
33:BN:100:GLU:HB3	33:BN:117:PHE:HZ	1.81	0.44
11:AL:102:ARG:HG3	11:AL:109:GLY:CA	2.45	0.44
59:BA:1767:C:N4	59:BA:1985:G:H1	2.11	0.44
26:BD:262:ARG:HD2	26:BD:262:ARG:H	1.83	0.44
27:BE:110:GLY:O	37:BR:2:ARG:HG2	2.17	0.44
59:BA:2136:C:H2'	59:BA:2137:C:C6	2.52	0.44
59:DA:2742:C:H2'	59:DA:2743:C:C6	2.52	0.44
59:BA:1268:A:N6	59:BA:2012:G:O2'	2.50	0.44
12:CM:77:ASN:O	12:CM:81:LEU:HD22	2.18	0.44
20:CY:485:GLU:HA	20:CY:601:ILE:HA	1.98	0.44
16:CQ:67:LYS:HD3	21:CA:254:G:OP2	2.17	0.44
26:BD:140:THR:N	26:BD:165:ILE:HD12	2.33	0.44
41:DV:59:ALA:CA	41:DV:96:ILE:HA	2.47	0.44
22:AW:38:A:H2'	22:AW:39:U:O4'	2.18	0.44
44:BY:32:PRO:HD2	44:BY:34:LYS:H	1.83	0.44
59:BA:2879:C:H4'	59:BA:2880:C:OP1	2.18	0.44
20:AY:546:ILE:HG12	20:AY:590:ILE:HG12	1.99	0.44
21:AA:945:G:H2'	21:AA:945:G:N3	2.33	0.44
21:AA:54:C:H41	21:AA:352:C:H2'	1.82	0.44
20:CY:301:ILE:HG22	20:CY:332:SER:OG	2.17	0.44
38:DS:34:HIS:CG	38:DS:54:LEU:HB3	2.51	0.44
21:AA:1288:A:H2'	21:AA:1289:A:C8	2.53	0.44
13:AN:21:TYR:HE2	13:AN:23:ARG:CZ	2.30	0.44
21:CA:1236:A:H2'	21:CA:1237:C:C6	2.53	0.44
59:BA:2526:G:H2'	59:BA:2527:C:H6	1.83	0.44
59:BA:572:A:H2'	59:BA:573:G:O4'	2.16	0.44
27:BE:56:PRO:HB2	27:BE:57:LYS:H	1.59	0.44
59:BA:2211:G:N3	59:BA:2211:G:H2'	2.33	0.44
3:AD:15:GLU:CD	3:AD:63:LYS:HG3	2.38	0.44
2:CC:86:VAL:HG23	2:CC:87:LEU:HD22	2.00	0.44
36:DQ:21:THR:HG23	36:DQ:101:ARG:HB2	1.99	0.44
2:CC:8:ILE:HA	2:CC:11:ARG:HB2	1.99	0.44
26:DD:249:PRO:HG2	26:DD:250:TRP:CZ3	2.53	0.44
59:BA:1625:C:H2'	59:BA:1626:G:H5'	2.00	0.44
59:BA:903:C:H2'	59:BA:904:C:C6	2.52	0.44
34:BO:101:PRO:HB3	34:BO:120:GLU:HB3	1.99	0.44
20:AY:402:ILE:O	20:AY:404:VAL:HG23	2.18	0.44
21:AA:770:C:O2'	21:AA:899:C:N3	2.44	0.44
42:BW:46:PHE:O	42:BW:49:LYS:HB3	2.17	0.44
7:CH:119:LEU:HD22	7:CH:124:ALA:HA	1.99	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
46:B0:50:ASN:O	46:B0:62:LEU:HB2	2.18	0.44
59:BA:2245:U:O2'	59:BA:2435:A:H3'	2.17	0.44
12:CM:24:GLY:N	21:CA:1330:U:OP1	2.51	0.44
33:DN:58:ASP:OD1	33:DN:58:ASP:N	2.43	0.44
17:AR:61:LYS:HB2	17:AR:61:LYS:HE3	1.83	0.44
47:B2:26:ARG:O	47:B2:29:LYS:HB2	2.18	0.44
35:DP:27:HIS:HB3	59:DA:813:U:OP2	2.17	0.44
21:CA:1127:G:H1'	21:CA:1148:U:C4	2.53	0.44
21:CA:68(H):G:N2	21:CA:68(S):C:H41	2.14	0.44
51:B7:34:ARG:HD3	51:B7:39:ARG:NH2	2.33	0.44
59:BA:1087:G:O2'	59:BA:1088:A:H4'	2.17	0.44
22:CW:15:G:N1	22:CW:48:C:N3	2.60	0.44
33:BN:78:TYR:HA	33:BN:79:PRO:HD3	1.76	0.44
21:CA:1342:C:H2'	21:CA:1343:G:H8	1.83	0.44
12:CM:87:TYR:CZ	12:CM:91:ARG:HD2	2.53	0.44
44:DY:7:VAL:HG23	44:DY:8:LYS:HD2	1.99	0.44
20:CY:424:LEU:HD22	20:CY:472:VAL:HG11	1.99	0.44
39:DT:26:ASP:CG	39:DT:27:THR:H	2.20	0.44
4:AE:16:THR:OG1	4:AE:27:ARG:HB3	2.18	0.44
56:D1:21:ARG:NH1	56:D1:37:ILE:H	2.16	0.44
35:BP:60:MET:HB3	59:BA:2392:A:H8	1.81	0.44
26:BD:32:SER:HA	26:BD:35:LYS:HB3	1.99	0.44
32:BK:72:PRO:HA	32:BK:73:PRO:HD3	1.86	0.44
20:CY:614:GLU:C	20:CY:617:MET:H	2.21	0.44
21:CA:736:C:O2'	21:CA:737:A:H5'	2.18	0.44
59:DA:571:A:H5'	59:DA:2030:A:N7	2.33	0.44
51:D7:21:ARG:HD3	51:D7:21:ARG:HA	1.71	0.44
21:CA:692:U:O2'	21:CA:694:A:N7	2.39	0.44
20:CY:388:THR:HG21	20:CY:398:ILE:HA	2.00	0.44
21:CA:5:U:O2'	21:CA:6:G:O5'	2.35	0.44
52:B8:15:LYS:NZ	59:BA:629:G:OP1	2.50	0.44
11:CL:102:ARG:HB3	11:CL:109:GLY:N	2.28	0.44
11:CL:102:ARG:HD2	11:CL:107:ALA:HB1	2.00	0.44
56:B1:25:LYS:CG	56:B1:34:THR:HA	2.43	0.44
7:CH:14:ARG:CZ	7:CH:82:HIS:HE1	2.30	0.44
59:DA:1030:G:H1	59:DA:1124:C:N4	2.13	0.44
20:AY:605:ILE:HD13	20:AY:677:GLN:HG2	1.98	0.44
26:BD:165:ILE:HG22	26:BD:166:GLN:N	2.31	0.44
29:DG:83:ARG:HB2	29:DG:84:LYS:NZ	2.32	0.44
26:DD:94:LEU:HB2	26:DD:104:TYR:HE2	1.82	0.44
52:D8:33:ASN:HA	52:D8:36:LYS:HB2	1.98	0.44
59:BA:20:C:H2'	59:BA:21:A:H8	1.80	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:1407:C:H2'	59:DA:1408:C:H6	1.83	0.44
21:AA:1164:G:C6	21:AA:1173:G:C6	3.06	0.44
19:AT:53:LEU:HD12	19:AT:102:GLY:HA3	1.98	0.44
25:BC:76:LEU:O	25:BC:95:VAL:HA	2.18	0.44
47:B2:27:GLU:HA	47:B2:30:ARG:HH11	1.82	0.44
44:BY:8:LYS:HG2	44:BY:72:VAL:HG23	1.99	0.44
21:AA:57:G:H2'	21:AA:58:C:C6	2.53	0.44
10:AK:29:ILE:HG13	10:AK:42:TRP:O	2.17	0.44
59:BA:473:G:H5''	59:BA:508:G:H22	1.83	0.44
25:BC:165:ARG:CG	25:BC:166:ASN:H	2.30	0.44
26:BD:211:ARG:O	26:BD:215:LEU:HG	2.18	0.44
7:CH:110:ALA:N	7:CH:121:ASP:OD1	2.36	0.44
46:B0:29:GLN:NE2	59:BA:923:C:O4'	2.51	0.44
26:DD:70:TRP:HH2	26:DD:152:GLY:H	1.65	0.44
21:AA:786:G:H2'	21:AA:787:A:H8	1.83	0.44
59:BA:2126:A:N6	59:BA:2163:C:O4'	2.51	0.44
25:BC:201:LYS:HB2	25:BC:209:PHE:CE2	2.53	0.44
35:BP:100:LEU:HB3	35:BP:106:LEU:HB2	1.99	0.44
26:BD:155:LEU:HG	26:BD:177:LEU:HD21	2.00	0.44
53:B9:17:ILE:HD11	53:B9:19:ARG:CZ	2.48	0.44
59:BA:1128:A:H2	59:BA:2516:G:N3	2.15	0.44
43:BX:4:ALA:HB3	47:B2:29:LYS:HD2	1.99	0.44
47:D2:35:LEU:HD22	47:D2:50:ILE:HG12	2.00	0.44
59:BA:2537:U:H2'	59:BA:2538:C:C6	2.52	0.44
59:BA:1733:G:H2'	59:BA:1734:C:C6	2.53	0.44
34:DO:41:ALA:O	34:DO:57:VAL:HA	2.18	0.44
59:DA:181:A:H1'	59:DA:435:C:H5'	1.99	0.44
59:DA:2768:C:H2'	59:DA:2769:C:O4'	2.18	0.44
5:CF:52:ILE:HA	5:CF:52:ILE:HD13	1.77	0.44
47:D2:67:LYS:HD3	47:D2:67:LYS:HA	1.84	0.44
12:AM:36:LYS:HA	12:AM:36:LYS:HD3	1.66	0.44
59:BA:1045:A:OP1	59:BA:1046:A:O2'	2.32	0.44
20:CY:13:ARG:O	20:CY:79:ILE:HA	2.18	0.44
42:DW:19:LEU:HB3	49:D5:25:LEU:HB2	2.00	0.44
59:DA:2632:A:HO2'	59:DA:2811:G:HO2'	1.64	0.44
28:BF:8:GLN:HB3	28:BF:20:LEU:O	2.18	0.44
3:AD:35:ARG:HD3	21:AA:412:A:H2	1.83	0.44
36:BQ:42:ILE:HD13	36:BQ:47:ILE:HD11	2.00	0.44
36:BQ:58:PHE:CE1	36:BQ:109:VAL:HG11	2.53	0.44
21:CA:411:A:H2	21:CA:430:A:H62	1.60	0.44
59:DA:2789:C:H1'	59:DA:2892:A:C2	2.53	0.44
16:AQ:67:LYS:H	16:AQ:67:LYS:HG3	1.42	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:DG:19:LEU:HD13	29:DG:32:PRO:HG2	2.00	0.44
20:CY:616:TYR:CB	20:CY:663:THR:HA	2.47	0.44
35:DP:23:PRO:HB2	35:DP:33:ARG:HG3	2.00	0.44
10:CK:85:ARG:HA	10:CK:110:ASP:O	2.18	0.44
50:B6:19:ARG:HH11	50:B6:19:ARG:N	2.16	0.44
21:AA:235:C:H2'	21:AA:236:G:H8	1.83	0.44
21:CA:314:C:H2'	21:CA:315:A:C8	2.53	0.44
26:BD:132:PRO:O	26:BD:136:ILE:N	2.50	0.44
42:BW:74:ALA:O	42:BW:75:TYR:O	2.36	0.44
21:CA:745:C:OP1	21:CA:851:G:O2'	2.35	0.44
32:BK:106:GLU:O	32:BK:109:LYS:HB2	2.17	0.44
8:AI:112:LYS:HB3	21:AA:1368:G:H5''	2.00	0.44
33:BN:114:ARG:O	33:BN:117:PHE:N	2.51	0.44
59:DA:244:A:H62	59:DA:254:G:N2	2.13	0.44
56:B1:25:LYS:HE3	56:B1:31:GLY:CA	2.48	0.44
59:BA:2329:G:H2'	59:BA:2330:G:H8	1.81	0.44
12:AM:66:LEU:HA	12:AM:70:LEU:HD12	1.99	0.44
21:AA:977:A:H2'	21:AA:978:A:H5'	1.99	0.44
59:BA:949:C:C2	59:BA:968:G:N2	2.80	0.44
21:CA:258:G:H2'	21:CA:259:G:C8	2.53	0.44
21:CA:266:G:H5'	21:CA:268:C:H41	1.82	0.44
16:CQ:17:LYS:HA	16:CQ:46:ASP:O	2.17	0.44
16:CQ:66:SER:OG	16:CQ:67:LYS:N	2.49	0.44
51:B7:1:MET:SD	59:BA:752:A:H3'	2.58	0.44
1:AB:185:ILE:CD1	1:AB:199:TYR:HD1	2.31	0.44
1:CB:68:ILE:HG23	1:CB:161:ALA:C	2.38	0.44
17:AR:82:THR:HB	21:AA:718:G:N2	2.31	0.44
8:AI:126:SER:O	8:AI:127:LYS:HB3	2.17	0.44
59:DA:1948:G:N2	59:DA:1958:C:N3	2.51	0.44
59:DA:1057:A:N7	59:DA:1086:A:H2'	2.33	0.44
59:DA:1186:G:H2'	59:DA:1187:G:O4'	2.17	0.44
21:AA:1113:C:H2'	21:AA:1114:C:H6	1.80	0.44
59:BA:878:A:C5	59:BA:879:G:H1'	2.52	0.44
7:CH:94:TYR:CE2	21:CA:598:U:H4'	2.53	0.44
60:BB:108:C:H5'	60:BB:109:G:OP1	2.17	0.44
21:CA:781:A:H4'	21:CA:1522:U:O2'	2.18	0.44
21:AA:319:G:H2'	21:AA:320:C:O4'	2.18	0.44
9:AJ:30:SER:O	9:AJ:81:THR:HG23	2.17	0.44
7:CH:36:LEU:HA	7:CH:39:LEU:HB2	1.99	0.44
59:BA:876:C:N3	59:BA:901:A:N6	2.61	0.44
2:CC:30:ARG:HB2	13:CN:36:PHE:O	2.17	0.44
59:BA:153:C:H42	59:BA:173:G:H1	1.65	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:CB:32:ILE:HG21	1:CB:40:HIS:ND1	2.32	0.44
59:BA:542:C:O5'	59:BA:542:C:H6	2.01	0.44
21:AA:992:U:O2'	21:AA:993:G:OP2	2.28	0.44
26:BD:24:ILE:HD13	26:BD:25:THR:H	1.82	0.44
7:CH:27:PRO:HA	7:CH:58:TYR:CE2	2.53	0.44
7:CH:114:THR:HG23	7:CH:119:LEU:HD13	2.00	0.44
20:CY:484:ARG:HD3	20:CY:559:PRO:HB2	1.98	0.44
32:DK:95:LYS:HG2	32:DK:137:GLU:N	2.33	0.44
59:DA:2546:U:H5''	59:DA:2547:U:H5'	2.00	0.44
20:CY:627:ARG:HA	20:CY:651:GLU:HG2	1.99	0.44
37:DR:10:LEU:HD22	37:DR:17:ARG:NH2	2.33	0.44
59:BA:738:G:H3'	59:BA:739:G:C8	2.52	0.44
59:DA:1376:C:H2'	59:DA:1377:G:O4'	2.18	0.44
59:BA:1213:A:H62	59:BA:1236:G:H1'	1.83	0.44
53:D9:1:MET:SD	53:D9:1:MET:N	2.74	0.44
12:AM:19:LEU:HA	12:AM:19:LEU:HD13	1.82	0.44
59:BA:1382:G:H8	59:BA:1382:G:O5'	2.01	0.44
39:DT:12:SER:HA	39:DT:57:PHE:CZ	2.53	0.44
47:B2:3:LEU:HB3	47:B2:7:ARG:NH1	2.32	0.44
44:BY:73:ARG:HD2	59:BA:335:C:H4'	2.00	0.44
11:AL:54:LYS:HB3	11:AL:55:VAL:H	1.60	0.44
59:BA:1010:A:N3	59:BA:1153:C:H1'	2.33	0.44
56:D1:35:THR:HG21	59:DA:2432:A:C8	2.53	0.44
15:CP:6:LEU:HD11	15:CP:69:THR:HG23	2.00	0.44
11:CL:52:LEU:HG	11:CL:53:ARG:H	1.82	0.44
9:AJ:51:ARG:HB3	21:AA:1060:C:C5'	2.47	0.44
60:BB:56:G:H4'	60:BB:57:A:C8	2.53	0.44
28:BF:129:PHE:CE2	28:BF:158:THR:HG21	2.53	0.44
28:BF:122:LYS:HB3	28:BF:191:ARG:HE	1.83	0.44
1:AB:77:ALA:O	1:AB:81:VAL:HG13	2.18	0.44
21:CA:338:A:H3'	34:DO:97:ARG:HH12	1.83	0.44
52:D8:16:ILE:CG2	52:D8:22:VAL:HG22	2.47	0.44
41:DV:4:ILE:O	41:DV:39:LEU:N	2.37	0.44
32:BK:56:GLU:HB2	32:BK:70:LYS:HZ1	1.83	0.44
59:DA:2626:C:H2'	59:DA:2627:G:O4'	2.17	0.44
28:DF:155:LEU:O	28:DF:191:ARG:O	2.35	0.44
59:DA:1790:C:H2'	59:DA:1791:A:C8	2.52	0.44
9:CJ:55:LYS:HG3	21:CA:973:G:C1'	2.48	0.44
59:BA:1535:U:H2'	59:BA:1536:A:H5'	2.00	0.44
25:BC:132:LEU:HD23	25:BC:135:ARG:HH21	1.83	0.44
59:BA:792:G:H4'	59:BA:793:A:H8	1.83	0.44
29:BG:105:LYS:NZ	57:B4:24:THR:HB	2.32	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:AE:76:ILE:HG13	4:AE:93:PRO:HB3	1.99	0.44
21:CA:833:U:H2'	21:CA:834:C:H6	1.83	0.44
59:BA:2893:G:H5''	59:BA:2894:G:H5'	2.00	0.44
20:CY:183:MET:CE	20:CY:210:ARG:HH21	2.30	0.44
35:DP:53:GLY:C	35:DP:55:ARG:N	2.71	0.44
27:BE:183:LEU:HD12	27:BE:183:LEU:H	1.83	0.44
15:CP:38:TYR:O	15:CP:50:LYS:HB2	2.17	0.44
39:BT:93:ARG:O	39:BT:95:ARG:N	2.51	0.44
31:DJ:23:UNK:O	31:DJ:84:UNK:C	2.66	0.44
4:AE:107:ARG:O	4:AE:111:GLU:HB2	2.17	0.44
59:BA:77:C:H2'	59:BA:78:A:C8	2.53	0.44
50:B6:8:LYS:HE3	50:B6:25:LYS:HZ3	1.83	0.44
60:DB:54:G:H2'	60:DB:55:U:O4'	2.18	0.44
29:DG:82:LEU:HD22	29:DG:82:LEU:HA	1.76	0.44
59:DA:700:G:H2'	59:DA:701:G:O4'	2.18	0.44
40:BU:62:ILE:HA	40:BU:62:ILE:HD12	1.71	0.44
41:DV:56:SER:O	41:DV:100:ARG:HG2	2.17	0.44
59:DA:103:A:O5'	59:DA:103:A:H8	2.01	0.44
30:DH:88:LEU:HB3	30:DH:130:ARG:HG2	2.00	0.44
59:DA:413:C:H2'	59:DA:414:C:C6	2.52	0.44
39:BT:97:ALA:O	39:BT:98:LYS:HD2	2.18	0.44
21:AA:300:A:H1'	21:AA:565:U:H3	1.83	0.44
39:BT:53:ARG:HH21	59:BA:2683:C:H5''	1.82	0.44
59:BA:581:C:H2'	59:BA:582:G:H8	1.83	0.44
28:DF:171:PRO:HA	59:DA:1205:U:N3	2.32	0.44
7:AH:20:TYR:HA	7:AH:65:TYR:OH	2.18	0.44
8:AI:77:ILE:O	8:AI:81:ILE:HG13	2.18	0.44
21:CA:774:G:H2'	21:CA:775:G:H8	1.83	0.44
52:B8:32:LEU:HD12	52:B8:36:LYS:HG2	1.99	0.44
34:DO:24:VAL:HA	34:DO:39:ILE:HG22	2.00	0.44
59:BA:113:G:N3	59:BA:113:G:H2'	2.33	0.44
37:DR:3:HIS:CE1	59:DA:1654:A:H4'	2.53	0.44
53:B9:9:ARG:NH2	59:BA:1033:U:H5''	2.32	0.44
20:AY:9:LEU:HD21	20:AY:283:PRO:HB2	2.00	0.44
38:DS:34:HIS:N	38:DS:34:HIS:CD2	2.85	0.44
59:DA:1466:G:H2'	59:DA:1547:C:N4	2.33	0.44
19:AT:30:LYS:HG2	19:AT:34:LYS:HE3	1.99	0.44
20:CY:463:VAL:HA	20:CY:466:LEU:HB2	1.99	0.44
21:CA:1235:U:H2'	21:CA:1236:A:O4'	2.18	0.44
21:CA:1061:G:H2'	21:CA:1062:U:O4'	2.18	0.44
12:AM:22:ILE:HG22	12:AM:23:TYR:O	2.18	0.44
59:BA:2215:G:OP2	59:BA:2215:G:H8	2.00	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:CC:83:ARG:HA	2:CC:86:VAL:HG22	2.00	0.44
59:DA:1917:U:O4	59:DA:1918:A:C6	2.71	0.44
59:DA:68:G:H21	59:DA:74:A:H5'	1.83	0.44
4:AE:142:LEU:C	4:AE:143:ARG:HE	2.21	0.44
59:DA:608:A:H2'	59:DA:609(A):A:H8	1.82	0.44
19:AT:16:HIS:O	19:AT:20:LEU:HG	2.18	0.44
59:DA:2094:G:H1	59:DA:2195:C:H42	1.66	0.44
37:BR:6:SER:HB2	59:BA:2873:A:N3	2.33	0.44
59:DA:646:A:H2'	59:DA:647:G:O4'	2.18	0.44
47:B2:25:VAL:HG11	47:B2:61:LEU:HD21	1.99	0.44
20:CY:266:ASN:OD1	20:CY:266:ASN:N	2.46	0.44
45:DZ:155:LEU:H	45:DZ:155:LEU:HD23	1.82	0.44
1:AB:201:ILE:HA	1:AB:201:ILE:HD13	1.81	0.44
2:CC:101:LEU:HD12	2:CC:102:ASN:H	1.83	0.44
21:AA:1528:U:O2'	21:AA:1530:G:H5'	2.17	0.44
29:BG:42:GLY:O	59:BA:2305:A:N6	2.51	0.44
59:BA:1022:G:C6	59:BA:1140:C:N4	2.86	0.43
11:AL:56:ALA:O	11:AL:58:VAL:HG23	2.17	0.43
59:BA:2888:C:H2'	59:BA:2889:C:C6	2.53	0.43
39:BT:29:ARG:HD3	39:BT:88:ILE:HD11	1.99	0.43
60:BB:24:G:C6	60:BB:56:G:C2	3.06	0.43
38:DS:48:LEU:HB3	38:DS:49:VAL:HG23	2.00	0.43
25:BC:162:ILE:HG21	25:BC:193:PHE:HE1	1.82	0.43
25:BC:40:GLU:HA	25:BC:217:THR:HB	2.00	0.43
38:DS:99:LYS:HD3	38:DS:100:ALA:H	1.81	0.43
1:AB:71:VAL:HG11	1:AB:97:TRP:CD1	2.53	0.43
26:BD:259:THR:HB	26:BD:260:ARG:H	1.50	0.43
52:D8:22:VAL:HG21	52:D8:56:GLU:HB3	2.00	0.43
21:CA:962:C:N4	21:CA:973:G:H1	2.08	0.43
37:DR:40:LYS:HE3	59:DA:1651:G:OP1	2.17	0.43
21:AA:186(L):G:H2'	21:AA:186(M):G:H8	1.82	0.43
56:B1:88:LYS:O	56:B1:92:LYS:HB2	2.18	0.43
56:B1:92:LYS:HA	56:B1:92:LYS:HD2	1.67	0.43
6:AG:26:PHE:O	6:AG:30:ILE:HG13	2.19	0.43
4:CE:19:MET:CG	21:CA:15:G:H1'	2.47	0.43
6:CG:78:ARG:HD2	6:CG:156:TRP:HA	2.00	0.43
32:BK:106:GLU:O	32:BK:110:GLN:HG3	2.18	0.43
7:AH:69:ARG:O	7:AH:74:PRO:HA	2.18	0.43
19:AT:73:HIS:HB3	19:AT:74:LYS:HZ2	1.83	0.43
1:AB:152:PHE:CE1	1:AB:155:LEU:HB3	2.53	0.43
19:AT:50:GLU:HG3	19:AT:51:GLU:H	1.81	0.43
29:BG:176:LEU:HA	29:BG:176:LEU:HD23	1.84	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
39:DT:33:LYS:CD	39:DT:34:VAL:H	2.31	0.43
59:BA:1575:C:C4	59:BA:1576:U:C4	3.06	0.43
21:CA:68(N):U:H5''	21:CA:68(O):A:OP2	2.19	0.43
12:AM:105:THR:HG22	21:AA:1229:A:H61	1.83	0.43
9:AJ:61:GLU:HB3	9:AJ:63:PHE:CE2	2.53	0.43
20:CY:89:ASP:OD1	20:CY:457:LEU:HB3	2.18	0.43
8:AI:48:GLU:N	8:AI:49:PRO:HD2	2.33	0.43
21:AA:1008:C:H1'	21:AA:1022:G:N2	2.33	0.43
43:DX:44:GLU:HG3	43:DX:49:VAL:O	2.18	0.43
59:BA:1308:A:C2	59:BA:1309:G:H1'	2.52	0.43
32:DK:7:VAL:HA	32:DK:57:ILE:O	2.18	0.43
34:BO:64:ARG:O	34:BO:82:ASN:HA	2.17	0.43
37:BR:24:GLN:HB2	37:BR:44:LEU:HD21	1.99	0.43
6:AG:97:GLN:HG2	6:AG:98:SER:N	2.33	0.43
59:DA:1429:G:H2'	59:DA:1430:C:H6	1.80	0.43
15:CP:25:ARG:NH1	21:CA:134:A:H61	2.16	0.43
39:DT:84:GLN:O	39:DT:86:ILE:N	2.37	0.43
59:DA:55:G:H2'	59:DA:56:A:C8	2.53	0.43
7:CH:9:MET:HG3	7:CH:26:VAL:HG21	2.00	0.43
53:B9:30:PRO:HB2	59:BA:2527:C:H5''	1.99	0.43
26:DD:130:ALA:HA	26:DD:191:ALA:O	2.18	0.43
52:D8:58:ILE:O	52:D8:61:LEU:HD22	2.18	0.43
15:AP:8:ARG:NH1	21:AA:391:G:H5''	2.32	0.43
48:B3:7:LYS:HD3	48:B3:9:VAL:HG12	2.00	0.43
26:DD:248:SER:OG	26:DD:252:TRP:NE1	2.39	0.43
7:AH:36:LEU:HA	7:AH:39:LEU:HB2	2.00	0.43
21:CA:784:C:H2'	21:CA:785:G:H8	1.83	0.43
1:CB:169:LYS:O	1:CB:172:ILE:N	2.49	0.43
43:DX:23:GLU:HB3	43:DX:25:LYS:HG3	2.00	0.43
20:CY:322:VAL:HB	20:CY:378:VAL:HG13	1.99	0.43
29:BG:135:LEU:HD22	29:BG:140:ILE:HD11	2.00	0.43
21:AA:1486:G:H2'	21:AA:1487:G:O4'	2.19	0.43
29:BG:38:VAL:HG22	29:BG:93:THR:HA	2.00	0.43
18:CS:47:HIS:HA	18:CS:61:TYR:HE2	1.83	0.43
5:CF:99:ALA:C	5:CF:101:ALA:H	2.21	0.43
20:AY:465:ARG:HA	20:AY:468:ARG:HB2	2.00	0.43
59:DA:2585:U:O2	59:DA:2585:U:H2'	2.18	0.43
59:BA:1018:C:H42	59:BA:1144:G:H1	1.64	0.43
27:BE:51:PHE:CD1	27:BE:52:LEU:HB2	2.53	0.43
26:DD:31:LYS:HE2	26:DD:33:LEU:HD12	1.99	0.43
34:BO:18:LYS:N	34:BO:45:GLU:OE2	2.40	0.43
6:AG:106:GLN:HA	6:AG:109:ASN:HB2	1.99	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:705:A:H2'	59:BA:706:A:O4'	2.18	0.43
25:DC:94:TYR:HB3	25:DC:100:ILE:HD12	2.00	0.43
59:BA:1433:U:H1'	59:BA:1561:G:N2	2.33	0.43
11:CL:33:ARG:HB3	11:CL:60:LEU:CD1	2.41	0.43
28:BF:7:TYR:CE1	28:BF:9:ILE:HD13	2.53	0.43
9:AJ:49:VAL:HG22	9:AJ:50:ILE:H	1.83	0.43
38:BS:35:ILE:HB	38:BS:53:SER:CB	2.45	0.43
22:AW:64:G:C6	22:AW:65:U:C4	3.05	0.43
38:DS:23:ARG:HD3	38:DS:23:ARG:HA	1.54	0.43
3:AD:28:SER:C	3:AD:30:LYS:H	2.22	0.43
25:BC:66:PRO:HG3	25:BC:195:ARG:HH12	1.83	0.43
30:DH:43:VAL:HG12	30:DH:50:VAL:HG12	2.00	0.43
1:AB:96:ARG:HG2	21:AA:1100:C:C5	2.51	0.43
21:CA:411:A:C2	21:CA:430:A:N6	2.80	0.43
28:BF:45:ARG:HH22	59:BA:443:A:H3'	1.80	0.43
39:DT:63:VAL:O	39:DT:73:GLU:HA	2.17	0.43
26:BD:9:TYR:CE2	26:BD:13:ARG:HD3	2.52	0.43
41:DV:4:ILE:HA	41:DV:12:TYR:O	2.18	0.43
28:DF:155:LEU:HD22	28:DF:186:ILE:HA	1.99	0.43
1:AB:27:LYS:HD3	1:AB:193:ASP:OD1	2.18	0.43
21:AA:514:C:N3	21:AA:537:G:O6	2.51	0.43
59:DA:2282:G:H4'	59:DA:2389:G:O2'	2.18	0.43
4:CE:21:ALA:HB2	21:CA:923:A:H4'	2.01	0.43
50:D6:8:LYS:HZ2	50:D6:27:LYS:HD3	1.83	0.43
26:BD:133:LEU:C	26:BD:135:PHE:H	2.22	0.43
35:DP:60:MET:HB3	59:DA:2392:A:C8	2.53	0.43
59:BA:1440:G:H2'	59:BA:1441:G:H8	1.83	0.43
29:BG:32:PRO:O	29:BG:172:LEU:HD12	2.17	0.43
50:B6:8:LYS:HG3	50:B6:25:LYS:HZ1	1.83	0.43
40:BU:92:ARG:O	40:BU:95:LEU:N	2.51	0.43
39:DT:74:ARG:HB3	39:DT:76:PHE:CE1	2.53	0.43
7:AH:81:HIS:HB2	7:AH:138:TRP:C	2.38	0.43
2:AC:147:LYS:HB3	2:AC:203:PHE:CD2	2.53	0.43
25:BC:11:LEU:O	25:BC:15:VAL:HG22	2.19	0.43
25:BC:21:TYR:O	25:BC:25:GLU:HB2	2.17	0.43
25:DC:60:ARG:HG2	25:DC:142:LYS:HD3	2.00	0.43
27:BE:127:ASP:HB3	59:BA:1993:U:H5''	2.00	0.43
20:AY:119:GLU:HG2	20:AY:156:ARG:HD2	2.00	0.43
59:BA:68:G:H2'	59:BA:69:C:C6	2.54	0.43
10:AK:52:GLY:HA2	21:AA:691:G:C6	2.53	0.43
59:DA:78:A:H2'	59:DA:79:G:C8	2.49	0.43
15:AP:38:TYR:CE2	21:AA:626:U:H5''	2.53	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
52:D8:33:ASN:CA	52:D8:36:LYS:HB2	2.48	0.43
43:DX:40:LYS:O	43:DX:44:GLU:HB2	2.17	0.43
53:B9:18:ARG:CZ	53:B9:23:VAL:HG22	2.48	0.43
8:AI:46:ALA:HB2	8:AI:74:ILE:HG23	2.00	0.43
32:DK:62:ASP:HB2	32:DK:63:ARG:H	1.55	0.43
4:CE:102:ALA:O	4:CE:107:ARG:NH2	2.51	0.43
12:CM:13:LYS:H	12:CM:45:VAL:HG12	1.82	0.43
21:AA:398:C:H2'	21:AA:399:G:H8	1.82	0.43
45:DZ:5:LEU:HD23	45:DZ:6:LYS:N	2.34	0.43
59:BA:273(D):C:N4	59:BA:363(D):G:H1	2.15	0.43
60:DB:61:G:H2'	60:DB:62:C:H6	1.84	0.43
7:CH:83:ILE:HB	7:CH:137:VAL:HG22	1.99	0.43
40:BU:27:LEU:HG	59:BA:2020:A:P	2.58	0.43
59:DA:720:C:H2'	59:DA:721:C:C6	2.51	0.43
30:DH:158:HIS:CG	30:DH:159:GLU:N	2.85	0.43
59:DA:2476:A:H2'	59:DA:2477:C:H5'	2.00	0.43
60:DB:15:A:C8	60:DB:109:G:C6	3.06	0.43
59:DA:2280:G:O2'	59:DA:2388:A:N1	2.34	0.43
21:CA:122:G:H2'	21:CA:123:C:C6	2.52	0.43
59:BA:2127:G:N2	59:BA:2173:A:H1'	2.33	0.43
28:BF:115:ALA:O	28:BF:119:ARG:N	2.42	0.43
3:AD:133:VAL:HG11	3:AD:138:TYR:CD2	2.53	0.43
3:CD:148:VAL:CG2	3:CD:181:MET:HB3	2.49	0.43
42:BW:27:LYS:HG2	42:BW:31:GLU:OE1	2.18	0.43
45:DZ:28:MET:SD	45:DZ:35:ARG:N	2.81	0.43
59:DA:941:A:H2'	59:DA:942:G:O4'	2.17	0.43
7:AH:9:MET:HG3	7:AH:26:VAL:HG21	1.99	0.43
21:CA:1178:G:N2	21:CA:1180:A:H3'	2.33	0.43
36:BQ:24:GLY:HA2	36:BQ:67:ARG:NH2	2.33	0.43
30:DH:153:LYS:HG2	30:DH:154:PRO:HD2	1.99	0.43
59:BA:2004:G:H2'	59:BA:2005:A:O4'	2.18	0.43
59:DA:2356:C:H2'	59:DA:2357:U:O4'	2.18	0.43
19:AT:97:ALA:O	19:AT:99:LEU:HG	2.18	0.43
59:BA:723:G:H2'	59:BA:724:U:O4'	2.19	0.43
32:DK:96:VAL:HB	32:DK:97:GLY:H	1.55	0.43
26:DD:26:LYS:O	26:DD:81:ALA:HB1	2.18	0.43
59:DA:363(B):A:H2'	59:DA:363(C):G:H8	1.83	0.43
8:AI:97:LYS:HE2	21:AA:1178:G:N7	2.33	0.43
17:CR:60:ALA:O	17:CR:64:ARG:HG3	2.17	0.43
35:DP:71:VAL:H	35:DP:72:PRO:CD	2.30	0.43
59:DA:195:A:H4'	59:DA:251:A:H4'	2.00	0.43
59:BA:2129:C:H42	59:BA:2159:G:H1	1.66	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:2502:G:H8	59:DA:2502:G:OP1	2.02	0.43
21:CA:945:G:N3	21:CA:945:G:H2'	2.33	0.43
20:AY:193:GLY:C	20:AY:195:ASP:H	2.20	0.43
21:AA:445:G:H2'	21:AA:446:G:C8	2.53	0.43
27:DE:30:PRO:O	27:DE:32:PRO:HD3	2.18	0.43
21:CA:125:U:H3	21:CA:236:G:H1	1.66	0.43
22:CW:37:A:N3	23:CV:16:A:H2	2.10	0.43
21:CA:1028(G):G:H2'	21:CA:1028(H):G:C8	2.54	0.43
11:AL:70:ILE:CG2	11:AL:100:ILE:HD12	2.47	0.43
21:AA:1493:A:H4'	21:AA:1494:G:OP2	2.19	0.43
59:DA:948:G:H1	59:DA:969:U:H3	1.65	0.43
42:DW:19:LEU:HB3	49:D5:25:LEU:HD13	2.00	0.43
59:BA:2629:A:O2'	59:BA:2895:U:O4	2.29	0.43
29:BG:27:ASN:HD21	60:BB:57:A:H8	1.65	0.43
25:BC:22:THR:C	25:BC:225:ILE:HB	2.39	0.43
12:AM:101:GLN:HB2	12:AM:102:ARG:H	1.51	0.43
21:CA:664:G:H2'	21:CA:666:G:OP1	2.17	0.43
11:AL:10:LEU:HB3	16:AQ:32:TYR:CE1	2.53	0.43
59:DA:1247:A:O2'	59:DA:1248:G:H5''	2.18	0.43
30:DH:90:LYS:HB2	30:DH:163:TYR:CE1	2.53	0.43
25:DC:83:LYS:HD2	25:DC:148:PHE:CE1	2.54	0.43
20:AY:614:GLU:O	20:AY:617:MET:HE2	2.19	0.43
1:AB:196:LEU:CD1	1:AB:197:VAL:HG23	2.49	0.43
59:DA:2679:A:H2'	59:DA:2680:C:C6	2.53	0.43
30:DH:83:TYR:O	30:DH:85:LYS:HG3	2.18	0.43
59:DA:2570:G:H2'	59:DA:2571:C:O4'	2.17	0.43
20:CY:616:TYR:CG	20:CY:663:THR:HA	2.53	0.43
14:AO:6:GLU:OE2	59:DA:1486:A:O2'	2.31	0.43
21:CA:232:G:H1'	21:CA:262:A:N1	2.33	0.43
21:CA:262:A:H2'	21:CA:263:A:C8	2.53	0.43
56:B1:16:ASN:O	56:B1:18:ILE:HD12	2.19	0.43
20:CY:491:VAL:HG12	20:CY:493:VAL:HG22	2.00	0.43
25:DC:29:LEU:O	25:DC:33:LEU:HG	2.19	0.43
19:AT:81:LYS:HE2	21:AA:186:C:H1'	2.00	0.43
59:BA:910:A:C5	59:BA:911:A:C6	3.06	0.43
59:BA:24:G:H2'	59:BA:25:U:C6	2.53	0.43
59:BA:2281:C:H5'	59:BA:2388:A:C6	2.52	0.43
59:DA:740:U:N3	59:DA:758:C:H1'	2.33	0.43
30:BH:28:GLY:CA	30:BH:79:VAL:HB	2.46	0.43
21:AA:978:A:O2'	21:AA:1322:C:N3	2.45	0.43
42:DW:70:TYR:CZ	42:DW:72:LYS:HG3	2.54	0.43
19:CT:53:LEU:HD13	19:CT:56:MET:HG3	2.00	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
56:D1:3:LYS:HB2	59:DA:1364:G:OP2	2.17	0.43
36:DQ:81:VAL:HB	46:D0:7:LEU:HD21	1.99	0.43
3:CD:49:ARG:HB3	3:CD:50:ARG:H	1.56	0.43
19:CT:14:LYS:HA	19:CT:17:ARG:HH21	1.83	0.43
12:CM:40:ASN:HA	12:CM:41:PRO:HD3	1.89	0.43
59:DA:848:G:C4	59:DA:933:A:H8	2.36	0.43
59:BA:1538:G:H2'	59:BA:1539:G:H8	1.84	0.43
45:BZ:30:ASN:C	45:BZ:32:HIS:H	2.21	0.43
5:CF:75:LEU:O	5:CF:79:LEU:HG	2.17	0.43
44:BY:97:ARG:NH1	44:BY:98:VAL:H	2.17	0.43
7:CH:12:ARG:CZ	21:CA:826:C:H5'	2.48	0.43
29:DG:16:ARG:O	29:DG:20:ILE:HG12	2.17	0.43
27:BE:37:ARG:HD2	27:BE:42:ASP:OD1	2.17	0.43
52:D8:19:SER:OG	59:DA:651:G:OP1	2.35	0.43
20:CY:435:ASP:HA	20:CY:436:PRO:HD2	1.88	0.43
32:DK:78:ILE:HD11	32:DK:136:VAL:HB	1.99	0.43
6:CG:37:ASN:HB2	8:CI:40:LEU:HG	2.00	0.43
46:B0:24:LYS:HG3	46:B0:36:ILE:HD12	2.00	0.43
26:DD:159:ALA:HB1	26:DD:198:ASN:O	2.17	0.43
59:DA:1081:U:H2'	59:DA:1082:U:C6	2.54	0.43
59:BA:1786:A:N7	59:BA:1938:A:N7	2.66	0.43
20:CY:203:GLU:HB3	20:CY:204:GLU:H	1.52	0.43
3:CD:100:ARG:O	3:CD:104:VAL:HG23	2.17	0.43
28:BF:78:ILE:HG12	28:BF:78:ILE:H	1.46	0.43
28:DF:180:GLY:HA3	59:DA:616:A:N3	2.33	0.43
59:DA:181:A:H2'	59:DA:182:A:C8	2.53	0.43
44:DY:20:TYR:HB3	44:DY:23:ARG:HG3	2.00	0.43
33:BN:71:ILE:HA	33:BN:86:PRO:HA	1.99	0.43
18:AS:47:HIS:HB3	18:AS:48:THR:H	1.55	0.43
21:CA:445:G:H2'	21:CA:446:G:C8	2.53	0.43
57:D4:2:LYS:NZ	60:DB:39:A:H61	2.15	0.43
26:DD:120:GLY:HA2	26:DD:121:PRO:HD3	1.85	0.43
21:CA:902:G:H2'	21:CA:903:G:H8	1.83	0.43
59:BA:2406:U:H5'	59:BA:2408:U:OP2	2.18	0.43
21:CA:937:A:H2'	21:CA:938:A:H8	1.82	0.43
29:DG:120:LEU:HG	29:DG:179:PRO:O	2.19	0.43
1:AB:218:ALA:O	1:AB:222:ILE:HG23	2.18	0.43
21:AA:885:G:C2	21:AA:886:G:C5	3.06	0.43
20:CY:146:LEU:HB3	20:CY:147:TRP:H	1.61	0.43
59:DA:2238:G:N3	59:DA:2238:G:H5'	2.33	0.43
28:DF:18:ARG:HD3	28:DF:18:ARG:O	2.17	0.43
12:AM:46:LYS:HE3	12:AM:46:LYS:HB2	1.73	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:305:U:H2'	59:DA:306:U:C6	2.53	0.43
59:DA:1436:G:N1	59:DA:1556:C:N4	2.29	0.43
8:CI:14:VAL:HG21	21:CA:1148:U:H4'	2.01	0.43
59:BA:307:G:N1	59:BA:310:A:OP2	2.51	0.43
9:AJ:56:HIS:HE1	21:AA:1060:C:O2	2.02	0.43
49:D5:3:LYS:HD3	59:DA:747:U:C5	2.52	0.43
49:D5:17:ASP:HB2	59:DA:16:G:H5''	1.99	0.43
25:DC:118:PRO:O	25:DC:121:MET:HB2	2.19	0.43
3:CD:31:CYS:HB3	3:CD:33:MET:SD	2.59	0.43
20:AY:130:VAL:HG13	20:AY:130:VAL:O	2.18	0.43
56:D1:20:ARG:HH12	56:D1:24:ALA:HB2	1.84	0.43
59:BA:2013:A:H2'	59:BA:2014:A:C8	2.53	0.43
21:CA:919:A:H2'	21:CA:920:U:C6	2.53	0.43
27:BE:179:GLU:HB3	27:BE:180:ASN:H	1.62	0.43
10:CK:46:GLY:HA2	10:CK:50:TYR:O	2.19	0.43
10:AK:33:THR:HA	10:AK:39:PRO:HA	2.00	0.43
51:B7:5:TRP:CD1	51:B7:7:PRO:HD3	2.53	0.43
59:DA:1114:G:H2'	59:DA:1115:G:C8	2.53	0.43
32:DK:106:GLU:O	32:DK:109:LYS:HB2	2.19	0.43
38:DS:103:GLU:O	38:DS:105:ALA:N	2.51	0.43
46:B0:69:PHE:CE2	59:BA:857:C:H5'	2.53	0.43
35:BP:53:GLY:HA2	59:BA:832:G:N2	2.32	0.43
16:CQ:46:ASP:OD2	16:CQ:50:LYS:HG2	2.18	0.43
26:DD:63:ARG:CZ	26:DD:86:PRO:HD2	2.47	0.43
2:AC:130:VAL:O	2:AC:134:ILE:HB	2.18	0.43
44:DY:47:LYS:HG3	44:DY:60:PHE:CE2	2.53	0.43
12:AM:81:LEU:O	12:AM:89:GLY:HA3	2.18	0.43
1:CB:76:GLN:H	1:CB:76:GLN:CD	2.21	0.43
28:DF:154:VAL:O	28:DF:174:VAL:O	2.36	0.43
17:AR:45:SER:HB3	17:AR:51:LEU:HD11	2.00	0.43
53:B9:18:ARG:O	59:BA:2756:U:H5''	2.19	0.43
21:CA:35:G:C6	21:CA:36:C:C4	3.07	0.43
32:DK:9:LYS:HB2	32:DK:55:VAL:O	2.17	0.43
21:AA:1138:G:H3'	21:AA:1138:G:N3	2.33	0.43
10:AK:41:THR:HA	10:AK:71:LYS:HE2	2.01	0.43
36:DQ:76:LYS:HA	36:DQ:76:LYS:HD2	1.85	0.43
21:CA:1440(K):G:N2	21:CA:1440(L):G:C8	2.86	0.43
21:CA:1237:C:H4'	21:CA:1334:G:N2	2.34	0.43
59:BA:749:C:H2'	59:BA:750:A:H8	1.83	0.43
21:CA:1440(E):G:H1	21:CA:1440(N):C:N4	2.16	0.43
27:BE:167:VAL:HG13	27:BE:170:LEU:HD11	2.00	0.43
4:CE:82:VAL:HG11	4:CE:134:ALA:O	2.18	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
52:B8:26:LYS:N	52:B8:47:LYS:HB2	2.34	0.43
3:CD:90:GLY:O	3:CD:93:PHE:HB3	2.18	0.43
41:BV:28:GLU:HB2	41:BV:31:ALA:CB	2.48	0.43
59:BA:2607:G:O5'	59:BA:2607:G:H8	2.00	0.43
13:CN:35:ARG:HD3	13:CN:36:PHE:N	2.33	0.43
47:D2:47:ASN:HB2	47:D2:48:HIS:H	1.52	0.43
30:BH:157:TYR:CE1	59:BA:2531:A:H5''	2.54	0.43
21:AA:1046:A:H3'	21:AA:1047:G:H8	1.83	0.43
20:AY:97:SER:O	20:AY:101:LEU:HG	2.19	0.43
21:AA:766:A:C5	21:AA:814:A:C6	3.06	0.43
59:BA:283:A:H3'	59:BA:284:U:H6	1.82	0.43
21:CA:1324:A:O4'	21:CA:1362:C:H4'	2.18	0.43
59:BA:2595:G:O2'	59:BA:2597:G:N7	2.29	0.43
59:DA:710:G:C4	59:DA:711:G:C8	3.06	0.43
27:DE:140:SER:HB2	59:DA:2578:G:C5	2.54	0.43
27:DE:92:THR:OG1	27:DE:94:GLU:OE1	2.26	0.43
25:DC:166:ASN:HA	25:DC:170:GLY:HA2	2.00	0.43
45:DZ:118:GLN:HE22	59:DA:874:G:H5'	1.83	0.43
49:D5:48:GLU:CD	49:D5:48:GLU:H	2.21	0.43
41:DV:34:GLU:HG3	41:DV:36:PRO:HD3	2.01	0.43
26:DD:69:ARG:NH2	26:DD:192:THR:HG21	2.33	0.43
59:DA:218:A:H2'	59:DA:219:G:O4'	2.17	0.43
41:DV:41:GLY:HA3	41:DV:45:THR:OG1	2.17	0.43
20:AY:111:SER:C	20:AY:113:GLY:H	2.21	0.43
20:CY:137:ASN:ND2	61:CY:701:GNP:O6	2.51	0.43
33:BN:120:LEU:C	33:BN:121:LYS:HD2	2.39	0.43
33:BN:42:TRP:H	40:BU:64:ARG:NE	2.16	0.43
21:AA:114:U:H3	21:AA:313:A:H2	1.62	0.43
59:DA:947:G:O2'	59:DA:984:A:N1	2.43	0.43
48:B3:29:ARG:HD3	59:BA:1183:G:O3'	2.19	0.43
59:BA:2642:G:H1	59:BA:2772:C:N4	2.14	0.43
59:BA:2773:C:H2'	59:BA:2774:C:C6	2.53	0.43
21:CA:1423:G:H2'	21:CA:1424:C:C6	2.53	0.43
36:BQ:11:LYS:HZ3	36:BQ:87:LYS:HB3	1.83	0.43
52:D8:22:VAL:HG11	52:D8:56:GLU:HG2	2.01	0.43
20:CY:467:LYS:NZ	20:CY:474:ALA:HB3	2.33	0.43
37:BR:22:ARG:NH1	37:BR:69:ASP:HA	2.33	0.43
14:AO:43:LEU:HD22	14:AO:47:LYS:HA	2.00	0.43
26:DD:79:VAL:CG1	26:DD:80:ALA:N	2.81	0.43
28:DF:155:LEU:HD22	28:DF:186:ILE:HB	2.00	0.43
37:DR:107:ASP:HB2	59:DA:2009:G:H21	1.83	0.43
42:BW:79:GLY:C	59:BA:25:U:H4'	2.38	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
39:DT:53:ARG:HB3	39:DT:53:ARG:NH1	2.33	0.43
21:AA:678:U:O2'	21:AA:778:G:OP1	2.22	0.43
27:BE:95:ILE:H	27:BE:95:ILE:HD13	1.83	0.43
59:BA:1416:G:H2'	59:BA:1417:C:C5	2.53	0.43
34:DO:34:THR:O	34:DO:62:VAL:HB	2.18	0.43
16:CQ:67:LYS:O	16:CQ:68:ARG:HB3	2.18	0.43
59:BA:139:G:H4'	59:BA:140:A:C2	2.54	0.43
59:BA:2468:G:H8	59:BA:2476:A:H62	1.66	0.43
33:BN:11:PRO:HB2	33:BN:51:PHE:CE1	2.48	0.43
59:BA:278:A:C6	59:BA:362:U:O4	2.72	0.43
37:DR:26:LYS:NZ	59:DA:1294:U:H4'	2.32	0.43
44:BY:71:LYS:HD3	59:BA:329:G:OP1	2.18	0.43
26:DD:231:HIS:CD2	26:DD:233:HIS:HB2	2.53	0.43
27:DE:52:LEU:HA	27:DE:53:PRO:HD3	1.57	0.43
59:DA:1101:U:H2'	59:DA:1102:C:C6	2.53	0.43
59:DA:1094:U:H1'	59:DA:1097:U:H5	1.84	0.43
45:BZ:3:TYR:O	45:BZ:58:VAL:N	2.42	0.43
20:AY:12:LEU:O	20:AY:282:SER:HB2	2.19	0.43
3:CD:135:LEU:HA	3:CD:136:PRO:HD3	1.92	0.43
59:DA:1344:G:H4'	59:DA:1384:A:C5	2.54	0.43
59:BA:2818:G:H1'	59:BA:2836:U:O2'	2.19	0.43
20:CY:462:ILE:HD13	20:CY:462:ILE:HA	1.85	0.43
59:BA:654:U:H5'	59:BA:655:A:OP2	2.19	0.43
59:BA:28:A:H1'	59:BA:513:A:C2	2.52	0.43
16:AQ:21:VAL:HG11	16:AQ:59:ILE:HD11	1.99	0.43
22:CW:20:U:H1'	22:CW:20(A):U:H2'	1.99	0.43
59:DA:1510:A:C2	59:DA:1511:A:H1'	2.54	0.43
59:DA:940:G:H2'	59:DA:941:A:O4'	2.18	0.43
20:CY:98:MET:O	20:CY:100:VAL:N	2.52	0.43
20:AY:166:LEU:HA	20:AY:167:PRO:HD2	1.65	0.43
59:BA:227:A:H4'	59:BA:228:A:C4	2.53	0.43
59:BA:1433:U:O2	59:BA:1560:G:O6	2.36	0.43
25:DC:165:ARG:CG	25:DC:166:ASN:H	2.31	0.43
49:D5:18:ALA:O	49:D5:21:SER:N	2.52	0.43
37:BR:21:TYR:HB3	37:BR:47:PHE:CD2	2.54	0.43
4:CE:7:GLU:HB3	4:CE:112:LEU:HD13	2.01	0.43
43:BX:57:LEU:HD21	43:BX:78:LYS:HE2	1.99	0.43
42:BW:41:LYS:HB3	42:BW:42:ARG:H	1.60	0.43
8:CI:33:PHE:CE2	8:CI:43:ALA:HB1	2.53	0.43
4:AE:11:ILE:O	4:AE:12:LEU:HD13	2.19	0.43
20:AY:417:THR:O	20:AY:419:ALA:N	2.52	0.43
20:CY:111:SER:O	20:CY:113:GLY:N	2.43	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:86:C:H2'	59:BA:87:C:H6	1.84	0.43
59:DA:2469:A:N3	59:DA:2469:A:H5'	2.33	0.43
26:BD:30:GLU:HG2	26:BD:30:GLU:H	1.48	0.43
25:BC:67:HIS:HB2	25:BC:68:GLY:H	1.57	0.43
59:BA:1133:U:HO2'	59:BA:1135:C:H5	1.65	0.43
35:BP:22:GLY:HA2	35:BP:23:PRO:HD3	1.72	0.43
11:CL:69:TYR:C	11:CL:100:ILE:HG12	2.38	0.43
56:B1:45:ASN:O	56:B1:46:LEU:HB3	2.18	0.43
39:BT:27:THR:HG23	39:BT:47:GLY:O	2.18	0.43
60:BB:28:C:H2'	60:BB:29:A:H8	1.83	0.43
33:DN:39:ARG:HE	33:DN:41:ASP:HB3	1.83	0.43
33:DN:43:THR:HG23	33:DN:44:PRO:HD2	2.00	0.43
28:DF:99:TYR:CE2	59:DA:660:G:H5'	2.54	0.43
45:BZ:82:ARG:HG2	45:BZ:83:PRO:HD2	2.00	0.43
30:DH:38:SER:C	30:DH:40:GLU:H	2.22	0.43
20:CY:247:ARG:NH2	20:CY:280:LEU:O	2.52	0.43
59:DA:1332:G:H5'	59:DA:1333:C:OP2	2.19	0.43
1:CB:71:VAL:HG22	1:CB:93:VAL:HB	2.00	0.43
59:DA:2704:C:H2'	59:DA:2705:A:C8	2.54	0.43
59:BA:242:G:N2	59:BA:254:G:H2'	2.33	0.43
49:B5:3:LYS:N	49:B5:3:LYS:HE2	2.34	0.43
36:DQ:34:LEU:HB2	36:DQ:118:LEU:HD22	2.01	0.43
3:CD:25:ARG:C	3:CD:27:TYR:H	2.22	0.43
59:BA:1529:A:H62	59:BA:1542:G:N2	2.17	0.43
22:AW:43:G:H2'	22:AW:44:G:C8	2.42	0.43
59:BA:2415:G:H2'	59:BA:2416:C:C6	2.54	0.43
11:AL:84:LEU:N	11:AL:104:VAL:HG11	2.29	0.43
22:AW:21:A:N3	22:AW:21:A:H2'	2.34	0.43
21:CA:696:A:H2'	21:CA:697:U:C6	2.54	0.43
30:BH:31:GLY:O	30:BH:79:VAL:HG12	2.19	0.43
40:DU:87:GLY:O	41:DV:49:THR:HA	2.18	0.43
21:AA:1217:C:O2'	21:AA:1218:C:H5'	2.18	0.43
59:BA:1914:C:H2'	59:BA:1915:U:O4'	2.19	0.43
56:D1:3:LYS:HA	56:D1:3:LYS:HD2	1.82	0.43
19:AT:61:SER:HA	21:AA:193:C:O2'	2.19	0.43
28:DF:171:PRO:HB3	59:DA:1205:U:C2	2.53	0.43
44:BY:18:GLY:HA2	44:BY:21:LYS:HB2	2.00	0.43
21:CA:34:C:H2'	21:CA:35:G:H8	1.82	0.43
59:DA:974(A):G:O5'	59:DA:1186:G:N2	2.48	0.43
21:AA:303:A:H2'	21:AA:304:U:O4'	2.19	0.43
30:DH:105:LEU:H	30:DH:105:LEU:HD23	1.84	0.43
59:DA:1413:G:H2'	59:DA:1414:G:C8	2.53	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:CA:862:C:O4'	21:CA:874:G:H4'	2.18	0.43
59:DA:1077:A:N3	59:DA:1077:A:H2'	2.34	0.43
59:DA:594:U:H2'	59:DA:595:C:H6	1.83	0.43
25:BC:101:ILE:HD11	25:BC:124:VAL:HG13	2.00	0.43
39:BT:129:ARG:NE	39:BT:129:ARG:HA	2.32	0.43
52:B8:26:LYS:HD3	59:BA:2361:A:OP1	2.18	0.43
2:CC:28:GLN:H	2:CC:28:GLN:HG2	1.41	0.43
5:CF:62:TRP:CB	17:CR:35:ARG:HH12	2.32	0.43
59:DA:1633:G:C6	59:DA:1635:G:C2	3.07	0.43
21:CA:1000:A:H2'	21:CA:1001:G:O4'	2.19	0.43
59:DA:2792:G:C2	59:DA:2805:G:N1	2.87	0.43
1:CB:85:ALA:HB1	1:CB:90:MET:O	2.18	0.43
59:DA:1710:C:H2'	59:DA:1711:C:C6	2.53	0.43
5:AF:52:ILE:HD13	5:AF:53:ALA:H	1.84	0.43
59:BA:356:G:H2'	59:BA:357:A:O4'	2.18	0.43
59:DA:2294:C:H2'	59:DA:2295:C:C6	2.53	0.43
3:CD:101:LEU:HB2	3:CD:138:TYR:O	2.18	0.43
21:CA:609:A:H2'	21:CA:610:G:O4'	2.19	0.43
59:BA:804:A:H5"	59:BA:805:G:OP1	2.17	0.43
2:CC:81:GLY:O	2:CC:85:ARG:HB2	2.18	0.43
45:DZ:128:VAL:HG21	45:DZ:161:VAL:HG22	1.99	0.43
4:CE:37:ARG:O	4:CE:114:GLY:HA2	2.18	0.43
37:DR:6:SER:HB2	59:DA:2873:A:H1'	1.98	0.43
59:BA:1906:G:H2'	59:BA:1907:G:O4'	2.18	0.43
42:DW:60:ASN:O	42:DW:61:ASN:HB2	2.18	0.43
12:AM:74:VAL:O	12:AM:78:ILE:HG12	2.18	0.43
8:CI:48:GLU:O	8:CI:52:ALA:N	2.51	0.43
21:AA:115:G:H4'	21:AA:116:A:O5'	2.18	0.43
45:DZ:41:LEU:O	45:DZ:45:ASP:N	2.28	0.43
14:AO:10:LYS:HE2	14:AO:11:VAL:HG23	2.01	0.43
38:DS:26:LEU:HA	38:DS:39:ILE:HA	2.01	0.43
21:AA:780:A:O5'	21:AA:780:A:H8	2.02	0.43
28:DF:84:VAL:HB	28:DF:85:GLY:H	1.56	0.43
21:CA:1479:C:H2'	21:CA:1480:G:H8	1.83	0.43
12:CM:46:LYS:HE3	12:CM:46:LYS:HB2	1.82	0.43
12:CM:19:LEU:HD13	12:CM:19:LEU:HA	1.89	0.43
59:BA:2165:G:N3	59:BA:2165:G:H2'	2.34	0.43
33:BN:1:MET:HB2	33:BN:2:LYS:H	1.48	0.43
21:AA:177:C:H2'	21:AA:178:C:C6	2.52	0.43
59:BA:1526:G:H1	59:BA:154(B):C:H42	1.65	0.43
20:AY:33:LEU:HG	20:AY:34:TYR:CD2	2.39	0.43
11:AL:56:ALA:HB3	11:AL:68:ALA:CB	2.37	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:CY:422:GLU:O	20:CY:425:SER:HB2	2.19	0.43
59:BA:465:G:C6	59:BA:466:A:C6	3.07	0.43
59:BA:775:G:N1	59:BA:787:U:C4	2.87	0.43
14:CO:81:LEU:O	14:CO:85:LEU:N	2.35	0.43
59:DA:785:G:O2'	59:DA:1779:U:H4'	2.19	0.43
25:BC:169:THR:HB	59:BA:2178:C:H1'	2.01	0.43
35:DP:46:LYS:HA	35:DP:46:LYS:HZ2	1.83	0.43
37:DR:28:LEU:HA	37:DR:34:ILE:CD1	2.49	0.43
36:BQ:11:LYS:HD3	36:BQ:87:LYS:HD2	2.00	0.43
21:CA:1380:U:H4'	21:CA:1381:U:H5'	2.00	0.43
21:AA:736:C:H2'	21:AA:737:A:H8	1.80	0.43
44:DY:67:LEU:HG	44:DY:68:HIS:H	1.84	0.43
21:AA:68(O):A:N6	21:AA:68(P):C:O2	2.52	0.43
8:CI:114:TYR:HD1	9:CJ:60:ARG:HB2	1.83	0.43
14:AO:43:LEU:O	14:AO:47:LYS:N	2.52	0.43
40:DU:98:LEU:O	40:DU:101:ARG:HG3	2.19	0.43
2:AC:58:GLU:HB2	2:AC:65:ALA:HB3	2.01	0.43
21:CA:408:A:H2'	21:CA:409:G:H8	1.83	0.43
48:D3:7:LYS:NZ	48:D3:8:LEU:O	2.50	0.43
27:BE:74:PRO:HG3	27:BE:77:ILE:O	2.19	0.43
59:DA:600:G:H2'	59:DA:601:C:C6	2.54	0.43
40:BU:74:LEU:HB2	40:BU:75:ASN:H	1.53	0.43
32:BK:102:GLU:C	32:BK:105:LEU:HD22	2.39	0.43
19:AT:82:SER:OG	19:AT:83:ARG:N	2.51	0.43
59:DA:872:A:N6	59:DA:905:U:H3	2.10	0.43
50:B6:27:LYS:HE2	50:B6:29:ASN:HB3	2.00	0.43
6:CG:140:ASP:O	6:CG:143:ARG:HB2	2.19	0.43
26:DD:264:LYS:HD2	26:DD:266:SER:OG	2.19	0.43
21:AA:977:A:H1'	21:AA:982:U:O4	2.18	0.43
27:DE:95:ILE:H	27:DE:95:ILE:HD13	1.84	0.43
59:BA:184:C:H2'	59:BA:185:U:C5	2.53	0.43
10:AK:52:GLY:HA2	21:AA:691:G:O6	2.18	0.43
59:DA:414:C:H1'	59:DA:1864:U:H1'	1.99	0.43
33:DN:137:LYS:NZ	33:DN:137:LYS:CB	2.81	0.43
3:CD:64:LEU:O	3:CD:67:ILE:HG23	2.18	0.43
59:DA:1770:G:C5	59:DA:1771:C:C4	3.06	0.43
2:AC:134:ILE:O	2:AC:138:VAL:HG23	2.18	0.43
35:BP:85:LEU:HD21	35:BP:137:LYS:HG3	2.01	0.43
21:AA:1023:G:C2	21:AA:1024:G:H1'	2.54	0.43
38:DS:52:SER:O	38:DS:69:VAL:HG21	2.18	0.43
59:DA:901:A:H2'	59:DA:902:C:H6	1.84	0.43
34:DO:2:ILE:HD11	34:DO:65:THR:HG22	1.99	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
33:BN:133:GLN:O	33:BN:134:ARG:HD3	2.17	0.43
59:BA:1033:U:H4'	59:BA:1034:G:OP1	2.17	0.43
39:DT:16:ARG:HH12	39:DT:19:LEU:HG	1.83	0.43
21:AA:1084:G:H5''	21:AA:1085:U:O5'	2.18	0.43
21:AA:1248:A:H2'	21:AA:1249:C:C6	2.54	0.43
28:BF:178:PRO:HB2	28:BF:201:VAL:HG11	2.01	0.43
12:CM:108:ARG:HD3	12:CM:114:ARG:HD2	2.00	0.43
52:D8:26:LYS:HB3	52:D8:44:LYS:HE2	1.99	0.43
38:BS:87:PHE:HB3	59:BA:2377:A:H2	1.84	0.43
21:AA:1050:G:N2	21:AA:1209:C:H1'	2.33	0.43
50:B6:13:CYS:SG	50:B6:22:ALA:HB3	2.58	0.43
3:CD:199:ASN:O	3:CD:203:VAL:HG23	2.18	0.43
26:BD:128:GLY:N	26:BD:193:VAL:O	2.36	0.43
59:BA:1291:C:H2'	59:BA:1292:U:C6	2.54	0.43
6:AG:32:ARG:HG3	21:AA:1240:U:C2	2.53	0.43
3:CD:54:TYR:HE2	21:CA:508:C:H4'	1.83	0.43
59:BA:1363:C:C2	59:BA:1369:G:C2	3.07	0.43
59:BA:1195:G:H2'	59:BA:1196:C:H6	1.83	0.43
5:CF:53:ALA:HB3	5:CF:86:ARG:NH1	2.34	0.43
16:CQ:40:LYS:HD3	16:CQ:42:TYR:OH	2.18	0.43
59:DA:2544:G:H1'	59:DA:2646:C:H4'	2.00	0.43
39:BT:5:ALA:O	39:BT:9:LEU:HG	2.19	0.43
8:CI:79:LEU:HD21	8:CI:104:ARG:HA	2.01	0.43
21:CA:971:G:OP1	21:CA:971:G:H3'	2.19	0.43
1:CB:117:GLU:HA	1:CB:120:ALA:HB3	1.99	0.43
20:CY:579:GLU:HG3	20:CY:579:GLU:H	1.57	0.43
34:DO:89:ASN:OD1	34:DO:89:ASN:N	2.52	0.43
59:BA:2094:G:H1	59:BA:2195:C:H42	1.67	0.43
59:DA:2066:C:H2'	59:DA:2067:G:C8	2.53	0.43
11:AL:93:LEU:HD12	11:AL:96:VAL:HG13	2.00	0.43
59:DA:1148:A:H2'	59:DA:1149:G:H8	1.83	0.43
11:CL:83:VAL:HB	11:CL:100:ILE:HD12	2.00	0.43
59:DA:587:C:C2	59:DA:671:C:H1'	2.54	0.43
1:AB:71:VAL:HG13	1:AB:93:VAL:HB	2.00	0.43
25:DC:154:ILE:O	25:DC:157:ILE:HB	2.19	0.43
59:DA:2061:G:O2'	59:DA:2062:A:H5''	2.18	0.43
30:BH:85:LYS:HG2	30:BH:141:VAL:HG13	2.01	0.43
21:AA:1314:C:H2'	21:AA:1315:U:C6	2.54	0.43
21:AA:1304:G:C6	21:AA:1305:G:N1	2.87	0.43
9:AJ:7:LYS:NZ	9:AJ:9:ARG:HD3	2.34	0.43
20:AY:161:PRO:HA	20:AY:256:THR:HB	2.01	0.43
20:AY:256:THR:HA	20:AY:257:PRO:HD2	1.76	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:AY:456:GLU:HB3	20:AY:457:LEU:H	1.62	0.43
59:DA:121:G:H4'	59:DA:148:C:H2'	2.01	0.43
39:BT:116:ALA:HB3	39:BT:118:ARG:NH2	2.34	0.43
36:BQ:36:ALA:HA	36:BQ:129:THR:HG22	2.01	0.43
8:AI:108:VAL:O	8:AI:110:GLU:N	2.52	0.43
59:DA:329:G:H4'	59:DA:330:A:OP2	2.17	0.43
59:BA:30:G:C6	59:BA:31:C:C4	3.07	0.43
59:BA:1683:C:H2'	59:BA:1684:C:H6	1.80	0.43
33:BN:100:GLU:O	33:BN:117:PHE:HE1	2.02	0.43
59:BA:889:C:O2'	59:BA:890:A:P	2.77	0.43
6:AG:139:GLU:OE1	6:AG:142:GLU:HB2	2.18	0.43
6:AG:99:LEU:O	6:AG:103:TRP:CD1	2.72	0.43
50:B6:30:THR:HB	50:B6:32:ASN:HD21	1.83	0.43
57:D4:12:ALA:HB2	57:D4:28:LYS:O	2.19	0.43
25:BC:26:ALA:O	25:BC:30:VAL:HB	2.17	0.43
59:BA:2265:U:C4	59:BA:2266:A:C6	3.07	0.43
59:DA:864:G:H2'	59:DA:865:C:C6	2.52	0.43
34:BO:91:LEU:O	34:BO:91:LEU:HD13	2.18	0.43
12:AM:108:ARG:HH22	12:AM:111:LYS:NZ	2.17	0.43
37:BR:116:LEU:C	37:BR:117:VAL:HG23	2.39	0.43
1:CB:77:ALA:O	1:CB:81:VAL:HG13	2.19	0.43
21:CA:548:G:C6	21:CA:549:C:C4	3.07	0.43
21:AA:431:A:H2'	21:AA:432:A:C8	2.53	0.43
26:DD:17:THR:OG1	26:DD:205:VAL:N	2.30	0.43
21:CA:872:A:C8	21:CA:874:G:C8	3.07	0.43
27:BE:31:CYS:HA	27:BE:32:PRO:HD3	1.83	0.43
20:AY:283:PRO:HA	20:AY:286:ILE:HB	2.00	0.43
21:CA:1413:A:H8	21:CA:1413:A:OP2	2.02	0.43
10:AK:42:TRP:HE1	21:AA:686:U:C4'	2.31	0.43
35:DP:95:VAL:HG23	35:DP:125:VAL:HA	1.99	0.43
21:CA:716:A:C6	21:CA:717:C:C4	3.06	0.43
28:DF:45:ARG:HD2	59:DA:443:A:C5	2.54	0.43
43:BX:47:PHE:CD2	43:BX:89:ILE:HG21	2.54	0.43
48:D3:40:THR:O	48:D3:43:ILE:HG12	2.18	0.43
59:DA:2261:C:H5'	59:DA:2388:A:H4'	2.00	0.43
59:BA:81:G:H2'	59:BA:82:G:O4'	2.19	0.43
20:CY:583:LYS:HB2	20:CY:583:LYS:HE2	1.71	0.43
45:DZ:98:MET:SD	45:DZ:100:VAL:HG23	2.59	0.43
36:DQ:21:THR:O	36:DQ:23:GLY:N	2.50	0.43
43:BX:53:LYS:HB2	43:BX:53:LYS:HE2	1.70	0.43
26:DD:149:PRO:HG2	59:DA:2218:G:H4'	2.01	0.43
59:DA:1210:A:N6	59:DA:1237:A:C5	2.87	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:CA:1338:G:H21	22:CW:41:A:H1'	1.84	0.43
59:BA:2040:C:H2'	59:BA:2041:U:C6	2.54	0.43
34:DO:26:LYS:HD2	34:DO:26:LYS:HA	1.86	0.43
21:CA:1160:G:H2'	21:CA:1161:C:H5'	2.00	0.43
46:B0:72:ARG:HB2	46:B0:78:TYR:HE1	1.83	0.43
21:AA:448:A:O5'	21:AA:485:G:N2	2.45	0.43
37:DR:53:HIS:CG	59:DA:2840:C:H5''	2.54	0.43
21:CA:159:G:H1'	21:CA:162:A:N6	2.33	0.43
27:DE:101:ARG:HG2	27:DE:171:GLU:HA	2.01	0.43
21:CA:528:C:H4'	21:CA:535:A:C6	2.54	0.43
59:BA:834:C:H2'	59:BA:835:A:C8	2.54	0.43
60:BB:34:U:H3	60:BB:48:A:H61	1.67	0.43
17:CR:58:LEU:HB3	17:CR:62:GLU:HB2	1.99	0.43
1:AB:125:PRO:C	1:AB:127:ILE:H	2.22	0.43
20:AY:197:ARG:HA	20:AY:197:ARG:NE	2.33	0.43
20:CY:615:GLU:CD	20:CY:615:GLU:H	2.22	0.43
59:BA:282:A:N3	59:BA:282:A:H2'	2.33	0.43
46:D0:59:LEU:HD13	46:D0:79:VAL:HB	2.01	0.43
27:DE:145:LYS:NZ	59:DA:2054:A:OP1	2.51	0.43
35:DP:148:LEU:O	35:DP:150:ALA:N	2.51	0.43
35:DP:27:HIS:NE2	59:DA:814:C:H5	2.16	0.43
21:AA:1507:A:H2'	21:AA:1508:G:H8	1.83	0.43
23:CV:8:A:HO2'	23:CV:9:G:P	2.38	0.43
59:DA:1153:C:H2'	59:DA:1154:G:O4'	2.19	0.43
27:DE:61:ARG:NH2	59:DA:2632:A:O2'	2.50	0.43
21:AA:408:A:H2'	21:AA:409:G:C8	2.53	0.43
26:BD:179:SER:HB3	59:BA:1799:G:O6	2.19	0.43
42:DW:78:GLU:HG2	42:DW:79:GLY:O	2.19	0.43
49:D5:17:ASP:CB	59:DA:16:G:H5''	2.49	0.43
8:AI:107:ARG:HB3	21:AA:1347:G:C8	2.53	0.43
25:DC:151:GLY:O	25:DC:154:ILE:HB	2.18	0.43
25:DC:79:ALA:HB1	25:DC:83:LYS:HB2	2.00	0.43
59:BA:1479:G:H2'	59:BA:1480:G:H8	1.83	0.43
59:DA:675:A:C8	59:DA:804:A:C6	3.07	0.43
21:AA:1284:C:H3'	21:AA:1285:A:C8	2.46	0.43
4:CE:76:ILE:HD13	4:CE:142:LEU:HD22	2.00	0.43
56:B1:88:LYS:HA	56:B1:91:LYS:HB3	2.00	0.43
21:AA:130:A:C5	21:AA:264:U:H1'	2.54	0.43
37:DR:2:ARG:HB3	59:DA:2723:C:H4'	2.01	0.43
20:CY:11:ARG:HB3	20:CY:11:ARG:HE	1.54	0.43
42:BW:76:VAL:HA	42:BW:102:HIS:C	2.39	0.43
59:DA:2212:A:H4'	59:DA:2213:U:C4	2.53	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:2067:G:C2	59:BA:2444:G:C2	3.06	0.43
21:CA:680:C:N4	21:CA:710:G:H1	2.10	0.43
7:AH:87:SER:HB2	7:AH:133:LEU:O	2.18	0.43
45:DZ:67:LEU:HD11	45:DZ:90:VAL:HG13	2.01	0.43
3:AD:38:TYR:CE1	3:AD:45:GLN:HB3	2.54	0.43
22:CW:57:G:N3	22:CW:57:G:H2'	2.34	0.43
59:DA:2525:G:C2	59:DA:2526:G:C5	3.07	0.43
20:AY:390:VAL:HB	20:AY:394:ALA:HB3	2.00	0.43
25:BC:15:VAL:O	25:BC:19:LYS:HG3	2.19	0.43
59:BA:2706:G:H4'	59:BA:2851:A:H4'	2.01	0.43
16:CQ:72:ARG:HB3	16:CQ:73:VAL:H	1.72	0.43
10:AK:124:LYS:HE3	21:AA:797:C:OP1	2.19	0.43
21:AA:68(K):U:H5''	21:AA:68(L):U:OP2	2.19	0.43
20:AY:201:ILE:C	20:AY:203:GLU:H	2.22	0.43
20:CY:457:LEU:O	20:CY:461:ILE:HG23	2.18	0.43
3:CD:59:ARG:HD2	3:CD:59:ARG:HA	1.80	0.43
52:D8:34:TRP:CG	52:D8:35:GLN:N	2.87	0.43
3:CD:49:ARG:NE	3:CD:49:ARG:HA	2.34	0.43
21:CA:546:G:H4'	21:CA:548:G:H4'	2.00	0.43
11:CL:120:TYR:O	11:CL:122:THR:N	2.51	0.43
59:BA:558:G:H2'	59:BA:559:G:H8	1.82	0.43
20:CY:546:ILE:HA	20:CY:590:ILE:HG13	2.01	0.43
59:BA:2789:C:O5'	59:BA:2789:C:H6	2.02	0.43
26:DD:109:ASP:N	26:DD:195:ALA:O	2.51	0.43
15:AP:8:ARG:HH22	21:AA:391:G:H5''	1.84	0.43
11:CL:114:LYS:HB2	21:CA:538:G:H5''	2.00	0.43
59:DA:1120:G:C6	59:DA:1121:C:C4	3.07	0.43
3:CD:110:PHE:CZ	3:CD:148:VAL:HG22	2.54	0.43
59:DA:971:C:H2'	59:DA:972:G:O4'	2.18	0.43
59:BA:192:C:O2'	59:BA:802:A:N3	2.50	0.43
9:AJ:91:PRO:CB	9:AJ:94:VAL:HG12	2.49	0.43
14:CO:28:GLN:O	14:CO:32:LEU:HG	2.19	0.43
21:CA:890:G:H22	21:CA:906:G:H2'	1.83	0.43
47:B2:3:LEU:HB3	47:B2:7:ARG:HH12	1.84	0.43
8:CI:45:ALA:O	8:CI:48:GLU:HB2	2.19	0.43
20:AY:489:LYS:HG3	20:AY:491:VAL:HG23	2.00	0.43
14:CO:10:LYS:O	14:CO:14:GLU:HB2	2.18	0.43
59:BA:2386:C:H2'	59:BA:2387:U:C6	2.54	0.43
44:DY:38:ILE:HG12	44:DY:64:GLU:HB3	2.01	0.43
49:D5:42:PRO:HB2	59:DA:2815:C:O2'	2.18	0.43
59:BA:1385:G:H1'	59:BA:1386:C:C6	2.53	0.43
9:AJ:90:LEU:HG	9:AJ:92:THR:HG23	2.00	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
44:DY:35:TYR:HA	44:DY:35:TYR:HD1	1.73	0.43
20:CY:169:GLY:HA3	20:CY:173:THR:HB	2.00	0.43
11:CL:75:HIS:CG	11:CL:76:ASN:N	2.86	0.43
59:BA:1310:G:H2'	59:BA:1311:G:O4'	2.19	0.43
21:CA:68(G):G:H1	21:CA:68(S):C:H42	1.66	0.43
27:DE:62:PRO:HD3	59:DA:2787:C:O4'	2.19	0.43
59:DA:2178:C:H2'	59:DA:2179:C:C6	2.52	0.43
59:DA:1062:G:H2'	59:DA:1063:G:H8	1.84	0.43
38:DS:15:ARG:NE	59:DA:2334:G:N3	2.67	0.43
25:DC:4:HIS:O	25:DC:8:TYR:HB3	2.19	0.43
38:BS:104:GLY:O	38:BS:106:ARG:N	2.52	0.43
20:CY:105:ILE:HG23	20:CY:133:ILE:HD11	2.00	0.43
8:AI:19:LEU:HA	8:AI:61:ALA:HA	2.01	0.43
25:BC:154:ILE:HA	25:BC:157:ILE:HD12	2.00	0.43
59:DA:1400:G:H2'	59:DA:1401:G:H8	1.81	0.43
16:AQ:12:SER:C	16:AQ:14:LYS:H	2.22	0.43
25:DC:64:SER:O	25:DC:64:SER:OG	2.29	0.43
36:DQ:43:THR:CB	36:DQ:46:GLN:HB2	2.46	0.43
26:BD:63:ARG:NH2	59:BA:1568:G:P	2.92	0.43
16:AQ:50:LYS:HE3	16:AQ:51:TYR:CE2	2.54	0.43
16:AQ:65:ILE:HB	16:AQ:69:LYS:O	2.18	0.43
21:CA:409:G:H1	21:CA:433:C:N4	2.13	0.43
30:DH:85:LYS:HB2	30:DH:133:VAL:HB	2.01	0.43
59:BA:537:C:H2'	59:BA:539:G:O4'	2.19	0.43
59:BA:607:U:O4	59:BA:620:G:H5"	2.18	0.43
2:CC:134:ILE:HA	2:CC:134:ILE:HD13	1.67	0.43
2:AC:73:PRO:HB3	2:AC:103:VAL:HB	2.00	0.43
7:AH:68:ARG:CG	7:AH:74:PRO:HB3	2.47	0.43
59:BA:1238:G:N2	59:BA:1239:G:C4	2.87	0.43
3:CD:193:ASP:C	3:CD:194:LEU:HD22	2.39	0.43
43:BX:27:THR:HB	43:BX:80:ILE:HA	2.01	0.43
53:D9:33:LYS:HE3	53:D9:33:LYS:HB2	1.70	0.43
34:DO:101:PRO:HA	34:DO:120:GLU:O	2.19	0.43
16:CQ:13:ASP:CG	16:CQ:14:LYS:H	2.22	0.43
59:BA:69:C:H4'	59:BA:75:G:C5	2.54	0.43
59:DA:2508:G:H2'	59:DA:2509:G:H8	1.83	0.43
26:DD:63:ARG:HD2	26:DD:85:ASP:CG	2.39	0.43
12:CM:116:THR:HG21	22:CW:29:U:H4'	2.01	0.43
2:AC:39:ILE:HG22	2:AC:43:LEU:HD12	1.99	0.43
27:DE:110:GLY:H	59:DA:2821:A:P	2.37	0.43
27:DE:79:ARG:HD3	32:DK:3:LYS:HZ2	96.00	0.43
21:CA:773:G:H2'	21:CA:774:G:H8	1.84	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
51:B7:10:ARG:HG3	59:BA:125:G:C6	2.53	0.43
3:CD:152:SER:HA	3:CD:155:LEU:HB2	2.00	0.43
21:AA:1158:C:H2'	21:AA:1159:U:H4'	2.01	0.43
47:D2:32:LEU:HB2	47:D2:53:LEU:HD22	2.01	0.43
59:BA:1430:C:H2'	59:BA:1431:U:O4'	2.19	0.43
27:BE:15:PHE:HD1	39:BT:80:SER:HB3	1.83	0.43
59:BA:609(A):A:H2'	59:BA:609(B):G:O4'	2.19	0.43
49:B5:15:ARG:NH2	59:BA:2046:G:OP1	2.46	0.43
59:BA:419:C:H2'	59:BA:420:C:C6	2.53	0.43
59:BA:223:A:C8	59:BA:422:A:H1'	2.53	0.43
10:CK:27:ASN:ND2	10:CK:44:SER:HB2	2.34	0.43
3:AD:209:ARG:HA	21:AA:8:A:H62	1.84	0.43
2:CC:195:VAL:CG1	21:CA:1205:U:H4'	2.48	0.43
21:CA:1151:A:O2'	21:CA:1152:A:H8	2.01	0.43
48:B3:11:SER:OG	48:B3:13:ILE:HG12	2.19	0.43
25:DC:9:ARG:HG3	25:DC:9:ARG:H	1.60	0.43
59:BA:285:C:H2'	59:BA:286:C:H6	1.84	0.43
21:CA:584:G:H2'	21:CA:585:G:C8	2.54	0.43
59:DA:1174:A:H3'	59:DA:1175:U:C5'	2.48	0.43
59:BA:803:U:H2'	59:BA:804:A:H5'	2.01	0.43
42:DW:31:GLU:O	42:DW:35:ILE:HG13	2.19	0.43
21:AA:186(A):C:H2'	21:AA:186(B):C:C6	2.54	0.43
59:DA:695:G:C4	59:DA:696:G:C8	3.07	0.43
59:BA:1904:G:H2'	59:BA:1905:C:O4'	2.19	0.43
49:D5:56:LYS:HB3	49:D5:57:VAL:H	1.66	0.43
36:BQ:134:ARG:HD2	45:BZ:122:ARG:CZ	2.49	0.43
21:CA:837:G:H1	21:CA:849:C:H42	1.67	0.43
4:AE:73:ASN:O	4:AE:73:ASN:ND2	2.43	0.43
3:AD:96:LEU:HG	3:AD:139:ARG:CZ	2.49	0.43
20:AY:32:ILE:O	20:AY:34:TYR:C	2.57	0.42
59:DA:2123:G:H1	59:DA:2175:C:N4	2.13	0.42
11:CL:84:LEU:HB2	11:CL:104:VAL:CG1	2.46	0.42
59:BA:463:G:N1	59:BA:467:G:C6	2.87	0.42
21:CA:658:G:H2'	21:CA:659:U:C6	2.54	0.42
39:BT:49:VAL:HA	39:BT:63:VAL:HG12	2.01	0.42
60:BB:28:C:H2'	60:BB:29:A:C8	2.54	0.42
60:BB:55:U:C2'	60:BB:56:G:H5'	2.48	0.42
25:BC:59:VAL:HB	25:BC:164:PHE:O	2.18	0.42
59:DA:9:U:N3	59:DA:2629:A:N7	2.67	0.42
3:AD:101:LEU:HD11	3:AD:146:ILE:HG21	2.00	0.42
21:AA:1358:U:HO2'	21:AA:1359:C:H6	1.65	0.42
39:BT:54:ARG:HA	39:BT:59:THR:HB	2.00	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:82:G:H5''	59:DA:296:C:C5'	2.49	0.42
44:DY:8:LYS:HB3	44:DY:28:LYS:NZ	2.34	0.42
59:DA:2703:C:H2'	59:DA:2704:C:C6	2.54	0.42
37:BR:18:LEU:HD22	37:BR:22:ARG:NH2	2.33	0.42
59:BA:2048:G:H2'	59:BA:2049:G:O4'	2.19	0.42
32:BK:14:ALA:HA	32:BK:41:PHE:CE2	2.53	0.42
48:D3:7:LYS:HA	48:D3:33:GLN:O	2.19	0.42
50:B6:41:PRO:HD3	50:B6:47:THR:HG22	2.01	0.42
50:D6:47:THR:HG23	50:D6:49:HIS:CD2	2.54	0.42
59:DA:2030:A:H4'	59:DA:2031:A:C8	2.54	0.42
3:AD:201:GLN:O	3:AD:205:GLU:HG3	2.18	0.42
20:AY:487:ILE:HD11	20:AY:516:PRO:HB3	2.00	0.42
40:BU:55:ARG:NH2	59:BA:1156:A:N7	2.66	0.42
59:BA:1440:G:H2'	59:BA:1441:G:C8	2.54	0.42
59:BA:31:C:H5''	59:BA:1239:G:OP1	2.19	0.42
1:AB:155:LEU:HD21	1:AB:159:PRO:HG3	2.01	0.42
40:BU:95:LEU:HA	40:BU:95:LEU:HD23	1.87	0.42
59:BA:2854:G:C6	59:BA:2855:C:C4	3.07	0.42
9:CJ:33:GLN:OE1	9:CJ:34:VAL:N	2.52	0.42
35:DP:17:LYS:NZ	35:DP:19:VAL:HG23	2.35	0.42
35:BP:53:GLY:C	35:BP:55:ARG:H	2.23	0.42
59:BA:1491:G:P	59:BA:1494:A:H62	2.40	0.42
21:AA:1510:U:H2'	21:AA:1511:G:C8	2.53	0.42
6:AG:74:GLU:HA	6:AG:141:VAL:HG12	2.01	0.42
21:AA:1237:C:H2'	21:AA:1336:C:C5	2.54	0.42
37:BR:56:LYS:NZ	37:BR:91:GLN:HG2	2.34	0.42
21:CA:1356:G:H2'	21:CA:1357:A:H8	1.84	0.42
17:AR:73:ALA:HB3	17:AR:79:LEU:HD12	2.00	0.42
44:DY:73:ARG:CD	59:DA:335:C:H4'	2.49	0.42
20:AY:374:LEU:HD12	20:AY:374:LEU:N	2.34	0.42
25:DC:174:ALA:HA	25:DC:175:PRO:HD3	1.63	0.42
57:B4:2:LYS:HB2	57:B4:3:GLU:H	1.64	0.42
20:CY:487:ILE:HB	20:CY:597:GLY:O	2.19	0.42
21:AA:1083:U:H5''	21:AA:1084:G:OP2	2.19	0.42
21:AA:1248:A:C2	21:AA:1289:A:N6	2.87	0.42
29:BG:60:LEU:O	29:BG:63:ILE:HG12	2.19	0.42
29:BG:63:ILE:HB	29:BG:143:GLU:HG2	2.00	0.42
59:BA:574:C:N4	59:BA:2033:A:H4'	2.34	0.42
46:B0:32:ARG:HH21	59:BA:2353:G:H4'	1.83	0.42
3:CD:42:GLN:O	3:CD:46:LYS:NZ	2.41	0.42
10:CK:44:SER:OG	10:CK:47:VAL:HG23	2.19	0.42
48:B3:4:LEU:HD21	48:B3:39:ASP:HB2	2.00	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:AF:78:GLU:HA	5:AF:81:ILE:HD12	2.01	0.42
59:BA:484:C:N3	59:BA:496:G:O6	2.51	0.42
27:BE:101:ARG:HG2	27:BE:171:GLU:HA	2.00	0.42
26:DD:52:ARG:HB3	26:DD:53:PHE:CD1	2.54	0.42
4:CE:91:LEU:HA	4:CE:91:LEU:HD13	1.82	0.42
16:CQ:83:ASP:O	16:CQ:86:GLU:HB3	2.19	0.42
39:BT:82:LEU:C	39:BT:83:ILE:HG13	2.39	0.42
59:DA:2193:G:H2'	59:DA:2194:G:H8	1.83	0.42
29:BG:110:ALA:O	29:BG:140:ILE:HD12	2.19	0.42
21:CA:1480:G:H2'	21:CA:1481:U:O4'	2.19	0.42
9:AJ:89:ASP:OD1	9:AJ:90:LEU:N	2.52	0.42
29:DG:21:ARG:HG3	29:DG:22:ARG:HG3	2.00	0.42
27:BE:141:ILE:HB	27:BE:142:GLY:H	1.48	0.42
52:B8:48:PHE:HE1	52:B8:50:LEU:HD13	1.84	0.42
59:DA:1803:A:H2'	59:DA:1804:C:O4'	2.19	0.42
59:BA:107:C:O3'	59:BA:293:U:O2'	2.28	0.42
59:BA:2249:U:H4'	59:BA:2275:C:C5	2.54	0.42
59:BA:956:G:N2	59:BA:959:A:H3'	2.34	0.42
33:BN:33:LEU:HG	33:BN:38:HIS:CE1	2.54	0.42
12:AM:123:ALA:O	12:AM:125:ARG:N	2.52	0.42
45:DZ:74:VAL:HG13	45:DZ:86:VAL:HG13	2.01	0.42
21:AA:261:U:O5'	21:AA:261:U:H6	2.02	0.42
6:AG:40:ALA:HB1	6:AG:44:TYR:CZ	2.54	0.42
51:D7:9:ARG:H	51:D7:9:ARG:HG2	1.69	0.42
39:DT:104:ASN:HB3	39:DT:105:LEU:H	1.55	0.42
1:AB:169:LYS:O	1:AB:172:ILE:N	2.49	0.42
20:CY:25:LYS:HE2	20:CY:84:THR:HA	2.01	0.42
59:DA:1025:G:H1	59:DA:1139:G:H1	1.65	0.42
33:DN:68:GLU:HG2	33:DN:88:GLU:OE1	2.19	0.42
40:BU:56:ASP:O	40:BU:59:ARG:HB3	2.19	0.42
40:DU:30:LYS:HD2	59:DA:516:C:OP2	2.19	0.42
59:DA:1270:C:H5''	59:DA:1271:G:C5'	2.48	0.42
9:AJ:56:HIS:CE1	21:AA:1060:C:HO2'	2.33	0.42
38:BS:17:ARG:HA	38:BS:20:ARG:NH1	2.34	0.42
38:DS:85:VAL:H	38:DS:106:ARG:CG	2.32	0.42
49:D5:3:LYS:HG2	49:D5:4:HIS:N	2.34	0.42
25:DC:176:VAL:HB	25:DC:177:GLY:H	1.47	0.42
25:DC:42:VAL:HG22	25:DC:215:VAL:HG13	2.00	0.42
25:BC:169:THR:C	25:BC:171:ALA:N	2.73	0.42
30:DH:45:VAL:HA	30:DH:50:VAL:HG22	2.01	0.42
27:BE:21:VAL:HA	27:BE:22:PRO:HD2	1.71	0.42
21:CA:1424:C:H2'	21:CA:1425:U:C6	2.55	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
40:DU:96:ALA:O	40:DU:99:ALA:HB3	2.19	0.42
59:BA:2502:G:H5'	59:BA:2503:A:H5''	2.00	0.42
56:B1:58:ILE:HG13	56:B1:91:LYS:HD2	2.01	0.42
20:AY:21:ILE:HG22	59:BA:2661:G:H5'	2.00	0.42
20:AY:18:ALA:HB2	20:AY:85:PRO:HG2	2.02	0.42
28:BF:93:LYS:H	28:BF:95:ARG:NH1	2.17	0.42
56:B1:23:LYS:HZ3	56:B1:33:LYS:HB3	1.83	0.42
40:BU:79:PHE:CE2	40:BU:83:LEU:HD21	2.54	0.42
21:CA:966:G:H2'	21:CA:967:C:O4'	2.19	0.42
22:AW:35:A:C2	23:AV:18:G:N1	2.62	0.42
59:BA:1767:C:N3	59:BA:1985:G:N2	2.49	0.42
26:DD:134:ARG:HG2	26:DD:187:GLY:O	2.18	0.42
50:B6:27:LYS:NZ	50:B6:30:THR:H	2.17	0.42
50:B6:8:LYS:HD2	50:B6:27:LYS:HA	2.00	0.42
59:DA:1498:C:H2'	59:DA:1499:C:C6	2.54	0.42
35:BP:48:PRO:O	35:BP:49:ARG:C	2.57	0.42
34:DO:35:VAL:HG11	34:DO:105:GLU:HB2	2.02	0.42
29:DG:76:SER:CA	29:DG:83:ARG:HB3	2.46	0.42
30:BH:97:ARG:HD3	30:BH:99:VAL:HB	2.00	0.42
21:CA:509:A:C6	21:CA:510:A:N1	2.87	0.42
12:AM:84:ILE:HG21	18:AS:74:PHE:CG	2.54	0.42
44:BY:69:ALA:O	44:BY:71:LYS:N	2.52	0.42
35:DP:64:LYS:HG3	35:DP:64:LYS:HZ2	1.55	0.42
8:AI:72:GLY:HA2	8:AI:75:ASP:OD1	2.19	0.42
29:DG:15:VAL:HA	29:DG:175:LEU:HD13	2.00	0.42
7:AH:11:THR:O	7:AH:14:ARG:HB2	2.20	0.42
1:CB:16:HIS:CE1	1:CB:210:SER:HA	2.54	0.42
59:DA:829:A:H8	59:DA:2248:C:H5'	1.81	0.42
22:AW:19:G:H1'	22:AW:57:G:C2	2.54	0.42
50:D6:23:THR:OG1	50:D6:23:THR:O	2.36	0.42
59:DA:2208:U:H2'	59:DA:2209:C:H6	1.84	0.42
59:DA:1491:G:H5''	59:DA:1494:A:N7	2.34	0.42
2:CC:174:PRO:CA	21:CA:1107:C:H5''	2.49	0.42
11:AL:59:ARG:HA	11:AL:64:TYR:O	2.18	0.42
3:CD:207:TYR:HD2	3:CD:207:TYR:HA	1.70	0.42
3:AD:42:GLN:NE2	21:AA:512:U:H1'	2.34	0.42
59:DA:273(E):C:H2'	59:DA:273(F):U:H6	1.82	0.42
45:BZ:77:ASP:O	45:BZ:79:ARG:N	2.50	0.42
45:BZ:70:LEU:HD23	45:BZ:71:VAL:H	1.84	0.42
59:DA:2540:C:H2'	59:DA:2541:A:O4'	2.19	0.42
21:AA:780:A:H3'	21:AA:780:A:C8	2.54	0.42
21:AA:1243:C:H2'	21:AA:1244:C:C6	2.54	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:DQ:38:GLU:OE2	36:DQ:128:LYS:HG2	2.19	0.42
59:DA:1882:C:H2'	59:DA:1883:G:O4'	2.19	0.42
45:DZ:14:LYS:HD2	45:DZ:16:SER:HB3	2.01	0.42
59:DA:2090:G:H1	59:DA:2229:C:H42	1.66	0.42
21:CA:54:C:H42	21:CA:357:G:H1	1.67	0.42
59:BA:829:A:C8	59:BA:2248:C:H5'	2.54	0.42
29:BG:121:ASN:O	29:BG:131:TYR:OH	2.22	0.42
18:AS:65:ASN:ND2	29:BG:115:ARG:HB3	2.34	0.42
1:CB:180:LEU:HB3	1:CB:182:ILE:HG12	2.01	0.42
19:CT:39:LYS:HE3	19:CT:43:LEU:HD12	2.01	0.42
59:DA:30:G:H2'	59:DA:31:C:C6	2.54	0.42
21:CA:568:G:N2	21:CA:569:C:C2	2.86	0.42
8:CI:29:ASN:ND2	8:CI:65:VAL:O	2.51	0.42
9:CJ:51:ARG:O	21:CA:1060:C:H5'	2.19	0.42
59:DA:1833:U:H2'	59:DA:1834:U:C6	2.55	0.42
1:CB:98:LEU:N	1:CB:101:MET:SD	2.93	0.42
3:AD:119:GLN:HE21	3:AD:119:GLN:HB2	1.66	0.42
59:BA:2056:G:H2'	59:BA:2056:G:N3	2.34	0.42
12:AM:94:ARG:HG3	18:AS:81:ARG:HH21	1.83	0.42
20:AY:30:GLU:CB	20:AY:51:THR:HG22	2.42	0.42
59:DA:2134:A:N6	59:DA:2157:G:H1'	2.34	0.42
21:AA:1504:G:H4'	21:AA:1505:G:H5'	2.00	0.42
59:DA:1583:A:O2'	59:DA:1586:A:N6	2.51	0.42
21:AA:663:A:O2'	21:AA:664:G:H5'	2.20	0.42
11:CL:75:HIS:HB2	11:CL:77:LEU:HD12	2.01	0.42
21:CA:1492:A:C5'	24:CU:6:5OH:HP	2.49	0.42
60:BB:100:G:H2'	60:BB:101:A:C8	2.53	0.42
41:BV:25:LEU:H	41:BV:92:THR:HG21	1.84	0.42
25:BC:48:LEU:HD12	25:BC:48:LEU:H	1.84	0.42
33:DN:25:ARG:NH2	59:DA:114(B):A:H4'	2.27	0.42
21:CA:741:G:H5'	21:CA:742:G:OP2	2.19	0.42
10:AK:114:VAL:O	21:AA:675:A:O2'	2.31	0.42
9:CJ:49:VAL:CG2	13:CN:41:ARG:HB2	2.43	0.42
25:DC:151:GLY:HA2	25:DC:154:ILE:HD12	2.01	0.42
34:DO:75:SER:HB3	39:DT:77:PRO:HD3	2.01	0.42
36:DQ:46:GLN:NE2	59:DA:2485:G:OP1	2.51	0.42
59:BA:1286:A:N6	59:BA:1329:U:O2'	2.49	0.42
37:DR:39:PRO:HG2	59:DA:1651:G:H5'	2.00	0.42
32:BK:52:ILE:O	32:BK:72:PRO:HA	2.18	0.42
37:BR:38:VAL:O	37:BR:41:ALA:HB3	2.20	0.42
56:B1:77:ALA:O	56:B1:82:LEU:HD11	2.18	0.42
21:AA:232:G:C5	21:AA:233:C:C5	3.06	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:AY:515:GLU:HG2	20:AY:516:PRO:HD2	2.00	0.42
59:DA:2773:C:H2'	59:DA:2774:C:C6	2.52	0.42
59:DA:1050:A:H2'	59:DA:1051:G:O4'	2.20	0.42
27:DE:134:ILE:HD13	27:DE:134:ILE:H	1.84	0.42
59:DA:1479:G:H1'	59:DA:1558:A:OP1	2.19	0.42
20:AY:605:ILE:HD12	20:AY:648:PRO:HA	2.01	0.42
16:CQ:59:ILE:HA	16:CQ:73:VAL:HA	2.02	0.42
36:BQ:68:ILE:HG23	36:BQ:103:MET:HA	2.00	0.42
21:CA:1358:U:O2'	21:CA:1359:C:O5'	2.38	0.42
56:D1:30:VAL:HA	59:DA:2396:G:H4'	2.01	0.42
33:BN:10:GLU:OE2	33:BN:11:PRO:HD2	2.20	0.42
18:AS:80:TYR:HB2	21:AA:957:U:H5'	2.01	0.42
21:CA:773:G:H2'	21:CA:774:G:C8	2.54	0.42
59:DA:2126:A:N6	59:DA:2163:C:H4'	2.35	0.42
6:CG:56:GLN:H	6:CG:56:GLN:CD	2.22	0.42
20:CY:436:PRO:O	20:CY:438:PHE:N	2.52	0.42
21:CA:1440(J):C:O2'	21:CA:1440(K):G:H5''	2.18	0.42
21:AA:1120:G:C2	21:AA:1154:G:C2	3.07	0.42
53:B9:33:LYS:HE3	53:B9:33:LYS:HB2	1.75	0.42
33:DN:72:TYR:HB2	33:DN:85:ILE:O	2.19	0.42
25:BC:161:ARG:HD3	25:BC:161:ARG:O	2.18	0.42
45:BZ:105:VAL:HG12	45:BZ:139:VAL:O	2.20	0.42
21:CA:729:A:C5	21:CA:730:G:N7	2.86	0.42
59:BA:49:A:H4'	59:BA:50:U:O5'	2.19	0.42
3:AD:207:TYR:C	3:AD:209:ARG:H	2.22	0.42
36:BQ:21:THR:C	36:BQ:23:GLY:H	2.18	0.42
59:BA:2126:A:H1'	59:BA:2127:G:C8	2.54	0.42
3:CD:76:ARG:HD3	3:CD:207:TYR:CE1	2.54	0.42
25:DC:77:ALA:HA	25:DC:114:VAL:O	2.19	0.42
21:CA:867:G:H2'	21:CA:868:C:C6	2.55	0.42
59:DA:767:U:H2'	59:DA:768:G:H8	1.84	0.42
59:BA:1464:C:H2'	59:BA:1465:G:C8	2.55	0.42
20:AY:319:ASP:HA	20:AY:320:PRO:HD3	1.91	0.42
17:AR:19:LYS:HD3	17:AR:19:LYS:HA	1.91	0.42
21:AA:995:C:N3	21:AA:1046:A:O2'	2.36	0.42
47:B2:61:LEU:O	47:B2:64:LEU:HB3	2.18	0.42
44:DY:38:ILE:CG1	44:DY:64:GLU:HB3	2.49	0.42
59:DA:29:U:H2'	59:DA:30:G:C8	2.53	0.42
21:AA:1156:G:O2'	21:AA:1180:A:N1	2.38	0.42
20:CY:149:VAL:HG12	20:CY:153:MET:SD	2.58	0.42
38:BS:56:LEU:HD23	38:BS:58:LEU:HD22	2.01	0.42
7:CH:56:LYS:HA	7:CH:57:PRO:HD2	1.91	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:CQ:58:GLU:CD	16:CQ:75:ARG:HE	2.23	0.42
59:DA:1196:C:H2'	59:DA:1197:G:H8	1.84	0.42
27:DE:158:GLY:HA3	59:DA:2620:C:O2'	2.18	0.42
20:CY:495:GLY:HA3	20:CY:510:VAL:HG23	2.00	0.42
2:CC:206:GLU:C	2:CC:208:ILE:H	2.22	0.42
1:CB:105:PHE:HZ	1:CB:156:LYS:HA	1.84	0.42
20:AY:535:PRO:HG2	20:AY:572:TYR:CE2	2.54	0.42
20:AY:138:LYS:HG2	61:AY:701:GNP:N1	2.34	0.42
20:CY:32:ILE:C	20:CY:34:TYR:H	2.10	0.42
59:DA:2175:C:H2'	59:DA:2176:A:H8	1.85	0.42
27:BE:61:ARG:HG3	59:BA:2811:G:OP1	2.20	0.42
11:CL:93:LEU:HD23	11:CL:93:LEU:H	1.84	0.42
38:BS:13:ARG:HG3	38:BS:13:ARG:H	1.51	0.42
21:CA:1347:G:O2'	21:CA:1373:G:O6	2.24	0.42
38:DS:83:LYS:O	38:DS:106:ARG:HA	2.19	0.42
33:DN:39:ARG:NH2	33:DN:41:ASP:O	2.47	0.42
3:AD:9:CYS:CA	3:AD:12:CYS:HB2	2.49	0.42
41:DV:89:GLN:NE2	59:DA:1162:G:N3	2.66	0.42
59:DA:1541:U:H3'	59:DA:1542:G:C3'	2.44	0.42
59:BA:957:A:C2	59:BA:2459:A:H5'	2.54	0.42
21:CA:936:C:N3	21:CA:1379:G:N2	2.61	0.42
21:AA:737:A:C4	21:AA:738:C:C5	3.08	0.42
26:DD:208:LYS:HG3	26:DD:210:GLY:N	2.34	0.42
59:DA:1461:G:H2'	59:DA:1462:C:H6	1.85	0.42
21:AA:1306:A:H1'	21:AA:1332:A:N1	2.35	0.42
20:AY:615:GLU:HG3	20:AY:615:GLU:H	1.58	0.42
35:BP:60:MET:HB3	59:BA:2392:A:C8	2.54	0.42
59:BA:2009:G:H2'	59:BA:2010:G:C8	2.53	0.42
20:CY:617:MET:HG2	20:CY:618:GLY:N	2.29	0.42
28:BF:107:LYS:HA	28:BF:107:LYS:HD3	1.64	0.42
39:BT:23:ARG:NH1	39:BT:120:ARG:HH11	2.18	0.42
11:AL:117:ARG:HG2	11:AL:122:THR:HB	2.01	0.42
34:DO:19:ILE:HG22	34:DO:43:VAL:HA	2.01	0.42
10:CK:53:SER:CB	21:CA:694:A:H5''	2.47	0.42
14:AO:39:LEU:HD12	14:AO:56:LEU:HD13	2.02	0.42
4:CE:101:ILE:HG13	4:CE:118:ILE:O	2.18	0.42
21:AA:18:C:H2'	21:AA:19:C:C6	2.55	0.42
50:D6:53:LYS:HA	50:D6:53:LYS:HD2	1.55	0.42
50:B6:8:LYS:NZ	50:B6:27:LYS:HB2	2.34	0.42
59:DA:141(B):C:H2'	59:DA:142:G:O4'	2.19	0.42
20:AY:394:ALA:O	20:AY:396:ARG:N	2.53	0.42
45:BZ:97:GLU:HA	45:BZ:127:LYS:HA	2.02	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
47:D2:61:LEU:O	47:D2:64:LEU:HB3	2.20	0.42
6:CG:15:ASP:HB2	6:CG:20:ASP:O	2.19	0.42
17:AR:74:ARG:HG2	17:AR:79:LEU:HB3	2.01	0.42
5:CF:11:ASN:ND2	5:CF:13:ASN:O	2.52	0.42
3:CD:72:GLU:HA	3:CD:75:PHE:HB3	2.01	0.42
38:DS:51:ALA:HB3	38:DS:73:LEU:HD12	2.02	0.42
20:AY:329:ARG:HD2	20:AY:374:LEU:CD1	2.50	0.42
59:DA:849:A:H61	59:DA:929:G:H1'	1.82	0.42
49:D5:16:ARG:O	49:D5:20:ARG:HB2	2.19	0.42
8:CI:24:GLY:HA2	8:CI:59:PHE:C	2.40	0.42
59:DA:836:G:H1	59:DA:943:U:H3	1.66	0.42
59:BA:363(D):G:H2'	59:BA:363(E):G:C8	2.54	0.42
21:CA:893:C:H2'	21:CA:894:G:C8	2.54	0.42
10:CK:66:LEU:O	10:CK:69:ALA:HB3	2.18	0.42
7:CH:9:MET:HE3	7:CH:10:LEU:HG	2.01	0.42
31:BJ:83:UNK:C	31:BJ:85:UNK:N	2.82	0.42
32:DK:99:ILE:CG2	32:DK:104:VAL:HB	2.49	0.42
7:CH:122:ARG:O	7:CH:126:LYS:HB2	2.20	0.42
26:BD:274:ARG:NH2	59:BA:1798:U:O5'	2.52	0.42
27:DE:6:GLY:HA2	27:DE:27:LEU:O	2.19	0.42
8:CI:40:LEU:HD22	8:CI:42:ARG:HG3	2.02	0.42
1:AB:9:GLU:HA	1:AB:44:LEU:HD23	2.01	0.42
7:CH:35:ILE:O	7:CH:39:LEU:HD23	2.19	0.42
37:BR:39:PRO:HG2	59:BA:1651:G:H5'	2.00	0.42
53:D9:19:ARG:HG2	53:D9:20:HIS:ND1	2.34	0.42
33:DN:95:PRO:HA	33:DN:98:VAL:HG13	2.01	0.42
7:AH:64:LYS:HB3	7:AH:79:VAL:HG21	2.02	0.42
6:AG:32:ARG:HG3	21:AA:1240:U:N3	2.34	0.42
30:BH:157:TYR:CZ	59:BA:2531:A:H5''	2.54	0.42
20:AY:325:LEU:HD22	20:AY:376:ALA:HB1	2.00	0.42
21:AA:178:C:H2'	21:AA:179:A:O4'	2.20	0.42
59:DA:879:G:H2'	59:DA:880:G:H8	1.84	0.42
41:BV:1:MET:HG2	41:BV:42:GLY:HA3	2.01	0.42
33:BN:80:GLY:N	59:BA:1131:G:OP1	2.37	0.42
29:BG:97:ASP:O	29:BG:100:TRP:HB2	2.19	0.42
21:CA:1345:U:H4'	21:CA:1346:A:H5'	2.01	0.42
21:CA:436:C:H2'	21:CA:437:U:O4'	2.19	0.42
1:AB:52:GLU:O	1:AB:56:ARG:HB2	2.18	0.42
21:CA:1366:C:H2'	21:CA:1367:C:C6	2.54	0.42
20:CY:586:GLY:O	20:CY:589:ALA:HB3	2.20	0.42
59:BA:478:A:N6	59:BA:500:G:O2'	2.51	0.42
30:DH:70:THR:HA	30:DH:73:ALA:HB3	2.01	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
35:DP:14:LYS:HA	35:DP:14:LYS:HD3	1.90	0.42
45:DZ:154:ASP:N	45:DZ:154:ASP:OD2	2.51	0.42
59:BA:627:A:OP1	59:BA:627:A:H8	2.03	0.42
20:AY:75:LYS:HE3	20:AY:75:LYS:HB3	1.49	0.42
2:CC:179:ARG:H	2:CC:179:ARG:HG3	1.68	0.42
59:BA:315:G:H2'	59:BA:316:C:C6	2.53	0.42
59:DA:2404:C:H2'	59:DA:2405:G:O4'	2.18	0.42
20:AY:13:ARG:NE	20:AY:77:HIS:HB3	2.34	0.42
20:CY:135:PHE:CD2	20:CY:137:ASN:HB2	2.53	0.42
59:BA:1007:C:H5''	59:BA:1008:C:P	2.60	0.42
27:BE:63:LEU:HD13	27:BE:65:GLY:HA3	2.02	0.42
21:AA:1290:G:H2'	21:AA:1291:G:O4'	2.19	0.42
21:AA:976:G:N2	21:AA:1362:C:H2'	2.34	0.42
60:DB:42:C:H2'	60:DB:43:C:H6	1.85	0.42
60:DB:47:C:H2'	60:DB:48:A:H5'	2.01	0.42
59:BA:1776:G:N2	59:BA:1789:A:H1'	2.34	0.42
1:AB:71:VAL:HG12	1:AB:170:GLU:OE2	2.19	0.42
59:DA:1529:A:H62	59:DA:1542:G:N2	2.17	0.42
34:DO:97:ARG:HA	34:DO:117:LEU:HD22	2.01	0.42
37:DR:28:LEU:HA	37:DR:34:ILE:HD13	2.01	0.42
52:D8:16:ILE:HG21	52:D8:57:ARG:HG2	2.01	0.42
59:BA:884:C:H42	59:BA:892:G:H1	1.67	0.42
59:DA:2703:C:H2'	59:DA:2704:C:H6	1.83	0.42
34:DO:66:LYS:HB3	59:DA:1665:A:H4'	2.00	0.42
59:DA:2391:G:C6	59:DA:2427:C:H1'	2.54	0.42
20:AY:216:LEU:HD21	20:AY:246:ILE:HD11	2.02	0.42
59:DA:976:C:H2'	59:DA:977:G:C8	2.43	0.42
21:CA:218:C:H4'	21:CA:458(C):G:N1	2.35	0.42
59:BA:1942:C:C4	59:BA:1943:U:C4	3.07	0.42
59:DA:2111:C:H1'	59:DA:2118:U:H4'	2.00	0.42
46:B0:65:GLY:HA3	46:B0:82:ARG:O	2.19	0.42
1:AB:139:LYS:HA	1:AB:142:LEU:HB2	2.02	0.42
1:AB:145:LEU:HD12	1:AB:149:LEU:HD12	2.01	0.42
7:CH:21:LYS:HE3	7:CH:21:LYS:HB2	1.85	0.42
59:BA:2679:A:H2'	59:BA:2680:C:C6	2.55	0.42
12:AM:14:ARG:HG3	12:AM:44:ARG:HD2	2.01	0.42
59:DA:702:G:C2	59:DA:703:U:C2	3.08	0.42
59:BA:74:A:H5''	59:BA:75:G:O4'	2.19	0.42
12:AM:108:ARG:NE	12:AM:114:ARG:HG3	2.34	0.42
26:BD:151:LYS:HE3	59:BA:2207:C:O2	2.20	0.42
37:BR:83:ILE:HG23	37:BR:87:TYR:CE2	2.54	0.42
21:AA:774:G:H2'	21:AA:775:G:O4'	2.19	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:AR:74:ARG:HG3	17:AR:79:LEU:HD13	2.01	0.42
21:CA:549:C:H2'	21:CA:550:G:O4'	2.19	0.42
12:CM:50:GLU:O	12:CM:52:GLU:N	2.52	0.42
52:B8:32:LEU:HB3	52:B8:33:ASN:H	1.48	0.42
21:AA:1157:A:C2	21:AA:1181:G:C5	3.07	0.42
44:BY:8:LYS:C	44:BY:28:LYS:HZ3	2.23	0.42
52:D8:60:LEU:HD13	52:D8:64:TYR:O	2.20	0.42
12:CM:20:THR:C	12:CM:22:ILE:H	2.21	0.42
21:CA:427:U:O2'	21:CA:541:G:OP1	2.29	0.42
3:AD:76:ARG:O	3:AD:80:GLU:HG2	2.19	0.42
46:B0:31:VAL:HG11	46:B0:37:LEU:HD21	2.01	0.42
34:BO:19:ILE:HG22	34:BO:43:VAL:HA	2.02	0.42
59:BA:1221:C:H2'	59:BA:122(A):C:H6	1.84	0.42
34:BO:38:VAL:HA	34:BO:60:ALA:O	2.20	0.42
26:DD:6:PHE:HD2	26:DD:9:TYR:OH	2.03	0.42
26:BD:126:GLN:O	26:BD:127:VAL:HB	2.19	0.42
34:BO:12:ASP:HB2	34:BO:14:THR:HB	2.01	0.42
10:AK:47:VAL:HG22	21:AA:687:A:H4'	2.00	0.42
4:AE:80:ILE:HD11	4:AE:138:ALA:HB1	2.01	0.42
36:BQ:56:ARG:HD3	59:BA:2469:A:O2'	2.19	0.42
59:DA:536:A:H2'	59:DA:537:C:C6	2.53	0.42
59:DA:579:G:H2'	59:DA:580:C:C6	2.54	0.42
21:AA:1134:G:H2'	21:AA:1135:U:O4'	2.19	0.42
7:CH:27:PRO:HA	7:CH:58:TYR:CD2	2.54	0.42
2:CC:161:GLU:O	2:CC:163:ALA:N	2.52	0.42
59:BA:229:A:HO2'	59:BA:230:U:H5	1.67	0.42
43:DX:68:ARG:HH21	43:DX:69:TYR:HA	1.83	0.42
59:BA:803:U:C2'	59:BA:804:A:H5'	2.49	0.42
29:BG:34:LEU:HD22	29:BG:100:TRP:CZ2	2.54	0.42
46:D0:70:GLN:HG2	46:D0:71:ASP:N	2.33	0.42
59:BA:998:C:H2'	59:BA:999:U:O4'	2.19	0.42
15:CP:21:VAL:HG13	15:CP:34:GLU:H	1.84	0.42
20:CY:333:GLY:O	20:CY:371:ALA:HB2	2.18	0.42
15:CP:14:ASN:HA	15:CP:42:ARG:HH21	1.84	0.42
35:BP:113:LYS:NZ	59:BA:636:G:N7	2.62	0.42
21:AA:68(A):G:H2'	21:AA:68(B):G:C8	2.54	0.42
19:CT:33:ILE:HG13	19:CT:62:LEU:HB3	2.00	0.42
9:AJ:76:ASN:HA	9:AJ:77:PRO:HD2	1.89	0.42
59:DA:1631:A:C6	59:DA:1632:A:C6	3.08	0.42
59:BA:2524:G:H1	59:BA:2539:C:H42	1.67	0.42
59:DA:638:G:H2'	59:DA:639:U:C6	2.55	0.42
60:BB:2:C:H2'	60:BB:3:C:C6	2.54	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:2109:U:H2'	59:DA:2110:G:C8	2.55	0.42
5:AF:1:MET:SD	5:AF:66:GLU:HG2	2.59	0.42
59:BA:123:G:H2'	59:BA:124:G:O4'	2.19	0.42
21:AA:1378:C:O2	21:AA:1378:C:H2'	2.19	0.42
1:AB:102:LEU:HD13	1:AB:102:LEU:HA	1.84	0.42
26:BD:275:LYS:HE2	26:BD:275:LYS:HB3	1.86	0.42
59:BA:1006:C:O2'	59:BA:1007:C:O4'	2.21	0.42
40:DU:84:LYS:NZ	59:DA:1152:C:OP1	2.42	0.42
42:DW:16:LYS:O	42:DW:20:VAL:HG23	2.19	0.42
11:CL:81:SER:HB3	11:CL:106:ASP:HB3	2.00	0.42
25:BC:45:HIS:NE2	59:BA:2177:C:H1'	2.33	0.42
37:DR:60:LEU:HD21	37:DR:64:ARG:CZ	2.50	0.42
59:DA:9:U:C2	59:DA:2629:A:N7	2.87	0.42
20:CY:257:PRO:HB2	20:CY:259:PHE:CE1	2.55	0.42
26:BD:260:ARG:HH21	26:BD:267:SER:HA	1.85	0.42
42:DW:81:ALA:CB	42:DW:99:ARG:HA	2.48	0.42
2:AC:156:ARG:HE	2:AC:159:GLY:HA2	1.85	0.42
1:CB:69:LEU:HD12	1:CB:71:VAL:HG22	2.02	0.42
21:AA:68(G):G:N2	21:AA:68(S):C:N3	2.58	0.42
26:BD:5:LYS:HD2	26:BD:7:LYS:HD2	2.01	0.42
39:DT:64:ARG:HA	39:DT:64:ARG:HD3	1.78	0.42
59:DA:2625:G:H2'	59:DA:2626:C:C6	2.54	0.42
36:DQ:34:LEU:HD13	36:DQ:131:ILE:HG23	2.00	0.42
28:DF:102:PRO:HA	59:DA:607:U:OP1	2.19	0.42
59:BA:271(B):C:H1'	59:BA:272:G:C1'	2.50	0.42
21:AA:236:G:C6	21:AA:237:C:C4	3.08	0.42
16:AQ:45:HIS:CB	16:AQ:72:ARG:HA	2.50	0.42
21:CA:201:C:N4	21:CA:216:G:H1	2.13	0.42
35:DP:56:SER:OG	35:DP:60:MET:SD	2.76	0.42
21:AA:1522:U:H2'	21:AA:1523:G:C8	2.55	0.42
21:CA:360:A:H2'	21:CA:361:G:C8	2.54	0.42
8:CI:125:TYR:CZ	8:CI:127:LYS:HB2	2.54	0.42
59:BA:1411:C:N4	59:BA:1591:G:H1	2.15	0.42
25:BC:102:GLN:NE2	25:BC:105:LEU:HD23	2.35	0.42
50:B6:8:LYS:HE3	50:B6:25:LYS:NZ	2.35	0.42
56:B1:25:LYS:HZ2	56:B1:34:THR:HG1	1.56	0.42
39:DT:47:GLY:N	39:DT:65:LYS:HZ3	2.17	0.42
9:CJ:34:VAL:HG13	9:CJ:74:ILE:HG22	2.01	0.42
21:AA:124:G:C6	21:AA:125:U:C2	3.08	0.42
34:DO:79:PHE:HA	39:DT:72:VAL:HG12	2.01	0.42
59:BA:1416:G:H22	59:BA:1583:A:H1'	1.84	0.42
59:BA:1586:A:H2'	59:BA:1586:A:N3	2.34	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:CA:705:U:HO2'	21:CA:706:A:P	2.42	0.42
21:AA:1237:C:C4	21:AA:1336:C:C2	3.07	0.42
26:DD:106:ILE:HD12	26:DD:106:ILE:HA	1.90	0.42
9:AJ:63:PHE:HE1	13:AN:58:LYS:HG2	1.84	0.42
59:BA:582:G:C2	59:BA:583:G:C4	3.07	0.42
5:AF:50:TYR:HE2	5:AF:87:ARG:HH21	1.67	0.42
21:AA:882:C:O2'	21:AA:883:C:H5'	2.18	0.42
59:DA:2820:A:H5'	59:DA:2821:A:N7	2.34	0.42
4:CE:100:VAL:O	4:CE:102:ALA:N	2.52	0.42
59:DA:1794:U:H2'	59:DA:1795:C:O4'	2.19	0.42
59:BA:1454:U:H5	59:BA:2702:U:H3	1.66	0.42
14:CO:64:ARG:NH2	21:CA:581:G:H4'	2.34	0.42
10:AK:21:ILE:HA	10:AK:29:ILE:O	2.19	0.42
10:AK:31:THR:HA	10:AK:41:THR:O	2.19	0.42
22:AW:19:G:N2	22:AW:56:C:H42	2.17	0.42
27:BE:15:PHE:HE2	27:BE:20:ALA:HB2	1.83	0.42
59:BA:609(A):A:H62	59:BA:619:G:H21	1.66	0.42
21:CA:1217:C:H2'	21:CA:1218:C:C6	2.55	0.42
39:BT:16:ARG:HA	39:BT:16:ARG:HD2	1.81	0.42
59:BA:2582:G:C2	59:BA:2583:G:C8	3.07	0.42
59:DA:46:C:OP2	59:DA:215:G:H8	2.01	0.42
20:AY:680:PRO:HB2	20:AY:682:GLN:HE21	1.85	0.42
36:BQ:14:ARG:NH1	59:BA:958:U:H5'	2.35	0.42
21:CA:22:G:H2'	21:CA:23:C:C6	2.55	0.42
59:DA:485:C:N4	59:DA:496:G:O6	2.53	0.42
56:B1:65:SER:O	56:B1:66:HIS:ND1	2.53	0.42
42:BW:103:ILE:HD12	42:BW:103:ILE:H	1.85	0.42
59:BA:196:A:C4	59:BA:805:G:O6	2.73	0.42
27:DE:15:PHE:CD1	39:DT:80:SER:HB2	2.54	0.42
8:AI:53:VAL:HG23	8:AI:55:ALA:H	1.85	0.42
1:AB:181:PHE:CD1	7:AH:71:GLY:HA2	2.55	0.42
48:D3:4:LEU:HD23	48:D3:58:VAL:HG13	2.01	0.42
59:BA:451:C:H5'	59:BA:452:G:OP2	2.19	0.42
2:AC:34:LEU:O	2:AC:38:ARG:HG3	2.19	0.42
59:BA:2031:A:O2'	59:BA:2454:G:N2	2.52	0.42
21:AA:110:C:H2'	21:AA:111:G:O4'	2.20	0.42
21:CA:1096:C:H2'	21:CA:1097:C:C6	2.55	0.42
41:BV:15:GLU:HG3	41:BV:18:LEU:HD11	2.02	0.42
26:DD:201:HIS:NE2	59:DA:1821:A:OP1	2.46	0.42
56:B1:5:CYS:SG	56:B1:7:ILE:HB	2.59	0.42
29:BG:130:ASN:OD1	29:BG:161:THR:N	2.53	0.42
20:AY:269:VAL:HB	20:AY:270:GLN:H	1.64	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:AY:352:VAL:HB	20:AY:377:VAL:HG21	2.00	0.42
46:D0:41:ARG:NH2	59:DA:2387:U:O2'	2.53	0.42
29:BG:95:ARG:HA	29:BG:95:ARG:HD3	1.83	0.42
21:CA:1495:U:O2'	21:CA:1496:C:H5'	2.20	0.42
25:DC:47:LYS:HE3	25:DC:211:ARG:NH2	2.32	0.42
11:CL:54:LYS:CD	11:CL:70:ILE:HG12	2.36	0.42
51:B7:16:HIS:CD2	59:BA:686:G:H1	2.38	0.42
56:B1:45:ASN:OD1	56:B1:46:LEU:N	2.43	0.42
38:DS:47:THR:O	38:DS:48:LEU:CB	2.66	0.42
45:BZ:74:VAL:HG13	45:BZ:86:VAL:HG13	2.01	0.42
42:DW:77:ASP:O	42:DW:102:HIS:N	2.52	0.42
1:CB:69:LEU:HD12	1:CB:71:VAL:CG2	2.50	0.42
52:B8:58:ILE:O	52:B8:61:LEU:HD13	2.20	0.42
39:DT:27:THR:CG2	39:DT:49:VAL:HB	2.50	0.42
59:BA:1516:U:O2'	59:BA:1557:C:H4'	2.20	0.42
59:BA:2502:G:OP1	59:BA:2502:G:H8	2.03	0.42
26:DD:16:MET:HG3	26:DD:207:GLY:HA3	2.02	0.42
40:BU:50:ARG:HD3	59:BA:993:G:OP1	2.19	0.42
3:AD:173:TRP:HD1	3:AD:186:LEU:N	2.10	0.42
21:CA:918:A:H2'	21:CA:919:A:O4'	2.20	0.42
50:B6:15:GLU:CG	50:B6:16:CYS:H	2.33	0.42
37:BR:103:ARG:HD2	42:BW:40:ASN:OD1	2.20	0.42
7:AH:30:ARG:O	7:AH:33:GLU:HB3	2.19	0.42
59:BA:2849:U:H1'	59:BA:2866:U:C6	2.55	0.42
22:CW:12:U:H1'	22:CW:24:G:N2	2.35	0.42
18:AS:49:ILE:O	18:AS:49:ILE:HG13	2.19	0.42
50:B6:27:LYS:HE3	59:BA:2285:C:OP1	2.19	0.42
35:BP:46:LYS:HD2	35:BP:46:LYS:N	2.35	0.42
59:BA:1417:C:H6	59:BA:1417:C:O5'	2.03	0.42
7:AH:130:GLY:N	21:AA:599:C:O2'	2.53	0.42
59:DA:372:G:O2'	59:DA:400:G:O6	2.30	0.42
26:BD:148:GLU:HB3	26:BD:151:LYS:CG	2.49	0.42
30:BH:41:MET:HE1	30:BH:52:VAL:HG13	2.02	0.42
59:BA:19:C:H2'	59:BA:20:C:H6	1.83	0.42
59:DA:2235:G:H2'	59:DA:2236:C:C6	2.54	0.42
21:AA:1532:U:O2	23:AV:13:A:N6	2.52	0.42
40:DU:34:LYS:HZ3	59:DA:2018:G:H21	1.66	0.42
18:CS:60:VAL:HG21	18:CS:74:PHE:HB3	2.02	0.42
59:DA:2127:G:N2	59:DA:2173:A:H1'	2.35	0.42
22:CW:65:U:H2'	22:CW:66:C:C6	2.55	0.42
26:DD:12:SER:C	26:DD:14:ARG:H	2.22	0.42
28:DF:46:ARG:HH21	28:DF:48:THR:HG21	1.84	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:2592:G:N1	59:DA:2603:G:C6	2.87	0.42
60:DB:8:U:H2'	60:DB:9:G:C8	2.54	0.42
10:AK:40:ILE:O	10:AK:41:THR:O	2.37	0.42
29:BG:143:GLU:CD	29:BG:143:GLU:H	2.23	0.42
46:B0:20:ARG:HD3	59:BA:2356:C:O3'	2.19	0.42
21:CA:1440(J):C:HO2'	21:CA:1440(K):G:N2	2.17	0.42
21:CA:1256:A:O3'	21:CA:1257:U:H4'	2.20	0.42
27:BE:150:VAL:HB	59:BA:2619:C:O4'	2.20	0.42
25:DC:76:LEU:HD12	25:DC:93:ASP:O	2.20	0.42
21:CA:45:U:H4'	21:CA:306:G:N2	2.35	0.42
5:CF:61:LEU:HB2	5:CF:63:TYR:CE2	2.54	0.42
21:AA:894:G:C6	21:AA:895:G:C6	3.07	0.42
59:BA:82:G:H5''	59:BA:296:C:C5'	2.50	0.42
16:AQ:83:ASP:O	16:AQ:86:GLU:HB3	2.19	0.42
7:AH:6:ILE:H	7:AH:6:ILE:HD12	1.84	0.42
16:AQ:27:PHE:HE2	16:AQ:30:PRO:HD3	1.84	0.42
18:CS:14:HIS:CD2	21:CA:1014:A:H4'	2.55	0.42
59:BA:247:G:H4'	59:BA:386:G:C4	2.55	0.42
40:DU:47:TYR:OH	59:DA:992:C:OP1	2.31	0.42
34:BO:120:GLU:HG3	34:BO:122:LEU:HD21	2.02	0.42
37:DR:10:LEU:HD22	37:DR:17:ARG:CZ	2.50	0.42
20:AY:417:THR:C	20:AY:419:ALA:H	2.23	0.42
31:DJ:86:UNK:O	31:DJ:87:UNK:C	2.67	0.42
21:AA:270:A:H2'	21:AA:271:C:O4'	2.19	0.42
5:CF:44:GLY:HA2	5:CF:59:TYR:CG	2.55	0.42
26:BD:130:ALA:HA	26:BD:191:ALA:O	2.20	0.42
11:AL:21:LYS:NZ	21:AA:910:C:OP2	2.32	0.42
21:AA:41:G:H2'	21:AA:42:G:H8	1.85	0.42
11:CL:61:THR:HG21	21:CA:362:G:H5''	2.02	0.42
40:DU:28:ARG:HH11	40:DU:38:THR:HG23	1.85	0.42
59:BA:1108:U:H2'	59:BA:1109:C:O4'	2.19	0.42
16:AQ:3:LYS:HE2	21:AA:128:G:O3'	2.20	0.42
20:CY:314:PHE:HE2	20:CY:329:ARG:HB3	1.84	0.42
59:DA:2027:G:C2	59:DA:2028:U:H1'	2.55	0.42
59:DA:287:C:H2'	59:DA:288:C:O4'	2.20	0.42
21:AA:229:U:H2'	21:AA:230:G:O4'	2.20	0.42
59:DA:1938:A:N1	59:DA:2590:A:H1'	2.34	0.42
40:BU:72:HIS:NE2	40:BU:107:ALA:HB2	2.34	0.42
11:AL:83:VAL:CG1	11:AL:100:ILE:HG23	2.49	0.42
59:DA:1135:C:H42	59:DA:1138:G:H8	1.67	0.42
59:DA:1348:G:H2'	59:DA:1349:A:H5''	2.00	0.42
21:AA:665:A:H2'	21:AA:725:G:N2	2.34	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:DF:107:LYS:HD3	28:DF:107:LYS:HA	1.90	0.42
59:DA:1906:G:H2'	59:DA:1907:G:H8	1.85	0.42
9:AJ:55:LYS:HG2	21:AA:963:G:H21	1.85	0.42
27:BE:151:TYR:CD2	33:BN:79:PRO:CG	2.99	0.42
38:BS:30:ARG:NH2	38:BS:62:LYS:HD2	2.35	0.42
33:DN:36:GLY:HA3	33:DN:48:MET:HE2	2.02	0.42
33:DN:46:VAL:HG13	33:DN:48:MET:HG3	2.01	0.42
59:BA:460:A:H2'	59:BA:461:C:O4'	2.20	0.42
59:DA:807:U:H2'	59:DA:808:G:H8	1.85	0.42
3:AD:28:SER:HB2	3:AD:29:PRO:HD2	2.02	0.42
3:AD:33:MET:CG	3:AD:37:PRO:HB3	2.46	0.42
25:DC:11:LEU:HA	25:DC:14:LYS:HB2	2.00	0.42
9:CJ:16:LEU:CD1	9:CJ:70:ARG:HH11	2.33	0.42
27:BE:12:THR:O	27:BE:22:PRO:HA	2.20	0.42
59:DA:1313:U:C2	59:DA:1610:A:H2	2.37	0.42
59:DA:1394:U:C4	59:DA:1395:A:C5	3.07	0.42
59:DA:1605:C:H2'	59:DA:1606:G:O4'	2.20	0.42
45:DZ:102:LEU:HD21	45:DZ:124:ILE:HD12	2.00	0.42
25:DC:79:ALA:O	25:DC:84:ILE:HG13	2.20	0.42
56:D1:18:ILE:HA	56:D1:41:ARG:H	1.84	0.42
20:CY:87:HIS:CD2	20:CY:121:VAL:HG22	2.48	0.42
20:AY:614:GLU:O	20:AY:615:GLU:C	2.58	0.42
11:AL:113:ARG:NH1	21:AA:537:G:H5''	2.34	0.42
59:BA:2014:A:H2'	59:BA:2015:A:C8	2.55	0.42
27:BE:134:ILE:O	27:BE:136:ARG:N	2.46	0.42
29:DG:172:LEU:HD23	29:DG:173:LEU:HG	2.02	0.42
39:BT:23:ARG:C	39:BT:25:GLY:H	2.23	0.42
56:B1:21:ARG:HE	59:BA:2080:G:H5''	1.84	0.42
48:D3:30:ARG:NH1	59:DA:1159:U:OP1	2.32	0.42
42:BW:69:LEU:HB3	42:BW:107:LEU:HD23	2.01	0.42
56:B1:18:ILE:HG12	56:B1:20:ARG:N	2.35	0.42
27:BE:25:VAL:HG22	27:BE:183:LEU:HD23	2.01	0.42
29:BG:172:LEU:O	29:BG:176:LEU:HB2	2.19	0.42
21:AA:18:C:HO2'	21:AA:1078:U:H3	1.68	0.42
1:AB:210:SER:O	1:AB:214:ILE:HG12	2.19	0.42
56:B1:25:LYS:HE3	56:B1:31:GLY:HA3	2.01	0.42
27:BE:161:GLY:O	27:BE:163:GLU:HG2	2.19	0.42
12:AM:26:GLY:N	21:AA:1329:A:H5''	2.35	0.42
59:DA:1326:U:C2	59:DA:1327:C:C6	3.08	0.42
30:BH:144:VAL:O	30:BH:148:ILE:HG12	2.19	0.42
27:BE:94:GLU:H	27:BE:94:GLU:CD	2.23	0.42
59:DA:1638:C:H4'	59:DA:2710:C:O2	2.20	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:AO:64:ARG:HD3	14:AO:68:ARG:NH2	2.34	0.42
16:AQ:78:GLU:HG2	16:AQ:81:ARG:HD2	2.02	0.42
59:BA:951:C:C4	59:BA:952:G:N7	2.87	0.42
16:CQ:41:LYS:HE3	21:CA:277:C:OP1	2.20	0.42
44:DY:97:ARG:HA	44:DY:97:ARG:HD2	1.84	0.42
59:DA:1770:G:H2'	59:DA:1771:C:C6	2.55	0.42
21:CA:1230:C:H5'	22:CW:30:C:H5''	2.02	0.42
32:DK:32:ALA:HB1	32:DK:57:ILE:HD12	2.02	0.42
40:DU:61:TRP:HE3	40:DU:93:LYS:HB2	1.84	0.42
26:DD:14:ARG:NH1	59:DA:1693:U:O3'	2.52	0.42
10:AK:25:TYR:HD2	10:AK:25:TYR:HA	1.72	0.42
59:BA:1462:C:H2'	59:BA:1463:C:C6	2.54	0.42
19:AT:13:LEU:HG	19:AT:14:LYS:N	2.35	0.42
10:AK:41:THR:HB	10:AK:71:LYS:HB2	2.02	0.42
20:AY:99:ARG:HH22	20:AY:403:GLU:HA	1.84	0.42
33:BN:126:PRO:HB2	33:BN:127:ASP:H	1.54	0.42
59:BA:48:G:H2'	59:BA:49:A:H2	1.84	0.42
59:BA:761:A:H8	59:BA:761:A:O5'	2.03	0.42
26:BD:274:ARG:HH21	59:BA:1798:U:H3'	1.84	0.42
41:DV:51:VAL:HG23	41:DV:53:GLU:HA	2.01	0.42
21:CA:11:G:C5	21:CA:12:U:C4	3.07	0.42
28:DF:136:THR:O	28:DF:140:LEU:HD13	2.19	0.42
43:BX:25:LYS:HG2	43:BX:82:GLN:HB2	2.02	0.42
59:BA:236:C:H2'	59:BA:237:C:C6	2.54	0.42
21:CA:642:A:H2'	21:CA:643:C:H6	1.83	0.42
59:BA:2825:U:H2'	59:BA:2826:A:O4'	2.19	0.42
29:DG:34:LEU:H	29:DG:34:LEU:HG	1.56	0.42
25:DC:9:ARG:O	25:DC:12:LEU:HB3	2.19	0.42
47:B2:2:LYS:O	47:B2:6:VAL:HG23	2.20	0.42
59:DA:1378:A:O2'	59:DA:1379:A:H2'	2.20	0.42
16:CQ:91:ARG:NH1	21:CA:584:G:OP1	2.53	0.42
29:BG:51:ARG:NH1	29:BG:54:GLU:HB2	2.35	0.42
59:BA:1332:G:N7	59:BA:1609:A:C6	2.87	0.42
7:CH:56:LYS:NZ	21:CA:653:A:OP1	2.51	0.42
59:BA:2379:G:H2'	59:BA:2380:C:C6	2.55	0.42
40:BU:40:PHE:HZ	41:BV:82:ARG:CZ	2.32	0.42
21:CA:243:A:C2	21:CA:245:C:H2'	2.54	0.42
21:AA:983:A:H2	21:AA:984:C:C5	2.38	0.42
6:CG:23:VAL:HG13	6:CG:43:PHE:HE2	1.85	0.42
8:AI:7:THR:O	8:AI:83:ARG:HD2	2.20	0.42
59:BA:2103:C:H2'	59:BA:2104:G:H8	1.84	0.42
59:DA:2450:A:OP1	59:DA:2497:A:O2'	2.33	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:DH:173:PRO:HB2	30:DH:174:GLY:H	1.58	0.42
35:BP:84:ASN:HA	35:BP:116:GLY:HA3	2.00	0.42
59:DA:2369:A:H2'	59:DA:2370:G:C8	2.55	0.42
7:CH:44:PHE:HE2	7:CH:109:ILE:HG21	1.84	0.42
3:CD:13:ARG:HH22	3:CD:36:ARG:NE	2.17	0.42
36:DQ:65:PHE:HB2	36:DQ:105:GLU:HG2	2.02	0.42
22:AW:51:A:H2'	22:AW:52:G:H8	1.84	0.42
5:AF:82:ARG:HA	5:AF:82:ARG:NE	2.35	0.42
36:BQ:18:LYS:HB3	36:BQ:19:GLY:H	1.53	0.42
20:CY:252:ASP:O	20:CY:253:LEU:HB2	2.20	0.42
59:BA:1696:G:H2'	59:BA:1697:G:O4'	2.20	0.42
20:AY:24:GLY:O	20:AY:27:THR:N	2.48	0.42
59:DA:118:A:C8	59:DA:119:A:C8	3.08	0.42
27:BE:62:PRO:HB3	59:BA:2786:U:O2'	2.20	0.42
35:BP:30:THR:HG22	35:BP:31:ALA:N	2.35	0.42
11:CL:104:VAL:HG23	11:CL:105:TYR:N	2.35	0.42
11:CL:51:ALA:HB1	11:CL:52:LEU:HD23	2.01	0.42
11:CL:34:ARG:O	11:CL:82:VAL:HG13	2.19	0.42
38:DS:17:ARG:HH11	38:DS:25:ARG:NH2	2.18	0.42
59:DA:104:U:H3'	59:DA:105:C:H6	1.85	0.42
60:DB:36:C:N3	60:DB:49:C:O2'	2.49	0.42
59:DA:2287:A:HO2'	59:DA:2288:A:P	2.43	0.42
15:AP:5:ARG:NH2	15:AP:26:ARG:O	2.50	0.42
1:CB:164:VAL:HG13	1:CB:170:GLU:HB2	2.02	0.42
35:DP:88:LEU:O	35:DP:90:ARG:N	2.53	0.42
39:DT:50:ILE:HG13	39:DT:64:ARG:HB2	2.01	0.42
56:D1:18:ILE:HG12	56:D1:20:ARG:HB3	2.01	0.42
40:DU:92:ARG:HB2	41:DV:11:GLN:CD	2.40	0.42
59:BA:251:A:C5	59:BA:252:G:H1'	2.54	0.42
28:BF:43:LYS:NZ	59:BA:617:G:OP2	2.52	0.42
59:DA:448:U:H3	59:DA:583:G:H1'	1.85	0.42
46:D0:25:ARG:HB2	46:D0:37:LEU:HD22	2.02	0.42
25:DC:30:VAL:HA	25:DC:33:LEU:H	1.84	0.42
59:BA:849:A:N6	59:BA:929:G:H1'	2.35	0.42
18:AS:71:LEU:HB3	18:AS:72:GLY:H	1.69	0.42
59:DA:197:A:H2'	59:DA:198:C:H6	1.85	0.42
7:CH:18:ARG:HH12	7:CH:82:HIS:HD2	1.67	0.42
40:BU:98:LEU:O	40:BU:100:VAL:N	2.53	0.42
59:BA:2265:U:OP2	59:BA:2266:A:O2'	2.21	0.42
59:DA:2828:C:H2'	59:DA:2829:C:H6	1.83	0.42
7:AH:95:VAL:HA	7:AH:99:GLU:HB2	2.01	0.42
33:DN:21:LYS:HG3	33:DN:26:LEU:HD13	2.00	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:DH:157:TYR:HD1	30:DH:171:LEU:HD22	1.84	0.42
17:CR:74:ARG:CG	17:CR:79:LEU:HB3	2.49	0.42
52:B8:34:TRP:CG	52:B8:35:GLN:N	2.88	0.42
21:AA:1272:G:H2'	21:AA:1273:G:H8	1.85	0.42
3:CD:119:GLN:HG3	3:CD:123:HIS:ND1	2.35	0.42
59:BA:2475:C:H42	59:BA:2529:G:H22	1.68	0.42
60:BB:104:A:H2'	60:BB:105:G:O4'	2.19	0.42
59:DA:1344:G:H4'	59:DA:1384:A:C8	2.54	0.42
10:AK:30:VAL:CG2	10:AK:43:SER:HB3	2.50	0.42
59:DA:2461:C:H2'	59:DA:2462:U:H6	1.82	0.42
59:DA:2461:C:C2	59:DA:2462:U:C5	3.08	0.42
5:AF:99:ALA:O	5:AF:100:ASN:HB2	2.20	0.42
59:DA:2003:G:C6	59:DA:2004:G:N7	2.87	0.42
59:BA:1366:A:H2'	59:BA:1367:A:H8	1.84	0.42
1:AB:9:GLU:HG2	1:AB:10:LEU:HG	2.01	0.42
59:DA:1657:C:H2'	59:DA:1658:C:H6	1.85	0.42
27:DE:132:HIS:ND1	59:DA:1658:C:OP1	2.53	0.42
59:BA:2824:C:H2'	59:BA:2825:U:O4'	2.18	0.42
59:DA:1427:A:H4'	59:DA:1428:C:O4'	2.18	0.42
59:BA:2480:C:OP2	59:BA:2537:U:H4'	2.20	0.42
59:DA:195:A:H5''	59:DA:196:A:OP2	2.20	0.42
21:CA:159:G:H1'	21:CA:162:A:H62	1.85	0.42
6:CG:89:MET:HB2	6:CG:155:ARG:NH1	2.35	0.42
31:BJ:18:UNK:O	31:BJ:20:UNK:N	2.53	0.42
21:CA:20:U:H2'	21:CA:21:G:O4'	2.19	0.42
26:DD:269:PHE:CZ	59:DA:2219:G:H5''	2.54	0.42
2:CC:177:THR:HG23	21:CA:1111:A:N1	2.34	0.42
2:CC:177:THR:HG22	2:CC:178:LEU:H	1.84	0.42
41:DV:3:ALA:O	41:DV:14:VAL:HG22	2.20	0.42
59:DA:1067:A:OP1	59:DA:1067:A:H8	2.02	0.42
59:BA:1553:A:H2'	59:BA:1553:A:N3	2.35	0.42
46:B0:55:ARG:HG2	46:B0:55:ARG:O	2.20	0.42
21:AA:162:A:H3'	21:AA:163:C:H4'	2.02	0.42
21:AA:11:G:H2'	21:AA:12:U:O4'	2.20	0.42
26:BD:120:GLY:HA2	26:BD:121:PRO:HD3	1.92	0.42
59:BA:2464:C:C2	59:BA:2487:G:C2	3.08	0.42
29:BG:111:LEU:HB2	29:BG:112:PRO:HD3	2.02	0.42
59:BA:1135:C:N4	59:BA:1137:G:H3'	2.35	0.42
11:AL:95:GLY:C	11:AL:97:ARG:H	2.24	0.42
21:AA:662:G:H2'	21:AA:663:A:C8	2.55	0.42
59:BA:1311:G:H21	59:BA:1603:A:N6	2.01	0.42
28:BF:10:PRO:HB3	28:BF:20:LEU:N	2.34	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:587:C:C6	59:DA:671:C:H1'	2.55	0.42
3:AD:12:CYS:HB3	3:AD:33:MET:CE	2.50	0.42
60:DB:46:A:C5	60:DB:47:C:C4	3.08	0.42
38:DS:97:ARG:O	38:DS:99:LYS:HD3	2.20	0.42
30:DH:41:MET:HB2	30:DH:54:ARG:HA	2.00	0.42
21:AA:950:U:H4'	21:AA:971:G:N2	2.35	0.42
60:DB:24:G:C2	60:DB:56:G:C2	3.08	0.42
12:CM:91:ARG:HH12	12:CM:103:THR:HG21	1.84	0.42
21:AA:68(H):G:H21	21:AA:68(S):C:N4	2.18	0.42
40:DU:3:ARG:HD2	59:DA:1248:G:C6	2.55	0.42
2:AC:7:PRO:O	2:AC:11:ARG:HG2	2.20	0.42
20:AY:126:GLU:C	20:AY:129:LYS:H	2.23	0.42
56:D1:21:ARG:O	56:D1:23:LYS:N	2.50	0.42
20:CY:20:HIS:ND1	20:CY:118:SER:HB3	2.35	0.42
1:AB:193:ASP:OD2	1:AB:196:LEU:HG	2.20	0.42
21:CA:433:C:H2'	21:CA:434:U:H6	1.85	0.42
9:AJ:53:PRO:HD3	21:AA:1059:C:O2'	2.19	0.42
20:AY:249:GLY:O	20:AY:253:LEU:N	2.53	0.42
59:DA:573:G:O2'	59:DA:574:C:H3'	2.20	0.42
40:BU:74:LEU:HD22	40:BU:74:LEU:H	1.85	0.42
40:BU:85:LYS:HD3	40:BU:86:ALA:N	2.34	0.42
21:AA:729:A:H2'	21:AA:730:G:C8	2.55	0.42
19:CT:73:HIS:CG	19:CT:74:LYS:HD3	2.55	0.42
10:CK:53:SER:H	21:CA:695:A:P	2.42	0.42
59:BA:2259:G:O4'	59:BA:2427:C:H2'	2.20	0.42
19:AT:75:ASN:CG	21:AA:262:A:H4'	2.41	0.42
59:BA:639:U:H2'	59:BA:640:C:C6	2.55	0.42
59:BA:2290:G:N2	59:BA:2343:C:H1'	2.34	0.42
27:BE:127:ASP:HB2	59:BA:1994:C:P	2.60	0.42
30:DH:125:VAL:HA	30:DH:126:PRO:HD2	1.88	0.42
24:AU:6:5OH:CS	24:AU:6:5OH:N	2.83	0.42
16:CQ:44:ALA:HA	16:CQ:71:PHE:O	2.20	0.42
46:D0:11:ARG:NE	46:D0:12:ASN:OD1	2.52	0.42
26:BD:140:THR:O	26:BD:165:ILE:HG13	2.19	0.42
26:DD:62:TYR:HA	26:DD:87:ASN:HD21	1.84	0.42
4:CE:11:ILE:O	4:CE:12:LEU:HD13	2.20	0.42
37:BR:86:ARG:HH21	37:BR:87:TYR:HE2	1.67	0.42
1:CB:185:ILE:HD12	1:CB:199:TYR:HB2	2.02	0.42
45:DZ:7:ALA:HB2	45:DZ:59:LEU:HB2	2.02	0.42
19:AT:53:LEU:HA	19:AT:53:LEU:HD13	1.91	0.42
21:AA:1533:C:C5	23:AV:12:A:N1	2.87	0.42
4:CE:46:GLY:N	4:CE:58:ALA:HB2	2.35	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:322:A:C5	59:BA:340:A:C2	3.07	0.42
3:CD:123:HIS:CD2	21:CA:438:G:H4'	2.54	0.42
10:AK:59:TYR:O	10:AK:63:LEU:HG	2.20	0.42
27:BE:5:LEU:HD11	27:BE:49:LEU:O	2.20	0.42
59:BA:2700:C:H2'	59:BA:2701:C:C6	2.55	0.42
38:DS:34:HIS:CD2	38:DS:54:LEU:HB3	2.55	0.42
18:AS:41:VAL:CG2	18:AS:44:MET:HG3	2.49	0.42
59:BA:2396:G:H2'	59:BA:2397:G:H8	1.85	0.42
29:DG:154:GLY:HA3	59:DA:2305:A:N3	2.34	0.42
21:AA:895:G:H2'	21:AA:896:C:H6	1.84	0.42
46:B0:39:ARG:HH21	59:BA:2354:G:N2	2.17	0.42
15:CP:45:THR:OG1	21:CA:617:G:H5'	2.20	0.42
53:B9:17:ILE:HD13	53:B9:26:ILE:HD11	2.02	0.42
6:CG:24:THR:O	6:CG:28:ASN:HB2	2.19	0.42
59:DA:2795:G:H3'	59:DA:2797:U:H5''	2.02	0.42
21:AA:1241:G:H2'	21:AA:1242:C:H6	1.84	0.42
59:BA:201:C:H4'	59:BA:386:G:C2	2.55	0.42
59:BA:706:A:C2	59:BA:707:G:H1'	2.55	0.42
10:AK:122:LYS:HG2	21:AA:780:A:OP2	2.20	0.42
33:BN:68:GLU:HG2	33:BN:88:GLU:OE1	2.20	0.42
20:AY:118:SER:O	20:AY:121:VAL:HG23	2.19	0.42
59:DA:2720:U:H2'	59:DA:2721:A:C8	2.55	0.42
59:DA:2720:U:H2'	59:DA:2721:A:H8	1.84	0.42
30:BH:56:SER:OG	30:BH:57:ASP:N	2.52	0.42
59:DA:2725:A:H1'	59:DA:2726:U:H2'	2.02	0.42
12:AM:113:PRO:O	12:AM:115:LYS:HG3	2.20	0.42
59:BA:1468:C:H2'	59:BA:1469:A:C8	2.54	0.42
59:DA:2825:U:H2'	59:DA:2826:A:O4'	2.19	0.42
52:B8:38:GLY:O	52:B8:42:ARG:HB2	2.19	0.42
21:CA:290:C:H2'	21:CA:291:C:O4'	2.20	0.42
59:BA:579:G:H2'	59:BA:580:C:C6	2.55	0.42
13:AN:43:CYS:O	13:AN:46:GLU:HG2	2.20	0.42
21:CA:1488:G:C2	21:CA:1489:G:C4	3.08	0.42
8:CI:8:GLY:HA3	8:CI:76:ALA:O	2.20	0.42
45:DZ:111:VAL:O	45:DZ:112:ARG:HB3	2.20	0.42
21:CA:119:A:C5	21:CA:240:C:C4	3.08	0.42
13:CN:2:ALA:N	21:CA:1049:U:HO2'	2.18	0.42
59:BA:298:G:C2	59:BA:339:U:H5	2.38	0.42
20:AY:137:ASN:HD22	20:AY:262:SER:HA	1.84	0.41
29:DG:109:VAL:C	29:DG:112:PRO:HD2	2.40	0.41
59:BA:1136:G:H2'	59:BA:1136:G:N3	2.34	0.41
33:BN:40:PRO:C	40:BU:64:ARG:HE	2.23	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
39:BT:46:GLU:HG3	39:BT:65:LYS:HE2	2.02	0.41
38:DS:15:ARG:C	38:DS:17:ARG:N	2.74	0.41
33:DN:43:THR:HB	33:DN:46:VAL:CG1	2.50	0.41
25:BC:210:LEU:O	25:BC:211:ARG:HB2	2.20	0.41
28:BF:194:MET:HG3	28:BF:195:ASP:O	2.20	0.41
59:DA:1295:C:H2'	59:DA:1296:G:C8	2.55	0.41
20:CY:247:ARG:HH21	20:CY:281:PRO:HA	1.85	0.41
26:DD:65:ILE:HD12	26:DD:88:ARG:CZ	2.50	0.41
21:AA:971:G:H3'	21:AA:971:G:OP1	2.19	0.41
34:DO:47:ILE:HA	34:DO:48:PRO:HD3	1.78	0.41
44:DY:102:CYS:SG	44:DY:104:GLY:N	2.93	0.41
39:DT:62:THR:OG1	39:DT:75:ILE:HG12	2.19	0.41
59:BA:762:U:H5'	59:BA:763:G:N2	2.35	0.41
28:DF:155:LEU:O	28:DF:191:ARG:C	2.58	0.41
59:BA:1288:U:C2	59:BA:1327:C:C2	3.08	0.41
12:AM:91:ARG:HH21	12:AM:96:LEU:HD13	1.85	0.41
57:B4:11:PRO:HB3	57:B4:25:TYR:CZ	2.55	0.41
20:CY:614:GLU:HB2	20:CY:617:MET:SD	2.60	0.41
59:DA:657:U:C4	59:DA:658:C:N4	2.88	0.41
40:BU:78:THR:OG1	40:BU:79:PHE:N	2.50	0.41
12:CM:75:ALA:O	12:CM:78:ILE:HB	2.19	0.41
1:AB:159:PRO:O	1:AB:161:ALA:N	2.53	0.41
59:DA:872:A:N1	59:DA:905:U:C2	2.88	0.41
45:DZ:55:HIS:HB3	45:DZ:56:VAL:H	1.63	0.41
43:BX:68:ARG:CZ	43:BX:69:TYR:CD2	3.03	0.41
39:DT:33:LYS:CG	39:DT:43:GLN:HB3	2.47	0.41
59:BA:2137:C:H2'	59:BA:2138:C:H6	1.85	0.41
36:BQ:29:PHE:N	36:BQ:29:PHE:CD1	2.87	0.41
30:BH:58:GLU:O	30:BH:62:LYS:HG3	2.19	0.41
44:DY:47:LYS:HD2	59:DA:481:G:OP2	2.20	0.41
59:DA:216:A:C2	59:DA:217:G:H1'	2.55	0.41
56:B1:26:ARG:HA	56:B1:26:ARG:HD2	1.48	0.41
59:BA:1028:A:N3	59:BA:2486:G:O2'	2.51	0.41
10:CK:30:VAL:HG23	10:CK:43:SER:HB3	2.01	0.41
21:CA:778:G:C6	21:CA:779:C:N3	2.89	0.41
59:DA:820:A:N3	59:DA:943:U:O2'	2.52	0.41
42:DW:96:ILE:HD11	59:DA:2012:G:H5''	2.01	0.41
30:BH:87:LEU:HB2	30:BH:131:VAL:O	2.20	0.41
45:BZ:117:LEU:HA	45:BZ:174:VAL:HA	2.02	0.41
7:CH:29:SER:HB3	7:CH:32:LYS:HE2	2.02	0.41
35:DP:125:VAL:O	35:DP:145:PRO:HD3	2.20	0.41
59:DA:2001:A:H2'	59:DA:2002:G:O4'	2.19	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:AG:67:GLU:HA	6:AG:70:LYS:HD2	2.02	0.41
59:BA:2213:U:H5	59:BA:2215:G:H1'	1.85	0.41
40:DU:49:HIS:HA	40:DU:52:ARG:HB3	2.02	0.41
21:AA:1435:G:H2'	21:AA:1436:U:C6	2.55	0.41
59:BA:2391:G:H1'	59:BA:2424:C:N4	2.34	0.41
59:BA:479:A:H1'	59:BA:481:G:H5''	2.02	0.41
6:AG:15:ASP:HB2	6:AG:20:ASP:O	2.20	0.41
59:BA:2140:C:H2'	59:BA:2141:G:C8	2.55	0.41
21:AA:1087:G:H2'	21:AA:1088:G:C8	2.55	0.41
59:BA:172:C:H2'	59:BA:173:G:O4'	2.20	0.41
21:AA:26:A:N6	21:AA:558:G:O2'	2.48	0.41
9:CJ:46:ARG:HG3	21:CA:1253:G:H5''	2.02	0.41
7:CH:51:VAL:HG12	7:CH:52:ASP:H	1.84	0.41
35:DP:71:VAL:C	35:DP:73:GLY:H	2.22	0.41
59:BA:956:G:HO2'	59:BA:959:A:H62	1.68	0.41
27:DE:38:THR:HG23	27:DE:41:LYS:H	1.85	0.41
26:BD:249:PRO:HG2	26:BD:250:TRP:CZ3	2.54	0.41
8:AI:104:ARG:NH1	21:AA:1117:G:H4'	2.35	0.41
59:BA:1849:G:H2'	59:BA:1850:G:C8	2.55	0.41
20:CY:126:GLU:C	20:CY:129:LYS:H	2.23	0.41
3:CD:176:LEU:HD11	3:CD:178:VAL:HG22	2.01	0.41
31:DJ:32:UNK:O	59:DA:1055:G:H4'	2.19	0.41
20:AY:446:THR:OG1	20:AY:447:GLY:N	2.53	0.41
40:BU:17:ILE:HD13	40:BU:17:ILE:HA	1.90	0.41
21:AA:166:G:H2'	21:AA:167:G:C8	2.55	0.41
31:BJ:159:UNK:C	31:BJ:161:UNK:N	2.81	0.41
59:BA:2722:G:H5''	59:BA:2820:A:C2	2.55	0.41
1:CB:87:ARG:NH2	1:CB:233:SER:H	1.95	0.41
42:DW:14:PRO:HB3	42:DW:18:ARG:CZ	2.49	0.41
24:CU:6:5OH:CS	24:CU:6:5OH:N	2.83	0.41
59:BA:9:U:N3	59:BA:2629:A:N7	2.68	0.41
59:BA:1101:U:H2'	59:BA:1102:C:O4'	2.21	0.41
9:AJ:60:ARG:NH2	21:AA:1367:C:H5'	2.35	0.41
59:BA:864:G:H2'	59:BA:865:C:C6	2.55	0.41
59:DA:793:A:OP2	59:DA:2072:G:H5'	2.20	0.41
60:BB:24:G:N1	60:BB:56:G:N2	2.68	0.41
38:DS:85:VAL:HG23	38:DS:106:ARG:NH1	2.35	0.41
33:DN:39:ARG:NE	33:DN:41:ASP:HB3	2.35	0.41
25:DC:3:LYS:HB3	25:DC:4:HIS:H	1.64	0.41
25:BC:45:HIS:CE1	25:BC:171:ALA:HA	2.54	0.41
39:DT:25:GLY:HA2	39:DT:114:LEU:HD21	2.02	0.41
36:BQ:87:LYS:N	59:BA:2277:G:OP1	2.53	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:1312:U:H5'	59:DA:1313:U:C5	2.55	0.41
45:DZ:124:ILE:HG12	45:DZ:126:VAL:HG22	2.02	0.41
6:AG:78:ARG:HG2	6:AG:79:ARG:H	1.84	0.41
21:CA:724:G:C2	21:CA:725:G:C8	3.08	0.41
21:CA:413:G:O2'	21:CA:428:G:N2	2.53	0.41
37:DR:116:LEU:C	37:DR:117:VAL:HG23	2.40	0.41
27:DE:143:ASN:CG	27:DE:144:ARG:N	2.74	0.41
20:AY:456:GLU:C	20:AY:458:HIS:N	2.74	0.41
59:BA:2080:G:H2'	59:BA:2081:C:C6	2.54	0.41
37:BR:8:ARG:HD3	37:BR:8:ARG:HA	1.84	0.41
21:CA:696:A:H8	21:CA:696:A:O5'	2.03	0.41
15:CP:31:LYS:HD3	21:CA:607:A:C2	2.55	0.41
7:AH:73:ASP:HA	7:AH:74:PRO:HD2	1.89	0.41
59:BA:1411:C:C2	59:BA:1591:G:N2	2.81	0.41
17:AR:39:VAL:O	17:AR:43:PHE:HD1	2.02	0.41
31:DJ:82:UNK:O	31:DJ:84:UNK:N	2.54	0.41
28:DF:40:GLN:O	28:DF:44:ARG:HD3	2.20	0.41
21:AA:17:U:H2'	21:AA:18:C:H6	1.85	0.41
22:AW:3:C:O2'	59:BA:1851:U:H5''	2.20	0.41
29:DG:43:LEU:HB2	29:DG:88:ILE:CG2	2.50	0.41
12:AM:14:ARG:HD3	21:AA:1296:C:H5'	2.02	0.41
21:AA:680:C:H42	21:AA:710:G:H1	1.67	0.41
21:CA:105:G:C6	21:CA:106:C:N4	2.88	0.41
59:BA:2462:U:H1'	59:BA:2491:U:O4	2.20	0.41
59:DA:223:A:N6	59:DA:374:A:H4'	2.36	0.41
9:CJ:38:ILE:HA	9:CJ:39:PRO:HD2	1.94	0.41
56:B1:3:LYS:HB2	59:BA:1364:G:OP2	2.19	0.41
15:AP:12:LYS:HB2	21:AA:44:G:P	2.61	0.41
20:AY:314:PHE:HE2	20:AY:329:ARG:CB	2.33	0.41
40:DU:59:ARG:HA	40:DU:59:ARG:NH1	2.34	0.41
37:DR:103:ARG:HA	37:DR:111:LEU:HG	2.01	0.41
1:CB:220:ASP:HA	1:CB:223:ILE:HB	2.02	0.41
53:B9:33:LYS:HD2	59:BA:2526:G:O2'	2.20	0.41
21:AA:337:C:H2'	21:AA:338:A:O4'	2.21	0.41
35:DP:115:LEU:HB2	35:DP:116:GLY:H	1.67	0.41
26:BD:215:LEU:HB2	26:BD:217:ARG:HG3	2.02	0.41
59:BA:747:U:C4	59:BA:2613:U:C4	3.08	0.41
59:DA:686:G:N2	59:DA:788:A:H61	2.18	0.41
48:D3:20:LYS:H	48:D3:20:LYS:HG2	1.58	0.41
9:AJ:5:ARG:HH21	9:AJ:71:LEU:HD21	1.85	0.41
26:BD:128:GLY:N	26:BD:193:VAL:HG13	2.35	0.41
59:DA:1954:G:H1'	59:DA:1956:U:O4	2.19	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:DQ:35:VAL:HG23	36:DQ:101:ARG:N	2.35	0.41
5:CF:95:GLU:HA	5:CF:96:PRO:HD3	1.92	0.41
59:DA:775:G:O5'	59:DA:777:A:H1'	2.21	0.41
59:BA:1422:G:H2'	59:BA:1423:G:C8	2.55	0.41
59:BA:1464:C:H2'	59:BA:1465:G:H8	1.85	0.41
17:CR:22:VAL:HG23	17:CR:56:THR:HA	2.01	0.41
43:DX:55:ASN:HB2	43:DX:80:ILE:HG13	2.03	0.41
7:AH:35:ILE:O	7:AH:39:LEU:HD23	2.20	0.41
36:DQ:122:GLY:HA2	36:DQ:125:LEU:HG	2.01	0.41
59:DA:1132:A:N1	59:DA:2039:C:O2'	2.47	0.41
21:AA:31:G:C6	21:AA:306:G:H1'	2.56	0.41
21:CA:613:C:H2'	21:CA:614:A:C8	2.55	0.41
33:BN:94:HIS:HB2	33:BN:96:GLU:OE2	2.21	0.41
21:CA:1440(H):U:H4'	21:CA:1440(I):A:C5	2.55	0.41
33:BN:95:PRO:O	33:BN:98:VAL:HG22	2.19	0.41
15:AP:65:GLN:HE21	21:AA:136:C:H4'	1.85	0.41
3:AD:100:ARG:NH2	3:AD:102:ASP:OD2	2.50	0.41
29:DG:176:LEU:HA	29:DG:176:LEU:HD23	1.80	0.41
20:CY:75:LYS:HE3	20:CY:75:LYS:HB3	1.65	0.41
20:AY:111:SER:HB2	20:AY:141:LYS:HG2	2.02	0.41
20:CY:25:LYS:HG3	20:CY:25:LYS:H	1.51	0.41
20:CY:137:ASN:HA	20:CY:261:GLY:O	2.20	0.41
33:BN:35:ARG:O	33:BN:37:LYS:N	2.50	0.41
48:D3:14:GLY:HA2	59:DA:970:C:OP1	2.19	0.41
59:BA:1153:C:H3'	59:BA:1154:G:C8	2.55	0.41
59:DA:519:U:H2'	59:DA:520:G:H8	1.85	0.41
42:DW:41:LYS:HD3	59:DA:2010:G:OP1	2.20	0.41
51:B7:16:HIS:HE1	59:BA:684:G:C5'	2.33	0.41
9:AJ:50:ILE:HA	9:AJ:60:ARG:HA	2.02	0.41
33:DN:41:ASP:HA	40:DU:64:ARG:CZ	2.49	0.41
28:DF:38:ARG:NH2	59:DA:660:G:O2'	2.52	0.41
59:DA:1275:A:N6	59:DA:1296:G:H4'	2.36	0.41
38:DS:95:HIS:H	38:DS:97:ARG:NH2	2.18	0.41
20:CY:281:PRO:HB2	20:CY:285:ASP:HB2	2.02	0.41
59:DA:1528:A:H62	59:DA:1543:A:H2	1.68	0.41
59:DA:2287:A:N1	59:DA:2346:A:C2	2.89	0.41
42:DW:80:PRO:HB2	42:DW:81:ALA:H	1.64	0.41
4:AE:112:LEU:HD13	4:AE:112:LEU:HA	1.91	0.41
20:AY:627:ARG:O	20:AY:629:GLY:N	2.53	0.41
56:D1:18:ILE:HG12	56:D1:20:ARG:N	2.35	0.41
56:D1:37:ILE:CG1	59:DA:200:U:H4'	2.51	0.41
43:DX:7:VAL:HB	43:DX:8:ILE:H	1.59	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
41:DV:38:LEU:C	41:DV:39:LEU:HD22	2.40	0.41
21:AA:254:G:H2'	21:AA:255:G:H8	1.85	0.41
59:BA:783:A:C4	59:BA:785:G:H1'	2.55	0.41
59:BA:668:G:H2'	59:BA:670:A:N7	2.34	0.41
59:DA:2513:G:H5'	59:DA:2514:U:OP2	2.20	0.41
27:DE:151:TYR:HB3	33:DN:79:PRO:HG3	2.02	0.41
20:CY:616:TYR:HB2	20:CY:663:THR:HG22	2.02	0.41
2:AC:52:LEU:HD11	2:AC:55:VAL:HG13	2.02	0.41
45:DZ:72:ARG:HH11	45:DZ:72:ARG:HB3	1.85	0.41
22:AW:15:G:P	22:AW:16:U:H3	2.43	0.41
59:DA:2031:A:OP1	59:DA:2031:A:H8	2.03	0.41
21:CA:304:U:H2'	21:CA:305:G:C8	2.55	0.41
7:AH:97:VAL:HG12	21:AA:600:C:OP1	2.20	0.41
8:CI:113:LYS:HZ2	21:CA:1187:G:P	2.43	0.41
27:DE:9:VAL:HG23	27:DE:26:ILE:HA	2.02	0.41
21:AA:917:G:C6	21:AA:918:A:C6	3.09	0.41
2:CC:199:LYS:HE3	21:CA:1058:G:H5''	2.01	0.41
59:DA:2330:G:H1	59:DA:2385:C:H42	1.68	0.41
29:DG:70:VAL:CG1	29:DG:88:ILE:HG13	2.50	0.41
21:AA:1074:G:H2'	21:AA:1075:C:C6	2.55	0.41
59:DA:864:G:H2'	59:DA:865:C:H6	1.84	0.41
46:B0:80:HIS:N	46:B0:80:HIS:CD2	2.87	0.41
59:BA:967:C:H2'	59:BA:968:G:O4'	2.20	0.41
16:CQ:50:LYS:HE3	16:CQ:51:TYR:CZ	2.55	0.41
41:DV:18:LEU:O	41:DV:95:LEU:HA	2.20	0.41
1:AB:69:LEU:HA	1:AB:69:LEU:HD22	1.58	0.41
2:AC:134:ILE:HD11	2:AC:151:VAL:HG11	2.03	0.41
33:DN:106:MET:HE3	59:DA:1006:C:H1'	2.01	0.41
59:DA:1407:C:H2'	59:DA:1408:C:C6	2.55	0.41
44:BY:32:PRO:HD2	44:BY:34:LYS:HB2	2.03	0.41
4:CE:30:ALA:HB3	4:CE:46:GLY:HA3	2.02	0.41
59:DA:2556:C:H2'	59:DA:2557:G:O4'	2.20	0.41
45:DZ:150:LEU:O	45:DZ:171:ILE:HG13	2.19	0.41
59:DA:1102:C:H2'	59:DA:1103:A:C8	2.50	0.41
20:AY:513:LYS:H	20:AY:567:LEU:HA	1.86	0.41
20:CY:409:ILE:HG13	20:CY:456:GLU:HB2	2.02	0.41
59:DA:1654:A:H2'	59:DA:1655:A:H8	1.85	0.41
60:BB:42:C:H2'	60:BB:43:C:H6	1.83	0.41
33:BN:112:LEU:HD22	59:BA:558:G:H5'	2.03	0.41
59:BA:1034:G:C6	59:BA:1035:U:C4	3.09	0.41
35:BP:7:ARG:O	35:BP:10:PRO:HD3	2.20	0.41
21:CA:687:A:N3	21:CA:688:G:H1'	2.35	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
57:D4:13:ARG:O	57:D4:14:ILE:HG12	2.20	0.41
59:BA:1324:G:C2	59:BA:1328:G:N1	2.88	0.41
7:CH:9:MET:SD	7:CH:32:LYS:HD2	2.61	0.41
26:BD:263:ARG:HG2	59:BA:2227:A:C5'	2.50	0.41
59:BA:613:U:H2'	59:BA:614:U:C6	2.55	0.41
29:DG:94:LEU:HB3	29:DG:99:MET:CB	2.50	0.41
59:BA:825:C:H2'	59:BA:826:U:C6	2.55	0.41
59:BA:2345:G:N3	59:BA:2381:C:H2'	2.35	0.41
59:DA:1494:A:O2'	59:DA:1495:A:H5''	2.20	0.41
59:DA:2648:C:H2'	59:DA:2649:U:H6	1.85	0.41
26:DD:9:TYR:CE1	59:DA:705:A:H1'	2.55	0.41
43:BX:53:LYS:CB	43:BX:82:GLN:HB3	2.50	0.41
59:BA:2144:U:H2'	59:BA:2147:G:H1	1.86	0.41
48:B3:44:ARG:O	48:B3:48:GLU:HG2	2.20	0.41
21:AA:657:G:H2'	21:AA:658:G:H8	1.86	0.41
34:BO:70:LYS:HB3	34:BO:70:LYS:HE3	1.75	0.41
47:D2:49:LYS:O	47:D2:52:ASP:HB2	2.20	0.41
39:DT:98:LYS:NZ	59:DA:2847:U:OP1	2.33	0.41
39:DT:98:LYS:HD3	59:DA:2718:G:O2'	2.20	0.41
2:CC:117:ALA:HB1	2:CC:198:VAL:HG12	2.02	0.41
33:DN:19:GLU:HA	33:DN:59:LYS:O	2.20	0.41
26:BD:21:PHE:HA	26:BD:24:ILE:HG22	2.03	0.41
59:DA:2737:G:H2'	59:DA:2738:A:H8	1.85	0.41
59:DA:695:G:H2'	59:DA:696:G:O4'	2.19	0.41
21:AA:68(B):G:H1	21:AA:68(X):U:H3	1.68	0.41
12:CM:64:TRP:HB2	12:CM:65:LYS:H	1.47	0.41
20:AY:586:GLY:O	20:AY:589:ALA:HB3	2.20	0.41
59:DA:2040:C:H2'	59:DA:2041:U:H6	1.86	0.41
35:DP:70:GLN:H	59:DA:245:G:H5'	1.85	0.41
21:CA:442:C:H42	21:CA:492:G:H1	1.68	0.41
29:BG:72:ARG:HB3	29:BG:85:GLY:O	2.19	0.41
21:AA:767:A:H3'	21:AA:768:A:C8	2.56	0.41
21:CA:928:G:H2'	21:CA:929:G:C8	2.56	0.41
59:BA:2241:A:H2'	59:BA:2242:G:C8	2.55	0.41
16:CQ:81:ARG:HE	16:CQ:81:ARG:HA	1.84	0.41
40:DU:51:LYS:H	40:DU:51:LYS:HD2	1.86	0.41
46:D0:50:ASN:HB3	46:D0:63:VAL:HG22	2.03	0.41
8:CI:97:LYS:C	8:CI:99:LEU:H	2.23	0.41
20:AY:188:TYR:HA	20:AY:196:ILE:HA	2.01	0.41
59:BA:1155:A:C6	59:BA:1157:G:C4	3.08	0.41
59:DA:1859:A:H3'	59:DA:1860:G:H8	1.85	0.41
21:AA:1496:C:H2'	21:AA:1497:G:O4'	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
56:B1:45:ASN:CG	56:B1:64:ALA:HB2	2.40	0.41
28:BF:17:ARG:O	28:BF:19:GLU:N	2.53	0.41
27:BE:151:TYR:HD2	33:BN:79:PRO:HG2	1.80	0.41
28:DF:38:ARG:HH21	35:DP:16:ARG:NH2	2.18	0.41
31:BJ:54:UNK:C	59:BA:1107:G:H5'	2.50	0.41
33:DN:25:ARG:HH22	59:DA:114(B):A:C4'	2.26	0.41
8:AI:26:VAL:HG13	8:AI:61:ALA:HB3	2.01	0.41
21:CA:1422:G:H2'	21:CA:1423:G:C8	2.52	0.41
21:AA:1357:A:C5	21:AA:1358:U:C4	3.08	0.41
59:DA:24:G:C6	59:DA:25:U:C4	3.09	0.41
52:B8:61:LEU:HB3	52:B8:62:LEU:H	1.51	0.41
39:DT:51:ARG:HG2	39:DT:62:THR:HG22	2.03	0.41
7:CH:130:GLY:N	21:CA:599:C:O2'	2.54	0.41
59:BA:1448:G:H2'	59:BA:149(B):A:C8	2.55	0.41
59:BA:993:G:C6	59:BA:994:C:C4	3.08	0.41
35:BP:61:ARG:HH11	52:B8:13:ARG:HD2	1.85	0.41
59:BA:2660:A:H2'	59:BA:2661:G:O4'	2.21	0.41
28:BF:102:PRO:HA	59:BA:607:U:OP1	2.20	0.41
59:DA:1486:A:H2'	59:DA:1487:G:H8	1.83	0.41
42:BW:34:ASN:O	42:BW:38:TYR:HB2	2.19	0.41
2:AC:77:ILE:HG23	2:AC:84:ILE:HD12	2.01	0.41
57:D4:9:LEU:HB3	57:D4:10:VAL:H	1.60	0.41
59:BA:568:U:OP1	59:BA:945:A:N6	2.46	0.41
59:DA:197:A:H2'	59:DA:198:C:C6	2.56	0.41
36:BQ:72:LYS:HA	36:BQ:73:PRO:HD3	1.79	0.41
59:DA:1115:G:H2'	59:DA:1116:C:H6	1.86	0.41
1:AB:209:ARG:HH11	1:AB:239:VAL:HG13	1.85	0.41
56:B1:30:VAL:HG23	56:B1:34:THR:HB	2.03	0.41
39:DT:33:LYS:HZ3	39:DT:74:ARG:HH22	1.66	0.41
45:BZ:166:SER:N	45:BZ:167:PRO:HA	2.31	0.41
16:CQ:43:LEU:HD12	16:CQ:69:LYS:HA	2.02	0.41
39:BT:85:LYS:NZ	39:BT:86:ILE:HA	2.35	0.41
34:BO:48:PRO:O	34:BO:50:GLY:N	2.49	0.41
59:DA:373:U:OP2	59:DA:400:G:N1	2.41	0.41
9:CJ:5:ARG:HB2	9:CJ:5:ARG:HH11	1.85	0.41
56:D1:73:LEU:HD11	56:D1:95:LEU:HB3	2.02	0.41
21:AA:966:G:H2'	21:AA:967:C:C6	2.55	0.41
30:BH:125:VAL:HA	30:BH:126:PRO:HD2	1.89	0.41
22:AW:40:G:H2'	22:AW:41:A:H8	1.85	0.41
59:BA:1510:A:C2	59:BA:1511:A:H1'	2.55	0.41
59:BA:1201:C:H2'	59:BA:1202:C:C6	2.53	0.41
15:CP:74:LEU:HD22	15:CP:79:VAL:HG21	2.02	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:AA:985:C:H2'	21:AA:986:A:H8	1.84	0.41
59:DA:2462:U:H1'	59:DA:2491:U:O4	2.20	0.41
7:AH:107:LEU:HG	7:AH:108:GLY:H	1.85	0.41
43:BX:47:PHE:CD2	43:BX:89:ILE:HG12	2.55	0.41
21:CA:1068:G:H1	21:CA:1107:C:N4	2.16	0.41
59:BA:1661:G:C6	59:BA:2000:G:C6	3.08	0.41
13:CN:21:TYR:HE2	13:CN:23:ARG:NH2	2.18	0.41
21:CA:177:C:H2'	21:CA:178:C:C6	2.54	0.41
60:DB:15:A:H3'	60:DB:16:G:C8	2.54	0.41
10:AK:80:VAL:HG21	10:AK:103:LEU:HB3	2.01	0.41
59:BA:2543:G:C4	59:BA:2544:G:C8	3.08	0.41
26:BD:43:ARG:HD3	59:BA:691:C:H4'	2.01	0.41
59:BA:1344:G:N3	59:BA:1385:G:H5''	2.34	0.41
31:DJ:151:UNK:C	31:DJ:153:UNK:H	2.33	0.41
21:AA:41:G:H2'	21:AA:42:G:C8	2.55	0.41
59:DA:2688:U:H6	59:DA:2721:A:H62	1.66	0.41
7:AH:100:ILE:HD12	7:AH:125:ARG:HG3	2.02	0.41
21:AA:1194:U:H2'	21:AA:1195:C:O4'	2.20	0.41
41:BV:95:LEU:O	41:BV:96:ILE:O	2.39	0.41
43:DX:47:PHE:HB3	43:DX:89:ILE:HG12	2.03	0.41
1:AB:43:ASP:OD2	1:AB:45:GLN:HB3	2.20	0.41
35:BP:80:TYR:HD1	35:BP:111:ARG:HB2	1.85	0.41
59:BA:6:A:H2'	59:BA:7:G:H8	1.85	0.41
26:BD:99:ASP:O	59:BA:1501:C:H1'	2.19	0.41
13:AN:42:ILE:HG21	21:AA:1202:G:C6	2.55	0.41
21:AA:328:C:H4'	21:AA:329:A:H5'	2.02	0.41
59:DA:2322:A:H2'	59:DA:2323:G:O4'	2.19	0.41
59:BA:2078:C:C4	59:BA:2079:U:C4	3.08	0.41
36:DQ:91:GLU:CD	36:DQ:92:GLY:H	2.23	0.41
59:DA:2516:G:H2'	59:DA:2517:C:C6	2.56	0.41
59:BA:2133:G:O2'	59:BA:2157:G:N1	2.50	0.41
33:BN:106:MET:HE1	59:BA:1138:G:H21	1.85	0.41
11:AL:53:ARG:HG2	11:AL:93:LEU:HD11	2.03	0.41
59:DA:1024:G:OP2	59:DA:1025:G:H3'	2.20	0.41
59:DA:1062:G:H2'	59:DA:1063:G:C8	2.55	0.41
60:DB:44:G:H21	60:DB:47:C:H42	1.68	0.41
59:BA:1789:A:C6	59:BA:1790:C:N3	2.89	0.41
1:AB:95:GLN:OE1	1:AB:96:ARG:NH2	2.54	0.41
2:AC:191:THR:C	2:AC:193:TYR:N	2.74	0.41
3:CD:32:ALA:HB2	21:CA:429:U:H5'	2.02	0.41
59:BA:445:C:H2'	59:BA:446:G:C8	2.55	0.41
56:D1:20:ARG:H	56:D1:40:ARG:HB2	1.84	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:DQ:45:GLN:HG2	36:DQ:45:GLN:H	1.58	0.41
21:AA:931:C:N3	21:AA:1386:G:O6	2.53	0.41
27:DE:189:PRO:HB3	59:DA:2679:A:H4'	2.03	0.41
40:BU:53:ARG:NH1	59:BA:536:A:OP1	2.54	0.41
59:DA:2849:U:O2'	59:DA:2866:U:O2	2.38	0.41
59:DA:1021:A:H62	59:DA:1141:U:H3	1.69	0.41
56:B1:22:GLY:HA2	56:B1:37:ILE:HA	2.01	0.41
42:BW:18:ARG:HH11	42:BW:76:VAL:CG1	2.34	0.41
15:CP:31:LYS:HG3	15:CP:32:TYR:N	2.35	0.41
59:DA:329:G:OP2	59:DA:329:G:H8	2.03	0.41
7:AH:69:ARG:HG2	7:AH:70:GLN:H	1.85	0.41
59:DA:872:A:H2'	59:DA:873:G:H8	1.85	0.41
4:CE:101:ILE:HD11	4:CE:119:LEU:HA	2.01	0.41
59:DA:1115:G:H2'	59:DA:1116:C:C6	2.56	0.41
59:BA:2250:G:C8	59:BA:2496:C:H5''	2.54	0.41
21:CA:1306:A:N6	21:CA:1331:G:H1'	2.35	0.41
59:DA:2525:G:H2'	59:DA:2526:G:C8	2.54	0.41
25:BC:20:VAL:HG12	25:BC:21:TYR:N	2.35	0.41
59:BA:1728:G:O2'	59:BA:1732:A:N6	2.54	0.41
21:CA:38:G:H22	21:CA:397:A:P	2.41	0.41
30:BH:105:LEU:HG	30:BH:113:VAL:HB	2.02	0.41
59:DA:2712:U:O2'	59:DA:712(B):A:H3'	2.20	0.41
21:AA:1219:U:H2'	21:AA:1220:G:O4'	2.19	0.41
16:CQ:5:VAL:HG12	16:CQ:60:ILE:HG13	2.02	0.41
16:CQ:71:PHE:O	16:CQ:72:ARG:O	2.38	0.41
47:D2:61:LEU:HD12	59:DA:72:U:O4'	2.20	0.41
21:AA:1281:U:H3'	21:AA:1282:C:C6	2.54	0.41
59:BA:1772:G:H2'	59:BA:1773:A:H4'	2.03	0.41
20:AY:15:ILE:HD12	20:AY:105:ILE:HD11	2.03	0.41
45:DZ:10:ARG:HD2	45:DZ:36:LYS:HB2	2.03	0.41
45:DZ:77:ASP:N	45:DZ:77:ASP:OD2	2.51	0.41
4:AE:102:ALA:HB1	4:AE:106:PRO:HB2	2.02	0.41
59:BA:1793:C:H2'	59:BA:1794:U:H6	1.83	0.41
59:DA:1384:A:N3	59:DA:1405:U:H1'	2.35	0.41
10:AK:32:ILE:O	10:AK:40:ILE:O	2.38	0.41
20:CY:462:ILE:O	20:CY:466:LEU:HB2	2.20	0.41
59:DA:2024:G:C6	59:DA:2025:C:C4	3.09	0.41
59:BA:1798:U:H2'	59:BA:1819:A:H61	1.86	0.41
59:BA:657:U:H2'	59:BA:658:C:C6	2.55	0.41
30:BH:90:LYS:HB2	30:BH:163:TYR:HE1	1.85	0.41
59:DA:2857:G:N1	59:DA:2861:G:C6	2.89	0.41
59:BA:717:G:C6	59:BA:718:A:C4	3.09	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:BD:127:VAL:HA	26:BD:193:VAL:HG22	2.02	0.41
59:BA:2273:A:H2'	59:BA:2274:A:H8	1.84	0.41
53:D9:17:ILE:HD12	53:D9:19:ARG:HB2	2.01	0.41
5:CF:96:PRO:HB3	17:CR:30:ASP:OD2	2.20	0.41
34:DO:27:GLY:HA3	59:DA:2674:G:O2'	2.21	0.41
59:DA:1709:U:H2'	59:DA:1710:C:H6	1.85	0.41
51:B7:8:ASN:HB3	51:B7:11:LYS:HB3	2.02	0.41
21:AA:1418:A:H1'	59:BA:1959:G:C1'	2.50	0.41
34:DO:40:VAL:HG21	59:DA:2561:A:O2'	2.20	0.41
59:BA:415:A:H2'	59:BA:416:C:O4'	2.19	0.41
59:BA:2542:A:H1'	59:BA:2543:G:N7	2.35	0.41
31:BJ:44:UNK:C	31:BJ:47:UNK:H	2.34	0.41
6:CG:138:LYS:O	6:CG:142:GLU:HG2	2.21	0.41
59:DA:144(B):A:H5''	59:DA:1445:C:H5	1.86	0.41
59:DA:30:G:H2'	59:DA:31:C:O4'	2.20	0.41
20:CY:517:LEU:HG	20:CY:518:PRO:HD2	2.01	0.41
21:CA:985:C:H2'	21:CA:986:A:C8	2.55	0.41
2:AC:86:VAL:O	2:AC:89:GLU:HB2	2.20	0.41
1:AB:42:ILE:HD11	1:AB:202:PRO:HB2	2.02	0.41
26:BD:86:PRO:HB3	59:BA:1567:A:P	2.60	0.41
26:DD:28:GLU:H	26:DD:29:PRO:HD2	1.86	0.41
39:DT:54:ARG:O	59:DA:2845:G:H5''	2.20	0.41
15:AP:11:SER:H	15:AP:14:ASN:HB3	1.84	0.41
33:DN:10:GLU:CG	33:DN:11:PRO:HD2	2.50	0.41
30:DH:94:TYR:CD2	30:DH:107:VAL:HG12	2.55	0.41
20:CY:315:LYS:HB3	20:CY:327:PHE:CD2	2.55	0.41
3:CD:85:LYS:HD3	3:CD:85:LYS:HA	1.90	0.41
21:AA:522:C:H2'	21:AA:523:A:C8	2.55	0.41
39:DT:67:SER:H	39:DT:71:GLY:HA2	1.85	0.41
20:AY:8:ASP:CG	20:AY:10:LYS:HD2	2.41	0.41
20:CY:27:THR:HG23	61:CY:701:GNP:O2A	2.20	0.41
20:CY:30:GLU:OE2	20:CY:31:ARG:NH1	2.54	0.41
20:CY:34:TYR:HB3	20:CY:36:THR:CG2	2.51	0.41
26:BD:48:ARG:O	26:BD:49:ILE:HG13	2.21	0.41
21:AA:1005:A:O2'	21:AA:1036:G:N2	2.53	0.41
42:DW:21:VAL:CG1	42:DW:74:ALA:HB1	2.51	0.41
11:CL:54:LYS:HD3	11:CL:70:ILE:H	1.85	0.41
59:DA:114(B):A:C5	59:DA:1144:G:C5	3.08	0.41
60:DB:48:A:H2'	60:DB:49:C:C6	2.55	0.41
36:BQ:87:LYS:HD2	59:BA:2277:G:H5''	2.03	0.41
59:DA:956:G:HO2'	59:DA:959:A:H62	1.67	0.41
36:BQ:41:TRP:HA	36:BQ:95:ALA:O	2.20	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:CB:69:LEU:HD13	1:CB:70:PHE:H	1.85	0.41
44:DY:49:VAL:C	44:DY:51:VAL:H	2.24	0.41
30:BH:85:LYS:HE2	30:BH:141:VAL:HG22	2.02	0.41
28:DF:188:ARG:HA	35:DP:7:ARG:HH21	1.85	0.41
36:DQ:42:ILE:CD1	36:DQ:95:ALA:HB3	2.44	0.41
26:BD:35:LYS:NZ	26:BD:61:LEU:HD11	2.35	0.41
1:CB:187:LEU:HD23	1:CB:201:ILE:O	2.19	0.41
59:BA:1655:A:H2'	59:BA:1656:C:C6	2.56	0.41
57:B4:14:ILE:HB	57:B4:22:ILE:HD12	2.03	0.41
29:BG:101:ILE:HG13	57:B4:25:TYR:O	2.21	0.41
20:AY:660:ARG:O	20:AY:665:GLY:N	2.54	0.41
59:BA:1356:G:C2	59:BA:1357:U:H1'	2.55	0.41
21:CA:232:G:C6	21:CA:233:C:C4	3.08	0.41
16:AQ:71:PHE:O	16:AQ:72:ARG:O	2.39	0.41
15:CP:22:THR:OG1	15:CP:32:TYR:HA	2.21	0.41
27:BE:183:LEU:HD21	39:BT:11:GLU:HG2	2.01	0.41
59:BA:2865:U:H3'	59:BA:2866:U:O2	2.21	0.41
11:AL:102:ARG:HG3	11:AL:109:GLY:H	1.85	0.41
59:DA:2330:G:H2'	59:DA:2331:G:O4'	2.21	0.41
59:DA:700:G:N2	59:DA:732:C:N3	2.56	0.41
21:AA:960:U:H2'	21:AA:1225:A:N6	2.33	0.41
18:AS:78:ARG:HH21	21:AA:1322:C:P	2.44	0.41
21:AA:1015:A:H1'	21:AA:1218:C:O2'	2.20	0.41
59:DA:2817:G:O2'	59:DA:2836:U:O2	2.30	0.41
26:DD:35:LYS:HE3	26:DD:35:LYS:HB3	1.83	0.41
59:DA:111:A:H2'	59:DA:112:U:O4'	2.21	0.41
59:DA:415:A:O2'	59:DA:1869:G:H4'	2.21	0.41
59:BA:379:G:C2	59:BA:396:G:C5	3.09	0.41
59:BA:181:A:H2'	59:BA:182:A:H8	1.81	0.41
4:AE:57:LYS:HZ2	21:AA:1073:U:P	2.43	0.41
30:DH:97:ARG:HG2	30:DH:99:VAL:H	1.86	0.41
22:CW:66:C:H2'	22:CW:67:G:C8	2.54	0.41
59:DA:1413:G:H1	59:DA:1589:C:H42	1.69	0.41
10:AK:66:LEU:O	10:AK:69:ALA:HB3	2.21	0.41
6:AG:108:ALA:HB1	6:AG:119:ARG:HB2	2.02	0.41
35:DP:85:LEU:C	35:DP:118:GLY:HA3	2.41	0.41
57:B4:12:ALA:HB2	57:B4:28:LYS:O	2.21	0.41
59:BA:1064:C:H2'	59:BA:1065:U:O4'	2.21	0.41
59:DA:1668:A:H4'	59:DA:1669:A:O5'	2.21	0.41
59:BA:915:C:H2'	59:BA:916:G:O4'	2.20	0.41
21:CA:1472:U:H2'	21:CA:1473:A:H8	1.86	0.41
34:BO:14:THR:HG21	34:BO:86:ILE:HD12	2.01	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:CY:236:GLU:HA	20:CY:237:PRO:HD3	1.88	0.41
21:CA:396:G:O2'	21:CA:398:C:OP1	2.15	0.41
21:CA:1178:G:O2'	21:CA:1180:A:N7	2.50	0.41
15:CP:8:ARG:HB3	15:CP:28:ARG:NH2	2.36	0.41
59:DA:2847:U:H2'	59:DA:2848:G:H5'	2.02	0.41
43:DX:21:PHE:HE2	43:DX:26:TYR:HA	1.85	0.41
16:CQ:52:LYS:HE3	16:CQ:52:LYS:HB3	1.79	0.41
59:DA:539:G:H2'	59:DA:540:G:C8	2.56	0.41
27:BE:53:PRO:O	27:BE:55:ASN:N	2.54	0.41
18:AS:48:THR:O	18:AS:48:THR:OG1	2.36	0.41
59:DA:638:G:H2'	59:DA:639:U:O4'	2.21	0.41
16:CQ:78:GLU:OE1	16:CQ:81:ARG:NH1	2.54	0.41
28:BF:105:VAL:O	28:BF:108:LYS:HB2	2.19	0.41
20:CY:544:LYS:O	20:CY:548:GLU:N	2.53	0.41
20:CY:355:LEU:HD12	20:CY:369:LEU:HD22	2.03	0.41
59:DA:1689:A:H62	59:DA:1698:A:H2	1.69	0.41
53:B9:10:ILE:HD11	53:B9:32:HIS:CD2	2.56	0.41
22:CW:75:C:OP2	56:D1:33:LYS:HG3	2.20	0.41
59:DA:1470:G:O2'	59:DA:1522:G:O6	2.38	0.41
16:AQ:92:ARG:O	16:AQ:95:TYR:HB2	2.19	0.41
21:CA:50:A:H4'	21:CA:51:A:H5'	2.02	0.41
14:CO:17:ARG:HA	14:CO:17:ARG:HE	1.85	0.41
1:AB:17:PHE:N	1:AB:17:PHE:CD2	2.88	0.41
16:AQ:55:ASP:N	16:AQ:55:ASP:OD1	2.54	0.41
28:BF:117:ARG:HA	28:BF:117:ARG:HD3	1.96	0.41
1:AB:208:ILE:H	1:AB:208:ILE:HD12	1.86	0.41
56:B1:86:SER:HB2	56:B1:89:GLU:HB2	2.02	0.41
59:DA:1301:A:C8	59:DA:1303:G:C8	3.09	0.41
35:DP:27:HIS:CE1	59:DA:813:U:C4	3.08	0.41
59:BA:838:C:H2'	59:BA:839:U:O4'	2.20	0.41
3:CD:156:GLU:HG2	3:CD:156:GLU:H	1.36	0.41
27:DE:61:ARG:CZ	59:DA:2811:G:H4'	2.50	0.41
21:CA:1506:U:O2'	21:CA:1507:A:H5''	2.20	0.41
33:DN:42:TRP:CZ2	33:DN:44:PRO:HA	2.56	0.41
44:DY:2:ARG:HD2	59:DA:295:G:OP1	2.20	0.41
59:BA:719:C:H2'	59:BA:720:C:H6	1.82	0.41
30:BH:35:VAL:HG12	30:BH:37:VAL:HG22	2.02	0.41
21:AA:1076:C:N3	21:AA:1081:G:N2	2.59	0.41
30:BH:23:ARG:H	30:BH:23:ARG:HE	1.67	0.41
21:AA:1347:G:H22	21:AA:1374:A:C5'	2.32	0.41
59:BA:1435:G:N2	59:BA:1477:A:O2'	2.53	0.41
56:D1:18:ILE:CG2	59:DA:380:U:H4'	2.50	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:CD:25:ARG:HA	3:CD:28:SER:HB3	2.03	0.41
30:DH:85:LYS:HZ1	30:DH:121:ILE:CG2	2.34	0.41
9:AJ:7:LYS:HA	9:AJ:70:ARG:O	2.20	0.41
37:BR:33:ARG:HA	37:BR:114:VAL:O	2.21	0.41
11:CL:26:ALA:HB2	11:CL:98:TYR:CD2	2.56	0.41
20:CY:620:VAL:O	20:CY:624:LEU:HB2	2.21	0.41
28:BF:103:LYS:HA	28:BF:106:ARG:HD2	2.03	0.41
28:BF:52:LYS:HA	28:BF:93:LYS:NZ	2.36	0.41
12:CM:78:ILE:HA	12:CM:78:ILE:HD13	1.84	0.41
20:AY:420:ASP:OD2	20:AY:420:ASP:N	2.54	0.41
19:AT:75:ASN:HB2	19:AT:76:ALA:H	1.72	0.41
39:DT:88:ILE:HG22	39:DT:89:VAL:HG23	2.02	0.41
59:BA:105:C:H2'	59:BA:106:C:C6	2.55	0.41
14:AO:39:LEU:HD22	14:AO:42:HIS:HB3	2.03	0.41
28:BF:60:SER:HB3	28:BF:61:GLY:H	1.64	0.41
59:BA:2565:A:H5''	59:BA:2566:A:OP2	2.21	0.41
32:DK:110:GLN:OE1	32:DK:111:LYS:HG2	2.20	0.41
26:DD:151:LYS:HZ1	59:DA:2217:G:H21	1.67	0.41
56:B1:25:LYS:HD2	59:BA:388:G:P	2.60	0.41
40:BU:98:LEU:HD22	40:BU:101:ARG:O	2.21	0.41
3:AD:13:ARG:NH2	3:AD:36:ARG:HG3	2.35	0.41
7:CH:68:ARG:HG3	7:CH:74:PRO:CB	2.48	0.41
59:BA:2342:C:O2'	59:BA:2374:C:H5''	2.21	0.41
59:DA:1514:U:H2'	59:DA:1515:C:C6	2.55	0.41
30:BH:148:ILE:O	30:BH:151:ILE:HB	2.21	0.41
49:B5:16:ARG:O	49:B5:20:ARG:HB2	2.20	0.41
21:AA:960:U:H4'	21:AA:961:U:C5'	2.50	0.41
9:AJ:34:VAL:HA	9:AJ:74:ILE:HA	2.03	0.41
21:AA:1237:C:O2	21:AA:1334:G:O2'	2.31	0.41
3:CD:15:GLU:OE1	3:CD:63:LYS:HA	2.21	0.41
51:D7:40:TRP:CZ3	59:DA:459:U:H3'	2.54	0.41
7:AH:22:GLU:HG2	7:AH:23:SER:N	2.35	0.41
59:DA:481:G:H2'	59:DA:507:A:N1	2.36	0.41
8:AI:48:GLU:HG3	8:AI:101:PHE:CZ	2.56	0.41
1:CB:74:LYS:HG3	1:CB:77:ALA:HB3	2.01	0.41
1:CB:75:LYS:HB3	1:CB:76:GLN:NE2	2.36	0.41
1:CB:184:VAL:O	1:CB:197:VAL:HG13	2.21	0.41
60:DB:79:C:H2'	60:DB:80:U:O4'	2.21	0.41
20:AY:145:ASP:OD2	20:AY:146:LEU:N	2.40	0.41
12:CM:13:LYS:HE2	12:CM:13:LYS:HB2	1.88	0.41
34:DO:24:VAL:HG13	34:DO:33:ALA:HB2	2.02	0.41
44:BY:95:LYS:HD3	44:BY:99:CYS:O	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:AE:78:HIS:CD2	4:AE:79:GLU:H	2.38	0.41
21:CA:1493:A:H4'	21:CA:1494:G:OP2	2.20	0.41
18:AS:41:VAL:HA	18:AS:42:PRO:HD3	1.90	0.41
59:BA:2163:C:HO2'	59:BA:2164:C:H6	1.67	0.41
21:CA:1287:A:H2	21:CA:1353:G:N3	2.19	0.41
36:BQ:24:GLY:O	36:BQ:101:ARG:HD2	2.21	0.41
6:CG:135:VAL:O	6:CG:138:LYS:HB3	2.20	0.41
59:BA:1466:G:H2'	59:BA:1547:C:N4	2.35	0.41
59:BA:2002:G:H2'	59:BA:2003:G:H8	1.85	0.41
20:AY:581:ALA:O	20:AY:584:ILE:HG22	2.21	0.41
20:AY:419:ALA:O	20:AY:423:LYS:HE2	2.21	0.41
20:AY:489:LYS:HD2	20:AY:598:ASP:OD1	2.21	0.41
52:B8:23:VAL:HG13	52:B8:48:PHE:HA	2.01	0.41
13:AN:43:CYS:HA	13:AN:46:GLU:HG2	2.03	0.41
21:AA:328:C:H4'	21:AA:329:A:C5'	2.50	0.41
2:CC:121:ALA:O	2:CC:125:GLU:HB2	2.20	0.41
59:DA:91:A:H3'	59:DA:92:G:H8	1.86	0.41
59:BA:179:G:H2'	59:BA:180:G:O4'	2.20	0.41
21:CA:431:A:H2'	21:CA:432:A:C8	2.56	0.41
19:AT:33:ILE:HD11	19:AT:62:LEU:HB3	2.02	0.41
59:BA:1181:C:H2'	59:BA:1182:A:C8	2.56	0.41
59:BA:194:G:C2	59:BA:202:U:H1'	2.56	0.41
59:BA:1521:G:O5'	59:BA:1521:G:H8	2.04	0.41
10:CK:114:VAL:O	21:CA:675:A:O2'	2.38	0.41
21:CA:1141:C:H2'	21:CA:1142:G:H8	1.85	0.41
33:BN:66:LYS:O	33:BN:70:LYS:N	2.34	0.41
35:BP:33:ARG:NH1	59:BA:811:U:O4	2.52	0.41
29:BG:170:ARG:HH22	29:BG:180:PHE:HB3	1.86	0.41
59:DA:659:C:H2'	59:DA:660:G:C8	2.49	0.41
59:DA:1313:U:H4'	59:DA:1332:G:H4'	2.03	0.41
11:AL:7:ILE:O	11:AL:10:LEU:HB2	2.21	0.41
21:AA:68(H):G:H2'	21:AA:68(I):G:N7	2.36	0.41
59:DA:449:A:C5	59:DA:450:G:C5	3.09	0.41
6:AG:28:ASN:OD1	21:AA:1374:A:H4'	2.19	0.41
20:AY:56:GLU:CB	20:AY:59:ARG:HE	2.31	0.41
59:BA:34:C:N4	59:BA:454:A:O2'	2.54	0.41
39:DT:100:TYR:HD1	39:DT:103:ARG:HD3	1.86	0.41
28:DF:155:LEU:HB2	28:DF:189:THR:OG1	2.21	0.41
59:BA:1655:A:C2	59:BA:2049:G:H5''	2.56	0.41
37:BR:97:VAL:HG22	37:BR:114:VAL:HG22	2.01	0.41
34:BO:106:LEU:O	34:BO:110:GLY:N	2.53	0.41
10:CK:84:VAL:O	10:CK:109:VAL:O	2.39	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:1357:U:H2'	59:BA:1358:G:O4'	2.21	0.41
27:BE:156:MET:HE1	59:BA:2050:C:H1'	2.02	0.41
3:AD:57:ARG:HG2	3:AD:202:LEU:O	2.21	0.41
59:BA:933:A:H2'	59:BA:934:G:O4'	2.20	0.41
46:D0:20:ARG:HG3	59:DA:2271:G:H5'	2.02	0.41
28:DF:25:PRO:HB3	28:DF:115:ALA:HB1	2.02	0.41
25:DC:101:ILE:HD12	25:DC:101:ILE:HA	1.94	0.41
45:DZ:91:LEU:O	45:DZ:92:SER:OG	2.38	0.41
26:BD:262:ARG:NH1	59:BA:2085:C:H4'	2.35	0.41
59:BA:2085:C:H2'	59:BA:2086:U:O4'	2.20	0.41
39:DT:53:ARG:NH2	59:DA:2683:C:H5''	2.35	0.41
40:BU:95:LEU:CD2	41:BV:13:ARG:HB2	2.49	0.41
20:CY:328:ILE:H	20:CY:328:ILE:HG13	1.50	0.41
59:DA:702:G:H2'	59:DA:703:U:C6	2.56	0.41
19:CT:53:LEU:O	19:CT:56:MET:HB2	2.21	0.41
59:BA:363(G):A:HO2'	59:BA:364:C:P	2.43	0.41
26:BD:149:PRO:HG2	59:BA:2218:G:H5'	2.03	0.41
59:DA:2531:A:H3'	59:DA:2532:G:C8	2.56	0.41
37:BR:100:LEU:HD23	37:BR:100:LEU:HA	1.94	0.41
1:AB:69:LEU:HB2	1:AB:162:ILE:HD12	2.03	0.41
21:AA:109:A:C8	21:AA:327:A:H5'	2.48	0.41
59:BA:1069:A:H5''	59:BA:1070:A:H8	1.85	0.41
43:BX:9:LEU:HD23	47:B2:36:ARG:NH1	2.35	0.41
20:CY:648:PRO:O	20:CY:649:LEU:HB2	2.21	0.41
12:CM:50:GLU:O	12:CM:51:ALA:C	2.59	0.41
59:DA:2018:G:H2'	59:DA:2019:A:C8	2.56	0.41
19:CT:13:LEU:HD12	19:CT:14:LYS:H	1.85	0.41
20:AY:41:LYS:HB3	20:AY:73:PHE:HZ	1.86	0.41
29:DG:16:ARG:HB2	29:DG:17:PRO:HD3	2.03	0.41
16:AQ:91:ARG:NH2	21:AA:280:C:H5	2.19	0.41
25:BC:166:ASN:O	25:BC:170:GLY:N	2.51	0.41
56:D1:49:VAL:HG21	56:D1:67:ILE:HG23	2.02	0.41
59:DA:1669:A:C6	59:DA:1994:C:O2	2.74	0.41
3:AD:94:LEU:HA	3:AD:97:LEU:HD12	2.02	0.41
16:AQ:21:VAL:HG11	16:AQ:59:ILE:CD1	2.50	0.41
21:AA:321:A:H2'	21:AA:322:C:C6	2.56	0.41
21:AA:1140:C:H2'	21:AA:1141:C:H6	1.85	0.41
2:CC:28:GLN:O	2:CC:32:LEU:HG	2.21	0.41
33:DN:133:GLN:CG	33:DN:135:PRO:HD3	2.50	0.41
35:BP:106:LEU:O	35:BP:107:LYS:HG2	2.21	0.41
59:BA:1764:G:H2'	59:BA:1765:C:C6	2.55	0.41
59:DA:2792:G:N3	59:DA:2792:G:H2'	2.35	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:BD:69:ARG:NH1	26:BD:128:GLY:O	2.51	0.41
59:DA:48:G:H2'	59:DA:49:A:H2	1.86	0.41
59:DA:1016:G:C2	59:DA:1017:G:N7	2.88	0.41
21:AA:838(C):U:H3'	21:AA:848:C:C5'	2.50	0.41
21:AA:613:C:H2'	21:AA:614:A:C8	2.56	0.41
8:AI:103:THR:HA	21:AA:1179:A:O3'	2.20	0.41
59:DA:2150:U:H2'	59:DA:2151:G:H8	1.85	0.41
59:BA:1878:G:H2'	59:BA:1879:C:H6	1.85	0.41
20:CY:113:GLY:C	20:CY:115:GLU:HG2	2.40	0.41
45:DZ:24:LEU:HB2	45:DZ:41:LEU:HD21	2.03	0.41
19:CT:33:ILE:CD1	19:CT:62:LEU:HB3	2.51	0.41
4:CE:105:VAL:HG11	4:CE:132:ALA:HB2	2.03	0.41
59:DA:1885:A:H2'	59:DA:1886:C:O4'	2.20	0.41
21:AA:156:G:H2'	21:AA:157:G:O4'	2.20	0.41
20:CY:384:ILE:HB	20:CY:385:THR:H	1.73	0.41
36:DQ:61:GLY:O	45:DZ:177:PRO:HB3	2.20	0.41
29:BG:129:GLY:HA3	29:BG:163:ALA:O	2.21	0.41
21:AA:859:A:H2'	21:AA:860:A:O4'	2.20	0.41
10:AK:112:THR:HA	10:AK:113:PRO:HD2	1.86	0.41
3:AD:3:ARG:O	3:AD:5:ILE:N	2.52	0.41
59:BA:548:A:OP2	59:BA:548:A:H8	2.04	0.41
12:AM:110:ARG:O	12:AM:110:ARG:NH1	2.41	0.41
48:B3:47:VAL:O	48:B3:51:ALA:N	2.54	0.41
60:DB:113:C:H2'	60:DB:114:G:C8	2.56	0.41
27:BE:63:LEU:HB2	27:BE:65:GLY:N	2.33	0.41
59:BA:1153:C:C2'	59:BA:1154:G:H5'	2.51	0.41
59:BA:1153:C:H3'	59:BA:1154:G:H8	1.86	0.41
59:BA:575:A:H2'	59:BA:576:U:O4'	2.21	0.41
59:DA:1779:U:OP2	59:DA:1784:A:N6	2.43	0.41
38:BS:30:ARG:HD2	38:BS:31:SER:H	1.85	0.41
59:DA:10:G:N2	59:DA:2802:G:OP1	2.52	0.41
38:DS:13:ARG:C	38:DS:15:ARG:N	2.74	0.41
38:DS:17:ARG:HA	38:DS:20:ARG:HG2	2.03	0.41
59:DA:587:C:C4	59:DA:671:C:C2	3.09	0.41
59:DA:2339:G:H2'	59:DA:2340:G:C8	2.55	0.41
38:BS:95:HIS:H	38:BS:97:ARG:NH2	2.19	0.41
59:DA:531:C:OP1	59:DA:561:G:N2	2.49	0.41
29:DG:66:GLN:HB3	57:D4:6:HIS:CD2	2.56	0.41
30:DH:52:VAL:HG21	30:DH:69:ARG:HA	2.02	0.41
27:BE:14:ILE:O	27:BE:21:VAL:HG22	2.20	0.41
21:AA:1231:G:C6	21:AA:1232:U:C4	3.09	0.41
20:CY:524:GLU:O	20:CY:565:VAL:HG23	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:DC:132:LEU:HD22	25:DC:137:LEU:HD12	2.03	0.41
59:DA:2879:C:H4'	59:DA:2880:C:OP1	2.20	0.41
59:DA:136:G:N2	59:DA:143:C:N3	2.62	0.41
25:BC:73:VAL:HG23	25:BC:112:ASP:HB3	2.03	0.41
44:DY:11:ASP:OD2	44:DY:12:THR:N	2.53	0.41
52:B8:61:LEU:HD12	52:B8:61:LEU:HA	1.84	0.41
35:DP:140:ALA:O	35:DP:141:ALA:HB2	2.21	0.41
40:BU:3:ARG:HD2	59:BA:1248:G:C6	2.56	0.41
43:DX:12:VAL:HG21	43:DX:27:THR:HG23	2.02	0.41
21:CA:993:G:H1	21:CA:1045:C:N4	2.18	0.41
59:BA:2574:G:H2'	59:BA:2575:C:O4'	2.21	0.41
49:B5:33:CYS:HA	49:B5:40:LYS:HE3	2.02	0.41
21:CA:962:C:C2	21:CA:963:G:C8	3.08	0.41
26:BD:94:LEU:HB2	26:BD:104:TYR:CE2	2.56	0.41
16:AQ:43:LEU:HD23	16:AQ:43:LEU:HA	1.81	0.41
1:CB:28:PHE:HE2	1:CB:188:ALA:HB1	1.86	0.41
37:BR:95:THR:OG1	37:BR:97:VAL:HG23	2.21	0.41
35:BP:61:ARG:CD	52:B8:13:ARG:HD2	2.45	0.41
59:DA:2849:U:O2'	59:DA:2866:U:C2	2.73	0.41
29:BG:57:ALA:HB1	29:BG:90:LEU:HD13	2.01	0.41
27:DE:161:GLY:O	27:DE:163:GLU:N	2.52	0.41
14:CO:39:LEU:HA	14:CO:39:LEU:HD22	1.82	0.41
20:CY:341:VAL:HB	20:CY:342:TYR:H	1.68	0.41
46:D0:37:LEU:HD13	46:D0:67:VAL:HG13	2.03	0.41
56:B1:19:GLN:HG2	56:B1:40:ARG:HH11	1.85	0.41
15:CP:31:LYS:HD3	21:CA:607:A:N3	2.36	0.41
2:AC:73:PRO:C	2:AC:76:VAL:HG13	2.41	0.41
59:DA:2641:G:C2	59:DA:2774:C:C2	3.08	0.41
60:DB:95:U:H2'	60:DB:96:G:C8	2.56	0.41
59:DA:1108:U:H2'	59:DA:1109:C:O4'	2.21	0.41
8:CI:116:LYS:HE2	8:CI:122:ALA:HB2	2.02	0.41
33:BN:110:GLY:HA2	33:BN:111:PRO:HD2	1.87	0.41
28:DF:44:ARG:HB3	59:DA:615:G:N2	2.29	0.41
12:AM:126:LYS:HG3	22:AW:35:A:H4'	2.03	0.41
59:BA:76:C:O2'	59:BA:77:C:H5'	2.21	0.41
59:BA:685:A:N3	59:BA:689:A:N6	2.69	0.41
32:DK:105:LEU:HD23	32:DK:106:GLU:N	2.36	0.41
59:BA:1889:A:H1'	59:BA:2087:G:O4'	2.20	0.41
39:BT:125:ARG:HE	39:BT:125:ARG:N	2.18	0.41
29:DG:51:ARG:CZ	29:DG:54:GLU:HB2	2.50	0.41
59:BA:2136:C:H42	59:BA:2155:G:H1	1.68	0.41
20:AY:631:ILE:HA	20:AY:645:ALA:HA	2.03	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:700:G:H1	59:DA:732:C:N4	2.12	0.41
25:DC:141:PRO:O	25:DC:142:LYS:HB2	2.21	0.41
21:AA:123:C:H2'	21:AA:124:G:C8	2.55	0.41
52:B8:52:LYS:NZ	59:BA:2358:G:H21	2.19	0.41
59:DA:2818:G:H1'	59:DA:2836:U:O2'	2.21	0.41
59:BA:1497:U:H3'	59:BA:1498:C:C6	2.56	0.41
7:AH:96:GLY:O	7:AH:99:GLU:N	2.48	0.41
16:CQ:21:VAL:O	16:CQ:41:LYS:HA	2.21	0.41
36:BQ:29:PHE:N	36:BQ:29:PHE:HD1	2.18	0.41
21:CA:756:C:H2'	21:CA:757:U:O4'	2.21	0.41
59:DA:1203:G:C6	59:DA:1204:A:N6	2.88	0.41
59:BA:1229:G:H2'	59:BA:1230:C:C6	2.56	0.41
21:AA:109:A:C8	21:AA:326:G:H2'	2.56	0.41
21:AA:109:A:H2'	21:AA:326:G:N2	2.35	0.41
21:AA:300:A:O5'	21:AA:300:A:H8	2.03	0.41
43:DX:87:GLN:NE2	43:DX:88:LYS:O	2.53	0.41
45:BZ:5:LEU:O	45:BZ:59:LEU:HA	2.20	0.41
45:BZ:44:PHE:HE1	45:BZ:88:PHE:HZ	1.68	0.41
27:DE:55:ASN:HA	27:DE:56:PRO:HD3	1.79	0.41
59:DA:900:A:C6	59:DA:901:A:C4	3.08	0.41
7:CH:112:LEU:HB3	7:CH:133:LEU:HD23	2.03	0.41
45:DZ:73:GLN:NE2	45:DZ:75:ASN:HD21	2.19	0.41
28:DF:72:ARG:NH2	59:DA:1258:C:OP2	2.52	0.41
21:AA:1309:G:H2'	21:AA:1310:G:H8	1.84	0.41
29:BG:69:ALA:HB2	60:BB:42:C:O4'	2.21	0.41
59:BA:1761:C:H2'	59:BA:1762:A:H5'	2.03	0.41
59:BA:2306:C:O2	59:BA:2311:A:N6	2.54	0.41
21:CA:859:A:H2'	21:CA:860:A:O4'	2.21	0.41
59:BA:2789:C:C2'	59:BA:2790:A:H4'	2.49	0.41
59:BA:2703:C:H2'	59:BA:2704:C:C6	2.55	0.41
59:DA:1213:A:N3	59:DA:1238:G:O2'	2.52	0.41
33:DN:45:ASN:ND2	59:DA:557:U:O2	2.48	0.41
26:BD:31:LYS:HD3	26:BD:33:LEU:HD12	2.03	0.41
10:AK:43:SER:HB2	10:AK:71:LYS:NZ	2.36	0.41
35:DP:133:SER:OG	59:DA:637:A:OP1	2.35	0.41
35:DP:48:PRO:O	35:DP:49:ARG:C	2.59	0.41
33:BN:56:ASN:HA	33:BN:125:GLY:N	2.36	0.41
30:DH:127:GLU:OE2	30:DH:129:THR:HB	2.21	0.41
34:BO:13:ASN:ND2	34:BO:96:THR:HG22	2.36	0.41
34:BO:13:ASN:HB3	34:BO:97:ARG:HB3	2.01	0.41
25:DC:76:LEU:HB2	25:DC:111:PHE:HB3	2.03	0.41
48:D3:29:ARG:HD3	59:DA:1184:G:OP1	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:CA:186(M):G:H2'	21:CA:186(N):U:O4'	2.21	0.41
41:DV:68:LYS:HE2	41:DV:69:LYS:O	2.20	0.41
17:CR:76:LEU:O	17:CR:78:LEU:N	2.51	0.41
60:BB:88:C:H3'	60:BB:89(A):G:H8	1.85	0.41
59:DA:1107:G:O5'	59:DA:1107:G:H8	2.03	0.41
20:CY:162:VAL:HG21	20:CY:219:VAL:HG21	2.03	0.41
27:BE:101:ARG:O	27:BE:201:THR:HG22	2.21	0.41
21:CA:1134:G:H2'	21:CA:1135:U:O4'	2.21	0.41
21:CA:1440(A):G:H4'	21:CA:1440(B):G:C4	2.55	0.41
20:CY:610:VAL:O	20:CY:612:THR:HG22	2.21	0.41
20:CY:38:ARG:O	20:CY:39:ILE:HB	2.20	0.41
59:DA:1510:A:C6	59:DA:1511:A:C4	3.09	0.41
21:CA:1440(C):G:H2'	39:DT:118:ARG:HD2	2.01	0.41
59:DA:171:G:H2'	59:DA:172:C:C6	2.56	0.41
14:CO:28:GLN:HG2	21:CA:657:G:O2'	2.21	0.41
14:CO:32:LEU:O	14:CO:36:ILE:HG13	2.19	0.41
21:AA:621:A:H2'	21:AA:622:A:H8	1.85	0.41
7:AH:26:VAL:HG13	7:AH:32:LYS:NZ	2.36	0.41
59:DA:1524:G:C2	59:DA:1525:G:H1'	2.55	0.41
20:CY:98:MET:HG2	20:CY:125:ALA:O	2.21	0.41
20:CY:98:MET:HE1	20:CY:104:ALA:HB2	2.03	0.41
8:AI:102:LEU:HD23	8:AI:102:LEU:HA	1.71	0.41
1:CB:22:LYS:HG2	1:CB:40:HIS:NE2	2.35	0.41
59:DA:2695:C:H2'	59:DA:2696:U:C5	2.56	0.41
20:AY:103:GLY:HA3	20:AY:131:PRO:O	2.21	0.41
28:BF:160:ASN:OD1	28:BF:163:VAL:HG23	2.21	0.41
59:BA:540:G:H2'	59:BA:541:C:H6	1.86	0.41
56:B1:61:ARG:NH1	56:B1:61:ARG:HB3	2.36	0.41
4:AE:88:LYS:HE2	4:AE:88:LYS:HB2	1.85	0.41
59:BA:394:A:C6	59:BA:395:U:C4	3.09	0.41
21:AA:993:G:H2'	21:AA:995:C:H41	1.86	0.41
21:CA:1253:G:H1	21:CA:1284:C:H42	1.67	0.41
21:CA:1260:C:H4'	21:CA:1283:G:O2'	2.20	0.41
28:DF:129:PHE:CE2	28:DF:163:VAL:HG21	2.56	0.41
33:BN:89:LYS:NZ	33:BN:93:THR:OG1	2.54	0.41
59:BA:228:A:C6	59:BA:230:U:C2	3.08	0.41
36:BQ:37:LEU:HA	36:BQ:99:PRO:HB3	2.02	0.41
59:BA:288:C:H2'	59:BA:289:A:C8	2.56	0.41
25:DC:100:ILE:H	25:DC:100:ILE:HG12	1.73	0.41
59:DA:2646:C:H2'	59:DA:2647:U:O4'	2.20	0.41
21:CA:362:G:N2	21:CA:365:U:OP2	2.53	0.41
22:AW:51:A:H2'	22:AW:52:G:C8	2.56	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:CA:492:G:H2'	21:CA:493:G:H8	1.86	0.41
20:CY:369:LEU:HD12	20:CY:369:LEU:HA	1.79	0.41
21:AA:903:G:C6	21:AA:904:C:C4	3.09	0.41
28:BF:69:HIS:HA	59:BA:2060:A:OP1	2.21	0.41
30:BH:47:GLU:HB2	30:BH:48:GLY:H	1.58	0.41
59:DA:324:A:N6	59:DA:325:G:C2	2.89	0.41
21:CA:1530:G:C2	21:CA:1531:A:C4	3.09	0.41
20:AY:86:GLY:O	20:AY:88:VAL:N	2.45	0.41
59:DA:1353:A:H2'	59:DA:1354:A:C8	2.56	0.41
59:BA:2320:A:H8	59:BA:2321:G:C6	2.39	0.41
1:CB:44:LEU:O	1:CB:47:THR:HB	2.21	0.41
27:BE:26:ILE:HG13	27:BE:182:LEU:O	2.21	0.41
21:CA:66:G:H4'	21:CA:173:U:C5	2.55	0.41
8:CI:11:LYS:HB3	8:CI:11:LYS:HE2	1.89	0.41
39:BT:33:LYS:HA	39:BT:33:LYS:HD3	1.71	0.41
2:AC:107:GLN:CD	2:AC:107:GLN:H	2.24	0.41
36:BQ:61:GLY:O	45:BZ:177:PRO:HB3	2.20	0.41
21:CA:1418:A:N3	59:DA:1959:G:H1'	2.36	0.41
50:B6:33:LYS:HG3	50:B6:34:LEU:H	1.86	0.41
52:B8:10:ALA:O	52:B8:14:VAL:HG12	2.21	0.41
21:CA:513:C:H2'	21:CA:514:C:C6	2.56	0.41
2:AC:160:ALA:HB1	23:AV:25:A:H4'	2.03	0.41
21:CA:1248:A:H2'	21:CA:1249:C:C6	2.56	0.41
39:BT:13:ARG:O	39:BT:15:VAL:HG13	2.21	0.41
26:DD:27:THR:HG23	26:DD:83:GLU:HB3	2.02	0.41
2:AC:41:GLY:O	2:AC:44:GLU:HB3	2.21	0.41
21:AA:1125:U:H5''	21:AA:1126:U:H5	1.86	0.41
33:BN:17:ASP:O	33:BN:18:ALA:HB2	2.21	0.41
33:BN:19:GLU:O	33:BN:21:LYS:HG2	2.21	0.41
59:DA:634:C:H2'	59:DA:635:C:O4'	2.21	0.41
21:AA:872:A:C8	21:AA:874:G:C8	3.09	0.41
59:DA:2301:C:H2'	59:DA:2302:G:H8	1.85	0.41
59:DA:2595:G:N2	59:DA:2598:A:OP2	2.50	0.41
7:AH:75:ARG:CZ	7:AH:75:ARG:HB2	2.48	0.41
59:BA:2402:C:H2'	59:BA:2402:C:O2	2.20	0.41
21:AA:1251:A:N3	21:AA:1369:C:O2'	2.52	0.41
26:DD:182:LEU:HB2	26:DD:271:ILE:O	2.21	0.41
59:DA:1858:G:H1'	59:DA:1884:A:N6	2.36	0.41
59:BA:2096:U:H2'	59:BA:2097:C:H6	1.86	0.41
20:AY:52:MET:O	20:AY:53:ASP:HB2	2.21	0.41
21:CA:321:A:C2	21:CA:333:G:C2	3.09	0.41
59:BA:700:G:H2'	59:BA:701:G:O4'	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:DG:111:LEU:HB2	29:DG:112:PRO:HD3	2.02	0.41
20:CY:64:THR:HG21	20:CY:84:THR:HG22	2.02	0.41
21:AA:1502:A:C8	21:AA:1505:G:N2	2.89	0.41
21:AA:1035:A:H2'	21:AA:1036:G:C8	2.56	0.41
59:DA:1838:C:H4'	59:DA:1839:G:C8	2.56	0.41
42:DW:19:LEU:HA	42:DW:19:LEU:HD13	1.83	0.41
59:DA:2888:C:H2'	59:DA:2889:C:C6	2.56	0.41
28:BF:7:TYR:CE2	28:BF:10:PRO:HG3	2.56	0.41
13:AN:41:ARG:NH2	21:AA:973:G:H4'	2.36	0.41
21:CA:658:G:H2'	21:CA:659:U:H6	1.86	0.41
14:CO:78:TYR:O	14:CO:82:ILE:HG22	2.20	0.41
32:DK:133:SER:HB2	59:DA:1062:G:O2'	2.21	0.41
28:BF:170:LEU:CB	28:BF:173:VAL:HB	2.51	0.41
59:DA:1605:C:H1'	59:DA:1610:A:C5	2.56	0.41
3:CD:31:CYS:O	3:CD:33:MET:SD	2.80	0.41
26:BD:208:LYS:NZ	59:BA:729:G:O4'	2.51	0.41
27:BE:143:ASN:CG	27:BE:144:ARG:N	2.74	0.41
21:AA:1306:A:H1'	21:AA:1332:A:C2	2.56	0.41
28:DF:9:ILE:HA	28:DF:10:PRO:HD3	1.82	0.41
30:DH:121:ILE:HG22	30:DH:135:GLY:HA3	2.02	0.41
32:BK:115:LEU:HD11	32:BK:126:MET:SD	2.61	0.41
21:CA:920:U:HO2'	21:CA:921:U:H5'	1.86	0.41
59:DA:604:G:C6	59:DA:605:C:C4	3.09	0.41
26:DD:173:VAL:HG23	26:DD:185:VAL:HB	2.02	0.41
59:BA:519:U:H2'	59:BA:520:G:H8	1.84	0.41
36:BQ:34:LEU:HD21	36:BQ:129:THR:HG21	2.02	0.41
21:CA:833:U:H2'	21:CA:834:C:C6	2.56	0.41
10:CK:52:GLY:HA2	21:CA:691:G:O6	2.21	0.41
10:CK:52:GLY:HA2	21:CA:691:G:C6	2.56	0.41
35:DP:57:THR:C	35:DP:59:LEU:N	2.73	0.41
11:AL:27:LEU:HA	11:AL:27:LEU:HD23	1.85	0.41
59:BA:2564:A:C6	59:BA:2565:A:C6	3.09	0.41
4:AE:127:ASN:HA	4:AE:128:PRO:HD3	1.96	0.41
47:B2:14:ARG:NH2	59:BA:77:C:O2'	2.54	0.41
6:AG:99:LEU:HA	6:AG:102:ARG:HE	1.86	0.41
1:CB:114:ARG:O	1:CB:118:LEU:HG	2.21	0.41
57:D4:28:LYS:HA	57:D4:28:LYS:HD2	1.72	0.41
12:AM:67:GLU:HB2	12:AM:68:GLY:H	1.64	0.41
30:DH:125:VAL:HG13	30:DH:130:ARG:O	2.21	0.41
21:AA:750:G:H2'	21:AA:751:U:C6	2.56	0.41
59:BA:586:A:H4'	59:BA:587:C:OP1	2.21	0.41
26:DD:30:GLU:CD	26:DD:63:ARG:HE	2.25	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:481:G:H1'	59:DA:506:G:N2	2.36	0.41
8:AI:99:LEU:HB3	8:AI:101:PHE:CD1	2.56	0.41
59:DA:2643:G:C2	59:DA:2644:G:H1'	2.56	0.41
59:DA:32:C:C4	59:DA:33:U:C4	3.09	0.41
20:AY:152:THR:HA	20:AY:155:GLU:HB2	2.01	0.41
32:DK:30:HIS:C	32:DK:30:HIS:CD2	2.94	0.41
21:AA:396:G:O2'	21:AA:398:C:OP1	2.26	0.41
20:AY:567:LEU:HG	20:AY:568:TYR:N	2.36	0.41
38:DS:33:LYS:HB2	38:DS:34:HIS:HD2	1.84	0.41
59:BA:1430:C:H2'	59:BA:1431:U:H6	1.86	0.41
46:B0:20:ARG:HG3	59:BA:2270:G:O3'	2.21	0.41
21:AA:338:A:H3'	34:BO:97:ARG:NH1	2.35	0.41
52:D8:40:GLU:O	52:D8:44:LYS:HB2	2.21	0.41
59:DA:2529:G:OP2	59:DA:2530:A:H5''	2.21	0.41
47:B2:46:GLN:HB3	47:B2:48:HIS:CE1	2.56	0.41
59:BA:65:C:H2'	59:BA:66:C:C6	2.56	0.41
40:BU:58:ARG:O	40:BU:61:TRP:HB2	2.21	0.41
21:AA:259:G:H2'	21:AA:260:G:H8	1.86	0.41
37:DR:86:ARG:HB3	37:DR:118:GLU:CD	2.42	0.41
59:BA:1419:A:H4'	59:BA:1420:U:C5	2.56	0.41
59:BA:1420:U:H2'	59:BA:1420:U:O2	2.20	0.41
59:DA:1036:G:H2'	59:DA:1037:G:C8	2.56	0.41
9:AJ:36:GLY:O	9:AJ:38:ILE:N	2.54	0.41
59:DA:2858:C:H2'	59:DA:2859:G:O4'	2.21	0.41
59:BA:1422:G:H2'	59:BA:1423:G:H8	1.86	0.41
14:CO:32:LEU:O	14:CO:35:ARG:HG2	2.21	0.41
59:BA:1030:G:H2'	59:BA:1031:G:C8	2.56	0.41
19:AT:16:HIS:CD2	21:AA:333:G:H4'	2.56	0.41
26:DD:31:LYS:HD2	26:DD:31:LYS:HA	1.97	0.41
21:AA:177:C:H2'	21:AA:178:C:H6	1.86	0.41
21:CA:1528:U:N3	21:CA:1530:G:C8	2.89	0.41
59:BA:2114:A:H2'	59:BA:2115:G:O4'	2.21	0.41
30:DH:15:VAL:HG11	30:DH:76:VAL:HG13	2.02	0.41
20:CY:193:GLY:C	20:CY:195:ASP:H	2.25	0.41
15:CP:49:LEU:HD23	15:CP:76:GLN:OE1	2.21	0.41
20:CY:382:GLU:HB3	20:CY:383:THR:H	1.63	0.41
59:BA:1822:G:H2'	59:BA:1823:G:H8	1.86	0.41
21:CA:1476:G:H2'	21:CA:1477:C:C6	2.56	0.41
21:CA:1386:G:H2'	21:CA:1387:G:C8	2.56	0.41
48:B3:19:GLN:O	48:B3:23:LEU:HG	2.21	0.41
20:CY:223:PHE:HZ	20:CY:254:LYS:HG3	1.86	0.41
35:DP:114:ILE:HG13	35:DP:130:PHE:HA	2.03	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:DA:384:U:H2'	59:DA:385:C:H6	1.85	0.41
12:AM:21:TYR:HD2	12:AM:21:TYR:HA	1.77	0.41
38:DS:11:LYS:HB2	38:DS:11:LYS:HE3	1.90	0.41
19:AT:8:ARG:HA	19:AT:8:ARG:HD3	1.88	0.41
33:DN:89:LYS:HB3	33:DN:89:LYS:HZ2	1.86	0.41
25:DC:194:ILE:O	25:DC:197:LEU:HB2	2.20	0.41
20:CY:340:TYR:CZ	20:CY:351:ARG:HD3	2.56	0.41
20:AY:138:LYS:HZ2	61:AY:701:GNP:C4	2.13	0.40
20:CY:63:ILE:HG21	61:CY:701:GNP:O1A	2.21	0.40
22:AW:37:A:C2	23:AV:16:A:C4	3.01	0.40
33:BN:118:LYS:C	33:BN:120:LEU:H	2.24	0.40
11:AL:53:ARG:H	11:AL:54:LYS:HZ2	1.70	0.40
59:DA:270(J):G:C2	59:DA:270(R):C:N3	2.89	0.40
8:AI:16:ARG:HG3	21:AA:1147:C:O2'	2.20	0.40
35:BP:23:PRO:HB3	35:BP:29:LYS:HB2	2.02	0.40
26:DD:244:ARG:HA	26:DD:245:PRO:HA	1.62	0.40
59:BA:1604:C:H2'	59:BA:1605:C:C5	2.57	0.40
59:BA:464:U:O2'	59:BA:686:G:N1	2.53	0.40
59:BA:397:G:H2'	59:BA:398:G:C8	2.56	0.40
28:BF:2:LYS:O	28:BF:4:VAL:N	2.49	0.40
38:DS:85:VAL:H	38:DS:106:ARG:HG2	1.85	0.40
25:BC:162:ILE:HG21	25:BC:193:PHE:CE1	2.55	0.40
29:BG:124:SER:OG	59:BA:2303:G:O2'	2.25	0.40
38:BS:64:GLU:O	38:BS:67:ARG:HB2	2.20	0.40
27:BE:21:VAL:O	27:BE:23:VAL:HG13	2.20	0.40
3:AD:175:SER:O	3:AD:183:GLY:HA2	2.20	0.40
36:BQ:11:LYS:HD3	36:BQ:87:LYS:CD	2.52	0.40
59:DA:25:U:H3	59:DA:515:A:N6	2.19	0.40
44:BY:46:LYS:HB2	44:BY:62:GLU:HG3	2.03	0.40
59:BA:2059:A:N6	59:BA:2503:A:H2'	2.36	0.40
28:DF:177:ALA:HB1	28:DF:178:PRO:CD	2.51	0.40
20:CY:609:GLU:O	20:CY:669:PHE:HB2	2.21	0.40
26:DD:211:ARG:HA	26:DD:214:TRP:CE3	2.57	0.40
30:DH:83:TYR:HD2	30:DH:84:SER:N	2.18	0.40
59:DA:674:G:H2'	59:DA:804:A:H61	1.86	0.40
20:AY:272:LEU:HD12	20:AY:275:ALA:HB3	2.03	0.40
20:AY:409:ILE:HG12	20:AY:656:ALA:HB3	2.03	0.40
21:CA:923:A:H1'	21:CA:1398:A:C2	2.57	0.40
2:AC:55:VAL:O	2:AC:57:ILE:HG13	2.21	0.40
45:DZ:71:VAL:HB	45:DZ:72:ARG:H	1.63	0.40
56:B1:21:ARG:O	56:B1:23:LYS:N	2.43	0.40
27:DE:161:GLY:O	27:DE:163:GLU:HG2	2.21	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:CY:428:LEU:HA	20:CY:431:LEU:HD22	2.02	0.40
50:D6:8:LYS:NZ	50:D6:27:LYS:HD3	2.34	0.40
1:AB:87:ARG:O	1:AB:223:ILE:HD11	2.21	0.40
21:CA:293:G:O6	21:CA:304:U:C2	2.74	0.40
47:B2:14:ARG:CG	47:B2:63:VAL:HG11	2.48	0.40
50:B6:25:LYS:HE3	50:B6:25:LYS:HB2	1.70	0.40
25:BC:26:ALA:HA	25:BC:30:VAL:HG23	2.04	0.40
35:DP:17:LYS:O	35:DP:17:LYS:HG3	2.21	0.40
13:AN:6:LEU:HD11	21:AA:982:U:H5''	2.03	0.40
10:CK:29:ILE:HG12	21:CA:706:A:O2'	2.21	0.40
26:BD:172:TYR:HE2	26:BD:186:HIS:CD2	2.38	0.40
21:AA:750:G:H2'	21:AA:751:U:H6	1.85	0.40
59:DA:826:U:H5''	59:DA:2429:G:OP1	2.22	0.40
4:AE:20:GLN:O	4:AE:22:GLY:N	2.54	0.40
28:DF:154:VAL:O	28:DF:175:THR:HA	2.20	0.40
4:AE:125:SER:O	4:AE:131:ILE:HD11	2.21	0.40
59:BA:1628:G:H2'	59:BA:1629:U:H6	1.86	0.40
35:BP:90:ARG:HH22	35:BP:105:LEU:HD21	1.86	0.40
21:AA:606:G:O5'	21:AA:607:A:H5'	2.20	0.40
36:BQ:54:MET:HG3	36:BQ:121:ALA:HB2	2.03	0.40
59:DA:2126:A:H4'	59:DA:2127:G:O5'	2.20	0.40
39:DT:115:ARG:H	39:DT:115:ARG:HG2	1.61	0.40
44:BY:97:ARG:HH11	44:BY:97:ARG:HA	1.86	0.40
44:BY:97:ARG:HH11	44:BY:98:VAL:H	1.67	0.40
57:B4:28:LYS:HA	57:B4:28:LYS:HD2	1.71	0.40
21:CA:1523:G:H2'	21:CA:1524:C:H6	1.86	0.40
33:DN:90:MET:HA	33:DN:90:MET:CE	2.51	0.40
52:D8:40:GLU:O	52:D8:44:LYS:N	2.54	0.40
5:CF:67:MET:HE1	5:CF:72:VAL:HA	2.02	0.40
29:DG:35:GLU:OE2	29:DG:160:VAL:HG12	2.21	0.40
59:BA:2395:C:H2'	59:BA:2396:G:O4'	2.20	0.40
59:DA:1635:G:O5'	59:DA:1635:G:H8	2.03	0.40
53:D9:3:VAL:HG13	53:D9:37:GLY:HA3	2.02	0.40
59:BA:1895:C:H2'	59:BA:1896:G:C8	2.55	0.40
26:DD:53:PHE:CZ	26:DD:221:VAL:HG12	2.56	0.40
29:BG:82:LEU:HA	29:BG:82:LEU:HD23	1.87	0.40
20:CY:497:PHE:CD2	20:CY:507:TYR:HA	2.56	0.40
59:BA:393:C:H2'	59:BA:394:A:H8	1.86	0.40
59:BA:35:G:C2	59:BA:36:G:H1'	2.56	0.40
4:AE:11:ILE:O	4:AE:31:LEU:HB3	2.20	0.40
59:BA:2385:C:H2'	59:BA:2386:C:C6	2.56	0.40
59:BA:997:G:H2'	59:BA:998:C:H6	1.85	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:CA:928:G:H2'	21:CA:929:G:H8	1.86	0.40
21:AA:872:A:C4	21:AA:874:G:N7	2.90	0.40
21:CA:511:C:C2	21:CA:512:U:C6	3.09	0.40
26:DD:100:GLY:O	59:DA:1500:G:O2'	2.27	0.40
59:DA:2098:U:H3	59:DA:2191:G:H1	1.67	0.40
59:BA:2028:U:H3'	59:BA:2029:G:C8	2.55	0.40
59:BA:2715:C:H2'	59:BA:2716:U:O4'	2.21	0.40
20:AY:322:VAL:HG12	20:AY:354:ARG:HH22	1.87	0.40
31:DJ:159:UNK:C	31:DJ:161:UNK:N	2.82	0.40
59:DA:1446:C:H2'	59:DA:1447:G:C8	2.56	0.40
20:AY:359:HIS:HB2	20:AY:364:GLU:HG2	2.02	0.40
21:CA:1114:C:H2'	21:CA:1115:C:C6	2.56	0.40
2:AC:127:ARG:HD3	21:AA:532:A:N1	2.36	0.40
32:DK:77:LEU:HD13	32:DK:77:LEU:HA	1.97	0.40
59:DA:13:A:H2'	59:DA:13:A:OP2	2.21	0.40
7:CH:6:ILE:H	7:CH:6:ILE:HD12	1.85	0.40
41:DV:5:VAL:HG23	41:DV:37:VAL:O	2.21	0.40
28:DF:13:SER:HB3	28:DF:14:PRO:HD2	2.03	0.40
21:CA:109:A:C8	21:CA:326:G:H2'	2.56	0.40
33:BN:25:ARG:NH2	59:BA:114(B):A:H4'	2.32	0.40
33:BN:107:LEU:HB3	33:BN:108:PRO:HD2	2.02	0.40
59:DA:2686:G:H2'	59:DA:2687:U:C6	2.56	0.40
21:AA:838(A):U:H4'	21:AA:838(B):C:C6	2.57	0.40
59:DA:1586:A:N3	59:DA:1586:A:H2'	2.36	0.40
21:CA:375:U:H2'	21:CA:376:G:H8	1.85	0.40
59:DA:2851:A:H2'	59:DA:2852:G:H8	1.85	0.40
38:BS:63:THR:HB	38:BS:64:GLU:H	1.62	0.40
31:BJ:52:UNK:C	31:BJ:54:UNK:H	2.33	0.40
60:DB:42:C:H2'	60:DB:43:C:C6	2.56	0.40
59:BA:710:G:H2'	59:BA:711:G:O4'	2.21	0.40
59:DA:2457:U:H3	59:DA:2494:G:H1	1.69	0.40
10:CK:18:ARG:HH21	10:CK:36:ASP:HA	1.86	0.40
59:BA:255:A:H1'	59:BA:384:U:C5	2.56	0.40
49:B5:3:LYS:HE3	49:B5:5:PRO:CG	2.51	0.40
14:AO:87:ILE:HB	14:AO:88:ARG:H	1.46	0.40
59:BA:768:G:C6	59:BA:769:G:C5	3.10	0.40
59:DA:1537:C:N4	59:DA:1538:G:N3	2.69	0.40
59:DA:1664:A:H1'	59:DA:2685:G:O2'	2.22	0.40
7:CH:96:GLY:O	7:CH:100:ILE:HG13	2.21	0.40
18:CS:75:ALA:HA	18:CS:76:PRO:HD2	1.74	0.40
25:DC:48:LEU:H	25:DC:48:LEU:HD12	1.86	0.40
20:CY:668:SER:OG	20:CY:669:PHE:N	2.53	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:221:A:N6	59:BA:427:U:H3	2.09	0.40
28:BF:33:LEU:O	28:BF:37:VAL:HG23	2.22	0.40
21:CA:232:G:C5	21:CA:233:C:C5	3.10	0.40
28:BF:93:LYS:HD3	28:BF:93:LYS:HA	1.95	0.40
59:DA:656:G:H2'	59:DA:657:U:O4'	2.21	0.40
36:DQ:27:VAL:HB	36:DQ:137:TYR:HE2	1.86	0.40
20:CY:9:LEU:O	20:CY:284:LEU:HB2	2.21	0.40
59:DA:2114:A:C2	59:DA:2168:G:H1'	2.56	0.40
14:CO:46:HIS:C	14:CO:48:LYS:H	2.23	0.40
59:BA:2086:U:H2'	59:BA:2087:G:C8	2.56	0.40
35:BP:70:GLN:HB3	35:BP:71:VAL:H	1.61	0.40
27:BE:8:LYS:HD3	27:BE:191:PRO:O	2.21	0.40
59:DA:2327:A:H2'	59:DA:2328:A:C8	2.56	0.40
32:DK:13:PRO:HB3	32:DK:52:ILE:HG12	2.03	0.40
29:BG:149:VAL:HG23	29:BG:153:ARG:NE	2.34	0.40
59:BA:2011:U:H2'	59:BA:2012:G:O4'	2.21	0.40
59:DA:414:C:O2	59:DA:1864:U:O2'	2.30	0.40
30:BH:158:HIS:H	30:BH:158:HIS:HD1	1.69	0.40
28:BF:88:VAL:HG13	28:BF:89:VAL:O	2.21	0.40
3:CD:63:LYS:HG2	3:CD:198:VAL:HG22	2.03	0.40
1:AB:162:ILE:HG22	1:AB:184:VAL:HA	2.03	0.40
59:BA:1068:G:H8	59:BA:1068:G:O5'	2.05	0.40
52:D8:42:ARG:HG3	59:DA:2349:G:OP2	2.21	0.40
44:BY:68:HIS:HB3	44:BY:71:LYS:HE2	2.03	0.40
25:BC:77:ALA:HB3	25:BC:95:VAL:HG13	2.03	0.40
45:BZ:5:LEU:HD23	45:BZ:6:LYS:N	2.36	0.40
35:DP:62:LEU:N	35:DP:62:LEU:HD23	2.34	0.40
12:CM:13:LYS:HB3	12:CM:18:ALA:HB2	2.02	0.40
38:DS:52:SER:HB3	38:DS:55:ALA:HB3	2.03	0.40
35:BP:121:LYS:HA	35:BP:122:PRO:HD3	1.86	0.40
20:AY:329:ARG:HD2	20:AY:374:LEU:HG	2.03	0.40
3:AD:159:ARG:H	3:AD:159:ARG:HG2	1.53	0.40
29:BG:48:GLU:C	29:BG:50:ALA:H	2.21	0.40
37:DR:3:HIS:C	37:DR:5:LYS:H	2.24	0.40
9:CJ:45:ARG:HB3	9:CJ:65:LEU:HB2	2.04	0.40
33:BN:133:GLN:CG	33:BN:135:PRO:HD3	2.51	0.40
10:AK:63:LEU:HA	10:AK:66:LEU:HB2	2.02	0.40
59:BA:1538:G:C6	59:BA:1539:G:C6	3.09	0.40
29:BG:44:GLY:HA3	59:BA:2311:A:C6	2.56	0.40
10:AK:92:GLU:CD	10:AK:95:ILE:HD12	2.41	0.40
20:CY:543:GLN:HG2	20:CY:547:GLU:HG3	2.02	0.40
59:BA:990:A:C6	59:BA:1186:G:H1'	2.56	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:CN:61:TRP:HH2	21:CA:1368:G:H4'	1.86	0.40
25:BC:54:ARG:O	25:BC:55:SER:OG	2.35	0.40
34:BO:15:GLY:O	34:BO:46:ALA:HB1	2.21	0.40
59:BA:2583:G:H8	59:BA:2583:G:O5'	2.04	0.40
11:CL:115:LYS:HG3	11:CL:116:SER:N	2.36	0.40
59:DA:1439:A:H2'	59:DA:1440:G:H5'	2.02	0.40
21:CA:909:A:C8	21:CA:910:C:C5	3.09	0.40
59:BA:1924:C:H2'	59:BA:1925:C:O4'	2.21	0.40
21:CA:943:U:O4	21:CA:1340:A:N1	2.54	0.40
59:DA:2695:C:N3	59:DA:2714:G:O6	2.55	0.40
21:AA:557:G:O6	21:AA:558:G:N1	2.54	0.40
59:BA:2505:G:C6	59:BA:2576:G:C8	3.10	0.40
2:AC:178:LEU:HG	21:AA:1112:C:N3	2.37	0.40
21:AA:935:A:H2'	21:AA:936:C:O4'	2.20	0.40
11:CL:57:LYS:HE3	11:CL:65:GLU:HB3	2.03	0.40
59:DA:1431:U:H2'	59:DA:1432:C:H6	1.85	0.40
59:BA:1213:A:N6	59:BA:1236:G:H1'	2.35	0.40
26:DD:69:ARG:HH22	26:DD:192:THR:HG21	1.86	0.40
14:AO:10:LYS:O	14:AO:14:GLU:HB2	2.20	0.40
39:DT:54:ARG:HB2	59:DA:2846:G:P	2.61	0.40
29:DG:7:LEU:HA	29:DG:10:LYS:HB2	2.04	0.40
59:DA:2254:C:H2'	59:DA:2255:G:O4'	2.22	0.40
59:BA:828:U:H5	59:BA:2247:A:O2'	2.04	0.40
59:DA:2373:G:H2'	59:DA:2374:C:O4'	2.21	0.40
20:AY:238:THR:OG1	20:AY:239:GLU:N	2.55	0.40
59:BA:1388:G:C2	59:BA:1389:G:C8	3.10	0.40
59:BA:2076:U:H5	59:BA:2596:U:C2	2.39	0.40
43:DX:30:VAL:HG22	43:DX:77:LYS:O	2.22	0.40
59:BA:1299:G:H5'	59:BA:1301:A:H5''	2.03	0.40
21:CA:1397:C:N4	23:CV:24:A:H2'	2.36	0.40
1:CB:106:LYS:HD2	1:CB:106:LYS:H	1.87	0.40
32:BK:80:LYS:HE2	32:BK:80:LYS:HB3	1.85	0.40
20:AY:315:LYS:HA	20:AY:315:LYS:HD3	1.89	0.40
53:D9:4:ARG:O	53:D9:6:SER:N	2.53	0.40
21:AA:1077:G:N2	21:AA:1079:G:H3'	2.36	0.40
6:CG:17:VAL:HB	6:CG:18:TYR:H	1.62	0.40
21:CA:586:C:O2'	21:CA:878:G:H4'	2.22	0.40
17:AR:37:VAL:HG23	17:AR:38:GLU:H	1.85	0.40
11:AL:52:LEU:HG	11:AL:53:ARG:H	1.86	0.40
59:BA:2811:G:C6	59:BA:2891:G:C2	3.09	0.40
27:DE:62:PRO:HG3	59:DA:2786:U:O2	2.21	0.40
38:BS:17:ARG:O	38:BS:21:THR:OG1	2.36	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
38:BS:30:ARG:HD3	38:BS:35:ILE:CD1	2.51	0.40
25:BC:60:ARG:HG2	25:BC:142:LYS:CD	2.51	0.40
28:BF:157:VAL:HG13	28:BF:194:MET:HB3	2.03	0.40
59:DA:2265:U:O5'	59:DA:2266:A:H2'	2.22	0.40
44:BY:94:LYS:O	44:BY:102:CYS:HB3	2.22	0.40
59:DA:296:C:H2'	59:DA:297:C:H6	1.85	0.40
40:DU:3:ARG:NH2	59:DA:449:A:H4'	2.37	0.40
39:DT:48:ILE:HB	39:DT:49:VAL:H	1.58	0.40
59:BA:729:G:O2'	59:BA:763:G:H4'	2.20	0.40
30:BH:85:LYS:HB2	30:BH:133:VAL:HB	2.03	0.40
21:AA:946:A:H2'	21:AA:947:G:H8	1.85	0.40
6:AG:4:ARG:NH2	21:AA:931:C:O3'	2.54	0.40
33:DN:6:PRO:C	33:DN:7:LYS:NZ	2.75	0.40
11:CL:26:ALA:HB2	11:CL:98:TYR:CE2	2.56	0.40
28:DF:57:VAL:HG12	28:DF:59:TYR:H	1.86	0.40
11:AL:82:VAL:HB	11:AL:105:TYR:CG	2.56	0.40
39:BT:25:GLY:HA3	39:BT:92:GLY:HA2	2.02	0.40
22:AW:8:U:H5'	22:AW:49:A:OP2	2.21	0.40
26:BD:37:LEU:HD22	26:BD:62:TYR:HD1	1.87	0.40
40:BU:52:ARG:O	40:BU:55:ARG:N	2.54	0.40
42:BW:18:ARG:HG2	42:BW:76:VAL:CG1	2.51	0.40
21:AA:134:A:C6	21:AA:135:C:C2	3.10	0.40
15:CP:20:VAL:HG11	15:CP:32:TYR:CD1	2.57	0.40
15:CP:20:VAL:HG21	15:CP:32:TYR:CD1	2.56	0.40
59:BA:847:U:O2'	59:BA:848:G:H8	2.03	0.40
59:BA:2064:C:H2'	59:BA:2065:C:C6	2.57	0.40
59:DA:1277:G:H2'	59:DA:1278:A:C8	2.55	0.40
59:DA:197:A:N6	59:DA:2430:A:H2'	2.36	0.40
59:DA:827:U:O2'	59:DA:2068:U:N3	2.54	0.40
11:CL:27:LEU:HA	11:CL:27:LEU:HD23	1.87	0.40
1:AB:236:TYR:HA	1:AB:239:VAL:HB	2.04	0.40
2:CC:197:GLY:N	21:CA:1057:G:H4'	2.37	0.40
53:B9:25:VAL:CB	53:B9:34:GLN:HB2	2.50	0.40
25:BC:3:LYS:HB3	25:BC:4:HIS:H	1.57	0.40
30:DH:125:VAL:HG22	30:DH:131:VAL:HG13	2.03	0.40
59:BA:1494:A:O2'	59:BA:1495:A:H5''	2.21	0.40
7:AH:129:VAL:HB	7:AH:130:GLY:H	1.59	0.40
16:CQ:60:ILE:HG12	16:CQ:61:GLU:N	2.36	0.40
27:BE:159:HIS:CG	27:BE:160:TYR:N	2.89	0.40
59:BA:185:U:H2'	59:BA:186:G:O4'	2.22	0.40
59:BA:2218:G:H2'	59:BA:2219:G:C8	2.57	0.40
21:CA:68(M):U:H2'	21:CA:68(N):U:O4'	2.21	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:AA:68(K):U:H3'	21:AA:68(M):U:OP2	2.21	0.40
59:DA:1755:A:N6	59:DA:2694:G:H21	2.15	0.40
59:DA:826:U:H3	59:DA:831:G:H1	1.68	0.40
7:AH:46:LYS:HB3	7:AH:62:TYR:CB	2.51	0.40
11:CL:120:TYR:N	11:CL:120:TYR:CD2	2.89	0.40
8:AI:74:ILE:HA	8:AI:77:ILE:HD12	2.03	0.40
27:DE:79:ARG:NH2	32:DK:30:HIS:O	103.06	0.40
59:DA:1086:A:H3'	59:DA:1086:A:N3	2.37	0.40
59:DA:1186:G:H3'	59:DA:1187:G:H8	1.87	0.40
59:DA:1468:C:H2'	59:DA:1469:A:H8	1.84	0.40
18:CS:60:VAL:HG21	18:CS:74:PHE:CB	2.51	0.40
44:BY:28:LYS:HE3	44:BY:28:LYS:HB3	1.84	0.40
59:BA:844:C:H2'	59:BA:845:G:O4'	2.21	0.40
59:DA:1356:G:H2'	59:DA:1357:U:O4'	2.21	0.40
6:CG:102:ARG:O	6:CG:105:VAL:HB	2.21	0.40
19:AT:14:LYS:HA	19:AT:17:ARG:HE	1.87	0.40
15:AP:70:ALA:O	15:AP:74:LEU:HG	2.20	0.40
20:CY:438:PHE:HB3	20:CY:453:GLY:HA3	2.04	0.40
35:DP:144:GLU:HA	35:DP:145:PRO:HD3	1.87	0.40
21:CA:1522:U:H2'	21:CA:1523:G:H8	1.86	0.40
6:AG:63:LYS:HD2	6:AG:63:LYS:HA	1.84	0.40
8:CI:50:LEU:HA	8:CI:50:LEU:HD23	1.90	0.40
59:DA:2307:G:H5''	59:DA:2308:G:OP2	2.21	0.40
21:CA:1533:C:H3'	21:CA:1534:A:O4'	2.21	0.40
46:B0:24:LYS:NZ	59:BA:2355:C:O3'	2.52	0.40
33:DN:133:GLN:HB3	33:DN:134:ARG:H	1.68	0.40
56:B1:67:ILE:HG12	56:B1:67:ILE:H	1.55	0.40
14:AO:29:VAL:HG22	14:AO:66:LEU:HB3	2.02	0.40
12:CM:17:VAL:HG11	21:CA:1302:U:H6	1.86	0.40
59:DA:547:A:H3'	59:DA:548:A:C8	2.56	0.40
37:BR:92:GLY:HA2	59:BA:2839:G:O2'	2.22	0.40
44:DY:26:LYS:H	44:DY:40:GLU:CG	2.34	0.40
59:DA:1428:C:C5	59:DA:1569:A:H5''	2.56	0.40
47:D2:48:HIS:CD2	47:D2:49:LYS:H	2.38	0.40
17:CR:26:LEU:HD13	17:CR:39:VAL:HG13	2.04	0.40
59:BA:1911:U:O5'	59:BA:1911:U:H6	2.04	0.40
34:DO:87:ILE:HD13	34:DO:91:LEU:HD23	2.03	0.40
33:DN:89:LYS:HB3	33:DN:89:LYS:NZ	2.36	0.40
44:BY:63:LYS:HG3	44:BY:64:GLU:H	1.86	0.40
28:BF:136:THR:O	28:BF:140:LEU:HD13	2.21	0.40
59:DA:723:G:H2'	59:DA:724:U:O4'	2.21	0.40
59:DA:1550:C:H2'	59:DA:1551:C:C6	2.56	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:AJ:99:LYS:HD3	9:AJ:100:THR:H	1.86	0.40
42:BW:82:LEU:HD23	42:BW:82:LEU:HA	1.97	0.40
59:BA:1244:G:C2	59:BA:1245:G:C8	3.09	0.40
59:BA:1678:G:N2	59:BA:1989:G:H22	2.19	0.40
8:CI:124:GLN:HB3	21:CA:1232:U:H5''	2.02	0.40
21:AA:1493:A:H5'	21:AA:1494:G:O5'	2.21	0.40
8:AI:16:ARG:HB2	8:AI:16:ARG:HE	1.67	0.40
59:BA:363(A):G:H2'	59:BA:363(B):A:H8	1.87	0.40
26:DD:48:ARG:O	26:DD:49:ILE:HG13	2.22	0.40
59:BA:1100:C:H2'	59:BA:1101:U:O4'	2.21	0.40
38:BS:15:ARG:C	38:BS:17:ARG:N	2.74	0.40
59:BA:860:U:H5	59:BA:917:A:H62	1.68	0.40
60:BB:24:G:C2	60:BB:56:G:N2	2.90	0.40
49:D5:3:LYS:N	49:D5:3:LYS:HE2	2.36	0.40
37:DR:64:ARG:O	37:DR:68:ARG:HB2	2.22	0.40
37:BR:18:LEU:O	37:BR:22:ARG:HG3	2.21	0.40
39:DT:51:ARG:NH1	59:DA:2685:G:OP1	2.54	0.40
39:DT:48:ILE:HD12	39:DT:48:ILE:H	1.87	0.40
21:AA:1304:G:C6	21:AA:1305:G:C6	3.09	0.40
11:AL:9:GLN:NE2	21:AA:881:G:OP2	2.47	0.40
28:DF:195:ASP:HB3	28:DF:197:ASP:CG	2.42	0.40
56:B1:95:LEU:HA	56:B1:95:LEU:HD12	1.87	0.40
50:B6:18:ARG:C	50:B6:19:ARG:HD2	2.42	0.40
56:B1:18:ILE:CD1	56:B1:20:ARG:HB3	2.51	0.40
60:DB:81:G:C2	60:DB:82:G:C5	3.09	0.40
1:AB:158:LEU:HA	1:AB:159:PRO:HD3	1.80	0.40
32:BK:6:ALA:O	32:BK:58:THR:HA	2.21	0.40
39:BT:95:ARG:HG3	59:BA:1753:G:OP1	2.21	0.40
4:CE:101:ILE:HD11	4:CE:119:LEU:HD13	2.02	0.40
35:BP:71:VAL:C	35:BP:73:GLY:H	2.24	0.40
59:DA:1029:A:H2'	59:DA:1030:G:O4'	2.22	0.40
22:CW:2:G:O6	22:CW:72:C:N4	2.55	0.40
5:AF:2:ARG:HD3	5:AF:92:LYS:HE2	2.02	0.40
59:BA:2711:A:C4	59:BA:2714:G:H1'	2.56	0.40
59:BA:1872:A:H8	59:BA:1872:A:O5'	2.05	0.40
35:DP:76:LYS:NZ	59:DA:228:A:OP1	2.55	0.40
59:BA:2299:G:H2'	59:BA:2300:G:C8	2.56	0.40
14:AO:28:GLN:O	14:AO:32:LEU:HG	2.22	0.40
37:BR:115:GLU:OE1	37:BR:117:VAL:HG22	2.21	0.40
9:CJ:5:ARG:HB2	9:CJ:5:ARG:NH1	2.36	0.40
33:DN:34:LEU:HD11	33:DN:120:LEU:HB2	2.04	0.40
1:CB:162:ILE:C	1:CB:185:ILE:O	2.60	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:AH:85:ARG:HD2	7:AH:85:ARG:HA	1.85	0.40
59:DA:1895:C:H2'	59:DA:1896:G:C8	2.57	0.40
59:DA:1086:A:O2'	59:DA:1087:G:N7	2.55	0.40
20:AY:329:ARG:HA	20:AY:374:LEU:HG	2.03	0.40
20:AY:382:GLU:HB3	20:AY:383:THR:H	1.66	0.40
60:BB:40:U:N3	60:BB:44:G:OP2	2.47	0.40
2:AC:30:ARG:HD3	13:AN:38:GLY:HA3	2.04	0.40
21:AA:958:A:H2'	21:AA:959:A:C8	2.55	0.40
59:BA:2075:U:H3	59:BA:2077:A:H8	1.65	0.40
28:BF:137:LYS:HE2	59:BA:320:A:OP2	2.22	0.40
46:B0:20:ARG:HE	59:BA:2271:G:H5'	1.87	0.40
21:CA:1493:A:N6	20:CY:580:MET:HB2	2.36	0.40
59:BA:747:U:H5''	59:BA:2612:C:H41	1.87	0.40
26:BD:161:THR:HG22	26:BD:178:PRO:HG2	2.03	0.40
27:BE:56:PRO:HD2	27:BE:58:ARG:HG2	2.03	0.40
21:CA:126:G:OP1	21:CA:605:U:O2'	2.33	0.40
21:CA:604:G:H2'	21:CA:605:U:O4'	2.21	0.40
25:BC:182:PRO:HB3	25:BC:183:PRO:HD2	2.02	0.40
21:CA:306:G:H2'	21:CA:307:C:C6	2.57	0.40
11:CL:113:ARG:HD2	21:CA:538:G:OP1	2.21	0.40
39:DT:7:ILE:O	39:DT:10:VAL:N	2.52	0.40
3:CD:78:LEU:O	3:CD:81:GLU:HB3	2.21	0.40
21:AA:858:G:OP2	21:AA:858:G:H8	2.05	0.40
6:CG:37:ASN:ND2	6:CG:41:ARG:HD2	2.36	0.40
59:DA:1917:U:C4	59:DA:1918:A:C6	3.09	0.40
59:DA:1990:C:H2'	59:DA:1991:U:C6	2.56	0.40
36:BQ:56:ARG:NE	36:BQ:56:ARG:O	2.49	0.40
7:CH:86:ILE:HG12	7:CH:135:CYS:HA	2.02	0.40
59:DA:733:G:C8	59:DA:761:A:N6	2.90	0.40
59:DA:613:U:H4'	59:DA:616:A:C5	2.57	0.40
20:AY:407:PRO:HA	20:AY:454:MET:N	2.37	0.40
59:BA:2539:C:O2	59:BA:2741:A:O2'	2.33	0.40
21:AA:328:C:H4'	21:AA:329:A:O5'	2.21	0.40
26:BD:86:PRO:HB3	59:BA:1567:A:OP2	2.22	0.40
30:DH:152:ARG:HB3	30:DH:162:ILE:HG13	2.04	0.40
21:AA:522:C:C4	21:AA:523:A:C6	3.10	0.40
21:CA:878:G:C6	21:CA:879:C:C4	3.09	0.40
59:BA:174:C:H2'	59:BA:175:G:O4'	2.22	0.40
21:CA:160:A:HO2'	21:CA:344:A:N6	2.20	0.40
2:CC:95:THR:O	2:CC:97:LYS:N	2.46	0.40
6:CG:8:GLU:HG3	6:CG:10:ARG:HG3	2.03	0.40
25:BC:168:LYS:NZ	59:BA:2121:G:O2'	2.34	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:AA:201(B):U:H5''	21:AA:201(C):U:OP1	2.20	0.40
59:DA:2758:A:C2	59:DA:2759:G:H1'	2.57	0.40
59:BA:1204:A:N6	59:BA:1240:U:H2'	2.35	0.40
30:BH:93:GLY:O	30:BH:95:ARG:N	2.54	0.40
20:CY:471:LYS:HB2	20:CY:471:LYS:HE2	1.93	0.40
18:CS:27:GLU:H	18:CS:27:GLU:HG3	1.34	0.40
36:DQ:47:ILE:HD13	36:DQ:47:ILE:HA	1.69	0.40
16:CQ:84:LEU:H	16:CQ:84:LEU:HG	1.63	0.40
35:BP:18:ARG:HA	35:BP:18:ARG:HD2	1.90	0.40
59:BA:1054:A:H2'	59:BA:1055:G:C8	2.57	0.40
59:DA:763:G:H2'	59:DA:765:G:OP2	2.22	0.40
37:DR:77:ARG:O	37:DR:81:ASP:HB2	2.22	0.40
26:BD:122:ASP:OD2	26:BD:123:ALA:N	2.54	0.40
20:CY:31:ARG:O	20:CY:32:ILE:C	2.59	0.40
33:BN:103:VAL:O	33:BN:106:MET:N	2.51	0.40
33:BN:42:TRP:O	40:BU:64:ARG:NH2	2.55	0.40
35:DP:27:HIS:NE2	59:DA:814:C:C5	2.89	0.40
59:DA:270(K):G:H2'	59:DA:270(L):C:O4'	2.22	0.40
35:BP:21:ARG:HH21	35:BP:29:LYS:CE	2.32	0.40
59:BA:775:G:H4'	59:BA:776:G:O5'	2.22	0.40
32:BK:133:SER:OG	32:BK:134:MET:HG3	2.22	0.40
21:CA:1507:A:H2'	21:CA:1508:G:C8	2.54	0.40
9:AJ:57:LYS:HB2	21:AA:972:C:H4'	2.04	0.40
59:BA:2641:G:C6	59:BA:2642:G:C5	3.10	0.40
59:DA:2319:G:N2	59:DA:2334:G:OP1	2.49	0.40
38:DS:85:VAL:H	38:DS:106:ARG:HD3	1.87	0.40
25:BC:42:VAL:H	25:BC:217:THR:HA	1.87	0.40
38:BS:99:LYS:CG	38:BS:100:ALA:N	2.85	0.40
59:DA:531:C:H5''	59:DA:532:A:C5	2.56	0.40
1:AB:94:ASN:H	1:AB:94:ASN:HD22	1.70	0.40
8:AI:17:VAL:HG22	8:AI:63:ILE:HG23	2.02	0.40
34:DO:13:ASN:CG	34:DO:96:THR:HG22	2.41	0.40
10:CK:34:ASP:O	10:CK:36:ASP:N	2.47	0.40
25:DC:161:ARG:HH11	25:DC:161:ARG:HA	1.87	0.40
39:DT:102:ILE:HG13	39:DT:103:ARG:N	2.36	0.40
59:BA:2032:G:N2	59:BA:2572:A:C8	2.90	0.40
20:CY:408:VAL:HG12	20:CY:669:PHE:HE1	1.87	0.40
9:CJ:57:LYS:HE2	21:CA:973:G:OP1	2.21	0.40
16:AQ:17:LYS:HD2	21:AA:255:G:H4'	2.03	0.40
59:BA:783:A:N6	59:BA:785:G:C5	2.90	0.40
10:CK:111:ASP:HA	17:CR:84:LYS:HG3	2.04	0.40
41:DV:66:ARG:HG3	41:DV:90:PRO:HG3	2.03	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:AD:205:GLU:OE2	4:AE:100:VAL:HG23	2.22	0.40
20:CY:12:LEU:O	20:CY:282:SER:HA	2.22	0.40
21:AA:728:A:H2'	21:AA:729:A:C8	2.57	0.40
20:AY:487:ILE:HD13	20:AY:487:ILE:H	1.87	0.40
59:BA:531:C:H3'	59:BA:561:G:N2	2.35	0.40
27:BE:179:GLU:HB3	27:BE:181:LEU:HD22	2.04	0.40
22:AW:20:U:H1'	22:AW:20(A):U:C2'	2.48	0.40
59:BA:2064:C:H1'	59:BA:2450:A:C6	2.56	0.40
1:AB:135:GLN:O	1:AB:139:LYS:HG3	2.22	0.40
33:BN:114:ARG:HH11	33:BN:114:ARG:HB3	1.85	0.40
37:BR:16:HIS:HA	37:BR:19:ALA:HB3	2.02	0.40
27:BE:161:GLY:C	27:BE:163:GLU:HG2	2.41	0.40
59:DA:528:A:H3'	59:DA:528:A:C8	2.57	0.40
59:DA:528:A:H8	59:DA:528:A:H3'	1.87	0.40
21:CA:864:A:C2	21:CA:865:A:C4	3.09	0.40
59:BA:1727:U:H2'	59:BA:1728:G:O4'	2.21	0.40
59:BA:1728:G:N2	59:BA:1731:G:H2'	2.37	0.40
35:BP:126:VAL:HA	35:BP:145:PRO:CG	2.51	0.40
51:D7:26:GLY:HA2	51:D7:29:LYS:HG3	2.03	0.40
26:BD:171:ASP:HB2	26:BD:186:HIS:CE1	2.56	0.40
59:DA:226:G:O2'	59:DA:227:A:C8	2.74	0.40
59:DA:2532:G:C6	59:DA:2533:A:C6	3.10	0.40
20:AY:201:ILE:HD13	20:AY:206:LEU:HD13	2.03	0.40
34:DO:107:ARG:NH2	39:DT:35:LYS:HE2	2.36	0.40
59:DA:1407:C:N4	59:DA:1595:G:H1	2.19	0.40
30:DH:139:GLN:HB3	30:DH:143:GLN:OE1	2.22	0.40
60:BB:14:U:H1'	60:BB:107:U:H1'	2.03	0.40
59:BA:2648:C:H2'	59:BA:2649:U:C6	2.56	0.40
30:BH:87:LEU:HD11	30:BH:145:ALA:HA	2.04	0.40
59:BA:1186:G:H2'	59:BA:1187:G:O4'	2.22	0.40
21:AA:1151:A:O2'	21:AA:1152:A:H8	2.05	0.40
46:B0:20:ARG:HB2	59:BA:2356:C:H5''	2.04	0.40
5:CF:50:TYR:HE2	5:CF:87:ARG:NH2	2.20	0.40
1:CB:111:ARG:HE	1:CB:145:LEU:HD11	1.86	0.40
5:AF:99:ALA:HA	17:AR:31:LEU:HG	2.03	0.40
1:CB:238:LEU:HG	1:CB:241:GLU:OE1	2.21	0.40
21:CA:270:A:H2'	21:CA:271:C:O4'	2.22	0.40
3:AD:207:TYR:HD2	3:AD:207:TYR:HA	1.59	0.40
59:BA:172:C:C2	59:BA:173:G:C8	3.09	0.40
30:DH:123:PHE:O	30:DH:124:GLU:CB	2.70	0.40
13:CN:4:LYS:O	13:CN:8:GLU:HG2	2.22	0.40
21:CA:1053:G:H4'	21:CA:1055:A:OP1	2.21	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
59:BA:226:G:O2'	59:BA:227:A:C8	2.72	0.40
59:BA:288:C:N3	59:BA:353:G:O6	2.54	0.40
47:B2:61:LEU:HD23	47:B2:61:LEU:HA	1.81	0.40
12:CM:12:ASN:HB2	12:CM:46:LYS:HE2	2.04	0.40
3:CD:165:MET:HE1	3:CD:176:LEU:HD11	2.03	0.40
33:DN:10:GLU:HG3	33:DN:11:PRO:HD2	2.04	0.40
30:DH:107:VAL:HG21	30:DH:152:ARG:HB2	2.03	0.40
59:BA:2115:G:H4'	59:BA:2167:U:H4'	2.02	0.40
15:CP:48:TRP:CE3	15:CP:49:LEU:HG	2.56	0.40
21:CA:1232:U:C4	21:CA:1233:G:C8	3.10	0.40
21:AA:186(N):U:H2'	21:AA:186(O):G:C8	2.56	0.40
21:CA:1517:G:C5	21:CA:1518:A:C5	3.10	0.40
21:AA:830:G:H2'	21:AA:831:U:O4'	2.21	0.40
59:DA:1065:U:H3'	59:DA:1066:U:H6	1.87	0.40
21:AA:1107:C:C4	21:AA:1108:G:C8	3.10	0.40
42:DW:26:GLY:HA2	42:DW:71:VAL:O	2.20	0.40
20:CY:490:PRO:HA	20:CY:514:VAL:O	2.22	0.40
59:DA:1362:C:H42	59:DA:1369:G:H1	1.70	0.40
1:CB:181:PHE:CD1	7:CH:71:GLY:HA2	2.57	0.40
20:CY:99:ARG:CZ	20:CY:403:GLU:HG2	2.51	0.40
39:DT:30:VAL:HG22	39:DT:31:SER:H	1.86	0.40
32:DK:38:VAL:HA	32:DK:42:ASN:HB3	2.03	0.40
3:AD:84:LYS:HE2	3:AD:84:LYS:HB3	1.92	0.40
6:CG:42:ILE:HA	6:CG:42:ILE:HD13	1.83	0.40
8:AI:86:VAL:HG12	8:AI:86:VAL:O	2.20	0.40
59:BA:2540:C:H2'	59:BA:2541:A:O4'	2.22	0.40
18:AS:14:HIS:O	18:AS:18:LYS:HG3	2.22	0.40
21:CA:786:G:H2'	21:CA:787:A:O4'	2.21	0.40

All (5) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:AI:58:ARG:CZ	12:CM:46:LYS:CG[2_555]	1.66	0.54
8:AI:58:ARG:CD	12:CM:47:ASP:OD1[2_555]	1.74	0.46
8:AI:58:ARG:NH2	12:CM:46:LYS:CG[2_555]	1.88	0.32
8:AI:58:ARG:NE	12:CM:46:LYS:CG[2_555]	2.01	0.19
8:AI:58:ARG:NH2	12:CM:46:LYS:CD[2_555]	2.04	0.16

## 5.3 Torsion angles

### 5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	AB	233/235 (99%)	173 (74%)	40 (17%)	20 (9%)	1	19
1	CB	233/235 (99%)	174 (75%)	36 (16%)	23 (10%)	1	15
2	AC	205/207 (99%)	137 (67%)	44 (22%)	24 (12%)	1	12
2	CC	205/207 (99%)	152 (74%)	34 (17%)	19 (9%)	1	18
3	AD	206/208 (99%)	146 (71%)	42 (20%)	18 (9%)	1	19
3	CD	206/208 (99%)	149 (72%)	46 (22%)	11 (5%)	3	35
4	AE	149/151 (99%)	107 (72%)	31 (21%)	11 (7%)	2	24
4	CE	149/151 (99%)	116 (78%)	24 (16%)	9 (6%)	2	31
5	AF	99/101 (98%)	75 (76%)	17 (17%)	7 (7%)	2	25
5	CF	99/101 (98%)	81 (82%)	7 (7%)	11 (11%)	1	13
6	AG	153/155 (99%)	120 (78%)	27 (18%)	6 (4%)	5	45
6	CG	153/155 (99%)	119 (78%)	27 (18%)	7 (5%)	4	39
7	AH	136/138 (99%)	98 (72%)	22 (16%)	16 (12%)	1	12
7	CH	136/138 (99%)	102 (75%)	21 (15%)	13 (10%)	1	17
8	AI	125/127 (98%)	88 (70%)	26 (21%)	11 (9%)	1	19
8	CI	125/127 (98%)	92 (74%)	25 (20%)	8 (6%)	2	29
9	AJ	97/99 (98%)	71 (73%)	17 (18%)	9 (9%)	1	18
9	CJ	97/99 (98%)	71 (73%)	16 (16%)	10 (10%)	1	14
10	AK	117/119 (98%)	74 (63%)	25 (21%)	18 (15%)	0	6
10	CK	117/119 (98%)	78 (67%)	26 (22%)	13 (11%)	1	13
11	AL	123/125 (98%)	42 (34%)	46 (37%)	35 (28%)	0	0
11	CL	123/125 (98%)	39 (32%)	44 (36%)	40 (32%)	0	0
12	AM	123/125 (98%)	86 (70%)	24 (20%)	13 (11%)	1	14
12	CM	123/125 (98%)	91 (74%)	18 (15%)	14 (11%)	1	12
13	AN	58/60 (97%)	40 (69%)	11 (19%)	7 (12%)	1	11

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
13	CN	58/60 (97%)	40 (69%)	14 (24%)	4 (7%)	2	27
14	AO	86/88 (98%)	65 (76%)	14 (16%)	7 (8%)	1	21
14	CO	86/88 (98%)	66 (77%)	15 (17%)	5 (6%)	3	32
15	AP	82/84 (98%)	55 (67%)	18 (22%)	9 (11%)	1	13
15	CP	82/84 (98%)	59 (72%)	18 (22%)	5 (6%)	2	30
16	AQ	98/100 (98%)	68 (69%)	18 (18%)	12 (12%)	1	11
16	CQ	98/100 (98%)	68 (69%)	20 (20%)	10 (10%)	1	14
17	AR	68/70 (97%)	50 (74%)	12 (18%)	6 (9%)	1	19
17	CR	68/70 (97%)	52 (76%)	10 (15%)	6 (9%)	1	19
18	AS	77/79 (98%)	51 (66%)	18 (23%)	8 (10%)	1	14
18	CS	77/79 (98%)	56 (73%)	12 (16%)	9 (12%)	1	12
19	AT	97/99 (98%)	72 (74%)	17 (18%)	8 (8%)	1	21
19	CT	97/99 (98%)	75 (77%)	14 (14%)	8 (8%)	1	21
20	AY	685/687 (100%)	431 (63%)	168 (24%)	86 (13%)	0	10
20	CY	685/687 (100%)	457 (67%)	156 (23%)	72 (10%)	1	14
24	AU	2/6 (33%)	1 (50%)	1 (50%)	0	100	100
24	CU	2/6 (33%)	1 (50%)	1 (50%)	0	100	100
25	BC	226/228 (99%)	108 (48%)	70 (31%)	48 (21%)	0	2
25	DC	226/228 (99%)	105 (46%)	75 (33%)	46 (20%)	0	2
26	BD	273/275 (99%)	180 (66%)	54 (20%)	39 (14%)	0	7
26	DD	273/275 (99%)	188 (69%)	47 (17%)	38 (14%)	0	8
27	BE	203/205 (99%)	130 (64%)	43 (21%)	30 (15%)	0	6
27	DE	203/205 (99%)	133 (66%)	36 (18%)	34 (17%)	0	5
28	BF	206/208 (99%)	126 (61%)	54 (26%)	26 (13%)	0	10
28	DF	206/208 (99%)	137 (66%)	47 (23%)	22 (11%)	1	13
29	BG	179/181 (99%)	120 (67%)	46 (26%)	13 (7%)	2	25
29	DG	179/181 (99%)	127 (71%)	44 (25%)	8 (4%)	4	40
30	BH	165/167 (99%)	118 (72%)	29 (18%)	18 (11%)	1	13
30	DH	165/167 (99%)	118 (72%)	32 (19%)	15 (9%)	1	18
32	BK	138/140 (99%)	88 (64%)	33 (24%)	17 (12%)	1	10
32	DK	138/140 (99%)	86 (62%)	33 (24%)	19 (14%)	0	8

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
33	BN	136/138 (99%)	93 (68%)	24 (18%)	19 (14%)	0	8
33	DN	136/138 (99%)	91 (67%)	27 (20%)	18 (13%)	0	9
34	BO	120/122 (98%)	92 (77%)	20 (17%)	8 (7%)	2	28
34	DO	120/122 (98%)	95 (79%)	20 (17%)	5 (4%)	4	43
35	BP	144/146 (99%)	81 (56%)	36 (25%)	27 (19%)	0	3
35	DP	144/146 (99%)	76 (53%)	35 (24%)	33 (23%)	0	1
36	BQ	139/141 (99%)	87 (63%)	32 (23%)	20 (14%)	0	7
36	DQ	139/141 (99%)	91 (66%)	31 (22%)	17 (12%)	1	11
37	BR	115/117 (98%)	83 (72%)	21 (18%)	11 (10%)	1	17
37	DR	115/117 (98%)	91 (79%)	17 (15%)	7 (6%)	2	30
38	BS	97/99 (98%)	56 (58%)	25 (26%)	16 (16%)	0	5
38	DS	97/99 (98%)	57 (59%)	25 (26%)	15 (16%)	0	5
39	BT	136/138 (99%)	76 (56%)	41 (30%)	19 (14%)	0	8
39	DT	136/138 (99%)	82 (60%)	28 (21%)	26 (19%)	0	3
40	BU	115/117 (98%)	79 (69%)	25 (22%)	11 (10%)	1	17
40	DU	115/117 (98%)	80 (70%)	23 (20%)	12 (10%)	1	14
41	BV	99/101 (98%)	57 (58%)	28 (28%)	14 (14%)	0	8
41	DV	99/101 (98%)	64 (65%)	22 (22%)	13 (13%)	0	9
42	BW	111/113 (98%)	82 (74%)	14 (13%)	15 (14%)	0	8
42	DW	111/113 (98%)	81 (73%)	16 (14%)	14 (13%)	0	10
43	BX	91/93 (98%)	73 (80%)	12 (13%)	6 (7%)	2	28
43	DX	91/93 (98%)	70 (77%)	16 (18%)	5 (6%)	3	34
44	BY	105/107 (98%)	50 (48%)	30 (29%)	25 (24%)	0	1
44	DY	105/107 (98%)	50 (48%)	34 (32%)	21 (20%)	0	2
45	BZ	183/185 (99%)	116 (63%)	46 (25%)	21 (12%)	1	12
45	DZ	183/185 (99%)	121 (66%)	44 (24%)	18 (10%)	1	16
46	B0	82/84 (98%)	59 (72%)	16 (20%)	7 (8%)	1	20
46	D0	82/84 (98%)	65 (79%)	13 (16%)	4 (5%)	3	37
47	B2	69/71 (97%)	49 (71%)	14 (20%)	6 (9%)	1	19
47	D2	69/71 (97%)	50 (72%)	17 (25%)	2 (3%)	7	54
48	B3	58/60 (97%)	46 (79%)	7 (12%)	5 (9%)	1	19

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
48	D3	58/60 (97%)	44 (76%)	9 (16%)	5 (9%)	1	19
49	B5	57/59 (97%)	44 (77%)	4 (7%)	9 (16%)	0	5
49	D5	57/59 (97%)	42 (74%)	11 (19%)	4 (7%)	2	26
50	B6	48/50 (96%)	28 (58%)	9 (19%)	11 (23%)	0	1
50	D6	48/50 (96%)	27 (56%)	8 (17%)	13 (27%)	0	1
51	B7	47/49 (96%)	30 (64%)	13 (28%)	4 (8%)	1	20
51	D7	47/49 (96%)	34 (72%)	11 (23%)	2 (4%)	4	42
52	B8	62/64 (97%)	42 (68%)	7 (11%)	13 (21%)	0	2
52	D8	62/64 (97%)	40 (64%)	11 (18%)	11 (18%)	0	4
53	B9	35/37 (95%)	28 (80%)	5 (14%)	2 (6%)	3	33
53	D9	35/37 (95%)	29 (83%)	4 (11%)	2 (6%)	3	33
56	B1	91/93 (98%)	56 (62%)	17 (19%)	18 (20%)	0	2
56	D1	91/93 (98%)	59 (65%)	18 (20%)	14 (15%)	0	6
57	B4	33/35 (94%)	15 (46%)	11 (33%)	7 (21%)	0	2
57	D4	33/35 (94%)	15 (46%)	9 (27%)	9 (27%)	0	1
58	Be	70/102 (69%)	36 (51%)	29 (41%)	5 (7%)	2	25
58	De	70/102 (69%)	40 (57%)	22 (31%)	8 (11%)	1	12
All	All	13304/13576 (98%)	8904 (67%)	2822 (21%)	1578 (12%)	1	11

All (1578) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	AB	17	PHE
1	AB	22	LYS
1	AB	35	GLU
1	AB	75	LYS
1	AB	76	GLN
1	AB	96	ARG
1	AB	160	ASP
2	AC	5	ILE
2	AC	10	PHE
2	AC	29	TYR
2	AC	49	SER
2	AC	161	GLU
3	AD	34	GLU
3	AD	89	THR

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Mol	Chain	Res	Type
3	AD	134	ASP
3	AD	172	PRO
3	AD	176	LEU
4	AE	6	PHE
4	AE	12	LEU
4	AE	77	PRO
4	AE	79	GLU
5	AF	69	GLU
5	AF	70	ASP
5	AF	93	SER
6	AG	15	ASP
6	AG	81	GLY
7	AH	22	GLU
8	AI	89	ASN
8	AI	107	ARG
8	AI	118	LYS
9	AJ	38	ILE
9	AJ	55	LYS
9	AJ	75	ILE
10	AK	36	ASP
10	AK	41	THR
10	AK	43	SER
10	AK	109	VAL
11	AL	7	ILE
11	AL	34	ARG
11	AL	39	VAL
11	AL	43	VAL
11	AL	46	LYS
11	AL	66	VAL
11	AL	80	HIS
11	AL	94	PRO
11	AL	122	THR
12	AM	50	GLU
12	AM	106	ASN
12	AM	118	ALA
13	AN	15	LYS
15	AP	35	LYS
16	AQ	12	SER
16	AQ	14	LYS
16	AQ	72	ARG
16	AQ	74	LEU
16	AQ	83	ASP

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Mol	Chain	Res	Type
18	AS	67	VAL
18	AS	72	GLY
19	AT	50	GLU
19	AT	74	LYS
19	AT	75	ASN
19	AT	76	ALA
19	AT	100	ILE
20	AY	33	LEU
20	AY	35	TYR
20	AY	36	THR
20	AY	39	ILE
20	AY	75	LYS
20	AY	88	VAL
20	AY	92	ILE
20	AY	203	GLU
20	AY	204	GLU
20	AY	266	ASN
20	AY	330	VAL
20	AY	331	TYR
20	AY	349	LYS
20	AY	393	ASP
20	AY	395	PRO
20	AY	400	GLU
20	AY	418	LYS
20	AY	456	GLU
20	AY	544	LYS
20	AY	555	LEU
20	AY	566	THR
20	AY	567	LEU
20	AY	615	GLU
20	AY	628	ARG
20	AY	631	ILE
20	AY	680	PRO
25	BC	3	LYS
25	BC	17	PRO
25	BC	35	THR
25	BC	41	THR
25	BC	60	ARG
25	BC	80	LYS
25	BC	114	VAL
25	BC	115	VAL
25	BC	119	ASP

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Mol	Chain	Res	Type
25	BC	141	PRO
25	BC	172	ILE
25	BC	182	PRO
25	BC	184	GLU
25	BC	211	ARG
25	BC	212	SER
25	BC	223	VAL
25	BC	227	PRO
25	BC	228	HIS
26	BD	49	ILE
26	BD	79	VAL
26	BD	87	ASN
26	BD	89	SER
26	BD	99	ASP
26	BD	127	VAL
26	BD	166	GLN
26	BD	231	HIS
26	BD	273	ARG
27	BE	11	MET
27	BE	12	THR
27	BE	14	ILE
27	BE	34	VAL
27	BE	54	GLN
27	BE	56	PRO
27	BE	60	ASN
27	BE	62	PRO
27	BE	63	LEU
27	BE	67	PHE
27	BE	68	ALA
27	BE	74	PRO
27	BE	77	ILE
27	BE	94	GLU
27	BE	128	SER
27	BE	144	ARG
27	BE	147	PRO
27	BE	188	VAL
27	BE	204	ALA
28	BF	7	TYR
28	BF	10	PRO
28	BF	22	ALA
28	BF	47	GLY
28	BF	59	TYR

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Mol	Chain	Res	Type
28	BF	67	GLN
28	BF	84	VAL
28	BF	89	VAL
28	BF	149	ASP
28	BF	192	LEU
29	BG	87	PRO
29	BG	96	ARG
30	BH	30	LYS
30	BH	41	MET
30	BH	94	TYR
30	BH	124	GLU
30	BH	155	SER
30	BH	158	HIS
30	BH	173	PRO
32	BK	5	VAL
32	BK	62	ASP
32	BK	102	GLU
32	BK	103	GLN
32	BK	114	ASP
32	BK	118	THR
33	BN	17	ASP
33	BN	18	ALA
33	BN	50	ASP
33	BN	56	ASN
33	BN	66	LYS
33	BN	111	PRO
33	BN	126	PRO
33	BN	128	HIS
33	BN	130	HIS
33	BN	133	GLN
34	BO	23	ARG
35	BP	14	LYS
35	BP	17	LYS
35	BP	39	LYS
35	BP	45	LEU
35	BP	57	THR
35	BP	71	VAL
35	BP	141	ALA
36	BQ	18	LYS
36	BQ	83	MET
36	BQ	85	LYS
36	BQ	91	GLU

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Mol	Chain	Res	Type
37	BR	14	SER
38	BS	47	THR
38	BS	48	LEU
38	BS	62	LYS
38	BS	63	THR
38	BS	98	VAL
38	BS	101	LEU
38	BS	104	GLY
38	BS	106	ARG
39	BT	30	VAL
39	BT	49	VAL
39	BT	50	ILE
39	BT	68	TYR
39	BT	94	ALA
39	BT	104	ASN
39	BT	128	GLU
40	BU	86	ALA
40	BU	88	ILE
40	BU	91	ASP
41	BV	46	VAL
41	BV	96	ILE
42	BW	12	ILE
42	BW	75	TYR
42	BW	76	VAL
43	BX	7	VAL
43	BX	12	VAL
44	BY	32	PRO
44	BY	53	PRO
44	BY	95	LYS
44	BY	107	ASP
45	BZ	71	VAL
45	BZ	72	ARG
45	BZ	73	GLN
45	BZ	134	PRO
45	BZ	140	ASP
45	BZ	152	ALA
48	B3	52	HIS
50	B6	9	LEU
50	B6	15	GLU
50	B6	20	ASN
52	B8	6	THR
52	B8	32	LEU

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Mol	Chain	Res	Type
52	B8	34	TRP
52	B8	49	VAL
56	B1	12	PRO
56	B1	26	ARG
56	B1	35	THR
56	B1	87	PRO
57	B4	16	CYS
58	Be	62	VAL
58	Be	121	VAL
1	CB	17	PHE
1	CB	66	GLY
1	CB	75	LYS
1	CB	76	GLN
1	CB	96	ARG
1	CB	160	ASP
1	CB	235	SER
1	CB	236	TYR
2	CC	3	ASN
2	CC	4	LYS
2	CC	5	ILE
2	CC	14	ILE
2	CC	62	ASP
2	CC	63	ASN
2	CC	207	VAL
3	CD	4	TYR
3	CD	7	PRO
4	CE	6	PHE
4	CE	79	GLU
5	CF	44	GLY
5	CF	69	GLU
5	CF	70	ASP
6	CG	15	ASP
6	CG	17	VAL
6	CG	35	LYS
7	CH	22	GLU
9	CJ	75	ILE
10	CK	41	THR
10	CK	43	SER
10	CK	109	VAL
10	CK	111	ASP
11	CL	6	THR
11	CL	7	ILE

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Mol	Chain	Res	Type
11	CL	34	ARG
11	CL	39	VAL
11	CL	43	VAL
11	CL	46	LYS
11	CL	51	ALA
11	CL	66	VAL
11	CL	67	THR
11	CL	80	HIS
11	CL	94	PRO
11	CL	100	ILE
11	CL	108	ALA
12	CM	7	VAL
12	CM	12	ASN
12	CM	50	GLU
12	CM	51	ALA
14	CO	47	LYS
15	CP	46	PRO
16	CQ	12	SER
16	CQ	72	ARG
16	CQ	74	LEU
17	CR	28	GLU
17	CR	37	VAL
18	CS	28	LYS
18	CS	67	VAL
19	CT	50	GLU
19	CT	95	ALA
19	CT	100	ILE
20	CY	39	ILE
20	CY	88	VAL
20	CY	92	ILE
20	CY	111	SER
20	CY	146	LEU
20	CY	161	PRO
20	CY	204	GLU
20	CY	257	PRO
20	CY	266	ASN
20	CY	330	VAL
20	CY	331	TYR
20	CY	400	GLU
20	CY	418	LYS
20	CY	476	VAL
20	CY	544	LYS

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Mol	Chain	Res	Type
20	CY	566	THR
20	CY	567	LEU
20	CY	631	ILE
20	CY	680	PRO
25	DC	17	PRO
25	DC	41	THR
25	DC	42	VAL
25	DC	43	GLU
25	DC	52	PRO
25	DC	80	LYS
25	DC	96	GLY
25	DC	115	VAL
25	DC	141	PRO
25	DC	142	LYS
25	DC	162	ILE
25	DC	176	VAL
25	DC	182	PRO
25	DC	184	GLU
25	DC	212	SER
25	DC	223	VAL
25	DC	227	PRO
25	DC	228	HIS
26	DD	3	VAL
26	DD	27	THR
26	DD	36	PRO
26	DD	46	GLN
26	DD	49	ILE
26	DD	79	VAL
26	DD	89	SER
26	DD	165	ILE
26	DD	166	GLN
26	DD	187	GLY
26	DD	200	ASP
26	DD	273	ARG
27	DE	11	MET
27	DE	12	THR
27	DE	13	ARG
27	DE	56	PRO
27	DE	62	PRO
27	DE	63	LEU
27	DE	67	PHE
27	DE	68	ALA

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Mol	Chain	Res	Type
27	DE	72	VAL
27	DE	77	ILE
27	DE	128	SER
27	DE	129	HIS
27	DE	144	ARG
27	DE	187	ALA
28	DF	3	GLU
28	DF	7	TYR
28	DF	10	PRO
28	DF	21	ALA
28	DF	84	VAL
28	DF	89	VAL
28	DF	192	LEU
29	DG	87	PRO
29	DG	130	ASN
29	DG	137	GLU
30	DH	124	GLU
30	DH	141	VAL
30	DH	155	SER
30	DH	165	ALA
30	DH	172	LYS
30	DH	173	PRO
32	DK	45	THR
32	DK	96	VAL
32	DK	137	GLU
33	DN	17	ASP
33	DN	18	ALA
33	DN	25	ARG
33	DN	126	PRO
33	DN	128	HIS
33	DN	130	HIS
33	DN	133	GLN
34	DO	14	THR
34	DO	23	ARG
35	DP	9	ASN
35	DP	22	GLY
35	DP	45	LEU
35	DP	57	THR
35	DP	71	VAL
35	DP	110	TYR
35	DP	120	ALA
35	DP	141	ALA

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Mol	Chain	Res	Type
35	DP	149	GLU
36	DQ	29	PHE
36	DQ	83	MET
36	DQ	85	LYS
36	DQ	92	GLY
36	DQ	133	ARG
36	DQ	136	ALA
37	DR	103	ARG
38	DS	22	GLY
38	DS	47	THR
38	DS	48	LEU
38	DS	62	LYS
38	DS	98	VAL
38	DS	101	LEU
38	DS	104	GLY
38	DS	106	ARG
39	DT	3	ARG
39	DT	30	VAL
39	DT	49	VAL
39	DT	80	SER
39	DT	86	ILE
39	DT	104	ASN
39	DT	137	LYS
40	DU	24	TYR
40	DU	88	ILE
40	DU	90	VAL
41	DV	29	PRO
41	DV	46	VAL
41	DV	50	PRO
41	DV	78	LYS
41	DV	96	ILE
41	DV	97	LYS
42	DW	12	ILE
42	DW	14	PRO
42	DW	15	ARG
42	DW	61	ASN
42	DW	74	ALA
42	DW	75	TYR
42	DW	77	ASP
42	DW	81	ALA
43	DX	7	VAL
43	DX	12	VAL

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Mol	Chain	Res	Type
44	DY	32	PRO
44	DY	39	VAL
44	DY	53	PRO
44	DY	56	PRO
44	DY	77	PRO
45	DZ	71	VAL
45	DZ	72	ARG
45	DZ	92	SER
45	DZ	140	ASP
45	DZ	152	ALA
46	D0	15	ASP
47	D2	47	ASN
47	D2	48	HIS
48	D3	41	PRO
50	D6	8	LYS
50	D6	9	LEU
50	D6	15	GLU
50	D6	20	ASN
50	D6	27	LYS
50	D6	29	ASN
52	D8	32	LEU
52	D8	49	VAL
56	D1	12	PRO
56	D1	35	THR
56	D1	87	PRO
56	D1	94	LEU
57	D4	16	CYS
58	De	52	ALA
1	AB	97	TRP
1	AB	164	VAL
1	AB	165	VAL
1	AB	236	TYR
2	AC	4	LYS
2	AC	51	GLY
2	AC	61	ALA
2	AC	74	GLY
2	AC	102	ASN
2	AC	110	ASN
2	AC	160	ALA
2	AC	181	ASN
3	AD	7	PRO
3	AD	27	TYR

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Mol	Chain	Res	Type
3	AD	44	GLY
3	AD	88	VAL
4	AE	67	VAL
5	AF	15	ASP
5	AF	38	GLU
7	AH	93	VAL
8	AI	35	GLU
8	AI	117	HIS
9	AJ	53	PRO
10	AK	69	ALA
10	AK	88	GLY
10	AK	89	ALA
10	AK	91	ARG
10	AK	111	ASP
10	AK	119	CYS
10	AK	120	ARG
11	AL	6	THR
11	AL	19	ARG
11	AL	35	GLY
11	AL	51	ALA
11	AL	56	ALA
11	AL	69	TYR
11	AL	76	ASN
11	AL	90	VAL
11	AL	96	VAL
11	AL	97	ARG
11	AL	104	VAL
12	AM	46	LYS
12	AM	51	ALA
12	AM	121	LYS
13	AN	13	THR
13	AN	56	VAL
14	AO	47	LYS
14	AO	73	GLU
14	AO	88	ARG
15	AP	24	ALA
15	AP	28	ARG
16	AQ	28	PRO
16	AQ	71	PHE
16	AQ	73	VAL
16	AQ	82	MET
17	AR	37	VAL

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Mol	Chain	Res	Type
17	AR	59	SER
19	AT	72	LEU
20	AY	21	ILE
20	AY	25	LYS
20	AY	32	ILE
20	AY	146	LEU
20	AY	161	PRO
20	AY	162	VAL
20	AY	224	ASP
20	AY	233	GLU
20	AY	257	PRO
20	AY	281	PRO
20	AY	347	GLY
20	AY	383	THR
20	AY	473	ASP
20	AY	498	ILE
20	AY	568	TYR
20	AY	600	VAL
25	BC	22	THR
25	BC	36	ALA
25	BC	43	GLU
25	BC	59	VAL
25	BC	75	VAL
25	BC	76	LEU
25	BC	96	GLY
25	BC	130	ARG
25	BC	162	ILE
25	BC	210	LEU
26	BD	36	PRO
26	BD	42	GLY
26	BD	43	ARG
26	BD	46	GLN
26	BD	78	LYS
26	BD	165	ILE
26	BD	200	ASP
26	BD	236	GLY
26	BD	239	ARG
27	BE	13	ARG
27	BE	86	PRO
27	BE	129	HIS
27	BE	187	ALA
28	BF	21	ALA

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Mol	Chain	Res	Type
28	BF	53	THR
28	BF	79	GLY
28	BF	158	THR
28	BF	194	MET
29	BG	123	ASN
29	BG	177	GLY
30	BH	45	VAL
30	BH	165	ALA
30	BH	174	GLY
32	BK	30	HIS
32	BK	63	ARG
33	BN	2	LYS
33	BN	67	LEU
33	BN	129	PRO
34	BO	5	GLN
34	BO	29	ASN
34	BO	31	LYS
34	BO	96	THR
35	BP	10	PRO
35	BP	13	ASN
35	BP	49	ARG
35	BP	50	ARG
35	BP	66	GLY
35	BP	106	LEU
35	BP	110	TYR
35	BP	149	GLU
36	BQ	4	PRO
36	BQ	6	ARG
36	BQ	30	GLY
36	BQ	92	GLY
36	BQ	134	ARG
36	BQ	139	GLU
37	BR	8	ARG
37	BR	103	ARG
38	BS	13	ARG
38	BS	14	VAL
38	BS	43	GLU
38	BS	105	ALA
39	BT	28	VAL
39	BT	59	THR
39	BT	80	SER
39	BT	83	ILE

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Mol	Chain	Res	Type
40	BU	99	ALA
40	BU	116	ALA
41	BV	50	PRO
41	BV	53	GLU
41	BV	68	LYS
41	BV	97	LYS
42	BW	25	ARG
42	BW	61	ASN
42	BW	74	ALA
42	BW	77	ASP
42	BW	80	PRO
42	BW	93	ALA
44	BY	29	GLU
44	BY	39	VAL
44	BY	41	GLY
44	BY	77	PRO
44	BY	78	ALA
45	BZ	92	SER
46	B0	13	GLY
47	B2	37	PHE
47	B2	48	HIS
49	B5	23	HIS
49	B5	25	LEU
49	B5	53	ALA
50	B6	8	LYS
50	B6	17	LYS
50	B6	27	LYS
50	B6	31	PRO
50	B6	49	HIS
51	B7	23	ARG
52	B8	18	ALA
52	B8	24	ALA
52	B8	30	ARG
52	B8	51	ALA
56	B1	22	GLY
56	B1	23	LYS
56	B1	32	LYS
56	B1	34	THR
56	B1	53	VAL
56	B1	94	LEU
57	B4	2	LYS
57	B4	4	GLY

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Mol	Chain	Res	Type
57	B4	33	VAL
58	Be	119	GLY
1	CB	34	ALA
1	CB	97	TRP
1	CB	103	THR
1	CB	164	VAL
1	CB	165	VAL
2	CC	10	PHE
2	CC	162	GLN
3	CD	5	ILE
3	CD	172	PRO
4	CE	11	ILE
4	CE	67	VAL
4	CE	77	PRO
5	CF	38	GLU
6	CG	10	ARG
6	CG	19	GLY
7	CH	43	GLY
7	CH	74	PRO
7	CH	93	VAL
7	CH	103	VAL
8	CI	109	VAL
9	CJ	81	THR
10	CK	69	ALA
10	CK	90	GLY
11	CL	58	VAL
11	CL	92	ASP
11	CL	96	VAL
11	CL	101	VAL
11	CL	104	VAL
11	CL	112	ASP
11	CL	121	GLY
11	CL	122	THR
11	CL	123	LYS
11	CL	126	LYS
12	CM	46	LYS
13	CN	15	LYS
13	CN	58	LYS
16	CQ	28	PRO
16	CQ	49	GLU
16	CQ	82	MET
18	CS	45	VAL

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Mol	Chain	Res	Type
18	CS	46	GLY
18	CS	72	GLY
19	CT	74	LYS
19	CT	79	ARG
20	CY	21	ILE
20	CY	64	THR
20	CY	102	ASP
20	CY	162	VAL
20	CY	281	PRO
20	CY	360	ALA
20	CY	384	ILE
20	CY	437	THR
20	CY	501	THR
20	CY	528	ALA
20	CY	565	VAL
20	CY	681	LYS
25	DC	3	LYS
25	DC	38	PHE
25	DC	59	VAL
25	DC	60	ARG
25	DC	61	GLY
25	DC	106	ASP
25	DC	114	VAL
25	DC	161	ARG
26	DD	43	ARG
26	DD	99	ASP
26	DD	236	GLY
26	DD	239	ARG
26	DD	249	PRO
27	DE	14	ILE
27	DE	74	PRO
27	DE	86	PRO
27	DE	130	GLY
27	DE	180	ASN
28	DF	47	GLY
28	DF	67	GLN
28	DF	158	THR
29	DG	82	LEU
29	DG	163	ALA
30	DH	41	MET
32	DK	5	VAL
32	DK	13	PRO

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Mol	Chain	Res	Type
32	DK	30	HIS
32	DK	102	GLU
32	DK	103	GLN
33	DN	24	GLY
33	DN	111	PRO
34	DO	26	LYS
34	DO	29	ASN
34	DO	96	THR
35	DP	13	ASN
35	DP	14	LYS
35	DP	17	LYS
35	DP	48	PRO
35	DP	50	ARG
35	DP	58	THR
35	DP	66	GLY
35	DP	89	ALA
35	DP	106	LEU
35	DP	107	LYS
35	DP	145	PRO
36	DQ	4	PRO
36	DQ	8	LYS
36	DQ	30	GLY
36	DQ	75	THR
38	DS	96	GLY
39	DT	2	ASN
39	DT	16	ARG
39	DT	28	VAL
39	DT	48	ILE
39	DT	50	ILE
39	DT	90	GLN
39	DT	128	GLU
40	DU	9	VAL
42	DW	25	ARG
42	DW	65	LEU
42	DW	80	PRO
43	DX	4	ALA
43	DX	62	LYS
44	DY	26	LYS
44	DY	78	ALA
44	DY	80	GLY
44	DY	97	ARG
44	DY	101	LYS

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Mol	Chain	Res	Type
44	DY	107	ASP
45	DZ	62	PRO
45	DZ	73	GLN
45	DZ	166	SER
46	D0	13	GLY
48	D3	52	HIS
49	D5	24	ALA
49	D5	53	ALA
50	D6	16	CYS
50	D6	28	ARG
50	D6	31	PRO
50	D6	49	HIS
52	D8	30	ARG
52	D8	45	GLY
52	D8	51	ALA
56	D1	32	LYS
56	D1	36	GLY
56	D1	53	VAL
57	D4	15	ILE
57	D4	33	VAL
58	De	81	ILE
1	AB	34	ALA
2	AC	75	VAL
2	AC	109	PRO
3	AD	26	CYS
3	AD	28	SER
3	AD	40	PRO
3	AD	47	ARG
3	AD	48	ALA
3	AD	142	PRO
4	AE	21	ALA
4	AE	49	PRO
6	AG	10	ARG
6	AG	129	GLU
6	AG	147	ALA
7	AH	2	LEU
7	AH	44	PHE
7	AH	54	ASP
7	AH	74	PRO
7	AH	103	VAL
7	AH	105	ARG
7	AH	107	LEU

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Mol	Chain	Res	Type
8	AI	31	GLN
8	AI	43	ALA
8	AI	104	ARG
8	AI	109	VAL
9	AJ	37	PRO
9	AJ	41	PRO
9	AJ	58	ASP
9	AJ	83	GLU
10	AK	37	GLY
10	AK	124	LYS
11	AL	22	SER
11	AL	47	LYS
11	AL	74	GLY
11	AL	89	ARG
11	AL	91	LYS
11	AL	115	LYS
11	AL	120	TYR
11	AL	125	PRO
12	AM	39	ILE
12	AM	124	PRO
13	AN	57	ARG
14	AO	23	GLY
15	AP	44	THR
15	AP	46	PRO
16	AQ	31	LEU
17	AR	28	GLU
17	AR	87	ARG
18	AS	45	VAL
18	AS	78	ARG
20	AY	53	ASP
20	AY	71	THR
20	AY	109	ASP
20	AY	170	ARG
20	AY	185	ALA
20	AY	188	TYR
20	AY	189	GLY
20	AY	191	ASP
20	AY	234	GLY
20	AY	403	GLU
20	AY	436	PRO
20	AY	535	PRO
20	AY	539	ILE

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Mol	Chain	Res	Type
20	AY	614	GLU
20	AY	638	GLY
25	BC	18	ASN
25	BC	34	ALA
25	BC	106	ASP
25	BC	112	ASP
25	BC	142	LYS
25	BC	214	TYR
25	BC	221	PRO
25	BC	224	ARG
26	BD	3	VAL
26	BD	24	ILE
26	BD	28	GLU
26	BD	86	PRO
26	BD	114	GLY
26	BD	241	PRO
26	BD	260	ARG
27	BE	53	PRO
27	BE	192	ASN
28	BF	18	ARG
28	BF	83	PHE
28	BF	171	PRO
29	BG	49	ASP
29	BG	81	LYS
29	BG	82	LEU
29	BG	142	PRO
30	BH	42	ARG
30	BH	141	VAL
30	BH	157	TYR
32	BK	7	VAL
32	BK	89	HIS
33	BN	24	GLY
33	BN	100	GLU
35	BP	31	ALA
35	BP	70	GLN
35	BP	107	LYS
36	BQ	28	ALA
36	BQ	31	ASP
36	BQ	133	ARG
36	BQ	135	ASP
37	BR	107	ASP
38	BS	94	TYR

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Mol	Chain	Res	Type
39	BT	2	ASN
39	BT	24	PRO
39	BT	35	LYS
39	BT	137	LYS
40	BU	78	THR
40	BU	90	VAL
40	BU	92	ARG
41	BV	80	GLN
41	BV	93	GLU
42	BW	14	PRO
42	BW	15	ARG
42	BW	26	GLY
44	BY	18	GLY
44	BY	28	LYS
44	BY	47	LYS
44	BY	48	ALA
44	BY	50	ARG
44	BY	56	PRO
44	BY	58	GLY
44	BY	60	PHE
44	BY	90	LEU
45	BZ	51	ALA
45	BZ	62	PRO
46	B0	33	ALA
46	B0	75	LEU
48	B3	41	PRO
49	B5	24	ALA
49	B5	49	CYS
50	B6	18	ARG
50	B6	44	ARG
50	B6	48	VAL
52	B8	3	LYS
52	B8	19	SER
52	B8	64	TYR
56	B1	15	ALA
56	B1	40	ARG
58	Be	52	ALA
1	CB	8	LYS
1	CB	105	PHE
1	CB	190	THR
2	CC	49	SER
2	CC	160	ALA

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Mol	Chain	Res	Type
2	CC	181	ASN
3	CD	28	SER
3	CD	34	GLU
3	CD	156	GLU
4	CE	129	ILE
5	CF	49	ALA
5	CF	93	SER
7	CH	105	ARG
7	CH	129	VAL
8	CI	35	GLU
8	CI	102	LEU
8	CI	104	ARG
8	CI	106	ALA
9	CJ	33	GLN
10	CK	36	ASP
10	CK	91	ARG
11	CL	17	LYS
11	CL	19	ARG
11	CL	47	LYS
11	CL	56	ALA
11	CL	102	ARG
11	CL	128	ALA
12	CM	21	TYR
12	CM	39	ILE
12	CM	62	ASN
12	CM	101	GLN
13	CN	52	GLN
14	CO	16	ALA
15	CP	28	ARG
15	CP	54	GLU
16	CQ	48	GLU
17	CR	43	PHE
17	CR	87	ARG
19	CT	78	ALA
19	CT	99	LEU
20	CY	22	ASP
20	CY	33	LEU
20	CY	66	THR
20	CY	72	CYS
20	CY	89	ASP
20	CY	99	ARG
20	CY	112	GLN

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Mol	Chain	Res	Type
20	CY	129	LYS
20	CY	175	SER
20	CY	188	TYR
20	CY	200	PRO
20	CY	253	LEU
20	CY	324	ARG
20	CY	347	GLY
20	CY	383	THR
20	CY	395	PRO
20	CY	521	SER
20	CY	539	ILE
20	CY	622	GLY
20	CY	652	MET
25	DC	18	ASN
25	DC	33	LEU
25	DC	167	ASP
25	DC	214	TYR
26	DD	147	LEU
26	DD	186	HIS
26	DD	188	GLU
26	DD	225	ALA
26	DD	232	PRO
26	DD	233	HIS
26	DD	241	PRO
26	DD	260	ARG
26	DD	272	ALA
27	DE	155	LYS
27	DE	169	ASN
27	DE	188	VAL
27	DE	204	ALA
28	DF	22	ALA
28	DF	58	ALA
28	DF	73	ALA
30	DH	123	PHE
30	DH	128	PRO
32	DK	51	ALA
32	DK	63	ARG
33	DN	56	ASN
33	DN	62	VAL
33	DN	91	LEU
33	DN	131	GLN
35	DP	35	HIS

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Mol	Chain	Res	Type
35	DP	53	GLY
35	DP	119	GLU
35	DP	123	LEU
36	DQ	6	ARG
36	DQ	62	GLY
38	DS	14	VAL
38	DS	57	LYS
39	DT	68	TYR
39	DT	78	LEU
39	DT	85	LYS
39	DT	107	ASP
40	DU	92	ARG
40	DU	99	ALA
40	DU	106	PHE
41	DV	68	LYS
41	DV	77	ALA
42	DW	22	ASP
44	DY	7	VAL
44	DY	12	THR
44	DY	48	ALA
44	DY	50	ARG
44	DY	63	LYS
44	DY	91	GLU
45	DZ	32	HIS
45	DZ	78	LYS
45	DZ	159	PRO
46	D0	11	ARG
46	D0	33	ALA
49	D5	47	PRO
50	D6	44	ARG
52	D8	3	LYS
52	D8	6	THR
52	D8	34	TRP
53	D9	5	ALA
56	D1	37	ILE
56	D1	40	ARG
56	D1	52	ARG
56	D1	92	LYS
57	D4	2	LYS
57	D4	9	LEU
1	AB	155	LEU
2	AC	53	ALA

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Mol	Chain	Res	Type
2	AC	112	SER
2	AC	162	GLN
3	AD	5	ILE
6	AG	152	ALA
9	AJ	42	THR
10	AK	35	PRO
10	AK	54	ARG
11	AL	128	ALA
12	AM	13	LYS
12	AM	101	GLN
13	AN	58	LYS
14	AO	25	THR
14	AO	87	ILE
17	AR	45	SER
18	AS	27	GLU
19	AT	46	GLU
19	AT	49	ALA
20	AY	253	LEU
20	AY	269	VAL
20	AY	296	GLY
20	AY	382	GLU
20	AY	396	ARG
20	AY	437	THR
20	AY	541	ALA
20	AY	565	VAL
20	AY	649	LEU
20	AY	652	MET
25	BC	86	GLU
25	BC	167	ASP
26	BD	30	GLU
26	BD	226	MET
26	BD	232	PRO
26	BD	259	THR
26	BD	272	ALA
27	BE	35	GLN
27	BE	72	VAL
28	BF	3	GLU
28	BF	19	GLU
28	BF	66	PRO
28	BF	105	VAL
29	BG	143	GLU
30	BH	21	PRO

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Mol	Chain	Res	Type
30	BH	81	GLU
30	BH	92	ILE
30	BH	156	ALA
32	BK	6	ALA
32	BK	73	PRO
32	BK	81	ALA
32	BK	122	ALA
33	BN	30	ILE
33	BN	119	ARG
34	BO	26	LYS
34	BO	91	LEU
35	BP	68	GLN
35	BP	103	ALA
36	BQ	29	PHE
36	BQ	78	PRO
37	BR	93	GLY
37	BR	102	GLU
38	BS	42	ASP
38	BS	100	ALA
39	BT	85	LYS
40	BU	87	GLY
41	BV	18	LEU
42	BW	73	ALA
44	BY	12	THR
44	BY	70	SER
44	BY	80	GLY
45	BZ	22	GLY
45	BZ	31	ARG
45	BZ	135	GLU
45	BZ	177	PRO
47	B2	13	ALA
48	B3	51	ALA
49	B5	47	PRO
49	B5	57	VAL
51	B7	3	ARG
52	B8	48	PHE
53	B9	27	CYS
56	B1	10	LYS
58	Be	81	ILE
1	CB	20	GLU
1	CB	157	ARG
1	CB	194	PRO

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Mol	Chain	Res	Type
1	CB	215	LEU
2	CC	51	GLY
2	CC	102	ASN
2	CC	132	ARG
2	CC	156	ARG
3	CD	89	THR
3	CD	173	TRP
4	CE	128	PRO
5	CF	51	PRO
7	CH	45	ILE
7	CH	51	VAL
7	CH	107	LEU
8	CI	39	GLY
8	CI	127	LYS
9	CJ	55	LYS
9	CJ	83	GLU
10	CK	54	ARG
10	CK	107	SER
11	CL	55	VAL
11	CL	74	GLY
11	CL	79	GLU
11	CL	93	LEU
12	CM	11	ARG
12	CM	30	ALA
12	CM	114	ARG
14	CO	23	GLY
14	CO	73	GLU
15	CP	68	ASP
16	CQ	31	LEU
17	CR	60	ALA
18	CS	63	THR
18	CS	80	TYR
20	CY	38	ARG
20	CY	50	ALA
20	CY	63	ILE
20	CY	203	GLU
20	CY	234	GLY
20	CY	397	VAL
20	CY	456	GLU
20	CY	614	GLU
20	CY	628	ARG
25	DC	51	ASP

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Mol	Chain	Res	Type
25	DC	117	THR
25	DC	130	ARG
26	DD	28	GLU
26	DD	40	THR
26	DD	164	GLN
26	DD	238	GLY
27	DE	17	ASP
27	DE	53	PRO
27	DE	70	ALA
27	DE	89	ASP
27	DE	147	PRO
28	DF	61	GLY
28	DF	68	LYS
28	DF	83	PHE
29	DG	74	LYS
30	DH	175	LYS
32	DK	89	HIS
33	DN	47	ALA
33	DN	129	PRO
35	DP	31	ALA
35	DP	68	GLN
35	DP	104	GLY
36	DQ	28	ALA
36	DQ	135	ASP
37	DR	5	LYS
37	DR	8	ARG
37	DR	11	ASN
37	DR	102	GLU
37	DR	104	ARG
38	DS	23	ARG
38	DS	94	TYR
39	DT	31	SER
39	DT	35	LYS
39	DT	39	ARG
39	DT	82	LEU
39	DT	83	ILE
39	DT	115	ARG
40	DU	30	LYS
40	DU	74	LEU
41	DV	18	LEU
41	DV	80	GLN
43	DX	85	PRO

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Mol	Chain	Res	Type
44	DY	47	LYS
45	DZ	93	ASP
51	D7	3	ARG
52	D8	48	PHE
56	D1	10	LYS
56	D1	44	PRO
57	D4	4	GLY
57	D4	10	VAL
58	De	62	VAL
58	De	108	ALA
1	AB	125	PRO
1	AB	150	SER
1	AB	194	PRO
2	AC	8	ILE
2	AC	30	ARG
2	AC	63	ASN
3	AD	132	ARG
3	AD	135	LEU
4	AE	11	ILE
5	AF	51	PRO
7	AH	43	GLY
7	AH	73	ASP
7	AH	129	VAL
8	AI	21	PRO
11	AL	40	VAL
11	AL	73	GLU
11	AL	79	GLU
12	AM	67	GLU
13	AN	27	CYS
14	AO	16	ALA
15	AP	16	HIS
15	AP	83	GLU
16	AQ	64	PRO
16	AQ	77	VAL
17	AR	43	PHE
18	AS	71	LEU
20	AY	337	SER
20	AY	345	THR
20	AY	384	ILE
20	AY	397	VAL
20	AY	598	ASP
20	AY	681	LYS

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Mol	Chain	Res	Type
25	BC	58	ASN
25	BC	97	GLY
25	BC	175	PRO
25	BC	176	VAL
25	BC	179	ALA
26	BD	40	THR
26	BD	52	ARG
26	BD	80	ALA
26	BD	140	THR
26	BD	244	ARG
27	BE	66	HIS
27	BE	141	ILE
28	BF	5	ALA
28	BF	68	LYS
29	BG	17	PRO
29	BG	74	LYS
32	BK	21	PRO
32	BK	90	LYS
32	BK	137	GLU
34	BO	49	ARG
35	BP	35	HIS
35	BP	56	SER
36	BQ	75	THR
37	BR	99	LYS
41	BV	19	LYS
42	BW	64	MET
43	BX	33	LYS
43	BX	62	LYS
44	BY	91	GLU
45	BZ	53	ILE
45	BZ	84	GLU
45	BZ	151	HIS
46	B0	3	HIS
46	B0	17	GLN
47	B2	10	LEU
49	B5	56	LYS
51	B7	13	ALA
56	B1	24	ALA
56	B1	36	GLY
56	B1	44	PRO
57	B4	7	PRO
57	B4	8	LYS

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Mol	Chain	Res	Type
1	CB	26	PRO
1	CB	153	ARG
2	CC	83	ARG
2	CC	101	LEU
4	CE	100	VAL
5	CF	40	VAL
5	CF	85	VAL
5	CF	100	ASN
8	CI	107	ARG
9	CJ	37	PRO
9	CJ	91	PRO
11	CL	115	LYS
12	CM	124	PRO
13	CN	13	THR
15	CP	24	ALA
16	CQ	73	VAL
18	CS	29	ARG
20	CY	75	LYS
20	CY	145	ASP
20	CY	296	GLY
20	CY	304	ASP
20	CY	393	ASP
20	CY	394	ALA
20	CY	535	PRO
25	DC	36	ALA
25	DC	49	GLY
25	DC	65	LEU
25	DC	107	GLY
25	DC	118	PRO
25	DC	221	PRO
25	DC	224	ARG
26	DD	24	ILE
26	DD	123	ALA
26	DD	226	MET
26	DD	244	ARG
26	DD	246	PRO
27	DE	34	VAL
27	DE	118	LYS
28	DF	5	ALA
28	DF	11	VAL
28	DF	172	TRP
28	DF	178	PRO

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Mol	Chain	Res	Type
29	DG	96	ARG
30	DH	45	VAL
30	DH	59	ARG
32	DK	14	ALA
32	DK	21	PRO
32	DK	73	PRO
32	DK	112	MET
32	DK	122	ALA
33	DN	32	THR
33	DN	104	LYS
35	DP	49	ARG
35	DP	52	GLU
35	DP	77	ARG
36	DQ	90	VAL
38	DS	24	LEU
38	DS	63	THR
40	DU	10	ARG
40	DU	86	ALA
41	DV	16	PRO
41	DV	52	VAL
42	DW	63	ASP
45	DZ	134	PRO
45	DZ	162	GLU
48	D3	13	ILE
48	D3	32	GLN
49	D5	57	VAL
50	D6	18	ARG
50	D6	33	LYS
52	D8	10	ALA
56	D1	22	GLY
57	D4	7	PRO
2	AC	12	LEU
4	AE	100	VAL
7	AH	89	PRO
7	AH	97	VAL
8	AI	119	ALA
18	AS	80	TYR
20	AY	5	VAL
20	AY	87	HIS
20	AY	129	LYS
20	AY	248	LYS
20	AY	341	VAL

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Mol	Chain	Res	Type
20	AY	554	PRO
25	BC	127	LYS
25	BC	137	LEU
26	BD	123	ALA
33	BN	127	ASP
35	BP	145	PRO
37	BR	117	VAL
39	BT	91	ARG
40	BU	79	PHE
41	BV	3	ALA
42	BW	63	ASP
43	BX	11	PRO
43	BX	52	VAL
45	BZ	136	PHE
45	BZ	166	SER
47	B2	35	LEU
51	B7	14	LYS
3	CD	39	PRO
6	CG	81	GLY
6	CG	138	LYS
7	CH	2	LEU
10	CK	121	PRO
11	CL	31	PRO
11	CL	52	LEU
11	CL	65	GLU
11	CL	99	HIS
14	CO	87	ILE
16	CQ	47	PRO
18	CS	77	THR
20	CY	258	VAL
20	CY	436	PRO
25	DC	20	VAL
25	DC	76	LEU
25	DC	139	PRO
25	DC	175	PRO
26	DD	25	THR
26	DD	242	ARG
27	DE	66	HIS
28	DF	9	ILE
28	DF	53	THR
39	DT	88	ILE
42	DW	31	GLU

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Mol	Chain	Res	Type
44	DY	70	SER
45	DZ	85	HIS
45	DZ	108	PRO
45	DZ	120	ILE
51	D7	48	LYS
52	D8	64	TYR
58	De	99	VAL
58	De	117	ALA
1	AB	233	SER
10	AK	118	GLY
11	AL	45	PRO
15	AP	53	VAL
15	AP	66	PRO
20	AY	121	VAL
20	AY	394	ALA
20	AY	532	GLY
29	BG	144	ILE
30	BH	128	PRO
35	BP	23	PRO
36	BQ	127	ILE
37	BR	92	GLY
39	BT	20	PRO
45	BZ	165	VAL
46	B0	47	PRO
56	B1	18	ILE
57	B4	10	VAL
1	CB	130	ARG
2	CC	130	VAL
7	CH	73	ASP
9	CJ	94	VAL
10	CK	113	PRO
11	CL	35	GLY
11	CL	125	PRO
12	CM	117	VAL
26	DD	100	GLY
27	DE	141	ILE
29	DG	129	GLY
30	DH	21	PRO
36	DQ	127	ILE
39	DT	20	PRO
40	DU	7	GLY
44	DY	18	GLY

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Mol	Chain	Res	Type
44	DY	98	VAL
1	AB	15	VAL
7	AH	86	ILE
12	AM	7	VAL
20	AY	258	VAL
26	BD	249	PRO
35	BP	77	ARG
36	BQ	52	VAL
38	BS	90	GLY
39	BT	88	ILE
41	BV	52	VAL
44	BY	7	VAL
45	BZ	141	VAL
47	B2	17	SER
52	B8	53	PRO
53	B9	3	VAL
9	CJ	36	GLY
20	CY	341	VAL
20	CY	402	ILE
25	DC	181	PHE
27	DE	193	GLY
30	DH	39	PRO
32	DK	7	VAL
32	DK	49	GLY
35	DP	34	GLY
35	DP	54	GLY
36	DQ	78	PRO
1	AB	127	ILE
1	AB	130	ARG
2	AC	70	VAL
2	AC	130	VAL
4	AE	22	GLY
5	AF	40	VAL
10	AK	102	GLY
11	AL	55	VAL
13	AN	14	PRO
18	AS	46	GLY
20	AY	167	PRO
20	AY	288	PRO
25	BC	20	VAL
25	BC	42	VAL
26	BD	51	VAL

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Mol	Chain	Res	Type
26	BD	100	GLY
27	BE	134	ILE
28	BF	150	GLY
35	BP	34	GLY
37	BR	83	ILE
37	BR	108	GLY
44	BY	27	VAL
44	BY	82	PRO
46	B0	63	VAL
49	B5	4	HIS
3	CD	142	PRO
4	CE	101	ILE
9	CJ	53	PRO
10	CK	39	PRO
20	CY	598	ASP
27	DE	43	GLY
35	DP	8	PRO
48	D3	2	PRO
53	D9	3	VAL
4	AE	103	GLY
7	AH	51	VAL
10	AK	108	ILE
11	AL	58	VAL
25	BC	146	VAL
28	BF	178	PRO
40	BU	82	GLY
45	BZ	161	VAL
48	B3	16	PRO
56	B1	37	ILE
5	CF	72	VAL
19	CT	101	GLY
25	DC	75	VAL
30	DH	136	ILE
33	DN	46	VAL
37	DR	93	GLY
41	DV	72	VAL
45	DZ	141	VAL
57	D4	17	GLY
58	De	83	GLY
12	AM	117	VAL
20	AY	116	PRO
29	BG	5	VAL

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Mol	Chain	Res	Type
33	BN	11	PRO
36	BQ	109	VAL
41	BV	22	VAL
41	BV	29	PRO
48	B3	13	ILE
7	CH	101	PRO
17	CR	77	GLY
58	De	118	VAL
32	DK	22	PRO
35	BP	48	PRO

### 5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution. The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	AB	203/203 (100%)	164 (81%)	39 (19%)	2	12
1	CB	203/203 (100%)	177 (87%)	26 (13%)	6	33
2	AC	161/161 (100%)	125 (78%)	36 (22%)	1	8
2	CC	161/161 (100%)	122 (76%)	39 (24%)	1	6
3	AD	180/180 (100%)	143 (79%)	37 (21%)	2	10
3	CD	180/180 (100%)	142 (79%)	38 (21%)	1	9
4	AE	116/116 (100%)	96 (83%)	20 (17%)	3	18
4	CE	116/116 (100%)	95 (82%)	21 (18%)	2	15
5	AF	90/90 (100%)	76 (84%)	14 (16%)	4	23
5	CF	90/90 (100%)	74 (82%)	16 (18%)	2	16
6	AG	126/126 (100%)	111 (88%)	15 (12%)	8	37
6	CG	126/126 (100%)	112 (89%)	14 (11%)	9	42
7	AH	119/119 (100%)	94 (79%)	25 (21%)	1	9
7	CH	119/119 (100%)	91 (76%)	28 (24%)	1	7
8	AI	98/98 (100%)	82 (84%)	16 (16%)	3	21
8	CI	98/98 (100%)	77 (79%)	21 (21%)	1	9
9	AJ	89/89 (100%)	71 (80%)	18 (20%)	2	11

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	CJ	89/89 (100%)	66 (74%)	23 (26%)	1	5
10	AK	90/90 (100%)	73 (81%)	17 (19%)	2	13
10	CK	90/90 (100%)	72 (80%)	18 (20%)	2	11
11	AL	104/104 (100%)	74 (71%)	30 (29%)	0	4
11	CL	104/104 (100%)	77 (74%)	27 (26%)	1	5
12	AM	100/100 (100%)	83 (83%)	17 (17%)	3	18
12	CM	100/100 (100%)	86 (86%)	14 (14%)	5	28
13	AN	49/49 (100%)	39 (80%)	10 (20%)	2	10
13	CN	49/49 (100%)	35 (71%)	14 (29%)	0	4
14	AO	79/79 (100%)	70 (89%)	9 (11%)	8	40
14	CO	79/79 (100%)	66 (84%)	13 (16%)	3	20
15	AP	72/72 (100%)	59 (82%)	13 (18%)	2	15
15	CP	72/72 (100%)	61 (85%)	11 (15%)	4	25
16	AQ	95/95 (100%)	82 (86%)	13 (14%)	5	29
16	CQ	95/95 (100%)	80 (84%)	15 (16%)	4	23
17	AR	61/61 (100%)	53 (87%)	8 (13%)	6	32
17	CR	61/61 (100%)	53 (87%)	8 (13%)	6	32
18	AS	69/69 (100%)	58 (84%)	11 (16%)	4	22
18	CS	69/69 (100%)	52 (75%)	17 (25%)	1	6
19	AT	76/76 (100%)	66 (87%)	10 (13%)	6	32
19	CT	76/76 (100%)	68 (90%)	8 (10%)	10	46
20	AY	579/579 (100%)	459 (79%)	120 (21%)	2	10
20	CY	579/579 (100%)	483 (83%)	96 (17%)	3	19
24	AU	2/2 (100%)	2 (100%)	0	100	100
24	CU	2/2 (100%)	2 (100%)	0	100	100
25	BC	180/180 (100%)	132 (73%)	48 (27%)	1	5
25	DC	180/180 (100%)	128 (71%)	52 (29%)	0	4
26	BD	217/217 (100%)	167 (77%)	50 (23%)	1	7
26	DD	217/217 (100%)	175 (81%)	42 (19%)	2	12
27	BE	165/165 (100%)	137 (83%)	28 (17%)	3	18
27	DE	165/165 (100%)	136 (82%)	29 (18%)	3	16

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
28	BF	165/165 (100%)	133 (81%)	32 (19%)	2	12
28	DF	165/165 (100%)	140 (85%)	25 (15%)	4	25
29	BG	155/155 (100%)	130 (84%)	25 (16%)	3	22
29	DG	155/155 (100%)	130 (84%)	25 (16%)	3	22
30	BH	136/136 (100%)	111 (82%)	25 (18%)	2	14
30	DH	136/136 (100%)	117 (86%)	19 (14%)	5	28
32	BK	105/105 (100%)	74 (70%)	31 (30%)	0	4
32	DK	105/105 (100%)	77 (73%)	28 (27%)	1	5
33	BN	117/117 (100%)	98 (84%)	19 (16%)	3	21
33	DN	117/117 (100%)	93 (80%)	24 (20%)	2	10
34	BO	100/100 (100%)	85 (85%)	15 (15%)	4	26
34	DO	100/100 (100%)	86 (86%)	14 (14%)	5	28
35	BP	112/112 (100%)	82 (73%)	30 (27%)	1	5
35	DP	112/112 (100%)	85 (76%)	27 (24%)	1	6
36	BQ	111/111 (100%)	80 (72%)	31 (28%)	0	4
36	DQ	111/111 (100%)	84 (76%)	27 (24%)	1	6
37	BR	100/100 (100%)	79 (79%)	21 (21%)	1	9
37	DR	100/100 (100%)	78 (78%)	22 (22%)	1	8
38	BS	77/77 (100%)	60 (78%)	17 (22%)	1	8
38	DS	77/77 (100%)	59 (77%)	18 (23%)	1	7
39	BT	120/120 (100%)	94 (78%)	26 (22%)	1	9
39	DT	120/120 (100%)	93 (78%)	27 (22%)	1	8
40	BU	93/93 (100%)	75 (81%)	18 (19%)	2	12
40	DU	93/93 (100%)	70 (75%)	23 (25%)	1	6
41	BV	82/82 (100%)	60 (73%)	22 (27%)	1	5
41	DV	82/82 (100%)	62 (76%)	20 (24%)	1	6
42	BW	92/92 (100%)	69 (75%)	23 (25%)	1	6
42	DW	92/92 (100%)	76 (83%)	16 (17%)	3	17
43	BX	75/75 (100%)	56 (75%)	19 (25%)	1	6
43	DX	75/75 (100%)	58 (77%)	17 (23%)	1	7
44	BY	88/88 (100%)	69 (78%)	19 (22%)	1	9

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
44	DY	88/88 (100%)	73 (83%)	15 (17%)	3	18
45	BZ	162/162 (100%)	128 (79%)	34 (21%)	1	9
45	DZ	162/162 (100%)	125 (77%)	37 (23%)	1	7
46	B0	66/66 (100%)	56 (85%)	10 (15%)	4	25
46	D0	66/66 (100%)	56 (85%)	10 (15%)	4	25
47	B2	66/66 (100%)	59 (89%)	7 (11%)	10	45
47	D2	66/66 (100%)	58 (88%)	8 (12%)	7	36
48	B3	52/52 (100%)	42 (81%)	10 (19%)	2	12
48	D3	52/52 (100%)	45 (86%)	7 (14%)	6	30
49	B5	51/51 (100%)	39 (76%)	12 (24%)	1	7
49	D5	51/51 (100%)	41 (80%)	10 (20%)	2	11
50	B6	49/49 (100%)	37 (76%)	12 (24%)	1	6
50	D6	49/49 (100%)	34 (69%)	15 (31%)	0	4
51	B7	42/42 (100%)	35 (83%)	7 (17%)	3	19
51	D7	42/42 (100%)	36 (86%)	6 (14%)	5	28
52	B8	54/54 (100%)	42 (78%)	12 (22%)	1	8
52	D8	54/54 (100%)	44 (82%)	10 (18%)	2	13
53	B9	34/34 (100%)	32 (94%)	2 (6%)	28	75
53	D9	34/34 (100%)	30 (88%)	4 (12%)	8	38
56	B1	78/78 (100%)	58 (74%)	20 (26%)	1	5
56	D1	78/78 (100%)	58 (74%)	20 (26%)	1	5
57	B4	31/31 (100%)	22 (71%)	9 (29%)	0	4
57	D4	31/31 (100%)	21 (68%)	10 (32%)	0	3
58	Be	54/54 (100%)	46 (85%)	8 (15%)	4	26
58	De	54/54 (100%)	46 (85%)	8 (15%)	4	26
All	All	11174/11174 (100%)	8972 (80%)	2202 (20%)	2	11

All (2202) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	AB	9	GLU
1	AB	15	VAL
1	AB	16	HIS

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Mol	Chain	Res	Type
1	AB	17	PHE
1	AB	21	ARG
1	AB	23	ARG
1	AB	33	TYR
1	AB	36	ARG
1	AB	37	ASN
1	AB	42	ILE
1	AB	56	ARG
1	AB	64	ARG
1	AB	69	LEU
1	AB	94	ASN
1	AB	96	ARG
1	AB	104	ASN
1	AB	105	PHE
1	AB	106	LYS
1	AB	121	LEU
1	AB	133	LYS
1	AB	141	GLU
1	AB	144	ARG
1	AB	146	GLN
1	AB	152	PHE
1	AB	158	LEU
1	AB	164	VAL
1	AB	168	THR
1	AB	170	GLU
1	AB	172	ILE
1	AB	185	ILE
1	AB	187	LEU
1	AB	189	ASP
1	AB	190	THR
1	AB	196	LEU
1	AB	211	ILE
1	AB	212	GLN
1	AB	221	LEU
1	AB	229	VAL
1	AB	239	VAL
2	AC	3	ASN
2	AC	12	LEU
2	AC	14	ILE
2	AC	17	ASP
2	AC	18	TRP
2	AC	26	LYS

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Mol	Chain	Res	Type
2	AC	29	TYR
2	AC	55	VAL
2	AC	62	ASP
2	AC	70	VAL
2	AC	72	LYS
2	AC	75	VAL
2	AC	84	ILE
2	AC	85	ARG
2	AC	91	LEU
2	AC	101	LEU
2	AC	103	VAL
2	AC	104	GLN
2	AC	105	GLU
2	AC	115	LEU
2	AC	124	ILE
2	AC	125	GLU
2	AC	128	PHE
2	AC	132	ARG
2	AC	134	ILE
2	AC	136	GLN
2	AC	152	ILE
2	AC	167	TRP
2	AC	173	VAL
2	AC	177	THR
2	AC	186	PHE
2	AC	188	LEU
2	AC	191	THR
2	AC	193	TYR
2	AC	195	VAL
2	AC	196	LEU
3	AD	8	VAL
3	AD	9	CYS
3	AD	10	ARG
3	AD	12	CYS
3	AD	14	ARG
3	AD	19	LEU
3	AD	26	CYS
3	AD	27	TYR
3	AD	30	LYS
3	AD	33	MET
3	AD	43	HIS
3	AD	49	ARG

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Mol	Chain	Res	Type
3	AD	52	SER
3	AD	53	ASP
3	AD	54	TYR
3	AD	57	ARG
3	AD	60	GLU
3	AD	61	LYS
3	AD	67	ILE
3	AD	72	GLU
3	AD	76	ARG
3	AD	79	PHE
3	AD	86	LYS
3	AD	89	THR
3	AD	113	SER
3	AD	116	GLN
3	AD	135	LEU
3	AD	140	VAL
3	AD	156	GLU
3	AD	159	ARG
3	AD	165	MET
3	AD	173	TRP
3	AD	176	LEU
3	AD	182	LYS
3	AD	187	ARG
3	AD	207	TYR
3	AD	208	SER
4	AE	12	LEU
4	AE	16	THR
4	AE	37	ARG
4	AE	41	VAL
4	AE	47	LYS
4	AE	60	TYR
4	AE	64	ARG
4	AE	68	GLU
4	AE	73	ASN
4	AE	78	HIS
4	AE	80	ILE
4	AE	84	PHE
4	AE	100	VAL
4	AE	111	GLU
4	AE	120	THR
4	AE	137	GLU
4	AE	141	GLN

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Mol	Chain	Res	Type
4	AE	143	ARG
4	AE	147	ASP
4	AE	150	ARG
5	AF	11	ASN
5	AF	16	GLN
5	AF	23	LYS
5	AF	27	GLN
5	AF	31	GLU
5	AF	45	LEU
5	AF	46	ARG
5	AF	47	ARG
5	AF	52	ILE
5	AF	61	LEU
5	AF	63	TYR
5	AF	69	GLU
5	AF	71	ARG
5	AF	87	ARG
6	AG	5	ARG
6	AG	16	LEU
6	AG	41	ARG
6	AG	52	GLU
6	AG	54	THR
6	AG	67	GLU
6	AG	79	ARG
6	AG	85	TYR
6	AG	97	GLN
6	AG	120	ILE
6	AG	122	HIS
6	AG	136	LYS
6	AG	139	GLU
6	AG	140	ASP
6	AG	149	ARG
7	AH	18	ARG
7	AH	26	VAL
7	AH	37	ARG
7	AH	44	PHE
7	AH	51	VAL
7	AH	61	VAL
7	AH	63	LEU
7	AH	70	GLN
7	AH	75	ARG
7	AH	82	HIS

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Mol	Chain	Res	Type
7	AH	83	ILE
7	AH	98	LYS
7	AH	99	GLU
7	AH	102	ARG
7	AH	104	ARG
7	AH	111	ILE
7	AH	112	LEU
7	AH	118	VAL
7	AH	119	LEU
7	AH	120	THR
7	AH	129	VAL
7	AH	133	LEU
7	AH	135	CYS
7	AH	136	GLU
7	AH	138	TRP
8	AI	3	GLN
8	AI	4	TYR
8	AI	7	THR
8	AI	19	LEU
8	AI	25	LYS
8	AI	36	TYR
8	AI	40	LEU
8	AI	44	VAL
8	AI	79	LEU
8	AI	88	TYR
8	AI	93	ARG
8	AI	95	LYS
8	AI	96	LEU
8	AI	107	ARG
8	AI	108	VAL
8	AI	121	ARG
9	AJ	5	ARG
9	AJ	8	LEU
9	AJ	16	LEU
9	AJ	22	LYS
9	AJ	25	GLU
9	AJ	29	ARG
9	AJ	47	PHE
9	AJ	50	ILE
9	AJ	55	LYS
9	AJ	70	ARG
9	AJ	74	ILE

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Mol	Chain	Res	Type
9	AJ	78	ASN
9	AJ	79	ARG
9	AJ	84	GLN
9	AJ	94	VAL
9	AJ	96	ILE
9	AJ	99	LYS
9	AJ	101	VAL
10	AK	18	ARG
10	AK	22	HIS
10	AK	25	TYR
10	AK	38	ASN
10	AK	40	ILE
10	AK	41	THR
10	AK	54	ARG
10	AK	57	THR
10	AK	66	LEU
10	AK	67	ASP
10	AK	71	LYS
10	AK	79	SER
10	AK	84	VAL
10	AK	103	LEU
10	AK	109	VAL
10	AK	124	LYS
10	AK	127	LYS
11	AL	17	LYS
11	AL	18	VAL
11	AL	20	LYS
11	AL	24	VAL
11	AL	33	ARG
11	AL	37	CYS
11	AL	38	THR
11	AL	43	VAL
11	AL	44	THR
11	AL	47	LYS
11	AL	49	ASN
11	AL	54	LYS
11	AL	55	VAL
11	AL	60	LEU
11	AL	66	VAL
11	AL	69	TYR
11	AL	75	HIS
11	AL	76	ASN

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Mol	Chain	Res	Type
11	AL	77	LEU
11	AL	79	GLU
11	AL	80	HIS
11	AL	84	LEU
11	AL	85	ILE
11	AL	90	VAL
11	AL	92	ASP
11	AL	93	LEU
11	AL	102	ARG
11	AL	112	ASP
11	AL	118	SER
11	AL	127	GLU
12	AM	16	ASP
12	AM	19	LEU
12	AM	25	ILE
12	AM	50	GLU
12	AM	57	ARG
12	AM	64	TRP
12	AM	69	GLU
12	AM	81	LEU
12	AM	90	LEU
12	AM	92	HIS
12	AM	99	ARG
12	AM	102	ARG
12	AM	108	ARG
12	AM	110	ARG
12	AM	111	LYS
12	AM	114	ARG
12	AM	121	LYS
13	AN	22	THR
13	AN	29	ARG
13	AN	35	ARG
13	AN	44	LEU
13	AN	49	HIS
13	AN	53	LEU
13	AN	56	VAL
13	AN	57	ARG
13	AN	58	LYS
13	AN	61	TRP
14	AO	5	LYS
14	AO	10	LYS
14	AO	25	THR

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Mol	Chain	Res	Type
14	AO	26	GLU
14	AO	38	ARG
14	AO	63	ARG
14	AO	84	LYS
14	AO	87	ILE
14	AO	88	ARG
15	AP	8	ARG
15	AP	13	HIS
15	AP	22	THR
15	AP	23	ASP
15	AP	32	TYR
15	AP	39	TYR
15	AP	45	THR
15	AP	53	VAL
15	AP	58	TYR
15	AP	59	TRP
15	AP	67	THR
15	AP	73	LEU
15	AP	76	GLN
16	AQ	19	VAL
16	AQ	20	THR
16	AQ	37	LYS
16	AQ	48	GLU
16	AQ	52	LYS
16	AQ	53	LEU
16	AQ	55	ASP
16	AQ	60	ILE
16	AQ	66	SER
16	AQ	81	ARG
16	AQ	84	LEU
16	AQ	89	LEU
16	AQ	101	ARG
17	AR	19	LYS
17	AR	32	ARG
17	AR	38	GLU
17	AR	47	THR
17	AR	62	GLU
17	AR	79	LEU
17	AR	81	PHE
17	AR	83	GLU
18	AS	6	LYS
18	AS	16	LEU

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Mol	Chain	Res	Type
18	AS	25	LYS
18	AS	29	ARG
18	AS	38	SER
18	AS	51	VAL
18	AS	58	VAL
18	AS	61	TYR
18	AS	62	ILE
18	AS	66	MET
18	AS	71	LEU
19	AT	13	LEU
19	AT	22	ARG
19	AT	26	ASN
19	AT	56	MET
19	AT	57	ARG
19	AT	70	SER
19	AT	71	THR
19	AT	74	LYS
19	AT	75	ASN
19	AT	93	GLU
20	AY	9	LEU
20	AY	20	HIS
20	AY	29	THR
20	AY	33	LEU
20	AY	35	TYR
20	AY	38	ARG
20	AY	39	ILE
20	AY	40	HIS
20	AY	59	ARG
20	AY	63	ILE
20	AY	65	ILE
20	AY	66	THR
20	AY	73	PHE
20	AY	80	ASN
20	AY	87	HIS
20	AY	88	VAL
20	AY	92	ILE
20	AY	98	MET
20	AY	99	ARG
20	AY	101	LEU
20	AY	114	VAL
20	AY	121	VAL
20	AY	126	GLU

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Mol	Chain	Res	Type
20	AY	128	TYR
20	AY	132	ARG
20	AY	133	ILE
20	AY	170	ARG
20	AY	172	ASP
20	AY	173	THR
20	AY	174	PHE
20	AY	175	SER
20	AY	178	ILE
20	AY	190	ASN
20	AY	191	ASP
20	AY	199	ILE
20	AY	203	GLU
20	AY	225	GLU
20	AY	232	LEU
20	AY	240	GLU
20	AY	248	LYS
20	AY	254	LYS
20	AY	255	ILE
20	AY	260	LEU
20	AY	270	GLN
20	AY	271	LEU
20	AY	277	VAL
20	AY	278	ASP
20	AY	282	SER
20	AY	292	THR
20	AY	304	ASP
20	AY	314	PHE
20	AY	317	MET
20	AY	325	LEU
20	AY	328	ILE
20	AY	329	ARG
20	AY	330	VAL
20	AY	334	THR
20	AY	341	VAL
20	AY	342	TYR
20	AY	344	THR
20	AY	348	ARG
20	AY	352	VAL
20	AY	356	LEU
20	AY	358	MET
20	AY	381	LYS

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Mol	Chain	Res	Type
20	AY	382	GLU
20	AY	408	VAL
20	AY	410	ASP
20	AY	420	ASP
20	AY	428	LEU
20	AY	431	LEU
20	AY	435	ASP
20	AY	439	ARG
20	AY	440	VAL
20	AY	448	GLN
20	AY	449	THR
20	AY	454	MET
20	AY	456	GLU
20	AY	457	LEU
20	AY	464	ASP
20	AY	469	GLU
20	AY	471	LYS
20	AY	472	VAL
20	AY	473	ASP
20	AY	476	VAL
20	AY	481	VAL
20	AY	487	ILE
20	AY	488	THR
20	AY	504	ARG
20	AY	507	TYR
20	AY	512	ILE
20	AY	536	LYS
20	AY	556	ILE
20	AY	563	ILE
20	AY	565	VAL
20	AY	568	TYR
20	AY	582	PHE
20	AY	583	LYS
20	AY	606	MET
20	AY	612	THR
20	AY	615	GLU
20	AY	616	TYR
20	AY	617	MET
20	AY	619	ASP
20	AY	624	LEU
20	AY	630	GLN
20	AY	634	MET

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Mol	Chain	Res	Type
20	AY	635	GLU
20	AY	641	GLN
20	AY	647	VAL
20	AY	653	PHE
20	AY	657	THR
20	AY	663	THR
20	AY	669	PHE
20	AY	671	MET
20	AY	672	PHE
20	AY	676	TYR
20	AY	677	GLN
20	AY	679	VAL
20	AY	685	GLU
25	BC	4	HIS
25	BC	13	GLU
25	BC	19	LYS
25	BC	24	ASP
25	BC	31	LYS
25	BC	38	PHE
25	BC	39	ASP
25	BC	45	HIS
25	BC	48	LEU
25	BC	53	ARG
25	BC	54	ARG
25	BC	64	SER
25	BC	67	HIS
25	BC	73	VAL
25	BC	75	VAL
25	BC	98	GLU
25	BC	110	ASP
25	BC	115	VAL
25	BC	117	THR
25	BC	119	ASP
25	BC	121	MET
25	BC	128	LEU
25	BC	130	ARG
25	BC	131	ILE
25	BC	137	LEU
25	BC	138	LEU
25	BC	145	THR
25	BC	146	VAL
25	BC	148	PHE

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Mol	Chain	Res	Type
25	BC	154	ILE
25	BC	158	LYS
25	BC	161	ARG
25	BC	166	ASN
25	BC	167	ASP
25	BC	169	THR
25	BC	172	ILE
25	BC	173	HIS
25	BC	176	VAL
25	BC	178	LYS
25	BC	181	PHE
25	BC	184	GLU
25	BC	186	LEU
25	BC	201	LYS
25	BC	203	GLU
25	BC	206	LYS
25	BC	209	PHE
25	BC	216	THR
25	BC	222	SER
26	BD	5	LYS
26	BD	10	THR
26	BD	13	ARG
26	BD	14	ARG
26	BD	15	PHE
26	BD	23	GLU
26	BD	24	ILE
26	BD	25	THR
26	BD	26	LYS
26	BD	27	THR
26	BD	31	LYS
26	BD	35	LYS
26	BD	37	LEU
26	BD	44	ASN
26	BD	60	ARG
26	BD	63	ARG
26	BD	64	ILE
26	BD	65	ILE
26	BD	78	LYS
26	BD	82	ILE
26	BD	87	ASN
26	BD	95	LEU
26	BD	103	ARG

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Mol	Chain	Res	Type
26	BD	104	TYR
26	BD	105	ILE
26	BD	109	ASP
26	BD	112	GLN
26	BD	115	GLN
26	BD	117	VAL
26	BD	122	ASP
26	BD	126	GLN
26	BD	131	LEU
26	BD	136	ILE
26	BD	140	THR
26	BD	143	HIS
26	BD	147	LEU
26	BD	150	LYS
26	BD	155	LEU
26	BD	161	THR
26	BD	171	ASP
26	BD	175	LEU
26	BD	186	HIS
26	BD	196	VAL
26	BD	198	ASN
26	BD	227	ASN
26	BD	230	ASP
26	BD	257	LEU
26	BD	259	THR
26	BD	262	ARG
26	BD	273	ARG
27	BE	4	ILE
27	BE	12	THR
27	BE	18	ASP
27	BE	26	ILE
27	BE	36	ARG
27	BE	45	THR
27	BE	52	LEU
27	BE	63	LEU
27	BE	66	HIS
27	BE	77	ILE
27	BE	78	LEU
27	BE	87	GLU
27	BE	91	VAL
27	BE	92	THR
27	BE	93	VAL

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Mol	Chain	Res	Type
27	BE	95	ILE
27	BE	113	PHE
27	BE	127	ASP
27	BE	134	ILE
27	BE	135	HIS
27	BE	141	ILE
27	BE	144	ARG
27	BE	146	THR
27	BE	163	GLU
27	BE	175	VAL
27	BE	178	GLU
27	BE	183	LEU
27	BE	197	ILE
28	BF	2	LYS
28	BF	3	GLU
28	BF	7	TYR
28	BF	12	LEU
28	BF	17	ARG
28	BF	20	LEU
28	BF	40	GLN
28	BF	45	ARG
28	BF	59	TYR
28	BF	67	GLN
28	BF	74	ARG
28	BF	78	ILE
28	BF	83	PHE
28	BF	90	PHE
28	BF	106	ARG
28	BF	110	LEU
28	BF	125	LEU
28	BF	126	VAL
28	BF	132	VAL
28	BF	136	THR
28	BF	149	ASP
28	BF	154	VAL
28	BF	156	LEU
28	BF	158	THR
28	BF	175	THR
28	BF	182	ASN
28	BF	186	ILE
28	BF	190	GLU
28	BF	194	MET

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Mol	Chain	Res	Type
28	BF	199	TRP
28	BF	200	GLU
28	BF	206	ILE
29	BG	5	VAL
29	BG	21	ARG
29	BG	31	VAL
29	BG	34	LEU
29	BG	39	ILE
29	BG	40	ASN
29	BG	43	LEU
29	BG	45	GLU
29	BG	59	GLU
29	BG	60	LEU
29	BG	82	LEU
29	BG	86	MET
29	BG	99	MET
29	BG	106	LEU
29	BG	113	ARG
29	BG	115	ARG
29	BG	121	ASN
29	BG	133	LEU
29	BG	136	ARG
29	BG	143	GLU
29	BG	146	TYR
29	BG	150	ASP
29	BG	157	ILE
29	BG	164	GLU
29	BG	172	LEU
30	BH	16	SER
30	BH	17	VAL
30	BH	23	ARG
30	BH	33	LEU
30	BH	41	MET
30	BH	42	ARG
30	BH	43	VAL
30	BH	47	GLU
30	BH	57	ASP
30	BH	61	HIS
30	BH	65	HIS
30	BH	72	ILE
30	BH	80	SER
30	BH	83	TYR

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Mol	Chain	Res	Type
30	BH	86	GLU
30	BH	99	VAL
30	BH	104	GLU
30	BH	105	LEU
30	BH	122	THR
30	BH	133	VAL
30	BH	136	ILE
30	BH	147	ASN
30	BH	152	ARG
30	BH	158	HIS
30	BH	163	TYR
32	BK	9	LYS
32	BK	10	LEU
32	BK	18	THR
32	BK	30	HIS
32	BK	37	PHE
32	BK	38	VAL
32	BK	42	ASN
32	BK	57	ILE
32	BK	59	ILE
32	BK	60	TYR
32	BK	65	PHE
32	BK	66	THR
32	BK	71	THR
32	BK	76	TYR
32	BK	78	ILE
32	BK	80	LYS
32	BK	84	LEU
32	BK	94	GLU
32	BK	95	LYS
32	BK	100	THR
32	BK	103	GLN
32	BK	105	LEU
32	BK	110	GLN
32	BK	114	ASP
32	BK	115	LEU
32	BK	117	THR
32	BK	118	THR
32	BK	125	ARG
32	BK	126	MET
32	BK	132	ARG
32	BK	137	GLU

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Mol	Chain	Res	Type
33	BN	1	MET
33	BN	5	VAL
33	BN	16	ILE
33	BN	29	LYS
33	BN	32	THR
33	BN	33	LEU
33	BN	48	MET
33	BN	61	ARG
33	BN	62	VAL
33	BN	69	GLN
33	BN	71	ILE
33	BN	76	SER
33	BN	97	ARG
33	BN	99	LEU
33	BN	119	ARG
33	BN	127	ASP
33	BN	134	ARG
33	BN	137	LYS
33	BN	138	LEU
34	BO	2	ILE
34	BO	3	GLN
34	BO	8	LEU
34	BO	14	THR
34	BO	21	CYS
34	BO	23	ARG
34	BO	29	ASN
34	BO	31	LYS
34	BO	37	ASP
34	BO	45	GLU
34	BO	82	ASN
34	BO	89	ASN
34	BO	90	GLN
34	BO	91	LEU
34	BO	117	LEU
35	BP	7	ARG
35	BP	13	ASN
35	BP	16	ARG
35	BP	17	LYS
35	BP	19	VAL
35	BP	29	LYS
35	BP	32	THR
35	BP	35	HIS

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Mol	Chain	Res	Type
35	BP	39	LYS
35	BP	46	LYS
35	BP	50	ARG
35	BP	51	PHE
35	BP	55	ARG
35	BP	59	LEU
35	BP	60	MET
35	BP	61	ARG
35	BP	62	LEU
35	BP	79	ARG
35	BP	84	ASN
35	BP	85	LEU
35	BP	90	ARG
35	BP	91	PHE
35	BP	94	GLU
35	BP	95	VAL
35	BP	96	THR
35	BP	100	LEU
35	BP	110	TYR
35	BP	130	PHE
35	BP	132	LYS
35	BP	144	GLU
36	BQ	1	MET
36	BQ	3	MET
36	BQ	6	ARG
36	BQ	7	MET
36	BQ	9	TYR
36	BQ	13	GLN
36	BQ	14	ARG
36	BQ	16	ARG
36	BQ	25	ASP
36	BQ	37	LEU
36	BQ	43	THR
36	BQ	45	GLN
36	BQ	46	GLN
36	BQ	58	PHE
36	BQ	60	ARG
36	BQ	68	ILE
36	BQ	74	TYR
36	BQ	89	ASN
36	BQ	90	VAL
36	BQ	91	GLU

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Mol	Chain	Res	Type
36	BQ	96	VAL
36	BQ	97	VAL
36	BQ	104	PHE
36	BQ	105	GLU
36	BQ	106	VAL
36	BQ	109	VAL
36	BQ	128	LYS
36	BQ	131	ILE
36	BQ	132	VAL
36	BQ	137	TYR
36	BQ	139	GLU
37	BR	3	HIS
37	BR	4	LEU
37	BR	8	ARG
37	BR	16	HIS
37	BR	29	LEU
37	BR	35	THR
37	BR	44	LEU
37	BR	45	ARG
37	BR	48	VAL
37	BR	59	ASP
37	BR	65	LEU
37	BR	67	LEU
37	BR	75	LEU
37	BR	76	VAL
37	BR	79	LEU
37	BR	81	ASP
37	BR	95	THR
37	BR	96	ARG
37	BR	98	LEU
37	BR	99	LYS
37	BR	100	LEU
38	BS	13	ARG
38	BS	15	ARG
38	BS	18	ILE
38	BS	24	LEU
38	BS	35	ILE
38	BS	42	ASP
38	BS	47	THR
38	BS	53	SER
38	BS	61	ASN
38	BS	62	LYS

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Mol	Chain	Res	Type
38	BS	63	THR
38	BS	69	VAL
38	BS	83	LYS
38	BS	84	GLN
38	BS	92	TYR
38	BS	97	ARG
38	BS	98	VAL
39	BT	1	MET
39	BT	13	ARG
39	BT	16	ARG
39	BT	21	GLU
39	BT	27	THR
39	BT	32	TYR
39	BT	38	ASN
39	BT	42	ILE
39	BT	44	ASP
39	BT	48	ILE
39	BT	49	VAL
39	BT	62	THR
39	BT	65	LYS
39	BT	70	VAL
39	BT	74	ARG
39	BT	82	LEU
39	BT	84	GLN
39	BT	105	LEU
39	BT	107	ASP
39	BT	108	ARG
39	BT	109	GLU
39	BT	114	LEU
39	BT	115	ARG
39	BT	118	ARG
39	BT	124	ASP
39	BT	128	GLU
40	BU	3	ARG
40	BU	6	THR
40	BU	8	VAL
40	BU	10	ARG
40	BU	14	HIS
40	BU	36	ARG
40	BU	44	ASN
40	BU	51	LYS
40	BU	62	ILE

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Mol	Chain	Res	Type
40	BU	64	ARG
40	BU	74	LEU
40	BU	83	LEU
40	BU	90	VAL
40	BU	98	LEU
40	BU	101	ARG
40	BU	104	GLN
40	BU	108	GLU
40	BU	117	GLN
41	BV	5	VAL
41	BV	18	LEU
41	BV	19	LYS
41	BV	21	ARG
41	BV	35	LEU
41	BV	38	LEU
41	BV	40	LEU
41	BV	45	THR
41	BV	49	THR
41	BV	53	GLU
41	BV	57	VAL
41	BV	61	VAL
41	BV	69	LYS
41	BV	71	LEU
41	BV	72	VAL
41	BV	75	PHE
41	BV	80	GLN
41	BV	87	HIS
41	BV	95	LEU
41	BV	96	ILE
41	BV	98	GLU
41	BV	99	ILE
42	BW	11	ARG
42	BW	17	VAL
42	BW	19	LEU
42	BW	22	ASP
42	BW	23	LEU
42	BW	25	ARG
42	BW	27	LYS
42	BW	37	ARG
42	BW	39	THR
42	BW	61	ASN
42	BW	64	MET

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Mol	Chain	Res	Type
42	BW	66	GLU
42	BW	70	TYR
42	BW	77	ASP
42	BW	88	ARG
42	BW	94	ASP
42	BW	95	ILE
42	BW	96	ILE
42	BW	97	LYS
42	BW	99	ARG
42	BW	100	THR
42	BW	103	ILE
42	BW	107	LEU
43	BX	3	THR
43	BX	23	GLU
43	BX	27	THR
43	BX	31	HIS
43	BX	35	THR
43	BX	54	VAL
43	BX	57	LEU
43	BX	58	HIS
43	BX	62	LYS
43	BX	63	LYS
43	BX	65	ARG
43	BX	66	LEU
43	BX	68	ARG
43	BX	69	TYR
43	BX	72	LYS
43	BX	76	ARG
43	BX	80	ILE
43	BX	87	GLN
43	BX	92	LEU
44	BY	2	ARG
44	BY	3	VAL
44	BY	4	LYS
44	BY	5	MET
44	BY	6	HIS
44	BY	7	VAL
44	BY	9	LYS
44	BY	13	VAL
44	BY	19	LYS
44	BY	35	TYR
44	BY	39	VAL

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Mol	Chain	Res	Type
44	BY	44	ILE
44	BY	45	VAL
44	BY	47	LYS
44	BY	50	ARG
44	BY	88	LYS
44	BY	90	LEU
44	BY	97	ARG
44	BY	107	ASP
45	BZ	3	TYR
45	BZ	9	TYR
45	BZ	14	LYS
45	BZ	28	MET
45	BZ	29	TYR
45	BZ	32	HIS
45	BZ	34	ASN
45	BZ	36	LYS
45	BZ	39	VAL
45	BZ	57	ILE
45	BZ	59	LEU
45	BZ	70	LEU
45	BZ	72	ARG
45	BZ	81	ARG
45	BZ	82	ARG
45	BZ	86	VAL
45	BZ	87	ASP
45	BZ	94	GLU
45	BZ	98	MET
45	BZ	124	ILE
45	BZ	127	LYS
45	BZ	133	ILE
45	BZ	136	PHE
45	BZ	139	VAL
45	BZ	151	HIS
45	BZ	154	ASP
45	BZ	156	LYS
45	BZ	162	GLU
45	BZ	163	LEU
45	BZ	165	VAL
45	BZ	179	ASP
45	BZ	181	GLU
45	BZ	185	GLU
45	BZ	186	GLU

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Mol	Chain	Res	Type
46	B0	11	ARG
46	B0	27	GLU
46	B0	30	VAL
46	B0	35	ASN
46	B0	41	ARG
46	B0	55	ARG
46	B0	63	VAL
46	B0	64	ASP
46	B0	71	ASP
46	B0	75	LEU
47	B2	37	PHE
47	B2	44	LEU
47	B2	47	ASN
47	B2	50	ILE
47	B2	53	LEU
47	B2	55	ARG
47	B2	59	ARG
48	B3	4	LEU
48	B3	20	LYS
48	B3	29	ARG
48	B3	31	LEU
48	B3	33	GLN
48	B3	36	VAL
48	B3	46	ASN
48	B3	53	LEU
48	B3	55	ARG
48	B3	59	VAL
49	B5	3	LYS
49	B5	13	LYS
49	B5	25	LEU
49	B5	31	VAL
49	B5	33	CYS
49	B5	36	CYS
49	B5	44	THR
49	B5	45	VAL
49	B5	48	GLU
49	B5	51	TYR
49	B5	55	ARG
49	B5	58	LEU
50	B6	6	ARG
50	B6	9	LEU
50	B6	10	LEU

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Mol	Chain	Res	Type
50	B6	11	LEU
50	B6	18	ARG
50	B6	19	ARG
50	B6	23	THR
50	B6	25	LYS
50	B6	28	ARG
50	B6	43	CYS
50	B6	45	LYS
50	B6	48	VAL
51	B7	3	ARG
51	B7	6	GLN
51	B7	19	ARG
51	B7	24	THR
51	B7	30	VAL
51	B7	40	TRP
51	B7	42	LEU
52	B8	6	THR
52	B8	30	ARG
52	B8	32	LEU
52	B8	34	TRP
52	B8	36	LYS
52	B8	40	GLU
52	B8	49	VAL
52	B8	52	LYS
52	B8	53	PRO
52	B8	59	LYS
52	B8	60	LEU
52	B8	64	TYR
53	B9	4	ARG
53	B9	7	VAL
56	B1	13	ILE
56	B1	23	LYS
56	B1	26	ARG
56	B1	32	LYS
56	B1	34	THR
56	B1	40	ARG
56	B1	41	ARG
56	B1	43	TYR
56	B1	46	LEU
56	B1	50	ARG
56	B1	57	GLU
56	B1	58	ILE

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Mol	Chain	Res	Type
56	B1	59	THR
56	B1	60	PHE
56	B1	61	ARG
56	B1	67	ILE
56	B1	73	LEU
56	B1	82	LEU
56	B1	88	LYS
56	B1	90	ILE
57	B4	1	MET
57	B4	6	HIS
57	B4	8	LYS
57	B4	9	LEU
57	B4	10	VAL
57	B4	14	ILE
57	B4	27	THR
57	B4	30	GLU
57	B4	32	TYR
58	Be	61	ASP
58	Be	73	GLU
58	Be	78	LEU
58	Be	94	GLU
58	Be	100	LYS
58	Be	101	GLU
58	Be	106	GLN
58	Be	111	ILE
1	CB	15	VAL
1	CB	16	HIS
1	CB	17	PHE
1	CB	36	ARG
1	CB	39	ILE
1	CB	42	ILE
1	CB	56	ARG
1	CB	59	GLU
1	CB	63	MET
1	CB	69	LEU
1	CB	94	ASN
1	CB	96	ARG
1	CB	103	THR
1	CB	144	ARG
1	CB	152	PHE
1	CB	164	VAL
1	CB	168	THR

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Mol	Chain	Res	Type
1	CB	170	GLU
1	CB	184	VAL
1	CB	195	ASP
1	CB	200	ILE
1	CB	211	ILE
1	CB	213	LEU
1	CB	221	LEU
1	CB	238	LEU
1	CB	239	VAL
2	CC	15	THR
2	CC	16	ARG
2	CC	17	ASP
2	CC	18	TRP
2	CC	26	LYS
2	CC	28	GLN
2	CC	29	TYR
2	CC	34	LEU
2	CC	36	ASP
2	CC	38	ARG
2	CC	43	LEU
2	CC	55	VAL
2	CC	56	ASP
2	CC	62	ASP
2	CC	70	VAL
2	CC	72	LYS
2	CC	76	VAL
2	CC	83	ARG
2	CC	91	LEU
2	CC	101	LEU
2	CC	104	GLN
2	CC	105	GLU
2	CC	115	LEU
2	CC	124	ILE
2	CC	125	GLU
2	CC	128	PHE
2	CC	132	ARG
2	CC	134	ILE
2	CC	136	GLN
2	CC	152	ILE
2	CC	153	VAL
2	CC	162	GLN
2	CC	166	GLU

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Mol	Chain	Res	Type
2	CC	173	VAL
2	CC	175	LEU
2	CC	186	PHE
2	CC	188	LEU
2	CC	196	LEU
2	CC	206	GLU
3	CD	9	CYS
3	CD	10	ARG
3	CD	12	CYS
3	CD	13	ARG
3	CD	26	CYS
3	CD	27	TYR
3	CD	33	MET
3	CD	42	GLN
3	CD	49	ARG
3	CD	50	ARG
3	CD	54	TYR
3	CD	57	ARG
3	CD	60	GLU
3	CD	61	LYS
3	CD	67	ILE
3	CD	70	ILE
3	CD	76	ARG
3	CD	77	ASN
3	CD	86	LYS
3	CD	89	THR
3	CD	97	LEU
3	CD	98	GLU
3	CD	103	ASN
3	CD	107	ARG
3	CD	110	PHE
3	CD	113	SER
3	CD	135	LEU
3	CD	140	VAL
3	CD	141	ARG
3	CD	148	VAL
3	CD	156	GLU
3	CD	159	ARG
3	CD	173	TRP
3	CD	176	LEU
3	CD	178	VAL
3	CD	187	ARG

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Mol	Chain	Res	Type
3	CD	193	ASP
3	CD	207	TYR
4	CE	5	ASP
4	CE	12	LEU
4	CE	16	THR
4	CE	37	ARG
4	CE	41	VAL
4	CE	45	PHE
4	CE	60	TYR
4	CE	64	ARG
4	CE	68	GLU
4	CE	73	ASN
4	CE	76	ILE
4	CE	78	HIS
4	CE	80	ILE
4	CE	87	SER
4	CE	91	LEU
4	CE	112	LEU
4	CE	119	LEU
4	CE	120	THR
4	CE	126	ARG
4	CE	137	GLU
4	CE	143	ARG
5	CF	11	ASN
5	CF	13	ASN
5	CF	16	GLN
5	CF	23	LYS
5	CF	36	ARG
5	CF	45	LEU
5	CF	46	ARG
5	CF	57	GLN
5	CF	61	LEU
5	CF	69	GLU
5	CF	70	ASP
5	CF	74	ASP
5	CF	78	GLU
5	CF	82	ARG
5	CF	87	ARG
5	CF	89	MET
6	CG	13	GLN
6	CG	17	VAL
6	CG	18	TYR

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Mol	Chain	Res	Type
6	CG	56	GLN
6	CG	78	ARG
6	CG	79	ARG
6	CG	80	VAL
6	CG	106	GLN
6	CG	113	GLU
6	CG	114	ARG
6	CG	122	HIS
6	CG	126	ASP
6	CG	136	LYS
6	CG	140	ASP
7	CH	8	ASP
7	CH	29	SER
7	CH	37	ARG
7	CH	44	PHE
7	CH	49	GLU
7	CH	51	VAL
7	CH	58	TYR
7	CH	59	LEU
7	CH	61	VAL
7	CH	63	LEU
7	CH	70	GLN
7	CH	73	ASP
7	CH	77	GLU
7	CH	83	ILE
7	CH	99	GLU
7	CH	102	ARG
7	CH	104	ARG
7	CH	107	LEU
7	CH	109	ILE
7	CH	111	ILE
7	CH	112	LEU
7	CH	119	LEU
7	CH	120	THR
7	CH	129	VAL
7	CH	133	LEU
7	CH	135	CYS
7	CH	136	GLU
7	CH	138	TRP
8	CI	19	LEU
8	CI	25	LYS
8	CI	27	THR

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Mol	Chain	Res	Type
8	CI	53	VAL
8	CI	70	LYS
8	CI	71	SER
8	CI	79	LEU
8	CI	88	TYR
8	CI	91	ASP
8	CI	93	ARG
8	CI	95	LYS
8	CI	96	LEU
8	CI	102	LEU
8	CI	107	ARG
8	CI	108	VAL
8	CI	113	LYS
8	CI	114	TYR
8	CI	117	HIS
8	CI	118	LYS
8	CI	121	ARG
8	CI	124	GLN
9	CJ	5	ARG
9	CJ	8	LEU
9	CJ	11	PHE
9	CJ	16	LEU
9	CJ	22	LYS
9	CJ	25	GLU
9	CJ	28	ARG
9	CJ	30	SER
9	CJ	47	PHE
9	CJ	48	THR
9	CJ	50	ILE
9	CJ	55	LYS
9	CJ	66	ARG
9	CJ	67	THR
9	CJ	70	ARG
9	CJ	74	ILE
9	CJ	78	ASN
9	CJ	79	ARG
9	CJ	81	THR
9	CJ	83	GLU
9	CJ	84	GLN
9	CJ	95	GLU
9	CJ	96	ILE
10	CK	18	ARG

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Mol	Chain	Res	Type
10	CK	25	TYR
10	CK	29	ILE
10	CK	33	THR
10	CK	34	ASP
10	CK	36	ASP
10	CK	40	ILE
10	CK	41	THR
10	CK	48	ILE
10	CK	54	ARG
10	CK	57	THR
10	CK	75	TYR
10	CK	84	VAL
10	CK	101	SER
10	CK	103	LEU
10	CK	107	SER
10	CK	124	LYS
10	CK	127	LYS
11	CL	6	THR
11	CL	18	VAL
11	CL	20	LYS
11	CL	24	VAL
11	CL	33	ARG
11	CL	37	CYS
11	CL	38	THR
11	CL	43	VAL
11	CL	47	LYS
11	CL	52	LEU
11	CL	54	LYS
11	CL	55	VAL
11	CL	60	LEU
11	CL	67	THR
11	CL	69	TYR
11	CL	75	HIS
11	CL	76	ASN
11	CL	77	LEU
11	CL	80	HIS
11	CL	85	ILE
11	CL	92	ASP
11	CL	93	LEU
11	CL	96	VAL
11	CL	101	VAL
11	CL	112	ASP

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Mol	Chain	Res	Type
11	CL	123	LYS
11	CL	127	GLU
12	CM	17	VAL
12	CM	31	LYS
12	CM	36	LYS
12	CM	43	THR
12	CM	46	LYS
12	CM	50	GLU
12	CM	57	ARG
12	CM	64	TRP
12	CM	81	LEU
12	CM	92	HIS
12	CM	99	ARG
12	CM	108	ARG
12	CM	110	ARG
12	CM	121	LYS
13	CN	9	LYS
13	CN	16	PHE
13	CN	22	THR
13	CN	29	ARG
13	CN	35	ARG
13	CN	36	PHE
13	CN	40	CYS
13	CN	44	LEU
13	CN	47	LEU
13	CN	53	LEU
13	CN	56	VAL
13	CN	57	ARG
13	CN	58	LYS
13	CN	61	TRP
14	CO	17	ARG
14	CO	21	ASP
14	CO	25	THR
14	CO	26	GLU
14	CO	38	ARG
14	CO	39	LEU
14	CO	43	LEU
14	CO	47	LYS
14	CO	54	ARG
14	CO	63	ARG
14	CO	79	ARG
14	CO	87	ILE

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Mol	Chain	Res	Type
14	CO	88	ARG
15	CP	1	MET
15	CP	3	LYS
15	CP	12	LYS
15	CP	13	HIS
15	CP	22	THR
15	CP	32	TYR
15	CP	49	LEU
15	CP	58	TYR
15	CP	59	TRP
15	CP	69	THR
15	CP	73	LEU
16	CQ	10	VAL
16	CQ	19	VAL
16	CQ	36	ILE
16	CQ	37	LYS
16	CQ	48	GLU
16	CQ	52	LYS
16	CQ	53	LEU
16	CQ	55	ASP
16	CQ	63	ARG
16	CQ	66	SER
16	CQ	81	ARG
16	CQ	83	ASP
16	CQ	85	VAL
16	CQ	87	LYS
16	CQ	92	ARG
17	CR	19	LYS
17	CR	23	LYS
17	CR	34	TYR
17	CR	38	GLU
17	CR	47	THR
17	CR	53	ARG
17	CR	62	GLU
17	CR	81	PHE
18	CS	5	LEU
18	CS	6	LYS
18	CS	9	VAL
18	CS	13	ASP
18	CS	25	LYS
18	CS	27	GLU
18	CS	29	ARG

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Mol	Chain	Res	Type
18	CS	33	THR
18	CS	34	TRP
18	CS	37	ARG
18	CS	47	HIS
18	CS	61	TYR
18	CS	62	ILE
18	CS	63	THR
18	CS	66	MET
18	CS	67	VAL
18	CS	71	LEU
19	CT	11	SER
19	CT	13	LEU
19	CT	15	ARG
19	CT	43	LEU
19	CT	71	THR
19	CT	74	LYS
19	CT	92	LEU
19	CT	93	GLU
20	CY	8	ASP
20	CY	9	LEU
20	CY	14	ASN
20	CY	20	HIS
20	CY	26	THR
20	CY	33	LEU
20	CY	35	TYR
20	CY	39	ILE
20	CY	61	ARG
20	CY	66	THR
20	CY	84	THR
20	CY	92	ILE
20	CY	94	VAL
20	CY	98	MET
20	CY	99	ARG
20	CY	105	ILE
20	CY	114	VAL
20	CY	126	GLU
20	CY	128	TYR
20	CY	132	ARG
20	CY	133	ILE
20	CY	135	PHE
20	CY	152	THR
20	CY	153	MET

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Mol	Chain	Res	Type
20	CY	170	ARG
20	CY	171	GLU
20	CY	173	THR
20	CY	174	PHE
20	CY	178	ILE
20	CY	179	ASP
20	CY	190	ASN
20	CY	199	ILE
20	CY	203	GLU
20	CY	204	GLU
20	CY	224	ASP
20	CY	225	GLU
20	CY	232	LEU
20	CY	260	LEU
20	CY	266	ASN
20	CY	271	LEU
20	CY	277	VAL
20	CY	290	LYS
20	CY	292	THR
20	CY	300	GLU
20	CY	304	ASP
20	CY	312	LEU
20	CY	328	ILE
20	CY	342	TYR
20	CY	344	THR
20	CY	382	GLU
20	CY	398	ILE
20	CY	406	GLU
20	CY	408	VAL
20	CY	410	ASP
20	CY	422	GLU
20	CY	424	LEU
20	CY	428	LEU
20	CY	437	THR
20	CY	438	PHE
20	CY	448	GLN
20	CY	451	ILE
20	CY	454	MET
20	CY	456	GLU
20	CY	457	LEU
20	CY	468	ARG
20	CY	472	VAL

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Mol	Chain	Res	Type
20	CY	476	VAL
20	CY	487	ILE
20	CY	488	THR
20	CY	493	VAL
20	CY	497	PHE
20	CY	504	ARG
20	CY	507	TYR
20	CY	510	VAL
20	CY	512	ILE
20	CY	525	PHE
20	CY	526	VAL
20	CY	542	VAL
20	CY	556	ILE
20	CY	568	TYR
20	CY	572	TYR
20	CY	574	GLU
20	CY	579	GLU
20	CY	601	ILE
20	CY	606	MET
20	CY	608	VAL
20	CY	614	GLU
20	CY	617	MET
20	CY	623	ASP
20	CY	630	GLN
20	CY	663	THR
20	CY	669	PHE
20	CY	671	MET
20	CY	676	TYR
20	CY	677	GLN
20	CY	679	VAL
25	DC	7	ARG
25	DC	9	ARG
25	DC	12	LEU
25	DC	14	LYS
25	DC	19	LYS
25	DC	28	ARG
25	DC	31	LYS
25	DC	41	THR
25	DC	42	VAL
25	DC	45	HIS
25	DC	48	LEU
25	DC	51	ASP

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Mol	Chain	Res	Type
25	DC	53	ARG
25	DC	54	ARG
25	DC	57	GLN
25	DC	73	VAL
25	DC	75	VAL
25	DC	83	LYS
25	DC	85	LYS
25	DC	86	GLU
25	DC	93	ASP
25	DC	95	VAL
25	DC	98	GLU
25	DC	100	ILE
25	DC	105	LEU
25	DC	109	MET
25	DC	115	VAL
25	DC	117	THR
25	DC	119	ASP
25	DC	121	MET
25	DC	130	ARG
25	DC	131	ILE
25	DC	132	LEU
25	DC	138	LEU
25	DC	148	PHE
25	DC	149	ASN
25	DC	155	ARG
25	DC	158	LYS
25	DC	161	ARG
25	DC	164	PHE
25	DC	168	LYS
25	DC	169	THR
25	DC	172	ILE
25	DC	173	HIS
25	DC	176	VAL
25	DC	201	LYS
25	DC	203	GLU
25	DC	206	LYS
25	DC	209	PHE
25	DC	211	ARG
25	DC	213	VAL
25	DC	216	THR
26	DD	4	LYS
26	DD	5	LYS

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Mol	Chain	Res	Type
26	DD	9	TYR
26	DD	10	THR
26	DD	14	ARG
26	DD	15	PHE
26	DD	23	GLU
26	DD	24	ILE
26	DD	25	THR
26	DD	26	LYS
26	DD	30	GLU
26	DD	31	LYS
26	DD	35	LYS
26	DD	37	LEU
26	DD	62	TYR
26	DD	64	ILE
26	DD	65	ILE
26	DD	69	ARG
26	DD	78	LYS
26	DD	82	ILE
26	DD	83	GLU
26	DD	92	ILE
26	DD	95	LEU
26	DD	103	ARG
26	DD	104	TYR
26	DD	105	ILE
26	DD	115	GLN
26	DD	134	ARG
26	DD	136	ILE
26	DD	140	THR
26	DD	143	HIS
26	DD	155	LEU
26	DD	161	THR
26	DD	175	LEU
26	DD	196	VAL
26	DD	229	VAL
26	DD	230	ASP
26	DD	237	GLU
26	DD	242	ARG
26	DD	248	SER
26	DD	264	LYS
26	DD	267	SER
27	DE	4	ILE
27	DE	9	VAL

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Mol	Chain	Res	Type
27	DE	11	MET
27	DE	18	ASP
27	DE	26	ILE
27	DE	35	GLN
27	DE	52	LEU
27	DE	54	GLN
27	DE	57	LYS
27	DE	61	ARG
27	DE	77	ILE
27	DE	78	LEU
27	DE	79	ARG
27	DE	87	GLU
27	DE	89	ASP
27	DE	93	VAL
27	DE	94	GLU
27	DE	95	ILE
27	DE	132	HIS
27	DE	134	ILE
27	DE	135	HIS
27	DE	141	ILE
27	DE	146	THR
27	DE	159	HIS
27	DE	160	TYR
27	DE	163	GLU
27	DE	180	ASN
27	DE	192	ASN
27	DE	199	ARG
28	DF	3	GLU
28	DF	6	VAL
28	DF	7	TYR
28	DF	12	LEU
28	DF	17	ARG
28	DF	38	ARG
28	DF	40	GLN
28	DF	53	THR
28	DF	56	GLU
28	DF	72	ARG
28	DF	74	ARG
28	DF	106	ARG
28	DF	125	LEU
28	DF	126	VAL
28	DF	132	VAL

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Mol	Chain	Res	Type
28	DF	136	THR
28	DF	149	ASP
28	DF	154	VAL
28	DF	175	THR
28	DF	185	ASP
28	DF	191	ARG
28	DF	196	LEU
28	DF	199	TRP
28	DF	200	GLU
28	DF	206	ILE
29	DG	5	VAL
29	DG	9	ARG
29	DG	21	ARG
29	DG	34	LEU
29	DG	39	ILE
29	DG	40	ASN
29	DG	43	LEU
29	DG	45	GLU
29	DG	58	GLN
29	DG	60	LEU
29	DG	66	GLN
29	DG	82	LEU
29	DG	83	ARG
29	DG	84	LYS
29	DG	86	MET
29	DG	99	MET
29	DG	113	ARG
29	DG	115	ARG
29	DG	126	ASP
29	DG	133	LEU
29	DG	135	LEU
29	DG	138	GLN
29	DG	146	TYR
29	DG	147	ASP
29	DG	172	LEU
30	DH	17	VAL
30	DH	23	ARG
30	DH	33	LEU
30	DH	41	MET
30	DH	43	VAL
30	DH	67	LEU
30	DH	70	THR

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Mol	Chain	Res	Type
30	DH	72	ILE
30	DH	79	VAL
30	DH	83	TYR
30	DH	86	GLU
30	DH	88	LEU
30	DH	107	VAL
30	DH	114	VAL
30	DH	116	GLU
30	DH	122	THR
30	DH	133	VAL
30	DH	136	ILE
30	DH	159	GLU
32	DK	9	LYS
32	DK	10	LEU
32	DK	27	LEU
32	DK	37	PHE
32	DK	45	THR
32	DK	57	ILE
32	DK	58	THR
32	DK	60	TYR
32	DK	63	ARG
32	DK	64	SER
32	DK	65	PHE
32	DK	69	THR
32	DK	78	ILE
32	DK	84	LEU
32	DK	95	LYS
32	DK	96	VAL
32	DK	98	ARG
32	DK	102	GLU
32	DK	105	LEU
32	DK	106	GLU
32	DK	110	GLN
32	DK	111	LYS
32	DK	114	ASP
32	DK	115	LEU
32	DK	118	THR
32	DK	125	ARG
32	DK	132	ARG
32	DK	133	SER
33	DN	22	THR
33	DN	25	ARG

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Mol	Chain	Res	Type
33	DN	28	THR
33	DN	29	LYS
33	DN	32	THR
33	DN	33	LEU
33	DN	41	ASP
33	DN	48	MET
33	DN	65	LYS
33	DN	76	SER
33	DN	84	LYS
33	DN	87	LEU
33	DN	93	THR
33	DN	98	VAL
33	DN	106	MET
33	DN	112	LEU
33	DN	114	ARG
33	DN	119	ARG
33	DN	120	LEU
33	DN	127	ASP
33	DN	131	GLN
33	DN	134	ARG
33	DN	137	LYS
33	DN	138	LEU
34	DO	2	ILE
34	DO	8	LEU
34	DO	37	ASP
34	DO	42	SER
34	DO	45	GLU
34	DO	70	LYS
34	DO	78	ARG
34	DO	80	ASP
34	DO	82	ASN
34	DO	89	ASN
34	DO	91	LEU
34	DO	92	GLU
34	DO	94	ARG
34	DO	117	LEU
35	DP	7	ARG
35	DP	16	ARG
35	DP	19	VAL
35	DP	27	HIS
35	DP	29	LYS
35	DP	32	THR

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Mol	Chain	Res	Type
35	DP	35	HIS
35	DP	39	LYS
35	DP	46	LYS
35	DP	50	ARG
35	DP	51	PHE
35	DP	55	ARG
35	DP	60	MET
35	DP	61	ARG
35	DP	62	LEU
35	DP	65	ARG
35	DP	68	GLN
35	DP	71	VAL
35	DP	77	ARG
35	DP	79	ARG
35	DP	84	ASN
35	DP	91	PHE
35	DP	100	LEU
35	DP	101	VAL
35	DP	110	TYR
35	DP	123	LEU
35	DP	130	PHE
36	DQ	1	MET
36	DQ	3	MET
36	DQ	7	MET
36	DQ	14	ARG
36	DQ	16	ARG
36	DQ	17	LEU
36	DQ	25	ASP
36	DQ	35	VAL
36	DQ	37	LEU
36	DQ	43	THR
36	DQ	45	GLN
36	DQ	46	GLN
36	DQ	56	ARG
36	DQ	57	HIS
36	DQ	58	PHE
36	DQ	59	ARG
36	DQ	60	ARG
36	DQ	68	ILE
36	DQ	91	GLU
36	DQ	104	PHE
36	DQ	105	GLU

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Mol	Chain	Res	Type
36	DQ	106	VAL
36	DQ	112	GLU
36	DQ	128	LYS
36	DQ	131	ILE
36	DQ	132	VAL
36	DQ	137	TYR
37	DR	3	HIS
37	DR	4	LEU
37	DR	11	ASN
37	DR	13	HIS
37	DR	16	HIS
37	DR	29	LEU
37	DR	37	THR
37	DR	43	GLU
37	DR	44	LEU
37	DR	45	ARG
37	DR	49	ASP
37	DR	59	ASP
37	DR	65	LEU
37	DR	71	GLN
37	DR	72	ASP
37	DR	76	VAL
37	DR	79	LEU
37	DR	82	GLU
37	DR	97	VAL
37	DR	99	LYS
37	DR	100	LEU
37	DR	107	ASP
38	DS	13	ARG
38	DS	15	ARG
38	DS	16	ASN
38	DS	23	ARG
38	DS	24	LEU
38	DS	47	THR
38	DS	50	SER
38	DS	62	LYS
38	DS	67	ARG
38	DS	69	VAL
38	DS	78	LEU
38	DS	84	GLN
38	DS	87	PHE
38	DS	92	TYR

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Mol	Chain	Res	Type
38	DS	95	HIS
38	DS	97	ARG
38	DS	98	VAL
38	DS	99	LYS
39	DT	1	MET
39	DT	13	ARG
39	DT	16	ARG
39	DT	27	THR
39	DT	30	VAL
39	DT	33	LYS
39	DT	38	ASN
39	DT	42	ILE
39	DT	44	ASP
39	DT	46	GLU
39	DT	48	ILE
39	DT	57	PHE
39	DT	64	ARG
39	DT	70	VAL
39	DT	74	ARG
39	DT	80	SER
39	DT	82	LEU
39	DT	96	ARG
39	DT	105	LEU
39	DT	107	ASP
39	DT	108	ARG
39	DT	109	GLU
39	DT	111	ARG
39	DT	114	LEU
39	DT	115	ARG
39	DT	118	ARG
39	DT	124	ASP
40	DU	6	THR
40	DU	14	HIS
40	DU	18	LEU
40	DU	34	LYS
40	DU	38	THR
40	DU	39	LEU
40	DU	44	ASN
40	DU	51	LYS
40	DU	54	LYS
40	DU	58	ARG
40	DU	59	ARG

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Mol	Chain	Res	Type
40	DU	64	ARG
40	DU	74	LEU
40	DU	83	LEU
40	DU	90	VAL
40	DU	97	ASP
40	DU	98	LEU
40	DU	101	ARG
40	DU	104	GLN
40	DU	105	VAL
40	DU	108	GLU
40	DU	114	LYS
40	DU	117	GLN
41	DV	14	VAL
41	DV	18	LEU
41	DV	19	LYS
41	DV	21	ARG
41	DV	37	VAL
41	DV	38	LEU
41	DV	40	LEU
41	DV	47	VAL
41	DV	57	VAL
41	DV	60	GLU
41	DV	69	LYS
41	DV	71	LEU
41	DV	73	SER
41	DV	75	PHE
41	DV	80	GLN
41	DV	82	ARG
41	DV	85	LYS
41	DV	87	HIS
41	DV	98	GLU
41	DV	99	ILE
42	DW	11	ARG
42	DW	12	ILE
42	DW	17	VAL
42	DW	19	LEU
42	DW	27	LYS
42	DW	37	ARG
42	DW	39	THR
42	DW	61	ASN
42	DW	64	MET
42	DW	66	GLU

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Mol	Chain	Res	Type
42	DW	70	TYR
42	DW	88	ARG
42	DW	95	ILE
42	DW	96	ILE
42	DW	99	ARG
42	DW	107	LEU
43	DX	3	THR
43	DX	6	ASP
43	DX	15	GLU
43	DX	27	THR
43	DX	53	LYS
43	DX	54	VAL
43	DX	56	THR
43	DX	57	LEU
43	DX	58	HIS
43	DX	66	LEU
43	DX	68	ARG
43	DX	69	TYR
43	DX	72	LYS
43	DX	75	ASP
43	DX	76	ARG
43	DX	87	GLN
43	DX	92	LEU
44	DY	2	ARG
44	DY	4	LYS
44	DY	5	MET
44	DY	6	HIS
44	DY	7	VAL
44	DY	9	LYS
44	DY	13	VAL
44	DY	19	LYS
44	DY	35	TYR
44	DY	39	VAL
44	DY	44	ILE
44	DY	47	LYS
44	DY	50	ARG
44	DY	62	GLU
44	DY	76	CYS
45	DZ	3	TYR
45	DZ	24	LEU
45	DZ	31	ARG
45	DZ	34	ASN

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Mol	Chain	Res	Type
45	DZ	36	LYS
45	DZ	37	VAL
45	DZ	39	VAL
45	DZ	46	LYS
45	DZ	52	SER
45	DZ	57	ILE
45	DZ	59	LEU
45	DZ	70	LEU
45	DZ	72	ARG
45	DZ	81	ARG
45	DZ	82	ARG
45	DZ	86	VAL
45	DZ	87	ASP
45	DZ	98	MET
45	DZ	102	LEU
45	DZ	124	ILE
45	DZ	126	VAL
45	DZ	127	LYS
45	DZ	133	ILE
45	DZ	136	PHE
45	DZ	140	ASP
45	DZ	145	GLU
45	DZ	148	ASP
45	DZ	151	HIS
45	DZ	153	SER
45	DZ	154	ASP
45	DZ	155	LEU
45	DZ	156	LYS
45	DZ	165	VAL
45	DZ	179	ASP
45	DZ	181	GLU
45	DZ	185	GLU
45	DZ	186	GLU
46	D0	11	ARG
46	D0	21	LEU
46	D0	27	GLU
46	D0	30	VAL
46	D0	35	ASN
46	D0	36	ILE
46	D0	41	ARG
46	D0	43	THR
46	D0	57	PHE

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Mol	Chain	Res	Type
46	D0	82	ARG
47	D2	9	GLN
47	D2	17	SER
47	D2	21	LEU
47	D2	35	LEU
47	D2	40	SER
47	D2	47	ASN
47	D2	55	ARG
47	D2	71	ASN
48	D3	8	LEU
48	D3	17	LYS
48	D3	19	GLN
48	D3	29	ARG
48	D3	36	VAL
48	D3	48	GLU
48	D3	60	GLU
49	D5	3	LYS
49	D5	20	ARG
49	D5	25	LEU
49	D5	26	THR
49	D5	31	VAL
49	D5	44	THR
49	D5	48	GLU
49	D5	51	TYR
49	D5	52	TYR
49	D5	58	LEU
50	D6	6	ARG
50	D6	9	LEU
50	D6	10	LEU
50	D6	11	LEU
50	D6	18	ARG
50	D6	19	ARG
50	D6	23	THR
50	D6	25	LYS
50	D6	28	ARG
50	D6	34	LEU
50	D6	43	CYS
50	D6	46	HIS
50	D6	47	THR
50	D6	53	LYS
50	D6	54	ILE
51	D7	6	GLN

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Mol	Chain	Res	Type
51	D7	19	ARG
51	D7	24	THR
51	D7	39	ARG
51	D7	40	TRP
51	D7	47	ARG
52	D8	33	ASN
52	D8	34	TRP
52	D8	36	LYS
52	D8	40	GLU
52	D8	44	LYS
52	D8	49	VAL
52	D8	53	PRO
52	D8	59	LYS
52	D8	61	LEU
52	D8	64	TYR
53	D9	11	CYS
53	D9	17	ILE
53	D9	27	CYS
53	D9	35	ARG
56	D1	5	CYS
56	D1	14	VAL
56	D1	20	ARG
56	D1	25	LYS
56	D1	27	GLU
56	D1	32	LYS
56	D1	40	ARG
56	D1	41	ARG
56	D1	43	TYR
56	D1	45	ASN
56	D1	46	LEU
56	D1	47	GLN
56	D1	50	ARG
56	D1	57	GLU
56	D1	58	ILE
56	D1	61	ARG
56	D1	67	ILE
56	D1	88	LYS
56	D1	90	ILE
56	D1	94	LEU
57	D4	1	MET
57	D4	6	HIS
57	D4	8	LYS

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Mol	Chain	Res	Type
57	D4	9	LEU
57	D4	10	VAL
57	D4	15	ILE
57	D4	23	GLU
57	D4	26	SER
57	D4	32	TYR
57	D4	34	GLU
58	De	61	ASP
58	De	70	LYS
58	De	73	GLU
58	De	78	LEU
58	De	90	LYS
58	De	94	GLU
58	De	95	LYS
58	De	101	GLU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (68) such sidechains are listed below:

Mol	Chain	Res	Type
1	AB	16	HIS
1	AB	104	ASN
2	AC	107	GLN
3	AD	161	ASN
6	AG	96	GLN
7	AH	78	GLN
10	AK	117	ASN
11	AL	99	HIS
14	AO	71	GLN
15	AP	65	GLN
20	AY	77	HIS
20	AY	137	ASN
20	AY	165	GLN
20	AY	595	GLN
20	AY	682	GLN
25	BC	18	ASN
25	BC	189	ASN
26	BD	164	GLN
27	BE	35	GLN
27	BE	159	HIS
28	BF	40	GLN
28	BF	169	ASN
29	BG	138	GLN

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Mol	Chain	Res	Type
32	BK	30	HIS
34	BO	90	GLN
35	BP	68	GLN
36	BQ	12	GLN
39	BT	123	GLN
45	BZ	75	ASN
49	B5	23	HIS
50	B6	32	ASN
3	CD	161	ASN
4	CE	78	HIS
5	CF	32	ASN
6	CG	148	ASN
10	CK	27	ASN
10	CK	116	HIS
12	CM	92	HIS
16	CQ	96	GLN
19	CT	18	GLN
20	CY	40	HIS
20	CY	80	ASN
20	CY	137	ASN
26	DD	87	ASN
26	DD	126	GLN
26	DD	231	HIS
27	DE	180	ASN
28	DF	40	GLN
28	DF	169	ASN
29	DG	27	ASN
32	DK	30	HIS
33	DN	131	GLN
35	DP	9	ASN
35	DP	68	GLN
36	DQ	12	GLN
36	DQ	89	ASN
36	DQ	123	HIS
37	DR	23	ASN
38	DS	34	HIS
38	DS	38	GLN
39	DT	84	GLN
41	DV	87	HIS
41	DV	89	GLN
43	DX	58	HIS
43	DX	87	GLN

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Mol	Chain	Res	Type
45	DZ	118	GLN
46	D0	80	HIS
50	D6	26	ASN

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
21	AA	1511/1511 (100%)	326 (21%)	19 (1%)
21	CA	1511/1511 (100%)	310 (20%)	16 (1%)
22	AW	76/77 (98%)	22 (28%)	1 (1%)
22	CW	76/77 (98%)	19 (25%)	1 (1%)
23	AV	22/23 (95%)	11 (50%)	2 (9%)
23	CV	22/23 (95%)	9 (40%)	3 (13%)
59	BA	2878/2879 (99%)	666 (23%)	21 (0%)
59	DA	2878/2879 (99%)	629 (21%)	17 (0%)
60	BB	118/119 (99%)	20 (16%)	4 (3%)
60	DB	118/119 (99%)	19 (16%)	3 (2%)
All	All	9210/9218 (99%)	2031 (22%)	87 (0%)

All (2031) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
21	AA	6	G
21	AA	7	G
21	AA	8	A
21	AA	9	G
21	AA	13	U
21	AA	22	G
21	AA	31	G
21	AA	32	A
21	AA	39	G
21	AA	47	C
21	AA	48	C
21	AA	50	A
21	AA	51	A
21	AA	54	C
21	AA	65	U
21	AA	66	G
21	AA	68	G
21	AA	68(H)	G
21	AA	68(L)	U

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Mol	Chain	Res	Type
21	AA	68(P)	C
21	AA	68(R)	C
21	AA	68(S)	C
21	AA	109	A
21	AA	116	A
21	AA	121	C
21	AA	129(A)	G
21	AA	131	C
21	AA	134	A
21	AA	135	C
21	AA	136	C
21	AA	144	G
21	AA	148	G
21	AA	163	C
21	AA	170	U
21	AA	174	C
21	AA	186(H)	U
21	AA	191	G
21	AA	195	A
21	AA	197	A
21	AA	201	C
21	AA	201(A)	U
21	AA	201(C)	U
21	AA	216	G
21	AA	222	U
21	AA	233	C
21	AA	247	G
21	AA	251	G
21	AA	264	U
21	AA	267	C
21	AA	281	G
21	AA	283	C
21	AA	289	G
21	AA	290	C
21	AA	294	U
21	AA	306	G
21	AA	313	A
21	AA	315	A
21	AA	316	G
21	AA	321	A
21	AA	328	C
21	AA	329	A

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Mol	Chain	Res	Type
21	AA	332	G
21	AA	340	U
21	AA	345	C
21	AA	346	G
21	AA	347	G
21	AA	348	G
21	AA	352	C
21	AA	353	A
21	AA	354	G
21	AA	367	U
21	AA	372	C
21	AA	388	G
21	AA	389	A
21	AA	390	C
21	AA	392	G
21	AA	397	A
21	AA	398	C
21	AA	406	G
21	AA	410	G
21	AA	412	A
21	AA	413	G
21	AA	414	A
21	AA	422	C
21	AA	424	G
21	AA	429	U
21	AA	430	A
21	AA	432	A
21	AA	440	A
21	AA	444	C
21	AA	452	A
21	AA	453	A
21	AA	457	C
21	AA	458(B)	A
21	AA	475	G
21	AA	481	G
21	AA	482	A
21	AA	484	G
21	AA	485	G
21	AA	486	U
21	AA	497	A
21	AA	498	U
21	AA	505	G

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Mol	Chain	Res	Type
21	AA	509	A
21	AA	511	C
21	AA	518	C
21	AA	520	A
21	AA	521	G
21	AA	524	G
21	AA	527	G
21	AA	531	U
21	AA	532	A
21	AA	533	A
21	AA	535	A
21	AA	536	C
21	AA	547	A
21	AA	559	A
21	AA	561	U
21	AA	562	C
21	AA	564	C
21	AA	565	U
21	AA	568	G
21	AA	572	A
21	AA	573	A
21	AA	574	A
21	AA	576	G
21	AA	577	G
21	AA	596	C
21	AA	618	C
21	AA	653	A
21	AA	659	U
21	AA	665	A
21	AA	666	G
21	AA	678	U
21	AA	688	G
21	AA	693	G
21	AA	702	A
21	AA	703	G
21	AA	706	A
21	AA	717	C
21	AA	720	C
21	AA	721	G
21	AA	724	G
21	AA	733	A
21	AA	734	G

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Mol	Chain	Res	Type
21	AA	737	A
21	AA	749	C
21	AA	755	G
21	AA	777	A
21	AA	793	U
21	AA	794	A
21	AA	796	C
21	AA	816	A
21	AA	817	C
21	AA	818	G
21	AA	819	A
21	AA	828	A
21	AA	838(A)	U
21	AA	838(B)	C
21	AA	838(C)	U
21	AA	848	C
21	AA	852	G
21	AA	853	G
21	AA	855	G
21	AA	859	A
21	AA	889	A
21	AA	907	A
21	AA	916	G
21	AA	918	A
21	AA	923	A
21	AA	926	G
21	AA	927	G
21	AA	934	C
21	AA	935	A
21	AA	939	G
21	AA	960	U
21	AA	961	U
21	AA	968	A
21	AA	969	A
21	AA	971	G
21	AA	974	A
21	AA	976	G
21	AA	977	A
21	AA	978	A
21	AA	980	C
21	AA	983	A
21	AA	992	U

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Mol	Chain	Res	Type
21	AA	993	G
21	AA	1004	A
21	AA	1005	A
21	AA	1006	C
21	AA	1008	C
21	AA	1020	U
21	AA	1025	U
21	AA	1028(B)	C
21	AA	1028(C)	G
21	AA	1036	G
21	AA	1037	C
21	AA	1045	C
21	AA	1054	C
21	AA	1055	A
21	AA	1060	C
21	AA	1065	U
21	AA	1066	C
21	AA	1068	G
21	AA	1081	G
21	AA	1084	G
21	AA	1089	G
21	AA	1094	G
21	AA	1095	U
21	AA	1101	A
21	AA	1102	A
21	AA	1108	G
21	AA	1115	C
21	AA	1117	G
21	AA	1118	C
21	AA	1120	G
21	AA	1125	U
21	AA	1126	U
21	AA	1127	G
21	AA	1128	C
21	AA	1129	C
21	AA	1130	A
21	AA	1131	G
21	AA	1136	U
21	AA	1137	C
21	AA	1138	G
21	AA	1139	G
21	AA	1146	A

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Mol	Chain	Res	Type
21	AA	1150	U
21	AA	1152	A
21	AA	1158	C
21	AA	1159	U
21	AA	1160	G
21	AA	1171	G
21	AA	1181	G
21	AA	1182	G
21	AA	1190	G
21	AA	1191	A
21	AA	1193	G
21	AA	1196	U
21	AA	1197	G
21	AA	1210	C
21	AA	1211	U
21	AA	1212	U
21	AA	1213	A
21	AA	1220	G
21	AA	1222	G
21	AA	1225	A
21	AA	1226	C
21	AA	1228	C
21	AA	1236	A
21	AA	1238	A
21	AA	1239	A
21	AA	1240	U
21	AA	1249	C
21	AA	1256	A
21	AA	1257	U
21	AA	1260	C
21	AA	1270	C
21	AA	1280	A
21	AA	1281	U
21	AA	1287	A
21	AA	1300	G
21	AA	1301	U
21	AA	1302	U
21	AA	1303	C
21	AA	1305	G
21	AA	1311	G
21	AA	1317	C
21	AA	1320	C

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Mol	Chain	Res	Type
21	AA	1322	C
21	AA	1331	G
21	AA	1335	C
21	AA	1338	G
21	AA	1345	U
21	AA	1347	G
21	AA	1357	A
21	AA	1358	U
21	AA	1359	C
21	AA	1362(A)	C
21	AA	1363	A
21	AA	1364	U
21	AA	1365	G
21	AA	1370	G
21	AA	1377	A
21	AA	1378	C
21	AA	1379	G
21	AA	1381	U
21	AA	1394	A
21	AA	1397	C
21	AA	1413	A
21	AA	1419	G
21	AA	1440(B)	G
21	AA	1440(C)	G
21	AA	1440(D)	A
21	AA	1440(I)	A
21	AA	1440(J)	C
21	AA	1440(K)	G
21	AA	1440(L)	G
21	AA	1475	G
21	AA	1484	C
21	AA	1487	G
21	AA	1489	G
21	AA	1491	G
21	AA	1492	A
21	AA	1493	A
21	AA	1494	G
21	AA	1497	G
21	AA	1502	A
21	AA	1503	A
21	AA	1504	G
21	AA	1505	G

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Mol	Chain	Res	Type
21	AA	1506	U
21	AA	1507	A
21	AA	1517	G
21	AA	1520	G
21	AA	1525	G
21	AA	1529	G
21	AA	1530	G
21	AA	1532	U
21	AA	1533	C
21	AA	1534	A
21	AA	1535	C
21	AA	1536	C
21	AA	1538	C
22	AW	6	C
22	AW	8	U
22	AW	9	A
22	AW	16	U
22	AW	17	U
22	AW	18	G
22	AW	19	G
22	AW	20	U
22	AW	20(A)	U
22	AW	21	A
22	AW	22	G
22	AW	25	C
22	AW	29	U
22	AW	46	G
22	AW	47	U
22	AW	48	C
22	AW	50	C
22	AW	58	A
22	AW	60	U
22	AW	61	C
22	AW	66	C
22	AW	76	A
23	AV	5	A
23	AV	9	G
23	AV	10	G
23	AV	11	U
23	AV	12	A
23	AV	15	A
23	AV	16	A

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Mol	Chain	Res	Type
23	AV	18	G
23	AV	19	G
23	AV	22	A
23	AV	23	A
59	BA	9	U
59	BA	12	U
59	BA	13	A
59	BA	27	G
59	BA	34	C
59	BA	46	C
59	BA	47	C
59	BA	49	A
59	BA	50	U
59	BA	51	G
59	BA	61	G
59	BA	68	G
59	BA	70	G
59	BA	72	U
59	BA	73	A
59	BA	74	A
59	BA	75	G
59	BA	84	A
59	BA	90	U
59	BA	93	C
59	BA	94	G
59	BA	98	G
59	BA	101	G
59	BA	102	G
59	BA	104	U
59	BA	113	G
59	BA	116	C
59	BA	118	A
59	BA	119	A
59	BA	120	U
59	BA	121	G
59	BA	134	C
59	BA	138	G
59	BA	149	A
59	BA	163	U
59	BA	164	U
59	BA	181	A
59	BA	196	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
59	BA	197	A
59	BA	199	A
59	BA	204	A
59	BA	205	G
59	BA	215	G
59	BA	216	A
59	BA	221	A
59	BA	222	A
59	BA	227	A
59	BA	228	A
59	BA	229	A
59	BA	230	U
59	BA	232	G
59	BA	233	A
59	BA	248	G
59	BA	252	G
59	BA	264	C
59	BA	265	A
59	BA	266	G
59	BA	270(L)	C
59	BA	270(M)	U
59	BA	270(N)	U
59	BA	270(O)	G
59	BA	270(Q)	C
59	BA	270(R)	C
59	BA	271(D)	U
59	BA	271	G
59	BA	274	G
59	BA	278	A
59	BA	279	C
59	BA	294	A
59	BA	295	G
59	BA	300	A
59	BA	302	C
59	BA	310	A
59	BA	322	A
59	BA	323	G
59	BA	325	G
59	BA	329	G
59	BA	330	A
59	BA	331	A
59	BA	352	G

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Mol	Chain	Res	Type
59	BA	354	G
59	BA	363(A)	G
59	BA	363(B)	A
59	BA	363(G)	A
59	BA	364	C
59	BA	372	G
59	BA	386	G
59	BA	387	U
59	BA	388	G
59	BA	389	G
59	BA	396	G
59	BA	405	U
59	BA	408	G
59	BA	411	G
59	BA	412	A
59	BA	425	G
59	BA	444	C
59	BA	447	A
59	BA	448	U
59	BA	449	A
59	BA	451	C
59	BA	454	A
59	BA	455	C
59	BA	456	C
59	BA	457	A
59	BA	458	G
59	BA	459	U
59	BA	464	U
59	BA	470	A
59	BA	473	G
59	BA	474	G
59	BA	475	U
59	BA	480	A
59	BA	481	G
59	BA	489	G
59	BA	492	A
59	BA	505	A
59	BA	508	G
59	BA	509	C
59	BA	513	A
59	BA	527	C
59	BA	528	A

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Mol	Chain	Res	Type
59	BA	530	G
59	BA	531	C
59	BA	532	A
59	BA	544	C
59	BA	546	C
59	BA	548	A
59	BA	556	G
59	BA	560	C
59	BA	563	G
59	BA	568	U
59	BA	569	U
59	BA	572	A
59	BA	573	G
59	BA	575	A
59	BA	586	A
59	BA	587	C
59	BA	599	G
59	BA	603	A
59	BA	604	G
59	BA	615	G
59	BA	616	A
59	BA	617	G
59	BA	620	G
59	BA	621	A
59	BA	627	A
59	BA	634	C
59	BA	637	A
59	BA	645	C
59	BA	646	A
59	BA	653	C
59	BA	654	U
59	BA	655	A
59	BA	671	C
59	BA	675	A
59	BA	682	G
59	BA	683	C
59	BA	685	A
59	BA	686	G
59	BA	717	G
59	BA	723	G
59	BA	730	C
59	BA	738	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
59	BA	747	U
59	BA	748	G
59	BA	752	A
59	BA	753	C
59	BA	764	A
59	BA	776	G
59	BA	778	G
59	BA	779	U
59	BA	782	A
59	BA	784	A
59	BA	785	G
59	BA	788	A
59	BA	789	A
59	BA	792	G
59	BA	793	A
59	BA	800	A
59	BA	805	G
59	BA	812	C
59	BA	819	A
59	BA	821	A
59	BA	822	U
59	BA	824	A
59	BA	827	U
59	BA	831	G
59	BA	832	G
59	BA	846	C
59	BA	847	U
59	BA	852	G
59	BA	859	G
59	BA	860	U
59	BA	861	A
59	BA	866	A
59	BA	869	G
59	BA	870	A
59	BA	877	U
59	BA	879	G
59	BA	881	G
59	BA	882	G
59	BA	887	A
59	BA	890	A
59	BA	895	U
59	BA	896	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
59	BA	897	C
59	BA	910	A
59	BA	914	C
59	BA	917	A
59	BA	929	G
59	BA	932	G
59	BA	933	A
59	BA	941	A
59	BA	943	U
59	BA	946	G
59	BA	951	C
59	BA	953	A
59	BA	959	A
59	BA	961	C
59	BA	970	C
59	BA	974(A)	G
59	BA	974(B)	C
59	BA	980	A
59	BA	983	A
59	BA	991	C
59	BA	996	A
59	BA	997	G
59	BA	999	U
59	BA	1008	C
59	BA	1009	A
59	BA	1011	G
59	BA	1012	U
59	BA	1013	C
59	BA	1017	G
59	BA	1021	A
59	BA	1022	G
59	BA	1023	U
59	BA	1024	G
59	BA	1025	G
59	BA	1026	U
59	BA	1027	A
59	BA	1030	G
59	BA	1033	U
59	BA	1034	G
59	BA	1047	G
59	BA	1048	A
59	BA	1060	U

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Mol	Chain	Res	Type
59	BA	1061	U
59	BA	1062	G
59	BA	1063	G
59	BA	1070	A
59	BA	1072	C
59	BA	1077	A
59	BA	1078	U
59	BA	1079	C
59	BA	1086	A
59	BA	1088	A
59	BA	1090	U
59	BA	1096	A
59	BA	1097	U
59	BA	1105	U
59	BA	1106	G
59	BA	1110	G
59	BA	1112	G
59	BA	1123	C
59	BA	1128	A
59	BA	1130	U
59	BA	1136	G
59	BA	1139	G
59	BA	1141	U
59	BA	114(B)	A
59	BA	1144	G
59	BA	1154	G
59	BA	1155	A
59	BA	1175	U
59	BA	1176	G
59	BA	1179	C
59	BA	1186	G
59	BA	1199	U
59	BA	1204	A
59	BA	1205	U
59	BA	1210	A
59	BA	1211	U
59	BA	1212	G
59	BA	1220	A
59	BA	1221	C
59	BA	1241	A
59	BA	1247	A
59	BA	1248	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
59	BA	1249	U
59	BA	1253	A
59	BA	1256	G
59	BA	1265	A
59	BA	1271	G
59	BA	1272	A
59	BA	1286	A
59	BA	1294	U
59	BA	1300	U
59	BA	1301	A
59	BA	1302	A
59	BA	1309	G
59	BA	1311	G
59	BA	1312	U
59	BA	1313	U
59	BA	1314	C
59	BA	1321	A
59	BA	1322	A
59	BA	1325	G
59	BA	1329	U
59	BA	1330	C
59	BA	1331	A
59	BA	1332	G
59	BA	1333	C
59	BA	1341	U
59	BA	1343	G
59	BA	1348	G
59	BA	1349	A
59	BA	1352	U
59	BA	1359	A
59	BA	1360	A
59	BA	1365	A
59	BA	1378	A
59	BA	1379	A
59	BA	1384	A
59	BA	1385	G
59	BA	1395	A
59	BA	1396	U
59	BA	1398	C
59	BA	1416	G
59	BA	1417	C
59	BA	1418	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
59	BA	1420	U
59	BA	1421	G
59	BA	1428	C
59	BA	1430	C
59	BA	144(B)	A
59	BA	149(B)	A
59	BA	1449	G
59	BA	1453	A
59	BA	1454	U
59	BA	1455	G
59	BA	1458	C
59	BA	1460	A
59	BA	1467	C
59	BA	1478	G
59	BA	1483	G
59	BA	1490	A
59	BA	1491	G
59	BA	1493	C
59	BA	1494	A
59	BA	1495	A
59	BA	1497	U
59	BA	1498	C
59	BA	1509	A
59	BA	1510	A
59	BA	1523	U
59	BA	1528	A
59	BA	1535	U
59	BA	1536	A
59	BA	1538	G
59	BA	1539	G
59	BA	1540	G
59	BA	1541	U
59	BA	1542	G
59	BA	1543	A
59	BA	1544	C
59	BA	1545	A
59	BA	154(B)	C
59	BA	1547	C
59	BA	1558	A
59	BA	1559	G
59	BA	1566	A
59	BA	1569	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
59	BA	1580	A
59	BA	1581	G
59	BA	1583	A
59	BA	1585	C
59	BA	1602	U
59	BA	1603	A
59	BA	1608	A
59	BA	1609	A
59	BA	1616	A
59	BA	1617	C
59	BA	1618	A
59	BA	1635	G
59	BA	1639	U
59	BA	1640	C
59	BA	1644	C
59	BA	1646	C
59	BA	1648	C
59	BA	1654	A
59	BA	1656	C
59	BA	1672	C
59	BA	1674	G
59	BA	1691	C
59	BA	1694	C
59	BA	1729	A
59	BA	1732	A
59	BA	1735	U
59	BA	1755	A
59	BA	1757	U
59	BA	1762	A
59	BA	1763	G
59	BA	1764	G
59	BA	1769	G
59	BA	1773	A
59	BA	1781	C
59	BA	1783	A
59	BA	1784	A
59	BA	1787	A
59	BA	1791	A
59	BA	1800	C
59	BA	1801	G
59	BA	1809	A
59	BA	1816	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
59	BA	1820	U
59	BA	1821	A
59	BA	1829	A
59	BA	1836	C
59	BA	1837	C
59	BA	1847	A
59	BA	1859	A
59	BA	1888	G
59	BA	1889	A
59	BA	1900	A
59	BA	1903	G
59	BA	1906	G
59	BA	1908	C
59	BA	1909	C
59	BA	1911	U
59	BA	1912	A
59	BA	1913	A
59	BA	1914	C
59	BA	1929	G
59	BA	1930	G
59	BA	1931	U
59	BA	1935	G
59	BA	1936	A
59	BA	1937	A
59	BA	1938	A
59	BA	1939	U
59	BA	1940	U
59	BA	1944	U
59	BA	1955	U
59	BA	1963	U
59	BA	1964	G
59	BA	1967	C
59	BA	1970	A
59	BA	1971	A
59	BA	1972	A
59	BA	1980	G
59	BA	1981	A
59	BA	1982	C
59	BA	1992	G
59	BA	1993	U
59	BA	1996	C
59	BA	2013	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
59	BA	2020	A
59	BA	2023	G
59	BA	2024	G
59	BA	2027	G
59	BA	2028	U
59	BA	2030	A
59	BA	2031	A
59	BA	2032	G
59	BA	2033	A
59	BA	2034	U
59	BA	2036	C
59	BA	2043	C
59	BA	2044	C
59	BA	2051	A
59	BA	2052	G
59	BA	2055	C
59	BA	2056	G
59	BA	2060	A
59	BA	2061	G
59	BA	2062	A
59	BA	2069	G
59	BA	2093	G
59	BA	2111	C
59	BA	2113	U
59	BA	2117	A
59	BA	2118	U
59	BA	2120	G
59	BA	2126	A
59	BA	2131	G
59	BA	2133	G
59	BA	2134	A
59	BA	2144	U
59	BA	2154	G
59	BA	2159	G
59	BA	2161	C
59	BA	2166	G
59	BA	2168	G
59	BA	2171	A
59	BA	2173	A
59	BA	2174	C
59	BA	2184	G
59	BA	2198	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
59	BA	2199	A
59	BA	2210	G
59	BA	2211	G
59	BA	2212	A
59	BA	2213	U
59	BA	2225	A
59	BA	2238	G
59	BA	2239	G
59	BA	2246	G
59	BA	2249	U
59	BA	2252	G
59	BA	2269	A
59	BA	2274	A
59	BA	2275	C
59	BA	2279	G
59	BA	2281	C
59	BA	2283	C
59	BA	2287	A
59	BA	2288	A
59	BA	2289	G
59	BA	2305	A
59	BA	2308	G
59	BA	2311	A
59	BA	2320	A
59	BA	2321	G
59	BA	2322	A
59	BA	2325	G
59	BA	2326	C
59	BA	2327	A
59	BA	2334	G
59	BA	2336	A
59	BA	2345	G
59	BA	2346	A
59	BA	2347	C
59	BA	2348	U
59	BA	2362	G
59	BA	2365	G
59	BA	2377	A
59	BA	2379	G
59	BA	2383	G
59	BA	2385	C
59	BA	2391	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
59	BA	2392	A
59	BA	2402	C
59	BA	2406	U
59	BA	2423	U
59	BA	2425	A
59	BA	2426	A
59	BA	2427	C
59	BA	2429	G
59	BA	2430	A
59	BA	2431	U
59	BA	2435	A
59	BA	2437	U
59	BA	2439	A
59	BA	2441	C
59	BA	2448	A
59	BA	2469	A
59	BA	2470	G
59	BA	2476	A
59	BA	2477	C
59	BA	2480	C
59	BA	2481	G
59	BA	2482	G
59	BA	2491	U
59	BA	2497	A
59	BA	2500	U
59	BA	2502	G
59	BA	2503	A
59	BA	2504	U
59	BA	2505	G
59	BA	2514	U
59	BA	2518	A
59	BA	2520	C
59	BA	2525	G
59	BA	2529	G
59	BA	2530	A
59	BA	2532	G
59	BA	2535	G
59	BA	2539	C
59	BA	2542	A
59	BA	2543	G
59	BA	2552	U
59	BA	2554	U

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Mol	Chain	Res	Type
59	BA	2562	U
59	BA	2563	U
59	BA	2564	A
59	BA	2566	A
59	BA	2567	G
59	BA	2572	A
59	BA	2573	C
59	BA	2585	U
59	BA	2586	C
59	BA	2593	U
59	BA	2602	A
59	BA	2603	G
59	BA	2609	U
59	BA	2612	C
59	BA	2613	U
59	BA	2614	A
59	BA	2615	U
59	BA	2623	G
59	BA	2624	G
59	BA	2630	G
59	BA	2642	G
59	BA	2645	G
59	BA	2646	C
59	BA	2657	A
59	BA	2663	G
59	BA	2665	A
59	BA	2667	C
59	BA	2682	U
59	BA	2689	U
59	BA	2691	C
59	BA	2702	U
59	BA	2703	C
59	BA	2706	G
59	BA	2707	G
59	BA	2712	U
59	BA	712(B)	A
59	BA	2713	A
59	BA	2714	G
59	BA	2718	G
59	BA	2720	U
59	BA	2726	U
59	BA	2732	G

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Mol	Chain	Res	Type
59	BA	2733	A
59	BA	2748	A
59	BA	2758	A
59	BA	2760	C
59	BA	2764	A
59	BA	2765	A
59	BA	2766	G
59	BA	2770	G
59	BA	2778	A
59	BA	2779	U
59	BA	2780	G
59	BA	2781	A
59	BA	2782	G
59	BA	2786	U
59	BA	2790	A
59	BA	2791	C
59	BA	2792	G
59	BA	2797	U
59	BA	2798	C
59	BA	2811	G
59	BA	2818	G
59	BA	2820	A
59	BA	2821	A
59	BA	2823	A
59	BA	2833	G
59	BA	2834	G
59	BA	2835	A
59	BA	2849	U
59	BA	2851	A
59	BA	2853	C
59	BA	2866	U
59	BA	2871	C
59	BA	2872	G
59	BA	2876	G
59	BA	2879	C
59	BA	2880	C
59	BA	2886	G
59	BA	2892	A
59	BA	2894	G
59	BA	2895	U
60	BB	12	C
60	BB	13	A

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Mol	Chain	Res	Type
60	BB	15	A
60	BB	16	G
60	BB	25	A
60	BB	26	A
60	BB	35	U
60	BB	41	U
60	BB	42	C
60	BB	45	A
60	BB	50	G
60	BB	53	A
60	BB	58	A
60	BB	67	G
60	BB	73	A
60	BB	74	U
60	BB	85	G
60	BB	102	G
60	BB	109	G
60	BB	118	G
21	CA	6	G
21	CA	8	A
21	CA	9	G
21	CA	10	A
21	CA	13	U
21	CA	22	G
21	CA	31	G
21	CA	32	A
21	CA	39	G
21	CA	47	C
21	CA	48	C
21	CA	51	A
21	CA	54	C
21	CA	65	U
21	CA	66	G
21	CA	68(H)	G
21	CA	68(L)	U
21	CA	68(N)	U
21	CA	68(P)	C
21	CA	68(R)	C
21	CA	68(S)	C
21	CA	109	A
21	CA	116	A
21	CA	121	C

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Mol	Chain	Res	Type
21	CA	122	G
21	CA	129(A)	G
21	CA	131	C
21	CA	134	A
21	CA	135	C
21	CA	136	C
21	CA	153	C
21	CA	163	C
21	CA	169	C
21	CA	172	A
21	CA	174	C
21	CA	186(I)	U
21	CA	186(K)	G
21	CA	192	U
21	CA	195	A
21	CA	197	A
21	CA	201	C
21	CA	201(C)	U
21	CA	216	G
21	CA	221	C
21	CA	243	A
21	CA	247	G
21	CA	251	G
21	CA	267	C
21	CA	279	A
21	CA	281	G
21	CA	285	G
21	CA	289	G
21	CA	296	U
21	CA	301	G
21	CA	315	A
21	CA	316	G
21	CA	321	A
21	CA	328	C
21	CA	329	A
21	CA	332	G
21	CA	345	C
21	CA	346	G
21	CA	347	G
21	CA	348	G
21	CA	352	C
21	CA	353	A

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Mol	Chain	Res	Type
21	CA	354	G
21	CA	366	C
21	CA	367	U
21	CA	368	U
21	CA	372	C
21	CA	373	A
21	CA	388	G
21	CA	389	A
21	CA	390	C
21	CA	392	G
21	CA	397	A
21	CA	398	C
21	CA	406	G
21	CA	410	G
21	CA	412	A
21	CA	414	A
21	CA	421	U
21	CA	422	C
21	CA	423	G
21	CA	424	G
21	CA	429	U
21	CA	430	A
21	CA	440	A
21	CA	452	A
21	CA	453	A
21	CA	457	C
21	CA	458(B)	A
21	CA	475	G
21	CA	481	G
21	CA	484	G
21	CA	485	G
21	CA	497	A
21	CA	498	U
21	CA	501	C
21	CA	505	G
21	CA	509	A
21	CA	511	C
21	CA	512	U
21	CA	518	C
21	CA	521	G
21	CA	524	G
21	CA	525	C

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Mol	Chain	Res	Type
21	CA	527	G
21	CA	531	U
21	CA	532	A
21	CA	533	A
21	CA	535	A
21	CA	547	A
21	CA	552	U
21	CA	559	A
21	CA	562	C
21	CA	567	G
21	CA	568	G
21	CA	572	A
21	CA	573	A
21	CA	574	A
21	CA	575	G
21	CA	576	G
21	CA	577	G
21	CA	603	U
21	CA	653	A
21	CA	659	U
21	CA	665	A
21	CA	666	G
21	CA	688	G
21	CA	693	G
21	CA	695	A
21	CA	702	A
21	CA	703	G
21	CA	706	A
21	CA	711	G
21	CA	717	C
21	CA	721	G
21	CA	737	A
21	CA	741	G
21	CA	749	C
21	CA	753	A
21	CA	755	G
21	CA	777	A
21	CA	781	A
21	CA	793	U
21	CA	794	A
21	CA	809	G
21	CA	815	A

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Mol	Chain	Res	Type
21	CA	816	A
21	CA	817	C
21	CA	818	G
21	CA	819	A
21	CA	821	G
21	CA	828	A
21	CA	838(A)	U
21	CA	838(B)	C
21	CA	838(C)	U
21	CA	848	C
21	CA	849	C
21	CA	859	A
21	CA	867	G
21	CA	872	A
21	CA	885	G
21	CA	889	A
21	CA	890	G
21	CA	916	G
21	CA	926	G
21	CA	927	G
21	CA	934	C
21	CA	935	A
21	CA	946	A
21	CA	960	U
21	CA	961	U
21	CA	966	G
21	CA	969	A
21	CA	971	G
21	CA	972	C
21	CA	974	A
21	CA	976	G
21	CA	977	A
21	CA	978	A
21	CA	979	C
21	CA	980	C
21	CA	992	U
21	CA	993	G
21	CA	1004	A
21	CA	1005	A
21	CA	1025	U
21	CA	1028	C
21	CA	1028(B)	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
21	CA	1028(C)	G
21	CA	1037	C
21	CA	1045	C
21	CA	1054	C
21	CA	1055	A
21	CA	1060	C
21	CA	1065	U
21	CA	1094	G
21	CA	1095	U
21	CA	1101	A
21	CA	1102	A
21	CA	1104	G
21	CA	1108	G
21	CA	1125	U
21	CA	1126	U
21	CA	1128	C
21	CA	1129	C
21	CA	1130	A
21	CA	1131	G
21	CA	1137	C
21	CA	1138	G
21	CA	1139	G
21	CA	1149	C
21	CA	1152	A
21	CA	1159	U
21	CA	1171	G
21	CA	1178	G
21	CA	1181	G
21	CA	1190	G
21	CA	1191	A
21	CA	1196	U
21	CA	1197	G
21	CA	1198	G
21	CA	1204	A
21	CA	1212	U
21	CA	1213	A
21	CA	1215	G
21	CA	1220	G
21	CA	1225	A
21	CA	1227	A
21	CA	1228	C
21	CA	1236	A

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Mol	Chain	Res	Type
21	CA	1238	A
21	CA	1239	A
21	CA	1256	A
21	CA	1257	U
21	CA	1260	C
21	CA	1270	C
21	CA	1272	G
21	CA	1280	A
21	CA	1281	U
21	CA	1282	C
21	CA	1287	A
21	CA	1290	G
21	CA	1293	G
21	CA	1300	G
21	CA	1301	U
21	CA	1302	U
21	CA	1305	G
21	CA	1309	G
21	CA	1314	C
21	CA	1317	C
21	CA	1320	C
21	CA	1322	C
21	CA	1323	G
21	CA	1325	C
21	CA	1331	G
21	CA	1335	C
21	CA	1345	U
21	CA	1346	A
21	CA	1347	G
21	CA	1359	C
21	CA	1362(A)	C
21	CA	1364	U
21	CA	1370	G
21	CA	1373	G
21	CA	1377	A
21	CA	1378	C
21	CA	1379	G
21	CA	1381	U
21	CA	1382	C
21	CA	1394	A
21	CA	1397	C
21	CA	1399	C

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Mol	Chain	Res	Type
21	CA	1413	A
21	CA	1419	G
21	CA	1435	G
21	CA	1440(B)	G
21	CA	1440(C)	G
21	CA	1440(D)	A
21	CA	1440(J)	C
21	CA	1440(K)	G
21	CA	1440(L)	G
21	CA	1491	G
21	CA	1492	A
21	CA	1493	A
21	CA	1494	G
21	CA	1497	G
21	CA	1499	A
21	CA	1502	A
21	CA	1503	A
21	CA	1504	G
21	CA	1505	G
21	CA	1506	U
21	CA	1507	A
21	CA	1517	G
21	CA	1518	A
21	CA	1519	A
21	CA	1520	G
21	CA	1529	G
21	CA	1530	G
21	CA	1532	U
21	CA	1533	C
21	CA	1534	A
21	CA	1535	C
21	CA	1536	C
21	CA	1537	U
21	CA	1538	C
22	CW	8	U
22	CW	16	U
22	CW	17	U
22	CW	18	G
22	CW	20	U
22	CW	20(A)	U
22	CW	21	A
22	CW	22	G

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Mol	Chain	Res	Type
22	CW	23	A
22	CW	29	U
22	CW	42	U
22	CW	46	G
22	CW	47	U
22	CW	48	C
22	CW	58	A
22	CW	60	U
22	CW	61	C
22	CW	74	C
22	CW	76	A
23	CV	5	A
23	CV	9	G
23	CV	11	U
23	CV	12	A
23	CV	15	A
23	CV	16	A
23	CV	18	G
23	CV	19	G
23	CV	23	A
59	DA	10	G
59	DA	12	U
59	DA	13	A
59	DA	15	G
59	DA	23	G
59	DA	25	U
59	DA	27	G
59	DA	28	A
59	DA	34	C
59	DA	35	G
59	DA	46	C
59	DA	50	U
59	DA	51	G
59	DA	52	A
59	DA	64	A
59	DA	70	G
59	DA	73	A
59	DA	74	A
59	DA	75	G
59	DA	84	A
59	DA	90	U
59	DA	98	G

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Mol	Chain	Res	Type
59	DA	101	G
59	DA	102	G
59	DA	113	G
59	DA	118	A
59	DA	119	A
59	DA	120	U
59	DA	121	G
59	DA	138	G
59	DA	140	A
59	DA	141(A)	A
59	DA	163	U
59	DA	178	G
59	DA	181	A
59	DA	196	A
59	DA	197	A
59	DA	199	A
59	DA	204	A
59	DA	205	G
59	DA	216	A
59	DA	221	A
59	DA	222	A
59	DA	225	A
59	DA	227	A
59	DA	228	A
59	DA	229	A
59	DA	230	U
59	DA	232	G
59	DA	233	A
59	DA	241	A
59	DA	248	G
59	DA	250	G
59	DA	251	A
59	DA	252	G
59	DA	265	A
59	DA	270(C)	A
59	DA	270(L)	C
59	DA	270(M)	U
59	DA	270(N)	U
59	DA	270(O)	G
59	DA	270(P)	U
59	DA	270(Q)	C
59	DA	270(R)	C

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Mol	Chain	Res	Type
59	DA	271(D)	U
59	DA	271	G
59	DA	274	G
59	DA	275	G
59	DA	277	C
59	DA	279	C
59	DA	294	A
59	DA	301	G
59	DA	302	C
59	DA	310	A
59	DA	322	A
59	DA	324	A
59	DA	329	G
59	DA	330	A
59	DA	352	G
59	DA	360	G
59	DA	363(A)	G
59	DA	363(B)	A
59	DA	363(D)	G
59	DA	363(G)	A
59	DA	384	U
59	DA	386	G
59	DA	387	U
59	DA	389	G
59	DA	396	G
59	DA	405	U
59	DA	407	G
59	DA	411	G
59	DA	422	A
59	DA	438	G
59	DA	444	C
59	DA	446	G
59	DA	447	A
59	DA	448	U
59	DA	449	A
59	DA	451	C
59	DA	455	C
59	DA	456	C
59	DA	457	A
59	DA	458	G
59	DA	459	U
59	DA	464	U

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Mol	Chain	Res	Type
59	DA	470	A
59	DA	473	G
59	DA	474	G
59	DA	475	U
59	DA	480	A
59	DA	481	G
59	DA	489	G
59	DA	491	G
59	DA	505	A
59	DA	506	G
59	DA	507	A
59	DA	508	G
59	DA	509	C
59	DA	513	A
59	DA	527	C
59	DA	528	A
59	DA	530	G
59	DA	531	C
59	DA	532	A
59	DA	542	C
59	DA	546	C
59	DA	548	A
59	DA	556	G
59	DA	563	G
59	DA	572	A
59	DA	573	G
59	DA	575	A
59	DA	586	A
59	DA	587	C
59	DA	603	A
59	DA	614	U
59	DA	615	G
59	DA	616	A
59	DA	617	G
59	DA	620	G
59	DA	621	A
59	DA	627	A
59	DA	637	A
59	DA	643	A
59	DA	645	C
59	DA	646	A
59	DA	653	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
59	DA	654	U
59	DA	671	C
59	DA	686	G
59	DA	695	G
59	DA	701	G
59	DA	707	G
59	DA	730	C
59	DA	738	G
59	DA	747	U
59	DA	749	C
59	DA	764	A
59	DA	771	G
59	DA	776	G
59	DA	778	G
59	DA	779	U
59	DA	781	A
59	DA	782	A
59	DA	783	A
59	DA	784	A
59	DA	785	G
59	DA	786	C
59	DA	788	A
59	DA	789	A
59	DA	790	C
59	DA	792	G
59	DA	794	G
59	DA	799	G
59	DA	800	A
59	DA	805	G
59	DA	812	C
59	DA	819	A
59	DA	822	U
59	DA	827	U
59	DA	829	A
59	DA	838	C
59	DA	846	C
59	DA	847	U
59	DA	852	G
59	DA	859	G
59	DA	866	A
59	DA	869	G
59	DA	877	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
59	DA	878	A
59	DA	879	G
59	DA	881	G
59	DA	882	G
59	DA	886	C
59	DA	887	A
59	DA	890	A
59	DA	896	A
59	DA	897	C
59	DA	906	G
59	DA	907	U
59	DA	910	A
59	DA	917	A
59	DA	932	G
59	DA	933	A
59	DA	941	A
59	DA	943	U
59	DA	945	A
59	DA	946	G
59	DA	959	A
59	DA	961	C
59	DA	970	C
59	DA	972	G
59	DA	974(A)	G
59	DA	974(B)	C
59	DA	980	A
59	DA	983	A
59	DA	990	A
59	DA	991	C
59	DA	996	A
59	DA	1007	C
59	DA	1008	C
59	DA	1009	A
59	DA	1010	A
59	DA	1011	G
59	DA	1012	U
59	DA	1013	C
59	DA	1017	G
59	DA	1022	G
59	DA	1023	U
59	DA	1024	G
59	DA	1025	G

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Mol	Chain	Res	Type
59	DA	1026	U
59	DA	1033	U
59	DA	1045	A
59	DA	1046	A
59	DA	1047	G
59	DA	1048	A
59	DA	1056	G
59	DA	1057	A
59	DA	1060	U
59	DA	1065	U
59	DA	1070	A
59	DA	1072	C
59	DA	1078	U
59	DA	1079	C
59	DA	1086	A
59	DA	1087	G
59	DA	1088	A
59	DA	1090	U
59	DA	1105	U
59	DA	1106	G
59	DA	1107	G
59	DA	1110	G
59	DA	1112	G
59	DA	1123	C
59	DA	1126	A
59	DA	1132	A
59	DA	1136	G
59	DA	1139	G
59	DA	1141	U
59	DA	114(B)	A
59	DA	1144	G
59	DA	1155	A
59	DA	1156	A
59	DA	1157	G
59	DA	1173	G
59	DA	1175	U
59	DA	1176	G
59	DA	1179	C
59	DA	1186	G
59	DA	1204	A
59	DA	1205	U
59	DA	1206	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
59	DA	1210	A
59	DA	1211	U
59	DA	1212	G
59	DA	1221	C
59	DA	1241	A
59	DA	1248	G
59	DA	1249	U
59	DA	1253	A
59	DA	1256	G
59	DA	1265	A
59	DA	1271	G
59	DA	1272	A
59	DA	1286	A
59	DA	1300	U
59	DA	1301	A
59	DA	1302	A
59	DA	1312	U
59	DA	1314	C
59	DA	1321	A
59	DA	1322	A
59	DA	1325	G
59	DA	1329	U
59	DA	1330	C
59	DA	1332	G
59	DA	1333	C
59	DA	1349	A
59	DA	1359	A
59	DA	1365	A
59	DA	1368	G
59	DA	1378	A
59	DA	1379	A
59	DA	1380	G
59	DA	1384	A
59	DA	1385	G
59	DA	1395	A
59	DA	1396	U
59	DA	1398	C
59	DA	1416	G
59	DA	1417	C
59	DA	1418	G
59	DA	1420	U
59	DA	1421	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
59	DA	1428	C
59	DA	144(B)	A
59	DA	149(B)	A
59	DA	1449	G
59	DA	1453	A
59	DA	1454	U
59	DA	1455	G
59	DA	1458	C
59	DA	1460	A
59	DA	1467	C
59	DA	1478	G
59	DA	1483	G
59	DA	1491	G
59	DA	1493	C
59	DA	1495	A
59	DA	1497	U
59	DA	1498	C
59	DA	1510	A
59	DA	1523	U
59	DA	1531	C
59	DA	1535	U
59	DA	1536	A
59	DA	1538	G
59	DA	1539	G
59	DA	1540	G
59	DA	1541	U
59	DA	1542	G
59	DA	1543	A
59	DA	1545	A
59	DA	1547	C
59	DA	1558	A
59	DA	1559	G
59	DA	1566	A
59	DA	1569	A
59	DA	1578	U
59	DA	1583	A
59	DA	1585	C
59	DA	1593	G
59	DA	1602	U
59	DA	1603	A
59	DA	1608	A
59	DA	1609	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
59	DA	1615	C
59	DA	1616	A
59	DA	1617	C
59	DA	1618	A
59	DA	1619	G
59	DA	1631	A
59	DA	1640	C
59	DA	1641	A
59	DA	1644	C
59	DA	1646	C
59	DA	1648	C
59	DA	1665	A
59	DA	1674	G
59	DA	1677	A
59	DA	1678	G
59	DA	1694	C
59	DA	1695	G
59	DA	1696	G
59	DA	1729	A
59	DA	1732	A
59	DA	1755	A
59	DA	1757	U
59	DA	1762	A
59	DA	1763	G
59	DA	1764	G
59	DA	1773	A
59	DA	1781	C
59	DA	1782	C
59	DA	1784	A
59	DA	1785	A
59	DA	1786	A
59	DA	1787	A
59	DA	1800	C
59	DA	1802	A
59	DA	1815	A
59	DA	1816	G
59	DA	1820	U
59	DA	1821	A
59	DA	1829	A
59	DA	1833	U
59	DA	1837	C
59	DA	1847	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
59	DA	1858	G
59	DA	1870	C
59	DA	1872	A
59	DA	1888	G
59	DA	1889	A
59	DA	1900	A
59	DA	1902	C
59	DA	1903	G
59	DA	1906	G
59	DA	1909	C
59	DA	1912	A
59	DA	1913	A
59	DA	1914	C
59	DA	1929	G
59	DA	1936	A
59	DA	1937	A
59	DA	1939	U
59	DA	1940	U
59	DA	1944	U
59	DA	1955	U
59	DA	1963	U
59	DA	1964	G
59	DA	1967	C
59	DA	1970	A
59	DA	1971	A
59	DA	1972	A
59	DA	1981	A
59	DA	1982	C
59	DA	1991	U
59	DA	1992	G
59	DA	1993	U
59	DA	2005	A
59	DA	2013	A
59	DA	2023	G
59	DA	2030	A
59	DA	2031	A
59	DA	2032	G
59	DA	2033	A
59	DA	2034	U
59	DA	2036	C
59	DA	2043	C
59	DA	2051	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
59	DA	2052	G
59	DA	2055	C
59	DA	2056	G
59	DA	2060	A
59	DA	2061	G
59	DA	2062	A
59	DA	2065	C
59	DA	2069	G
59	DA	2078	C
59	DA	2093	G
59	DA	2108	C
59	DA	2110	G
59	DA	2112	G
59	DA	2113	U
59	DA	2116	G
59	DA	2117	A
59	DA	2118	U
59	DA	2126	A
59	DA	2131	G
59	DA	2133	G
59	DA	2134	A
59	DA	2144	U
59	DA	2159	G
59	DA	2165	G
59	DA	2167	U
59	DA	2168	G
59	DA	2171	A
59	DA	2173	A
59	DA	2184	G
59	DA	2190	G
59	DA	2199	A
59	DA	2210	G
59	DA	2211	G
59	DA	2212	A
59	DA	2213	U
59	DA	2225	A
59	DA	2239	G
59	DA	2246	G
59	DA	2266	A
59	DA	2267	A
59	DA	2268	A
59	DA	2274	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
59	DA	2275	C
59	DA	2280	G
59	DA	2283	C
59	DA	2287	A
59	DA	2289	G
59	DA	2305	A
59	DA	2308	G
59	DA	2310	A
59	DA	2311	A
59	DA	2320	A
59	DA	2322	A
59	DA	2325	G
59	DA	2327	A
59	DA	2334	G
59	DA	2336	A
59	DA	2345	G
59	DA	2346	A
59	DA	2347	C
59	DA	2350	C
59	DA	2366	A
59	DA	2377	A
59	DA	2383	G
59	DA	2385	C
59	DA	2389	G
59	DA	2401	U
59	DA	2402	C
59	DA	2405	G
59	DA	2406	U
59	DA	2422	A
59	DA	2423	U
59	DA	2425	A
59	DA	2426	A
59	DA	2427	C
59	DA	2428	G
59	DA	2429	G
59	DA	2430	A
59	DA	2435	A
59	DA	2439	A
59	DA	2441	C
59	DA	2448	A
59	DA	2450	A
59	DA	2469	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
59	DA	2470	G
59	DA	2474	C
59	DA	2476	A
59	DA	2477	C
59	DA	2478	A
59	DA	2480	C
59	DA	2482	G
59	DA	2497	A
59	DA	2502	G
59	DA	2503	A
59	DA	2505	G
59	DA	2513	G
59	DA	2514	U
59	DA	2518	A
59	DA	2520	C
59	DA	2526	G
59	DA	2529	G
59	DA	2530	A
59	DA	2532	G
59	DA	2533	A
59	DA	2542	A
59	DA	2543	G
59	DA	2546	U
59	DA	2554	U
59	DA	2563	U
59	DA	2564	A
59	DA	2566	A
59	DA	2567	G
59	DA	2572	A
59	DA	2573	C
59	DA	2578	G
59	DA	2586	C
59	DA	2593	U
59	DA	2602	A
59	DA	2603	G
59	DA	2609	U
59	DA	2610	C
59	DA	2612	C
59	DA	2615	U
59	DA	2623	G
59	DA	2630	G
59	DA	2633	G

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Mol	Chain	Res	Type
59	DA	2638	G
59	DA	2641	G
59	DA	2645	G
59	DA	2646	C
59	DA	2657	A
59	DA	2663	G
59	DA	2665	A
59	DA	2667	C
59	DA	2681	C
59	DA	2682	U
59	DA	2689	U
59	DA	2691	C
59	DA	2702	U
59	DA	2703	C
59	DA	2706	G
59	DA	2711	A
59	DA	2712	U
59	DA	712(B)	A
59	DA	2713	A
59	DA	2714	G
59	DA	2718	G
59	DA	2720	U
59	DA	2721	A
59	DA	2726	U
59	DA	2733	A
59	DA	2748	A
59	DA	2760	C
59	DA	2764	A
59	DA	2765	A
59	DA	2766	G
59	DA	2770	G
59	DA	2778	A
59	DA	2779	U
59	DA	2780	G
59	DA	2781	A
59	DA	2782	G
59	DA	2786	U
59	DA	2790	A
59	DA	2791	C
59	DA	2797	U
59	DA	2798	C
59	DA	2811	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
59	DA	2820	A
59	DA	2821	A
59	DA	2823	A
59	DA	2825	U
59	DA	2832	U
59	DA	2833	G
59	DA	2834	G
59	DA	2835	A
59	DA	2849	U
59	DA	2866	U
59	DA	2871	C
59	DA	2872	G
59	DA	2876	G
59	DA	2879	C
59	DA	2880	C
59	DA	2892	A
59	DA	2893	G
59	DA	2894	G
59	DA	2895	U
60	DB	7	G
60	DB	13	A
60	DB	15	A
60	DB	16	G
60	DB	25	A
60	DB	35	U
60	DB	41	U
60	DB	42	C
60	DB	45	A
60	DB	47	C
60	DB	50	G
60	DB	53	A
60	DB	55	U
60	DB	65	C
60	DB	67	G
60	DB	73	A
60	DB	87	G
60	DB	109	G
60	DB	115	G

All (87) RNA pucker outliers are listed below:

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Mol	Chain	Res	Type
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Mol	Chain	Res	Type
21	AA	5	U
21	AA	115	G
21	AA	266	G
21	AA	282	A
21	AA	328	C
21	AA	409	G
21	AA	429	U
21	AA	687	A
21	AA	748	C
21	AA	992	U
21	AA	1064	G
21	AA	1067	A
21	AA	1101	A
21	AA	1136	U
21	AA	1145	C
21	AA	1493	A
21	AA	1496	C
21	AA	1504	G
21	AA	1537	U
22	AW	20(A)	U
23	AV	8	A
23	AV	18	G
59	BA	214	G
59	BA	221	A
59	BA	271(C)	G
59	BA	363(G)	A
59	BA	474	G
59	BA	479	A
59	BA	586	A
59	BA	614	U
59	BA	615	G
59	BA	1022	G
59	BA	1210	A
59	BA	1240	U
59	BA	1248	G
59	BA	1377	G
59	BA	1558	A
59	BA	1786	A
59	BA	1858	G
59	BA	2092	U
59	BA	2422	A

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Mol	Chain	Res	Type
59	BA	2447	G
59	BA	2780	G
60	BB	41	U
60	BB	56	G
60	BB	66	A
60	BB	108	C
21	CA	5	U
21	CA	115	G
21	CA	266	G
21	CA	328	C
21	CA	409	G
21	CA	429	U
21	CA	687	A
21	CA	705	U
21	CA	748	C
21	CA	992	U
21	CA	1064	G
21	CA	1101	A
21	CA	1324	A
21	CA	1493	A
21	CA	1504	G
21	CA	1537	U
22	CW	20(A)	U
23	CV	8	A
23	CV	16	A
23	CV	18	G
59	DA	221	A
59	DA	271(C)	G
59	DA	474	G
59	DA	479	A
59	DA	586	A
59	DA	1012	U
59	DA	1022	G
59	DA	1210	A
59	DA	1240	U
59	DA	1377	G
59	DA	1558	A
59	DA	1786	A
59	DA	1899	G
59	DA	2092	U
59	DA	2422	A
59	DA	2447	G

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Mol	Chain	Res	Type
59	DA	2780	G
60	DB	41	U
60	DB	66	A
60	DB	108	C

## 5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

8 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z  > 2$	Counts	RMSZ	$\# Z  > 2$
24	KBE	AU	1	24	8,8,9	8.11	1 (12%)	6,8,10	0.70	0
24	DPP	AU	2	24	5,5,6	6.82	1 (20%)	3,5,7	2.62	2 (66%)
24	UAL	AU	5	24	7,8,9	2.10	3 (42%)	6,9,11	1.32	1 (16%)
24	5OH	AU	6	24	12,12,13	6.59	3 (25%)	13,16,18	0.81	0
24	KBE	CU	1	24	8,8,9	8.12	1 (12%)	6,8,10	0.70	0
24	DPP	CU	2	24	5,5,6	6.81	1 (20%)	3,5,7	2.64	2 (66%)
24	UAL	CU	5	24	7,8,9	2.09	3 (42%)	6,9,11	1.33	1 (16%)
24	5OH	CU	6	24	12,12,13	6.61	3 (25%)	13,16,18	0.81	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the chemical component dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
24	KBE	AU	1	24	-	0/6/7/8	0/0/0/0
24	DPP	AU	2	24	-	0/2/4/6	0/0/0/0
24	UAL	AU	5	24	-	0/3/7/9	0/0/0/0
24	5OH	AU	6	24	-	0/2/18/20	0/1/1/1
24	KBE	CU	1	24	-	0/6/7/8	0/0/0/0
24	DPP	CU	2	24	-	0/2/4/6	0/0/0/0
24	UAL	CU	5	24	-	0/3/7/9	0/0/0/0

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
24	5OH	CU	6	24	-	0/2/18/20	0/1/1/1

All (16) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	CU	1	KBE	O-C	22.95	1.27	1.11
24	AU	1	KBE	O-C	22.92	1.27	1.11
24	CU	6	5OH	O-C	22.13	1.26	1.11
24	AU	6	5OH	O-C	22.04	1.26	1.11
24	AU	2	DPP	O-C	15.13	1.21	1.11
24	CU	2	DPP	O-C	15.12	1.21	1.11
24	AU	6	5OH	CQ-NP	4.15	1.40	1.35
24	CU	6	5OH	CQ-NP	4.14	1.40	1.35
24	AU	6	5OH	CQ-NR	3.81	1.40	1.30
24	CU	6	5OH	CQ-NR	3.80	1.40	1.30
24	AU	5	UAL	CB-CA	3.52	1.40	1.35
24	CU	5	UAL	CB-CA	3.48	1.40	1.35
24	AU	5	UAL	C1-N1	-2.92	1.35	1.40
24	CU	5	UAL	C1-N1	-2.90	1.35	1.40
24	CU	5	UAL	CA-N	-2.13	1.31	1.35
24	AU	5	UAL	CA-N	-2.11	1.31	1.35

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	CU	2	DPP	C-CA-N	-3.74	110.10	113.83
24	AU	2	DPP	C-CA-N	-3.71	110.13	113.83
24	CU	5	UAL	CB-CA-N	2.39	127.80	122.88
24	AU	5	UAL	CB-CA-N	2.38	127.76	122.88
24	CU	2	DPP	CB-CA-N	-2.18	104.19	111.50
24	AU	2	DPP	CB-CA-N	-2.17	104.22	111.50

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

## 5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

## 5.6 Ligand geometry

Of 4 ligands modelled in this entry, 2 are monoatomic - leaving 2 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# $ Z  > 2$	Counts	RMSZ	# $ Z  > 2$
61	GNP	AY	701	62	34,34,34	1.85	6 (17%)	48,54,54	5.87	14 (29%)
61	GNP	CY	701	62	34,34,34	1.85	6 (17%)	48,54,54	5.87	14 (29%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the chemical component dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
61	GNP	AY	701	62	-	0/18/38/38	0/3/3/3
61	GNP	CY	701	62	-	0/18/38/38	0/3/3/3

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
61	AY	701	GNP	PG-O1G	6.61	1.53	1.46
61	CY	701	GNP	PG-O1G	6.56	1.53	1.46
61	CY	701	GNP	PB-N3B	-4.55	1.60	1.64
61	AY	701	GNP	PB-N3B	-4.51	1.60	1.64
61	CY	701	GNP	PA-O3A	-2.84	1.54	1.59
61	AY	701	GNP	PA-O3A	-2.84	1.54	1.59
61	AY	701	GNP	PB-O3A	-2.43	1.56	1.59
61	CY	701	GNP	PB-O3A	-2.41	1.56	1.59
61	AY	701	GNP	PA-O2A	-2.22	1.45	1.55
61	CY	701	GNP	PA-O2A	-2.22	1.45	1.55
61	AY	701	GNP	PG-N3B	-2.10	1.62	1.64
61	CY	701	GNP	PG-N3B	-2.09	1.62	1.64

All (28) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
61	CY	701	GNP	C6-C5-N7	-37.53	129.09	134.14
61	AY	701	GNP	C6-C5-N7	-37.52	129.09	134.14
61	AY	701	GNP	C6-N1-C2	8.74	125.14	120.20
61	CY	701	GNP	C6-N1-C2	8.68	125.10	120.20
61	CY	701	GNP	PA-O3A-PB	-4.68	115.98	132.05
61	AY	701	GNP	PA-O3A-PB	-4.68	116.00	132.05
61	AY	701	GNP	C2-N3-C4	-4.52	109.88	115.30
61	CY	701	GNP	C2-N3-C4	-4.52	109.89	115.30
61	CY	701	GNP	C5-C4-N3	4.11	130.80	126.07
61	AY	701	GNP	C5-C4-N3	4.09	130.78	126.07
61	AY	701	GNP	C4'-O4'-C1'	-3.55	105.82	109.72
61	CY	701	GNP	C4'-O4'-C1'	-3.52	105.85	109.72
61	CY	701	GNP	O2B-PB-O1B	3.47	117.23	109.90
61	AY	701	GNP	O2B-PB-O1B	3.47	117.22	109.90
61	CY	701	GNP	C4-C5-N7	3.33	112.63	109.41
61	AY	701	GNP	C4-C5-N7	3.29	112.59	109.41
61	AY	701	GNP	O3G-PG-O2G	3.05	116.46	107.69
61	CY	701	GNP	O3G-PG-O2G	3.04	116.43	107.69
61	AY	701	GNP	PB-N3B-PG	-2.90	125.19	130.07
61	CY	701	GNP	PB-N3B-PG	-2.89	125.22	130.07
61	AY	701	GNP	O3G-PG-O1G	-2.87	105.99	113.51
61	CY	701	GNP	O3G-PG-O1G	-2.86	106.00	113.51
61	AY	701	GNP	O1B-PB-N3B	2.70	115.91	111.83
61	CY	701	GNP	O1B-PB-N3B	2.70	115.91	111.83
61	AY	701	GNP	O1G-PG-N3B	-2.19	108.51	111.83
61	CY	701	GNP	O1G-PG-N3B	-2.18	108.54	111.83
61	AY	701	GNP	C5'-C4'-C3'	-2.09	106.81	115.19
61	CY	701	GNP	C5'-C4'-C3'	-2.08	106.84	115.19

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

## 5.7 Other polymers ⓘ

There are no such residues in this entry.

## 5.8 Polymer linkage issues

The following chains have linkage breaks:

Mol	Chain	Number of breaks
58	Be	1
58	De	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	De	30:UNK	C	51:ALA	N	36.11
1	Be	30:UNK	C	51:ALA	N	35.10

## 6 Fit of model and data ⓘ

### 6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95<sup>th</sup> percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	AB	235/235 (100%)	0.17	4 (1%) 67 34	30, 75, 127, 171	0
1	CB	235/235 (100%)	0.57	13 (5%) 24 10	34, 86, 153, 201	0
2	AC	207/207 (100%)	0.45	9 (4%) 34 14	27, 59, 115, 156	0
2	CC	207/207 (100%)	1.00	34 (16%) 2 2	23, 75, 130, 190	0
3	AD	208/208 (100%)	-0.21	0 100 100	24, 72, 124, 159	0
3	CD	208/208 (100%)	0.00	3 (1%) 72 38	23, 85, 142, 184	0
4	AE	151/151 (100%)	-0.10	0 100 100	17, 48, 101, 156	0
4	CE	151/151 (100%)	0.22	5 (3%) 44 20	14, 58, 106, 151	0
5	AF	101/101 (100%)	-0.15	0 100 100	15, 50, 100, 133	0
5	CF	101/101 (100%)	-0.25	1 (0%) 79 47	29, 61, 123, 148	0
6	AG	155/155 (100%)	-0.31	1 (0%) 86 59	30, 80, 139, 199	0
6	CG	155/155 (100%)	-0.41	0 100 100	38, 82, 137, 180	0
7	AH	138/138 (100%)	0.09	1 (0%) 84 56	28, 59, 103, 142	0
7	CH	138/138 (100%)	0.35	4 (2%) 49 23	25, 75, 121, 155	0
8	AI	127/127 (100%)	-0.37	0 100 100	0, 71, 117, 134	0
8	CI	127/127 (100%)	-0.20	0 100 100	0, 84, 149, 220	0
9	AJ	99/99 (100%)	0.35	6 (6%) 21 9	25, 62, 116, 159	0
9	CJ	99/99 (100%)	0.91	10 (10%) 7 5	31, 75, 127, 166	0
10	AK	119/119 (100%)	-0.05	1 (0%) 83 53	31, 69, 116, 157	0
10	CK	119/119 (100%)	-0.23	1 (0%) 83 53	38, 72, 133, 151	0
11	AL	125/125 (100%)	0.13	2 (1%) 68 35	10, 66, 120, 181	0
11	CL	125/125 (100%)	0.44	12 (9%) 8 5	29, 69, 136, 170	0
12	AM	125/125 (100%)	0.29	11 (8%) 10 6	49, 86, 144, 212	0
12	CM	125/125 (100%)	0.44	14 (11%) 6 4	53, 100, 158, 223	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
13	AN	60/60 (100%)	0.54	4 (6%) 17 8	28, 52, 87, 120	0
13	CN	60/60 (100%)	0.95	9 (15%) 3 3	39, 69, 117, 135	0
14	AO	88/88 (100%)	-0.02	0 100 100	22, 60, 114, 139	0
14	CO	88/88 (100%)	-0.03	0 100 100	25, 68, 119, 170	0
15	AP	84/84 (100%)	0.25	4 (4%) 29 13	26, 66, 109, 117	0
15	CP	84/84 (100%)	0.25	2 (2%) 56 26	52, 81, 127, 153	0
16	AQ	100/100 (100%)	0.39	6 (6%) 21 9	0, 67, 117, 139	0
16	CQ	100/100 (100%)	0.56	6 (6%) 21 9	0, 68, 126, 150	0
17	AR	70/70 (100%)	0.08	3 (4%) 34 14	14, 54, 120, 154	0
17	CR	70/70 (100%)	0.01	0 100 100	39, 63, 113, 155	0
18	AS	79/79 (100%)	0.91	13 (16%) 2 2	47, 92, 136, 169	0
18	CS	79/79 (100%)	0.70	7 (8%) 10 6	44, 99, 145, 189	0
19	AT	99/99 (100%)	-0.17	0 100 100	0, 77, 128, 159	0
19	CT	99/99 (100%)	-0.00	1 (1%) 79 47	0, 79, 131, 166	0
20	AY	687/687 (100%)	0.22	37 (5%) 25 10	23, 84, 139, 174	0
20	CY	687/687 (100%)	0.25	46 (6%) 17 8	40, 92, 149, 204	0
21	AA	1511/1511 (100%)	-0.56	3 (0%) 93 80	15, 67, 145, 258	0
21	CA	1511/1511 (100%)	-0.56	1 (0%) 93 84	18, 70, 157, 272	0
22	AW	77/77 (100%)	-0.67	0 100 100	32, 90, 174, 205	0
22	CW	77/77 (100%)	-0.69	0 100 100	39, 101, 193, 240	0
23	AV	23/23 (100%)	-0.64	0 100 100	41, 100, 156, 172	0
23	CV	23/23 (100%)	-0.22	1 (4%) 34 14	41, 118, 186, 216	0
24	AU	2/6 (33%)	-0.31	0 100 100	114, 114, 114, 114	0
24	CU	2/6 (33%)	-0.40	0 100 100	119, 119, 119, 119	0
25	BC	228/228 (100%)	1.30	51 (22%) 1 2	81, 124, 178, 222	0
25	DC	228/228 (100%)	1.42	66 (28%) 1 1	102, 162, 214, 247	0
26	BD	275/275 (100%)	-0.16	1 (0%) 90 71	11, 47, 102, 126	0
26	DD	275/275 (100%)	-0.13	2 (0%) 84 56	23, 54, 107, 147	0
27	BE	205/205 (100%)	-0.08	2 (0%) 79 47	19, 55, 101, 193	0
27	DE	205/205 (100%)	0.06	2 (0%) 79 47	12, 60, 120, 175	0
28	BF	208/208 (100%)	0.19	9 (4%) 34 14	16, 69, 131, 178	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
28	DF	208/208 (100%)	0.18	7 (3%) 43 19	34, 83, 176, 205	0
29	BG	181/181 (100%)	0.95	33 (18%) 2 2	41, 90, 132, 195	0
29	DG	181/181 (100%)	1.30	46 (25%) 1 2	44, 104, 159, 196	0
30	BH	167/167 (100%)	-0.14	0 100 100	21, 68, 123, 159	0
30	DH	167/167 (100%)	-0.12	1 (0%) 86 59	36, 73, 140, 192	0
31	BJ	0/170	-	-	-	-
31	DJ	0/170	-	-	-	-
32	BK	140/140 (100%)	0.17	6 (4%) 34 14	60, 114, 165, 206	0
32	DK	140/140 (100%)	0.53	20 (14%) 3 3	72, 142, 197, 229	0
33	BN	138/138 (100%)	0.51	10 (7%) 15 7	59, 83, 108, 111	0
33	DN	138/138 (100%)	0.43	6 (4%) 34 14	61, 89, 110, 118	0
34	BO	122/122 (100%)	0.17	2 (1%) 68 35	23, 44, 90, 158	0
34	DO	122/122 (100%)	0.26	2 (1%) 68 35	26, 47, 96, 121	0
35	BP	146/146 (100%)	-0.13	2 (1%) 72 38	23, 71, 132, 167	0
35	DP	146/146 (100%)	-0.03	3 (2%) 60 29	19, 88, 140, 212	0
36	BQ	141/141 (100%)	-0.22	1 (0%) 84 56	32, 53, 103, 155	0
36	DQ	141/141 (100%)	-0.29	1 (0%) 84 56	34, 58, 126, 178	0
37	BR	117/117 (100%)	0.12	1 (0%) 81 51	22, 57, 106, 123	0
37	DR	117/117 (100%)	0.10	0 100 100	34, 67, 108, 138	0
38	BS	99/99 (100%)	1.14	25 (25%) 1 2	41, 104, 177, 190	0
38	DS	99/99 (100%)	1.50	34 (34%) 1 1	44, 114, 168, 203	0
39	BT	138/138 (100%)	0.02	2 (1%) 72 38	23, 68, 126, 162	0
39	DT	138/138 (100%)	0.02	4 (2%) 49 23	25, 71, 133, 177	0
40	BU	117/117 (100%)	0.12	0 100 100	20, 45, 102, 140	0
40	DU	117/117 (100%)	0.30	3 (2%) 53 24	29, 54, 89, 222	0
41	BV	101/101 (100%)	0.46	5 (4%) 28 12	22, 58, 105, 172	0
41	DV	101/101 (100%)	0.31	4 (3%) 36 16	28, 60, 114, 177	0
42	BW	113/113 (100%)	0.09	0 100 100	14, 43, 101, 135	0
42	DW	113/113 (100%)	0.23	1 (0%) 81 51	11, 60, 133, 215	0
43	BX	93/93 (100%)	-0.18	0 100 100	16, 55, 107, 137	0
43	DX	93/93 (100%)	-0.32	0 100 100	16, 66, 134, 180	0
44	BY	107/107 (100%)	0.13	3 (2%) 50 23	38, 88, 141, 193	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
44	DY	107/107 (100%)	0.36	8 (7%) 14 7	45, 96, 167, 200	0
45	BZ	185/185 (100%)	-0.22	1 (0%) 88 64	36, 70, 124, 167	0
45	DZ	185/185 (100%)	-0.22	1 (0%) 88 64	48, 82, 136, 193	0
46	B0	84/84 (100%)	-0.06	1 (1%) 75 42	24, 65, 112, 142	0
46	D0	84/84 (100%)	0.43	3 (3%) 41 18	47, 77, 140, 162	0
47	B2	71/71 (100%)	0.02	1 (1%) 72 38	34, 64, 118, 140	0
47	D2	71/71 (100%)	0.08	0 100 100	33, 85, 127, 141	0
48	B3	60/60 (100%)	0.26	3 (5%) 28 12	28, 61, 116, 135	0
48	D3	60/60 (100%)	0.31	3 (5%) 28 12	32, 73, 137, 160	0
49	B5	59/59 (100%)	-0.02	1 (1%) 67 34	22, 55, 125, 138	0
49	D5	59/59 (100%)	0.18	1 (1%) 67 34	29, 75, 130, 161	0
50	B6	50/50 (100%)	-0.24	0 100 100	36, 74, 120, 139	0
50	D6	50/50 (100%)	0.36	3 (6%) 21 9	49, 81, 143, 164	0
51	B7	49/49 (100%)	-0.04	1 (2%) 62 30	43, 53, 102, 126	0
51	D7	49/49 (100%)	0.02	3 (6%) 21 9	34, 61, 112, 165	0
52	B8	64/64 (100%)	-0.10	1 (1%) 68 35	22, 66, 108, 137	0
52	D8	64/64 (100%)	0.14	2 (3%) 47 22	33, 70, 118, 139	0
53	B9	37/37 (100%)	0.22	2 (5%) 25 10	39, 60, 122, 134	0
53	D9	37/37 (100%)	-0.08	1 (2%) 52 24	46, 60, 134, 159	0
54	Bf	0/31	-	-	-	-
54	Bg	0/31	-	-	-	-
54	Df	0/31	-	-	-	-
54	Dg	0/31	-	-	-	-
55	Bh	0/30	-	-	-	-
55	Dh	0/30	-	-	-	-
56	B1	93/93 (100%)	0.10	2 (2%) 59 28	22, 78, 160, 236	0
56	D1	93/93 (100%)	0.34	8 (8%) 11 6	41, 89, 159, 194	0
57	B4	35/35 (100%)	1.28	8 (22%) 1 2	67, 116, 167, 189	0
57	D4	35/35 (100%)	1.46	10 (28%) 1 1	73, 136, 168, 196	0
58	Be	72/102 (70%)	1.50	22 (30%) 1 1	77, 113, 160, 174	0
58	De	72/102 (70%)	2.48	37 (51%) 0 1	87, 141, 192, 236	0
59	BA	2879/2879 (100%)	-0.54	11 (0%) 90 71	9, 59, 146, 260	0
59	DA	2879/2879 (100%)	-0.53	9 (0%) 91 76	5, 63, 160, 308	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
60	BB	119/119 (100%)	-0.52	1 (0%) 83 53	36, 103, 157, 192	0
60	DB	119/119 (100%)	-0.40	1 (0%) 83 53	33, 108, 159, 193	0
All	All	22726/23318 (97%)	-0.08	775 (3%) 43 19	0, 72, 150, 308	0

All (775) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
59	DA	2799	A	12.2
58	De	59	GLU	11.9
58	De	55	GLU	10.3
25	DC	2	PRO	8.7
20	CY	4	LYS	8.6
32	DK	62	ASP	8.4
25	BC	33	LEU	8.4
12	AM	125	ARG	8.3
25	DC	69	LEU	8.2
32	BK	62	ASP	7.1
58	De	57	LYS	7.1
25	DC	227	PRO	7.1
58	De	58	THR	7.0
38	BS	54	LEU	6.9
42	DW	113	LYS	6.9
32	DK	2	LYS	6.8
58	Be	107	GLU	6.6
57	B4	1	MET	6.5
25	DC	221	PRO	6.5
44	DY	108	THR	6.4
32	BK	61	ALA	6.4
25	DC	36	ALA	6.3
58	De	122	VAL	6.2
58	De	107	GLU	6.1
1	CB	128	GLU	6.1
32	DK	61	ALA	6.0
40	DU	118	GLY	6.0
58	De	56	GLU	5.9
58	De	116	GLU	5.8
1	AB	170	GLU	5.7
25	BC	32	GLU	5.7
38	DS	57	LYS	5.7
29	DG	90	LEU	5.7
25	DC	162	ILE	5.6

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Mol	Chain	Res	Type	RSRZ
57	D4	1	MET	5.5
56	D1	15	ALA	5.5
25	DC	113	ALA	5.4
20	AY	46	HIS	5.4
25	BC	2	PRO	5.4
38	BS	82	ILE	5.4
58	De	88	GLU	5.3
2	CC	206	GLU	5.3
20	AY	231	TYR	5.3
27	DE	58	ARG	5.2
20	AY	232	LEU	5.1
59	BA	2799	A	5.1
57	B4	14	ILE	5.1
25	DC	228	HIS	5.1
25	DC	48	LEU	5.1
25	DC	50	ILE	5.1
25	BC	221	PRO	4.9
58	De	105	LYS	4.9
38	DS	109	GLY	4.9
32	DK	63	ARG	4.8
25	DC	206	LYS	4.8
29	DG	41	GLN	4.8
44	DY	107	ASP	4.7
38	DS	56	LEU	4.7
2	CC	26	LYS	4.6
9	CJ	64	GLU	4.6
12	CM	102	ARG	4.6
25	DC	127	LYS	4.6
29	DG	6	ALA	4.6
3	CD	198	VAL	4.6
59	BA	2794	C	4.6
11	CL	20	LYS	4.6
16	CQ	38	ARG	4.5
38	BS	53	SER	4.5
33	DN	1	MET	4.5
58	De	100	LYS	4.5
38	BS	52	SER	4.5
57	B4	13	ARG	4.4
25	DC	34	ALA	4.4
58	De	106	GLN	4.4
38	DS	32	LEU	4.4
38	DS	101	LEU	4.3

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Mol	Chain	Res	Type	RSRZ
57	B4	23	GLU	4.3
25	BC	128	LEU	4.3
9	AJ	8	LEU	4.3
38	DS	33	LYS	4.3
38	DS	82	ILE	4.3
58	Be	63	ILE	4.3
58	Be	66	GLU	4.2
58	De	52	ALA	4.2
38	DS	26	LEU	4.2
11	CL	21	LYS	4.2
18	AS	47	HIS	4.2
25	DC	17	PRO	4.2
58	De	66	GLU	4.2
29	DG	88	ILE	4.2
25	DC	170	GLY	4.2
29	BG	90	LEU	4.2
59	BA	2132	U	4.1
29	BG	39	ILE	4.1
29	DG	39	ILE	4.1
20	AY	321	TYR	4.1
25	DC	70	GLY	4.1
25	DC	49	GLY	4.1
23	CV	26	A	4.1
29	DG	98	ARG	4.1
25	DC	114	VAL	4.1
20	AY	200	PRO	4.1
13	CN	57	ARG	4.1
9	CJ	25	GLU	4.1
29	DG	132	ASN	4.1
12	CM	125	ARG	4.0
25	DC	153	ILE	4.0
58	Be	64	LEU	4.0
18	AS	8	GLY	4.0
16	AQ	24	GLU	4.0
37	BR	2	ARG	4.0
58	Be	56	GLU	4.0
38	BS	101	LEU	4.0
38	BS	34	HIS	4.0
57	D4	24	THR	4.0
17	AR	26	LEU	3.9
15	AP	64	ALA	3.9
58	De	60	PHE	3.9

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Mol	Chain	Res	Type	RSRZ
57	D4	25	TYR	3.9
20	CY	181	LEU	3.9
18	CS	33	THR	3.9
20	AY	63	ILE	3.9
1	CB	170	GLU	3.9
29	DG	97	ASP	3.9
2	AC	149	ALA	3.9
25	BC	15	VAL	3.9
27	BE	73	GLU	3.9
38	DS	39	ILE	3.9
38	DS	55	ALA	3.9
25	BC	3	LYS	3.8
58	Be	109	GLU	3.8
39	DT	1	MET	3.8
25	DC	40	GLU	3.8
29	BG	60	LEU	3.8
20	AY	64	THR	3.8
2	CC	59	ARG	3.8
25	DC	193	PHE	3.8
28	BF	176	LEU	3.8
20	CY	54	PHE	3.8
9	AJ	98	ILE	3.8
41	BV	81	TYR	3.7
29	DG	131	TYR	3.7
9	CJ	8	LEU	3.7
38	BS	28	VAL	3.7
12	AM	122	LYS	3.7
25	DC	128	LEU	3.7
25	DC	134	PRO	3.7
58	De	53	PRO	3.7
13	CN	58	LYS	3.7
29	BG	135	LEU	3.7
32	DK	9	LYS	3.7
2	CC	207	VAL	3.6
12	CM	124	PRO	3.6
5	CF	101	ALA	3.6
58	Be	90	LYS	3.6
58	Be	112	LYS	3.6
25	BC	50	ILE	3.6
25	BC	101	ILE	3.6
12	CM	123	ALA	3.6
18	CS	36	ARG	3.5

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Mol	Chain	Res	Type	RSRZ
38	BS	58	LEU	3.5
58	De	73	GLU	3.5
59	DA	2798	C	3.5
20	CY	43	GLY	3.5
12	AM	124	PRO	3.5
25	BC	190	ILE	3.5
29	BG	102	PHE	3.5
28	BF	11	VAL	3.5
16	AQ	58	GLU	3.5
32	BK	60	TYR	3.5
38	DS	106	ARG	3.5
59	BA	2894	G	3.5
29	DG	44	GLY	3.5
58	Be	88	GLU	3.5
25	BC	79	ALA	3.5
25	DC	37	LYS	3.5
25	DC	3	LYS	3.4
25	DC	152	GLU	3.4
29	DG	42	GLY	3.4
20	AY	257	PRO	3.4
38	BS	57	LYS	3.4
28	DF	8	GLN	3.4
25	DC	139	PRO	3.4
40	DU	12	ARG	3.4
12	AM	123	ALA	3.4
32	DK	19	PRO	3.4
20	CY	234	GLY	3.3
25	DC	161	ARG	3.3
25	BC	127	LYS	3.3
48	D3	28	LEU	3.3
2	CC	69	HIS	3.3
1	CB	222	ILE	3.3
2	CC	11	ARG	3.3
58	De	77	GLU	3.3
25	BC	150	ILE	3.3
29	BG	106	LEU	3.3
2	AC	97	LYS	3.3
57	D4	23	GLU	3.3
58	Be	59	GLU	3.3
28	DF	125	LEU	3.3
29	BG	25	TYR	3.3
29	BG	35	GLU	3.3

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Mol	Chain	Res	Type	RSRZ
20	CY	200	PRO	3.3
28	DF	176	LEU	3.3
32	DK	67	PHE	3.3
38	DS	65	VAL	3.3
38	DS	54	LEU	3.3
25	DC	135	ARG	3.2
25	BC	69	LEU	3.2
11	CL	28	LYS	3.2
38	BS	14	VAL	3.2
25	BC	8	TYR	3.2
48	B3	28	LEU	3.2
20	AY	177	ILE	3.2
18	CS	44	MET	3.2
20	AY	666	ARG	3.2
38	DS	88	ASP	3.2
1	CB	188	ALA	3.2
29	DG	177	GLY	3.2
20	CY	59	ARG	3.2
2	CC	99	VAL	3.2
9	CJ	86	MET	3.2
29	DG	179	PRO	3.2
29	DG	157	ILE	3.2
49	B5	2	ALA	3.2
58	De	63	ILE	3.2
56	B1	25	LYS	3.2
29	BG	38	VAL	3.2
56	D1	42	GLN	3.2
20	AY	358	MET	3.2
58	Be	58	THR	3.1
38	BS	39	ILE	3.1
32	DK	66	THR	3.1
38	DS	20	ARG	3.1
57	D4	4	GLY	3.1
15	CP	73	LEU	3.1
56	D1	18	ILE	3.1
41	BV	74	LYS	3.1
12	AM	102	ARG	3.1
25	DC	157	ILE	3.1
11	CL	89	ARG	3.1
29	DG	53	LEU	3.1
20	AY	50	ALA	3.1
58	De	62	VAL	3.1

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Mol	Chain	Res	Type	RSRZ
13	CN	46	GLU	3.1
59	DA	2793	G	3.1
25	DC	32	GLU	3.1
1	CB	30	ARG	3.1
12	CM	101	GLN	3.1
20	CY	571	SER	3.1
58	De	121	VAL	3.1
32	DK	64	SER	3.1
2	AC	47	LEU	3.0
20	AY	104	ALA	3.1
25	BC	34	ALA	3.1
49	D5	2	ALA	3.1
18	AS	33	THR	3.0
26	BD	34	VAL	3.0
32	DK	20	ALA	3.0
58	De	117	ALA	3.0
38	DS	87	PHE	3.0
20	CY	60	GLU	3.0
25	BC	16	ASP	3.0
38	DS	83	LYS	3.0
20	AY	51	THR	3.0
38	BS	38	GLN	3.0
38	DS	36	TYR	3.0
18	CS	15	LEU	3.0
51	D7	49	ARG	3.0
12	AM	85	GLY	3.0
53	B9	1	MET	3.0
28	DF	181	LEU	3.0
58	Be	117	ALA	3.0
25	DC	149	ASN	3.0
38	BS	65	VAL	3.0
29	BG	144	ILE	3.0
29	DG	49	ASP	3.0
12	AM	97	PRO	3.0
25	DC	197	LEU	3.0
57	B4	4	GLY	3.0
29	DG	155	MET	3.0
33	BN	42	TRP	3.0
2	CC	204	LEU	3.0
25	BC	30	VAL	3.0
20	CY	47	GLU	3.0
25	BC	100	ILE	3.0

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
25	DC	173	HIS	3.0
44	DY	102	CYS	3.0
57	D4	14	ILE	3.0
58	De	61	ASP	2.9
56	D1	33	LYS	2.9
25	DC	205	ALA	2.9
20	CY	233	GLU	2.9
25	BC	97	GLY	2.9
25	BC	111	PHE	2.9
25	BC	76	LEU	2.9
32	DK	55	VAL	2.9
13	AN	53	LEU	2.9
19	CT	72	LEU	2.9
2	CC	196	LEU	2.9
20	AY	199	ILE	2.9
17	AR	23	LYS	2.9
29	DG	150	ASP	2.9
29	DG	87	PRO	2.9
21	CA	68(L)	U	2.9
44	DY	106	LEU	2.9
58	De	119	GLY	2.9
56	D1	16	ASN	2.9
18	AS	48	THR	2.9
25	BC	35	THR	2.9
7	CH	116	LYS	2.9
29	DG	176	LEU	2.9
38	BS	55	ALA	2.9
12	CM	104	ARG	2.9
59	BA	2795	G	2.9
11	CL	19	ARG	2.9
12	AM	91	ARG	2.9
25	BC	197	LEU	2.8
28	DF	10	PRO	2.8
29	BG	53	LEU	2.8
39	DT	76	PHE	2.8
53	D9	1	MET	2.8
9	CJ	62	HIS	2.8
58	De	111	ILE	2.8
33	BN	43	THR	2.8
29	DG	96	ARG	2.8
1	AB	148	TYR	2.8
38	DS	37	ALA	2.8

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Mol	Chain	Res	Type	RSRZ
28	DF	18	ARG	2.8
25	DC	219	MET	2.8
25	DC	186	LEU	2.8
25	DC	190	ILE	2.8
29	BG	34	LEU	2.8
2	CC	189	ALA	2.8
38	DS	38	GLN	2.8
38	DS	108	GLY	2.8
18	CS	57	HIS	2.8
25	DC	31	LYS	2.8
7	CH	24	THR	2.8
1	CB	27	LYS	2.8
25	DC	220	GLY	2.8
29	DG	48	GLU	2.8
25	BC	116	ALA	2.8
2	CC	184	TYR	2.8
16	CQ	69	LYS	2.8
12	CM	70	LEU	2.8
12	CM	85	GLY	2.8
9	CJ	65	LEU	2.8
25	BC	17	PRO	2.8
11	CL	83	VAL	2.7
18	AS	32	LYS	2.7
20	CY	321	TYR	2.7
12	AM	65	LYS	2.7
58	De	112	LYS	2.7
25	BC	125	GLY	2.7
29	BG	109	VAL	2.7
16	AQ	41	LYS	2.7
29	DG	158	ALA	2.7
20	CY	378	VAL	2.7
20	CY	5	VAL	2.7
29	BG	136	ARG	2.7
3	CD	96	LEU	2.7
10	AK	70	LYS	2.7
45	BZ	7	ALA	2.7
12	AM	87	TYR	2.7
25	BC	6	LYS	2.7
18	AS	49	ILE	2.7
28	DF	155	LEU	2.7
38	BS	27	SER	2.7
11	CL	17	LYS	2.7

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Mol	Chain	Res	Type	RSRZ
25	BC	12	LEU	2.7
11	CL	30	ALA	2.7
18	AS	61	TYR	2.7
11	AL	35	GLY	2.7
25	DC	185	LYS	2.7
9	CJ	68	HIS	2.7
29	BG	107	LEU	2.7
18	AS	31	ILE	2.7
33	BN	82	LEU	2.7
58	De	54	ALA	2.7
38	BS	108	GLY	2.7
25	DC	172	ILE	2.7
58	De	108	ALA	2.7
20	AY	5	VAL	2.7
18	AS	50	ALA	2.7
58	De	87	LYS	2.7
25	BC	42	VAL	2.6
25	BC	87	ALA	2.6
29	BG	134	GLY	2.6
1	CB	111	ARG	2.6
36	DQ	140	ALA	2.6
59	BA	890	A	2.6
35	BP	144	GLU	2.6
58	Be	87	LYS	2.6
20	CY	349	LYS	2.6
9	AJ	44	VAL	2.6
28	BF	181	LEU	2.6
2	CC	25	GLY	2.6
2	CC	200	ALA	2.6
39	DT	75	ILE	2.6
38	DS	27	SER	2.6
59	BA	888	C	2.6
29	BG	37	VAL	2.6
15	CP	74	LEU	2.6
18	AS	9	VAL	2.6
29	BG	5	VAL	2.6
13	CN	34	TYR	2.6
57	D4	7	PRO	2.6
2	CC	82	GLU	2.6
34	DO	77	ILE	2.6
20	AY	259	PHE	2.6
2	CC	24	ALA	2.6

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Mol	Chain	Res	Type	RSRZ
35	BP	53	GLY	2.6
20	CY	227	ILE	2.6
2	CC	75	VAL	2.6
29	DG	33	ARG	2.6
32	DK	115	LEU	2.6
41	BV	75	PHE	2.6
18	CS	32	LYS	2.6
29	BG	41	GLN	2.6
52	B8	63	PRO	2.6
25	DC	210	LEU	2.6
29	DG	106	LEU	2.6
44	DY	16	ALA	2.6
52	D8	15	LYS	2.6
58	Be	121	VAL	2.6
20	AY	456	GLU	2.5
2	CC	201	TYR	2.5
29	BG	146	TYR	2.5
28	BF	127	GLU	2.5
29	DG	36	LYS	2.5
38	DS	58	LEU	2.5
29	BG	115	ARG	2.5
57	D4	31	ILE	2.5
29	DG	45	GLU	2.5
33	BN	19	GLU	2.5
47	B2	14	ARG	2.5
26	DD	240	ALA	2.5
9	AJ	46	ARG	2.5
13	CN	53	LEU	2.5
29	DG	57	ALA	2.5
33	BN	38	HIS	2.5
20	CY	49	ALA	2.5
20	AY	229	LEU	2.5
38	BS	44	LYS	2.5
35	DP	7	ARG	2.5
12	CM	81	LEU	2.5
25	DC	174	ALA	2.5
56	D1	14	VAL	2.5
20	AY	105	ILE	2.5
46	D0	37	LEU	2.5
11	CL	56	ALA	2.5
20	CY	182	ARG	2.5
52	D8	25	MET	2.5

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Mol	Chain	Res	Type	RSRZ
2	CC	16	ARG	2.5
38	DS	107	GLU	2.5
58	Be	89	ALA	2.5
1	CB	102	LEU	2.5
29	DG	66	GLN	2.5
25	BC	14	LYS	2.5
29	DG	151	ALA	2.5
2	CC	197	GLY	2.5
9	CJ	44	VAL	2.5
10	CK	41	THR	2.5
25	DC	150	ILE	2.5
29	DG	75	LYS	2.5
57	B4	24	THR	2.5
1	AB	238	LEU	2.5
60	BB	53	A	2.5
20	AY	4	LYS	2.5
25	BC	213	VAL	2.5
38	BS	56	LEU	2.4
7	CH	32	LYS	2.4
25	BC	186	LEU	2.4
16	CQ	26	GLN	2.4
20	CY	291	GLY	2.4
2	CC	85	ARG	2.4
20	AY	133	ILE	2.4
25	BC	214	TYR	2.4
29	DG	181	ARG	2.4
38	DS	40	ILE	2.4
25	DC	175	PRO	2.4
20	AY	6	GLU	2.4
38	BS	48	LEU	2.4
29	BG	75	LYS	2.4
25	BC	223	VAL	2.4
44	BY	31	LEU	2.4
20	CY	311	ALA	2.4
32	DK	60	TYR	2.4
58	De	79	ARG	2.4
4	CE	47	LYS	2.4
4	CE	155	GLU	2.4
38	BS	49	VAL	2.4
38	BS	59	LYS	2.4
7	CH	80	ILE	2.4
32	DK	27	LEU	2.4

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Mol	Chain	Res	Type	RSRZ
33	BN	1	MET	2.4
25	BC	113	ALA	2.4
1	CB	107	THR	2.4
59	BA	2116	G	2.4
58	De	109	GLU	2.4
25	DC	33	LEU	2.4
25	DC	169	THR	2.4
33	BN	39	ARG	2.4
2	CC	149	ALA	2.4
20	AY	570	GLY	2.4
25	BC	46	ALA	2.4
33	DN	116	LEU	2.4
38	BS	106	ARG	2.4
20	CY	16	GLY	2.4
20	CY	310	ALA	2.4
44	DY	54	LYS	2.4
20	CY	56	GLU	2.4
20	CY	65	ILE	2.4
27	DE	205	ALA	2.4
2	CC	108	ASN	2.4
29	BG	103	LEU	2.4
33	BN	133	GLN	2.4
39	BT	114	LEU	2.4
25	DC	189	ASN	2.4
20	AY	156	ARG	2.4
20	CY	232	LEU	2.4
32	DK	120	LEU	2.4
36	BQ	34	LEU	2.4
25	DC	225	ILE	2.4
25	DC	168	LYS	2.4
41	BV	44	LYS	2.4
16	CQ	101	ARG	2.4
1	CB	80	ILE	2.4
29	DG	46	ALA	2.4
59	DA	889	C	2.4
59	BA	2152	G	2.4
1	CB	16	HIS	2.4
58	De	64	LEU	2.4
25	DC	163	GLU	2.4
59	DA	311	A	2.4
15	AP	16	HIS	2.3
25	BC	198	GLU	2.3

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Mol	Chain	Res	Type	RSRZ
9	AJ	4	ILE	2.3
21	AA	1028(D)	C	2.3
41	DV	61	VAL	2.3
2	CC	72	LYS	2.3
3	CD	15	GLU	2.3
28	BF	78	ILE	2.3
48	D3	10	LYS	2.3
20	CY	212	TYR	2.3
25	DC	26	ALA	2.3
29	DG	107	LEU	2.3
38	BS	40	ILE	2.3
38	DS	34	HIS	2.3
35	DP	67	MET	2.3
20	AY	233	GLU	2.3
32	DK	99	ILE	2.3
38	DS	100	ALA	2.3
2	CC	150	LYS	2.3
12	CM	122	LYS	2.3
20	CY	255	ILE	2.3
25	BC	75	VAL	2.3
58	De	99	VAL	2.3
2	CC	164	ARG	2.3
38	DS	30	ARG	2.3
44	DY	84	ARG	2.3
20	AY	215	LYS	2.3
38	DS	59	LYS	2.3
44	BY	90	LEU	2.3
38	DS	35	ILE	2.3
32	DK	10	LEU	2.3
58	Be	108	ALA	2.3
58	De	104	SER	2.3
20	AY	182	ARG	2.3
29	DG	159	VAL	2.3
48	B3	31	LEU	2.3
57	B4	31	ILE	2.3
9	AJ	43	ARG	2.3
20	CY	399	LEU	2.3
29	BG	158	ALA	2.3
56	D1	38	SER	2.3
50	D6	37	ARG	2.3
33	BN	48	MET	2.3
2	AC	170	GLN	2.3

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Mol	Chain	Res	Type	RSRZ
20	AY	279	TYR	2.2
57	D4	13	ARG	2.2
12	CM	68	GLY	2.2
25	DC	160	GLY	2.2
41	DV	94	LEU	2.2
9	CJ	4	ILE	2.2
25	BC	210	LEU	2.2
25	DC	47	LYS	2.2
27	BE	15	PHE	2.2
2	CC	182	ILE	2.2
20	CY	199	ILE	2.2
21	AA	823	G	2.2
28	BF	155	LEU	2.2
29	DG	178	PHE	2.2
39	BT	88	ILE	2.2
2	AC	11	ARG	2.2
20	AY	185	ALA	2.2
29	DG	103	LEU	2.2
32	BK	2	LYS	2.2
59	DA	2894	G	2.2
16	CQ	37	LYS	2.2
29	DG	3	LEU	2.2
38	DS	66	ALA	2.2
33	DN	4	TYR	2.2
48	D3	8	LEU	2.2
2	CC	17	ASP	2.2
12	CM	108	ARG	2.2
25	BC	44	VAL	2.2
58	Be	70	LYS	2.2
25	BC	99	GLU	2.2
25	BC	174	ALA	2.2
13	CN	54	PRO	2.2
4	CE	27	ARG	2.2
34	BO	76	ALA	2.2
16	CQ	58	GLU	2.2
56	D1	40	ARG	2.2
15	AP	32	TYR	2.2
20	CY	84	THR	2.2
29	BG	57	ALA	2.2
38	DS	102	ALA	2.2
12	AM	88	ARG	2.2
50	D6	25	LYS	2.2

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Mol	Chain	Res	Type	RSRZ
25	DC	208	THR	2.2
29	BG	159	VAL	2.2
13	CN	59	ALA	2.2
25	BC	40	GLU	2.2
46	D0	41	ARG	2.2
2	CC	74	GLY	2.2
25	BC	18	ASN	2.2
18	AS	15	LEU	2.2
38	DS	28	VAL	2.2
51	D7	47	ARG	2.2
9	CJ	10	GLY	2.2
29	DG	32	PRO	2.2
2	CC	166	GLU	2.2
4	CE	122	GLU	2.2
34	DO	1	MET	2.2
25	DC	112	ASP	2.2
29	BG	49	ASP	2.2
57	B4	5	ILE	2.2
15	AP	51	VAL	2.2
12	CM	87	TYR	2.2
33	DN	133	GLN	2.2
13	AN	6	LEU	2.2
2	CC	67	THR	2.2
25	DC	68	GLY	2.2
51	D7	41	ARG	2.2
20	CY	237	PRO	2.2
25	DC	180	SER	2.2
39	DT	138	ALA	2.2
2	AC	72	LYS	2.2
11	CL	18	VAL	2.2
2	CC	20	SER	2.2
20	AY	38	ARG	2.2
1	CB	84	GLU	2.2
20	AY	47	GLU	2.2
21	AA	68(L)	U	2.2
59	DA	2132	U	2.2
29	DG	37	VAL	2.2
11	CL	98	TYR	2.2
20	CY	231	TYR	2.2
20	CY	322	VAL	2.1
25	DC	156	GLU	2.1
33	BN	44	PRO	2.1

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Mol	Chain	Res	Type	RSRZ
32	BK	65	PHE	2.1
58	De	120	ALA	2.1
2	CC	18	TRP	2.1
20	CY	66	THR	2.1
25	DC	35	THR	2.1
50	D6	39	TYR	2.1
20	CY	236	GLU	2.1
2	CC	202	ILE	2.1
13	AN	29	ARG	2.1
29	BG	63	ILE	2.1
13	CN	26	ARG	2.1
48	B3	1	MET	2.1
20	CY	221	ALA	2.1
58	De	67	ALA	2.1
29	DG	92	VAL	2.1
41	BV	24	LYS	2.1
59	DA	887	A	2.1
17	AR	88	LYS	2.1
60	DB	43	C	2.1
7	AH	32	LYS	2.1
18	CS	35	SER	2.1
20	AY	260	LEU	2.1
25	BC	169	THR	2.1
32	BK	10	LEU	2.1
41	DV	60	GLU	2.1
44	BY	88	LYS	2.1
11	CL	32	PHE	2.1
59	BA	2793	G	2.1
13	CN	31	ARG	2.1
26	DD	191	ALA	2.1
12	CM	65	LYS	2.1
20	AY	55	MET	2.1
20	CY	46	HIS	2.1
32	DK	15	GLY	2.1
4	CE	135	THR	2.1
20	CY	325	LEU	2.1
20	CY	85	PRO	2.1
2	AC	201	TYR	2.1
51	B7	48	LYS	2.1
20	CY	83	ASP	2.1
6	AG	62	PHE	2.1
11	AL	93	LEU	2.1

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Mol	Chain	Res	Type	RSRZ
25	DC	30	VAL	2.1
29	BG	64	THR	2.1
29	DG	34	LEU	2.1
53	B9	8	LYS	2.1
18	AS	40	ILE	2.1
25	BC	104	ILE	2.1
25	DC	75	VAL	2.1
45	DZ	66	SER	2.1
29	BG	32	PRO	2.1
46	D0	6	GLY	2.1
58	Be	94	GLU	2.1
20	AY	221	ALA	2.1
38	BS	36	TYR	2.1
29	DG	91	ARG	2.1
20	CY	104	ALA	2.1
29	BG	69	ALA	2.1
59	DA	2797	U	2.1
20	CY	82	ILE	2.1
29	DG	101	ILE	2.1
25	BC	72	GLN	2.1
38	BS	41	ASP	2.1
20	AY	255	ILE	2.1
29	DG	144	ILE	2.1
2	AC	204	LEU	2.1
25	BC	124	VAL	2.1
58	Be	71	LYS	2.1
25	BC	162	ILE	2.1
29	BG	65	GLY	2.1
58	De	102	GLY	2.1
28	BF	166	ALA	2.0
33	DN	115	ARG	2.0
44	DY	101	LYS	2.0
56	B1	18	ILE	2.0
25	DC	137	LEU	2.0
58	Be	84	LEU	2.0
32	DK	16	LYS	2.0
28	BF	158	THR	2.0
58	Be	57	LYS	2.0
59	BA	2798	C	2.0
16	AQ	5	VAL	2.0
25	DC	15	VAL	2.0
2	AC	200	ALA	2.0

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Mol	Chain	Res	Type	RSRZ
20	CY	426	GLN	2.0
28	BF	129	PHE	2.0
20	CY	31	ARG	2.0
57	D4	18	CYS	2.0
20	CY	435	ASP	2.0
1	AB	187	LEU	2.0
13	AN	47	LEU	2.0
16	AQ	25	ARG	2.0
20	AY	132	ARG	2.0
41	DV	101	GLY	2.0
16	AQ	59	ILE	2.0
38	DS	71	ARG	2.0
29	DG	69	ALA	2.0
32	DK	3	LYS	2.0
34	BO	2	ILE	2.0
58	Be	65	LYS	2.0
18	AS	30	LEU	2.0
29	BG	111	LEU	2.0
33	DN	99	LEU	2.0
2	CC	23	TYR	2.0
20	CY	17	ILE	2.0
30	DH	57	ASP	2.0
35	DP	5	ASP	2.0
46	B0	15	ASP	2.0
1	CB	152	PHE	2.0
25	DC	12	LEU	2.0
40	DU	32	PHE	2.0

## 6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(Å <sup>2</sup> )	Q<0.9
24	DPP	AU	2	6/7	0.21	-	114,114,114,114	0
24	5OH	AU	6	12/13	0.28	-	99,101,102,102	0
24	KBE	AU	1	9/10	0.30	-	114,114,114,114	0
24	5OH	CU	6	12/13	0.21	-	99,101,102,102	0

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Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
24	UAL	AU	5	9/10	0.16	-	114,114,114,114	0
24	UAL	CU	5	9/10	0.13	-	118,118,118,118	0
24	DPP	CU	2	6/7	0.18	-	118,118,118,118	0
24	KBE	CU	1	9/10	0.34	-	118,118,118,118	0

### 6.3 Carbohydrates

There are no carbohydrates in this entry.

### 6.4 Ligands

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
62	MG	CY	702	1/1	0.11	-	135,135,135,135	0
62	MG	AY	702	1/1	0.11	-	88,88,88,88	0
61	GNP	AY	701	32/32	0.22	-	58,71,81,83	0
61	GNP	CY	701	32/32	0.23	-	58,71,81,83	0

### 6.5 Other polymers

There are no such residues in this entry.