



Full wwPDB X-ray Structure Validation Report ⓘ

Jun 2, 2020 – 07:58 am BST

PDB ID : 4P70
Title : Crystal Structure of Unmodified tRNA Proline (CGG) Bound to Codon CCG on the Ribosome
Authors : Maehigashi, T.; Dunkle, J.A.; Dunham, C.M.
Deposited on : 2014-03-25
Resolution : 3.68 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.11
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.11

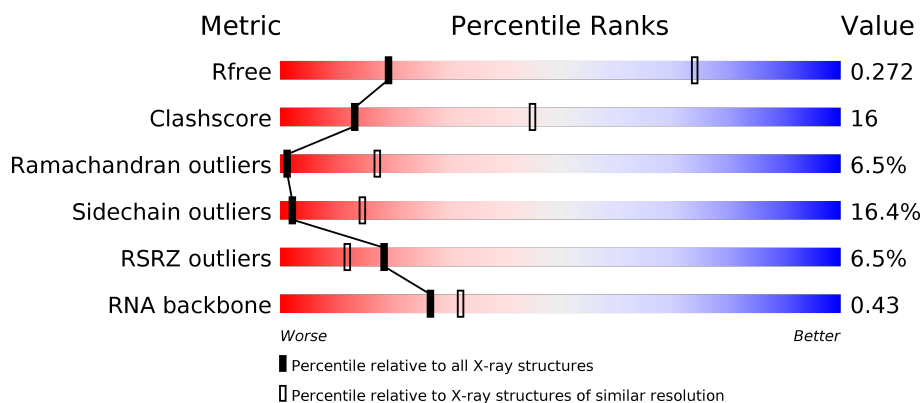
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.68 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}	130704	1013 (3.84-3.52)
Clashscore	141614	1070 (3.84-3.52)
Ramachandran outliers	138981	1036 (3.84-3.52)
Sidechain outliers	138945	1033 (3.84-3.52)
RSRZ outliers	127900	1471 (3.86-3.50)
RNA backbone	3102	1024 (4.30-3.00)

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 ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	QA	1522	<div> <div>5%</div> <div> <div>35%</div> <div>47%</div> <div>14%</div> <div>..</div> </div> </div>
1	XA	1522	<div> <div>5%</div> <div> <div>33%</div> <div>48%</div> <div>15%</div> <div>..</div> </div> </div>
2	QB	256	<div> <div>4%</div> <div> <div>49%</div> <div>36%</div> <div>7%</div> <div>7%</div> </div> </div>
2	XB	256	<div> <div>46%</div> <div>36%</div> <div>9%</div> <div>7%</div> </div>

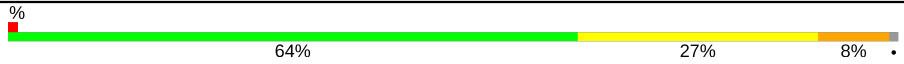



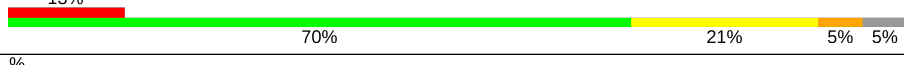
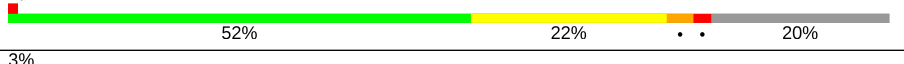
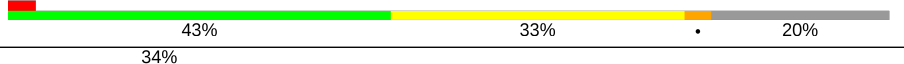

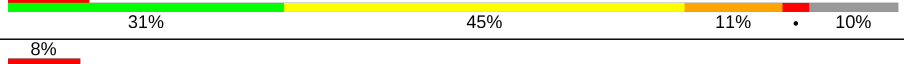



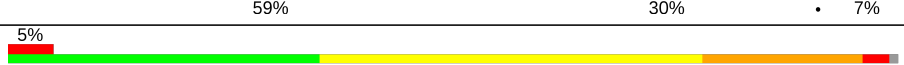
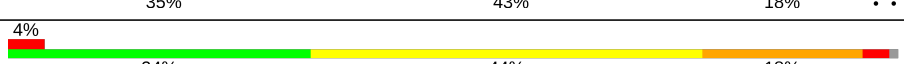
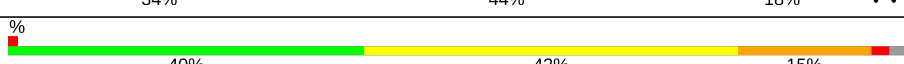
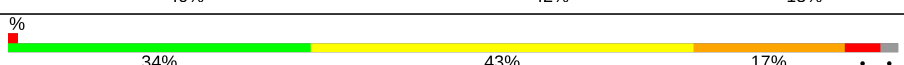

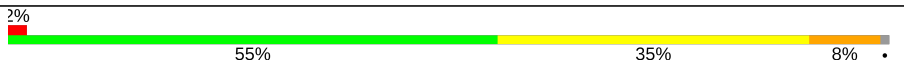



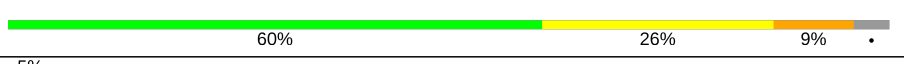
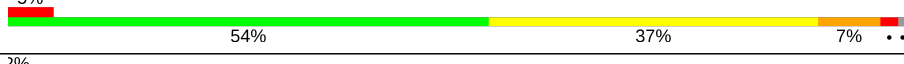
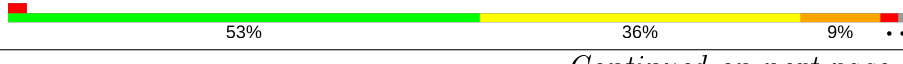

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Mol	Chain	Length	Quality of chain
3	QC	239	
3	XC	239	
4	QD	209	
4	XD	209	
5	QE	162	
5	XE	162	
6	QF	101	
6	XF	101	
7	QG	156	
7	XG	156	
8	QH	138	
8	XH	138	
9	QI	128	
9	XI	128	
10	QJ	105	
10	XJ	105	
11	QK	129	
11	XK	129	
12	QL	132	
12	XL	132	
13	QM	126	
13	XM	126	
14	QN	61	
14	XN	61	
15	QO	89	

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Mol	Chain	Length	Quality of chain
15	XO	89	
16	QP	88	
16	XP	88	
17	QQ	105	
17	XQ	105	
18	QR	88	
18	XR	88	
19	QS	93	
19	XS	93	
20	QT	106	
20	XT	106	
21	QU	27	
21	XU	27	
22	RA	2916	
22	YA	2916	
23	RB	122	
23	YB	122	
24	RD	276	
24	YD	276	
25	RE	206	
25	YE	206	
26	RF	210	
26	YF	210	
27	RG	182	
27	YG	182	


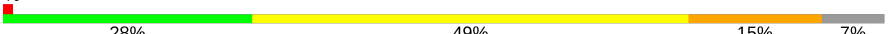
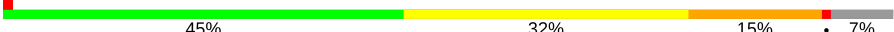
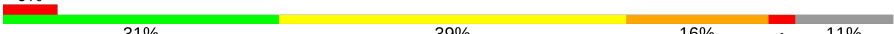
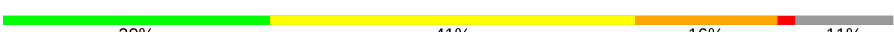
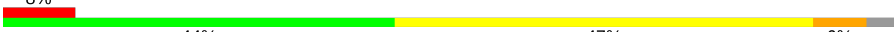
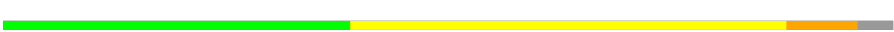




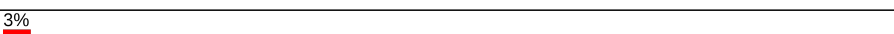


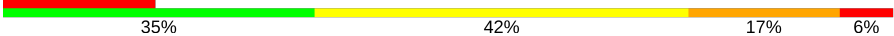
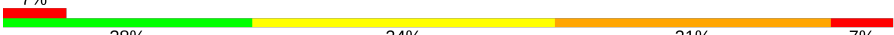







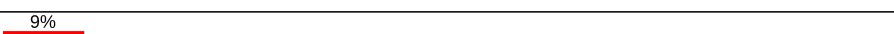
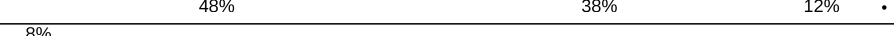
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Mol	Chain	Length	Quality of chain
28	RH	180	
28	YH	180	
29	RI	148	
29	YI	148	
30	RN	140	
30	YN	140	
31	RO	122	
31	YO	122	
32	RP	150	
32	YP	150	
33	RQ	141	
33	YQ	141	
34	RR	118	
34	YR	118	
35	RS	112	
35	YS	112	
36	RT	146	
36	YT	146	
37	RU	118	
37	YU	118	
38	RV	101	
38	YV	101	
39	RW	113	
39	YW	113	
40	RX	96	

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Mol	Chain	Length	Quality of chain
40	YX	96	
41	RY	110	
41	YY	110	
42	RZ	206	
42	YZ	206	
43	R0	85	
43	Y0	85	
44	R1	98	
44	Y1	98	
45	R2	72	
45	Y2	72	
46	R3	60	
46	Y3	60	
47	R4	71	
47	Y4	71	
48	R5	60	
48	Y5	60	
49	R6	54	
49	Y6	54	
50	R7	49	
50	Y7	49	
51	R8	65	
51	Y8	65	
52	R9	37	
52	Y9	37	

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Mol	Chain	Length	Quality of chain
53	QV	77	
53	XV	77	
54	QX	25	
54	XX	25	
55	QY	17	
55	XY	17	
56	Z6	3	
56	Z8	3	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
58	MG	RA	3002	-	-	-	X
58	MG	RA	3067	-	-	-	X
58	MG	RA	3212	-	-	-	X
58	MG	RA	3227	-	-	-	X
58	MG	Y0	101	-	-	-	X
58	MG	YA	3018	-	-	-	X
58	MG	YA	3214	-	-	-	X

2 Entry composition

There are 59 unique types of molecules in this entry. The entry contains 291730 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	QA	1500	Total	C	N	O	P	0	0	0
			32247	14353	5981	10414	1499			
1	XA	1500	Total	C	N	O	P	0	0	0
			32249	14354	5984	10412	1499			

- Molecule 2 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	QB	237	Total	C	N	O	S	0	0	0
			1924	1228	344	347	5			
2	XB	237	Total	C	N	O	S	0	0	0
			1924	1228	344	347	5			

- Molecule 3 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	QC	205	Total	C	N	O	S	0	0	0
			1605	1011	313	280	1			
3	XC	205	Total	C	N	O	S	0	0	0
			1605	1011	313	280	1			

- Molecule 4 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	QD	208	Total	C	N	O	S	0	0	0
			1703	1066	339	291	7			
4	XD	208	Total	C	N	O	S	0	0	0
			1703	1066	339	291	7			

- Molecule 5 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	QE	151	Total	C	N	O	S	0	0	0
			1155	729	218	204	4			
5	XE	151	Total	C	N	O	S	0	0	0
			1155	729	218	204	4			

- Molecule 6 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	QF	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			
6	XF	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			

- Molecule 7 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	QG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			
7	XG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			

- Molecule 8 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	QH	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			
8	XH	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			

- Molecule 9 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	QI	127	Total	C	N	O		0	0	0
			1010	639	197	174				
9	XI	127	Total	C	N	O		0	0	0
			1010	639	197	174				

- Molecule 10 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	QJ	99	Total	C	N	O	S	0	0	0
			801	504	157	139	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	XJ	99	Total	C	N	O	S	0	0	0
			801	504	157	139	1			

- Molecule 11 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	QK	119	Total	C	N	O	S	0	0	0
			885	549	168	165	3			
11	XK	119	Total	C	N	O	S	0	0	0
			885	549	168	165	3			

- Molecule 12 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	QL	125	Total	C	N	O	S	0	0	0
			975	614	196	164	1			
12	XL	125	Total	C	N	O	S	0	0	0
			975	614	196	164	1			

- Molecule 13 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	QM	121	Total	C	N	O	S	0	0	0
			964	597	199	166	2			
13	XM	121	Total	C	N	O	S	0	0	0
			964	597	199	166	2			

- Molecule 14 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	QN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			
14	XN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			

- Molecule 15 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	QO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			
15	XO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			

- Molecule 16 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	QP	84	Total	C	N	O	S	0	0	0
			705	446	140	118	1			
16	XP	84	Total	C	N	O	S	0	0	0
			705	446	140	118	1			

- Molecule 17 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	QQ	100	Total	C	N	O	S	0	0	0
			834	534	155	143	2			
17	XQ	100	Total	C	N	O	S	0	0	0
			834	534	155	143	2			

- Molecule 18 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	QR	70	Total	C	N	O	0	0	0
			574	367	112	95			
18	XR	70	Total	C	N	O	0	0	0
			574	367	112	95			

- Molecule 19 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	QS	84	Total	C	N	O	S	0	0	0
			674	430	126	116	2			
19	XS	84	Total	C	N	O	S	0	0	0
			674	430	126	116	2			

- Molecule 20 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	QT	99	Total	C	N	O	S	0	0	0
			763	470	162	129	2			
20	XT	99	Total	C	N	O	S	0	0	0
			763	470	162	129	2			

- Molecule 21 is a protein called 30S ribosomal protein Thx.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	QU	25	Total	C	N	O	0	0	0
			217	134	52	31			
21	XU	25	Total	C	N	O	0	0	0
			217	134	52	31			

- Molecule 22 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	RA	2882	Total	C	N	O	P	0	0	0
			62071	27627	11611	19952	2881			
22	YA	2883	Total	C	N	O	P	0	0	0
			62091	27636	11613	19960	2882			

- Molecule 23 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	RB	120	Total	C	N	O	P	0	0	0
			2573	1146	476	832	119			
23	YB	120	Total	C	N	O	P	0	0	0
			2573	1146	476	832	119			

- Molecule 24 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	RD	272	Total	C	N	O	S	0	0	0
			2115	1335	420	357	3			
24	YD	272	Total	C	N	O	S	0	0	0
			2115	1335	420	357	3			

- Molecule 25 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	RE	205	Total	C	N	O	S	0	0	0
			1568	991	300	271	6			
25	YE	205	Total	C	N	O	S	0	0	0
			1568	991	300	271	6			

- Molecule 26 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	RF	202	Total	C	N	O	S	0	0	0
			1585	1011	297	275	2			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	YF	202	Total	C	N	O	S	0	0	0
			1585	1011	297	275	2			

- Molecule 27 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	RG	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			
27	YG	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			

- Molecule 28 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	RH	170	Total	C	N	O	S	0	0	0
			1307	829	245	232	1			
28	YH	170	Total	C	N	O	S	0	0	0
			1307	829	245	232	1			

- Molecule 29 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	RI	146	Total	C	N	O	S	0	0	0
			1136	726	201	208	1			
29	YI	146	Total	C	N	O	S	0	0	0
			1136	726	201	208	1			

- Molecule 30 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	RN	138	Total	C	N	O	S	0	0	0
			1104	712	206	182	4			
30	YN	138	Total	C	N	O	S	0	0	0
			1104	712	206	182	4			

- Molecule 31 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	RO	122	Total	C	N	O	S	0	0	0
			933	588	171	170	4			
31	YO	122	Total	C	N	O	S	0	0	0
			933	588	171	170	4			

- Molecule 32 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	RP	150	Total	C	N	O	S	0	0	0
			1145	712	232	198	3			
32	YP	150	Total	C	N	O	S	0	0	0
			1145	712	232	198	3			

- Molecule 33 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	RQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			
33	YQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			

- Molecule 34 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	RR	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			
34	YR	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			

- Molecule 35 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
35	RS	111	Total	C	N	O	0	0	0
			882	556	176	150			
35	YS	111	Total	C	N	O	0	0	0
			882	556	176	150			

- Molecule 36 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	RT	137	Total	C	N	O	S	0	0	0
			1141	710	234	196	1			
36	YT	137	Total	C	N	O	S	0	0	0
			1141	710	234	196	1			

- Molecule 37 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	RU	117	Total	C	N	O	S	0	0	0
			964	610	202	151	1			
37	YU	117	Total	C	N	O	S	0	0	0
			964	610	202	151	1			

- Molecule 38 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
38	RV	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			
38	YV	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			

- Molecule 39 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	RW	113	Total	C	N	O	S	0	0	0
			900	566	177	155	2			
39	YW	113	Total	C	N	O	S	0	0	0
			900	566	177	155	2			

- Molecule 40 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
40	RX	92	Total	C	N	O	0	0	0
			725	471	131	123			
40	YX	92	Total	C	N	O	0	0	0
			725	471	131	123			

- Molecule 41 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	RY	102	Total	C	N	O	S	0	0	0
			785	505	150	125	5			
41	YY	102	Total	C	N	O	S	0	0	0
			785	505	150	125	5			

- Molecule 42 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	RZ	183	Total	C	N	O	S	0	0	0
			1461	933	260	265	3			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	YZ	183	Total	C	N	O	S	0	0	0
			1461	933	260	265	3			

- Molecule 43 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
43	R0	82	Total	C	N	O	S	0	0	0
			648	401	138	108	1			
43	Y0	82	Total	C	N	O	S	0	0	0
			648	401	138	108	1			

- Molecule 44 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	R1	97	Total	C	N	O	S	0	0	0
			763	481	150	131	1			
44	Y1	97	Total	C	N	O	S	0	0	0
			763	481	150	131	1			

- Molecule 45 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	R2	69	Total	C	N	O	S	0	0	0
			581	358	118	104	1			
45	Y2	69	Total	C	N	O	S	0	0	0
			581	358	118	104	1			

- Molecule 46 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
46	R3	59	Total	C	N	O	0	0	0
			469	298	90	81			
46	Y3	59	Total	C	N	O	0	0	0
			469	298	90	81			

- Molecule 47 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
47	R4	71	Total	C	N	O	S	0	0	0
			581	364	108	104	5			
47	Y4	71	Total	C	N	O	S	0	0	0
			581	364	108	104	5			

- Molecule 48 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
48	R5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			
48	Y5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			

- Molecule 49 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
49	R6	49	Total	C	N	O	S	0	0	0
			424	264	87	69	4			
49	Y6	49	Total	C	N	O	S	0	0	0
			424	264	87	69	4			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
50	R7	49	Total	C	N	O	S	0	0	0
			430	263	108	57	2			
50	Y7	49	Total	C	N	O	S	0	0	0
			430	263	108	57	2			

- Molecule 51 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
51	R8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			
51	Y8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			

- Molecule 52 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
52	R9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			
52	Y9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			

- Molecule 53 is a RNA chain called P-site tRNA fMET.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	QV	77	Total	C	N	O	P	0	0	0
			1644	732	297	538	77			
53	XV	77	Total	C	N	O	P	0	0	0
			1644	732	297	538	77			

- Molecule 54 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
54	QX	8	Total	C	N	O	P	0	0	0
			173	77	33	55	8			
54	XX	8	Total	C	N	O	P	0	0	0
			173	77	33	55	8			

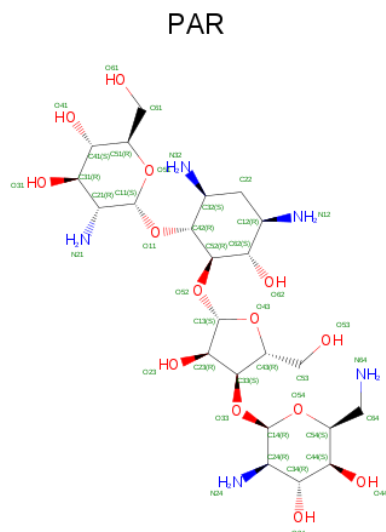
- Molecule 55 is a RNA chain called A site ASL of tRNA-Proline CGG (unmodified).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
55	QY	8	Total	C	N	O	P	0	0	0
			174	77	33	56	8			
55	XY	8	Total	C	N	O	P	0	0	0
			174	77	33	56	8			

- Molecule 56 is a RNA chain called tRNA acceptor end mimic.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
56	Z6	3	Total	C	N	O	P	0	0	0
			74	40	13	19	2			
56	Z8	3	Total	C	N	O	P	0	0	0
			74	40	13	19	2			

- Molecule 57 is PAROMOMYCIN (three-letter code: PAR) (formula: C₂₃H₄₅N₅O₁₄).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
57	QA	1	Total 42	C 23	N 5	O 14	0	0
57	XA	1	Total 42	C 23	N 5	O 14	0	0

- Molecule 58 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
58	QA	76	Total 76	Mg 76	0	0
58	RP	2	Total 2	Mg 2	0	0
58	YA	265	Total 265	Mg 265	0	0
58	QM	1	Total 1	Mg 1	0	0
58	YD	2	Total 2	Mg 2	0	0
58	QV	1	Total 1	Mg 1	0	0
58	XA	82	Total 82	Mg 82	0	0
58	R0	1	Total 1	Mg 1	0	0
58	Y0	1	Total 1	Mg 1	0	0
58	YQ	1	Total 1	Mg 1	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
58	R8	2	Total 2	Mg 2	0	0
58	YX	1	Total 1	Mg 1	0	0
58	RD	1	Total 1	Mg 1	0	0
58	XB	1	Total 1	Mg 1	0	0
58	QF	1	Total 1	Mg 1	0	0
58	R5	1	Total 1	Mg 1	0	0
58	RA	247	Total 247	Mg 247	0	0
58	YP	2	Total 2	Mg 2	0	0
58	Y5	1	Total 1	Mg 1	0	0
58	RE	2	Total 2	Mg 2	0	0
58	YB	3	Total 3	Mg 3	0	0
58	XV	2	Total 2	Mg 2	0	0
58	RB	2	Total 2	Mg 2	0	0
58	RF	1	Total 1	Mg 1	0	0
58	XM	1	Total 1	Mg 1	0	0

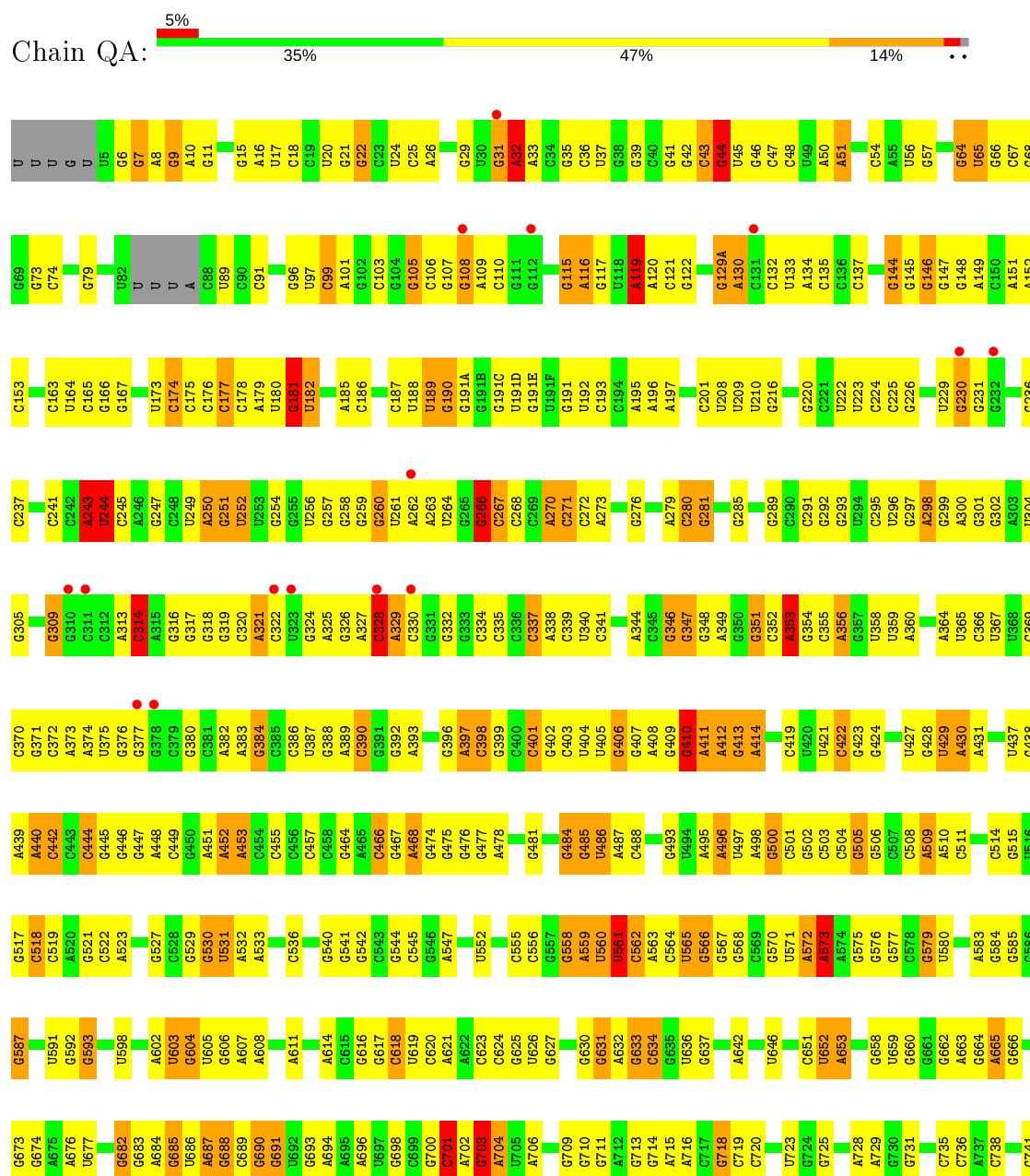
- Molecule 59 is ZINC ION (three-letter code: ZN) (formula: Zn).

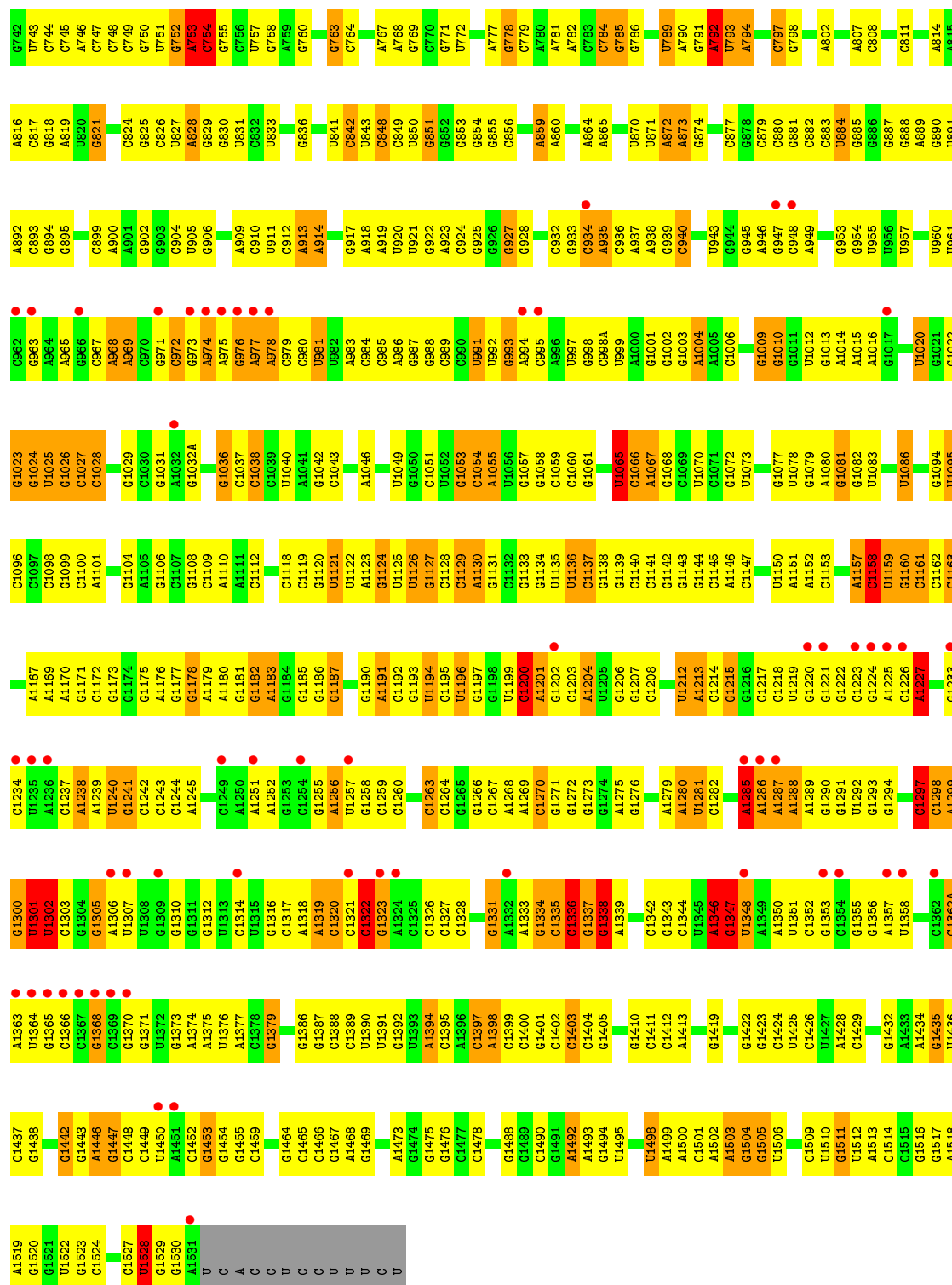
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
59	XD	1	Total 1	Zn 1	0	0
59	QD	1	Total 1	Zn 1	0	0
59	QN	1	Total 1	Zn 1	0	0
59	XN	1	Total 1	Zn 1	0	0

3 Residue-property plots

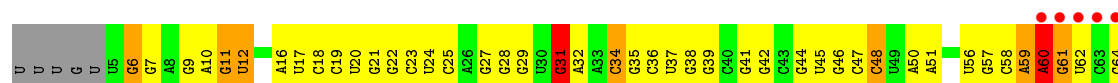
These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are 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: 16S rRNA

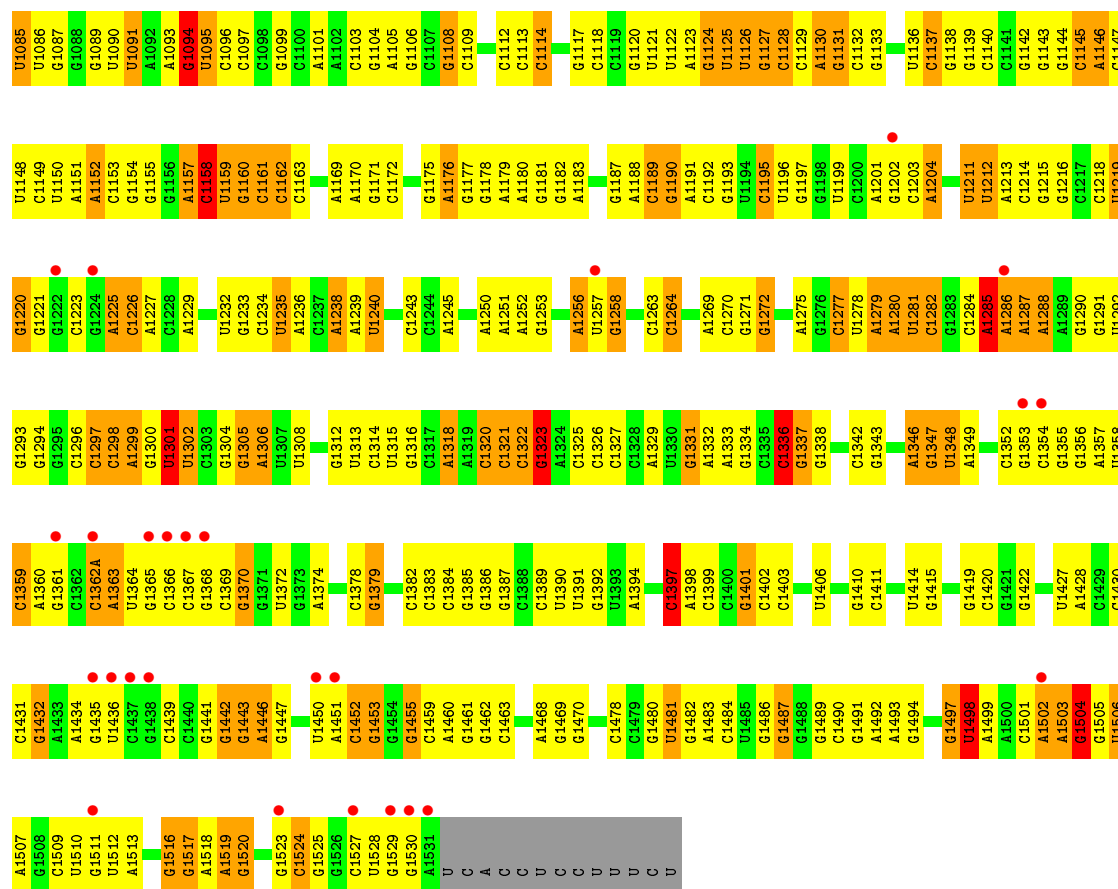




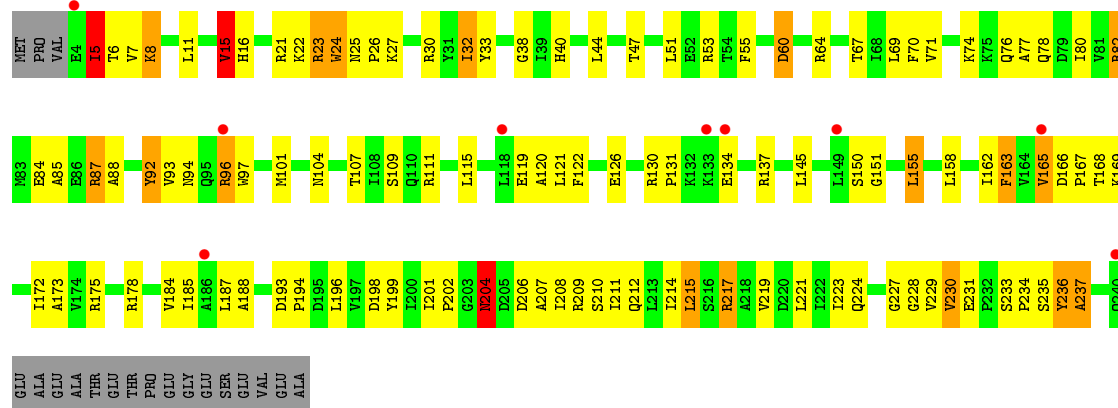
• Molecule 1: 16S rRNA



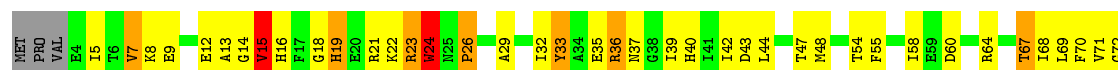


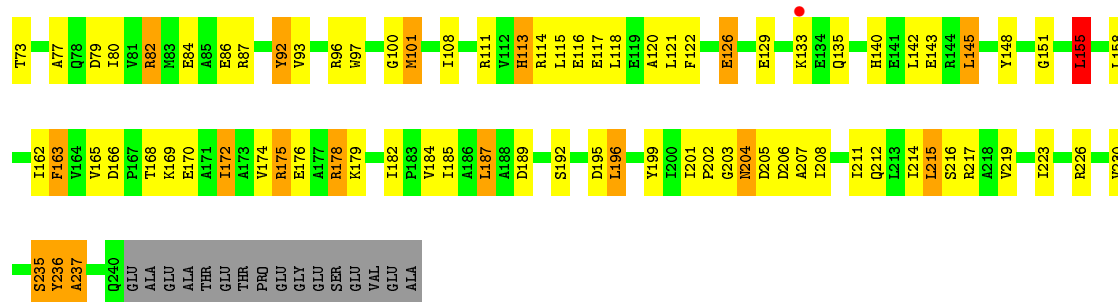


• Molecule 2: 30S ribosomal protein S2

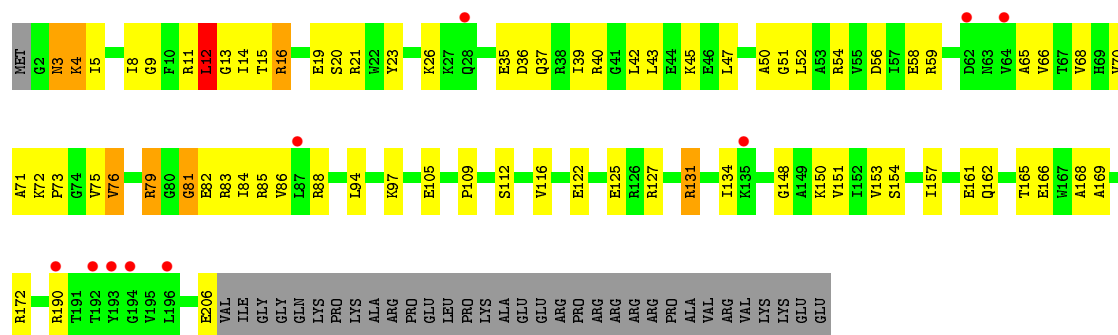


• Molecule 2: 30S ribosomal protein S2

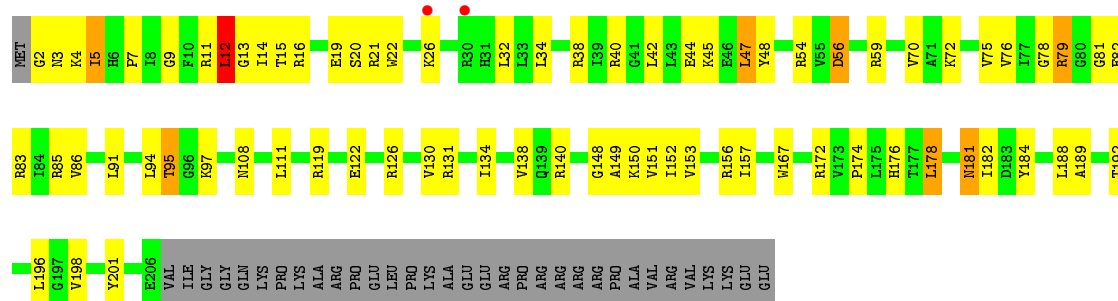




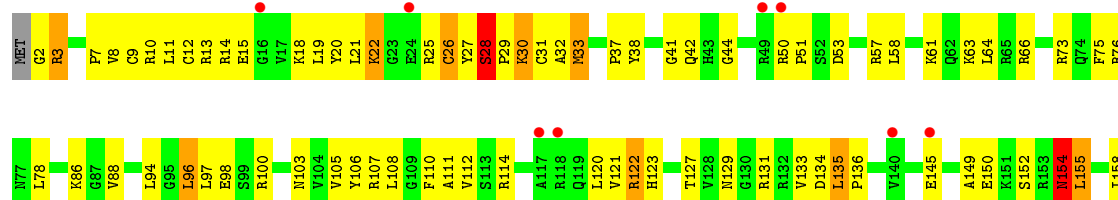
• Molecule 3: 30S ribosomal protein S3



• Molecule 3: 30S ribosomal protein S3

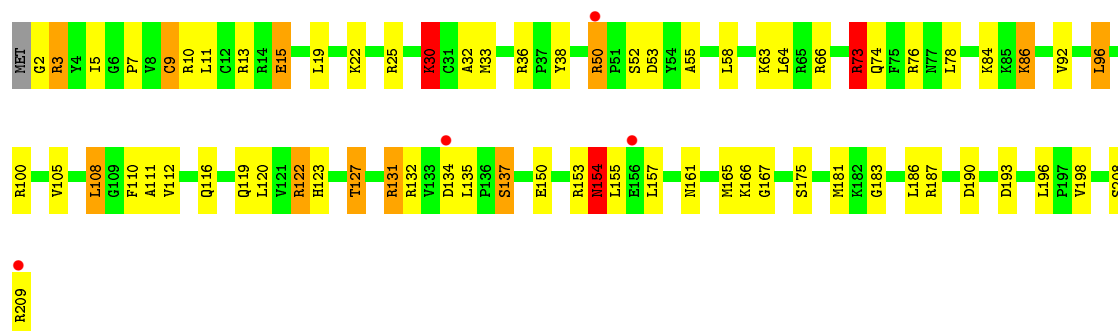


• Molecule 4: 30S ribosomal protein S4

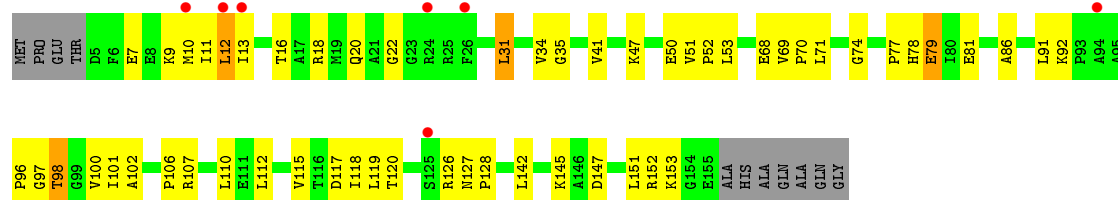




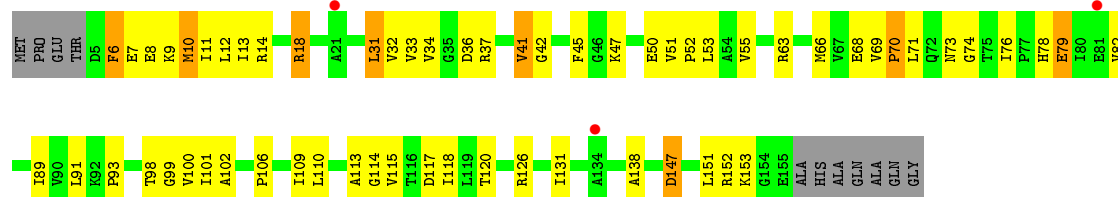
- Molecule 4: 30S ribosomal protein S4



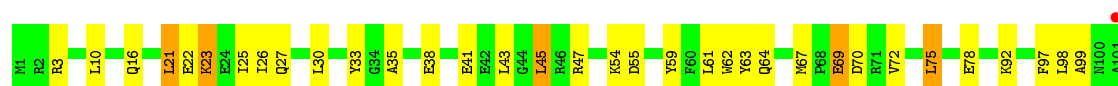
- Molecule 5: 30S ribosomal protein S5



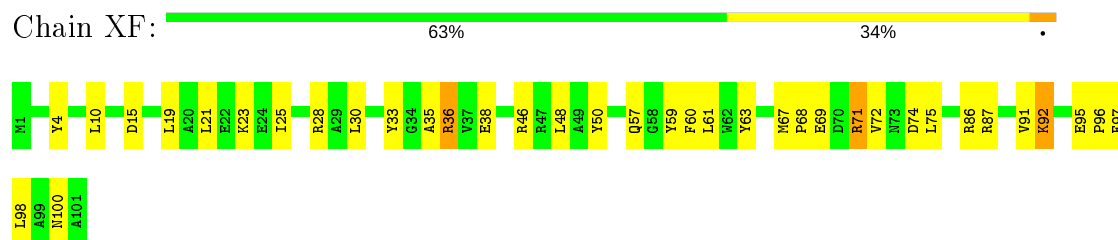
- Molecule 5: 30S ribosomal protein S5



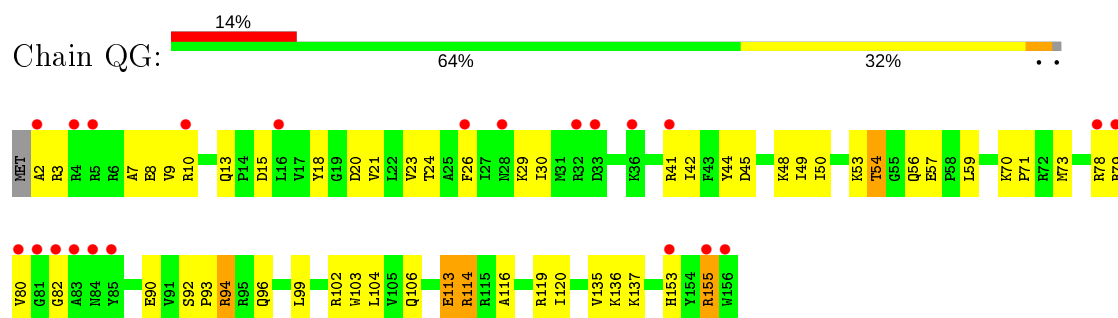
- Molecule 6: 30S ribosomal protein S6



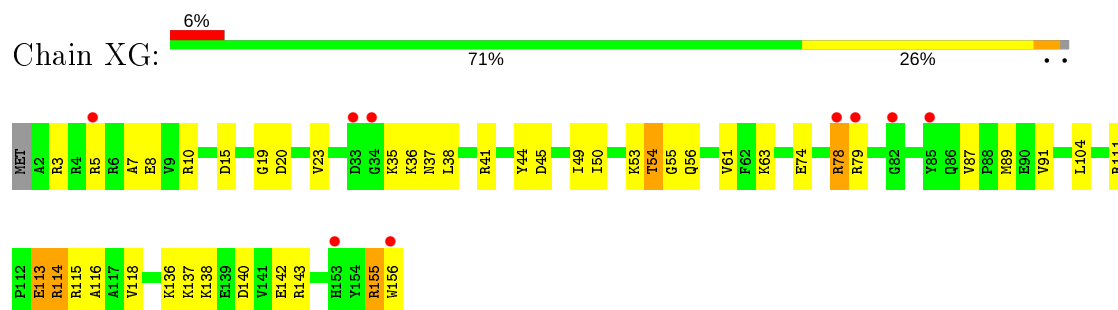
- Molecule 6: 30S ribosomal protein S6



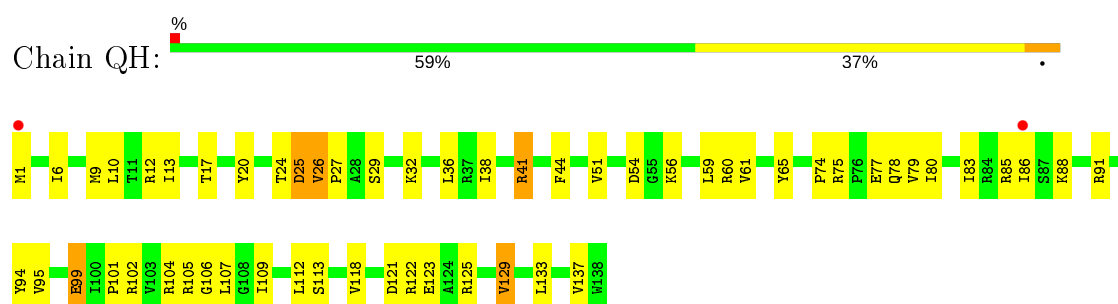
- Molecule 7: 30S ribosomal protein S7



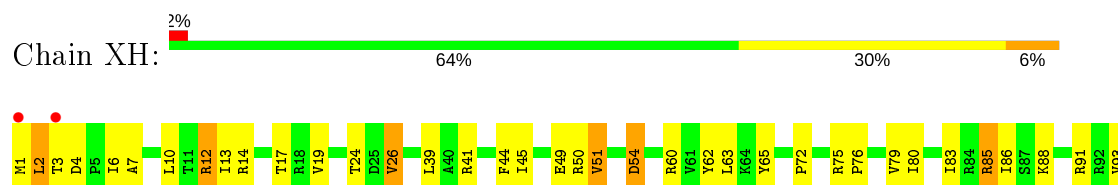
- Molecule 7: 30S ribosomal protein S7



- Molecule 8: 30S ribosomal protein S8

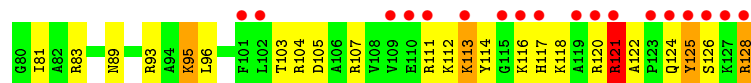
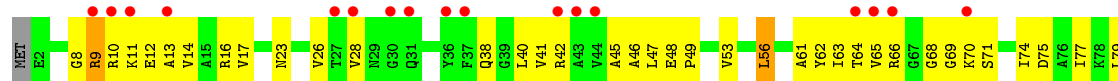


- Molecule 8: 30S ribosomal protein S8

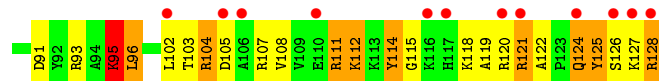
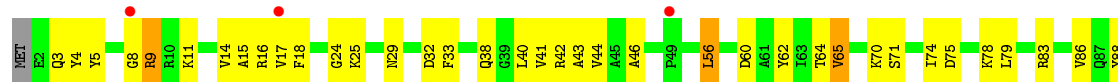




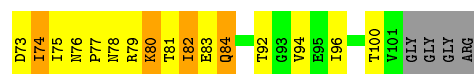
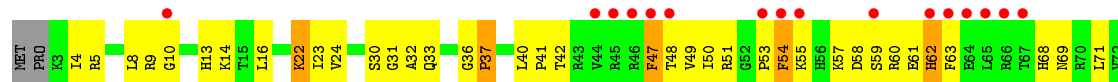
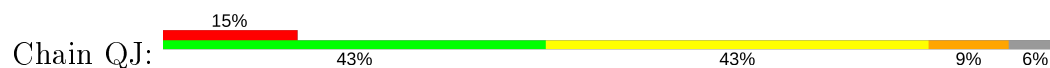
- Molecule 9: 30S ribosomal protein S9



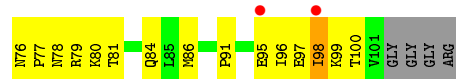
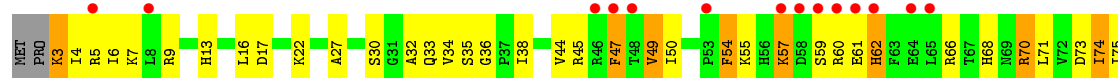
- Molecule 9: 30S ribosomal protein S9



- Molecule 10: 30S ribosomal protein S10

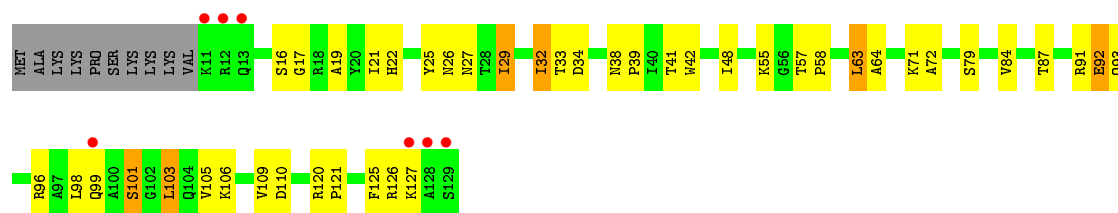


- Molecule 10: 30S ribosomal protein S10



- Molecule 11: 30S ribosomal protein S11

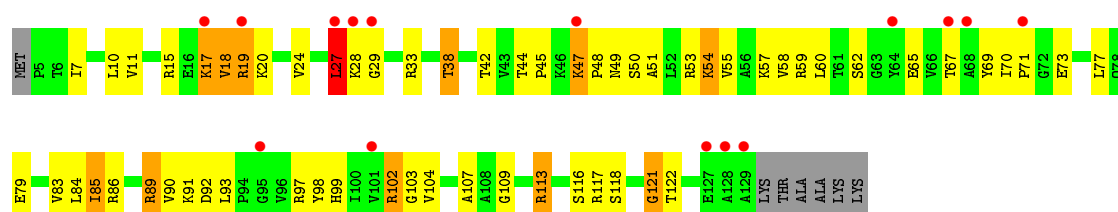




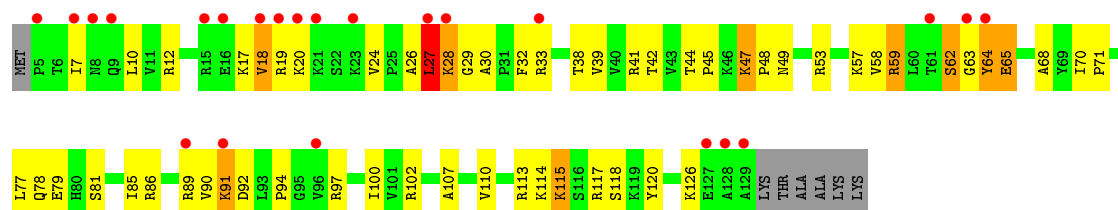
- Molecule 11: 30S ribosomal protein S11



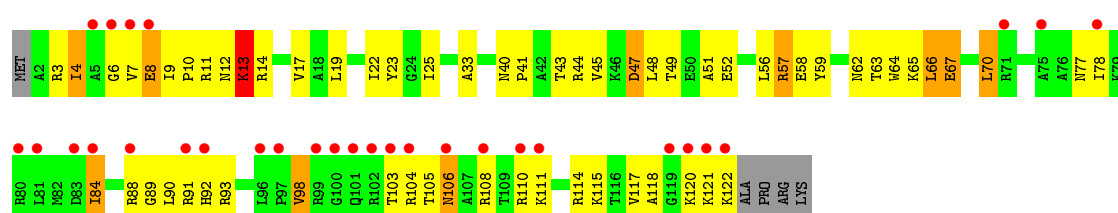
- Molecule 12: 30S ribosomal protein S12



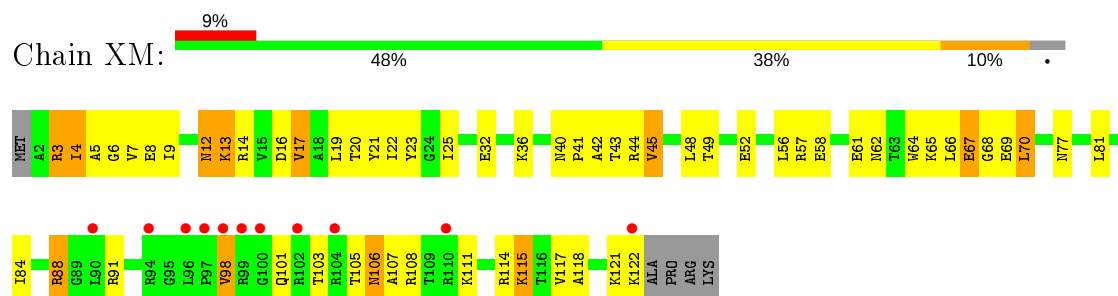
- Molecule 12: 30S ribosomal protein S12



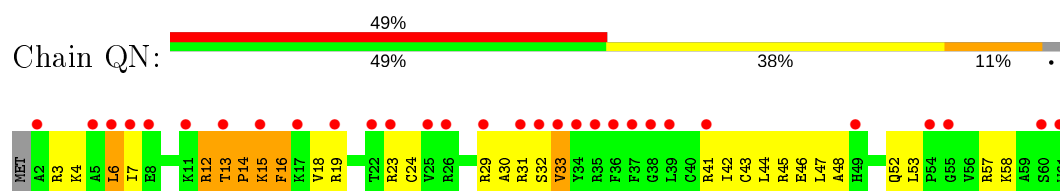
- Molecule 13: 30S ribosomal protein S13



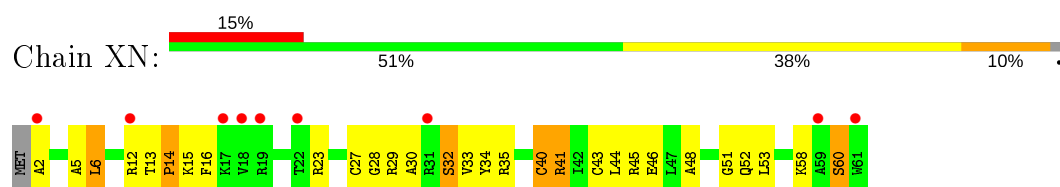
- Molecule 13: 30S ribosomal protein S13



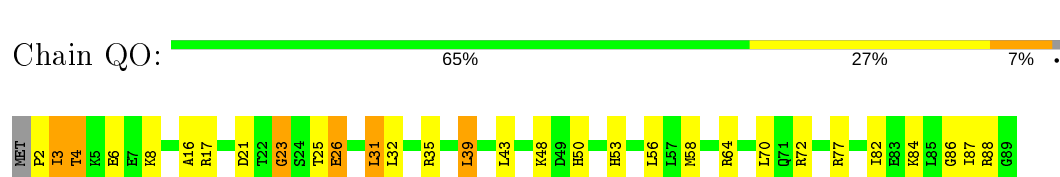
- Molecule 14: 30S ribosomal protein S14 type Z



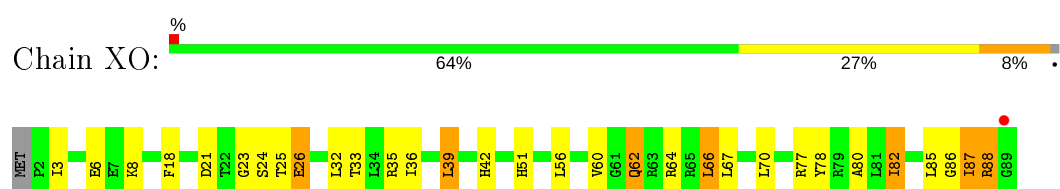
- Molecule 14: 30S ribosomal protein S14 type Z



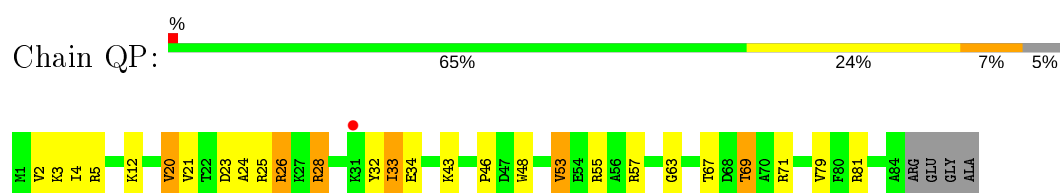
- Molecule 15: 30S ribosomal protein S15



- Molecule 15: 30S ribosomal protein S15

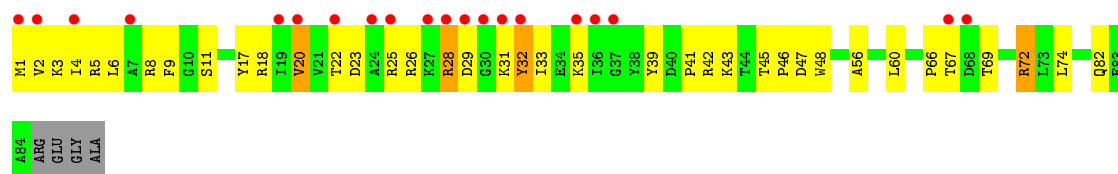


- Molecule 16: 30S ribosomal protein S16



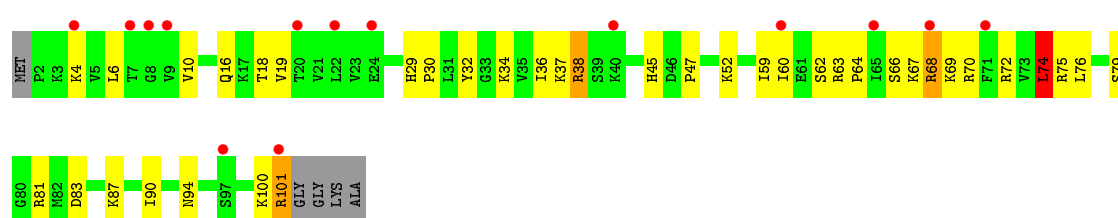
- Molecule 16: 30S ribosomal protein S16

Chain XP:



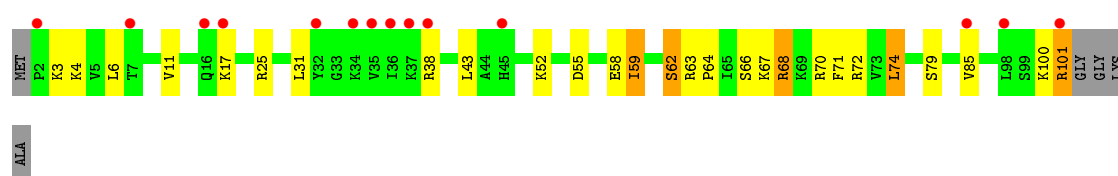
- Molecule 17: 30S ribosomal protein S17

Chain QQ:



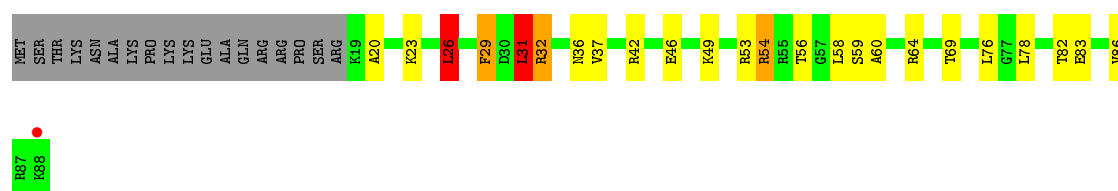
- Molecule 17: 30S ribosomal protein S17

Chain XQ:



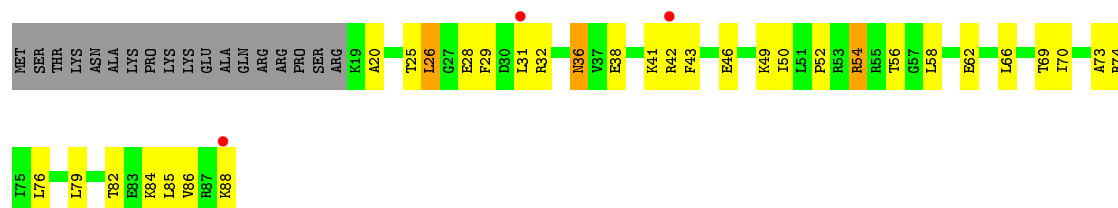
- Molecule 18: 30S ribosomal protein S18

Chain QR:

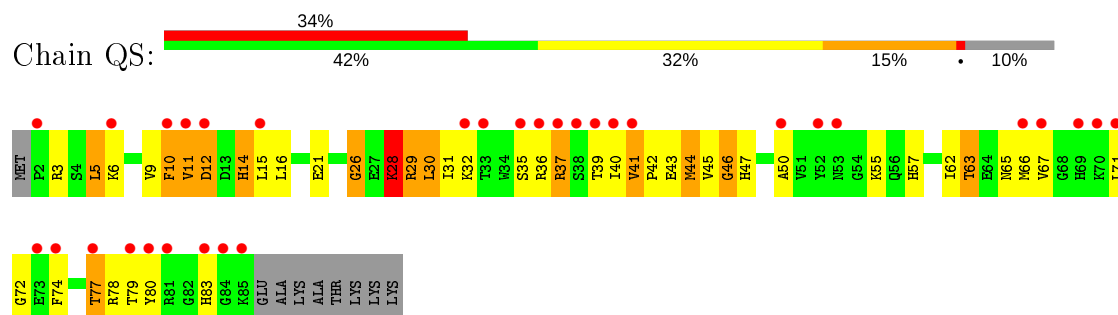


- Molecule 18: 30S ribosomal protein S18

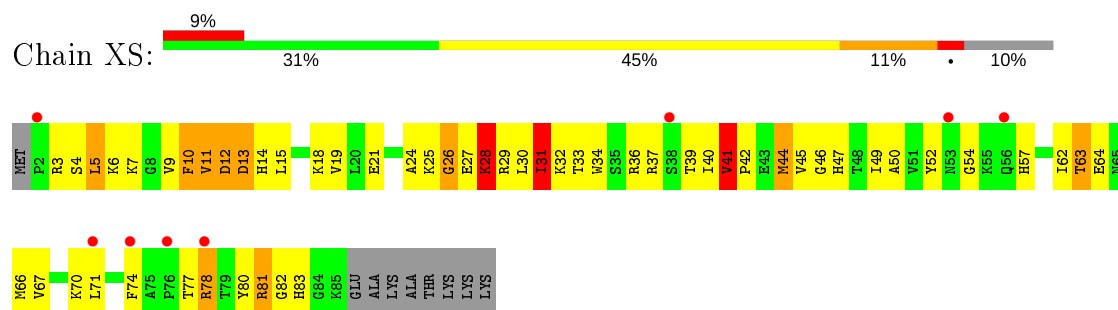
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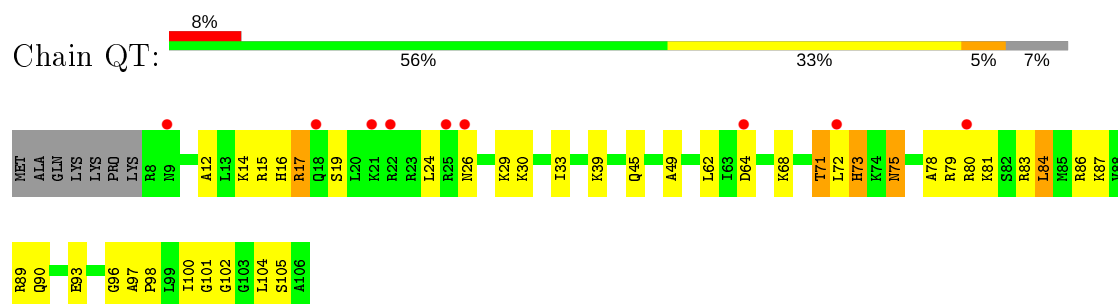
- Molecule 19: 30S ribosomal protein S19



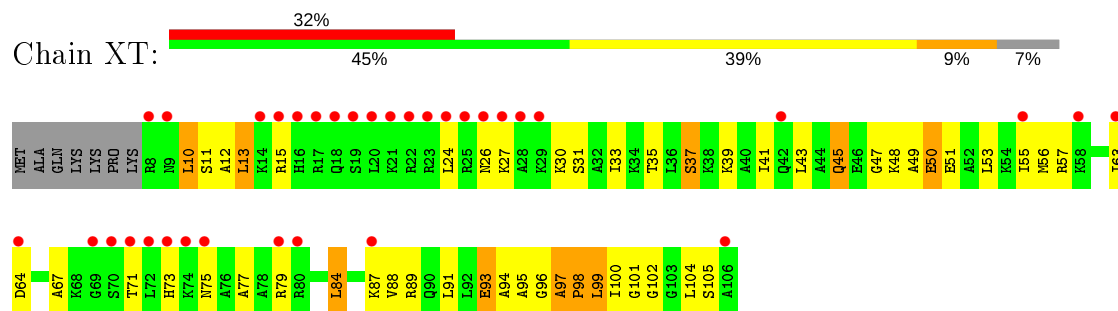
- Molecule 19: 30S ribosomal protein S19



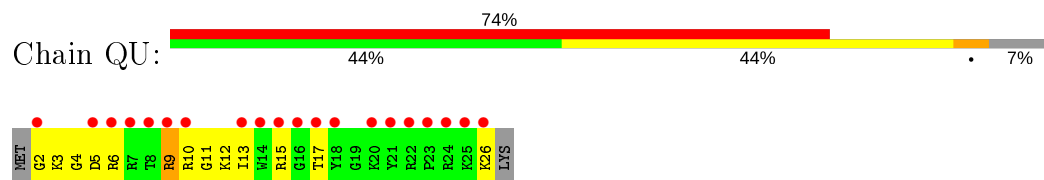
- Molecule 20: 30S ribosomal protein S20



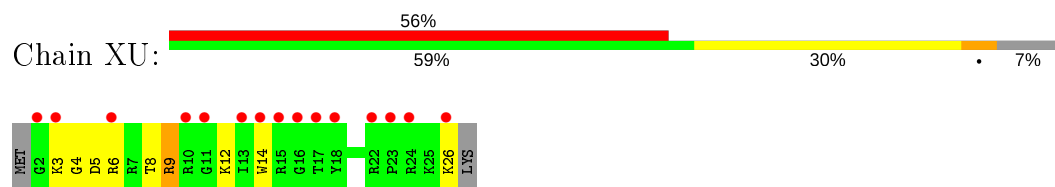
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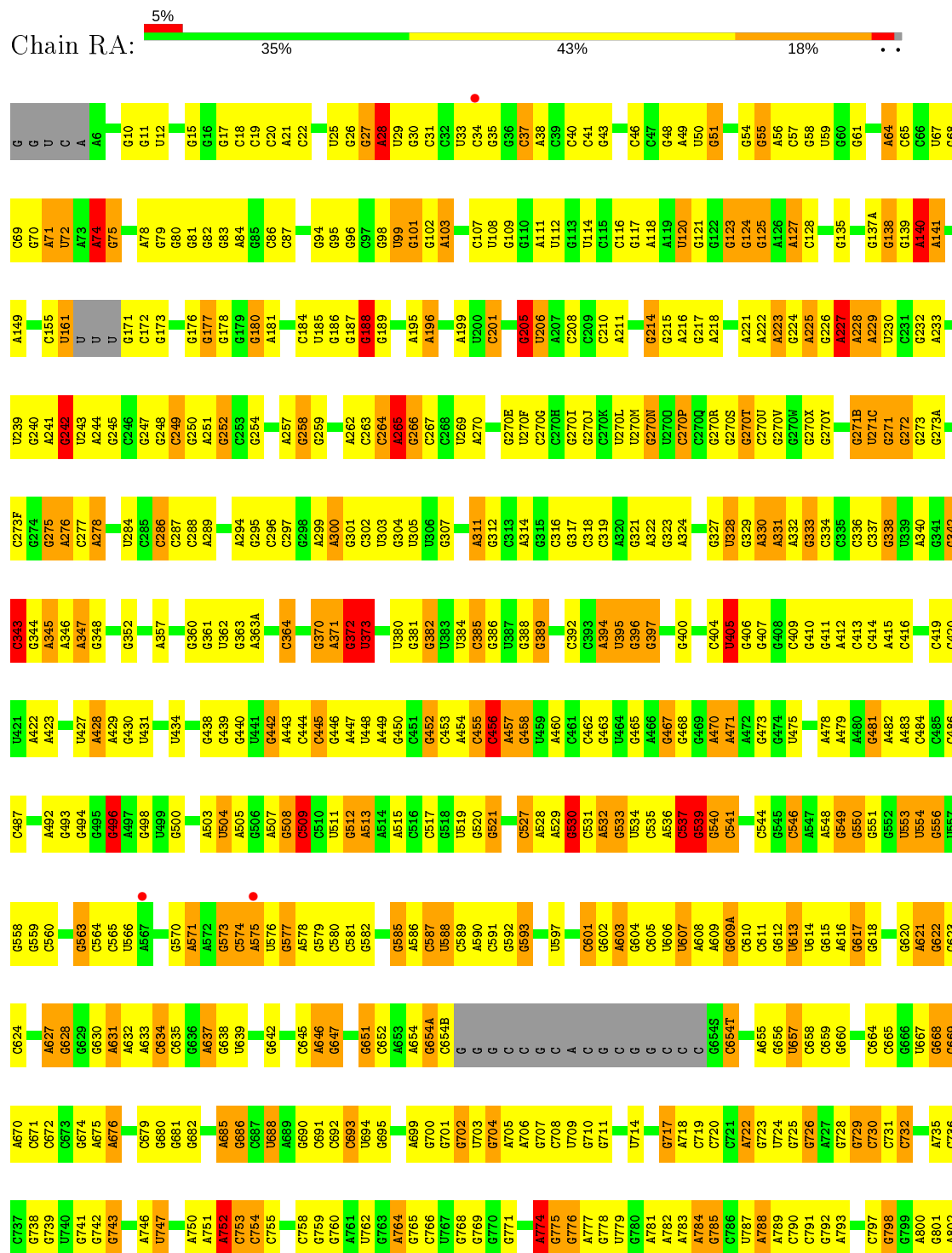
- Molecule 21: 30S ribosomal protein Thx



- Molecule 21: 30S ribosomal protein Thx

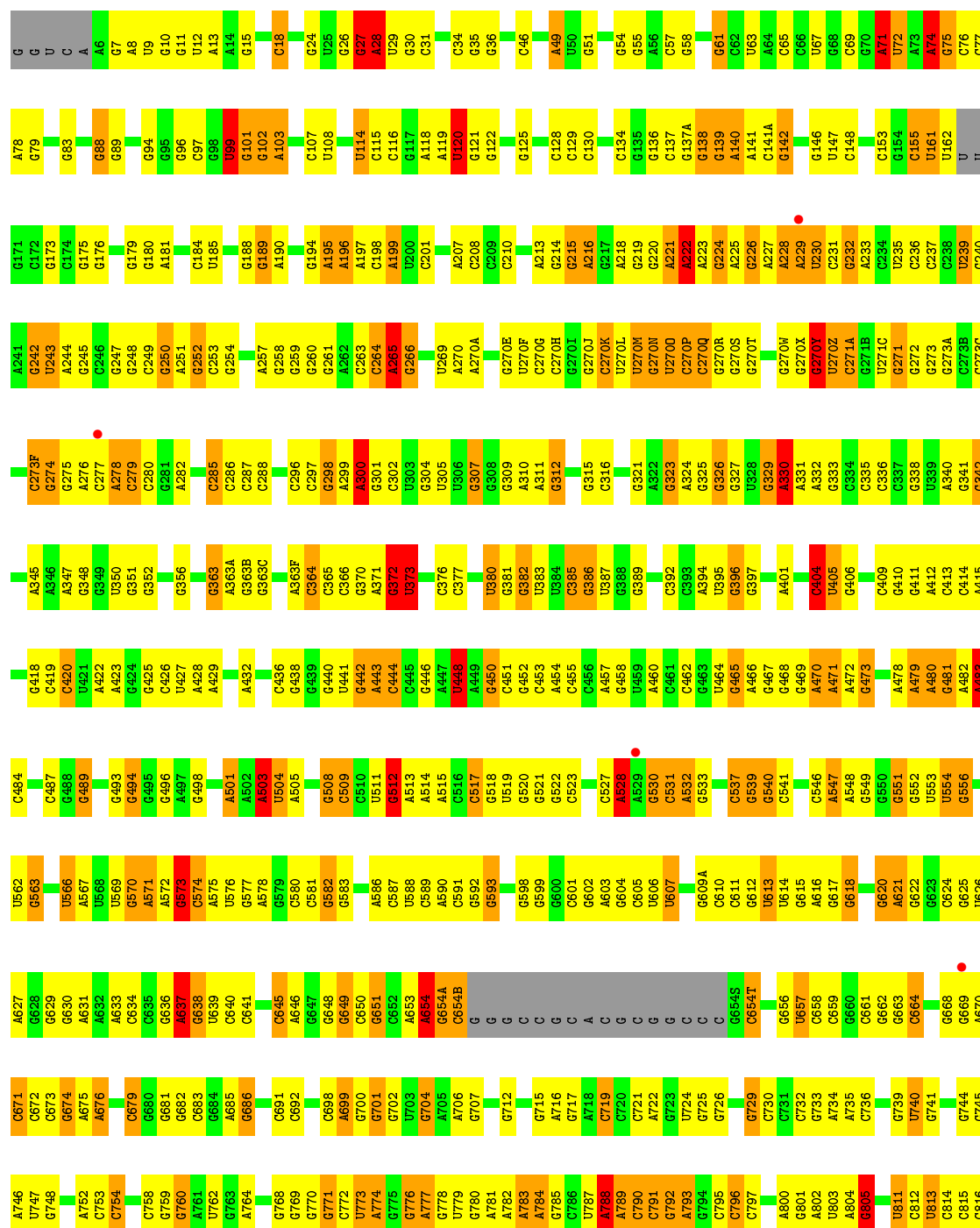


- Molecule 22: 23S rRNA



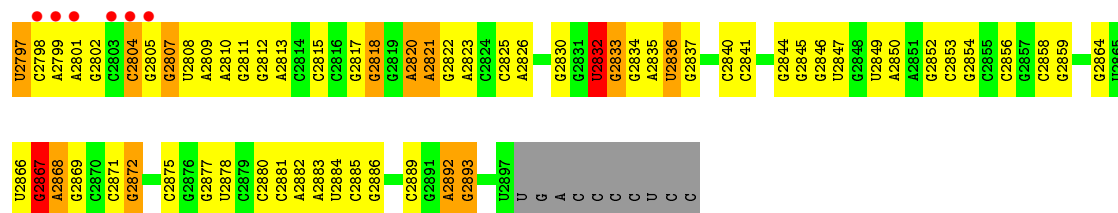
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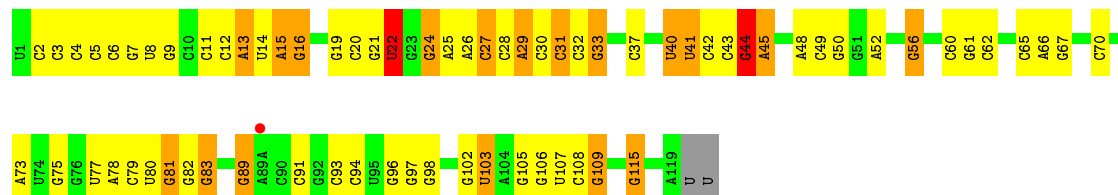


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U1789	G1696	G1486	G1487	G1488	A1416	U1416	A1342	G1269	G1203	G1068	C995	U858	U858	U858
G1790	G1697	G1487	G1488	G1489	C1417	C1417	G1344	G1270	G1204	A1069	A996	G859	G859	G859
A1791	U1698	U1488	U1489	U1490	G1418	G1418	G1345	G1271	U1205	A1070	A996	U860	U860	U860
G1792	G1699	U1489	U1490	U1491	U1419	U1419	G1346	G1272	U1206	G1071	A996	U861	U861	U861
U1793	U1700	A1554	A1554	A1555	U1420	U1420	U1347	A1275	G1207	A1072	A996	U862	U862	U862
U1794	A1701	C1630A	C1630A	C1630A	U1421	U1421	U1348	A1276	G1208	A1073	A996	U863	U863	U863
C1795	U1795	G1635	G1635	G1636	G1422	G1422	U1352	A1278	G1209	A1074	A996	U864	U864	U864
U1796	U1796	A1637	A1637	A1638	G1423	G1423	U1353	A1279	G1210	A1075	A996	U865	U865	U865
C1797	U1797	A1638	A1638	A1639	G1424	G1424	U1354	A1280	G1211	A1076	A996	U866	U866	U866
U1798	G1725	G1639	G1639	G1640	G1425	G1425	U1355	A1281	G1212	A1077	A996	U867	U867	U867
G1799	U1726	U1639	U1639	U1640	G1426	G1426	U1356	A1282	G1213	A1078	A996	U868	U868	U868
U1800	U1727	C1640	C1640	C1641	A1427	A1427	U1357	A1283	G1214	A1079	A996	U869	U869	U869
G1801	G1728	A1641	A1641	A1642	C1428	C1428	U1358	A1284	G1215	A1080	A996	U870	U870	U870
A1802	A1729	G1642	G1642	G1643	G1429	G1429	U1359	A1285	G1216	A1081	A996	U871	U871	U871
A1803	U1730	G1643	G1643	G1644	G1430	G1430	U1360	A1286	G1217	A1082	A996	U872	U872	U872
C1804	G1731	G1644	G1644	G1645	U1431	U1431	U1361	A1287	G1218	A1083	A996	U873	U873	U873
U1805	U1732	C1645	C1645	C1646	U1432	U1432	U1362	A1288	G1219	A1084	A996	U874	U874	U874
G1806	G1733	G1646	G1646	G1647	A1433	A1433	U1363	A1289	G1220	A1085	A996	U875	U875	U875
G1807	C1734	G1647	G1647	G1648	U1434	U1434	U1364	A1290	G1221	A1086	A996	U876	U876	U876
G1811	G1742	A1652	A1652	A1653	G1435	G1435	U1365	A1291	G1222	A1087	A996	U877	U877	U877
A1812	G1743	G1653	G1653	G1654	U1436	U1436	U1366	A1292	G1223	A1088	A996	U878	U878	U878
G1813	U1750	A1654	A1654	A1655	G1437	G1437	U1367	A1293	G1224	A1089	A996	U879	U879	U879
A1814	G1751	A1655	A1655	A1656	U1438	U1438	U1368	A1294	G1225	A1090	A996	U880	U880	U880
A1815	C1752	C1656	C1656	C1657	A1439	A1439	U1369	A1295	G1226	A1091	A996	U881	U881	U881
G1816	G1753	G1657	G1657	G1658	U1440	U1440	U1370	A1296	G1227	A1092	A996	U882	U882	U882
U1820	U1754	C1658	C1658	C1659	A1441	A1441	U1371	A1297	G1228	A1093	A996	U883	U883	U883
A1821	A1755	U1659	U1659	U1660	G1442	G1442	U1372	A1298	G1229	A1094	A996	U884	U884	U884
G1822	G1756	G1662	G1662	G1663	U1443	U1443	U1373	A1299	G1230	A1095	A996	U885	U885	U885
G1823	U1757	C1662	C1662	C1663	A1444	A1444	U1374	A1300	G1231	A1096	A996	U886	U886	U886
					U1514	U1514	U1375	A1301	G1232	A1097	A996	U887	U887	U887
					C1515	C1515	U1376	A1302	G1233	A1098	A996	U888	U888	U888
					U1516	U1516	C1377	A1303	G1234	A1099	A996	U889	U889	U889
					G1517	G1517	G1447	G1306	G1235	C1100	A996	U890	U890	U890
					U1518	U1518	A1449	A1378	G1236	U1101	A996	U891	U891	U891

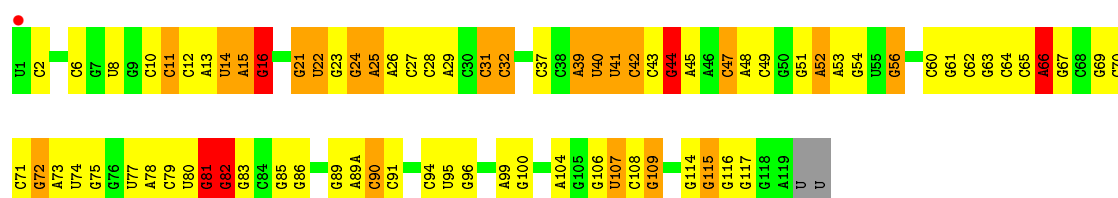




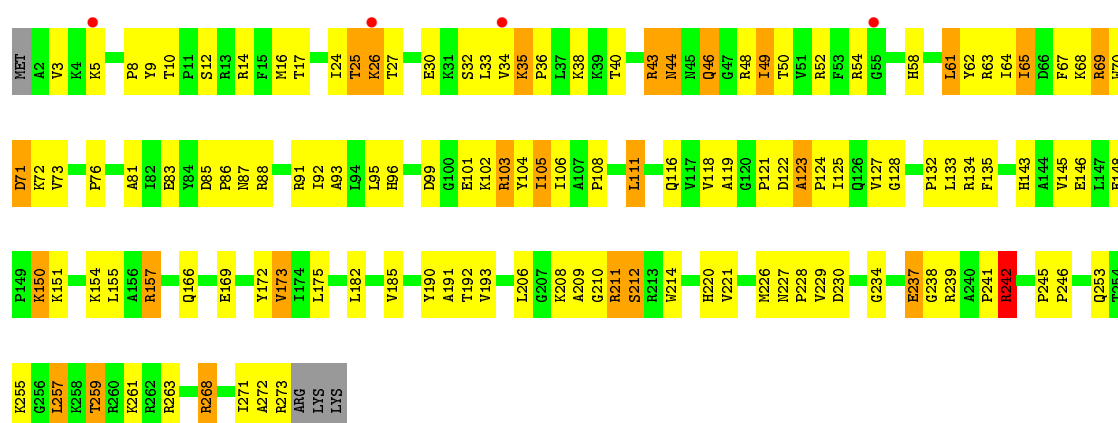
• Molecule 23: 5S rRNA



• Molecule 23: 5S rRNA

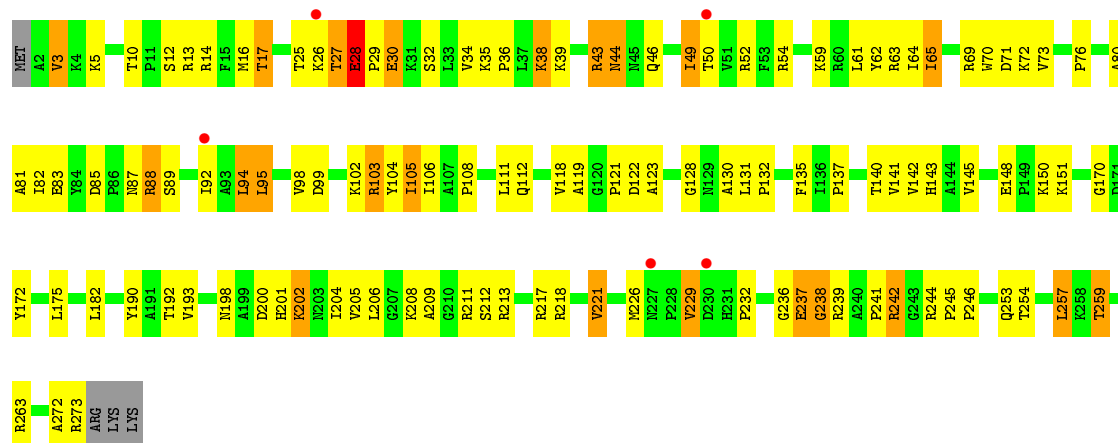


• Molecule 24: 50S ribosomal protein L2

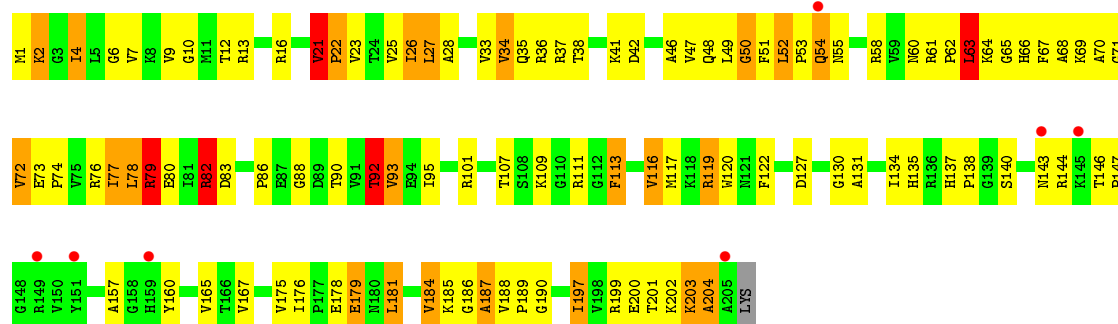


• Molecule 24: 50S ribosomal protein L2

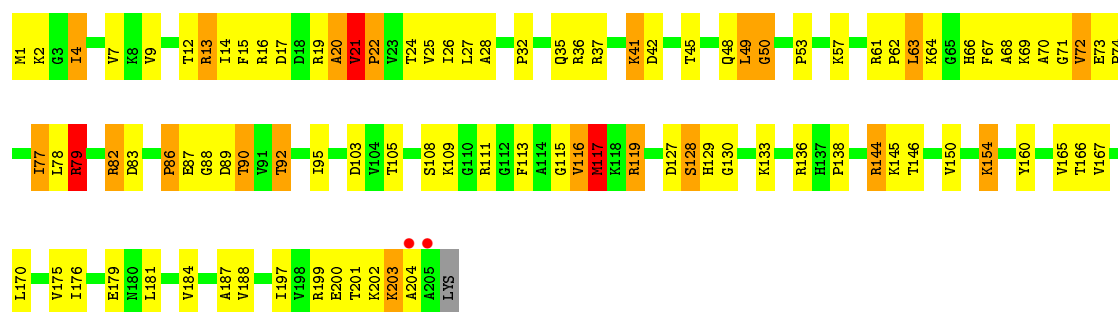




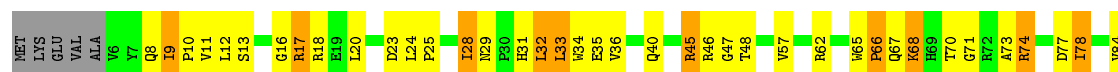
- Molecule 25: 50S ribosomal protein L3

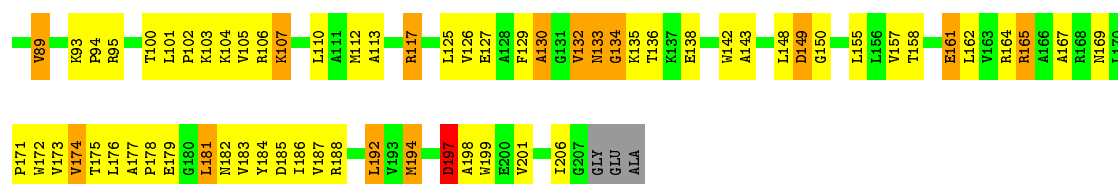


- Molecule 25: 50S ribosomal protein L3



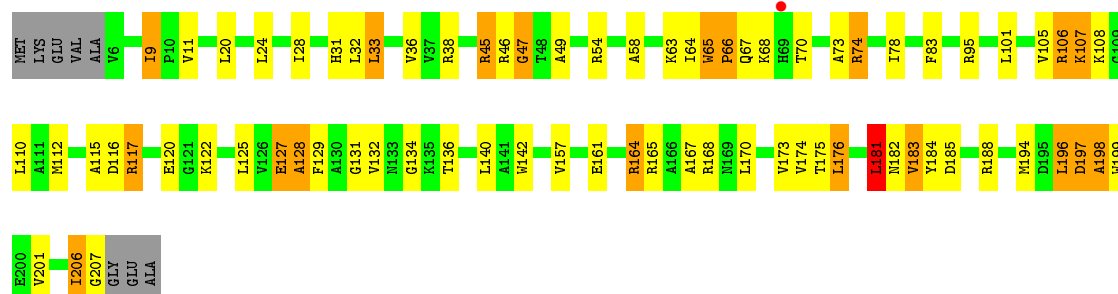
- Molecule 26: 50S ribosomal protein L4





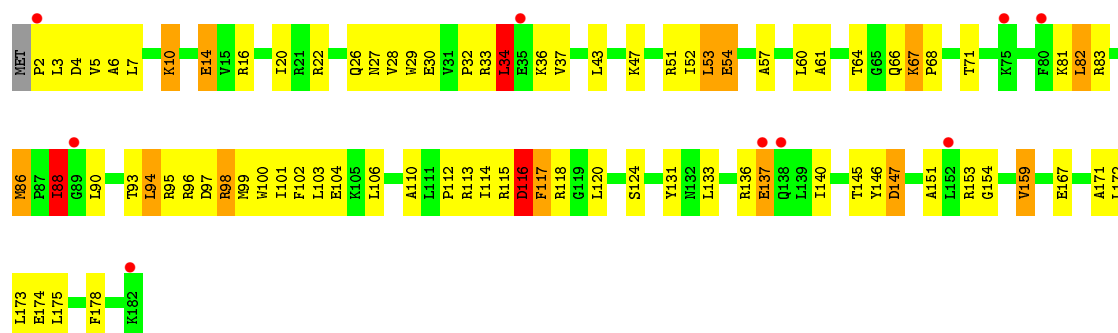
- Molecule 26: 50S ribosomal protein L4

Chain YF: 60% 26% 9%



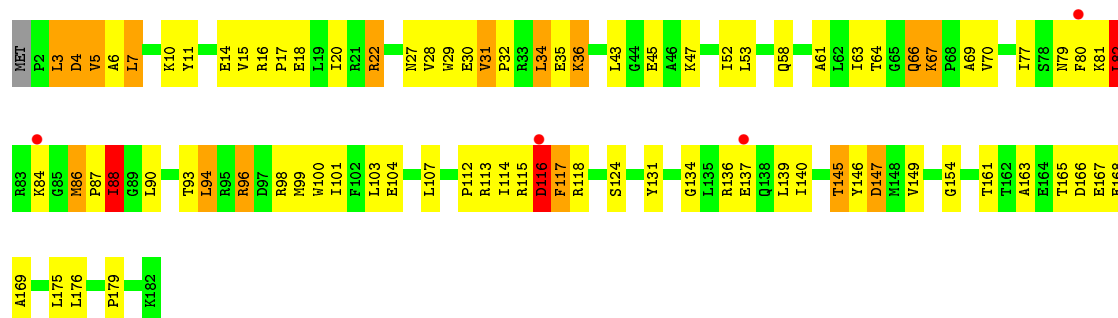
- Molecule 27: 50S ribosomal protein L5

Chain RG: 5% 54% 37% 7%

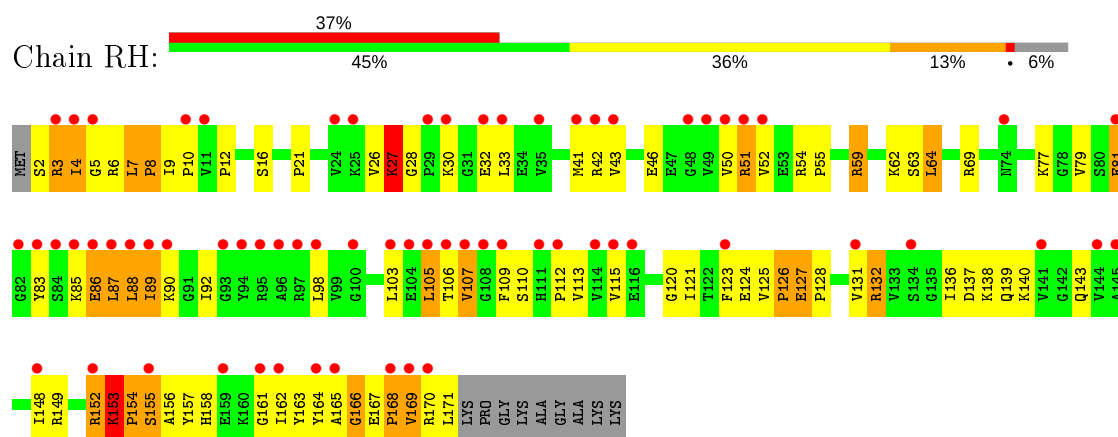


- Molecule 27: 50S ribosomal protein L5

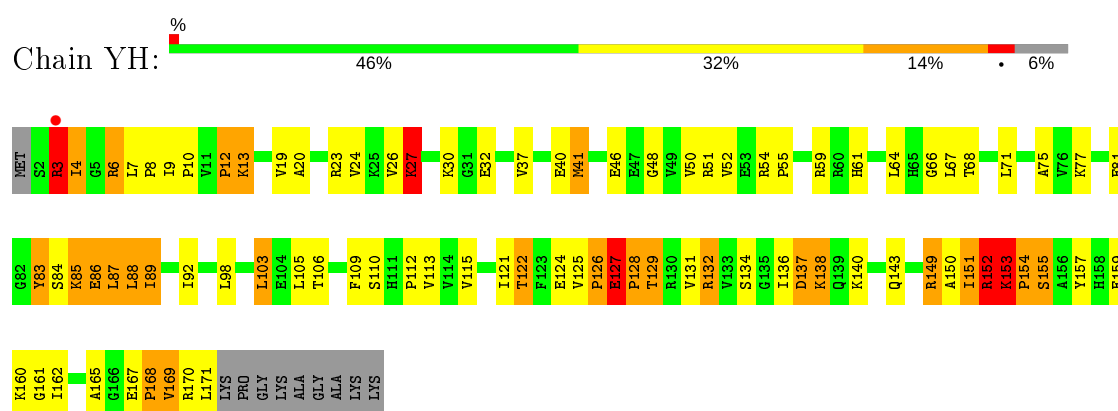
Chain YG: 2% 53% 36% 9%



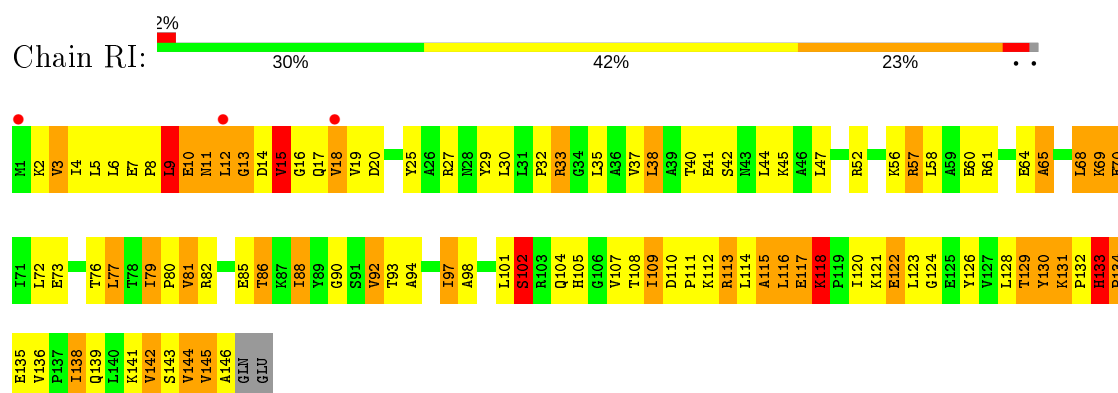
- Molecule 28: 50S ribosomal protein L6



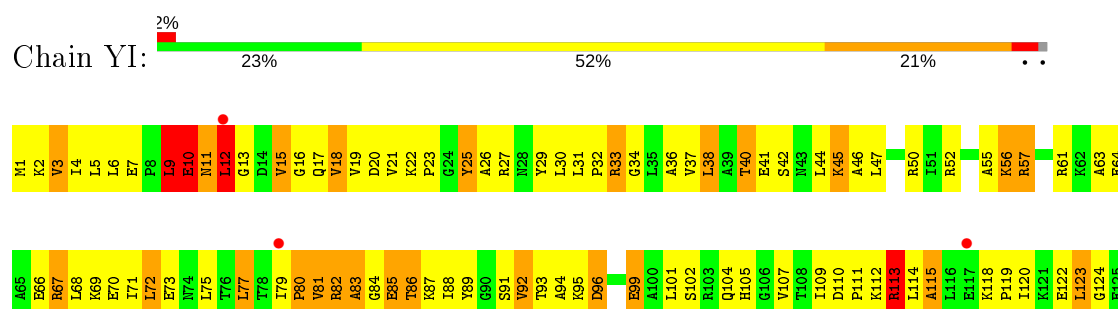
- Molecule 28: 50S ribosomal protein L6



- Molecule 29: 50S ribosomal protein L9

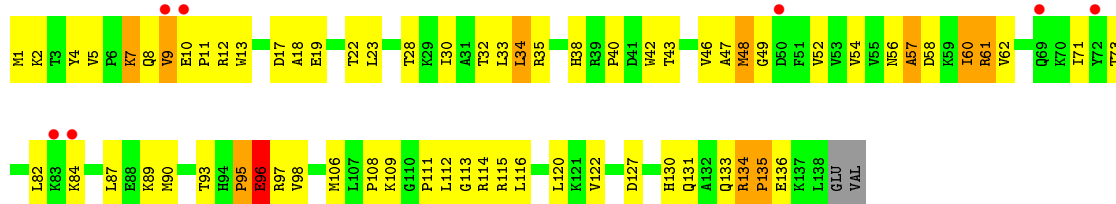


- Molecule 29: 50S ribosomal protein L9

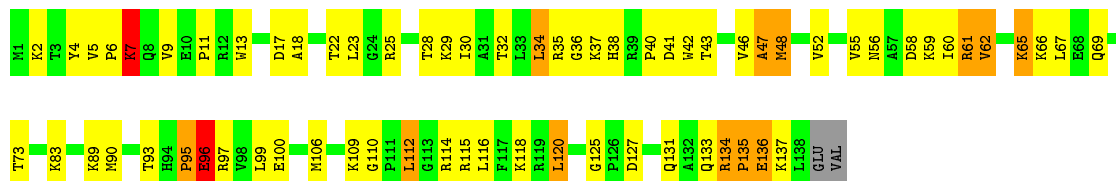




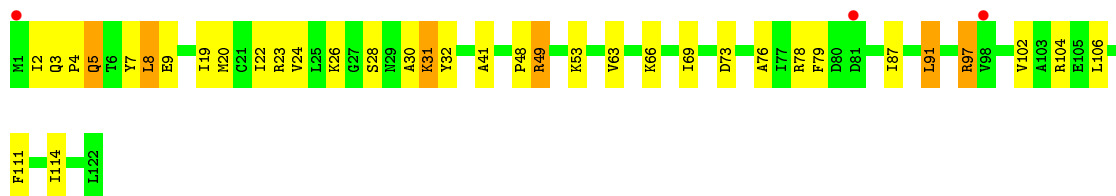
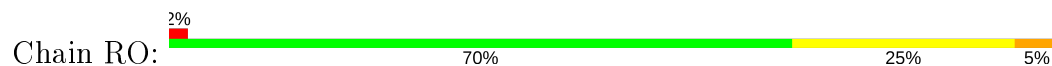
- Molecule 30: 50S ribosomal protein L13



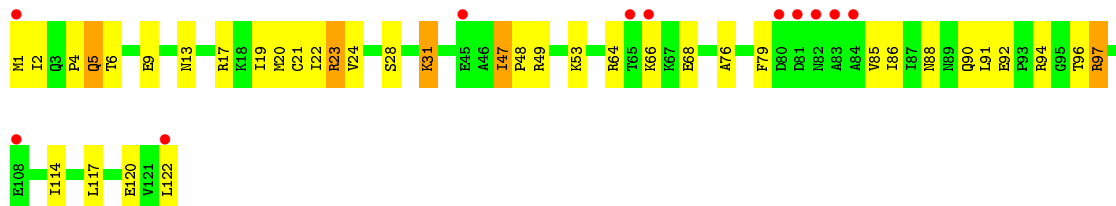
- Molecule 30: 50S ribosomal protein L13



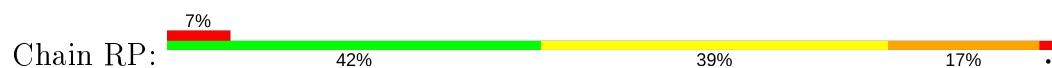
- Molecule 31: 50S ribosomal protein L14

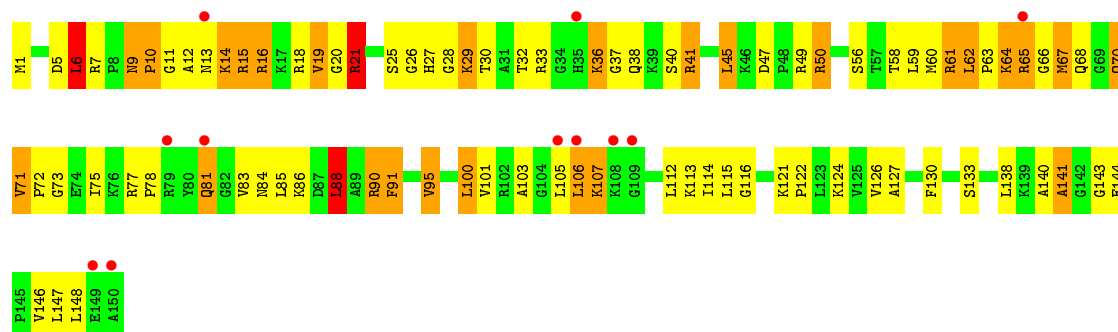


- Molecule 31: 50S ribosomal protein L14

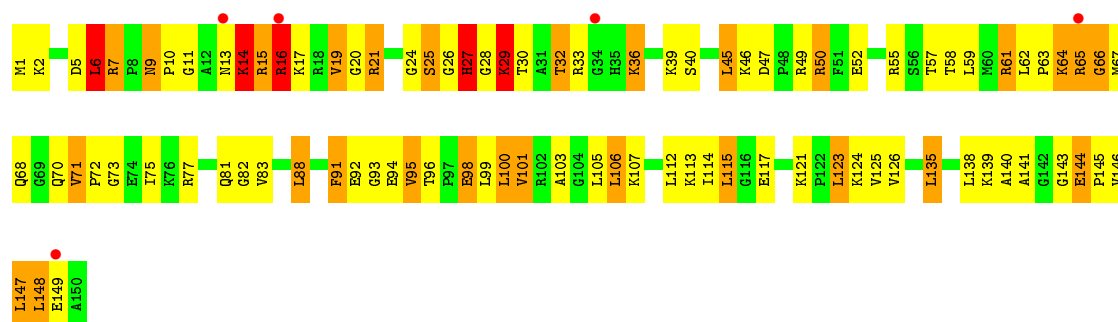


- Molecule 32: 50S ribosomal protein L15

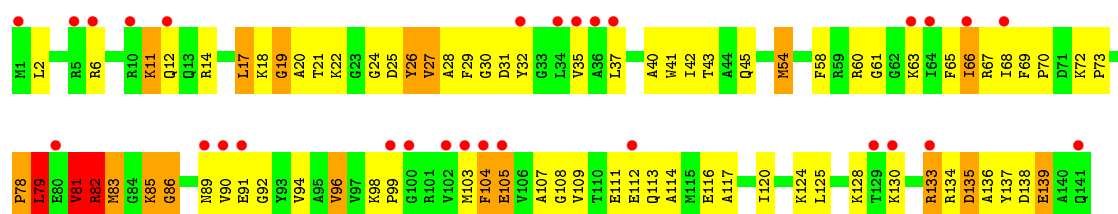




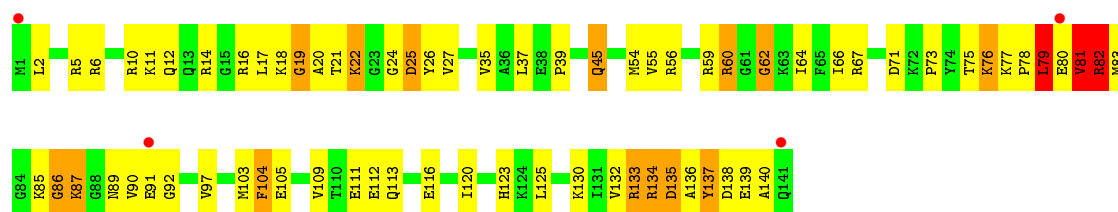
• Molecule 32: 50S ribosomal protein L15



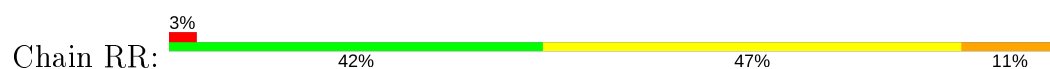
• Molecule 33: 50S ribosomal protein L16

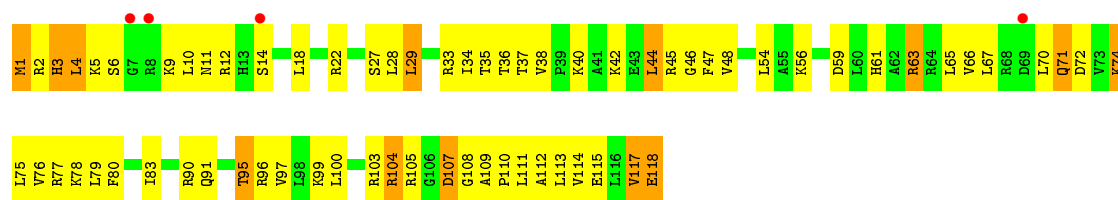


• Molecule 33: 50S ribosomal protein L16

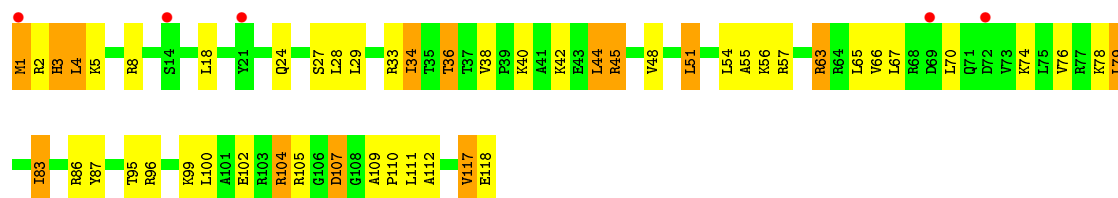


• Molecule 34: 50S ribosomal protein L17

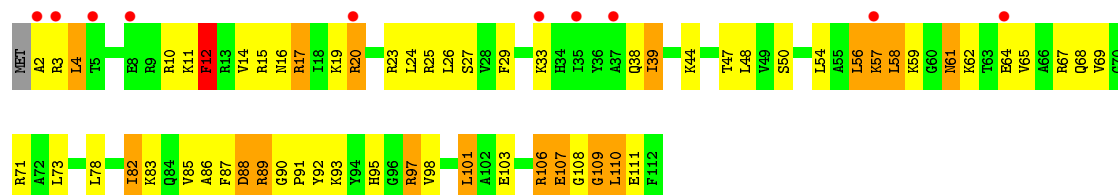
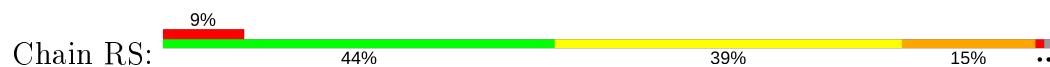




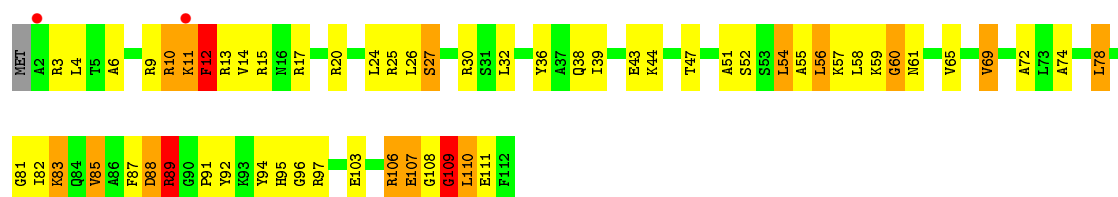
• Molecule 34: 50S ribosomal protein L17



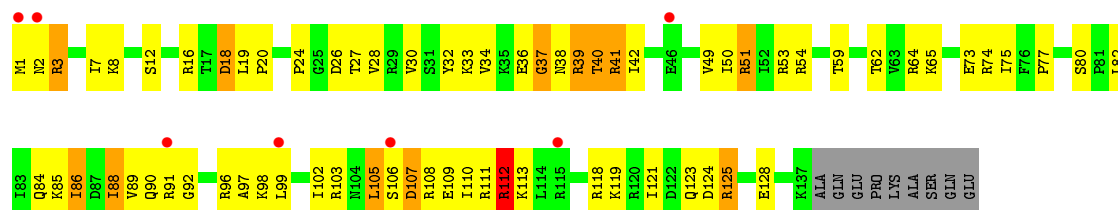
• Molecule 35: 50S ribosomal protein L18



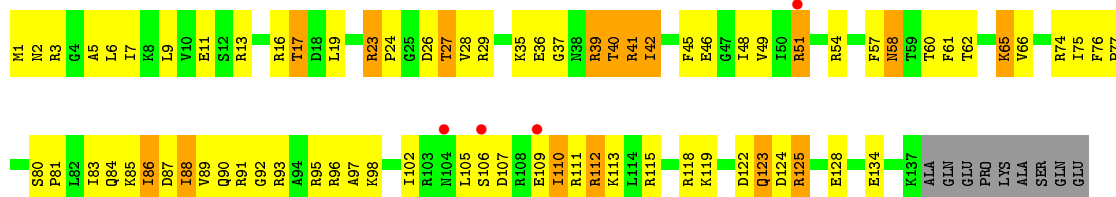
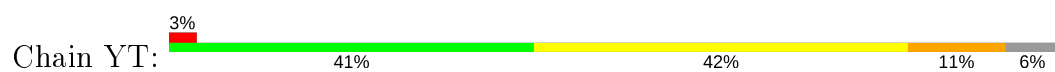
• Molecule 35: 50S ribosomal protein L18



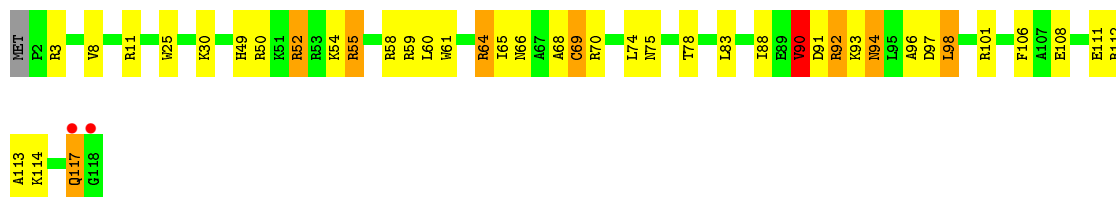
• Molecule 36: 50S ribosomal protein L19



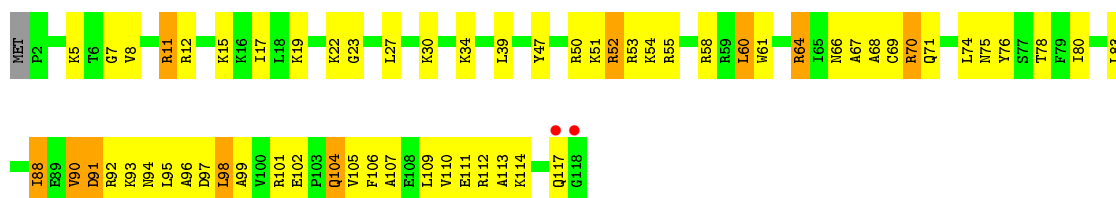
• Molecule 36: 50S ribosomal protein L19



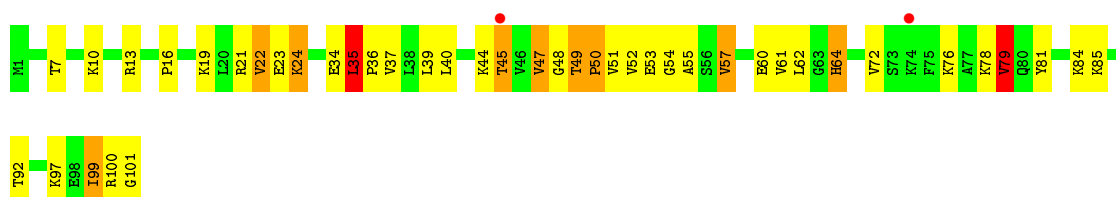
- Molecule 37: 50S ribosomal protein L20



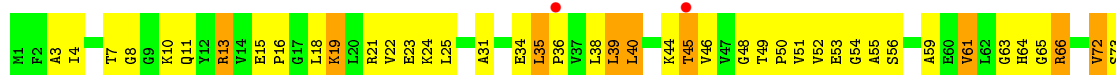
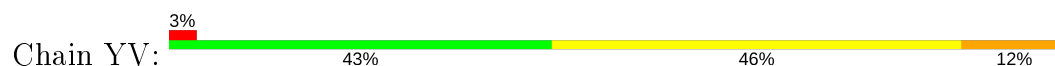
- Molecule 37: 50S ribosomal protein L20



- Molecule 38: 50S ribosomal protein L21



- Molecule 38: 50S ribosomal protein L21

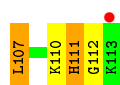




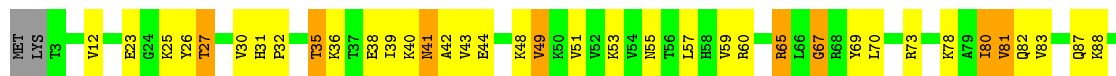
- Molecule 39: 50S ribosomal protein L22



- Molecule 39: 50S ribosomal protein L22



- Molecule 40: 50S ribosomal protein L23

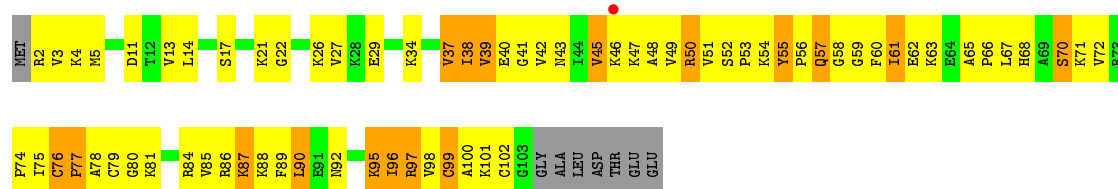


- Molecule 40: 50S ribosomal protein L23

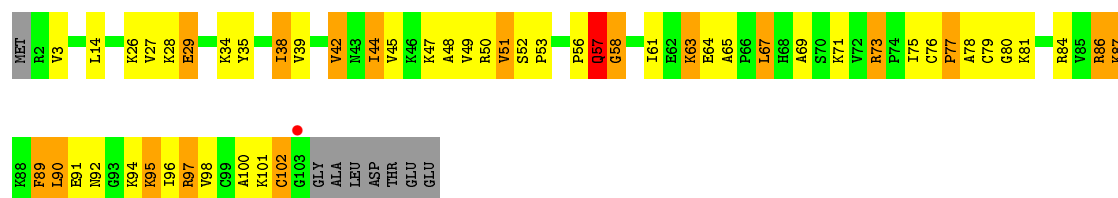


- Molecule 41: 50S ribosomal protein L24

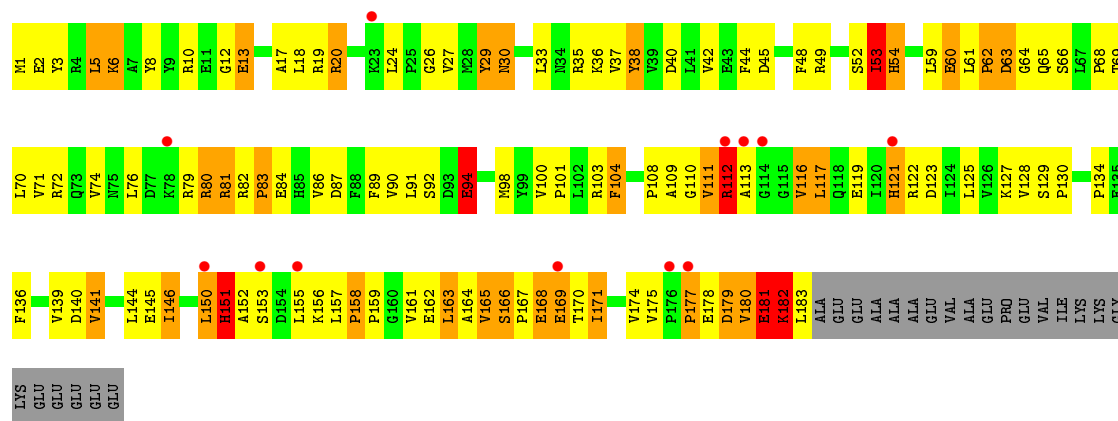




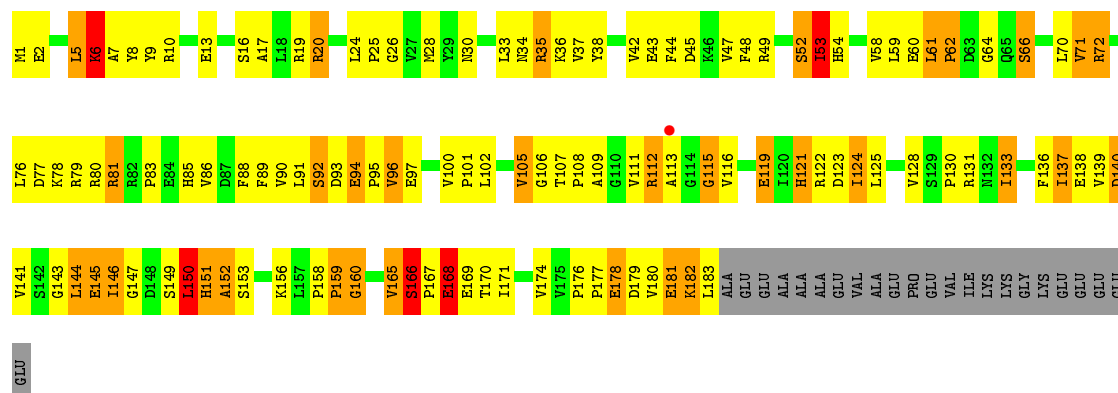
• Molecule 41: 50S ribosomal protein L24



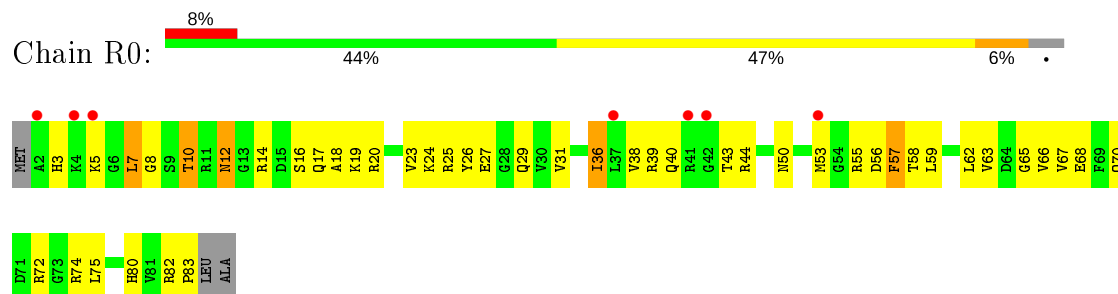
• Molecule 42: 50S ribosomal protein L25



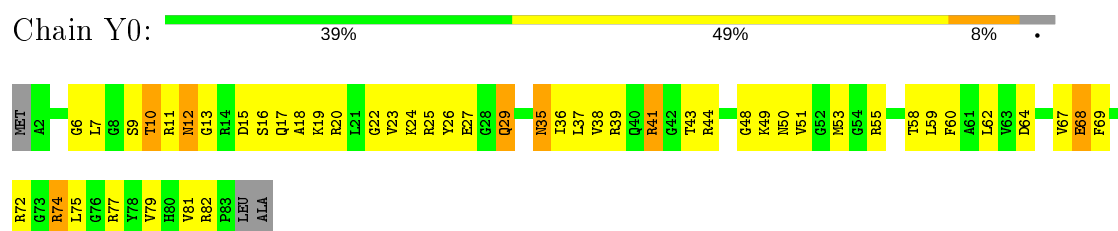
• Molecule 42: 50S ribosomal protein L25



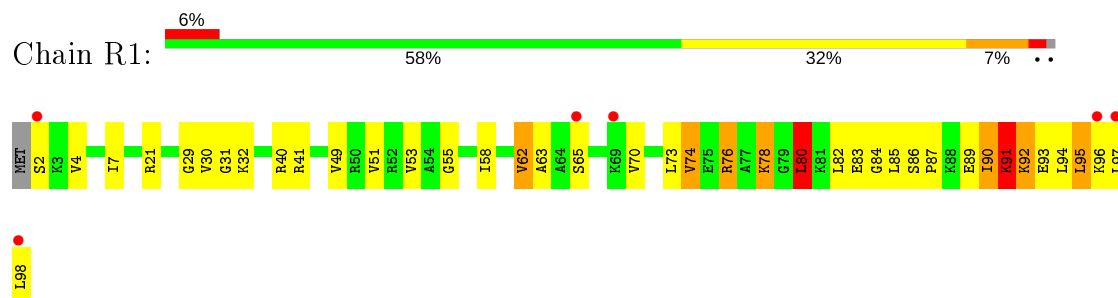
- Molecule 43: 50S ribosomal protein L27



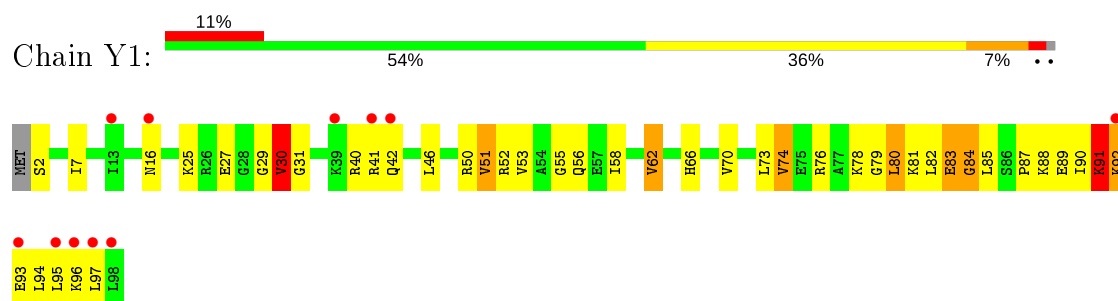
- Molecule 43: 50S ribosomal protein L27



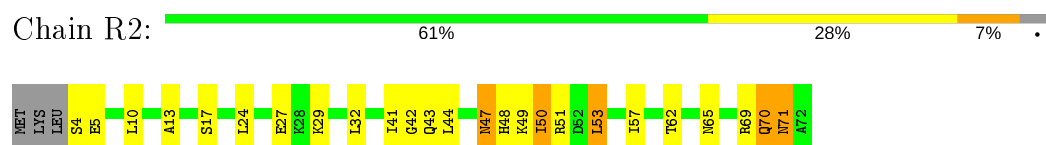
- Molecule 44: 50S ribosomal protein L28



- Molecule 44: 50S ribosomal protein L28



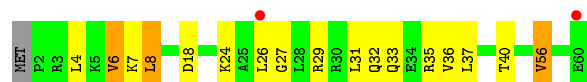
- Molecule 45: 50S ribosomal protein L29



- Molecule 45: 50S ribosomal protein L29



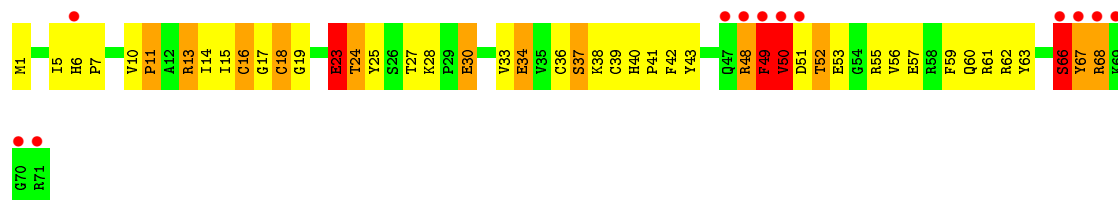
- Chain B3: 



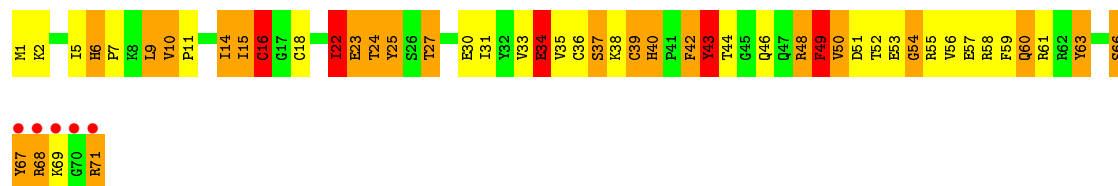
- Chain Y3: 

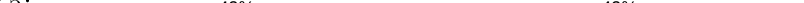


- Chain R4:



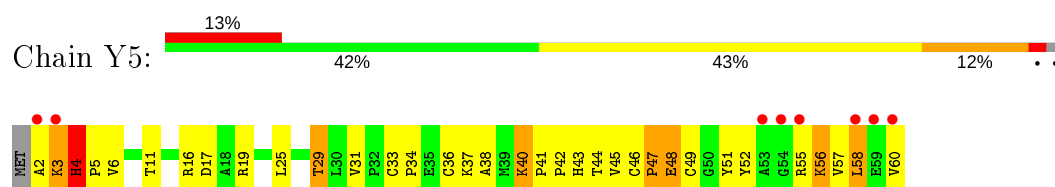
- Chain Y4: 



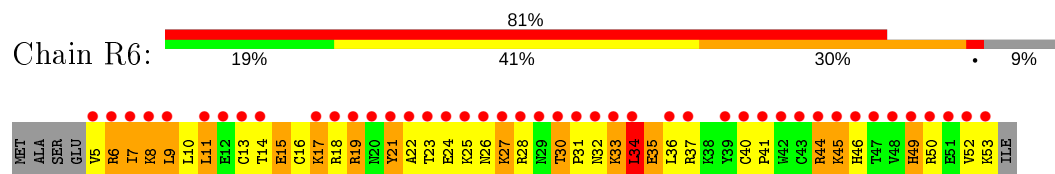
- Chain B5: 



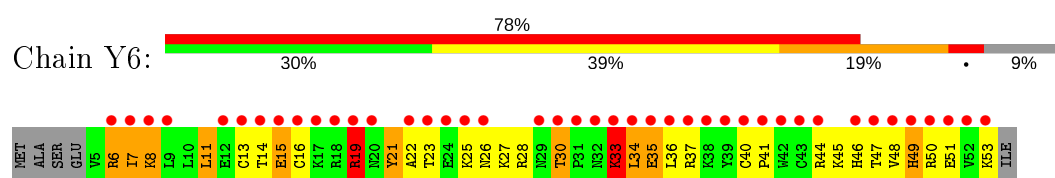
- WORLDWIDE
PDB
PROTEIN DATA BANK



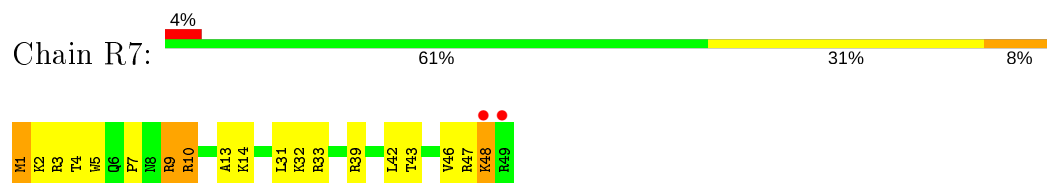
- Molecule 49: 50S ribosomal protein L33



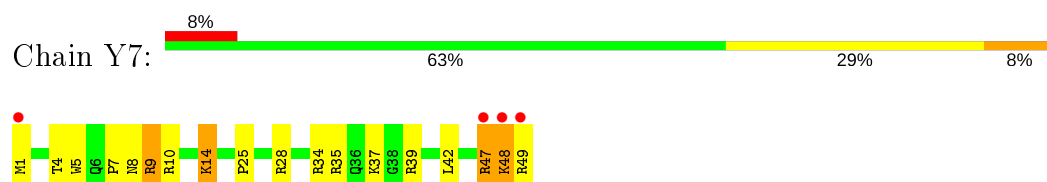
- Molecule 49: 50S ribosomal protein L33



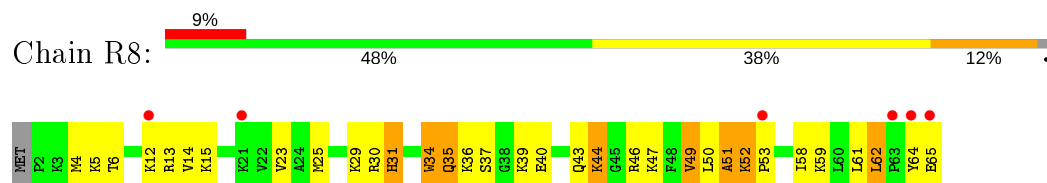
- Molecule 50: 50S ribosomal protein L34



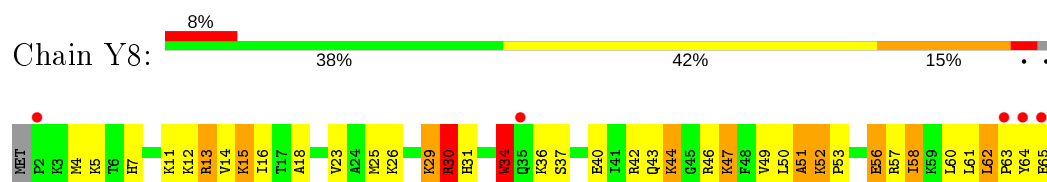
- Molecule 50: 50S ribosomal protein L34



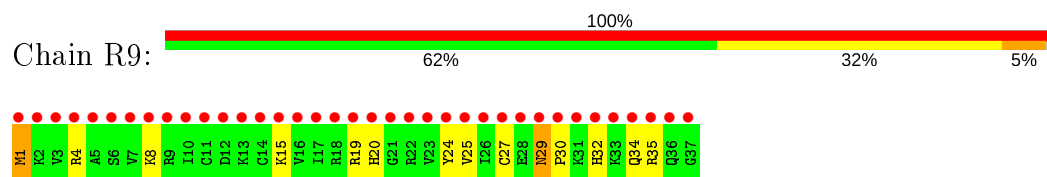
- Molecule 51: 50S ribosomal protein L35



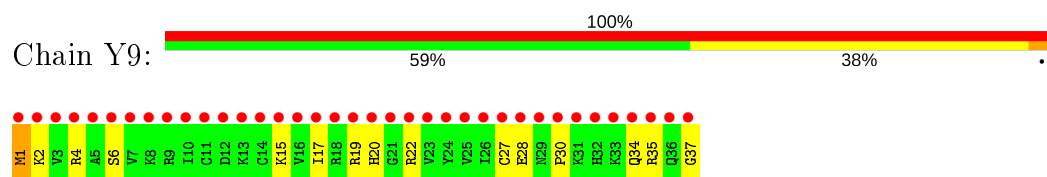
- Molecule 51: 50S ribosomal protein L35



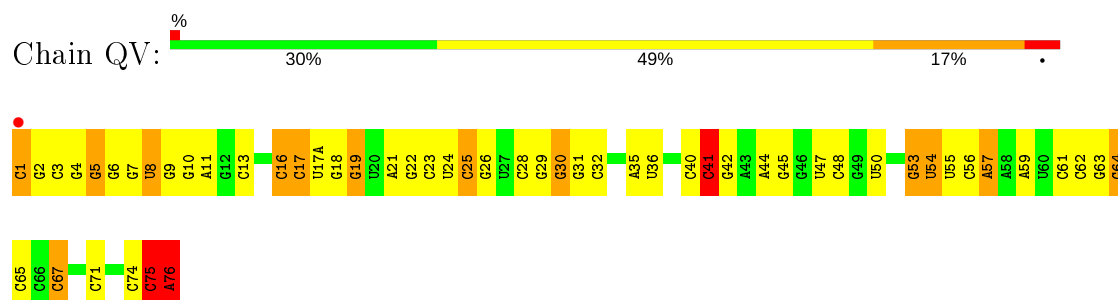
- Molecule 52: 50S ribosomal protein L36



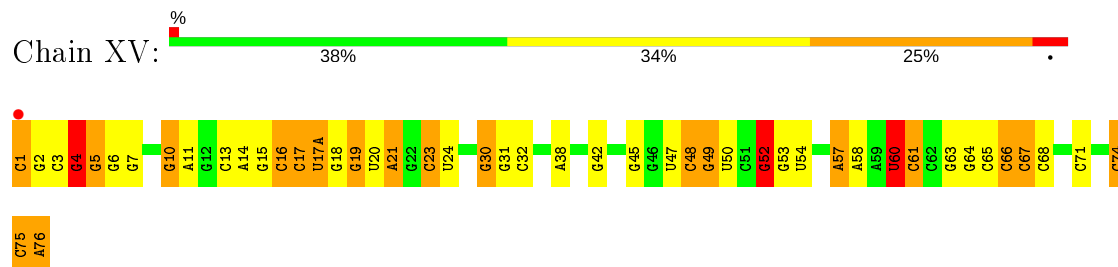
- Molecule 52: 50S ribosomal protein L36



- Molecule 53: P-site tRNA fMET



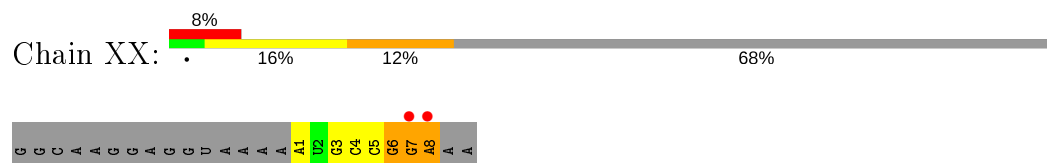
- Molecule 53: P-site tRNA fMET



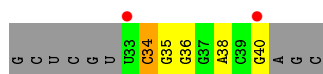
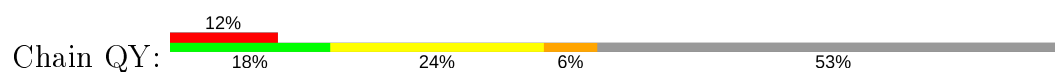
- Molecule 54: mRNA



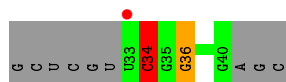
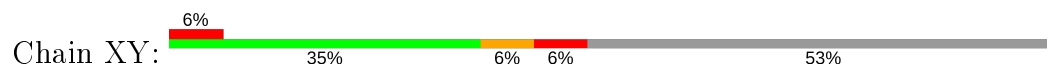
- Molecule 54: mRNA



- Molecule 55: A site ASL of tRNA-Proline CGG (unmodified)



- Molecule 55: A site ASL of tRNA-Proline CGG (unmodified)



- Molecule 56: tRNA acceptor end mimic



- Molecule 56: tRNA acceptor end mimic



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	209.82Å 447.39Å 619.86Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	187.58 – 3.68 189.96 – 3.54	Depositor EDS
% Data completeness (in resolution range)	99.1 (187.58-3.68) 99.2 (189.96-3.54)	Depositor EDS
R_{merge}	0.34	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.37 (at 3.58Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.8.3_1479)	Depositor
R, R_{free}	0.212 , 0.272 0.214 , 0.272	Depositor DCC
R_{free} test set	31728 reflections (4.55%)	wwPDB-VP
Wilson B-factor (Å ²)	83.8	Xtriage
Anisotropy	0.184	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.29 , 77.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.40$, $\langle L^2 \rangle = 0.23$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.84	EDS
Total number of atoms	291730	wwPDB-VP
Average B, all atoms (Å ²)	71.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.79% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, MG, PAR, PPU

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	QA	0.59	3/36098 (0.0%)	1.21	155/56341 (0.3%)
1	XA	0.65	1/36101 (0.0%)	1.27	208/56346 (0.4%)
2	QB	0.31	0/1959	0.52	0/2642
2	XB	0.32	0/1959	0.54	0/2642
3	QC	0.31	0/1629	0.53	0/2195
3	XC	0.37	0/1629	0.56	0/2195
4	QD	0.38	0/1733	0.58	1/2318 (0.0%)
4	XD	0.40	0/1733	0.60	0/2318
5	QE	0.35	0/1171	0.56	0/1576
5	XE	0.39	0/1171	0.59	0/1576
6	QF	0.38	0/856	0.54	0/1154
6	XF	0.38	0/856	0.58	0/1154
7	QG	0.33	0/1276	0.50	0/1709
7	XG	0.34	0/1276	0.50	0/1709
8	QH	0.33	0/1136	0.55	0/1527
8	XH	0.38	0/1136	0.58	0/1527
9	QI	0.31	0/1029	0.55	0/1379
9	XI	0.34	0/1029	0.58	0/1379
10	QJ	0.33	0/814	0.54	0/1095
10	XJ	0.35	0/814	0.60	0/1095
11	QK	0.36	0/900	0.57	0/1213
11	XK	0.39	0/900	0.58	0/1213
12	QL	0.37	0/991	0.61	0/1327
12	XL	0.45	0/991	0.74	1/1327 (0.1%)
13	QM	0.32	0/974	0.59	0/1303
13	XM	0.37	0/974	0.63	0/1303
14	QN	0.41	0/501	0.60	0/664
14	XN	0.42	0/501	0.66	0/664
15	QO	0.35	0/745	0.54	0/992
15	XO	0.39	0/745	0.54	0/992
16	QP	0.36	0/721	0.57	0/970
16	XP	0.35	0/721	0.57	0/970

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
17	QQ	0.35	0/847	0.54	0/1131
17	XQ	0.35	0/847	0.54	0/1131
18	QR	0.35	0/579	0.64	1/768 (0.1%)
18	XR	0.37	0/579	0.59	0/768
19	QS	0.33	0/689	0.61	0/926
19	XS	0.38	0/689	0.69	1/926 (0.1%)
20	QT	0.36	0/765	0.64	0/1007
20	XT	0.31	0/765	0.59	0/1007
21	QU	0.31	0/221	0.54	0/288
21	XU	0.31	0/221	0.62	0/288
22	RA	0.72	8/69521 (0.0%)	1.34	555/108529 (0.5%)
22	YA	0.80	28/69543 (0.0%)	1.43	823/108563 (0.8%)
23	RB	0.58	0/2878	1.22	15/4490 (0.3%)
23	YB	0.63	0/2878	1.28	17/4490 (0.4%)
24	RD	0.51	0/2165	0.70	0/2919
24	YD	0.58	0/2165	0.78	1/2919 (0.0%)
25	RE	0.43	0/1601	0.73	3/2160 (0.1%)
25	YE	0.46	0/1601	0.75	2/2160 (0.1%)
26	RF	0.42	0/1620	0.62	0/2194
26	YF	0.48	0/1620	0.71	1/2194 (0.0%)
27	RG	0.31	0/1499	0.57	1/2016 (0.0%)
27	YG	0.40	0/1499	0.60	0/2016
28	RH	0.29	0/1332	0.58	0/1802
28	YH	0.45	0/1332	0.73	0/1802
29	RI	0.52	0/1151	0.79	1/1558 (0.1%)
29	YI	0.55	0/1151	0.80	0/1558
30	RN	0.41	0/1131	0.62	0/1525
30	YN	0.43	0/1131	0.64	0/1525
31	RO	0.41	0/943	0.62	1/1269 (0.1%)
31	YO	0.50	0/943	0.65	0/1269
32	RP	0.44	0/1162	0.81	1/1544 (0.1%)
32	YP	0.49	0/1162	0.90	2/1544 (0.1%)
33	RQ	0.47	0/1143	0.74	2/1527 (0.1%)
33	YQ	0.57	0/1143	0.80	1/1527 (0.1%)
34	RR	0.42	0/982	0.69	0/1312
34	YR	0.44	0/982	0.73	0/1312
35	RS	0.36	0/892	0.65	0/1187
35	YS	0.40	0/892	0.75	1/1187 (0.1%)
36	RT	0.42	0/1155	0.63	0/1542
36	YT	0.44	0/1155	0.67	0/1542
37	RU	0.40	0/982	0.65	0/1306
37	YU	0.50	0/982	0.68	0/1306
38	RV	0.38	0/790	0.61	1/1057 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
38	YV	0.45	0/790	0.73	1/1057 (0.1%)
39	RW	0.49	0/911	0.67	0/1220
39	YW	0.45	0/911	0.68	0/1220
40	RX	0.47	0/739	0.62	0/993
40	YX	0.49	0/739	0.66	0/993
41	RY	0.44	0/798	0.68	0/1064
41	YY	0.46	0/798	0.70	0/1064
42	RZ	0.58	1/1493 (0.1%)	0.77	0/2026
42	YZ	0.56	0/1493	0.79	1/2026 (0.0%)
43	R0	0.65	0/657	0.80	0/874
43	Y0	0.74	1/657 (0.2%)	0.90	1/874 (0.1%)
44	R1	0.44	0/770	0.66	0/1022
44	Y1	0.46	0/770	0.69	0/1022
45	R2	0.39	0/583	0.65	0/771
45	Y2	0.52	0/583	0.73	0/771
46	R3	0.35	0/474	0.57	0/635
46	Y3	0.41	0/474	0.59	0/635
47	R4	0.33	0/594	0.68	0/795
47	Y4	0.37	0/594	0.68	0/795
48	R5	0.44	0/473	0.73	0/639
48	Y5	0.43	0/473	0.77	1/639 (0.2%)
49	R6	0.35	0/431	0.69	0/575
49	Y6	0.37	0/431	0.67	0/575
50	R7	0.49	0/438	0.68	0/575
50	Y7	0.57	0/438	0.71	0/575
51	R8	0.55	0/525	0.79	0/691
51	Y8	0.58	0/525	0.82	0/691
52	R9	0.26	0/310	0.45	0/407
52	Y9	0.32	0/310	0.48	0/407
53	QV	0.85	1/1836 (0.1%)	1.45	24/2859 (0.8%)
53	XV	0.89	1/1836 (0.1%)	1.54	25/2859 (0.9%)
54	QX	0.95	0/193	1.91	7/299 (2.3%)
54	XX	1.12	0/193	1.83	4/299 (1.3%)
55	QY	0.68	0/194	1.53	0/301
55	XY	0.72	0/194	1.25	1/301 (0.3%)
56	Z6	0.74	0/40	1.58	1/60 (1.7%)
56	Z8	0.92	0/40	1.50	0/60
All	All	0.64	44/316105 (0.0%)	1.20	1861/472575 (0.4%)

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
12	QL	0	1
12	XL	0	1
25	RE	0	1
25	YE	0	1
26	YF	0	1
28	RH	0	2
28	YH	0	2
29	RI	0	1
35	YS	0	1
42	YZ	0	2
45	Y2	0	1
47	R4	0	1
51	R8	0	2
51	Y8	0	2
All	All	0	19

All (44) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
53	QV	1	C	OP3-P	-10.81	1.48	1.61
53	XV	1	C	OP3-P	-10.09	1.49	1.61
22	YA	783	A	N9-C4	-8.12	1.32	1.37
22	YA	2542	A	N9-C4	-7.43	1.33	1.37
22	YA	1966	A	N9-C4	-7.42	1.33	1.37
22	RA	1918	A	N9-C4	-6.88	1.33	1.37
1	QA	1227	A	N9-C4	-6.86	1.33	1.37
22	YA	1938	A	N9-C4	-6.62	1.33	1.37
22	YA	2082	A	N9-C4	-6.52	1.33	1.37
22	YA	1142(A)	A	N9-C4	-6.52	1.33	1.37
22	RA	471	A	N9-C4	-6.35	1.34	1.37
22	YA	774	A	N9-C4	-6.31	1.34	1.37
22	YA	783	A	C5-C6	-6.04	1.35	1.41
22	YA	783	A	N7-C5	-6.04	1.35	1.39
22	YA	783	A	N3-C4	-5.83	1.31	1.34
22	YA	2712(A)	A	N7-C5	-5.81	1.35	1.39
22	RA	2589	A	N9-C4	-5.73	1.34	1.37
22	YA	2764	A	N9-C4	-5.67	1.34	1.37
1	QA	1434	A	N9-C4	-5.66	1.34	1.37
22	YA	2518	A	N9-C4	-5.65	1.34	1.37
22	RA	1677	A	N9-C4	-5.56	1.34	1.37
43	Y0	68	GLU	CG-CD	5.51	1.60	1.51
22	YA	917	A	N9-C4	-5.50	1.34	1.37
22	YA	528	A	N9-C4	-5.46	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
22	YA	793	A	N7-C5	-5.44	1.35	1.39
1	QA	32	A	N9-C4	5.42	1.41	1.37
22	YA	2251	G	N3-C4	-5.39	1.31	1.35
22	YA	2060	A	N9-C4	-5.33	1.34	1.37
22	YA	2032	G	N9-C4	-5.30	1.33	1.38
22	YA	917	A	N3-C4	-5.28	1.31	1.34
42	RZ	54	HIS	CG-ND1	-5.27	1.27	1.38
22	YA	2251	G	C6-N1	-5.26	1.35	1.39
22	RA	2062	A	N9-C4	5.18	1.41	1.37
22	YA	2826	A	N9-C4	-5.15	1.34	1.37
1	XA	1468	A	N9-C4	-5.15	1.34	1.37
22	RA	397	G	N9-C4	-5.13	1.33	1.38
22	YA	71	A	N9-C4	-5.11	1.34	1.37
22	RA	1931	U	N3-C4	-5.09	1.33	1.38
22	YA	676	A	N9-C4	-5.09	1.34	1.37
22	YA	957	A	N9-C4	-5.05	1.34	1.37
22	YA	140	A	N7-C5	-5.03	1.36	1.39
22	YA	2430	A	N3-C4	-5.02	1.31	1.34
22	YA	142	G	N9-C4	-5.01	1.33	1.38
22	RA	74	A	N7-C5	-5.01	1.36	1.39

All (1861) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	QV	75	C	O5'-P-OP2	-13.28	93.75	105.70
22	YA	774	A	C2-N3-C4	-12.25	104.47	110.60
22	RA	1931	U	N3-C2-O2	-12.05	113.77	122.20
22	YA	1332	G	C6-C5-N7	-11.94	123.24	130.40
22	YA	450	G	C5-C6-N1	-11.37	105.81	111.50
22	YA	783	A	C2-N3-C4	-11.03	105.08	110.60
22	RA	28	A	C8-N9-C4	-10.75	101.50	105.80
22	YA	783	A	N1-C6-N6	10.53	124.92	118.60
22	YA	2573	C	N1-C2-O2	10.33	125.10	118.90
22	YA	917	A	C2-N3-C4	-10.11	105.55	110.60
22	YA	570	G	C5-C6-N1	-10.10	106.45	111.50
22	YA	140	A	N7-C8-N9	9.96	118.78	113.80
22	RA	140	A	C8-N9-C4	-9.94	101.82	105.80
22	RA	1931	U	C5-C4-O4	9.85	131.81	125.90
22	YA	783	A	C5-N7-C8	-9.85	98.98	103.90
22	YA	805	G	N3-C4-N9	9.81	131.89	126.00
22	RA	774	A	C2-N3-C4	-9.80	105.70	110.60
22	RA	28	A	N7-C8-N9	9.79	118.69	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	1054	C	C2-N1-C1'	9.70	129.47	118.80
22	YA	189	G	C6-C5-N7	-9.69	124.59	130.40
1	XA	812	C	N1-C2-O2	9.58	124.65	118.90
53	XV	67	C	C6-N1-C2	-9.58	116.47	120.30
22	YA	2573	C	N3-C2-O2	-9.58	115.19	121.90
22	YA	140	A	C8-N9-C4	-9.56	101.97	105.80
22	YA	1332	G	C4-N9-C1'	9.56	138.92	126.50
1	QA	1301	U	N3-C2-O2	-9.51	115.54	122.20
53	QV	17	C	N1-C2-O2	9.47	124.58	118.90
22	RA	791	C	C6-N1-C2	9.40	124.06	120.30
22	YA	783	A	C6-C5-N7	-9.32	125.77	132.30
22	RA	828	U	C5-C4-O4	9.32	131.49	125.90
22	YA	2712(A)	A	N7-C8-N9	9.31	118.45	113.80
1	XA	328	C	C6-N1-C2	-9.30	116.58	120.30
53	XV	17	C	N1-C2-O2	9.26	124.45	118.90
22	YA	1216	G	N1-C6-O6	9.21	125.42	119.90
22	YA	1899	G	C2-N3-C4	-9.16	107.32	111.90
53	XV	74	C	C5-C4-N4	-9.13	113.81	120.20
22	YA	2542	A	C2-N3-C4	-9.10	106.05	110.60
1	XA	1054	C	C6-N1-C1'	-9.08	109.91	120.80
22	YA	528	A	N1-C2-N3	9.05	133.82	129.30
22	RA	140	A	N7-C8-N9	9.04	118.32	113.80
22	YA	671	C	N3-C2-O2	-8.99	115.61	121.90
22	YA	1662	C	C6-N1-C2	8.89	123.86	120.30
22	RA	2544	G	N1-C6-O6	8.86	125.21	119.90
22	RA	2519	U	O5'-P-OP1	-8.85	97.73	105.70
22	RA	1931	U	N1-C2-N3	8.82	120.19	114.90
22	YA	1786	A	N1-C6-N6	8.82	123.89	118.60
1	XA	812	C	N3-C2-O2	-8.79	115.75	121.90
1	XA	963	G	N3-C4-N9	8.78	131.27	126.00
22	YA	1929	G	C4-C5-N7	8.77	114.31	110.80
22	YA	2681	C	C6-N1-C2	-8.77	116.79	120.30
22	YA	450	G	C4-C5-C6	8.75	124.05	118.80
1	XA	1108	G	C5-C6-N1	-8.74	107.13	111.50
22	YA	1942	C	C6-N1-C2	-8.69	116.83	120.30
1	XA	518	C	C6-N1-C2	-8.68	116.83	120.30
53	XV	17	C	C2-N1-C1'	8.61	128.27	118.80
22	YA	2681	C	P-O3'-C3'	8.55	129.97	119.70
22	YA	679	C	C5-C4-N4	-8.55	114.22	120.20
22	YA	2712(A)	A	C8-N9-C4	-8.55	102.38	105.80
23	YB	47	C	C6-N1-C2	8.54	123.72	120.30
22	YA	2058	A	N1-C6-N6	8.53	123.72	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	2036	C	O5'-P-OP2	-8.52	98.03	105.70
22	RA	2712	U	O4'-C1'-N1	8.52	115.01	108.20
22	YA	1942	C	N1-C2-O2	8.52	124.01	118.90
22	RA	449	A	O5'-P-OP1	-8.51	98.04	105.70
1	QA	1200	C	N1-C2-O2	8.49	123.99	118.90
22	YA	1970	A	O5'-P-OP2	-8.48	98.07	105.70
1	QA	1301	U	N1-C2-O2	8.40	128.68	122.80
22	YA	1950	G	N7-C8-N9	8.40	117.30	113.10
1	XA	963	G	C4-N9-C1'	8.37	137.37	126.50
1	QA	1336	C	C6-N1-C2	-8.33	116.97	120.30
22	YA	783	A	C4-C5-N7	8.33	114.87	110.70
22	RA	1786	A	C5-N7-C8	-8.31	99.75	103.90
22	YA	528	A	C2-N3-C4	-8.31	106.44	110.60
22	YA	1332	G	C8-N9-C1'	-8.31	116.20	127.00
53	QV	8	U	C6-N1-C2	-8.31	116.01	121.00
22	RA	2612	C	N1-C2-O2	8.30	123.88	118.90
22	RA	1204	A	O4'-C1'-N9	8.29	114.83	108.20
22	RA	2611	U	O5'-P-OP2	-8.29	98.24	105.70
22	YA	1786	A	C5-C6-N1	-8.28	113.56	117.70
22	YA	2612	C	N1-C2-O2	8.28	123.87	118.90
1	XA	963	G	N3-C4-C5	-8.28	124.46	128.60
22	YA	142	G	N3-C4-C5	8.26	132.73	128.60
1	XA	789	U	C6-N1-C2	-8.21	116.08	121.00
22	YA	2513	G	N1-C6-O6	8.18	124.81	119.90
1	QA	1322	C	C2-N1-C1'	8.15	127.76	118.80
53	QV	17	C	C2-N1-C1'	8.14	127.76	118.80
22	YA	1198	U	N3-C2-O2	-8.14	116.50	122.20
22	YA	1130	U	P-O3'-C3'	8.13	129.45	119.70
22	RA	828	U	N3-C2-O2	-8.10	116.53	122.20
1	XA	963	G	C8-N9-C1'	-8.10	116.47	127.00
22	YA	2430	A	C2-N3-C4	-8.07	106.56	110.60
22	RA	1130	U	P-O3'-C3'	8.07	129.39	119.70
22	RA	1653	G	N3-C4-C5	-8.05	124.57	128.60
22	RA	1377	G	N3-C4-C5	-8.03	124.58	128.60
22	RA	791	C	N3-C4-C5	8.01	125.10	121.90
22	YA	783	A	C5-C6-N1	-8.00	113.70	117.70
22	YA	2430	A	C5-C6-N1	-7.99	113.70	117.70
22	YA	792	G	C5-C6-O6	7.98	133.39	128.60
22	YA	2388	A	C8-N9-C4	7.97	108.99	105.80
22	RA	1786	A	C6-C5-N7	-7.96	126.73	132.30
22	RA	2439	A	C8-N9-C4	-7.95	102.62	105.80
22	RA	74	A	N1-C6-N6	7.94	123.36	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	1397	C	C6-N1-C2	-7.93	117.13	120.30
1	XA	299	G	C5-C6-N1	-7.93	107.54	111.50
1	XA	1197	G	O5'-P-OP2	-7.92	98.57	105.70
22	YA	774	A	C5-C6-N1	-7.91	113.74	117.70
22	YA	2036	C	C6-N1-C2	-7.89	117.14	120.30
22	YA	265	A	O4'-C1'-N9	7.89	114.51	108.20
22	YA	828	U	C2-N1-C1'	7.88	127.16	117.70
22	YA	2430	A	N1-C2-N3	7.84	133.22	129.30
22	RA	1786	A	N1-C6-N6	7.84	123.30	118.60
22	YA	1992	G	P-O3'-C3'	7.83	129.09	119.70
22	YA	1786	A	C6-C5-N7	-7.83	126.82	132.30
22	YA	1786	A	C2-N3-C4	-7.82	106.69	110.60
1	QA	932	C	N1-C2-O2	7.79	123.58	118.90
1	QA	1302	U	C2-N1-C1'	7.78	127.04	117.70
22	YA	982	C	C6-N1-C2	-7.78	117.19	120.30
1	QA	401	C	C6-N1-C2	-7.77	117.19	120.30
54	QX	6	G	N1-C6-O6	7.77	124.56	119.90
1	QA	1336	C	N1-C2-O2	7.75	123.55	118.90
22	YA	1942	C	N3-C2-O2	-7.74	116.48	121.90
1	QA	1336	C	C2-N1-C1'	7.73	127.31	118.80
22	YA	1786	A	C5-N7-C8	-7.72	100.04	103.90
22	YA	676	A	C5-N7-C8	-7.70	100.05	103.90
22	YA	582	G	N1-C6-O6	7.68	124.51	119.90
22	YA	676	A	C2-N3-C4	-7.67	106.76	110.60
22	RA	1627	G	N1-C6-O6	7.66	124.49	119.90
22	YA	1332	G	C4-C5-N7	7.65	113.86	110.80
22	YA	2518	A	N1-C6-N6	7.64	123.19	118.60
22	YA	1906	G	C5-C6-N1	-7.62	107.69	111.50
22	RA	860	U	C4-C5-C6	7.61	124.27	119.70
22	RA	1647	G	N3-C4-C5	7.60	132.40	128.60
1	XA	1336	C	C6-N1-C2	-7.60	117.26	120.30
22	RA	783	A	C5-N7-C8	-7.58	100.11	103.90
22	RA	1930	G	N7-C8-N9	-7.58	109.31	113.10
22	RA	2782	G	C8-N9-C4	-7.58	103.37	106.40
22	YA	2595	G	C6-C5-N7	-7.57	125.86	130.40
22	RA	382	G	N1-C6-O6	7.57	124.44	119.90
22	RA	74	A	C6-C5-N7	-7.57	127.00	132.30
22	YA	372	G	C8-N9-C4	7.57	109.43	106.40
1	XA	1301	U	C2-N1-C1'	7.56	126.78	117.70
53	XV	67	C	N3-C2-O2	-7.56	116.61	121.90
22	RA	385	C	N1-C2-O2	7.55	123.43	118.90
22	RA	2318	G	O4'-C1'-N9	7.55	114.24	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	205	G	P-O3'-C3'	7.55	128.76	119.70
1	XA	812	C	C2-N1-C1'	7.54	127.09	118.80
22	RA	2063	C	O5'-P-OP2	-7.54	98.92	105.70
22	RA	406	G	O5'-P-OP1	-7.54	98.92	105.70
22	RA	1899	G	N1-C2-N2	-7.54	109.42	116.20
1	QA	932	C	C2-N1-C1'	7.53	127.08	118.80
22	RA	2577	A	N1-C6-N6	7.52	123.11	118.60
1	XA	1108	G	C4-C5-N7	-7.50	107.80	110.80
22	YA	805	G	C6-C5-N7	-7.50	125.90	130.40
22	RA	1644	C	C2-N1-C1'	7.50	127.05	118.80
22	RA	2782	G	N3-C4-C5	-7.49	124.85	128.60
22	YA	1598	C	C6-N1-C2	-7.49	117.30	120.30
1	XA	690	G	C5-N7-C8	-7.47	100.56	104.30
22	YA	828	U	N3-C2-O2	-7.46	116.98	122.20
22	RA	1930	G	C8-N9-C4	7.45	109.38	106.40
54	QX	6	G	C4-C5-N7	7.45	113.78	110.80
22	RA	1786	A	N7-C8-N9	7.43	117.52	113.80
22	RA	2506	U	N1-C2-O2	7.43	128.00	122.80
22	YA	2062	A	N9-C4-C5	-7.43	102.83	105.80
1	XA	812	C	C6-N1-C2	-7.42	117.33	120.30
22	YA	752	A	C8-N9-C4	7.41	108.76	105.80
22	YA	1950	G	C5-N7-C8	-7.40	100.60	104.30
22	RA	1496	A	N7-C8-N9	7.39	117.50	113.80
22	YA	2542	A	N3-C4-C5	7.39	131.97	126.80
22	RA	1786	A	C4-C5-N7	7.39	114.39	110.70
1	QA	337	C	C6-N1-C2	-7.38	117.35	120.30
53	QV	17	C	N3-C2-O2	-7.37	116.74	121.90
22	RA	2712(A)	A	C8-N9-C4	-7.37	102.85	105.80
22	RA	1840	G	N1-C6-O6	7.37	124.32	119.90
22	YA	1377	G	N1-C6-O6	7.37	124.32	119.90
54	QX	6	G	C6-C5-N7	-7.37	125.98	130.40
22	YA	1332	G	N7-C8-N9	7.36	116.78	113.10
22	RA	2544	G	C5-C6-N1	-7.36	107.82	111.50
22	YA	1358	G	N3-C4-C5	-7.36	124.92	128.60
22	YA	142	G	N3-C4-N9	-7.35	121.59	126.00
1	QA	789	U	C6-N1-C2	-7.35	116.59	121.00
22	YA	1786	A	C4-C5-N7	7.35	114.37	110.70
22	YA	2311	A	C2-N3-C4	-7.34	106.93	110.60
53	QV	74	C	C6-N1-C2	-7.32	117.37	120.30
22	YA	1929	G	N1-C6-O6	7.31	124.28	119.90
22	YA	1950	G	O4'-C1'-N9	7.29	114.03	108.20
22	RA	2032	G	C4-C5-N7	7.29	113.72	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	2573	C	C6-N1-C2	-7.26	117.39	120.30
1	XA	558	G	C6-C5-N7	-7.26	126.05	130.40
22	YA	2439	A	P-O3'-C3'	7.26	128.41	119.70
22	RA	2083	G	C8-N9-C4	7.25	109.30	106.40
22	YA	1929	G	C5-N7-C8	-7.24	100.68	104.30
22	YA	2682	U	OP1-P-OP2	-7.24	108.74	119.60
22	RA	2779	U	O4'-C1'-N1	7.24	113.99	108.20
22	YA	1187	G	C5-C6-N1	-7.24	107.88	111.50
22	YA	1425	G	C8-N9-C4	-7.24	103.51	106.40
22	RA	2490	G	C8-N9-C4	-7.23	103.51	106.40
22	YA	508	G	C8-N9-C4	-7.22	103.51	106.40
22	RA	676	A	N7-C8-N9	7.22	117.41	113.80
1	XA	1195	C	C6-N1-C2	-7.22	117.41	120.30
22	YA	1799	G	P-O3'-C3'	7.21	128.35	119.70
22	YA	1829	A	O5'-P-OP1	-7.21	99.21	105.70
22	RA	2490	G	N7-C8-N9	7.21	116.70	113.10
22	YA	2250	G	O5'-P-OP2	-7.21	99.21	105.70
22	RA	783	A	N7-C8-N9	7.21	117.40	113.80
22	YA	140	A	C6-C5-N7	-7.21	127.25	132.30
22	RA	1931	U	N3-C4-O4	-7.20	114.36	119.40
1	QA	894	G	N3-C4-N9	-7.20	121.68	126.00
25	YE	21	VAL	C-N-CD	-7.20	104.76	120.60
22	RA	1142	U	N1-C2-O2	7.20	127.84	122.80
22	YA	1820	U	C5-C6-N1	-7.19	119.10	122.70
1	QA	1158	C	N1-C2-O2	7.19	123.22	118.90
22	RA	2583	G	N3-C4-C5	-7.19	125.01	128.60
22	YA	1262	A	C5-C6-N1	7.18	121.29	117.70
22	YA	2032	G	N3-C4-C5	7.18	132.19	128.60
22	YA	1678	G	C4-C5-N7	7.17	113.67	110.80
1	XA	766	A	C8-N9-C4	7.17	108.67	105.80
22	YA	572	A	C8-N9-C4	-7.15	102.94	105.80
12	XL	47	LYS	C-N-CD	-7.15	104.88	120.60
22	YA	1358	G	N3-C4-N9	7.13	130.28	126.00
1	XA	1108	G	C5-C6-O6	7.13	132.88	128.60
22	RA	74	A	N7-C8-N9	7.12	117.36	113.80
22	RA	1606	G	N1-C6-O6	7.12	124.17	119.90
1	XA	1128	C	C6-N1-C2	-7.12	117.45	120.30
22	RA	1950	G	O4'-C1'-N9	7.11	113.89	108.20
1	QA	449	C	C6-N1-C2	-7.10	117.46	120.30
1	QA	1322	C	C6-N1-C1'	-7.09	112.29	120.80
22	YA	674	G	C5-C6-O6	-7.08	124.35	128.60
22	RA	2448	A	N1-C6-N6	-7.08	114.36	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	917	A	N1-C6-N6	7.08	122.84	118.60
22	YA	140	A	C5-N7-C8	-7.07	100.36	103.90
22	YA	1332	G	N1-C6-O6	7.07	124.14	119.90
22	RA	1688	U	C6-N1-C2	-7.07	116.76	121.00
1	QA	1297	C	P-O3'-C3'	7.06	128.18	119.70
22	RA	124	G	C5-C6-N1	-7.06	107.97	111.50
22	RA	1992	G	P-O3'-C3'	7.06	128.17	119.70
22	YA	958	U	N3-C2-O2	-7.05	117.26	122.20
1	QA	117	G	N9-C4-C5	-7.05	102.58	105.40
22	RA	1930	G	C4-N9-C1'	-7.04	117.34	126.50
22	RA	2011	U	N3-C2-O2	7.04	127.13	122.20
1	XA	186(A)	C	C6-N1-C2	-7.04	117.48	120.30
22	YA	945	A	N1-C6-N6	7.04	122.83	118.60
22	YA	813	U	N3-C2-O2	-7.04	117.27	122.20
22	YA	1544	C	N1-C2-O2	7.02	123.11	118.90
22	YA	2713	A	C2-N3-C4	-7.02	107.09	110.60
22	YA	2032	G	N1-C6-O6	7.02	124.11	119.90
22	YA	298	G	C4-C5-C6	-7.01	114.59	118.80
22	YA	1662	C	C5-C6-N1	-7.00	117.50	121.00
1	QA	328	C	C2-N1-C1'	7.00	126.50	118.80
22	RA	530	G	O4'-C1'-N9	7.00	113.80	108.20
22	YA	2430	A	C4-C5-C6	7.00	120.50	117.00
22	YA	2318	G	O4'-C1'-N9	7.00	113.80	108.20
22	YA	2271	G	C6-C5-N7	-6.99	126.20	130.40
22	YA	783	A	N7-C8-N9	6.99	117.30	113.80
1	QA	634	C	N1-C2-O2	-6.99	114.71	118.90
22	YA	2218	G	N1-C6-O6	6.99	124.09	119.90
1	XA	690	G	N7-C8-N9	6.99	116.59	113.10
22	RA	2287	A	C2-N3-C4	-6.97	107.11	110.60
22	YA	572	A	N1-C6-N6	-6.96	114.42	118.60
22	RA	265	A	O4'-C1'-N9	6.96	113.77	108.20
22	YA	1678	G	C6-C5-N7	-6.96	126.22	130.40
23	RB	44	G	C4-N9-C1'	-6.95	117.47	126.50
22	YA	828	U	C6-N1-C2	-6.95	116.83	121.00
22	RA	1528	A	N7-C8-N9	6.94	117.27	113.80
22	YA	2532	G	C6-C5-N7	-6.94	126.24	130.40
22	YA	2388	A	N7-C8-N9	-6.94	110.33	113.80
1	XA	1054	C	N1-C2-O2	6.92	123.06	118.90
1	XA	117	G	N1-C6-O6	6.92	124.05	119.90
22	YA	74	A	C2-N3-C4	-6.92	107.14	110.60
22	RA	1528	A	O4'-C1'-N9	6.92	113.73	108.20
22	YA	28	A	N7-C8-N9	6.92	117.26	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	1204	A	O4'-C1'-N9	6.92	113.73	108.20
1	XA	254	G	O5'-P-OP1	-6.92	99.48	105.70
22	YA	576	U	N3-C2-O2	6.91	127.04	122.20
22	RA	774	A	N1-C6-N6	6.91	122.74	118.60
22	YA	1814	G	C5-C6-N1	-6.91	108.05	111.50
22	YA	1635	G	OP2-P-O3'	6.90	120.39	105.20
22	YA	912	C	C2-N1-C1'	6.90	126.39	118.80
22	YA	508	G	N3-C4-C5	-6.89	125.15	128.60
22	YA	1977	A	C8-N9-C4	6.89	108.56	105.80
22	YA	1184	G	N3-C4-C5	-6.88	125.16	128.60
22	YA	1626	G	C8-N9-C4	-6.88	103.65	106.40
22	RA	1930	G	C6-C5-N7	6.87	134.52	130.40
1	XA	749	C	C6-N1-C2	-6.87	117.55	120.30
22	YA	2518	A	C2-N3-C4	-6.87	107.17	110.60
1	XA	731	G	N1-C6-O6	6.87	124.02	119.90
22	YA	2439	A	N7-C8-N9	6.86	117.23	113.80
1	QA	754	C	N1-C2-O2	6.86	123.02	118.90
22	YA	1842	G	C5-C6-N1	-6.86	108.07	111.50
22	RA	1811	G	C8-N9-C4	6.85	109.14	106.40
22	YA	2249	U	N3-C4-C5	-6.85	110.49	114.60
22	RA	1989	G	N3-C2-N2	-6.85	115.10	119.90
1	QA	1322	C	N1-C2-O2	6.85	123.01	118.90
22	YA	189	G	N1-C6-O6	6.84	124.01	119.90
22	YA	805	G	N9-C4-C5	-6.84	102.66	105.40
22	YA	2258	C	C2-N1-C1'	6.84	126.33	118.80
1	QA	328	C	N1-C2-O2	6.84	123.00	118.90
22	YA	1332	G	C4-C5-C6	6.84	122.90	118.80
22	RA	205	G	OP2-P-O3'	6.84	120.25	105.20
53	QV	71	C	C6-N1-C2	-6.83	117.57	120.30
22	RA	1979	C	C6-N1-C2	-6.83	117.57	120.30
22	YA	2242	G	C5-C6-O6	-6.83	124.50	128.60
22	YA	2392	A	C8-N9-C4	-6.83	103.07	105.80
22	RA	54	G	N1-C6-O6	6.82	123.99	119.90
1	XA	529	G	C5-C6-O6	-6.82	124.51	128.60
22	YA	1198	U	N1-C2-N3	6.82	118.99	114.90
22	YA	2058	A	C6-C5-N7	-6.82	127.53	132.30
1	QA	786	G	C8-N9-C4	6.82	109.13	106.40
22	RA	395	U	O4'-C1'-N1	6.81	113.65	108.20
1	QA	1158	C	N3-C2-O2	-6.80	117.14	121.90
1	XA	481	G	C4-C5-N7	-6.80	108.08	110.80
22	RA	1624	G	C8-N9-C4	6.80	109.12	106.40
22	YA	2837	G	N1-C6-O6	6.79	123.98	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	856	C	C6-N1-C2	-6.79	117.58	120.30
1	QA	1336	C	C5-C6-N1	6.79	124.40	121.00
22	RA	2067	G	N1-C6-O6	6.79	123.97	119.90
1	XA	518	C	N1-C2-N3	6.79	123.95	119.20
22	RA	1790	C	C2-N1-C1'	-6.79	111.33	118.80
1	XA	353	A	O5'-P-OP1	-6.78	99.60	105.70
22	RA	1950	G	C4-N9-C1'	6.76	135.29	126.50
1	XA	1336	C	N3-C2-O2	-6.76	117.17	121.90
22	YA	1022	G	P-O3'-C3'	6.76	127.81	119.70
22	YA	140	A	N1-C6-N6	6.76	122.65	118.60
22	YA	621	A	C2-N3-C4	-6.75	107.22	110.60
22	RA	2430	A	N1-C2-N3	6.75	132.68	129.30
22	YA	592	G	N3-C4-N9	6.74	130.04	126.00
22	YA	2250	G	C8-N9-C4	-6.74	103.70	106.40
22	YA	2392	A	N7-C8-N9	6.74	117.17	113.80
22	RA	385	C	C2-N1-C1'	6.74	126.21	118.80
22	RA	1314	C	N1-C2-O2	6.74	122.94	118.90
22	RA	1602	U	N3-C4-C5	-6.74	110.56	114.60
22	YA	508	G	P-O3'-C3'	6.74	127.79	119.70
22	RA	676	A	C5-N7-C8	-6.74	100.53	103.90
22	YA	654	A	O5'-P-OP2	-6.73	99.65	105.70
1	QA	328	C	N3-C2-O2	-6.72	117.19	121.90
1	QA	1322	C	C5-C6-N1	6.72	124.36	121.00
22	YA	1950	G	C4-N9-C1'	6.71	135.23	126.50
22	YA	1568	G	C4-N9-C1'	-6.71	117.78	126.50
22	RA	664	C	N3-C2-O2	-6.71	117.20	121.90
22	RA	1980	G	P-O3'-C3'	6.71	127.75	119.70
53	QV	41	C	N3-C2-O2	-6.70	117.21	121.90
22	YA	621	A	C6-C5-N7	-6.70	127.61	132.30
22	RA	2542	A	C8-N9-C4	6.70	108.48	105.80
23	YB	44	G	C8-N9-C4	6.70	109.08	106.40
22	YA	471	A	C2-N3-C4	-6.70	107.25	110.60
22	YA	1214	A	N7-C8-N9	-6.70	110.45	113.80
22	YA	1698	A	N1-C2-N3	6.70	132.65	129.30
22	YA	1698	A	C4-C5-C6	6.69	120.35	117.00
1	QA	913	A	P-O3'-C3'	6.69	127.73	119.70
1	QA	1528	U	P-O3'-C3'	6.69	127.73	119.70
22	RA	2083	G	N3-C4-C5	6.69	131.94	128.60
22	RA	2452	C	C6-N1-C2	-6.68	117.63	120.30
22	RA	2755	C	C5-C6-N1	6.68	124.34	121.00
1	XA	529	G	C4-C5-N7	6.68	113.47	110.80
1	XA	558	G	N1-C6-O6	6.68	123.91	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	1901	A	N1-C6-N6	-6.68	114.59	118.60
22	YA	1708	C	C6-N1-C2	6.67	122.97	120.30
22	YA	1607	C	C5-C6-N1	6.67	124.33	121.00
22	YA	450	G	C4-N9-C1'	6.67	135.17	126.50
22	YA	556	G	N3-C4-C5	-6.67	125.27	128.60
22	RA	1811	G	N3-C4-C5	6.67	131.93	128.60
53	XV	74	C	N3-C4-N4	6.67	122.67	118.00
1	QA	117	G	C4-C5-N7	6.67	113.47	110.80
22	YA	2532	G	N1-C6-O6	6.66	123.90	119.90
1	XA	792	A	O4'-C1'-N9	6.66	113.53	108.20
53	XV	23	C	C6-N1-C2	6.66	122.96	120.30
1	QA	117	G	N1-C6-O6	6.65	123.89	119.90
22	RA	396	G	C6-C5-N7	-6.65	126.41	130.40
22	YA	2573	C	C2-N1-C1'	6.65	126.11	118.80
1	XA	558	G	N9-C4-C5	-6.64	102.74	105.40
1	XA	913	A	P-O3'-C3'	6.64	127.67	119.70
22	YA	446	G	N3-C4-N9	6.64	129.98	126.00
22	YA	848	G	N9-C4-C5	-6.64	102.74	105.40
22	YA	1671	U	C5-C6-N1	6.64	126.02	122.70
53	QV	11	A	C8-N9-C4	6.64	108.45	105.80
22	RA	2439	A	N7-C8-N9	6.63	117.12	113.80
22	RA	2032	G	N9-C4-C5	-6.63	102.75	105.40
22	YA	1358	G	C6-C5-N7	-6.62	126.43	130.40
1	XA	652	U	C2-N1-C1'	6.62	125.64	117.70
22	RA	1258	C	C6-N1-C2	6.62	122.95	120.30
22	RA	2392	A	N7-C8-N9	6.62	117.11	113.80
53	QV	74	C	C2-N1-C1'	6.62	126.08	118.80
1	XA	789	U	N1-C2-N3	6.62	118.87	114.90
53	XV	61	C	C6-N1-C2	-6.62	117.65	120.30
22	YA	1678	G	N1-C6-O6	6.61	123.87	119.90
22	YA	2281	C	O5'-P-OP2	-6.61	99.75	105.70
1	QA	785	G	N1-C6-O6	6.61	123.87	119.90
1	XA	690	G	N3-C4-N9	-6.61	122.03	126.00
22	YA	2335	A	O4'-C1'-N9	6.61	113.49	108.20
22	RA	258	G	C6-C5-N7	-6.61	126.44	130.40
22	YA	974	G	N3-C4-C5	-6.61	125.30	128.60
22	RA	1377	G	N3-C4-N9	6.60	129.96	126.00
1	QA	792	A	O4'-C1'-N9	6.60	113.48	108.20
22	YA	298	G	N3-C4-C5	6.60	131.90	128.60
22	YA	1835	G	N3-C4-C5	-6.60	125.30	128.60
22	YA	2713	A	C5-C6-N1	-6.59	114.41	117.70
22	YA	1950	G	C6-C5-N7	-6.59	126.45	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	298	G	C4-N9-C1'	-6.58	117.94	126.50
22	RA	1543	A	O4'-C1'-N9	6.58	113.47	108.20
53	XV	57	A	N1-C2-N3	6.58	132.59	129.30
22	RA	372	G	O4'-C1'-N9	6.58	113.46	108.20
22	RA	2722	G	C4-N9-C1'	6.57	135.04	126.50
22	YA	140	A	O4'-C1'-N9	6.57	113.45	108.20
22	YA	2702	U	C2-N1-C1'	6.56	125.58	117.70
53	XV	61	C	N3-C2-O2	-6.56	117.31	121.90
22	RA	389	G	N9-C4-C5	-6.56	102.78	105.40
22	RA	1319	G	N1-C6-O6	6.56	123.83	119.90
22	YA	1358	G	C4-N9-C1'	6.56	135.02	126.50
1	QA	1301	U	C2-N1-C1'	6.55	125.56	117.70
22	RA	1627	G	C5-C6-N1	-6.55	108.22	111.50
22	YA	945	A	C6-C5-N7	-6.55	127.71	132.30
35	YS	56	LEU	CA-CB-CG	6.55	130.37	115.30
22	YA	2495	G	C8-N9-C4	-6.55	103.78	106.40
1	QA	690	G	N3-C4-N9	-6.55	122.07	126.00
1	XA	1370	G	C5-C6-N1	-6.55	108.23	111.50
1	XA	812	C	P-O3'-C3'	6.54	127.55	119.70
1	QA	1302	U	N1-C2-O2	6.54	127.38	122.80
22	RA	527	C	N1-C2-O2	6.54	122.82	118.90
22	YA	958	U	C6-N1-C2	-6.54	117.08	121.00
1	XA	619	U	C2-N1-C1'	6.53	125.54	117.70
22	YA	1616	A	O4'-C1'-N9	6.53	113.42	108.20
1	XA	1498	U	P-O3'-C3'	6.53	127.53	119.70
22	YA	1992	G	N3-C4-C5	-6.53	125.34	128.60
22	YA	2271	G	N1-C6-O6	6.53	123.82	119.90
25	RE	21	VAL	C-N-CD	-6.53	106.25	120.60
22	RA	664	C	N1-C2-O2	6.52	122.81	118.90
1	XA	1204	A	N1-C6-N6	6.52	122.51	118.60
1	QA	117	G	C6-C5-N7	-6.52	126.49	130.40
22	RA	676	A	O4'-C1'-N9	6.51	113.41	108.20
22	RA	1930	G	C4-C5-N7	-6.51	108.19	110.80
22	YA	860	U	N3-C2-O2	-6.51	117.64	122.20
22	RA	2506	U	N3-C2-O2	-6.51	117.64	122.20
22	YA	530	G	O4'-C1'-N9	6.51	113.41	108.20
22	YA	2058	A	C5-C6-N6	-6.51	118.49	123.70
22	YA	805	G	C8-N9-C1'	-6.50	118.55	127.00
53	QV	25	C	C6-N1-C2	-6.50	117.70	120.30
22	YA	69	C	C6-N1-C2	-6.50	117.70	120.30
22	YA	83	G	N3-C4-C5	6.49	131.85	128.60
22	YA	382	G	C2-N3-C4	-6.49	108.66	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	685	G	N3-C4-C5	6.49	131.84	128.60
22	RA	2490	G	C4-N9-C1'	6.48	134.92	126.50
22	YA	1950	G	C8-N9-C4	-6.48	103.81	106.40
1	XA	690	G	C8-N9-C4	-6.48	103.81	106.40
22	RA	2499	C	C6-N1-C2	-6.48	117.71	120.30
1	XA	1301	U	N1-C2-O2	6.47	127.33	122.80
22	RA	2067	G	C6-C5-N7	-6.46	126.52	130.40
1	QA	496	A	N1-C6-N6	-6.46	114.72	118.60
22	RA	1786	A	C2-N3-C4	-6.46	107.37	110.60
22	YA	1698	A	O4'-C1'-N9	6.46	113.37	108.20
22	YA	621	A	N7-C8-N9	6.46	117.03	113.80
22	RA	242	G	P-O3'-C3'	6.46	127.45	119.70
22	YA	582	G	C5-C6-O6	-6.45	124.73	128.60
22	YA	2046	G	N3-C4-C5	-6.44	125.38	128.60
1	QA	701	C	P-O3'-C3'	6.44	127.42	119.70
1	QA	785	G	C5-C6-N1	-6.44	108.28	111.50
22	RA	2686	G	C6-C5-N7	-6.44	126.54	130.40
22	YA	2584	U	C6-N1-C2	-6.43	117.14	121.00
22	YA	1607	C	C2-N3-C4	6.43	123.11	119.90
22	YA	2070	G	N1-C6-O6	-6.43	116.04	119.90
22	RA	2688	U	N3-C2-O2	-6.43	117.70	122.20
22	YA	51	G	N1-C6-O6	-6.43	116.05	119.90
22	RA	613	U	N3-C2-O2	-6.42	117.70	122.20
22	RA	676	A	C8-N9-C4	-6.42	103.23	105.80
1	XA	1297	C	P-O3'-C3'	6.41	127.40	119.70
1	QA	690	G	C8-N9-C4	-6.41	103.84	106.40
22	YA	1568	G	C8-N9-C1'	6.41	135.33	127.00
22	YA	142	G	C4-N9-C1'	-6.41	118.17	126.50
1	XA	960	U	C2-N1-C1'	6.40	125.38	117.70
22	RA	465	G	C5-C6-N1	-6.40	108.30	111.50
22	RA	1840	G	C6-C5-N7	-6.40	126.56	130.40
1	XA	1503	A	P-O3'-C3'	6.40	127.38	119.70
1	XA	1484	C	C6-N1-C2	6.39	122.86	120.30
22	YA	1966	A	N3-C4-C5	6.39	131.28	126.80
22	YA	1790	C	C6-N1-C2	6.39	122.86	120.30
22	YA	792	G	N1-C6-O6	-6.39	116.07	119.90
22	YA	1620	G	C6-C5-N7	-6.39	126.57	130.40
22	RA	1698	A	C6-C5-N7	-6.38	127.83	132.30
22	RA	2251	G	C4-N9-C1'	6.38	134.80	126.50
22	YA	1314	C	N1-C2-O2	6.38	122.73	118.90
22	YA	114	U	C2-N1-C1'	6.38	125.36	117.70
22	RA	1377	G	C4-N9-C1'	6.38	134.79	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	1370	G	N1-C6-O6	6.38	123.73	119.90
22	RA	74	A	P-O3'-C3'	6.38	127.36	119.70
22	YA	74	A	C5-C6-N1	-6.38	114.51	117.70
22	YA	1183	G	N1-C6-O6	6.38	123.73	119.90
22	RA	1192	G	N1-C6-O6	6.38	123.72	119.90
22	YA	1287	A	O5'-P-OP2	-6.38	99.96	105.70
1	QA	932	C	N3-C2-O2	-6.37	117.44	121.90
22	YA	1781	C	C2-N1-C1'	6.37	125.81	118.80
22	YA	2010	G	N1-C6-O6	6.37	123.72	119.90
22	YA	1258	C	C6-N1-C2	6.37	122.85	120.30
22	RA	1142	U	C2-N1-C1'	6.37	125.34	117.70
22	YA	179	G	C5-C6-N1	-6.37	108.32	111.50
22	YA	1858	G	C8-N9-C4	-6.37	103.85	106.40
22	YA	1781	C	O4'-C1'-N1	6.37	113.29	108.20
22	YA	1425	G	C4-N9-C1'	6.36	134.77	126.50
22	YA	2698	U	O5'-P-OP2	-6.36	99.98	105.70
22	YA	446	G	C6-C5-N7	-6.35	126.59	130.40
1	QA	1435	G	C5-C6-N1	-6.35	108.32	111.50
22	YA	1311	G	N9-C4-C5	-6.35	102.86	105.40
22	YA	270(Y)	G	C5-C6-N1	-6.34	108.33	111.50
22	YA	1781	C	C6-N1-C1'	-6.34	113.19	120.80
22	RA	860	U	N3-C2-O2	-6.34	117.76	122.20
1	XA	749	C	C5-C6-N1	6.34	124.17	121.00
22	YA	1425	G	C4-C5-C6	6.34	122.61	118.80
22	RA	338	G	C6-C5-N7	-6.34	126.60	130.40
22	YA	1929	G	N9-C4-C5	-6.34	102.86	105.40
1	XA	1128	C	C5-C6-N1	6.34	124.17	121.00
22	RA	1762	A	N1-C6-N6	-6.33	114.80	118.60
22	YA	2242	G	N1-C6-O6	6.33	123.70	119.90
1	QA	244	U	P-O3'-C3'	6.33	127.30	119.70
22	YA	222	A	P-O3'-C3'	6.32	127.29	119.70
22	RA	848	G	N3-C4-C5	-6.32	125.44	128.60
22	RA	1310	G	C6-C5-N7	-6.32	126.61	130.40
22	YA	1332	G	C5-N7-C8	-6.32	101.14	104.30
22	RA	1568	G	N1-C6-O6	-6.32	116.11	119.90
22	YA	2712	U	C5-C4-O4	6.32	129.69	125.90
22	YA	676	A	N7-C8-N9	6.32	116.96	113.80
1	QA	401	C	C5-C6-N1	6.31	124.16	121.00
22	YA	760	G	N1-C6-O6	6.31	123.69	119.90
22	YA	2439	A	C8-N9-C4	-6.31	103.28	105.80
1	XA	449	C	C6-N1-C2	-6.31	117.78	120.30
22	YA	674	G	C4-C5-N7	6.31	113.32	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	1510	A	C2-N3-C4	6.31	113.75	110.60
22	YA	572	A	N9-C4-C5	6.30	108.32	105.80
22	YA	805	G	N3-C4-C5	-6.30	125.45	128.60
22	YA	1786	A	N7-C8-N9	6.30	116.95	113.80
22	YA	1830	C	N3-C4-C5	6.30	124.42	121.90
1	QA	337	C	C5-C6-N1	6.30	124.15	121.00
1	QA	818	G	N3-C4-N9	-6.30	122.22	126.00
22	YA	2318	G	C4-C5-N7	6.29	113.32	110.80
1	QA	1227	A	C2-N3-C4	-6.29	107.46	110.60
1	XA	1195	C	C2-N1-C1'	6.29	125.72	118.80
22	YA	2234	G	N1-C6-O6	6.29	123.67	119.90
22	RA	783	A	N1-C6-N6	6.28	122.37	118.60
1	XA	690	G	N3-C4-C5	6.28	131.74	128.60
22	RA	2439	A	P-O3'-C3'	6.28	127.24	119.70
22	YA	1950	G	C4-C5-N7	6.28	113.31	110.80
1	XA	328	C	C2-N1-C1'	6.28	125.71	118.80
1	QA	701	C	N3-C2-O2	-6.28	117.51	121.90
22	RA	2311	A	N7-C8-N9	6.28	116.94	113.80
1	XA	890	G	O4'-C1'-N9	6.27	113.22	108.20
22	YA	2832	U	P-O3'-C3'	6.27	127.23	119.70
22	YA	2702	U	O4'-C1'-N1	6.27	113.21	108.20
22	YA	2712(A)	A	C5-N7-C8	-6.26	100.77	103.90
22	YA	88	G	N3-C4-N9	6.26	129.76	126.00
22	RA	783	A	C8-N9-C4	-6.26	103.30	105.80
22	RA	1799	G	P-O3'-C3'	6.26	127.21	119.70
22	YA	1905	C	C2-N1-C1'	6.26	125.68	118.80
1	QA	1158	C	C2-N1-C1'	6.25	125.68	118.80
22	RA	1496	A	C5-N7-C8	-6.25	100.77	103.90
1	QA	422	C	C6-N1-C2	-6.25	117.80	120.30
22	RA	1319	G	C6-C5-N7	-6.25	126.65	130.40
22	YA	811	U	N1-C2-N3	6.25	118.65	114.90
22	YA	1493	C	C6-N1-C2	6.25	122.80	120.30
22	YA	811	U	C5-C4-O4	6.24	129.65	125.90
22	YA	910	A	C8-N9-C4	6.24	108.30	105.80
22	YA	2032	G	C2-N3-C4	-6.24	108.78	111.90
22	RA	2782	G	C4-N9-C1'	6.24	134.61	126.50
22	RA	2401	U	N3-C2-O2	-6.24	117.83	122.20
22	RA	2251	G	C8-N9-C1'	-6.23	118.90	127.00
53	XV	67	C	C2-N1-C1'	6.23	125.66	118.80
1	XA	1397	C	C6-N1-C2	-6.23	117.81	120.30
22	YA	83	G	N3-C4-N9	-6.23	122.26	126.00
22	YA	1407	C	N1-C2-O2	6.23	122.64	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	285	C	C6-N1-C2	6.22	122.79	120.30
22	YA	566	U	C5-C6-N1	-6.22	119.59	122.70
1	QA	328	C	C6-N1-C2	-6.22	117.81	120.30
1	QA	44	G	C4-N9-C1'	6.22	134.58	126.50
22	YA	1929	G	N3-C4-C5	6.21	131.71	128.60
1	XA	102	G	N3-C4-C5	-6.21	125.50	128.60
22	YA	142	G	C2-N3-C4	-6.21	108.80	111.90
22	RA	74	A	C5-N7-C8	-6.21	100.80	103.90
22	YA	1130	U	N3-C2-O2	-6.21	117.86	122.20
1	XA	413	G	O4'-C1'-N9	6.20	113.16	108.20
22	RA	809	G	C4-N9-C1'	6.20	134.56	126.50
22	RA	1049	C	C6-N1-C2	-6.20	117.82	120.30
22	YA	1201	C	N3-C2-O2	6.20	126.24	121.90
22	RA	2345	G	C4-C5-N7	-6.20	108.32	110.80
22	YA	671	C	C6-N1-C2	-6.20	117.82	120.30
53	QV	32	C	N1-C2-O2	6.19	122.61	118.90
22	RA	28	A	C4-C5-C6	6.18	120.09	117.00
22	YA	1675	C	N1-C2-O2	-6.18	115.19	118.90
22	YA	1906	G	N1-C6-O6	6.18	123.61	119.90
1	XA	1501	C	C6-N1-C2	6.18	122.77	120.30
22	YA	446	G	N9-C4-C5	-6.18	102.93	105.40
1	XA	1406	U	N3-C2-O2	-6.18	117.88	122.20
22	YA	397	G	C2-N3-C4	-6.17	108.81	111.90
22	YA	729	G	C4-N9-C1'	6.17	134.52	126.50
23	YB	82	G	C5-C6-N1	-6.17	108.42	111.50
22	YA	679	C	N3-C4-C5	6.17	124.37	121.90
22	YA	2056	G	C4-C5-N7	6.17	113.27	110.80
26	YF	74	ARG	NE-CZ-NH1	6.17	123.38	120.30
1	QA	328	C	P-O3'-C3'	6.17	127.10	119.70
22	RA	2062	A	C2-N3-C4	6.17	113.68	110.60
22	RA	1792	G	C2-N3-C4	6.16	114.98	111.90
22	YA	270(X)	G	C8-N9-C4	-6.16	103.94	106.40
22	RA	1653	G	N3-C4-N9	6.16	129.70	126.00
22	YA	1021	A	C2-N3-C4	-6.16	107.52	110.60
22	RA	1890	A	C4-C5-C6	-6.16	113.92	117.00
22	YA	570	G	C6-N1-C2	6.16	128.79	125.10
22	YA	1427	A	P-O3'-C3'	6.16	127.09	119.70
22	RA	1982	C	C6-N1-C2	6.15	122.76	120.30
22	YA	774	A	N3-C4-C5	6.15	131.10	126.80
22	YA	2516	G	C5-C6-O6	-6.15	124.91	128.60
22	RA	776	G	C4-N9-C1'	6.15	134.49	126.50
1	XA	299	G	C5-C6-O6	6.15	132.29	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	1516	G	C5-C6-N1	-6.15	108.43	111.50
1	QA	444	C	C6-N1-C2	6.15	122.76	120.30
22	YA	537	C	C2-N1-C1'	6.15	125.56	118.80
22	YA	621	A	O4'-C1'-N9	6.14	113.11	108.20
22	RA	1142(A)	A	C2-N3-C4	-6.14	107.53	110.60
22	YA	556	G	N3-C4-N9	6.14	129.69	126.00
22	YA	2468	G	O4'-C1'-N9	6.14	113.11	108.20
54	QX	1	A	C2-N3-C4	-6.14	107.53	110.60
1	QA	1511	G	C5-C6-N1	-6.14	108.43	111.50
22	YA	1028	A	N1-C6-N6	-6.14	114.92	118.60
1	QA	119	A	P-O3'-C3'	6.14	127.07	119.70
22	RA	570	G	N3-C4-C5	-6.14	125.53	128.60
22	YA	2558	C	C6-N1-C2	6.14	122.75	120.30
22	RA	601	C	C6-N1-C2	-6.14	117.84	120.30
22	YA	1764	G	N1-C6-O6	-6.14	116.22	119.90
22	YA	554	U	O5'-P-OP1	-6.13	100.18	105.70
22	RA	271(B)	G	P-O3'-C3'	6.13	127.06	119.70
22	RA	2777	G	N1-C6-O6	6.13	123.58	119.90
1	XA	956	U	C6-N1-C2	-6.13	117.32	121.00
1	XA	299	G	C4-C5-N7	-6.13	108.35	110.80
22	YA	792	G	N9-C4-C5	6.13	107.85	105.40
22	YA	788	A	N1-C6-N6	6.13	122.28	118.60
53	QV	32	C	N3-C2-O2	-6.12	117.61	121.90
22	YA	944	G	C4-N9-C1'	6.12	134.46	126.50
23	YB	25	A	C8-N9-C4	-6.12	103.35	105.80
22	RA	915	C	C6-N1-C2	-6.12	117.85	120.30
1	XA	1114	C	C6-N1-C2	-6.12	117.85	120.30
22	RA	1762	A	N9-C4-C5	6.12	108.25	105.80
22	YA	265	A	N1-C6-N6	-6.12	114.93	118.60
22	YA	298	G	C6-C5-N7	6.12	134.07	130.40
22	YA	1763	G	O5'-P-OP2	-6.12	100.20	105.70
22	YA	1834	U	N3-C2-O2	-6.11	117.92	122.20
53	XV	17	C	C6-N1-C1'	-6.11	113.46	120.80
22	RA	848	G	C4-N9-C1'	6.11	134.44	126.50
22	RA	1653	G	P-O3'-C3'	6.11	127.03	119.70
22	YA	805	G	C4-N9-C1'	6.11	134.44	126.50
22	YA	2383	G	C4-N9-C1'	6.11	134.44	126.50
22	YA	2725	A	C8-N9-C4	-6.11	103.36	105.80
1	XA	1481	U	C6-N1-C2	-6.10	117.34	121.00
53	XV	17	C	N3-C2-O2	-6.10	117.63	121.90
22	RA	2726	U	C2-N1-C1'	6.10	125.02	117.70
22	YA	2544	G	C6-C5-N7	-6.10	126.74	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	QV	25	C	N3-C4-C5	-6.10	119.46	121.90
22	RA	2581	G	C8-N9-C4	-6.09	103.96	106.40
22	YA	1437	C	C6-N1-C2	-6.09	117.86	120.30
53	XV	71	C	O5'-P-OP1	-6.09	100.22	105.70
22	RA	2499	C	N3-C2-O2	-6.09	117.64	121.90
22	YA	912	C	N1-C2-O2	6.09	122.55	118.90
22	YA	676	A	C4-C5-N7	6.08	113.74	110.70
22	YA	856	C	N1-C2-O2	6.08	122.55	118.90
22	YA	917	A	N1-C2-N3	6.08	132.34	129.30
1	QA	1473	A	C8-N9-C4	6.08	108.23	105.80
22	YA	2441	C	C6-N1-C2	6.08	122.73	120.30
22	YA	2518	A	C5-N7-C8	-6.08	100.86	103.90
1	XA	687	A	P-O3'-C3'	6.07	126.99	119.70
1	XA	518	C	N3-C2-O2	-6.07	117.65	121.90
22	YA	856	C	C5-C6-N1	6.07	124.03	121.00
22	YA	517	C	C6-N1-C2	-6.07	117.87	120.30
22	RA	2035	G	N3-C4-N9	-6.07	122.36	126.00
22	YA	537	C	N1-C2-O2	6.07	122.54	118.90
22	RA	2722	G	C8-N9-C1'	-6.07	119.11	127.00
22	YA	74	A	O4'-C1'-N9	-6.07	103.35	108.20
22	YA	2471	C	C6-N1-C2	-6.07	117.87	120.30
22	RA	809	G	N3-C4-C5	-6.06	125.57	128.60
22	YA	527	C	N1-C2-O2	6.06	122.54	118.90
22	YA	1012	U	OP2-P-O3'	6.06	118.53	105.20
22	YA	2321	G	N1-C6-O6	-6.06	116.27	119.90
22	YA	2429	G	OP2-P-O3'	6.05	118.52	105.20
1	XA	131	C	N1-C2-O2	6.05	122.53	118.90
22	YA	576	U	N1-C2-N3	-6.05	111.27	114.90
22	YA	1528	A	N7-C8-N9	6.05	116.83	113.80
22	YA	1653	G	P-O3'-C3'	6.05	126.96	119.70
1	XA	326	G	C5-C6-N1	-6.05	108.48	111.50
22	RA	743	G	C8-N9-C4	6.05	108.82	106.40
1	XA	1301	U	C6-N1-C1'	-6.05	112.73	121.20
22	YA	912	C	C6-N1-C2	-6.05	117.88	120.30
1	QA	243	A	P-O3'-C3'	6.04	126.95	119.70
22	RA	537	C	C5-C6-N1	6.04	124.02	121.00
22	RA	1204	A	C2-N3-C4	-6.04	107.58	110.60
22	RA	2251	G	N3-C4-N9	6.04	129.63	126.00
1	XA	1145	C	P-O3'-C3'	6.04	126.95	119.70
22	RA	1890	A	C8-N9-C4	6.04	108.22	105.80
22	YA	1247	A	N7-C8-N9	-6.04	110.78	113.80
22	YA	1328	G	N1-C2-N3	6.04	127.52	123.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	1686	C	C5-C6-N1	6.03	124.02	121.00
22	RA	798	G	N1-C6-O6	6.03	123.52	119.90
22	RA	2275	C	C5-C6-N1	-6.03	117.98	121.00
1	QA	754	C	N3-C2-O2	-6.03	117.68	121.90
1	QA	685	G	C4-N9-C1'	-6.02	118.67	126.50
1	QA	754	C	C2-N1-C1'	6.02	125.43	118.80
33	RQ	79	LEU	CA-CB-CG	6.02	129.16	115.30
22	YA	2371	G	C5-C6-N1	-6.02	108.49	111.50
22	RA	2518	A	N1-C6-N6	6.02	122.21	118.60
22	YA	1204	A	N1-C2-N3	6.02	132.31	129.30
23	RB	83	G	C4-C5-C6	6.02	122.41	118.80
22	YA	977	G	N3-C4-N9	6.02	129.61	126.00
22	YA	2776	A	P-O3'-C3'	6.02	126.92	119.70
22	YA	621	A	C5-C6-N1	-6.01	114.69	117.70
53	QV	71	C	N3-C2-O2	-6.01	117.69	121.90
22	RA	2605	U	C6-N1-C2	-6.01	117.39	121.00
22	YA	2550	G	N1-C6-O6	6.01	123.51	119.90
22	RA	1947	C	C5-C6-N1	6.01	124.01	121.00
22	YA	1190	G	C4-C5-N7	6.01	113.20	110.80
22	RA	1795	C	N1-C2-O2	-6.01	115.29	118.90
22	YA	830	G	C8-N9-C4	-6.01	104.00	106.40
22	YA	1005	C	N3-C2-O2	-6.01	117.69	121.90
23	YB	81	G	C4-C5-N7	6.01	113.20	110.80
53	XV	17	C	C5-C6-N1	6.01	124.00	121.00
22	RA	962	G	C8-N9-C4	-6.00	104.00	106.40
27	RG	34	LEU	CA-CB-CG	6.00	129.10	115.30
1	XA	1053	G	C4-N9-C1'	-6.00	118.70	126.50
22	YA	2413	G	N3-C4-N9	-6.00	122.40	126.00
1	QA	1285	A	P-O3'-C3'	6.00	126.90	119.70
1	QA	1498	U	P-O3'-C3'	6.00	126.90	119.70
1	XA	633	G	N1-C6-O6	6.00	123.50	119.90
22	YA	88	G	N3-C4-C5	-6.00	125.60	128.60
1	QA	797	C	C5-C6-N1	6.00	124.00	121.00
22	RA	1819	A	C2-N3-C4	-6.00	107.60	110.60
22	YA	2392	A	C5-N7-C8	-5.99	100.90	103.90
22	RA	974(A)	C	P-O3'-C3'	5.99	126.89	119.70
22	YA	273(F)	C	N1-C2-O2	5.99	122.49	118.90
22	RA	2585	U	C2-N1-C1'	5.99	124.89	117.70
1	QA	587	G	C6-C5-N7	-5.99	126.81	130.40
22	YA	1835	G	C8-N9-C4	-5.99	104.00	106.40
22	RA	343	C	N1-C2-O2	5.99	122.49	118.90
1	XA	1385	G	N1-C6-O6	5.99	123.49	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	1342	A	O5'-P-OP1	-5.98	100.31	105.70
22	YA	130	C	C6-N1-C2	5.98	122.69	120.30
22	YA	567	A	O5'-P-OP2	-5.98	100.32	105.70
1	XA	320	C	C6-N1-C2	5.98	122.69	120.30
22	YA	1493	C	C5-C6-N1	-5.98	118.01	121.00
53	QV	30	G	N1-C6-O6	5.98	123.49	119.90
22	RA	2444	G	O5'-P-OP2	-5.97	100.32	105.70
23	RB	44	G	N3-C4-N9	-5.97	122.42	126.00
1	XA	1506	U	N3-C2-O2	5.97	126.38	122.20
22	YA	789	A	N1-C6-N6	-5.97	115.02	118.60
22	YA	793	A	N1-C6-N6	5.97	122.18	118.60
22	RA	966	G	O5'-P-OP2	-5.97	100.33	105.70
22	RA	1792	G	C5-C6-N1	5.97	114.48	111.50
22	YA	1313	U	C2-N1-C1'	5.97	124.86	117.70
1	XA	511	C	C5-C6-N1	-5.97	118.02	121.00
53	XV	32	C	N3-C4-C5	-5.96	119.51	121.90
22	RA	141	A	N7-C8-N9	5.96	116.78	113.80
54	QX	6	G	C5-N7-C8	-5.96	101.32	104.30
22	YA	210	C	C6-N1-C2	5.96	122.69	120.30
22	YA	1313	U	N3-C2-O2	-5.96	118.03	122.20
22	RA	915	C	N3-C2-O2	-5.96	117.73	121.90
22	RA	803	U	C5-C4-O4	-5.96	122.33	125.90
22	RA	2506	U	C2-N1-C1'	5.96	124.85	117.70
22	YA	1685	C	C6-N1-C2	5.96	122.68	120.30
22	RA	389	G	N1-C6-O6	5.96	123.47	119.90
22	RA	577	G	O5'-P-OP1	-5.96	100.34	105.70
22	YA	621	A	C5-N7-C8	-5.96	100.92	103.90
22	YA	1434	A	C8-N9-C4	5.96	108.18	105.80
22	YA	1992	G	O4'-C1'-N9	-5.95	103.44	108.20
22	RA	2552	U	N1-C2-O2	-5.95	118.64	122.80
1	QA	1157	A	P-O3'-C3'	5.95	126.83	119.70
38	YV	35	LEU	CA-CB-CG	5.95	128.97	115.30
22	YA	1800	C	C6-N1-C2	5.94	122.68	120.30
22	YA	1313	U	O4'-C1'-N1	5.94	112.95	108.20
1	QA	117	G	N3-C4-N9	5.94	129.56	126.00
54	QX	6	G	C5-C6-O6	-5.94	125.04	128.60
22	YA	404	C	P-O3'-C3'	5.94	126.83	119.70
22	RA	406	G	C6-C5-N7	-5.93	126.84	130.40
1	QA	44	G	C8-N9-C1'	-5.93	119.29	127.00
22	RA	1496	A	C8-N9-C4	-5.93	103.43	105.80
53	QV	17	C	C6-N1-C1'	-5.93	113.69	120.80
22	YA	1425	G	N7-C8-N9	5.93	116.06	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	989	G	N3-C4-C5	-5.93	125.64	128.60
23	RB	22	U	C2-N1-C1'	5.93	124.81	117.70
22	RA	1606	G	C4-C5-N7	5.92	113.17	110.80
22	RA	2689	U	P-O3'-C3'	5.92	126.81	119.70
22	YA	917	A	C5-C6-N1	-5.92	114.74	117.70
22	RA	859	G	C8-N9-C4	-5.92	104.03	106.40
22	YA	760	G	C6-C5-N7	-5.92	126.85	130.40
1	QA	701	C	N1-C2-O2	5.92	122.45	118.90
54	XX	8	A	C8-N9-C4	-5.92	103.43	105.80
22	RA	2509	G	C4-N9-C1'	5.92	134.19	126.50
22	YA	845	G	N3-C4-C5	5.92	131.56	128.60
22	YA	1955	U	P-O3'-C3'	5.92	126.80	119.70
22	YA	2358	G	N9-C4-C5	5.92	107.77	105.40
22	YA	189	G	N3-C4-N9	5.91	129.55	126.00
22	YA	2700	C	C5-C6-N1	-5.91	118.04	121.00
1	QA	1346	A	P-O3'-C3'	5.91	126.79	119.70
22	RA	180	G	O5'-P-OP1	-5.91	100.39	105.70
22	RA	1602	U	C6-N1-C2	-5.91	117.46	121.00
22	RA	2499	C	N1-C2-O2	5.90	122.44	118.90
22	YA	929	G	C5-C6-N1	-5.90	108.55	111.50
22	YA	1395	A	O4'-C1'-N9	5.90	112.92	108.20
22	YA	1612	C	C6-N1-C2	5.90	122.66	120.30
22	YA	285	C	C5-C6-N1	-5.90	118.05	121.00
22	YA	448	U	N3-C2-O2	-5.90	118.07	122.20
22	RA	2688	U	C5-C4-O4	5.90	129.44	125.90
22	YA	2025	C	C6-N1-C2	-5.90	117.94	120.30
1	XA	320	C	C2-N1-C1'	-5.90	112.31	118.80
22	YA	1968	G	C6-C5-N7	-5.90	126.86	130.40
22	YA	2830	G	C6-C5-N7	-5.90	126.86	130.40
22	RA	1624	G	N9-C4-C5	-5.89	103.04	105.40
22	YA	189	G	C4-C5-C6	5.89	122.34	118.80
22	RA	1204	A	N1-C2-N3	5.89	132.25	129.30
22	YA	2010	G	C5-C6-O6	-5.89	125.06	128.60
22	YA	2031	A	O4'-C1'-N9	5.89	112.91	108.20
22	RA	917	A	C2-N3-C4	-5.89	107.66	110.60
22	YA	1314	C	C2-N1-C1'	5.89	125.28	118.80
22	YA	2406	U	O4'-C1'-N1	-5.89	103.49	108.20
22	YA	2558	C	N3-C4-C5	5.89	124.25	121.90
22	RA	1450	C	C6-N1-C2	-5.89	117.94	120.30
22	RA	2590	A	C8-N9-C4	5.89	108.16	105.80
22	RA	695	G	C8-N9-C4	5.88	108.75	106.40
1	XA	789	U	N3-C4-C5	-5.88	111.07	114.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	1698	A	C2-N3-C4	-5.88	107.66	110.60
1	XA	1053	G	O4'-C1'-N9	5.88	112.91	108.20
22	YA	573	G	C4-C5-N7	5.88	113.15	110.80
22	YA	1383	C	C2-N1-C1'	5.88	125.27	118.80
22	YA	1386	C	N1-C2-O2	-5.88	115.37	118.90
22	RA	729	G	C8-N9-C4	-5.88	104.05	106.40
1	XA	1397	C	C2-N1-C1'	5.88	125.27	118.80
22	YA	1842	G	C2-N3-C4	-5.88	108.96	111.90
22	YA	102	G	P-O3'-C3'	5.88	126.75	119.70
22	RA	754	C	C6-N1-C2	5.88	122.65	120.30
1	XA	1455	G	C8-N9-C4	5.87	108.75	106.40
22	YA	326	G	N1-C6-O6	5.87	123.42	119.90
1	XA	833	U	C2-N1-C1'	-5.87	110.66	117.70
22	RA	385	C	C6-N1-C1'	-5.87	113.76	120.80
22	RA	2867	G	C8-N9-C4	5.87	108.75	106.40
22	YA	582	G	C6-C5-N7	-5.86	126.88	130.40
22	YA	2499	C	C5-C4-N4	-5.86	116.10	120.20
1	QA	1403	C	C6-N1-C2	-5.86	117.96	120.30
1	QA	666	G	C8-N9-C4	-5.86	104.06	106.40
22	YA	801	G	N3-C4-C5	-5.86	125.67	128.60
22	YA	1349	A	N1-C6-N6	5.86	122.11	118.60
22	YA	1776	G	O5'-P-OP2	5.85	117.72	110.70
22	YA	1210	A	N7-C8-N9	5.85	116.72	113.80
22	RA	828	U	N1-C2-N3	5.85	118.41	114.90
22	YA	1602	U	N3-C4-C5	-5.84	111.09	114.60
22	YA	2282	G	N3-C4-C5	-5.84	125.68	128.60
22	RA	2712	U	P-O3'-C3'	5.84	126.71	119.70
23	RB	44	G	C6-C5-N7	5.84	133.91	130.40
22	YA	944	G	C8-N9-C1'	-5.84	119.41	127.00
54	QX	6	G	N7-C8-N9	5.84	116.02	113.10
1	QA	777	A	O4'-C1'-N9	5.84	112.87	108.20
1	XA	1091	U	N3-C2-O2	-5.84	118.11	122.20
22	RA	741	G	C5-C6-O6	-5.83	125.10	128.60
23	RB	44	G	C8-N9-C1'	5.83	134.58	127.00
23	YB	94	C	C6-N1-C2	-5.83	117.97	120.30
22	YA	503	A	P-O3'-C3'	5.83	126.69	119.70
1	QA	718	G	N3-C4-C5	5.83	131.51	128.60
22	YA	1425	G	C5-C6-N1	-5.83	108.59	111.50
1	XA	1432	G	O5'-P-OP1	-5.83	100.46	105.70
22	YA	1653	G	N3-C4-C5	-5.83	125.69	128.60
1	QA	99	C	C6-N1-C2	-5.82	117.97	120.30
22	RA	2241	A	O5'-P-OP1	-5.82	100.46	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	974(A)	C	P-O3'-C3'	5.82	126.69	119.70
22	RA	1528	A	C8-N9-C4	-5.82	103.47	105.80
22	RA	2062	A	N1-C6-N6	-5.82	115.11	118.60
22	RA	2852	G	C6-C5-N7	-5.82	126.91	130.40
22	YA	512	G	C4-N9-C1'	-5.82	118.93	126.50
22	YA	1471	A	C8-N9-C4	-5.82	103.47	105.80
22	RA	1310	G	N1-C6-O6	5.82	123.39	119.90
22	YA	2310	A	C4-C5-C6	5.82	119.91	117.00
22	RA	1502	C	C2-N1-C1'	5.82	125.20	118.80
1	XA	117	G	C4-C5-N7	5.82	113.13	110.80
25	RE	63	LEU	CA-CB-CG	5.81	128.67	115.30
22	YA	2505	G	N1-C6-O6	5.81	123.39	119.90
22	RA	1694	C	P-O3'-C3'	5.81	126.68	119.70
22	YA	1773	A	N3-C4-C5	-5.81	122.73	126.80
22	RA	1319	G	N9-C4-C5	-5.81	103.08	105.40
22	YA	570	G	N3-C4-N9	-5.81	122.51	126.00
22	RA	2526	G	N3-C4-N9	-5.81	122.51	126.00
22	YA	729	G	C6-C5-N7	-5.81	126.91	130.40
22	RA	856	C	C5-C6-N1	5.81	123.90	121.00
1	XA	6	G	C6-C5-N7	-5.81	126.92	130.40
22	YA	450	G	C2-N3-C4	-5.81	109.00	111.90
22	YA	1614	A	C5-C6-N6	-5.81	119.05	123.70
22	RA	2251	G	N3-C4-C5	-5.81	125.70	128.60
22	RA	752	A	C8-N9-C4	-5.80	103.48	105.80
22	YA	382	G	C6-C5-N7	-5.80	126.92	130.40
1	QA	1336	C	N3-C2-O2	-5.79	117.84	121.90
22	RA	2401	U	C2-N1-C1'	5.79	124.65	117.70
1	XA	703	G	N3-C4-N9	5.79	129.47	126.00
22	RA	1672	C	C5-C6-N1	5.79	123.89	121.00
22	YA	2544	G	N1-C6-O6	5.78	123.37	119.90
53	XV	67	C	N1-C2-O2	5.78	122.37	118.90
22	YA	1929	G	C6-C5-N7	-5.78	126.94	130.40
1	XA	345	C	P-O3'-C3'	5.77	126.62	119.70
22	RA	2814	C	C5-C6-N1	-5.77	118.12	121.00
22	RA	1840	G	C4-C5-N7	5.77	113.11	110.80
54	XX	6	G	C6-C5-N7	-5.77	126.94	130.40
22	YA	18	C	C6-N1-C2	-5.76	118.00	120.30
22	RA	395	U	C2-N1-C1'	-5.76	110.79	117.70
22	RA	1672	C	C2-N3-C4	5.75	122.78	119.90
1	XA	775	G	C6-C5-N7	-5.75	126.95	130.40
22	YA	1193	G	N3-C4-N9	-5.75	122.55	126.00
22	YA	2033	A	N1-C6-N6	-5.75	115.15	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	2550	G	C5-C6-O6	-5.75	125.15	128.60
22	RA	1695	G	C6-C5-N7	-5.75	126.95	130.40
22	YA	2542	A	C8-N9-C4	5.75	108.10	105.80
22	YA	772	C	O5'-P-OP2	-5.75	100.53	105.70
22	YA	1686	C	C6-N1-C2	-5.75	118.00	120.30
22	RA	74	A	C4-C5-C6	5.75	119.87	117.00
23	YB	66	A	P-O3'-C3'	5.75	126.60	119.70
22	RA	848	G	N3-C4-N9	5.75	129.45	126.00
22	RA	2722	G	C6-C5-N7	-5.75	126.95	130.40
22	YA	2008	C	O5'-P-OP2	-5.75	100.53	105.70
22	RA	227	A	P-O3'-C3'	5.75	126.59	119.70
22	RA	688	U	C5-C6-N1	5.74	125.57	122.70
22	RA	688	U	N3-C4-O4	5.74	123.42	119.40
22	RA	450	G	C8-N9-C4	-5.74	104.10	106.40
1	XA	229	U	C5-C6-N1	5.74	125.57	122.70
22	RA	2043	C	N1-C2-O2	5.74	122.34	118.90
22	RA	1902	C	N3-C4-C5	5.73	124.19	121.90
33	YQ	82	ARG	N-CA-C	5.73	126.47	111.00
1	QA	1302	U	N3-C2-O2	-5.73	118.19	122.20
22	YA	1386	C	C6-N1-C1'	5.73	127.67	120.80
22	YA	2062	A	N1-C6-N6	5.73	122.04	118.60
22	YA	2500	U	N3-C2-O2	-5.73	118.19	122.20
22	YA	2713	A	N7-C8-N9	5.73	116.66	113.80
22	YA	2856	C	C6-N1-C2	-5.73	118.01	120.30
22	YA	1698	A	C5-C6-N1	-5.72	114.84	117.70
22	YA	2498	C	C6-N1-C2	-5.72	118.01	120.30
22	RA	2346	A	C2-N3-C4	-5.72	107.74	110.60
22	RA	2776	A	P-O3'-C3'	5.72	126.57	119.70
22	RA	1627	G	C6-C5-N7	-5.72	126.97	130.40
1	XA	558	G	C4-C5-N7	5.72	113.09	110.80
22	RA	1684	C	C6-N1-C2	-5.72	118.01	120.30
22	YA	1022	G	N1-C6-O6	-5.71	116.47	119.90
22	YA	2591	C	C6-N1-C2	-5.71	118.01	120.30
1	QA	266	G	P-O3'-C3'	5.71	126.56	119.70
22	RA	2520	C	C6-N1-C2	5.71	122.58	120.30
22	RA	227	A	C8-N9-C4	-5.71	103.52	105.80
1	QA	932	C	C6-N1-C1'	-5.71	113.95	120.80
22	RA	1781	C	N3-C2-O2	-5.71	117.90	121.90
22	RA	2584	U	N3-C2-O2	-5.71	118.20	122.20
22	YA	1987	G	N3-C4-C5	-5.71	125.75	128.60
22	YA	446	G	C8-N9-C1'	-5.71	119.58	127.00
1	QA	117	G	C5-C6-O6	-5.71	125.18	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	243	A	P-O3'-C3'	5.70	126.54	119.70
1	XA	1524	C	N1-C2-O2	-5.70	115.48	118.90
22	YA	2597	G	C5-C6-N1	-5.70	108.65	111.50
1	XA	328	C	P-O3'-C3'	5.70	126.54	119.70
1	XA	544	G	C6-C5-N7	-5.70	126.98	130.40
22	YA	1437	C	C5-C6-N1	5.70	123.85	121.00
22	YA	1332	G	N3-C4-N9	5.69	129.41	126.00
22	RA	1789	A	C8-N9-C4	-5.69	103.52	105.80
22	YA	298	G	C8-N9-C1'	5.69	134.40	127.00
22	YA	1905	C	C5-C6-N1	5.69	123.84	121.00
22	YA	2046	G	C4-N9-C1'	5.69	133.90	126.50
1	QA	1200	C	N3-C2-O2	-5.69	117.92	121.90
22	YA	189	G	C4-C5-N7	5.68	113.07	110.80
22	RA	1501	C	C6-N1-C2	-5.68	118.03	120.30
1	XA	703	G	C4-N9-C1'	5.68	133.89	126.50
32	YP	59	LEU	CA-CB-CG	5.68	128.37	115.30
22	RA	1967	C	C6-N1-C2	5.68	122.57	120.30
22	RA	2401	U	C6-N1-C2	-5.68	117.59	121.00
22	RA	2420	C	O5'-P-OP1	-5.68	100.59	105.70
22	YA	298	G	N3-C4-N9	-5.68	122.59	126.00
53	XV	42	G	C6-C5-N7	-5.68	126.99	130.40
22	RA	810	U	N1-C2-N3	5.67	118.30	114.90
22	YA	676	A	O4'-C1'-N9	5.67	112.74	108.20
22	YA	1729	A	O4'-C1'-N9	5.67	112.74	108.20
22	YA	1568	G	N3-C4-N9	-5.67	122.60	126.00
22	RA	1992	G	N3-C4-C5	-5.67	125.77	128.60
22	YA	2712	U	O4'-C1'-N1	5.67	112.74	108.20
22	YA	2053	G	N3-C4-C5	5.67	131.43	128.60
1	XA	1504	G	O5'-P-OP1	-5.67	100.60	105.70
22	YA	88	G	C4-N9-C1'	5.67	133.87	126.50
1	XA	792	A	C3'-C2'-C1'	-5.66	96.97	101.50
22	YA	138	G	O4'-C1'-N9	5.66	112.73	108.20
22	YA	2310	A	N1-C6-N6	5.66	122.00	118.60
22	RA	1012	U	P-O3'-C3'	5.66	126.49	119.70
43	Y0	44	ARG	NE-CZ-NH1	-5.66	117.47	120.30
22	YA	1942	C	C2-N1-C1'	5.65	125.02	118.80
22	RA	776	G	C8-N9-C1'	-5.65	119.65	127.00
22	YA	2760	C	C6-N1-C2	5.65	122.56	120.30
22	YA	2053	G	N1-C6-O6	5.65	123.29	119.90
22	YA	2234	G	C5-C6-O6	-5.65	125.21	128.60
22	YA	2513	G	C5-C6-N1	-5.65	108.68	111.50
22	YA	251	A	O5'-P-OP1	-5.65	100.62	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	1214	A	C8-N9-C4	5.65	108.06	105.80
22	YA	1797	C	O5'-P-OP1	-5.65	100.62	105.70
1	QA	703	G	N3-C4-C5	-5.65	125.78	128.60
22	YA	621	A	C8-N9-C4	-5.65	103.54	105.80
22	RA	2544	G	C6-C5-N7	-5.64	127.01	130.40
1	XA	539	A	O5'-P-OP1	-5.64	100.62	105.70
22	YA	2689	U	P-O3'-C3'	5.64	126.47	119.70
22	RA	1786	A	N9-C1'-C2'	5.64	121.33	114.00
22	YA	676	A	C5-C6-N1	-5.64	114.88	117.70
22	YA	2595	G	N9-C4-C5	-5.64	103.14	105.40
22	YA	592	G	N3-C4-C5	-5.64	125.78	128.60
22	YA	1214	A	N1-C6-N6	-5.64	115.22	118.60
22	RA	496	G	C8-N9-C1'	-5.63	119.68	127.00
22	RA	2401	U	N1-C2-O2	5.63	126.74	122.80
22	YA	1311	G	N3-C4-N9	5.63	129.38	126.00
22	RA	860	U	N1-C2-N3	5.63	118.28	114.90
22	YA	1136	G	N1-C6-O6	5.63	123.28	119.90
22	RA	1379	A	C4-C5-C6	-5.63	114.19	117.00
1	XA	328	C	N3-C2-O2	-5.63	117.96	121.90
1	XA	1084	G	N3-C4-C5	-5.63	125.78	128.60
22	YA	729	G	C8-N9-C1'	-5.63	119.68	127.00
22	YA	1770	G	C2-N3-C4	-5.63	109.08	111.90
22	YA	827	U	O4'-C1'-N1	5.63	112.70	108.20
22	RA	2306	C	N1-C2-O2	5.63	122.28	118.90
22	RA	271(C)	U	P-O3'-C3'	5.63	126.45	119.70
22	RA	1534	G	N3-C4-C5	-5.62	125.79	128.60
22	YA	621	A	N1-C6-N6	5.62	121.97	118.60
22	YA	1559	G	N3-C4-C5	5.62	131.41	128.60
1	QA	44	G	C6-C5-N7	-5.62	127.03	130.40
1	XA	731	G	N3-C4-C5	5.62	131.41	128.60
1	XA	775	G	N1-C6-O6	5.62	123.27	119.90
22	YA	99	U	P-O3'-C3'	5.62	126.45	119.70
53	XV	4	G	N9-C1'-C2'	-5.62	105.82	112.00
22	YA	141	A	N7-C8-N9	5.62	116.61	113.80
22	YA	448	U	OP1-P-O3'	5.62	117.56	105.20
22	RA	2311	A	C8-N9-C4	-5.62	103.55	105.80
22	YA	1187	G	C4-C5-C6	5.62	122.17	118.80
24	YD	229	VAL	CB-CA-C	-5.61	100.73	111.40
1	QA	252	U	N3-C2-O2	-5.61	118.27	122.20
1	QA	1200	C	OP2-P-O3'	5.61	117.54	105.20
22	RA	1786	A	O4'-C1'-N9	5.61	112.69	108.20
22	YA	842	G	N1-C6-O6	5.61	123.26	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	1698	A	C6-C5-N7	-5.61	128.38	132.30
22	YA	2700	C	C2-N3-C4	-5.61	117.10	119.90
22	YA	848	G	C4-C5-N7	5.60	113.04	110.80
22	YA	2234	G	C4-C5-N7	5.60	113.04	110.80
1	QA	611	A	C8-N9-C4	5.60	108.04	105.80
22	RA	2642	G	C5-C6-O6	-5.59	125.25	128.60
22	YA	679	C	C6-N1-C1'	-5.59	114.09	120.80
22	YA	1558	A	P-O3'-C3'	5.59	126.41	119.70
22	YA	2731	G	O5'-P-OP1	-5.59	100.67	105.70
22	YA	801	G	C8-N9-C4	-5.59	104.16	106.40
22	RA	2555	U	N1-C2-O2	-5.59	118.89	122.80
1	XA	1159	U	O4'-C1'-N1	5.59	112.67	108.20
22	YA	774	A	N3-C4-N9	-5.59	122.93	127.40
22	YA	2071	A	N1-C6-N6	5.59	121.95	118.60
22	YA	1128	A	C8-N9-C4	-5.58	103.57	105.80
1	QA	753	A	P-O3'-C3'	5.58	126.40	119.70
32	YP	25	SER	N-CA-C	-5.58	95.93	111.00
22	RA	1790	C	O5'-P-OP1	-5.58	100.68	105.70
1	XA	1235	U	C5-C6-N1	5.58	125.49	122.70
22	YA	2686	G	N3-C4-N9	5.58	129.35	126.00
22	RA	1771	C	C5-C6-N1	-5.58	118.21	121.00
1	XA	652	U	N1-C2-O2	5.58	126.70	122.80
22	YA	2028	U	N3-C4-O4	5.58	123.30	119.40
1	QA	1435	G	N3-C4-C5	5.57	131.39	128.60
1	XA	115	G	P-O3'-C3'	5.57	126.39	119.70
22	YA	845	G	C8-N9-C4	5.57	108.63	106.40
22	YA	2612	C	N3-C2-O2	-5.57	118.00	121.90
22	RA	2430	A	C2-N3-C4	-5.57	107.81	110.60
22	YA	1782	C	N3-C4-N4	5.57	121.90	118.00
22	RA	300	A	N1-C6-N6	5.57	121.94	118.60
22	RA	1882	C	C5-C6-N1	5.57	123.79	121.00
1	XA	122	G	C8-N9-C4	5.57	108.63	106.40
22	YA	1216	G	C5-C6-N1	-5.57	108.72	111.50
22	YA	1930	G	C4-N9-C1'	-5.57	119.26	126.50
22	YA	2032	G	C4-C5-N7	5.57	113.03	110.80
22	RA	373	U	C2-N1-C1'	5.57	124.38	117.70
22	YA	141	A	C8-N9-C4	-5.57	103.57	105.80
53	XV	52	G	C4-C5-N7	5.57	113.03	110.80
22	RA	2573	C	C6-N1-C2	-5.57	118.07	120.30
22	YA	1942	C	C5-C6-N1	5.57	123.78	121.00
1	QA	1302	U	C6-N1-C1'	-5.57	113.41	121.20
22	RA	1548	C	C6-N1-C2	5.57	122.53	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	828	U	C6-N1-C2	-5.56	117.66	121.00
1	XA	893	C	C6-N1-C2	5.56	122.53	120.30
22	YA	1776	G	C4-N9-C1'	5.56	133.73	126.50
22	RA	2456	C	N3-C4-C5	-5.56	119.68	121.90
23	RB	83	G	C6-C5-N7	-5.56	127.06	130.40
22	RA	2035	G	N3-C4-C5	5.56	131.38	128.60
22	RA	2581	G	N1-C6-O6	-5.55	116.57	119.90
22	YA	637	A	P-O3'-C3'	5.55	126.36	119.70
22	YA	966	G	O5'-P-OP2	-5.55	100.70	105.70
22	YA	2418	A	N1-C6-N6	5.55	121.93	118.60
23	YB	16	G	N1-C6-O6	5.55	123.23	119.90
22	RA	1696	G	N1-C6-O6	-5.55	116.57	119.90
23	RB	83	G	C4-N9-C1'	5.55	133.72	126.50
22	YA	1568	G	C6-C5-N7	5.55	133.73	130.40
53	QV	76	A	C8-N9-C4	5.55	108.02	105.80
22	YA	2468	G	C4-N9-C1'	5.55	133.72	126.50
22	YA	792	G	C4-C5-N7	-5.55	108.58	110.80
22	YA	1938	A	O4'-C1'-N9	5.55	112.64	108.20
22	RA	1313	U	C2-N1-C1'	5.55	124.36	117.70
22	YA	1269	A	OP2-P-O3'	5.55	117.40	105.20
22	RA	1506	C	C2-N1-C1'	5.54	124.90	118.80
22	YA	1807	G	N9-C1'-C2'	-5.54	105.90	112.00
22	RA	2002	G	N3-C4-N9	5.54	129.33	126.00
22	YA	69	C	N3-C2-O2	-5.54	118.02	121.90
22	YA	296	C	C6-N1-C2	5.54	122.52	120.30
22	YA	793	A	C4-C5-N7	5.54	113.47	110.70
22	YA	1665	A	N1-C6-N6	5.54	121.93	118.60
22	RA	972	G	N1-C6-O6	-5.54	116.58	119.90
22	RA	1899	G	N3-C2-N2	5.54	123.78	119.90
22	RA	693	C	C5-C6-N1	-5.54	118.23	121.00
22	YA	1070	A	O4'-C1'-N9	5.54	112.63	108.20
22	RA	2573	C	C5-C6-N1	5.54	123.77	121.00
1	XA	1094	G	P-O3'-C3'	5.54	126.35	119.70
22	YA	1613	G	N3-C4-N9	5.54	129.32	126.00
22	RA	2583	G	N3-C4-N9	5.54	129.32	126.00
22	RA	1771	C	C2-N3-C4	-5.54	117.13	119.90
22	YA	2711	A	C2-N3-C4	-5.54	107.83	110.60
23	YB	94	C	C5-C6-N1	5.54	123.77	121.00
22	RA	1558	A	P-O3'-C3'	5.53	126.34	119.70
22	RA	2712(A)	A	N9-C4-C5	5.53	108.01	105.80
22	RA	1929	G	C5-N7-C8	-5.53	101.53	104.30
1	XA	1094	G	OP2-P-O3'	5.53	117.37	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	603	U	C6-N1-C2	-5.53	117.68	121.00
22	RA	685	A	N1-C6-N6	-5.53	115.28	118.60
22	YA	1333	C	C5-C6-N1	5.53	123.77	121.00
22	YA	2310	A	C6-C5-N7	-5.53	128.43	132.30
1	XA	1195	C	C5-C6-N1	5.53	123.77	121.00
1	QA	894	G	N3-C4-C5	5.53	131.36	128.60
22	YA	2032	G	C5-N7-C8	-5.53	101.54	104.30
22	YA	2299	G	N1-C6-O6	5.52	123.21	119.90
22	RA	2832	U	P-O3'-C3'	5.52	126.33	119.70
22	YA	146	G	C5-C6-N1	-5.52	108.74	111.50
22	YA	2702	U	O5'-P-OP2	-5.52	100.73	105.70
23	YB	25	A	N7-C8-N9	5.52	116.56	113.80
22	RA	2581	G	N3-C4-C5	-5.52	125.84	128.60
22	YA	1542	G	N3-C4-C5	-5.52	125.84	128.60
22	YA	146	G	N1-C6-O6	5.52	123.21	119.90
1	QA	691	G	N1-C6-O6	5.51	123.21	119.90
22	YA	1506	C	C5-C6-N1	5.51	123.76	121.00
22	YA	1678	G	C5-N7-C8	-5.51	101.55	104.30
22	YA	326	G	C5-C6-N1	-5.50	108.75	111.50
22	YA	2453	A	C2-N3-C4	5.50	113.35	110.60
22	YA	796	C	C6-N1-C2	5.50	122.50	120.30
22	YA	945	A	P-O3'-C3'	5.50	126.30	119.70
22	YA	2484	G	C6-C5-N7	-5.50	127.10	130.40
22	YA	2595	G	N3-C4-N9	5.50	129.30	126.00
22	RA	1557	C	C6-N1-C2	5.50	122.50	120.30
29	RI	77	LEU	CA-CB-CG	5.50	127.94	115.30
22	YA	537	C	C5-C6-N1	5.50	123.75	121.00
22	RA	2060	A	P-O3'-C3'	5.49	126.29	119.70
22	RA	2593	U	OP2-P-O3'	5.49	117.29	105.20
22	YA	239	U	C5-C6-N1	-5.49	119.95	122.70
22	YA	991	C	C6-N1-C2	5.49	122.50	120.30
22	YA	1528	A	C8-N9-C4	-5.49	103.60	105.80
22	YA	2681	C	N3-C2-O2	-5.49	118.05	121.90
22	RA	965	C	C6-N1-C2	-5.49	118.10	120.30
22	RA	2440	C	C2-N1-C1'	-5.49	112.76	118.80
22	YA	2207	C	C6-N1-C2	-5.49	118.10	120.30
1	QA	291	C	C6-N1-C2	-5.49	118.10	120.30
1	QA	690	G	O4'-C1'-N9	5.49	112.59	108.20
1	QA	894	G	C8-N9-C1'	5.49	134.14	127.00
22	RA	1684	C	N3-C4-C5	-5.49	119.70	121.90
22	RA	2448	A	N9-C4-C5	5.49	108.00	105.80
25	RE	27	LEU	CA-CB-CG	5.49	127.93	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	1773	A	C8-N9-C4	-5.49	103.61	105.80
1	XA	793	U	C6-N1-C2	-5.49	117.71	121.00
22	RA	1623	G	N1-C6-O6	5.49	123.19	119.90
22	RA	1904	G	C8-N9-C4	5.49	108.59	106.40
1	XA	775	G	N9-C4-C5	-5.49	103.21	105.40
22	YA	1838	C	C6-N1-C2	5.49	122.49	120.30
22	RA	537	C	C6-N1-C2	-5.48	118.11	120.30
22	RA	1310	G	N3-C4-N9	5.48	129.29	126.00
1	XA	775	G	C4-C5-N7	5.48	112.99	110.80
22	YA	530	G	N3-C4-C5	5.48	131.34	128.60
22	YA	2713	A	C5-N7-C8	-5.48	101.16	103.90
22	RA	622	G	N3-C4-C5	5.48	131.34	128.60
22	YA	189	G	N9-C4-C5	-5.48	103.21	105.40
22	RA	1929	G	N7-C8-N9	5.48	115.84	113.10
22	RA	140	A	O4'-C1'-N9	5.48	112.58	108.20
22	YA	974(A)	C	N3-C2-O2	-5.47	118.07	121.90
22	YA	1528	A	O4'-C1'-N9	5.47	112.58	108.20
22	RA	227	A	C4-C5-C6	5.47	119.74	117.00
22	YA	450	G	N1-C2-N3	5.47	127.18	123.90
22	YA	784	A	N1-C6-N6	-5.47	115.32	118.60
22	YA	1214	A	C5-N7-C8	5.47	106.64	103.90
1	QA	1027	C	P-O3'-C3'	5.47	126.26	119.70
22	RA	553	U	N1-C2-N3	5.47	118.18	114.90
22	RA	1377	G	C8-N9-C4	-5.47	104.21	106.40
22	RA	1525	G	N9-C4-C5	-5.47	103.21	105.40
22	YA	99	U	OP2-P-O3'	5.47	117.23	105.20
22	YA	194	G	C4-N9-C1'	-5.47	119.39	126.50
22	YA	1012	U	P-O3'-C3'	5.46	126.26	119.70
22	RA	948	G	N3-C4-C5	5.46	131.33	128.60
22	YA	1343	G	C4-N9-C1'	5.46	133.60	126.50
22	YA	483	A	C6-C5-N7	-5.46	128.48	132.30
22	YA	1786	A	N9-C4-C5	-5.46	103.62	105.80
22	YA	2318	G	C5-N7-C8	-5.46	101.57	104.30
22	YA	2447	G	OP1-P-O3'	5.46	117.20	105.20
54	XX	7	G	N3-C2-N2	-5.46	116.08	119.90
1	QA	703	G	C4-N9-C1'	5.46	133.59	126.50
22	RA	1698	A	N1-C6-N6	5.46	121.87	118.60
1	XA	487	A	N1-C2-N3	5.46	132.03	129.30
23	YB	49	C	C5-C6-N1	5.46	123.73	121.00
22	RA	2318	G	N7-C8-N9	5.45	115.83	113.10
22	YA	945	A	OP2-P-O3'	5.45	117.19	105.20
22	YA	2254	C	N1-C2-O2	-5.45	115.63	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	2846	G	C5-C6-N1	-5.45	108.77	111.50
22	RA	1215	G	N1-C6-O6	5.45	123.17	119.90
22	RA	1534	G	C2-N3-C4	5.45	114.62	111.90
1	QA	410	G	P-O3'-C3'	5.45	126.24	119.70
32	RP	88	LEU	CA-CB-CG	5.45	127.83	115.30
1	QA	330	C	N1-C2-O2	5.45	122.17	118.90
22	RA	2067	G	C5-C6-N1	-5.45	108.78	111.50
22	YA	2234	G	N3-C4-C5	5.45	131.32	128.60
1	QA	934	C	P-O3'-C3'	5.44	126.23	119.70
22	YA	1968	G	C4-C5-N7	5.44	112.98	110.80
1	XA	1323	G	N1-C6-O6	5.44	123.17	119.90
22	YA	1773	A	C6-N1-C2	-5.44	115.33	118.60
22	RA	1757	U	N3-C2-O2	-5.44	118.39	122.20
22	YA	2383	G	C8-N9-C1'	-5.44	119.93	127.00
22	YA	2487	G	C4-C5-C6	5.44	122.06	118.80
22	RA	141	A	O4'-C1'-N9	5.44	112.55	108.20
22	RA	467	G	O5'-P-OP2	-5.44	100.81	105.70
22	RA	2456	C	C6-N1-C2	-5.44	118.12	120.30
22	YA	783	A	N3-C4-C5	5.44	130.61	126.80
22	YA	1284	A	N1-C6-N6	5.44	121.86	118.60
22	YA	1814	G	C4-C5-C6	5.44	122.06	118.80
23	YB	11	C	C6-N1-C2	-5.44	118.13	120.30
1	QA	1157	A	O4'-C1'-N9	5.43	112.55	108.20
22	YA	1987	G	N3-C4-N9	5.43	129.26	126.00
1	QA	410	G	N9-C1'-C2'	-5.43	106.03	112.00
22	RA	450	G	C6-C5-N7	-5.43	127.14	130.40
1	XA	117	G	C6-C5-N7	-5.43	127.14	130.40
22	RA	1608	A	N1-C6-N6	-5.43	115.34	118.60
22	YA	307	G	C4-C5-N7	5.43	112.97	110.80
1	QA	682	G	N1-C6-O6	5.43	123.16	119.90
22	RA	396	G	N1-C6-O6	5.43	123.16	119.90
22	RA	1024	G	C4-N9-C1'	5.43	133.56	126.50
22	YA	1957	C	C2-N3-C4	-5.43	117.19	119.90
22	YA	2439	A	N1-C6-N6	5.43	121.86	118.60
22	YA	2466	C	C6-N1-C2	5.43	122.47	120.30
22	YA	2518	A	C5-C6-N1	-5.43	114.99	117.70
1	QA	428	G	N3-C4-C5	5.42	131.31	128.60
22	RA	271(C)	U	OP2-P-O3'	5.42	117.13	105.20
22	YA	1243	G	C5-C6-N1	-5.42	108.79	111.50
22	YA	1624	G	N3-C4-C5	5.42	131.31	128.60
22	YA	2474	C	N1-C2-O2	5.42	122.15	118.90
22	RA	2782	G	N7-C8-N9	5.42	115.81	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	517	C	C5-C6-N1	5.42	123.71	121.00
22	YA	2495	G	O5'-P-OP2	-5.42	100.82	105.70
22	RA	1781	C	N3-C4-N4	-5.42	114.21	118.00
22	YA	593	G	O5'-P-OP2	-5.42	100.83	105.70
1	QA	685	G	N3-C4-N9	-5.42	122.75	126.00
22	RA	688	U	C6-N1-C2	-5.42	117.75	121.00
22	YA	1880	C	C6-N1-C2	-5.42	118.13	120.30
22	RA	860	U	C6-N1-C2	-5.41	117.75	121.00
22	YA	2358	G	C8-N9-C4	-5.41	104.23	106.40
22	YA	2595	G	N1-C6-O6	5.41	123.15	119.90
1	XA	481	G	P-O3'-C3'	5.41	126.19	119.70
22	YA	27	G	N3-C2-N2	-5.41	116.11	119.90
22	YA	1835	G	C4-N9-C1'	5.41	133.53	126.50
22	YA	2441	C	C2-N1-C1'	-5.41	112.85	118.80
22	RA	2509	G	C8-N9-C1'	-5.41	119.97	127.00
22	RA	2814	C	C6-N1-C2	5.41	122.46	120.30
22	YA	945	A	C5-C6-N1	-5.41	115.00	117.70
22	RA	2261	C	N1-C2-O2	-5.40	115.66	118.90
1	XA	781	A	C5-C6-N1	5.40	120.40	117.70
22	YA	966	G	C8-N9-C4	5.40	108.56	106.40
22	YA	1976	U	N1-C2-N3	5.40	118.14	114.90
22	YA	2595	G	C4-C5-N7	5.40	112.96	110.80
22	YA	2867	G	P-O3'-C3'	5.40	126.18	119.70
1	XA	789	U	C4-C5-C6	5.40	122.94	119.70
22	YA	1240	U	C2-N1-C1'	5.39	124.17	117.70
22	RA	1931	U	C6-N1-C2	-5.39	117.76	121.00
22	RA	2391	G	O4'-C1'-N9	5.39	112.51	108.20
22	RA	2505	G	N3-C4-N9	5.39	129.24	126.00
22	YA	330	A	C2-N3-C4	-5.39	107.90	110.60
22	RA	2487	G	C6-C5-N7	-5.39	127.17	130.40
1	XA	1285	A	P-O3'-C3'	5.39	126.17	119.70
22	RA	1021	A	N7-C8-N9	5.39	116.49	113.80
1	XA	114	U	C5-C6-N1	-5.39	120.01	122.70
22	YA	788	A	N9-C4-C5	-5.39	103.64	105.80
22	YA	2439	A	C6-C5-N7	-5.39	128.53	132.30
22	YA	862	G	N1-C2-N3	5.38	127.13	123.90
22	YA	2499	C	N3-C4-N4	5.38	121.77	118.00
22	RA	1790	C	C6-N1-C1'	5.38	127.25	120.80
23	RB	24	G	P-O3'-C3'	5.38	126.16	119.70
22	YA	142	G	C8-N9-C1'	5.38	133.99	127.00
22	YA	1642	G	C5-C6-O6	-5.38	125.37	128.60
22	YA	2336	A	O4'-C1'-N9	-5.38	103.90	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	783	A	C6-C5-N7	-5.38	128.54	132.30
22	RA	1950	G	C8-N9-C1'	-5.38	120.01	127.00
22	YA	1391	U	N3-C2-O2	-5.37	118.44	122.20
22	RA	1332	G	C8-N9-C4	-5.37	104.25	106.40
22	RA	2318	G	C4-N9-C1'	5.37	133.48	126.50
1	XA	440	A	C8-N9-C4	-5.37	103.65	105.80
22	YA	2518	A	C6-C5-N7	-5.37	128.54	132.30
22	RA	1506	C	N1-C2-O2	5.36	122.12	118.90
22	YA	774	A	C5-N7-C8	-5.36	101.22	103.90
22	RA	1558	A	C2-N3-C4	-5.36	107.92	110.60
22	RA	1653	G	C4-N9-C1'	5.36	133.47	126.50
22	YA	1535	U	N1-C2-O2	5.36	126.55	122.80
53	XV	17	C	C6-N1-C2	-5.36	118.16	120.30
1	XA	1498	U	O4'-C1'-N1	-5.36	103.91	108.20
22	YA	1184	G	N3-C4-N9	5.36	129.21	126.00
22	RA	328	U	C5-C6-N1	-5.36	120.02	122.70
22	YA	621	A	C4-C5-C6	5.36	119.68	117.00
23	YB	117	G	C8-N9-C4	5.36	108.54	106.40
22	RA	450	G	N7-C8-N9	5.35	115.78	113.10
22	YA	1922	G	C8-N9-C4	5.35	108.54	106.40
22	RA	37	C	C6-N1-C2	-5.35	118.16	120.30
22	YA	489	G	C8-N9-C4	-5.35	104.26	106.40
22	YA	1228	G	N1-C6-O6	5.35	123.11	119.90
22	YA	1863	G	N3-C4-C5	5.35	131.28	128.60
22	YA	51	G	C5-C6-O6	5.35	131.81	128.60
22	YA	1377	G	C6-C5-N7	-5.35	127.19	130.40
22	RA	2401	U	C5-C6-N1	5.35	125.37	122.70
22	RA	1142	U	C6-N1-C1'	-5.34	113.72	121.20
22	YA	1256	G	C4-N9-C1'	5.34	133.44	126.50
1	QA	1053	G	O4'-C1'-N9	5.34	112.47	108.20
22	RA	1621	U	N1-C2-N3	5.34	118.10	114.90
22	RA	2392	A	C8-N9-C4	-5.34	103.66	105.80
22	YA	125	G	N1-C6-O6	-5.34	116.70	119.90
22	YA	1687	G	C6-C5-N7	-5.34	127.20	130.40
22	YA	2352	A	C8-N9-C4	-5.34	103.66	105.80
1	XA	1397	C	N3-C2-O2	-5.34	118.16	121.90
22	YA	676	A	C6-C5-N7	-5.34	128.56	132.30
22	YA	2713	A	C6-C5-N7	-5.33	128.57	132.30
1	QA	353	A	OP2-P-O3'	5.33	116.93	105.20
1	XA	1432	G	N7-C8-N9	5.33	115.77	113.10
22	YA	1535	U	C2-N1-C1'	5.33	124.10	117.70
22	YA	1544	C	C2-N1-C1'	5.33	124.66	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	11	G	N1-C6-O6	5.33	123.10	119.90
22	RA	452	G	C4-N9-C1'	5.33	133.43	126.50
1	XA	633	G	C6-C5-N7	-5.33	127.20	130.40
22	YA	1930	G	C6-C5-N7	5.33	133.60	130.40
22	YA	860	U	C5-C6-N1	-5.33	120.04	122.70
22	YA	1425	G	C6-C5-N7	-5.33	127.20	130.40
22	RA	509	C	C5-C6-N1	-5.33	118.34	121.00
22	YA	1824	G	C2-N3-C4	5.33	114.56	111.90
22	RA	382	G	C6-C5-N7	-5.32	127.21	130.40
22	RA	2755	C	C6-N1-C2	-5.32	118.17	120.30
22	YA	1916	A	C5-C6-N1	-5.32	115.04	117.70
22	RA	2036	C	C6-N1-C2	-5.32	118.17	120.30
1	XA	498	A	O4'-C1'-N9	5.32	112.46	108.20
1	QA	1397	C	C5-C6-N1	5.32	123.66	121.00
22	YA	857	C	C5-C6-N1	5.32	123.66	121.00
1	XA	792	A	P-O3'-C3'	5.32	126.08	119.70
22	YA	446	G	C4-N9-C1'	5.32	133.41	126.50
22	YA	473	G	C2-N3-C4	-5.32	109.24	111.90
22	RA	1974	C	C6-N1-C2	5.32	122.43	120.30
22	RA	2432	A	C2-N3-C4	-5.32	107.94	110.60
22	YA	1138	G	N3-C4-N9	5.32	129.19	126.00
22	YA	1667	G	N9-C4-C5	-5.32	103.27	105.40
22	YA	1471	A	C4-C5-C6	5.31	119.66	117.00
1	QA	1336	C	C2-N3-C4	5.31	122.56	119.90
22	YA	1966	A	C8-N9-C4	5.31	107.92	105.80
22	YA	2310	A	C5-C6-N1	-5.31	115.04	117.70
1	XA	576	G	C4-N9-C1'	5.31	133.40	126.50
1	QA	309	G	C5-C6-O6	-5.31	125.41	128.60
1	QA	1065	U	OP2-P-O3'	5.31	116.88	105.20
22	RA	1528	A	C5-N7-C8	-5.31	101.25	103.90
22	YA	945	A	C4-C5-N7	5.31	113.36	110.70
22	YA	1514	U	C5-C6-N1	5.31	125.35	122.70
22	RA	732	C	C6-N1-C2	5.31	122.42	120.30
22	YA	645	C	C5-C6-N1	5.31	123.65	121.00
22	YA	771	G	O5'-P-OP2	5.31	117.07	110.70
22	RA	139	G	N1-C6-O6	-5.31	116.72	119.90
22	RA	774	A	N3-C4-C5	5.31	130.51	126.80
22	RA	1220	A	O4'-C1'-N9	5.31	112.44	108.20
1	QA	31	G	P-O3'-C3'	5.30	126.07	119.70
1	QA	685	G	C8-N9-C4	5.30	108.52	106.40
22	RA	1078	U	P-O3'-C3'	5.30	126.06	119.70
22	YA	450	G	C5-C6-O6	5.30	131.78	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	780	G	C4-N9-C1'	5.30	133.40	126.50
53	QV	28	C	C6-N1-C2	-5.30	118.18	120.30
22	YA	860	U	C5-C4-O4	5.30	129.08	125.90
22	YA	1598	C	C5-C6-N1	5.30	123.65	121.00
22	RA	1653	G	N1-C6-O6	-5.30	116.72	119.90
22	RA	2772	C	C5-C4-N4	-5.30	116.49	120.20
22	RA	2468	G	C4-N9-C1'	5.30	133.39	126.50
22	YA	573	G	O4'-C1'-N9	-5.30	103.96	108.20
22	YA	2311	A	C5-N7-C8	-5.30	101.25	103.90
22	YA	2557	G	N1-C6-O6	-5.30	116.72	119.90
18	QR	31	LEU	CA-CB-CG	5.29	127.48	115.30
22	RA	1625	C	C6-N1-C2	5.29	122.42	120.30
22	RA	271(B)	G	OP2-P-O3'	5.29	116.84	105.20
22	RA	1535	U	N3-C2-O2	-5.29	118.50	122.20
22	RA	1678	G	C5-N7-C8	-5.29	101.65	104.30
22	RA	1899	G	C2-N3-C4	-5.29	109.25	111.90
22	YA	1964	G	C4-C5-N7	5.29	112.92	110.80
22	YA	450	G	C4-C5-N7	-5.29	108.68	110.80
22	YA	1241	A	C2-N3-C4	-5.29	107.95	110.60
56	Z6	74	C	N1-C2-O2	5.29	122.08	118.90
22	YA	2056	G	C5-C6-O6	-5.29	125.43	128.60
54	XX	1	A	O5'-P-OP1	-5.29	100.94	105.70
22	YA	140	A	C4-C5-C6	5.29	119.64	117.00
22	RA	1312	U	P-O3'-C3'	5.29	126.04	119.70
22	RA	1606	G	C5-N7-C8	-5.29	101.66	104.30
22	RA	1947	C	C6-N1-C2	-5.29	118.19	120.30
1	XA	1108	G	C4-C5-C6	5.29	121.97	118.80
22	YA	813	U	N1-C2-N3	5.29	118.07	114.90
22	YA	2082	A	C8-N9-C4	5.29	107.91	105.80
22	RA	2423	U	C5-C4-O4	-5.28	122.73	125.90
22	RA	2686	G	N1-C6-O6	5.28	123.07	119.90
1	XA	1452	C	C2-N1-C1'	5.28	124.61	118.80
22	YA	1263	U	N1-C2-N3	5.28	118.07	114.90
22	RA	2585	U	C6-N1-C1'	-5.28	113.81	121.20
1	QA	1206	G	N3-C4-C5	-5.28	125.96	128.60
22	RA	825	C	OP1-P-O3'	5.28	116.81	105.20
22	RA	846	C	P-O3'-C3'	5.28	126.04	119.70
22	RA	1651	G	C6-C5-N7	-5.28	127.23	130.40
22	RA	2392	A	C5-N7-C8	-5.28	101.26	103.90
22	RA	2779	U	N3-C4-O4	-5.28	115.70	119.40
1	XA	111	G	N3-C4-C5	5.28	131.24	128.60
1	XA	1397	C	N1-C2-O2	5.28	122.07	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	2494	G	C8-N9-C4	5.28	108.51	106.40
22	YA	1183	G	C4-C5-N7	5.28	112.91	110.80
22	RA	496	G	C4-N9-C1'	5.28	133.36	126.50
1	XA	1113	C	C6-N1-C2	-5.28	118.19	120.30
1	XA	1516	G	N3-C4-N9	-5.28	122.83	126.00
22	RA	553	U	C5-C4-O4	5.28	129.07	125.90
22	YA	1671	U	N3-C4-O4	5.28	123.09	119.40
22	YA	1858	G	C4-N9-C1'	5.28	133.36	126.50
23	YB	56	G	N3-C4-C5	-5.27	125.96	128.60
22	RA	921	G	C5-C6-N1	-5.27	108.86	111.50
22	RA	2779	U	N3-C2-O2	-5.27	118.51	122.20
22	YA	120	U	C5-C4-O4	5.27	129.06	125.90
22	YA	528	A	C5-N7-C8	-5.27	101.26	103.90
23	YB	14	U	N3-C2-O2	-5.27	118.51	122.20
1	QA	851	G	C4-N9-C1'	5.27	133.35	126.50
1	XA	1354	C	C6-N1-C2	-5.27	118.19	120.30
1	QA	1297	C	OP2-P-O3'	5.27	116.79	105.20
22	RA	405	U	C5-C6-N1	5.27	125.33	122.70
1	XA	625	G	C8-N9-C4	-5.27	104.29	106.40
22	RA	2330	G	O5'-P-OP1	-5.27	100.96	105.70
22	RA	1606	G	N3-C4-C5	5.26	131.23	128.60
22	RA	1644	C	C6-N1-C2	-5.26	118.19	120.30
22	RA	2702	U	N3-C2-O2	-5.26	118.52	122.20
22	YA	805	G	C4-C5-N7	5.26	112.91	110.80
22	YA	2010	G	C4-C5-N7	5.26	112.91	110.80
22	RA	2089	U	C5-C6-N1	5.26	125.33	122.70
22	YA	945	A	C5-N7-C8	-5.26	101.27	103.90
22	YA	1130	U	C2-N1-C1'	5.26	124.02	117.70
22	YA	1922	G	N3-C4-C5	5.26	131.23	128.60
22	RA	622	G	C4-N9-C1'	-5.26	119.66	126.50
22	RA	857	C	C6-N1-C2	-5.26	118.19	120.30
22	RA	1790	C	N1-C2-O2	-5.26	115.74	118.90
22	RA	2665	A	O4'-C1'-N9	5.26	112.41	108.20
22	YA	752	A	N7-C8-N9	-5.26	111.17	113.80
22	YA	2217	G	N1-C6-O6	5.26	123.06	119.90
48	Y5	4	HIS	C-N-CD	5.26	139.45	128.40
22	RA	1950	G	C6-C5-N7	-5.26	127.24	130.40
1	XA	1053	G	C8-N9-C4	5.26	108.50	106.40
22	YA	1968	G	N1-C6-O6	5.26	123.06	119.90
1	QA	177	C	C6-N1-C2	-5.26	118.20	120.30
1	XA	481	G	C5-C6-O6	5.26	131.75	128.60
22	YA	739	G	O5'-P-OP1	5.26	117.01	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	314	C	C2-N1-C1'	5.25	124.58	118.80
22	RA	396	G	C4-C5-C6	5.25	121.95	118.80
22	YA	1084	A	O4'-C1'-N9	5.25	112.40	108.20
22	RA	1816	G	N1-C6-O6	5.25	123.05	119.90
1	XA	320	C	C5-C6-N1	-5.25	118.37	121.00
22	YA	1807	G	N1-C6-O6	5.25	123.05	119.90
22	YA	1899	G	N1-C2-N3	5.25	127.05	123.90
1	XA	227	G	C8-N9-C4	5.25	108.50	106.40
1	XA	653	A	C8-N9-C4	-5.25	103.70	105.80
22	YA	2505	G	C5-C6-N1	-5.25	108.88	111.50
1	XA	365	U	O4'-C1'-N1	5.25	112.40	108.20
22	YA	2430	A	C8-N9-C4	-5.25	103.70	105.80
53	QV	10	G	O5'-P-OP1	-5.25	100.98	105.70
22	RA	783	A	C5-C6-N1	-5.25	115.08	117.70
1	XA	781	A	C4-C5-C6	-5.25	114.38	117.00
22	RA	809	G	N3-C4-N9	5.24	129.15	126.00
22	RA	2302	G	C8-N9-C4	-5.24	104.30	106.40
1	QA	1435	G	C2-N3-C4	-5.24	109.28	111.90
22	YA	1612	C	C2-N1-C1'	-5.24	113.03	118.80
1	QA	244	U	C5-C6-N1	5.24	125.32	122.70
22	YA	511	U	C2-N1-C1'	5.24	123.99	117.70
22	YA	2503	A	C5-C6-N1	5.24	120.32	117.70
22	YA	2587	A	N1-C6-N6	-5.24	115.46	118.60
1	XA	1502	A	C6-C5-N7	-5.24	128.63	132.30
22	YA	1138	G	N3-C4-C5	-5.24	125.98	128.60
22	RA	205	G	N3-C4-C5	-5.24	125.98	128.60
1	XA	821	G	C8-N9-C4	5.24	108.49	106.40
22	YA	1332	G	O4'-C1'-N9	-5.23	104.01	108.20
22	RA	986	C	N3-C2-O2	-5.23	118.24	121.90
22	YA	420	C	N1-C2-O2	5.23	122.04	118.90
22	YA	774	A	N1-C2-N3	5.23	131.92	129.30
22	YA	1406	U	C5-C6-N1	5.23	125.31	122.70
22	YA	2318	G	N7-C8-N9	5.23	115.72	113.10
1	QA	894	G	C4-N9-C1'	-5.23	119.70	126.50
22	RA	2333	A	C8-N9-C4	5.22	107.89	105.80
22	RA	2385	C	N3-C2-O2	-5.22	118.24	121.90
1	XA	1432	G	C5-C6-N1	-5.22	108.89	111.50
22	YA	2025	C	N3-C4-C5	-5.22	119.81	121.90
22	YA	2766	G	C4-C5-N7	5.22	112.89	110.80
1	QA	718	G	N3-C4-N9	-5.22	122.87	126.00
22	YA	450	G	C6-C5-N7	-5.22	127.27	130.40
22	YA	1668	A	N1-C6-N6	-5.22	115.47	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	1021	A	C8-N9-C4	-5.22	103.71	105.80
22	RA	385	C	C2-N3-C4	5.22	122.51	119.90
22	RA	1332	G	C6-C5-N7	-5.22	127.27	130.40
22	YA	848	G	C5-C6-O6	-5.22	125.47	128.60
1	QA	181	G	P-O3'-C3'	5.22	125.96	119.70
1	QA	1159	U	O4'-C1'-N1	5.22	112.37	108.20
22	YA	372	G	N9-C4-C5	-5.22	103.31	105.40
22	YA	1647	G	O4'-C1'-N9	-5.22	104.03	108.20
1	QA	1347	G	P-O3'-C3'	5.21	125.96	119.70
22	RA	859	G	P-O3'-C3'	5.21	125.96	119.70
22	YA	300	A	N1-C6-N6	5.21	121.73	118.60
1	XA	1513	A	N1-C6-N6	5.21	121.73	118.60
55	XY	34	C	C5-C6-N1	5.21	123.61	121.00
22	RA	2594	C	C6-N1-C2	5.21	122.39	120.30
1	XA	511	C	C2-N3-C4	-5.21	117.30	119.90
22	YA	679	C	C6-N1-C2	5.21	122.38	120.30
22	YA	1699	G	C5-C6-O6	5.21	131.73	128.60
22	YA	2593	U	N3-C4-C5	-5.21	111.47	114.60
1	QA	244	U	C2-N1-C1'	5.21	123.95	117.70
22	RA	397	G	N3-C4-C5	5.21	131.21	128.60
22	YA	2253	G	C4-C5-N7	-5.21	108.72	110.80
22	YA	2776	A	C8-N9-C4	-5.21	103.72	105.80
22	RA	1264	G	N3-C4-C5	-5.21	126.00	128.60
1	XA	513	C	C5-C6-N1	5.21	123.60	121.00
22	RA	22	C	N3-C4-C5	5.21	123.98	121.90
22	RA	2025	C	N3-C4-C5	-5.21	119.82	121.90
22	YA	138	G	C5-C6-N1	5.21	114.10	111.50
22	YA	2377	A	C8-N9-C4	5.21	107.88	105.80
22	RA	929	G	C4-N9-C1'	5.20	133.26	126.50
22	YA	1426	G	C8-N9-C4	-5.20	104.32	106.40
1	QA	938	A	C8-N9-C4	-5.20	103.72	105.80
22	YA	848	G	N3-C4-N9	5.20	129.12	126.00
22	RA	124	G	N1-C6-O6	5.20	123.02	119.90
22	RA	140	A	C5-N7-C8	-5.20	101.30	103.90
22	RA	2307	G	C8-N9-C4	-5.20	104.32	106.40
22	RA	2713	A	O4'-C1'-N9	-5.20	104.04	108.20
22	YA	1383	C	N1-C2-O2	5.20	122.02	118.90
23	RB	41	U	C2-N1-C1'	-5.20	111.46	117.70
1	XA	1509	C	N3-C4-C5	-5.20	119.82	121.90
1	QA	1065	U	P-O3'-C3'	5.20	125.94	119.70
22	RA	1801	G	C5-C6-N1	5.20	114.10	111.50
22	RA	2711	A	C2-N3-C4	-5.20	108.00	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	576	G	C8-N9-C4	-5.20	104.32	106.40
22	RA	2563	U	C5-C4-O4	5.20	129.02	125.90
1	XA	529	G	N1-C6-O6	5.20	123.02	119.90
22	YA	754	C	C5-C6-N1	-5.20	118.40	121.00
22	YA	1753	G	C8-N9-C4	-5.20	104.32	106.40
22	YA	2439	A	C5-C6-N6	-5.20	119.54	123.70
1	QA	573	A	N1-C6-N6	-5.19	115.48	118.60
1	XA	664	G	C5-C6-O6	5.19	131.72	128.60
22	YA	1205	U	N3-C4-C5	-5.19	111.48	114.60
1	XA	792	A	C4-C5-N7	5.19	113.30	110.70
22	YA	1667	G	N1-C6-O6	5.19	123.02	119.90
1	XA	60	A	P-O3'-C3'	5.19	125.93	119.70
1	XA	690	G	O4'-C1'-N9	5.19	112.35	108.20
22	RA	546	C	C6-N1-C2	-5.19	118.22	120.30
22	RA	1980	G	OP1-P-O3'	5.19	116.61	105.20
22	RA	2306	C	N3-C2-O2	-5.19	118.27	121.90
1	XA	1506	U	C6-N1-C2	5.19	124.11	121.00
19	XS	41	VAL	C-N-CD	-5.19	109.19	120.60
22	YA	114	U	C6-N1-C1'	-5.19	113.94	121.20
22	YA	582	G	C4-C5-N7	5.19	112.88	110.80
22	YA	1662	C	C2-N3-C4	-5.18	117.31	119.90
22	RA	828	U	N3-C4-O4	-5.18	115.77	119.40
22	RA	1428	C	C6-N1-C2	5.18	122.37	120.30
22	RA	2511	U	N3-C2-O2	-5.18	118.57	122.20
31	RO	8	LEU	CA-CB-CG	5.18	127.22	115.30
53	QV	75	C	N3-C2-O2	-5.18	118.27	121.90
1	XA	703	G	C8-N9-C1'	-5.18	120.26	127.00
22	YA	792	G	N3-C4-N9	-5.18	122.89	126.00
1	XA	1219	U	N1-C2-O2	-5.18	119.17	122.80
22	YA	1965	C	N3-C4-C5	5.18	123.97	121.90
22	YA	2050	C	N3-C2-O2	-5.18	118.28	121.90
53	QV	57	A	N1-C6-N6	-5.18	115.49	118.60
22	YA	2430	A	N7-C8-N9	5.18	116.39	113.80
22	RA	1525	G	C5-C6-O6	-5.17	125.50	128.60
22	YA	551	G	C4-N9-C1'	-5.17	119.77	126.50
22	YA	1425	G	N3-C4-C5	-5.17	126.01	128.60
22	YA	570	G	N3-C4-C5	5.17	131.19	128.60
22	YA	620	G	N3-C4-N9	-5.17	122.90	126.00
22	RA	1022	G	C8-N9-C4	-5.17	104.33	106.40
22	RA	2032	G	C5-C6-O6	-5.17	125.50	128.60
22	RA	2587	A	C8-N9-C4	5.17	107.87	105.80
22	YA	28	A	O5'-P-OP1	-5.17	101.05	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	917	A	C6-C5-N7	-5.17	128.68	132.30
1	QA	1509	C	C6-N1-C2	5.17	122.37	120.30
1	QA	818	G	C5-C6-N1	-5.17	108.92	111.50
22	RA	783	A	C2-N3-C4	-5.17	108.02	110.60
1	QA	317	G	N3-C4-C5	-5.17	126.02	128.60
22	YA	2271	G	C8-N9-C1'	-5.16	120.29	127.00
22	RA	2415	G	N3-C4-N9	5.16	129.10	126.00
22	YA	1915	U	N1-C2-O2	5.16	126.41	122.80
53	QV	30	G	C6-C5-N7	-5.16	127.30	130.40
22	RA	1806	C	C6-N1-C2	5.16	122.36	120.30
1	XA	652	U	C5-C6-N1	5.16	125.28	122.70
1	XA	1113	C	C5-C6-N1	5.16	123.58	121.00
22	YA	2430	A	C6-C5-N7	-5.16	128.69	132.30
53	XV	23	C	C5-C6-N1	-5.16	118.42	121.00
22	RA	848	G	C6-C5-N7	-5.16	127.30	130.40
22	RA	1627	G	C2-N3-C4	-5.16	109.32	111.90
22	YA	1216	G	C6-C5-N7	-5.16	127.31	130.40
22	YA	1657	C	C5-C6-N1	-5.16	118.42	121.00
53	XV	68	C	N3-C4-C5	5.16	123.96	121.90
1	XA	346	G	N3-C4-N9	5.16	129.09	126.00
22	YA	1502	C	C6-N1-C2	-5.16	118.24	120.30
1	QA	785	G	C2-N3-C4	-5.15	109.32	111.90
4	QD	28	SER	C-N-CD	5.15	139.22	128.40
22	RA	270(X)	G	C5-C6-N1	-5.15	108.92	111.50
22	RA	754	C	N1-C2-N3	-5.15	115.59	119.20
22	RA	1989	G	N1-C6-O6	5.15	122.99	119.90
22	RA	2071	A	C8-N9-C4	-5.15	103.74	105.80
22	YA	450	G	C8-N9-C1'	-5.15	120.30	127.00
22	RA	860	U	N3-C4-C5	-5.15	111.51	114.60
22	RA	1805	U	C2-N1-C1'	5.15	123.88	117.70
22	RA	2061	G	N9-C4-C5	5.15	107.46	105.40
22	RA	2423	U	C6-N1-C1'	-5.15	113.99	121.20
1	XA	792	A	N9-C1'-C2'	5.15	120.70	114.00
22	YA	1142(A)	A	C2-N3-C4	-5.15	108.03	110.60
22	YA	1332	G	C5-C6-N1	-5.15	108.93	111.50
22	RA	1894	C	O5'-P-OP2	-5.15	101.07	105.70
22	RA	1651	G	N1-C6-O6	5.14	122.99	119.90
22	RA	2612	C	C6-N1-C1'	-5.14	114.63	120.80
22	RA	966	G	C8-N9-C4	5.14	108.46	106.40
1	XA	1091	U	C6-N1-C2	-5.14	117.92	121.00
1	QA	266	G	C5-N7-C8	-5.14	101.73	104.30
22	RA	1678	G	N3-C4-C5	5.14	131.17	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	2392	A	C6-C5-N7	-5.14	128.70	132.30
22	RA	2455	G	C4-N9-C1'	5.14	133.18	126.50
1	XA	1432	G	C6-C5-N7	-5.14	127.32	130.40
22	YA	2048	G	N9-C4-C5	5.14	107.46	105.40
22	RA	693	C	C2-N3-C4	-5.14	117.33	119.90
22	YA	1773	A	C2-N3-C4	5.14	113.17	110.60
22	YA	1908	C	C6-N1-C2	-5.14	118.25	120.30
22	YA	2095	C	N3-C2-O2	-5.14	118.30	121.90
22	RA	809	G	C8-N9-C1'	-5.13	120.33	127.00
53	XV	60	U	N3-C4-O4	5.13	122.99	119.40
1	QA	1478	C	N1-C2-O2	5.13	121.98	118.90
22	RA	1390	U	C5-C6-N1	5.13	125.27	122.70
23	RB	94	C	C6-N1-C2	-5.13	118.25	120.30
22	RA	1022	G	P-O3'-C3'	5.13	125.86	119.70
22	RA	2511	U	C2-N1-C1'	5.13	123.86	117.70
22	RA	2779	U	N1-C2-O2	5.13	126.39	122.80
22	YA	452	G	C8-N9-C4	-5.13	104.35	106.40
22	YA	780	G	C6-C5-N7	-5.13	127.32	130.40
22	YA	1888	G	C2-N3-C4	5.13	114.47	111.90
1	QA	356	A	O4'-C1'-N9	5.13	112.30	108.20
22	RA	74	A	C2-N3-C4	-5.13	108.04	110.60
22	YA	974(A)	C	OP2-P-O3'	5.13	116.48	105.20
22	RA	284	U	C5-C6-N1	5.13	125.26	122.70
22	RA	1215	G	C6-C5-N7	-5.13	127.32	130.40
1	QA	1190	G	N3-C4-C5	-5.12	126.04	128.60
1	QA	1435	G	N1-C6-O6	5.12	122.97	119.90
22	RA	1319	G	C4-C5-N7	5.12	112.85	110.80
22	RA	2782	G	N3-C4-N9	5.12	129.07	126.00
22	RA	1895	C	C6-N1-C2	-5.12	118.25	120.30
22	YA	940	G	C8-N9-C4	-5.12	104.35	106.40
22	YA	1612	C	N3-C2-O2	5.12	125.48	121.90
22	RA	1789	A	N9-C4-C5	5.12	107.85	105.80
38	RV	35	LEU	CA-CB-CG	5.12	127.07	115.30
1	XA	749	C	C2-N3-C4	5.12	122.46	119.90
1	XA	1158	C	C2-N1-C1'	5.12	124.43	118.80
22	YA	2070	G	C4-C5-N7	-5.12	108.75	110.80
22	YA	2299	G	N7-C8-N9	5.12	115.66	113.10
22	YA	2048	G	C8-N9-C4	-5.12	104.35	106.40
1	XA	1158	C	N1-C2-O2	5.12	121.97	118.90
22	YA	929	G	C4-C5-N7	-5.12	108.75	110.80
22	YA	1614	A	C5-C6-N1	5.12	120.26	117.70
1	QA	634	C	C2-N1-C1'	-5.11	113.17	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	1613	G	N3-C4-N9	5.11	129.07	126.00
22	YA	197	A	C6-C5-N7	-5.11	128.72	132.30
22	YA	912	C	N3-C2-O2	-5.11	118.32	121.90
22	YA	385	C	N1-C2-O2	-5.11	115.83	118.90
22	YA	1358	G	C8-N9-C4	-5.11	104.36	106.40
22	YA	1888	G	N3-C4-C5	-5.11	126.04	128.60
22	RA	1799	G	N3-C4-C5	-5.11	126.04	128.60
1	XA	108	G	C4-C5-N7	5.11	112.84	110.80
22	YA	814	C	C2-N1-C1'	-5.11	113.18	118.80
22	YA	2070	G	C6-C5-N7	5.11	133.47	130.40
22	RA	188	G	C8-N9-C4	5.11	108.44	106.40
22	RA	2311	A	N1-C2-N3	5.11	131.85	129.30
22	RA	2455	G	N3-C4-N9	5.11	129.06	126.00
23	RB	60	C	C6-N1-C2	-5.11	118.26	120.30
22	YA	1022	G	N3-C4-C5	-5.11	126.05	128.60
22	YA	1835	G	N7-C8-N9	5.11	115.65	113.10
22	RA	456	C	C2-N1-C1'	5.11	124.42	118.80
22	RA	783	A	C4-C5-N7	5.11	113.25	110.70
22	RA	2584	U	C6-N1-C2	-5.11	117.94	121.00
1	XA	328	C	C5-C6-N1	5.11	123.55	121.00
22	YA	2779	U	N3-C2-O2	-5.11	118.63	122.20
22	RA	1021	A	C2-N3-C4	-5.10	108.05	110.60
22	RA	1559	G	C4-C5-N7	5.10	112.84	110.80
22	RA	2820	A	P-O3'-C3'	5.10	125.83	119.70
22	YA	860	U	C4-C5-C6	5.10	122.76	119.70
22	RA	1337	G	C8-N9-C4	-5.10	104.36	106.40
22	RA	1817	G	C6-C5-N7	-5.10	127.34	130.40
22	YA	1790	C	N3-C4-C5	5.10	123.94	121.90
22	RA	1184	G	N9-C4-C5	-5.10	103.36	105.40
22	YA	197	A	N1-C6-N6	5.10	121.66	118.60
22	YA	974	G	C6-N1-C2	-5.10	122.04	125.10
22	YA	2582	G	N3-C4-C5	-5.10	126.05	128.60
22	RA	2494	G	N3-C4-N9	5.10	129.06	126.00
22	YA	2271	G	C4-N9-C1'	5.10	133.13	126.50
22	YA	2362	G	C4-N9-C1'	5.10	133.13	126.50
22	RA	1658	C	C5-C6-N1	5.10	123.55	121.00
22	RA	1806	C	N3-C2-O2	5.10	125.47	121.90
1	XA	899	C	C6-N1-C2	5.10	122.34	120.30
22	YA	509	C	O5'-P-OP1	-5.10	101.11	105.70
22	RA	2307	G	N7-C8-N9	5.10	115.65	113.10
22	YA	1187	G	C4-N9-C1'	5.10	133.12	126.50
23	YB	117	G	N3-C4-C5	5.10	131.15	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YE	117	MET	CA-CB-CG	5.10	121.96	113.30
22	YA	1699	G	C4-C5-N7	-5.09	108.76	110.80
22	YA	1782	C	C6-N1-C2	-5.09	118.26	120.30
22	YA	2686	G	N3-C4-C5	-5.09	126.05	128.60
22	RA	622	G	C8-N9-C4	5.09	108.44	106.40
1	XA	692	U	N3-C4-O4	5.09	122.97	119.40
1	QA	938	A	N7-C8-N9	5.09	116.34	113.80
22	YA	530	G	C4-N9-C1'	-5.09	119.88	126.50
22	YA	539	G	N3-C4-C5	-5.09	126.05	128.60
22	YA	1247	A	C8-N9-C4	5.09	107.84	105.80
22	YA	1701	A	C8-N9-C4	-5.09	103.77	105.80
22	RA	752	A	P-O3'-C3'	5.09	125.81	119.70
22	RA	762	U	N3-C2-O2	5.09	125.76	122.20
22	RA	1792	G	N3-C4-C5	-5.09	126.06	128.60
22	RA	2392	A	C2-N3-C4	-5.09	108.06	110.60
22	YA	1343	G	N3-C4-C5	-5.09	126.06	128.60
1	QA	1403	C	C5-C6-N1	5.09	123.54	121.00
22	YA	846	C	C6-N1-C2	-5.09	118.27	120.30
22	YA	1386	C	C2-N1-C1'	-5.09	113.20	118.80
23	YB	81	G	C6-C5-N7	-5.09	127.35	130.40
1	QA	700	G	N1-C6-O6	-5.08	116.85	119.90
22	RA	593	G	N3-C4-C5	5.08	131.14	128.60
1	XA	1516	G	N3-C4-C5	5.08	131.14	128.60
22	RA	445	C	OP2-P-O3'	5.08	116.38	105.20
22	RA	2087	G	C8-N9-C1'	-5.08	120.39	127.00
22	RA	2642	G	C4-C5-N7	5.08	112.83	110.80
22	YA	253	C	O5'-P-OP1	-5.08	101.13	105.70
22	YA	621	A	N1-C2-N3	5.08	131.84	129.30
22	YA	699	A	C8-N9-C4	-5.08	103.77	105.80
22	YA	1187	G	C8-N9-C4	-5.08	104.37	106.40
22	RA	389	G	N3-C4-N9	5.08	129.05	126.00
22	RA	2230	G	N3-C4-N9	5.08	129.05	126.00
1	XA	827	U	N3-C2-O2	-5.08	118.64	122.20
22	YA	556	G	C4-N9-C1'	5.08	133.10	126.50
53	XV	52	G	C5-C6-O6	-5.08	125.55	128.60
22	YA	2073	C	OP1-P-O3'	5.08	116.37	105.20
22	RA	2702	U	N1-C2-O2	5.08	126.35	122.80
22	YA	282	A	C8-N9-C4	5.08	107.83	105.80
22	YA	333	G	C8-N9-C4	-5.08	104.37	106.40
22	YA	1655	A	N1-C6-N6	5.08	121.64	118.60
22	YA	2062	A	C4-C5-N7	5.08	113.24	110.70
1	QA	593	G	N1-C6-O6	5.07	122.94	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	585	G	OP2-P-O3'	5.07	116.36	105.20
22	RA	854	G	C5-C6-N1	-5.07	108.96	111.50
22	RA	1644	C	C6-N1-C1'	-5.07	114.72	120.80
23	RB	103	U	C5-C6-N1	-5.07	120.16	122.70
22	YA	2487	G	C5-C6-N1	-5.07	108.97	111.50
1	QA	266	G	C4-C5-N7	5.07	112.83	110.80
22	RA	576	U	C5-C6-N1	5.07	125.23	122.70
1	QA	230	G	C5-C6-N1	-5.07	108.97	111.50
22	YA	88	G	C8-N9-C1'	-5.07	120.41	127.00
22	YA	573	G	C5-N7-C8	-5.07	101.77	104.30
22	YA	1998	G	C8-N9-C4	5.07	108.43	106.40
22	YA	1193	G	N3-C4-C5	5.06	131.13	128.60
22	RA	1568	G	C6-C5-N7	5.06	133.44	130.40
22	YA	971	C	N1-C2-O2	-5.06	115.86	118.90
1	XA	809	G	N1-C6-O6	5.06	122.94	119.90
22	YA	530	G	N3-C4-N9	-5.06	122.97	126.00
22	YA	2830	G	C4-N9-C1'	5.06	133.08	126.50
22	YA	338	G	N3-C4-N9	5.06	129.03	126.00
22	YA	551	G	O5'-P-OP2	-5.06	101.15	105.70
22	RA	270(Y)	G	C4-C5-N7	-5.06	108.78	110.80
22	RA	1930	G	C5-N7-C8	5.06	106.83	104.30
1	QA	220	G	C4-C5-N7	5.05	112.82	110.80
1	XA	1211	U	C5-C4-O4	5.05	128.93	125.90
22	YA	744	G	C8-N9-C4	-5.05	104.38	106.40
22	YA	1240	U	N3-C2-O2	-5.05	118.66	122.20
22	RA	1733	G	C6-C5-N7	-5.05	127.37	130.40
1	XA	819	A	N1-C6-N6	5.05	121.63	118.60
22	YA	790	C	N3-C2-O2	5.05	125.44	121.90
22	RA	539	G	C6-C5-N7	-5.05	127.37	130.40
22	RA	1525	G	N1-C6-O6	5.05	122.93	119.90
22	YA	373	U	C2-N1-C1'	5.05	123.76	117.70
22	RA	2419	U	C6-N1-C2	-5.05	117.97	121.00
22	YA	1689	A	N1-C6-N6	-5.05	115.57	118.60
22	YA	2566	A	P-O3'-C3'	5.05	125.76	119.70
1	QA	1338	G	N1-C6-O6	-5.04	116.87	119.90
22	RA	475	U	C2-N1-C1'	5.04	123.75	117.70
22	RA	2254	C	OP2-P-O3'	5.04	116.30	105.20
1	XA	1027	C	OP1-P-O3'	5.04	116.30	105.20
22	YA	114	U	C5-C4-O4	-5.04	122.87	125.90
22	YA	1835	G	N3-C4-N9	5.04	129.03	126.00
22	YA	1974	C	N3-C4-N4	-5.04	114.47	118.00
1	XA	811	C	C6-N1-C2	5.04	122.32	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	123	G	C8-N9-C4	5.04	108.42	106.40
23	RB	89	G	C8-N9-C4	-5.04	104.39	106.40
1	XA	297	G	C6-C5-N7	-5.04	127.38	130.40
1	XA	456	C	C5-C6-N1	5.04	123.52	121.00
22	YA	2869	G	C5-C6-N1	-5.04	108.98	111.50
22	YA	1403	C	N3-C2-O2	-5.04	118.38	121.90
22	RA	1024	G	C6-C5-N7	-5.03	127.38	130.40
22	RA	2345	G	C5-C6-O6	5.03	131.62	128.60
22	RA	2499	C	C2-N1-C1'	5.03	124.34	118.80
22	YA	663	G	C6-C5-N7	-5.03	127.38	130.40
22	YA	845	G	N9-C4-C5	-5.03	103.39	105.40
22	YA	1614	A	C2-N3-C4	5.03	113.12	110.60
22	YA	116	C	C4-C5-C6	5.03	119.92	117.40
1	QA	561	U	P-O3'-C3'	5.03	125.74	119.70
22	RA	2307	G	C4-N9-C1'	5.03	133.04	126.50
22	RA	2430	A	C5-C6-N1	-5.03	115.19	117.70
22	RA	2767	C	C6-N1-C2	-5.03	118.29	120.30
22	YA	1614	A	C6-N1-C2	-5.03	115.58	118.60
22	YA	1834	U	C4-C5-C6	5.03	122.72	119.70
22	YA	2318	G	C6-C5-N7	-5.03	127.38	130.40
22	YA	1148	A	C8-N9-C4	5.03	107.81	105.80
22	YA	2453	A	C5-C6-N1	5.03	120.21	117.70
22	RA	2307	G	O4'-C1'-N9	5.03	112.22	108.20
1	XA	968	A	C8-N9-C4	5.03	107.81	105.80
22	YA	487	C	C6-N1-C2	-5.03	118.29	120.30
22	YA	2283	C	N1-C2-O2	-5.03	115.89	118.90
22	YA	2301	C	C6-N1-C2	-5.03	118.29	120.30
1	QA	244	U	N1-C2-O2	5.02	126.32	122.80
1	QA	252	U	N1-C2-O2	5.02	126.32	122.80
22	RA	475	U	N3-C2-O2	-5.02	118.68	122.20
1	XA	509	A	C8-N9-C4	-5.02	103.79	105.80
22	YA	2497	A	C2-N3-C4	5.02	113.11	110.60
22	YA	2500	U	N1-C2-O2	5.02	126.32	122.80
22	RA	917	A	C5-C6-N1	-5.02	115.19	117.70
22	RA	1613	G	N3-C4-C5	-5.02	126.09	128.60
22	RA	1930	G	O4'-C1'-N9	5.02	112.22	108.20
1	XA	690	G	C4-C5-N7	5.02	112.81	110.80
1	XA	1279	A	C8-N9-C4	-5.02	103.79	105.80
22	YA	773	U	C5-C6-N1	-5.02	120.19	122.70
22	YA	846	C	C4-C5-C6	5.02	119.91	117.40
22	YA	1900	A	O5'-P-OP1	-5.02	101.18	105.70
22	YA	2345	G	N9-C4-C5	5.02	107.41	105.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	2490	G	O4'-C1'-N9	5.02	112.22	108.20
22	RA	2505	G	N3-C4-C5	-5.02	126.09	128.60
22	YA	659	C	C6-N1-C2	5.02	122.31	120.30
22	YA	1155	A	C5-C6-N6	-5.02	119.68	123.70
1	XA	136	C	C5-C6-N1	-5.02	118.49	121.00
22	YA	465	G	N3-C4-N9	5.02	129.01	126.00
53	QV	41	C	N1-C2-O2	5.02	121.91	118.90
22	YA	1247	A	C5-N7-C8	5.02	106.41	103.90
22	RA	2509	G	C6-C5-N7	-5.01	127.39	130.40
22	YA	139	G	N3-C4-C5	-5.01	126.09	128.60
22	YA	2035	G	O5'-P-OP2	-5.01	101.19	105.70
22	YA	2592	G	C8-N9-C4	-5.01	104.39	106.40
22	RA	2371	G	N3-C4-N9	-5.01	122.99	126.00
23	RB	44	G	N3-C4-C5	5.01	131.11	128.60
22	YA	512	G	O4'-C1'-N9	5.01	112.21	108.20
22	YA	1314	C	C5-C6-N1	5.01	123.51	121.00
22	YA	1620	G	C4-N9-C1'	5.01	133.02	126.50
22	YA	2468	G	N7-C8-N9	5.01	115.61	113.10
22	RA	2126	A	P-O3'-C3'	5.01	125.71	119.70
22	YA	201	C	C6-N1-C2	5.01	122.30	120.30
22	YA	551	G	C8-N9-C4	5.01	108.40	106.40
22	YA	2228	G	O5'-P-OP2	-5.01	101.19	105.70
1	XA	420	U	C2-N1-C1'	5.01	123.71	117.70
42	YZ	150	LEU	CA-CB-CG	5.01	126.82	115.30
22	RA	1786	A	C5-C6-N1	-5.01	115.20	117.70
22	RA	1819	A	P-O3'-C3'	5.01	125.71	119.70
1	XA	545	C	N3-C2-O2	-5.01	118.39	121.90
1	XA	619	U	C5-C6-N1	5.01	125.20	122.70
22	YA	512	G	C8-N9-C1'	5.01	133.51	127.00
22	RA	1398	C	C5-C4-N4	-5.00	116.70	120.20
22	RA	2422	A	P-O3'-C3'	5.00	125.70	119.70
33	RQ	82	ARG	N-CA-C	5.00	124.51	111.00
1	XA	31	G	P-O3'-C3'	5.00	125.70	119.70
1	XA	799	G	N3-C4-C5	-5.00	126.10	128.60
1	XA	557	G	C8-N9-C1'	-5.00	120.50	127.00
1	XA	557	G	C6-C5-N7	-5.00	127.40	130.40
22	YA	1948	G	C5-C6-N1	5.00	114.00	111.50

There are no chirality outliers.

All (19) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
12	QL	47	LYS	Peptide
47	R4	38	LYS	Peptide
51	R8	30	ARG	Peptide
51	R8	35	GLN	Peptide
25	RE	21	VAL	Peptide
28	RH	127	GLU	Peptide
28	RH	153	LYS	Peptide
29	RI	134	PRO	Peptide
12	XL	47	LYS	Peptide
45	Y2	17	SER	Peptide
51	Y8	30	ARG	Peptide
51	Y8	51	ALA	Peptide
25	YE	21	VAL	Peptide
26	YF	47	GLY	Peptide
28	YH	127	GLU	Peptide
28	YH	153	LYS	Peptide
35	YS	109	GLY	Peptide
42	YZ	181	GLU	Peptide
42	YZ	61	LEU	Peptide

5.2 Too-close contacts [i](#)

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 hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	QA	32247	0	16277	775	0
1	XA	32249	0	16279	824	0
2	QB	1924	0	1975	64	0
2	XB	1924	0	1975	83	0
3	QC	1605	0	1668	50	0
3	XC	1605	0	1668	63	0
4	QD	1703	0	1763	68	0
4	XD	1703	0	1764	48	0
5	QE	1155	0	1213	36	0
5	XE	1155	0	1213	43	0
6	QF	843	0	857	20	0
6	XF	843	0	857	23	0
7	QG	1257	0	1296	41	0
7	XG	1257	0	1296	30	0
8	QH	1116	0	1177	40	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
8	XH	1116	0	1177	32	0
9	QI	1010	0	1037	43	0
9	XI	1010	0	1037	60	0
10	QJ	801	0	849	50	0
10	XJ	801	0	849	40	0
11	QK	885	0	904	29	0
11	XK	885	0	904	33	0
12	QL	975	0	1062	43	0
12	XL	975	0	1062	47	0
13	QM	964	0	1034	46	0
13	XM	964	0	1034	62	0
14	QN	492	0	529	27	0
14	XN	492	0	529	23	0
15	QO	734	0	771	23	0
15	XO	734	0	771	22	0
16	QP	705	0	725	21	0
16	XP	705	0	725	29	0
17	QQ	834	0	904	26	0
17	XQ	834	0	904	20	0
18	QR	574	0	644	13	0
18	XR	574	0	644	21	0
19	QS	674	0	699	39	0
19	XS	674	0	699	55	0
20	QT	763	0	861	25	0
20	XT	763	0	861	40	0
21	QU	217	0	234	12	0
21	XU	217	0	234	8	0
22	RA	62071	0	31292	1370	0
22	YA	62091	0	31301	1336	1
23	RB	2573	0	1306	57	0
23	YB	2573	0	1306	64	1
24	RD	2115	0	2195	107	0
24	YD	2115	0	2195	106	0
25	RE	1568	0	1634	67	0
25	YE	1568	0	1634	68	0
26	RF	1585	0	1632	76	0
26	YF	1585	0	1632	64	0
27	RG	1474	0	1535	62	0
27	YG	1474	0	1535	69	0
28	RH	1307	0	1382	67	0
28	YH	1307	0	1382	62	0
29	RI	1136	0	1223	84	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
29	YI	1136	0	1223	73	0
30	RN	1104	0	1180	38	0
30	YN	1104	0	1180	51	0
31	RO	933	0	996	23	0
31	YO	933	0	996	25	0
32	RP	1145	0	1227	79	0
32	YP	1145	0	1228	95	0
33	RQ	1122	0	1179	58	0
33	YQ	1122	0	1179	49	0
34	RR	968	0	1033	48	0
34	YR	968	0	1033	37	0
35	RS	882	0	943	45	0
35	YS	882	0	943	43	0
36	RT	1141	0	1202	51	0
36	YT	1141	0	1202	56	0
37	RU	964	0	1022	36	0
37	YU	964	0	1022	54	0
38	RV	779	0	852	24	0
38	YV	779	0	852	43	0
39	RW	900	0	964	28	0
39	YW	900	0	964	26	0
40	RX	725	0	778	31	0
40	YX	725	0	778	24	0
41	RY	785	0	878	52	0
41	YY	785	0	878	43	0
42	RZ	1461	0	1493	96	0
42	YZ	1461	0	1493	104	0
43	R0	648	0	671	37	0
43	Y0	648	0	672	41	0
44	R1	763	0	848	32	0
44	Y1	763	0	848	36	0
45	R2	581	0	629	14	0
45	Y2	581	0	629	23	0
46	R3	469	0	518	7	0
46	Y3	469	0	518	15	0
47	R4	581	0	574	30	0
47	Y4	581	0	574	76	0
48	R5	459	0	480	30	0
48	Y5	459	0	480	31	0
49	R6	424	0	450	30	0
49	Y6	424	0	450	29	0
50	R7	430	0	480	17	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
50	Y7	430	0	480	19	0
51	R8	517	0	582	36	0
51	Y8	517	0	582	43	0
52	R9	307	0	338	14	0
52	Y9	307	0	338	17	0
53	QV	1644	0	836	29	0
53	XV	1644	0	836	36	0
54	QX	173	0	88	3	0
54	XX	173	0	88	3	0
55	QY	174	0	88	4	0
55	XY	174	0	88	2	0
56	Z6	74	0	51	0	0
56	Z8	74	0	51	4	0
57	QA	42	0	45	1	0
57	XA	42	0	45	2	0
58	QA	76	0	0	0	0
58	QF	1	0	0	0	0
58	QM	1	0	0	0	0
58	QV	1	0	0	0	0
58	R0	1	0	0	0	0
58	R5	1	0	0	0	0
58	R8	2	0	0	0	0
58	RA	247	0	0	0	0
58	RB	2	0	0	0	0
58	RD	1	0	0	0	0
58	RE	2	0	0	0	0
58	RF	1	0	0	0	0
58	RP	2	0	0	0	0
58	XA	82	0	0	0	0
58	XB	1	0	0	0	0
58	XM	1	0	0	0	0
58	XV	2	0	0	0	0
58	Y0	1	0	0	0	0
58	Y5	1	0	0	0	0
58	YA	265	0	0	0	0
58	YB	3	0	0	0	0
58	YD	2	0	0	0	0
58	YP	2	0	0	0	0
58	YQ	1	0	0	0	0
58	YX	1	0	0	0	0
59	QD	1	0	0	0	0
59	QN	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
59	XD	1	0	0	0	0
59	XN	1	0	0	0	0
All	All	291730	0	198220	7613	1

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 16.

All (7613) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2701:C:H3'	22:RA:2702:U:H5''	1.27	1.07
1:XA:963:G:N3	10:XJ:55:LYS:NZ	2.02	1.07
24:YD:43:ARG:NH1	24:YD:44:ASN:OD1	1.86	1.06
22:YA:2701:C:H3'	22:YA:2702:U:H5''	1.38	1.05
22:YA:1138:G:H21	30:YN:106:MET:HE3	1.22	1.04
22:RA:1310:G:OP2	50:R7:9:ARG:NH1	1.91	1.01
13:XM:3:ARG:HB3	47:Y4:34:GLU:HB3	1.42	1.01
22:YA:498:G:N3	41:YY:47:LYS:NZ	2.07	1.01
22:YA:571:A:H5'	22:YA:2030:A:H62	1.26	1.00
1:XA:1298:C:OP2	7:XG:114:ARG:NH2	1.93	0.99
1:QA:1244:C:H42	1:QA:1293:G:H1	1.10	0.98
22:RA:617:G:OP1	26:RF:40:GLN:NE2	1.95	0.98
22:YA:140:A:H8	22:YA:1408:C:HO2'	1.00	0.97
4:QD:9:CYS:SG	4:QD:22:LYS:CE	2.52	0.97
13:XM:7:VAL:HG21	27:YG:113:ARG:O	1.64	0.97
4:QD:9:CYS:SG	4:QD:31:CYS:O	2.23	0.96
1:XA:1298:C:H2'	7:XG:114:ARG:HH12	1.29	0.96
22:RA:768:G:O2'	22:RA:1379:A:N6	1.99	0.96
22:RA:2392:A:H8	32:RP:60:MET:HG2	1.25	0.96
22:RA:1019:U:H3	22:RA:1142(A):A:H62	1.11	0.95
1:XA:1305:G:HO2'	1:XA:1306:A:H8	1.09	0.95
22:YA:631:A:OP2	51:Y8:46:ARG:NH2	1.99	0.95
4:QD:9:CYS:SG	4:QD:22:LYS:HE3	2.07	0.95
22:RA:2068:U:H3	22:RA:2430:A:H2	1.06	0.94
1:XA:1299:A:H2'	1:XA:1301:U:H1'	1.48	0.94
22:YA:483:A:H4'	41:YY:49:VAL:HA	1.48	0.94
42:YZ:9:TYR:HE2	42:YZ:35:ARG:HD3	1.33	0.94
1:QA:559:A:H4'	1:QA:560:U:H3'	1.49	0.93
2:QB:185:ILE:HG22	2:QB:199:TYR:HB2	1.48	0.93
1:XA:1002:G:H1	1:XA:1038:C:H42	1.16	0.93
22:YA:2580:U:H4'	25:YE:130:GLY:HA3	1.51	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2287:A:H62	22:YA:2344:U:H3	1.14	0.92
22:RA:900:A:H3'	22:RA:901:A:H8	1.35	0.92
22:RA:242:G:H5''	51:R8:62:LEU:HD13	1.50	0.92
32:RP:58:THR:O	32:RP:61:ARG:NE	2.03	0.92
13:QM:3:ARG:HB3	47:R4:34:GLU:HB3	1.52	0.91
25:YE:24:THR:HG21	25:YE:188:VAL:HG11	1.52	0.91
22:YA:993:G:OP1	37:YU:50:ARG:NH2	2.04	0.91
23:RB:22:U:H3	23:RB:61:G:H1	1.16	0.91
22:YA:674:G:H1'	26:YF:74:ARG:HD3	1.51	0.90
22:YA:1496:A:H8	22:YA:1577:C:HO2'	1.18	0.90
22:YA:2470:G:H5'	33:YQ:56:ARG:HH22	1.35	0.90
1:XA:1094:G:O2'	1:XA:1095:U:OP2	1.88	0.90
22:RA:442:G:H1'	26:RF:48:THR:HG21	1.51	0.90
48:R5:55:ARG:HG3	48:R5:57:VAL:H	1.37	0.89
13:XM:3:ARG:HG2	47:Y4:34:GLU:HG2	1.55	0.89
25:YE:50:GLY:HA2	25:YE:77:ILE:HA	1.53	0.89
29:YI:29:TYR:HD2	29:YI:30:LEU:HD23	1.39	0.89
41:YY:79:CYS:SG	41:YY:80:GLY:N	2.45	0.88
1:QA:963:G:N3	10:QJ:55:LYS:NZ	2.21	0.88
22:YA:2820:A:C8	25:YE:109:LYS:HE2	2.08	0.88
36:RT:26:ASP:HB3	36:RT:92:GLY:H	1.36	0.88
42:YZ:151:HIS:HB3	42:YZ:170:THR:HA	1.53	0.88
53:XV:6:G:H1	53:XV:67:C:H42	1.17	0.88
33:YQ:134:ARG:NH2	42:YZ:119:GLU:OE2	2.05	0.88
32:RP:64:LYS:O	32:RP:66:GLY:N	2.07	0.87
22:YA:1728:G:N1	22:YA:1730:U:OP2	2.07	0.87
22:RA:1464:C:HO2'	22:RA:1528:A:H8	1.23	0.87
29:YI:71:ILE:HG23	29:YI:72:LEU:HD13	1.54	0.87
22:YA:910:A:H62	33:YQ:12:GLN:HA	1.39	0.87
32:YP:58:THR:O	32:YP:61:ARG:NE	2.08	0.87
22:YA:122:G:N2	22:YA:129:C:O2	2.08	0.87
41:YY:76:CYS:HB3	41:YY:96:ILE:HD13	1.57	0.87
1:QA:1410:G:H1	1:QA:1490:C:H42	1.23	0.87
48:Y5:40:LYS:HG2	48:Y5:47:PRO:HD2	1.56	0.86
32:RP:19:VAL:HG13	32:RP:21:ARG:H	1.40	0.86
4:XD:157:LEU:O	4:XD:161:ASN:ND2	2.07	0.86
1:QA:1124:G:H3'	1:QA:1145:C:N4	1.89	0.86
22:RA:708:C:H42	22:RA:723:G:H1	1.20	0.86
1:QA:448:A:OP2	1:QA:485:G:N2	2.08	0.86
22:YA:1844:C:H2'	22:YA:1845:G:H8	1.41	0.86
1:QA:1243:C:OP2	21:QU:10:ARG:NH2	2.09	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:674:G:H1'	26:RF:74:ARG:HD3	1.57	0.86
22:RA:2502:G:H5''	22:RA:2503:A:H5''	1.57	0.86
24:RD:43:ARG:NH1	24:RD:44:ASN:OD1	2.08	0.86
22:RA:1061:U:H5'	22:RA:1070:A:H1'	1.56	0.86
22:YA:265:A:N6	22:YA:427:U:O2'	2.07	0.86
5:QE:50:GLU:HB3	5:QE:53:LEU:HD13	1.59	0.85
22:YA:2015:A:H1'	48:Y5:2:ALA:HA	1.57	0.85
22:YA:2593:U:H2'	22:YA:2594:C:H6	1.39	0.85
22:RA:2701:C:H3'	22:RA:2702:U:C5'	2.04	0.85
1:XA:58:C:O2'	1:XA:388:G:N7	2.09	0.85
1:XA:1346:A:OP1	9:XI:120:ARG:NH1	2.09	0.85
23:RB:83:G:H1	23:RB:93:C:H42	1.24	0.85
1:QA:1127:G:N1	1:QA:1145:C:O2	2.08	0.84
22:RA:2839:G:H5'	34:RR:46:GLY:HA2	1.59	0.84
41:RY:79:CYS:SG	41:RY:80:GLY:N	2.45	0.84
39:YW:18:ARG:HG3	39:YW:76:VAL:HG13	1.58	0.84
22:RA:2106:G:H1	22:RA:2183:C:H42	1.21	0.84
1:QA:1298:C:OP2	7:QG:114:ARG:NH2	2.10	0.84
22:YA:270(T):G:H5''	44:Y1:97:LEU:HD22	1.59	0.84
22:YA:67:U:H3	22:YA:74:A:H2	1.25	0.84
36:YT:26:ASP:HB3	36:YT:92:GLY:H	1.42	0.84
22:RA:1187:G:H5''	38:RV:81:TYR:CE2	2.13	0.83
30:YN:4:TYR:O	37:YU:64:ARG:NH1	2.10	0.83
22:RA:2107:C:H42	22:RA:2182:G:H1	1.26	0.83
1:XA:448:A:OP2	1:XA:485:G:N2	2.08	0.83
2:QB:80:ILE:HD11	2:QB:208:ILE:HG23	1.58	0.83
27:YG:27:ASN:HB3	27:YG:30:GLU:HG3	1.60	0.83
1:QA:346:G:H1'	1:QA:347:G:H5'	1.58	0.83
22:YA:2849:U:H5	36:YT:93:ARG:HH12	1.26	0.83
32:YP:19:VAL:HG13	32:YP:21:ARG:H	1.41	0.83
48:R5:4:HIS:HB3	48:R5:5:PRO:HD3	1.61	0.82
37:YU:90:VAL:O	37:YU:92:ARG:N	2.11	0.82
22:RA:1285:G:N2	22:RA:1329:U:OP1	2.10	0.82
22:YA:1063:G:H22	22:YA:1076:C:H1'	1.44	0.82
22:YA:462:C:H42	22:YA:467:G:H1	1.26	0.82
1:QA:677:U:H3	1:QA:713:G:H22	1.28	0.82
1:XA:1342:C:H4'	9:XI:125:TYR:HB3	1.60	0.82
26:RF:197:ASP:O	26:RF:199:TRP:N	2.12	0.82
29:RI:4:ILE:HD11	29:RI:44:LEU:HD12	1.62	0.82
22:YA:994:C:H3'	37:YU:54:LYS:HE3	1.61	0.82
48:R5:16:ARG:NH1	48:R5:17:ASP:OD1	2.13	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:Y1:7:ILE:HD12	44:Y1:62:VAL:HG11	1.62	0.82
22:YA:2115:G:N2	22:YA:2165:G:N7	2.27	0.82
22:RA:676:A:H8	22:RA:2069:G:H21	1.28	0.82
41:RY:29:GLU:HB3	41:RY:38:ILE:HG12	1.62	0.82
22:YA:2099:U:H3	22:YA:2190:G:H1	1.25	0.82
32:RP:62:LEU:HD21	51:R8:25:MET:HB2	1.61	0.81
22:RA:1053:C:H42	22:RA:1106:G:H1	1.28	0.81
29:RI:81:VAL:HG21	29:RI:142:VAL:HG12	1.62	0.81
48:Y5:16:ARG:NH1	48:Y5:17:ASP:OD1	2.13	0.81
22:YA:286:C:H2'	22:YA:287:C:H6	1.43	0.81
45:Y2:47:ASN:O	45:Y2:49:LYS:N	2.12	0.81
42:YZ:94:GLU:HB2	42:YZ:130:PRO:HD2	1.63	0.81
22:RA:270(R):G:N3	44:R1:78:LYS:NZ	2.26	0.81
2:XB:69:LEU:HB3	2:XB:162:ILE:HG22	1.61	0.81
22:YA:250:G:OP2	51:Y8:13:ARG:NH2	2.13	0.81
30:YN:4:TYR:OH	30:YN:7:LYS:NZ	2.14	0.81
26:RF:103:LYS:HA	26:RF:106:ARG:HG3	1.63	0.81
53:QV:6:G:H1	53:QV:67:C:H42	1.25	0.81
45:R2:47:ASN:O	45:R2:49:LYS:N	2.13	0.81
22:RA:2107:C:N3	22:RA:2182:G:N2	2.26	0.81
1:XA:1192:C:OP2	3:XC:4:LYS:NZ	2.14	0.81
22:RA:249:C:O2	51:R8:12:LYS:NZ	2.13	0.81
22:RA:631:A:OP2	51:R8:46:ARG:NH2	2.13	0.81
1:XA:1281:U:OP2	1:XA:1282:C:N4	2.14	0.81
13:XM:3:ARG:HG2	47:Y4:34:GLU:CG	2.11	0.81
22:YA:138:G:N2	40:YX:44:GLU:OE2	2.14	0.81
22:YA:237:C:N4	22:YA:260:G:O6	2.14	0.81
22:RA:685:A:H5''	22:RA:788:A:H62	1.46	0.80
13:QM:14:ARG:H	13:QM:44:ARG:HD3	1.45	0.80
25:RE:201:THR:HG22	25:RE:203:LYS:H	1.45	0.80
36:RT:24:PRO:HA	36:RT:49:VAL:HG13	1.61	0.80
22:YA:984:A:H5''	22:YA:985:C:H5	1.46	0.80
22:RA:2712:U:O2'	22:RA:2712(A):A:O5'	1.97	0.80
30:RN:42:TRP:O	37:RU:64:ARG:NH2	2.15	0.80
43:R0:53:MET:HG3	43:R0:59:LEU:HD23	1.62	0.80
25:RE:50:GLY:HA2	25:RE:77:ILE:HA	1.64	0.80
22:YA:1310:G:OP2	50:Y7:9:ARG:NH1	2.14	0.80
22:YA:581:C:H2'	22:YA:582:G:H8	1.46	0.80
41:YY:76:CYS:SG	41:YY:77:PRO:HD2	2.22	0.80
1:QA:1346:A:H5''	9:QI:120:ARG:HH12	1.47	0.80
13:QM:3:ARG:HA	13:QM:9:ILE:HG21	1.62	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1667:G:O2'	22:RA:1991:U:O4	2.00	0.80
22:RA:27:G:HO2'	22:RA:28:A:H8	1.30	0.80
1:QA:1129:C:N4	1:QA:1133:G:O6	2.15	0.80
42:RZ:182:LYS:H	42:RZ:182:LYS:HD3	1.45	0.80
22:YA:869:G:N2	22:YA:908:C:O2	2.15	0.80
1:XA:257:G:H1	1:XA:269:C:H42	1.28	0.79
13:XM:65:LYS:HD3	13:XM:69:GLU:HG3	1.63	0.79
22:YA:819:A:OP2	22:YA:1187:G:N2	2.15	0.79
22:YA:620:G:H4'	22:YA:621:A:H5'	1.63	0.79
22:YA:879:G:O6	22:YA:898:C:N4	2.14	0.79
42:YZ:60:GLU:HA	42:YZ:66:SER:HA	1.63	0.79
1:QA:337:C:H2'	1:QA:338:A:H8	1.47	0.79
22:RA:468:G:H4'	26:RF:62:ARG:HH12	1.46	0.79
22:YA:1479:G:N7	22:YA:1510:A:N6	2.30	0.79
29:YI:82:ARG:HD3	29:YI:146:ALA:HB3	1.62	0.79
40:YX:67:GLY:O	40:YX:69:TYR:N	2.15	0.79
22:RA:996:A:H4'	37:RU:92:ARG:HE	1.45	0.79
34:RR:104:ARG:HD2	34:RR:111:LEU:HD21	1.63	0.79
3:XC:32:LEU:HD13	3:XC:59:ARG:HD3	1.64	0.79
20:XT:33:ILE:O	20:XT:37:SER:OG	2.00	0.79
29:RI:41:GLU:HA	29:RI:44:LEU:HB2	1.64	0.79
15:QO:26:GLU:OE2	15:QO:77:ARG:NH1	2.16	0.79
22:RA:301:G:N2	22:RA:316:C:O2	2.14	0.79
22:YA:1422:G:N2	22:YA:1498:C:O2	2.14	0.79
11:QK:21:ILE:HB	11:QK:84:VAL:HG12	1.65	0.79
22:YA:1798:U:H5'	24:YD:259:THR:HG22	1.64	0.79
22:YA:2233:U:H2'	22:YA:2234:G:C8	2.18	0.79
22:RA:507:A:H5''	22:RA:508:G:H5'	1.64	0.79
2:XB:77:ALA:HB2	2:XB:211:ILE:HD13	1.64	0.79
3:XC:59:ARG:HH12	3:XC:97:LYS:HE3	1.47	0.79
22:YA:271:G:H2'	22:YA:272:G:H8	1.46	0.79
1:XA:134:A:H61	16:XP:25:ARG:NH1	1.82	0.78
1:XA:1298:C:H2'	7:XG:114:ARG:NH1	1.96	0.78
3:QC:79:ARG:CZ	11:XK:99:GLN:HB2	2.12	0.78
22:RA:2580:U:H4'	25:RE:130:GLY:HA3	1.63	0.78
22:YA:2015:A:N3	48:Y5:2:ALA:N	2.30	0.78
4:QD:27:TYR:OH	6:XF:15:ASP:OD2	2.01	0.78
53:QV:40:C:H2'	53:QV:41:C:H6	1.49	0.78
4:XD:9:CYS:SG	4:XD:22:LYS:NZ	2.52	0.78
22:YA:2292:C:P	35:YS:17:ARG:HH22	2.06	0.78
30:RN:95:PRO:O	30:RN:97:ARG:N	2.15	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y4:1:MET:SD	47:Y4:6:HIS:NE2	2.56	0.78
33:YQ:60:ARG:HH11	42:YZ:113:ALA:HB3	1.47	0.78
1:QA:191:G:H1'	20:QT:105:SER:HB3	1.66	0.78
1:QA:191:G:O2'	20:QT:101:GLY:O	2.01	0.78
1:QA:976:G:N2	1:QA:1362(A):C:OP2	2.15	0.78
32:RP:126:VAL:HG12	32:RP:147:LEU:HD21	1.63	0.78
22:YA:1055:G:H1	22:YA:1104:C:H42	1.32	0.78
22:YA:1568:G:H4'	24:YD:59:LYS:HB3	1.65	0.78
1:QA:792:A:H4'	1:QA:793:U:O5'	1.84	0.78
20:QT:100:ILE:HG13	20:QT:102:GLY:H	1.48	0.78
22:RA:1542:G:O6	22:RA:1543:A:N6	2.17	0.78
24:RD:69:ARG:NH2	24:RD:128:GLY:O	2.17	0.78
22:YA:630:G:OP1	51:Y8:46:ARG:NH1	2.16	0.78
31:YO:88:ASN:HD21	31:YO:92:GLU:HB2	1.47	0.78
1:QA:542:G:OP1	4:QD:10:ARG:NH2	2.17	0.78
1:QA:885:G:O2'	1:QA:914:A:N1	2.16	0.78
1:QA:1292:U:OP1	7:QG:41:ARG:NH2	2.17	0.78
10:QJ:50:ILE:HA	10:QJ:60:ARG:HG2	1.66	0.78
1:XA:1263:C:N4	1:XA:1272:G:O6	2.15	0.78
22:YA:1434:A:H61	22:YA:1558:A:H62	1.29	0.78
13:XM:14:ARG:H	13:XM:44:ARG:HD3	1.49	0.77
1:QA:244:U:H5'	1:QA:244:U:H6	1.48	0.77
22:YA:1021:A:OP2	30:YN:65:LYS:NZ	2.17	0.77
1:QA:1196:U:O2	3:QC:162:GLN:NE2	2.17	0.77
3:XC:20:SER:HB2	3:XC:40:ARG:HH22	1.50	0.77
22:RA:2011:U:OP2	39:RW:16:LYS:NZ	2.15	0.77
24:YD:69:ARG:NH2	24:YD:128:GLY:O	2.18	0.77
42:RZ:94:GLU:HB2	42:RZ:130:PRO:HD2	1.65	0.77
26:RF:66:PRO:O	26:RF:68:LYS:N	2.18	0.77
1:XA:1130:A:O2'	9:XI:3:GLN:NE2	2.16	0.77
30:YN:95:PRO:O	30:YN:97:ARG:N	2.18	0.77
1:QA:1127:G:H22	1:QA:1145:C:H1'	1.47	0.77
43:R0:26:TYR:N	43:R0:29:GLN:OE1	2.18	0.77
22:RA:484:C:O2	22:RA:496:G:N2	2.17	0.77
1:XA:388:G:O2'	1:XA:389:A:OP2	2.01	0.77
32:YP:47:ASP:OD1	32:YP:50:ARG:NH2	2.17	0.77
22:RA:1454:U:OP1	34:RR:77:ARG:NH1	2.18	0.76
22:YA:180:G:N2	22:YA:215:G:O6	2.19	0.76
22:RA:2293:C:H5''	35:RS:89:ARG:HH12	1.51	0.76
22:RA:483:A:H4'	41:RY:49:VAL:HA	1.67	0.76
1:XA:1077:G:N2	1:XA:1080:A:OP2	2.17	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:RI:92:VAL:HG13	29:RI:120:ILE:HG23	1.67	0.76
22:RA:2392:A:C8	32:RP:60:MET:HG2	2.16	0.76
13:XM:62:ASN:HA	47:Y4:49:PHE:CD2	2.21	0.76
25:RE:9:VAL:HB	25:RE:25:VAL:HG23	1.66	0.76
1:XA:1094:G:HO2'	1:XA:1095:U:P	2.08	0.76
22:YA:443:A:N7	26:YF:45:ARG:HD2	2.00	0.76
1:QA:662:G:O2'	1:QA:836:G:OP1	2.04	0.76
34:RR:3:HIS:O	34:RR:5:LYS:N	2.19	0.76
42:RZ:79:ARG:HB3	42:RZ:80:ARG:HD3	1.66	0.76
16:XP:45:THR:HG22	16:XP:47:ASP:H	1.51	0.76
22:YA:2134:A:OP2	22:YA:2157:G:N2	2.19	0.76
35:RS:62:LYS:HB3	35:RS:97:ARG:HD3	1.67	0.76
19:XS:5:LEU:HD21	47:Y4:66:SER:HB2	1.68	0.76
22:YA:2415:G:H4'	32:YP:67:MET:N	2.00	0.76
22:RA:2818:G:OP2	34:RR:42:LYS:NZ	2.18	0.76
13:XM:61:GLU:O	47:Y4:49:PHE:CE2	2.38	0.76
34:YR:74:LYS:O	34:YR:76:VAL:N	2.18	0.76
1:QA:1002:G:H2'	1:QA:1003:G:H8	1.51	0.76
26:YF:197:ASP:O	26:YF:199:TRP:N	2.19	0.76
28:YH:153:LYS:HG2	28:YH:162:ILE:HG13	1.67	0.76
1:XA:523:A:H61	12:XL:92:ASP:HB2	1.51	0.75
22:RA:1059:G:O6	22:RA:1079:C:N4	2.18	0.75
41:RY:95:LYS:HB3	41:RY:100:ALA:HA	1.69	0.75
13:XM:3:ARG:CB	47:Y4:34:GLU:HB3	2.15	0.75
22:YA:581:C:H2'	22:YA:582:G:C8	2.22	0.75
42:RZ:150:LEU:HD23	42:RZ:171:ILE:HG13	1.68	0.75
1:XA:451:A:OP1	1:XA:481:G:N2	2.17	0.75
22:RA:2439:A:C8	22:RA:2439:A:H5'	2.21	0.75
36:YT:57:PHE:O	36:YT:58:ASN:ND2	2.19	0.75
1:QA:689:C:OP1	11:QK:27:ASN:ND2	2.19	0.75
41:RY:87:LYS:HD3	41:RY:92:ASN:HB3	1.69	0.75
1:XA:1352:C:H42	1:XA:1370:G:H1	1.35	0.75
1:XA:564:C:O2'	8:XH:91:ARG:NH2	2.20	0.75
36:YT:27:THR:HG23	36:YT:90:GLN:HB3	1.67	0.75
1:QA:979:C:OP1	1:QA:1223:C:N4	2.19	0.75
1:QA:1316:G:H22	1:QA:1319:A:H5''	1.52	0.75
49:R6:41:PRO:HG2	49:R6:45:LYS:H	1.52	0.75
22:RA:2572:A:H5''	22:RA:2574:G:H4'	1.68	0.75
32:RP:14:LYS:O	32:RP:16:ARG:N	2.20	0.75
42:RZ:156:LYS:HG2	42:RZ:158:PRO:HD3	1.66	0.75
1:XA:559:A:OP1	5:XE:126:ARG:NH2	2.19	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:YU:92:ARG:O	37:YU:94:ASN:N	2.20	0.75
42:YZ:97:GLU:HB3	42:YZ:125:LEU:HD11	1.68	0.75
4:QD:57:ARG:HH22	5:QE:107:ARG:HD3	1.50	0.75
5:QE:102:ALA:HB1	5:QE:106:PRO:HG2	1.69	0.75
38:YV:24:LYS:HA	38:YV:92:THR:HG23	1.68	0.75
50:R7:9:ARG:HH21	50:R7:48:LYS:HD2	1.52	0.74
22:RA:2298:A:H62	22:RA:2318:G:H8	1.32	0.74
22:RA:984:A:H5''	22:RA:985:C:H5	1.52	0.74
34:RR:56:LYS:NZ	34:RR:90:ARG:O	2.20	0.74
41:RY:86:ARG:HB2	41:RY:95:LYS:HD2	1.69	0.74
30:YN:13:TRP:HB2	30:YN:133:GLN:HG3	1.69	0.74
1:QA:1305:G:HO2'	1:QA:1306:A:H8	1.35	0.74
5:QE:7:GLU:HG2	5:QE:112:LEU:HD22	1.69	0.74
34:RR:74:LYS:O	34:RR:76:VAL:N	2.18	0.74
1:XA:793:U:O2	1:XA:1516:G:H4'	1.87	0.74
22:RA:1614:A:H62	39:RW:93:ALA:HB2	1.52	0.74
29:RI:8:PRO:HD3	29:RI:15:VAL:HG13	1.68	0.74
1:XA:581:G:N2	1:XA:760:G:N7	2.35	0.74
17:XQ:66:SER:O	17:XQ:70:ARG:NH1	2.21	0.74
29:YI:64:GLU:O	29:YI:67:ARG:NH2	2.20	0.74
35:YS:78:LEU:HD21	35:YS:108:GLY:HA3	1.68	0.74
1:XA:931:C:O2	1:XA:1386:G:N2	2.18	0.74
22:YA:1209:G:H21	22:YA:1210:A:H62	1.32	0.74
22:YA:1630(A):C:N4	22:YA:1635:G:O6	2.16	0.74
42:YZ:101:PRO:HA	42:YZ:123:ASP:HB3	1.70	0.74
27:RG:34:LEU:HB2	27:RG:172:LEU:HD21	1.69	0.74
2:XB:178:ARG:HG3	8:XH:72:PRO:HA	1.69	0.74
22:YA:1996:C:OP1	31:YO:31:LYS:NZ	2.20	0.74
1:QA:1204:A:OP1	14:QN:3:ARG:NH2	2.20	0.74
22:RA:620:G:H4'	22:RA:621:A:H5''	1.68	0.74
1:XA:1279:A:O2'	1:XA:1282:C:N4	2.20	0.74
1:XA:356:A:H2'	1:XA:357:G:H8	1.51	0.74
1:XA:606:G:H1	1:XA:631:G:H5''	1.51	0.74
1:QA:147:G:H1	1:QA:175:C:H42	1.34	0.74
8:QH:29:SER:HB3	8:QH:32:LYS:HG3	1.69	0.74
22:YA:2444:G:OP2	26:YF:68:LYS:HE3	1.88	0.74
36:YT:51:ARG:HG2	36:YT:98:LYS:HG3	1.70	0.74
43:Y0:53:MET:HB3	43:Y0:59:LEU:HD23	1.70	0.74
22:YA:2701:C:H3'	22:YA:2702:U:C5'	2.17	0.74
27:YG:161:THR:HG22	27:YG:163:ALA:H	1.53	0.74
1:QA:1023:G:H3'	1:QA:1024:G:H5''	1.70	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:411:A:C5	1:QA:413:G:H1'	2.23	0.74
25:RE:62:PRO:O	25:RE:64:LYS:N	2.20	0.74
22:YA:1688:U:O2	22:YA:1700:A:H5''	1.88	0.74
23:YB:28:C:OP1	35:YS:36:TYR:OH	2.06	0.74
42:YZ:144:LEU:HD12	42:YZ:174:VAL:HG23	1.70	0.74
22:RA:602:G:O2'	22:RA:604:G:O2'	2.05	0.74
22:RA:140:A:H8	22:RA:1408:C:HO2'	1.35	0.73
5:QE:100:VAL:O	5:QE:107:ARG:NH2	2.20	0.73
43:R0:65:GLY:HA3	43:R0:83:PRO:HA	1.70	0.73
22:RA:2115:G:N2	22:RA:2165:G:N7	2.34	0.73
22:RA:1080:C:N4	22:RA:1088:A:OP2	2.16	0.73
22:RA:259:G:O2'	22:RA:621:A:O2'	2.04	0.73
1:XA:1286:A:H5''	21:XU:26:LYS:HD2	1.70	0.73
53:XV:23:C:H2'	53:XV:24:U:H6	1.51	0.73
47:Y4:9:LEU:H	47:Y4:27:THR:HG23	1.53	0.73
22:YA:776:G:H4'	22:YA:777:A:H5''	1.70	0.73
23:YB:15:A:H5'	23:YB:16:G:C8	2.22	0.73
40:YX:27:THR:HB	40:YX:80:ILE:HB	1.69	0.73
22:RA:2509:G:H1	22:RA:2579:C:H42	1.35	0.73
22:YA:1190:G:OP1	32:YP:30:THR:OG1	2.05	0.73
32:YP:14:LYS:O	32:YP:16:ARG:N	2.22	0.73
22:RA:2112:G:O6	22:RA:2169:A:N6	2.20	0.73
29:RI:29:TYR:O	29:RI:33:ARG:HB2	1.88	0.73
1:XA:396:G:O2'	1:XA:398:C:OP1	2.07	0.73
22:YA:1359:A:N6	22:YA:1372:U:H3	1.86	0.73
22:RA:2245:U:H5'	22:RA:2246:G:H5'	1.71	0.73
23:RB:28:C:N4	23:RB:56:G:O6	2.17	0.73
4:XD:7:PRO:HB2	4:XD:10:ARG:HD2	1.69	0.73
1:QA:1244:C:N4	1:QA:1293:G:H1	1.83	0.73
22:RA:2074:U:H2'	22:RA:2075:U:C6	2.24	0.73
28:YH:86:GLU:HG3	28:YH:165:ALA:H	1.53	0.73
33:YQ:104:PHE:HE1	33:YQ:125:LEU:HD11	1.53	0.73
22:YA:1754:C:OP1	36:YT:96:ARG:NH1	2.21	0.73
33:YQ:111:GLU:OE1	33:YQ:133:ARG:NH2	2.22	0.73
22:RA:1086:A:O2'	22:RA:1087:G:N7	2.22	0.73
22:YA:273(C):C:H42	22:YA:363(C):G:H1	1.34	0.73
33:YQ:24:GLY:O	33:YQ:26:TYR:N	2.19	0.73
4:QD:175:SER:HB3	4:QD:186:LEU:HD21	1.69	0.72
22:RA:530:G:O2'	22:RA:532:A:N7	2.22	0.72
1:XA:674:G:H2'	1:XA:675:A:H8	1.54	0.72
7:QG:9:VAL:HG13	7:QG:94:ARG:HH21	1.54	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:QV:40:C:H2'	53:QV:41:C:C6	2.24	0.72
22:RA:273:G:H1	22:RA:364:C:H42	1.38	0.72
22:YA:1509:C:N3	22:YA:1511:A:N6	2.37	0.72
1:QA:1055:A:O2'	3:QC:161:GLU:OE2	2.07	0.72
3:QC:58:GLU:HB2	3:QC:65:ALA:HB3	1.70	0.72
22:RA:155:C:H42	22:RA:171:G:H1	1.37	0.72
22:RA:774:A:O2'	22:RA:775:G:O5'	2.08	0.72
3:QC:20:SER:HB2	3:QC:40:ARG:HH22	1.54	0.72
43:R0:72:ARG:HB2	43:R0:75:LEU:HB2	1.70	0.72
22:RA:1449:A:O2'	22:RA:1530:G:N2	2.22	0.72
22:RA:1754:C:OP1	36:RT:96:ARG:NH1	2.18	0.72
22:RA:2328:A:H2'	22:RA:2329:G:C8	2.25	0.72
22:RA:239:U:H3	22:RA:258:G:H1	1.37	0.72
22:RA:2540:C:O2'	22:RA:2740:A:N3	2.23	0.72
23:RB:65:C:H41	23:RB:108:C:H2'	1.53	0.72
47:Y4:48:ARG:HH12	47:Y4:52:THR:HG22	1.54	0.72
29:YI:68:LEU:HA	29:YI:71:ILE:HG22	1.71	0.72
1:QA:957:U:H4'	19:QS:79:THR:HB	1.72	0.72
22:RA:1474:C:H42	22:RA:1519:G:H1	1.38	0.72
22:YA:530:G:O2'	22:YA:532:A:N7	2.23	0.72
45:Y2:42:GLY:O	45:Y2:44:LEU:N	2.20	0.72
27:YG:6:ALA:H	47:Y4:23:GLU:HG2	1.54	0.72
22:YA:2287:A:N6	22:YA:2344:U:H3	1.87	0.72
24:YD:35:LYS:HD2	24:YD:104:TYR:CE1	2.25	0.72
22:RA:1856:G:H1	22:RA:1886:C:H42	1.37	0.72
29:RI:88:ILE:HG12	29:RI:122:GLU:H	1.54	0.72
23:YB:60:C:H2'	23:YB:61:G:H8	1.55	0.72
27:YG:64:THR:HG23	27:YG:66:GLN:H	1.55	0.72
28:YH:129:THR:OG1	28:YH:129:THR:O	2.08	0.72
17:QQ:4:LYS:HE3	17:QQ:6:LEU:HD21	1.72	0.72
31:YO:47:ILE:HG13	31:YO:48:PRO:HD2	1.72	0.72
41:YY:51:VAL:HG13	41:YY:52:SER:H	1.54	0.72
42:YZ:53:ILE:HG22	42:YZ:71:VAL:HG13	1.72	0.72
1:QA:1286:A:H5''	21:QU:26:LYS:HD2	1.72	0.71
1:XA:1455:G:H5''	20:XT:31:SER:HB2	1.72	0.71
22:YA:242:G:H5''	51:Y8:62:LEU:HD13	1.72	0.71
22:YA:1403:C:H5''	22:YA:1471:A:H1'	1.73	0.71
42:YZ:151:HIS:HA	42:YZ:171:ILE:HG13	1.72	0.71
1:QA:1502:A:H2	1:QA:1505:G:H1	1.35	0.71
22:RA:1063:G:N2	22:RA:1076:C:O2'	2.23	0.71
22:RA:2364:C:OP1	43:R0:55:ARG:NH1	2.23	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:27:G:N2	22:RA:513:A:OP2	2.23	0.71
42:RZ:76:LEU:HA	42:RZ:83:PRO:HA	1.71	0.71
5:XE:10:MET:HB3	5:XE:32:VAL:HG22	1.70	0.71
6:XF:50:TYR:OH	18:XR:74:ARG:O	2.06	0.71
22:YA:286:C:H2'	22:YA:287:C:C6	2.24	0.71
22:RA:2319:G:N1	22:RA:2334:G:OP2	2.22	0.71
9:XI:114:TYR:HE1	10:XJ:60:ARG:H	1.38	0.71
2:QB:115:LEU:HB2	2:QB:145:LEU:HD12	1.73	0.71
22:RA:997:G:OP1	37:RU:93:LYS:HD3	1.88	0.71
29:RI:2:LYS:HA	29:RI:20:ASP:HA	1.70	0.71
46:R3:8:LEU:HD13	46:R3:31:LEU:HD23	1.71	0.71
49:R6:17:LYS:HB3	49:R6:44:ARG:HH22	1.55	0.71
22:RA:259:G:H21	22:RA:621:A:H8	1.35	0.71
22:YA:1062:G:H2'	22:YA:1063:G:C8	2.25	0.71
30:YN:89:LYS:O	30:YN:93:THR:HG22	1.90	0.71
1:QA:404:U:H2'	1:QA:405:U:H6	1.53	0.71
25:YE:170:LEU:HD21	25:YE:187:ALA:HB3	1.72	0.71
4:QD:28:SER:HB3	4:QD:29:PRO:HD3	1.72	0.71
27:RG:61:ALA:HB2	27:RG:68:PRO:HD3	1.72	0.71
32:RP:38:GLN:HG2	32:RP:45:LEU:HD12	1.72	0.71
22:YA:443:A:H3'	26:YF:45:ARG:HH12	1.56	0.71
41:YY:29:GLU:HB3	41:YY:38:ILE:HG23	1.70	0.71
42:YZ:45:ASP:OD1	42:YZ:49:ARG:NE	2.22	0.71
42:RZ:63:ASP:HB3	42:RZ:65:GLN:HG3	1.73	0.71
1:XA:1123:A:H4'	10:XJ:36:GLY:HA3	1.72	0.71
8:XH:10:LEU:HD22	8:XH:83:ILE:HD11	1.72	0.71
13:XM:62:ASN:OD1	47:Y4:49:PHE:HD2	1.74	0.71
1:QA:1435:G:H2'	1:QA:1436:U:C6	2.26	0.71
10:QJ:61:GLU:OE2	14:QN:45:ARG:NH1	2.23	0.71
22:RA:27:G:H22	22:RA:512:G:H1'	1.56	0.71
22:YA:24:G:O2'	39:YW:78:GLU:O	2.09	0.71
41:YY:42:VAL:HG12	41:YY:65:ALA:HB3	1.71	0.71
22:RA:2287:A:N6	22:RA:2344:U:H3	1.89	0.71
22:RA:597:U:O2	22:RA:660:G:N1	2.19	0.71
33:RQ:81:VAL:O	33:RQ:82:ARG:NE	2.22	0.71
20:XT:45:GLN:HB2	20:XT:91:LEU:HD13	1.73	0.71
22:YA:1338:G:N7	40:YX:62:LYS:NZ	2.39	0.71
22:YA:1434:A:H61	22:YA:1558:A:N6	1.88	0.71
22:YA:2245:U:H5'	22:YA:2246:G:H5'	1.71	0.71
22:YA:2681:C:O2'	22:YA:2682:U:OP2	2.09	0.71
31:YO:2:ILE:HD12	31:YO:6:THR:HG21	1.72	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YS:106:ARG:HA	35:YS:110:LEU:HD21	1.73	0.71
35:YS:24:LEU:HB2	35:YS:85:VAL:HG12	1.71	0.71
36:YT:77:PRO:HB2	36:YT:80:SER:HB2	1.72	0.71
1:QA:1321:C:H3'	1:QA:1322:C:H5''	1.73	0.70
22:RA:2377:A:H2'	22:RA:2378:A:C8	2.25	0.70
22:RA:1693:U:O2'	24:RD:14:ARG:NH2	2.23	0.70
51:Y8:58:ILE:HD13	51:Y8:61:LEU:HD21	1.73	0.70
22:YA:1264:G:H3'	22:YA:1265:A:H5''	1.72	0.70
22:YA:1586:A:H3'	22:YA:1587:A:H8	1.56	0.70
42:YZ:152:ALA:HB2	42:YZ:168:GLU:HA	1.72	0.70
45:R2:29:LYS:HE3	45:R2:57:ILE:HG21	1.73	0.70
22:YA:2610:C:H4'	22:YA:2611:U:OP2	1.91	0.70
19:QS:41:VAL:HB	19:QS:42:PRO:HA	1.73	0.70
22:RA:1860:G:H1	22:RA:1882:C:H42	1.40	0.70
36:RT:18:ASP:N	36:RT:18:ASP:OD1	2.19	0.70
22:YA:1649:G:O2'	34:YR:107:ASP:OD1	2.08	0.70
19:QS:40:ILE:HD11	19:QS:62:ILE:HD12	1.74	0.70
22:RA:503:A:H4'	22:RA:504:U:H5'	1.73	0.70
39:RW:29:LEU:HD22	39:RW:69:LEU:HD11	1.72	0.70
10:XJ:50:ILE:HA	10:XJ:60:ARG:HG2	1.72	0.70
27:YG:47:LYS:HD3	27:YG:81:LYS:HB2	1.73	0.70
1:XA:1239:A:H62	1:XA:1299:A:H62	1.40	0.70
1:XA:501:C:OP1	12:XL:117:ARG:NH2	2.24	0.70
13:XM:57:ARG:NH2	47:Y4:34:GLU:O	2.24	0.70
13:XM:65:LYS:HE2	47:Y4:50:VAL:HG11	1.72	0.70
10:XJ:61:GLU:OE2	14:XN:45:ARG:NH1	2.25	0.70
22:YA:2712:U:H1'	22:YA:2712(A):A:C8	2.27	0.70
1:QA:1002:G:H2'	1:QA:1003:G:C8	2.26	0.70
13:QM:59:TYR:O	13:QM:63:THR:OG1	2.07	0.70
22:RA:2355:C:H1'	43:R0:39:ARG:HH21	1.56	0.70
22:RA:1496:A:H8	22:RA:1577:C:HO2'	1.39	0.70
28:RH:106:THR:HG22	28:RH:112:PRO:HB3	1.72	0.70
1:XA:1315:U:H2'	1:XA:1316:G:O4'	1.92	0.70
1:XA:962:C:H2'	1:XA:963:G:H8	1.55	0.70
18:XR:58:LEU:HD23	18:XR:62:GLU:HB3	1.74	0.70
22:YA:1184:G:OP1	46:Y3:29:ARG:NH1	2.24	0.70
39:YW:17:VAL:HG12	39:YW:76:VAL:HG11	1.72	0.70
22:RA:141:A:H8	22:RA:1595:G:H21	1.38	0.70
22:RA:2287:A:H62	22:RA:2344:U:H3	1.39	0.70
22:RA:923:C:H2'	22:RA:924:C:H6	1.56	0.70
1:XA:113:G:H1	1:XA:314:C:H42	1.37	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1446:C:H42	22:YA:1465:G:H1	1.38	0.70
24:YD:43:ARG:HB3	24:YD:54:ARG:HB2	1.74	0.70
13:XM:8:GLU:OE2	27:YG:115:ARG:NH1	2.24	0.70
1:QA:1226:C:H4'	19:QS:80:TYR:CZ	2.25	0.70
1:QA:337:C:H2'	1:QA:338:A:C8	2.25	0.70
22:RA:2444:G:OP2	26:RF:68:LYS:HE3	1.91	0.70
1:XA:686:U:H1'	11:XK:42:TRP:HE1	1.55	0.70
14:YN:48:ALA:HB2	14:YN:53:LEU:HD12	1.73	0.70
22:RA:1899:G:H21	22:RA:1902:C:N4	1.90	0.70
22:RA:2418:A:OP2	51:R8:29:LYS:HE2	1.92	0.70
22:RA:694:U:N3	22:RA:768:G:O6	2.17	0.70
24:RD:93:ALA:HB3	24:RD:105:ILE:HG22	1.74	0.70
25:RE:119:ARG:HB3	25:RE:120:TRP:CD1	2.27	0.70
2:XB:185:ILE:HG22	2:XB:199:TYR:HB2	1.74	0.70
22:YA:1794:U:H2'	22:YA:1795:C:H6	1.56	0.70
26:YF:185:ASP:HA	26:YF:188:ARG:HD3	1.72	0.70
1:XA:339:C:OP2	31:YO:97:ARG:NH1	2.25	0.70
22:YA:2470:G:H5'	33:YQ:56:ARG:NH2	2.05	0.70
43:R0:23:VAL:HG13	43:R0:38:VAL:HG22	1.74	0.69
22:RA:1769:G:O2'	22:RA:1958:C:OP1	2.10	0.69
29:YI:77:LEU:HD22	29:YI:101:LEU:HG	1.74	0.69
1:QA:1051:C:O2	1:QA:1207:G:N2	2.19	0.69
22:RA:1310:G:H1	22:RA:1604:C:H42	1.39	0.69
4:XD:105:VAL:HG13	4:XD:110:PHE:HB2	1.74	0.69
47:R4:18:CYS:SG	47:R4:19:GLY:N	2.66	0.69
1:XA:976:G:N2	1:XA:1362(A):C:OP2	2.25	0.69
1:XA:474:G:H2'	1:XA:475:G:H8	1.57	0.69
13:XM:7:VAL:CG2	27:YG:113:ARG:O	2.40	0.69
29:YI:9:LEU:HD21	29:YI:12:LEU:HB2	1.74	0.69
10:QJ:48:THR:HA	10:QJ:62:HIS:HB3	1.73	0.69
1:XA:971:G:N2	1:XA:1363:A:OP2	2.24	0.69
19:XS:10:PHE:HB2	19:XS:39:THR:H	1.54	0.69
22:YA:2308:G:H22	22:YA:2311:A:H2	1.41	0.69
26:YF:182:ASN:ND2	26:YF:185:ASP:OD2	2.19	0.69
22:RA:1543:A:H1'	22:RA:1545:A:O4'	1.91	0.69
22:RA:2392:A:OP2	22:RA:2422:A:N6	2.26	0.69
42:RZ:69:THR:HG22	42:RZ:90:VAL:HA	1.73	0.69
42:RZ:74:VAL:HG13	42:RZ:86:VAL:HG22	1.75	0.69
1:XA:1132:C:H2'	1:XA:1133:G:H8	1.56	0.69
6:XF:68:PRO:HG2	6:XF:71:ARG:HG3	1.75	0.69
24:YD:182:LEU:H	24:YD:272:ALA:HB3	1.56	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:YI:93:THR:HG22	29:YI:119:PRO:HB3	1.75	0.69
1:QA:1322:C:O2'	1:QA:1323:G:H5'	1.93	0.69
47:R4:7:PRO:HB2	47:R4:27:THR:HG21	1.74	0.69
20:XT:100:ILE:HG13	20:XT:102:GLY:H	1.56	0.69
24:YD:71:ASP:HB2	24:YD:103:ARG:HH22	1.58	0.69
26:YF:110:LEU:HD11	26:YF:181:LEU:HD13	1.74	0.69
1:XA:136:C:H42	1:XA:227:G:H1	1.39	0.69
1:XA:601:C:H2'	1:XA:602:A:C8	2.27	0.69
29:YI:128:LEU:HD23	29:YI:140:LEU:HD21	1.75	0.69
48:R5:41:PRO:O	48:R5:44:THR:OG1	2.11	0.69
22:RA:265:A:N6	22:RA:427:U:O2'	2.25	0.69
1:XA:243:A:H4'	1:XA:244:U:O5'	1.93	0.69
49:Y6:11:LEU:HD11	49:Y6:51:GLU:HG3	1.75	0.69
22:YA:2331:G:H4'	43:Y0:43:THR:H	1.58	0.69
26:YF:184:TYR:O	26:YF:188:ARG:HG3	1.93	0.69
43:R0:56:ASP:OD2	43:R0:58:THR:N	2.20	0.69
22:RA:392:C:H5''	22:RA:409:C:H5''	1.75	0.69
23:RB:5:C:OP1	23:RB:61:G:O2'	2.10	0.69
25:YE:128:SER:OG	25:YE:129:HIS:N	2.24	0.69
22:RA:2093:G:N2	22:RA:2196:C:O2	2.24	0.69
33:RQ:37:LEU:HD21	33:RQ:130:LYS:HE3	1.74	0.69
39:RW:29:LEU:HG	39:RW:33:ARG:HD2	1.74	0.69
42:RZ:60:GLU:HA	42:RZ:66:SER:HA	1.75	0.69
22:YA:443:A:H3'	26:YF:45:ARG:NH1	2.08	0.69
26:YF:157:VAL:HB	26:YF:194:MET:HB3	1.75	0.69
22:RA:2445:G:OP1	26:RF:74:ARG:NH2	2.26	0.68
24:RD:25:THR:O	24:RD:27:THR:N	2.26	0.68
25:RE:2:LYS:HD3	25:RE:95:ILE:HG22	1.75	0.68
28:RH:86:GLU:HG3	28:RH:165:ALA:H	1.56	0.68
1:XA:601:C:H2'	1:XA:602:A:H8	1.57	0.68
22:YA:2781:A:H5''	22:YA:2782:G:H5'	1.75	0.68
22:YA:521:G:H2'	22:YA:522:G:H8	1.58	0.68
32:YP:64:LYS:C	32:YP:66:GLY:H	1.96	0.68
22:RA:1403:C:H5''	22:RA:1471:A:H1'	1.75	0.68
22:RA:2889:C:H3'	22:RA:2891:G:H8	1.58	0.68
1:XA:978:A:OP2	1:XA:1362(A):C:N4	2.25	0.68
44:Y1:73:LEU:HD13	44:Y1:90:ILE:HG22	1.76	0.68
22:RA:1266:G:O5'	39:RW:15:ARG:NH2	2.26	0.68
53:XV:4:G:O2'	53:XV:5:G:H8	1.76	0.68
3:QC:3:ASN:OD1	3:QC:3:ASN:N	2.27	0.68
1:XA:977:A:H8	1:XA:1223:C:N3	1.91	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1065:U:O2'	1:QA:1066:C:OP2	2.11	0.68
22:RA:1048:A:H2	22:RA:1112:G:H21	1.40	0.68
27:RG:47:LYS:HD3	27:RG:81:LYS:HB2	1.76	0.68
27:RG:66:GLN:NE2	27:RG:93:THR:O	2.26	0.68
1:XA:501:C:H2'	1:XA:502:G:H8	1.56	0.68
1:XA:547:A:OP1	4:XD:73:ARG:NH2	2.25	0.68
22:YA:1689:A:H62	22:YA:1698:A:H2	1.41	0.68
22:YA:458:G:O2'	22:YA:469:G:O6	2.11	0.68
36:YT:123:GLN:O	36:YT:125:ARG:N	2.26	0.68
1:QA:108:G:H5''	1:QA:109:A:H5''	1.74	0.68
5:QE:11:ILE:HG13	5:QE:31:LEU:HB3	1.76	0.68
13:QM:8:GLU:OE2	27:RG:115:ARG:HD3	1.93	0.68
1:XA:1129:C:O2'	1:XA:1131:G:N7	2.27	0.68
2:XB:235:SER:OG	2:XB:236:TYR:N	2.25	0.68
22:YA:2698:U:H2'	22:YA:2699:C:C6	2.29	0.68
24:YD:25:THR:O	24:YD:27:THR:N	2.26	0.68
16:QP:4:ILE:HG12	16:QP:21:VAL:HG12	1.75	0.68
34:RR:38:VAL:HG22	34:RR:112:ALA:HB2	1.75	0.68
1:XA:24:U:H2'	1:XA:25:C:H6	1.59	0.68
14:YN:13:THR:N	14:YN:14:PRO:HD2	2.09	0.68
25:YE:95:ILE:HD12	25:YE:95:ILE:H	1.59	0.68
11:QK:58:PRO:HB2	11:QK:93:GLN:HG3	1.75	0.68
22:RA:2602:A:N6	53:QV:76:A:H2'	2.09	0.68
22:RA:819:A:OP2	22:RA:1187:G:N2	2.27	0.68
33:RQ:12:GLN:HG2	33:RQ:73:PRO:HD2	1.75	0.68
22:YA:2753:A:O2'	52:Y9:15:LYS:NZ	2.27	0.68
24:YD:142:VAL:HG23	24:YD:193:VAL:HA	1.75	0.68
32:YP:64:LYS:C	32:YP:66:GLY:N	2.48	0.68
33:YQ:37:LEU:HD21	33:YQ:130:LYS:HE3	1.74	0.68
22:RA:2120:G:H2'	22:RA:2121:G:C8	2.29	0.68
30:YN:133:GLN:HB2	30:YN:135:PRO:HD3	1.76	0.68
1:QA:552:U:O2'	12:QL:86:ARG:O	2.11	0.68
22:RA:2331:G:O2'	43:R0:43:THR:HG22	1.93	0.68
22:RA:754:C:H2'	22:RA:755:C:H6	1.59	0.68
32:YP:39:LYS:HG3	32:YP:45:LEU:HD22	1.75	0.68
22:RA:185:U:H2'	22:RA:186:G:C8	2.30	0.67
22:RA:2438:U:O3'	22:RA:2439:A:H3'	1.94	0.67
22:RA:923:C:H2'	22:RA:924:C:C6	2.28	0.67
27:RG:83:ARG:H	27:RG:86:MET:HG3	1.59	0.67
1:QA:346:G:OP1	36:RT:41:ARG:NH2	2.27	0.67
2:QB:27:LYS:HD2	2:QB:193:ASP:HB2	1.75	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1649:G:O2'	34:RR:107:ASP:OD1	2.07	0.67
22:YA:2582:G:N2	22:YA:2583:G:H1'	2.10	0.67
1:QA:1356:G:H2'	1:QA:1357:A:C8	2.28	0.67
1:QA:297:G:N2	1:QA:300:A:OP2	2.28	0.67
1:QA:376:G:H1	1:QA:387:U:H3	1.41	0.67
22:RA:1696:G:H21	22:RA:1978:A:H5'	1.58	0.67
28:RH:152:ARG:HG3	28:RH:153:LYS:HD2	1.77	0.67
51:Y8:29:LYS:O	51:Y8:31:HIS:N	2.27	0.67
22:YA:607:U:H3	22:YA:621:A:H2	1.43	0.67
1:QA:1053:G:H5'	1:QA:1054:C:H5'	1.75	0.67
4:QD:154:ASN:OD1	4:QD:154:ASN:N	2.26	0.67
19:QS:29:ARG:HD3	19:QS:30:LEU:HD13	1.77	0.67
22:RA:300:A:H2'	22:RA:334:C:H1'	1.75	0.67
8:XH:120:THR:H	8:XH:123:GLU:HB2	1.59	0.67
19:XS:40:ILE:HG12	19:XS:41:VAL:HG13	1.76	0.67
22:YA:1048:A:P	22:YA:1110:G:H22	2.17	0.67
22:YA:1270:C:H5''	22:YA:1271:G:H5'	1.77	0.67
22:YA:2757:A:OP1	52:Y9:19:ARG:HA	1.94	0.67
42:YZ:72:ARG:NH2	42:YZ:97:GLU:O	2.26	0.67
1:QA:983:A:N1	1:QA:1222:G:N2	2.43	0.67
24:RD:182:LEU:H	24:RD:272:ALA:HB3	1.59	0.67
28:RH:41:MET:HE1	28:RH:64:LEU:HD22	1.76	0.67
5:XE:31:LEU:HD23	5:XE:45:PHE:CD1	2.30	0.67
28:YH:137:ASP:OD1	28:YH:138:LYS:N	2.27	0.67
33:YQ:89:ASN:O	33:YQ:92:GLY:N	2.18	0.67
22:RA:270(I):G:H2'	22:RA:270(J):G:H8	1.60	0.67
23:RB:28:C:N3	23:RB:56:G:N1	2.29	0.67
38:RV:72:VAL:HG13	38:RV:85:LYS:HB3	1.75	0.67
1:XA:353:A:H8	1:XA:353:A:H5'	1.60	0.67
22:YA:2393:A:H5'	32:YP:62:LEU:HB3	1.77	0.67
25:YE:1:MET:N	25:YE:83:ASP:O	2.28	0.67
42:YZ:182:LYS:HG3	42:YZ:183:LEU:HA	1.76	0.67
1:XA:322:C:O2	1:XA:332:G:N2	2.28	0.67
2:XB:168:THR:HB	2:XB:192:SER:HB2	1.77	0.67
1:XA:973:G:OP1	10:XJ:57:LYS:NZ	2.27	0.67
22:YA:1665:A:H1'	31:YO:1:MET:HG3	1.76	0.67
36:YT:16:ARG:NH2	36:YT:83:ILE:O	2.27	0.67
24:RD:49:ILE:HD11	24:RD:52:ARG:HA	1.77	0.67
36:RT:84:GLN:HG2	36:RT:85:LYS:HG2	1.76	0.67
22:RA:138:G:N2	40:RX:44:GLU:OE2	2.24	0.67
2:XB:174:VAL:HG13	2:XB:184:VAL:HG11	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:27:G:N2	22:YA:512:G:O2'	2.28	0.67
22:YA:712:G:H1	22:YA:719:C:H42	1.43	0.67
34:YR:78:LYS:HE2	34:YR:83:ILE:HD11	1.77	0.67
38:YV:52:VAL:HG21	38:YV:55:ALA:HB3	1.76	0.67
22:RA:1139:G:O2'	22:RA:1143:A:N1	2.22	0.67
22:RA:1859:A:N6	22:RA:1883:G:O2'	2.28	0.67
22:RA:969:U:H2'	22:RA:970:C:C6	2.29	0.67
26:RF:143:ALA:HB1	26:RF:148:LEU:HB2	1.75	0.67
22:RA:252:G:OP2	32:RP:50:ARG:NH1	2.28	0.67
33:RQ:30:GLY:HA2	33:RQ:107:ALA:HB2	1.77	0.67
42:RZ:62:PRO:O	42:RZ:64:GLY:N	2.27	0.67
1:XA:266:G:H5''	1:XA:267:C:C5	2.29	0.67
5:XE:37:ARG:HA	5:XE:114:GLY:H	1.59	0.67
48:Y5:4:HIS:HB3	48:Y5:5:PRO:HD3	1.77	0.67
22:YA:27:G:O2'	22:YA:28:A:H8	1.76	0.67
22:YA:2294:C:OP2	35:YS:13:ARG:NH1	2.28	0.67
1:QA:1104:G:H4'	2:QB:111:ARG:NH1	2.09	0.66
1:QA:757:U:O2'	1:QA:879:C:O2	2.12	0.66
22:YA:2263:C:H2'	22:YA:2264:C:H6	1.59	0.66
24:YD:35:LYS:HG2	24:YD:64:ILE:H	1.59	0.66
22:RA:1041:C:H42	22:RA:1114:G:H1	1.43	0.66
22:RA:2655:G:N2	22:RA:2665:A:OP2	2.28	0.66
22:RA:2404:C:H1'	32:RP:67:MET:HE1	1.77	0.66
22:YA:1061:U:H3'	22:YA:1062:G:H5''	1.77	0.66
33:YQ:62:GLY:HA2	42:YZ:116:VAL:HG21	1.78	0.66
1:QA:946:A:O2'	1:QA:1333:A:N3	2.24	0.66
1:QA:405:U:O4	4:QD:2:GLY:N	2.28	0.66
22:YA:589:C:H2'	22:YA:590:A:C8	2.30	0.66
44:R1:7:ILE:HG12	44:R1:91:LYS:NZ	2.11	0.66
52:R9:27:CYS:SG	52:R9:29:ASN:ND2	2.69	0.66
22:RA:1019:U:H3	22:RA:1142(A):A:N6	1.90	0.66
1:XA:1008:C:H42	1:XA:1021:G:H1	1.41	0.66
10:XJ:7:LYS:HB2	10:XJ:97:GLU:HB2	1.76	0.66
22:YA:31:C:O3'	22:YA:1238:G:H5''	1.94	0.66
22:YA:1798:U:C5'	24:YD:259:THR:HG22	2.25	0.66
28:YH:86:GLU:HG3	28:YH:165:ALA:N	2.10	0.66
39:YW:45:TYR:CZ	39:YW:49:LYS:HD2	2.30	0.66
1:QA:411:A:H62	1:QA:413:G:H21	1.41	0.66
3:QC:70:VAL:HG12	3:QC:72:LYS:H	1.60	0.66
22:RA:848:G:H2'	22:RA:849:A:C8	2.31	0.66
1:XA:250:A:H4'	1:XA:251:G:O5'	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:XM:105:THR:O	13:XM:107:ALA:N	2.29	0.66
41:YY:49:VAL:O	41:YY:51:VAL:N	2.29	0.66
42:YZ:33:LEU:HD21	42:YZ:35:ARG:HD2	1.75	0.66
22:RA:1309:G:H4'	50:R7:7:PRO:HB2	1.78	0.66
1:XA:321:A:N6	1:XA:329:A:OP2	2.29	0.66
1:XA:651:C:H2'	1:XA:652:U:H6	1.60	0.66
41:YY:97:ARG:HE	41:YY:98:VAL:HB	1.61	0.66
19:QS:39:THR:HG22	19:QS:40:ILE:H	1.61	0.66
22:RA:2781:A:H5''	22:RA:2782:G:H5'	1.76	0.66
27:RG:6:ALA:H	47:R4:23:GLU:HG2	1.60	0.66
1:XA:940:C:H2'	1:XA:941:G:C8	2.31	0.66
22:YA:1167:U:H2'	22:YA:1168:G:H8	1.60	0.66
22:YA:1407:C:H42	22:YA:1595:G:H1	1.44	0.66
23:RB:8:U:H5'	35:RS:15:ARG:HH12	1.61	0.66
22:YA:758:C:O2'	22:YA:1981:A:N3	2.23	0.66
25:RE:63:LEU:HD13	25:RE:65:GLY:H	1.60	0.66
41:RY:49:VAL:O	41:RY:51:VAL:N	2.29	0.66
1:XA:880:C:OP1	12:XL:12:ARG:NH1	2.28	0.66
23:YB:15:A:H5'	23:YB:16:G:H8	1.61	0.66
30:YN:35:ARG:O	30:YN:37:LYS:N	2.29	0.66
32:YP:105:LEU:O	32:YP:106:LEU:HB2	1.95	0.66
1:QA:975:A:H4'	1:QA:976:G:H5''	1.79	0.66
1:QA:1128:C:OP1	9:QI:66:ARG:NH2	2.27	0.66
22:RA:414:C:O2	22:RA:1864:U:O2'	2.13	0.66
22:RA:2065:C:H1'	22:RA:2449:U:H3	1.61	0.66
33:RQ:135:ASP:OD1	33:RQ:135:ASP:N	2.23	0.66
36:RT:102:ILE:HB	36:RT:110:ILE:HD13	1.78	0.66
1:XA:1060:C:C4	3:XC:2:GLY:HA2	2.31	0.66
1:XA:403:C:OP1	4:XD:137:SER:OG	2.13	0.66
19:XS:50:ALA:HB1	19:XS:57:HIS:HB3	1.77	0.66
22:YA:2612:C:H2'	22:YA:2613:U:H5'	1.77	0.66
1:XA:1356:G:H2'	1:XA:1357:A:C8	2.31	0.65
22:YA:1061:U:H4'	22:YA:1070:A:H1'	1.76	0.65
38:YV:21:ARG:HD2	38:YV:91:TYR:CD1	2.31	0.65
1:QA:35:G:O2'	12:QL:118:SER:O	2.14	0.65
22:RA:1409:C:H42	22:RA:1593:G:H1	1.44	0.65
22:RA:1444(A):A:H4'	22:RA:1460:A:O2'	1.95	0.65
22:RA:1657:C:H2'	22:RA:1658:C:C6	2.30	0.65
1:XA:1218:C:H2'	1:XA:1219:U:C6	2.31	0.65
1:QA:1286:A:H8	1:QA:1287:A:H4'	1.61	0.65
1:QA:501:C:H2'	1:QA:502:G:H8	1.60	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QB:82:ARG:HA	2:QB:92:TYR:CE2	2.31	0.65
22:RA:1854:A:H62	22:RA:1888:G:H8	1.42	0.65
24:RD:108:PRO:HG2	24:RD:111:LEU:HG	1.78	0.65
24:RD:27:THR:HG21	24:RD:81:ALA:HB1	1.78	0.65
29:RI:77:LEU:HD21	29:RI:97:ILE:HG22	1.78	0.65
1:XA:1366:C:H2'	1:XA:1367:C:H6	1.61	0.65
44:Y1:29:GLY:O	44:Y1:31:GLY:N	2.30	0.65
36:YT:16:ARG:HD3	36:YT:19:LEU:HD11	1.77	0.65
1:QA:1318:A:H4'	19:QS:11:VAL:HG11	1.77	0.65
22:RA:1939:U:OP1	22:RA:2604:U:O2'	2.14	0.65
32:RP:59:LEU:HA	32:RP:61:ARG:NE	2.12	0.65
48:Y5:40:LYS:HZ1	48:Y5:48:GLU:HB2	1.61	0.65
42:YZ:30:ASN:HD22	42:YZ:90:VAL:HB	1.61	0.65
1:QA:1175:G:H2'	1:QA:1176:A:H8	1.60	0.65
47:R4:1:MET:SD	47:R4:6:HIS:NE2	2.69	0.65
49:R6:11:LEU:HD23	49:R6:26:ASN:HB3	1.78	0.65
29:RI:109:ILE:HB	29:RI:130:TYR:OH	1.96	0.65
1:XA:1280:A:O2'	1:XA:1281:U:OP1	2.14	0.65
1:XA:392:G:H2'	1:XA:393:A:C8	2.31	0.65
22:YA:1952:A:C2	31:YO:22:ILE:HG23	2.31	0.65
37:YU:8:VAL:HG23	37:YU:11:ARG:HH21	1.62	0.65
19:QS:28:LYS:HB2	19:QS:47:HIS:CE1	2.32	0.65
22:RA:1681:G:O2'	22:RA:1762:A:O2'	2.13	0.65
1:XA:412:A:H4'	1:XA:413:G:O5'	1.95	0.65
11:XK:21:ILE:HB	11:XK:84:VAL:HG12	1.77	0.65
45:Y2:50:ILE:HD12	45:Y2:51:ARG:H	1.62	0.65
22:YA:2227:A:H5''	24:YD:263:ARG:NH1	2.11	0.65
1:QA:1513:A:H2'	1:QA:1514:C:C6	2.32	0.65
16:QP:53:VAL:HG12	16:QP:79:VAL:HG22	1.77	0.65
22:RA:1833:U:O2'	22:RA:1969:A:N1	2.26	0.65
41:RY:38:ILE:HG22	41:RY:66:PRO:HA	1.79	0.65
2:XB:178:ARG:NH1	2:XB:196:LEU:O	2.28	0.65
22:YA:2023:G:H5'	22:YA:2617:C:H4'	1.78	0.65
28:YH:20:ALA:HB3	28:YH:23:ARG:HG2	1.77	0.65
22:RA:1204:A:H2	22:RA:1241:A:N1	1.93	0.65
22:RA:1278:A:H2'	22:RA:1279:G:C8	2.31	0.65
22:RA:404:C:O2'	22:RA:405:U:OP2	2.15	0.65
29:RI:73:GLU:HG3	29:RI:136:VAL:HG23	1.78	0.65
1:XA:1125:U:OP2	1:XA:1145:C:N4	2.29	0.65
20:XT:97:ALA:O	20:XT:99:LEU:N	2.30	0.65
22:YA:1049:C:H2'	22:YA:1050:A:H5''	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:QC:9:GLY:HA2	3:QC:12:LEU:HD23	1.78	0.65
32:RP:71:VAL:HG13	32:RP:72:PRO:HD3	1.78	0.65
22:YA:589:C:H2'	22:YA:590:A:H8	1.62	0.65
29:YI:113:ARG:HB3	29:YI:131:LYS:HD3	1.78	0.65
1:QA:1395:C:O2'	1:QA:1401:G:O2'	2.15	0.65
48:R5:58:LEU:HD13	48:R5:60:VAL:HG12	1.77	0.65
23:RB:33:G:H5'	27:RG:2:PRO:HG3	1.78	0.65
32:RP:47:ASP:OD1	32:RP:50:ARG:NH2	2.30	0.65
32:RP:85:LEU:HA	32:RP:88:LEU:HD22	1.79	0.65
19:XS:5:LEU:CD1	47:Y4:66:SER:HA	2.27	0.65
22:YA:2133:G:H1'	22:YA:2158:A:H61	1.62	0.65
22:YA:2787:C:HO2'	22:YA:2810:A:HO2'	1.42	0.65
22:YA:2818:G:HO2'	22:YA:2836:U:HO2'	1.44	0.65
24:YD:80:ALA:HB3	24:YD:94:LEU:HD13	1.79	0.65
13:QM:3:ARG:HD2	13:QM:9:ILE:HG12	1.79	0.64
43:R0:36:ILE:HD11	43:R0:39:ARG:HG2	1.79	0.64
22:RA:592:G:H1	22:RA:665:C:H42	1.45	0.64
1:XA:1023:G:H3'	1:XA:1024:G:H5''	1.78	0.64
13:XM:77:ASN:OD1	47:Y4:71:ARG:NH1	2.30	0.64
48:Y5:56:LYS:HD2	48:Y5:56:LYS:H	1.60	0.64
22:YA:1485:G:O6	22:YA:1504:C:N4	2.20	0.64
22:YA:1535:U:H5''	22:YA:1537:C:C4	2.31	0.64
22:YA:1930:G:H2'	22:YA:1968:G:C6	2.32	0.64
24:YD:44:ASN:HB3	24:YD:49:ILE:HA	1.78	0.64
26:YF:107:LYS:HD2	26:YF:207:GLY:H	1.62	0.64
23:YB:56:G:H5'	27:YG:27:ASN:HD21	1.62	0.64
28:YH:153:LYS:HG3	28:YH:161:GLY:HA2	1.79	0.64
22:RA:2355:C:H4'	43:R0:24:LYS:HG3	1.79	0.64
22:RA:630:G:N2	22:RA:633:A:OP2	2.30	0.64
31:RO:4:PRO:O	31:RO:5:GLN:HB2	1.96	0.64
1:XA:1221:G:O3'	19:XS:77:THR:HG21	1.98	0.64
3:XC:122:GLU:OE1	3:XC:126:ARG:NH2	2.29	0.64
22:YA:1048:A:OP2	22:YA:1110:G:N2	2.30	0.64
22:YA:995:C:H5''	37:YU:54:LYS:HG2	1.79	0.64
1:QA:1123:A:H4'	10:QJ:36:GLY:HA3	1.79	0.64
22:RA:587:C:OP2	32:RP:21:ARG:NH2	2.29	0.64
42:RZ:17:ALA:HA	42:RZ:20:ARG:HB2	1.78	0.64
22:YA:2115:G:N2	22:YA:2164:C:OP2	2.30	0.64
22:YA:2068:U:H3	22:YA:2430:A:H2	1.43	0.64
22:YA:2494:G:H2'	22:YA:2495:G:H8	1.62	0.64
29:YI:92:VAL:HG13	29:YI:120:ILE:HG23	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:YU:88:ILE:HG22	37:YU:90:VAL:HG23	1.79	0.64
10:QJ:77:PRO:O	10:QJ:79:ARG:NH1	2.30	0.64
22:RA:1370:C:O2'	22:RA:1811:G:O2'	2.14	0.64
24:RD:35:LYS:HG2	24:RD:64:ILE:N	2.12	0.64
22:YA:128:C:H4'	50:Y7:49:ARG:HH12	1.62	0.64
22:YA:2145:C:O2	22:YA:2147:G:N2	2.29	0.64
22:YA:2343:C:O2'	22:YA:2373:G:O2'	2.16	0.64
28:YH:153:LYS:HB3	28:YH:162:ILE:H	1.63	0.64
1:QA:1179:A:O3'	9:QI:103:THR:HG23	1.97	0.64
1:QA:405:U:OP1	1:QA:406:G:O2'	2.12	0.64
22:RA:1020:A:N6	22:RA:1141:U:O2'	2.29	0.64
22:RA:1138:G:H21	30:RN:106:MET:HE3	1.61	0.64
22:RA:345:A:H2'	22:RA:347:A:H62	1.60	0.64
1:XA:910:C:P	12:XL:97:ARG:HH22	2.21	0.64
15:XO:26:GLU:OE2	15:XO:77:ARG:NH1	2.31	0.64
22:YA:1499:C:H2'	22:YA:1500:G:C8	2.33	0.64
22:YA:2693:A:H2'	22:YA:2694:G:H8	1.62	0.64
24:YD:30:GLU:HG3	24:YD:63:ARG:NH2	2.12	0.64
33:YQ:78:PRO:O	33:YQ:79:LEU:HB2	1.97	0.64
10:QJ:53:PRO:HA	14:QN:42:ILE:HD12	1.79	0.64
24:RD:65:ILE:HD11	24:RD:67:PHE:CE1	2.31	0.64
24:RD:8:PRO:HB3	24:RD:14:ARG:HB2	1.79	0.64
1:XA:1004:A:H1'	1:XA:1036:G:H1	1.62	0.64
1:XA:1129:C:H4'	1:XA:1130:A:H5'	1.80	0.64
1:XA:129(A):G:H1'	1:XA:190:G:H5''	1.80	0.64
53:XV:23:C:H2'	53:XV:24:U:C6	2.32	0.64
19:XS:5:LEU:HD11	47:Y4:66:SER:C	2.18	0.64
22:YA:593:G:O4'	51:Y8:4:MET:HE1	1.97	0.64
22:YA:1020:A:N6	22:YA:1141:U:O2'	2.29	0.64
25:YE:9:VAL:HB	25:YE:25:VAL:HG23	1.80	0.64
42:YZ:17:ALA:HA	42:YZ:20:ARG:HB2	1.79	0.64
1:QA:370:C:H2'	1:QA:371:G:C8	2.33	0.64
1:QA:738:C:OP2	6:QF:92:LYS:NZ	2.29	0.64
22:RA:1043:C:H42	22:RA:1112:G:H1	1.43	0.64
22:RA:1728:G:H3'	22:RA:1729:A:H5''	1.78	0.64
26:RF:192:LEU:HD22	26:RF:194:MET:HG2	1.80	0.64
29:RI:98:ALA:HB2	29:RI:111:PRO:HB3	1.79	0.64
1:XA:191:G:O2'	20:XT:101:GLY:O	2.16	0.64
42:YZ:182:LYS:H	42:YZ:183:LEU:HB2	1.62	0.64
1:QA:1238:A:H62	1:QA:1299:A:N6	1.96	0.64
5:QE:11:ILE:HD11	5:QE:31:LEU:HD12	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:750:G:N2	15:QO:23:GLY:O	2.30	0.64
22:RA:2306:C:H3'	22:RA:2307:G:H5''	1.80	0.64
24:RD:35:LYS:HG2	24:RD:64:ILE:H	1.63	0.64
34:RR:104:ARG:HD3	34:RR:109:ALA:HB3	1.79	0.64
37:RU:90:VAL:O	37:RU:92:ARG:N	2.30	0.64
22:YA:1069:A:H4'	22:YA:1070:A:H5''	1.80	0.64
34:YR:51:LEU:HD13	34:YR:66:VAL:HG13	1.79	0.64
1:QA:1122:U:O4	1:QA:1123:A:N6	2.30	0.64
2:QB:5:ILE:HG21	2:QB:221:LEU:HD23	1.78	0.64
22:RA:2734:A:H2'	22:RA:2735:G:O4'	1.97	0.64
33:RQ:17:LEU:HD21	33:RQ:41:TRP:CD1	2.33	0.64
8:XH:7:ALA:HB2	8:XH:85:ARG:HD3	1.80	0.64
22:YA:1129:A:N6	22:YA:2491:U:OP1	2.31	0.64
22:YA:2599:G:OP2	24:YD:236:GLY:HA2	1.98	0.64
22:YA:602:G:O2'	22:YA:604:G:O2'	2.15	0.64
1:QA:1443:G:N2	36:RT:119:LYS:HB2	2.13	0.64
47:R4:48:ARG:O	47:R4:50:VAL:N	2.31	0.64
22:RA:300:A:H1'	22:RA:319:C:H1'	1.80	0.64
22:RA:984:A:H5''	22:RA:985:C:C5	2.33	0.64
29:RI:77:LEU:HB2	29:RI:104:GLN:HE22	1.62	0.64
22:RA:137(A):G:H1'	40:RX:41:ASN:ND2	2.13	0.64
1:XA:1029:G:O2'	1:XA:1032(A):G:N2	2.31	0.64
1:XA:501:C:H2'	1:XA:502:G:C8	2.31	0.64
1:XA:561:U:O2'	1:XA:562:C:OP2	2.16	0.64
1:XA:881:G:P	12:XL:12:ARG:HH22	2.20	0.64
2:XB:187:LEU:HA	2:XB:201:ILE:HB	1.78	0.64
3:XC:19:GLU:O	3:XC:40:ARG:NH2	2.30	0.64
22:YA:309:G:N3	22:YA:329:G:O2'	2.31	0.64
22:YA:577:G:O2'	22:YA:1254:A:OP1	2.15	0.64
36:YT:36:GLU:HG3	36:YT:41:ARG:HE	1.62	0.64
44:R1:29:GLY:O	44:R1:31:GLY:N	2.29	0.63
22:RA:270(R):G:H2'	22:RA:270(S):G:C8	2.33	0.63
28:RH:88:LEU:HD11	28:RH:165:ALA:HB2	1.80	0.63
40:RX:43:VAL:HG13	40:RX:51:VAL:HG21	1.79	0.63
1:XA:686:U:O4	1:XA:703:G:H1'	1.97	0.63
3:XC:11:ARG:O	3:XC:13:GLY:N	2.30	0.63
27:YG:112:PRO:HB3	47:Y4:37:SER:HB2	1.80	0.63
24:YD:35:LYS:NZ	24:YD:64:ILE:O	2.31	0.63
10:QJ:4:ILE:HB	10:QJ:74:ILE:HG13	1.81	0.63
22:RA:1022:G:O2'	22:RA:1023:U:OP2	2.16	0.63
45:Y2:41:ILE:HD11	45:Y2:44:LEU:HG	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:XS:42:PRO:HB3	47:Y4:60:GLN:OE1	1.98	0.63
22:YA:2025:C:H2'	22:YA:2026:C:H6	1.62	0.63
32:YP:58:THR:HG22	32:YP:61:ARG:HG3	1.80	0.63
35:YS:59:LYS:HD3	35:YS:60:GLY:H	1.62	0.63
42:YZ:102:LEU:HD21	42:YZ:124:ILE:HG13	1.80	0.63
1:QA:438:G:N2	1:QA:495:A:OP2	2.27	0.63
1:QA:718:G:OP2	1:QA:720:C:N4	2.31	0.63
2:QB:24:TRP:HD1	2:QB:24:TRP:H	1.46	0.63
12:QL:7:ILE:HG21	17:QQ:34:LYS:HB2	1.80	0.63
22:RA:1378:A:HO2'	22:RA:1379:A:P	2.19	0.63
22:RA:873:G:H1	22:RA:904:C:H42	1.44	0.63
29:RI:94:ALA:H	29:RI:116:LEU:HD13	1.63	0.63
1:XA:1305:G:H5'	21:XU:4:GLY:HA3	1.80	0.63
1:XA:258:G:H2'	1:XA:259:G:H8	1.63	0.63
1:XA:777:A:H2'	1:XA:778:G:C8	2.34	0.63
51:Y8:16:ILE:HD13	51:Y8:57:ARG:HG2	1.80	0.63
22:YA:1437:C:HO2'	22:YA:1518:C:HO2'	1.44	0.63
22:YA:1674:G:N2	22:YA:1677:A:N1	2.46	0.63
1:QA:1141:C:H2'	1:QA:1142:G:H8	1.63	0.63
1:QA:165:C:H2'	1:QA:166:G:H8	1.63	0.63
4:QD:7:PRO:HB2	4:QD:10:ARG:HD2	1.81	0.63
45:R2:65:ASN:HB3	45:R2:69:ARG:HH22	1.61	0.63
22:RA:1474:C:N4	22:RA:1519:G:H1	1.95	0.63
35:RS:26:LEU:HB3	35:RS:87:PHE:HA	1.81	0.63
19:QS:40:ILE:HG23	19:QS:41:VAL:HG22	1.79	0.63
22:RA:1467:C:H42	22:RA:1525:G:H1	1.46	0.63
22:RA:1999:C:O2	22:RA:2687:U:O2'	2.16	0.63
34:RR:33:ARG:HG3	34:RR:115:GLU:HB3	1.79	0.63
37:RU:66:ASN:O	37:RU:70:ARG:HB2	1.98	0.63
42:RZ:52:SER:O	42:RZ:52:SER:OG	2.15	0.63
1:XA:67:C:H2'	1:XA:68:G:H8	1.63	0.63
5:XE:98:THR:HB	5:XE:117:ASP:HB3	1.79	0.63
47:Y4:23:GLU:O	47:Y4:25:TYR:N	2.31	0.63
47:Y4:48:ARG:O	47:Y4:50:VAL:N	2.31	0.63
39:YW:41:LYS:HE3	48:Y5:25:LEU:HD21	1.80	0.63
22:YA:2632:A:O2'	22:YA:2811:G:O2'	2.09	0.63
22:YA:404:C:O2'	22:YA:405:U:OP2	2.13	0.63
41:YY:91:GLU:HG3	41:YY:92:ASN:H	1.63	0.63
1:QA:1053:G:H2'	1:QA:1199:U:H5	1.64	0.63
22:RA:1245:G:OP1	32:RP:13:ASN:ND2	2.32	0.63
22:RA:27:G:O2'	22:RA:28:A:H8	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1321:C:H3'	1:XA:1322:C:H5''	1.79	0.63
1:XA:406:G:H5'	4:XD:5:ILE:HD13	1.81	0.63
1:XA:429:U:H1'	1:XA:430:A:H5''	1.80	0.63
2:XB:79:ASP:HA	2:XB:82:ARG:HB2	1.81	0.63
5:XE:147:ASP:O	5:XE:151:LEU:HG	1.97	0.63
13:XM:91:ARG:HB2	13:XM:98:VAL:HG13	1.80	0.63
50:Y7:9:ARG:HH21	50:Y7:48:LYS:HD2	1.63	0.63
22:YA:1899:G:N2	22:YA:1902:C:H41	1.97	0.63
22:YA:2151:G:H2'	22:YA:2152:G:C8	2.33	0.63
22:YA:774:A:H2	22:YA:787:U:HO2'	1.45	0.63
23:YB:116:G:H4'	35:YS:54:LEU:HD13	1.81	0.63
24:YD:25:THR:HG23	24:YD:27:THR:HB	1.80	0.63
24:YD:35:LYS:HG2	24:YD:64:ILE:N	2.13	0.63
28:YH:83:TYR:CZ	28:YH:138:LYS:HD2	2.34	0.63
32:YP:13:ASN:O	32:YP:15:ARG:N	2.32	0.63
37:YU:83:LEU:HD12	37:YU:113:ALA:HB2	1.79	0.63
22:RA:1839:G:C8	22:RA:1927:A:H1'	2.34	0.63
22:RA:676:A:H2	22:RA:802:A:H61	1.45	0.63
32:RP:95:VAL:HG13	32:RP:100:LEU:HD21	1.80	0.63
1:XA:1152:A:H2'	1:XA:1153:C:H6	1.63	0.63
22:YA:2502:G:H5''	22:YA:2503:A:H5''	1.79	0.63
53:QV:16:C:O2'	53:QV:61:C:OP1	2.17	0.63
22:RA:1980:G:O2'	22:RA:1982:C:OP2	2.15	0.63
22:RA:815:C:H2'	22:RA:816:C:H6	1.63	0.63
22:RA:861:A:H62	22:RA:916:G:H21	1.46	0.63
13:XM:23:TYR:HB3	13:XM:67:GLU:HA	1.81	0.63
49:Y6:41:PRO:HG2	49:Y6:45:LYS:H	1.63	0.63
31:YO:13:ASN:ND2	31:YO:96:THR:O	2.30	0.63
1:QA:1068:G:N3	1:QA:1191:A:H2	1.95	0.63
1:QA:620:C:C2	4:QD:135:LEU:HG	2.34	0.63
1:QA:196:A:OP1	20:QT:68:LYS:NZ	2.30	0.63
22:RA:141:A:N6	22:RA:1595:G:O2'	2.32	0.63
30:RN:133:GLN:HB2	30:RN:135:PRO:HD3	1.79	0.63
41:RY:51:VAL:HG13	41:RY:52:SER:H	1.64	0.63
1:XA:826:C:H2'	1:XA:827:U:O2	1.99	0.63
22:YA:1882:C:H5'	22:YA:1883:G:OP2	1.99	0.63
22:YA:620:G:H4'	22:YA:621:A:C5'	2.28	0.63
28:YH:152:ARG:HG3	28:YH:153:LYS:HD2	1.81	0.63
1:QA:1133:G:H2'	1:QA:1134:G:H8	1.63	0.62
8:QH:10:LEU:HD22	8:QH:83:ILE:HD11	1.80	0.62
22:RA:2870:C:H5''	34:RR:65:LEU:HD21	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:993:G:OP1	37:RU:50:ARG:NH2	2.32	0.62
30:RN:13:TRP:HB2	30:RN:133:GLN:HG3	1.81	0.62
1:XA:346:G:H1'	1:XA:347:G:H5'	1.81	0.62
9:XI:24:GLY:N	9:XI:60:ASP:OD1	2.29	0.62
13:XM:68:GLY:HA3	27:YG:116:ASP:OD2	1.98	0.62
22:YA:2469:A:H2	22:YA:2481:G:H21	1.47	0.62
22:YA:571:A:H5'	22:YA:2030:A:N6	2.07	0.62
28:YH:26:VAL:HG11	28:YH:75:ALA:HB1	1.81	0.62
42:YZ:45:ASP:CG	42:YZ:49:ARG:HE	2.02	0.62
1:QA:619:U:N3	4:QD:134:ASP:OD2	2.32	0.62
22:RA:185:U:H2'	22:RA:186:G:H8	1.62	0.62
22:RA:2327:A:H2'	22:RA:2328:A:C8	2.33	0.62
35:RS:15:ARG:HH11	35:RS:25:ARG:HH21	1.44	0.62
1:XA:1126:U:H1'	1:XA:1280:A:C5	2.34	0.62
10:XJ:32:ALA:HB3	10:XJ:76:ASN:HB2	1.79	0.62
22:YA:1441:G:H2'	22:YA:1442:G:H8	1.64	0.62
22:YA:2822:G:H2'	22:YA:2823:A:H5''	1.80	0.62
42:YZ:9:TYR:CE2	42:YZ:35:ARG:HD3	2.25	0.62
7:QG:155:ARG:HD3	7:QG:155:ARG:H	1.65	0.62
22:RA:2610:C:H4'	22:RA:2611:U:OP2	1.98	0.62
25:RE:119:ARG:HG2	25:RE:160:TYR:HB2	1.80	0.62
26:RF:12:LEU:HD12	26:RF:17:ARG:HG2	1.80	0.62
2:XB:212:GLN:NE2	2:XB:235:SER:HB2	2.15	0.62
22:YA:229:A:OP1	22:YA:229:A:H4'	2.00	0.62
43:R0:56:ASP:OD2	43:R0:57:PHE:N	2.32	0.62
44:R1:7:ILE:HG12	44:R1:91:LYS:HZ1	1.61	0.62
22:RA:2537:U:H2'	22:RA:2538:C:C6	2.35	0.62
22:RA:2680:C:H5'	25:RE:189:PRO:HA	1.80	0.62
22:RA:2760:C:H2'	22:RA:2761:G:H5''	1.81	0.62
22:RA:670:A:H4'	22:RA:671:C:H5''	1.80	0.62
22:RA:805:G:N2	22:RA:829:A:OP1	2.33	0.62
1:XA:1502:A:H2	1:XA:1505:G:H22	1.45	0.62
1:XA:735:C:H2'	1:XA:736:C:H6	1.64	0.62
2:XB:12:GLU:O	2:XB:16:HIS:ND1	2.21	0.62
2:XB:92:TYR:CE1	2:XB:151:GLY:HA3	2.35	0.62
22:YA:1423:G:H2'	22:YA:1424:G:H8	1.65	0.62
27:YG:115:ARG:NH2	27:YG:137:GLU:OE1	2.33	0.62
27:YG:3:LEU:HD12	27:YG:4:ASP:H	1.64	0.62
1:QA:10:A:H2'	1:QA:11:G:H8	1.63	0.62
1:QA:1142:G:H3'	1:QA:1143:G:H8	1.65	0.62
1:QA:1448:C:H2'	1:QA:1449:C:H6	1.63	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1058:G:N2	22:RA:1080:C:O2	2.32	0.62
22:RA:2015:A:H1'	48:R5:2:ALA:HA	1.82	0.62
40:RX:53:LYS:HB2	40:RX:82:GLN:HB3	1.80	0.62
10:XJ:5:ARG:HH21	10:XJ:99:LYS:HD2	1.63	0.62
19:XS:13:ASP:N	19:XS:13:ASP:OD1	2.32	0.62
22:YA:273(C):C:N3	22:YA:363(C):G:N2	2.44	0.62
22:YA:2817:G:H21	22:YA:2836:U:H1'	1.65	0.62
26:YF:46:ARG:HG2	26:YF:46:ARG:HH11	1.65	0.62
36:YT:1:MET:O	36:YT:3:ARG:N	2.29	0.62
1:QA:1237:C:O2'	1:QA:1300:G:N2	2.23	0.62
11:QK:98:LEU:O	11:QK:101:SER:OG	2.13	0.62
22:RA:1181:C:H2'	22:RA:1182:A:C8	2.34	0.62
22:RA:2831:G:H1'	22:RA:2883:A:H2'	1.80	0.62
36:RT:54:ARG:HA	36:RT:59:THR:HG23	1.82	0.62
2:XB:54:THR:HG21	2:XB:201:ILE:HD11	1.82	0.62
7:XG:111:ARG:NH1	7:XG:113:GLU:OE2	2.32	0.62
22:YA:72:U:N3	45:Y2:62:THR:HG22	2.14	0.62
22:YA:153:C:OP1	44:Y1:88:LYS:HE2	2.00	0.62
22:YA:2065:C:O2	22:YA:2449:U:N3	2.28	0.62
22:YA:2820:A:O5'	34:YR:4:LEU:HD23	1.99	0.62
12:QL:57:LYS:HG2	12:QL:67:THR:HG22	1.81	0.62
13:QM:3:ARG:HG2	47:R4:34:GLU:HG2	1.81	0.62
22:RA:140:A:H8	22:RA:1408:C:O2'	1.82	0.62
22:RA:2753:A:O2'	52:R9:15:LYS:NZ	2.31	0.62
22:RA:852:G:H2'	22:RA:853:G:C8	2.35	0.62
1:QA:1446:A:O2'	1:QA:1447:G:O5'	2.18	0.62
22:RA:2354:G:O2'	43:R0:36:ILE:HG22	2.00	0.62
1:XA:894:G:H2'	1:XA:895:G:C8	2.35	0.62
22:YA:1237:A:H4'	22:YA:1238:G:H5'	1.80	0.62
8:QH:6:ILE:HB	8:QH:85:ARG:NH1	2.15	0.62
17:QQ:66:SER:O	17:QQ:70:ARG:NH1	2.33	0.62
22:RA:1899:G:H21	22:RA:1902:C:H41	1.45	0.62
22:RA:2704:C:H2'	22:RA:2705:A:O4'	2.00	0.62
22:RA:717:G:H2'	22:RA:718:A:O4'	2.00	0.62
4:XD:111:ALA:HB2	4:XD:120:LEU:HD12	1.82	0.62
47:Y4:37:SER:HB3	47:Y4:42:PHE:CD1	2.35	0.62
22:YA:1113:U:H2'	22:YA:1114:G:C8	2.33	0.62
22:YA:1470:G:N2	22:YA:1522:G:OP2	2.32	0.62
22:YA:2154:G:H2'	22:YA:2155:G:H8	1.65	0.62
22:YA:2439:A:H8	22:YA:2439:A:H5'	1.64	0.62
22:YA:2840:C:H2'	22:YA:2841:C:C6	2.35	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:729:G:H2'	22:YA:1775:U:H1'	1.80	0.62
1:QA:444:C:H2'	1:QA:445:G:H8	1.65	0.62
1:QA:658:G:OP1	15:QO:8:LYS:NZ	2.32	0.62
1:QA:690:G:H2'	1:QA:691:G:O4'	2.00	0.62
24:RD:35:LYS:HD2	24:RD:104:TYR:CD1	2.35	0.62
42:RZ:27:VAL:HG23	42:RZ:36:LYS:HA	1.81	0.62
1:XA:449:C:H5	16:XP:42:ARG:HH11	1.46	0.62
9:XI:29:ASN:OD1	9:XI:65:VAL:N	2.29	0.62
22:YA:1359:A:H2'	22:YA:1360:A:H5'	1.82	0.62
22:YA:1382:G:H2'	22:YA:1383:C:H6	1.65	0.62
22:YA:2159:G:H2'	22:YA:2160:G:H8	1.63	0.62
22:YA:2461:C:H2'	22:YA:2462:U:C6	2.35	0.62
22:YA:298:G:O2'	22:YA:340:A:N6	2.33	0.62
22:YA:443:A:C5	26:YF:45:ARG:HD2	2.33	0.62
22:RA:817:C:H2'	22:RA:818:G:O4'	2.00	0.61
25:RE:51:PHE:CD1	25:RE:52:LEU:HG	2.34	0.61
29:RI:8:PRO:HG3	29:RI:14:ASP:HB2	1.82	0.61
1:XA:1414:U:H2'	1:XA:1415:G:H8	1.64	0.61
5:XE:42:GLY:HA3	5:XE:66:MET:HG2	1.82	0.61
1:XA:1525:G:OP1	11:XK:120:ARG:NH2	2.33	0.61
19:XS:5:LEU:HG	47:Y4:66:SER:CB	2.30	0.61
51:Y8:23:VAL:HG11	51:Y8:46:ARG:HD3	1.81	0.61
22:YA:1789:A:H2'	22:YA:1790:C:O4'	2.00	0.61
22:YA:2306:C:H3'	22:YA:2307:G:H5''	1.81	0.61
22:YA:252:G:OP2	32:YP:50:ARG:NH1	2.32	0.61
22:YA:2882:A:OP1	34:YR:96:ARG:NH1	2.33	0.61
1:QA:304:U:H2'	1:QA:305:G:C8	2.35	0.61
1:QA:508:C:O2	1:QA:509:A:N6	2.28	0.61
1:QA:561:U:O2'	1:QA:562:C:OP2	2.15	0.61
1:QA:853:G:H2'	1:QA:854:G:H8	1.64	0.61
10:QJ:40:LEU:HB2	10:QJ:69:ASN:HB3	1.82	0.61
11:QK:121:PRO:HD2	11:QK:126:ARG:HD3	1.80	0.61
22:RA:270:A:OP1	44:R1:98:LEU:HB3	1.98	0.61
22:RA:1047:G:H2'	22:RA:1110:G:N1	2.15	0.61
22:RA:1449:A:HO2'	22:RA:1530:G:H21	1.43	0.61
22:RA:270(N):G:OP1	29:RI:57:ARG:NH2	2.31	0.61
25:RE:67:PHE:O	25:RE:69:LYS:N	2.32	0.61
26:RF:28:ILE:HG22	26:RF:112:MET:HB3	1.80	0.61
22:YA:413:C:H2'	22:YA:414:C:H6	1.66	0.61
22:YA:1454:U:H5'	34:YR:63:ARG:HE	1.66	0.61
14:QN:13:THR:N	14:QN:14:PRO:HD2	2.15	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1869:G:N2	22:RA:1872:A:OP2	2.33	0.61
22:RA:2198:A:C2	29:RI:29:TYR:HB2	2.34	0.61
1:XA:991:U:O2'	1:XA:992:U:O5'	2.17	0.61
22:YA:918:A:N3	23:YB:80:U:O2'	2.33	0.61
35:YS:83:LYS:C	35:YS:109:GLY:HA3	2.21	0.61
37:YU:92:ARG:HD2	38:YV:11:GLN:HB2	1.82	0.61
22:RA:1069:A:H2'	22:RA:1073:A:N7	2.15	0.61
22:RA:1359:A:N6	22:RA:1372:U:H3	1.99	0.61
22:RA:2820:A:C6	34:RR:4:LEU:HD11	2.35	0.61
20:XT:100:ILE:HG13	20:XT:102:GLY:N	2.15	0.61
22:YA:2632:A:HO2'	22:YA:2811:G:HO2'	1.36	0.61
26:YF:197:ASP:OD2	26:YF:197:ASP:N	2.33	0.61
1:QA:45:U:H2'	1:QA:46:G:C8	2.36	0.61
1:QA:791:G:H2'	1:QA:792:A:H5'	1.82	0.61
52:R9:25:VAL:HB	52:R9:34:GLN:HB2	1.82	0.61
22:RA:620:G:H4'	22:RA:621:A:C5'	2.30	0.61
1:XA:1336:C:H1'	1:XA:1337:G:C2	2.36	0.61
1:XA:737:A:H2'	1:XA:738:C:C6	2.35	0.61
1:XA:973:G:H3'	1:XA:974:A:H5''	1.82	0.61
53:XV:15:G:N2	53:XV:21:A:N3	2.49	0.61
22:YA:1055:G:O2'	22:YA:1085:A:N1	2.27	0.61
22:YA:2302:G:N2	22:YA:2314:C:O2	2.30	0.61
22:YA:27:G:HO2'	22:YA:28:A:H8	1.46	0.61
22:YA:330:A:HO2'	22:YA:331:A:H8	1.49	0.61
23:YB:15:A:H1'	23:YB:109:G:C4	2.36	0.61
3:QC:14:ILE:O	3:QC:16:ARG:N	2.33	0.61
11:QK:22:HIS:HB3	11:QK:29:ILE:HG23	1.83	0.61
44:R1:53:VAL:HG22	44:R1:74:VAL:HG13	1.83	0.61
22:RA:1856:G:H1	22:RA:1886:C:N4	1.97	0.61
1:XA:894:G:H2'	1:XA:895:G:H8	1.66	0.61
53:XV:74:C:O2'	53:XV:75:C:H5'	2.00	0.61
22:YA:2123:G:H2'	22:YA:2124:G:H8	1.66	0.61
1:QA:250:A:O2'	1:QA:251:G:OP2	2.18	0.61
4:QD:30:LYS:C	4:QD:32:ALA:H	2.03	0.61
15:QO:82:ILE:O	15:QO:86:GLY:N	2.32	0.61
22:RA:1026:U:H4'	22:RA:1027:A:OP1	2.01	0.61
32:RP:84:ASN:HB3	32:RP:86:LYS:HG2	1.83	0.61
1:XA:1292:U:OP2	7:XG:41:ARG:NH2	2.34	0.61
22:YA:1364:G:C8	44:Y1:2:SER:N	2.68	0.61
19:XS:5:LEU:CD2	47:Y4:66:SER:HB2	2.30	0.61
22:YA:2832:U:H4'	22:YA:2833:G:H5''	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1437:C:H2'	1:QA:1438:G:C8	2.36	0.61
14:QN:6:LEU:HD23	14:QN:23:ARG:HH22	1.64	0.61
22:RA:2751:G:N7	28:RH:2:SER:HB3	2.16	0.61
29:RI:133:HIS:HB2	29:RI:134:PRO:CD	2.31	0.61
33:RQ:65:PHE:O	33:RQ:67:ARG:N	2.34	0.61
22:YA:2756:U:OP2	52:Y9:19:ARG:NH2	2.33	0.61
1:QA:328:C:O2	1:QA:328:C:H2'	2.01	0.61
1:QA:573:A:N3	1:QA:883:C:O2'	2.33	0.61
1:QA:664:G:H22	1:QA:741:G:H1	1.49	0.61
21:QU:6:ARG:HE	21:QU:15:ARG:NH2	1.99	0.61
22:RA:1210:A:H5''	22:RA:1210:A:C8	2.35	0.61
22:RA:669:G:N3	22:RA:669:G:H2'	2.14	0.61
39:RW:25:ARG:NH2	39:RW:74:ALA:O	2.33	0.61
2:XB:67:THR:HG21	2:XB:155:LEU:HG	1.81	0.61
8:XH:4:ASP:OD1	8:XH:85:ARG:NH1	2.34	0.61
15:XO:87:ILE:HG22	15:XO:88:ARG:H	1.65	0.61
37:YU:52:ARG:HA	37:YU:55:ARG:HG3	1.83	0.61
1:QA:1152:A:OP1	10:QJ:68:HIS:NE2	2.33	0.61
1:QA:1251:A:H2'	1:QA:1252:A:C8	2.35	0.61
1:QA:864:A:H5'	5:QE:86:ALA:HB2	1.83	0.61
22:RA:1060:U:H3	22:RA:1088:A:H1'	1.66	0.61
29:RI:65:ALA:O	29:RI:68:LEU:N	2.33	0.61
35:RS:88:ASP:O	35:RS:89:ARG:HB3	2.01	0.61
1:XA:266:G:H5''	1:XA:267:C:H5	1.65	0.61
1:XA:67:C:H2'	1:XA:68:G:C8	2.35	0.61
44:Y1:83:GLU:O	44:Y1:85:LEU:N	2.34	0.61
1:QA:147:G:H2'	1:QA:148:G:H8	1.66	0.60
1:QA:192:U:H2'	1:QA:193:C:H6	1.66	0.60
1:QA:980:C:H5''	1:QA:981:U:C5	2.36	0.60
23:RB:3:C:H2'	23:RB:4:C:C6	2.35	0.60
36:RT:77:PRO:HB2	36:RT:80:SER:HB2	1.83	0.60
37:RU:90:VAL:HG11	38:RV:40:LEU:HD12	1.82	0.60
48:Y5:16:ARG:HH11	48:Y5:16:ARG:HG2	1.66	0.60
24:YD:72:LYS:NZ	24:YD:99:ASP:OD1	2.33	0.60
1:QA:17:U:H2'	1:QA:18:C:C6	2.36	0.60
3:QC:11:ARG:O	3:QC:13:GLY:N	2.34	0.60
3:QC:8:ILE:HG23	3:QC:16:ARG:HG2	1.83	0.60
1:XA:145:G:H1	1:XA:177:C:H42	1.48	0.60
1:XA:24:U:H2'	1:XA:25:C:C6	2.36	0.60
1:XA:538:G:H5''	12:XL:114:LYS:HB2	1.81	0.60
22:YA:1878:G:H2'	22:YA:1879:C:C6	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1930:G:H2'	22:YA:1968:G:O6	2.00	0.60
23:YB:15:A:H4'	23:YB:15:A:OP1	2.00	0.60
22:YA:444:C:H4'	26:YF:49:ALA:HB2	1.82	0.60
29:YI:79:ILE:HB	29:YI:142:VAL:HA	1.83	0.60
33:YQ:35:VAL:HG13	33:YQ:130:LYS:HB3	1.83	0.60
1:QA:1280:A:O2'	1:QA:1281:U:OP1	2.17	0.60
9:QI:13:ALA:HB2	9:QI:68:GLY:HA3	1.82	0.60
14:QN:24:CYS:HB3	14:QN:29:ARG:H	1.66	0.60
22:RA:155:C:N4	22:RA:161:U:O4	2.34	0.60
23:RB:82:G:H2'	23:RB:83:G:H8	1.66	0.60
1:XA:677:U:H3	1:XA:713:G:H22	1.47	0.60
53:XV:49:G:O6	53:XV:65:C:N4	2.33	0.60
47:Y4:56:VAL:HA	47:Y4:60:GLN:HB2	1.84	0.60
22:YA:1803:A:O2'	24:YD:259:THR:HG21	2.01	0.60
22:YA:2030:A:H5''	22:YA:2031:A:OP1	2.00	0.60
22:YA:691:C:H2'	22:YA:692:C:H6	1.66	0.60
24:YD:108:PRO:HB3	24:YD:143:HIS:CE1	2.35	0.60
28:YH:113:VAL:HG11	28:YH:151:ILE:HD12	1.83	0.60
1:QA:1422:G:H5''	31:RO:48:PRO:HB3	1.83	0.60
1:QA:229:U:H2'	1:QA:230:G:H8	1.66	0.60
22:RA:2745:C:H42	22:RA:2759:G:H1	1.47	0.60
28:RH:8:PRO:HG2	28:RH:69:ARG:HE	1.66	0.60
1:XA:332:G:H2'	1:XA:333:G:H8	1.65	0.60
1:XA:1070:U:OP1	5:XE:18:ARG:NH1	2.34	0.60
17:XQ:11:VAL:HG12	17:XQ:85:VAL:HG13	1.83	0.60
22:YA:2257:U:H2'	22:YA:2258:C:C6	2.36	0.60
22:YA:573:G:O2'	22:YA:574:C:H3'	2.01	0.60
13:XM:8:GLU:OE2	27:YG:115:ARG:HD3	2.01	0.60
29:YI:79:ILE:O	29:YI:143:SER:N	2.34	0.60
32:YP:95:VAL:HG13	32:YP:100:LEU:HD21	1.83	0.60
22:YA:2451:A:C6	56:Z8:76:PPU:HE2	2.36	0.60
1:QA:709:G:H2'	1:QA:710:G:H8	1.66	0.60
22:RA:1689:A:H62	22:RA:1698:A:H2	1.49	0.60
34:RR:70:LEU:O	34:RR:72:ASP:N	2.31	0.60
41:RY:87:LYS:O	41:RY:88:LYS:NZ	2.33	0.60
22:YA:2119:A:H61	22:YA:2168:G:H22	1.50	0.60
24:YD:35:LYS:HD2	24:YD:104:TYR:CD1	2.35	0.60
31:YO:96:THR:O	31:YO:97:ARG:HB3	2.01	0.60
36:YT:84:GLN:OE1	36:YT:85:LYS:NZ	2.34	0.60
7:QG:26:PHE:O	7:QG:30:ILE:HG12	2.01	0.60
15:QO:39:LEU:HD13	15:QO:56:LEU:HB2	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:R4:23:GLU:O	47:R4:25:TYR:N	2.34	0.60
22:RA:27:G:N2	22:RA:512:G:H1'	2.16	0.60
24:RD:44:ASN:HB3	24:RD:49:ILE:HA	1.83	0.60
34:RR:33:ARG:NH2	48:R5:55:ARG:HG2	2.15	0.60
1:XA:1062:U:H2'	1:XA:1063:C:C6	2.36	0.60
1:XA:1453:G:H2'	20:XT:39:LYS:HE2	1.83	0.60
1:XA:690:G:H22	11:XK:55:LYS:HZ1	1.48	0.60
22:YA:2477:C:H2'	52:Y9:1:MET:HG3	1.82	0.60
22:YA:325:G:H2'	22:YA:326:G:H8	1.66	0.60
22:YA:363:G:H2'	22:YA:363(A):A:H8	1.66	0.60
28:YH:4:ILE:HB	28:YH:6:ARG:HG2	1.82	0.60
29:YI:10:GLU:OE2	29:YI:11:ASN:N	2.35	0.60
1:QA:833:U:H3	1:QA:853:G:H1	1.49	0.60
2:QB:15:VAL:H	2:QB:16:HIS:CE1	2.20	0.60
4:QD:105:VAL:HG13	4:QD:110:PHE:HB2	1.83	0.60
10:QJ:42:THR:HG23	10:QJ:68:HIS:HA	1.83	0.60
48:R5:16:ARG:HH11	48:R5:16:ARG:HG2	1.65	0.60
22:RA:1068:G:N2	22:RA:1095:A:O2'	2.35	0.60
22:RA:438:G:H2'	22:RA:439:G:H8	1.67	0.60
28:RH:154:PRO:HD3	28:RH:162:ILE:N	2.16	0.60
42:RZ:94:GLU:HB2	42:RZ:130:PRO:CD	2.31	0.60
1:XA:1292:U:H2'	1:XA:1293:G:C8	2.36	0.60
1:XA:131:C:H2'	1:XA:132:C:C6	2.37	0.60
5:XE:152:ARG:NH1	8:XH:44:PHE:CZ	2.70	0.60
43:Y0:23:VAL:HB	43:Y0:26:TYR:HE2	1.66	0.60
22:YA:61:G:O6	22:YA:94:G:N2	2.35	0.60
27:YG:28:VAL:HG23	27:YG:29:TRP:CD1	2.36	0.60
32:YP:147:LEU:O	32:YP:148:LEU:HB2	2.02	0.60
1:QA:1129:C:H4'	1:QA:1130:A:H5'	1.84	0.60
22:RA:125:G:H1'	50:R7:13:ALA:HB1	1.84	0.60
22:RA:127:A:H5''	22:RA:128:C:C6	2.36	0.60
22:RA:1803:A:O2'	24:RD:259:THR:HG21	2.02	0.60
22:RA:996:A:H4'	37:RU:92:ARG:NE	2.15	0.60
1:XA:1410:G:H2'	1:XA:1411:C:H6	1.67	0.60
1:XA:1422:G:H5''	31:Y0:48:PRO:HB3	1.82	0.60
1:XA:556:C:H2'	1:XA:557:G:H8	1.67	0.60
52:Y9:35:ARG:HH21	52:Y9:37:GLY:HA3	1.67	0.60
22:YA:1064:C:N4	22:YA:1070:A:OP1	2.35	0.60
22:YA:1872:A:H5'	22:YA:1878:G:OP2	2.02	0.60
22:YA:2439:A:C8	22:YA:2439:A:H5'	2.36	0.60
1:QA:1172:C:H2'	1:QA:1173:G:C8	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1292:U:H2'	1:QA:1293:G:H8	1.65	0.60
22:RA:1464:C:O2'	22:RA:1528:A:H8	1.83	0.60
22:RA:954:G:O2'	22:RA:2274:A:N1	2.30	0.60
22:RA:479:A:N3	22:RA:481:G:H5''	2.17	0.60
22:RA:631:A:OP1	32:RP:64:LYS:HE2	2.02	0.60
27:RG:64:THR:HG23	27:RG:66:GLN:H	1.65	0.60
1:XA:267:C:OP2	17:XQ:67:LYS:HD2	2.01	0.60
22:YA:1530:G:O6	22:YA:1542:G:N2	2.34	0.60
22:YA:2468:G:H5''	33:YQ:120:ILE:HD12	1.83	0.60
12:QL:84:LEU:HD22	12:QL:104:VAL:HG11	1.84	0.60
1:QA:191:G:C1'	20:QT:105:SER:HB3	2.31	0.60
22:RA:1796:U:H2'	22:RA:1797:C:C6	2.37	0.60
22:RA:2629:A:H4'	22:RA:2629:A:OP1	2.00	0.60
24:RD:70:TRP:CH2	24:RD:150:LYS:HA	2.36	0.60
22:RA:2620:C:O2'	25:RE:157:ALA:O	2.18	0.60
27:RG:114:ILE:HD13	27:RG:140:ILE:HG21	1.83	0.60
1:XA:401:C:H2'	1:XA:402:G:H8	1.67	0.60
51:Y8:50:LEU:HD12	51:Y8:51:ALA:H	1.67	0.60
22:YA:1790:C:O2'	24:YD:209:ALA:HB2	2.02	0.60
1:QA:1219:U:OP1	14:QN:19:ARG:NH2	2.24	0.59
1:QA:1152:A:H5''	10:QJ:13:HIS:HD2	1.66	0.59
22:RA:1423:G:H2'	22:RA:1424:G:H8	1.67	0.59
22:RA:2509:G:H1	22:RA:2579:C:N4	2.00	0.59
1:XA:1256:A:OP2	3:XC:26:LYS:NZ	2.30	0.59
2:XB:235:SER:O	2:XB:237:ALA:N	2.35	0.59
22:YA:1652:A:OP1	34:YR:8:ARG:NH1	2.34	0.59
22:YA:1728:G:H3'	22:YA:1729:A:H5''	1.84	0.59
22:YA:419:C:H2'	22:YA:420:C:O4'	2.02	0.59
34:YR:42:LYS:HA	34:YR:45:ARG:HD2	1.84	0.59
1:QA:1437:C:H2'	1:QA:1438:G:H8	1.66	0.59
22:RA:1576:U:H2'	22:RA:1577:C:H6	1.67	0.59
42:RZ:166:SER:HB3	42:RZ:168:GLU:H	1.67	0.59
1:XA:1130:A:N6	1:XA:1144:G:H21	1.99	0.59
13:XM:3:ARG:HA	13:XM:9:ILE:HG21	1.83	0.59
22:YA:270(R):G:H2'	22:YA:270(S):G:H8	1.66	0.59
23:YB:82:G:H2'	23:YB:83:G:H8	1.67	0.59
42:YZ:94:GLU:HB2	42:YZ:130:PRO:CD	2.31	0.59
1:QA:1298:C:H4'	1:QA:1299:A:C4	2.36	0.59
35:RS:38:GLN:OE1	35:RS:47:THR:OG1	2.18	0.59
36:RT:105:LEU:O	36:RT:107:ASP:N	2.36	0.59
1:XA:1298:C:H4'	1:XA:1299:A:O4'	2.03	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1453:G:N7	20:XT:55:ILE:HD11	2.16	0.59
22:YA:1204:A:H2	22:YA:1241:A:N1	2.00	0.59
39:YW:86:LEU:HD12	39:YW:87:PRO:HD2	1.83	0.59
42:YZ:158:PRO:O	42:YZ:160:GLY:N	2.36	0.59
1:QA:301:G:H2'	1:QA:302:G:H8	1.67	0.59
1:QA:618:C:H5'	1:QA:619:U:H5''	1.83	0.59
1:QA:696:A:N1	1:QA:797:C:O2'	2.35	0.59
1:QA:811:C:H4'	1:QA:900:A:N6	2.18	0.59
9:QI:9:ARG:HB3	9:QI:14:VAL:HG13	1.84	0.59
51:R8:29:LYS:HB2	51:R8:44:LYS:HG2	1.84	0.59
42:RZ:103:ARG:HD3	42:RZ:136:PHE:CG	2.38	0.59
6:XF:61:LEU:HB3	6:XF:63:TYR:HE2	1.66	0.59
1:XA:1226:C:O2'	13:XM:111:LYS:NZ	2.36	0.59
22:YA:2154:G:H2'	22:YA:2155:G:C8	2.38	0.59
23:YB:95:U:H2'	23:YB:96:G:C8	2.37	0.59
34:YR:33:ARG:NH2	48:Y5:55:ARG:HG2	2.17	0.59
1:QA:565:U:H5''	1:QA:566:G:H2'	1.83	0.59
1:QA:828:A:H2'	1:QA:829:G:O4'	2.02	0.59
3:QC:50:ALA:HB2	3:QC:75:VAL:HB	1.85	0.59
4:QD:64:LEU:HB2	4:QD:198:VAL:HG11	1.83	0.59
22:RA:1101:U:H2'	22:RA:1102:C:H6	1.65	0.59
22:RA:70:G:H21	22:RA:71:A:N6	2.00	0.59
23:RB:80:U:H2'	23:RB:81:G:H21	1.67	0.59
1:XA:1002:G:H2'	1:XA:1003:G:H8	1.68	0.59
2:XB:92:TYR:HE1	2:XB:151:GLY:HA3	1.65	0.59
22:YA:1337:G:H2'	22:YA:1338:G:H8	1.68	0.59
22:YA:2471:C:H5'	22:YA:2472:G:OP2	2.02	0.59
25:YE:36:ARG:HH21	25:YE:88:GLY:HA2	1.68	0.59
28:YH:98:LEU:HD22	28:YH:125:VAL:HB	1.83	0.59
22:RA:1337:G:OP2	40:RX:73:ARG:NH2	2.35	0.59
22:RA:385:C:O2'	22:RA:388:G:N2	2.36	0.59
27:RG:67:LYS:HE2	47:R4:6:HIS:CE1	2.38	0.59
1:XA:191:G:N3	20:XT:105:SER:HB3	2.18	0.59
5:XE:45:PHE:CE2	5:XE:47:LYS:HD2	2.38	0.59
50:Y7:35:ARG:HG3	50:Y7:42:LEU:HD11	1.85	0.59
22:YA:1274:A:N3	22:YA:1297:C:H1'	2.17	0.59
22:YA:1429:G:H2'	22:YA:1430:C:C6	2.38	0.59
22:YA:1434:A:H2'	22:YA:1435:G:C8	2.36	0.59
22:YA:943:U:OP2	32:YP:36:LYS:NZ	2.35	0.59
39:YW:111:HIS:CD2	39:YW:112:GLY:H	2.20	0.59
42:YZ:77:ASP:OD2	42:YZ:80:ARG:HD3	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1163:C:H42	1:QA:1173:G:H1	1.50	0.59
13:QM:49:THR:HB	13:QM:52:GLU:HG3	1.85	0.59
1:QA:110:C:O2'	16:QP:25:ARG:O	2.17	0.59
47:R4:16:CYS:SG	47:R4:17:GLY:N	2.75	0.59
49:R6:52:VAL:HG22	49:R6:53:LYS:HG3	1.84	0.59
22:RA:1663:C:HO2'	22:RA:1664:A:H8	1.49	0.59
22:RA:1918:A:O2'	22:RA:1920:C:N4	2.36	0.59
22:RA:2563:U:H4'	31:RO:28:SER:HA	1.84	0.59
22:RA:84:A:N1	22:RA:98:G:O2'	2.31	0.59
22:RA:94:G:H21	45:R2:47:ASN:HD22	1.51	0.59
28:RH:105:LEU:HD13	28:RH:105:LEU:H	1.68	0.59
39:RW:86:LEU:HD12	39:RW:87:PRO:HD2	1.85	0.59
1:XA:1288:A:N3	1:XA:1352:C:O2'	2.25	0.59
1:XA:148:G:H2'	1:XA:149:A:H8	1.68	0.59
1:XA:376:G:OP1	16:XP:5:ARG:HB2	2.03	0.59
46:Y3:6:VAL:HG13	46:Y3:56:VAL:HG13	1.84	0.59
1:XA:1443:G:N2	22:YA:2864:G:OP1	2.28	0.59
42:YZ:140:ASP:N	42:YZ:140:ASP:OD2	2.35	0.59
1:QA:1221:G:OP1	1:QA:1320:C:N4	2.35	0.59
1:QA:452:A:O2'	1:QA:453:A:O5'	2.20	0.59
3:QC:131:ARG:HH11	5:QE:50:GLU:HG2	1.68	0.59
22:RA:806:C:P	32:RP:41:ARG:HH11	2.26	0.59
33:RQ:109:VAL:HG12	33:RQ:114:ALA:HB2	1.83	0.59
22:YA:2789:C:H1'	22:YA:2892:A:C2	2.37	0.59
32:YP:26:GLY:O	32:YP:28:GLY:N	2.35	0.59
22:YA:2334:G:H5'	35:YS:9:ARG:HG2	1.85	0.59
42:YZ:52:SER:O	42:YZ:54:HIS:N	2.35	0.59
42:YZ:48:PHE:HE2	42:YZ:71:VAL:HG11	1.66	0.59
1:QA:1326:C:OP1	21:QU:17:THR:OG1	2.18	0.59
1:QA:164:U:H2'	1:QA:165:C:C6	2.37	0.59
7:QG:73:MET:HG2	7:QG:90:GLU:HA	1.83	0.59
22:RA:1534:G:H2'	22:RA:1535:U:H4'	1.84	0.59
22:RA:507:A:C5'	22:RA:508:G:H5'	2.31	0.59
22:RA:1795:C:O2	24:RD:255:LYS:HE2	2.02	0.59
24:RD:85:ASP:HB2	24:RD:92:ILE:HD13	1.84	0.59
22:RA:2749:A:H4'	28:RH:62:LYS:HB3	1.84	0.59
1:XA:376:G:H1	1:XA:387:U:H3	1.51	0.59
22:YA:1778:U:H2'	22:YA:1784:A:N6	2.18	0.59
22:YA:2636:U:H1'	22:YA:2783:G:H22	1.67	0.59
22:YA:2729:G:H1'	25:YE:187:ALA:HB2	1.85	0.59
28:YH:6:ARG:NH2	28:YH:54:ARG:HH22	2.01	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:142:G:H1'	40:YX:37:THR:HG21	1.84	0.59
1:QA:1465:C:H2'	1:QA:1466:C:O4'	2.02	0.59
44:R1:92:LYS:HG3	44:R1:96:LYS:HB2	1.84	0.59
22:RA:2392:A:H2	22:RA:2424:C:H42	1.49	0.59
22:RA:389:G:H1	32:RP:70:GLN:HB3	1.67	0.59
22:RA:49:A:H61	22:RA:177:G:H2'	1.66	0.59
28:RH:121:ILE:HG13	28:RH:140:LYS:HD2	1.84	0.59
42:RZ:117:LEU:HD12	42:RZ:141:VAL:HG21	1.84	0.59
4:XD:9:CYS:SG	4:XD:22:LYS:HE2	2.39	0.59
10:XJ:76:ASN:O	10:XJ:78:ASN:ND2	2.36	0.59
13:XM:13:LYS:HA	13:XM:44:ARG:HD2	1.83	0.59
14:XN:23:ARG:HD2	14:XN:28:GLY:O	2.03	0.59
15:XO:56:LEU:HD21	22:YA:715:G:C4	2.38	0.59
20:XT:10:LEU:HG	20:XT:12:ALA:H	1.67	0.59
22:YA:1918:A:O2'	22:YA:1920:C:N4	2.35	0.59
23:YB:14:U:O3'	23:YB:107:U:O2'	2.20	0.59
30:YN:40:PRO:HB3	37:YU:68:ALA:HB2	1.85	0.59
1:QA:1348:U:H4'	9:QI:120:ARG:HD2	1.85	0.58
22:RA:1534:G:H2'	22:RA:1534:G:N3	2.17	0.58
22:RA:439:G:H2'	22:RA:440:G:H8	1.68	0.58
22:RA:439:G:H2'	22:RA:440:G:C8	2.38	0.58
1:XA:1239:A:H62	1:XA:1299:A:N6	1.99	0.58
1:XA:933:G:O6	7:XG:3:ARG:NH2	2.36	0.58
12:XL:38:THR:HG23	12:XL:57:LYS:HB3	1.84	0.58
48:Y5:4:HIS:HB3	48:Y5:5:PRO:CD	2.32	0.58
22:YA:2146:C:H4'	22:YA:2147:G:C8	2.38	0.58
22:YA:2712:U:H1'	22:YA:2712(A):A:N7	2.17	0.58
29:YI:4:ILE:HG12	29:YI:18:VAL:HG22	1.85	0.58
35:YS:106:ARG:HA	35:YS:110:LEU:HD11	1.85	0.58
35:YS:26:LEU:HB3	35:YS:87:PHE:HA	1.85	0.58
1:QA:523:A:H61	12:QL:53:ARG:HH12	1.51	0.58
22:RA:2146:C:H4'	22:RA:2147:G:C8	2.38	0.58
22:RA:2689:U:OP1	22:RA:2719:G:N2	2.23	0.58
22:RA:823:G:H2'	22:RA:824:A:C8	2.38	0.58
24:RD:44:ASN:CB	24:RD:49:ILE:HA	2.33	0.58
1:XA:606:G:O2'	1:XA:632:A:N6	2.34	0.58
3:XC:14:ILE:HG12	3:XC:15:THR:H	1.67	0.58
22:YA:1678:G:H8	22:YA:1678:G:O5'	1.86	0.58
22:YA:1680:U:O2'	22:YA:1763:G:N7	2.32	0.58
24:YD:28:GLU:OE1	24:YD:29:PRO:HD2	2.03	0.58
1:QA:243:A:H4'	1:QA:244:U:O5'	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:997:U:H2'	1:QA:998:G:C8	2.38	0.58
22:RA:1533:C:H42	22:RA:1538:G:H1	1.51	0.58
22:RA:702:G:N2	22:RA:730:C:O2	2.36	0.58
22:RA:774:A:H2	22:RA:787:U:HO2'	1.51	0.58
22:RA:900:A:H3'	22:RA:901:A:C8	2.27	0.58
24:RD:71:ASP:OD2	24:RD:103:ARG:NH2	2.36	0.58
1:XA:390:C:O3'	16:XP:28:ARG:NH2	2.36	0.58
22:YA:1069:A:H2'	22:YA:1073:A:N7	2.18	0.58
22:YA:746:A:C5	22:YA:2611:U:H5''	2.39	0.58
27:YG:136:ARG:O	27:YG:154:GLY:HA2	2.02	0.58
34:YR:67:LEU:HD13	34:YR:76:VAL:HG21	1.85	0.58
1:QA:429:U:H1'	1:QA:430:A:H5''	1.86	0.58
10:QJ:49:VAL:HG13	14:QN:41:ARG:HB2	1.85	0.58
1:QA:685:G:H5'	11:QK:39:PRO:O	2.03	0.58
16:QP:21:VAL:O	16:QP:33:ILE:HG12	2.02	0.58
22:RA:1006:C:H5'	30:RN:28:THR:HG23	1.85	0.58
1:XA:675:A:H2'	1:XA:676:A:H8	1.68	0.58
13:XM:57:ARG:HE	47:Y4:35:VAL:HG22	1.68	0.58
28:YH:153:LYS:HB3	28:YH:154:PRO:HD3	1.85	0.58
29:YI:110:ASP:N	29:YI:130:TYR:OH	2.36	0.58
40:YX:61:GLY:N	40:YX:75:ASP:OD2	2.36	0.58
1:QA:745:C:H2'	1:QA:746:A:C8	2.38	0.58
4:QD:111:ALA:HB2	4:QD:120:LEU:HD12	1.85	0.58
13:QM:121:LYS:NZ	55:QY:40:G:O2'	2.33	0.58
22:RA:738:G:H3'	22:RA:739:G:C8	2.38	0.58
24:RD:35:LYS:HD2	24:RD:104:TYR:CE1	2.39	0.58
20:XT:63:ILE:HG22	20:XT:77:ALA:HB1	1.86	0.58
20:XT:56:MET:HG3	20:XT:88:VAL:HG21	1.86	0.58
44:Y1:51:VAL:HG11	44:Y1:74:VAL:HG21	1.84	0.58
22:YA:1203:G:O6	22:YA:1204:A:N6	2.37	0.58
22:YA:574:C:N3	25:YE:145:LYS:NZ	2.46	0.58
38:YV:44:LYS:O	38:YV:46:VAL:N	2.36	0.58
1:QA:446:G:H2'	1:QA:447:G:O4'	2.04	0.58
2:QB:77:ALA:HB2	2:QB:211:ILE:HD13	1.86	0.58
12:QL:10:LEU:HB3	17:QQ:32:TYR:CE1	2.39	0.58
22:RA:630:G:OP1	51:R8:46:ARG:NH1	2.37	0.58
23:RB:15:A:H5'	23:RB:16:G:C8	2.38	0.58
24:RD:182:LEU:N	24:RD:272:ALA:HB3	2.17	0.58
27:RG:136:ARG:O	27:RG:154:GLY:HA2	2.03	0.58
1:XA:1305:G:N2	1:XA:1331:G:H2'	2.19	0.58
1:XA:1358:U:H3	1:XA:1363:A:H61	1.49	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:XF:36:ARG:NH1	6:XF:38:GLU:OE2	2.36	0.58
9:XI:43:ALA:HA	9:XI:74:ILE:HD13	1.85	0.58
43:Y0:35:ASN:OD1	43:Y0:35:ASN:N	2.34	0.58
47:Y4:42:PHE:O	47:Y4:44:THR:N	2.36	0.58
22:YA:957:A:N1	22:YA:2458:G:H4'	2.18	0.58
22:YA:270(Q):C:OP1	29:YI:45:LYS:NZ	2.37	0.58
29:YI:93:THR:N	29:YI:96:ASP:OD1	2.35	0.58
1:QA:165:C:H2'	1:QA:166:G:C8	2.38	0.58
22:RA:1278:A:H2'	22:RA:1279:G:H8	1.68	0.58
22:RA:2582:G:N2	22:RA:2583:G:H1'	2.18	0.58
28:RH:89:ILE:O	28:RH:89:ILE:HG12	2.04	0.58
22:RA:534:U:O2'	37:RU:49:HIS:ND1	2.27	0.58
1:XA:1029:G:H1'	1:XA:1032(A):G:H1	1.68	0.58
1:XA:1070:U:H2'	1:XA:1071:C:H6	1.68	0.58
5:XE:91:LEU:HD12	5:XE:120:THR:HG22	1.85	0.58
8:XH:39:LEU:HB3	8:XH:45:ILE:HG12	1.86	0.58
1:XA:1320:C:C4	19:XS:36:ARG:HG3	2.38	0.58
29:YI:72:LEU:HD21	29:YI:107:VAL:HG11	1.86	0.58
8:QH:121:ASP:N	8:QH:121:ASP:OD1	2.34	0.58
22:RA:270(T):G:H5''	44:R1:97:LEU:HD22	1.86	0.58
22:RA:2067:G:H1	22:RA:2443:C:H42	1.51	0.58
22:RA:2439:A:H8	22:RA:2439:A:H5'	1.67	0.58
22:RA:685:A:H5''	22:RA:788:A:N6	2.16	0.58
27:RG:112:PRO:HB3	47:R4:37:SER:HB2	1.85	0.58
28:RH:87:LEU:HD22	28:RH:162:ILE:HG22	1.85	0.58
29:RI:133:HIS:HB2	29:RI:134:PRO:HD2	1.85	0.58
30:RN:13:TRP:O	30:RN:135:PRO:HD2	2.03	0.58
32:RP:47:ASP:OD1	32:RP:49:ARG:NH1	2.37	0.58
42:RZ:110:GLY:HA2	42:RZ:111:VAL:C	2.24	0.58
2:XB:15:VAL:H	2:XB:16:HIS:CE1	2.22	0.58
2:XB:72:GLY:HA2	2:XB:165:VAL:HG22	1.86	0.58
2:XB:96:ARG:H	2:XB:96:ARG:HD2	1.67	0.58
43:Y0:72:ARG:HB2	43:Y0:75:LEU:HB2	1.85	0.58
22:YA:1278:A:H4'	34:YR:34:ILE:HD12	1.84	0.58
22:YA:2359:C:H2'	22:YA:2360:A:O4'	2.04	0.58
22:YA:834:C:H2'	22:YA:835:A:C8	2.38	0.58
31:YO:64:ARG:HG2	31:YO:79:PHE:CG	2.38	0.58
34:YR:27:SER:HB3	34:YR:34:ILE:HD11	1.84	0.58
1:QA:517:G:O2'	1:QA:531:U:OP2	2.21	0.58
1:QA:715:A:H2'	1:QA:716:A:C8	2.38	0.58
7:QG:26:PHE:CE2	7:QG:30:ILE:HD11	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:QL:53:ARG:HD3	12:QL:93:LEU:HD21	1.86	0.58
22:RA:1226:G:H4'	38:RV:84:LYS:HG2	1.85	0.58
22:RA:1309:G:HO2'	22:RA:1611:C:HO2'	1.51	0.58
22:RA:2041:U:H2'	22:RA:2042:A:C8	2.38	0.58
22:RA:2227:A:H5''	24:RD:263:ARG:NH1	2.19	0.58
22:RA:2022:U:O2'	22:RA:2617:C:H5'	2.04	0.58
22:RA:586:A:H5'	26:RF:89:VAL:HG21	1.86	0.58
29:RI:14:ASP:H	29:RI:17:GLN:HB2	1.68	0.58
30:RN:54:VAL:HB	30:RN:122:VAL:HG22	1.85	0.58
1:XA:1157:A:H62	1:XA:1178:G:N2	2.02	0.58
1:XA:1486:G:H2'	1:XA:1487:G:O4'	2.04	0.58
1:XA:486:U:H2'	1:XA:487:A:C8	2.39	0.58
1:XA:673:G:H2'	1:XA:674:G:C8	2.39	0.58
3:XC:95:THR:HG22	3:XC:97:LYS:HG3	1.84	0.58
1:XA:1298:C:P	7:XG:114:ARG:HH22	2.27	0.58
1:XA:877:C:H5''	8:XH:88:LYS:HD3	1.85	0.58
19:XS:80:TYR:O	19:XS:82:GLY:N	2.36	0.58
22:YA:2232:U:P	44:Y1:40:ARG:HH12	2.26	0.58
22:YA:1109:C:O2'	22:YA:1110:G:OP1	2.21	0.58
22:YA:1520:U:H2'	22:YA:1521:G:O4'	2.04	0.58
22:YA:1614:A:N6	39:YW:88:ARG:H	2.02	0.58
22:YA:2593:U:H2'	22:YA:2594:C:C6	2.30	0.58
22:YA:2693:A:H2'	22:YA:2694:G:C8	2.39	0.58
22:YA:768:G:O2'	22:YA:1379:A:N6	2.32	0.58
36:YT:24:PRO:HA	36:YT:49:VAL:HG13	1.85	0.58
1:QA:973:G:H3'	1:QA:974:A:C5'	2.34	0.58
1:QA:1059:C:O3'	14:QN:45:ARG:NH2	2.37	0.58
1:QA:1226:C:H4'	19:QS:80:TYR:OH	2.04	0.58
22:RA:1427:A:H4'	22:RA:1428:C:O5'	2.02	0.58
22:RA:2415:G:H4'	32:RP:66:GLY:HA3	1.84	0.58
22:RA:443:A:N7	26:RF:45:ARG:HD2	2.19	0.58
23:RB:31:C:H4'	27:RG:29:TRP:HH2	1.69	0.58
24:RD:24:ILE:HD11	24:RD:91:ARG:HD2	1.85	0.58
29:RI:110:ASP:N	29:RI:130:TYR:OH	2.36	0.58
1:XA:328:C:H4'	1:XA:329:A:H5'	1.86	0.58
22:YA:1167:U:H2'	22:YA:1168:G:C8	2.39	0.58
22:YA:2112:G:O6	22:YA:2169:A:N6	2.37	0.58
22:YA:2712:U:O2'	22:YA:2712(A):A:H8	1.87	0.58
22:YA:2738:A:H2	22:YA:2766:G:H22	1.52	0.58
23:YB:44:G:H1'	23:YB:47:C:N4	2.18	0.58
22:YA:1490:A:O2'	24:YD:99:ASP:OD2	2.20	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YR:117:VAL:HG22	34:YR:118:GLU:H	1.68	0.58
34:YR:24:GLN:OE1	34:YR:36:THR:HG21	2.04	0.58
35:YS:59:LYS:HD3	35:YS:60:GLY:N	2.19	0.58
1:QA:365:U:H5''	1:QA:366:C:OP1	2.04	0.57
22:RA:2757:A:P	52:R9:20:HIS:H	2.27	0.57
22:RA:1012:U:OP1	37:RU:75:ASN:ND2	2.36	0.57
22:RA:609(A):G:H2'	22:RA:610:C:H6	1.69	0.57
42:RZ:141:VAL:HG23	42:RZ:144:LEU:HG	1.86	0.57
1:XA:1020:U:H2'	1:XA:1021:G:C8	2.39	0.57
1:XA:405:U:O4	4:XD:2:GLY:N	2.37	0.57
7:XG:89:MET:HE1	7:XG:156:TRP:H	1.69	0.57
22:YA:2074:U:H2'	22:YA:2075:U:C6	2.39	0.57
26:YF:127:GLU:O	26:YF:129:PHE:N	2.32	0.57
22:YA:625:G:O6	32:YP:107:LYS:HE2	2.04	0.57
33:YQ:66:ILE:HA	33:YQ:104:PHE:HA	1.85	0.57
37:YU:92:ARG:HD3	37:YU:94:ASN:HB3	1.85	0.57
39:YW:73:ALA:HB3	39:YW:106:ILE:HD13	1.84	0.57
13:QM:14:ARG:N	13:QM:44:ARG:HD3	2.18	0.57
13:QM:58:GLU:O	13:QM:62:ASN:ND2	2.31	0.57
51:R8:36:LYS:HB3	51:R8:40:GLU:HG2	1.85	0.57
22:RA:1389:G:H2'	22:RA:1390:U:C6	2.40	0.57
22:RA:251:A:C5	22:RA:252:G:H1'	2.39	0.57
39:RW:71:VAL:HA	39:RW:107:LEU:HD12	1.86	0.57
41:RY:95:LYS:NZ	41:RY:99:CYS:O	2.37	0.57
1:XA:560:U:O2'	1:XA:561:U:OP2	2.19	0.57
2:XB:93:VAL:HG11	2:XB:97:TRP:HD1	1.69	0.57
27:YG:67:LYS:HE2	47:Y4:6:HIS:CE1	2.38	0.57
22:YA:846:C:O2'	22:YA:847:U:OP2	2.10	0.57
22:YA:956:G:H5''	33:YQ:77:LYS:HE2	1.85	0.57
3:QC:134:ILE:HG23	3:QC:151:VAL:HB	1.85	0.57
7:QG:15:ASP:OD2	7:QG:44:TYR:OH	2.22	0.57
22:RA:1378:A:OP1	50:R7:10:ARG:NH2	2.36	0.57
22:RA:225:A:H5'	22:RA:226:G:OP2	2.04	0.57
22:RA:2506:U:O2	22:RA:2506:U:H2'	2.04	0.57
22:RA:642:G:H21	22:RA:646:A:H2	1.50	0.57
25:RE:131:ALA:HB1	25:RE:135:HIS:HE1	1.69	0.57
42:RZ:121:HIS:CD2	42:RZ:169:GLU:HG2	2.38	0.57
1:XA:1124:G:H3'	1:XA:1145:C:H41	1.69	0.57
1:XA:518:C:H2'	1:XA:530:G:C2	2.39	0.57
3:XC:70:VAL:HG21	3:XC:76:VAL:HG11	1.85	0.57
4:XD:9:CYS:HB3	4:XD:32:ALA:HB2	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YG:98:ARG:NH1	47:Y4:1:MET:SD	2.77	0.57
22:YA:2741:A:OP1	52:Y9:22:ARG:NH1	2.36	0.57
22:YA:898:C:H3'	22:YA:899:A:H8	1.70	0.57
24:YD:65:ILE:H	24:YD:65:ILE:HD13	1.68	0.57
25:YE:35:GLN:HB3	25:YE:48:GLN:HB2	1.87	0.57
26:YF:28:ILE:HG22	26:YF:112:MET:HB3	1.85	0.57
3:QC:134:ILE:HG22	3:QC:168:ALA:HB3	1.86	0.57
27:RG:68:PRO:HB2	27:RG:90:LEU:HD12	1.86	0.57
28:RH:153:LYS:HB3	28:RH:154:PRO:CD	2.34	0.57
34:RR:117:VAL:O	34:RR:118:GLU:HB2	2.04	0.57
1:XA:388:G:HO2'	1:XA:389:A:P	2.27	0.57
11:XK:21:ILE:HG13	11:XK:30:VAL:HG12	1.86	0.57
22:YA:1187:G:H5''	38:YV:81:TYR:CE2	2.38	0.57
22:YA:1820:U:C2	24:YD:202:LYS:HB3	2.38	0.57
22:YA:2193:G:H2'	22:YA:2194:G:H8	1.69	0.57
22:YA:2292:C:OP2	35:YS:17:ARG:NH2	2.30	0.57
33:YQ:116:GLU:O	33:YQ:120:ILE:HG12	2.05	0.57
42:YZ:25:PRO:O	42:YZ:85:HIS:HA	2.04	0.57
1:QA:1446:A:H4'	36:RT:125:ARG:HH22	1.69	0.57
22:RA:223:A:O2'	22:RA:420:C:O2	2.22	0.57
22:RA:587:C:N3	32:RP:33:ARG:NH1	2.53	0.57
1:XA:1305:G:O2'	1:XA:1306:A:H8	1.83	0.57
1:XA:1525:G:P	11:XK:120:ARG:HH22	2.28	0.57
1:XA:244:U:H4'	1:XA:245:C:O5'	2.03	0.57
1:XA:27:G:H4'	4:XD:209:ARG:HG3	1.86	0.57
1:XA:1114:C:H1'	14:XN:60:SER:HB2	1.86	0.57
54:XX:5:C:C2	55:XY:36:G:N2	2.73	0.57
22:YA:1967:C:H2'	22:YA:1968:G:H5'	1.86	0.57
22:YA:2438:U:O3'	22:YA:2439:A:H3'	2.04	0.57
22:YA:2469:A:H5'	22:YA:2470:G:OP2	2.04	0.57
22:YA:2712:U:OP1	22:YA:2714:G:H4'	2.05	0.57
35:YS:10:ARG:NH2	35:YS:91:PRO:O	2.36	0.57
1:QA:1175:G:H2'	1:QA:1176:A:C8	2.39	0.57
1:QA:1466:C:H2'	1:QA:1467:G:O4'	2.05	0.57
22:RA:1385:G:O2'	22:RA:1396:U:O2	2.13	0.57
42:RZ:104:PHE:HB3	42:RZ:141:VAL:CG1	2.35	0.57
1:XA:107:G:O6	20:XT:15:ARG:HD3	2.05	0.57
1:XA:123:C:OP1	1:XA:311:C:O2'	2.13	0.57
1:XA:914:A:H2'	1:XA:915:A:H8	1.70	0.57
16:XP:20:VAL:HG23	16:XP:35:LYS:HA	1.86	0.57
17:XQ:55:ASP:HA	17:XQ:79:SER:HA	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YG:98:ARG:HH12	47:Y4:1:MET:HB3	1.69	0.57
1:QA:166:G:H2'	1:QA:167:G:C8	2.39	0.57
22:RA:2712:U:OP1	22:RA:2714:G:H4'	2.05	0.57
22:RA:884:C:C2	22:RA:885:C:H5	2.23	0.57
27:RG:22:ARG:HH21	27:RG:171:ALA:HB1	1.69	0.57
41:RY:76:CYS:SG	41:RY:77:PRO:HD2	2.45	0.57
1:XA:1491:G:N7	57:XA:1601:PAR:O53	2.30	0.57
2:XB:96:ARG:HD3	2:XB:148:TYR:HE1	1.70	0.57
4:XD:154:ASN:OD1	4:XD:154:ASN:N	2.37	0.57
22:YA:99:U:H4'	22:YA:101:G:H5''	1.85	0.57
22:YA:2281:C:O2'	22:YA:2282:G:H5'	2.05	0.57
1:QA:452:A:O2'	1:QA:453:A:O4'	2.12	0.57
7:QG:79:ARG:HH12	7:QG:82:GLY:HA2	1.69	0.57
24:RD:145:VAL:HG13	24:RD:191:ALA:HB2	1.87	0.57
24:RD:241:PRO:O	24:RD:242:ARG:HB2	2.04	0.57
22:RA:443:A:C5	26:RF:45:ARG:HD2	2.40	0.57
32:RP:58:THR:C	32:RP:61:ARG:HE	2.05	0.57
1:XA:1243:C:H42	1:XA:1294:G:H1	1.52	0.57
1:XA:272:C:H2'	1:XA:273:A:H8	1.69	0.57
1:XA:591:U:H2'	1:XA:592:G:H8	1.70	0.57
1:XA:903:G:H2'	1:XA:904:C:C6	2.39	0.57
19:XS:32:LYS:HA	19:XS:50:ALA:HB3	1.86	0.57
22:YA:1210:A:H8	22:YA:1210:A:H5'	1.70	0.57
28:YH:149:ARG:HG3	28:YH:162:ILE:O	2.05	0.57
32:YP:135:LEU:O	32:YP:139:LYS:HB2	2.04	0.57
1:QA:1152:A:H2'	1:QA:1153:C:H6	1.69	0.57
13:QM:23:TYR:HB3	13:QM:67:GLU:HG2	1.87	0.57
19:QS:41:VAL:HB	19:QS:42:PRO:CA	2.34	0.57
43:R0:68:GLU:OE2	43:R0:82:ARG:NH1	2.33	0.57
22:RA:1328:G:H2'	22:RA:1330:C:C4	2.40	0.57
22:RA:515:A:H1'	22:RA:581:C:H1'	1.87	0.57
22:RA:823:G:H2'	22:RA:824:A:H8	1.70	0.57
1:XA:1459:C:OP1	20:XT:27:LYS:NZ	2.37	0.57
1:XA:1327:C:OP2	21:XU:12:LYS:NZ	2.36	0.57
22:YA:863:A:H2'	22:YA:864:G:C8	2.40	0.57
22:YA:950:G:H1	22:YA:967:C:H42	1.51	0.57
24:YD:71:ASP:CB	24:YD:103:ARG:HH22	2.18	0.57
2:QB:51:LEU:HD23	2:QB:201:ILE:HD12	1.86	0.57
6:QF:3:ARG:NH1	6:QF:38:GLU:OE2	2.37	0.57
22:RA:1341:U:OP1	22:RA:1397:U:N3	2.37	0.57
22:RA:2197:U:H1'	22:RA:2198:A:C8	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:483:A:H5'	41:RY:49:VAL:HG22	1.86	0.57
24:RD:44:ASN:HB2	24:RD:48:ARG:O	2.05	0.57
40:RX:60:ARG:NH1	50:R7:47:ARG:HH22	2.03	0.57
1:XA:690:G:H2'	1:XA:691:G:O4'	2.04	0.57
9:XI:15:ALA:HB2	9:XI:65:VAL:HG23	1.86	0.57
22:YA:1301:A:C8	22:YA:1303:G:C8	2.93	0.57
22:YA:1444(A):A:H4'	22:YA:1460:A:H2'	1.87	0.57
22:YA:2123:G:H2'	22:YA:2124:G:C8	2.40	0.57
22:YA:2695:C:H2'	22:YA:2696:U:C6	2.39	0.57
22:YA:2811:G:O6	22:YA:2889:C:N4	2.37	0.57
22:YA:54:G:O2'	50:Y7:35:ARG:HD3	2.05	0.57
1:XA:345:C:OP2	36:YT:41:ARG:HD2	2.05	0.57
3:QC:73:PRO:HG3	3:QC:105:GLU:HG3	1.88	0.56
12:QL:117:ARG:HB3	12:QL:122:THR:HB	1.87	0.56
22:RA:550:G:O2'	22:RA:1220:A:O2'	2.11	0.56
22:RA:2556:C:H2'	22:RA:2557:G:O4'	2.05	0.56
22:RA:520:G:H2'	22:RA:521:G:H8	1.70	0.56
33:RQ:32:TYR:HE1	33:RQ:133:ARG:HG3	1.69	0.56
38:RV:52:VAL:HG21	38:RV:55:ALA:HB3	1.87	0.56
1:XA:1158:C:H4'	2:XB:133:LYS:NZ	2.20	0.56
22:YA:2395:C:O2'	44:Y1:30:VAL:HG12	2.05	0.56
47:Y4:71:ARG:HB2	47:Y4:71:ARG:HH11	1.68	0.56
22:YA:1222:C:H2'	22:YA:1223:C:H6	1.69	0.56
22:YA:2277:G:OP2	43:Y0:12:ASN:ND2	2.27	0.56
22:YA:26:G:O2'	22:YA:514:A:N6	2.31	0.56
22:YA:2688:U:H5	22:YA:2720:U:OP2	1.88	0.56
22:YA:764:A:N3	24:YD:213:ARG:NH1	2.52	0.56
22:YA:1138:G:N2	30:YN:106:MET:HE3	2.06	0.56
33:YQ:85:LYS:O	33:YQ:87:LYS:N	2.38	0.56
1:QA:407:G:OP1	4:QD:3:ARG:NH1	2.37	0.56
8:QH:102:ARG:NH1	8:QH:105:ARG:NH2	2.53	0.56
22:RA:1053:C:N4	22:RA:1106:G:H1	2.00	0.56
22:RA:1717:G:H1	22:RA:1742:C:H42	1.53	0.56
22:RA:307:G:H21	22:RA:330:A:H62	1.51	0.56
24:RD:108:PRO:HB3	24:RD:143:HIS:CE1	2.40	0.56
22:RA:2749:A:H1'	28:RH:63:SER:OG	2.05	0.56
33:RQ:43:THR:HA	33:RQ:94:VAL:HG12	1.87	0.56
1:XA:1126:U:H1'	1:XA:1280:A:N7	2.20	0.56
1:XA:1389:C:H2'	1:XA:1390:U:O4'	2.04	0.56
1:XA:284:G:H2'	1:XA:285:G:C8	2.39	0.56
1:XA:712:A:H2'	1:XA:713:G:C8	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1210:A:C5'	22:YA:1210:A:H8	2.18	0.56
22:YA:1790:C:H5''	22:YA:1791:A:OP1	2.05	0.56
22:YA:675:A:C8	22:YA:804:A:C6	2.93	0.56
22:YA:852:G:H2'	22:YA:853:G:C8	2.40	0.56
26:YF:107:LYS:HD2	26:YF:206:ILE:HA	1.86	0.56
27:YG:81:LYS:O	27:YG:82:LEU:HB2	2.04	0.56
29:YI:5:LEU:HD13	29:YI:17:GLN:HB3	1.87	0.56
1:QA:1095:U:P	1:QA:1108:G:H1	2.28	0.56
22:RA:372:G:H8	44:R1:65:SER:O	1.87	0.56
22:RA:262:A:H2'	22:RA:263:C:O4'	2.05	0.56
22:RA:974(A):C:H4'	22:RA:975:G:O5'	2.05	0.56
24:RD:148:GLU:HB2	24:RD:151:LYS:HD2	1.87	0.56
26:RF:11:VAL:HG12	26:RF:12:LEU:H	1.69	0.56
29:RI:144:VAL:HG22	29:RI:145:VAL:H	1.70	0.56
34:RR:67:LEU:HD13	34:RR:76:VAL:HG21	1.86	0.56
10:XJ:50:ILE:HD11	10:XJ:57:LYS:HD3	1.86	0.56
22:YA:1053:C:H42	22:YA:1106:G:H1	1.51	0.56
22:YA:1467:C:C5	22:YA:1546:C:H2'	2.40	0.56
22:YA:10:G:N2	22:YA:2802:G:OP1	2.39	0.56
31:YO:85:VAL:HG11	31:YO:114:ILE:HD11	1.87	0.56
32:YP:101:VAL:HG23	32:YP:106:LEU:HB3	1.88	0.56
36:YT:60:THR:HG22	36:YT:77:PRO:HA	1.86	0.56
38:YV:59:ALA:HB2	38:YV:96:ILE:HD13	1.88	0.56
1:QA:474:G:H5'	16:QP:81:ARG:HG3	1.87	0.56
22:RA:1043:C:N3	22:RA:1112:G:N2	2.46	0.56
22:RA:631:A:H2'	22:RA:632:A:O4'	2.05	0.56
25:RE:10:GLY:HA3	36:RT:8:LYS:HD2	1.85	0.56
32:RP:106:LEU:O	32:RP:107:LYS:HB2	2.05	0.56
38:RV:44:LYS:HE2	38:RV:45:THR:H	1.70	0.56
42:RZ:153:SER:HA	42:RZ:155:LEU:HD12	1.88	0.56
1:XA:1321:C:H5''	1:XA:1322:C:C5'	2.36	0.56
1:XA:382:A:H2'	1:XA:383:A:H8	1.70	0.56
22:YA:2277:G:OP2	43:Y0:10:THR:OG1	2.23	0.56
22:YA:1833:U:H2'	22:YA:1834:U:H6	1.69	0.56
22:YA:2306:C:H2'	22:YA:2307:G:N2	2.20	0.56
22:YA:630:G:N2	22:YA:633:A:OP2	2.33	0.56
22:YA:937:U:H2'	22:YA:938:G:O4'	2.05	0.56
42:YZ:105:VAL:HG13	42:YZ:140:ASP:HA	1.86	0.56
1:QA:476:G:H2'	1:QA:477:G:H8	1.69	0.56
1:QA:690:G:H22	11:QK:55:LYS:HZ1	1.53	0.56
17:QQ:90:ILE:O	17:QQ:94:ASN:ND2	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1282:U:H2'	22:RA:1283:G:O4'	2.05	0.56
22:RA:2576:G:O2'	22:RA:2579:C:OP2	2.15	0.56
22:RA:822:U:H2'	22:RA:823:G:C8	2.40	0.56
41:RY:81:LYS:HZ3	41:RY:98:VAL:HG11	1.69	0.56
42:RZ:157:LEU:HB3	42:RZ:161:VAL:O	2.06	0.56
1:XA:1005:A:H5''	1:XA:1038:C:H1'	1.87	0.56
22:YA:2086:U:H2'	22:YA:2087:G:C8	2.41	0.56
22:YA:2540:C:H2'	22:YA:2541:A:O4'	2.05	0.56
22:YA:2864:G:OP1	36:YT:119:LYS:HD2	2.05	0.56
22:YA:732:C:H2'	22:YA:733:G:O4'	2.05	0.56
39:YW:71:VAL:HA	39:YW:107:LEU:HD12	1.87	0.56
22:RA:1021:A:H2'	22:RA:1023:U:H5'	1.88	0.56
22:RA:1473:G:H2'	22:RA:1474:C:O4'	2.06	0.56
22:RA:2784:C:H2'	22:RA:2785:C:C6	2.41	0.56
22:RA:486:C:N4	22:RA:487:C:H41	2.04	0.56
22:RA:50:U:H3'	22:RA:51:G:H5'	1.87	0.56
23:RB:13:A:H2'	23:RB:70:C:O2'	2.06	0.56
22:RA:2311:A:H8	27:RG:82:LEU:HD11	1.70	0.56
33:RQ:66:ILE:HA	33:RQ:104:PHE:HA	1.87	0.56
1:XA:316:G:OP2	1:XA:351:G:O2'	2.22	0.56
1:XA:503:C:H2'	1:XA:504:C:H6	1.69	0.56
2:XB:84:GLU:HB3	2:XB:219:VAL:HG21	1.86	0.56
16:XP:20:VAL:HG21	16:XP:32:TYR:CD1	2.40	0.56
22:YA:1138:G:H2'	22:YA:1139:G:O4'	2.06	0.56
22:YA:2299:G:N2	22:YA:2318:G:H1'	2.20	0.56
22:YA:2354:G:N2	22:YA:2363:C:O2	2.39	0.56
38:YV:66:ARG:HH11	38:YV:88:ARG:HD3	1.71	0.56
2:QB:82:ARG:HA	2:QB:92:TYR:HE2	1.71	0.56
22:RA:108:U:H2'	22:RA:109:G:H8	1.69	0.56
33:RQ:24:GLY:O	33:RQ:26:TYR:N	2.36	0.56
35:RS:106:ARG:HA	35:RS:110:LEU:HD11	1.87	0.56
7:XG:54:THR:O	7:XG:56:GLN:N	2.39	0.56
49:Y6:25:LYS:HE2	49:Y6:27:LYS:HE3	1.87	0.56
22:YA:2532:G:H1'	22:YA:2663:G:H22	1.70	0.56
22:YA:2877:G:H2'	22:YA:2878:U:O4'	2.06	0.56
1:QA:1152:A:H5''	10:QJ:13:HIS:CD2	2.40	0.56
1:QA:1220:G:O3'	19:QS:36:ARG:HD3	2.06	0.56
1:QA:501:C:H2'	1:QA:502:G:C8	2.39	0.56
1:QA:977:A:H2'	1:QA:978:A:H5''	1.88	0.56
32:RP:68:GLN:HG2	51:R8:12:LYS:HD3	1.88	0.56
22:RA:987:G:O2'	22:RA:1000:A:N3	2.35	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RE:4:ILE:HD12	25:RE:28:ALA:HB1	1.88	0.56
29:RI:115:ALA:O	29:RI:117:GLU:N	2.32	0.56
40:RX:31:HIS:CD2	40:RX:32:PRO:HD2	2.40	0.56
42:RZ:128:VAL:HG22	42:RZ:129:SER:H	1.71	0.56
1:XA:210:U:O2'	1:XA:216:G:N7	2.38	0.56
2:XB:21:ARG:O	2:XB:23:ARG:HD3	2.05	0.56
19:XS:5:LEU:HD11	47:Y4:66:SER:CA	2.35	0.56
22:YA:481:G:OP2	41:YY:47:LYS:HG3	2.06	0.56
22:YA:654(A):G:H8	22:YA:654(A):G:OP2	1.89	0.56
31:YO:97:ARG:HA	31:YO:117:LEU:HD22	1.88	0.56
1:QA:1167:A:H2'	1:QA:1169:A:O4'	2.06	0.56
12:QL:45:PRO:HB3	12:QL:92:ASP:HB3	1.87	0.56
12:QL:89:ARG:HB3	12:QL:97:ARG:HA	1.87	0.56
13:QM:7:VAL:HG21	27:RG:113:ARG:O	2.06	0.56
22:RA:108:U:H2'	22:RA:109:G:C8	2.41	0.56
22:RA:74:A:H4'	22:RA:75:G:O5'	2.06	0.56
42:RZ:178:GLU:O	42:RZ:179:ASP:HB2	2.06	0.56
1:XA:1213:A:N6	1:XA:1215:G:N3	2.54	0.56
1:XA:320:C:H2'	1:XA:321:A:C8	2.41	0.56
3:XC:174:PRO:HD2	3:XC:182:ILE:HD11	1.88	0.56
22:YA:1899:G:H21	22:YA:1902:C:H41	1.52	0.56
22:YA:2801:A:C5	22:YA:2802:G:H1'	2.41	0.56
22:YA:307:G:H21	22:YA:330:A:N6	2.04	0.56
22:YA:462:C:N4	22:YA:467:G:H1	1.99	0.56
1:QA:790:A:C6	1:QA:791:G:C6	2.94	0.56
22:RA:1259:G:H2'	22:RA:1260:G:C8	2.41	0.56
22:RA:934:G:H2'	22:RA:935:C:C6	2.41	0.56
26:RF:110:LEU:HD11	26:RF:181:LEU:HD12	1.88	0.56
1:XA:1347:G:N2	1:XA:1374:A:O5'	2.38	0.56
22:YA:1754:C:P	36:YT:96:ARG:HH12	2.29	0.56
22:YA:1854:A:H2	22:YA:2087:G:N3	2.03	0.56
22:YA:2205:C:H2'	22:YA:2206:C:H6	1.70	0.56
23:YB:41:U:C4	27:YG:70:VAL:HG23	2.41	0.56
28:YH:92:ILE:HD12	28:YH:92:ILE:H	1.71	0.56
33:YQ:81:VAL:C	33:YQ:82:ARG:HG2	2.25	0.56
41:YY:95:LYS:HB3	41:YY:100:ALA:HA	1.87	0.56
1:QA:1333:A:H2'	1:QA:1334:G:O4'	2.06	0.56
1:QA:339:C:OP2	31:RO:97:ARG:NH1	2.39	0.56
1:QA:579:G:H2'	1:QA:580:U:C6	2.40	0.56
1:QA:811:C:H4'	1:QA:900:A:H61	1.71	0.56
4:QD:187:ARG:NH2	4:QD:193:ASP:OD2	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:QH:106:GLY:O	8:QH:122:ARG:NH2	2.36	0.56
10:QJ:5:ARG:HG3	10:QJ:71:LEU:HD11	1.87	0.56
1:QA:754:C:H5'	15:QO:72:ARG:HH22	1.70	0.56
32:RP:121:LYS:HD3	32:RP:122:PRO:HD2	1.88	0.56
37:RU:94:ASN:C	37:RU:94:ASN:HD22	2.09	0.56
1:XA:1333:A:H2'	1:XA:1334:G:O4'	2.05	0.56
1:XA:1349:A:OP2	9:XI:118:LYS:NZ	2.29	0.56
2:XB:158:LEU:HD13	2:XB:182:ILE:HD11	1.89	0.56
4:XD:122:ARG:NH1	4:XD:134:ASP:O	2.39	0.56
22:YA:601:C:O2	22:YA:605:C:H4'	2.06	0.56
24:YD:232:PRO:HB3	24:YD:244:ARG:NH1	2.21	0.56
30:YN:40:PRO:O	37:YU:64:ARG:HD2	2.06	0.56
1:QA:107:G:C2	1:QA:108:G:H1'	2.41	0.55
2:QB:71:VAL:HG12	2:QB:93:VAL:HB	1.88	0.55
1:QA:1128:C:H4'	9:QI:16:ARG:HH12	1.71	0.55
48:R5:4:HIS:HB3	48:R5:5:PRO:CD	2.32	0.55
49:R6:36:LEU:HB2	49:R6:50:ARG:HA	1.88	0.55
22:RA:1337:G:H2'	22:RA:1338:G:H8	1.72	0.55
22:RA:1801:G:OP2	24:RD:154:LYS:HE2	2.05	0.55
29:RI:5:LEU:HB2	29:RI:16:GLY:H	1.69	0.55
39:RW:86:LEU:HD22	39:RW:96:ILE:HD11	1.88	0.55
3:XC:9:GLY:HA2	3:XC:12:LEU:HD23	1.88	0.55
4:XD:11:LEU:HD13	4:XD:66:ARG:HG2	1.88	0.55
1:XA:690:G:H1	11:XK:55:LYS:HZ1	1.54	0.55
22:YA:1068:G:O2'	22:YA:1096:A:N3	2.39	0.55
22:YA:1203:G:H3'	22:YA:1204:A:H5''	1.89	0.55
22:YA:1093:G:H5'	28:YH:170:ARG:NH1	2.21	0.55
36:YT:29:ARG:HB2	36:YT:46:GLU:HG3	1.88	0.55
1:QA:1317:C:N3	19:QS:37:ARG:NH2	2.53	0.55
10:QJ:16:LEU:HD23	10:QJ:94:VAL:HG13	1.88	0.55
10:QJ:78:ASN:O	10:QJ:81:THR:OG1	2.24	0.55
22:RA:1803:A:H2	22:RA:1822:G:N3	2.05	0.55
22:RA:1825:A:OP2	24:RD:220:HIS:NE2	2.38	0.55
25:RE:63:LEU:CD1	25:RE:65:GLY:H	2.19	0.55
31:RO:78:ARG:HH21	36:RT:103:ARG:NH2	2.03	0.55
36:RT:26:ASP:O	36:RT:49:VAL:HG12	2.07	0.55
23:RB:75:G:H4'	42:RZ:36:LYS:HG3	1.88	0.55
1:XA:674:G:H2'	1:XA:675:A:C8	2.39	0.55
1:XA:807:A:H2'	1:XA:808:C:C6	2.42	0.55
3:XC:130:VAL:O	3:XC:134:ILE:HG12	2.06	0.55
5:XE:37:ARG:HA	5:XE:114:GLY:N	2.21	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1545(A):A:H2'	22:YA:1546:C:O4'	2.05	0.55
22:YA:2584:U:H2'	22:YA:2585:U:H2'	1.87	0.55
22:YA:2712:U:HO2'	22:YA:2712(A):A:P	2.28	0.55
22:YA:448:U:C4	22:YA:583:G:H1'	2.41	0.55
22:YA:956:G:OP2	33:YQ:14:ARG:NH2	2.39	0.55
29:YI:13:GLY:HA3	29:YI:17:GLN:HB2	1.86	0.55
30:YN:56:ASN:N	30:YN:125:GLY:O	2.22	0.55
22:YA:1614:A:H61	39:YW:88:ARG:H	1.52	0.55
1:QA:1161:C:H2'	1:QA:1162:C:H6	1.71	0.55
1:QA:1399:C:C2	1:QA:1502:A:N6	2.74	0.55
1:QA:570:G:H2'	1:QA:571:U:C6	2.41	0.55
1:QA:701:C:H1'	1:QA:703:G:C6	2.40	0.55
9:QI:77:ILE:O	9:QI:81:ILE:HG12	2.06	0.55
1:QA:585:G:O3'	17:QQ:34:LYS:NZ	2.39	0.55
47:R4:24:THR:OG1	47:R4:25:TYR:N	2.38	0.55
22:RA:2250:G:C4	33:RQ:82:ARG:HG3	2.41	0.55
22:RA:445:C:H5''	37:RU:3:ARG:HB3	1.89	0.55
42:RZ:182:LYS:HD3	42:RZ:182:LYS:N	2.17	0.55
1:XA:95:G:H3'	1:XA:96:G:H8	1.71	0.55
10:XJ:34:VAL:HG22	10:XJ:74:ILE:HG22	1.89	0.55
6:XF:97:PHE:HD2	18:XR:31:LEU:HD21	1.70	0.55
43:Y0:27:GLU:HG3	43:Y0:68:GLU:HA	1.89	0.55
22:YA:1204:A:H1'	22:YA:1206:G:C8	2.42	0.55
22:YA:2263:C:H2'	22:YA:2264:C:C6	2.42	0.55
26:YF:101:LEU:O	26:YF:106:ARG:NH1	2.40	0.55
29:YI:129:THR:HA	29:YI:137:PRO:HA	1.88	0.55
36:YT:39:ARG:HG2	36:YT:40:THR:H	1.72	0.55
43:R0:56:ASP:OD1	43:R0:58:THR:OG1	2.24	0.55
22:RA:1846:G:H5'	22:RA:1847:A:OP2	2.05	0.55
22:RA:195:A:H5''	22:RA:196:A:O5'	2.07	0.55
38:RV:7:THR:HG23	38:RV:22:VAL:HG11	1.88	0.55
1:XA:1004:A:N1	1:XA:1024:G:H2'	2.20	0.55
1:XA:1053:G:H2'	1:XA:1199:U:H5	1.71	0.55
1:XA:1226:C:OP2	13:XM:103:THR:OG1	2.15	0.55
5:XE:50:GLU:HB3	5:XE:53:LEU:HD13	1.88	0.55
1:XA:963:G:C2	10:XJ:55:LYS:NZ	2.75	0.55
15:XO:18:PHE:CE1	15:XO:21:ASP:HB2	2.41	0.55
49:Y6:28:ARG:HB3	49:Y6:30:THR:H	1.71	0.55
51:Y8:50:LEU:HD12	51:Y8:51:ALA:N	2.21	0.55
22:YA:1459:G:H2'	22:YA:1460:A:H5'	1.89	0.55
22:YA:2159:G:H2'	22:YA:2160:G:C8	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:699:A:H2'	22:YA:700:G:O4'	2.07	0.55
42:YZ:1:MET:HG2	42:YZ:2:GLU:H	1.71	0.55
1:QA:909:A:O2'	1:QA:1413:A:O2'	2.21	0.55
1:QA:953:G:N7	13:QM:104:ARG:NH2	2.55	0.55
2:QB:178:ARG:HH21	8:QH:74:PRO:HG3	1.71	0.55
1:QA:963:G:H21	10:QJ:55:LYS:HD3	1.71	0.55
14:QN:48:ALA:HB2	14:QN:53:LEU:HD12	1.88	0.55
44:R1:53:VAL:HG11	44:R1:90:ILE:HD11	1.88	0.55
22:RA:1418:G:N1	22:RA:1579:A:OP2	2.36	0.55
22:RA:1753:G:N1	22:RA:1756:G:OP2	2.38	0.55
22:RA:78:A:H2'	22:RA:79:G:C8	2.42	0.55
29:RI:116:LEU:O	29:RI:118:LYS:N	2.40	0.55
33:RQ:30:GLY:CA	33:RQ:107:ALA:HB2	2.37	0.55
19:XS:67:VAL:HG21	47:Y4:60:GLN:HE22	1.70	0.55
20:XT:49:ALA:HB1	20:XT:99:LEU:HB2	1.89	0.55
22:YA:2356:C:O3'	43:Y0:20:ARG:HD3	2.07	0.55
27:YG:67:LYS:HZ3	47:Y4:6:HIS:CD2	2.24	0.55
51:Y8:60:LEU:HB3	51:Y8:63:PRO:HG2	1.89	0.55
22:YA:2306:C:H2'	22:YA:2307:G:H21	1.71	0.55
28:YH:121:ILE:HG12	28:YH:140:LYS:HD2	1.89	0.55
32:YP:52:GLU:HG3	32:YP:57:THR:HG22	1.88	0.55
36:YT:3:ARG:HG3	36:YT:7:ILE:HG12	1.88	0.55
38:YV:38:LEU:H	38:YV:51:VAL:HG13	1.70	0.55
42:YZ:136:PHE:HE1	42:YZ:138:GLU:HG3	1.71	0.55
1:QA:985:C:H42	1:QA:1220:G:H1	1.54	0.55
1:QA:1301:U:H3'	1:QA:1302:U:H5'	1.89	0.55
1:QA:632:A:H3'	1:QA:633:G:H8	1.72	0.55
2:QB:5:ILE:HD12	2:QB:224:GLN:HG2	1.89	0.55
8:QH:86:ILE:HG13	8:QH:133:LEU:HD22	1.89	0.55
22:RA:2543:G:H2'	22:RA:2544:G:C8	2.42	0.55
26:RF:101:LEU:O	26:RF:106:ARG:NH1	2.40	0.55
37:RU:52:ARG:HA	37:RU:55:ARG:HG3	1.88	0.55
41:RY:96:ILE:HG12	41:RY:101:LYS:HB2	1.88	0.55
41:RY:37:VAL:HG21	41:RY:72:VAL:HG21	1.88	0.55
41:RY:81:LYS:HB2	41:RY:96:ILE:HG22	1.89	0.55
1:XA:411:A:C4	1:XA:413:G:H1'	2.42	0.55
2:XB:82:ARG:NH1	2:XB:86:GLU:OE2	2.40	0.55
22:YA:468:G:N7	50:Y7:39:ARG:NH2	2.51	0.55
32:YP:62:LEU:HD12	51:Y8:30:ARG:NH1	2.22	0.55
22:YA:1534:G:H1	22:YA:1538:G:N2	2.03	0.55
25:YE:63:LEU:HD12	25:YE:64:LYS:N	2.22	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YH:157:TYR:HA	28:YH:171:LEU:O	2.06	0.55
22:YA:958:U:OP2	33:YQ:14:ARG:NH1	2.40	0.55
47:R4:16:CYS:SG	47:R4:36:CYS:N	2.79	0.55
22:RA:1210:A:H4'	22:RA:1211:U:O5'	2.07	0.55
22:RA:288:C:H2'	22:RA:289:A:H8	1.72	0.55
22:RA:589:C:H2'	22:RA:590:A:C8	2.42	0.55
1:XA:1175:G:H2'	1:XA:1176:A:C8	2.42	0.55
1:XA:1497:G:H2'	1:XA:1498:U:H5'	1.88	0.55
1:XA:262:A:H2'	1:XA:263:A:C8	2.42	0.55
1:XA:45:U:H2'	1:XA:46:G:C8	2.42	0.55
1:XA:1359:C:OP2	14:XN:35:ARG:NH1	2.40	0.55
22:YA:900:A:H3'	22:YA:901:A:H8	1.71	0.55
32:YP:71:VAL:HG13	32:YP:72:PRO:HD3	1.88	0.55
22:YA:2467:C:H4'	33:YQ:123:HIS:CD2	2.40	0.55
1:QA:1002:G:H1	1:QA:1038:C:H42	1.54	0.55
1:QA:474:G:H2'	1:QA:475:G:H8	1.72	0.55
1:QA:711:G:OP1	6:QF:54:LYS:NZ	2.36	0.55
4:QD:27:TYR:HE2	6:XF:15:ASP:HB3	1.71	0.55
22:RA:2611:U:O2	48:R5:3:LYS:HE3	2.06	0.55
22:RA:1576:U:H2'	22:RA:1577:C:C6	2.42	0.55
22:RA:2888:C:H2'	22:RA:2889:C:H6	1.72	0.55
22:RA:70:G:H21	22:RA:71:A:H62	1.55	0.55
28:RH:109:PHE:HZ	28:RH:152:ARG:HG2	1.72	0.55
9:XI:16:ARG:HB2	9:XI:64:THR:HB	1.89	0.55
11:XK:34:ASP:OD1	11:XK:38:ASN:N	2.39	0.55
1:XA:1318:A:H5'	19:XS:11:VAL:HG11	1.89	0.55
43:Y0:18:ALA:HB3	43:Y0:20:ARG:NH1	2.22	0.55
22:YA:1841:U:H2'	22:YA:1842:G:C8	2.42	0.55
22:YA:528:A:C2	22:YA:2043:C:H4'	2.42	0.55
22:YA:612:G:O2'	22:YA:616:A:N1	2.33	0.55
22:YA:630:G:OP2	51:Y8:15:LYS:NZ	2.39	0.55
24:YD:43:ARG:HD2	24:YD:44:ASN:OD1	2.07	0.55
29:YI:77:LEU:HD23	29:YI:138:ILE:HD11	1.89	0.55
39:YW:14:PRO:O	39:YW:17:VAL:N	2.40	0.55
1:QA:745:C:H2'	1:QA:746:A:H8	1.72	0.55
48:R5:56:LYS:H	48:R5:56:LYS:HD2	1.72	0.55
22:RA:1466:G:N2	22:RA:1547:C:N3	2.55	0.55
22:RA:265:A:O2'	22:RA:266:G:H4'	2.07	0.55
23:RB:37:C:O2	35:RS:95:HIS:NE2	2.40	0.55
24:RD:35:LYS:NZ	24:RD:104:TYR:HB2	2.22	0.55
40:RX:25:LYS:HD3	40:RX:80:ILE:HD11	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1256:A:OP2	1:XA:1279:A:N6	2.40	0.55
1:XA:539:A:OP1	12:XL:114:LYS:NZ	2.32	0.55
1:XA:965:A:H4'	1:XA:966:G:OP1	2.07	0.55
8:XH:86:ILE:HG22	8:XH:93:VAL:HG21	1.89	0.55
1:XA:1320:C:N4	19:XS:36:ARG:HG3	2.21	0.55
22:YA:1499:C:H2'	22:YA:1500:G:H8	1.71	0.55
23:YB:70:C:H2'	23:YB:71:C:C6	2.42	0.55
36:YT:26:ASP:O	36:YT:49:VAL:HG12	2.07	0.55
38:YV:34:GLU:O	38:YV:36:PRO:HD3	2.06	0.55
1:QA:414:A:N6	1:QA:431:A:N3	2.55	0.55
9:QI:26:VAL:HG22	9:QI:61:ALA:HB3	1.89	0.55
10:QJ:13:HIS:CE1	10:QJ:14:LYS:HE3	2.42	0.55
22:RA:1728:G:H3'	22:RA:1729:A:C5'	2.36	0.55
22:RA:2469:A:OP1	22:RA:2469:A:H4'	2.06	0.55
22:RA:2688:U:H5	22:RA:2720:U:OP2	1.90	0.55
23:RB:103:U:O2'	42:RZ:72:ARG:HD3	2.07	0.55
23:RB:40:U:H1'	23:RB:45:A:H61	1.71	0.55
29:RI:13:GLY:HA3	29:RI:17:GLN:CD	2.28	0.55
41:RY:95:LYS:CB	41:RY:100:ALA:HA	2.36	0.55
1:XA:767:A:H2'	1:XA:768:A:O4'	2.07	0.55
12:XL:70:ILE:HG12	12:XL:100:ILE:HD12	1.88	0.55
1:XA:719:C:O2'	18:XR:49:LYS:HB3	2.07	0.55
22:YA:771:G:OP1	50:Y7:14:LYS:HE3	2.06	0.55
22:YA:862:G:H2'	22:YA:863:A:O4'	2.06	0.55
26:YF:116:ASP:OD2	32:YP:1:MET:N	2.26	0.55
38:YV:61:VAL:HG23	38:YV:63:GLY:H	1.71	0.55
4:QD:167:GLY:CA	24:YD:135:PHE:CE2	2.89	0.54
51:R8:29:LYS:HD3	51:R8:44:LYS:HB2	1.88	0.54
22:RA:1028:A:N3	22:RA:2486:G:O2'	2.37	0.54
22:RA:1050:A:H2'	22:RA:1051:G:O4'	2.07	0.54
22:RA:1167:U:H2'	22:RA:1168:G:O4'	2.07	0.54
22:RA:1283:G:N2	22:RA:1286:A:H5'	2.22	0.54
22:RA:2041:U:H2'	22:RA:2042:A:H8	1.72	0.54
22:RA:1354:A:OP1	24:RD:38:LYS:HE2	2.06	0.54
28:RH:124:GLU:HB3	28:RH:132:ARG:HG3	1.89	0.54
42:RZ:140:ASP:OD2	42:RZ:140:ASP:N	2.38	0.54
1:XA:1128:C:H5'	9:XI:16:ARG:HH22	1.71	0.54
1:XA:221:C:H2'	1:XA:222:U:H6	1.73	0.54
10:XJ:33:GLN:HB2	10:XJ:75:ILE:HD11	1.88	0.54
22:YA:2110:G:OP1	22:YA:2145:C:N4	2.40	0.54
22:YA:2205:C:H2'	22:YA:2206:C:C6	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2298:A:H62	22:YA:2318:G:H8	1.53	0.54
22:YA:2394:C:OP1	32:YP:63:PRO:HD2	2.06	0.54
22:YA:2585:U:H5	56:Z8:76:PPU:HO2'	1.54	0.54
22:YA:271:G:H2'	22:YA:272:G:C8	2.34	0.54
22:YA:2788:C:O2'	22:YA:2809:A:N3	2.37	0.54
30:YN:42:TRP:O	37:YU:64:ARG:NH2	2.40	0.54
1:QA:1402:C:H2'	1:QA:1403:C:O4'	2.06	0.54
1:QA:249:U:O2'	1:QA:252:U:O2'	2.21	0.54
22:RA:2126:A:H4'	22:RA:2127:G:O5'	2.08	0.54
22:RA:2543:G:H21	22:RA:2646:C:H5''	1.71	0.54
22:RA:2867:G:O2'	22:RA:2868:A:P	2.66	0.54
22:RA:861:A:N3	23:RB:79:C:O2'	2.39	0.54
26:RF:184:TYR:CE2	26:RF:188:ARG:HD2	2.42	0.54
33:RQ:31:ASP:O	33:RQ:134:ARG:HB2	2.07	0.54
36:RT:1:MET:O	36:RT:3:ARG:N	2.40	0.54
30:RN:40:PRO:HB3	37:RU:68:ALA:HB2	1.89	0.54
1:XA:1095:U:OP1	1:XA:1108:G:N2	2.38	0.54
1:XA:392:G:H2'	1:XA:393:A:H8	1.72	0.54
3:XC:150:LYS:HE2	3:XC:152:ILE:HD11	1.88	0.54
8:XH:54:ASP:OD1	8:XH:54:ASP:N	2.39	0.54
13:XM:22:ILE:HD12	13:XM:25:ILE:HD12	1.89	0.54
22:YA:2336:A:H61	43:Y0:43:THR:HG21	1.73	0.54
48:Y5:55:ARG:HG3	48:Y5:57:VAL:H	1.72	0.54
22:YA:2366:A:H2'	22:YA:2367:G:O4'	2.07	0.54
22:YA:834:C:H2'	22:YA:835:A:H8	1.72	0.54
13:XM:3:ARG:HH22	27:YG:139:LEU:HD13	1.70	0.54
22:YA:2562:U:O2'	31:YO:23:ARG:HD3	2.07	0.54
33:YQ:109:VAL:HG13	33:YQ:113:GLN:HB3	1.89	0.54
33:YQ:60:ARG:HA	42:YZ:178:GLU:O	2.07	0.54
34:YR:55:ALA:HB2	34:YR:79:LEU:HD13	1.89	0.54
34:YR:56:LYS:NZ	34:YR:87:TYR:O	2.40	0.54
36:YT:62:THR:HG22	36:YT:75:ILE:HG12	1.89	0.54
1:QA:187:C:H1'	1:QA:191(A):G:N2	2.22	0.54
1:QA:790:A:N6	1:QA:791:G:O6	2.41	0.54
3:QC:79:ARG:HD2	11:XK:99:GLN:OE1	2.07	0.54
5:QE:78:HIS:CE1	5:QE:142:LEU:HD23	2.42	0.54
1:QA:523:A:H61	12:QL:92:ASP:HB2	1.72	0.54
22:RA:1843:C:H5'	24:RD:253:GLN:OE1	2.07	0.54
22:RA:2343:C:O2'	22:RA:2373:G:O2'	2.14	0.54
22:RA:1999:C:H5''	22:RA:2723:C:O2'	2.08	0.54
22:RA:2758:A:C2	22:RA:2759:G:H1'	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:RQ:54:MET:HG3	33:RQ:117:ALA:HB1	1.89	0.54
1:XA:128:G:O2'	17:XQ:3:LYS:NZ	2.33	0.54
1:XA:729:A:H2'	1:XA:730:G:H8	1.71	0.54
4:XD:92:VAL:O	4:XD:96:LEU:HD22	2.07	0.54
22:YA:1149:G:H2'	22:YA:1150:C:C6	2.43	0.54
22:YA:1794:U:H2'	22:YA:1795:C:C6	2.42	0.54
22:YA:501:A:H8	22:YA:501:A:O5'	1.90	0.54
22:YA:609(A):G:H2'	22:YA:610:C:C6	2.41	0.54
24:YD:12:SER:O	24:YD:16:MET:HB2	2.08	0.54
1:QA:1425:U:H2'	1:QA:1426:C:C6	2.43	0.54
1:QA:530:G:O6	54:QX:6:G:H1'	2.08	0.54
44:R1:58:ILE:HD11	44:R1:86:SER:HB2	1.88	0.54
45:R2:42:GLY:O	45:R2:44:LEU:N	2.35	0.54
25:RE:35:GLN:HE21	25:RE:37:ARG:CZ	2.21	0.54
30:RN:30:ILE:HG22	30:RN:34:LEU:HD22	1.88	0.54
34:RR:103:ARG:NH1	34:RR:108:GLY:O	2.41	0.54
42:RZ:100:VAL:HG11	42:RZ:134:PRO:HG2	1.89	0.54
23:YB:12:C:O2'	43:Y0:74:ARG:HG3	2.07	0.54
22:YA:2421:G:OP1	49:Y6:6:ARG:NH2	2.39	0.54
22:YA:1423:G:H2'	22:YA:1424:G:C8	2.41	0.54
37:YU:76:TYR:CZ	37:YU:80:ILE:HG13	2.43	0.54
33:YQ:137:TYR:OH	42:YZ:45:ASP:OD2	2.20	0.54
1:QA:1152:A:H2'	1:QA:1153:C:C6	2.42	0.54
1:QA:865:A:H5'	1:QA:1078:U:C5	2.43	0.54
1:QA:988:G:H2'	1:QA:989:C:O4'	2.07	0.54
9:QI:121:ARG:NH1	9:QI:122:ALA:O	2.40	0.54
10:QJ:8:LEU:HB3	10:QJ:16:LEU:HD21	1.88	0.54
45:R2:50:ILE:HD12	45:R2:51:ARG:H	1.72	0.54
13:QM:3:ARG:CB	47:R4:34:GLU:HB3	2.31	0.54
48:R5:40:LYS:HG2	48:R5:47:PRO:HD2	1.90	0.54
22:RA:1849:G:H2'	22:RA:1850:G:H8	1.73	0.54
22:RA:2586:C:OP2	22:RA:2608:G:N1	2.32	0.54
27:RG:16:ARG:NH2	27:RG:28:VAL:O	2.41	0.54
29:RI:8:PRO:HA	29:RI:14:ASP:HA	1.88	0.54
1:XA:1161:C:H2'	1:XA:1162:C:C6	2.43	0.54
1:XA:382:A:H2'	1:XA:383:A:C8	2.42	0.54
1:XA:707:C:OP1	11:XK:85:ARG:NH1	2.40	0.54
5:XE:100:VAL:HG22	5:XE:118:ILE:HG22	1.90	0.54
1:XA:881:G:OP1	12:XL:12:ARG:NH2	2.40	0.54
47:Y4:54:GLY:O	47:Y4:59:PHE:HB2	2.07	0.54
22:YA:247:G:H4'	22:YA:386:G:C5	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2847:U:P	36:YT:98:LYS:HZ3	2.30	0.54
4:QD:149:ALA:HB3	4:QD:152:SER:HB2	1.89	0.54
13:QM:22:ILE:HB	13:QM:25:ILE:HD12	1.89	0.54
22:RA:520:G:H2'	22:RA:521:G:C8	2.43	0.54
22:RA:861:A:H2'	22:RA:862:G:O4'	2.07	0.54
24:RD:35:LYS:HZ1	24:RD:104:TYR:HB2	1.71	0.54
29:RI:115:ALA:HB3	29:RI:128:LEU:HD12	1.89	0.54
29:RI:82:ARG:HG2	29:RI:146:ALA:HB3	1.88	0.54
22:RA:994:C:OP2	37:RU:54:LYS:NZ	2.38	0.54
37:RU:112:ARG:NH2	38:RV:47:VAL:HG13	2.23	0.54
40:RX:83:VAL:CG1	40:RX:87:GLN:HB2	2.38	0.54
1:XA:1252:A:H2'	1:XA:1253:G:O4'	2.08	0.54
1:XA:1314:C:OP1	19:XS:6:LYS:HE3	2.08	0.54
5:XE:12:LEU:HD21	5:XE:14:ARG:HD3	1.89	0.54
7:XG:20:ASP:HB3	7:XG:23:VAL:HG23	1.88	0.54
12:XL:115:LYS:O	12:XL:117:ARG:N	2.35	0.54
18:XR:31:LEU:H	18:XR:31:LEU:HD23	1.73	0.54
22:YA:1510:A:OP1	22:YA:1511:A:H8	1.91	0.54
22:YA:2439:A:H4'	22:YA:2440:C:O5'	2.08	0.54
22:YA:573:G:OP2	38:YV:78:LYS:NZ	2.39	0.54
30:YN:35:ARG:HB2	30:YN:42:TRP:CH2	2.42	0.54
32:YP:64:LYS:O	32:YP:66:GLY:N	2.41	0.54
42:YZ:169:GLU:HG2	42:YZ:170:THR:N	2.22	0.54
1:QA:1095:U:OP1	1:QA:1108:G:N1	2.41	0.54
1:QA:498:A:H4'	1:QA:500:G:OP1	2.06	0.54
2:QB:84:GLU:HB3	2:QB:219:VAL:HG21	1.89	0.54
23:RB:5:C:O2'	23:RB:27:C:O2	2.26	0.54
36:RT:111:ARG:O	36:RT:112:ARG:HG3	2.08	0.54
36:RT:37:GLY:O	36:RT:39:ARG:N	2.34	0.54
1:XA:1368:G:OP1	9:XI:111:ARG:NH2	2.37	0.54
1:XA:20:U:H2'	1:XA:21:G:O4'	2.07	0.54
1:XA:513:C:H42	1:XA:538:G:H1	1.54	0.54
1:XA:585:G:O2'	1:XA:879:C:OP1	2.21	0.54
1:XA:941:G:H1	1:XA:1342:C:H42	1.55	0.54
1:XA:940:C:H2'	1:XA:941:G:H8	1.71	0.54
3:XC:150:LYS:HB3	3:XC:201:TYR:HB2	1.90	0.54
7:XG:49:ILE:O	7:XG:53:LYS:HB3	2.08	0.54
53:XV:3:C:H2'	53:XV:4:G:H5'	1.89	0.54
45:Y2:35:LEU:HD12	45:Y2:53:LEU:HD12	1.89	0.54
22:YA:964:C:O2'	22:YA:2273:A:N3	2.38	0.54
22:YA:674:G:N3	26:YF:74:ARG:NH1	2.56	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:QE:7:GLU:N	5:QE:35:GLY:O	2.36	0.54
22:RA:699:A:H2'	22:RA:700:G:O4'	2.08	0.54
25:RE:111:ARG:HG3	25:RE:160:TYR:CD1	2.43	0.54
32:RP:38:GLN:HG2	32:RP:45:LEU:CD1	2.36	0.54
32:RP:9:ASN:HB2	32:RP:10:PRO:HD2	1.90	0.54
1:XA:347:G:H1'	1:XA:348:G:H5''	1.90	0.54
3:XC:15:THR:HG23	3:XC:181:ASN:HD22	1.73	0.54
1:XA:1190:G:OP2	3:XC:5:ILE:HG23	2.08	0.54
10:XJ:32:ALA:H	10:XJ:78:ASN:HD21	1.55	0.54
22:YA:1178:C:H2'	22:YA:1179:C:C6	2.43	0.54
22:YA:2028:U:H2'	22:YA:2029:G:O4'	2.08	0.54
22:YA:2807:G:H22	22:YA:2893:G:H1	1.56	0.54
42:YZ:28:MET:O	42:YZ:34:ASN:HA	2.08	0.54
1:QA:279:A:H4'	1:QA:280:C:H5''	1.90	0.54
1:QA:633:G:H5'	1:QA:634:C:OP2	2.08	0.54
22:RA:1423:G:H2'	22:RA:1424:G:C8	2.42	0.54
22:RA:242:G:O2'	22:RA:254:G:O6	2.10	0.54
22:RA:855:G:H1	22:RA:922:U:H3	1.56	0.54
22:RA:945:A:C4	22:RA:2448:A:C2	2.96	0.54
34:RR:45:ARG:HA	34:RR:95:THR:HG21	1.90	0.54
1:XA:426:G:OP1	4:XD:38:TYR:OH	2.16	0.54
13:XM:3:ARG:HA	13:XM:9:ILE:CG2	2.37	0.54
16:XP:43:LYS:HG2	16:XP:48:TRP:CE3	2.42	0.54
22:YA:1013:C:H42	22:YA:1149:G:H1	1.54	0.54
22:YA:1149:G:H2'	22:YA:1150:C:H6	1.73	0.54
22:YA:2389:G:H5''	22:YA:2390:U:O4'	2.08	0.54
22:YA:2396:G:C2	22:YA:2397:G:C8	2.96	0.54
27:YG:15:VAL:HG21	27:YG:176:LEU:HD23	1.90	0.54
29:YI:109:ILE:HB	29:YI:130:TYR:CZ	2.43	0.54
30:YN:6:PRO:HG3	30:YN:41:ASP:HB2	1.89	0.54
22:YA:1341:U:O4'	40:YX:57:LEU:HD23	2.08	0.54
2:QB:204:ASN:HD22	2:QB:206:ASP:H	1.56	0.54
4:QD:194:LEU:HD12	4:QD:195:ALA:H	1.73	0.54
1:QA:1371:G:OP1	9:QI:12:GLU:HB2	2.08	0.54
19:QS:10:PHE:HE2	19:QS:16:LEU:HD22	1.73	0.54
22:RA:1924:C:H4'	53:QV:13:C:O2'	2.07	0.54
22:RA:1203:G:H5''	22:RA:1204:A:H5''	1.90	0.54
22:RA:2549:G:N2	22:RA:2560:C:C2	2.76	0.54
22:RA:2509:G:N2	22:RA:2579:C:N3	2.47	0.54
22:RA:2712:U:HO2'	22:RA:2712(A):A:P	2.27	0.54
22:RA:245:G:O2'	22:RA:384:U:O2	2.14	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:559:G:H2'	22:RA:560:C:O4'	2.07	0.54
22:RA:679:C:H2'	22:RA:680:G:C8	2.43	0.54
22:RA:902:C:H2'	22:RA:903:C:C6	2.42	0.54
22:RA:2224:G:OP1	24:RD:268:ARG:NH1	2.39	0.54
2:XB:162:ILE:O	2:XB:185:ILE:HG12	2.07	0.54
10:XJ:9:ARG:HB2	10:XJ:95:GLU:HB3	1.88	0.54
49:Y6:25:LYS:HZ2	51:Y8:34:TRP:HZ2	1.56	0.54
32:YP:62:LEU:HD12	51:Y8:30:ARG:HH11	1.72	0.54
22:YA:2245:U:C5'	22:YA:2246:G:H5'	2.37	0.54
22:YA:2262:U:OP2	43:Y0:16:SER:HB2	2.08	0.54
22:YA:2315:G:OP1	27:YG:36:LYS:NZ	2.41	0.54
22:YA:340:A:H2'	22:YA:341:G:O4'	2.08	0.54
23:YB:40:U:H3	23:YB:43:C:H5''	1.73	0.54
24:YD:70:TRP:CH2	24:YD:150:LYS:HA	2.43	0.54
25:YE:111:ARG:HD2	25:YE:160:TYR:CD1	2.42	0.54
1:QA:1336:C:H2'	1:QA:1336:C:O2	2.08	0.53
2:QB:235:SER:O	2:QB:237:ALA:N	2.41	0.53
22:RA:2102:U:H2'	22:RA:2103:C:C6	2.43	0.53
22:RA:2267:A:H5''	22:RA:2268:A:H5'	1.89	0.53
22:RA:2309:A:C6	22:RA:2310:A:C6	2.95	0.53
22:RA:478:A:N1	22:RA:500:G:H4'	2.23	0.53
32:RP:14:LYS:O	32:RP:16:ARG:HG2	2.08	0.53
1:XA:1225:A:N3	1:XA:1225:A:H2'	2.22	0.53
1:XA:591:U:H2'	1:XA:592:G:C8	2.43	0.53
2:XB:82:ARG:HA	2:XB:92:TYR:CE2	2.43	0.53
22:YA:1270:C:O2'	22:YA:1648:C:OP2	2.17	0.53
22:YA:2853:C:H2'	22:YA:2854:G:H8	1.73	0.53
22:YA:304:G:H2'	22:YA:305:U:C6	2.43	0.53
29:YI:131:LYS:HB3	29:YI:132:PRO:HA	1.90	0.53
32:YP:88:LEU:HD12	32:YP:95:VAL:HG11	1.90	0.53
1:QA:1072:G:H2'	1:QA:1073:U:C6	2.43	0.53
1:QA:1410:G:H1	1:QA:1490:C:N4	2.00	0.53
1:QA:191(D):U:H2'	1:QA:191(E):G:C8	2.44	0.53
3:QC:84:ILE:HD11	3:QC:88:ARG:HH21	1.73	0.53
15:QO:6:GLU:OE2	15:QO:6:GLU:N	2.35	0.53
47:R4:56:VAL:HA	47:R4:60:GLN:HB2	1.89	0.53
32:RP:61:ARG:HD2	51:R8:13:ARG:HD2	1.90	0.53
22:RA:2050:C:N4	22:RA:2051:A:N1	2.55	0.53
22:RA:271:G:H2'	22:RA:272:G:H8	1.73	0.53
22:RA:2772:C:H2'	22:RA:2773:C:C6	2.43	0.53
22:RA:321:G:H5''	26:RF:136:THR:HG23	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:686:G:H21	22:RA:788:A:H61	1.56	0.53
24:RD:44:ASN:HD22	24:RD:44:ASN:N	2.06	0.53
22:RA:2277:G:H5''	33:RQ:85:LYS:HB2	1.90	0.53
36:RT:33:LYS:HD2	36:RT:82:LEU:HA	1.89	0.53
1:XA:1191:A:H5''	3:XC:4:LYS:HZ2	1.73	0.53
1:XA:1075:C:OP1	2:XB:179:LYS:HE2	2.09	0.53
3:XC:14:ILE:O	3:XC:16:ARG:N	2.35	0.53
22:YA:1265:A:H3'	48:Y5:19:ARG:NH1	2.23	0.53
22:YA:190:A:N3	22:YA:679:C:O2'	2.40	0.53
22:YA:270(E):G:H2'	22:YA:270(F):U:O4'	2.08	0.53
24:YD:244:ARG:HB2	24:YD:245:PRO:HD2	1.90	0.53
24:YD:43:ARG:CB	24:YD:54:ARG:HB2	2.38	0.53
25:YE:78:LEU:HG	25:YE:79:ARG:NE	2.23	0.53
30:YN:30:ILE:HG23	30:YN:52:VAL:HG11	1.91	0.53
33:YQ:137:TYR:CE2	42:YZ:83:PRO:HG3	2.44	0.53
1:QA:593:G:H1	1:QA:646:U:H3	1.55	0.53
1:QA:689:C:OP2	11:QK:55:LYS:NZ	2.41	0.53
1:QA:598:U:H4'	8:QH:94:TYR:CD2	2.43	0.53
12:QL:55:VAL:HG12	12:QL:69:TYR:HA	1.90	0.53
22:RA:1053:C:N3	22:RA:1106:G:N2	2.42	0.53
22:RA:1204:A:O2'	22:RA:1205:U:O5'	2.26	0.53
22:RA:1289:C:H2'	22:RA:1290:C:C6	2.44	0.53
22:RA:1930:G:O2'	22:RA:1931:U:P	2.66	0.53
22:RA:2250:G:C8	22:RA:2496:C:H5''	2.44	0.53
22:RA:2563:U:O2	22:RA:2565:A:H8	1.90	0.53
22:RA:2687:U:C4	22:RA:2688:U:C5	2.96	0.53
22:RA:49:A:N7	22:RA:120:U:H5	2.06	0.53
29:RI:144:VAL:HG13	29:RI:145:VAL:HG23	1.91	0.53
29:RI:7:GLU:O	29:RI:9:LEU:HD13	2.08	0.53
1:XA:1145:C:H5'	1:XA:1146:A:OP1	2.08	0.53
1:XA:327:A:C4	1:XA:329:A:C8	2.97	0.53
2:XB:60:ASP:O	2:XB:64:ARG:HG2	2.09	0.53
10:XJ:4:ILE:HG12	10:XJ:100:THR:HG22	1.89	0.53
19:XS:36:ARG:NH1	19:XS:52:TYR:O	2.42	0.53
45:Y2:15:LYS:H	45:Y2:67:LYS:HE2	1.73	0.53
22:YA:1076:C:H2'	22:YA:1077:A:H5''	1.90	0.53
22:YA:1454:U:H5'	34:YR:63:ARG:NE	2.23	0.53
22:YA:1509:C:H2'	22:YA:1511:A:C8	2.43	0.53
22:YA:2636:U:OP1	25:YE:79:ARG:HA	2.09	0.53
22:YA:528:A:H3'	22:YA:528:A:C8	2.42	0.53
38:YV:66:ARG:NH1	38:YV:88:ARG:HD3	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1321:C:N4	1:QA:1322:C:N3	2.57	0.53
1:QA:1350:A:OP2	9:QI:118:LYS:NZ	2.41	0.53
1:QA:147:G:H2'	1:QA:148:G:C8	2.44	0.53
1:QA:299:G:H2'	1:QA:300:A:C8	2.44	0.53
1:QA:606:G:H22	1:QA:631:G:H5'	1.73	0.53
1:QA:6:G:N2	5:QE:98:THR:OG1	2.41	0.53
8:QH:51:VAL:HG11	8:QH:60:ARG:HG3	1.90	0.53
22:RA:1224:G:N2	22:RA:1227:A:OP2	2.42	0.53
22:RA:1264:G:H3'	22:RA:1265:A:H5''	1.89	0.53
22:RA:2562:U:O2'	31:RO:23:ARG:NH1	2.35	0.53
22:RA:554:U:H2'	22:RA:556:G:C8	2.44	0.53
23:RB:105:G:H2'	23:RB:106:G:H8	1.73	0.53
31:RO:2:ILE:HD13	31:RO:8:LEU:HD11	1.90	0.53
33:RQ:32:TYR:CE1	33:RQ:133:ARG:HG3	2.43	0.53
38:RV:99:ILE:O	38:RV:101:GLY:N	2.42	0.53
1:XA:1238:A:H62	1:XA:1301:U:H3	1.54	0.53
9:XI:111:ARG:NE	9:XI:112:LYS:O	2.38	0.53
11:XK:84:VAL:HG11	11:XK:95:ILE:HD11	1.90	0.53
22:YA:2789:C:H1'	22:YA:2892:A:H2	1.73	0.53
22:YA:528:A:C2	22:YA:2042:A:H2'	2.44	0.53
1:QA:636:U:H2'	1:QA:637:G:C8	2.44	0.53
1:QA:920:U:H2'	1:QA:921:U:C6	2.43	0.53
3:QC:35:GLU:HG2	3:QC:59:ARG:NH2	2.24	0.53
45:R2:10:LEU:O	45:R2:13:ALA:N	2.40	0.53
13:QM:62:ASN:OD1	47:R4:49:PHE:HD2	1.92	0.53
22:RA:1620:G:O2'	22:RA:1621:U:H5'	2.09	0.53
22:RA:2332:U:H4'	22:RA:2336:A:N6	2.24	0.53
22:RA:247:G:H4'	22:RA:386:G:C5	2.44	0.53
22:RA:270(F):U:H2'	22:RA:270(G):C:C6	2.44	0.53
22:RA:380:U:H2'	22:RA:381:G:C8	2.43	0.53
22:RA:511:U:O4	22:RA:512:G:N1	2.42	0.53
26:RF:135:LYS:HB3	26:RF:138:GLU:HG3	1.90	0.53
22:RA:674:G:C1'	26:RF:74:ARG:HD3	2.35	0.53
28:RH:149:ARG:HE	28:RH:154:PRO:HG2	1.73	0.53
1:XA:1347:G:OP2	9:XI:107:ARG:HG2	2.09	0.53
1:XA:514:C:H2'	1:XA:515:G:C8	2.44	0.53
52:Y9:27:CYS:SG	52:Y9:28:GLU:N	2.82	0.53
22:YA:1165:U:H2'	22:YA:1166:C:C6	2.43	0.53
22:YA:2033:A:O2'	22:YA:2035:G:OP2	2.26	0.53
22:YA:747:U:OP2	48:Y5:3:LYS:HD2	2.08	0.53
23:YB:77:U:P	42:YZ:19:ARG:HH22	2.31	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YD:30:GLU:HG3	24:YD:63:ARG:HH21	1.73	0.53
36:YT:112:ARG:O	36:YT:112:ARG:NE	2.39	0.53
36:YT:51:ARG:CG	36:YT:98:LYS:HG3	2.38	0.53
42:YZ:102:LEU:HG	42:YZ:123:ASP:HA	1.89	0.53
1:QA:1004:A:H1'	1:QA:1036:G:H22	1.74	0.53
1:QA:1510:U:H2'	1:QA:1511:G:C8	2.44	0.53
1:QA:892:A:H2'	1:QA:893:C:C6	2.43	0.53
22:RA:1405:U:H2'	22:RA:1406:U:C6	2.44	0.53
22:RA:2010:G:H5''	39:RW:42:ARG:HB2	1.91	0.53
26:RF:32:LEU:O	26:RF:36:VAL:HG23	2.09	0.53
29:RI:114:LEU:HD12	29:RI:129:THR:O	2.08	0.53
1:XA:107:G:C2	1:XA:108:G:H1'	2.44	0.53
1:XA:933:G:N2	1:XA:1384:C:O2	2.39	0.53
8:XH:121:ASP:HB2	8:XH:125:ARG:NH2	2.24	0.53
17:XQ:4:LYS:HE3	17:XQ:6:LEU:HD21	1.90	0.53
22:YA:1162:G:H2'	22:YA:1163:G:H8	1.72	0.53
22:YA:1953:A:N1	22:YA:2549:G:O2'	2.38	0.53
23:YB:16:G:C6	23:YB:69:G:C2	2.97	0.53
33:YQ:12:GLN:HG2	33:YQ:73:PRO:HD2	1.90	0.53
36:YT:105:LEU:O	36:YT:107:ASP:N	2.42	0.53
42:YZ:52:SER:OG	42:YZ:52:SER:O	2.24	0.53
1:QA:1346:A:H5''	9:QI:120:ARG:NH1	2.20	0.53
1:QA:148:G:H2'	1:QA:149:A:H8	1.72	0.53
1:QA:382:A:H2'	1:QA:383:A:H8	1.73	0.53
1:QA:665:A:H2'	1:QA:725:G:N2	2.22	0.53
1:QA:872:A:O2'	1:QA:873:A:H5''	2.08	0.53
6:QF:10:LEU:HD13	6:QF:61:LEU:HD13	1.90	0.53
9:QI:71:SER:HA	9:QI:74:ILE:HD12	1.90	0.53
22:RA:1035:U:H2'	22:RA:1036:G:C8	2.44	0.53
22:RA:1058:G:H1	22:RA:1079:C:N4	2.06	0.53
22:RA:2277:G:OP2	43:R0:10:THR:HG21	2.09	0.53
22:RA:2823:A:OP1	25:RE:113:PHE:HB2	2.08	0.53
22:RA:676:A:H8	22:RA:2069:G:N2	2.02	0.53
13:QM:7:VAL:HB	27:RG:115:ARG:NH1	2.24	0.53
29:RI:132:PRO:HB2	29:RI:133:HIS:CE1	2.43	0.53
35:RS:106:ARG:HA	35:RS:110:LEU:HD21	1.91	0.53
41:RY:98:VAL:HG13	41:RY:99:CYS:SG	2.48	0.53
1:XA:356:A:N3	1:XA:368:U:O2'	2.35	0.53
1:XA:865:A:H2	1:XA:918:A:H4'	1.72	0.53
19:XS:5:LEU:HD11	47:Y4:67:TYR:N	2.24	0.53
22:YA:1933:G:H2'	22:YA:1934:C:O4'	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2022:U:O2'	22:YA:2617:C:H5'	2.09	0.53
22:YA:273(C):C:N4	22:YA:363(C):G:H1	2.04	0.53
22:YA:729:G:C6	24:YD:208:LYS:HB2	2.43	0.53
30:YN:96:GLU:HG2	30:YN:97:ARG:N	2.23	0.53
32:YP:92:GLU:HA	32:YP:123:LEU:HD23	1.89	0.53
23:YB:37:C:O2	35:YS:95:HIS:NE2	2.42	0.53
36:YT:16:ARG:HE	36:YT:19:LEU:HD21	1.73	0.53
1:QA:1342:C:H4'	9:QI:125:TYR:HB3	1.90	0.53
1:QA:922:G:H2'	1:QA:923:A:C8	2.44	0.53
19:QS:44:MET:O	19:QS:46:GLY:N	2.40	0.53
45:R2:65:ASN:HB3	45:R2:69:ARG:NH2	2.24	0.53
22:RA:1871:A:H2'	22:RA:1872:A:C8	2.44	0.53
22:RA:2128:C:H1'	22:RA:2173:A:N3	2.23	0.53
22:RA:295:G:H1	22:RA:343:C:H42	1.56	0.53
22:RA:445:C:H2'	22:RA:446:G:O4'	2.09	0.53
22:RA:609(A):G:H2'	22:RA:610:C:C6	2.44	0.53
22:RA:864:G:H1'	22:RA:914:C:H42	1.74	0.53
22:RA:960:A:H2'	22:RA:962:G:H5'	1.91	0.53
26:RF:157:VAL:HB	26:RF:194:MET:HB3	1.91	0.53
32:RP:113:LYS:HG2	32:RP:115:LEU:HD23	1.90	0.53
1:QA:1432:G:OP1	36:RT:107:ASP:HB2	2.09	0.53
39:RW:110:LYS:HG3	39:RW:111:HIS:ND1	2.23	0.53
42:RZ:111:VAL:O	42:RZ:113:ALA:N	2.42	0.53
1:XA:68:G:H5'	1:XA:171:A:H1'	1.90	0.53
1:XA:947:G:H2'	1:XA:948:C:C6	2.44	0.53
19:XS:31:ILE:HG23	19:XS:49:ILE:HA	1.91	0.53
20:XT:95:ALA:O	20:XT:97:ALA:N	2.42	0.53
1:XA:1312:G:H3'	47:Y4:67:TYR:OH	2.09	0.53
22:YA:1413:G:H2'	22:YA:1414:G:O4'	2.09	0.53
22:YA:1676:A:H2'	22:YA:1677:A:O4'	2.08	0.53
22:YA:2734:A:H5'	22:YA:2735:G:OP2	2.09	0.53
24:YD:206:LEU:O	24:YD:211:ARG:HD3	2.09	0.53
37:YU:102:GLU:OE1	38:YV:13:ARG:NH2	2.42	0.53
1:QA:1077:G:N2	1:QA:1080:A:OP2	2.38	0.53
1:QA:1194:U:H5''	1:QA:1195:C:OP2	2.09	0.53
1:QA:447:G:O6	1:QA:485:G:H2'	2.09	0.53
1:QA:7:G:H2'	5:QE:119:LEU:HD22	1.90	0.53
4:QD:78:LEU:HD22	4:QD:96:LEU:HB3	1.89	0.53
22:RA:2262:U:H5	43:R0:16:SER:HG	1.57	0.53
44:R1:80:LEU:HD23	44:R1:80:LEU:H	1.74	0.53
22:RA:26:G:H1'	22:RA:515:A:H61	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:303:U:H2'	22:RA:304:G:C8	2.43	0.53
22:RA:415:A:H2'	22:RA:416:C:O4'	2.08	0.53
22:RA:709:U:H3	22:RA:722:A:H61	1.55	0.53
22:RA:768:G:H2'	22:RA:769:G:H8	1.74	0.53
25:RE:203:LYS:HE3	25:RE:204:ALA:HB2	1.91	0.53
29:RI:101:LEU:HD23	29:RI:105:HIS:HB2	1.90	0.53
1:XA:1321:C:H5''	1:XA:1322:C:H5''	1.91	0.53
1:XA:381:C:H2'	1:XA:382:A:O4'	2.09	0.53
18:XR:25:THR:HB	18:XR:26:LEU:HD23	1.91	0.53
27:YG:179:PRO:HG3	47:Y4:38:LYS:NZ	2.24	0.53
49:Y6:26:ASN:ND2	49:Y6:35:GLU:OE2	2.42	0.53
22:YA:1510:A:N3	22:YA:1510:A:H2'	2.24	0.53
22:YA:2572:A:C8	25:YE:144:ARG:NE	2.75	0.53
22:YA:528:A:H2	22:YA:2043:C:C5'	2.22	0.53
28:YH:149:ARG:NH1	28:YH:167:GLU:OE1	2.42	0.53
29:YI:82:ARG:O	29:YI:89:TYR:HD1	1.92	0.53
1:QA:918:A:H2'	1:QA:919:A:O4'	2.09	0.53
1:QA:939:G:H5''	7:QG:102:ARG:NH2	2.24	0.53
43:R0:70:GLN:OE1	43:R0:80:HIS:NE2	2.40	0.53
48:R5:40:LYS:NZ	48:R5:46:CYS:HB3	2.24	0.53
22:RA:137(A):G:N3	40:RX:41:ASN:ND2	2.54	0.53
22:RA:1496:A:H8	22:RA:1577:C:O2'	1.92	0.53
22:RA:2232:U:P	44:R1:40:ARG:HH12	2.32	0.53
22:RA:2888:C:H2'	22:RA:2889:C:C6	2.44	0.53
23:RB:13:A:O2'	23:RB:14:U:H3'	2.08	0.53
28:RH:10:PRO:HD2	28:RH:50:VAL:HG13	1.89	0.53
22:RA:1652:A:N6	34:RR:11:ASN:OD1	2.38	0.53
1:XA:130:A:N3	1:XA:263:A:O2'	2.37	0.53
1:XA:243:A:H4'	1:XA:244:U:H3'	1.91	0.53
1:XA:946:A:H2'	1:XA:947:G:C8	2.43	0.53
2:XB:44:LEU:HD12	2:XB:44:LEU:H	1.74	0.53
1:XA:255:G:H4'	17:XQ:17:LYS:HD3	1.91	0.53
22:YA:270(T):G:OP1	44:Y1:97:LEU:HD13	2.09	0.53
49:Y6:40:CYS:HB2	49:Y6:45:LYS:HD3	1.90	0.53
22:YA:1093:G:OP1	28:YH:170:ARG:NH1	2.42	0.53
22:YA:2441:C:OP2	22:YA:2586:C:O2'	2.24	0.53
30:YN:13:TRP:O	30:YN:135:PRO:HD2	2.08	0.53
41:YY:35:TYR:CE1	41:YY:69:ALA:HB3	2.44	0.53
1:QA:1275:A:H2'	1:QA:1276:G:O4'	2.10	0.52
1:QA:36:C:O2'	12:QL:117:ARG:NH2	2.42	0.52
1:QA:37:U:O2'	1:QA:500:G:H4'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:476:G:H2'	1:QA:477:G:C8	2.44	0.52
45:R2:4:SER:OG	45:R2:5:GLU:OE2	2.16	0.52
22:RA:1532:C:O2	22:RA:1540:G:N2	2.42	0.52
22:RA:1858:G:H1'	22:RA:1884:A:N6	2.24	0.52
22:RA:2844:G:H3'	22:RA:2845:G:H8	1.74	0.52
25:RE:1:MET:N	25:RE:83:ASP:O	2.41	0.52
1:XA:1003:G:H21	1:XA:1005:A:H5'	1.74	0.52
1:XA:1399:C:C2	1:XA:1502:A:N6	2.77	0.52
7:XG:15:ASP:HB3	7:XG:19:GLY:H	1.74	0.52
12:XL:7:ILE:HD13	12:XL:10:LEU:HD12	1.90	0.52
22:YA:1055:G:N2	22:YA:1104:C:N3	2.47	0.52
29:YI:124:GLY:H	29:YI:142:VAL:HG23	1.74	0.52
35:YS:10:ARG:O	35:YS:12:PHE:N	2.42	0.52
33:YQ:60:ARG:NH1	42:YZ:113:ALA:HB3	2.20	0.52
1:QA:1244:C:N3	1:QA:1293:G:N2	2.41	0.52
1:QA:1305:G:N2	1:QA:1331:G:H2'	2.24	0.52
14:QN:24:CYS:HB3	14:QN:29:ARG:N	2.23	0.52
22:RA:1181:C:H2'	22:RA:1182:A:H8	1.73	0.52
24:RD:206:LEU:O	24:RD:211:ARG:NH1	2.38	0.52
22:RA:1007:C:H5''	30:RN:35:ARG:HH11	1.75	0.52
1:XA:1161:C:O2'	1:XA:1162:C:H5'	2.09	0.52
1:XA:1439:C:H42	1:XA:1462:G:H1	1.57	0.52
1:XA:261:U:OP2	20:XT:79:ARG:NH2	2.42	0.52
20:XT:47:GLY:O	20:XT:49:ALA:N	2.41	0.52
27:YG:96:ARG:O	27:YG:98:ARG:N	2.42	0.52
29:YI:5:LEU:HD21	29:YI:12:LEU:HB3	1.91	0.52
30:YN:110:GLY:O	30:YN:114:ARG:HG3	2.09	0.52
42:YZ:10:ARG:NH2	42:YZ:26:GLY:H	2.07	0.52
42:YZ:144:LEU:HD11	42:YZ:149:SER:HA	1.90	0.52
1:QA:940:C:H42	1:QA:1343:G:H1	1.56	0.52
1:QA:410:G:H3'	4:QD:25:ARG:HH21	1.73	0.52
4:QD:98:GLU:OE2	4:QD:107:ARG:NE	2.43	0.52
29:RI:79:ILE:HD13	29:RI:80:PRO:HD2	1.91	0.52
22:RA:943:U:OP2	32:RP:36:LYS:HG2	2.08	0.52
38:RV:60:GLU:HB2	38:RV:97:LYS:HE3	1.92	0.52
1:XA:1067:A:N1	1:XA:1108:G:O2'	2.36	0.52
1:XA:1277:C:O2'	1:XA:1279:A:H1'	2.09	0.52
3:XC:40:ARG:O	3:XC:44:GLU:HB2	2.09	0.52
22:YA:2261:C:OP2	43:Y0:17:GLN:N	2.40	0.52
22:YA:1114:G:H2'	22:YA:1115:G:H8	1.72	0.52
22:YA:2688:U:H1'	22:YA:2721:A:N6	2.25	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:669:G:N3	22:YA:669:G:H2'	2.23	0.52
24:YD:132:PRO:HD3	24:YD:190:TYR:CZ	2.44	0.52
24:YD:85:ASP:OD2	24:YD:88:ARG:HD2	2.08	0.52
29:YI:5:LEU:N	29:YI:5:LEU:HD12	2.24	0.52
33:YQ:20:ALA:HB3	42:YZ:79:ARG:NH2	2.23	0.52
35:YS:6:ALA:O	35:YS:10:ARG:HD3	2.09	0.52
1:QA:396:G:O2'	1:QA:398:C:OP1	2.20	0.52
1:QA:42:G:H8	1:QA:42:G:O5'	1.93	0.52
1:QA:625:G:H2'	1:QA:626:U:H6	1.75	0.52
2:QB:134:GLU:HA	2:QB:137:ARG:HB3	1.92	0.52
13:QM:66:LEU:HA	13:QM:70:LEU:HB2	1.92	0.52
22:RA:1297:C:H2'	22:RA:1298:C:H6	1.74	0.52
22:RA:2106:G:H1	22:RA:2183:C:N4	2.01	0.52
22:RA:548:A:C5	22:RA:549:G:H1'	2.43	0.52
24:RD:35:LYS:NZ	24:RD:64:ILE:O	2.41	0.52
26:RF:134:GLY:HA3	26:RF:165:ARG:NH1	2.25	0.52
28:RH:46:GLU:OE2	28:RH:51:ARG:NH1	2.42	0.52
1:XA:1245:A:OP2	21:XU:9:ARG:NH2	2.42	0.52
22:YA:1287:A:N7	34:YR:107:ASP:HB2	2.25	0.52
22:YA:1614:A:N1	39:YW:91:GLY:HA2	2.25	0.52
22:YA:297:C:H2'	22:YA:298:G:O4'	2.09	0.52
22:YA:347:A:H2'	22:YA:348:G:C8	2.44	0.52
22:YA:2845:G:H5''	36:YT:54:ARG:O	2.08	0.52
1:QA:1464:G:OP1	36:RT:108:ARG:NH2	2.43	0.52
1:QA:617:G:H1	1:QA:623:C:H42	1.57	0.52
3:QC:37:GLN:NE2	14:QN:52:GLN:OE1	2.32	0.52
22:RA:1432:C:H2'	22:RA:1433:U:O4'	2.10	0.52
22:RA:1790:C:H5''	22:RA:1791:A:OP1	2.10	0.52
22:RA:2019:A:OP2	48:R5:9:LYS:NZ	2.40	0.52
22:RA:2105:C:N4	22:RA:2106:G:O6	2.42	0.52
22:RA:2247:A:H2'	22:RA:2248:C:C6	2.44	0.52
22:RA:2461:C:H2'	22:RA:2462:U:H6	1.73	0.52
22:RA:1247:A:OP1	26:RF:95:ARG:NH2	2.42	0.52
27:RG:82:LEU:HA	27:RG:86:MET:SD	2.48	0.52
28:RH:86:GLU:HG3	28:RH:165:ALA:N	2.25	0.52
29:RI:29:TYR:CD2	29:RI:30:LEU:HD23	2.44	0.52
34:RR:59:ASP:OD1	34:RR:61:HIS:HB3	2.08	0.52
1:XA:1203:C:H2'	1:XA:1204:A:H8	1.75	0.52
1:XA:757:U:OP1	1:XA:822:C:O2'	2.27	0.52
1:XA:987:G:H1	1:XA:1218:C:H42	1.57	0.52
16:XP:8:ARG:O	16:XP:9:PHE:HD2	1.93	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:213:A:H2'	22:YA:214:G:O4'	2.09	0.52
22:YA:2193:G:H2'	22:YA:2194:G:C8	2.44	0.52
22:YA:325:G:H2'	22:YA:326:G:C8	2.43	0.52
22:YA:528:A:OP2	30:YN:114:ARG:NH1	2.42	0.52
1:QA:690:G:H22	11:QK:55:LYS:NZ	2.08	0.52
22:RA:537:C:H5'	22:RA:539:G:OP2	2.10	0.52
22:RA:78:A:H2'	22:RA:79:G:H8	1.73	0.52
24:RD:108:PRO:HB3	24:RD:143:HIS:HE1	1.73	0.52
24:RD:133:LEU:HB3	24:RD:173:VAL:HG11	1.91	0.52
26:RF:150:GLY:HA2	26:RF:172:TRP:CE3	2.44	0.52
29:RI:124:GLY:O	29:RI:142:VAL:HG23	2.09	0.52
42:RZ:111:VAL:HG13	42:RZ:112:ARG:H	1.74	0.52
1:XA:1284:C:H3'	1:XA:1285:A:H8	1.75	0.52
1:XA:684:A:C6	1:XA:685:G:C6	2.98	0.52
3:XC:189:ALA:HB3	3:XC:196:LEU:HB2	1.91	0.52
14:XN:43:CYS:HA	14:XN:46:GLU:HG3	1.92	0.52
1:XA:1320:C:H5'	19:XS:70:LYS:HG3	1.92	0.52
53:XV:74:C:C2'	53:XV:75:C:H5'	2.40	0.52
49:Y6:13:CYS:O	49:Y6:21:TYR:HA	2.09	0.52
22:YA:11:G:H2'	22:YA:12:U:H5'	1.90	0.52
22:YA:1658:C:H2'	22:YA:1659:U:C6	2.45	0.52
22:YA:519:U:H2'	22:YA:520:G:H8	1.75	0.52
27:YG:88:ILE:O	27:YG:88:ILE:HD13	2.09	0.52
1:QA:602:A:H2'	1:QA:603:U:C6	2.45	0.52
1:QA:7:G:H5'	1:QA:298:A:O4'	2.10	0.52
22:RA:180:G:P	50:R7:32:LYS:HE2	2.50	0.52
22:RA:1042:G:H2'	22:RA:1043:C:C6	2.45	0.52
22:RA:1810:A:H2'	22:RA:1811:G:O4'	2.10	0.52
22:RA:2119:A:N6	22:RA:2170:A:N7	2.56	0.52
22:RA:380:U:H2'	22:RA:381:G:H8	1.74	0.52
29:RI:29:TYR:HD2	29:RI:30:LEU:HD23	1.74	0.52
41:RY:87:LYS:HA	41:RY:92:ASN:HB3	1.91	0.52
1:XA:464:G:C6	1:XA:466:C:H5'	2.45	0.52
1:XA:1229:A:O2'	53:XV:30:G:OP1	2.25	0.52
51:Y8:11:LYS:NZ	51:Y8:63:PRO:HG3	2.24	0.52
22:YA:2527:C:H5''	52:Y9:30:PRO:HB2	1.90	0.52
22:YA:1820:U:H4'	22:YA:1821:A:OP2	2.10	0.52
22:YA:2291:U:H2'	22:YA:2292:C:C6	2.44	0.52
26:YF:63:LYS:HE2	26:YF:67:GLN:HB2	1.91	0.52
32:YP:20:GLY:HA2	32:YP:27:HIS:O	2.10	0.52
1:QA:1150:U:O4	1:QA:1151:A:N6	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:192:U:H2'	1:QA:193:C:C6	2.45	0.52
1:QA:301:G:H2'	1:QA:302:G:C8	2.45	0.52
1:QA:382:A:H2'	1:QA:383:A:C8	2.44	0.52
1:QA:137:C:O4'	16:QP:63:GLY:HA2	2.09	0.52
22:RA:551:G:H5'	22:RA:1220:A:H1'	1.91	0.52
22:RA:1592:C:H2'	22:RA:1593:G:H8	1.74	0.52
22:RA:2493:U:H2'	22:RA:2494:G:O4'	2.10	0.52
22:RA:2774:C:H2'	22:RA:2775:A:O4'	2.10	0.52
22:RA:608:A:OP1	26:RF:100:THR:OG1	2.28	0.52
23:RB:44:G:H5''	23:RB:45:A:OP1	2.09	0.52
24:RD:206:LEU:HD22	24:RD:211:ARG:HG2	1.92	0.52
29:RI:12:LEU:HG	29:RI:19:VAL:HG21	1.90	0.52
38:RV:34:GLU:O	38:RV:36:PRO:HD3	2.10	0.52
41:RY:84:ARG:O	41:RY:95:LYS:HD3	2.09	0.52
1:XA:113:G:H1	1:XA:314:C:N4	2.07	0.52
1:XA:1069:C:O2'	1:XA:1192:C:O2	2.15	0.52
1:XA:42:G:H1	1:XA:400:C:H42	1.58	0.52
1:XA:476:G:H2'	1:XA:477:G:C8	2.45	0.52
7:XG:78:ARG:HG3	7:XG:79:ARG:N	2.25	0.52
10:XJ:78:ASN:O	10:XJ:81:THR:OG1	2.25	0.52
20:XT:53:LEU:O	20:XT:57:ARG:NH1	2.42	0.52
22:YA:278:A:H2'	22:YA:279:C:C6	2.45	0.52
22:YA:2825:C:O5'	22:YA:2825:C:H6	1.92	0.52
22:YA:649:G:C6	22:YA:650:C:C4	2.98	0.52
22:YA:759:G:H2'	22:YA:760:G:H8	1.74	0.52
26:YF:24:LEU:HD23	26:YF:115:ALA:HA	1.91	0.52
1:QA:1126:U:H1'	1:QA:1280:A:N7	2.25	0.52
1:QA:411:A:H62	1:QA:413:G:N2	2.08	0.52
4:QD:12:CYS:HA	4:QD:19:LEU:HD23	1.92	0.52
5:QE:145:LYS:HA	8:QH:107:LEU:HD21	1.91	0.52
11:QK:96:ARG:HA	11:QK:99:GLN:HE21	1.75	0.52
1:QA:376:G:H5''	16:QP:5:ARG:HB2	1.92	0.52
22:RA:1178:C:H4'	22:RA:1179:C:OP1	2.10	0.52
22:RA:2183:C:H2'	22:RA:2184:G:C8	2.45	0.52
22:RA:2867:G:O2'	22:RA:2868:A:H8	1.93	0.52
22:RA:883:G:H22	22:RA:892:G:H22	1.57	0.52
39:RW:60:ASN:HD22	39:RW:60:ASN:H	1.56	0.52
1:XA:1296:C:OP1	13:XM:44:ARG:NH2	2.43	0.52
1:XA:643:C:H2'	1:XA:644:G:H8	1.73	0.52
1:XA:877:C:O2'	8:XH:3:THR:OG1	2.22	0.52
2:XB:35:GLU:O	2:XB:36:ARG:HD3	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:XD:13:ARG:HD2	4:XD:38:TYR:O	2.10	0.52
12:XL:77:LEU:HD21	12:XL:107:ALA:HA	1.92	0.52
45:Y2:58:ALA:O	45:Y2:62:THR:HG23	2.10	0.52
46:Y3:40:THR:HB	46:Y3:43:ILE:HG12	1.92	0.52
22:YA:330:A:O2'	22:YA:331:A:H8	1.92	0.52
22:YA:860:U:H5	22:YA:917:A:C2	2.28	0.52
28:YH:41:MET:HE1	28:YH:64:LEU:HB3	1.91	0.52
1:QA:701:C:H1'	1:QA:703:G:C5	2.45	0.52
1:QA:892:A:H2'	1:QA:893:C:H6	1.75	0.52
5:QE:91:LEU:HD12	5:QE:120:THR:HG22	1.92	0.52
11:QK:32:ILE:HG13	11:QK:72:ALA:HB2	1.92	0.52
22:RA:1341:U:OP2	22:RA:1394:U:O2'	2.24	0.52
22:RA:172:C:H2'	22:RA:173:G:C8	2.44	0.52
22:RA:1857:G:O2'	22:RA:1885:A:N6	2.42	0.52
22:RA:2291:U:H2'	22:RA:2292:C:C6	2.45	0.52
22:RA:631:A:P	51:R8:46:ARG:NH2	2.83	0.52
22:RA:903:C:H2'	22:RA:904:C:C6	2.45	0.52
29:RI:38:LEU:H	29:RI:38:LEU:HD12	1.74	0.52
22:RA:2482:G:O6	33:RQ:124:LYS:NZ	2.43	0.52
36:RT:111:ARG:C	36:RT:113:LYS:H	2.12	0.52
1:XA:359:U:H2'	1:XA:360:A:C8	2.45	0.52
1:XA:518:C:H2'	1:XA:530:G:N3	2.24	0.52
1:XA:590:C:O2'	1:XA:591:U:H5'	2.09	0.52
44:Y1:83:GLU:HG2	44:Y1:84:GLY:N	2.24	0.52
22:YA:2398:U:H2'	22:YA:2399:G:C8	2.45	0.52
22:YA:270(R):G:H2'	22:YA:270(S):G:C8	2.43	0.52
22:YA:503:A:H4'	22:YA:504:U:H5'	1.92	0.52
22:YA:540:G:H5'	22:YA:541:C:OP2	2.10	0.52
22:YA:700:G:H2'	22:YA:701:G:O4'	2.10	0.52
22:YA:863:A:H2'	22:YA:864:G:H8	1.75	0.52
28:YH:88:LEU:H	28:YH:88:LEU:HD22	1.75	0.52
36:YT:88:ILE:HD12	36:YT:90:GLN:N	2.25	0.52
1:QA:1217:C:H2'	1:QA:1218:C:C6	2.45	0.51
1:QA:1305:G:H22	1:QA:1331:G:H2'	1.75	0.51
1:QA:222:U:H2'	1:QA:223:U:C6	2.45	0.51
1:QA:32:A:H2'	1:QA:33:A:C8	2.45	0.51
1:QA:659:U:N3	1:QA:660:G:N7	2.58	0.51
8:QH:77:GLU:HG2	8:QH:78:GLN:H	1.74	0.51
1:QA:1453:G:H2'	20:QT:39:LYS:NZ	2.24	0.51
44:R1:2:SER:HB2	44:R1:4:VAL:HG12	1.92	0.51
22:RA:111:A:H4'	45:R2:69:ARG:NH2	2.24	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2057:A:H2'	22:RA:2058:A:O4'	2.10	0.51
22:RA:2287:A:O2'	22:RA:2288:A:H5''	2.09	0.51
22:RA:2404:C:O3'	32:RP:77:ARG:NH2	2.42	0.51
22:RA:2532:G:H2'	22:RA:2533:A:O4'	2.09	0.51
24:RD:12:SER:HB2	24:RD:208:LYS:HB3	1.92	0.51
26:RF:150:GLY:HA2	26:RF:172:TRP:CD2	2.45	0.51
29:RI:138:ILE:HG12	29:RI:139:GLN:O	2.10	0.51
34:RR:33:ARG:HD3	34:RR:113:LEU:HG	1.92	0.51
1:XA:1132:C:H2'	1:XA:1133:G:C8	2.41	0.51
1:XA:677:U:H2'	1:XA:678:U:O4'	2.11	0.51
1:XA:865:A:C2	1:XA:918:A:H4'	2.44	0.51
2:XB:29:ALA:O	2:XB:32:ILE:HG22	2.10	0.51
3:XC:47:LEU:HD11	3:XC:76:VAL:HB	1.91	0.51
4:XD:108:LEU:HB3	4:XD:110:PHE:CE1	2.45	0.51
19:XS:19:VAL:HG11	19:XS:44:MET:HG2	1.91	0.51
20:XT:26:ASN:HB2	20:XT:71:THR:HG23	1.92	0.51
43:Y0:67:VAL:HG22	43:Y0:81:VAL:HG22	1.91	0.51
49:Y6:7:ILE:HG13	49:Y6:8:LYS:H	1.75	0.51
51:Y8:51:ALA:N	51:Y8:53:PRO:HD2	2.25	0.51
22:YA:1062:G:H8	22:YA:1062:G:O5'	1.93	0.51
22:YA:1056:G:H4'	22:YA:1086:A:H8	1.75	0.51
22:YA:892:G:N2	22:YA:893:C:C2	2.78	0.51
39:YW:40:ASN:O	39:YW:41:LYS:HG2	2.10	0.51
1:QA:1142:G:H3'	1:QA:1143:G:C8	2.44	0.51
1:QA:1151:A:H2'	1:QA:1152:A:H8	1.75	0.51
1:QA:427:U:OP1	4:QD:13:ARG:NH2	2.42	0.51
22:RA:1083:U:O2'	22:RA:1085:A:H5''	2.10	0.51
22:RA:1636:C:H2'	22:RA:1637:A:C8	2.45	0.51
22:RA:2059:A:H5'	26:RF:71:GLY:HA2	1.93	0.51
40:RX:59:VAL:HG21	40:RX:78:LYS:HE3	1.91	0.51
1:XA:1347:G:H22	1:XA:1374:A:P	2.34	0.51
2:XB:170:GLU:O	2:XB:174:VAL:HG23	2.11	0.51
1:XA:1117:G:H5''	9:XI:104:ARG:NH1	2.25	0.51
22:YA:380:U:H5'	44:Y1:16:ASN:O	2.10	0.51
45:Y2:24:LEU:HD13	45:Y2:60:LEU:HD11	1.92	0.51
22:YA:1430:C:H2'	22:YA:1431:U:C6	2.46	0.51
22:YA:1446:C:N4	22:YA:1465:G:H1	2.06	0.51
22:YA:235:U:H2'	22:YA:236:C:H6	1.75	0.51
32:YP:96:THR:HG22	32:YP:126:VAL:HB	1.92	0.51
34:YR:83:ILE:HG22	34:YR:87:TYR:HE2	1.76	0.51
37:YU:107:ALA:O	37:YU:110:VAL:HB	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1143:G:H2'	1:QA:1144:G:C8	2.45	0.51
1:QA:965:A:C2	1:QA:969:A:C2	2.99	0.51
1:QA:984:C:H2'	1:QA:985:C:H6	1.75	0.51
22:RA:1101:U:H2'	22:RA:1102:C:C6	2.45	0.51
26:RF:47:GLY:HA3	26:RF:95:ARG:O	2.10	0.51
28:RH:153:LYS:HG2	28:RH:162:ILE:HG13	1.92	0.51
32:RP:10:PRO:O	32:RP:12:ALA:N	2.43	0.51
23:RB:52:A:N6	35:RS:33:LYS:HG3	2.25	0.51
39:RW:67:ASP:OD2	39:RW:67:ASP:N	2.33	0.51
33:RQ:108:GLY:HA3	42:RZ:116:VAL:HG21	1.92	0.51
42:RZ:165:VAL:HG11	42:RZ:169:GLU:HB2	1.92	0.51
1:XA:110:C:H2'	1:XA:111:G:O4'	2.10	0.51
1:XA:1511:G:H2'	1:XA:1512:U:O4'	2.10	0.51
1:XA:1493:A:OP1	57:XA:1601:PAR:H51	2.11	0.51
5:XE:102:ALA:HB1	5:XE:106:PRO:HG2	1.92	0.51
20:XT:89:ARG:HH21	20:XT:104:LEU:HD11	1.76	0.51
22:YA:26:G:N1	22:YA:27:G:N2	2.58	0.51
28:YH:26:VAL:HG13	28:YH:27:LYS:H	1.76	0.51
38:YV:65:GLY:HA3	38:YV:91:TYR:CZ	2.46	0.51
42:YZ:144:LEU:HD21	42:YZ:149:SER:HA	1.93	0.51
1:QA:1388:C:H2'	1:QA:1389:C:C6	2.46	0.51
4:QD:61:LYS:HB2	4:QD:203:VAL:HG13	1.93	0.51
7:QG:153:HIS:CE1	11:QK:57:THR:HG23	2.46	0.51
10:QJ:31:GLY:HA3	10:QJ:78:ASN:ND2	2.26	0.51
22:RA:1049:C:H2'	22:RA:1050:A:H5''	1.91	0.51
22:RA:1384:A:N3	22:RA:1405:U:H1'	2.25	0.51
22:RA:1607:C:H5''	22:RA:1608:A:H5'	1.92	0.51
29:RI:37:VAL:HG12	29:RI:38:LEU:HD12	1.92	0.51
41:RY:74:PRO:O	41:RY:80:GLY:HA2	2.11	0.51
22:RA:297:C:H5''	41:RY:85:VAL:HG21	1.92	0.51
2:XB:21:ARG:HB2	2:XB:39:ILE:HA	1.91	0.51
5:XE:13:ILE:HD11	5:XE:55:VAL:HG22	1.91	0.51
6:XF:4:TYR:HD1	6:XF:92:LYS:HA	1.76	0.51
9:XI:11:LYS:H	9:XI:104:ARG:HH21	1.57	0.51
9:XI:70:LYS:O	9:XI:74:ILE:HG13	2.10	0.51
48:Y5:38:ALA:HB3	48:Y5:40:LYS:HE3	1.92	0.51
22:YA:858:U:O2	22:YA:2268:A:H2'	2.11	0.51
22:YA:2370:G:C6	22:YA:2371:G:C6	2.98	0.51
22:YA:612:G:N2	22:YA:616:A:O2'	2.44	0.51
24:YD:148:GLU:HB2	24:YD:151:LYS:HD2	1.92	0.51
26:YF:127:GLU:OE1	26:YF:196:LEU:HB2	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YG:77:ILE:HD13	27:YG:82:LEU:HD12	1.93	0.51
30:YN:38:HIS:O	37:YU:67:ALA:HB1	2.10	0.51
38:YV:25:LEU:H	38:YV:92:THR:HG21	1.75	0.51
42:YZ:181:GLU:HG3	42:YZ:183:LEU:HB2	1.93	0.51
1:QA:1068:G:N3	1:QA:1191:A:C2	2.76	0.51
1:QA:824:C:H2'	1:QA:825:G:C8	2.45	0.51
1:QA:859:A:H2'	1:QA:860:A:O4'	2.11	0.51
18:QR:32:ARG:HA	18:QR:69:THR:HG21	1.91	0.51
22:RA:1303:G:HO2'	22:RA:1642:G:HO2'	1.58	0.51
22:RA:2273:A:H2'	22:RA:2274:A:C8	2.46	0.51
22:RA:2399:G:H2'	22:RA:2400:G:O4'	2.11	0.51
22:RA:2517:C:C2	22:RA:2542:A:N6	2.78	0.51
22:RA:389:G:N1	32:RP:70:GLN:HB3	2.25	0.51
40:RX:35:THR:HG23	40:RX:38:GLU:HG2	1.93	0.51
1:XA:1432:G:H8	1:XA:1432:G:O5'	1.94	0.51
1:XA:484:G:H4'	1:XA:485:G:O5'	2.11	0.51
13:XM:14:ARG:N	13:XM:44:ARG:HD3	2.21	0.51
45:Y2:65:ASN:HB3	45:Y2:69:ARG:NH2	2.26	0.51
46:Y3:43:ILE:O	46:Y3:47:VAL:HG23	2.10	0.51
22:YA:2150:U:H2'	22:YA:2151:G:C8	2.46	0.51
22:YA:528:A:H3'	22:YA:528:A:H8	1.75	0.51
22:YA:860:U:C5	22:YA:917:A:C2	2.97	0.51
27:YG:16:ARG:O	27:YG:20:ILE:HG12	2.10	0.51
37:YU:47:TYR:HA	37:YU:50:ARG:NH2	2.26	0.51
1:QA:105:G:H2'	1:QA:106:C:H6	1.76	0.51
1:QA:1086:U:H3	1:QA:1099:G:H22	1.57	0.51
1:QA:1376:U:OP1	7:QG:94:ARG:NH1	2.43	0.51
8:QH:20:TYR:HE2	8:QH:75:ARG:HD2	1.76	0.51
12:QL:38:THR:HG23	12:QL:57:LYS:HB3	1.93	0.51
21:QU:6:ARG:HE	21:QU:15:ARG:HH21	1.59	0.51
22:RA:1381:G:H1'	22:RA:1571:A:N1	2.26	0.51
22:RA:1948:G:N2	22:RA:1958:C:O2	2.41	0.51
22:RA:388:G:OP1	44:R1:32:LYS:N	2.32	0.51
28:RH:86:GLU:H	28:RH:86:GLU:CD	2.12	0.51
1:XA:1127:G:H4'	1:XA:1148:U:O2	2.11	0.51
1:XA:1226:C:H4'	1:XA:1227:A:OP1	2.11	0.51
7:XG:155:ARG:O	7:XG:155:ARG:NH2	2.43	0.51
1:XA:778:G:H1'	11:XK:119:CYS:HB3	1.93	0.51
17:XQ:100:LYS:O	17:XQ:101:ARG:NE	2.43	0.51
20:XT:10:LEU:O	20:XT:13:LEU:HG	2.11	0.51
44:Y1:70:VAL:O	44:Y1:74:VAL:HG23	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:Y5:42:PRO:HB2	48:Y5:43:HIS:ND1	2.25	0.51
48:Y5:56:LYS:HD3	48:Y5:58:LEU:HD23	1.90	0.51
22:YA:1550:C:H2'	22:YA:1551:C:H6	1.75	0.51
22:YA:2078:C:H42	22:YA:2241:A:H61	1.58	0.51
22:YA:380:U:H2'	22:YA:381:G:H8	1.76	0.51
29:YI:56:LYS:HE3	29:YI:57:ARG:HG2	1.93	0.51
34:YR:104:ARG:HD3	34:YR:111:LEU:HD21	1.92	0.51
36:YT:109:GLU:O	36:YT:113:LYS:HB2	2.11	0.51
1:QA:1368:G:H5'	9:QI:112:LYS:HB3	1.92	0.51
1:QA:137:C:H42	1:QA:226:G:H1	1.56	0.51
1:QA:266:G:H5''	1:QA:267:C:C5	2.46	0.51
1:QA:35:G:H2'	1:QA:36:C:C6	2.46	0.51
1:QA:370:C:H2'	1:QA:371:G:H8	1.75	0.51
22:RA:180:G:OP2	50:R7:32:LYS:HE2	2.11	0.51
22:RA:1382:G:H4'	22:RA:1573:G:N2	2.25	0.51
22:RA:1677:A:O5'	22:RA:1677:A:H8	1.93	0.51
22:RA:1716:U:H2'	22:RA:1717:G:H8	1.75	0.51
22:RA:2630:G:N3	22:RA:2894:G:N2	2.58	0.51
22:RA:2712:U:H1'	22:RA:2712(A):A:C8	2.45	0.51
22:RA:723:G:C6	22:RA:724:U:C4	2.98	0.51
22:RA:902:C:H2'	22:RA:903:C:H6	1.76	0.51
26:RF:149:ASP:N	26:RF:149:ASP:OD1	2.27	0.51
29:RI:11:ASN:O	29:RI:12:LEU:HB2	2.09	0.51
29:RI:60:GLU:HG3	29:RI:61:ARG:HH12	1.75	0.51
36:RT:28:VAL:HG23	36:RT:88:ILE:HA	1.92	0.51
42:RZ:91:LEU:HD12	42:RZ:130:PRO:HG3	1.93	0.51
1:XA:234:C:H2'	1:XA:235:C:H6	1.74	0.51
1:XA:692:U:O2'	1:XA:694:A:N7	2.29	0.51
1:XA:828:A:H2'	1:XA:829:G:O4'	2.10	0.51
6:XF:97:PHE:CD2	18:XR:31:LEU:HD21	2.46	0.51
19:XS:15:LEU:O	19:XS:19:VAL:N	2.36	0.51
19:XS:26:GLY:O	19:XS:28:LYS:N	2.43	0.51
22:YA:1041:C:H2'	22:YA:1042:G:H8	1.76	0.51
22:YA:1469:A:H2'	22:YA:1470:G:C8	2.44	0.51
22:YA:1537:C:H2'	22:YA:1538:G:O4'	2.11	0.51
22:YA:1843:C:H5'	24:YD:253:GLN:OE1	2.10	0.51
23:YB:60:C:H2'	23:YB:61:G:C8	2.42	0.51
33:YQ:2:LEU:H	33:YQ:2:LEU:HD23	1.76	0.51
37:YU:92:ARG:NH1	38:YV:11:GLN:O	2.44	0.51
41:YY:81:LYS:HG2	41:YY:97:ARG:HD3	1.93	0.51
1:QA:347:G:O2'	1:QA:348:G:H5''	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:991:U:O4	1:QA:1212:U:O2'	2.19	0.51
19:QS:5:LEU:HG	47:R4:66:SER:HB3	1.93	0.51
22:RA:140:A:C8	22:RA:1408:C:O2'	2.61	0.51
23:RB:65:C:N4	23:RB:108:C:H2'	2.23	0.51
25:RE:134:ILE:HA	25:RE:137:HIS:CD2	2.46	0.51
26:RF:185:ASP:HA	26:RF:188:ARG:HD3	1.93	0.51
42:RZ:104:PHE:HB3	42:RZ:141:VAL:HG12	1.93	0.51
1:XA:396:G:C2	1:XA:398:C:C4	2.99	0.51
1:XA:962:C:H2'	1:XA:963:G:C8	2.41	0.51
48:Y5:45:VAL:HG11	48:Y5:57:VAL:HG12	1.93	0.51
22:YA:347:A:H2'	22:YA:348:G:H8	1.75	0.51
22:YA:640:C:O2	22:YA:649:G:C2	2.64	0.51
23:YB:24:G:H1'	23:YB:26:A:H62	1.75	0.51
23:YB:42:C:O2	27:YG:93:THR:N	2.27	0.51
24:YD:35:LYS:NZ	24:YD:104:TYR:HB2	2.26	0.51
25:YE:62:PRO:O	25:YE:64:LYS:N	2.43	0.51
28:YH:6:ARG:NE	28:YH:54:ARG:HH12	2.09	0.51
35:YS:11:LYS:HB2	35:YS:91:PRO:HB3	1.93	0.51
39:YW:106:ILE:O	39:YW:106:ILE:HG12	2.07	0.51
1:QA:1192:C:OP2	3:QC:4:LYS:NZ	2.41	0.51
1:QA:767:A:O2'	1:QA:1524:C:O2	2.28	0.51
16:QP:3:LYS:HG3	16:QP:24:ALA:HB2	1.92	0.51
20:QT:14:LYS:HA	20:QT:17:ARG:HG3	1.91	0.51
22:RA:1645:G:H5''	22:RA:1646:C:H5'	1.93	0.51
22:RA:1927:A:H2'	22:RA:1928:A:C8	2.46	0.51
22:RA:37:C:H2'	22:RA:38:A:C8	2.45	0.51
26:RF:20:LEU:HD23	26:RF:125:LEU:HD12	1.93	0.51
37:RU:90:VAL:HG22	38:RV:39:LEU:HB3	1.93	0.51
1:XA:1313:U:OP1	19:XS:5:LEU:HB2	2.11	0.51
1:XA:1306:A:N6	1:XA:1331:G:H1'	2.25	0.51
1:XA:1402:C:H2'	1:XA:1403:C:O4'	2.11	0.51
1:XA:598:U:H2'	1:XA:599:C:H6	1.75	0.51
4:XD:78:LEU:HD22	4:XD:96:LEU:HB3	1.93	0.51
15:XO:33:THR:HG21	15:XO:85:LEU:HD22	1.93	0.51
22:YA:1028:A:N3	22:YA:2486:G:O2'	2.34	0.51
22:YA:1217:C:OP1	37:YU:15:LYS:HE3	2.11	0.51
22:YA:141(A):C:H2'	22:YA:142:G:O4'	2.10	0.51
22:YA:1753:G:H5'	22:YA:1754:C:OP2	2.09	0.51
22:YA:2467:C:C2'	22:YA:2468:G:H5'	2.41	0.51
22:YA:2849:U:H4'	22:YA:2868:A:C2	2.46	0.51
22:YA:455:C:N3	22:YA:473:G:H5'	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:796:C:H2'	22:YA:797:C:C6	2.46	0.51
23:YB:56:G:H5'	27:YG:27:ASN:ND2	2.26	0.51
33:YQ:66:ILE:O	33:YQ:104:PHE:N	2.39	0.51
1:QA:1239:A:H62	1:QA:1299:A:N6	2.08	0.51
6:QF:69:GLU:H	6:QF:69:GLU:CD	2.15	0.51
22:RA:1262:A:H2	48:R5:10:LYS:HD2	1.76	0.51
22:RA:1637:A:H4'	22:RA:2711:A:O2'	2.11	0.51
22:RA:2262:U:OP1	43:R0:19:LYS:NZ	2.39	0.51
22:RA:2505:G:H2'	22:RA:2576:G:O6	2.10	0.51
22:RA:322:A:H5'	22:RA:340:A:H1'	1.93	0.51
22:RA:607:U:H3	22:RA:621:A:H2	1.57	0.51
22:RA:679:C:H2'	22:RA:680:G:H8	1.74	0.51
22:RA:811:U:OP2	32:RP:29:LYS:N	2.38	0.51
27:RG:88:ILE:HD13	27:RG:88:ILE:O	2.10	0.51
35:RS:56:LEU:HD23	35:RS:58:LEU:HD22	1.92	0.51
1:XA:1030:C:H2'	1:XA:1031:G:O4'	2.10	0.51
1:XA:1157:A:H8	1:XA:1158:C:N4	2.09	0.51
1:XA:22:G:H2'	1:XA:23:C:C6	2.45	0.51
11:XK:41:THR:HG21	11:XK:71:LYS:HB3	1.93	0.51
51:Y8:23:VAL:CG1	51:Y8:46:ARG:HD3	2.40	0.51
22:YA:199:A:C8	22:YA:2433:A:N6	2.80	0.51
22:YA:2577:A:H5''	22:YA:2578:G:H5'	1.93	0.51
22:YA:610:C:H42	22:YA:618:G:H1	1.59	0.51
22:YA:811:U:H2'	32:YP:21:ARG:O	2.11	0.51
22:YA:1655:A:O2'	25:YE:115:GLY:HA2	2.11	0.51
23:YB:104:A:H5'	42:YZ:72:ARG:HD3	1.92	0.51
1:QA:189:U:O2'	17:QQ:63:ARG:NH2	2.44	0.50
1:QA:967:C:H2'	1:QA:968:A:C8	2.45	0.50
9:QI:8:GLY:HA2	9:QI:79:LEU:HD12	1.92	0.50
11:QK:33:THR:HG22	11:QK:39:PRO:HA	1.92	0.50
48:R5:3:LYS:HA	48:R5:3:LYS:NZ	2.27	0.50
32:RP:62:LEU:CD2	51:R8:25:MET:HB2	2.37	0.50
22:RA:2477:C:H2'	52:R9:1:MET:HG3	1.92	0.50
22:RA:1859:A:N6	22:RA:1883:G:HO2'	2.09	0.50
22:RA:25:U:H5'	39:RW:79:GLY:HA2	1.92	0.50
22:RA:330:A:O2'	22:RA:331:A:H2'	2.11	0.50
22:RA:723:G:H2'	22:RA:724:U:O4'	2.11	0.50
23:RB:48:A:H2'	23:RB:49:C:C6	2.45	0.50
36:RT:118:ARG:HH21	36:RT:121:ILE:HG21	1.76	0.50
36:RT:19:LEU:HD22	36:RT:86:ILE:HG22	1.93	0.50
40:RX:40:LYS:HG3	40:RX:51:VAL:HB	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1065:U:C5	1:XA:1190:G:H1'	2.46	0.50
1:XA:129:U:H2'	1:XA:131:C:H5	1.76	0.50
1:XA:571:U:O4	1:XA:864:A:N6	2.43	0.50
6:XF:86:ARG:O	6:XF:87:ARG:HG2	2.11	0.50
1:XA:1179:A:H4'	9:XI:103:THR:HA	1.93	0.50
22:YA:1019:U:HO2'	22:YA:1021:A:H2	1.57	0.50
22:YA:1114:G:H2'	22:YA:1115:G:C8	2.46	0.50
22:YA:1923:U:H2'	22:YA:1924:C:C6	2.45	0.50
22:YA:195:A:H5''	22:YA:196:A:O5'	2.10	0.50
22:YA:2219:G:H2'	22:YA:2224:G:H5'	1.91	0.50
22:YA:2294:C:H2'	22:YA:2295:C:H6	1.76	0.50
22:YA:2469:A:H2	22:YA:2481:G:N2	2.08	0.50
22:YA:2584:U:H5''	56:Z8:76:PPU:H92	1.93	0.50
22:YA:279:C:H2'	22:YA:280:C:H6	1.75	0.50
22:YA:287:C:H2'	22:YA:288:C:C6	2.46	0.50
22:YA:593:G:H1	22:YA:664:C:H42	1.59	0.50
22:YA:691:C:H2'	22:YA:692:C:C6	2.45	0.50
28:YH:89:ILE:HG12	28:YH:89:ILE:O	2.10	0.50
35:YS:30:ARG:HG3	35:YS:97:ARG:NH2	2.26	0.50
1:QA:359:U:H2'	1:QA:360:A:C8	2.45	0.50
1:QA:41:G:H2'	1:QA:42:G:C8	2.46	0.50
13:QM:33:ALA:HA	13:QM:59:TYR:HE2	1.76	0.50
22:RA:1667:G:OP2	22:RA:1667:G:H8	1.94	0.50
22:RA:2419:U:H2'	22:RA:2420:C:C6	2.46	0.50
22:RA:2516:G:C5	22:RA:2517:C:C4	2.99	0.50
22:RA:270(I):G:H2'	22:RA:270(J):G:C8	2.44	0.50
22:RA:2747:G:H21	22:RA:2757:A:H62	1.57	0.50
22:RA:706:A:H2'	22:RA:707:G:O4'	2.11	0.50
22:RA:860:U:O2'	22:RA:861:A:H5'	2.10	0.50
30:RN:46:VAL:HG13	30:RN:48:MET:HG3	1.93	0.50
1:XA:272:C:H2'	1:XA:273:A:C8	2.47	0.50
2:XB:80:ILE:HD11	2:XB:208:ILE:HG23	1.93	0.50
2:XB:9:GLU:HB3	2:XB:48:MET:SD	2.50	0.50
3:XC:138:VAL:HG22	3:XC:151:VAL:HG23	1.93	0.50
4:XD:108:LEU:HD21	4:XD:183:GLY:HA3	1.93	0.50
1:XA:1346:A:C4	7:XG:10:ARG:NH1	2.79	0.50
22:YA:1825:A:H2'	22:YA:1826:G:H8	1.76	0.50
22:YA:1882:C:H3'	22:YA:1883:G:H8	1.76	0.50
22:YA:2422:A:C5	22:YA:2424:C:N4	2.79	0.50
22:YA:2498:C:O2'	22:YA:2499:C:H5'	2.11	0.50
22:YA:2633:G:H1'	25:YE:62:PRO:HG2	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2757:A:P	52:Y9:20:HIS:H	2.34	0.50
22:YA:2821:A:OP2	34:YR:3:HIS:NE2	2.44	0.50
22:YA:869:G:H2'	22:YA:870:A:O4'	2.11	0.50
22:YA:969:U:H2'	22:YA:970:C:C6	2.46	0.50
23:YB:80:U:O2'	23:YB:81:G:H5'	2.10	0.50
22:YA:2469:A:O2'	33:YQ:56:ARG:HG2	2.10	0.50
39:YW:57:ASN:O	39:YW:61:ASN:HB2	2.10	0.50
1:QA:1009:G:H1	1:QA:1020:U:H3	1.60	0.50
1:QA:1301:U:O2	1:QA:1301:U:H2'	2.09	0.50
1:QA:1312:G:OP2	47:R4:67:TYR:HE1	1.93	0.50
1:QA:276:G:O3'	17:QQ:68:ARG:NH1	2.40	0.50
1:QA:501:C:OP1	12:QL:117:ARG:NH2	2.37	0.50
1:QA:568:G:N2	1:QA:883:C:C2	2.79	0.50
22:RA:1173:G:H4'	22:RA:1174:A:N7	2.26	0.50
22:RA:1278:A:H4'	34:RR:34:ILE:HD12	1.93	0.50
22:RA:2065:C:H1'	22:RA:2449:U:N3	2.26	0.50
22:RA:2070:G:H2'	22:RA:2071:A:C8	2.46	0.50
22:RA:240:G:O2'	22:RA:257:A:N6	2.41	0.50
22:RA:347:A:H2'	22:RA:348:G:H8	1.76	0.50
22:RA:372:G:O2'	22:RA:373:U:P	2.69	0.50
22:RA:498:G:N3	41:RY:47:LYS:NZ	2.59	0.50
25:RE:176:ILE:HG23	25:RE:178:GLU:OE2	2.11	0.50
25:RE:6:GLY:HA2	25:RE:51:PHE:CZ	2.46	0.50
28:RH:152:ARG:HH21	28:RH:153:LYS:HZ1	1.60	0.50
32:RP:14:LYS:HD3	32:RP:14:LYS:O	2.12	0.50
33:RQ:17:LEU:HD23	33:RQ:96:VAL:HG23	1.92	0.50
39:RW:60:ASN:HD22	39:RW:60:ASN:N	2.09	0.50
41:RY:97:ARG:HH21	41:RY:98:VAL:HB	1.77	0.50
1:XA:1450:U:O2'	1:XA:1451:A:N7	2.43	0.50
1:XA:243:A:C2	1:XA:246:A:C8	3.00	0.50
1:XA:260:G:H2'	1:XA:261:U:C6	2.45	0.50
1:XA:160:A:H1'	1:XA:344:A:C5	2.47	0.50
1:XA:749:C:H2'	1:XA:750:G:H8	1.76	0.50
1:XA:881:G:H2'	1:XA:882:C:O4'	2.11	0.50
2:XB:114:ARG:O	2:XB:117:GLU:HB2	2.10	0.50
3:XC:54:ARG:HD3	3:XC:56:ASP:OD1	2.10	0.50
19:XS:40:ILE:HG23	19:XS:67:VAL:O	2.11	0.50
51:Y8:58:ILE:HA	51:Y8:61:LEU:HD21	1.92	0.50
22:YA:1292:U:H2'	22:YA:1293:C:C6	2.46	0.50
22:YA:1658:C:H2'	22:YA:1659:U:H6	1.76	0.50
22:YA:2764:A:N6	22:YA:2766:G:C2	2.80	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2636:U:H1'	22:YA:2783:G:N2	2.26	0.50
22:YA:783:A:C8	22:YA:783:A:H3'	2.46	0.50
32:YP:62:LEU:N	32:YP:62:LEU:HD23	2.26	0.50
33:YQ:89:ASN:O	33:YQ:91:GLU:N	2.44	0.50
1:QA:105:G:H2'	1:QA:106:C:C6	2.46	0.50
1:QA:1178:G:C8	1:QA:1180:A:OP2	2.65	0.50
1:QA:1297:C:H4'	1:QA:1298:C:H5'	1.94	0.50
1:QA:1366:C:O3'	10:QJ:60:ARG:NH2	2.44	0.50
7:QG:116:ALA:O	7:QG:120:ILE:HG12	2.11	0.50
9:QI:53:VAL:HB	9:QI:95:LYS:HE3	1.92	0.50
10:QJ:47:PHE:CE1	10:QJ:63:PHE:HB2	2.47	0.50
11:QK:17:GLY:N	11:QK:79:SER:O	2.44	0.50
44:R1:62:VAL:HG23	44:R1:63:ALA:O	2.11	0.50
22:RA:1007:C:H5''	30:RN:35:ARG:NH1	2.26	0.50
22:RA:1188:U:O2'	22:RA:1189:A:H5'	2.11	0.50
22:RA:1991:U:H2'	22:RA:1992:G:H5''	1.93	0.50
22:RA:33:U:O4	22:RA:446:G:O2'	2.25	0.50
22:RA:860:U:C5	22:RA:917:A:C2	2.98	0.50
24:RD:62:TYR:CE1	24:RD:64:ILE:HA	2.46	0.50
40:RX:60:ARG:HH12	50:R7:47:ARG:HH22	1.58	0.50
42:RZ:10:ARG:HD3	42:RZ:18:LEU:HD21	1.93	0.50
1:XA:41:G:H2'	1:XA:42:G:C8	2.47	0.50
2:XB:189:ASP:HB3	2:XB:203:GLY:O	2.12	0.50
47:Y4:10:VAL:HG22	47:Y4:11:PRO:HD2	1.94	0.50
22:YA:2574:G:H2'	22:YA:2575:C:C6	2.46	0.50
22:YA:2790:A:C2	22:YA:2791:C:H2'	2.46	0.50
22:YA:443:A:H1'	22:YA:1201:C:O4'	2.11	0.50
22:YA:805:G:N2	22:YA:828:U:H5''	2.26	0.50
38:YV:52:VAL:HG23	38:YV:55:ALA:H	1.76	0.50
1:QA:313:A:H2'	1:QA:314:C:C6	2.46	0.50
1:QA:673:G:H2'	1:QA:674:G:C8	2.46	0.50
2:QB:162:ILE:HD11	2:QB:184:VAL:HG22	1.93	0.50
2:QB:231:GLU:HG3	2:QB:233:SER:H	1.77	0.50
12:QL:54:LYS:HD2	12:QL:54:LYS:H	1.75	0.50
12:QL:69:TYR:CG	12:QL:90:VAL:HG21	2.46	0.50
48:R5:46:CYS:HB2	48:R5:50:GLY:HA3	1.93	0.50
50:R7:5:TRP:NE1	50:R7:7:PRO:HG3	2.26	0.50
51:R8:23:VAL:HG11	51:R8:46:ARG:HD3	1.92	0.50
22:RA:1860:G:H1	22:RA:1882:C:N4	2.09	0.50
22:RA:318:C:H2'	22:RA:319:C:H6	1.77	0.50
29:RI:109:ILE:HB	29:RI:130:TYR:CZ	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:RQ:89:ASN:O	33:RQ:92:GLY:N	2.42	0.50
1:XA:115:G:O5'	1:XA:115:G:H8	1.94	0.50
1:XA:1232:U:OP1	9:XI:124:GLN:NE2	2.45	0.50
1:XA:1382:C:H2'	1:XA:1383:C:C6	2.46	0.50
2:XB:111:ARG:HH21	2:XB:114:ARG:HG2	1.76	0.50
2:XB:21:ARG:O	2:XB:23:ARG:N	2.44	0.50
1:XA:690:G:H22	11:XK:55:LYS:NZ	2.08	0.50
1:XA:719:C:O2'	18:XR:50:ILE:O	2.20	0.50
19:XS:4:SER:O	19:XS:5:LEU:HD13	2.11	0.50
43:Y0:50:ASN:C	43:Y0:62:LEU:HD12	2.32	0.50
22:YA:1348:G:H2'	22:YA:1349:A:H5''	1.91	0.50
26:YF:167:ALA:HB1	26:YF:173:VAL:HG11	1.93	0.50
27:YG:67:LYS:HZ3	47:Y4:1:MET:HB2	1.77	0.50
27:YG:79:ASN:N	27:YG:79:ASN:HD22	2.08	0.50
32:YP:58:THR:O	32:YP:61:ARG:CZ	2.59	0.50
25:YE:111:ARG:HA	34:YR:1:MET:CG	2.40	0.50
1:QA:10:A:H2'	1:QA:11:G:C8	2.45	0.50
1:QA:1133:G:H2'	1:QA:1134:G:C8	2.46	0.50
1:QA:1285:A:H4'	1:QA:1286:A:O5'	2.12	0.50
1:QA:42:G:H2'	1:QA:43:C:O4'	2.11	0.50
1:QA:464:G:C6	1:QA:466:C:H5'	2.47	0.50
9:QI:95:LYS:NZ	9:QI:96:LEU:HD13	2.26	0.50
13:QM:40:ASN:ND2	13:QM:43:THR:HG23	2.27	0.50
22:RA:1024:G:O5'	22:RA:1024:G:H8	1.95	0.50
22:RA:111:A:C6	22:RA:112:U:C4	3.00	0.50
22:RA:1754:C:N3	22:RA:2716:U:O2'	2.39	0.50
22:RA:1798:U:C5'	24:RD:259:THR:HG22	2.42	0.50
22:RA:1947:C:H42	22:RA:1959:G:H1	1.58	0.50
22:RA:2055:C:H4'	22:RA:2056:G:H5''	1.94	0.50
22:RA:2293:C:H5''	35:RS:89:ARG:NH1	2.23	0.50
22:RA:2815:C:H5'	48:R5:29:THR:HG21	1.93	0.50
22:RA:935:C:H2'	22:RA:936:C:H6	1.76	0.50
32:RP:26:GLY:O	32:RP:28:GLY:N	2.45	0.50
40:RX:26:TYR:HB3	40:RX:92:LEU:HD12	1.93	0.50
42:RZ:1:MET:HG2	42:RZ:2:GLU:H	1.76	0.50
1:XA:537:G:H5''	12:XL:113:ARG:NH1	2.26	0.50
13:XM:3:ARG:CG	47:Y4:34:GLU:HB3	2.41	0.50
43:Y0:24:LYS:O	43:Y0:25:ARG:HD3	2.12	0.50
49:Y6:47:THR:HG22	49:Y6:48:VAL:HG12	1.94	0.50
22:YA:1751:C:H2'	22:YA:1752:C:C6	2.47	0.50
22:YA:2025:C:H2'	22:YA:2026:C:C6	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YG:5:VAL:HG11	27:YG:100:TRP:HB3	1.93	0.50
28:YH:84:SER:O	28:YH:85:LYS:HB2	2.11	0.50
31:YO:120:GLU:HG2	31:YO:122:LEU:HG	1.94	0.50
42:YZ:10:ARG:NH2	42:YZ:37:VAL:O	2.44	0.50
1:QA:1080:A:H5''	5:QE:16:THR:HG21	1.92	0.50
1:QA:1522:U:H2'	1:QA:1523:G:H8	1.77	0.50
1:QA:179:A:H2'	1:QA:180:U:C6	2.46	0.50
1:QA:789:U:H5	1:QA:791:G:H3'	1.76	0.50
19:QS:41:VAL:HA	19:QS:44:MET:HG3	1.93	0.50
22:RA:1899:G:N2	22:RA:1902:C:H41	2.10	0.50
22:RA:273:G:H1	22:RA:364:C:N4	2.07	0.50
13:QM:3:ARG:NH2	27:RG:113:ARG:HH21	2.10	0.50
28:RH:132:ARG:HH11	28:RH:132:ARG:HB2	1.76	0.50
29:RI:5:LEU:HD12	29:RI:17:GLN:HB3	1.92	0.50
35:RS:67:ARG:O	35:RS:71:ARG:HG3	2.12	0.50
36:RT:111:ARG:O	36:RT:113:LYS:N	2.42	0.50
42:RZ:121:HIS:NE2	42:RZ:169:GLU:HG2	2.26	0.50
1:XA:234:C:H2'	1:XA:235:C:C6	2.46	0.50
2:XB:162:ILE:HD11	2:XB:184:VAL:HG22	1.94	0.50
53:XV:19:G:C4	53:XV:57:A:C2	2.99	0.50
22:YA:1364:G:N7	44:Y1:2:SER:N	2.59	0.50
50:Y7:5:TRP:NE1	50:Y7:7:PRO:HG3	2.26	0.50
51:Y8:25:MET:O	51:Y8:47:LYS:NZ	2.44	0.50
22:YA:1835:G:H5''	22:YA:1836:C:OP2	2.12	0.50
22:YA:1999:C:H2'	22:YA:2000:G:H8	1.76	0.50
22:YA:226:G:H2'	22:YA:227:A:C8	2.47	0.50
22:YA:239:U:H2'	22:YA:240:G:O4'	2.12	0.50
26:YF:65:TRP:O	26:YF:67:GLN:N	2.43	0.50
32:YP:36:LYS:HB3	32:YP:40:SER:HB3	1.94	0.50
38:YV:61:VAL:HA	38:YV:94:LEU:HD23	1.93	0.50
1:QA:1037:C:H2'	1:QA:1038:C:C6	2.47	0.50
1:QA:348:G:H2'	1:QA:349:A:H8	1.77	0.50
4:QD:33:MET:CE	4:QD:37:PRO:HA	2.41	0.50
13:QM:92:HIS:HD2	13:QM:110:ARG:HH21	1.58	0.50
13:QM:40:ASN:HD22	13:QM:43:THR:HG23	1.77	0.50
22:RA:1545:A:H2'	22:RA:1545(A):A:O4'	2.12	0.50
22:RA:2228:G:C6	22:RA:2229:C:N3	2.80	0.50
22:RA:2570:G:H2'	22:RA:2571:C:O4'	2.12	0.50
22:RA:1818:U:H2'	24:RD:157:ARG:HG3	1.94	0.50
22:RA:1803:A:H4'	24:RD:259:THR:HG23	1.94	0.50
36:RT:39:ARG:HG2	36:RT:40:THR:H	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:RZ:180:VAL:O	42:RZ:181:GLU:HB2	2.12	0.50
1:XA:59:A:N6	1:XA:331:G:H1'	2.26	0.50
1:XA:97:U:H2'	1:XA:99:C:C6	2.47	0.50
2:XB:32:ILE:HD11	2:XB:40:HIS:HB3	1.94	0.50
11:XK:86:GLY:O	11:XK:91:ARG:HD3	2.11	0.50
53:XV:17:C:O2	53:XV:17:C:H2'	2.11	0.50
22:YA:1858:G:O2'	22:YA:1884:A:N6	2.44	0.50
22:YA:2776:A:OP1	22:YA:2776:A:H3'	2.12	0.50
22:YA:563:G:H22	22:YA:578:A:H2	1.60	0.50
22:YA:759:G:H2'	22:YA:760:G:C8	2.46	0.50
23:YB:89(A):A:N7	23:YB:90:C:H1'	2.27	0.50
26:YF:108:LYS:O	26:YF:112:MET:HG3	2.12	0.50
28:YH:4:ILE:HG13	28:YH:6:ARG:NE	2.26	0.50
22:YA:1012:U:O4	30:YN:25:ARG:HA	2.12	0.50
30:YN:58:ASP:OD1	30:YN:58:ASP:N	2.45	0.50
33:YQ:66:ILE:HG13	33:YQ:67:ARG:N	2.27	0.50
1:QA:1288:A:C2	1:QA:1289:A:C4	3.00	0.50
1:QA:149:A:H4'	1:QA:1450:U:C4	2.46	0.50
1:QA:410:G:H5''	1:QA:411:A:OP1	2.12	0.50
1:QA:56:U:H2'	1:QA:57:G:C8	2.46	0.50
10:QJ:22:LYS:HZ2	10:QJ:23:ILE:HA	1.77	0.50
22:RA:1561:G:H2'	22:RA:1562:A:H8	1.77	0.50
22:RA:1796:U:H2'	22:RA:1797:C:H6	1.75	0.50
22:RA:2116:G:H1	22:RA:2162:G:P	2.35	0.50
22:RA:2359:C:H2'	22:RA:2360:A:O4'	2.12	0.50
22:RA:2784:C:H2'	22:RA:2785:C:H6	1.77	0.50
22:RA:611:C:C2	22:RA:618:G:N2	2.79	0.50
22:RA:688:U:O5'	22:RA:688:U:H6	1.95	0.50
22:RA:826:U:H2'	22:RA:828:U:O4'	2.12	0.50
26:RF:16:GLY:O	26:RF:18:ARG:N	2.45	0.50
30:RN:34:LEU:O	30:RN:49:GLY:HA3	2.12	0.50
36:RT:34:VAL:HG12	36:RT:36:GLU:HG2	1.94	0.50
22:RA:1614:A:H62	39:RW:93:ALA:CB	2.21	0.50
1:XA:1179:A:H2'	1:XA:1180:A:O4'	2.12	0.50
1:XA:1366:C:H2'	1:XA:1367:C:C6	2.44	0.50
1:XA:431:A:H2'	1:XA:432:A:O4'	2.12	0.50
1:XA:923:A:H2'	1:XA:924:C:O4'	2.12	0.50
4:XD:112:VAL:HG12	4:XD:116:GLN:OE1	2.12	0.50
13:XM:49:THR:HB	13:XM:52:GLU:H	1.77	0.50
15:XO:67:LEU:HB3	15:XO:78:TYR:HE1	1.77	0.50
22:YA:1812:A:H2'	22:YA:1813:G:H8	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2795:G:H3'	22:YA:2797:U:C5'	2.42	0.50
22:YA:2804:C:H2'	22:YA:2805:G:C8	2.47	0.50
25:YE:73:GLU:HG3	25:YE:74:PRO:HD2	1.92	0.50
29:YI:29:TYR:CD2	29:YI:30:LEU:HD23	2.31	0.50
37:YU:83:LEU:HG	37:YU:88:ILE:HG13	1.93	0.50
40:YX:60:ARG:HH22	50:Y7:47:ARG:HH12	1.60	0.50
41:YY:97:ARG:HH21	41:YY:98:VAL:HB	1.76	0.50
33:YQ:20:ALA:HB3	42:YZ:79:ARG:CZ	2.42	0.50
1:QA:1118:C:H1'	1:QA:1179:A:C4	2.47	0.49
1:QA:1343:G:H2'	1:QA:1344:C:C6	2.46	0.49
1:QA:1352:C:OP1	21:QU:3:LYS:NZ	2.39	0.49
1:QA:1455:G:H2'	1:QA:1459:C:H6	1.76	0.49
3:QC:14:ILE:HG12	3:QC:15:THR:N	2.27	0.49
9:QI:118:LYS:O	9:QI:120:ARG:N	2.40	0.49
9:QI:46:ALA:HB2	9:QI:74:ILE:HG23	1.94	0.49
22:RA:1075:C:C2	22:RA:1076:C:H1'	2.47	0.49
22:RA:1341:U:H2'	22:RA:1397:U:O2	2.12	0.49
22:RA:20:C:H2'	22:RA:21:A:H8	1.76	0.49
22:RA:2247:A:H2'	22:RA:2248:C:H6	1.75	0.49
22:RA:2668:G:H2'	22:RA:2669:G:H8	1.77	0.49
22:RA:656:G:H2'	22:RA:657:U:O4'	2.12	0.49
22:RA:815:C:H2'	22:RA:816:C:C6	2.44	0.49
23:RB:28:C:H2'	23:RB:29:A:O4'	2.12	0.49
40:RX:40:LYS:O	40:RX:42:ALA:N	2.45	0.49
42:RZ:45:ASP:O	42:RZ:48:PHE:N	2.44	0.49
1:XA:1304:G:N1	1:XA:1332:A:OP2	2.32	0.49
1:XA:1431:C:H2'	1:XA:1432:G:O4'	2.11	0.49
1:XA:1443:G:H5'	1:XA:1446:A:OP2	2.12	0.49
1:XA:264:U:H2'	1:XA:265:G:O4'	2.12	0.49
1:XA:337:C:H2'	1:XA:338:A:C8	2.46	0.49
1:XA:598:U:H2'	1:XA:599:C:C6	2.47	0.49
5:XE:76:ILE:HG13	5:XE:93:PRO:HB3	1.94	0.49
13:XM:20:THR:C	13:XM:22:ILE:H	2.15	0.49
16:XP:28:ARG:NH1	16:XP:29:ASP:OD1	2.45	0.49
20:XT:64:ASP:HA	20:XT:67:ALA:HB3	1.93	0.49
22:YA:107:C:H2'	22:YA:108:U:H6	1.77	0.49
22:YA:1093:G:H4'	28:YH:170:ARG:NH2	2.26	0.49
22:YA:479:A:N3	22:YA:481:G:H5''	2.26	0.49
25:YE:103:ASP:OD1	25:YE:201:THR:HG23	2.12	0.49
22:YA:2780:G:OP2	30:YN:118:LYS:HE2	2.12	0.49
22:YA:2641:G:P	30:YN:83:LYS:HE3	2.52	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YP:126:VAL:HG13	32:YP:145:PRO:HB2	1.94	0.49
23:YB:48:A:P	35:YS:30:ARG:HH22	2.35	0.49
42:YZ:144:LEU:HD13	42:YZ:145:GLU:H	1.77	0.49
1:QA:1203:C:H2'	1:QA:1204:A:H8	1.76	0.49
1:QA:1263:C:H5'	1:QA:1264:C:OP2	2.11	0.49
1:QA:1347:G:H22	1:QA:1374:A:P	2.36	0.49
1:QA:1404:C:H2'	1:QA:1405:G:C8	2.47	0.49
1:QA:411:A:N6	1:QA:413:G:H21	2.10	0.49
1:QA:784:C:H4'	22:RA:1837:C:OP1	2.12	0.49
2:QB:204:ASN:ND2	2:QB:206:ASP:O	2.45	0.49
2:QB:235:SER:OG	2:QB:236:TYR:N	2.46	0.49
3:QC:157:ILE:HD11	3:QC:166:GLU:HB2	1.94	0.49
3:QC:14:ILE:HG12	3:QC:15:THR:H	1.76	0.49
13:QM:65:LYS:NZ	47:R4:52:THR:HG21	2.27	0.49
6:QF:97:PHE:O	18:QR:31:LEU:HD23	2.12	0.49
22:RA:1171:G:N7	22:RA:1174:A:N6	2.60	0.49
22:RA:1205:U:C4	26:RF:171:PRO:HA	2.47	0.49
22:RA:2078:C:H2'	22:RA:2079:U:O4'	2.11	0.49
22:RA:2416:C:H2'	22:RA:2417:C:C6	2.48	0.49
22:RA:270(S):G:H5'	44:R1:76:ARG:HG2	1.93	0.49
22:RA:873:G:H1	22:RA:904:C:N4	2.10	0.49
33:RQ:20:ALA:HB1	33:RQ:99:PRO:HD2	1.94	0.49
22:RA:1598:C:H5'	40:RX:36:LYS:HB2	1.93	0.49
1:XA:16:A:N1	1:XA:919:A:H2	2.11	0.49
1:XA:1147:C:O2'	9:XI:16:ARG:HD3	2.12	0.49
12:XL:71:PRO:O	12:XL:102:ARG:HD3	2.12	0.49
14:XN:23:ARG:NH1	14:XN:30:ALA:HB2	2.27	0.49
22:YA:551:G:H5'	22:YA:1220:A:H1'	1.92	0.49
22:YA:2118:U:O2	22:YA:2148:G:O2'	2.22	0.49
22:YA:336:C:O2'	41:YY:35:TYR:OH	2.26	0.49
22:YA:881:G:H3'	22:YA:882:G:H8	1.76	0.49
1:QA:109:A:C6	1:QA:326:G:C6	3.00	0.49
1:QA:954:G:H21	1:QA:1227:A:H62	1.60	0.49
1:QA:1342:C:H2'	1:QA:1343:G:C8	2.47	0.49
1:QA:334:C:H2'	1:QA:335:C:C6	2.47	0.49
4:QD:167:GLY:HA3	24:YD:135:PHE:CE2	2.47	0.49
8:QH:9:MET:HG3	8:QH:26:VAL:HG21	1.94	0.49
22:RA:1467:C:N3	22:RA:1525:G:N2	2.52	0.49
22:RA:184:C:H2'	22:RA:185:U:C6	2.47	0.49
22:RA:2729:G:H1'	25:RE:187:ALA:HB2	1.93	0.49
22:RA:2828:C:O2'	22:RA:2829:C:H5'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:RB:83:G:N2	23:RB:93:C:N3	2.50	0.49
28:RH:155:SER:OG	28:RH:156:ALA:N	2.45	0.49
33:RQ:11:LYS:HE2	33:RQ:86:GLY:O	2.11	0.49
34:RR:44:LEU:HD22	34:RR:48:VAL:HG23	1.94	0.49
1:XA:1256:A:H4'	1:XA:1258:G:C4	2.47	0.49
1:XA:67:C:O2'	1:XA:171:A:N3	2.39	0.49
6:XF:97:PHE:HB2	18:XR:32:ARG:CZ	2.41	0.49
11:XK:82:VAL:HB	11:XK:108:ILE:HG12	1.94	0.49
13:XM:81:LEU:HD13	13:XM:88:ARG:HD2	1.94	0.49
22:YA:1093:G:HO2'	22:YA:1099:G:H1	1.59	0.49
22:YA:2629:A:O2'	22:YA:2630:G:H5''	2.11	0.49
22:YA:273:G:N2	22:YA:365:C:C2	2.80	0.49
22:YA:769:G:H5'	22:YA:1379:A:N6	2.28	0.49
29:YI:5:LEU:HD11	29:YI:19:VAL:HG12	1.94	0.49
30:YN:7:LYS:HD2	30:YN:7:LYS:N	2.28	0.49
40:YX:53:LYS:HB3	40:YX:82:GLN:HB3	1.93	0.49
3:QC:73:PRO:O	3:QC:76:VAL:HG22	2.12	0.49
22:RA:2755:C:N3	52:R9:19:ARG:NH1	2.60	0.49
22:RA:1077:A:C2	22:RA:1078:U:H4'	2.48	0.49
22:RA:1534:G:C2'	22:RA:1535:U:H4'	2.41	0.49
22:RA:1798:U:H5'	24:RD:259:THR:HG22	1.95	0.49
22:RA:2021:C:H5	37:RU:25:TRP:CD1	2.30	0.49
22:RA:242:G:N2	22:RA:254:G:H2'	2.28	0.49
23:RB:8:U:O3'	35:RS:25:ARG:NH2	2.39	0.49
24:RD:175:LEU:HD12	24:RD:185:VAL:HG21	1.93	0.49
26:RF:9:ILE:HD11	26:RF:125:LEU:HG	1.94	0.49
27:RG:115:ARG:NH2	27:RG:137:GLU:OE1	2.46	0.49
35:RS:15:ARG:NH1	35:RS:25:ARG:HH21	2.11	0.49
42:RZ:10:ARG:NH2	42:RZ:26:GLY:O	2.45	0.49
1:XA:188:U:H2'	1:XA:189:U:H5''	1.94	0.49
1:XA:996:A:O5'	1:XA:996:A:H8	1.95	0.49
9:XI:40:LEU:C	9:XI:42:ARG:H	2.15	0.49
10:XJ:49:VAL:HG22	14:YN:41:ARG:HB2	1.94	0.49
20:XT:89:ARG:NH2	20:XT:104:LEU:HD11	2.27	0.49
19:XS:5:LEU:CD1	47:Y4:66:SER:CA	2.90	0.49
22:YA:1786:A:C2	22:YA:2606:C:H1'	2.47	0.49
22:YA:2401:U:H2'	22:YA:2402:C:H5''	1.94	0.49
22:YA:277:C:H5'	22:YA:278:A:H5'	1.95	0.49
22:YA:307:G:H21	22:YA:330:A:H62	1.60	0.49
22:YA:522:G:C2	22:YA:523:C:C2	3.00	0.49
23:YB:89:G:C6	23:YB:89(A):A:C6	3.01	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YD:121:PRO:HB3	24:YD:135:PHE:CE1	2.47	0.49
25:YE:35:GLN:HG2	25:YE:37:ARG:HE	1.78	0.49
27:YG:94:LEU:HD12	27:YG:99:MET:HA	1.95	0.49
29:YI:72:LEU:HD11	29:YI:107:VAL:HG21	1.94	0.49
29:YI:110:ASP:HB3	29:YI:111:PRO:C	2.32	0.49
29:YI:3:VAL:HG12	29:YI:38:LEU:HA	1.94	0.49
26:YF:31:HIS:HB2	32:YP:9:ASN:OD1	2.12	0.49
37:YU:95:LEU:HD22	38:YV:4:ILE:HD12	1.93	0.49
42:YZ:136:PHE:CE1	42:YZ:138:GLU:HG3	2.47	0.49
1:QA:684:A:C6	1:QA:685:G:C5	3.00	0.49
7:QG:20:ASP:HB3	7:QG:23:VAL:HG23	1.94	0.49
18:QR:26:LEU:HD22	18:QR:42:ARG:HD2	1.94	0.49
50:R7:31:LEU:HD22	50:R7:42:LEU:HD13	1.95	0.49
22:RA:1359:A:H2'	22:RA:1360:A:H5'	1.94	0.49
22:RA:1678:G:N2	22:RA:1989:G:H22	2.10	0.49
22:RA:286:C:H2'	22:RA:287:C:C6	2.48	0.49
1:XA:1258:G:H1	1:XA:1277:C:H42	1.60	0.49
1:XA:56:U:H2'	1:XA:57:G:C8	2.46	0.49
1:XA:34:C:H1'	12:XL:32:PHE:CE2	2.48	0.49
22:YA:1087:G:H2'	22:YA:1089:G:H4'	1.93	0.49
22:YA:1355:G:O5'	22:YA:1355:G:H8	1.95	0.49
22:YA:1509:C:H3'	22:YA:1510:A:H5''	1.94	0.49
22:YA:1754:C:H5	36:YT:96:ARG:NH2	2.11	0.49
22:YA:185:U:H4'	22:YA:218:A:H4'	1.94	0.49
22:YA:2561:A:H2'	22:YA:2562:U:O4'	2.12	0.49
22:YA:2656:U:H3	22:YA:2665:A:H2	1.57	0.49
22:YA:483:A:H5''	22:YA:484:C:OP2	2.12	0.49
30:YN:17:ASP:O	30:YN:56:ASN:HB2	2.12	0.49
30:YN:34:LEU:HD21	30:YN:120:LEU:HB2	1.94	0.49
37:YU:61:TRP:CD2	37:YU:94:ASN:HA	2.47	0.49
1:QA:1356:G:H2'	1:QA:1357:A:H8	1.76	0.49
1:QA:587:G:N2	1:QA:754:C:OP2	2.46	0.49
8:QH:95:VAL:HB	8:QH:99:GLU:O	2.13	0.49
1:QA:1058:G:N2	10:QJ:53:PRO:HG3	2.27	0.49
1:QA:664:G:P	18:QR:64:ARG:HH21	2.35	0.49
46:R3:6:VAL:HG13	46:R3:56:VAL:HG13	1.94	0.49
22:RA:1047:G:H2'	22:RA:1110:G:H1	1.78	0.49
22:RA:1161:C:H2'	22:RA:1162:G:C8	2.47	0.49
22:RA:1401:G:H2'	22:RA:1402:C:C6	2.48	0.49
22:RA:1469:A:H2'	22:RA:1470:G:O4'	2.13	0.49
22:RA:177:G:H3'	22:RA:178:G:H8	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1899:G:N2	22:RA:1902:C:N4	2.58	0.49
22:RA:2510:C:H2'	22:RA:2511:U:C6	2.47	0.49
22:RA:296:C:H2'	22:RA:297:C:H6	1.77	0.49
22:RA:322:A:OP2	26:RF:169:ASN:HB2	2.13	0.49
26:RF:178:PRO:HG2	26:RF:179:GLU:OE2	2.13	0.49
30:RN:134:ARG:N	30:RN:135:PRO:HD3	2.28	0.49
33:RQ:69:PHE:CD1	33:RQ:70:PRO:HD2	2.46	0.49
41:RY:47:LYS:HG2	41:RY:60:PHE:HD1	1.76	0.49
1:XA:1191:A:H5''	3:XC:4:LYS:NZ	2.27	0.49
1:XA:374:A:O2'	1:XA:451:A:OP2	2.27	0.49
1:XA:528:C:H41	12:XL:49:ASN:CG	2.14	0.49
2:XB:24:TRP:CZ3	2:XB:26:PRO:HA	2.48	0.49
19:XS:41:VAL:HB	19:XS:42:PRO:CA	2.42	0.49
47:Y4:15:ILE:HD13	47:Y4:15:ILE:H	1.77	0.49
49:Y6:41:PRO:HD2	49:Y6:46:HIS:N	2.28	0.49
22:YA:147:U:H2'	22:YA:148:C:C6	2.48	0.49
22:YA:2633:G:H5'	22:YA:2811:G:O2'	2.11	0.49
23:YB:95:U:H2'	23:YB:96:G:H8	1.75	0.49
24:YD:27:THR:HG21	24:YD:83:GLU:HG2	1.94	0.49
40:YX:57:LEU:HD11	40:YX:78:LYS:HD2	1.94	0.49
3:QC:47:LEU:HD23	3:QC:68:VAL:HG11	1.94	0.49
14:QN:15:LYS:HD2	14:QN:16:PHE:CE2	2.47	0.49
17:QQ:18:THR:HG23	17:QQ:69:LYS:HE3	1.94	0.49
22:RA:593:G:H4'	51:R8:61:LEU:HD13	1.94	0.49
22:RA:1016:G:H2'	22:RA:1017:G:O4'	2.13	0.49
22:RA:1065:U:H3	22:RA:1073:A:H61	1.61	0.49
22:RA:121:G:H4'	22:RA:149:A:H5'	1.94	0.49
22:RA:1789:A:H2'	22:RA:1790:C:O4'	2.13	0.49
24:RD:35:LYS:HZ1	24:RD:65:ILE:HA	1.76	0.49
25:RE:70:ALA:O	25:RE:72:VAL:N	2.46	0.49
26:RF:132:VAL:HG23	26:RF:133:ASN:OD1	2.12	0.49
27:RG:110:ALA:HB1	27:RG:140:ILE:HD12	1.94	0.49
27:RG:60:LEU:O	27:RG:64:THR:HG22	2.11	0.49
33:RQ:89:ASN:O	33:RQ:91:GLU:N	2.45	0.49
37:RU:92:ARG:O	37:RU:92:ARG:HG2	2.13	0.49
40:RX:27:THR:HB	40:RX:80:ILE:HB	1.94	0.49
42:RZ:151:HIS:O	42:RZ:171:ILE:HG12	2.13	0.49
1:XA:143:A:H5''	1:XA:144:G:O5'	2.12	0.49
1:XA:37:U:H2'	1:XA:38:G:O4'	2.12	0.49
1:XA:464:G:H1'	1:XA:468:A:N6	2.28	0.49
1:XA:1060:C:C5	3:XC:2:GLY:HA2	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:XK:59:TYR:CZ	11:XK:63:LEU:HD11	2.47	0.49
13:XM:14:ARG:HG2	13:XM:17:VAL:HG23	1.94	0.49
49:Y6:41:PRO:O	49:Y6:45:LYS:HE3	2.12	0.49
32:YP:61:ARG:HD3	51:Y8:13:ARG:HD2	1.94	0.49
22:YA:2345:G:N3	22:YA:2381:C:H2'	2.28	0.49
22:YA:2645:G:C3'	22:YA:2646:C:H5'	2.43	0.49
22:YA:781:A:H2'	22:YA:1777:U:O2'	2.13	0.49
25:YE:179:GLU:HB3	25:YE:181:LEU:HD23	1.94	0.49
32:YP:63:PRO:HD3	51:Y8:13:ARG:HD3	1.95	0.49
41:YY:86:ARG:HB2	41:YY:95:LYS:HD2	1.93	0.49
1:QA:975:A:C8	1:QA:1357:A:H2	2.31	0.49
1:QA:229:U:H2'	1:QA:230:G:C8	2.48	0.49
1:QA:8:A:H4'	1:QA:9:G:OP1	2.11	0.49
1:QA:1318:A:H4'	19:QS:11:VAL:CG1	2.43	0.49
49:R6:15:GLU:CD	49:R6:41:PRO:HB3	2.32	0.49
22:RA:1853:A:N3	22:RA:2233:U:O2'	2.41	0.49
22:RA:2210:G:H5'	22:RA:2211:G:C6	2.48	0.49
22:RA:270(U):C:H2'	22:RA:270(V):G:H8	1.77	0.49
22:RA:58:G:C5	22:RA:59:U:C5	3.01	0.49
22:RA:606:U:H4'	22:RA:658:C:H4'	1.94	0.49
22:RA:979:G:H3'	22:RA:980:A:C5'	2.41	0.49
24:RD:228:PRO:HD3	24:RD:234:GLY:C	2.33	0.49
27:RG:54:GLU:HA	27:RG:57:ALA:HB3	1.94	0.49
29:RI:81:VAL:CG2	29:RI:142:VAL:HG12	2.39	0.49
42:RZ:62:PRO:C	42:RZ:64:GLY:H	2.16	0.49
1:XA:17:U:H2'	1:XA:18:C:C6	2.48	0.49
1:XA:643:C:H2'	1:XA:644:G:C8	2.48	0.49
1:XA:818:G:O2'	1:XA:819:A:H5'	2.12	0.49
3:XC:148:GLY:HA3	3:XC:172:ARG:O	2.12	0.49
10:XJ:35:SER:OG	10:XJ:73:ASP:HB2	2.13	0.49
12:XL:62:SER:HB2	12:XL:64:TYR:HD1	1.76	0.49
22:YA:1208:C:C4	22:YA:1209:G:N7	2.81	0.49
22:YA:1312:U:H4'	22:YA:1313:U:O5'	2.13	0.49
22:YA:1930:G:O2'	22:YA:1931:U:P	2.71	0.49
22:YA:2020:A:O2'	22:YA:2021:C:H2'	2.12	0.49
22:YA:2496:C:P	33:YQ:81:VAL:HG12	2.53	0.49
22:YA:855:G:C6	22:YA:856:C:C4	3.01	0.49
24:YD:76:PRO:HG2	24:YD:98:VAL:HG21	1.94	0.49
29:YI:104:GLN:HG2	29:YI:105:HIS:CE1	2.48	0.49
1:QA:1203:C:H2'	1:QA:1204:A:C8	2.48	0.49
1:QA:1226:C:H2'	13:QM:103:THR:HB	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:522:C:OP2	12:QL:69:TYR:OH	2.25	0.49
1:QA:849:C:H2'	1:QA:850:U:O4'	2.13	0.49
3:QC:79:ARG:HE	11:XK:99:GLN:NE2	2.11	0.49
12:QL:24:VAL:HG13	12:QL:98:TYR:HE2	1.77	0.49
15:QO:87:ILE:HG22	15:QO:88:ARG:H	1.78	0.49
19:QS:77:THR:HG22	19:QS:78:ARG:HD3	1.95	0.49
20:QT:79:ARG:O	20:QT:83:ARG:HG3	2.12	0.49
53:QV:9:G:N3	53:QV:45:G:H2'	2.28	0.49
49:R6:14:THR:O	49:R6:49:HIS:HA	2.12	0.49
22:RA:1091:G:N2	22:RA:1101:U:H1'	2.27	0.49
22:RA:1212:G:N2	22:RA:1236:G:O2'	2.44	0.49
22:RA:1449:A:HO2'	22:RA:1530:G:N2	2.04	0.49
22:RA:2540:C:H2'	22:RA:2541:A:O4'	2.13	0.49
22:RA:589:C:H2'	22:RA:590:A:H8	1.76	0.49
22:RA:680:G:H2'	22:RA:681:G:C8	2.48	0.49
29:RI:3:VAL:HG12	29:RI:38:LEU:HA	1.94	0.49
1:XA:1277:C:H2'	1:XA:1279:A:H8	1.76	0.49
1:XA:1443:G:H2'	36:YT:122:ASP:OD2	2.13	0.49
1:XA:518:C:H2'	1:XA:530:G:C4	2.48	0.49
2:XB:47:THR:HA	2:XB:202:PRO:HG2	1.95	0.49
5:XE:10:MET:SD	5:XE:13:ILE:HD13	2.53	0.49
1:XA:1291:G:OP1	7:XG:37:ASN:ND2	2.46	0.49
49:Y6:21:TYR:HE1	49:Y6:53:LYS:HE3	1.77	0.49
22:YA:1758:G:OP1	22:YA:1760:A:N6	2.46	0.49
22:YA:2323:G:H2'	22:YA:2324:C:O4'	2.13	0.49
22:YA:602:G:C2	22:YA:656:G:C6	3.01	0.49
22:YA:1693:U:O2'	24:YD:14:ARG:NH2	2.45	0.49
24:YD:61:LEU:O	24:YD:63:ARG:NH1	2.45	0.49
22:YA:1657:C:O2'	25:YE:133:LYS:HD2	2.13	0.49
28:YH:12:PRO:HG3	28:YH:48:GLY:HA2	1.95	0.49
42:YZ:48:PHE:CE2	42:YZ:52:SER:HA	2.48	0.49
1:QA:1025:U:HO2'	1:QA:1026:G:P	2.36	0.49
1:QA:1066:C:H5'	1:QA:1067:A:OP2	2.13	0.49
1:QA:1512:U:H2'	1:QA:1513:A:H8	1.78	0.49
1:QA:266:G:H5'	1:QA:268:C:H41	1.77	0.49
1:QA:617:G:N2	1:QA:618:C:N3	2.61	0.49
1:QA:751:U:H2'	1:QA:752:G:O4'	2.13	0.49
2:QB:80:ILE:HG21	2:QB:212:GLN:HA	1.95	0.49
4:QD:129:ASN:HA	4:QD:145:GLU:HB2	1.94	0.49
10:QJ:51:ARG:NH2	14:QN:58:LYS:HZ1	2.11	0.49
21:QU:5:ASP:O	21:QU:11:GLY:HA3	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1130:U:C2	25:RE:147:PRO:HB3	2.48	0.49
22:RA:1178:C:H2'	22:RA:1179:C:C5	2.48	0.49
22:RA:1292:U:H2'	22:RA:1293:C:C6	2.48	0.49
22:RA:1676:A:N6	22:RA:1677:A:N1	2.61	0.49
22:RA:2144:U:O2'	22:RA:2147:G:O6	2.21	0.49
22:RA:860:U:H5	22:RA:917:A:C2	2.31	0.49
22:RA:861:A:C2	22:RA:917:A:C5	3.01	0.49
27:RG:98:ARG:HE	27:RG:98:ARG:HB2	1.38	0.49
22:RA:2292:C:OP2	35:RS:17:ARG:NH2	2.46	0.49
1:XA:1118:C:OP1	9:XI:9:ARG:HD3	2.12	0.49
1:XA:1179:A:O3'	9:XI:103:THR:HG23	2.13	0.49
3:XC:79:ARG:HH12	3:XC:82:GLU:HG3	1.77	0.49
6:XF:19:LEU:HD21	6:XF:59:TYR:CE2	2.47	0.49
22:YA:1042:G:H1	22:YA:1113:U:H3	1.61	0.49
22:YA:1957:C:H2'	22:YA:1958:C:C6	2.48	0.49
22:YA:2639:A:H2'	22:YA:2640:G:O4'	2.13	0.49
22:YA:698:C:O2'	22:YA:734:A:N6	2.46	0.49
24:YD:170:GLY:C	24:YD:172:TYR:H	2.16	0.49
26:YF:176:LEU:HD21	26:YF:181:LEU:HA	1.94	0.49
33:YQ:104:PHE:CE1	33:YQ:125:LEU:HD11	2.41	0.49
42:YZ:52:SER:C	42:YZ:54:HIS:H	2.16	0.49
1:QA:1053:G:O6	1:QA:1199:U:H2'	2.13	0.48
1:QA:1053:G:N7	1:QA:1199:U:H3'	2.27	0.48
1:QA:1312:G:H5''	47:R4:67:TYR:OH	2.13	0.48
1:QA:1412:C:H2'	1:QA:1413:A:C8	2.48	0.48
1:QA:325:A:H2'	1:QA:326:G:O4'	2.11	0.48
1:QA:455:C:H42	1:QA:477:G:H1	1.59	0.48
1:QA:855:G:C6	1:QA:856:C:C4	3.01	0.48
2:QB:96:ARG:H	2:QB:96:ARG:HD2	1.76	0.48
7:QG:155:ARG:NH2	7:QG:155:ARG:O	2.46	0.48
15:QO:16:ALA:HB1	15:QO:21:ASP:HB3	1.94	0.48
49:R6:25:LYS:HE2	49:R6:27:LYS:HD3	1.94	0.48
22:RA:1022:G:H4'	22:RA:1023:U:H5'	1.95	0.48
22:RA:1137:G:O2'	22:RA:2039:C:H5'	2.13	0.48
22:RA:205:G:O2'	22:RA:206:U:OP2	2.25	0.48
22:RA:2469:A:H2	22:RA:2481:G:H21	1.61	0.48
22:RA:503:A:C4'	22:RA:504:U:H5'	2.42	0.48
28:RH:4:ILE:HG13	28:RH:6:ARG:NE	2.28	0.48
36:RT:16:ARG:HD3	36:RT:19:LEU:HD11	1.94	0.48
41:RY:47:LYS:HG2	41:RY:60:PHE:CD1	2.48	0.48
1:XA:347:G:C4	1:XA:348:G:C8	3.00	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:444:C:H2'	1:XA:445:G:C8	2.48	0.48
3:XC:134:ILE:HG23	3:XC:151:VAL:HB	1.94	0.48
5:XE:33:VAL:HG11	5:XE:109:ILE:HA	1.95	0.48
22:YA:1159:U:H2'	22:YA:1160:G:O4'	2.13	0.48
22:YA:225:A:O2'	22:YA:257:A:H4'	2.13	0.48
22:YA:2687:U:H2'	22:YA:2688:U:O4'	2.12	0.48
22:YA:270(G):C:H2'	22:YA:270(H):C:C6	2.47	0.48
24:YD:35:LYS:HD3	24:YD:63:ARG:CB	2.43	0.48
22:YA:2636:U:OP2	25:YE:79:ARG:NH1	2.46	0.48
28:YH:98:LEU:HD13	28:YH:125:VAL:HB	1.94	0.48
36:YT:107:ASP:H	36:YT:110:ILE:HG22	1.78	0.48
1:QA:1060:C:H2'	1:QA:1061:G:H8	1.78	0.48
1:QA:1305:G:O2'	1:QA:1306:A:O4'	2.31	0.48
1:QA:440:A:H5'	1:QA:442:C:OP2	2.13	0.48
2:QB:21:ARG:O	2:QB:23:ARG:N	2.46	0.48
1:QA:1368:G:H5'	9:QI:112:LYS:O	2.13	0.48
10:QJ:24:VAL:HG21	10:QJ:37:PRO:HD3	1.95	0.48
10:QJ:32:ALA:HB3	10:QJ:76:ASN:HB2	1.95	0.48
12:QL:58:VAL:O	12:QL:65:GLU:HA	2.13	0.48
22:RA:107:C:H2'	22:RA:108:U:C6	2.48	0.48
22:RA:1366:A:H2'	22:RA:1367:A:O4'	2.12	0.48
22:RA:2056:G:N2	48:R5:4:HIS:O	2.45	0.48
22:RA:2404:C:H2'	22:RA:2405:G:H5'	1.95	0.48
22:RA:381:G:H2'	22:RA:382:G:H8	1.78	0.48
22:RA:456:C:O2'	22:RA:457:A:H5'	2.13	0.48
22:RA:977:G:C6	22:RA:987:G:C6	3.01	0.48
26:RF:178:PRO:HB2	26:RF:201:VAL:HG11	1.94	0.48
28:RH:41:MET:HG3	28:RH:54:ARG:HA	1.96	0.48
42:RZ:30:ASN:N	42:RZ:30:ASN:OD1	2.43	0.48
1:XA:107:G:OP1	1:XA:325:A:N6	2.46	0.48
1:XA:485:G:H1'	1:XA:486:U:H5	1.77	0.48
1:XA:619:U:H2'	1:XA:619:U:O2	2.11	0.48
1:XA:757:U:H2'	1:XA:758:G:O4'	2.13	0.48
6:XF:35:ALA:HA	6:XF:67:MET:HB3	1.94	0.48
22:YA:1011:G:H22	22:YA:1151:G:H1'	1.77	0.48
22:YA:1204:A:H1'	22:YA:1206:G:C5	2.48	0.48
22:YA:1265:A:H8	22:YA:1265:A:OP1	1.95	0.48
22:YA:1494:A:H2'	22:YA:1495:A:C8	2.48	0.48
22:YA:1870:C:H2'	22:YA:1871:A:O4'	2.12	0.48
22:YA:1918:A:HO2'	22:YA:1920:C:N4	2.11	0.48
22:YA:2097:C:H2'	22:YA:2098:U:O4'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:840:C:OP2	22:YA:932:G:N2	2.39	0.48
22:YA:860:U:OP2	22:YA:916:G:N1	2.45	0.48
25:YE:21:VAL:HG23	25:YE:22:PRO:HD3	1.95	0.48
27:YG:166:ASP:HA	27:YG:169:ALA:HB3	1.95	0.48
28:YH:55:PRO:HG2	28:YH:61:HIS:CE1	2.48	0.48
31:YO:4:PRO:O	31:YO:5:GLN:HB2	2.11	0.48
25:YE:111:ARG:HG2	34:YR:1:MET:SD	2.53	0.48
31:YO:76:ALA:HB3	36:YT:75:ILE:HD12	1.95	0.48
37:YU:98:LEU:O	37:YU:102:GLU:N	2.37	0.48
39:YW:51:LEU:HD23	39:YW:105:VAL:HG11	1.94	0.48
42:YZ:10:ARG:NH2	42:YZ:26:GLY:O	2.45	0.48
1:QA:1224:G:C6	1:QA:1322:C:H1'	2.49	0.48
1:QA:1310:G:N2	1:QA:1327:C:O2	2.40	0.48
1:QA:1423:G:H2'	1:QA:1424:C:O4'	2.12	0.48
1:QA:129(A):G:N3	1:QA:189:U:H5'	2.28	0.48
1:QA:474:G:H2'	1:QA:475:G:C8	2.48	0.48
2:QB:163:PHE:HD2	2:QB:185:ILE:HG13	1.78	0.48
4:QD:88:VAL:HG13	5:QE:97:GLY:HA3	1.95	0.48
7:QG:113:GLU:HG3	7:QG:119:ARG:HG2	1.94	0.48
44:R1:53:VAL:HB	44:R1:58:ILE:HD12	1.94	0.48
22:RA:577:G:O2'	22:RA:1254:A:OP1	2.32	0.48
22:RA:858:U:O2	22:RA:2268:A:H2'	2.14	0.48
22:RA:247:G:N7	22:RA:249:C:C2	2.81	0.48
22:RA:2545:G:H2'	22:RA:2546:U:O4'	2.13	0.48
22:RA:27:G:C2	22:RA:512:G:N3	2.81	0.48
26:RF:155:LEU:HD12	26:RF:174:VAL:HG22	1.94	0.48
32:RP:59:LEU:HA	32:RP:61:ARG:HE	1.76	0.48
34:RR:97:VAL:HG22	34:RR:114:VAL:CG2	2.43	0.48
40:RX:39:ILE:O	40:RX:43:VAL:HG12	2.13	0.48
1:XA:1024:G:N3	1:XA:1024:G:H3'	2.28	0.48
1:XA:1090:U:H2'	1:XA:1091:U:H6	1.78	0.48
1:XA:1399:C:C2	1:XA:1401:G:C5	3.01	0.48
1:XA:564:C:C2	17:XQ:31:LEU:HD11	2.48	0.48
3:XC:130:VAL:HG21	3:XC:157:ILE:HG23	1.94	0.48
5:XE:152:ARG:NH2	8:XH:107:LEU:O	2.46	0.48
15:XO:70:LEU:HD11	15:XO:77:ARG:HG3	1.96	0.48
16:XP:26:ARG:HH21	16:XP:31:LYS:HB3	1.77	0.48
22:YA:396:G:H1'	44:Y1:42:GLN:HB3	1.94	0.48
22:YA:1728:G:H3'	22:YA:1729:A:C5'	2.43	0.48
22:YA:2729:G:H2'	22:YA:2730:C:C6	2.48	0.48
22:YA:1823:G:P	24:YD:54:ARG:HH21	2.36	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:YF:185:ASP:OD1	26:YF:188:ARG:NH1	2.35	0.48
1:QA:1082:G:H5'	1:QA:1083:U:OP2	2.13	0.48
4:QD:100:ARG:NH2	4:QD:136:PRO:O	2.47	0.48
13:QM:23:TYR:HE1	13:QM:70:LEU:HD12	1.77	0.48
22:RA:1316:U:H2'	22:RA:1317:A:C8	2.48	0.48
22:RA:2563:U:N3	22:RA:2566:A:OP2	2.43	0.48
22:RA:429:A:C5	22:RA:430:G:C6	3.01	0.48
22:RA:962:G:H2'	22:RA:963:U:O4'	2.14	0.48
23:RB:7:G:H5'	35:RS:29:PHE:CE1	2.49	0.48
32:RP:58:THR:O	32:RP:61:ARG:CZ	2.61	0.48
1:XA:200:G:H1	1:XA:217:C:H42	1.61	0.48
1:XA:542:G:OP1	4:XD:10:ARG:NH2	2.46	0.48
1:XA:713:G:H2'	1:XA:714:G:C8	2.48	0.48
2:XB:101:MET:HA	2:XB:108:ILE:HG13	1.95	0.48
3:XC:7:PRO:O	3:XC:11:ARG:HG2	2.13	0.48
5:XE:50:GLU:HG3	5:XE:52:PRO:HD2	1.95	0.48
6:XF:36:ARG:CZ	6:XF:38:GLU:HG2	2.44	0.48
1:XA:1216:G:OP1	14:YN:2:ALA:HA	2.13	0.48
20:XT:93:GLU:OE1	20:XT:94:ALA:N	2.46	0.48
44:Y1:41:ARG:HG3	44:Y1:41:ARG:HH11	1.79	0.48
48:Y5:41:PRO:O	48:Y5:44:THR:OG1	2.32	0.48
22:YA:1796:U:H2'	22:YA:1797:C:C6	2.47	0.48
22:YA:199:A:C8	22:YA:2433:A:C6	3.01	0.48
22:YA:2127:G:H22	22:YA:2162:G:H1'	1.78	0.48
22:YA:2168:G:N2	22:YA:2170:A:H62	2.11	0.48
22:YA:2321:G:N2	22:YA:2322:A:O4'	2.46	0.48
22:YA:220:G:O2'	22:YA:233:A:N3	2.44	0.48
22:YA:2532:G:C6	22:YA:2533:A:C6	3.01	0.48
22:YA:259:G:H21	22:YA:621:A:H8	1.60	0.48
22:YA:638:G:H2'	22:YA:639:U:O4'	2.13	0.48
22:YA:745:G:O6	22:YA:746:A:N6	2.46	0.48
23:YB:82:G:C4	23:YB:83:G:C8	3.01	0.48
25:YE:20:ALA:HB3	25:YE:21:VAL:HG13	1.95	0.48
28:YH:137:ASP:HB3	28:YH:140:LYS:HB3	1.94	0.48
32:YP:135:LEU:HD13	32:YP:139:LYS:HE2	1.94	0.48
32:YP:82:GLY:HA2	32:YP:113:LYS:O	2.12	0.48
36:YT:102:ILE:HB	36:YT:110:ILE:HD13	1.95	0.48
38:YV:15:GLU:O	38:YV:18:LEU:HB2	2.14	0.48
1:QA:256:U:H2'	1:QA:257:G:C8	2.48	0.48
1:QA:258:G:C2	1:QA:259:G:C8	3.02	0.48
1:QA:642:A:N3	8:QH:113:SER:OG	2.38	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:QC:150:LYS:HG3	3:QC:169:ALA:HB2	1.96	0.48
13:QM:49:THR:HG22	13:QM:51:ALA:H	1.79	0.48
20:QT:12:ALA:O	20:QT:15:ARG:HB2	2.14	0.48
53:QV:53:G:O2'	53:QV:54:U:H6	1.96	0.48
43:R0:40:GLN:OE1	43:R0:44:ARG:N	2.43	0.48
46:R3:4:LEU:O	46:R3:36:VAL:HA	2.13	0.48
22:RA:1011:G:C2	22:RA:1151:G:C2	3.01	0.48
22:RA:1319:G:H1	22:RA:1333:C:H42	1.59	0.48
22:RA:2461:C:H2'	22:RA:2462:U:C6	2.48	0.48
22:RA:270(P):C:O3'	29:RI:45:LYS:HE2	2.14	0.48
22:RA:2751:G:C2	28:RH:3:ARG:HB3	2.49	0.48
22:RA:2815:C:H2'	22:RA:2816:C:H6	1.77	0.48
22:RA:508:G:HO2'	22:RA:509:C:P	2.36	0.48
22:RA:592:G:H1	22:RA:665:C:N4	2.10	0.48
22:RA:888:C:H3'	22:RA:889:C:H4'	1.95	0.48
34:RR:2:ARG:HA	34:RR:5:LYS:HE3	1.95	0.48
30:RN:4:TYR:O	37:RU:64:ARG:NH1	2.46	0.48
1:XA:258:G:H2'	1:XA:259:G:C8	2.46	0.48
1:XA:295:C:H2'	1:XA:296:U:C6	2.48	0.48
2:XB:204:ASN:ND2	2:XB:206:ASP:H	2.11	0.48
5:XE:110:LEU:HD13	5:XE:118:ILE:HG21	1.94	0.48
11:XK:18:ARG:NH2	11:XK:35:PRO:O	2.45	0.48
22:YA:1341:U:OP2	22:YA:1394:U:O2'	2.18	0.48
22:YA:1639:U:H4'	22:YA:2699:C:H4'	1.95	0.48
22:YA:1665:A:H2'	22:YA:1666:G:O4'	2.14	0.48
22:YA:2331:G:H4'	43:Y0:43:THR:N	2.26	0.48
22:YA:890:A:HO2'	22:YA:892:G:H8	1.61	0.48
22:YA:816:C:O2'	22:YA:932:G:O6	2.26	0.48
32:YP:14:LYS:O	32:YP:16:ARG:HG2	2.13	0.48
32:YP:5:ASP:O	32:YP:6:LEU:O	2.31	0.48
1:QA:380:G:C2	1:QA:384:G:C6	3.02	0.48
9:QI:17:VAL:HG11	9:QI:81:ILE:HA	1.95	0.48
10:QJ:80:LYS:HD3	10:QJ:80:LYS:HA	1.69	0.48
11:QK:48:ILE:HD11	11:QK:64:ALA:HA	1.95	0.48
15:QO:26:GLU:H	15:QO:26:GLU:HG2	1.41	0.48
16:QP:43:LYS:HA	16:QP:48:TRP:HB3	1.96	0.48
19:QS:26:GLY:O	19:QS:28:LYS:N	2.41	0.48
43:R0:36:ILE:HG13	43:R0:58:THR:HG23	1.93	0.48
48:R5:55:ARG:HG3	48:R5:57:VAL:N	2.17	0.48
22:RA:1259:G:H2'	22:RA:1260:G:H8	1.78	0.48
22:RA:180:G:N2	22:RA:214:G:O6	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2404:C:H1'	32:RP:67:MET:CE	2.44	0.48
22:RA:627:A:H4'	22:RA:628:G:H5'	1.95	0.48
22:RA:825:C:H2'	22:RA:826:U:O4'	2.13	0.48
22:RA:991:C:O2'	38:RV:85:LYS:NZ	2.47	0.48
25:RE:181:LEU:HD21	36:RT:7:ILE:HG23	1.95	0.48
26:RF:197:ASP:N	26:RF:197:ASP:OD2	2.46	0.48
29:RI:90:GLY:O	29:RI:121:LYS:HE2	2.13	0.48
35:RS:64:GLU:O	35:RS:68:GLN:HG3	2.14	0.48
41:RY:51:VAL:O	41:RY:56:PRO:HA	2.14	0.48
41:RY:81:LYS:NZ	41:RY:98:VAL:HG11	2.28	0.48
42:RZ:146:ILE:HG22	42:RZ:174:VAL:HG12	1.95	0.48
1:XA:1086:U:H3	1:XA:1099:G:H22	1.61	0.48
1:XA:1233:G:H2'	1:XA:1234:C:C6	2.49	0.48
2:XB:73:THR:OG1	2:XB:170:GLU:OE2	2.23	0.48
9:XI:9:ARG:HB2	9:XI:14:VAL:HA	1.96	0.48
3:QC:79:ARG:NH2	11:XK:99:GLN:HB2	2.29	0.48
22:YA:1607:C:H4'	22:YA:1608:A:O5'	2.14	0.48
22:YA:2320:A:N3	22:YA:2320:A:H2'	2.28	0.48
22:YA:2564:A:OP1	22:YA:2648:C:H4'	2.14	0.48
22:YA:2867:G:OP2	36:YT:119:LYS:NZ	2.23	0.48
22:YA:443:A:H5''	22:YA:444:C:OP1	2.14	0.48
22:YA:609(A):G:H2'	22:YA:610:C:H6	1.79	0.48
22:YA:77:C:O5'	22:YA:77:C:H6	1.97	0.48
29:YI:52:ARG:HA	29:YI:55:ALA:HB3	1.95	0.48
22:YA:662:G:H5''	32:YP:17:LYS:HG2	1.95	0.48
32:YP:52:GLU:O	32:YP:55:ARG:HG2	2.14	0.48
40:YX:63:LYS:O	40:YX:64:LYS:HD2	2.14	0.48
41:YY:35:TYR:CD1	41:YY:69:ALA:HB3	2.49	0.48
42:YZ:105:VAL:HG22	42:YZ:140:ASP:HB3	1.94	0.48
1:QA:559:A:C4'	1:QA:560:U:H3'	2.34	0.48
1:QA:935:A:H2'	1:QA:936:C:C6	2.49	0.48
8:QH:102:ARG:NH1	8:QH:105:ARG:HH22	2.12	0.48
1:QA:1305:G:H5'	21:QU:4:GLY:HA3	1.94	0.48
22:RA:769:G:H5'	22:RA:1379:A:H61	1.79	0.48
22:RA:2021:C:OP1	48:R5:12:SER:OG	2.28	0.48
22:RA:2030:A:H4'	22:RA:2031:A:C8	2.48	0.48
22:RA:2109:U:H2'	22:RA:2110:G:C8	2.47	0.48
27:RG:81:LYS:O	27:RG:82:LEU:HB2	2.13	0.48
28:RH:154:PRO:HD3	28:RH:162:ILE:H	1.77	0.48
32:RP:36:LYS:HB3	32:RP:40:SER:HB3	1.95	0.48
1:XA:1171:G:H2'	1:XA:1172:C:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1366:C:C2	1:XA:1367:C:C5	3.01	0.48
1:XA:1365:G:H2'	1:XA:1366:C:H6	1.79	0.48
1:XA:201:C:N4	1:XA:209:U:O2	2.47	0.48
1:XA:865:A:N3	1:XA:918:A:O2'	2.38	0.48
19:XS:39:THR:HG22	19:XS:40:ILE:H	1.78	0.48
53:XV:10:G:N3	53:XV:10:G:H2'	2.28	0.48
53:XV:2:G:H2'	53:XV:3:C:H6	1.78	0.48
22:YA:1183:G:H4'	46:Y3:29:ARG:HH22	1.78	0.48
22:YA:1266:G:O5'	39:YW:15:ARG:NH2	2.46	0.48
22:YA:1359:A:H61	22:YA:1372:U:H3	1.60	0.48
22:YA:1448:G:N3	22:YA:1529:A:H2	2.12	0.48
22:YA:963:U:O2'	22:YA:964:C:H5'	2.13	0.48
22:YA:975:G:H1'	22:YA:990:A:C2	2.48	0.48
24:YD:254:THR:O	24:YD:254:THR:OG1	2.30	0.48
22:YA:270(O):U:O4	29:YI:52:ARG:HD3	2.14	0.48
37:YU:97:ASP:OD1	37:YU:101:ARG:NH1	2.46	0.48
37:YU:60:LEU:O	37:YU:60:LEU:HD22	2.14	0.48
38:YV:76:LYS:HB2	38:YV:81:TYR:HB3	1.95	0.48
39:YW:67:ASP:OD2	39:YW:67:ASP:N	2.46	0.48
42:YZ:62:PRO:O	42:YZ:64:GLY:N	2.47	0.48
1:QA:1053:G:H2'	1:QA:1199:U:C5	2.48	0.48
1:QA:662:G:H2'	1:QA:663:A:C8	2.49	0.48
4:QD:31:CYS:SG	4:QD:31:CYS:O	2.71	0.48
1:QA:1347:G:C8	9:QI:107:ARG:HB3	2.49	0.48
9:QI:40:LEU:O	9:QI:42:ARG:N	2.46	0.48
10:QJ:78:ASN:O	10:QJ:82:ILE:HG12	2.14	0.48
53:QV:17:C:O2	53:QV:17:C:H2'	2.13	0.48
48:R5:46:CYS:O	48:R5:48:GLU:N	2.47	0.48
51:R8:51:ALA:N	51:R8:53:PRO:HD2	2.29	0.48
22:RA:2742:C:OP1	52:R9:35:ARG:HD3	2.13	0.48
22:RA:1608:A:H1'	22:RA:1610:A:OP2	2.14	0.48
22:RA:1849:G:H2'	22:RA:1850:G:C8	2.47	0.48
22:RA:2279:G:N2	22:RA:2280:G:H1'	2.29	0.48
22:RA:1755:A:N6	22:RA:2694:G:O2'	2.47	0.48
22:RA:813:U:H2'	22:RA:814:C:C6	2.48	0.48
22:RA:617:G:P	26:RF:40:GLN:HE21	2.28	0.48
22:RA:1190:G:H5'	32:RP:32:THR:HA	1.96	0.48
22:RA:2415:G:H4'	32:RP:67:MET:N	2.28	0.48
1:XA:1323:G:H4'	1:XA:1362(A):C:C2	2.49	0.48
1:XA:292:G:N7	1:XA:293:G:H1'	2.29	0.48
1:XA:356:A:H2'	1:XA:357:G:C8	2.41	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:486:U:H2'	1:XA:487:A:H8	1.77	0.48
1:XA:623:C:H2'	1:XA:624:C:O4'	2.14	0.48
1:XA:7:G:H5'	1:XA:298:A:O4'	2.14	0.48
5:XE:6:PHE:CE2	5:XE:36:ASP:HB3	2.48	0.48
9:XI:114:TYR:CD2	9:XI:114:TYR:N	2.81	0.48
16:XP:22:THR:HA	16:XP:33:ILE:HG12	1.96	0.48
48:Y5:58:LEU:HD22	48:Y5:60:VAL:HB	1.96	0.48
22:YA:1045:A:O2'	22:YA:1046:A:OP2	2.22	0.48
22:YA:1131:G:N2	22:YA:1132:A:C2	2.82	0.48
22:YA:2477:C:H2'	52:Y9:1:MET:CG	2.43	0.48
22:YA:263:C:H2'	22:YA:264:C:O4'	2.14	0.48
22:YA:279:C:H2'	22:YA:280:C:C6	2.48	0.48
22:YA:521:G:H2'	22:YA:522:G:C8	2.44	0.48
29:YI:83:ALA:O	29:YI:85:GLU:N	2.47	0.48
35:YS:74:ALA:HB1	35:YS:107:GLU:HB3	1.96	0.48
37:YU:90:VAL:HG22	38:YV:39:LEU:HB3	1.96	0.48
1:QA:181:G:O2'	1:QA:182:U:O5'	2.32	0.48
1:QA:743:U:H2'	1:QA:744:C:C6	2.49	0.48
1:QA:911:U:H2'	1:QA:912:C:C6	2.49	0.48
5:QE:69:VAL:O	5:QE:71:LEU:N	2.47	0.48
7:QG:57:GLU:N	7:QG:57:GLU:OE1	2.41	0.48
17:QQ:100:LYS:O	17:QQ:101:ARG:NE	2.47	0.48
47:R4:23:GLU:HG3	47:R4:25:TYR:CE2	2.49	0.48
49:R6:18:ARG:HB2	49:R6:44:ARG:HH12	1.77	0.48
22:RA:2107:C:N4	22:RA:2182:G:H1	2.04	0.48
22:RA:2803:C:H2'	22:RA:2804:C:C6	2.48	0.48
22:RA:405:U:H6	22:RA:405:U:H5'	1.78	0.48
26:RF:102:PRO:HB2	26:RF:105:VAL:HG23	1.95	0.48
27:RG:82:LEU:HD21	27:RG:88:ILE:HG13	1.96	0.48
28:RH:86:GLU:OE1	28:RH:86:GLU:N	2.43	0.48
1:XA:1112:C:C2	3:XC:178:LEU:HB2	2.49	0.48
1:XA:1118:C:P	9:XI:104:ARG:HH11	2.37	0.48
1:XA:777:A:H2'	1:XA:778:G:H8	1.77	0.48
6:XF:10:LEU:HD22	6:XF:61:LEU:HD11	1.95	0.48
22:YA:1293:C:H2'	22:YA:1294:U:H6	1.79	0.48
22:YA:1382:G:C4	22:YA:1383:C:C5	3.02	0.48
22:YA:1436:G:H2'	22:YA:1437:C:O4'	2.13	0.48
22:YA:1733:G:H5'	22:YA:1734:C:OP2	2.14	0.48
22:YA:2131:G:H1'	22:YA:2158:A:N6	2.28	0.48
22:YA:2112:G:C6	22:YA:2169:A:N6	2.81	0.48
22:YA:1638:C:O2'	22:YA:2698:U:O2'	2.15	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:566:U:OP1	32:YP:29:LYS:NZ	2.39	0.48
23:YB:78:A:C2	23:YB:99:A:C4	3.02	0.48
13:XM:68:GLY:HA3	27:YG:116:ASP:CG	2.34	0.48
28:YH:6:ARG:HA	28:YH:66:GLY:HA2	1.95	0.48
29:YI:40:THR:O	29:YI:44:LEU:HB2	2.13	0.48
32:YP:46:LYS:HB3	32:YP:46:LYS:HE3	1.54	0.48
32:YP:98:GLU:HA	32:YP:101:VAL:HB	1.96	0.48
37:YU:92:ARG:CZ	38:YV:11:GLN:H	2.26	0.48
1:QA:1086:U:H6	1:QA:1086:U:O5'	1.97	0.48
12:QL:17:LYS:HG2	12:QL:19:ARG:HG2	1.94	0.48
12:QL:38:THR:O	12:QL:79:GLU:HG3	2.14	0.48
22:RA:125:G:H1'	50:R7:13:ALA:CB	2.44	0.48
22:RA:1342:A:O2'	22:RA:1344:G:OP2	2.28	0.48
22:RA:1614:A:N7	39:RW:93:ALA:HB2	2.28	0.48
22:RA:229:A:H4'	22:RA:229:A:OP1	2.12	0.48
22:RA:2633:G:H2'	22:RA:2634:G:O4'	2.14	0.48
24:RD:25:THR:O	24:RD:27:THR:HG22	2.14	0.48
26:RF:183:VAL:O	26:RF:187:VAL:HG23	2.13	0.48
29:RI:113:ARG:HG3	29:RI:131:LYS:HD3	1.96	0.48
1:XA:1127:G:H21	1:XA:1147:C:N4	2.12	0.48
1:XA:438:G:H4'	4:XD:123:HIS:CD2	2.48	0.48
8:XH:49:GLU:HG2	8:XH:62:TYR:HE2	1.78	0.48
1:XA:254:G:OP1	17:XQ:67:LYS:O	2.32	0.48
49:Y6:27:LYS:HB2	49:Y6:27:LYS:NZ	2.28	0.48
22:YA:1416:G:H2'	22:YA:1417:C:C6	2.49	0.48
22:YA:1469:A:H2'	22:YA:1470:G:H8	1.76	0.48
22:YA:389:G:H1	32:YP:70:GLN:HB3	1.79	0.48
22:YA:392:C:H5''	22:YA:409:C:H5''	1.95	0.48
22:YA:413:C:H6	22:YA:413:C:O5'	1.97	0.48
22:YA:57:C:H2'	22:YA:58:G:O4'	2.13	0.48
22:YA:805:G:H22	22:YA:828:U:H5''	1.79	0.48
24:YD:35:LYS:HZ1	24:YD:104:TYR:HB2	1.79	0.48
41:YY:44:ILE:HG13	41:YY:45:VAL:N	2.28	0.48
1:QA:1347:G:HO2'	1:QA:1373:G:H1	1.61	0.47
1:QA:602:A:H2'	1:QA:603:U:H6	1.78	0.47
1:QA:663:A:O3'	18:QR:64:ARG:NH2	2.47	0.47
4:QD:106:TYR:HE1	4:QD:112:VAL:O	1.97	0.47
4:QD:57:ARG:NH2	5:QE:107:ARG:HD3	2.24	0.47
13:QM:57:ARG:HH11	13:QM:57:ARG:HB2	1.79	0.47
14:QN:41:ARG:CZ	14:QN:42:ILE:HD11	2.44	0.47
45:R2:41:ILE:HD11	45:R2:44:LEU:HD12	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RP:61:ARG:CD	51:R8:13:ARG:HD2	2.44	0.47
52:R9:27:CYS:SG	52:R9:32:HIS:HB2	2.54	0.47
22:RA:1093:G:H1'	22:RA:1099:G:O6	2.14	0.47
22:RA:2646:C:H2'	22:RA:2647:U:O4'	2.14	0.47
22:RA:2821:A:H2'	22:RA:2822:G:O4'	2.14	0.47
22:RA:455:C:N3	22:RA:473:G:H5'	2.29	0.47
22:RA:671:C:H2'	22:RA:672:C:C6	2.49	0.47
22:RA:747:U:O2	22:RA:2014:A:H1'	2.14	0.47
23:RB:78:A:H2'	23:RB:79:C:O4'	2.14	0.47
40:RX:83:VAL:HG11	40:RX:87:GLN:HB2	1.96	0.47
1:XA:1043:C:H2'	1:XA:1044:A:H8	1.79	0.47
1:XA:1390:U:H2'	1:XA:1391:U:H6	1.78	0.47
1:XA:1410:G:H2'	1:XA:1411:C:C6	2.48	0.47
1:XA:678:U:C4	1:XA:679:C:N4	2.82	0.47
18:XR:66:LEU:O	18:XR:70:ILE:HG13	2.14	0.47
43:Y0:6:GLY:O	53:XV:1:C:O2'	2.27	0.47
45:Y2:59:ARG:O	45:Y2:63:VAL:HG23	2.14	0.47
22:YA:458:G:C8	50:Y7:37:LYS:HG2	2.49	0.47
22:YA:2349:G:OP2	51:Y8:42:ARG:HD3	2.14	0.47
22:YA:2038:G:H2'	22:YA:2039:C:O4'	2.14	0.47
22:YA:189:G:H1'	22:YA:207:A:N6	2.29	0.47
22:YA:2108:C:H2'	22:YA:2109:U:C6	2.48	0.47
30:YN:134:ARG:N	30:YN:135:PRO:HD3	2.29	0.47
35:YS:65:VAL:O	35:YS:69:VAL:HG12	2.14	0.47
38:YV:44:LYS:O	38:YV:46:VAL:HG12	2.13	0.47
22:YA:336:C:HO2'	41:YY:35:TYR:HH	1.57	0.47
42:YZ:141:VAL:HG23	42:YZ:144:LEU:HB2	1.96	0.47
42:YZ:145:GLU:OE2	42:YZ:146:ILE:HG23	2.14	0.47
1:QA:176:C:H2'	1:QA:177:C:H6	1.78	0.47
1:QA:222:U:H2'	1:QA:223:U:H6	1.79	0.47
1:QA:623:C:H2'	1:QA:624:C:O4'	2.14	0.47
1:QA:636:U:H2'	1:QA:637:G:H8	1.80	0.47
1:QA:826:C:H2'	1:QA:827:U:O2	2.14	0.47
2:QB:25:ASN:O	2:QB:27:LYS:N	2.47	0.47
44:R1:91:LYS:O	44:R1:94:LEU:N	2.36	0.47
26:RF:167:ALA:HB1	26:RF:173:VAL:HG11	1.95	0.47
27:RG:145:THR:O	27:RG:147:ASP:N	2.47	0.47
1:XA:556:C:H2'	1:XA:557:G:C8	2.49	0.47
1:XA:939:G:C2	1:XA:940:C:C2	3.02	0.47
2:XB:84:GLU:OE1	2:XB:87:ARG:NH2	2.43	0.47
3:XC:70:VAL:HG12	3:XC:72:LYS:H	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:XI:121:ARG:NH1	9:XI:122:ALA:O	2.47	0.47
9:XI:126:SER:O	9:XI:128:ARG:N	2.43	0.47
10:XJ:38:ILE:HD11	10:XJ:71:LEU:HD23	1.96	0.47
18:XR:36:ASN:ND2	18:XR:36:ASN:O	2.41	0.47
48:Y5:46:CYS:O	48:Y5:48:GLU:N	2.38	0.47
22:YA:2721:A:H2'	22:YA:2722:G:O4'	2.14	0.47
23:YB:62:C:H2'	23:YB:63:G:H8	1.79	0.47
22:YA:1797:C:H4'	24:YD:257:LEU:O	2.14	0.47
22:YA:2444:G:P	26:YF:68:LYS:HE3	2.53	0.47
42:YZ:10:ARG:HD2	42:YZ:36:LYS:HB3	1.95	0.47
42:YZ:182:LYS:CG	42:YZ:183:LEU:HA	2.43	0.47
1:QA:1127:G:H21	1:QA:1147:C:H41	1.62	0.47
1:QA:1238:A:H62	1:QA:1299:A:H61	1.62	0.47
2:QB:97:TRP:CH2	2:QB:173:ALA:HA	2.49	0.47
2:QB:211:ILE:O	2:QB:215:LEU:HB2	2.14	0.47
2:QB:70:PHE:O	2:QB:93:VAL:N	2.48	0.47
4:QD:12:CYS:HA	4:QD:19:LEU:CD2	2.44	0.47
4:QD:26:CYS:HA	4:QD:31:CYS:HA	1.96	0.47
1:QA:10:A:OP2	5:QE:126:ARG:HD3	2.14	0.47
1:QA:375:U:OP1	16:QP:69:THR:HG21	2.13	0.47
20:QT:75:ASN:OD1	20:QT:75:ASN:N	2.40	0.47
22:RA:1078:U:O2'	22:RA:1088:A:N1	2.46	0.47
22:RA:186:G:C2	22:RA:211:A:C2	3.03	0.47
22:RA:2070:G:H2'	22:RA:2071:A:O4'	2.14	0.47
22:RA:2320:A:H8	22:RA:2321:G:N1	2.12	0.47
22:RA:2832:U:H4'	22:RA:2833:G:H5''	1.95	0.47
22:RA:822:U:H2'	22:RA:823:G:H8	1.78	0.47
30:RN:7:LYS:HD2	30:RN:7:LYS:H	1.80	0.47
32:RP:127:ALA:HB3	32:RP:130:PHE:CZ	2.49	0.47
1:XA:1360:A:H2'	1:XA:1361:G:O4'	2.15	0.47
3:XC:79:ARG:NH1	3:XC:82:GLU:HG3	2.29	0.47
4:XD:15:GLU:HG2	4:XD:63:LYS:HB2	1.97	0.47
5:XE:8:GLU:OE2	5:XE:63:ARG:NH2	2.46	0.47
43:Y0:23:VAL:HA	43:Y0:38:VAL:HG22	1.96	0.47
43:Y0:22:GLY:N	43:Y0:39:ARG:O	2.37	0.47
44:Y1:91:LYS:HB3	44:Y1:92:LYS:H	1.44	0.47
22:YA:1198:U:H2'	22:YA:1199:U:H6	1.78	0.47
22:YA:1668:A:H4'	22:YA:1669:A:O5'	2.15	0.47
22:YA:175:G:H2'	22:YA:176:G:H8	1.79	0.47
22:YA:1825:A:H2'	22:YA:1826:G:C8	2.49	0.47
22:YA:2584:U:C5'	56:Z8:76:PPU:H92	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:598:G:H5'	32:YP:11:GLY:HA3	1.95	0.47
22:YA:467:G:O2'	22:YA:796:C:O2'	2.24	0.47
24:YD:71:ASP:HB2	24:YD:103:ARG:NH2	2.27	0.47
32:YP:144:GLU:N	32:YP:144:GLU:OE1	2.40	0.47
36:YT:11:GLU:N	36:YT:11:GLU:OE1	2.43	0.47
42:YZ:89:PHE:HE1	42:YZ:96:VAL:HG21	1.79	0.47
1:QA:1099:G:H2'	1:QA:1100:C:O4'	2.15	0.47
1:QA:544:G:OP2	4:QD:66:ARG:NH2	2.47	0.47
6:QF:41:GLU:HB2	6:QF:62:TRP:CE3	2.50	0.47
7:QG:99:LEU:HD22	7:QG:103:TRP:CZ2	2.49	0.47
22:RA:1283:G:N2	22:RA:1285:G:H3'	2.30	0.47
22:RA:2037:G:C6	22:RA:2038:G:C6	3.02	0.47
22:RA:2391:G:O2'	22:RA:2422:A:N7	2.48	0.47
22:RA:2421:G:OP1	49:R6:6:ARG:NH2	2.47	0.47
22:RA:605:C:H1'	22:RA:657:U:O2'	2.14	0.47
33:RQ:136:ALA:C	33:RQ:138:ASP:H	2.18	0.47
37:RU:97:ASP:OD1	37:RU:101:ARG:NH1	2.47	0.47
42:RZ:177:PRO:O	42:RZ:178:GLU:HG2	2.14	0.47
1:XA:1093:A:C2	1:XA:1095:U:H5'	2.50	0.47
1:XA:1148:U:H2'	1:XA:1149:C:O4'	2.14	0.47
1:XA:625:G:H2'	1:XA:626:U:H6	1.79	0.47
1:XA:803:G:H2'	1:XA:804:U:O4'	2.15	0.47
3:XC:81:GLY:O	3:XC:85:ARG:HB2	2.14	0.47
1:XA:405:U:OP2	4:XD:3:ARG:NH2	2.47	0.47
6:XF:69:GLU:O	6:XF:72:VAL:HG12	2.14	0.47
12:XL:24:VAL:HG12	12:XL:24:VAL:O	2.14	0.47
12:XL:7:ILE:HA	12:XL:7:ILE:HD13	1.82	0.47
20:XT:98:PRO:O	20:XT:100:ILE:N	2.46	0.47
43:Y0:25:ARG:HH11	43:Y0:25:ARG:HG2	1.80	0.47
44:Y1:53:VAL:HG22	44:Y1:74:VAL:HG13	1.96	0.47
22:YA:1914:C:H2'	22:YA:1915:U:O4'	2.14	0.47
22:YA:383:U:O2	22:YA:385:C:N4	2.46	0.47
22:YA:563:G:C4	22:YA:2018:G:C2	3.03	0.47
22:YA:624:C:O2	22:YA:657:U:H4'	2.14	0.47
23:YB:31:C:N4	35:YS:32:LEU:HD13	2.29	0.47
26:YF:36:VAL:HG11	26:YF:183:VAL:HG11	1.95	0.47
42:YZ:111:VAL:HA	42:YZ:115:GLY:HA3	1.95	0.47
1:QA:1127:G:H21	1:QA:1147:C:N4	2.12	0.47
1:QA:1207:G:H2'	1:QA:1208:C:C6	2.49	0.47
1:QA:1292:U:H2'	1:QA:1293:G:C8	2.48	0.47
1:QA:176:C:OP1	20:QT:29:LYS:NZ	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:757:U:H2'	1:QA:758:G:O4'	2.14	0.47
2:QB:85:ALA:HB3	2:QB:92:TYR:HD2	1.79	0.47
1:QA:1106:G:H5''	3:QC:172:ARG:HG2	1.97	0.47
20:QT:30:LYS:O	20:QT:33:ILE:HB	2.14	0.47
22:RA:2336:A:H61	43:R0:43:THR:HG21	1.80	0.47
27:RG:3:LEU:HD11	47:R4:25:TYR:CE1	2.48	0.47
22:RA:458:G:O2'	50:R7:39:ARG:HD3	2.15	0.47
22:RA:1178:C:H2'	22:RA:1179:C:C6	2.48	0.47
22:RA:565:C:H4'	22:RA:1253:A:C6	2.50	0.47
22:RA:1509:C:H3'	22:RA:1510:A:H5''	1.97	0.47
22:RA:729:G:H2'	22:RA:1775:U:H1'	1.97	0.47
22:RA:2067:G:H1	22:RA:2443:C:N4	2.12	0.47
22:RA:430:G:H5''	22:RA:431:U:OP2	2.13	0.47
22:RA:754:C:H2'	22:RA:755:C:C6	2.45	0.47
22:RA:764:A:H5'	24:RD:210:GLY:HA2	1.95	0.47
22:RA:777:A:H2'	22:RA:778:G:C8	2.50	0.47
22:RA:840:C:H2'	22:RA:841:A:C8	2.49	0.47
25:RE:73:GLU:HG3	25:RE:74:PRO:HD2	1.95	0.47
33:RQ:63:LYS:HG2	33:RQ:65:PHE:CE2	2.50	0.47
36:RT:64:ARG:HD2	36:RT:73:GLU:OE1	2.14	0.47
42:RZ:151:HIS:HA	42:RZ:170:THR:HA	1.95	0.47
1:XA:1347:G:O2'	1:XA:1348:U:P	2.72	0.47
1:XA:1435:G:H2'	1:XA:1436:U:C6	2.50	0.47
1:XA:163:C:H2'	1:XA:164:U:C6	2.50	0.47
1:XA:280:C:C2	17:XQ:38:ARG:HG3	2.49	0.47
1:XA:595:G:H1'	1:XA:596:C:H5	1.78	0.47
1:XA:790:A:OP1	53:XV:38:A:O2'	2.23	0.47
3:XC:34:LEU:HD23	3:XC:38:ARG:HG3	1.95	0.47
3:XC:22:TRP:CD1	3:XC:59:ARG:HD2	2.49	0.47
9:XI:4:TYR:CZ	9:XI:88:TYR:HB2	2.49	0.47
12:XL:27:LEU:O	12:XL:29:GLY:N	2.46	0.47
15:XO:66:LEU:HA	15:XO:66:LEU:HD12	1.67	0.47
20:XT:35:THR:O	20:XT:39:LYS:HG3	2.14	0.47
51:Y8:36:LYS:HB3	51:Y8:40:GLU:HG2	1.95	0.47
22:YA:528:A:H2	22:YA:2043:C:H5'	1.79	0.47
22:YA:270:A:C2	22:YA:366:C:H4'	2.49	0.47
24:YD:28:GLU:HB2	24:YD:29:PRO:CD	2.45	0.47
33:YQ:21:THR:HB	33:YQ:22:LYS:H	1.40	0.47
1:QA:1298:C:O2'	1:QA:1299:A:OP2	2.28	0.47
9:QI:28:VAL:HG22	9:QI:63:ILE:HB	1.96	0.47
12:QL:44:THR:HA	12:QL:45:PRO:HD3	1.74	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:QL:51:ALA:HB3	12:QL:53:ARG:HE	1.80	0.47
13:QM:78:ILE:HG23	13:QM:92:HIS:ND1	2.29	0.47
43:R0:24:LYS:O	43:R0:25:ARG:HD3	2.14	0.47
22:RA:1283:G:H22	22:RA:1286:A:H5'	1.80	0.47
22:RA:1297:C:H2'	22:RA:1298:C:C6	2.49	0.47
22:RA:1300:U:H4'	22:RA:1301:A:H5''	1.95	0.47
22:RA:1449:A:H5'	22:RA:1449(A):G:OP2	2.15	0.47
22:RA:1782:C:H1'	22:RA:2609:U:H5''	1.96	0.47
22:RA:186:G:H2'	22:RA:187:G:H8	1.80	0.47
22:RA:2293:C:OP1	22:RA:2377:A:N6	2.47	0.47
22:RA:2327:A:N6	22:RA:2387:U:O4	2.47	0.47
22:RA:2566:A:H4'	22:RA:2567:G:O5'	2.15	0.47
22:RA:2516:G:C2	22:RA:2569:G:N3	2.83	0.47
22:RA:2662:A:H8	22:RA:2662:A:O5'	1.96	0.47
22:RA:2679:A:C2	22:RA:2729:G:C2	3.02	0.47
22:RA:901:A:H2'	22:RA:901:A:N3	2.29	0.47
25:RE:37:ARG:HA	25:RE:37:ARG:NE	2.28	0.47
22:RA:871:U:H4'	33:RQ:69:PHE:CE2	2.49	0.47
39:RW:63:ASP:OD1	39:RW:63:ASP:N	2.48	0.47
41:RY:21:LYS:HG3	41:RY:22:GLY:N	2.30	0.47
1:XA:209:U:H1'	1:XA:216:G:C2	2.50	0.47
1:XA:729:A:H2'	1:XA:730:G:C8	2.49	0.47
1:XA:664:G:H22	1:XA:741:G:H1	1.62	0.47
17:XQ:67:LYS:O	17:XQ:68:ARG:HB3	2.15	0.47
22:YA:1656:C:P	25:YE:136:ARG:HE	2.37	0.47
22:YA:1833:U:O2'	22:YA:1969:A:N1	2.38	0.47
22:YA:2142:C:H2'	22:YA:2143:C:C6	2.49	0.47
22:YA:2712:U:O2'	22:YA:2712(A):A:P	2.71	0.47
22:YA:2849:U:OP2	36:YT:95:ARG:NH1	2.48	0.47
26:YF:164:ARG:HG3	26:YF:175:THR:OG1	2.15	0.47
27:YG:28:VAL:O	27:YG:31:VAL:HG13	2.14	0.47
30:YN:30:ILE:HG22	30:YN:34:LEU:HD22	1.96	0.47
32:YP:50:ARG:HE	51:Y8:7:HIS:HE2	1.63	0.47
1:QA:604:G:H2'	1:QA:605:U:O4'	2.15	0.47
1:QA:652:U:O2'	1:QA:653:A:O5'	2.32	0.47
6:QF:61:LEU:HB3	6:QF:63:TYR:HE2	1.80	0.47
8:QH:91:ARG:HB2	12:QL:7:ILE:HG13	1.97	0.47
17:QQ:76:LEU:HD21	17:QQ:79:SER:HB2	1.97	0.47
22:RA:1204:A:H1'	22:RA:1206:G:C4	2.49	0.47
22:RA:1382:G:H4'	22:RA:1573:G:C2	2.50	0.47
22:RA:1416:G:C2	22:RA:1417:C:C4	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1728:G:C6	22:RA:1730:U:OP2	2.68	0.47
22:RA:2351:G:H8	22:RA:2351:G:O5'	1.98	0.47
22:RA:2512:C:H5''	22:RA:2513:G:OP2	2.14	0.47
22:RA:2605:U:H2'	22:RA:2606:C:H6	1.80	0.47
22:RA:960:A:H61	33:RQ:82:ARG:HH12	1.62	0.47
25:RE:95:ILE:H	25:RE:95:ILE:HD12	1.80	0.47
29:RI:79:ILE:HG22	29:RI:142:VAL:HG13	1.96	0.47
22:RA:2378:A:OP1	35:RS:111:GLU:HG2	2.15	0.47
1:XA:1064:G:OP1	1:XA:1386:G:H4'	2.14	0.47
1:XA:31:G:O2'	1:XA:48:C:N4	2.47	0.47
1:XA:457:C:H2'	1:XA:458:C:C6	2.50	0.47
1:XA:29:G:N2	1:XA:554:C:O2	2.45	0.47
1:XA:61:G:H2'	1:XA:62:U:O4'	2.15	0.47
10:XJ:47:PHE:HB3	14:XN:34:TYR:CE2	2.50	0.47
11:XK:48:ILE:HG13	11:XK:63:LEU:HB2	1.97	0.47
53:XV:4:G:O2'	53:XV:5:G:O5'	2.27	0.47
1:XA:1494:G:H4'	22:YA:1913:A:N7	2.30	0.47
22:YA:401:A:H61	22:YA:422:A:H61	1.62	0.47
22:YA:71:A:H5''	22:YA:72:U:H3'	1.96	0.47
24:YD:206:LEU:HA	24:YD:206:LEU:HD23	1.51	0.47
26:YF:182:ASN:HD21	26:YF:185:ASP:CG	2.14	0.47
27:YG:113:ARG:HG2	47:Y4:34:GLU:OE2	2.14	0.47
27:YG:34:LEU:HD22	27:YG:35:GLU:N	2.30	0.47
29:YI:67:ARG:CZ	29:YI:68:LEU:HD13	2.45	0.47
39:YW:110:LYS:HG3	39:YW:111:HIS:H	1.80	0.47
1:QA:954:G:N2	1:QA:1226:C:O2	2.43	0.47
1:QA:1347:G:O2'	1:QA:1348:U:P	2.73	0.47
1:QA:580:U:H5''	15:QO:58:MET:HG2	1.95	0.47
1:QA:980:C:H5''	1:QA:981:U:H5	1.78	0.47
7:QG:18:TYR:HD2	7:QG:59:LEU:HD22	1.79	0.47
12:QL:27:LEU:O	12:QL:29:GLY:N	2.47	0.47
1:QA:189:U:C4	17:QQ:72:ARG:NH2	2.83	0.47
44:R1:76:ARG:H	44:R1:76:ARG:HD2	1.80	0.47
22:RA:1835:G:H1'	22:RA:1931:U:C5	2.50	0.47
22:RA:2257:U:O2'	22:RA:2258:C:H5'	2.15	0.47
22:RA:2418:A:P	51:R8:29:LYS:HE2	2.54	0.47
22:RA:2697:G:C6	22:RA:2698:U:C4	3.03	0.47
22:RA:1638:C:H5''	22:RA:2710:C:O2'	2.14	0.47
22:RA:2749:A:H3'	22:RA:2750:A:H2'	1.97	0.47
22:RA:336:C:H2'	22:RA:337:C:C6	2.50	0.47
22:RA:709:U:C2	22:RA:723:G:N2	2.83	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:777:A:H2'	22:RA:778:G:H8	1.80	0.47
28:RH:152:ARG:HG3	28:RH:153:LYS:CD	2.44	0.47
29:RI:61:ARG:HA	29:RI:61:ARG:NE	2.30	0.47
22:RA:2415:G:C5'	32:RP:67:MET:H	2.28	0.47
22:RA:2690:C:OP2	34:RR:14:SER:HB3	2.14	0.47
35:RS:56:LEU:O	35:RS:58:LEU:N	2.48	0.47
36:RT:123:GLN:O	36:RT:125:ARG:N	2.48	0.47
1:XA:1152:A:H2'	1:XA:1153:C:C6	2.48	0.47
1:XA:926:G:C6	1:XA:1505:G:C6	3.02	0.47
1:XA:401:C:H2'	1:XA:402:G:C8	2.47	0.47
1:XA:411:A:N9	1:XA:413:G:H1'	2.29	0.47
1:XA:41:G:H2'	1:XA:42:G:H8	1.80	0.47
2:XB:93:VAL:HG11	2:XB:97:TRP:CD1	2.50	0.47
5:XE:89:ILE:HG12	5:XE:91:LEU:HD13	1.97	0.47
9:XI:114:TYR:HD1	10:XJ:60:ARG:HB2	1.79	0.47
22:YA:138:G:H2'	22:YA:139:G:C8	2.50	0.47
22:YA:2051:A:H5'	22:YA:2578:G:O4'	2.14	0.47
23:YB:99:A:C4	23:YB:100:G:C8	3.03	0.47
24:YD:237:GLU:O	24:YD:239:ARG:N	2.47	0.47
27:YG:114:ILE:HD13	27:YG:140:ILE:HG21	1.96	0.47
28:YH:122:THR:HG22	28:YH:134:SER:HB2	1.96	0.47
22:YA:1342:A:OP1	40:YX:36:LYS:NZ	2.47	0.47
1:QA:484:G:H4'	1:QA:485:G:O5'	2.15	0.47
1:QA:56:U:H2'	1:QA:57:G:H8	1.80	0.47
2:QB:32:ILE:HD13	2:QB:40:HIS:HB3	1.95	0.47
12:QL:17:LYS:HG3	12:QL:18:VAL:N	2.30	0.47
22:RA:1803:A:C8	22:RA:1804:C:C5	3.02	0.47
22:RA:2285:C:N4	49:R6:27:LYS:HE2	2.30	0.47
22:RA:2647:U:H2'	22:RA:2648:C:C6	2.50	0.47
22:RA:685:A:C8	22:RA:774:A:C6	3.03	0.47
24:RD:12:SER:O	24:RD:16:MET:HB2	2.14	0.47
24:RD:211:ARG:HD2	24:RD:214:TRP:CZ3	2.50	0.47
25:RE:21:VAL:HB	25:RE:22:PRO:HB3	1.96	0.47
26:RF:133:ASN:HA	26:RF:162:LEU:HD22	1.96	0.47
29:RI:122:GLU:O	29:RI:126:TYR:OH	2.32	0.47
42:RZ:53:ILE:HG22	42:RZ:71:VAL:O	2.15	0.47
1:XA:1080:A:H5''	1:XA:1081:G:OP2	2.14	0.47
1:XA:1142:G:H2'	1:XA:1143:G:O4'	2.15	0.47
1:XA:502:G:OP1	12:XL:118:SER:HB2	2.14	0.47
13:XM:77:ASN:HA	47:Y4:71:ARG:NH2	2.29	0.47
53:XV:15:G:H22	53:XV:48:C:H42	1.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:Y3:23:LEU:HD13	46:Y3:50:VAL:HG11	1.96	0.47
22:YA:1026:U:O2	22:YA:1027:A:H3'	2.15	0.47
22:YA:1906:G:H1	22:YA:1924:C:H42	1.63	0.47
22:YA:1999:C:H2'	22:YA:2000:G:C8	2.50	0.47
22:YA:207:A:H2'	22:YA:208:C:O4'	2.15	0.47
22:YA:2335:A:O2'	22:YA:2336:A:H8	1.98	0.47
22:YA:2787:C:O2'	22:YA:2810:A:O2'	2.26	0.47
22:YA:2850:A:N7	22:YA:2868:A:O2'	2.35	0.47
22:YA:972:G:C6	22:YA:973:A:C6	3.03	0.47
26:YF:129:PHE:HA	26:YF:142:TRP:NE1	2.29	0.47
26:YF:9:ILE:HG23	26:YF:20:LEU:O	2.15	0.47
29:YI:4:ILE:HG21	29:YI:47:LEU:HD22	1.97	0.47
1:QA:51:A:C6	1:QA:353:A:C2	3.03	0.47
1:QA:865:A:H5'	1:QA:1078:U:H5	1.80	0.47
2:QB:8:LYS:H	2:QB:8:LYS:HD3	1.79	0.47
3:QC:82:GLU:O	3:QC:86:VAL:HG13	2.14	0.47
11:QK:16:SER:OG	11:QK:106:LYS:NZ	2.48	0.47
43:R0:72:ARG:CB	43:R0:75:LEU:HB2	2.44	0.47
22:RA:1422:G:C6	22:RA:1423:G:C5	3.03	0.47
22:RA:1465:G:C4	22:RA:1466:G:C8	3.03	0.47
22:RA:1919:A:H2'	22:RA:1919:A:N3	2.29	0.47
22:RA:2418:A:H2'	22:RA:2419:U:O4'	2.14	0.47
22:RA:2712:U:O2'	22:RA:2712(A):A:P	2.73	0.47
22:RA:2715:C:H2'	22:RA:2716:U:C6	2.50	0.47
22:RA:2755:C:C4	52:R9:19:ARG:NH1	2.83	0.47
22:RA:307:G:H21	22:RA:330:A:N6	2.12	0.47
22:RA:540:G:C6	22:RA:541:C:C4	3.03	0.47
22:RA:735:A:H2'	22:RA:736:C:O4'	2.15	0.47
24:RD:118:VAL:HG22	24:RD:119:ALA:N	2.29	0.47
28:RH:27:LYS:HA	28:RH:32:GLU:HA	1.96	0.47
36:RT:16:ARG:HE	36:RT:19:LEU:HD21	1.80	0.47
41:RY:76:CYS:HB2	41:RY:101:LYS:HG3	1.96	0.47
42:RZ:1:MET:HB3	42:RZ:3:TYR:CE1	2.50	0.47
1:XA:864:A:H2	1:XA:917:G:N3	2.12	0.47
2:XB:18:GLY:H	2:XB:42:ILE:HG22	1.80	0.47
1:XA:598:U:H4'	8:XH:94:TYR:CD2	2.49	0.47
1:XA:552:U:H4'	12:XL:86:ARG:O	2.15	0.47
22:YA:1009:A:OP1	30:YN:37:LYS:NZ	2.45	0.47
22:YA:1045:A:H5''	22:YA:1047:G:H1'	1.96	0.47
22:YA:137(A):G:N3	40:YX:41:ASN:ND2	2.61	0.47
22:YA:1464:C:HO2'	22:YA:1528:A:H8	1.63	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:155:C:H5'	22:YA:161:U:OP2	2.15	0.47
22:YA:2433:A:H5''	22:YA:2434:A:OP1	2.15	0.47
22:YA:2777:G:H3'	22:YA:2777:G:C8	2.50	0.47
22:YA:287:C:H2'	22:YA:288:C:H6	1.80	0.47
22:YA:304:G:H2'	22:YA:305:U:H6	1.79	0.47
22:YA:436:C:H2'	22:YA:438:G:H8	1.79	0.47
25:YE:116:VAL:HG11	25:YE:138:PRO:HB3	1.97	0.47
28:YH:154:PRO:HD3	28:YH:162:ILE:H	1.79	0.47
28:YH:4:ILE:HB	28:YH:6:ARG:CG	2.43	0.47
1:QA:1129:C:H5'	1:QA:1130:A:OP1	2.15	0.47
1:QA:1436:U:H2'	1:QA:1437:C:O4'	2.15	0.47
1:QA:144:G:H1	1:QA:178:C:H42	1.62	0.47
1:QA:464:G:H1'	1:QA:468:A:N6	2.30	0.47
1:QA:933:G:O6	7:QG:3:ARG:NH2	2.47	0.47
19:QS:35:SER:O	19:QS:71:LEU:HD12	2.15	0.47
22:RA:593:G:O2'	51:R8:61:LEU:HD13	2.15	0.47
22:RA:1657:C:H2'	22:RA:1658:C:H6	1.75	0.47
22:RA:2156:G:O6	22:RA:2157:G:N2	2.48	0.47
22:RA:2648:C:H2'	22:RA:2649:U:C6	2.50	0.47
22:RA:580:C:H2'	22:RA:581:C:C6	2.49	0.47
22:RA:70:G:C2	22:RA:114:U:C4	3.03	0.47
22:RA:742:G:H2'	22:RA:743:G:H8	1.80	0.47
26:RF:62:ARG:HB3	26:RF:62:ARG:CZ	2.45	0.47
38:RV:24:LYS:HG3	38:RV:92:THR:HG23	1.97	0.47
1:XA:1010:G:H2'	1:XA:1011:G:C8	2.49	0.47
1:XA:998:G:N2	1:XA:1043:C:O2	2.37	0.47
1:XA:1053:G:H2'	1:XA:1199:U:C5	2.50	0.47
1:XA:1131:G:H2'	1:XA:1132:C:C6	2.50	0.47
1:XA:1212:U:O2'	1:XA:1213:A:C8	2.68	0.47
1:XA:1430:C:H2'	1:XA:1431:C:H6	1.79	0.47
19:XS:33:THR:OG1	19:XS:34:TRP:N	2.48	0.47
53:XV:38:A:O5'	53:XV:38:A:H8	1.98	0.47
53:XV:4:G:HO2'	53:XV:5:G:P	2.38	0.47
22:YA:2365:G:H4'	43:Y0:60:PHE:CE2	2.50	0.47
22:YA:819:A:P	22:YA:1187:G:H22	2.38	0.47
22:YA:1336:A:H2'	22:YA:1337:G:C8	2.50	0.47
22:YA:1368:G:C2	22:YA:1369:G:C8	3.02	0.47
22:YA:2126:A:H4'	22:YA:2127:G:O5'	2.15	0.47
22:YA:409:C:O2'	22:YA:410:G:H5'	2.15	0.47
22:YA:49:A:N7	22:YA:120:U:C5	2.83	0.47
22:YA:896:A:N3	42:YZ:176:PRO:HB3	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:YF:140:LEU:HD12	26:YF:140:LEU:HA	1.77	0.47
27:YG:11:TYR:HA	27:YG:15:VAL:HB	1.95	0.47
28:YH:4:ILE:HG13	28:YH:6:ARG:CZ	2.45	0.47
29:YI:5:LEU:H	29:YI:5:LEU:HD12	1.80	0.47
32:YP:64:LYS:HB2	51:Y8:25:MET:HG3	1.96	0.47
32:YP:96:THR:O	32:YP:99:LEU:HB3	2.15	0.47
1:QA:1144:G:H22	1:QA:1146:A:H62	1.63	0.46
1:QA:793:U:O2	1:QA:1516:G:H4'	2.15	0.46
1:QA:410:G:N1	1:QA:429:U:O2	2.48	0.46
2:QB:166:ASP:OD1	2:QB:169:LYS:HB2	2.15	0.46
5:QE:9:LYS:HB3	5:QE:112:LEU:HD11	1.98	0.46
19:QS:15:LEU:H	19:QS:15:LEU:HD23	1.79	0.46
20:QT:89:ARG:NH2	20:QT:105:SER:O	2.36	0.46
44:R1:89:GLU:HA	44:R1:93:GLU:HB2	1.95	0.46
22:RA:517:C:OP1	48:R5:16:ARG:NH2	2.48	0.46
51:R8:29:LYS:HD3	51:R8:44:LYS:CB	2.45	0.46
22:RA:1142:U:H2'	22:RA:1142:U:O2	2.15	0.46
22:RA:1448:G:H1'	22:RA:1528:A:H62	1.80	0.46
22:RA:185:U:H4'	22:RA:218:A:H4'	1.97	0.46
22:RA:2134:A:H1'	22:RA:2159:G:H21	1.80	0.46
22:RA:2318:G:H22	35:RS:2:ALA:N	2.12	0.46
22:RA:586:A:N1	22:RA:809:G:O2'	2.43	0.46
22:RA:74:A:H8	22:RA:74:A:C5'	2.27	0.46
22:RA:866:A:N3	22:RA:866:A:H2'	2.29	0.46
13:QM:3:ARG:HH12	27:RG:113:ARG:NH2	2.13	0.46
37:RU:8:VAL:HG23	37:RU:11:ARG:HH21	1.80	0.46
22:RA:2013:A:H2	39:RW:88:ARG:HH22	1.63	0.46
1:XA:606:G:N2	1:XA:631:G:H8	2.12	0.46
1:XA:993:G:O6	1:XA:1045:C:N4	2.29	0.46
4:XD:63:LYS:HD2	4:XD:198:VAL:HG22	1.97	0.46
17:XQ:63:ARG:HG2	17:XQ:64:PRO:HD2	1.97	0.46
55:XY:34:C:O5'	55:XY:34:C:H6	1.97	0.46
47:Y4:2:LYS:HD2	47:Y4:2:LYS:HA	1.67	0.46
48:Y5:33:CYS:SG	48:Y5:34:PRO:HD2	2.55	0.46
22:YA:1289:C:H2'	22:YA:1290:C:H6	1.80	0.46
22:YA:1899:G:N2	22:YA:1902:C:N4	2.63	0.46
22:YA:2051:A:C6	22:YA:2614:A:C5	3.03	0.46
22:YA:221:A:H4'	22:YA:222:A:O5'	2.16	0.46
22:YA:2466:C:H5''	52:Y9:6:SER:HB3	1.96	0.46
22:YA:2645:G:H3'	22:YA:2646:C:H5'	1.97	0.46
22:YA:372:G:O2'	22:YA:373:U:P	2.73	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:483:A:H3'	22:YA:484:C:H6	1.80	0.46
22:YA:554:U:O2'	22:YA:556:G:H8	1.98	0.46
26:YF:108:LYS:NZ	26:YF:108:LYS:HB3	2.31	0.46
30:YN:114:ARG:O	30:YN:115:ARG:HB3	2.14	0.46
41:YY:73:ARG:HB3	41:YY:73:ARG:HE	1.47	0.46
41:YY:87:LYS:HD3	41:YY:92:ASN:HB3	1.98	0.46
1:QA:1126:U:OP2	1:QA:1281:U:H1'	2.16	0.46
1:QA:1512:U:H2'	1:QA:1513:A:C8	2.50	0.46
1:QA:769:G:H4'	1:QA:1513:A:H4'	1.96	0.46
1:QA:358:U:H2'	1:QA:359:U:O4'	2.14	0.46
1:QA:408:A:H2'	1:QA:409:G:O4'	2.14	0.46
1:QA:683:G:H2'	1:QA:684:A:C8	2.50	0.46
1:QA:572:A:N3	1:QA:917:G:H1'	2.31	0.46
7:QG:78:ARG:HG3	7:QG:79:ARG:N	2.29	0.46
12:QL:11:VAL:HG13	17:QQ:29:HIS:HD2	1.80	0.46
16:QP:3:LYS:O	16:QP:21:VAL:HA	2.15	0.46
17:QQ:74:LEU:HB3	17:QQ:75:ARG:H	1.63	0.46
53:QV:54:U:H2'	53:QV:55:U:O4'	2.15	0.46
22:RA:1022:G:C6	22:RA:1140:C:C4	3.03	0.46
22:RA:1579:A:H2'	22:RA:1580:A:C8	2.50	0.46
22:RA:1741:C:O5'	22:RA:1741:C:H6	1.97	0.46
22:RA:2274:A:N1	22:RA:2276:G:H1'	2.30	0.46
24:RD:61:LEU:HA	24:RD:61:LEU:HD12	1.77	0.46
24:RD:70:TRP:CD2	24:RD:150:LYS:HD2	2.49	0.46
25:RE:186:GLY:O	25:RE:188:VAL:N	2.48	0.46
28:RH:153:LYS:HB3	28:RH:162:ILE:H	1.80	0.46
39:RW:23:LEU:O	39:RW:27:LYS:HD2	2.14	0.46
41:RY:89:PHE:O	41:RY:90:LEU:HD13	2.15	0.46
1:XA:1397:C:H4'	1:XA:1398:A:OP2	2.15	0.46
1:XA:1415:G:C6	1:XA:1486:G:C6	3.03	0.46
1:XA:760:G:H2'	1:XA:761:G:H5'	1.97	0.46
3:XC:14:ILE:HG12	3:XC:15:THR:N	2.30	0.46
7:XG:74:GLU:HG2	7:XG:91:VAL:HG22	1.98	0.46
9:XI:18:PHE:HB2	9:XI:62:TYR:HB3	1.97	0.46
47:Y4:38:LYS:HD3	47:Y4:42:PHE:HE1	1.80	0.46
22:YA:770:G:N3	22:YA:1354:A:H2	2.12	0.46
22:YA:1791:A:H8	22:YA:1791:A:OP2	1.98	0.46
22:YA:2487:G:N2	22:YA:2488:A:C4	2.83	0.46
22:YA:464:U:H2'	22:YA:465:G:O4'	2.14	0.46
22:YA:569:U:H2'	22:YA:570:G:O4'	2.15	0.46
23:YB:6:C:C2	23:YB:115:G:N2	2.84	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YP:19:VAL:HG13	32:YP:21:ARG:N	2.20	0.46
32:YP:88:LEU:HB2	32:YP:91:PHE:HE2	1.80	0.46
35:YS:52:SER:HB2	35:YS:55:ALA:H	1.79	0.46
35:YS:27:SER:HA	35:YS:88:ASP:HB2	1.96	0.46
1:QA:1135:U:H2'	1:QA:1137:C:O2	2.15	0.46
1:QA:1104:G:O5'	2:QB:111:ARG:HD2	2.16	0.46
12:QL:11:VAL:HG11	17:QQ:36:ILE:HG21	1.97	0.46
20:QT:33:ILE:HD13	20:QT:62:LEU:HB3	1.97	0.46
22:RA:1588:C:H2'	22:RA:1589:C:H6	1.79	0.46
22:RA:1754:C:H5''	36:RT:113:LYS:HE3	1.97	0.46
22:RA:751:A:C6	22:RA:789:A:C5	3.03	0.46
22:RA:852:G:N2	22:RA:926:A:H1'	2.31	0.46
24:RD:43:ARG:HH11	24:RD:44:ASN:CG	2.16	0.46
31:RO:76:ALA:HB3	36:RT:75:ILE:HB	1.97	0.46
36:RT:20:PRO:HD2	36:RT:86:ILE:HG23	1.97	0.46
40:RX:49:VAL:HG13	40:RX:83:VAL:HG13	1.96	0.46
1:XA:1004:A:H1'	1:XA:1036:G:N1	2.29	0.46
1:XA:1202:G:H1'	14:XN:29:ARG:HD2	1.96	0.46
1:XA:679:C:H2'	1:XA:680:C:C6	2.50	0.46
1:XA:703:G:O5'	1:XA:703:G:H8	1.99	0.46
1:XA:77:C:O2	1:XA:92:G:N2	2.36	0.46
2:XB:163:PHE:CD2	2:XB:185:ILE:HG13	2.50	0.46
2:XB:201:ILE:HG21	2:XB:214:ILE:HG21	1.95	0.46
4:XD:30:LYS:C	4:XD:32:ALA:H	2.18	0.46
19:XS:41:VAL:HA	19:XS:44:MET:HG3	1.97	0.46
19:XS:41:VAL:HG23	19:XS:67:VAL:HG13	1.98	0.46
43:Y0:27:GLU:HA	43:Y0:67:VAL:O	2.15	0.46
22:YA:1441:G:H2'	22:YA:1442:G:C8	2.48	0.46
22:YA:2062:A:H2'	22:YA:2062:A:N3	2.30	0.46
22:YA:2491:U:O2'	22:YA:2570:G:OP1	2.29	0.46
22:YA:466:A:N3	22:YA:683:C:H1'	2.29	0.46
22:YA:629:G:N3	22:YA:639:U:O2'	2.47	0.46
22:YA:654(A):G:C6	22:YA:654(B):C:N4	2.83	0.46
22:YA:787:U:H3'	22:YA:791:C:H41	1.80	0.46
24:YD:17:THR:CG2	24:YD:205:VAL:H	2.29	0.46
24:YD:94:LEU:HD22	24:YD:95:LEU:N	2.31	0.46
25:YE:150:VAL:HG13	25:YE:154:LYS:HG3	1.96	0.46
25:YE:176:ILE:HB	25:YE:181:LEU:HB2	1.97	0.46
32:YP:121:LYS:HE2	32:YP:121:LYS:HB2	1.75	0.46
22:YA:389:G:N1	32:YP:70:GLN:HB3	2.30	0.46
42:YZ:144:LEU:HD13	42:YZ:145:GLU:N	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YZ:182:LYS:HE3	42:YZ:182:LYS:HB2	1.56	0.46
1:QA:1120:G:H2'	1:QA:1121:U:C6	2.51	0.46
6:QF:10:LEU:N	6:QF:59:TYR:O	2.46	0.46
53:QV:3:C:O2'	53:QV:4:G:H5'	2.15	0.46
22:RA:1504:C:H5'	22:RA:1505:C:OP2	2.15	0.46
22:RA:2410:G:H2'	22:RA:2411:A:O4'	2.15	0.46
22:RA:57:C:H2'	22:RA:58:G:O4'	2.15	0.46
22:RA:580:C:H2'	22:RA:581:C:H6	1.81	0.46
29:RI:118:LYS:HD2	29:RI:118:LYS:HA	1.77	0.46
32:RP:83:VAL:HG12	32:RP:114:ILE:HA	1.98	0.46
35:RS:48:LEU:HD23	35:RS:82:ILE:HD11	1.96	0.46
40:RX:55:ASN:HB2	40:RX:80:ILE:HG23	1.97	0.46
42:RZ:40:ASP:OD1	42:RZ:42:VAL:HB	2.15	0.46
42:RZ:59:LEU:HD11	42:RZ:69:THR:HG21	1.96	0.46
1:XA:1003:G:N2	1:XA:1005:A:H5'	2.30	0.46
1:XA:1065:U:C4	1:XA:1190:G:H1'	2.51	0.46
1:XA:1293:G:H2'	1:XA:1294:G:O4'	2.15	0.46
1:XA:1446:A:C6	36:YT:118:ARG:NH1	2.84	0.46
1:XA:217:C:O2'	1:XA:466:C:N4	2.48	0.46
1:XA:818:G:N2	1:XA:873:A:OP1	2.43	0.46
7:XG:115:ARG:HB2	7:XG:118:VAL:HG22	1.97	0.46
9:XI:83:ARG:O	9:XI:86:VAL:HG12	2.15	0.46
1:XA:974:A:OP2	14:XN:41:ARG:NH1	2.48	0.46
20:XT:87:LYS:HD2	20:XT:87:LYS:HA	1.74	0.46
44:Y1:96:LYS:H	44:Y1:97:LEU:HD12	1.81	0.46
22:YA:1496:A:H8	22:YA:1577:C:O2'	1.90	0.46
22:YA:1465:G:H5'	22:YA:1528:A:H1'	1.98	0.46
22:YA:2397:G:H2'	22:YA:2398:U:C6	2.50	0.46
22:YA:2777:G:H8	22:YA:2777:G:H3'	1.79	0.46
22:YA:2817:G:OP1	34:YR:99:LYS:NZ	2.37	0.46
22:YA:30:G:H2'	22:YA:31:C:O4'	2.15	0.46
22:YA:979:G:H5''	22:YA:980:A:OP2	2.15	0.46
26:YF:127:GLU:OE2	26:YF:128:ALA:N	2.47	0.46
1:QA:1129:C:OP1	9:QI:62:TYR:OH	2.20	0.46
1:QA:377:G:H1	1:QA:386:C:H42	1.62	0.46
19:QS:63:THR:HG23	19:QS:65:ASN:OD1	2.15	0.46
22:RA:1561:G:H2'	22:RA:1562:A:C8	2.51	0.46
22:RA:1797:C:C4	22:RA:1798:U:C5	3.04	0.46
22:RA:807:U:O2'	22:RA:2060:A:N1	2.45	0.46
22:RA:2146:C:H4'	22:RA:2147:G:N7	2.31	0.46
22:RA:2321:G:N3	22:RA:2321:G:H2'	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2516:G:N2	22:RA:2569:G:H1'	2.30	0.46
22:RA:275:G:H3'	22:RA:276:A:H5''	1.97	0.46
22:RA:519:U:H2'	22:RA:520:G:H8	1.80	0.46
22:RA:935:C:H2'	22:RA:936:C:C6	2.49	0.46
23:RB:97:G:H2'	23:RB:98:G:O4'	2.15	0.46
26:RF:126:VAL:HG11	26:RF:142:TRP:HH2	1.80	0.46
27:RG:22:ARG:HH22	27:RG:175:LEU:HD21	1.80	0.46
35:RS:78:LEU:HD11	35:RS:107:GLU:O	2.15	0.46
35:RS:83:LYS:O	35:RS:109:GLY:HA3	2.15	0.46
39:RW:86:LEU:O	39:RW:94:ASP:N	2.44	0.46
41:RY:17:SER:OG	41:RY:71:LYS:HD2	2.16	0.46
42:RZ:82:ARG:HH11	42:RZ:82:ARG:HG2	1.81	0.46
1:XA:1074:G:H2'	1:XA:1075:C:C6	2.51	0.46
1:XA:135:C:H2'	1:XA:136:C:H5'	1.98	0.46
1:XA:129(A):G:N2	1:XA:191(A):G:C5	2.83	0.46
1:XA:284:G:H2'	1:XA:285:G:H8	1.80	0.46
1:XA:579:G:C6	1:XA:580:U:C4	3.04	0.46
5:XE:78:HIS:HB3	8:XH:107:LEU:HD12	1.98	0.46
46:Y3:8:LEU:HD22	46:Y3:31:LEU:HD22	1.96	0.46
22:YA:1093:G:O2'	22:YA:1099:G:N1	2.45	0.46
22:YA:1534:G:N3	22:YA:1534:G:H2'	2.30	0.46
22:YA:1658:C:C2	22:YA:1659:U:C5	3.04	0.46
22:YA:2335:A:O2'	22:YA:2336:A:C8	2.69	0.46
22:YA:746:A:C6	22:YA:2611:U:H5''	2.50	0.46
22:YA:2683:C:H4'	25:YE:13:ARG:NH2	2.31	0.46
22:YA:894:C:H2'	22:YA:895:U:H6	1.81	0.46
24:YD:118:VAL:HG22	24:YD:119:ALA:N	2.31	0.46
24:YD:25:THR:CG2	24:YD:82:ILE:H	2.27	0.46
29:YI:32:PRO:C	29:YI:34:GLY:H	2.19	0.46
32:YP:29:LYS:HD2	32:YP:30:THR:HG23	1.97	0.46
37:YU:75:ASN:HB3	37:YU:78:THR:H	1.81	0.46
41:YY:94:LYS:HD2	41:YY:101:LYS:HZ3	1.81	0.46
42:YZ:43:GLU:O	42:YZ:47:VAL:HG23	2.15	0.46
1:QA:946:A:H61	1:QA:1234:C:N4	2.14	0.46
1:QA:1269:A:N1	1:QA:1312:G:O2'	2.38	0.46
1:QA:1338:G:H21	53:QV:41:C:H1'	1.80	0.46
10:QJ:84:GLN:HG3	10:QJ:84:GLN:H	1.49	0.46
43:R0:29:GLN:O	43:R0:67:VAL:HG23	2.16	0.46
49:R6:13:CYS:HB2	49:R6:22:ALA:HB3	1.98	0.46
22:RA:1389:G:H2'	22:RA:1390:U:H6	1.81	0.46
22:RA:834:C:H2'	22:RA:835:A:H8	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:RG:98:ARG:O	27:RG:101:ILE:HG13	2.16	0.46
28:RH:170:ARG:HB3	28:RH:171:LEU:H	1.52	0.46
29:RI:131:LYS:HB3	29:RI:132:PRO:HA	1.97	0.46
29:RI:82:ARG:NE	29:RI:146:ALA:O	2.49	0.46
32:RP:124:LYS:HA	32:RP:143:GLY:O	2.16	0.46
1:XA:1057:G:H2'	1:XA:1058:G:O4'	2.15	0.46
1:XA:975:A:N6	1:XA:1367:C:O4'	2.49	0.46
1:XA:977:A:H2'	1:XA:978:A:H5''	1.98	0.46
3:XC:178:LEU:HA	3:XC:178:LEU:HD13	1.84	0.46
3:XC:78:GLY:HA3	3:XC:83:ARG:HB3	1.98	0.46
12:XL:62:SER:O	12:XL:64:TYR:N	2.48	0.46
44:Y1:80:LEU:HB2	44:Y1:81:LYS:H	1.61	0.46
22:YA:1899:G:H21	22:YA:1902:C:N4	2.14	0.46
22:YA:2059:A:H5'	22:YA:2060:A:OP2	2.16	0.46
22:YA:264:C:C2'	22:YA:265:A:H5''	2.46	0.46
22:YA:865:C:H4'	22:YA:866:A:OP1	2.16	0.46
25:YE:36:ARG:NH2	25:YE:88:GLY:HA2	2.29	0.46
27:YG:34:LEU:HD12	27:YG:100:TRP:CH2	2.50	0.46
1:QA:1285:A:H5'	1:QA:1286:A:N3	2.30	0.46
20:QT:29:LYS:O	20:QT:33:ILE:HG12	2.16	0.46
1:QA:186:C:H5'	20:QT:78:ALA:HB1	1.97	0.46
53:QV:35:A:H2'	53:QV:36:U:C6	2.51	0.46
1:QA:530:G:O2'	55:QY:35:G:H4'	2.15	0.46
51:R8:39:LYS:O	51:R8:43:GLN:HB2	2.15	0.46
51:R8:50:LEU:C	51:R8:53:PRO:HD2	2.36	0.46
22:RA:1543:A:O2'	22:RA:1544:C:H3'	2.14	0.46
22:RA:2292:C:H2'	22:RA:2293:C:C6	2.51	0.46
23:RB:31:C:H4'	27:RG:29:TRP:CH2	2.50	0.46
33:RQ:29:PHE:N	33:RQ:105:GLU:OE2	2.40	0.46
1:XA:1049:U:H4'	1:XA:1050:G:C5'	2.46	0.46
1:XA:1365:G:H2'	1:XA:1366:C:C6	2.51	0.46
1:XA:485:G:O2'	1:XA:486:U:P	2.74	0.46
1:XA:815:A:H4'	1:XA:817:C:C4	2.50	0.46
1:XA:973:G:C4	10:XJ:55:LYS:HE2	2.51	0.46
7:XG:50:ILE:HG21	7:XG:61:VAL:HG21	1.98	0.46
10:XJ:62:HIS:H	10:XJ:62:HIS:CD2	2.33	0.46
13:XM:36:LYS:HD3	13:XM:36:LYS:C	2.36	0.46
15:XO:56:LEU:O	15:XO:60:VAL:HG23	2.16	0.46
15:XO:6:GLU:H	15:XO:6:GLU:CD	2.15	0.46
19:XS:41:VAL:HB	19:XS:42:PRO:HA	1.96	0.46
22:YA:1268:A:H2'	22:YA:1269:A:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1598:C:H2'	22:YA:1599:C:H6	1.81	0.46
22:YA:2078:C:N4	22:YA:2241:A:H61	2.14	0.46
22:YA:2867:G:O2'	22:YA:2868:A:P	2.73	0.46
22:YA:909:A:H2'	22:YA:912:C:H5	1.80	0.46
22:YA:996:A:H4'	37:YU:92:ARG:HE	1.81	0.46
24:YD:35:LYS:HE3	24:YD:63:ARG:C	2.36	0.46
24:YD:35:LYS:HB3	24:YD:63:ARG:HA	1.98	0.46
22:YA:1190:G:H5'	32:YP:32:THR:HA	1.98	0.46
33:YQ:136:ALA:O	33:YQ:138:ASP:N	2.40	0.46
39:YW:110:LYS:HG3	39:YW:111:HIS:ND1	2.31	0.46
1:QA:1010:G:N2	1:QA:1020:U:H1'	2.31	0.46
1:QA:1320:C:C2	19:QS:72:GLY:HA3	2.50	0.46
1:QA:20:U:H2'	1:QA:21:G:O4'	2.16	0.46
1:QA:673:G:O5'	1:QA:673:G:H8	1.98	0.46
1:QA:713:G:H2'	1:QA:714:G:C8	2.51	0.46
1:QA:651:C:N4	1:QA:753:A:OP2	2.41	0.46
1:QA:771:G:H2'	1:QA:772:U:C6	2.51	0.46
2:QB:165:VAL:HG23	2:QB:166:ASP:H	1.81	0.46
4:QD:103:ASN:OD1	4:QD:114:ARG:NE	2.49	0.46
4:QD:75:PHE:HE1	4:QD:97:LEU:HD11	1.81	0.46
4:QD:9:CYS:SG	4:QD:31:CYS:C	2.94	0.46
12:QL:54:LYS:N	12:QL:54:LYS:HD2	2.31	0.46
19:QS:32:LYS:HA	19:QS:50:ALA:HB3	1.98	0.46
49:R6:33:LYS:HG3	49:R6:34:LEU:HD13	1.98	0.46
22:RA:1338:G:N3	22:RA:1393:A:H2	2.13	0.46
22:RA:1639:U:H4'	22:RA:2699:C:H4'	1.98	0.46
22:RA:1778:U:H2'	22:RA:1784:A:N6	2.30	0.46
22:RA:2074:U:H2'	22:RA:2075:U:H6	1.75	0.46
22:RA:224:G:O6	22:RA:419:C:O2'	2.27	0.46
22:RA:330:A:H2	22:RA:1210:A:H2'	1.80	0.46
22:RA:384:U:H2'	22:RA:385:C:H6	1.81	0.46
22:RA:548:A:C6	22:RA:549:G:H1'	2.51	0.46
22:RA:817:C:O2'	22:RA:839:U:H5"	2.16	0.46
22:RA:864:G:C6	22:RA:865:C:N4	2.84	0.46
24:RD:68:LYS:HD2	24:RD:70:TRP:CZ2	2.51	0.46
25:RE:63:LEU:HD12	25:RE:64:LYS:N	2.30	0.46
28:RH:85:LYS:HA	28:RH:85:LYS:HD2	1.85	0.46
28:RH:87:LEU:HA	28:RH:163:TYR:O	2.16	0.46
37:RU:69:CYS:HB3	37:RU:106:PHE:HZ	1.81	0.46
1:XA:1386:G:H2'	1:XA:1387:G:H8	1.80	0.46
2:XB:204:ASN:HD22	2:XB:205:ASP:N	2.13	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:70:PHE:O	2:XB:93:VAL:N	2.34	0.46
12:XL:92:ASP:O	12:XL:94:PRO:HD3	2.16	0.46
16:XP:1:MET:O	16:XP:3:LYS:HG3	2.16	0.46
20:XT:26:ASN:O	20:XT:30:LYS:HB2	2.16	0.46
53:XV:52:G:N3	53:XV:52:G:H2'	2.30	0.46
22:YA:1972:A:H2'	22:YA:1973:G:C8	2.50	0.46
22:YA:2319:G:N7	35:YS:3:ARG:HB3	2.31	0.46
22:YA:2602:A:N6	53:XV:76:A:H2'	2.30	0.46
22:YA:2605:U:H2'	22:YA:2606:C:C6	2.51	0.46
22:YA:2586:C:C5	22:YA:2608:G:N2	2.84	0.46
22:YA:2741:A:OP1	52:Y9:22:ARG:NH2	2.47	0.46
22:YA:2849:U:H5	36:YT:93:ARG:NH1	2.06	0.46
22:YA:216:A:C4	22:YA:432:A:C2	3.03	0.46
22:YA:637:A:H4'	22:YA:638:G:O5'	2.15	0.46
22:YA:923:C:O4'	43:Y0:29:GLN:NE2	2.42	0.46
23:YB:51:G:H5'	23:YB:52:A:OP2	2.16	0.46
22:YA:1354:A:OP1	24:YD:38:LYS:HE2	2.15	0.46
25:YE:116:VAL:O	25:YE:117:MET:HB3	2.16	0.46
1:QA:1158:C:N3	1:QA:1160:G:C8	2.83	0.46
1:QA:1468:A:H5"	1:QA:1469:G:OP2	2.15	0.46
1:QA:322:C:H41	1:QA:328:C:H6	1.63	0.46
1:QA:778:G:O5'	1:QA:778:G:H8	1.98	0.46
1:QA:789:U:H1'	1:QA:792:A:H2	1.81	0.46
1:QA:883:C:O2'	1:QA:884:U:H5'	2.15	0.46
2:QB:178:ARG:NH2	8:QH:74:PRO:HG3	2.30	0.46
9:QI:45:ALA:O	9:QI:48:GLU:HG2	2.15	0.46
52:R9:8:LYS:O	52:R9:34:GLN:NE2	2.49	0.46
22:RA:1337:G:H2'	22:RA:1338:G:C8	2.50	0.46
22:RA:1578:U:H6	22:RA:1578:U:OP2	1.99	0.46
22:RA:48:G:N2	22:RA:177:G:H21	2.13	0.46
22:RA:2334:G:H4'	22:RA:2335:A:OP2	2.15	0.46
22:RA:2666:C:H3'	22:RA:2667:C:H6	1.81	0.46
22:RA:363:G:H2'	22:RA:363(A):A:H8	1.80	0.46
22:RA:705:A:H1'	24:RD:9:TYR:CE1	2.50	0.46
22:RA:2635:C:H5"	25:RE:78:LEU:HA	1.98	0.46
28:RH:115:VAL:HG11	28:RH:148:ILE:HD11	1.98	0.46
31:RO:31:LYS:HB3	31:RO:32:TYR:CD1	2.51	0.46
33:RQ:104:PHE:HE1	33:RQ:125:LEU:HD11	1.80	0.46
33:RQ:81:VAL:C	33:RQ:82:ARG:HG2	2.37	0.46
34:RR:37:THR:OG1	34:RR:40:LYS:HG3	2.16	0.46
35:RS:24:LEU:HB2	35:RS:85:VAL:HG12	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RS:61:ASN:O	35:RS:65:VAL:HG23	2.14	0.46
1:XA:975:A:H8	1:XA:975:A:H5'	1.79	0.46
1:XA:986:A:H2'	1:XA:987:G:O4'	2.16	0.46
2:XB:114:ARG:O	2:XB:118:LEU:HG	2.16	0.46
2:XB:217:ARG:HB2	2:XB:217:ARG:HE	1.54	0.46
9:XI:46:ALA:HA	9:XI:78:LYS:HB2	1.98	0.46
18:XR:32:ARG:HA	18:XR:69:THR:HG21	1.97	0.46
22:YA:254:G:N7	51:Y8:5:LYS:HE2	2.31	0.46
22:YA:1175:U:H4'	22:YA:1176:G:OP1	2.15	0.46
22:YA:570:G:H2'	22:YA:2030:A:C5	2.51	0.46
22:YA:2751:G:H8	22:YA:2751:G:O5'	1.98	0.46
22:YA:436:C:H2'	22:YA:438:G:C8	2.51	0.46
22:YA:740:U:H2'	22:YA:741:G:C8	2.51	0.46
22:YA:840:C:O5'	22:YA:840:C:H6	1.98	0.46
25:YE:70:ALA:O	25:YE:72:VAL:N	2.49	0.46
26:YF:129:PHE:O	26:YF:142:TRP:CD1	2.69	0.46
28:YH:103:LEU:HD23	28:YH:115:VAL:HB	1.97	0.46
28:YH:167:GLU:HA	28:YH:168:PRO:HD3	1.79	0.46
34:YR:51:LEU:HD12	34:YR:70:LEU:HG	1.97	0.46
34:YR:78:LYS:O	34:YR:83:ILE:HG12	2.16	0.46
1:QA:1213:A:C6	1:QA:1215:G:C4	3.03	0.46
1:QA:1399:C:H4'	1:QA:1400:C:O5'	2.16	0.46
1:QA:706:A:H1'	11:QK:29:ILE:HD11	1.98	0.46
44:R1:73:LEU:HB3	44:R1:90:ILE:HG23	1.97	0.46
49:R6:44:ARG:O	49:R6:45:LYS:HB2	2.16	0.46
22:RA:1392:A:N6	22:RA:1393:A:N6	2.63	0.46
22:RA:414:C:H1'	22:RA:1864:U:O2'	2.15	0.46
22:RA:608:A:H2'	22:RA:609:A:C8	2.51	0.46
22:RA:71:A:H4'	22:RA:72:U:H5''	1.97	0.46
23:RB:6:C:O2	23:RB:115:G:N2	2.49	0.46
28:RH:103:LEU:HD13	28:RH:131:VAL:HG11	1.97	0.46
29:RI:101:LEU:HB3	29:RI:107:VAL:O	2.16	0.46
32:RP:101:VAL:HG23	32:RP:107:LYS:H	1.81	0.46
36:RT:26:ASP:HB2	36:RT:90:GLN:O	2.16	0.46
38:RV:51:VAL:HG12	38:RV:53:GLU:H	1.80	0.46
1:XA:291:C:H42	1:XA:309:G:H1	1.64	0.46
1:XA:411:A:C8	1:XA:413:G:H1'	2.51	0.46
2:XB:55:PHE:HD1	2:XB:58:ILE:HG13	1.81	0.46
22:YA:1329:U:H5''	22:YA:1330:C:H5	1.81	0.46
22:YA:1901:A:H2'	22:YA:1901:A:N3	2.31	0.46
22:YA:1945:G:C6	22:YA:1946:U:C4	3.03	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:278:A:H4'	22:YA:279:C:OP1	2.15	0.46
22:YA:327:G:N2	22:YA:335:C:O2	2.45	0.46
22:YA:36:G:N3	22:YA:450:G:O2'	2.49	0.46
22:YA:395:U:O2'	22:YA:396:G:C8	2.65	0.46
23:YB:24:G:O6	23:YB:56:G:O2'	2.27	0.46
25:YE:108:SER:HB3	25:YE:165:VAL:HG21	1.98	0.46
28:YH:106:THR:HG22	28:YH:112:PRO:HB3	1.97	0.46
28:YH:86:GLU:O	28:YH:87:LEU:HB2	2.16	0.46
32:YP:135:LEU:HA	32:YP:135:LEU:HD23	1.74	0.46
38:YV:19:LYS:HA	38:YV:94:LEU:O	2.15	0.46
42:YZ:16:SER:O	42:YZ:20:ARG:HB2	2.15	0.46
1:QA:791:G:C2'	1:QA:792:A:H5'	2.45	0.45
1:QA:998(A):C:H2'	1:QA:999:U:C6	2.51	0.45
5:QE:97:GLY:N	5:QE:117:ASP:OD2	2.40	0.45
10:QJ:22:LYS:HB3	10:QJ:22:LYS:HE3	1.68	0.45
1:QA:1327:C:OP2	21:QU:12:LYS:NZ	2.49	0.45
22:RA:2278:A:H5''	43:R0:12:ASN:HD21	1.81	0.45
47:R4:10:VAL:HA	47:R4:11:PRO:HD2	1.75	0.45
22:RA:1640:C:H5'	22:RA:1641:A:OP2	2.15	0.45
22:RA:1805:U:O2	24:RD:50:THR:HB	2.16	0.45
22:RA:210:C:H4'	22:RA:1367:A:H1'	1.97	0.45
22:RA:2512:C:H1'	25:RE:140:SER:O	2.16	0.45
22:RA:2593:U:C4	22:RA:2594:C:N4	2.84	0.45
22:RA:29:U:H2'	22:RA:30:G:C8	2.51	0.45
22:RA:385:C:HO2'	22:RA:388:G:N2	2.13	0.45
22:RA:671:C:O2'	22:RA:672:C:H5'	2.16	0.45
22:RA:71:A:H5''	22:RA:72:U:H3'	1.98	0.45
28:RH:120:GLY:HA3	28:RH:140:LYS:NZ	2.32	0.45
34:RR:33:ARG:HG2	34:RR:34:ILE:N	2.30	0.45
1:XA:1154:G:C4	1:XA:1155:G:C8	3.04	0.45
1:XA:437:U:H2'	1:XA:438:G:O4'	2.16	0.45
1:XA:453:A:C6	1:XA:454:C:C4	3.04	0.45
5:XE:41:VAL:HG13	5:XE:113:ALA:HB2	1.97	0.45
6:XF:48:LEU:HG	6:XF:57:GLN:HA	1.98	0.45
9:XI:18:PHE:HD1	9:XI:62:TYR:HD2	1.62	0.45
22:YA:114:U:H2'	22:YA:115:C:C6	2.51	0.45
22:YA:1230:C:H2'	22:YA:1231:G:C8	2.51	0.45
22:YA:1530:G:C6	22:YA:1531:C:C4	3.03	0.45
22:YA:1742:C:H5'	22:YA:1743:G:OP2	2.16	0.45
22:YA:2135:A:O2'	22:YA:2160:G:H4'	2.16	0.45
22:YA:2255:G:C5	22:YA:2256:G:C8	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2592:G:C6	22:YA:2593:U:N3	2.84	0.45
22:YA:2596:U:H2'	22:YA:2597:G:O4'	2.17	0.45
22:YA:273(A):G:C2	22:YA:364:C:N3	2.84	0.45
22:YA:469:G:N7	50:Y7:37:LYS:NZ	2.63	0.45
22:YA:26:G:H1'	22:YA:515:A:H61	1.80	0.45
24:YD:10:THR:OG1	24:YD:13:ARG:HB2	2.16	0.45
24:YD:137:PRO:O	24:YD:140:THR:HG23	2.16	0.45
26:YF:129:PHE:C	26:YF:131:GLY:H	2.18	0.45
22:YA:2406:U:N3	32:YP:73:GLY:O	2.33	0.45
33:YQ:135:ASP:N	33:YQ:135:ASP:OD1	2.48	0.45
1:QA:1144:G:N2	1:QA:1146:A:H62	2.14	0.45
1:QA:1386:G:C2	1:QA:1387:G:C8	3.04	0.45
1:QA:299:G:H2'	1:QA:300:A:H8	1.81	0.45
1:QA:54:C:N4	1:QA:353:A:OP2	2.49	0.45
1:QA:44:G:N2	1:QA:399:G:C4	2.85	0.45
1:QA:652:U:H1'	1:QA:653:A:H2	1.79	0.45
1:QA:922:G:N3	1:QA:1398:A:H2	2.14	0.45
1:QA:987:G:H1	1:QA:1218:C:H42	1.64	0.45
4:QD:18:LYS:HD3	4:QD:20:TYR:CZ	2.51	0.45
8:QH:20:TYR:HA	8:QH:65:TYR:CZ	2.51	0.45
13:QM:84:ILE:HD12	13:QM:84:ILE:HA	1.75	0.45
22:RA:1968:G:O2'	22:RA:1969:A:O4'	2.24	0.45
22:RA:2061:G:H5''	22:RA:2503:A:C2	2.52	0.45
22:RA:2212:A:H1'	22:RA:2215:G:C5	2.51	0.45
22:RA:2379:G:O2'	35:RS:17:ARG:NH1	2.49	0.45
22:RA:2857:G:N2	22:RA:2859:G:H3'	2.30	0.45
22:RA:2867:G:OP2	36:RT:119:LYS:NZ	2.35	0.45
32:RP:6:LEU:HB3	32:RP:7:ARG:H	1.55	0.45
32:RP:88:LEU:HD12	32:RP:95:VAL:HG11	1.98	0.45
35:RS:16:ASN:HA	35:RS:19:LYS:HD3	1.98	0.45
42:RZ:45:ASP:OD2	42:RZ:49:ARG:NH2	2.50	0.45
1:XA:114:U:H2'	1:XA:115:G:C8	2.52	0.45
1:XA:701:C:O2	1:XA:703:G:N1	2.49	0.45
1:XA:742:G:OP2	15:XO:35:ARG:NH2	2.47	0.45
2:XB:140:HIS:HA	2:XB:143:GLU:OE1	2.17	0.45
9:XI:114:TYR:HD2	9:XI:114:TYR:N	2.14	0.45
18:XR:73:ALA:HB3	18:XR:79:LEU:HD12	1.98	0.45
20:XT:75:ASN:OD1	20:XT:75:ASN:N	2.40	0.45
43:Y0:51:VAL:CG1	43:Y0:59:LEU:HB3	2.46	0.45
44:Y1:58:ILE:N	44:Y1:58:ILE:HD12	2.31	0.45
49:Y6:33:LYS:HB2	49:Y6:33:LYS:HE2	1.76	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1012:U:O2'	22:YA:1013:C:OP2	2.25	0.45
22:YA:1319:G:C6	22:YA:1320:C:N4	2.84	0.45
22:YA:1544:C:O2	22:YA:1544:C:H2'	2.17	0.45
22:YA:1588:C:H2'	22:YA:1589:C:H6	1.82	0.45
22:YA:224:G:O6	22:YA:419:C:O2'	2.29	0.45
22:YA:2317:C:H2'	22:YA:2318:G:O4'	2.16	0.45
32:YP:138:LEU:C	32:YP:140:ALA:H	2.19	0.45
37:YU:68:ALA:O	37:YU:71:GLN:HB2	2.16	0.45
41:YY:51:VAL:HG13	41:YY:52:SER:N	2.28	0.45
41:YY:84:ARG:HB3	41:YY:95:LYS:HD3	1.97	0.45
1:QA:17:U:H1'	1:QA:1080:A:H1'	1.97	0.45
1:QA:945:G:C6	1:QA:1337:G:C5	3.04	0.45
4:QD:121:VAL:O	4:QD:134:ASP:HA	2.16	0.45
13:QM:89:GLY:O	13:QM:92:HIS:HB2	2.15	0.45
6:QF:99:ALA:HB1	18:QR:23:LYS:NZ	2.31	0.45
22:RA:818:G:N1	22:RA:1188:U:OP2	2.41	0.45
22:RA:1341:U:P	22:RA:1397:U:H3	2.39	0.45
22:RA:1533:C:N4	22:RA:1538:G:H1	2.14	0.45
22:RA:1620:G:H2'	22:RA:1621:U:C6	2.51	0.45
22:RA:184:C:H4'	22:RA:217:G:N3	2.31	0.45
22:RA:1931:U:H2'	22:RA:1932:A:O4'	2.17	0.45
22:RA:531:C:C5	22:RA:2035:G:C2	3.05	0.45
22:RA:2787:C:H1'	25:RE:62:PRO:HG3	1.98	0.45
22:RA:537:C:H6	22:RA:537:C:H5''	1.82	0.45
22:RA:635:C:O2'	22:RA:639:U:OP1	2.32	0.45
33:RQ:2:LEU:HD23	33:RQ:2:LEU:H	1.81	0.45
42:RZ:19:ARG:HD2	42:RZ:84:GLU:HA	1.98	0.45
1:XA:1171:G:C2	1:XA:1172:C:C2	3.04	0.45
1:XA:1264:C:H42	1:XA:1271:G:H1	1.64	0.45
1:XA:1269:A:H2	1:XA:1312:G:N3	2.14	0.45
1:XA:1284:C:H3'	1:XA:1285:A:C8	2.50	0.45
1:XA:1305:G:O2'	1:XA:1306:A:O5'	2.34	0.45
1:XA:922:G:O2'	1:XA:1398:A:N1	2.43	0.45
1:XA:453:A:C5	1:XA:454:C:C4	3.05	0.45
5:XE:99:GLY:N	5:XE:117:ASP:OD2	2.47	0.45
8:XH:86:ILE:HG13	8:XH:133:LEU:HD22	1.98	0.45
13:XM:58:GLU:O	13:XM:62:ASN:ND2	2.33	0.45
19:XS:47:HIS:O	19:XS:62:ILE:HG12	2.17	0.45
22:YA:372:G:H5'	44:Y1:66:HIS:NE2	2.32	0.45
22:YA:1144:G:H2'	22:YA:1145:C:C6	2.51	0.45
22:YA:1726:G:C6	22:YA:1727:U:C4	3.03	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:198:C:O2'	22:YA:199:A:H5''	2.15	0.45
22:YA:2530:A:O2'	22:YA:2532:G:OP2	2.23	0.45
22:YA:735:A:H3'	22:YA:736:C:H6	1.80	0.45
26:YF:11:VAL:HA	26:YF:125:LEU:O	2.16	0.45
32:YP:27:HIS:N	32:YP:27:HIS:ND1	2.64	0.45
37:YU:66:ASN:O	37:YU:70:ARG:HB2	2.17	0.45
22:YA:1161:C:H4'	38:YV:8:GLY:HA2	1.99	0.45
41:YY:87:LYS:HA	41:YY:92:ASN:HB3	1.98	0.45
1:QA:1109:C:H2'	1:QA:1110:A:O4'	2.16	0.45
1:QA:1124:G:H5''	1:QA:1145:C:H41	1.82	0.45
1:QA:1285:A:H5'	1:QA:1286:A:C2	2.51	0.45
1:QA:1298:C:H4'	1:QA:1299:A:C5	2.52	0.45
1:QA:514:C:C2	1:QA:515:G:C8	3.05	0.45
1:QA:685:G:C2	1:QA:686:U:C4	3.04	0.45
3:QC:131:ARG:NH1	5:QE:50:GLU:HG2	2.30	0.45
6:QF:45:LEU:HD12	6:QF:59:TYR:HD1	1.82	0.45
7:QG:20:ASP:OD1	7:QG:21:VAL:N	2.48	0.45
7:QG:45:ASP:O	7:QG:49:ILE:HG12	2.16	0.45
3:QC:23:TYR:CD1	10:QJ:10:GLY:HA2	2.51	0.45
53:QV:17:C:H5'	53:QV:61:C:OP1	2.16	0.45
22:RA:1335:U:OP2	40:RX:65:ARG:NH2	2.49	0.45
22:RA:19:C:OP2	37:RU:30:LYS:NZ	2.45	0.45
22:RA:2740:A:H2'	22:RA:2741:A:C8	2.52	0.45
22:RA:585:G:O5'	22:RA:585:G:H8	1.99	0.45
22:RA:843:G:N2	22:RA:936:C:C2	2.84	0.45
22:RA:957:A:H5''	33:RQ:14:ARG:HH22	1.81	0.45
23:RB:61:G:H2'	23:RB:62:C:C6	2.52	0.45
24:RD:76:PRO:HB2	24:RD:116:GLN:OE1	2.17	0.45
26:RF:31:HIS:HB2	32:RP:9:ASN:OD1	2.16	0.45
31:RO:48:PRO:O	31:RO:49:ARG:HG2	2.17	0.45
1:XA:1236:A:O2'	1:XA:1304:G:H4'	2.17	0.45
1:XA:129(A):G:N2	1:XA:191(A):G:C4	2.84	0.45
1:XA:963:G:N2	1:XA:972:C:N3	2.53	0.45
7:XG:45:ASP:O	7:XG:49:ILE:HG12	2.16	0.45
6:XF:100:ASN:O	18:XR:28:GLU:HG2	2.17	0.45
44:Y1:91:LYS:HE3	44:Y1:91:LYS:HA	1.98	0.45
46:Y3:31:LEU:O	46:Y3:32:GLN:HB2	2.17	0.45
27:YG:6:ALA:N	47:Y4:23:GLU:HG2	2.28	0.45
22:YA:232:G:OP2	22:YA:232:G:H8	1.98	0.45
22:YA:2801:A:C6	22:YA:2802:G:H1'	2.52	0.45
22:YA:2812:G:H2'	22:YA:2813:A:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:229:A:C2	22:YA:418:G:H4'	2.52	0.45
23:YB:62:C:H2'	23:YB:63:G:C8	2.51	0.45
32:YP:124:LYS:HA	32:YP:143:GLY:O	2.15	0.45
34:YR:109:ALA:HA	34:YR:110:PRO:HD2	1.77	0.45
41:YY:56:PRO:O	41:YY:58:GLY:N	2.49	0.45
1:QA:1014:A:H4'	19:QS:14:HIS:CD2	2.51	0.45
1:QA:1338:G:H2'	1:QA:1339:A:C8	2.52	0.45
1:QA:392:G:H2'	1:QA:393:A:H8	1.82	0.45
3:QC:19:GLU:HA	3:QC:54:ARG:HH12	1.82	0.45
4:QD:15:GLU:HG2	4:QD:63:LYS:HG3	1.97	0.45
1:QA:1298:C:C5	7:QG:114:ARG:HD2	2.51	0.45
49:R6:26:ASN:ND2	49:R6:35:GLU:OE2	2.49	0.45
22:RA:1030:G:OP2	33:RQ:128:LYS:HG2	2.17	0.45
22:RA:1079:C:H5'	22:RA:1080:C:OP2	2.16	0.45
22:RA:1416:G:H2'	22:RA:1417:C:C6	2.52	0.45
22:RA:1754:C:H2'	22:RA:1755:A:C8	2.50	0.45
22:RA:2025:C:H2'	22:RA:2026:C:C6	2.52	0.45
22:RA:2679:A:H5'	25:RE:165:VAL:HG21	1.98	0.45
22:RA:270(E):G:C2	22:RA:270(F):U:C2	3.05	0.45
22:RA:428:A:N7	22:RA:429:A:C5	2.84	0.45
22:RA:759:G:H2'	22:RA:760:G:C8	2.51	0.45
23:RB:83:G:H1	23:RB:93:C:N4	2.03	0.45
24:RD:105:ILE:HD12	24:RD:105:ILE:HA	1.63	0.45
24:RD:118:VAL:HG22	24:RD:119:ALA:H	1.82	0.45
24:RD:121:PRO:HB3	24:RD:135:PHE:CE1	2.52	0.45
24:RD:30:GLU:HG3	24:RD:63:ARG:CZ	2.47	0.45
22:RA:1130:U:N3	25:RE:147:PRO:HB3	2.31	0.45
27:RG:106:LEU:HA	27:RG:110:ALA:HB3	1.98	0.45
32:RP:18:ARG:HD2	32:RP:27:HIS:HD2	1.81	0.45
32:RP:77:ARG:HB2	32:RP:78:PRO:HD2	1.99	0.45
22:RA:482:A:H4'	41:RY:47:LYS:HD2	1.99	0.45
33:RQ:63:LYS:HD2	42:RZ:175:VAL:HG21	1.98	0.45
42:RZ:45:ASP:OD1	42:RZ:49:ARG:NE	2.41	0.45
1:XA:945:G:N2	1:XA:1334:G:O2'	2.48	0.45
1:XA:1447:G:N2	1:XA:1460:A:H1'	2.32	0.45
1:XA:1510:U:H2'	1:XA:1511:G:C8	2.51	0.45
1:XA:479:C:H2'	1:XA:480:U:O4'	2.17	0.45
1:XA:908:A:H2'	1:XA:909:A:C8	2.51	0.45
19:XS:63:THR:HG23	19:XS:66:MET:HG2	1.99	0.45
45:Y2:4:SER:OG	45:Y2:5:GLU:OE1	2.23	0.45
22:YA:1022:G:C6	22:YA:1140:C:C4	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1125:G:C6	22:YA:1126:A:N6	2.84	0.45
22:YA:184:C:H2'	22:YA:185:U:C6	2.52	0.45
22:YA:2762:G:C6	22:YA:2763:G:C4	3.05	0.45
27:YG:146:TYR:O	27:YG:149:VAL:HG22	2.16	0.45
37:YU:58:ARG:HA	37:YU:61:TRP:CE3	2.52	0.45
38:YV:36:PRO:HA	38:YV:56:SER:OG	2.16	0.45
42:YZ:5:LEU:HD22	42:YZ:47:VAL:HG21	1.97	0.45
1:QA:1358:U:H5''	14:QN:33:VAL:O	2.16	0.45
1:QA:514:C:H2'	1:QA:515:G:H8	1.81	0.45
1:QA:97:U:H2'	1:QA:99:C:C6	2.52	0.45
4:QD:53:ASP:O	4:QD:57:ARG:HD2	2.16	0.45
7:QG:113:GLU:CG	7:QG:119:ARG:HG2	2.47	0.45
7:QG:49:ILE:O	7:QG:53:LYS:HB3	2.16	0.45
1:QA:1151:A:H5'	10:QJ:41:PRO:HA	1.99	0.45
12:QL:113:ARG:HH21	12:QL:116:SER:HB2	1.81	0.45
22:RA:1792:G:H2'	22:RA:1793:C:H6	1.81	0.45
22:RA:2076:U:H5''	22:RA:2077:A:OP1	2.16	0.45
22:RA:2439:A:P	22:RA:2439:A:H3'	2.57	0.45
22:RA:270(T):G:C5'	44:R1:97:LEU:HD22	2.47	0.45
22:RA:2882:A:OP1	34:RR:96:ARG:NH1	2.35	0.45
22:RA:708:C:N4	22:RA:723:G:H1	2.02	0.45
28:RH:153:LYS:HG3	28:RH:161:GLY:HA2	1.97	0.45
31:RO:22:ILE:HG12	31:RO:41:ALA:HA	1.98	0.45
25:RE:111:ARG:HA	34:RR:1:MET:SD	2.57	0.45
34:RR:78:LYS:HE2	34:RR:83:ILE:HD11	1.98	0.45
34:RR:103:ARG:NH1	39:RW:40:ASN:OD1	2.50	0.45
42:RZ:10:ARG:NE	42:RZ:37:VAL:O	2.49	0.45
1:XA:1014:A:H4'	19:XS:14:HIS:CD2	2.51	0.45
1:XA:1316:G:N2	1:XA:1318:A:H3'	2.32	0.45
1:XA:923:A:N6	1:XA:1392:G:O6	2.50	0.45
1:XA:489:C:H2'	1:XA:490:G:H8	1.81	0.45
1:XA:522:C:H2'	1:XA:523:A:O4'	2.16	0.45
3:XC:48:TYR:OH	3:XC:122:GLU:OE2	2.22	0.45
13:XM:65:LYS:O	13:XM:70:LEU:HD23	2.17	0.45
15:XO:32:LEU:HD11	15:XO:62:GLN:HG2	1.99	0.45
17:XQ:43:LEU:HD12	17:XQ:68:ARG:HG2	1.97	0.45
43:Y0:15:ASP:OD1	43:Y0:16:SER:N	2.46	0.45
45:Y2:21:LEU:O	45:Y2:25:VAL:HG23	2.17	0.45
49:Y6:15:GLU:CD	49:Y6:41:PRO:HB3	2.37	0.45
22:YA:2078:C:C4	22:YA:2079:U:C4	3.05	0.45
22:YA:2124:G:C6	22:YA:2125:G:C4	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2212:A:N3	22:YA:2215:G:N1	2.64	0.45
22:YA:704:G:H2'	22:YA:726:G:N2	2.31	0.45
22:YA:783:A:C8	22:YA:783:A:C3'	2.99	0.45
23:YB:15:A:H1'	23:YB:109:G:N9	2.31	0.45
28:YH:150:ALA:O	28:YH:152:ARG:N	2.49	0.45
36:YT:6:LEU:HA	36:YT:9:LEU:HB2	1.99	0.45
38:YV:19:LYS:HG3	38:YV:95:LEU:HD23	1.98	0.45
41:YY:101:LYS:HG2	41:YY:102:CYS:H	1.81	0.45
42:YZ:100:VAL:HA	42:YZ:101:PRO:HD3	1.84	0.45
42:YZ:26:GLY:HA2	42:YZ:85:HIS:CD2	2.52	0.45
1:QA:134:A:H61	16:QP:25:ARG:NH1	2.15	0.45
1:QA:1516:G:H2'	1:QA:1518:A:OP2	2.17	0.45
1:QA:129(A):G:H1'	1:QA:189:U:H5''	1.97	0.45
1:QA:272:C:H2'	1:QA:273:A:C8	2.52	0.45
4:QD:8:VAL:HG13	4:QD:21:LEU:HD12	1.97	0.45
1:QA:1199:U:H4'	10:QJ:54:PHE:CE2	2.51	0.45
11:QK:91:ARG:NH1	11:QK:110:ASP:OD1	2.48	0.45
12:QL:102:ARG:HB3	12:QL:102:ARG:HE	1.39	0.45
20:QT:26:ASN:HB2	20:QT:71:THR:HG23	1.97	0.45
49:R6:34:LEU:HD13	49:R6:34:LEU:H	1.81	0.45
22:RA:1485:G:N1	22:RA:1486:A:C5	2.85	0.45
22:RA:2355:C:O2	43:R0:39:ARG:NH2	2.50	0.45
22:RA:2686:G:N2	22:RA:2724:C:H1'	2.31	0.45
22:RA:2852:G:H2'	22:RA:2853:C:C6	2.51	0.45
22:RA:404:C:HO2'	22:RA:405:U:P	2.36	0.45
22:RA:49:A:N7	22:RA:120:U:C5	2.84	0.45
22:RA:728:G:C2	22:RA:730:C:C2	3.04	0.45
27:RG:10:LYS:O	27:RG:14:GLU:HB3	2.17	0.45
34:RR:29:LEU:HD12	34:RR:29:LEU:HA	1.74	0.45
1:XA:1053:G:H5'	1:XA:1054:C:H5'	1.98	0.45
1:XA:1386:G:H2'	1:XA:1387:G:C8	2.52	0.45
1:XA:376:G:H5''	16:XP:5:ARG:HD2	1.99	0.45
1:XA:857:C:H2'	1:XA:858:G:O4'	2.17	0.45
7:XG:15:ASP:OD2	7:XG:44:TYR:OH	2.35	0.45
16:XP:17:TYR:CE1	16:XP:41:PRO:HG3	2.52	0.45
22:YA:1127:A:N7	22:YA:2488:A:O2'	2.48	0.45
22:YA:1840:G:C6	22:YA:1841:U:C4	3.05	0.45
22:YA:2006:C:O2'	22:YA:2823:A:N3	2.49	0.45
22:YA:2115:G:O6	22:YA:2172:U:H5	2.00	0.45
22:YA:2447:G:N2	22:YA:2450:A:OP2	2.49	0.45
22:YA:673:C:OP1	26:YF:54:ARG:NH1	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:676:A:H2	22:YA:802:A:H61	1.63	0.45
25:YE:67:PHE:O	25:YE:69:LYS:N	2.49	0.45
22:YA:2635:C:H5''	25:YE:78:LEU:HA	1.99	0.45
29:YI:110:ASP:HB2	29:YI:130:TYR:OH	2.16	0.45
29:YI:81:VAL:HG21	29:YI:88:ILE:HD12	1.99	0.45
1:QA:1241:G:H2'	1:QA:1242:C:C6	2.52	0.45
1:QA:1347:G:O2'	1:QA:1348:U:OP2	2.34	0.45
1:QA:607:A:H2'	1:QA:608:A:O4'	2.16	0.45
1:QA:617:G:N2	1:QA:623:C:N3	2.61	0.45
2:QB:30:ARG:HH21	2:QB:194:PRO:HG2	1.81	0.45
2:QB:76:GLN:O	2:QB:208:ILE:HG12	2.17	0.45
4:QD:28:SER:HB3	4:QD:29:PRO:CD	2.42	0.45
8:QH:104:ARG:O	8:QH:107:LEU:HB2	2.16	0.45
8:QH:6:ILE:O	8:QH:10:LEU:HG	2.17	0.45
10:QJ:40:LEU:HB2	10:QJ:69:ASN:CB	2.47	0.45
11:QK:41:THR:HG21	11:QK:71:LYS:HB2	1.99	0.45
1:QA:273:A:H1'	17:QQ:16:GLN:OE1	2.17	0.45
22:RA:1676:A:H2'	22:RA:1677:A:O4'	2.17	0.45
22:RA:1935:G:H1'	22:RA:1964:G:N2	2.32	0.45
22:RA:1972:A:H2'	22:RA:1973:G:C8	2.51	0.45
22:RA:18:C:H2'	22:RA:19:C:C6	2.52	0.45
23:RB:40:U:H1'	23:RB:45:A:N6	2.31	0.45
25:RE:107:THR:O	25:RE:190:GLY:HA2	2.17	0.45
30:RN:19:GLU:HB2	30:RN:56:ASN:HD22	1.80	0.45
34:RR:33:ARG:HH22	48:R5:55:ARG:HG2	1.81	0.45
35:RS:10:ARG:O	35:RS:14:VAL:HG12	2.17	0.45
41:RY:68:HIS:CE1	41:RY:70:SER:HB3	2.52	0.45
42:RZ:110:GLY:HA2	42:RZ:111:VAL:O	2.17	0.45
1:XA:1129:C:C4'	1:XA:1130:A:H5'	2.45	0.45
1:XA:1497:G:C2'	1:XA:1498:U:H5'	2.47	0.45
1:XA:232:G:H1'	1:XA:262:A:N1	2.31	0.45
1:XA:388:G:O2'	1:XA:389:A:P	2.75	0.45
1:XA:454:C:N4	1:XA:479:C:N3	2.64	0.45
3:XC:153:VAL:HG22	3:XC:198:VAL:HG22	1.98	0.45
4:XD:50:ARG:HG3	4:XD:50:ARG:H	1.63	0.45
8:XH:51:VAL:HG11	8:XH:60:ARG:HG3	1.98	0.45
19:XS:66:MET:HB2	19:XS:74:PHE:CZ	2.52	0.45
44:Y1:79:GLY:N	44:Y1:80:LEU:HD23	2.32	0.45
22:YA:1689:A:N6	22:YA:1698:A:H2	2.11	0.45
22:YA:2580:U:H4'	25:YE:130:GLY:CA	2.34	0.45
22:YA:270(A):A:N6	22:YA:270(Y):G:H1'	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:277:C:H3'	22:YA:278:A:C5'	2.46	0.45
24:YD:44:ASN:ND2	24:YD:44:ASN:N	2.64	0.45
29:YI:115:ALA:HB3	29:YI:128:LEU:HD12	1.98	0.45
22:YA:661:C:H5''	32:YP:15:ARG:NH2	2.31	0.45
34:YR:24:GLN:HE21	34:YR:44:LEU:HG	1.81	0.45
36:YT:102:ILE:HA	36:YT:105:LEU:CD2	2.47	0.45
39:YW:97:LYS:HE2	39:YW:99:ARG:NH2	2.31	0.45
1:QA:132:C:H2'	1:QA:133:U:O4'	2.17	0.45
1:QA:1379:G:O6	7:QG:2:ALA:HB3	2.17	0.45
1:QA:1455:G:H2'	1:QA:1459:C:C6	2.52	0.45
1:QA:145:G:H2'	1:QA:146:G:O4'	2.17	0.45
1:QA:24:U:H2'	1:QA:25:C:C6	2.52	0.45
1:QA:500:G:H2'	1:QA:501:C:C6	2.51	0.45
3:QC:79:ARG:NE	11:XK:99:GLN:CD	2.70	0.45
1:QA:1375:A:H4'	7:QG:29:LYS:HE3	1.99	0.45
1:QA:974:A:OP2	14:QN:41:ARG:NH1	2.50	0.45
43:R0:43:THR:HG23	43:R0:43:THR:O	2.17	0.45
44:R1:83:GLU:N	44:R1:83:GLU:OE2	2.49	0.45
45:R2:41:ILE:HD11	45:R2:44:LEU:HB2	1.99	0.45
22:RA:1946:U:H2'	22:RA:1947:C:C6	2.52	0.45
22:RA:2564:A:C2	22:RA:2647:U:H4'	2.52	0.45
22:RA:2705:A:C6	22:RA:2706:G:C4	3.05	0.45
25:RE:46:ALA:HB2	25:RE:82:ARG:HA	1.98	0.45
26:RF:161:GLU:OE2	26:RF:164:ARG:NH1	2.50	0.45
26:RF:45:ARG:CG	26:RF:45:ARG:HH11	2.29	0.45
34:RR:42:LYS:HA	34:RR:45:ARG:HD2	1.98	0.45
42:RZ:181:GLU:HB3	42:RZ:182:LYS:H	1.47	0.45
1:XA:947:G:N2	1:XA:1235:U:C2	2.84	0.45
1:XA:126:G:H4'	1:XA:634:C:O2	2.16	0.45
1:XA:426:G:P	4:XD:36:ARG:HH11	2.40	0.45
2:XB:115:LEU:HD13	2:XB:145:LEU:HB3	1.98	0.45
1:XA:406:G:C5'	4:XD:5:ILE:HD13	2.46	0.45
4:XD:86:LYS:H	4:XD:86:LYS:HD2	1.82	0.45
20:XT:33:ILE:HG23	20:XT:63:ILE:HG12	1.99	0.45
53:XV:4:G:O2'	53:XV:5:G:P	2.75	0.45
43:Y0:43:THR:HG23	43:Y0:43:THR:O	2.17	0.45
45:Y2:24:LEU:HD23	45:Y2:24:LEU:HA	1.67	0.45
47:Y4:16:CYS:HB3	47:Y4:33:VAL:HB	1.98	0.45
22:YA:1204:A:O2'	22:YA:1205:U:O5'	2.35	0.45
22:YA:1430:C:H2'	22:YA:1431:U:H6	1.80	0.45
22:YA:2030:A:H4'	22:YA:2031:A:H8	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2331:G:N2	22:YA:2385:C:C4	2.84	0.45
22:YA:2507:C:H2'	22:YA:2508:G:O4'	2.17	0.45
22:YA:2758:A:C2	22:YA:2759:G:H1'	2.52	0.45
22:YA:414:C:H2'	22:YA:415:A:C8	2.52	0.45
22:YA:636:G:H4'	22:YA:638:G:H4'	1.97	0.45
22:YA:994:C:OP1	37:YU:53:ARG:NH2	2.49	0.45
4:QD:167:GLY:HA2	24:YD:135:PHE:CE2	2.52	0.45
25:YE:167:VAL:HG21	25:YE:187:ALA:CB	2.47	0.45
22:YA:674:G:C1'	26:YF:74:ARG:HD3	2.35	0.45
40:YX:60:ARG:HH22	50:Y7:47:ARG:NH1	2.14	0.45
42:YZ:136:PHE:C	42:YZ:137:ILE:HG12	2.38	0.45
1:QA:1012:U:H2'	1:QA:1013:G:C8	2.52	0.45
1:QA:1475:G:H2'	1:QA:1476:G:H8	1.82	0.45
1:QA:280:C:C2	17:QQ:38:ARG:HG3	2.52	0.45
1:QA:836:G:C6	1:QA:851:G:C6	3.05	0.45
1:QA:980:C:H5'	1:QA:981:U:OP2	2.17	0.45
2:QB:163:PHE:HA	2:QB:185:ILE:HG13	1.99	0.45
2:QB:51:LEU:HD22	2:QB:55:PHE:HE2	1.82	0.45
53:QV:25:C:H2'	53:QV:26:G:O4'	2.17	0.45
32:RP:64:LYS:HB2	51:R8:25:MET:HG3	1.98	0.45
22:RA:2383:G:OP2	51:R8:37:SER:HB2	2.17	0.45
22:RA:1183:G:O3'	46:R3:29:ARG:NH1	2.50	0.45
22:RA:1314:C:H42	22:RA:1338:G:H1	1.65	0.45
22:RA:1788:C:H2'	22:RA:1789:A:O4'	2.17	0.45
22:RA:1651:G:N2	22:RA:2007:C:C2	2.85	0.45
22:RA:2262:U:H2'	22:RA:2263:C:C6	2.52	0.45
22:RA:2575:C:H2'	22:RA:2578:G:O6	2.17	0.45
22:RA:270(E):G:N2	22:RA:270(F):U:C2	2.86	0.45
22:RA:67:U:H2'	22:RA:68:G:C8	2.52	0.45
22:RA:765:G:H2'	22:RA:766:C:C6	2.52	0.45
22:RA:888:C:C3'	22:RA:889:C:H4'	2.48	0.45
22:RA:971:C:H2'	22:RA:972:G:O4'	2.17	0.45
22:RA:99:U:H4'	22:RA:101:G:O5'	2.16	0.45
27:RG:102:PHE:O	27:RG:106:LEU:N	2.50	0.45
33:RQ:111:GLU:C	33:RQ:113:GLN:H	2.19	0.45
1:XA:241:C:C2	1:XA:286:G:C2	3.05	0.45
1:XA:35:G:C2	1:XA:550:G:C2	3.05	0.45
1:XA:407:G:H1'	4:XD:119:GLN:HE22	1.81	0.45
1:XA:652:U:H1'	1:XA:653:A:C2	2.52	0.45
1:XA:664:G:N2	1:XA:741:G:H1	2.15	0.45
8:XH:75:ARG:HA	8:XH:76:PRO:HD2	1.71	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:XI:111:ARG:HH22	10:XJ:62:HIS:CE1	2.35	0.45
10:XJ:16:LEU:HD11	10:XJ:70:ARG:HB2	1.99	0.45
13:XM:62:ASN:OD1	47:Y4:49:PHE:CD2	2.63	0.45
19:XS:24:ALA:O	19:XS:25:LYS:HB3	2.16	0.45
22:YA:2213:U:H1'	44:Y1:52:ARG:CZ	2.47	0.45
47:Y4:22:ILE:HG22	47:Y4:23:GLU:H	1.82	0.45
22:YA:1101:U:H2'	22:YA:1102:C:C6	2.51	0.45
22:YA:1151:G:C2	22:YA:1152:C:C2	3.05	0.45
22:YA:1003:G:N2	22:YA:1153:C:C2	2.85	0.45
22:YA:1344:G:H4'	22:YA:1384:A:C5	2.52	0.45
22:YA:1412:A:H2'	22:YA:1413:G:C8	2.52	0.45
22:YA:1579:A:H2'	22:YA:1580:A:C8	2.52	0.45
22:YA:1751:C:H2'	22:YA:1752:C:H6	1.81	0.45
22:YA:648:G:H4'	22:YA:2351:G:H5''	1.98	0.45
22:YA:2352:A:C4	22:YA:2366:A:C2	3.05	0.45
22:YA:2356:C:H2'	22:YA:2357:U:O4'	2.16	0.45
22:YA:2545:G:H2'	22:YA:2546:U:O4'	2.17	0.45
22:YA:2853:C:H2'	22:YA:2854:G:C8	2.51	0.45
22:YA:372:G:O2'	22:YA:373:U:O5'	2.34	0.45
24:YD:39:LYS:HB2	24:YD:62:TYR:HB2	1.98	0.45
28:YH:3:ARG:HA	28:YH:3:ARG:NE	2.32	0.45
28:YH:52:VAL:HG21	28:YH:68:THR:HG22	1.99	0.45
32:YP:126:VAL:HG12	32:YP:147:LEU:HD22	1.99	0.45
22:YA:493:G:H4'	39:YW:8:ARG:HB2	1.99	0.45
1:QA:1376:U:P	7:QG:94:ARG:HH12	2.40	0.44
1:QA:1494:G:N7	57:QA:1601:PAR:N32	2.65	0.44
1:QA:29:G:O2'	1:QA:295:C:H4'	2.17	0.44
1:QA:376:G:H5''	16:QP:5:ARG:HD2	1.99	0.44
1:QA:437:U:C5	1:QA:438:G:C5	3.05	0.44
1:QA:457:C:H42	1:QA:475:G:H1	1.65	0.44
8:QH:6:ILE:HB	8:QH:85:ARG:HH11	1.82	0.44
9:QI:126:SER:O	9:QI:128:ARG:N	2.45	0.44
13:QM:92:HIS:CD2	13:QM:110:ARG:HH21	2.35	0.44
19:QS:10:PHE:HB2	19:QS:39:THR:H	1.82	0.44
19:QS:66:MET:HB2	19:QS:74:PHE:CZ	2.51	0.44
22:RA:1174:A:N3	22:RA:1178:C:N4	2.53	0.44
22:RA:1428:C:O2'	22:RA:1569:A:OP2	2.25	0.44
22:RA:2015:A:C8	22:RA:2016:U:C6	3.05	0.44
22:RA:286:C:H2'	22:RA:287:C:H6	1.80	0.44
22:RA:201:C:H4'	22:RA:386:G:C2	2.53	0.44
22:RA:413:C:H2'	22:RA:414:C:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:RB:13:A:C6	23:RB:70:C:H5'	2.52	0.44
28:RH:52:VAL:HG21	28:RH:69:ARG:HA	1.98	0.44
30:RN:116:LEU:HA	30:RN:116:LEU:HD23	1.78	0.44
31:RO:111:PHE:HB3	31:RO:114:ILE:HG13	1.98	0.44
1:XA:99:C:H2'	1:XA:101:A:C8	2.52	0.44
1:XA:1106:G:H5''	3:XC:172:ARG:HG2	1.99	0.44
1:XA:1342:C:H4'	9:XI:125:TYR:CB	2.39	0.44
1:XA:1442:G:C5	1:XA:1446:A:C6	3.05	0.44
1:XA:164:U:H2'	1:XA:165:C:C6	2.52	0.44
1:XA:807:A:H2'	1:XA:808:C:H6	1.81	0.44
1:XA:892:A:O2'	1:XA:1415:G:H4'	2.17	0.44
2:XB:12:GLU:C	2:XB:14:GLY:H	2.21	0.44
2:XB:33:TYR:HB2	2:XB:43:ASP:HB2	1.98	0.44
4:XD:25:ARG:NH1	4:XD:30:LYS:HG3	2.32	0.44
12:XL:45:PRO:HG3	12:XL:53:ARG:HD3	1.98	0.44
22:YA:1209:G:H21	22:YA:1210:A:N6	2.09	0.44
22:YA:1622:G:H2'	22:YA:1623:G:H8	1.82	0.44
22:YA:2461:C:H2'	22:YA:2462:U:H6	1.78	0.44
22:YA:2790:A:H2'	22:YA:2791:C:H5''	1.99	0.44
13:XM:68:GLY:CA	27:YG:116:ASP:OD2	2.63	0.44
28:YH:12:PRO:O	28:YH:13:LYS:HB2	2.17	0.44
22:YA:904:C:O2'	42:YZ:169:GLU:HG3	2.17	0.44
1:QA:1466:C:C5	1:QA:1467:G:C5	3.05	0.44
1:QA:412:A:H1'	1:QA:413:G:OP2	2.17	0.44
4:QD:158:ILE:HA	4:QD:158:ILE:HD13	1.82	0.44
10:QJ:33:GLN:O	10:QJ:75:ILE:HG12	2.17	0.44
22:RA:1027:A:N6	22:RA:1126:A:C4	2.85	0.44
22:RA:1753:G:N1	22:RA:1756:G:C2	2.85	0.44
22:RA:2066:C:C2'	22:RA:2067:G:H5'	2.47	0.44
22:RA:397:G:H1'	22:RA:2231:C:O2'	2.17	0.44
22:RA:742:G:H2'	22:RA:743:G:C8	2.53	0.44
22:RA:1658:C:OP1	25:RE:135:HIS:NE2	2.50	0.44
31:RO:87:ILE:HD12	31:RO:91:LEU:HD12	1.99	0.44
34:RR:28:LEU:HD12	34:RR:48:VAL:HG11	1.99	0.44
22:RA:994:C:O2	38:RV:10:LYS:HE2	2.17	0.44
1:XA:1320:C:H5'	19:XS:70:LYS:CG	2.46	0.44
1:XA:667:G:H4'	15:XO:51:HIS:CE1	2.53	0.44
1:XA:956:U:H2'	1:XA:957:U:O4'	2.18	0.44
7:XG:138:LYS:HE2	7:XG:142:GLU:OE2	2.17	0.44
11:XK:28:THR:OG1	11:XK:90:GLY:HA3	2.17	0.44
53:XV:66:C:H2'	53:XV:67:C:H6	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:Y2:41:ILE:HD11	45:Y2:44:LEU:CG	2.47	0.44
22:YA:1202:C:N4	22:YA:1203:G:C6	2.85	0.44
22:YA:1288:U:C2	22:YA:1327:C:O2	2.70	0.44
22:YA:1405:U:H2'	22:YA:1406:U:C6	2.52	0.44
22:YA:1601:G:C5	22:YA:1602:U:C4	3.04	0.44
22:YA:2328:A:H2'	22:YA:2329:G:C8	2.52	0.44
22:YA:413:C:H2'	22:YA:414:C:C6	2.49	0.44
22:YA:467:G:O5'	22:YA:467:G:H8	1.99	0.44
22:YA:479:A:HO2'	22:YA:481:G:H8	1.63	0.44
22:YA:950:G:H2'	22:YA:951:C:C6	2.53	0.44
23:YB:22:U:H2'	23:YB:23:G:C8	2.51	0.44
29:YI:95:LYS:O	29:YI:99:GLU:HB2	2.17	0.44
30:YN:62:VAL:HG12	30:YN:66:LYS:HD2	1.98	0.44
31:YO:86:ILE:HG22	31:YO:94:ARG:HD3	2.00	0.44
39:YW:33:ARG:NH2	39:YW:52:GLU:OE1	2.50	0.44
40:YX:35:THR:O	40:YX:39:ILE:HG13	2.16	0.44
42:YZ:109:ALA:HB3	42:YZ:143:GLY:HA2	1.98	0.44
1:QA:412:A:H4'	1:QA:413:G:O5'	2.17	0.44
6:QF:23:LYS:O	6:QF:27:GLN:HG2	2.17	0.44
6:QF:41:GLU:HB3	6:QF:62:TRP:HB3	2.00	0.44
15:QO:39:LEU:HD23	15:QO:39:LEU:HA	1.68	0.44
49:R6:32:ASN:N	49:R6:32:ASN:OD1	2.49	0.44
22:RA:1227:A:H5''	22:RA:1228:G:OP2	2.16	0.44
22:RA:1408:C:H2'	22:RA:1409:C:C6	2.52	0.44
22:RA:1641:A:H2'	22:RA:1642:G:O4'	2.17	0.44
22:RA:1773:A:H2'	22:RA:1774:C:O4'	2.17	0.44
22:RA:2261:C:C5	43:R0:16:SER:HB3	2.52	0.44
22:RA:2259:G:C2	22:RA:2282:G:N1	2.86	0.44
22:RA:2397:G:N2	22:RA:2420:C:H1'	2.32	0.44
22:RA:2391:G:N2	22:RA:2425:A:OP1	2.43	0.44
22:RA:2889:C:H3'	22:RA:2891:G:C8	2.46	0.44
22:RA:311:A:C6	22:RA:328:U:C4	3.05	0.44
22:RA:630:G:P	51:R8:46:ARG:HH12	2.40	0.44
22:RA:846:C:O2'	22:RA:847:U:OP2	2.28	0.44
22:RA:953:A:C2	22:RA:954:G:C8	3.05	0.44
25:RE:23:VAL:HG12	25:RE:184:VAL:O	2.17	0.44
28:RH:109:PHE:CZ	28:RH:152:ARG:HG2	2.53	0.44
33:RQ:12:GLN:HE21	33:RQ:72:LYS:HD3	1.82	0.44
37:RU:65:ILE:HG12	37:RU:96:ALA:CB	2.47	0.44
41:RY:42:VAL:HG12	41:RY:65:ALA:HB3	1.99	0.44
1:XA:157:G:H1	1:XA:164:U:H3	1.64	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:451:A:H61	1:XA:481:G:H5'	1.82	0.44
1:XA:564:C:C4	1:XA:565:U:C4	3.04	0.44
1:XA:693:G:H2'	1:XA:694:A:C8	2.52	0.44
9:XI:25:LYS:HE3	9:XI:25:LYS:HB2	1.72	0.44
13:XM:115:LYS:HB2	13:XM:115:LYS:HE3	1.75	0.44
10:XJ:61:GLU:OE1	14:XN:58:LYS:HE2	2.17	0.44
1:XA:530:G:O6	54:XX:6:G:H1'	2.17	0.44
22:YA:517:C:OP1	48:Y5:16:ARG:NH2	2.50	0.44
22:YA:1309:G:H4'	50:Y7:7:PRO:HB2	1.99	0.44
22:YA:980:A:C4	22:YA:1136:G:O4'	2.70	0.44
22:YA:1382:G:H2'	22:YA:1383:C:C6	2.48	0.44
22:YA:1404:C:H2'	22:YA:1405:U:H5'	1.99	0.44
22:YA:1923:U:H2'	22:YA:1924:C:H6	1.83	0.44
22:YA:2574:G:H2'	22:YA:2575:C:H6	1.82	0.44
22:YA:265:A:O2'	22:YA:266:G:H4'	2.16	0.44
22:YA:2881:C:H2'	22:YA:2882:A:H8	1.83	0.44
27:YG:114:ILE:HB	27:YG:117:PHE:HB2	1.99	0.44
22:YA:2305:A:H5''	27:YG:134:GLY:HA3	2.00	0.44
29:YI:86:THR:HA	29:YI:123:LEU:HB2	1.99	0.44
29:YI:23:PRO:HA	29:YI:26:ALA:HB3	1.99	0.44
31:YO:17:ARG:NH2	31:YO:47:ILE:HD13	2.33	0.44
32:YP:64:LYS:CB	51:Y8:25:MET:HG3	2.48	0.44
1:QA:108:G:H5''	1:QA:109:A:C5'	2.43	0.44
1:QA:1141:C:H2'	1:QA:1142:G:C8	2.48	0.44
1:QA:1364:U:O2'	1:QA:1365:G:H5'	2.17	0.44
1:QA:401:C:H2'	1:QA:402:G:C8	2.52	0.44
1:QA:487:A:H2'	1:QA:488:C:O4'	2.18	0.44
1:QA:530:G:O2'	1:QA:531:U:P	2.75	0.44
1:QA:583:A:H2'	1:QA:584:G:O4'	2.17	0.44
1:QA:853:G:H2'	1:QA:854:G:C8	2.49	0.44
1:QA:881:G:H2'	1:QA:882:C:O4'	2.17	0.44
1:QA:922:G:H4'	5:QE:20:GLN:HA	1.99	0.44
3:QC:70:VAL:HG21	3:QC:76:VAL:HG11	2.00	0.44
7:QG:153:HIS:HE1	11:QK:57:THR:HG23	1.82	0.44
12:QL:11:VAL:HG13	17:QQ:29:HIS:CD2	2.52	0.44
1:QA:254:G:OP1	17:QQ:67:LYS:O	2.35	0.44
53:QV:19:G:N2	53:QV:56:C:N3	2.66	0.44
22:RA:1161:C:H2'	22:RA:1162:G:H8	1.81	0.44
22:RA:120:U:C5	22:RA:149:A:N6	2.85	0.44
22:RA:1735:C:H2'	22:RA:1741:C:C6	2.52	0.44
22:RA:1803:A:N6	22:RA:1814:G:O2'	2.45	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1930:G:HO2'	22:RA:1931:U:P	2.40	0.44
22:RA:2106:G:H2'	22:RA:2107:C:O4'	2.18	0.44
22:RA:2133:G:H1'	22:RA:2158:A:H61	1.81	0.44
22:RA:2494:G:H2'	22:RA:2495:G:H8	1.83	0.44
22:RA:2527:C:H5''	52:R9:30:PRO:HB2	1.99	0.44
22:RA:302:C:H2'	22:RA:303:U:C6	2.52	0.44
22:RA:511:U:O4	22:RA:512:G:C6	2.71	0.44
22:RA:921:G:H4'	22:RA:2269:A:C5	2.52	0.44
23:RB:77:U:C5	23:RB:98:G:N2	2.85	0.44
24:RD:70:TRP:HZ3	24:RD:146:GLU:OE2	2.01	0.44
24:RD:49:ILE:CD1	24:RD:52:ARG:HA	2.47	0.44
27:RG:57:ALA:HB1	27:RG:68:PRO:HG2	1.98	0.44
28:RH:4:ILE:O	28:RH:6:ARG:N	2.51	0.44
30:RN:114:ARG:O	30:RN:115:ARG:HB3	2.17	0.44
35:RS:11:LYS:HG3	35:RS:91:PRO:HD3	1.98	0.44
42:RZ:111:VAL:HG22	42:RZ:112:ARG:N	2.33	0.44
33:RQ:134:ARG:CZ	42:RZ:122:ARG:HD2	2.48	0.44
1:XA:1032(A):G:H2'	1:XA:1032(B):G:C8	2.52	0.44
1:XA:1299:A:H2'	1:XA:1301:U:C1'	2.34	0.44
1:XA:647:C:H2'	1:XA:648:A:O4'	2.17	0.44
3:XC:82:GLU:O	3:XC:86:VAL:HG13	2.17	0.44
8:XH:83:ILE:HB	8:XH:137:VAL:HG13	1.99	0.44
8:XH:65:TYR:HA	8:XH:79:VAL:HG23	1.98	0.44
1:XA:1226:C:O2'	13:XM:103:THR:O	2.23	0.44
13:XM:65:LYS:HB3	47:Y4:50:VAL:HG21	1.99	0.44
18:XR:52:PRO:HB2	18:XR:54:ARG:HG2	2.00	0.44
20:XT:87:LYS:O	20:XT:91:LEU:HG	2.18	0.44
21:XU:5:ASP:HB3	21:XU:8:THR:OG1	2.17	0.44
53:XV:14:A:N3	53:XV:14:A:H2'	2.33	0.44
43:Y0:12:ASN:HB2	43:Y0:13:GLY:H	1.46	0.44
44:Y1:53:VAL:HB	44:Y1:58:ILE:HD13	1.98	0.44
19:XS:5:LEU:CG	47:Y4:66:SER:HB2	2.47	0.44
22:YA:1087:G:C5	22:YA:1089:G:H1'	2.52	0.44
22:YA:2885:C:N3	22:YA:2886:G:H1'	2.32	0.44
22:YA:469:G:O6	50:Y7:37:LYS:NZ	2.31	0.44
22:YA:530:G:H5''	22:YA:531:C:OP1	2.17	0.44
22:YA:942:G:O2'	22:YA:1189:A:H2'	2.17	0.44
29:YI:94:ALA:HB1	29:YI:111:PRO:HB2	1.98	0.44
22:YA:1142(A):A:H4'	30:YN:25:ARG:HH22	1.81	0.44
36:YT:61:PHE:CE2	36:YT:76:PHE:HB2	2.53	0.44
37:YU:104:GLN:OE1	37:YU:105:VAL:HG23	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:YU:66:ASN:HB2	37:YU:76:TYR:HB2	1.99	0.44
1:QA:1022:G:H2'	1:QA:1023:G:C8	2.52	0.44
1:QA:1127:G:H22	1:QA:1145:C:C1'	2.24	0.44
1:QA:1255:G:C6	1:QA:1279:A:C8	3.06	0.44
1:QA:1271:G:H5'	1:QA:1314:C:H5'	1.98	0.44
1:QA:1335:C:P	1:QA:1337:G:H21	2.40	0.44
1:QA:1350:A:H2'	1:QA:1351:U:O4'	2.17	0.44
1:QA:44:G:C6	1:QA:45:U:C2	3.06	0.44
1:QA:752:G:HO2'	1:QA:753:A:P	2.40	0.44
2:QB:228:GLY:O	2:QB:230:VAL:N	2.50	0.44
4:QD:150:GLU:OE1	4:QD:150:GLU:N	2.51	0.44
1:QA:1080:A:C5'	5:QE:16:THR:HG21	2.47	0.44
11:QK:92:GLU:HB3	11:QK:96:ARG:NH1	2.33	0.44
12:QL:109:GLY:HA3	12:QL:121:GLY:O	2.17	0.44
12:QL:70:ILE:HD13	12:QL:77:LEU:HD12	1.99	0.44
1:QA:1219:U:P	14:QN:19:ARG:HH22	2.38	0.44
53:QV:61:C:H2'	53:QV:62:C:H6	1.83	0.44
45:R2:49:LYS:O	45:R2:53:LEU:HB2	2.18	0.44
48:R5:46:CYS:HA	48:R5:47:PRO:HD2	1.63	0.44
22:RA:1815:A:C6	22:RA:1817:G:C6	3.05	0.44
22:RA:1856:G:N2	22:RA:1886:C:N3	2.53	0.44
22:RA:2032:G:N1	22:RA:2572:A:C8	2.86	0.44
22:RA:2191:G:C6	22:RA:2192:G:C8	3.05	0.44
22:RA:2232:U:OP2	44:R1:40:ARG:NH1	2.43	0.44
22:RA:2489:G:C6	22:RA:2490:G:N7	2.86	0.44
22:RA:2593:U:O4	22:RA:2594:C:N4	2.50	0.44
22:RA:2821:A:H8	22:RA:2821:A:O5'	2.00	0.44
22:RA:564:C:H2'	22:RA:565:C:O4'	2.17	0.44
22:RA:778:G:C6	22:RA:779:U:C4	3.06	0.44
22:RA:918:A:C5	22:RA:919:G:H1'	2.52	0.44
22:RA:1816:G:C8	24:RD:62:TYR:CZ	3.05	0.44
27:RG:37:VAL:O	27:RG:94:LEU:HG	2.17	0.44
31:RO:106:LEU:HD23	31:RO:106:LEU:HA	1.81	0.44
38:RV:35:LEU:CD2	38:RV:57:VAL:HG22	2.47	0.44
42:RZ:104:PHE:HB3	42:RZ:141:VAL:HG11	2.00	0.44
42:RZ:103:ARG:HD3	42:RZ:136:PHE:CD1	2.52	0.44
1:XA:1158:C:H4'	2:XB:133:LYS:HZ3	1.82	0.44
1:XA:1213:A:N7	1:XA:1215:G:C5	2.86	0.44
1:XA:302:G:C6	1:XA:303:A:C5	3.06	0.44
1:XA:491:G:H2'	1:XA:492:G:O4'	2.18	0.44
1:XA:775:G:O2'	1:XA:776:G:H5'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:868:C:H2'	1:XA:869:G:O4'	2.18	0.44
1:XA:949:A:N7	13:XM:106:ASN:ND2	2.66	0.44
5:XE:110:LEU:HD13	5:XE:118:ILE:HD13	1.98	0.44
7:XG:87:VAL:HG11	7:XG:155:ARG:HA	1.99	0.44
15:XO:32:LEU:O	15:XO:36:ILE:HG13	2.18	0.44
15:XO:82:ILE:O	15:XO:86:GLY:N	2.51	0.44
19:XS:81:ARG:HB2	19:XS:81:ARG:HE	1.36	0.44
53:XV:16:C:O2'	53:XV:61:C:OP1	2.34	0.44
43:Y0:53:MET:HA	43:Y0:58:THR:O	2.17	0.44
45:Y2:17:SER:CB	45:Y2:67:LYS:HE3	2.47	0.44
22:YA:1071:G:O5'	22:YA:1071:G:H8	2.00	0.44
22:YA:1339:G:C2	22:YA:1340:U:C5	3.06	0.44
22:YA:1753:G:H5''	22:YA:1753:G:H8	1.83	0.44
22:YA:270(K):C:O2	22:YA:270(N):G:N2	2.39	0.44
22:YA:2774:C:H2'	22:YA:2775:A:O4'	2.17	0.44
22:YA:270:A:H1'	22:YA:370:G:C2	2.52	0.44
22:YA:686:G:N2	22:YA:788:A:H61	2.16	0.44
23:YB:11:C:O5'	23:YB:12:C:H5	2.00	0.44
23:YB:66:A:H61	23:YB:107:U:H2'	1.82	0.44
26:YF:184:TYR:CE2	26:YF:188:ARG:HD2	2.52	0.44
28:YH:124:GLU:HB3	28:YH:132:ARG:HG3	1.99	0.44
30:YN:134:ARG:O	30:YN:136:GLU:N	2.50	0.44
36:YT:42:ILE:HG21	36:YT:84:GLN:NE2	2.32	0.44
38:YV:15:GLU:HG3	38:YV:16:PRO:HD2	1.99	0.44
38:YV:99:ILE:H	38:YV:99:ILE:HD13	1.82	0.44
42:YZ:182:LYS:HG3	42:YZ:183:LEU:CD2	2.48	0.44
42:YZ:6:LYS:HB2	42:YZ:6:LYS:HE3	1.61	0.44
42:YZ:92:SER:OG	42:YZ:93:ASP:N	2.49	0.44
1:QA:977:A:H1'	1:QA:981:U:H3	1.81	0.44
2:QB:71:VAL:HA	2:QB:93:VAL:HB	2.00	0.44
4:QD:166:LYS:HG3	4:QD:178:VAL:HG11	1.99	0.44
15:QO:50:HIS:O	15:QO:53:HIS:HB3	2.17	0.44
44:R1:49:VAL:HG11	44:R1:70:VAL:HG11	1.98	0.44
22:RA:1045:A:O4'	22:RA:1111:A:N6	2.51	0.44
22:RA:1191:G:OP1	32:RP:32:THR:HB	2.17	0.44
22:RA:1425:G:H2'	22:RA:1426:G:C8	2.53	0.44
22:RA:1668:A:H4'	22:RA:1669:A:O5'	2.17	0.44
22:RA:2111:C:H5	22:RA:2147:G:H22	1.65	0.44
22:RA:2495:G:H5''	33:RQ:81:VAL:HG13	1.98	0.44
22:RA:2634:G:C6	22:RA:2635:C:C4	3.05	0.44
22:RA:2662:A:C5	22:RA:2663:G:H1'	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:590:A:H2'	22:RA:591:C:C6	2.52	0.44
22:RA:856:C:H1'	43:R0:27:GLU:HB3	1.99	0.44
24:RD:65:ILE:H	24:RD:65:ILE:HD13	1.82	0.44
22:RA:2679:A:H4'	25:RE:165:VAL:HG11	1.99	0.44
27:RG:171:ALA:O	27:RG:175:LEU:HG	2.18	0.44
27:RG:51:ARG:O	27:RG:53:LEU:N	2.48	0.44
28:RH:28:GLY:HA3	28:RH:79:VAL:HB	2.00	0.44
42:RZ:54:HIS:CD2	42:RZ:101:PRO:HG3	2.52	0.44
42:RZ:82:ARG:HA	42:RZ:83:PRO:HD3	1.89	0.44
42:RZ:8:TYR:HB2	42:RZ:38:TYR:CE2	2.52	0.44
1:XA:1095:U:P	1:XA:1108:G:H1	2.41	0.44
1:XA:1124:G:C8	1:XA:1145:C:C5	3.05	0.44
1:XA:1280:A:HO2'	1:XA:1281:U:P	2.35	0.44
1:XA:160:A:H2'	1:XA:161:A:O4'	2.17	0.44
1:XA:271:C:H2'	1:XA:272:C:C6	2.52	0.44
1:XA:329:A:C2	1:XA:332:G:C4	3.05	0.44
9:XI:95:LYS:HZ3	9:XI:96:LEU:HD13	1.83	0.44
12:XL:42:THR:HA	12:XL:53:ARG:O	2.18	0.44
15:XO:39:LEU:HD13	15:XO:56:LEU:HB2	2.00	0.44
1:XA:1364:U:C6	21:XU:14:TRP:HH2	2.35	0.44
47:Y4:48:ARG:CZ	47:Y4:51:ASP:HA	2.47	0.44
49:Y6:34:LEU:HD13	49:Y6:34:LEU:H	1.83	0.44
49:Y6:7:ILE:HD12	49:Y6:7:ILE:HA	1.85	0.44
22:YA:1026:U:H1'	22:YA:1027:A:O5'	2.18	0.44
22:YA:1045:A:N3	22:YA:1047:G:N2	2.66	0.44
22:YA:1077:A:H3'	22:YA:1078:U:C5'	2.47	0.44
22:YA:2041:U:H2'	22:YA:2042:A:H8	1.83	0.44
22:YA:2209:C:O2	22:YA:2216:G:C2	2.70	0.44
22:YA:2216:G:H2'	22:YA:2217:G:H8	1.82	0.44
22:YA:2592:G:C6	22:YA:2593:U:C2	3.06	0.44
22:YA:482:A:H4'	41:YY:47:LYS:HD2	2.00	0.44
26:YF:63:LYS:HE3	26:YF:65:TRP:O	2.18	0.44
35:YS:43:GLU:HG3	43:Y0:49:LYS:NZ	2.32	0.44
35:YS:88:ASP:HB3	35:YS:89:ARG:H	1.47	0.44
36:YT:48:ILE:H	36:YT:48:ILE:HD12	1.83	0.44
22:YA:480:A:H1'	41:YY:44:ILE:HG12	1.98	0.44
41:YY:51:VAL:O	41:YY:56:PRO:HA	2.18	0.44
1:QA:1061:G:OP1	10:QJ:59:SER:OG	2.34	0.44
1:QA:1237:C:H5''	1:QA:1238:A:O4'	2.18	0.44
1:QA:1442:G:C5	1:QA:1446:A:C6	3.05	0.44
1:QA:35:G:C6	1:QA:36:C:N4	2.86	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:QE:100:VAL:HG22	5:QE:118:ILE:HG22	1.99	0.44
10:QJ:47:PHE:HE1	10:QJ:63:PHE:HB2	1.83	0.44
12:QL:71:PRO:HG3	12:QL:99:HIS:HD2	1.82	0.44
16:QP:23:ASP:O	16:QP:26:ARG:HB2	2.17	0.44
49:R6:40:CYS:HA	49:R6:41:PRO:HD2	1.85	0.44
49:R6:41:PRO:HD2	49:R6:46:HIS:H	1.83	0.44
22:RA:1153:C:H2'	22:RA:1154:G:O4'	2.17	0.44
22:RA:1535:U:C2	22:RA:1536:A:N7	2.86	0.44
22:RA:1593:G:C2	22:RA:1594:G:C5	3.06	0.44
22:RA:1593:G:H2'	22:RA:1594:G:C8	2.53	0.44
22:RA:1777:U:O2'	22:RA:1778:U:H5'	2.18	0.44
22:RA:2816:C:H2'	22:RA:2817:G:C8	2.52	0.44
22:RA:467:G:OP1	50:R7:33:ARG:NH1	2.51	0.44
23:RB:15:A:H1'	23:RB:109:G:C4	2.53	0.44
22:RA:1803:A:H4'	24:RD:259:THR:CG2	2.47	0.44
24:RD:34:VAL:HG22	24:RD:35:LYS:HG3	2.00	0.44
26:RF:9:ILE:HA	26:RF:10:PRO:HD3	1.89	0.44
26:RF:117:ARG:HH12	32:RP:1:MET:N	2.16	0.44
27:RG:95:ARG:O	27:RG:99:MET:HG2	2.18	0.44
29:RI:130:TYR:C	29:RI:131:LYS:HD2	2.38	0.44
29:RI:69:LYS:HG2	29:RI:70:GLU:N	2.33	0.44
34:RR:54:LEU:HD23	34:RR:66:VAL:HG23	1.98	0.44
36:RT:107:ASP:O	36:RT:111:ARG:NH1	2.51	0.44
38:RV:49:THR:HB	38:RV:50:PRO:HD2	1.99	0.44
38:RV:16:PRO:HB3	38:RV:97:LYS:O	2.17	0.44
40:RX:57:LEU:HD11	40:RX:78:LYS:HD2	1.99	0.44
42:RZ:181:GLU:HB3	42:RZ:182:LYS:HD3	2.00	0.44
1:XA:1095:U:H2'	1:XA:1096:C:C6	2.52	0.44
1:XA:1308:U:H5''	13:XM:98:VAL:HG23	1.99	0.44
1:XA:1316:G:O2'	1:XA:1318:A:N7	2.37	0.44
1:XA:57:G:N2	1:XA:355:C:O2	2.51	0.44
1:XA:724:G:C2	1:XA:725:G:C8	3.05	0.44
1:XA:870:U:H5''	1:XA:871:U:OP1	2.17	0.44
1:XA:958:A:N6	1:XA:959:A:N1	2.66	0.44
12:XL:39:VAL:HG12	12:XL:41:ARG:HG3	2.00	0.44
13:XM:23:TYR:HE1	13:XM:70:LEU:HD12	1.83	0.44
15:XO:26:GLU:HG2	15:XO:26:GLU:H	1.54	0.44
16:XP:18:ARG:NH1	16:XP:32:TYR:OH	2.50	0.44
47:Y4:35:VAL:C	47:Y4:37:SER:H	2.20	0.44
51:Y8:49:VAL:HG23	51:Y8:53:PRO:HB3	2.00	0.44
22:YA:1042:G:C6	22:YA:1043:C:C4	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1337:G:C4	22:YA:1338:G:C8	3.06	0.44
22:YA:1382:G:C4	22:YA:1383:C:H5	2.34	0.44
22:YA:1980:G:O2'	22:YA:1982:C:OP2	2.35	0.44
22:YA:2169:A:C6	22:YA:2170:A:C6	3.06	0.44
22:YA:692:C:HO2'	22:YA:1354:A:HO2'	1.64	0.44
22:YA:987:G:C6	22:YA:988:A:C4	3.06	0.44
23:YB:114:G:H2'	23:YB:115:G:O4'	2.18	0.44
24:YD:61:LEU:HA	24:YD:61:LEU:HD13	1.91	0.44
24:YD:85:ASP:HB2	24:YD:92:ILE:HD13	1.99	0.44
27:YG:98:ARG:O	27:YG:101:ILE:HG13	2.17	0.44
32:YP:62:LEU:HB2	51:Y8:30:ARG:HH11	1.83	0.44
22:YA:483:A:O2'	41:YY:48:ALA:O	2.36	0.44
42:YZ:5:LEU:HB3	42:YZ:6:LYS:H	1.52	0.44
1:QA:1264:C:O2	1:QA:1272:G:N2	2.51	0.44
1:QA:179:A:H2'	1:QA:180:U:H6	1.83	0.44
1:QA:44:G:OP2	16:QP:12:LYS:HE2	2.18	0.44
1:QA:560:U:H4'	1:QA:561:U:O5'	2.17	0.44
1:QA:687:A:H4'	1:QA:688:G:O5'	2.17	0.44
1:QA:991:U:O2	1:QA:993:G:H8	2.01	0.44
9:QI:16:ARG:O	9:QI:63:ILE:HA	2.17	0.44
33:RQ:83:MET:HB2	43:R0:7:LEU:HD12	2.00	0.44
52:R9:24:TYR:CE2	52:R9:35:ARG:HG3	2.53	0.44
22:RA:30:G:O2'	22:RA:1214:A:N3	2.43	0.44
22:RA:1582:C:N4	22:RA:1583:A:N7	2.66	0.44
22:RA:2111:C:N3	22:RA:2118:U:O2'	2.50	0.44
22:RA:601:C:O2	22:RA:605:C:H4'	2.18	0.44
22:RA:952:G:C6	22:RA:966:G:C6	3.06	0.44
24:RD:85:ASP:HA	24:RD:86:PRO:HD2	1.72	0.44
27:RG:95:ARG:C	27:RG:99:MET:HG2	2.38	0.44
28:RH:123:PHE:O	28:RH:125:VAL:HG23	2.18	0.44
31:RO:22:ILE:HA	31:RO:22:ILE:HD13	1.77	0.44
32:RP:140:ALA:O	32:RP:141:ALA:HB2	2.17	0.44
40:RX:87:GLN:O	40:RX:88:LYS:HG3	2.18	0.44
42:RZ:101:PRO:HA	42:RZ:123:ASP:HA	1.99	0.44
42:RZ:127:LYS:HB3	42:RZ:162:GLU:HB3	2.00	0.44
42:RZ:177:PRO:HB2	42:RZ:178:GLU:H	1.62	0.44
1:XA:134:A:H61	16:XP:25:ARG:HH12	1.63	0.44
1:XA:1517:G:N3	22:YA:1919:A:O2'	2.36	0.44
1:XA:371:G:H2'	1:XA:372:C:O4'	2.18	0.44
1:XA:625:G:H2'	1:XA:626:U:C6	2.53	0.44
1:XA:954:G:C6	1:XA:955:U:C4	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:XC:47:LEU:HA	3:XC:47:LEU:HD12	1.83	0.44
15:XO:77:ARG:HA	15:XO:80:ALA:HB3	1.99	0.44
16:XP:39:TYR:CZ	16:XP:41:PRO:HB3	2.53	0.44
22:YA:1210:A:C5'	22:YA:1210:A:C8	3.00	0.44
22:YA:1449:A:C6	22:YA:1449(A):G:C4	3.06	0.44
22:YA:1581:G:C6	22:YA:1582:C:C4	3.06	0.44
22:YA:2557:G:H5''	22:YA:2557:G:H8	1.83	0.44
22:YA:2734:A:H3'	22:YA:2735:G:H8	1.83	0.44
22:YA:2795:G:N2	22:YA:2799:A:OP2	2.50	0.44
22:YA:554:U:HO2'	22:YA:556:G:H8	1.58	0.44
23:YB:12:C:O2	43:Y0:74:ARG:HD2	2.17	0.44
22:YA:1792:G:OP1	24:YD:206:LEU:HB2	2.18	0.44
25:YE:105:THR:OG1	25:YE:199:ARG:NH1	2.50	0.44
26:YF:47:GLY:HA3	26:YF:95:ARG:O	2.18	0.44
27:YG:10:LYS:HE2	27:YG:175:LEU:O	2.18	0.44
29:YI:2:LYS:HG2	29:YI:20:ASP:HB3	2.00	0.44
1:QA:1119:C:OP1	9:QI:83:ARG:NH1	2.51	0.44
1:QA:927:G:H1	1:QA:1390:U:H3	1.65	0.44
1:QA:358:U:H2'	1:QA:359:U:C6	2.52	0.44
1:QA:392:G:H2'	1:QA:393:A:C8	2.51	0.44
1:QA:793:U:H3'	1:QA:794:A:H5''	2.00	0.44
1:QA:814:A:N7	1:QA:816:A:C4	2.85	0.44
10:QJ:54:PHE:HB3	10:QJ:55:LYS:H	1.69	0.44
53:QV:1:C:H2'	53:QV:2:G:H8	1.83	0.44
53:QV:54:U:C5	53:QV:55:U:C4	3.06	0.44
48:R5:16:ARG:HD2	48:R5:20:ARG:NH1	2.33	0.44
22:RA:1039:G:H1	22:RA:1116:C:H42	1.65	0.44
22:RA:1751:C:O2'	22:RA:1752:C:H5'	2.18	0.44
22:RA:244:A:H2'	22:RA:245:G:O4'	2.18	0.44
22:RA:2491:U:H1'	22:RA:2569:G:O3'	2.18	0.44
22:RA:2850:A:C2	22:RA:2851:A:C4	3.06	0.44
22:RA:301:G:H1'	22:RA:302:C:C6	2.53	0.44
22:RA:997:G:OP1	37:RU:93:LYS:HB2	2.18	0.44
34:RR:27:SER:HB3	34:RR:34:ILE:HD11	1.99	0.44
35:RS:19:LYS:O	35:RS:20:ARG:HB3	2.18	0.44
41:RY:81:LYS:HB2	41:RY:96:ILE:CG2	2.48	0.44
42:RZ:59:LEU:O	42:RZ:60:GLU:HB3	2.17	0.44
1:XA:1108:G:H5'	3:XC:176:HIS:ND1	2.33	0.44
1:XA:253:U:H2'	1:XA:254:G:C8	2.53	0.44
1:XA:373:A:H2'	1:XA:374:A:H8	1.82	0.44
1:XA:652:U:O2	1:XA:652:U:H2'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:XC:108:ASN:HB3	3:XC:111:LEU:HD12	2.00	0.44
6:XF:33:TYR:HB2	6:XF:75:LEU:HD12	1.99	0.44
11:XK:19:ALA:HB2	11:XK:32:ILE:HG22	2.00	0.44
44:Y1:70:VAL:O	44:Y1:73:LEU:HB2	2.18	0.44
49:Y6:41:PRO:HD2	49:Y6:46:HIS:H	1.81	0.44
22:YA:1496:A:H2'	22:YA:1577:C:O2'	2.18	0.44
22:YA:2283:C:C2	22:YA:2389:G:C2	3.06	0.44
22:YA:830:G:N2	22:YA:2445:G:O2'	2.47	0.44
22:YA:2516:G:C6	22:YA:2517:C:C4	3.05	0.44
22:YA:2776:A:C6	22:YA:2778:A:C6	3.06	0.44
22:YA:76:C:H1'	45:Y2:62:THR:HG21	1.99	0.44
27:YG:47:LYS:HB2	27:YG:47:LYS:HE3	1.73	0.44
40:YX:70:LEU:H	40:YX:70:LEU:HD23	1.83	0.44
1:QA:115:G:H4'	1:QA:116:A:O5'	2.17	0.43
1:QA:1394:A:H61	1:QA:1500:A:HO2'	1.65	0.43
1:QA:404:U:H2'	1:QA:405:U:C6	2.44	0.43
1:QA:963:G:H1	1:QA:972:C:H42	1.64	0.43
4:QD:155:LEU:O	4:QD:159:ARG:HG2	2.18	0.43
7:QG:116:ALA:HA	7:QG:119:ARG:HE	1.83	0.43
1:QA:976:G:P	14:QN:32:SER:H	2.41	0.43
49:R6:28:ARG:HG3	49:R6:31:PRO:HD2	2.00	0.43
22:RA:1014:U:H3	22:RA:1148:A:H61	1.66	0.43
22:RA:1025:G:C4	22:RA:1135:C:H1'	2.52	0.43
22:RA:1022:G:H22	22:RA:1142(A):A:H2	1.65	0.43
22:RA:1188:U:H4'	38:RV:79:VAL:HG22	1.99	0.43
22:RA:579:G:O2'	22:RA:2019:A:OP1	2.32	0.43
22:RA:2612:C:C5	22:RA:2613:U:H5	2.36	0.43
22:RA:2734:A:C8	22:RA:2735:G:C8	3.06	0.43
22:RA:2740:A:N6	22:RA:2764:A:C8	2.86	0.43
22:RA:2869:G:H8	22:RA:2869:G:O5'	2.01	0.43
22:RA:80:G:O2'	22:RA:294:A:N1	2.47	0.43
22:RA:396:G:H8	22:RA:396:G:O5'	2.01	0.43
22:RA:588:U:H2'	22:RA:589:C:C6	2.52	0.43
22:RA:918:A:O2'	23:RB:96:G:N2	2.51	0.43
24:RD:145:VAL:HG11	24:RD:175:LEU:HD11	2.00	0.43
22:RA:2788:C:OP1	25:RE:61:ARG:NH1	2.51	0.43
29:RI:80:PRO:HA	29:RI:143:SER:O	2.17	0.43
1:XA:1162:C:C2	1:XA:1175:G:C2	3.06	0.43
1:XA:1271:G:H2'	1:XA:1272:G:H5''	2.00	0.43
1:XA:554:C:H2'	1:XA:555:C:H6	1.83	0.43
1:XA:95:G:H3'	1:XA:96:G:C8	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:XG:36:LYS:HB2	7:XG:36:LYS:HZ2	1.83	0.43
12:XL:24:VAL:O	12:XL:26:ALA:N	2.47	0.43
16:XP:45:THR:HG22	16:XP:47:ASP:N	2.26	0.43
1:XA:1220:G:N2	19:XS:54:GLY:O	2.48	0.43
44:Y1:94:LEU:HD23	44:Y1:94:LEU:HA	1.81	0.43
45:Y2:31:GLU:HB2	45:Y2:53:LEU:HD11	2.00	0.43
22:YA:1111:A:O2'	22:YA:1112:G:H4'	2.17	0.43
22:YA:1011:G:C2	22:YA:1151:G:N3	2.85	0.43
22:YA:1332:G:H2'	22:YA:1332:G:H8	1.54	0.43
22:YA:1319:G:C2	22:YA:1334:G:C5	3.05	0.43
22:YA:1360:A:H2'	22:YA:1361:G:O4'	2.18	0.43
22:YA:1568:G:H5'	24:YD:59:LYS:O	2.17	0.43
22:YA:1924:C:H4'	53:XV:13:C:O2'	2.17	0.43
22:YA:1972:A:H2'	22:YA:1973:G:H8	1.82	0.43
22:YA:2387:U:H1'	43:Y0:41:ARG:NH2	2.33	0.43
22:YA:2815:C:H5'	48:Y5:29:THR:HG21	2.00	0.43
22:YA:363(B):G:H2'	22:YA:363(C):G:C8	2.52	0.43
22:YA:656:G:H2'	22:YA:657:U:C6	2.53	0.43
22:YA:896:A:C8	42:YZ:146:ILE:HD12	2.52	0.43
23:YB:106:G:C6	23:YB:107:U:C4	3.06	0.43
22:YA:1803:A:H4'	24:YD:259:THR:HG23	2.00	0.43
25:YE:37:ARG:O	25:YE:45:THR:HA	2.18	0.43
26:YF:66:PRO:O	26:YF:68:LYS:N	2.51	0.43
28:YH:4:ILE:HG12	28:YH:4:ILE:H	1.59	0.43
28:YH:67:LEU:O	28:YH:71:LEU:HB2	2.17	0.43
32:YP:126:VAL:HG12	32:YP:147:LEU:CD2	2.48	0.43
22:YA:389:G:H22	32:YP:72:PRO:CD	2.31	0.43
1:QA:1266:G:N2	1:QA:1270:C:N3	2.66	0.43
1:QA:1388:C:H2'	1:QA:1389:C:H6	1.82	0.43
1:QA:153:C:H6	1:QA:153:C:O5'	2.01	0.43
1:QA:271:C:H2'	1:QA:272:C:H6	1.83	0.43
1:QA:518:C:H4'	1:QA:519:C:H5''	2.00	0.43
1:QA:74:C:H42	1:QA:96:G:H1	1.66	0.43
10:QJ:51:ARG:NE	10:QJ:60:ARG:O	2.45	0.43
22:RA:1213:A:N3	22:RA:1238:G:O2'	2.46	0.43
22:RA:1310:G:H1	22:RA:1604:C:N4	2.12	0.43
22:RA:923:C:O5'	22:RA:923:C:H6	2.01	0.43
25:RE:143:ASN:HD22	25:RE:147:PRO:HD3	1.83	0.43
32:RP:37:GLY:O	32:RP:40:SER:OG	2.26	0.43
40:RX:67:GLY:O	40:RX:69:TYR:N	2.43	0.43
41:RY:42:VAL:O	41:RY:65:ALA:N	2.45	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1216:G:H5''	14:XN:5:ALA:HB2	1.99	0.43
1:XA:1305:G:C5'	21:XU:4:GLY:HA3	2.46	0.43
1:XA:414:A:C6	1:XA:431:A:C2	3.06	0.43
1:XA:517:G:H4'	1:XA:519:C:C6	2.54	0.43
1:XA:564:C:C4	17:XQ:31:LEU:HD11	2.53	0.43
5:XE:9:LYS:HE3	5:XE:9:LYS:HB2	1.89	0.43
10:XJ:32:ALA:H	10:XJ:78:ASN:ND2	2.16	0.43
16:XP:4:ILE:HB	16:XP:66:PRO:HB3	2.00	0.43
44:Y1:25:LYS:C	44:Y1:27:GLU:H	2.22	0.43
19:XS:64:GLU:O	47:Y4:55:ARG:NH1	2.51	0.43
32:YP:61:ARG:NH1	51:Y8:56:GLU:OE2	2.49	0.43
22:YA:1058:G:O5'	22:YA:1060:U:H5	2.01	0.43
22:YA:942:G:O2'	22:YA:1189:A:N3	2.41	0.43
22:YA:1476:C:H2'	22:YA:1477:A:O4'	2.18	0.43
22:YA:1795:C:H2'	22:YA:1796:U:O4'	2.17	0.43
22:YA:414:C:H1'	22:YA:1864:U:H1'	2.01	0.43
22:YA:1853:A:C6	22:YA:1889:A:C5	3.06	0.43
22:YA:2350:C:H5	51:Y8:42:ARG:NH1	2.17	0.43
22:YA:2512:C:H2'	22:YA:2513:G:O4'	2.17	0.43
22:YA:2655:G:O2'	22:YA:2664:G:O6	2.36	0.43
22:YA:2871:C:H5''	22:YA:2872:G:OP1	2.18	0.43
22:YA:310:A:C4	22:YA:312:G:C8	3.05	0.43
22:YA:65:C:H5'	40:YX:71:GLY:HA3	2.00	0.43
29:YI:46:ALA:C	29:YI:50:ARG:HD3	2.38	0.43
34:YR:38:VAL:HG22	34:YR:112:ALA:HB2	2.00	0.43
36:YT:35:LYS:H	36:YT:35:LYS:HD2	1.83	0.43
1:QA:1223:C:P	19:QS:78:ARG:HH12	2.41	0.43
1:QA:927:G:H2'	1:QA:928:G:O4'	2.18	0.43
1:QA:937:A:O5'	1:QA:937:A:H8	2.02	0.43
2:QB:167:PRO:HG3	2:QB:188:ALA:HB2	2.00	0.43
2:QB:74:LYS:O	2:QB:78:GLN:HG3	2.18	0.43
3:QC:81:GLY:O	3:QC:85:ARG:HB2	2.18	0.43
4:QD:133:VAL:HG12	4:QD:135:LEU:H	1.83	0.43
7:QG:113:GLU:HG2	7:QG:113:GLU:H	1.39	0.43
7:QG:9:VAL:HG13	7:QG:94:ARG:NH2	2.27	0.43
11:QK:19:ALA:HB2	11:QK:32:ILE:HG22	2.00	0.43
20:QT:16:HIS:O	20:QT:19:SER:HB3	2.18	0.43
22:RA:1614:A:N1	39:RW:91:GLY:HA2	2.34	0.43
22:RA:2364:C:H2'	22:RA:2365:G:O4'	2.18	0.43
22:RA:2518:A:H4'	22:RA:2519:U:OP1	2.14	0.43
22:RA:1462:C:H4'	22:RA:2703:C:H5'	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2766:G:H2'	22:RA:2766:G:N3	2.34	0.43
22:RA:888:C:C2'	22:RA:889:C:H4'	2.48	0.43
25:RE:119:ARG:HD3	25:RE:160:TYR:HB2	2.00	0.43
13:QM:3:ARG:NH1	27:RG:113:ARG:NH2	2.66	0.43
29:RI:94:ALA:N	29:RI:116:LEU:HD13	2.31	0.43
29:RI:57:ARG:O	29:RI:61:ARG:HG2	2.18	0.43
30:RN:33:LEU:HA	30:RN:38:HIS:CE1	2.53	0.43
33:RQ:136:ALA:O	33:RQ:138:ASP:N	2.46	0.43
22:RA:960:A:H61	33:RQ:82:ARG:NH1	2.16	0.43
1:QA:1446:A:C5	36:RT:118:ARG:NH1	2.87	0.43
36:RT:19:LEU:HA	36:RT:20:PRO:HD3	1.86	0.43
22:RA:483:A:H1'	41:RY:59:GLY:O	2.19	0.43
41:RY:97:ARG:HE	41:RY:98:VAL:HB	1.83	0.43
42:RZ:48:PHE:O	42:RZ:52:SER:HB3	2.18	0.43
1:XA:1312:G:H5''	47:Y4:67:TYR:OH	2.17	0.43
1:XA:1318:A:H4'	19:XS:11:VAL:CG1	2.48	0.43
1:XA:1460:A:H2'	1:XA:1461:G:O4'	2.18	0.43
1:XA:250:A:H5'	1:XA:252:U:O4'	2.18	0.43
1:XA:256:U:H2'	1:XA:257:G:O4'	2.18	0.43
1:XA:374:A:C6	1:XA:375:U:C4	3.06	0.43
2:XB:80:ILE:HG21	2:XB:212:GLN:HA	2.00	0.43
3:XC:72:LYS:HB3	3:XC:75:VAL:HG23	2.00	0.43
4:XD:100:ARG:NH1	4:XD:137:SER:HB3	2.33	0.43
10:XJ:54:PHE:CZ	10:XJ:55:LYS:HE3	2.54	0.43
12:XL:62:SER:C	12:XL:64:TYR:H	2.21	0.43
13:XM:14:ARG:H	13:XM:44:ARG:CD	2.25	0.43
17:XQ:62:SER:HB3	17:XQ:72:ARG:HE	1.84	0.43
22:YA:467:G:OP2	50:Y7:34:ARG:NH1	2.51	0.43
22:YA:2756:U:H5''	52:Y9:19:ARG:HB3	2.00	0.43
52:Y9:1:MET:O	52:Y9:34:GLN:HG2	2.18	0.43
22:YA:2638:G:N1	22:YA:2776:A:OP2	2.27	0.43
22:YA:528:A:C3'	22:YA:528:A:C8	3.02	0.43
22:YA:547:A:H2'	22:YA:548:A:C8	2.54	0.43
22:YA:951:C:C2'	22:YA:952:G:H5'	2.48	0.43
24:YD:92:ILE:HD12	24:YD:104:TYR:CD2	2.54	0.43
27:YG:67:LYS:O	27:YG:67:LYS:HD2	2.17	0.43
30:YN:112:LEU:HG	30:YN:112:LEU:O	2.17	0.43
38:YV:52:VAL:O	38:YV:54:GLY:N	2.51	0.43
40:YX:72:LYS:HG2	40:YX:73:ARG:O	2.18	0.43
42:YZ:179:ASP:OD1	42:YZ:180:VAL:N	2.51	0.43
42:YZ:62:PRO:C	42:YZ:64:GLY:H	2.21	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:319:G:C2	1:QA:320:C:C2	3.07	0.43
1:QA:397:A:H3'	1:QA:397:A:N3	2.32	0.43
1:QA:402:G:C6	1:QA:403:C:C4	3.06	0.43
1:QA:26:A:N6	1:QA:558:G:O2'	2.48	0.43
1:QA:713:G:OP1	24:RD:166:GLN:NE2	2.50	0.43
1:QA:768:A:N3	1:QA:1512:U:O2'	2.50	0.43
1:QA:904:C:C4	1:QA:905:U:C4	3.07	0.43
1:QA:890:G:O2'	1:QA:906:G:O6	2.25	0.43
1:QA:985:C:H2'	1:QA:986:A:C8	2.52	0.43
8:QH:13:ILE:O	8:QH:17:THR:HG23	2.19	0.43
17:QQ:60:ILE:HB	17:QQ:74:LEU:HD23	2.00	0.43
22:RA:1265:A:H3'	48:R5:19:ARG:NH1	2.33	0.43
22:RA:1492:G:H3'	22:RA:1493:C:H5'	1.99	0.43
22:RA:1727:U:H2'	22:RA:1728:G:O4'	2.18	0.43
22:RA:240:G:H2'	22:RA:241:A:C8	2.53	0.43
22:RA:2458:G:H4'	22:RA:2459:A:H8	1.82	0.43
22:RA:333:G:H5''	22:RA:334:C:OP2	2.18	0.43
22:RA:634:C:H2'	22:RA:635:C:H6	1.83	0.43
22:RA:668:G:H2'	22:RA:670:A:H62	1.83	0.43
22:RA:797:C:H2'	22:RA:798:G:C8	2.53	0.43
23:RB:80:U:C2	23:RB:81:G:N2	2.87	0.43
22:RA:2224:G:OP1	24:RD:268:ARG:HD3	2.18	0.43
29:RI:4:ILE:HA	29:RI:18:VAL:HA	2.01	0.43
22:RA:1952:A:C2	31:RO:22:ILE:HG23	2.54	0.43
1:XA:1355:G:H2'	1:XA:1356:G:C8	2.52	0.43
1:XA:1430:C:H2'	1:XA:1431:C:C6	2.53	0.43
1:XA:1480:G:C6	1:XA:1481:U:C2	3.06	0.43
1:XA:1489:G:H2'	1:XA:1490:C:O4'	2.18	0.43
1:XA:258:G:H1	1:XA:268:C:H42	1.65	0.43
1:XA:373:A:H2'	1:XA:374:A:C8	2.53	0.43
1:XA:657:G:C2	1:XA:658:G:C8	3.06	0.43
1:XA:883:C:C2'	1:XA:884:U:H5'	2.48	0.43
1:XA:903:G:H2'	1:XA:904:C:H6	1.83	0.43
2:XB:100:GLY:N	2:XB:176:GLU:OE2	2.47	0.43
4:XD:153:ARG:NH1	4:XD:181:MET:HB2	2.32	0.43
9:XI:118:LYS:O	9:XI:119:ALA:HB3	2.18	0.43
12:XL:110:VAL:CG2	12:XL:120:TYR:HB3	2.48	0.43
12:XL:58:VAL:O	12:XL:65:GLU:HA	2.18	0.43
12:XL:78:GLN:HB3	12:XL:79:GLU:H	1.68	0.43
14:YN:29:ARG:HD3	14:YN:40:CYS:HB2	1.99	0.43
20:XT:98:PRO:C	20:XT:100:ILE:H	2.21	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:Y0:27:GLU:HB2	43:Y0:69:PHE:CD1	2.53	0.43
43:Y0:37:LEU:HG	43:Y0:60:PHE:HA	2.01	0.43
13:XM:62:ASN:CG	47:Y4:49:PHE:HD2	2.20	0.43
22:YA:1225:C:O2'	38:YV:85:LYS:HA	2.19	0.43
22:YA:1257:C:H4'	26:YF:83:PHE:CE2	2.53	0.43
22:YA:1812:A:H2'	22:YA:1813:G:C8	2.53	0.43
22:YA:1906:G:C2	22:YA:1925:C:O2	2.71	0.43
22:YA:199:A:O2'	22:YA:2433:A:N6	2.41	0.43
22:YA:228:A:C6	22:YA:230:U:C2	3.07	0.43
22:YA:2467:C:O2'	22:YA:2468:G:H5'	2.18	0.43
22:YA:2595:G:H5''	22:YA:2596:U:OP2	2.18	0.43
22:YA:2680:C:H2'	22:YA:2681:C:C5	2.54	0.43
22:YA:2783:G:O5'	22:YA:2783:G:H8	2.02	0.43
22:YA:2881:C:H2'	22:YA:2882:A:C8	2.53	0.43
22:YA:323:G:H1'	22:YA:1205:U:O2	2.19	0.43
22:YA:440:G:H2'	22:YA:441:U:O4'	2.18	0.43
22:YA:593:G:H1	22:YA:664:C:N4	2.17	0.43
22:YA:78:A:H2'	22:YA:79:G:C8	2.53	0.43
22:YA:802:A:H5''	22:YA:803:U:OP2	2.19	0.43
22:YA:819:A:C4	22:YA:1189:A:C2	3.06	0.43
22:YA:825:C:H2'	22:YA:826:U:O4'	2.18	0.43
22:YA:817:C:H4'	22:YA:932:G:C5	2.53	0.43
25:YE:188:VAL:HG13	25:YE:188:VAL:O	2.19	0.43
25:YE:87:GLU:O	25:YE:89:ASP:N	2.50	0.43
26:YF:33:LEU:HD12	26:YF:33:LEU:HA	1.86	0.43
31:YO:88:ASN:ND2	31:YO:92:GLU:HB2	2.22	0.43
35:YS:39:ILE:HD12	35:YS:85:VAL:HG11	2.00	0.43
38:YV:55:ALA:HB2	38:YV:101:GLY:HA2	1.99	0.43
40:YX:53:LYS:H	40:YX:82:GLN:HB3	1.83	0.43
42:YZ:44:PHE:O	42:YZ:48:PHE:N	2.48	0.43
1:QA:1004:A:H1'	1:QA:1036:G:N2	2.33	0.43
1:QA:1026:G:N2	1:QA:1028:C:OP1	2.52	0.43
1:QA:1314:C:P	19:QS:6:LYS:HD2	2.59	0.43
1:QA:1347:G:N2	1:QA:1374:A:OP2	2.43	0.43
1:QA:1376:U:H2'	1:QA:1377:A:C8	2.53	0.43
1:QA:166:G:H2'	1:QA:167:G:H8	1.80	0.43
1:QA:296:U:H2'	1:QA:297:G:C8	2.53	0.43
1:QA:895:G:H1	1:QA:904:C:H42	1.66	0.43
1:QA:542:G:H5'	4:QD:41:GLY:HA3	2.00	0.43
10:QJ:76:ASN:HA	10:QJ:77:PRO:HD2	1.85	0.43
16:QP:20:VAL:HG21	16:QP:32:TYR:CE1	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1024:G:N1	22:RA:1025:G:C6	2.87	0.43
22:RA:11:G:H2'	22:RA:12:U:H5'	2.00	0.43
22:RA:1323:U:OP1	39:RW:98:LYS:NZ	2.43	0.43
22:RA:1686:C:C2	22:RA:1703:G:N2	2.86	0.43
22:RA:1689:A:H2'	22:RA:1690:A:C8	2.54	0.43
22:RA:1954:G:O2'	22:RA:1955:U:OP2	2.29	0.43
22:RA:2637:U:C4	22:RA:2638:G:C6	3.06	0.43
22:RA:2693:A:H2'	22:RA:2694:G:H8	1.84	0.43
22:RA:2744:G:H21	28:RH:143:GLN:NE2	2.16	0.43
22:RA:429:A:C6	22:RA:430:G:N1	2.87	0.43
22:RA:702:G:C6	22:RA:703:U:C4	3.06	0.43
22:RA:738:G:C6	22:RA:739:G:C2	3.06	0.43
23:RB:19:G:H2'	23:RB:20:C:O4'	2.19	0.43
36:RT:1:MET:O	36:RT:3:ARG:HG2	2.19	0.43
41:RY:47:LYS:O	41:RY:49:VAL:N	2.51	0.43
41:RY:46:LYS:HB2	41:RY:61:ILE:HG22	2.00	0.43
1:XA:812:C:H1'	1:XA:813:U:OP2	2.18	0.43
2:XB:215:LEU:HA	2:XB:215:LEU:HD22	1.73	0.43
1:XA:825:G:H1'	8:XH:2:LEU:HD21	2.00	0.43
10:XJ:44:VAL:HG13	10:XJ:66:ARG:HG2	1.99	0.43
15:XO:25:THR:HG21	15:XO:70:LEU:HB2	2.01	0.43
45:Y2:15:LYS:H	45:Y2:67:LYS:CE	2.32	0.43
46:Y3:51:ALA:HA	46:Y3:54:VAL:HG12	2.00	0.43
47:Y4:43:TYR:CD2	47:Y4:43:TYR:C	2.92	0.43
34:YR:33:ARG:HH21	48:Y5:55:ARG:HG2	1.82	0.43
22:YA:1495:A:O2'	22:YA:1579:A:H5''	2.18	0.43
22:YA:1652:A:C2'	22:YA:1653:G:H5'	2.49	0.43
22:YA:1831:G:H1	22:YA:1974:C:H42	1.67	0.43
22:YA:2373:G:H1	22:YA:2380:C:H42	1.65	0.43
22:YA:243:U:O2'	22:YA:244:A:H5'	2.18	0.43
22:YA:2648:C:H2'	22:YA:2649:U:C6	2.53	0.43
22:YA:2653:U:O2'	28:YH:110:SER:HB2	2.18	0.43
22:YA:2792:G:C6	22:YA:2805:G:C2	3.06	0.43
22:YA:2854:G:C6	22:YA:2864:G:N1	2.86	0.43
22:YA:285:C:H2'	22:YA:286:C:C6	2.53	0.43
22:YA:654:A:O2'	22:YA:654(A):G:OP2	2.34	0.43
22:YA:707:G:H8	22:YA:707:G:O5'	2.01	0.43
22:YA:724:U:H2'	22:YA:725:G:O4'	2.18	0.43
24:YD:132:PRO:HG3	24:YD:190:TYR:CE1	2.54	0.43
22:YA:1657:C:H4'	25:YE:133:LYS:HB3	2.00	0.43
26:YF:64:ILE:HG23	26:YF:65:TRP:CD1	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:YO:64:ARG:HG2	31:YO:79:PHE:CD1	2.53	0.43
32:YP:83:VAL:O	32:YP:114:ILE:HA	2.19	0.43
41:YY:67:LEU:HA	41:YY:67:LEU:HD12	1.77	0.43
1:QA:1161:C:H2'	1:QA:1162:C:C6	2.51	0.43
1:QA:1337:G:H4'	1:QA:1338:G:OP1	2.19	0.43
1:QA:390:C:O3'	16:QP:28:ARG:NH2	2.47	0.43
1:QA:986:A:O2'	19:QS:55:LYS:O	2.37	0.43
2:QB:8:LYS:HE3	2:QB:11:LEU:HB3	2.01	0.43
2:QB:217:ARG:HE	2:QB:217:ARG:HB2	1.29	0.43
3:QC:11:ARG:HB3	3:QC:15:THR:HB	2.00	0.43
9:QI:116:LYS:HE2	9:QI:122:ALA:HB2	2.01	0.43
13:QM:3:ARG:HG2	47:R4:34:GLU:CG	2.47	0.43
17:QQ:63:ARG:HG2	17:QQ:64:PRO:HD2	2.00	0.43
18:QR:37:VAL:HG22	18:QR:78:LEU:HB3	2.01	0.43
43:R0:53:MET:HA	43:R0:58:THR:O	2.19	0.43
51:R8:58:ILE:HA	51:R8:61:LEU:HD21	2.01	0.43
22:RA:1268:A:H2'	22:RA:1269:A:O4'	2.18	0.43
22:RA:1523:U:O5'	22:RA:1523:U:H6	2.01	0.43
22:RA:752:A:C5	22:RA:1781:C:O4'	2.72	0.43
22:RA:2562:U:O2'	31:RO:23:ARG:HD3	2.18	0.43
22:RA:2693:A:H2'	22:RA:2694:G:C8	2.54	0.43
22:RA:493:G:H2'	22:RA:494:G:O4'	2.19	0.43
22:RA:948:G:N2	22:RA:970:C:O2	2.51	0.43
29:RI:115:ALA:C	29:RI:117:GLU:H	2.18	0.43
39:RW:20:VAL:HG22	39:RW:47:VAL:HG21	2.00	0.43
1:XA:1235:U:H2'	1:XA:1236:A:O4'	2.18	0.43
1:XA:1314:C:OP2	19:XS:4:SER:OG	2.37	0.43
1:XA:181:G:O2'	1:XA:182:U:O5'	2.36	0.43
1:XA:271:C:H2'	1:XA:272:C:H6	1.83	0.43
1:XA:731:G:OP1	1:XA:766:A:H1'	2.18	0.43
1:XA:734:G:C2	1:XA:735:C:C2	3.07	0.43
1:XA:914:A:H2'	1:XA:915:A:C8	2.51	0.43
1:XA:970:C:N4	9:XI:128:ARG:OXT	2.51	0.43
2:XB:172:ILE:O	2:XB:175:ARG:HB3	2.18	0.43
2:XB:37:ASN:C	2:XB:39:ILE:H	2.20	0.43
9:XI:8:GLY:HA2	9:XI:79:LEU:HD12	2.01	0.43
45:Y2:47:ASN:HB2	45:Y2:48:HIS:H	1.50	0.43
50:Y7:47:ARG:HB2	50:Y7:48:LYS:H	1.60	0.43
22:YA:1313:U:H2'	22:YA:1313:U:O2	2.18	0.43
22:YA:1827:C:H2'	22:YA:1828:G:O4'	2.18	0.43
22:YA:1920:C:H6	22:YA:1920:C:O5'	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2094:G:OP1	29:YI:22:LYS:HD2	2.17	0.43
22:YA:2186:G:H2'	22:YA:2187:G:C8	2.54	0.43
22:YA:2205:C:O5'	22:YA:2205:C:H6	2.02	0.43
22:YA:2350:C:H2'	22:YA:2351:G:O4'	2.18	0.43
22:YA:2531:A:H2'	22:YA:2532:G:H8	1.83	0.43
22:YA:2634:G:N2	22:YA:2785:C:C2	2.87	0.43
22:YA:2764:A:N7	22:YA:2766:G:C6	2.86	0.43
22:YA:493:G:H2'	22:YA:494:G:O4'	2.18	0.43
29:YI:77:LEU:HD12	29:YI:104:GLN:HE22	1.83	0.43
31:YO:88:ASN:OD1	31:YO:90:GLN:HB2	2.19	0.43
32:YP:113:LYS:HG2	32:YP:115:LEU:HD23	2.01	0.43
32:YP:126:VAL:HG22	32:YP:145:PRO:HG2	2.01	0.43
42:YZ:58:VAL:O	42:YZ:60:GLU:N	2.50	0.43
1:QA:1291:G:H4'	9:QI:38:GLN:O	2.18	0.43
1:QA:266:G:H5''	1:QA:267:C:H5	1.81	0.43
1:QA:376:G:H2'	1:QA:377:G:H8	1.84	0.43
4:QD:135:LEU:HD13	4:QD:135:LEU:HA	1.86	0.43
13:QM:44:ARG:HB2	13:QM:47:ASP:OD2	2.19	0.43
15:QO:17:ARG:HD3	15:QO:26:GLU:HG3	1.99	0.43
1:QA:1317:C:C2	19:QS:37:ARG:NH2	2.86	0.43
22:RA:1025:G:C5	22:RA:1135:C:H1'	2.54	0.43
22:RA:1173:G:H4'	22:RA:1174:A:C5	2.54	0.43
22:RA:1675:C:O5'	22:RA:1675:C:H6	2.01	0.43
22:RA:1726:G:H2'	22:RA:1727:U:O4'	2.19	0.43
22:RA:1799:G:H5'	22:RA:1819:A:H61	1.83	0.43
22:RA:2257:U:H2'	22:RA:2258:C:C6	2.53	0.43
22:RA:563:G:H22	22:RA:578:A:H2	1.66	0.43
22:RA:706:A:C2	22:RA:707:G:H1'	2.53	0.43
24:RD:35:LYS:HE3	24:RD:64:ILE:C	2.39	0.43
25:RE:36:ARG:HH21	25:RE:88:GLY:HA2	1.84	0.43
26:RF:9:ILE:HG23	26:RF:20:LEU:O	2.18	0.43
29:RI:128:LEU:HA	29:RI:128:LEU:HD13	1.57	0.43
30:RN:58:ASP:HB3	30:RN:95:PRO:HB3	2.00	0.43
32:RP:90:ARG:HB3	32:RP:91:PHE:H	1.68	0.43
37:RU:69:CYS:HB3	37:RU:106:PHE:CZ	2.53	0.43
41:RY:55:TYR:CD2	41:RY:55:TYR:N	2.86	0.43
1:XA:979:C:OP1	1:XA:1223:C:N4	2.52	0.43
1:XA:1422:G:H1	1:XA:1478:C:H42	1.65	0.43
1:XA:1504:G:OP1	1:XA:1507:A:H4'	2.19	0.43
13:XM:4:ILE:HG22	13:XM:5:ALA:N	2.34	0.43
22:YA:1697:G:OP2	22:YA:1698:A:O2'	2.23	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1932:A:H2	22:YA:1969:A:C2	2.36	0.43
22:YA:2133:G:H1'	22:YA:2158:A:N6	2.31	0.43
22:YA:2256:G:C6	22:YA:2257:U:C4	3.07	0.43
22:YA:2432:A:H2'	22:YA:2433:A:C8	2.54	0.43
22:YA:465:G:C6	22:YA:466:A:N6	2.87	0.43
22:YA:704:G:H2'	22:YA:726:G:H22	1.83	0.43
22:YA:748:G:OP2	39:YW:88:ARG:HG3	2.19	0.43
25:YE:119:ARG:HG2	25:YE:160:TYR:HB2	2.00	0.43
29:YI:37:VAL:HG12	29:YI:38:LEU:HD12	2.01	0.43
34:YR:34:ILE:HD13	34:YR:34:ILE:HA	1.72	0.43
34:YR:70:LEU:HA	34:YR:70:LEU:HD23	1.84	0.43
41:YY:80:GLY:O	41:YY:81:LYS:HG3	2.18	0.43
41:YY:87:LYS:HB2	41:YY:87:LYS:NZ	2.34	0.43
1:QA:1129:C:C4'	1:QA:1130:A:H5'	2.49	0.43
1:QA:1127:G:N2	1:QA:1145:C:O2'	2.52	0.43
1:QA:1346:A:C4	7:QG:10:ARG:NH1	2.86	0.43
1:QA:1522:U:H2'	1:QA:1523:G:C8	2.53	0.43
1:QA:486:U:H2'	1:QA:487:A:H8	1.84	0.43
1:QA:625:G:H2'	1:QA:626:U:C6	2.53	0.43
1:QA:781:A:C8	1:QA:782:A:C8	3.07	0.43
8:QH:105:ARG:HA	8:QH:105:ARG:HD3	1.78	0.43
8:QH:25:ASP:OD1	8:QH:25:ASP:N	2.50	0.43
11:QK:38:ASN:HA	11:QK:39:PRO:HD3	1.88	0.43
17:QQ:45:HIS:NE2	17:QQ:47:PRO:HG3	2.34	0.43
43:R0:7:LEU:N	43:R0:7:LEU:HD23	2.34	0.43
22:RA:1203:G:H3'	22:RA:1204:A:H5''	2.01	0.43
22:RA:1360:A:C6	22:RA:1372:U:C4	3.07	0.43
22:RA:1489:U:O3'	22:RA:1490:A:H8	2.01	0.43
22:RA:1510:A:N3	22:RA:1510:A:H2'	2.33	0.43
22:RA:2066:C:H2'	22:RA:2067:G:H5'	2.01	0.43
22:RA:2282:G:H5''	22:RA:2283:C:O4'	2.18	0.43
22:RA:2532:G:H2'	22:RA:2533:A:C8	2.53	0.43
22:RA:2867:G:O2'	22:RA:2868:A:O5'	2.30	0.43
22:RA:492:A:H2'	22:RA:493:G:O4'	2.19	0.43
22:RA:508:G:O2'	22:RA:509:C:P	2.77	0.43
23:RB:29:A:H2'	23:RB:30:C:C6	2.54	0.43
26:RF:23:ASP:OD1	26:RF:23:ASP:N	2.48	0.43
32:RP:18:ARG:HD2	32:RP:27:HIS:CD2	2.54	0.43
33:RQ:20:ALA:HA	33:RQ:98:LYS:HB3	2.00	0.43
22:RA:1188:U:C4'	38:RV:79:VAL:HG22	2.48	0.43
42:RZ:62:PRO:C	42:RZ:64:GLY:N	2.72	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1010:G:N2	1:XA:1020:U:H1'	2.34	0.43
1:XA:1213:A:C5	1:XA:1215:G:C4	3.06	0.43
1:XA:1219:U:H2'	1:XA:1220:G:O4'	2.18	0.43
1:XA:1439:C:N4	1:XA:1462:G:H1	2.17	0.43
1:XA:522:C:H41	12:XL:53:ARG:HH22	1.67	0.43
1:XA:627:G:O2'	1:XA:628:G:H5'	2.19	0.43
1:XA:662:G:H2'	1:XA:663:A:C8	2.53	0.43
2:XB:7:VAL:HG21	2:XB:217:ARG:NH1	2.34	0.43
7:XG:140:ASP:HA	7:XG:143:ARG:NH1	2.34	0.43
12:XL:59:ARG:NH1	12:XL:65:GLU:OE2	2.51	0.43
14:XN:27:CYS:SG	14:XN:29:ARG:HB2	2.58	0.43
45:Y2:17:SER:HB3	45:Y2:67:LYS:HE3	2.00	0.43
19:XS:5:LEU:CG	47:Y4:66:SER:CB	2.96	0.43
49:Y6:28:ARG:HH21	49:Y6:30:THR:HG23	1.84	0.43
22:YA:1360:A:N6	22:YA:1372:U:C5	2.87	0.43
22:YA:1449:A:H5'	22:YA:1449(A):G:OP2	2.19	0.43
22:YA:1903:G:OP2	24:YD:241:PRO:HB2	2.19	0.43
22:YA:2063:C:C4	22:YA:2064:C:C5	3.07	0.43
22:YA:2475:C:H3'	22:YA:2476:A:H5''	1.99	0.43
22:YA:382:G:H1	22:YA:392:C:H42	1.67	0.43
22:YA:950:G:H2'	22:YA:951:C:H6	1.84	0.43
25:YE:36:ARG:HH21	25:YE:88:GLY:CA	2.32	0.43
27:YG:145:THR:O	27:YG:147:ASP:N	2.44	0.43
32:YP:15:ARG:O	32:YP:17:LYS:HG3	2.19	0.43
32:YP:30:THR:O	32:YP:33:ARG:HB2	2.18	0.43
32:YP:5:ASP:O	32:YP:6:LEU:C	2.57	0.43
1:QA:1126:U:H6	1:QA:1126:U:H2'	1.66	0.43
1:QA:1239:A:O2'	1:QA:1298:C:N4	2.50	0.43
1:QA:147:G:N2	1:QA:148:G:C4	2.87	0.43
1:QA:444:C:H2'	1:QA:445:G:C8	2.49	0.43
1:QA:67:C:H2'	1:QA:68:G:C8	2.54	0.43
5:QE:18:ARG:HE	5:QE:18:ARG:HB3	1.51	0.43
9:QI:95:LYS:HZ1	9:QI:96:LEU:HD13	1.83	0.43
12:QL:85:ILE:HD12	12:QL:85:ILE:HA	1.75	0.43
15:QO:25:THR:HG21	15:QO:70:LEU:HB2	2.00	0.43
20:QT:84:LEU:HA	20:QT:84:LEU:HD23	1.86	0.43
53:QV:4:G:N3	53:QV:5:G:C8	2.87	0.43
22:RA:1075:C:H2'	22:RA:1076:C:C4'	2.49	0.43
22:RA:1203:G:O6	22:RA:1204:A:N6	2.52	0.43
22:RA:1834:U:O5'	22:RA:1834:U:H6	2.02	0.43
22:RA:1858:G:H1'	22:RA:1884:A:H61	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:242:G:H2'	51:R8:5:LYS:HA	2.01	0.43
22:RA:2516:G:C6	22:RA:2569:G:C2	3.07	0.43
22:RA:2811:G:H8	22:RA:2811:G:H5''	1.83	0.43
22:RA:710:G:H2'	22:RA:711:G:H8	1.84	0.43
23:RB:49:C:H2'	23:RB:50:G:C8	2.54	0.43
25:RE:179:GLU:HB3	25:RE:181:LEU:HD22	1.99	0.43
26:RF:34:TRP:CE3	26:RF:35:GLU:HG2	2.54	0.43
27:RG:97:ASP:HA	27:RG:100:TRP:HD1	1.84	0.43
30:RN:61:ARG:HA	30:RN:61:ARG:HE	1.82	0.43
32:RP:65:ARG:O	32:RP:68:GLN:NE2	2.50	0.43
33:RQ:104:PHE:CE1	33:RQ:125:LEU:HD11	2.54	0.43
33:RQ:116:GLU:O	33:RQ:120:ILE:HG12	2.17	0.43
35:RS:88:ASP:CG	35:RS:89:ARG:H	2.21	0.43
36:RT:107:ASP:O	36:RT:110:ILE:HG22	2.19	0.43
31:RO:104:ARG:HD3	36:RT:36:GLU:OE2	2.19	0.43
1:XA:977:A:C8	1:XA:1223:C:N3	2.78	0.43
1:XA:1441:G:N2	1:XA:1461:G:O6	2.51	0.43
1:XA:154:C:H42	1:XA:167:G:H1	1.66	0.43
1:XA:181:G:HO2'	1:XA:182:U:P	2.42	0.43
1:XA:22:G:C5	1:XA:23:C:C4	3.07	0.43
1:XA:131:C:O2'	1:XA:262:A:N3	2.45	0.43
1:XA:427:U:C4	1:XA:428:G:C6	3.06	0.43
1:XA:719:C:H1'	18:XR:49:LYS:HB3	2.01	0.43
1:XA:741:G:H2'	1:XA:742:G:O4'	2.19	0.43
1:XA:953:G:C2	1:XA:954:G:H1'	2.53	0.43
2:XB:212:GLN:NE2	2:XB:216:SER:HB2	2.34	0.43
5:XE:69:VAL:O	5:XE:71:LEU:N	2.51	0.43
13:XM:3:ARG:HG2	47:Y4:34:GLU:CB	2.49	0.43
14:YN:6:LEU:HD23	14:YN:23:ARG:HH22	1.83	0.43
48:Y5:58:LEU:HB2	48:Y5:60:VAL:H	1.83	0.43
48:Y5:58:LEU:HD13	48:Y5:60:VAL:HB	2.01	0.43
22:YA:1767:C:H2'	22:YA:1768:U:O4'	2.18	0.43
22:YA:2335:A:O2'	22:YA:2336:A:H2'	2.18	0.43
22:YA:2634:G:H1	22:YA:2784:C:H42	1.67	0.43
22:YA:671:C:H2'	22:YA:672:C:H6	1.84	0.43
22:YA:846:C:C2	22:YA:847:U:H5	2.37	0.43
22:YA:898:C:H5'	22:YA:899:A:OP2	2.18	0.43
22:YA:950:G:H1	22:YA:967:C:N4	2.16	0.43
22:YA:978:G:H2'	22:YA:979:G:O4'	2.19	0.43
22:YA:2788:C:OP1	25:YE:61:ARG:NH1	2.51	0.43
32:YP:125:VAL:CG1	32:YP:138:LEU:HD21	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YP:62:LEU:HB2	51:Y8:30:ARG:NH1	2.34	0.43
42:YZ:108:PRO:HB2	42:YZ:111:VAL:HG23	2.01	0.43
1:QA:1119:C:H2'	1:QA:1120:G:C8	2.53	0.43
1:QA:1172:C:H2'	1:QA:1173:G:H8	1.81	0.43
1:QA:1200:C:O2'	1:QA:1201:A:OP2	2.34	0.43
1:QA:1492:A:C6	1:QA:1493:A:N1	2.86	0.43
1:QA:530:G:HO2'	1:QA:531:U:P	2.40	0.43
8:QH:101:PRO:HG2	8:QH:133:LEU:HD11	2.01	0.43
9:QI:112:LYS:HD3	9:QI:113:LYS:O	2.18	0.43
1:QA:754:C:H5'	15:QO:72:ARG:NH2	2.34	0.43
18:QR:29:PHE:CD2	18:QR:29:PHE:N	2.87	0.43
18:QR:53:ARG:HH21	18:QR:60:ALA:N	2.17	0.43
19:QS:41:VAL:HG12	19:QS:44:MET:HB2	2.01	0.43
49:R6:7:ILE:HG13	49:R6:8:LYS:H	1.84	0.43
22:RA:242:G:H3'	51:R8:6:THR:HG23	1.99	0.43
22:RA:1265:A:C8	22:RA:1267:U:C2	3.07	0.43
22:RA:1303:G:H1	22:RA:1625:C:H42	1.67	0.43
22:RA:176:G:C6	22:RA:177:G:N7	2.87	0.43
22:RA:27:G:H1'	22:RA:513:A:H62	1.84	0.43
22:RA:372:G:N2	22:RA:400:G:H2'	2.34	0.43
22:RA:784:A:O4'	24:RD:227:ASN:ND2	2.52	0.43
25:RE:117:MET:HB2	25:RE:122:PHE:O	2.18	0.43
25:RE:116:VAL:HG11	25:RE:138:PRO:HB3	2.01	0.43
29:RI:88:ILE:H	29:RI:88:ILE:HG12	1.50	0.43
30:RN:89:LYS:O	30:RN:93:THR:HG22	2.19	0.43
41:RY:54:LYS:HB3	41:RY:55:TYR:CD2	2.53	0.43
42:RZ:163:LEU:HG	42:RZ:163:LEU:H	1.50	0.43
42:RZ:59:LEU:HB2	42:RZ:60:GLU:H	1.52	0.43
1:XA:1087:G:N2	1:XA:1099:G:H1'	2.33	0.43
1:XA:1240:U:OP2	7:XG:116:ALA:N	2.52	0.43
1:XA:1312:G:H5''	47:Y4:67:TYR:CE1	2.54	0.43
1:XA:1347:G:C8	9:XI:107:ARG:HB3	2.54	0.43
1:XA:622:A:C8	1:XA:623:C:C6	3.07	0.43
1:XA:690:G:C6	1:XA:691:G:C6	3.07	0.43
3:XC:149:ALA:HA	3:XC:201:TYR:O	2.18	0.43
4:XD:196:LEU:O	4:XD:198:VAL:N	2.51	0.43
12:XL:28:LYS:HB3	12:XL:30:ALA:HB2	2.01	0.43
12:XL:44:THR:HA	12:XL:45:PRO:HD3	1.68	0.43
1:XA:1220:G:H21	19:XS:54:GLY:CA	2.32	0.43
46:Y3:7:LYS:HE2	46:Y3:32:GLN:O	2.19	0.43
47:Y4:6:HIS:HA	47:Y4:7:PRO:HD2	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:Y6:41:PRO:HG2	49:Y6:45:LYS:N	2.29	0.43
22:YA:1059:G:H3'	22:YA:1060:U:H5''	2.01	0.43
22:YA:1084:A:H5'	22:YA:1085:A:OP2	2.18	0.43
22:YA:1289:C:C2	22:YA:1290:C:C5	3.07	0.43
22:YA:1339:G:H5''	40:YX:16:LYS:HD3	2.01	0.43
22:YA:2314:C:H2'	22:YA:2315:G:C8	2.53	0.43
22:YA:2773:C:P	25:YE:166:THR:HG1	2.42	0.43
22:YA:425:G:N2	22:YA:426:C:C2	2.87	0.43
22:YA:630:G:H4'	22:YA:640:C:H4'	2.00	0.43
22:YA:729:G:O6	24:YD:209:ALA:N	2.41	0.43
22:YA:933:A:C5	22:YA:934:G:C8	3.07	0.43
23:YB:77:U:H2'	23:YB:78:A:H5'	2.01	0.43
25:YE:14:ILE:HG23	25:YE:15:PHE:N	2.34	0.43
25:YE:4:ILE:HD12	25:YE:28:ALA:HB1	2.01	0.43
33:YQ:45:GLN:H	33:YQ:45:GLN:CD	2.22	0.43
35:YS:83:LYS:HZ1	35:YS:109:GLY:HA2	1.83	0.43
38:YV:64:HIS:ND1	38:YV:92:THR:HG22	2.34	0.43
42:YZ:133:ILE:H	42:YZ:133:ILE:HD12	1.84	0.43
42:YZ:144:LEU:HD11	42:YZ:149:SER:CB	2.49	0.43
1:QA:1306:A:C6	1:QA:1307:U:C2	3.06	0.42
1:QA:1394:A:N6	1:QA:1501:C:H5'	2.34	0.42
1:QA:451:A:N7	1:QA:481:G:N1	2.67	0.42
2:QB:21:ARG:HG3	2:QB:38:GLY:O	2.19	0.42
4:QD:108:LEU:HD21	4:QD:183:GLY:HA3	2.01	0.42
9:QI:17:VAL:HG11	9:QI:81:ILE:HD13	2.00	0.42
14:QN:47:LEU:HD23	14:QN:47:LEU:HA	1.74	0.42
49:R6:8:LYS:O	49:R6:27:LYS:HA	2.18	0.42
22:RA:1204:A:C2	22:RA:1241:A:C2	3.07	0.42
22:RA:1319:G:H1	22:RA:1333:C:N4	2.16	0.42
22:RA:1527:G:H2'	22:RA:1543:A:N1	2.32	0.42
22:RA:2376:A:H2'	22:RA:2377:A:O4'	2.19	0.42
22:RA:264:C:C2'	22:RA:265:A:H5''	2.49	0.42
22:RA:2676:C:H2'	22:RA:2677:G:H8	1.84	0.42
22:RA:2676:C:O2	22:RA:2732:G:N2	2.44	0.42
22:RA:360:G:H2'	22:RA:361:G:O4'	2.19	0.42
22:RA:370:G:H4'	22:RA:371:A:OP2	2.19	0.42
22:RA:394:A:H5''	22:RA:395:U:OP2	2.18	0.42
22:RA:452:G:H2'	22:RA:453:C:H6	1.83	0.42
22:RA:718:A:H3'	22:RA:719:C:C6	2.54	0.42
22:RA:86:C:H2'	22:RA:87:C:H6	1.84	0.42
23:RB:14:U:O3'	23:RB:107:U:O2'	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RE:48:GLN:OE1	25:RE:64:LYS:NZ	2.52	0.42
28:RH:124:GLU:HB3	28:RH:132:ARG:CG	2.48	0.42
34:RR:113:LEU:HD12	34:RR:113:LEU:HA	1.88	0.42
42:RZ:68:PRO:O	42:RZ:91:LEU:HB2	2.19	0.42
1:XA:1149:C:H2'	1:XA:1150:U:C6	2.54	0.42
1:XA:116:A:H2'	1:XA:117:G:O4'	2.19	0.42
1:XA:1213:A:N1	1:XA:1215:G:H1'	2.34	0.42
1:XA:554:C:H2'	1:XA:555:C:C6	2.53	0.42
1:XA:837:G:N2	1:XA:849:C:O2	2.51	0.42
1:XA:973:G:H3'	1:XA:974:A:C5'	2.48	0.42
5:XE:131:ILE:HD13	5:XE:131:ILE:HA	1.84	0.42
5:XE:42:GLY:CA	5:XE:66:MET:HG2	2.48	0.42
6:XF:30:LEU:HB3	6:XF:35:ALA:HB3	2.01	0.42
8:XH:13:ILE:O	8:XH:17:THR:HG23	2.19	0.42
10:XJ:6:ILE:HG22	10:XJ:98:ILE:HG23	2.01	0.42
1:XA:522:C:H41	12:XL:53:ARG:NH2	2.16	0.42
18:XR:56:THR:HB	18:XR:58:LEU:HD12	2.01	0.42
47:Y4:14:ILE:HG13	47:Y4:31:ILE:HB	1.99	0.42
22:YA:1429:G:H2'	22:YA:1430:C:H6	1.82	0.42
22:YA:2360:A:H2'	22:YA:2361:A:O4'	2.19	0.42
22:YA:654(B):C:H42	22:YA:654(T):C:H42	1.67	0.42
22:YA:773:U:O2	22:YA:778:G:O2'	2.37	0.42
23:YB:79:C:H2'	23:YB:80:U:O4'	2.19	0.42
25:YE:111:ARG:HD2	25:YE:160:TYR:CE1	2.55	0.42
25:YE:201:THR:HG22	25:YE:203:LYS:H	1.83	0.42
27:YG:31:VAL:HA	27:YG:32:PRO:HD3	1.83	0.42
29:YI:92:VAL:O	29:YI:120:ILE:HG22	2.18	0.42
42:YZ:166:SER:H	42:YZ:167:PRO:HA	1.84	0.42
1:QA:1128:C:O2'	1:QA:1130:A:H8	2.01	0.42
1:QA:1355:G:H2'	1:QA:1356:G:O4'	2.19	0.42
1:QA:358:U:H2'	1:QA:359:U:H6	1.84	0.42
1:QA:374:A:C6	1:QA:375:U:C4	3.06	0.42
1:QA:424:G:O5'	1:QA:424:G:H8	2.01	0.42
1:QA:540:G:H2'	1:QA:541:G:C8	2.54	0.42
1:QA:877:C:H5''	8:QH:88:LYS:HD3	2.00	0.42
15:QO:48:LYS:HA	15:QO:48:LYS:HD3	1.76	0.42
6:QF:99:ALA:HB1	18:QR:23:LYS:HZ2	1.83	0.42
20:QT:87:LYS:HD2	20:QT:87:LYS:HA	1.68	0.42
55:QY:34:C:H2'	55:QY:35:G:C8	2.54	0.42
22:RA:1212:G:O2'	22:RA:1236:G:N2	2.46	0.42
22:RA:1502:C:H5'	22:RA:1503:U:OP2	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:226:G:O2'	22:RA:227:A:O5'	2.34	0.42
22:RA:2355:C:O5'	22:RA:2355:C:H6	2.02	0.42
22:RA:2557:G:O2'	22:RA:2558:C:H5'	2.19	0.42
22:RA:470:A:C2	22:RA:471:A:C4	3.07	0.42
22:RA:966:G:H2'	22:RA:967:C:C6	2.54	0.42
24:RD:169:GLU:N	24:RD:172:TYR:O	2.52	0.42
26:RF:28:ILE:HG13	26:RF:28:ILE:H	1.68	0.42
22:RA:955:C:OP2	33:RQ:14:ARG:HD2	2.20	0.42
33:RQ:78:PRO:O	33:RQ:79:LEU:HB3	2.19	0.42
38:RV:64:HIS:CG	38:RV:92:THR:HG22	2.52	0.42
42:RZ:104:PHE:HA	42:RZ:139:VAL:HB	2.01	0.42
42:RZ:117:LEU:HA	42:RZ:174:VAL:HA	2.01	0.42
1:XA:1090:U:H2'	1:XA:1091:U:C6	2.54	0.42
1:XA:1305:G:OP2	1:XA:1305:G:C8	2.72	0.42
1:XA:1352:C:N4	1:XA:1370:G:H1	2.10	0.42
1:XA:1427:U:H2'	1:XA:1428:A:C8	2.54	0.42
1:XA:390:C:H2'	1:XA:391:G:C8	2.54	0.42
1:XA:779:C:O2'	1:XA:780:A:H5'	2.18	0.42
1:XA:780:A:H1'	1:XA:803:G:N2	2.34	0.42
1:XA:825:G:C6	1:XA:826:C:C4	3.07	0.42
3:XC:85:ARG:HD2	3:XC:85:ARG:HA	1.83	0.42
8:XH:104:ARG:HD2	8:XH:138:TRP:CD2	2.53	0.42
1:XA:1152:A:H5'	10:XJ:13:HIS:CG	2.55	0.42
1:XA:1049:U:HO2'	14:XN:2:ALA:N	2.16	0.42
49:Y6:15:GLU:HG2	49:Y6:49:HIS:NE2	2.34	0.42
50:Y7:25:PRO:HA	50:Y7:28:ARG:CZ	2.49	0.42
22:YA:1265:A:H3'	48:Y5:19:ARG:HH12	1.83	0.42
22:YA:1514:U:H2'	22:YA:1515:C:C6	2.54	0.42
22:YA:1686:C:H6	22:YA:1686:C:H5''	1.85	0.42
22:YA:1794:U:C2	22:YA:1795:C:C5	3.06	0.42
22:YA:1820:U:O2	24:YD:202:LYS:N	2.51	0.42
22:YA:1952:A:C6	22:YA:1953:A:N1	2.87	0.42
22:YA:2246:G:H1'	22:YA:2426:A:C2	2.55	0.42
22:YA:2404:C:O3'	32:YP:77:ARG:NH2	2.50	0.42
22:YA:273(F):C:H2'	22:YA:274:G:H5''	2.01	0.42
22:YA:363(F):A:H4'	22:YA:364:C:H5'	2.00	0.42
22:YA:776:G:C4'	22:YA:777:A:H5''	2.44	0.42
22:YA:778:G:C6	22:YA:779:U:C4	3.07	0.42
22:YA:875:G:N2	22:YA:903:C:C2	2.87	0.42
25:YE:201:THR:HG22	25:YE:203:LYS:N	2.34	0.42
28:YH:159:GLU:O	28:YH:160:LYS:HG2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:YN:134:ARG:H	30:YN:135:PRO:HD3	1.83	0.42
30:YN:96:GLU:HG2	30:YN:97:ARG:H	1.84	0.42
39:YW:86:LEU:HD22	39:YW:96:ILE:HD12	2.01	0.42
42:YZ:33:LEU:HD12	42:YZ:34:ASN:H	1.84	0.42
1:QA:1015:A:C6	1:QA:1016:A:C6	3.07	0.42
1:QA:1053:G:O3'	1:QA:1054:C:H4'	2.19	0.42
1:QA:1424:C:H2'	1:QA:1425:U:O4'	2.19	0.42
1:QA:593:G:N2	1:QA:646:U:O2	2.37	0.42
1:QA:923:A:H2'	1:QA:924:C:O4'	2.20	0.42
1:QA:9:G:C4	1:QA:10:A:C8	3.08	0.42
2:QB:69:LEU:O	2:QB:162:ILE:HA	2.18	0.42
3:QC:112:SER:O	3:QC:116:VAL:HG23	2.20	0.42
3:QC:148:GLY:HA3	3:QC:172:ARG:O	2.18	0.42
6:QF:62:TRP:CH2	6:QF:64:GLN:HB2	2.55	0.42
7:QG:102:ARG:HG2	7:QG:106:GLN:OE1	2.20	0.42
9:QI:48:GLU:N	9:QI:49:PRO:HD2	2.35	0.42
17:QQ:29:HIS:CG	17:QQ:30:PRO:HD2	2.54	0.42
1:QA:1453:G:H2'	20:QT:39:LYS:HZ3	1.82	0.42
49:R6:35:GLU:HG2	49:R6:35:GLU:H	1.72	0.42
49:R6:45:LYS:HD3	49:R6:45:LYS:HA	1.75	0.42
22:RA:1238:G:O2'	22:RA:1239:G:H5'	2.20	0.42
22:RA:1591:G:C6	22:RA:1592:C:C4	3.07	0.42
22:RA:1673:U:H5''	22:RA:1674:G:OP2	2.19	0.42
22:RA:1826:G:C6	22:RA:1827:C:C4	3.08	0.42
22:RA:1947:C:H6	22:RA:1947:C:H5''	1.83	0.42
22:RA:2004:G:C6	22:RA:2005:A:C4	3.08	0.42
22:RA:2120:G:H2'	22:RA:2121:G:H8	1.81	0.42
22:RA:2205:C:O2'	22:RA:2227:A:N1	2.48	0.42
22:RA:2401:U:H2'	22:RA:2402:C:C6	2.54	0.42
22:RA:2489:G:C2'	22:RA:2490:G:H5'	2.49	0.42
22:RA:2854:G:C6	22:RA:2855:C:C4	3.07	0.42
22:RA:884:C:H41	22:RA:886:C:H1'	1.84	0.42
24:RD:245:PRO:HA	24:RD:246:PRO:HD3	1.95	0.42
28:RH:90:LYS:HE2	28:RH:90:LYS:HB3	1.91	0.42
30:RN:96:GLU:HB2	30:RN:122:VAL:HG12	2.00	0.42
35:RS:12:PHE:HD2	35:RS:12:PHE:HA	1.72	0.42
35:RS:39:ILE:HD11	35:RS:73:LEU:HD11	2.00	0.42
1:XA:1414:U:H2'	1:XA:1415:G:C8	2.51	0.42
1:XA:1519:A:N7	1:XA:1520:G:H1'	2.35	0.42
1:XA:833:U:H2'	1:XA:834:C:C6	2.55	0.42
6:XF:95:GLU:HA	6:XF:96:PRO:HD3	1.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:XG:38:LEU:HD12	7:XG:38:LEU:O	2.20	0.42
9:XI:32:ASP:OD1	9:XI:33:PHE:N	2.53	0.42
1:XA:375:U:O3'	16:XP:6:LEU:HB2	2.20	0.42
53:XV:2:G:H2'	53:XV:3:C:C6	2.54	0.42
44:Y1:58:ILE:HG23	44:Y1:87:PRO:HG3	2.02	0.42
47:Y4:60:GLN:O	47:Y4:63:TYR:HB3	2.20	0.42
51:Y8:52:LYS:N	51:Y8:53:PRO:HD2	2.33	0.42
22:YA:1636:C:H2'	22:YA:1637:A:C8	2.53	0.42
22:YA:1973:G:C6	22:YA:1974:C:C4	3.07	0.42
22:YA:2364:C:H2'	22:YA:2365:G:O4'	2.19	0.42
22:YA:2712:U:H2'	22:YA:2712(A):A:H3'	2.01	0.42
27:YG:103:LEU:HD23	27:YG:103:LEU:HA	1.83	0.42
27:YG:16:ARG:N	27:YG:17:PRO:HD2	2.34	0.42
28:YH:126:PRO:HG2	28:YH:128:PRO:HA	2.00	0.42
28:YH:126:PRO:HB2	28:YH:127:GLU:H	1.59	0.42
29:YI:133:HIS:HB2	29:YI:134:PRO:CD	2.50	0.42
33:YQ:76:LYS:HG3	33:YQ:77:LYS:N	2.35	0.42
35:YS:60:GLY:O	35:YS:61:ASN:HB3	2.18	0.42
1:QA:1494:G:C2	1:QA:1495:U:C6	3.08	0.42
1:QA:261:U:N3	1:QA:264:U:OP2	2.44	0.42
1:QA:316:G:OP2	1:QA:351:G:O2'	2.32	0.42
5:QE:79:GLU:HB3	5:QE:92:LYS:HA	2.02	0.42
14:QN:41:ARG:NH2	14:QN:42:ILE:HD11	2.35	0.42
15:QO:43:LEU:HD23	15:QO:43:LEU:HA	1.74	0.42
17:QQ:10:VAL:HG13	17:QQ:19:VAL:HB	2.01	0.42
47:R4:14:ILE:HG22	47:R4:24:THR:HG22	2.01	0.42
49:R6:11:LEU:HD13	49:R6:11:LEU:HA	1.81	0.42
22:RA:116:C:H2'	22:RA:117:G:O4'	2.19	0.42
22:RA:1409:C:N4	22:RA:1593:G:H1	2.16	0.42
22:RA:49:A:N6	22:RA:177:G:C4	2.87	0.42
22:RA:2168:G:N3	22:RA:2168:G:H2'	2.34	0.42
22:RA:2590:A:O2'	22:RA:2591:C:H5'	2.20	0.42
22:RA:2630:G:H2'	22:RA:2631:G:H8	1.85	0.42
22:RA:2695:C:H2'	22:RA:2696:U:C6	2.55	0.42
22:RA:273:G:C2	22:RA:273(A):G:C8	3.08	0.42
22:RA:2632:A:C2	22:RA:2787:C:C2	3.07	0.42
22:RA:278:A:H61	22:RA:362:U:H3	1.67	0.42
22:RA:58:G:N2	22:RA:70:G:C4	2.88	0.42
24:RD:72:LYS:NZ	24:RD:99:ASP:OD1	2.43	0.42
27:RG:159:VAL:HG21	27:RG:173:LEU:HD11	2.00	0.42
28:RH:6:ARG:HG3	28:RH:7:LEU:HG	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:RI:126:TYR:HE1	29:RI:142:VAL:HG21	1.83	0.42
29:RI:61:ARG:NH2	29:RI:64:GLU:OE1	2.52	0.42
35:RS:29:PHE:HD2	35:RS:92:TYR:HH	1.66	0.42
35:RS:93:LYS:HE3	35:RS:93:LYS:HB2	1.66	0.42
22:RA:2683:C:OP1	36:RT:53:ARG:NH2	2.52	0.42
37:RU:75:ASN:HB2	37:RU:78:THR:H	1.84	0.42
1:XA:1032(B):G:H2'	1:XA:1033:G:C8	2.54	0.42
1:XA:1213:A:C6	1:XA:1215:G:C4	3.06	0.42
1:XA:1256:A:H2	1:XA:1277:C:C6	2.37	0.42
1:XA:1469:G:H2'	1:XA:1470:G:C8	2.55	0.42
1:XA:639:G:C2	1:XA:640:A:C5	3.07	0.42
1:XA:791:G:C5	1:XA:792:A:C2	3.08	0.42
2:XB:113:HIS:O	2:XB:116:GLU:HB2	2.20	0.42
2:XB:7:VAL:HG11	2:XB:217:ARG:CZ	2.49	0.42
7:XG:89:MET:CE	7:XG:156:TRP:H	2.32	0.42
13:XM:7:VAL:O	13:XM:9:ILE:HG23	2.19	0.42
46:Y3:4:LEU:HD22	46:Y3:56:VAL:HG12	2.01	0.42
22:YA:1214:A:N6	22:YA:1235:G:O2'	2.47	0.42
22:YA:128:C:H4'	50:Y7:49:ARG:NH1	2.31	0.42
22:YA:1401:G:H2'	22:YA:1402:C:C6	2.54	0.42
22:YA:1482:U:H5'	22:YA:1483:G:P	2.60	0.42
22:YA:2032:G:OP2	22:YA:2454:G:O2'	2.28	0.42
22:YA:528:A:N1	22:YA:2042:A:H2'	2.34	0.42
22:YA:2088:G:C6	22:YA:2089:U:C4	3.07	0.42
22:YA:2304:G:H22	22:YA:2312:U:H3	1.68	0.42
22:YA:258:G:C5	22:YA:259:G:N7	2.88	0.42
22:YA:2636:U:H2'	22:YA:2637:U:C6	2.54	0.42
22:YA:2543:G:N2	22:YA:2765:A:C8	2.88	0.42
22:YA:612:G:H2'	22:YA:613:U:O2	2.19	0.42
22:YA:778:G:C5	22:YA:779:U:C4	3.07	0.42
22:YA:88:G:C2	22:YA:89:G:C8	3.07	0.42
23:YB:15:A:O2'	23:YB:109:G:C8	2.62	0.42
25:YE:57:LYS:HD2	25:YE:57:LYS:HA	1.87	0.42
26:YF:45:ARG:HH11	26:YF:45:ARG:CG	2.32	0.42
28:YH:153:LYS:HB3	28:YH:154:PRO:CD	2.49	0.42
32:YP:39:LYS:HG3	32:YP:45:LEU:CD2	2.45	0.42
33:YQ:39:PRO:HA	33:YQ:97:VAL:O	2.20	0.42
36:YT:45:PHE:CE1	36:YT:65:LYS:HE3	2.55	0.42
36:YT:58:ASN:C	36:YT:58:ASN:HD22	2.23	0.42
36:YT:80:SER:HA	36:YT:81:PRO:HD3	1.89	0.42
22:YA:2849:U:P	36:YT:95:ARG:HH12	2.42	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YZ:106:GLY:O	42:YZ:141:VAL:HG13	2.19	0.42
42:YZ:49:ARG:HG3	42:YZ:49:ARG:H	1.56	0.42
1:QA:1080:A:H5''	1:QA:1081:G:OP2	2.19	0.42
1:QA:955:U:H1'	1:QA:1227:A:H61	1.84	0.42
1:QA:1306:A:N6	1:QA:1331:G:O2'	2.52	0.42
1:QA:130:A:H5''	1:QA:190:G:O2'	2.19	0.42
1:QA:945:G:C6	1:QA:1337:G:C6	3.07	0.42
2:QB:44:LEU:HD12	2:QB:44:LEU:H	1.83	0.42
4:QD:192:GLU:HG3	4:QD:192:GLU:H	1.56	0.42
6:QF:22:GLU:O	6:QF:26:ILE:HG13	2.19	0.42
7:QG:70:LYS:HA	7:QG:71:PRO:HD2	1.89	0.42
19:QS:10:PHE:CG	19:QS:11:VAL:N	2.88	0.42
51:R8:4:MET:SD	51:R8:61:LEU:HD12	2.59	0.42
22:RA:1027:A:C6	22:RA:1126:A:C4	3.08	0.42
22:RA:1149:G:H2'	22:RA:1150:C:C6	2.55	0.42
22:RA:123:G:H2'	22:RA:124:G:O4'	2.19	0.42
22:RA:1444(A):A:H5'	22:RA:1445:C:H5	1.83	0.42
22:RA:1553:A:N7	22:RA:1555:G:C5	2.87	0.42
22:RA:2038:G:H2'	22:RA:2039:C:O4'	2.20	0.42
22:RA:2050:C:N4	22:RA:2051:A:C6	2.88	0.42
22:RA:2066:C:H42	22:RA:2444:G:H1	1.66	0.42
22:RA:2630:G:C2	22:RA:2894:G:N2	2.88	0.42
22:RA:2653:U:O2'	28:RH:110:SER:HB2	2.20	0.42
22:RA:536:A:C2	22:RA:558:G:C2	3.08	0.42
22:RA:637:A:O5'	32:RP:116:GLY:HA2	2.19	0.42
22:RA:852:G:C6	22:RA:853:G:C6	3.07	0.42
22:RA:879:G:H2'	22:RA:880:G:O4'	2.19	0.42
22:RA:931:G:O2'	46:R3:24:LYS:HD3	2.20	0.42
23:RB:82:G:O2'	23:RB:83:G:H5'	2.19	0.42
25:RE:9:VAL:HG23	25:RE:26:ILE:HA	2.00	0.42
30:RN:30:ILE:HG23	30:RN:52:VAL:HG11	2.00	0.42
42:RZ:54:HIS:CE1	42:RZ:101:PRO:HG3	2.54	0.42
42:RZ:153:SER:H	42:RZ:167:PRO:HB2	1.85	0.42
1:XA:1420:C:H6	1:XA:1420:C:O5'	2.02	0.42
1:XA:167:G:O2'	1:XA:168:G:H5'	2.20	0.42
2:XB:223:ILE:HA	2:XB:226:ARG:HB3	2.02	0.42
2:XB:68:ILE:HB	2:XB:70:PHE:HE1	1.84	0.42
4:XD:112:VAL:N	4:XD:116:GLN:OE1	2.38	0.42
13:XM:121:LYS:HA	13:XM:121:LYS:HD3	1.90	0.42
13:XM:40:ASN:ND2	13:XM:43:THR:HG23	2.34	0.42
22:YA:489:G:C5	22:YA:1284:A:C2	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1494:A:H2'	22:YA:1495:A:H8	1.84	0.42
22:YA:1527:G:O2'	22:YA:1545(A):A:N6	2.51	0.42
22:YA:1429:G:N3	22:YA:1568:G:C2	2.88	0.42
22:YA:1672:C:N4	22:YA:1673:U:O4	2.53	0.42
22:YA:2019:A:H4'	37:YU:34:LYS:HD2	2.01	0.42
22:YA:341:G:H2'	22:YA:342:G:O4'	2.19	0.42
22:YA:350:U:H2'	22:YA:351:G:O4'	2.20	0.42
22:YA:372:G:HO2'	22:YA:373:U:H5	1.67	0.42
24:YD:36:PRO:CB	24:YD:61:LEU:HB3	2.50	0.42
29:YI:61:ARG:O	29:YI:64:GLU:HB3	2.20	0.42
32:YP:1:MET:HB3	32:YP:2:LYS:H	1.61	0.42
22:YA:896:A:H61	42:YZ:112:ARG:HD2	1.84	0.42
1:QA:1099:G:C6	1:QA:1100:C:N3	2.87	0.42
1:QA:1187:G:H2'	1:QA:1187:G:N3	2.35	0.42
1:QA:1442:G:C6	1:QA:1446:A:N6	2.87	0.42
1:QA:1503:A:O2'	1:QA:1504:G:H5'	2.20	0.42
1:QA:259:G:H2'	1:QA:260:G:O4'	2.20	0.42
1:QA:616:G:C2	1:QA:617:G:C8	3.07	0.42
1:QA:687:A:N1	1:QA:704:A:N7	2.67	0.42
1:QA:945:G:C2	1:QA:946:A:C8	3.07	0.42
1:QA:949:A:C4	1:QA:1233:G:N2	2.86	0.42
3:QC:59:ARG:HH12	3:QC:97:LYS:HE3	1.84	0.42
5:QE:152:ARG:HG2	8:QH:79:VAL:HG13	2.02	0.42
13:QM:4:ILE:H	13:QM:9:ILE:HG22	1.84	0.42
15:QO:87:ILE:HG22	15:QO:88:ARG:N	2.35	0.42
1:QA:474:G:H5''	16:QP:81:ARG:NE	2.34	0.42
39:RW:34:ASN:ND2	48:R5:39:MET:HG3	2.34	0.42
48:R5:56:LYS:HB3	48:R5:56:LYS:HE3	1.79	0.42
51:R8:59:LYS:NZ	51:R8:59:LYS:HB2	2.35	0.42
22:RA:693:C:O2'	22:RA:1353:A:N3	2.42	0.42
22:RA:1410:G:H3'	22:RA:1411:C:H6	1.85	0.42
22:RA:1971:A:H5'	22:RA:1972:A:H5''	2.00	0.42
22:RA:2273:A:O2'	22:RA:2274:A:H5'	2.18	0.42
22:RA:266:G:C2	22:RA:267:C:H1'	2.55	0.42
22:RA:2698:U:H2'	22:RA:2699:C:C6	2.54	0.42
22:RA:443:A:H1'	22:RA:1201:C:O4'	2.20	0.42
22:RA:628:G:HO2'	22:RA:651:G:HO2'	1.61	0.42
24:RD:96:HIS:NE2	24:RD:102:LYS:HE2	2.34	0.42
24:RD:123:ALA:HA	24:RD:124:PRO:HD2	1.77	0.42
26:RF:182:ASN:O	26:RF:186:ILE:HG12	2.20	0.42
27:RG:173:LEU:O	27:RG:178:PHE:HB2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:RH:153:LYS:N	28:RH:153:LYS:HD2	2.33	0.42
29:RI:130:TYR:HA	29:RI:130:TYR:HD1	1.67	0.42
36:RT:26:ASP:HB3	36:RT:92:GLY:N	2.18	0.42
40:RX:44:GLU:O	40:RX:48:LYS:N	2.52	0.42
42:RZ:29:TYR:HA	42:RZ:33:LEU:O	2.19	0.42
42:RZ:5:LEU:HB3	42:RZ:6:LYS:H	1.51	0.42
1:XA:1152:A:OP1	10:XJ:68:HIS:CD2	2.73	0.42
1:XA:179:A:H2'	1:XA:180:U:C6	2.55	0.42
1:XA:127:G:N2	1:XA:234:C:O2	2.52	0.42
1:XA:580:U:H2'	1:XA:581:G:O4'	2.19	0.42
1:XA:60:A:P	1:XA:60:A:H8	2.42	0.42
1:XA:730:G:C6	1:XA:731:G:H1'	2.55	0.42
1:XA:815:A:O2'	1:XA:1527:C:H1'	2.20	0.42
2:XB:19:HIS:CE1	2:XB:206:ASP:HB2	2.54	0.42
4:XD:120:LEU:HA	4:XD:120:LEU:HD23	1.89	0.42
9:XI:91:ASP:C	9:XI:93:ARG:H	2.21	0.42
18:XR:43:PHE:CE2	18:XR:58:LEU:HD11	2.54	0.42
20:XT:50:GLU:HG3	20:XT:51:GLU:N	2.33	0.42
53:XV:45:G:H8	53:XV:45:G:O5'	2.02	0.42
53:XV:15:G:N2	53:XV:48:C:H42	2.18	0.42
45:Y2:8:LYS:HB2	45:Y2:8:LYS:HE3	1.84	0.42
46:Y3:8:LEU:HB3	46:Y3:31:LEU:HA	2.01	0.42
51:Y8:60:LEU:C	51:Y8:63:PRO:HD2	2.40	0.42
22:YA:1198:U:H2'	22:YA:1199:U:C6	2.55	0.42
22:YA:1215:G:C4	22:YA:1216:G:C8	3.08	0.42
22:YA:18:C:O3'	37:YU:23:GLY:HA2	2.19	0.42
22:YA:2055:C:O2	22:YA:2572:A:N6	2.53	0.42
22:YA:229:A:HO2'	22:YA:230:U:P	2.42	0.42
22:YA:2330:G:H2'	22:YA:2331:G:O4'	2.20	0.42
22:YA:2532:G:H2'	22:YA:2533:A:C8	2.54	0.42
22:YA:2883:A:H3'	22:YA:2884:U:H5'	2.02	0.42
23:YB:39:A:C4	23:YB:44:G:N2	2.87	0.42
24:YD:35:LYS:HE3	24:YD:64:ILE:N	2.35	0.42
27:YG:64:THR:CG2	27:YG:66:GLN:H	2.28	0.42
35:YS:83:LYS:NZ	35:YS:109:GLY:HA2	2.33	0.42
35:YS:81:GLY:O	35:YS:83:LYS:N	2.53	0.42
37:YU:109:LEU:HD23	37:YU:109:LEU:HA	1.89	0.42
38:YV:65:GLY:O	38:YV:90:PRO:HA	2.20	0.42
1:QA:262:A:H2'	1:QA:263:A:C8	2.55	0.42
1:QA:37:U:H3	1:QA:397:A:H61	1.67	0.42
1:QA:64:G:H4'	1:QA:65:U:H5'	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:778:G:H2'	1:QA:779:C:O4'	2.19	0.42
2:QB:60:ASP:O	2:QB:64:ARG:HG2	2.19	0.42
3:QC:56:ASP:O	3:QC:66:VAL:HA	2.19	0.42
1:QA:719:C:O2'	18:QR:49:LYS:HB3	2.19	0.42
49:R6:28:ARG:HB3	49:R6:30:THR:H	1.84	0.42
22:RA:1122:G:H2'	22:RA:1123:C:H5'	2.01	0.42
22:RA:1903:G:O2'	22:RA:1904:G:H5'	2.19	0.42
22:RA:2778:A:H4'	22:RA:2779:U:OP1	2.18	0.42
22:RA:565:C:H2'	22:RA:566:U:O4'	2.20	0.42
22:RA:681:G:H2'	22:RA:682:G:O4'	2.19	0.42
22:RA:719:C:H2'	22:RA:720:C:C6	2.55	0.42
22:RA:754:C:O2'	22:RA:755:C:H5'	2.19	0.42
22:RA:802:A:C5	22:RA:803:U:C4	3.07	0.42
22:RA:840:C:H2'	22:RA:841:A:H8	1.85	0.42
22:RA:862:G:H4'	23:RB:79:C:H4'	2.02	0.42
24:RD:33:LEU:HB3	24:RD:34:VAL:H	1.64	0.42
22:RA:1816:G:H8	24:RD:62:TYR:CZ	2.38	0.42
28:RH:164:TYR:O	28:RH:166:GLY:N	2.52	0.42
28:RH:16:SER:OG	28:RH:26:VAL:O	2.30	0.42
29:RI:7:GLU:HA	29:RI:15:VAL:HG13	2.01	0.42
30:RN:35:ARG:HB2	30:RN:42:TRP:CZ3	2.54	0.42
35:RS:78:LEU:HD23	35:RS:78:LEU:HA	1.86	0.42
37:RU:83:LEU:HD12	37:RU:113:ALA:HB2	2.01	0.42
41:RY:50:ARG:H	41:RY:50:ARG:HG2	1.67	0.42
42:RZ:13:GLU:HB3	42:RZ:18:LEU:HD11	2.01	0.42
1:XA:1017:G:H2'	1:XA:1018:C:C6	2.54	0.42
1:XA:1084:G:C5	1:XA:1085:U:C4	3.07	0.42
1:XA:1158:C:H4'	2:XB:133:LYS:HZ1	1.85	0.42
1:XA:1162:C:H2'	1:XA:1163:C:C6	2.55	0.42
1:XA:340:U:O2	1:XA:350:G:N2	2.53	0.42
1:XA:663:A:H5'	1:XA:836:G:OP1	2.20	0.42
3:XC:32:LEU:HD22	3:XC:59:ARG:NH1	2.34	0.42
7:XG:15:ASP:O	7:XG:19:GLY:HA2	2.20	0.42
9:XI:4:TYR:CE1	9:XI:88:TYR:HB2	2.55	0.42
13:XM:77:ASN:HA	47:Y4:71:ARG:HH22	1.85	0.42
20:XT:39:LYS:H	20:XT:39:LYS:HG3	1.63	0.42
47:Y4:68:ARG:HB2	47:Y4:69:LYS:H	1.51	0.42
49:Y6:14:THR:HG21	49:Y6:19:ARG:HH21	1.85	0.42
22:YA:1053:C:H5'	22:YA:1054:A:OP2	2.20	0.42
22:YA:1353:A:C5	22:YA:1378:A:C5	3.08	0.42
22:YA:1824:G:H5"	24:YD:52:ARG:NH1	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1871:A:H2'	22:YA:1872:A:C8	2.55	0.42
22:YA:270(M):U:O2'	22:YA:270(N):G:O5'	2.34	0.42
22:YA:300:A:OP1	41:YY:84:ARG:NH2	2.52	0.42
22:YA:341:G:C5	22:YA:342:G:C8	3.08	0.42
22:YA:442:G:C6	22:YA:444:C:C4	3.08	0.42
22:YA:470:A:H2'	22:YA:471:A:O4'	2.19	0.42
22:YA:606:U:H4'	22:YA:658:C:H4'	2.02	0.42
22:YA:611:C:H2'	22:YA:612:G:O4'	2.19	0.42
23:YB:74:U:H2'	23:YB:75:G:O4'	2.19	0.42
24:YD:25:THR:HG21	24:YD:81:ALA:HA	2.02	0.42
24:YD:25:THR:HG22	24:YD:82:ILE:H	1.84	0.42
30:YN:137:LYS:HD2	30:YN:137:LYS:HA	1.77	0.42
30:YN:46:VAL:HG13	30:YN:48:MET:HG3	2.02	0.42
31:YO:21:CYS:O	31:YO:22:ILE:HD13	2.20	0.42
32:YP:36:LYS:HB3	32:YP:40:SER:CB	2.49	0.42
36:YT:26:ASP:HB2	36:YT:91:ARG:HA	2.00	0.42
1:QA:1318:A:C5'	19:QS:11:VAL:HG11	2.50	0.42
1:QA:1316:G:N2	1:QA:1319:A:H5''	2.28	0.42
1:QA:137:C:N3	1:QA:226:G:N2	2.51	0.42
1:QA:888:G:O2'	1:QA:1488:G:O2'	2.35	0.42
1:QA:347:G:O2'	1:QA:348:G:OP2	2.27	0.42
1:QA:693:G:C6	1:QA:694:A:C5	3.08	0.42
1:QA:575:G:O2'	1:QA:821:G:H5'	2.20	0.42
1:QA:830:G:C6	1:QA:831:U:N3	2.88	0.42
2:QB:92:TYR:CD1	2:QB:151:GLY:HA3	2.55	0.42
2:QB:88:ALA:HB2	2:QB:219:VAL:HG13	2.02	0.42
3:QC:36:ASP:HA	3:QC:39:ILE:HD12	2.02	0.42
4:QD:11:LEU:HD22	4:QD:66:ARG:HD3	2.02	0.42
13:QM:40:ASN:HA	13:QM:41:PRO:HD3	1.89	0.42
15:QO:2:PRO:HB2	15:QO:3:ILE:H	1.56	0.42
18:QR:53:ARG:HE	18:QR:59:SER:C	2.22	0.42
44:R1:90:ILE:O	44:R1:94:LEU:HB2	2.20	0.42
45:R2:70:GLN:O	45:R2:71:ASN:HB2	2.19	0.42
27:RG:6:ALA:N	47:R4:23:GLU:HG2	2.31	0.42
48:R5:56:LYS:H	48:R5:56:LYS:CD	2.31	0.42
22:RA:1448:G:H2'	22:RA:1449:A:C8	2.55	0.42
22:RA:1701:A:H5''	22:RA:1702:G:OP2	2.19	0.42
22:RA:2532:G:N2	22:RA:2663:G:O2'	2.53	0.42
22:RA:2580:U:C5	22:RA:2581:G:C6	3.08	0.42
22:RA:2636:U:H2'	22:RA:2637:U:H6	1.84	0.42
22:RA:2754:U:H2'	22:RA:2755:C:H5''	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2791:C:H42	22:RA:2803:C:N4	2.17	0.42
22:RA:2883:A:H3'	22:RA:2884:U:H5'	2.01	0.42
22:RA:318:C:H2'	22:RA:319:C:C6	2.54	0.42
22:RA:343:C:H5'	22:RA:344:G:OP2	2.19	0.42
23:RB:75:G:N1	23:RB:102:G:N2	2.68	0.42
25:RE:188:VAL:HG23	25:RE:189:PRO:HD2	2.01	0.42
25:RE:78:LEU:HG	25:RE:79:ARG:NE	2.35	0.42
27:RG:116:ASP:N	27:RG:116:ASP:OD1	2.53	0.42
27:RG:151:ALA:HB3	27:RG:153:ARG:NH1	2.35	0.42
29:RI:86:THR:HA	29:RI:123:LEU:HD12	2.01	0.42
32:RP:100:LEU:HD22	32:RP:100:LEU:HA	1.77	0.42
22:RA:2406:U:N3	32:RP:73:GLY:O	2.39	0.42
34:RR:63:ARG:HA	34:RR:80:PHE:CZ	2.54	0.42
36:RT:51:ARG:HG3	36:RT:98:LYS:HG3	2.02	0.42
39:RW:75:TYR:CZ	39:RW:104:THR:HG21	2.54	0.42
42:RZ:180:VAL:HG23	42:RZ:181:GLU:H	1.85	0.42
1:XA:444:C:H2'	1:XA:445:G:H8	1.84	0.42
1:XA:448:A:C4	1:XA:487:A:C2	3.07	0.42
1:XA:487:A:H2'	1:XA:488:C:O4'	2.19	0.42
1:XA:503:C:H2'	1:XA:504:C:C6	2.53	0.42
1:XA:68:G:C2	1:XA:69:G:C4	3.07	0.42
1:XA:988:G:C2	1:XA:1218:C:C2	3.07	0.42
8:XH:121:ASP:N	8:XH:121:ASP:OD1	2.46	0.42
1:XA:1216:G:H5''	14:XN:5:ALA:CB	2.49	0.42
22:YA:1039:G:H2'	22:YA:1040:C:C6	2.54	0.42
22:YA:1252:G:C2	22:YA:1253:A:C2	3.08	0.42
22:YA:1627:G:C2	22:YA:1628:G:C8	3.08	0.42
22:YA:1728:G:H5'	22:YA:1729:A:OP2	2.20	0.42
22:YA:1728:G:H8	22:YA:1732:A:H62	1.68	0.42
22:YA:1889:A:C6	22:YA:1890:A:C6	3.08	0.42
22:YA:2271:G:H8	22:YA:2271:G:O5'	2.03	0.42
22:YA:2875:C:H4'	36:YT:5:ALA:HB2	2.01	0.42
22:YA:753:C:H2'	22:YA:754:C:H6	1.85	0.42
24:YD:89:SER:O	24:YD:198:ASN:ND2	2.52	0.42
28:YH:30:LYS:HE2	28:YH:81:GLU:H	1.85	0.42
29:YI:7:GLU:HA	29:YI:15:VAL:HG12	2.00	0.42
35:YS:106:ARG:HA	35:YS:110:LEU:CD2	2.47	0.42
40:YX:84:ALA:HB1	40:YX:85:PRO:HD2	2.02	0.42
1:QA:1527:C:O2'	1:QA:1528:U:H5'	2.20	0.42
1:QA:32:A:C2	1:QA:33:A:C4	3.07	0.42
1:QA:358:U:H6	1:QA:358:U:O5'	2.03	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:842:C:O2'	1:QA:848:C:N4	2.53	0.42
1:QA:909:A:H2'	1:QA:910:C:O4'	2.18	0.42
2:QB:130:ARG:HA	2:QB:131:PRO:HD3	1.81	0.42
8:QH:59:LEU:O	8:QH:61:VAL:HG23	2.20	0.42
10:QJ:81:THR:C	10:QJ:83:GLU:H	2.23	0.42
11:QK:41:THR:HG22	11:QK:42:TRP:N	2.34	0.42
11:QK:48:ILE:HG23	11:QK:63:LEU:HD22	2.01	0.42
12:QL:38:THR:HG21	12:QL:65:GLU:OE2	2.19	0.42
53:QV:6:G:H1	53:QV:67:C:N4	2.05	0.42
46:R3:35:ARG:HB3	46:R3:37:LEU:HD21	2.01	0.42
47:R4:55:ARG:O	47:R4:59:PHE:HB3	2.20	0.42
22:RA:1344:G:C2	22:RA:1404:C:C2	3.08	0.42
22:RA:1668:A:C8	22:RA:1674:G:C6	3.07	0.42
22:RA:1977:A:N6	22:RA:1978:A:C6	2.88	0.42
22:RA:242:G:C8	51:R8:5:LYS:HG2	2.54	0.42
22:RA:2718:G:C6	22:RA:2719:G:C5	3.08	0.42
22:RA:2745:C:N4	22:RA:2759:G:H1	2.17	0.42
22:RA:1752:C:H5''	22:RA:2862:G:H5'	2.00	0.42
22:RA:373:U:O2	22:RA:373:U:H2'	2.19	0.42
22:RA:414:C:H2'	22:RA:415:A:C8	2.55	0.42
22:RA:64:A:H2'	22:RA:65:C:O4'	2.19	0.42
22:RA:691:C:O2'	22:RA:692:C:H5'	2.19	0.42
22:RA:784:A:O2'	22:RA:785:G:H5''	2.20	0.42
22:RA:959:A:C6	22:RA:960:A:N1	2.88	0.42
25:RE:34:VAL:HG23	25:RE:64:LYS:HZ2	1.85	0.42
26:RF:184:TYR:O	26:RF:188:ARG:HG3	2.19	0.42
30:RN:10:GLU:HA	30:RN:11:PRO:HD3	1.65	0.42
32:RP:20:GLY:HA2	32:RP:27:HIS:O	2.19	0.42
35:RS:14:VAL:HG11	35:RS:90:GLY:O	2.19	0.42
42:RZ:109:ALA:O	42:RZ:112:ARG:HB2	2.19	0.42
1:XA:1299:A:C2'	1:XA:1301:U:H1'	2.34	0.42
1:XA:1321:C:H5''	1:XA:1322:C:H5'	2.02	0.42
1:XA:1369:C:H2'	1:XA:1370:G:C8	2.55	0.42
1:XA:1434:A:H2'	1:XA:1435:G:O4'	2.20	0.42
1:XA:1524:C:N4	1:XA:1525:G:O6	2.53	0.42
1:XA:157:G:H2'	1:XA:158:G:C8	2.55	0.42
1:XA:282:A:OP2	1:XA:283:C:N4	2.36	0.42
1:XA:298:A:H2'	1:XA:299:G:O4'	2.20	0.42
1:XA:327:A:C6	1:XA:329:A:C5	3.07	0.42
1:XA:352:C:H4'	1:XA:354:G:OP1	2.20	0.42
1:XA:951:G:H1'	1:XA:970:C:O2'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:XC:91:LEU:O	3:XC:95:THR:OG1	2.19	0.42
5:XE:79:GLU:H	5:XE:79:GLU:HG3	1.46	0.42
9:XI:125:TYR:HD2	9:XI:126:SER:H	1.68	0.42
11:XK:109:VAL:HG11	18:XR:84:LYS:HD3	2.02	0.42
19:XS:78:ARG:HG2	19:XS:78:ARG:H	1.56	0.42
43:Y0:48:GLY:N	43:Y0:79:VAL:O	2.46	0.42
47:Y4:16:CYS:SG	47:Y4:36:CYS:HB3	2.59	0.42
48:Y5:31:VAL:HG13	48:Y5:42:PRO:HG3	2.01	0.42
51:Y8:44:LYS:HD2	51:Y8:44:LYS:N	2.34	0.42
22:YA:1374:G:H2'	22:YA:1375:C:C6	2.55	0.42
22:YA:136:G:H2'	22:YA:137:C:H6	1.85	0.42
22:YA:1449:A:N6	22:YA:1449(A):G:C4	2.88	0.42
22:YA:1586:A:H3'	22:YA:1587:A:C8	2.45	0.42
22:YA:1668:A:O4'	22:YA:1669:A:C2	2.73	0.42
22:YA:1832:C:N4	22:YA:1833:U:C4	2.87	0.42
22:YA:2163:C:N4	22:YA:2164:C:H41	2.18	0.42
22:YA:2747:G:O6	22:YA:2755:C:H5''	2.19	0.42
22:YA:396:G:O5'	22:YA:396:G:H8	2.03	0.42
22:YA:648:G:H2'	22:YA:649:G:C8	2.55	0.42
22:YA:196:A:O2'	22:YA:805:G:O6	2.16	0.42
24:YD:221:VAL:HG22	24:YD:226:MET:CE	2.49	0.42
24:YD:34:VAL:HG22	24:YD:35:LYS:HG3	2.00	0.42
25:YE:167:VAL:HG21	25:YE:187:ALA:HB1	2.01	0.42
29:YI:130:TYR:HD1	29:YI:130:TYR:HA	1.71	0.42
29:YI:63:ALA:HA	29:YI:66:GLU:HG2	2.02	0.42
35:YS:30:ARG:NH2	35:YS:92:TYR:CD1	2.87	0.42
35:YS:38:GLN:HG3	35:YS:47:THR:HG21	2.02	0.42
42:YZ:37:VAL:HG23	42:YZ:38:TYR:N	2.35	0.42
1:QA:1363:A:H1'	1:QA:1365:G:N7	2.35	0.42
1:QA:411:A:C4	1:QA:413:G:H1'	2.53	0.42
1:QA:401:C:O2'	1:QA:621:A:N3	2.50	0.42
1:QA:807:A:H2'	1:QA:808:C:O4'	2.19	0.42
2:QB:27:LYS:HD2	2:QB:193:ASP:CB	2.46	0.42
3:QC:134:ILE:HD11	3:QC:153:VAL:HG21	2.02	0.42
4:QD:165:MET:SD	4:QD:168:ARG:HD2	2.60	0.42
4:QD:171:GLY:HA2	4:QD:172:PRO:HD3	1.87	0.42
4:QD:63:LYS:HE3	4:QD:63:LYS:HB2	1.77	0.42
7:QG:13:GLN:O	7:QG:24:THR:HG21	2.20	0.42
8:QH:54:ASP:N	8:QH:54:ASP:OD1	2.53	0.42
14:QN:23:ARG:NH1	14:QN:30:ALA:HB2	2.35	0.42
44:R1:85:LEU:HA	44:R1:87:PRO:HD2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1306:C:C2	22:RA:1623:G:C2	3.08	0.42
22:RA:188:G:H1	22:RA:208:C:H42	1.67	0.42
22:RA:2209:C:O2	22:RA:2216:G:C2	2.73	0.42
22:RA:2400:G:N2	22:RA:2417:C:C2	2.88	0.42
22:RA:227:A:C5	22:RA:2407:G:O4'	2.73	0.42
22:RA:2630:G:H2'	22:RA:2631:G:C8	2.55	0.42
22:RA:69:C:O5'	22:RA:69:C:H6	2.03	0.42
22:RA:725:G:H8	22:RA:725:G:O5'	2.03	0.42
22:RA:774:A:HO2'	22:RA:775:G:P	2.41	0.42
22:RA:774:A:O2'	22:RA:775:G:H8	2.02	0.42
22:RA:804:A:H2'	22:RA:806:C:C4	2.55	0.42
24:RD:35:LYS:HB3	24:RD:36:PRO:HA	2.01	0.42
24:RD:43:ARG:HB2	24:RD:54:ARG:HB2	2.02	0.42
26:RF:46:ARG:HH11	26:RF:46:ARG:HG2	1.84	0.42
26:RF:93:LYS:HB3	26:RF:94:PRO:HD2	2.01	0.42
28:RH:105:LEU:HD22	28:RH:113:VAL:HB	2.01	0.42
28:RH:125:VAL:HA	28:RH:126:PRO:HA	1.90	0.42
29:RI:102:SER:C	29:RI:104:GLN:H	2.23	0.42
37:RU:58:ARG:NH1	37:RU:93:LYS:HE2	2.35	0.42
42:RZ:150:LEU:H	42:RZ:150:LEU:HD22	1.84	0.42
1:XA:1367:C:OP1	9:XI:115:GLY:N	2.47	0.42
1:XA:606:G:N2	1:XA:631:G:C8	2.88	0.42
1:XA:658:G:C2	1:XA:749:C:N3	2.88	0.42
1:XA:982:U:H5''	14:YN:6:LEU:HD21	2.02	0.42
10:XJ:3:LYS:HB2	10:XJ:75:ILE:O	2.19	0.42
13:XM:3:ARG:HG3	13:XM:9:ILE:HG21	2.02	0.42
51:Y8:26:LYS:HB3	51:Y8:44:LYS:HG3	2.01	0.42
22:YA:1077:A:H3'	22:YA:1078:U:H5''	2.02	0.42
22:YA:1162:G:H2'	22:YA:1163:G:C8	2.52	0.42
22:YA:1952:A:C6	22:YA:1953:A:C6	3.08	0.42
22:YA:2170:A:H2'	22:YA:2171:A:O4'	2.20	0.42
22:YA:2396:G:OP1	44:Y1:25:LYS:NZ	2.52	0.42
22:YA:2422:A:H4'	22:YA:2423:U:OP1	2.19	0.42
22:YA:2469:A:C8	22:YA:2482:G:C4	3.08	0.42
22:YA:254:G:O6	51:Y8:5:LYS:HG2	2.19	0.42
22:YA:2556:C:H2'	22:YA:2557:G:O4'	2.20	0.42
25:YE:144:ARG:HB3	25:YE:145:LYS:H	1.45	0.42
30:YN:59:LYS:HE3	30:YN:61:ARG:HH22	1.84	0.42
32:YP:29:LYS:HD2	32:YP:30:THR:CG2	2.50	0.42
33:YQ:85:LYS:O	33:YQ:86:GLY:C	2.58	0.42
34:YR:2:ARG:HG2	34:YR:5:LYS:NZ	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:YX:26:TYR:HB3	40:YX:92:LEU:HD12	2.02	0.42
41:YY:51:VAL:HG23	41:YY:57:GLN:N	2.35	0.42
1:QA:151:A:H2'	1:QA:152:A:O4'	2.20	0.41
1:QA:735:C:H2'	1:QA:736:C:C6	2.55	0.41
2:QB:230:VAL:HB	2:QB:231:GLU:H	1.60	0.41
8:QH:38:ILE:HD12	8:QH:118:VAL:HG12	2.02	0.41
8:QH:51:VAL:HG21	8:QH:60:ARG:HG2	2.02	0.41
8:QH:54:ASP:O	8:QH:56:LYS:HG3	2.20	0.41
14:QN:29:ARG:HG2	14:QN:31:ARG:O	2.20	0.41
53:QV:23:C:H2'	53:QV:24:U:H6	1.84	0.41
51:R8:23:VAL:CG1	51:R8:46:ARG:HD3	2.49	0.41
22:RA:1040:C:H2'	22:RA:1041:C:H6	1.85	0.41
22:RA:1113:U:H2'	22:RA:1114:G:C8	2.54	0.41
22:RA:1440:G:H2'	22:RA:1441:G:H8	1.84	0.41
22:RA:1466:G:N2	22:RA:1547:C:C2	2.88	0.41
22:RA:1702:G:H2'	22:RA:1703:G:O4'	2.19	0.41
22:RA:1794:U:H2'	22:RA:1795:C:C6	2.55	0.41
22:RA:2043:C:C2	22:RA:2044:C:C5	3.08	0.41
22:RA:2080:G:C5	22:RA:2081:C:C5	3.08	0.41
22:RA:2666:C:H5''	22:RA:2667:C:OP2	2.20	0.41
22:RA:2723:C:OP2	25:RE:109:LYS:NZ	2.52	0.41
22:RA:996:A:OP2	37:RU:92:ARG:NH2	2.53	0.41
24:RD:101:GLU:OE1	24:RD:103:ARG:NH1	2.53	0.41
26:RF:78:ILE:HG13	26:RF:78:ILE:H	1.66	0.41
29:RI:132:PRO:HB2	29:RI:133:HIS:ND1	2.34	0.41
29:RI:29:TYR:O	29:RI:32:PRO:HD2	2.19	0.41
31:RO:7:TYR:CE1	31:RO:20:MET:HB2	2.55	0.41
1:XA:1147:C:O2	9:XI:16:ARG:NH1	2.52	0.41
1:XA:1469:G:H2'	1:XA:1470:G:H8	1.84	0.41
1:XA:1523:G:OP1	11:XK:123:LYS:NZ	2.44	0.41
1:XA:200:G:H1	1:XA:217:C:N4	2.18	0.41
1:XA:938:A:H8	1:XA:938:A:O5'	2.02	0.41
4:XD:127:THR:HA	4:XD:132:ARG:HA	2.02	0.41
13:XM:16:ASP:HB3	13:XM:41:PRO:HB3	2.01	0.41
13:XM:20:THR:O	13:XM:22:ILE:N	2.51	0.41
47:Y4:39:CYS:O	47:Y4:40:HIS:HB2	2.20	0.41
47:Y4:37:SER:HB3	47:Y4:42:PHE:HB3	2.00	0.41
48:Y5:56:LYS:CD	48:Y5:56:LYS:H	2.30	0.41
22:YA:1085:A:O2'	22:YA:1086:A:P	2.78	0.41
22:YA:142:G:H1'	40:YX:37:THR:CG2	2.50	0.41
22:YA:1480:G:C6	22:YA:1482:U:C4	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1488:G:N2	22:YA:1502:C:C2	2.87	0.41
22:YA:1587:A:H2'	22:YA:1588:C:C6	2.56	0.41
22:YA:2146:C:H6	22:YA:2146:C:OP2	2.03	0.41
22:YA:2620:C:H2'	22:YA:2621:A:O4'	2.19	0.41
22:YA:2659:G:O2'	22:YA:2661:G:N7	2.40	0.41
24:YD:232:PRO:HB3	24:YD:244:ARG:CZ	2.50	0.41
29:YI:69:LYS:HE2	29:YI:73:GLU:OE1	2.20	0.41
32:YP:82:GLY:HA3	32:YP:115:LEU:HD21	2.01	0.41
37:YU:30:LYS:HA	37:YU:30:LYS:HD3	1.90	0.41
22:YA:2019:A:C4'	37:YU:34:LYS:HD2	2.50	0.41
38:YV:72:VAL:HG13	38:YV:85:LYS:HG2	2.01	0.41
41:YY:96:ILE:HG13	41:YY:98:VAL:H	1.85	0.41
42:YZ:70:LEU:HD23	42:YZ:70:LEU:HA	1.65	0.41
1:QA:15:G:H2'	1:QA:16:A:O4'	2.20	0.41
1:QA:187:C:H2'	1:QA:188:U:O4'	2.20	0.41
1:QA:270:A:C5	1:QA:271:C:C4	3.08	0.41
1:QA:44:G:N1	1:QA:45:U:O2	2.53	0.41
1:QA:746:A:H2'	1:QA:747:C:C6	2.55	0.41
1:QA:824:C:H2'	1:QA:825:G:H8	1.83	0.41
1:QA:947:G:H2'	1:QA:948:C:O4'	2.20	0.41
4:QD:169:LYS:HE2	4:QD:169:LYS:HB3	1.88	0.41
8:QH:36:LEU:HD12	8:QH:59:LEU:HD13	2.02	0.41
11:QK:120:ARG:HA	11:QK:121:PRO:HD3	1.87	0.41
14:QN:4:LYS:O	14:QN:7:ILE:HG12	2.20	0.41
15:QO:31:LEU:O	15:QO:35:ARG:HG3	2.20	0.41
18:QR:56:THR:HB	18:QR:58:LEU:CD1	2.50	0.41
19:QS:28:LYS:HA	19:QS:47:HIS:HE1	1.86	0.41
46:R3:7:LYS:HA	46:R3:33:GLN:O	2.20	0.41
50:R7:47:ARG:HB2	50:R7:48:LYS:H	1.68	0.41
22:RA:1248:G:C5	37:RU:3:ARG:HB2	2.55	0.41
22:RA:1392:A:C6	22:RA:1393:A:C6	3.08	0.41
22:RA:1620:G:H2'	22:RA:1621:U:H6	1.83	0.41
22:RA:189:G:H2'	22:RA:205:G:N2	2.35	0.41
22:RA:2320:A:C8	22:RA:2333:A:N6	2.88	0.41
22:RA:2838:G:C6	22:RA:2839:G:C5	3.08	0.41
22:RA:336:C:H2'	22:RA:337:C:H6	1.83	0.41
22:RA:409:C:H2'	22:RA:410:G:H8	1.84	0.41
22:RA:460:A:C2	22:RA:470:A:C4	3.08	0.41
22:RA:534:U:H2'	22:RA:535:C:C6	2.55	0.41
22:RA:551:G:O4'	22:RA:1220:A:N3	2.53	0.41
26:RF:113:ALA:HB1	26:RF:186:ILE:HG21	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:RF:129:PHE:O	26:RF:130:ALA:HB3	2.20	0.41
26:RF:177:ALA:HB1	26:RF:178:PRO:HD2	2.02	0.41
27:RG:47:LYS:HD3	27:RG:81:LYS:CB	2.49	0.41
22:RA:2531:A:H4'	28:RH:157:TYR:CE2	2.55	0.41
32:RP:63:PRO:HA	51:R8:13:ARG:HB3	2.02	0.41
41:RY:39:VAL:HB	41:RY:40:GLU:H	1.57	0.41
42:RZ:125:LEU:HD23	42:RZ:164:ALA:O	2.21	0.41
1:XA:1171:G:H2'	1:XA:1172:C:H6	1.84	0.41
1:XA:977:A:C8	1:XA:1223:C:C4	3.08	0.41
1:XA:253:U:H2'	1:XA:254:G:H8	1.84	0.41
1:XA:262:A:C6	1:XA:263:A:C6	3.08	0.41
1:XA:339:C:H2'	1:XA:340:U:C6	2.55	0.41
1:XA:691:G:H2'	1:XA:692:U:C6	2.55	0.41
9:XI:40:LEU:O	9:XI:42:ARG:N	2.48	0.41
16:XP:60:LEU:HD23	16:XP:60:LEU:HA	1.80	0.41
18:XR:38:GLU:O	18:XR:42:ARG:NH1	2.53	0.41
44:Y1:89:GLU:HA	44:Y1:93:GLU:HB2	2.02	0.41
47:Y4:24:THR:OG1	47:Y4:25:TYR:N	2.53	0.41
22:YA:1173:G:H5''	22:YA:1174:A:OP1	2.20	0.41
22:YA:1204:A:C2	22:YA:1241:A:N1	2.84	0.41
22:YA:1483:G:C6	22:YA:1507:A:C8	3.08	0.41
22:YA:1657:C:H2'	22:YA:1658:C:H6	1.84	0.41
22:YA:1729:A:N6	22:YA:1731:G:C2	2.88	0.41
22:YA:1824:G:OP1	24:YD:52:ARG:HD3	2.21	0.41
22:YA:1956:U:H2'	22:YA:1957:C:H5'	2.01	0.41
22:YA:2261:C:OP1	43:Y0:17:GLN:HB2	2.19	0.41
22:YA:230:U:H2'	22:YA:231:C:H6	1.86	0.41
22:YA:2531:A:H2'	22:YA:2532:G:C8	2.54	0.41
22:YA:2740:A:H2'	22:YA:2741:A:C8	2.55	0.41
22:YA:307:G:O5'	22:YA:307:G:H8	2.02	0.41
22:YA:363(A):A:H2'	22:YA:363(B):G:C8	2.55	0.41
22:YA:422:A:C6	22:YA:423:A:C6	3.08	0.41
22:YA:519:U:H2'	22:YA:520:G:C8	2.54	0.41
22:YA:593:G:C4'	51:Y8:4:MET:HE1	2.50	0.41
22:YA:654:A:HO2'	22:YA:654(A):G:P	2.44	0.41
22:YA:74:A:H5'	22:YA:75:G:O4'	2.19	0.41
22:YA:875:G:H2'	22:YA:876:C:O4'	2.20	0.41
23:YB:63:G:C6	23:YB:64:C:C4	3.08	0.41
24:YD:245:PRO:HA	24:YD:246:PRO:HD3	1.87	0.41
27:YG:86:MET:HA	27:YG:87:PRO:HD2	1.95	0.41
29:YI:23:PRO:O	29:YI:27:ARG:HG2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:YI:6:LEU:HD13	29:YI:36:ALA:HA	2.01	0.41
30:YN:35:ARG:HB2	30:YN:42:TRP:CZ3	2.55	0.41
30:YN:65:LYS:O	30:YN:69:GLN:HG2	2.19	0.41
22:YA:389:G:H22	32:YP:72:PRO:CG	2.33	0.41
34:YR:3:HIS:O	34:YR:5:LYS:N	2.53	0.41
42:YZ:152:ALA:HA	42:YZ:167:PRO:HB2	2.03	0.41
1:QA:1194:U:H4'	5:QE:22:GLY:O	2.20	0.41
1:QA:224:C:H2'	1:QA:225:C:H6	1.85	0.41
1:QA:230:G:N2	1:QA:231:G:C4	2.88	0.41
1:QA:371:G:H1	1:QA:390:C:H42	1.69	0.41
1:QA:407:G:H2'	1:QA:408:A:C8	2.56	0.41
2:QB:219:VAL:O	2:QB:223:ILE:HG13	2.19	0.41
5:QE:47:LYS:HB2	5:QE:47:LYS:HE2	1.82	0.41
8:QH:20:TYR:CE2	8:QH:75:ARG:HD2	2.54	0.41
8:QH:12:ARG:NH1	8:QH:27:PRO:HD2	2.35	0.41
12:QL:27:LEU:HG	12:QL:62:SER:HB3	2.01	0.41
16:QP:53:VAL:O	16:QP:57:ARG:HG2	2.21	0.41
19:QS:50:ALA:HB1	19:QS:57:HIS:HB3	2.02	0.41
53:QV:19:G:C4	53:QV:57:A:C2	3.08	0.41
22:RA:1204:A:H2	22:RA:1241:A:C2	2.38	0.41
22:RA:1342:A:C5	22:RA:1397:U:C6	3.08	0.41
22:RA:1785:A:N7	22:RA:1787:A:C5	2.88	0.41
22:RA:2266:A:H5'	22:RA:2267:A:N7	2.35	0.41
22:RA:2423:U:OP2	49:R6:5:VAL:HG23	2.20	0.41
22:RA:297:C:H5''	41:RY:85:VAL:CG2	2.50	0.41
22:RA:65:C:H1'	22:RA:456:C:H42	1.84	0.41
22:RA:462:C:C4	22:RA:463:G:N7	2.88	0.41
22:RA:571:A:C5	22:RA:575:A:C8	3.08	0.41
22:RA:581:C:H2'	22:RA:582:G:C8	2.55	0.41
22:RA:731:C:H2'	22:RA:732:C:H6	1.84	0.41
22:RA:750:A:C4	22:RA:753:C:H1'	2.56	0.41
22:RA:872:A:C6	22:RA:906:G:C2	3.08	0.41
23:RB:44:G:C2	23:RB:48:A:C2	3.08	0.41
25:RE:76:ARG:HD2	25:RE:76:ARG:N	2.35	0.41
26:RF:178:PRO:HB2	26:RF:201:VAL:CG1	2.50	0.41
27:RG:6:ALA:HB3	27:RG:104:GLU:OE2	2.20	0.41
28:RH:4:ILE:HB	28:RH:6:ARG:HG2	2.02	0.41
28:RH:10:PRO:HD2	28:RH:50:VAL:O	2.20	0.41
29:RI:52:ARG:O	29:RI:56:LYS:HB3	2.19	0.41
31:RO:73:ASP:OD2	36:RT:32:TYR:OH	2.28	0.41
32:RP:81:GLN:HG2	32:RP:106:LEU:HD23	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:RQ:40:ALA:O	33:RQ:42:ILE:HD12	2.21	0.41
33:RQ:58:PHE:HD1	33:RQ:61:GLY:HA3	1.85	0.41
33:RQ:68:ILE:HD13	33:RQ:103:MET:HG2	2.02	0.41
35:RS:108:GLY:O	35:RS:110:LEU:HG	2.20	0.41
40:RX:40:LYS:C	40:RX:42:ALA:H	2.23	0.41
41:RY:88:LYS:HA	41:RY:88:LYS:NZ	2.35	0.41
1:XA:1160:G:N3	1:XA:1160:G:H2'	2.35	0.41
1:XA:1352:C:OP1	21:XU:3:LYS:NZ	2.47	0.41
1:XA:1367:C:OP2	9:XI:112:LYS:NZ	2.47	0.41
1:XA:1368:G:H5''	9:XI:112:LYS:HB3	2.01	0.41
1:XA:114:U:H1'	1:XA:353:A:H1'	2.01	0.41
1:XA:540:G:H2'	1:XA:541:G:O4'	2.18	0.41
1:XA:739:C:HO2'	15:XO:42:HIS:CE1	2.38	0.41
8:XH:104:ARG:HD2	8:XH:138:TRP:CG	2.56	0.41
1:XA:1372:U:H5''	9:XI:71:SER:HB3	2.02	0.41
9:XI:46:ALA:HB2	9:XI:74:ILE:HG23	2.02	0.41
13:XM:12:ASN:N	13:XM:45:VAL:HG13	2.35	0.41
16:XP:56:ALA:HB1	16:XP:74:LEU:HD13	2.02	0.41
20:XT:53:LEU:HD12	20:XT:100:ILE:HG23	2.02	0.41
53:XV:20:U:H2'	53:XV:21:A:H5'	2.01	0.41
50:Y7:47:ARG:HE	50:Y7:47:ARG:HB2	1.58	0.41
22:YA:1001:A:H2'	22:YA:1002:G:O4'	2.20	0.41
22:YA:1337:G:H2'	22:YA:1338:G:O4'	2.20	0.41
22:YA:2207:C:H2'	22:YA:2208:U:O4'	2.20	0.41
22:YA:2657:A:H1'	22:YA:2665:A:N6	2.35	0.41
22:YA:2749:A:C5	22:YA:2750:A:N7	2.88	0.41
22:YA:2777:G:OP2	22:YA:2781:A:O2'	2.22	0.41
22:YA:935:C:H2'	22:YA:936:C:C6	2.55	0.41
26:YF:117:ARG:HD2	26:YF:120:GLU:OE2	2.20	0.41
27:YG:165:THR:OG1	27:YG:168:GLU:HG3	2.21	0.41
28:YH:19:VAL:HG22	28:YH:24:VAL:HG12	2.02	0.41
30:YN:18:ALA:HB3	30:YN:55:VAL:O	2.19	0.41
30:YN:7:LYS:H	30:YN:7:LYS:HD2	1.84	0.41
33:YQ:54:MET:HB3	33:YQ:64:ILE:HD13	2.01	0.41
22:YA:1216:G:P	37:YU:12:ARG:HH21	2.43	0.41
38:YV:22:VAL:HG12	38:YV:23:GLU:H	1.85	0.41
1:QA:1182:G:H4'	1:QA:1183:A:H5''	2.02	0.41
1:QA:752:G:H1'	1:QA:754:C:H41	1.84	0.41
9:QI:111:ARG:HG2	9:QI:112:LYS:N	2.35	0.41
1:QA:943:U:H1'	9:QI:124:GLN:HE22	1.86	0.41
13:QM:7:VAL:HB	27:RG:115:ARG:HH11	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:QQ:83:ASP:O	17:QQ:87:LYS:HG2	2.20	0.41
20:QT:64:ASP:CG	20:QT:81:LYS:HZ2	2.23	0.41
53:QV:4:G:C4	53:QV:5:G:C8	3.09	0.41
50:R7:1:MET:SD	50:R7:3:ARG:NH2	2.93	0.41
22:RA:1239:G:H2'	22:RA:1240:U:O4'	2.20	0.41
22:RA:1270:C:H5''	22:RA:1271:G:H5'	2.01	0.41
22:RA:1526:G:C6	22:RA:1527:G:C2	3.09	0.41
22:RA:17:G:C6	22:RA:18:C:N4	2.88	0.41
22:RA:2212:A:H1'	22:RA:2215:G:C4	2.56	0.41
22:RA:304:G:C2	22:RA:314:A:C2	3.08	0.41
22:RA:573:G:O2'	22:RA:574:C:H3'	2.21	0.41
22:RA:675:A:N6	22:RA:676:A:N6	2.68	0.41
22:RA:704:G:H1'	22:RA:726:G:N2	2.35	0.41
22:RA:74:A:H8	22:RA:74:A:O5'	2.04	0.41
22:RA:918:A:H1'	23:RB:80:U:O2'	2.20	0.41
29:RI:76:THR:HG21	29:RI:141:LYS:HE3	2.02	0.41
33:RQ:17:LEU:HD21	33:RQ:41:TRP:HD1	1.84	0.41
22:RA:1651:G:OP2	34:RR:40:LYS:NZ	2.53	0.41
34:RR:22:ARG:HA	34:RR:47:PHE:HE2	1.86	0.41
38:RV:76:LYS:HB2	38:RV:81:TYR:HB3	2.01	0.41
1:XA:1301:U:O2'	1:XA:1302:U:OP1	2.31	0.41
1:XA:44:G:C2	1:XA:45:U:H1'	2.56	0.41
1:XA:503:C:O2'	1:XA:504:C:H5'	2.20	0.41
1:XA:895:G:H2'	1:XA:896:C:C6	2.55	0.41
3:XC:150:LYS:HE3	3:XC:167:TRP:HE1	1.84	0.41
9:XI:125:TYR:HD2	9:XI:126:SER:N	2.18	0.41
11:XK:18:ARG:HA	11:XK:81:ASP:H	1.86	0.41
11:XK:88:GLY:C	11:XK:90:GLY:H	2.23	0.41
1:XA:134:A:N6	16:XP:25:ARG:NH1	2.61	0.41
16:XP:17:TYR:HE1	16:XP:41:PRO:HG3	1.85	0.41
19:XS:40:ILE:CG1	19:XS:41:VAL:HG13	2.47	0.41
1:XA:191:G:C4	20:XT:105:SER:HB3	2.54	0.41
43:Y0:7:LEU:O	53:XV:2:G:H4'	2.20	0.41
44:Y1:76:ARG:H	44:Y1:76:ARG:HD2	1.84	0.41
46:Y3:35:ARG:HB3	46:Y3:37:LEU:HD21	2.01	0.41
22:YA:1022:G:C5	22:YA:1140:C:N4	2.88	0.41
22:YA:1166:C:H2'	22:YA:1167:U:C6	2.55	0.41
22:YA:1287:A:C5	22:YA:1288:U:C4	3.09	0.41
22:YA:1411:C:H5'	22:YA:1412:A:OP2	2.20	0.41
22:YA:1654:A:OP2	34:YR:2:ARG:HD2	2.20	0.41
22:YA:2078:C:H42	22:YA:2241:A:N6	2.18	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2115:G:H4'	22:YA:2166:G:H4'	2.01	0.41
22:YA:1759:A:H4'	22:YA:2715:C:O4'	2.21	0.41
22:YA:2720:U:H2'	22:YA:2721:A:H8	1.86	0.41
23:YB:32:C:C2	23:YB:51:G:N2	2.88	0.41
23:YB:82:G:N3	23:YB:83:G:C8	2.88	0.41
23:YB:80:U:H3	23:YB:96:G:H1	1.69	0.41
24:YD:105:ILE:HD12	24:YD:105:ILE:HA	1.55	0.41
25:YE:86:PRO:HB2	25:YE:87:GLU:H	1.66	0.41
27:YG:166:ASP:OD1	27:YG:166:ASP:N	2.54	0.41
23:YB:42:C:H5"	27:YG:69:ALA:HB2	2.00	0.41
29:YI:21:VAL:HG22	29:YI:22:LYS:H	1.85	0.41
29:YI:69:LYS:HE2	29:YI:73:GLU:CD	2.41	0.41
22:YA:811:U:O2'	32:YP:21:ARG:HG3	2.20	0.41
35:YS:107:GLU:N	35:YS:110:LEU:HD11	2.35	0.41
35:YS:51:ALA:HB1	35:YS:69:VAL:HG23	2.03	0.41
37:YU:69:CYS:HB3	37:YU:106:PHE:CZ	2.56	0.41
42:YZ:158:PRO:HA	42:YZ:159:PRO:HD2	1.82	0.41
1:QA:1077:G:C6	1:QA:1081:G:O6	2.73	0.41
1:QA:1327:C:H2'	1:QA:1328:C:C6	2.56	0.41
1:QA:1336:C:H1'	1:QA:1337:G:C2	2.56	0.41
1:QA:280:C:H3'	1:QA:281:G:H5'	2.03	0.41
1:QA:567:G:C2	1:QA:568:G:H1'	2.55	0.41
2:QB:184:VAL:N	2:QB:198:ASP:OD1	2.44	0.41
1:QA:1199:U:H4'	10:QJ:54:PHE:CZ	2.55	0.41
10:QJ:79:ARG:HA	10:QJ:79:ARG:HD3	1.78	0.41
1:QA:564:C:P	12:QL:15:ARG:HH21	2.43	0.41
16:QP:20:VAL:HG21	16:QP:32:TYR:CD1	2.56	0.41
21:QU:2:GLY:O	21:QU:5:ASP:N	2.47	0.41
53:QV:41:C:C2	53:QV:42:G:C8	3.08	0.41
43:R0:50:ASN:C	43:R0:62:LEU:HD12	2.41	0.41
22:RA:2422:A:OP2	49:R6:6:ARG:NH1	2.53	0.41
22:RA:1026:U:H1'	22:RA:1027:A:H5"	2.03	0.41
22:RA:1042:G:C6	22:RA:1043:C:N4	2.89	0.41
22:RA:1441:G:H2'	22:RA:1442:G:H8	1.84	0.41
22:RA:1484:G:H2'	22:RA:1485:G:H5"	2.02	0.41
22:RA:1568:G:H21	24:RD:58:HIS:HE2	1.67	0.41
22:RA:2120:G:N2	22:RA:2179:C:N3	2.69	0.41
22:RA:2307:G:C5	22:RA:2311:A:C2	3.09	0.41
22:RA:2464:C:H2'	22:RA:2465:C:O4'	2.21	0.41
22:RA:2749:A:H2'	28:RH:59:ARG:HE	1.84	0.41
22:RA:2836:U:H2'	22:RA:2837:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2850:A:H3'	22:RA:2851:A:H8	1.85	0.41
22:RA:690:G:H21	24:RD:43:ARG:HH22	1.68	0.41
23:RB:11:C:H3'	23:RB:12:C:C6	2.56	0.41
24:RD:35:LYS:HE3	24:RD:63:ARG:C	2.41	0.41
27:RG:27:ASN:HB3	27:RG:30:GLU:HG3	2.01	0.41
33:RQ:18:LYS:HB3	33:RQ:19:GLY:H	1.50	0.41
34:RR:109:ALA:HA	34:RR:110:PRO:HD2	1.95	0.41
1:XA:1301:U:HO2'	1:XA:1302:U:P	2.41	0.41
1:XA:464:G:O6	1:XA:466:C:H5'	2.20	0.41
1:XA:588:G:C6	1:XA:589:C:C4	3.08	0.41
1:XA:991:U:O2'	1:XA:992:U:P	2.78	0.41
8:XH:44:PHE:HE2	8:XH:109:ILE:CG2	2.34	0.41
12:XL:102:ARG:HB3	12:XL:102:ARG:HE	1.71	0.41
12:XL:62:SER:HB2	12:XL:64:TYR:CD1	2.56	0.41
12:XL:68:ALA:HB2	12:XL:85:ILE:HD11	2.03	0.41
17:XQ:59:ILE:HB	17:XQ:71:PHE:HB3	2.03	0.41
22:YA:72:U:H3	45:Y2:62:THR:HG22	1.84	0.41
22:YA:1449:A:N6	22:YA:1449(A):G:C2	2.88	0.41
22:YA:1635:G:C2	22:YA:1636:C:C2	3.09	0.41
22:YA:2018:G:C6	22:YA:2019:A:C5	3.08	0.41
22:YA:1854:A:C2	22:YA:2087:G:N3	2.86	0.41
22:YA:2633:G:C6	22:YA:2634:G:C5	3.08	0.41
22:YA:2639:A:C2	22:YA:2640:G:H1'	2.56	0.41
22:YA:868:U:H3	22:YA:909:A:H61	1.67	0.41
22:YA:888:C:C3'	22:YA:889:C:H4'	2.51	0.41
25:YE:181:LEU:HA	25:YE:181:LEU:HD13	1.85	0.41
26:YF:107:LYS:CD	26:YF:207:GLY:H	2.30	0.41
22:YA:2094:G:H4'	29:YI:25:TYR:CZ	2.56	0.41
32:YP:101:VAL:C	32:YP:103:ALA:H	2.23	0.41
38:YV:38:LEU:O	38:YV:51:VAL:HA	2.20	0.41
22:YA:483:A:H5'	41:YY:49:VAL:HG22	2.02	0.41
41:YY:84:ARG:O	41:YY:95:LYS:HD3	2.21	0.41
1:QA:103:C:P	20:QT:17:ARG:HH21	2.43	0.41
1:QA:1135:U:H4'	1:QA:1136:U:C5	2.55	0.41
1:QA:1259:C:N4	1:QA:1260:C:O2	2.54	0.41
1:QA:1293:G:H2'	1:QA:1294:G:C8	2.56	0.41
1:QA:1371:G:O3'	9:QI:69:GLY:HA3	2.20	0.41
1:QA:236:G:H2'	1:QA:237:C:O4'	2.21	0.41
2:QB:120:ALA:C	2:QB:122:PHE:H	2.23	0.41
2:QB:210:SER:O	2:QB:214:ILE:HG12	2.21	0.41
4:QD:122:ARG:HD3	4:QD:122:ARG:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:QE:110:LEU:HD13	5:QE:118:ILE:HG12	2.02	0.41
5:QE:127:ASN:HA	5:QE:128:PRO:HD3	1.89	0.41
11:QK:99:GLN:HG2	11:QK:105:VAL:HG21	2.03	0.41
13:QM:91:ARG:HB2	13:QM:98:VAL:HG13	2.03	0.41
20:QT:89:ARG:HH21	20:QT:104:LEU:HG	1.85	0.41
53:QV:75:C:H2'	53:QV:76:A:O4'	2.20	0.41
22:RA:1053:C:H2'	22:RA:1054:A:O4'	2.21	0.41
22:RA:1054:A:N6	22:RA:1055:G:C6	2.88	0.41
22:RA:1070:A:C8	22:RA:1096:A:H2'	2.55	0.41
22:RA:1492:G:H3'	22:RA:1493:C:C5'	2.51	0.41
22:RA:2020:A:O2'	22:RA:2021:C:H5'	2.20	0.41
22:RA:2584:U:H2'	22:RA:2585:U:C6	2.55	0.41
22:RA:2631:G:N3	22:RA:2810:A:H2	2.17	0.41
22:RA:2822:G:H8	22:RA:2822:G:O5'	2.02	0.41
22:RA:422:A:C6	22:RA:423:A:C6	3.09	0.41
22:RA:55:G:H2'	22:RA:56:A:H8	1.85	0.41
22:RA:806:C:OP2	32:RP:41:ARG:NH1	2.32	0.41
22:RA:838:C:H2'	22:RA:839:U:H6	1.86	0.41
22:RA:890:A:H2'	22:RA:892:G:H8	1.86	0.41
22:RA:1490:A:O2'	24:RD:99:ASP:OD2	2.39	0.41
26:RF:29:ASN:O	26:RF:112:MET:HE1	2.20	0.41
26:RF:33:LEU:HA	26:RF:33:LEU:HD12	1.83	0.41
27:RG:124:SER:HB2	27:RG:131:TYR:CE1	2.56	0.41
35:RS:14:VAL:HG21	35:RS:89:ARG:HG2	2.02	0.41
40:RX:51:VAL:HG13	40:RX:81:VAL:HG23	2.03	0.41
41:RY:54:LYS:HB3	41:RY:55:TYR:CE2	2.55	0.41
41:RY:84:ARG:HD3	41:RY:86:ARG:NH1	2.35	0.41
1:XA:11:G:C6	1:XA:12:U:C4	3.08	0.41
1:XA:1235:U:H6	1:XA:1235:U:O5'	2.04	0.41
1:XA:1286:A:H2'	1:XA:1287:A:H4'	2.03	0.41
1:XA:147:G:C2	1:XA:148:G:C4	3.09	0.41
1:XA:237:C:H5''	17:XQ:25:ARG:CZ	2.50	0.41
1:XA:452:A:H62	1:XA:480:U:H3	1.67	0.41
1:XA:827:U:C5	1:XA:870:U:C4	3.09	0.41
6:XF:46:ARG:HB3	6:XF:60:PHE:CE1	2.55	0.41
16:XP:23:ASP:O	16:XP:26:ARG:HB2	2.21	0.41
16:XP:8:ARG:C	16:XP:9:PHE:HD2	2.24	0.41
53:XV:19:G:C2	53:XV:57:A:N3	2.89	0.41
47:Y4:48:ARG:NH1	47:Y4:52:THR:H	2.19	0.41
22:YA:1535:U:H5''	22:YA:1537:C:N4	2.36	0.41
22:YA:1288:U:O2'	22:YA:1647:G:N2	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1696:G:C6	22:YA:1697:G:C4	3.08	0.41
22:YA:1804:C:H42	22:YA:1813:G:H1	1.67	0.41
22:YA:2248:C:H3'	22:YA:2249:U:H6	1.85	0.41
22:YA:1050:A:C8	22:YA:2751:G:C4	3.09	0.41
22:YA:626:U:O4	32:YP:81:GLN:NE2	2.53	0.41
22:YA:815:C:H2'	22:YA:816:C:C6	2.55	0.41
23:YB:26:A:H2'	23:YB:27:C:O4'	2.20	0.41
23:YB:71:C:H2'	23:YB:72:G:H8	1.85	0.41
22:YA:1805:U:O2	24:YD:50:THR:HB	2.21	0.41
33:YQ:16:ARG:HB3	33:YQ:17:LEU:H	1.76	0.41
33:YQ:19:GLY:O	33:YQ:21:THR:OG1	2.23	0.41
35:YS:43:GLU:OE2	43:Y0:49:LYS:HE2	2.20	0.41
35:YS:88:ASP:O	35:YS:89:ARG:HB3	2.21	0.41
1:XA:1463:C:OP1	36:YT:111:ARG:HD2	2.20	0.41
22:YA:2847:U:OP2	36:YT:98:LYS:NZ	2.54	0.41
37:YU:98:LEU:HD23	37:YU:99:ALA:N	2.36	0.41
38:YV:72:VAL:CG1	38:YV:85:LYS:HG2	2.50	0.41
41:YY:63:LYS:HD2	41:YY:63:LYS:HA	1.86	0.41
42:YZ:107:THR:HA	42:YZ:108:PRO:HD3	1.75	0.41
1:QA:1098:C:H2'	1:QA:1099:G:O4'	2.21	0.41
1:QA:1238:A:C2	1:QA:1241:G:N3	2.89	0.41
1:QA:129(A):G:C2	1:QA:188:U:O2'	2.74	0.41
1:QA:21:G:H2'	1:QA:22:G:C8	2.56	0.41
1:QA:626:U:H2'	1:QA:627:G:O4'	2.21	0.41
1:QA:865:A:O5'	1:QA:865:A:H8	2.04	0.41
2:QB:104:ASN:OD1	2:QB:107:THR:OG1	2.30	0.41
2:QB:208:ILE:HA	2:QB:211:ILE:HD12	2.03	0.41
4:QD:38:TYR:HB2	4:QD:44:GLY:O	2.21	0.41
10:QJ:61:GLU:HG3	14:QN:58:LYS:HZ1	1.85	0.41
15:QO:32:LEU:HA	15:QO:32:LEU:HD23	1.76	0.41
49:R6:13:CYS:O	49:R6:21:TYR:HA	2.20	0.41
22:RA:1278:A:H5''	34:RR:36:THR:HG22	2.03	0.41
22:RA:1421:G:C2	22:RA:1422:G:C8	3.09	0.41
22:RA:2046:G:H2'	22:RA:2047:U:H6	1.84	0.41
22:RA:2352:A:C4	22:RA:2366:A:C2	3.09	0.41
22:RA:2477:C:C6	52:R9:1:MET:HE3	2.56	0.41
22:RA:2022:U:HO2'	22:RA:2617:C:H5'	1.84	0.41
22:RA:2760:C:C2'	22:RA:2761:G:H5''	2.50	0.41
22:RA:2776:A:OP1	22:RA:2776:A:H3'	2.21	0.41
22:RA:30:G:C5	22:RA:31:C:C4	3.09	0.41
22:RA:413:C:H6	22:RA:413:C:O5'	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:18:C:O2'	22:RA:553:U:OP1	2.28	0.41
22:RA:603:A:O4'	22:RA:655:A:N6	2.53	0.41
22:RA:623:G:H2'	22:RA:624:C:C6	2.56	0.41
22:RA:768:G:H2'	22:RA:769:G:C8	2.54	0.41
22:RA:852:G:C2	22:RA:926:A:N3	2.89	0.41
23:RB:97:G:C4	23:RB:98:G:C8	3.08	0.41
24:RD:127:VAL:HA	24:RD:193:VAL:HG22	2.02	0.41
25:RE:92:THR:HB	25:RE:93:VAL:H	1.54	0.41
26:RF:164:ARG:HG3	26:RF:175:THR:OG1	2.20	0.41
29:RI:37:VAL:HG12	29:RI:38:LEU:H	1.86	0.41
22:RA:558:G:OP1	30:RN:111:PRO:HD2	2.21	0.41
30:RN:71:ILE:HG21	30:RN:84:LYS:HB3	2.02	0.41
22:RA:483:A:H5''	41:RY:49:VAL:HG13	2.02	0.41
42:RZ:116:VAL:HG12	42:RZ:117:LEU:O	2.21	0.41
1:XA:1104:G:H2'	1:XA:1105:A:O4'	2.20	0.41
1:XA:1122:U:O4	1:XA:1123:A:N6	2.53	0.41
1:XA:1250:A:H2'	1:XA:1251:A:C8	2.56	0.41
1:XA:1397:C:O4'	54:XX:8:A:N6	2.54	0.41
1:XA:358:U:H2'	1:XA:359:U:O4'	2.20	0.41
1:XA:678:U:O4	1:XA:679:C:N4	2.53	0.41
1:XA:750:G:O2'	15:XO:21:ASP:OD2	2.39	0.41
1:XA:792:A:H4'	1:XA:793:U:O5'	2.21	0.41
1:XA:957:U:N3	1:XA:960:U:OP2	2.53	0.41
2:XB:80:ILE:HD11	2:XB:208:ILE:HG12	2.02	0.41
3:XC:119:ARG:HH21	3:XC:140:ARG:CZ	2.34	0.41
10:XJ:3:LYS:HD2	10:XJ:77:PRO:HD3	2.01	0.41
11:XK:48:ILE:HD13	11:XK:48:ILE:HA	1.83	0.41
12:XL:70:ILE:HA	12:XL:71:PRO:HD3	1.81	0.41
14:YN:51:GLY:O	14:YN:53:LEU:N	2.53	0.41
17:XQ:62:SER:CB	17:XQ:72:ARG:HE	2.33	0.41
18:XR:85:LEU:HD23	18:XR:88:LYS:HD2	2.03	0.41
53:XV:16:C:O2	53:XV:60:U:H4'	2.20	0.41
53:XV:66:C:H2'	53:XV:67:C:C6	2.56	0.41
51:Y8:37:SER:O	51:Y8:40:GLU:HB3	2.20	0.41
22:YA:1210:A:N3	22:YA:1212:G:N2	2.69	0.41
22:YA:1535:U:H3	22:YA:1537:C:H1'	1.85	0.41
22:YA:1955:U:O4	22:YA:2554:U:H5	2.04	0.41
22:YA:2494:G:C4	22:YA:2495:G:C8	3.08	0.41
22:YA:2695:C:H2'	22:YA:2696:U:H6	1.84	0.41
22:YA:301:G:C4	22:YA:302:C:C5	3.09	0.41
22:YA:478:A:C6	22:YA:480:A:C6	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:894:C:H2'	22:YA:895:U:C6	2.55	0.41
26:YF:125:LEU:HA	26:YF:194:MET:O	2.20	0.41
27:YG:103:LEU:O	27:YG:107:LEU:HG	2.21	0.41
29:YI:120:ILE:HG12	29:YI:126:TYR:CE1	2.55	0.41
29:YI:2:LYS:HA	29:YI:20:ASP:HA	2.02	0.41
37:YU:8:VAL:O	37:YU:12:ARG:HG3	2.20	0.41
42:YZ:180:VAL:HA	42:YZ:181:GLU:HA	1.84	0.41
1:QA:1391:U:H2'	1:QA:1392:G:C8	2.56	0.41
1:QA:147:G:H1	1:QA:175:C:N4	2.09	0.41
1:QA:364:A:H2'	1:QA:365:U:O2	2.21	0.41
1:QA:555:C:H2'	1:QA:556:C:C6	2.55	0.41
1:QA:676:A:C2	1:QA:677:U:C4	3.08	0.41
1:QA:688:G:H2'	1:QA:689:C:H6	1.85	0.41
1:QA:789:U:H1'	1:QA:792:A:C2	2.56	0.41
2:QB:47:THR:HA	2:QB:202:PRO:HG2	2.00	0.41
3:QC:122:GLU:HA	3:QC:125:GLU:OE1	2.21	0.41
4:QD:173:TRP:CD1	4:QD:174:LEU:HG	2.55	0.41
5:QE:12:LEU:O	5:QE:13:ILE:HD12	2.21	0.41
10:QJ:31:GLY:HA3	10:QJ:78:ASN:CG	2.40	0.41
19:QS:36:ARG:HA	19:QS:71:LEU:HB2	2.03	0.41
19:QS:5:LEU:HD12	19:QS:5:LEU:HA	1.93	0.41
22:RA:2602:A:OP1	53:QV:75:C:OP1	2.39	0.41
44:R1:58:ILE:CD1	44:R1:86:SER:HB2	2.50	0.41
22:RA:1059:G:C5	22:RA:1060:U:H1'	2.56	0.41
22:RA:2105:C:H2'	22:RA:2106:G:C8	2.55	0.41
22:RA:2674:G:H2'	22:RA:2675:A:O4'	2.21	0.41
22:RA:2853:C:O2'	22:RA:2854:G:H5'	2.21	0.41
22:RA:646:A:H2'	22:RA:647:G:O4'	2.21	0.41
24:RD:111:LEU:HA	24:RD:111:LEU:HD23	1.78	0.41
24:RD:150:LYS:N	24:RD:150:LYS:HD3	2.36	0.41
25:RE:35:GLN:HB3	25:RE:48:GLN:HB2	2.02	0.41
29:RI:9:LEU:N	29:RI:9:LEU:HD22	2.36	0.41
30:RN:47:ALA:HB2	30:RN:112:LEU:HD11	2.02	0.41
33:RQ:66:ILE:HG13	33:RQ:67:ARG:N	2.36	0.41
34:RR:10:LEU:O	34:RR:12:ARG:HG3	2.21	0.41
34:RR:70:LEU:C	34:RR:72:ASP:H	2.21	0.41
36:RT:91:ARG:HB2	36:RT:121:ILE:HG13	2.03	0.41
1:XA:1306:A:H61	1:XA:1331:G:H1'	1.84	0.41
1:XA:667:G:H4'	15:XO:51:HIS:ND1	2.36	0.41
1:XA:715:A:H2'	1:XA:716:A:C8	2.54	0.41
1:XA:665:A:H1'	1:XA:733:A:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:7:G:C5	1:XA:298:A:C2	3.08	0.41
1:XA:924:C:H2'	1:XA:925:G:C8	2.56	0.41
3:XC:138:VAL:HG13	3:XC:149:ALA:HB3	2.02	0.41
1:XA:1055:A:H1'	3:XC:156:ARG:NH1	2.35	0.41
1:XA:878:G:OP1	8:XH:88:LYS:HB3	2.20	0.41
10:XJ:54:PHE:CD2	10:XJ:55:LYS:HG3	2.56	0.41
10:XJ:76:ASN:HA	10:XJ:77:PRO:HD2	1.96	0.41
22:YA:103:A:H8	22:YA:103:A:O5'	2.02	0.41
22:YA:1056:G:O2'	22:YA:1086:A:H1'	2.20	0.41
22:YA:1324:G:C4	22:YA:1328:G:O6	2.73	0.41
22:YA:2111:C:H5	22:YA:2147:G:H22	1.68	0.41
22:YA:2232:U:OP1	44:Y1:40:ARG:NH1	2.49	0.41
22:YA:2712:U:C1'	22:YA:2712(A):A:C8	3.01	0.41
22:YA:2768:C:C4	22:YA:2769:C:C5	3.08	0.41
22:YA:2810:A:H2'	22:YA:2811:G:O4'	2.21	0.41
22:YA:2844:G:H8	22:YA:2844:G:O5'	2.04	0.41
22:YA:729:G:C4	22:YA:1775:U:O2	2.74	0.41
22:YA:795:C:H2'	22:YA:796:C:C6	2.55	0.41
22:YA:828:U:H2'	22:YA:829:A:C8	2.55	0.41
24:YD:102:LYS:C	24:YD:103:ARG:HG2	2.40	0.41
24:YD:3:VAL:HG13	24:YD:17:THR:HG23	2.03	0.41
25:YE:64:LYS:C	25:YE:66:HIS:H	2.24	0.41
26:YF:67:GLN:HG3	26:YF:67:GLN:O	2.20	0.41
26:YF:9:ILE:HD11	26:YF:125:LEU:HG	2.03	0.41
27:YG:124:SER:HB2	27:YG:131:TYR:CE1	2.56	0.41
30:YN:29:LYS:HG2	30:YN:29:LYS:H	1.53	0.41
22:YA:29:U:H4'	37:YU:7:GLY:O	2.20	0.41
42:YZ:182:LYS:HG3	42:YZ:183:LEU:HD23	2.03	0.41
1:QA:1245:A:OP2	21:QU:9:ARG:NH2	2.54	0.41
1:QA:340:U:C4	1:QA:341:C:C4	3.08	0.41
1:QA:785:G:N2	1:QA:798:G:C4	2.89	0.41
7:QG:45:ASP:O	7:QG:48:LYS:HB3	2.21	0.41
8:QH:41:ARG:NH2	8:QH:123:GLU:OE2	2.54	0.41
12:QL:103:GLY:N	12:QL:107:ALA:O	2.49	0.41
1:QA:529:G:O6	12:QL:49:ASN:HA	2.21	0.41
13:QM:105:THR:OG1	13:QM:106:ASN:N	2.54	0.41
53:QV:64:G:C2	53:QV:65:C:C2	3.08	0.41
49:R6:24:GLU:HB3	49:R6:25:LYS:H	1.74	0.41
22:RA:1248:G:N7	37:RU:3:ARG:HB2	2.36	0.41
22:RA:1542:G:N7	22:RA:1543:A:C5	2.89	0.41
22:RA:1589:C:H2'	22:RA:1590:U:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1649:G:H2'	22:RA:1650:G:O4'	2.21	0.41
22:RA:2816:C:O3'	34:RR:99:LYS:NZ	2.54	0.41
22:RA:40:C:H2'	22:RA:41:C:O4'	2.21	0.41
22:RA:439:G:N2	22:RA:440:G:C4	2.89	0.41
22:RA:617:G:H5'	26:RF:40:GLN:NE2	2.36	0.41
23:RB:115:G:H2'	23:RB:115:G:N3	2.36	0.41
24:RD:226:MET:HB3	24:RD:230:ASP:HB2	2.03	0.41
27:RG:103:LEU:HA	27:RG:103:LEU:HD23	1.89	0.41
28:RH:33:LEU:HD11	28:RH:136:ILE:O	2.20	0.41
29:RI:102:SER:OG	29:RI:108:THR:HG22	2.21	0.41
30:RN:57:ALA:C	30:RN:60:ILE:HD11	2.40	0.41
30:RN:57:ALA:O	30:RN:60:ILE:HD11	2.21	0.41
31:RO:26:LYS:HB2	31:RO:30:ALA:HB2	2.02	0.41
35:RS:83:LYS:C	35:RS:109:GLY:HA3	2.41	0.41
1:XA:1109:C:OP2	3:XC:176:HIS:ND1	2.54	0.41
1:XA:1189:C:H5'	1:XA:1190:G:OP2	2.21	0.41
1:XA:1336:C:O2'	1:XA:1337:G:P	2.78	0.41
1:XA:1348:U:H3	1:XA:1374:A:H2	1.66	0.41
1:XA:354:G:C2	1:XA:355:C:C5	3.09	0.41
1:XA:812:C:H4'	1:XA:813:U:H5'	2.03	0.41
1:XA:881:G:P	12:XL:12:ARG:NH2	2.92	0.41
2:XB:118:LEU:CB	2:XB:142:LEU:HD12	2.50	0.41
4:XD:186:LEU:HD23	4:XD:186:LEU:HA	1.95	0.41
4:XD:52:SER:O	4:XD:55:ALA:HB3	2.21	0.41
5:XE:82:VAL:HB	5:XE:138:ALA:HB2	2.03	0.41
9:XI:79:LEU:O	9:XI:83:ARG:HG2	2.19	0.41
1:XA:34:C:H1'	12:XL:32:PHE:CZ	2.56	0.41
1:XA:376:G:O3'	16:XP:5:ARG:HD2	2.21	0.41
19:XS:36:ARG:HA	19:XS:71:LEU:HB2	2.02	0.41
20:XT:11:SER:HA	20:XT:13:LEU:HD12	2.01	0.41
20:XT:43:LEU:HA	20:XT:43:LEU:HD23	1.88	0.41
43:Y0:37:LEU:O	43:Y0:38:VAL:HG23	2.21	0.41
22:YA:1053:C:N4	22:YA:1106:G:H1	2.16	0.41
22:YA:1120:G:H2'	22:YA:1121:C:C6	2.56	0.41
22:YA:1275:A:O2'	22:YA:1645:G:N3	2.54	0.41
22:YA:1754:C:H2'	22:YA:1755:A:O4'	2.21	0.41
22:YA:1878:G:H2'	22:YA:1879:C:H6	1.83	0.41
22:YA:221:A:C4	22:YA:266:G:C8	3.09	0.41
22:YA:2309:A:C6	22:YA:2310:A:C2	3.08	0.41
22:YA:2473:U:OP1	22:YA:2529:G:N2	2.53	0.41
22:YA:2525:G:N3	22:YA:2525:G:H2'	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2584:U:H2'	22:YA:2585:U:C6	2.56	0.41
22:YA:2621:A:C6	22:YA:2622:C:C4	3.09	0.41
22:YA:2681:C:C4	22:YA:2724:C:H5	2.38	0.41
22:YA:2743:C:C2	22:YA:2762:G:N2	2.89	0.41
22:YA:2812:G:H2'	22:YA:2813:A:H8	1.86	0.41
22:YA:2858:C:H2'	22:YA:2859:G:O4'	2.21	0.41
22:YA:581:C:C2	22:YA:582:G:C8	3.08	0.41
22:YA:706:A:H2'	22:YA:707:G:O4'	2.21	0.41
24:YD:36:PRO:HB3	24:YD:61:LEU:HB3	2.03	0.41
25:YE:41:LYS:HA	25:YE:41:LYS:HE2	2.02	0.41
26:YF:64:ILE:HA	26:YF:64:ILE:HD12	1.80	0.41
30:YN:7:LYS:H	30:YN:7:LYS:NZ	2.18	0.41
22:YA:2334:G:C2	35:YS:12:PHE:CE2	3.09	0.41
37:YU:96:ALA:HA	37:YU:98:LEU:HD23	2.03	0.41
42:YZ:62:PRO:C	42:YZ:64:GLY:N	2.74	0.41
1:QA:1049:U:H5'	1:QA:1201:A:OP1	2.21	0.41
1:QA:1178:G:H5''	9:QI:93:ARG:HH21	1.85	0.41
1:QA:949:A:C2	1:QA:1233:G:N3	2.89	0.41
1:QA:189:U:O2	17:QQ:63:ARG:NH2	2.54	0.41
1:QA:348:G:H2'	1:QA:349:A:C8	2.54	0.41
1:QA:682:G:N3	1:QA:709:G:C2	2.88	0.41
1:QA:763:G:C6	1:QA:764:C:C4	3.09	0.41
3:QC:42:LEU:HA	3:QC:42:LEU:HD12	1.80	0.41
3:QC:83:ARG:O	3:QC:86:VAL:HG22	2.21	0.41
6:QF:35:ALA:HA	6:QF:67:MET:HB3	2.02	0.41
1:QA:1128:C:H4'	9:QI:16:ARG:HH22	1.85	0.41
11:QK:25:TYR:CZ	11:QK:87:THR:HB	2.55	0.41
13:QM:3:ARG:CZ	27:RG:113:ARG:HH21	2.34	0.41
15:QO:4:THR:HB	15:QO:6:GLU:CD	2.41	0.41
47:R4:39:CYS:HB2	47:R4:41:PRO:HD2	2.02	0.41
22:RA:1015:G:N1	22:RA:1016:G:C5	2.89	0.41
22:RA:1034:G:C6	22:RA:1035:U:C4	3.08	0.41
22:RA:1283:G:N2	22:RA:1286:A:OP2	2.49	0.41
22:RA:1751:C:H2'	22:RA:1752:C:C6	2.55	0.41
22:RA:528:A:C2	22:RA:2042:A:H2'	2.55	0.41
22:RA:2485:G:C2	22:RA:2486:G:C8	3.09	0.41
22:RA:2568:C:H2'	22:RA:2569:G:O4'	2.21	0.41
22:RA:26:G:N1	22:RA:27:G:N2	2.69	0.41
22:RA:2869:G:H2'	22:RA:2870:C:O4'	2.21	0.41
22:RA:30:G:C6	22:RA:31:C:C4	3.09	0.41
22:RA:667:U:H2'	22:RA:668:G:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:966:G:H2'	22:RA:967:C:H6	1.86	0.41
24:RD:34:VAL:C	24:RD:35:LYS:HG3	2.40	0.41
27:RG:131:TYR:O	27:RG:159:VAL:HG13	2.21	0.41
29:RI:60:GLU:HG3	29:RI:61:ARG:NH1	2.36	0.41
30:RN:73:THR:HB	30:RN:82:LEU:HD11	2.02	0.41
30:RN:9:VAL:HG21	30:RN:48:MET:HB3	2.02	0.41
32:RP:62:LEU:N	32:RP:62:LEU:HD13	2.36	0.41
37:RU:61:TRP:O	37:RU:65:ILE:HG13	2.21	0.41
42:RZ:165:VAL:HG12	42:RZ:166:SER:N	2.36	0.41
1:XA:1343:G:H4'	9:XI:122:ALA:HB3	2.03	0.41
1:XA:186:C:H2'	1:XA:186(A):C:C6	2.56	0.41
1:XA:36:C:C4	1:XA:37:U:C4	3.09	0.41
1:XA:731:G:H5'	1:XA:766:A:H4'	2.02	0.41
1:XA:820:U:H4'	1:XA:821:G:OP2	2.21	0.41
2:XB:126:GLU:O	2:XB:129:GLU:HB2	2.20	0.41
1:XA:1223:C:P	19:XS:78:ARG:HH12	2.43	0.41
44:Y1:83:GLU:C	44:Y1:85:LEU:H	2.24	0.41
49:Y6:36:LEU:HD13	49:Y6:50:ARG:CZ	2.51	0.41
22:YA:1058:G:H2'	22:YA:1058:G:N3	2.36	0.41
22:YA:1811:G:H2'	22:YA:1812:A:O4'	2.20	0.41
22:YA:1844:C:H2'	22:YA:1845:G:C8	2.33	0.41
22:YA:2320:A:C2	22:YA:2333:A:C8	3.09	0.41
22:YA:2666:C:H5''	22:YA:2667:C:OP2	2.21	0.41
22:YA:2683:C:H5''	22:YA:2684:U:OP2	2.20	0.41
22:YA:2742:C:N4	22:YA:2763:G:N2	2.69	0.41
22:YA:2867:G:O2'	22:YA:2868:A:OP2	2.33	0.41
22:YA:450:G:O6	22:YA:453:C:OP1	2.38	0.41
22:YA:649:G:C5	22:YA:650:C:C5	3.09	0.41
24:YD:130:ALA:C	24:YD:131:LEU:HD12	2.42	0.41
25:YE:32:PRO:HA	25:YE:90:THR:HA	2.03	0.41
25:YE:95:ILE:H	25:YE:95:ILE:CD1	2.31	0.41
29:YI:79:ILE:HA	29:YI:80:PRO:HD3	1.79	0.41
30:YN:96:GLU:O	30:YN:100:GLU:HG3	2.20	0.41
34:YR:44:LEU:HD22	34:YR:48:VAL:HG23	2.02	0.41
37:YU:17:ILE:HG23	37:YU:39:LEU:HD12	2.02	0.41
37:YU:92:ARG:HD2	37:YU:95:LEU:HD12	2.02	0.41
42:YZ:165:VAL:HG12	42:YZ:166:SER:N	2.36	0.41
1:QA:1049:U:OP1	14:QN:3:ARG:HD3	2.20	0.41
1:QA:144:G:H1	1:QA:178:C:N4	2.18	0.41
1:QA:230:G:N2	1:QA:231:G:N3	2.68	0.41
1:QA:324:G:N2	1:QA:327:A:C8	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1240:U:H1'	7:QG:42:ILE:HD11	2.03	0.41
7:QG:93:PRO:O	7:QG:96:GLN:HB2	2.21	0.41
8:QH:44:PHE:HD1	8:QH:80:ILE:HG12	1.86	0.41
9:QI:40:LEU:HD11	9:QI:70:LYS:HG2	2.02	0.41
21:QU:10:ARG:HA	21:QU:13:ILE:HB	2.02	0.41
54:QX:6:G:H1	55:QY:34:C:N4	2.18	0.41
43:R0:50:ASN:HB3	43:R0:63:VAL:HG22	2.03	0.41
22:RA:1040:C:H2'	22:RA:1041:C:C6	2.55	0.41
22:RA:1222:C:C2	22:RA:1229(A):G:C2	3.09	0.41
22:RA:2046:G:H2'	22:RA:2047:U:C6	2.55	0.41
22:RA:2441:C:O2'	22:RA:2442:C:H5'	2.21	0.41
22:RA:2452:C:H2'	22:RA:2453:A:C8	2.56	0.41
22:RA:2881:C:C2	22:RA:2882:A:C8	3.09	0.41
22:RA:337:C:H2'	22:RA:338:G:O4'	2.21	0.41
22:RA:746:A:HO2'	22:RA:747:U:P	2.43	0.41
22:RA:797:C:H2'	22:RA:798:G:O4'	2.21	0.41
22:RA:805:G:OP2	32:RP:41:ARG:HG2	2.21	0.41
23:RB:11:C:OP2	23:RB:12:C:N4	2.34	0.41
23:RB:75:G:H1	23:RB:102:G:N2	2.18	0.41
24:RD:257:LEU:HD23	24:RD:257:LEU:HA	1.90	0.41
25:RE:184:VAL:HB	25:RE:185:LYS:H	1.65	0.41
26:RF:107:LYS:HE3	26:RF:206:ILE:HD12	2.02	0.41
28:RH:107:VAL:HB	28:RH:153:LYS:HE3	2.03	0.41
22:RA:1162:G:O4'	38:RV:23:GLU:HG3	2.21	0.41
1:XA:105:G:H2'	1:XA:106:C:C6	2.56	0.41
1:XA:1358:U:H5''	14:XN:34:TYR:HA	2.01	0.41
1:XA:181:G:O2'	1:XA:182:U:H6	2.04	0.41
1:XA:300:A:C5	1:XA:301:G:H1'	2.56	0.41
1:XA:791:G:C6	1:XA:792:A:N1	2.88	0.41
1:XA:917:G:C2	1:XA:918:A:C4	3.09	0.41
1:XA:93:U:H2'	1:XA:95:G:C4'	2.51	0.41
1:XA:971:G:OP1	1:XA:971:G:H3'	2.20	0.41
5:XE:51:VAL:HB	5:XE:52:PRO:HD3	2.03	0.41
5:XE:68:GLU:HG3	5:XE:68:GLU:O	2.21	0.41
7:XG:89:MET:HE3	7:XG:155:ARG:HB2	2.03	0.41
8:XH:12:ARG:HD3	8:XH:26:VAL:HB	2.03	0.41
8:XH:6:ILE:HB	8:XH:85:ARG:NH1	2.36	0.41
47:Y4:48:ARG:HH12	47:Y4:52:THR:H	1.68	0.41
22:YA:1022:G:C6	22:YA:1140:C:N3	2.88	0.41
22:YA:1085:A:O2'	22:YA:1086:A:OP1	2.31	0.41
22:YA:1169:G:N2	22:YA:1181:C:C2	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:330:A:H2	22:YA:1210:A:H2'	1.85	0.41
22:YA:1286:A:H1'	22:YA:1288:U:OP2	2.21	0.41
22:YA:2270:G:O5'	22:YA:2270:G:H8	2.03	0.41
22:YA:2320:A:C8	22:YA:2333:A:N6	2.89	0.41
22:YA:2493:U:H2'	22:YA:2494:G:O4'	2.21	0.41
22:YA:2686:G:C2	22:YA:2724:C:O2	2.74	0.41
22:YA:381:G:H2'	22:YA:382:G:H8	1.85	0.41
24:YD:145:VAL:HG11	24:YD:175:LEU:HD11	2.02	0.41
24:YD:62:TYR:HA	24:YD:87:ASN:OD1	2.21	0.41
26:YF:198:ALA:HA	26:YF:201:VAL:HG12	2.03	0.41
26:YF:28:ILE:H	26:YF:28:ILE:HG13	1.68	0.41
32:YP:106:LEU:O	32:YP:107:LYS:HB2	2.20	0.41
32:YP:29:LYS:HB3	32:YP:30:THR:H	1.59	0.41
37:YU:92:ARG:NH2	38:YV:11:GLN:H	2.18	0.41
40:YX:31:HIS:HB3	40:YX:34:ALA:HB2	2.03	0.41
42:YZ:108:PRO:O	42:YZ:111:VAL:N	2.45	0.41
42:YZ:150:LEU:H	42:YZ:150:LEU:HD13	1.86	0.41
1:QA:1263:C:H42	1:QA:1272:G:H1	1.70	0.40
1:QA:1224:G:N1	1:QA:1322:C:H1'	2.36	0.40
1:QA:1512:U:H3	1:QA:1523:G:H1	1.70	0.40
1:QA:505:G:C5	1:QA:506:G:N7	2.89	0.40
1:QA:591:U:H2'	1:QA:592:G:H8	1.86	0.40
1:QA:865:A:N3	1:QA:918:A:O2'	2.43	0.40
5:QE:147:ASP:O	5:QE:151:LEU:HG	2.21	0.40
7:QG:54:THR:O	7:QG:56:GLN:N	2.52	0.40
10:QJ:4:ILE:HA	10:QJ:100:THR:HG22	2.02	0.40
43:R0:18:ALA:O	43:R0:20:ARG:NH1	2.54	0.40
47:R4:13:ARG:O	47:R4:30:GLU:HA	2.21	0.40
47:R4:23:GLU:HG3	47:R4:25:TYR:HE2	1.85	0.40
22:RA:1003:G:N2	22:RA:1153:C:C2	2.89	0.40
22:RA:1120:G:H2'	22:RA:1121:C:O4'	2.21	0.40
22:RA:1412:A:C6	22:RA:1591:G:C6	3.09	0.40
22:RA:2481:G:HO2'	22:RA:2482:G:P	2.44	0.40
22:RA:2574:G:H2'	22:RA:2575:C:O4'	2.20	0.40
22:RA:342:G:H2'	22:RA:343:C:O4'	2.20	0.40
25:RE:55:ASN:HD22	25:RE:58:ARG:HB2	1.86	0.40
27:RG:47:LYS:HE3	27:RG:47:LYS:HB2	1.81	0.40
28:RH:103:LEU:HG	28:RH:105:LEU:HD12	2.02	0.40
28:RH:30:LYS:HD2	28:RH:81:GLU:H	1.85	0.40
29:RI:110:ASP:HB2	29:RI:130:TYR:OH	2.22	0.40
31:RO:63:VAL:HB	31:RO:106:LEU:HD11	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1091:U:H2'	1:XA:1093:A:OP2	2.20	0.40
1:XA:374:A:N3	1:XA:374:A:H2'	2.35	0.40
1:XA:493:G:N2	1:XA:494:U:O4	2.54	0.40
1:XA:534:U:O5'	1:XA:534:U:H6	2.04	0.40
1:XA:637:G:C6	1:XA:638:G:C5	3.09	0.40
1:XA:875:C:O2'	8:XH:14:ARG:NH1	2.54	0.40
1:XA:892:A:H2'	1:XA:893:C:C6	2.56	0.40
4:XD:131:ARG:HG2	4:XD:131:ARG:H	1.67	0.40
4:XD:165:MET:O	4:XD:167:GLY:N	2.54	0.40
4:XD:64:LEU:HD13	4:XD:198:VAL:HG11	2.02	0.40
6:XF:25:ILE:HD13	6:XF:28:ARG:NH1	2.36	0.40
11:XK:19:ALA:CB	11:XK:32:ILE:HG22	2.51	0.40
1:XA:539:A:OP2	12:XL:115:LYS:HE3	2.21	0.40
12:XL:38:THR:CG2	12:XL:57:LYS:HB3	2.49	0.40
22:YA:107:C:H2'	22:YA:108:U:C6	2.54	0.40
22:YA:1105:U:C2	22:YA:1106:G:C8	3.09	0.40
22:YA:1019:U:H3	22:YA:1142(A):A:H62	1.69	0.40
22:YA:1833:U:H2'	22:YA:1834:U:C6	2.54	0.40
22:YA:189:G:H1'	22:YA:207:A:H61	1.84	0.40
22:YA:1932:A:C2	22:YA:1969:A:C2	3.09	0.40
22:YA:1957:C:H2'	22:YA:1958:C:H6	1.85	0.40
22:YA:1273:U:C4	22:YA:2003:G:H1'	2.56	0.40
22:YA:2323:G:C6	22:YA:2324:C:C4	3.09	0.40
22:YA:258:G:C4	22:YA:259:G:C8	3.10	0.40
22:YA:271:G:C4	22:YA:272:G:N7	2.89	0.40
22:YA:26:G:C6	22:YA:27:G:C2	3.08	0.40
22:YA:2881:C:C2	22:YA:2882:A:C8	3.09	0.40
22:YA:321:G:H5''	26:YF:136:THR:HG23	2.03	0.40
22:YA:376:C:H2'	22:YA:377:C:C6	2.56	0.40
22:YA:460:A:C2	22:YA:470:A:C4	3.10	0.40
22:YA:604:G:H2'	22:YA:605:C:C6	2.57	0.40
22:YA:845:G:OP2	22:YA:845:G:H8	2.04	0.40
23:YB:63:G:C2	23:YB:64:C:C2	3.09	0.40
24:YD:201:HIS:O	24:YD:204:ILE:HG12	2.21	0.40
25:YE:49:LEU:HD12	25:YE:49:LEU:HA	1.72	0.40
27:YG:7:LEU:HD12	27:YG:104:GLU:HA	2.03	0.40
27:YG:18:GLU:OE1	27:YG:22:ARG:NH1	2.49	0.40
27:YG:61:ALA:HA	27:YG:64:THR:HG22	2.02	0.40
30:YN:65:LYS:HG2	30:YN:65:LYS:H	1.60	0.40
31:YO:4:PRO:O	31:YO:5:GLN:CB	2.69	0.40
1:QA:1256:A:OP1	3:QC:26:LYS:NZ	2.45	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1428:A:H2'	1:QA:1429:C:O4'	2.21	0.40
1:QA:148:G:H1	1:QA:174:C:H42	1.68	0.40
1:QA:250:A:O5'	1:QA:250:A:H8	2.03	0.40
1:QA:355:C:C4	1:QA:356:A:N7	2.89	0.40
1:QA:509:A:C8	1:QA:509:A:H3'	2.56	0.40
1:QA:540:G:H2'	1:QA:541:G:O4'	2.20	0.40
1:QA:781:A:C5	1:QA:802:A:C2	3.09	0.40
3:QC:71:ALA:HB2	3:QC:109:PRO:HB3	2.04	0.40
5:QE:50:GLU:HG3	5:QE:52:PRO:HD2	2.04	0.40
32:RP:62:LEU:O	51:R8:13:ARG:HB2	2.22	0.40
51:R8:49:VAL:HG23	51:R8:53:PRO:HB3	2.04	0.40
22:RA:1020:A:OP1	22:RA:1034:G:N2	2.42	0.40
22:RA:1303:G:H1'	22:RA:1641:A:N1	2.37	0.40
22:RA:1519:G:C6	22:RA:1520:U:C4	3.09	0.40
22:RA:1614:A:H62	39:RW:93:ALA:CA	2.34	0.40
22:RA:188:G:N2	22:RA:208:C:O2	2.54	0.40
22:RA:2466:C:OP1	52:R9:4:ARG:HB2	2.20	0.40
22:RA:2751:G:C5	28:RH:2:SER:HB3	2.56	0.40
22:RA:71:A:H2	40:RX:31:HIS:NE2	2.19	0.40
22:RA:84:A:C2	22:RA:103:A:C5	3.09	0.40
22:RA:977:G:N3	22:RA:1001:A:H2	2.19	0.40
23:RB:14:U:H4'	23:RB:70:C:O2	2.21	0.40
24:RD:44:ASN:HB2	24:RD:49:ILE:HA	2.02	0.40
26:RF:181:LEU:HD22	26:RF:181:LEU:HA	1.79	0.40
30:RN:17:ASP:O	30:RN:19:GLU:N	2.54	0.40
33:RQ:58:PHE:CD1	33:RQ:61:GLY:HA3	2.56	0.40
35:RS:62:LYS:HB3	35:RS:97:ARG:CD	2.44	0.40
36:RT:109:GLU:O	36:RT:113:LYS:HB2	2.21	0.40
36:RT:51:ARG:CG	36:RT:98:LYS:HG3	2.52	0.40
37:RU:83:LEU:HG	37:RU:88:ILE:HB	2.03	0.40
40:RX:67:GLY:C	40:RX:69:TYR:H	2.23	0.40
42:RZ:100:VAL:HA	42:RZ:101:PRO:HD3	1.84	0.40
42:RZ:117:LEU:HB2	42:RZ:174:VAL:HG22	2.03	0.40
1:XA:1120:G:C6	1:XA:1121:U:C4	3.10	0.40
1:XA:1137:C:H4'	1:XA:1137:C:OP1	2.21	0.40
1:XA:236:G:H2'	1:XA:237:C:C6	2.56	0.40
1:XA:344:A:O2'	1:XA:346:G:O6	2.22	0.40
1:XA:380:G:N2	1:XA:383:A:OP2	2.55	0.40
1:XA:57:G:H2'	1:XA:58:C:O4'	2.21	0.40
1:XA:735:C:H2'	1:XA:736:C:C6	2.50	0.40
1:XA:75:C:H2'	1:XA:76:G:O4'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:936:C:H42	1:XA:1379:G:H1	1.69	0.40
2:XB:120:ALA:C	2:XB:122:PHE:H	2.24	0.40
2:XB:166:ASP:HB3	2:XB:169:LYS:HB2	2.02	0.40
3:XC:42:LEU:HD12	3:XC:42:LEU:HA	1.87	0.40
5:XE:69:VAL:HA	5:XE:70:PRO:HD2	1.76	0.40
10:XJ:6:ILE:O	10:XJ:71:LEU:HD12	2.21	0.40
12:XL:90:VAL:O	12:XL:92:ASP:N	2.54	0.40
53:XV:17:C:N4	53:XV:17(A):U:O4	2.53	0.40
43:Y0:11:ARG:HG2	43:Y0:11:ARG:H	1.51	0.40
49:Y6:13:CYS:HB2	49:Y6:22:ALA:HB3	2.03	0.40
22:YA:1062:G:H1'	22:YA:1088:A:C6	2.56	0.40
22:YA:1087:G:C4	22:YA:1089:G:H1'	2.57	0.40
22:YA:1363:C:H2'	22:YA:1364:G:O4'	2.21	0.40
22:YA:1359:A:H62	22:YA:1372:U:H3	1.62	0.40
22:YA:1932:A:C2	22:YA:1969:A:C4	3.09	0.40
22:YA:219:G:H2'	22:YA:220:G:O4'	2.21	0.40
22:YA:676:A:H1'	22:YA:2443:C:H1'	2.03	0.40
22:YA:2477:C:O2	52:Y9:4:ARG:NH1	2.32	0.40
22:YA:2532:G:O2'	22:YA:2657:A:N1	2.45	0.40
22:YA:2715:C:H2'	22:YA:2716:U:H6	1.86	0.40
22:YA:2852:G:C6	22:YA:2853:C:C4	3.10	0.40
22:YA:389:G:H22	32:YP:72:PRO:HD3	1.86	0.40
22:YA:651:G:H4'	51:Y8:18:ALA:HB3	2.03	0.40
22:YA:681:G:H2'	22:YA:682:G:O4'	2.21	0.40
23:YB:12:C:O4'	23:YB:15:A:N6	2.53	0.40
24:YD:35:LYS:HZ1	24:YD:65:ILE:HA	1.86	0.40
28:YH:125:VAL:HG22	28:YH:131:VAL:HG13	2.02	0.40
28:YH:109:PHE:HZ	28:YH:152:ARG:HG2	1.86	0.40
33:YQ:80:GLU:HB2	33:YQ:81:VAL:H	1.69	0.40
1:QA:1160:G:H2'	1:QA:1160:G:N3	2.36	0.40
1:QA:1279:A:OP2	10:QJ:9:ARG:NH1	2.55	0.40
1:QA:185:A:H2'	1:QA:186:C:C6	2.56	0.40
1:QA:281:G:OP2	1:QA:281:G:H8	2.04	0.40
1:QA:439:A:OP2	1:QA:493:G:N1	2.43	0.40
1:QA:758:G:H5'	1:QA:880:C:H1'	2.02	0.40
1:QA:887:G:N2	1:QA:911:U:H1'	2.36	0.40
6:QF:30:LEU:HD23	6:QF:75:LEU:HD11	2.02	0.40
53:QV:29:G:C4	53:QV:30:G:C8	3.09	0.40
54:QX:1:A:C6	54:QX:2:U:C4	3.09	0.40
22:RA:1527:G:H5''	22:RA:1528:A:OP1	2.21	0.40
22:RA:2029:G:H2'	22:RA:2031:A:OP1	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2127:G:H22	22:RA:2162:G:H1'	1.86	0.40
22:RA:2500:U:H5''	22:RA:2501:C:OP2	2.21	0.40
22:RA:2819:G:C6	22:RA:2821:A:C2	3.08	0.40
22:RA:2842:G:H2'	22:RA:2843:G:O4'	2.21	0.40
22:RA:394:A:N1	22:RA:395:U:C2	2.89	0.40
22:RA:612:G:O2'	22:RA:616:A:N1	2.43	0.40
22:RA:654(B):C:H42	22:RA:654(T):C:H42	1.69	0.40
22:RA:764:A:C6	22:RA:781:A:C2	3.09	0.40
22:RA:960:A:N7	22:RA:962:G:C4	2.89	0.40
24:RD:209:ALA:O	24:RD:212:SER:HB2	2.22	0.40
25:RE:197:ILE:HD11	25:RE:199:ARG:CZ	2.50	0.40
25:RE:26:ILE:O	25:RE:26:ILE:HG12	2.18	0.40
25:RE:36:ARG:HB3	25:RE:36:ARG:HH11	1.87	0.40
26:RF:29:ASN:HB3	26:RF:32:LEU:HD23	2.04	0.40
27:RG:117:PHE:HE1	27:RG:120:LEU:HD23	1.87	0.40
28:RH:98:LEU:HB2	28:RH:125:VAL:HB	2.03	0.40
32:RP:114:ILE:HD11	32:RP:130:PHE:CD1	2.57	0.40
33:RQ:72:LYS:HB3	33:RQ:94:VAL:O	2.21	0.40
35:RS:23:ARG:HB2	35:RS:86:ALA:HB2	2.03	0.40
37:RU:66:ASN:CG	37:RU:70:ARG:HH21	2.21	0.40
41:RY:11:ASP:O	41:RY:26:LYS:HG3	2.21	0.40
42:RZ:5:LEU:HD21	42:RZ:44:PHE:HA	2.02	0.40
1:XA:129(A):G:C2	1:XA:188:U:O2'	2.74	0.40
1:XA:1390:U:H2'	1:XA:1391:U:C6	2.56	0.40
1:XA:452:A:H4'	16:XP:72:ARG:NH2	2.36	0.40
1:XA:450:G:N7	1:XA:481:G:C6	2.89	0.40
1:XA:509:A:H4'	1:XA:510:A:OP1	2.22	0.40
1:XA:955:U:H1'	1:XA:1227:A:H61	1.87	0.40
1:XA:96:G:H2'	1:XA:97:U:O4'	2.22	0.40
2:XB:19:HIS:NE2	2:XB:206:ASP:HB2	2.36	0.40
9:XI:95:LYS:NZ	9:XI:96:LEU:HD13	2.36	0.40
11:XK:18:ARG:HB3	11:XK:33:THR:OG1	2.21	0.40
17:XQ:58:GLU:O	17:XQ:74:LEU:N	2.40	0.40
46:Y3:12:PRO:O	46:Y3:14:GLY:N	2.55	0.40
47:Y4:43:TYR:O	47:Y4:46:GLN:HA	2.20	0.40
22:YA:2285:C:H5	49:Y6:27:LYS:HE2	1.85	0.40
52:Y9:2:LYS:HA	52:Y9:2:LYS:HD2	1.86	0.40
22:YA:1024:G:C8	22:YA:1025:G:H2'	2.56	0.40
22:YA:1448:G:H2'	22:YA:1449:A:C8	2.57	0.40
22:YA:1566:A:O2'	22:YA:1567:A:H5'	2.22	0.40
22:YA:1630(A):C:N3	22:YA:1635:G:N1	2.64	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1685:C:H2'	22:YA:1686:C:H5''	2.03	0.40
22:YA:1779:U:C6	22:YA:1783:A:N7	2.89	0.40
22:YA:2133:G:N2	22:YA:2157:G:H2'	2.37	0.40
22:YA:2466:C:H42	22:YA:2484:G:H1	1.70	0.40
22:YA:2532:G:H1'	22:YA:2663:G:N2	2.37	0.40
22:YA:2550:G:C6	22:YA:2551:C:C4	3.09	0.40
22:YA:2023:G:H4'	22:YA:2617:C:O3'	2.20	0.40
22:YA:2674:G:H2'	22:YA:2675:A:C8	2.57	0.40
22:YA:2850:A:OP2	22:YA:2866:U:N3	2.54	0.40
22:YA:552:G:C6	22:YA:553:U:C4	3.09	0.40
22:YA:640:C:H2'	22:YA:641:C:C6	2.56	0.40
22:YA:795:C:H6	22:YA:795:C:O5'	2.04	0.40
22:YA:7:G:H2'	22:YA:8:A:O4'	2.20	0.40
22:YA:864:G:H1'	22:YA:914:C:N4	2.36	0.40
23:YB:27:C:H5'	23:YB:28:C:OP2	2.22	0.40
26:YF:168:ARG:HG3	26:YF:175:THR:HG21	2.02	0.40
27:YG:99:MET:HG3	27:YG:100:TRP:N	2.36	0.40
22:YA:2667:C:H1'	28:YH:109:PHE:HD2	1.86	0.40
31:YO:68:GLU:H	31:YO:68:GLU:CD	2.24	0.40
37:YU:17:ILE:HA	37:YU:17:ILE:HD13	1.92	0.40
42:YZ:89:PHE:CE1	42:YZ:96:VAL:HG21	2.57	0.40
1:QA:119:A:H3'	1:QA:119:A:OP1	2.21	0.40
1:QA:148:G:H2'	1:QA:149:A:C8	2.55	0.40
1:QA:241:C:H42	1:QA:285:G:H1	1.69	0.40
1:QA:321:A:N6	1:QA:329:A:OP2	2.51	0.40
1:QA:503:C:H2'	1:QA:504:C:H6	1.86	0.40
1:QA:872:A:C2	1:QA:874:G:C6	3.10	0.40
1:QA:924:C:N4	1:QA:925:G:O6	2.55	0.40
3:QC:43:LEU:HD22	3:QC:47:LEU:HD22	2.02	0.40
13:QM:13:LYS:HG3	13:QM:44:ARG:NH1	2.36	0.40
10:QJ:61:GLU:OE1	14:QN:58:LYS:HE2	2.21	0.40
16:QP:34:GLU:OE2	16:QP:55:ARG:NH1	2.53	0.40
44:R1:87:PRO:O	44:R1:91:LYS:HB2	2.21	0.40
44:R1:95:LEU:HA	44:R1:95:LEU:HD23	1.94	0.40
22:RA:1007:C:H4'	30:RN:108:PRO:HD3	2.03	0.40
22:RA:1011:G:C6	22:RA:1013:C:C4	3.09	0.40
22:RA:1077:A:H3'	22:RA:1078:U:C5'	2.51	0.40
22:RA:1114:G:N1	22:RA:1115:G:C6	2.89	0.40
22:RA:1219:G:O2'	22:RA:1220:A:H5''	2.20	0.40
22:RA:1694:C:H2'	22:RA:1694:C:H6	1.65	0.40
22:RA:1937:A:C8	22:RA:1939:U:H2'	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:227:A:O2'	22:RA:228:A:OP2	2.38	0.40
22:RA:2867:G:HO2'	22:RA:2868:A:P	2.41	0.40
22:RA:2885:C:N3	22:RA:2886:G:H1'	2.36	0.40
22:RA:2886:G:H2'	22:RA:2887:U:H6	1.87	0.40
22:RA:654(A):G:OP2	22:RA:654(A):G:H3'	2.21	0.40
24:RD:132:PRO:HG3	24:RD:190:TYR:CE1	2.56	0.40
24:RD:35:LYS:HB3	24:RD:63:ARG:HA	2.04	0.40
29:RI:93:THR:O	29:RI:97:ILE:HG12	2.21	0.40
31:RO:66:LYS:HA	31:RO:79:PHE:O	2.22	0.40
33:RQ:83:MET:H	43:R0:7:LEU:HD12	1.87	0.40
35:RS:69:VAL:HG13	35:RS:101:LEU:HD22	2.03	0.40
42:RZ:153:SER:N	42:RZ:167:PRO:HB2	2.37	0.40
1:XA:1002:G:N3	1:XA:1003:G:C8	2.89	0.40
1:XA:1004:A:N7	1:XA:1026:G:C8	2.89	0.40
1:XA:1151:A:O2'	1:XA:1152:A:O5'	2.34	0.40
1:XA:1342:C:H2'	1:XA:1343:G:C8	2.57	0.40
1:XA:619:U:O2	4:XD:135:LEU:HD23	2.21	0.40
1:XA:663:A:H61	1:XA:742:G:H1	1.69	0.40
1:XA:872:A:C5	1:XA:874:G:C8	3.10	0.40
1:XA:977:A:H8	1:XA:1223:C:C2	2.40	0.40
3:XC:188:LEU:HD13	3:XC:188:LEU:HA	1.90	0.40
3:XC:20:SER:HB2	3:XC:40:ARG:NH2	2.29	0.40
1:XA:403:C:OP2	4:XD:74:GLN:NE2	2.54	0.40
5:XE:31:LEU:HD23	5:XE:45:PHE:HD1	1.78	0.40
5:XE:34:VAL:HG11	5:XE:63:ARG:HG2	2.03	0.40
5:XE:89:ILE:HG12	5:XE:91:LEU:CD1	2.52	0.40
9:XI:75:ASP:HA	9:XI:78:LYS:HB3	2.04	0.40
13:XM:3:ARG:HG2	47:Y4:34:GLU:HB3	2.03	0.40
13:XM:68:GLY:HA3	27:YG:116:ASP:OD1	2.21	0.40
46:Y3:52:HIS:CD2	46:Y3:53:LEU:HG	2.57	0.40
47:Y4:14:ILE:HG23	47:Y4:14:ILE:O	2.21	0.40
49:Y6:11:LEU:HA	49:Y6:11:LEU:HD13	1.86	0.40
22:YA:1022:G:H22	22:YA:1142(A):A:H2	1.65	0.40
22:YA:1072:C:H42	22:YA:1092:C:N4	2.19	0.40
22:YA:1264:G:C3'	22:YA:1265:A:H5''	2.47	0.40
22:YA:2314:C:H2'	22:YA:2315:G:H8	1.87	0.40
22:YA:2466:C:H5''	52:Y9:6:SER:CB	2.51	0.40
22:YA:2467:C:H4'	33:YQ:123:HIS:CG	2.57	0.40
22:YA:2594:C:O2	22:YA:2594:C:H2'	2.21	0.40
22:YA:2634:G:H1	22:YA:2784:C:N4	2.18	0.40
22:YA:768:G:C6	22:YA:769:G:C5	3.08	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YD:237:GLU:O	24:YD:238:GLY:C	2.59	0.40
28:YH:46:GLU:OE1	28:YH:51:ARG:NH1	2.54	0.40
29:YI:91:SER:OG	29:YI:92:VAL:N	2.54	0.40
35:YS:69:VAL:HA	35:YS:72:ALA:HB3	2.03	0.40
37:YU:19:LYS:O	37:YU:22:LYS:HB2	2.22	0.40
38:YV:21:ARG:HD2	38:YV:91:TYR:CE1	2.56	0.40
42:YZ:112:ARG:HG2	42:YZ:113:ALA:H	1.86	0.40
1:QA:1179:A:H2'	1:QA:1180:A:O4'	2.22	0.40
1:QA:1290:G:C4	1:QA:1291:G:C8	3.09	0.40
1:QA:266:G:H2'	1:QA:266:G:H8	1.81	0.40
1:QA:292:G:C5	1:QA:293:G:H1'	2.55	0.40
1:QA:899:C:O5'	1:QA:899:C:H6	2.05	0.40
1:QA:437:U:O2'	4:QD:123:HIS:HD2	2.04	0.40
6:QF:21:LEU:O	6:QF:25:ILE:HG12	2.21	0.40
6:QF:33:TYR:CE1	6:QF:78:GLU:HG2	2.57	0.40
8:QH:83:ILE:HB	8:QH:137:VAL:HG13	2.03	0.40
13:QM:4:ILE:H	13:QM:9:ILE:CG2	2.35	0.40
20:QT:86:ARG:O	20:QT:90:GLN:HG3	2.21	0.40
22:RA:270(R):G:H1'	44:R1:78:LYS:HZ1	1.86	0.40
50:R7:31:LEU:HA	50:R7:31:LEU:HD23	1.86	0.40
22:RA:2422:A:N7	51:R8:31:HIS:HE1	2.20	0.40
22:RA:1630:G:H2'	22:RA:1630(A):C:C6	2.57	0.40
22:RA:1668:A:N7	22:RA:1674:G:C6	2.89	0.40
22:RA:1790:C:H2'	22:RA:1791:A:C4	2.56	0.40
22:RA:2233:U:H2'	22:RA:2234:G:C8	2.57	0.40
22:RA:2474:C:H5''	22:RA:2475:C:H5	1.86	0.40
22:RA:1265:A:OP2	22:RA:2615:U:OP1	2.40	0.40
22:RA:2639:A:C2	22:RA:2778:A:C8	3.10	0.40
22:RA:304:G:H2'	22:RA:305:U:C6	2.56	0.40
22:RA:30:G:C6	22:RA:31:C:N4	2.90	0.40
22:RA:533:G:C6	22:RA:534:U:N3	2.90	0.40
22:RA:702:G:C2	22:RA:731:C:N3	2.90	0.40
13:QM:93:ARG:NH1	22:RA:888:C:OP1	2.50	0.40
24:RD:96:HIS:CD2	24:RD:102:LYS:HG2	2.57	0.40
24:RD:26:LYS:HD2	24:RD:26:LYS:H	1.87	0.40
24:RD:43:ARG:CB	24:RD:54:ARG:HB2	2.52	0.40
28:RH:167:GLU:HA	28:RH:168:PRO:HD3	1.90	0.40
30:RN:108:PRO:O	30:RN:113:GLY:HA3	2.21	0.40
32:RP:25:SER:OG	32:RP:26:GLY:O	2.38	0.40
42:RZ:166:SER:HB3	42:RZ:168:GLU:N	2.34	0.40
1:XA:1097:C:O2'	1:XA:1169:A:N3	2.44	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1179:A:C6	1:XA:1180:A:C2	3.10	0.40
1:XA:1126:U:OP2	1:XA:1281:U:H1'	2.21	0.40
1:XA:1325:C:H2'	1:XA:1326:C:H6	1.87	0.40
1:XA:1502:A:H2'	1:XA:1504:G:C8	2.57	0.40
1:XA:191:G:C5	1:XA:192:U:C4	3.10	0.40
1:XA:28:G:O2'	1:XA:296:U:H5''	2.21	0.40
1:XA:514:C:H2'	1:XA:515:G:H8	1.84	0.40
1:XA:651:C:H2'	1:XA:652:U:C6	2.48	0.40
1:XA:675:A:H2'	1:XA:676:A:C8	2.51	0.40
1:XA:1189:C:O2'	3:XC:176:HIS:HD2	2.04	0.40
4:XD:108:LEU:HB3	4:XD:110:PHE:CD1	2.57	0.40
5:XE:12:LEU:HB3	5:XE:31:LEU:CB	2.51	0.40
9:XI:5:TYR:HA	9:XI:17:VAL:O	2.21	0.40
10:XJ:77:PRO:O	10:XJ:79:ARG:NH1	2.54	0.40
11:XK:38:ASN:HA	11:XK:39:PRO:HD3	1.75	0.40
19:XS:15:LEU:HA	19:XS:18:LYS:HB3	2.04	0.40
48:Y5:41:PRO:HA	48:Y5:42:PRO:HD3	1.95	0.40
49:Y6:28:ARG:HB3	49:Y6:30:THR:C	2.41	0.40
22:YA:1027:A:C6	22:YA:1126:A:C5	3.09	0.40
22:YA:1050:A:C6	22:YA:1051:G:C5	3.10	0.40
22:YA:2139:C:H2'	22:YA:2140:C:O4'	2.21	0.40
22:YA:2369:A:C6	22:YA:2370:G:C6	3.10	0.40
22:YA:2392:A:H2'	22:YA:2393:A:O4'	2.21	0.40
22:YA:2399:G:H8	22:YA:2399:G:O5'	2.05	0.40
22:YA:244:A:H2'	22:YA:245:G:O4'	2.20	0.40
22:YA:270(J):G:H1	22:YA:270(P):C:H42	1.70	0.40
22:YA:270(Z):U:O2'	22:YA:271(A):C:C6	2.74	0.40
22:YA:2849:U:O4	36:YT:23:ARG:NH2	2.54	0.40
22:YA:984:A:H5''	22:YA:985:C:C5	2.38	0.40
23:YB:10:C:H2'	23:YB:11:C:H6	1.87	0.40
23:YB:21:G:N2	23:YB:63:G:C4	2.90	0.40
23:YB:85:G:C6	23:YB:86:G:N7	2.89	0.40
26:YF:122:LYS:HD3	26:YF:122:LYS:HA	1.86	0.40
29:YI:46:ALA:O	29:YI:50:ARG:HD3	2.21	0.40
30:YN:46:VAL:O	30:YN:47:ALA:HB3	2.21	0.40
32:YP:68:GLN:HG2	51:Y8:12:LYS:HD3	2.03	0.40
38:YV:3:ALA:HA	38:YV:40:LEU:O	2.21	0.40
41:YY:89:PHE:C	41:YY:90:LEU:HD13	2.42	0.40

All (1) 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	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1593:G:O2'	23:YB:54:G:OP1[1_655]	2.14	0.06

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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	
2	QB	235/256 (92%)	174 (74%)	44 (19%)	17 (7%)	1	15
2	XB	235/256 (92%)	178 (76%)	42 (18%)	15 (6%)	1	18
3	QC	203/239 (85%)	163 (80%)	34 (17%)	6 (3%)	4	32
3	XC	203/239 (85%)	171 (84%)	29 (14%)	3 (2%)	10	44
4	QD	206/209 (99%)	176 (85%)	24 (12%)	6 (3%)	4	32
4	XD	206/209 (99%)	177 (86%)	24 (12%)	5 (2%)	6	35
5	QE	149/162 (92%)	136 (91%)	8 (5%)	5 (3%)	3	30
5	XE	149/162 (92%)	133 (89%)	13 (9%)	3 (2%)	7	39
6	QF	99/101 (98%)	95 (96%)	4 (4%)	0	100	100
6	XF	99/101 (98%)	94 (95%)	5 (5%)	0	100	100
7	QG	153/156 (98%)	135 (88%)	16 (10%)	2 (1%)	12	47
7	XG	153/156 (98%)	138 (90%)	13 (8%)	2 (1%)	12	47
8	QH	136/138 (99%)	121 (89%)	14 (10%)	1 (1%)	22	59
8	XH	136/138 (99%)	120 (88%)	12 (9%)	4 (3%)	4	32
9	QI	125/128 (98%)	103 (82%)	17 (14%)	5 (4%)	3	26
9	XI	125/128 (98%)	97 (78%)	24 (19%)	4 (3%)	4	31
10	QJ	97/105 (92%)	75 (77%)	19 (20%)	3 (3%)	4	31
10	XJ	97/105 (92%)	79 (81%)	13 (13%)	5 (5%)	2	21
11	QK	117/129 (91%)	100 (86%)	14 (12%)	3 (3%)	5	33
11	XK	117/129 (91%)	101 (86%)	14 (12%)	2 (2%)	9	42
12	QL	123/132 (93%)	98 (80%)	18 (15%)	7 (6%)	1	19

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
12	XL	123/132 (93%)	98 (80%)	15 (12%)	10 (8%)	1	11
13	QM	119/126 (94%)	95 (80%)	15 (13%)	9 (8%)	1	13
13	XM	119/126 (94%)	94 (79%)	16 (13%)	9 (8%)	1	13
14	QN	58/61 (95%)	48 (83%)	6 (10%)	4 (7%)	1	15
14	XN	58/61 (95%)	46 (79%)	6 (10%)	6 (10%)	0	7
15	QO	86/89 (97%)	80 (93%)	5 (6%)	1 (1%)	13	49
15	XO	86/89 (97%)	80 (93%)	4 (5%)	2 (2%)	6	36
16	QP	82/88 (93%)	74 (90%)	7 (8%)	1 (1%)	13	49
16	XP	82/88 (93%)	71 (87%)	10 (12%)	1 (1%)	13	49
17	QQ	98/105 (93%)	91 (93%)	5 (5%)	2 (2%)	7	39
17	XQ	98/105 (93%)	88 (90%)	10 (10%)	0	100	100
18	QR	68/88 (77%)	56 (82%)	9 (13%)	3 (4%)	2	24
18	XR	68/88 (77%)	61 (90%)	6 (9%)	1 (2%)	10	44
19	QS	82/93 (88%)	56 (68%)	15 (18%)	11 (13%)	0	4
19	XS	82/93 (88%)	54 (66%)	17 (21%)	11 (13%)	0	4
20	QT	97/106 (92%)	76 (78%)	15 (16%)	6 (6%)	1	18
20	XT	97/106 (92%)	75 (77%)	16 (16%)	6 (6%)	1	18
21	QU	23/27 (85%)	19 (83%)	3 (13%)	1 (4%)	2	24
21	XU	23/27 (85%)	18 (78%)	4 (17%)	1 (4%)	2	24
24	RD	270/276 (98%)	226 (84%)	32 (12%)	12 (4%)	2	24
24	YD	270/276 (98%)	227 (84%)	34 (13%)	9 (3%)	4	31
25	RE	203/206 (98%)	147 (72%)	36 (18%)	20 (10%)	0	8
25	YE	203/206 (98%)	142 (70%)	41 (20%)	20 (10%)	0	8
26	RF	200/210 (95%)	167 (84%)	20 (10%)	13 (6%)	1	17
26	YF	200/210 (95%)	167 (84%)	25 (12%)	8 (4%)	3	26
27	RG	179/182 (98%)	139 (78%)	26 (14%)	14 (8%)	1	13
27	YG	179/182 (98%)	142 (79%)	25 (14%)	12 (7%)	1	16
28	RH	168/180 (93%)	114 (68%)	33 (20%)	21 (12%)	0	4
28	YH	168/180 (93%)	121 (72%)	23 (14%)	24 (14%)	0	3
29	RI	144/148 (97%)	94 (65%)	31 (22%)	19 (13%)	0	4
29	YI	144/148 (97%)	100 (69%)	23 (16%)	21 (15%)	0	3

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
30	RN	136/140 (97%)	104 (76%)	20 (15%)	12 (9%)	1	10
30	YN	136/140 (97%)	106 (78%)	16 (12%)	14 (10%)	0	7
31	RO	120/122 (98%)	109 (91%)	9 (8%)	2 (2%)	9	42
31	YO	120/122 (98%)	108 (90%)	10 (8%)	2 (2%)	9	42
32	RP	148/150 (99%)	107 (72%)	27 (18%)	14 (10%)	0	9
32	YP	148/150 (99%)	108 (73%)	23 (16%)	17 (12%)	0	5
33	RQ	139/141 (99%)	99 (71%)	22 (16%)	18 (13%)	0	4
33	YQ	139/141 (99%)	98 (70%)	22 (16%)	19 (14%)	0	3
34	RR	116/118 (98%)	106 (91%)	5 (4%)	5 (4%)	2	24
34	YR	116/118 (98%)	99 (85%)	11 (10%)	6 (5%)	2	21
35	RS	109/112 (97%)	76 (70%)	22 (20%)	11 (10%)	0	8
35	YS	109/112 (97%)	78 (72%)	18 (16%)	13 (12%)	0	5
36	RT	135/146 (92%)	106 (78%)	17 (13%)	12 (9%)	1	10
36	YT	135/146 (92%)	108 (80%)	17 (13%)	10 (7%)	1	14
37	RU	115/118 (98%)	102 (89%)	9 (8%)	4 (4%)	3	29
37	YU	115/118 (98%)	101 (88%)	10 (9%)	4 (4%)	3	29
38	RV	99/101 (98%)	82 (83%)	11 (11%)	6 (6%)	1	18
38	YV	99/101 (98%)	79 (80%)	12 (12%)	8 (8%)	1	11
39	RW	111/113 (98%)	99 (89%)	8 (7%)	4 (4%)	3	29
39	YW	111/113 (98%)	100 (90%)	9 (8%)	2 (2%)	8	41
40	RX	90/96 (94%)	77 (86%)	11 (12%)	2 (2%)	6	37
40	YX	90/96 (94%)	82 (91%)	6 (7%)	2 (2%)	6	37
41	RY	100/110 (91%)	71 (71%)	13 (13%)	16 (16%)	0	3
41	YY	100/110 (91%)	70 (70%)	18 (18%)	12 (12%)	0	5
42	RZ	181/206 (88%)	118 (65%)	35 (19%)	28 (16%)	0	3
42	YZ	181/206 (88%)	113 (62%)	46 (25%)	22 (12%)	0	5
43	R0	80/85 (94%)	61 (76%)	15 (19%)	4 (5%)	2	22
43	Y0	80/85 (94%)	66 (82%)	13 (16%)	1 (1%)	12	47
44	R1	95/98 (97%)	75 (79%)	11 (12%)	9 (10%)	0	9
44	Y1	95/98 (97%)	72 (76%)	17 (18%)	6 (6%)	1	18
45	R2	67/72 (93%)	53 (79%)	9 (13%)	5 (8%)	1	13

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
45	Y2	67/72 (93%)	55 (82%)	6 (9%)	6 (9%)	1	10
46	R3	57/60 (95%)	52 (91%)	3 (5%)	2 (4%)	3	29
46	Y3	57/60 (95%)	52 (91%)	4 (7%)	1 (2%)	8	41
47	R4	69/71 (97%)	35 (51%)	18 (26%)	16 (23%)	0	0
47	Y4	69/71 (97%)	35 (51%)	15 (22%)	19 (28%)	0	0
48	R5	57/60 (95%)	44 (77%)	11 (19%)	2 (4%)	3	29
48	Y5	57/60 (95%)	46 (81%)	9 (16%)	2 (4%)	3	29
49	R6	47/54 (87%)	23 (49%)	13 (28%)	11 (23%)	0	0
49	Y6	47/54 (87%)	22 (47%)	17 (36%)	8 (17%)	0	2
50	R7	47/49 (96%)	45 (96%)	1 (2%)	1 (2%)	7	38
50	Y7	47/49 (96%)	43 (92%)	3 (6%)	1 (2%)	7	38
51	R8	62/65 (95%)	51 (82%)	6 (10%)	5 (8%)	1	11
51	Y8	62/65 (95%)	48 (77%)	10 (16%)	4 (6%)	1	17
52	R9	35/37 (95%)	35 (100%)	0	0	100	100
52	Y9	35/37 (95%)	31 (89%)	4 (11%)	0	100	100
All	All	11470/12128 (95%)	9180 (80%)	1546 (14%)	744 (6%)	1	17

All (744) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	QB	236	TYR
3	QC	12	LEU
3	QC	190	ARG
4	QD	28	SER
13	QM	67	GLU
13	QM	106	ASN
13	QM	118	ALA
14	QN	16	PHE
19	QS	12	ASP
19	QS	45	VAL
20	QT	49	ALA
24	RD	26	LYS
24	RD	122	ASP
24	RD	242	ARG
25	RE	22	PRO
25	RE	53	PRO
25	RE	63	LEU

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Mol	Chain	Res	Type
25	RE	68	ALA
25	RE	71	GLY
25	RE	93	VAL
28	RH	12	PRO
28	RH	86	GLU
28	RH	126	PRO
28	RH	127	GLU
28	RH	154	PRO
28	RH	168	PRO
28	RH	169	VAL
29	RI	15	VAL
29	RI	102	SER
29	RI	115	ALA
29	RI	133	HIS
30	RN	9	VAL
30	RN	22	THR
30	RN	96	GLU
30	RN	131	GLN
31	RO	5	GLN
32	RP	6	LEU
32	RP	10	PRO
32	RP	15	ARG
32	RP	65	ARG
32	RP	95	VAL
32	RP	141	ALA
32	RP	148	LEU
33	RQ	22	LYS
33	RQ	66	ILE
33	RQ	78	PRO
33	RQ	90	VAL
33	RQ	139	GLU
34	RR	3	HIS
34	RR	4	LEU
35	RS	57	LYS
35	RS	88	ASP
35	RS	89	ARG
36	RT	2	ASN
36	RT	3	ARG
36	RT	106	SER
36	RT	112	ARG
36	RT	124	ASP
37	RU	91	ASP

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Mol	Chain	Res	Type
38	RV	48	GLY
38	RV	50	PRO
38	RV	100	ARG
39	RW	111	HIS
41	RY	3	VAL
41	RY	50	ARG
41	RY	57	GLN
41	RY	77	PRO
41	RY	78	ALA
42	RZ	60	GLU
42	RZ	111	VAL
42	RZ	112	ARG
42	RZ	158	PRO
42	RZ	179	ASP
42	RZ	182	LYS
43	R0	57	PHE
45	R2	47	ASN
45	R2	48	HIS
45	R2	70	GLN
45	R2	71	ASN
47	R4	16	CYS
47	R4	18	CYS
47	R4	40	HIS
47	R4	43	TYR
47	R4	49	PHE
47	R4	50	VAL
47	R4	53	GLU
48	R5	4	HIS
48	R5	47	PRO
49	R6	15	GLU
51	R8	34	TRP
51	R8	52	LYS
51	R8	62	LEU
2	XB	230	VAL
2	XB	236	TYR
3	XC	12	LEU
3	XC	79	ARG
4	XD	154	ASN
11	XK	91	ARG
12	XL	48	PRO
12	XL	64	TYR
13	XM	67	GLU

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Mol	Chain	Res	Type
13	XM	106	ASN
13	XM	118	ALA
14	XN	14	PRO
14	XN	16	PHE
14	XN	52	GLN
19	XS	3	ARG
19	XS	12	ASP
20	XT	48	LYS
20	XT	96	GLY
24	YD	26	LYS
24	YD	28	GLU
24	YD	122	ASP
24	YD	123	ALA
25	YE	2	LYS
25	YE	19	ARG
25	YE	22	PRO
25	YE	53	PRO
25	YE	63	LEU
25	YE	71	GLY
26	YF	73	ALA
26	YF	134	GLY
27	YG	96	ARG
28	YH	3	ARG
28	YH	12	PRO
28	YH	13	LYS
28	YH	86	GLU
28	YH	126	PRO
28	YH	127	GLU
28	YH	128	PRO
28	YH	168	PRO
28	YH	169	VAL
29	YI	113	ARG
29	YI	133	HIS
29	YI	145	VAL
30	YN	9	VAL
30	YN	22	THR
30	YN	36	GLY
32	YP	6	LEU
32	YP	10	PRO
32	YP	14	LYS
32	YP	15	ARG
32	YP	25	SER

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Mol	Chain	Res	Type
32	YP	27	HIS
32	YP	95	VAL
32	YP	106	LEU
32	YP	148	LEU
33	YQ	18	LYS
33	YQ	22	LYS
33	YQ	25	ASP
33	YQ	79	LEU
33	YQ	86	GLY
33	YQ	90	VAL
33	YQ	134	ARG
34	YR	3	HIS
35	YS	82	ILE
35	YS	88	ASP
35	YS	107	GLU
36	YT	2	ASN
36	YT	123	GLN
36	YT	124	ASP
37	YU	90	VAL
37	YU	91	ASP
37	YU	93	LYS
38	YV	45	THR
40	YX	68	ARG
41	YY	50	ARG
41	YY	57	GLN
41	YY	77	PRO
41	YY	78	ALA
42	YZ	7	ALA
42	YZ	53	ILE
42	YZ	152	ALA
42	YZ	159	PRO
42	YZ	165	VAL
44	Y1	30	VAL
44	Y1	84	GLY
44	Y1	91	LYS
44	Y1	95	LEU
45	Y2	16	LEU
45	Y2	43	GLN
45	Y2	47	ASN
45	Y2	48	HIS
47	Y4	24	THR
47	Y4	40	HIS

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Mol	Chain	Res	Type
47	Y4	49	PHE
48	Y5	4	HIS
49	Y6	15	GLU
50	Y7	48	LYS
51	Y8	52	LYS
51	Y8	62	LEU
2	QB	15	VAL
2	QB	96	ARG
2	QB	229	VAL
2	QB	230	VAL
2	QB	237	ALA
3	QC	79	ARG
4	QD	51	PRO
4	QD	154	ASN
5	QE	115	VAL
8	QH	129	VAL
9	QI	41	VAL
9	QI	117	HIS
11	QK	101	SER
12	QL	47	LYS
12	QL	91	LYS
13	QM	12	ASN
14	QN	12	ARG
17	QQ	74	LEU
17	QQ	81	ARG
19	QS	3	ARG
19	QS	11	VAL
19	QS	26	GLY
19	QS	31	ILE
19	QS	41	VAL
24	RD	32	SER
25	RE	50	GLY
25	RE	60	ASN
25	RE	66	HIS
25	RE	72	VAL
25	RE	90	THR
25	RE	92	THR
25	RE	187	ALA
26	RF	17	ARG
26	RF	67	GLN
26	RF	73	ALA
26	RF	89	VAL

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Mol	Chain	Res	Type
26	RF	134	GLY
26	RF	198	ALA
27	RG	4	ASP
27	RG	5	VAL
27	RG	14	GLU
27	RG	96	ARG
27	RG	137	GLU
27	RG	146	TYR
28	RH	8	PRO
28	RH	128	PRO
28	RH	137	ASP
28	RH	153	LYS
28	RH	155	SER
29	RI	11	ASN
29	RI	13	GLY
29	RI	116	LEU
29	RI	117	GLU
32	RP	11	GLY
32	RP	90	ARG
32	RP	103	ALA
32	RP	106	LEU
33	RQ	6	ARG
33	RQ	25	ASP
33	RQ	27	VAL
33	RQ	133	ARG
34	RR	107	ASP
35	RS	4	LEU
35	RS	107	GLU
36	RT	37	GLY
37	RU	90	VAL
38	RV	49	THR
38	RV	79	VAL
40	RX	41	ASN
41	RY	45	VAL
41	RY	48	ALA
41	RY	63	LYS
42	RZ	6	LYS
42	RZ	12	GLY
42	RZ	53	ILE
42	RZ	62	PRO
42	RZ	152	ALA
42	RZ	177	PRO

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Mol	Chain	Res	Type
42	RZ	181	GLU
44	R1	30	VAL
44	R1	80	LEU
44	R1	84	GLY
44	R1	91	LYS
44	R1	95	LEU
45	R2	43	GLN
46	R3	26	LEU
47	R4	24	THR
47	R4	30	GLU
47	R4	51	ASP
47	R4	66	SER
49	R6	7	ILE
49	R6	45	LYS
2	XB	15	VAL
4	XD	30	LYS
4	XD	166	LYS
5	XE	115	VAL
7	XG	55	GLY
8	XH	50	ARG
9	XI	41	VAL
9	XI	127	LYS
10	XJ	30	SER
10	XJ	86	MET
12	XL	63	GLY
12	XL	91	LYS
12	XL	115	LYS
13	XM	6	GLY
13	XM	21	TYR
19	XS	41	VAL
19	XS	45	VAL
20	XT	99	LEU
24	YD	238	GLY
24	YD	242	ARG
25	YE	7	VAL
25	YE	204	ALA
26	YF	128	ALA
26	YF	132	VAL
26	YF	181	LEU
27	YG	4	ASP
27	YG	36	LYS
28	YH	27	LYS

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Mol	Chain	Res	Type
28	YH	50	VAL
28	YH	85	LYS
28	YH	152	ARG
28	YH	155	SER
29	YI	11	ASN
29	YI	84	GLY
29	YI	114	LEU
29	YI	122	GLU
30	YN	23	LEU
30	YN	96	GLU
31	YO	5	GLN
32	YP	66	GLY
32	YP	93	GLY
32	YP	141	ALA
33	YQ	6	ARG
33	YQ	60	ARG
33	YQ	137	TYR
34	YR	4	LEU
34	YR	45	ARG
34	YR	107	ASP
35	YS	12	PHE
35	YS	57	LYS
35	YS	109	GLY
36	YT	13	ARG
36	YT	39	ARG
36	YT	106	SER
38	YV	31	ALA
38	YV	48	GLY
38	YV	79	VAL
39	YW	111	HIS
41	YY	58	GLY
41	YY	102	CYS
42	YZ	6	LYS
42	YZ	61	LEU
42	YZ	81	ARG
42	YZ	121	HIS
42	YZ	177	PRO
43	Y0	64	ASP
45	Y2	70	GLN
45	Y2	71	ASN
47	Y4	5	ILE
47	Y4	18	CYS

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Mol	Chain	Res	Type
47	Y4	22	ILE
47	Y4	37	SER
47	Y4	43	TYR
47	Y4	50	VAL
49	Y6	7	ILE
49	Y6	16	CYS
49	Y6	33	LYS
2	QB	26	PRO
2	QB	87	ARG
2	QB	204	ASN
2	QB	207	ALA
3	QC	4	LYS
3	QC	51	GLY
4	QD	155	LEU
5	QE	77	PRO
10	QJ	30	SER
11	QK	103	LEU
11	QK	125	PHE
12	QL	28	LYS
13	QM	13	LYS
13	QM	120	LYS
14	QN	14	PRO
15	QO	23	GLY
19	QS	9	VAL
19	QS	14	HIS
19	QS	28	LYS
20	QT	96	GLY
24	RD	46	GLN
24	RD	239	ARG
25	RE	79	ARG
25	RE	204	ALA
26	RF	133	ASN
27	RG	32	PRO
27	RG	116	ASP
28	RH	5	GLY
28	RH	27	LYS
28	RH	55	PRO
28	RH	87	LEU
28	RH	138	LYS
29	RI	12	LEU
29	RI	65	ALA
29	RI	109	ILE

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Mol	Chain	Res	Type
30	RN	8	GLN
30	RN	23	LEU
30	RN	95	PRO
30	RN	130	HIS
31	RO	97	ARG
32	RP	29	LYS
32	RP	67	MET
33	RQ	11	LYS
33	RQ	19	GLY
33	RQ	137	TYR
34	RR	74	LYS
35	RS	12	PHE
35	RS	61	ASN
36	RT	12	SER
36	RT	97	ALA
37	RU	117	GLN
40	RX	67	GLY
41	RY	58	GLY
42	RZ	13	GLU
42	RZ	30	ASN
42	RZ	63	ASP
42	RZ	92	SER
42	RZ	104	PHE
42	RZ	159	PRO
42	RZ	165	VAL
43	R0	12	ASN
44	R1	76	ARG
46	R3	27	GLY
49	R6	16	CYS
49	R6	33	LYS
49	R6	35	GLU
49	R6	49	HIS
51	R8	31	HIS
51	R8	51	ALA
2	XB	13	ALA
2	XB	22	LYS
2	XB	24	TRP
2	XB	135	GLN
2	XB	207	ALA
4	XD	73	ARG
4	XD	155	LEU
7	XG	7	ALA

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Mol	Chain	Res	Type
8	XH	2	LEU
9	XI	56	LEU
9	XI	95	LYS
10	XJ	59	SER
11	XK	103	LEU
13	XM	4	ILE
13	XM	12	ASN
13	XM	42	ALA
19	XS	27	GLU
19	XS	28	LYS
24	YD	32	SER
25	YE	20	ALA
25	YE	50	GLY
25	YE	79	ARG
25	YE	90	THR
25	YE	92	THR
25	YE	117	MET
25	YE	184	VAL
26	YF	198	ALA
28	YH	8	PRO
28	YH	10	PRO
28	YH	87	LEU
28	YH	137	ASP
28	YH	138	LYS
28	YH	153	LYS
28	YH	154	PRO
29	YI	10	GLU
29	YI	12	LEU
29	YI	15	VAL
29	YI	16	GLY
29	YI	83	ALA
29	YI	86	THR
29	YI	118	LYS
30	YN	7	LYS
30	YN	131	GLN
32	YP	16	ARG
32	YP	29	LYS
32	YP	65	ARG
33	YQ	19	GLY
33	YQ	105	GLU
33	YQ	133	ARG
34	YR	86	ARG

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Mol	Chain	Res	Type
35	YS	4	LEU
35	YS	11	LYS
36	YT	97	ALA
38	YV	49	THR
38	YV	53	GLU
38	YV	100	ARG
41	YY	42	VAL
41	YY	63	LYS
42	YZ	62	PRO
42	YZ	112	ARG
42	YZ	115	GLY
46	Y3	3	ARG
47	Y4	9	LEU
47	Y4	23	GLU
47	Y4	30	GLU
47	Y4	34	GLU
47	Y4	66	SER
48	Y5	47	PRO
49	Y6	19	ARG
49	Y6	49	HIS
51	Y8	30	ARG
51	Y8	34	TRP
2	QB	22	LYS
2	QB	126	GLU
2	QB	209	ARG
4	QD	171	GLY
9	QI	56	LEU
12	QL	27	LEU
12	QL	48	PRO
13	QM	6	GLY
18	QR	20	ALA
18	QR	54	ARG
20	QT	71	THR
21	QU	9	ARG
24	RD	3	VAL
24	RD	123	ALA
24	RD	237	GLU
25	RE	78	LEU
26	RF	66	PRO
26	RF	197	ASP
27	RG	36	LYS
27	RG	86	MET

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Mol	Chain	Res	Type
28	RH	92	ILE
29	RI	10	GLU
29	RI	118	LYS
29	RI	122	GLU
32	RP	21	ARG
33	RQ	21	THR
33	RQ	28	ALA
33	RQ	86	GLY
33	RQ	104	PHE
33	RQ	105	GLU
34	RR	71	GLN
35	RS	109	GLY
36	RT	38	ASN
36	RT	39	ARG
37	RU	98	LEU
39	RW	18	ARG
39	RW	63	ASP
39	RW	68	ARG
41	RY	4	LYS
41	RY	53	PRO
41	RY	99	CYS
42	RZ	81	ARG
42	RZ	83	PRO
42	RZ	108	PRO
42	RZ	151	HIS
43	R0	3	HIS
50	R7	48	LYS
2	XB	19	HIS
2	XB	101	MET
2	XB	155	LEU
5	XE	70	PRO
8	XH	129	VAL
12	XL	19	ARG
12	XL	28	LYS
14	XN	15	LYS
14	XN	32	SER
15	XO	88	ARG
18	XR	20	ALA
19	XS	9	VAL
20	XT	84	LEU
20	XT	98	PRO
21	XU	9	ARG

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Mol	Chain	Res	Type
27	YG	14	GLU
27	YG	82	LEU
27	YG	86	MET
27	YG	116	ASP
28	YH	83	TYR
29	YI	115	ALA
30	YN	11	PRO
30	YN	28	THR
30	YN	47	ALA
33	YQ	104	PHE
33	YQ	140	ALA
35	YS	89	ARG
35	YS	96	GLY
36	YT	17	THR
40	YX	40	LYS
41	YY	51	VAL
41	YY	53	PRO
42	YZ	13	GLU
42	YZ	92	SER
42	YZ	160	GLY
42	YZ	166	SER
47	Y4	16	CYS
47	Y4	25	TYR
47	Y4	54	GLY
47	Y4	60	GLN
49	Y6	35	GLU
2	QB	234	PRO
4	QD	42	GLN
5	QE	70	PRO
5	QE	96	PRO
7	QG	7	ALA
9	QI	121	ARG
12	QL	19	ARG
12	QL	121	GLY
13	QM	4	ILE
18	QR	26	LEU
20	QT	73	HIS
20	QT	97	ALA
24	RD	238	GLY
25	RE	54	GLN
26	RF	8	GLN
27	RG	82	LEU

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Mol	Chain	Res	Type
28	RH	21	PRO
28	RH	83	TYR
29	RI	47	LEU
29	RI	145	VAL
30	RN	18	ALA
30	RN	57	ALA
30	RN	135	PRO
35	RS	97	ARG
35	RS	110	LEU
36	RT	40	THR
41	RY	39	VAL
41	RY	41	GLY
41	RY	62	GLU
42	RZ	116	VAL
44	R1	74	VAL
44	R1	82	LEU
47	R4	5	ILE
47	R4	23	GLU
47	R4	28	LYS
47	R4	68	ARG
49	R6	9	LEU
49	R6	19	ARG
2	XB	121	LEU
3	XC	181	ASN
10	XJ	27	ALA
12	XL	27	LEU
12	XL	65	GLU
13	XM	101	GLN
15	XO	23	GLY
20	XT	97	ALA
24	YD	3	VAL
24	YD	46	GLN
25	YE	68	ALA
25	YE	82	ARG
25	YE	86	PRO
27	YG	5	VAL
27	YG	53	LEU
27	YG	117	PHE
28	YH	151	ILE
29	YI	18	VAL
29	YI	33	ARG
29	YI	80	PRO

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Mol	Chain	Res	Type
29	YI	87	LYS
29	YI	112	LYS
30	YN	95	PRO
30	YN	127	ASP
30	YN	134	ARG
30	YN	135	PRO
32	YP	7	ARG
33	YQ	11	LYS
33	YQ	27	VAL
35	YS	94	TYR
35	YS	110	LEU
36	YT	86	ILE
37	YU	117	GLN
38	YV	50	PRO
41	YY	39	VAL
42	YZ	168	GLU
44	Y1	74	VAL
47	Y4	14	ILE
49	Y6	21	TYR
2	QB	155	LEU
10	QJ	82	ILE
13	QM	10	PRO
14	QN	15	LYS
20	QT	98	PRO
24	RD	125	ILE
25	RE	82	ARG
26	RF	130	ALA
27	RG	52	ILE
27	RG	88	ILE
27	RG	117	PHE
29	RI	9	LEU
35	RS	82	ILE
41	RY	5	MET
42	RZ	61	LEU
44	R1	55	GLY
47	R4	11	PRO
49	R6	21	TYR
49	R6	34	LEU
2	XB	26	PRO
2	XB	126	GLU
2	XB	237	ALA
10	XJ	91	PRO

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Mol	Chain	Res	Type
14	XN	60	SER
19	XS	7	LYS
25	YE	72	VAL
26	YF	58	ALA
29	YI	9	LEU
31	YO	97	ARG
33	YQ	62	GLY
33	YQ	81	VAL
41	YY	3	VAL
42	YZ	96	VAL
44	Y1	55	GLY
2	QB	5	ILE
16	QP	46	PRO
25	RE	21	VAL
25	RE	86	PRO
26	RF	25	PRO
28	RH	166	GLY
29	RI	144	VAL
43	R0	8	GLY
5	XE	74	GLY
12	XL	18	VAL
3	QC	81	GLY
5	QE	74	GLY
19	QS	46	GLY
24	RD	35	LYS
19	XS	26	GLY
19	XS	46	GLY
26	YF	66	PRO
36	YT	37	GLY
42	YZ	137	ILE
7	QG	50	ILE
9	QI	89	ASN
10	QJ	37	PRO
30	RN	134	ARG
33	RQ	81	VAL
36	RT	86	ILE
42	RZ	141	VAL
8	XH	51	VAL
16	XP	46	PRO
19	XS	31	ILE
25	YE	21	VAL
39	YW	14	PRO

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Mol	Chain	Res	Type
42	YZ	147	GLY
26	RF	132	VAL
29	RI	18	VAL
38	RV	54	GLY
42	RZ	94	GLU
27	YG	52	ILE
27	YG	88	ILE
28	YH	7	LEU
32	YP	24	GLY
34	YR	117	VAL
2	QB	227	GLY
35	YS	60	GLY
42	YZ	95	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	
2	QB	205/220 (93%)	172 (84%)	33 (16%)	2	15
2	XB	205/220 (93%)	180 (88%)	25 (12%)	5	24
3	QC	159/188 (85%)	145 (91%)	14 (9%)	10	38
3	XC	159/188 (85%)	146 (92%)	13 (8%)	11	41
4	QD	180/181 (99%)	157 (87%)	23 (13%)	4	22
4	XD	180/181 (99%)	154 (86%)	26 (14%)	3	19
5	QE	116/123 (94%)	104 (90%)	12 (10%)	7	31
5	XE	116/123 (94%)	104 (90%)	12 (10%)	7	31
6	QF	90/90 (100%)	78 (87%)	12 (13%)	4	21
6	XF	90/90 (100%)	82 (91%)	8 (9%)	9	37
7	QG	126/127 (99%)	114 (90%)	12 (10%)	8	34
7	XG	126/127 (99%)	114 (90%)	12 (10%)	8	34
8	QH	119/119 (100%)	109 (92%)	10 (8%)	11	40
8	XH	119/119 (100%)	106 (89%)	13 (11%)	6	29

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	QI	98/99 (99%)	81 (83%)	17 (17%)	2	12
9	XI	98/99 (99%)	80 (82%)	18 (18%)	1	10
10	QJ	89/92 (97%)	77 (86%)	12 (14%)	4	21
10	XJ	89/92 (97%)	74 (83%)	15 (17%)	2	13
11	QK	90/99 (91%)	81 (90%)	9 (10%)	7	32
11	XK	90/99 (91%)	82 (91%)	8 (9%)	9	37
12	QL	104/109 (95%)	87 (84%)	17 (16%)	2	15
12	XL	104/109 (95%)	93 (89%)	11 (11%)	6	30
13	QM	97/101 (96%)	73 (75%)	24 (25%)	0	5
13	XM	97/101 (96%)	78 (80%)	19 (20%)	1	9
14	QN	49/50 (98%)	40 (82%)	9 (18%)	1	10
14	XN	49/50 (98%)	42 (86%)	7 (14%)	3	19
15	QO	79/80 (99%)	72 (91%)	7 (9%)	9	37
15	XO	79/80 (99%)	69 (87%)	10 (13%)	4	23
16	QP	72/74 (97%)	63 (88%)	9 (12%)	4	23
16	XP	72/74 (97%)	63 (88%)	9 (12%)	4	23
17	QQ	95/97 (98%)	87 (92%)	8 (8%)	11	40
17	XQ	95/97 (98%)	89 (94%)	6 (6%)	18	49
18	QR	61/77 (79%)	50 (82%)	11 (18%)	1	11
18	XR	61/77 (79%)	52 (85%)	9 (15%)	3	18
19	QS	73/80 (91%)	59 (81%)	14 (19%)	1	9
19	XS	73/80 (91%)	57 (78%)	16 (22%)	1	6
20	QT	76/82 (93%)	67 (88%)	9 (12%)	5	26
20	XT	76/82 (93%)	66 (87%)	10 (13%)	4	21
21	QU	20/22 (91%)	20 (100%)	0	100	100
21	XU	20/22 (91%)	19 (95%)	1 (5%)	24	55
24	RD	214/218 (98%)	174 (81%)	40 (19%)	1	10
24	YD	214/218 (98%)	181 (85%)	33 (15%)	2	17
25	RE	165/166 (99%)	126 (76%)	39 (24%)	1	5
25	YE	165/166 (99%)	137 (83%)	28 (17%)	2	13
26	RF	161/166 (97%)	132 (82%)	29 (18%)	1	11

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
26	YF	161/166 (97%)	137 (85%)	24 (15%)	3	18
27	RG	155/156 (99%)	134 (86%)	21 (14%)	4	21
27	YG	155/156 (99%)	133 (86%)	22 (14%)	3	19
28	RH	142/148 (96%)	120 (84%)	22 (16%)	2	17
28	YH	142/148 (96%)	117 (82%)	25 (18%)	2	12
29	RI	122/124 (98%)	86 (70%)	36 (30%)	0	2
29	YI	122/124 (98%)	85 (70%)	37 (30%)	0	2
30	RN	117/119 (98%)	97 (83%)	20 (17%)	2	13
30	YN	117/119 (98%)	96 (82%)	21 (18%)	2	11
31	RO	100/100 (100%)	90 (90%)	10 (10%)	7	32
31	YO	100/100 (100%)	88 (88%)	12 (12%)	5	25
32	RP	116/116 (100%)	85 (73%)	31 (27%)	0	3
32	YP	116/116 (100%)	82 (71%)	34 (29%)	0	2
33	RQ	111/111 (100%)	95 (86%)	16 (14%)	3	19
33	YQ	111/111 (100%)	92 (83%)	19 (17%)	2	13
34	RR	101/101 (100%)	83 (82%)	18 (18%)	2	11
34	YR	101/101 (100%)	81 (80%)	20 (20%)	1	8
35	RS	87/88 (99%)	69 (79%)	18 (21%)	1	7
35	YS	87/88 (99%)	68 (78%)	19 (22%)	1	7
36	RT	120/127 (94%)	102 (85%)	18 (15%)	3	17
36	YT	120/127 (94%)	98 (82%)	22 (18%)	1	10
37	RU	93/94 (99%)	78 (84%)	15 (16%)	2	15
37	YU	93/94 (99%)	77 (83%)	16 (17%)	2	13
38	RV	82/82 (100%)	66 (80%)	16 (20%)	1	9
38	YV	82/82 (100%)	67 (82%)	15 (18%)	1	10
39	RW	92/92 (100%)	73 (79%)	19 (21%)	1	7
39	YW	92/92 (100%)	76 (83%)	16 (17%)	2	12
40	RX	74/78 (95%)	64 (86%)	10 (14%)	4	21
40	YX	74/78 (95%)	60 (81%)	14 (19%)	1	9
41	RY	85/91 (93%)	63 (74%)	22 (26%)	0	4
41	YY	85/91 (93%)	64 (75%)	21 (25%)	0	5

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
42	RZ	162/179 (90%)	131 (81%)	31 (19%)	1	9
42	YZ	162/179 (90%)	121 (75%)	41 (25%)	0	4
43	R0	65/67 (97%)	56 (86%)	9 (14%)	3	20
43	Y0	65/67 (97%)	53 (82%)	12 (18%)	1	10
44	R1	82/83 (99%)	73 (89%)	9 (11%)	6	29
44	Y1	82/83 (99%)	70 (85%)	12 (15%)	3	18
45	R2	64/67 (96%)	57 (89%)	7 (11%)	6	29
45	Y2	64/67 (96%)	47 (73%)	17 (27%)	0	3
46	R3	51/52 (98%)	45 (88%)	6 (12%)	5	26
46	Y3	51/52 (98%)	43 (84%)	8 (16%)	2	16
47	R4	63/63 (100%)	45 (71%)	18 (29%)	0	2
47	Y4	63/63 (100%)	43 (68%)	20 (32%)	0	1
48	R5	51/52 (98%)	37 (72%)	14 (28%)	0	3
48	Y5	51/52 (98%)	37 (72%)	14 (28%)	0	3
49	R6	48/52 (92%)	35 (73%)	13 (27%)	0	3
49	Y6	48/52 (92%)	38 (79%)	10 (21%)	1	7
50	R7	42/42 (100%)	34 (81%)	8 (19%)	1	9
50	Y7	42/42 (100%)	35 (83%)	7 (17%)	2	14
51	R8	54/55 (98%)	44 (82%)	10 (18%)	1	10
51	Y8	54/55 (98%)	41 (76%)	13 (24%)	0	5
52	R9	34/34 (100%)	32 (94%)	2 (6%)	19	51
52	Y9	34/34 (100%)	32 (94%)	2 (6%)	19	51
All	All	9702/10066 (96%)	8111 (84%)	1591 (16%)	2	15

All (1591) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	QB	5	ILE
2	QB	6	THR
2	QB	7	VAL
2	QB	8	LYS
2	QB	15	VAL
2	QB	23	ARG
2	QB	24	TRP

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Mol	Chain	Res	Type
2	QB	32	ILE
2	QB	33	TYR
2	QB	53	ARG
2	QB	60	ASP
2	QB	67	THR
2	QB	82	ARG
2	QB	87	ARG
2	QB	92	TYR
2	QB	94	ASN
2	QB	101	MET
2	QB	109	SER
2	QB	119	GLU
2	QB	121	LEU
2	QB	150	SER
2	QB	155	LEU
2	QB	158	LEU
2	QB	163	PHE
2	QB	165	VAL
2	QB	168	THR
2	QB	172	ILE
2	QB	175	ARG
2	QB	187	LEU
2	QB	196	LEU
2	QB	204	ASN
2	QB	215	LEU
2	QB	217	ARG
3	QC	3	ASN
3	QC	5	ILE
3	QC	12	LEU
3	QC	16	ARG
3	QC	21	ARG
3	QC	45	LYS
3	QC	52	LEU
3	QC	76	VAL
3	QC	94	LEU
3	QC	127	ARG
3	QC	131	ARG
3	QC	154	SER
3	QC	165	THR
3	QC	206	GLU
4	QD	3	ARG
4	QD	14	ARG

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Mol	Chain	Res	Type
4	QD	22	LYS
4	QD	26	CYS
4	QD	30	LYS
4	QD	33	MET
4	QD	50	ARG
4	QD	58	LEU
4	QD	73	ARG
4	QD	76	ARG
4	QD	86	LYS
4	QD	94	LEU
4	QD	96	LEU
4	QD	122	ARG
4	QD	127	THR
4	QD	131	ARG
4	QD	135	LEU
4	QD	154	ASN
4	QD	175	SER
4	QD	187	ARG
4	QD	190	ASP
4	QD	191	ARG
4	QD	192	GLU
5	QE	10	MET
5	QE	12	LEU
5	QE	31	LEU
5	QE	34	VAL
5	QE	41	VAL
5	QE	51	VAL
5	QE	68	GLU
5	QE	79	GLU
5	QE	81	GLU
5	QE	98	THR
5	QE	101	ILE
5	QE	153	LYS
6	QF	16	GLN
6	QF	21	LEU
6	QF	23	LYS
6	QF	43	LEU
6	QF	45	LEU
6	QF	47	ARG
6	QF	55	ASP
6	QF	69	GLU
6	QF	70	ASP

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Mol	Chain	Res	Type
6	QF	72	VAL
6	QF	75	LEU
6	QF	98	LEU
7	QG	8	GLU
7	QG	54	THR
7	QG	80	VAL
7	QG	92	SER
7	QG	94	ARG
7	QG	104	LEU
7	QG	113	GLU
7	QG	114	ARG
7	QG	135	VAL
7	QG	136	LYS
7	QG	137	LYS
7	QG	155	ARG
8	QH	1	MET
8	QH	24	THR
8	QH	25	ASP
8	QH	26	VAL
8	QH	41	ARG
8	QH	99	GLU
8	QH	109	ILE
8	QH	112	LEU
8	QH	125	ARG
8	QH	129	VAL
9	QI	9	ARG
9	QI	10	ARG
9	QI	11	LYS
9	QI	23	ASN
9	QI	47	LEU
9	QI	56	LEU
9	QI	64	THR
9	QI	65	VAL
9	QI	75	ASP
9	QI	95	LYS
9	QI	104	ARG
9	QI	105	ASP
9	QI	113	LYS
9	QI	114	TYR
9	QI	121	ARG
9	QI	125	TYR
9	QI	128	ARG

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Mol	Chain	Res	Type
10	QJ	22	LYS
10	QJ	47	PHE
10	QJ	54	PHE
10	QJ	57	LYS
10	QJ	58	ASP
10	QJ	62	HIS
10	QJ	73	ASP
10	QJ	74	ILE
10	QJ	80	LYS
10	QJ	84	GLN
10	QJ	92	THR
10	QJ	96	ILE
11	QK	26	ASN
11	QK	29	ILE
11	QK	32	ILE
11	QK	34	ASP
11	QK	63	LEU
11	QK	92	GLU
11	QK	103	LEU
11	QK	109	VAL
11	QK	127	LYS
12	QL	17	LYS
12	QL	18	VAL
12	QL	20	LYS
12	QL	27	LEU
12	QL	33	ARG
12	QL	38	THR
12	QL	42	THR
12	QL	50	SER
12	QL	54	LYS
12	QL	59	ARG
12	QL	60	LEU
12	QL	73	GLU
12	QL	83	VAL
12	QL	85	ILE
12	QL	89	ARG
12	QL	102	ARG
12	QL	113	ARG
13	QM	8	GLU
13	QM	11	ARG
13	QM	13	LYS
13	QM	17	VAL

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Mol	Chain	Res	Type
13	QM	19	LEU
13	QM	45	VAL
13	QM	47	ASP
13	QM	48	LEU
13	QM	56	LEU
13	QM	57	ARG
13	QM	64	TRP
13	QM	66	LEU
13	QM	70	LEU
13	QM	77	ASN
13	QM	84	ILE
13	QM	88	ARG
13	QM	90	LEU
13	QM	98	VAL
13	QM	108	ARG
13	QM	111	LYS
13	QM	114	ARG
13	QM	115	LYS
13	QM	117	VAL
13	QM	122	LYS
14	QN	6	LEU
14	QN	12	ARG
14	QN	13	THR
14	QN	18	VAL
14	QN	33	VAL
14	QN	43	CYS
14	QN	44	LEU
14	QN	46	GLU
14	QN	57	ARG
15	QO	3	ILE
15	QO	4	THR
15	QO	26	GLU
15	QO	31	LEU
15	QO	39	LEU
15	QO	64	ARG
15	QO	84	LYS
16	QP	2	VAL
16	QP	20	VAL
16	QP	26	ARG
16	QP	28	ARG
16	QP	33	ILE
16	QP	53	VAL

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Mol	Chain	Res	Type
16	QP	67	THR
16	QP	69	THR
16	QP	71	ARG
17	QQ	37	LYS
17	QQ	38	ARG
17	QQ	52	LYS
17	QQ	59	ILE
17	QQ	62	SER
17	QQ	68	ARG
17	QQ	74	LEU
17	QQ	101	ARG
18	QR	26	LEU
18	QR	29	PHE
18	QR	31	LEU
18	QR	32	ARG
18	QR	36	ASN
18	QR	46	GLU
18	QR	54	ARG
18	QR	76	LEU
18	QR	82	THR
18	QR	83	GLU
18	QR	86	VAL
19	QS	5	LEU
19	QS	10	PHE
19	QS	12	ASP
19	QS	21	GLU
19	QS	28	LYS
19	QS	29	ARG
19	QS	30	LEU
19	QS	37	ARG
19	QS	43	GLU
19	QS	44	MET
19	QS	63	THR
19	QS	67	VAL
19	QS	77	THR
19	QS	83	HIS
20	QT	17	ARG
20	QT	24	LEU
20	QT	45	GLN
20	QT	72	LEU
20	QT	73	HIS
20	QT	75	ASN

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Mol	Chain	Res	Type
20	QT	80	ARG
20	QT	84	LEU
20	QT	93	GLU
24	RD	5	LYS
24	RD	10	THR
24	RD	17	THR
24	RD	25	THR
24	RD	40	THR
24	RD	43	ARG
24	RD	44	ASN
24	RD	46	GLN
24	RD	49	ILE
24	RD	61	LEU
24	RD	65	ILE
24	RD	69	ARG
24	RD	71	ASP
24	RD	73	VAL
24	RD	83	GLU
24	RD	87	ASN
24	RD	88	ARG
24	RD	95	LEU
24	RD	103	ARG
24	RD	105	ILE
24	RD	106	ILE
24	RD	111	LEU
24	RD	134	ARG
24	RD	150	LYS
24	RD	155	LEU
24	RD	157	ARG
24	RD	173	VAL
24	RD	192	THR
24	RD	211	ARG
24	RD	212	SER
24	RD	221	VAL
24	RD	229	VAL
24	RD	237	GLU
24	RD	242	ARG
24	RD	257	LEU
24	RD	259	THR
24	RD	261	LYS
24	RD	268	ARG
24	RD	271	ILE

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Mol	Chain	Res	Type
24	RD	273	ARG
25	RE	2	LYS
25	RE	4	ILE
25	RE	7	VAL
25	RE	12	THR
25	RE	13	ARG
25	RE	16	ARG
25	RE	26	ILE
25	RE	27	LEU
25	RE	33	VAL
25	RE	34	VAL
25	RE	38	THR
25	RE	41	LYS
25	RE	42	ASP
25	RE	47	VAL
25	RE	49	LEU
25	RE	52	LEU
25	RE	54	GLN
25	RE	63	LEU
25	RE	77	ILE
25	RE	79	ARG
25	RE	80	GLU
25	RE	82	ARG
25	RE	92	THR
25	RE	101	ARG
25	RE	113	PHE
25	RE	116	VAL
25	RE	119	ARG
25	RE	127	ASP
25	RE	144	ARG
25	RE	146	THR
25	RE	167	VAL
25	RE	175	VAL
25	RE	179	GLU
25	RE	181	LEU
25	RE	184	VAL
25	RE	197	ILE
25	RE	200	GLU
25	RE	202	LYS
25	RE	203	LYS
26	RF	9	ILE
26	RF	13	SER

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Mol	Chain	Res	Type
26	RF	24	LEU
26	RF	28	ILE
26	RF	32	LEU
26	RF	33	LEU
26	RF	45	ARG
26	RF	57	VAL
26	RF	65	TRP
26	RF	68	LYS
26	RF	70	THR
26	RF	74	ARG
26	RF	77	ASP
26	RF	78	ILE
26	RF	84	VAL
26	RF	104	LYS
26	RF	107	LYS
26	RF	117	ARG
26	RF	127	GLU
26	RF	149	ASP
26	RF	158	THR
26	RF	161	GLU
26	RF	165	ARG
26	RF	174	VAL
26	RF	176	LEU
26	RF	181	LEU
26	RF	192	LEU
26	RF	194	MET
26	RF	197	ASP
27	RG	7	LEU
27	RG	10	LYS
27	RG	20	ILE
27	RG	26	GLN
27	RG	33	ARG
27	RG	34	LEU
27	RG	43	LEU
27	RG	53	LEU
27	RG	54	GLU
27	RG	67	LYS
27	RG	71	THR
27	RG	88	ILE
27	RG	94	LEU
27	RG	98	ARG
27	RG	116	ASP

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Mol	Chain	Res	Type
27	RG	118	ARG
27	RG	133	LEU
27	RG	147	ASP
27	RG	159	VAL
27	RG	167	GLU
27	RG	174	GLU
28	RH	3	ARG
28	RH	4	ILE
28	RH	7	LEU
28	RH	9	ILE
28	RH	27	LYS
28	RH	42	ARG
28	RH	43	VAL
28	RH	51	ARG
28	RH	59	ARG
28	RH	64	LEU
28	RH	77	LYS
28	RH	81	GLU
28	RH	88	LEU
28	RH	89	ILE
28	RH	105	LEU
28	RH	107	VAL
28	RH	132	ARG
28	RH	139	GLN
28	RH	152	ARG
28	RH	153	LYS
28	RH	158	HIS
28	RH	169	VAL
29	RI	3	VAL
29	RI	6	LEU
29	RI	9	LEU
29	RI	10	GLU
29	RI	15	VAL
29	RI	25	TYR
29	RI	27	ARG
29	RI	33	ARG
29	RI	35	LEU
29	RI	38	LEU
29	RI	40	THR
29	RI	42	SER
29	RI	57	ARG
29	RI	58	LEU

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Mol	Chain	Res	Type
29	RI	68	LEU
29	RI	69	LYS
29	RI	70	GLU
29	RI	72	LEU
29	RI	79	ILE
29	RI	81	VAL
29	RI	85	GLU
29	RI	86	THR
29	RI	88	ILE
29	RI	92	VAL
29	RI	97	ILE
29	RI	102	SER
29	RI	112	LYS
29	RI	113	ARG
29	RI	118	LYS
29	RI	129	THR
29	RI	130	TYR
29	RI	131	LYS
29	RI	133	HIS
29	RI	135	GLU
29	RI	138	ILE
29	RI	142	VAL
30	RN	1	MET
30	RN	2	LYS
30	RN	5	VAL
30	RN	7	LYS
30	RN	12	ARG
30	RN	32	THR
30	RN	34	LEU
30	RN	43	THR
30	RN	48	MET
30	RN	60	ILE
30	RN	61	ARG
30	RN	62	VAL
30	RN	87	LEU
30	RN	90	MET
30	RN	96	GLU
30	RN	98	VAL
30	RN	109	LYS
30	RN	120	LEU
30	RN	127	ASP
30	RN	136	GLU

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Mol	Chain	Res	Type
31	RO	3	GLN
31	RO	9	GLU
31	RO	19	ILE
31	RO	24	VAL
31	RO	31	LYS
31	RO	49	ARG
31	RO	53	LYS
31	RO	69	ILE
31	RO	91	LEU
31	RO	102	VAL
32	RP	5	ASP
32	RP	6	LEU
32	RP	9	ASN
32	RP	14	LYS
32	RP	15	ARG
32	RP	16	ARG
32	RP	19	VAL
32	RP	21	ARG
32	RP	30	THR
32	RP	36	LYS
32	RP	41	ARG
32	RP	45	LEU
32	RP	50	ARG
32	RP	56	SER
32	RP	61	ARG
32	RP	62	LEU
32	RP	64	LYS
32	RP	70	GLN
32	RP	71	VAL
32	RP	75	ILE
32	RP	81	GLN
32	RP	88	LEU
32	RP	91	PHE
32	RP	100	LEU
32	RP	105	LEU
32	RP	107	LYS
32	RP	112	LEU
32	RP	133	SER
32	RP	138	LEU
32	RP	144	GLU
32	RP	146	VAL
33	RQ	17	LEU

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Mol	Chain	Res	Type
33	RQ	26	TYR
33	RQ	27	VAL
33	RQ	35	VAL
33	RQ	45	GLN
33	RQ	54	MET
33	RQ	60	ARG
33	RQ	79	LEU
33	RQ	81	VAL
33	RQ	82	ARG
33	RQ	83	MET
33	RQ	85	LYS
33	RQ	96	VAL
33	RQ	112	GLU
33	RQ	135	ASP
33	RQ	139	GLU
34	RR	1	MET
34	RR	6	SER
34	RR	9	LYS
34	RR	18	LEU
34	RR	29	LEU
34	RR	35	THR
34	RR	44	LEU
34	RR	63	ARG
34	RR	71	GLN
34	RR	75	LEU
34	RR	79	LEU
34	RR	91	GLN
34	RR	95	THR
34	RR	100	LEU
34	RR	104	ARG
34	RR	105	ARG
34	RR	117	VAL
34	RR	118	GLU
35	RS	3	ARG
35	RS	4	LEU
35	RS	12	PHE
35	RS	17	ARG
35	RS	20	ARG
35	RS	27	SER
35	RS	39	ILE
35	RS	44	LYS
35	RS	50	SER

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Mol	Chain	Res	Type
35	RS	54	LEU
35	RS	56	LEU
35	RS	57	LYS
35	RS	58	LEU
35	RS	59	LYS
35	RS	98	VAL
35	RS	101	LEU
35	RS	103	GLU
35	RS	106	ARG
36	RT	18	ASP
36	RT	27	THR
36	RT	30	VAL
36	RT	41	ARG
36	RT	42	ILE
36	RT	50	ILE
36	RT	51	ARG
36	RT	62	THR
36	RT	65	LYS
36	RT	74	ARG
36	RT	88	ILE
36	RT	89	VAL
36	RT	99	LEU
36	RT	105	LEU
36	RT	107	ASP
36	RT	112	ARG
36	RT	125	ARG
36	RT	128	GLU
37	RU	52	ARG
37	RU	55	ARG
37	RU	59	ARG
37	RU	60	LEU
37	RU	64	ARG
37	RU	69	CYS
37	RU	74	LEU
37	RU	90	VAL
37	RU	92	ARG
37	RU	94	ASN
37	RU	98	LEU
37	RU	108	GLU
37	RU	111	GLU
37	RU	114	LYS
37	RU	117	GLN

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Mol	Chain	Res	Type
38	RV	13	ARG
38	RV	19	LYS
38	RV	21	ARG
38	RV	22	VAL
38	RV	24	LYS
38	RV	35	LEU
38	RV	37	VAL
38	RV	45	THR
38	RV	47	VAL
38	RV	57	VAL
38	RV	61	VAL
38	RV	62	LEU
38	RV	64	HIS
38	RV	78	LYS
38	RV	79	VAL
38	RV	99	ILE
39	RW	11	ARG
39	RW	16	LYS
39	RW	18	ARG
39	RW	19	LEU
39	RW	20	VAL
39	RW	23	LEU
39	RW	27	LYS
39	RW	30	GLU
39	RW	40	ASN
39	RW	51	LEU
39	RW	60	ASN
39	RW	63	ASP
39	RW	67	ASP
39	RW	76	VAL
39	RW	82	LEU
39	RW	92	ARG
39	RW	100	THR
39	RW	106	ILE
39	RW	107	LEU
40	RX	12	VAL
40	RX	23	GLU
40	RX	27	THR
40	RX	30	VAL
40	RX	35	THR
40	RX	49	VAL
40	RX	65	ARG

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Mol	Chain	Res	Type
40	RX	70	LEU
40	RX	80	ILE
40	RX	81	VAL
41	RY	2	ARG
41	RY	13	VAL
41	RY	14	LEU
41	RY	27	VAL
41	RY	34	LYS
41	RY	37	VAL
41	RY	38	ILE
41	RY	43	ASN
41	RY	45	VAL
41	RY	55	TYR
41	RY	57	GLN
41	RY	61	ILE
41	RY	67	LEU
41	RY	70	SER
41	RY	75	ILE
41	RY	76	CYS
41	RY	87	LYS
41	RY	90	LEU
41	RY	95	LYS
41	RY	96	ILE
41	RY	97	ARG
41	RY	102	CYS
42	RZ	5	LEU
42	RZ	20	ARG
42	RZ	24	LEU
42	RZ	29	TYR
42	RZ	35	ARG
42	RZ	38	TYR
42	RZ	53	ILE
42	RZ	70	LEU
42	RZ	80	ARG
42	RZ	81	ARG
42	RZ	87	ASP
42	RZ	89	PHE
42	RZ	94	GLU
42	RZ	98	MET
42	RZ	112	ARG
42	RZ	117	LEU
42	RZ	119	GLU

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Mol	Chain	Res	Type
42	RZ	121	HIS
42	RZ	145	GLU
42	RZ	146	ILE
42	RZ	150	LEU
42	RZ	151	HIS
42	RZ	163	LEU
42	RZ	166	SER
42	RZ	168	GLU
42	RZ	169	GLU
42	RZ	171	ILE
42	RZ	180	VAL
42	RZ	181	GLU
42	RZ	182	LYS
42	RZ	183	LEU
43	R0	5	LYS
43	R0	7	LEU
43	R0	10	THR
43	R0	14	ARG
43	R0	17	GLN
43	R0	31	VAL
43	R0	36	ILE
43	R0	66	VAL
43	R0	74	ARG
44	R1	21	ARG
44	R1	41	ARG
44	R1	51	VAL
44	R1	62	VAL
44	R1	78	LYS
44	R1	80	LEU
44	R1	90	ILE
44	R1	91	LYS
44	R1	92	LYS
45	R2	17	SER
45	R2	24	LEU
45	R2	27	GLU
45	R2	32	LEU
45	R2	50	ILE
45	R2	53	LEU
45	R2	62	THR
46	R3	6	VAL
46	R3	8	LEU
46	R3	18	ASP

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Mol	Chain	Res	Type
46	R3	32	GLN
46	R3	40	THR
46	R3	56	VAL
47	R4	13	ARG
47	R4	15	ILE
47	R4	23	GLU
47	R4	33	VAL
47	R4	34	GLU
47	R4	37	SER
47	R4	42	PHE
47	R4	48	ARG
47	R4	49	PHE
47	R4	50	VAL
47	R4	52	THR
47	R4	57	GLU
47	R4	61	ARG
47	R4	62	ARG
47	R4	63	TYR
47	R4	66	SER
47	R4	67	TYR
47	R4	68	ARG
48	R5	4	HIS
48	R5	6	VAL
48	R5	11	THR
48	R5	21	SER
48	R5	23	HIS
48	R5	25	LEU
48	R5	29	THR
48	R5	36	CYS
48	R5	40	LYS
48	R5	51	TYR
48	R5	52	TYR
48	R5	56	LYS
48	R5	58	LEU
48	R5	60	VAL
49	R6	6	ARG
49	R6	8	LYS
49	R6	9	LEU
49	R6	10	LEU
49	R6	11	LEU
49	R6	17	LYS
49	R6	19	ARG

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Mol	Chain	Res	Type
49	R6	23	THR
49	R6	27	LYS
49	R6	30	THR
49	R6	34	LEU
49	R6	37	ARG
49	R6	44	ARG
50	R7	1	MET
50	R7	2	LYS
50	R7	4	THR
50	R7	9	ARG
50	R7	10	ARG
50	R7	14	LYS
50	R7	43	THR
50	R7	46	VAL
51	R8	14	VAL
51	R8	15	LYS
51	R8	34	TRP
51	R8	35	GLN
51	R8	44	LYS
51	R8	47	LYS
51	R8	49	VAL
51	R8	52	LYS
51	R8	64	TYR
51	R8	65	GLU
52	R9	1	MET
52	R9	29	ASN
2	XB	5	ILE
2	XB	7	VAL
2	XB	8	LYS
2	XB	15	VAL
2	XB	23	ARG
2	XB	24	TRP
2	XB	33	TYR
2	XB	36	ARG
2	XB	67	THR
2	XB	71	VAL
2	XB	82	ARG
2	XB	92	TYR
2	XB	113	HIS
2	XB	145	LEU
2	XB	155	LEU
2	XB	163	PHE

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Mol	Chain	Res	Type
2	XB	172	ILE
2	XB	175	ARG
2	XB	178	ARG
2	XB	187	LEU
2	XB	195	ASP
2	XB	196	LEU
2	XB	204	ASN
2	XB	215	LEU
2	XB	235	SER
3	XC	3	ASN
3	XC	5	ILE
3	XC	12	LEU
3	XC	21	ARG
3	XC	45	LYS
3	XC	47	LEU
3	XC	56	ASP
3	XC	94	LEU
3	XC	95	THR
3	XC	131	ARG
3	XC	178	LEU
3	XC	184	TYR
3	XC	192	THR
4	XD	3	ARG
4	XD	9	CYS
4	XD	15	GLU
4	XD	19	LEU
4	XD	30	LYS
4	XD	33	MET
4	XD	50	ARG
4	XD	53	ASP
4	XD	58	LEU
4	XD	73	ARG
4	XD	76	ARG
4	XD	84	LYS
4	XD	86	LYS
4	XD	96	LEU
4	XD	108	LEU
4	XD	122	ARG
4	XD	127	THR
4	XD	131	ARG
4	XD	137	SER
4	XD	150	GLU

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Mol	Chain	Res	Type
4	XD	154	ASN
4	XD	175	SER
4	XD	187	ARG
4	XD	190	ASP
4	XD	193	ASP
4	XD	208	SER
5	XE	6	PHE
5	XE	7	GLU
5	XE	10	MET
5	XE	11	ILE
5	XE	18	ARG
5	XE	31	LEU
5	XE	41	VAL
5	XE	73	ASN
5	XE	79	GLU
5	XE	101	ILE
5	XE	147	ASP
5	XE	153	LYS
6	XF	21	LEU
6	XF	23	LYS
6	XF	36	ARG
6	XF	71	ARG
6	XF	74	ASP
6	XF	91	VAL
6	XF	92	LYS
6	XF	98	LEU
7	XG	5	ARG
7	XG	8	GLU
7	XG	35	LYS
7	XG	54	THR
7	XG	63	LYS
7	XG	78	ARG
7	XG	104	LEU
7	XG	113	GLU
7	XG	114	ARG
7	XG	136	LYS
7	XG	137	LYS
7	XG	155	ARG
8	XH	1	MET
8	XH	12	ARG
8	XH	19	VAL
8	XH	24	THR

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Mol	Chain	Res	Type
8	XH	26	VAL
8	XH	41	ARG
8	XH	54	ASP
8	XH	63	LEU
8	XH	80	ILE
8	XH	85	ARG
8	XH	109	ILE
8	XH	112	LEU
8	XH	137	VAL
9	XI	9	ARG
9	XI	38	GLN
9	XI	44	VAL
9	XI	56	LEU
9	XI	65	VAL
9	XI	95	LYS
9	XI	96	LEU
9	XI	102	LEU
9	XI	104	ARG
9	XI	105	ASP
9	XI	108	VAL
9	XI	111	ARG
9	XI	112	LYS
9	XI	114	TYR
9	XI	121	ARG
9	XI	124	GLN
9	XI	125	TYR
9	XI	128	ARG
10	XJ	3	LYS
10	XJ	17	ASP
10	XJ	22	LYS
10	XJ	45	ARG
10	XJ	47	PHE
10	XJ	49	VAL
10	XJ	54	PHE
10	XJ	57	LYS
10	XJ	62	HIS
10	XJ	70	ARG
10	XJ	74	ILE
10	XJ	80	LYS
10	XJ	84	GLN
10	XJ	96	ILE
10	XJ	98	ILE

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Mol	Chain	Res	Type
11	XK	26	ASN
11	XK	29	ILE
11	XK	31	THR
11	XK	32	ILE
11	XK	36	ASP
11	XK	57	THR
11	XK	114	VAL
11	XK	116	HIS
12	XL	17	LYS
12	XL	18	VAL
12	XL	20	LYS
12	XL	27	LEU
12	XL	33	ARG
12	XL	59	ARG
12	XL	62	SER
12	XL	81	SER
12	XL	89	ARG
12	XL	91	LYS
12	XL	126	LYS
13	XM	3	ARG
13	XM	13	LYS
13	XM	17	VAL
13	XM	19	LEU
13	XM	32	GLU
13	XM	45	VAL
13	XM	48	LEU
13	XM	56	LEU
13	XM	64	TRP
13	XM	66	LEU
13	XM	70	LEU
13	XM	84	ILE
13	XM	88	ARG
13	XM	98	VAL
13	XM	108	ARG
13	XM	114	ARG
13	XM	115	LYS
13	XM	117	VAL
13	XM	122	LYS
14	XN	6	LEU
14	XN	12	ARG
14	XN	32	SER
14	XN	33	VAL

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Mol	Chain	Res	Type
14	XN	40	CYS
14	XN	41	ARG
14	XN	44	LEU
15	XO	3	ILE
15	XO	8	LYS
15	XO	24	SER
15	XO	26	GLU
15	XO	39	LEU
15	XO	62	GLN
15	XO	64	ARG
15	XO	66	LEU
15	XO	82	ILE
15	XO	87	ILE
16	XP	2	VAL
16	XP	11	SER
16	XP	20	VAL
16	XP	28	ARG
16	XP	32	TYR
16	XP	67	THR
16	XP	69	THR
16	XP	72	ARG
16	XP	82	GLN
17	XQ	52	LYS
17	XQ	59	ILE
17	XQ	62	SER
17	XQ	68	ARG
17	XQ	74	LEU
17	XQ	101	ARG
18	XR	26	LEU
18	XR	29	PHE
18	XR	36	ASN
18	XR	41	LYS
18	XR	46	GLU
18	XR	54	ARG
18	XR	76	LEU
18	XR	82	THR
18	XR	86	VAL
19	XS	5	LEU
19	XS	10	PHE
19	XS	11	VAL
19	XS	12	ASP
19	XS	13	ASP

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Mol	Chain	Res	Type
19	XS	21	GLU
19	XS	28	LYS
19	XS	29	ARG
19	XS	30	LEU
19	XS	31	ILE
19	XS	37	ARG
19	XS	44	MET
19	XS	63	THR
19	XS	78	ARG
19	XS	81	ARG
19	XS	83	HIS
20	XT	10	LEU
20	XT	13	LEU
20	XT	24	LEU
20	XT	37	SER
20	XT	41	ILE
20	XT	45	GLN
20	XT	50	GLU
20	XT	73	HIS
20	XT	84	LEU
20	XT	93	GLU
21	XU	6	ARG
24	YD	5	LYS
24	YD	17	THR
24	YD	27	THR
24	YD	28	GLU
24	YD	30	GLU
24	YD	38	LYS
24	YD	43	ARG
24	YD	44	ASN
24	YD	49	ILE
24	YD	65	ILE
24	YD	73	VAL
24	YD	88	ARG
24	YD	94	LEU
24	YD	95	LEU
24	YD	103	ARG
24	YD	105	ILE
24	YD	106	ILE
24	YD	111	LEU
24	YD	112	GLN
24	YD	141	VAL

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Mol	Chain	Res	Type
24	YD	192	THR
24	YD	200	ASP
24	YD	202	LYS
24	YD	212	SER
24	YD	217	ARG
24	YD	218	ARG
24	YD	221	VAL
24	YD	229	VAL
24	YD	237	GLU
24	YD	242	ARG
24	YD	257	LEU
24	YD	259	THR
24	YD	273	ARG
25	YE	4	ILE
25	YE	12	THR
25	YE	13	ARG
25	YE	16	ARG
25	YE	17	ASP
25	YE	26	ILE
25	YE	27	LEU
25	YE	41	LYS
25	YE	42	ASP
25	YE	49	LEU
25	YE	77	ILE
25	YE	79	ARG
25	YE	82	ARG
25	YE	92	THR
25	YE	113	PHE
25	YE	116	VAL
25	YE	117	MET
25	YE	119	ARG
25	YE	127	ASP
25	YE	128	SER
25	YE	144	ARG
25	YE	146	THR
25	YE	154	LYS
25	YE	175	VAL
25	YE	197	ILE
25	YE	200	GLU
25	YE	202	LYS
25	YE	203	LYS
26	YF	9	ILE

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Mol	Chain	Res	Type
26	YF	32	LEU
26	YF	33	LEU
26	YF	38	ARG
26	YF	45	ARG
26	YF	65	TRP
26	YF	70	THR
26	YF	78	ILE
26	YF	105	VAL
26	YF	106	ARG
26	YF	107	LYS
26	YF	117	ARG
26	YF	127	GLU
26	YF	161	GLU
26	YF	164	ARG
26	YF	165	ARG
26	YF	170	LEU
26	YF	174	VAL
26	YF	176	LEU
26	YF	181	LEU
26	YF	183	VAL
26	YF	196	LEU
26	YF	197	ASP
26	YF	206	ILE
27	YG	3	LEU
27	YG	7	LEU
27	YG	22	ARG
27	YG	31	VAL
27	YG	34	LEU
27	YG	43	LEU
27	YG	45	GLU
27	YG	58	GLN
27	YG	63	ILE
27	YG	66	GLN
27	YG	67	LYS
27	YG	80	PHE
27	YG	82	LEU
27	YG	84	LYS
27	YG	88	ILE
27	YG	90	LEU
27	YG	94	LEU
27	YG	116	ASP
27	YG	118	ARG

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Mol	Chain	Res	Type
27	YG	145	THR
27	YG	147	ASP
27	YG	167	GLU
28	YH	3	ARG
28	YH	4	ILE
28	YH	6	ARG
28	YH	9	ILE
28	YH	27	LYS
28	YH	32	GLU
28	YH	37	VAL
28	YH	40	GLU
28	YH	41	MET
28	YH	59	ARG
28	YH	77	LYS
28	YH	88	LEU
28	YH	89	ILE
28	YH	103	LEU
28	YH	105	LEU
28	YH	122	THR
28	YH	129	THR
28	YH	132	ARG
28	YH	136	ILE
28	YH	143	GLN
28	YH	149	ARG
28	YH	152	ARG
28	YH	153	LYS
28	YH	155	SER
28	YH	169	VAL
29	YI	1	MET
29	YI	3	VAL
29	YI	9	LEU
29	YI	10	GLU
29	YI	12	LEU
29	YI	25	TYR
29	YI	31	LEU
29	YI	33	ARG
29	YI	38	LEU
29	YI	40	THR
29	YI	41	GLU
29	YI	42	SER
29	YI	45	LYS
29	YI	56	LYS

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Mol	Chain	Res	Type
29	YI	57	ARG
29	YI	67	ARG
29	YI	70	GLU
29	YI	72	LEU
29	YI	75	LEU
29	YI	77	LEU
29	YI	81	VAL
29	YI	82	ARG
29	YI	85	GLU
29	YI	92	VAL
29	YI	96	ASP
29	YI	99	GLU
29	YI	102	SER
29	YI	113	ARG
29	YI	123	LEU
29	YI	128	LEU
29	YI	130	TYR
29	YI	131	LYS
29	YI	135	GLU
29	YI	138	ILE
29	YI	139	GLN
29	YI	142	VAL
29	YI	144	VAL
30	YN	2	LYS
30	YN	5	VAL
30	YN	7	LYS
30	YN	32	THR
30	YN	34	LEU
30	YN	43	THR
30	YN	48	MET
30	YN	60	ILE
30	YN	61	ARG
30	YN	62	VAL
30	YN	65	LYS
30	YN	67	LEU
30	YN	73	THR
30	YN	90	MET
30	YN	96	GLU
30	YN	99	LEU
30	YN	109	LYS
30	YN	112	LEU
30	YN	116	LEU

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Mol	Chain	Res	Type
30	YN	120	LEU
30	YN	136	GLU
31	YO	9	GLU
31	YO	19	ILE
31	YO	20	MET
31	YO	23	ARG
31	YO	24	VAL
31	YO	28	SER
31	YO	31	LYS
31	YO	47	ILE
31	YO	49	ARG
31	YO	53	LYS
31	YO	66	LYS
31	YO	91	LEU
32	YP	6	LEU
32	YP	7	ARG
32	YP	9	ASN
32	YP	14	LYS
32	YP	16	ARG
32	YP	19	VAL
32	YP	21	ARG
32	YP	27	HIS
32	YP	29	LYS
32	YP	32	THR
32	YP	36	LYS
32	YP	45	LEU
32	YP	49	ARG
32	YP	50	ARG
32	YP	61	ARG
32	YP	64	LYS
32	YP	65	ARG
32	YP	71	VAL
32	YP	75	ILE
32	YP	88	LEU
32	YP	91	PHE
32	YP	94	GLU
32	YP	98	GLU
32	YP	100	LEU
32	YP	101	VAL
32	YP	112	LEU
32	YP	115	LEU
32	YP	117	GLU

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Mol	Chain	Res	Type
32	YP	123	LEU
32	YP	135	LEU
32	YP	144	GLU
32	YP	146	VAL
32	YP	147	LEU
32	YP	149	GLU
33	YQ	5	ARG
33	YQ	10	ARG
33	YQ	25	ASP
33	YQ	45	GLN
33	YQ	55	VAL
33	YQ	59	ARG
33	YQ	71	ASP
33	YQ	75	THR
33	YQ	76	LYS
33	YQ	79	LEU
33	YQ	81	VAL
33	YQ	82	ARG
33	YQ	83	MET
33	YQ	87	LYS
33	YQ	103	MET
33	YQ	112	GLU
33	YQ	132	VAL
33	YQ	135	ASP
33	YQ	139	GLU
34	YR	1	MET
34	YR	18	LEU
34	YR	28	LEU
34	YR	29	LEU
34	YR	34	ILE
34	YR	36	THR
34	YR	40	LYS
34	YR	44	LEU
34	YR	51	LEU
34	YR	54	LEU
34	YR	57	ARG
34	YR	63	ARG
34	YR	65	LEU
34	YR	79	LEU
34	YR	83	ILE
34	YR	95	THR
34	YR	100	LEU

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Mol	Chain	Res	Type
34	YR	102	GLU
34	YR	104	ARG
34	YR	105	ARG
35	YS	10	ARG
35	YS	12	PHE
35	YS	14	VAL
35	YS	15	ARG
35	YS	20	ARG
35	YS	25	ARG
35	YS	27	SER
35	YS	44	LYS
35	YS	54	LEU
35	YS	56	LEU
35	YS	58	LEU
35	YS	69	VAL
35	YS	78	LEU
35	YS	83	LYS
35	YS	85	VAL
35	YS	89	ARG
35	YS	103	GLU
35	YS	106	ARG
35	YS	111	GLU
36	YT	17	THR
36	YT	23	ARG
36	YT	27	THR
36	YT	28	VAL
36	YT	40	THR
36	YT	41	ARG
36	YT	42	ILE
36	YT	51	ARG
36	YT	58	ASN
36	YT	65	LYS
36	YT	66	VAL
36	YT	74	ARG
36	YT	86	ILE
36	YT	87	ASP
36	YT	88	ILE
36	YT	89	VAL
36	YT	110	ILE
36	YT	112	ARG
36	YT	115	ARG
36	YT	125	ARG

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Mol	Chain	Res	Type
36	YT	128	GLU
36	YT	134	GLU
37	YU	5	LYS
37	YU	11	ARG
37	YU	27	LEU
37	YU	51	LYS
37	YU	52	ARG
37	YU	60	LEU
37	YU	64	ARG
37	YU	70	ARG
37	YU	74	LEU
37	YU	88	ILE
37	YU	91	ASP
37	YU	98	LEU
37	YU	104	GLN
37	YU	111	GLU
37	YU	112	ARG
37	YU	114	LYS
38	YV	7	THR
38	YV	10	LYS
38	YV	13	ARG
38	YV	19	LYS
38	YV	35	LEU
38	YV	39	LEU
38	YV	40	LEU
38	YV	45	THR
38	YV	61	VAL
38	YV	66	ARG
38	YV	72	VAL
38	YV	73	SER
38	YV	78	LYS
38	YV	79	VAL
38	YV	99	ILE
39	YW	11	ARG
39	YW	16	LYS
39	YW	23	LEU
39	YW	37	ARG
39	YW	40	ASN
39	YW	51	LEU
39	YW	67	ASP
39	YW	69	LEU
39	YW	76	VAL

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Mol	Chain	Res	Type
39	YW	88	ARG
39	YW	92	ARG
39	YW	95	ILE
39	YW	96	ILE
39	YW	100	THR
39	YW	106	ILE
39	YW	107	LEU
40	YX	6	ASP
40	YX	12	VAL
40	YX	15	GLU
40	YX	27	THR
40	YX	36	LYS
40	YX	43	VAL
40	YX	49	VAL
40	YX	57	LEU
40	YX	59	VAL
40	YX	63	LYS
40	YX	65	ARG
40	YX	66	LEU
40	YX	80	ILE
40	YX	88	LYS
41	YY	14	LEU
41	YY	26	LYS
41	YY	27	VAL
41	YY	28	LYS
41	YY	29	GLU
41	YY	34	LYS
41	YY	38	ILE
41	YY	44	ILE
41	YY	57	GLN
41	YY	61	ILE
41	YY	64	GLU
41	YY	67	LEU
41	YY	71	LYS
41	YY	73	ARG
41	YY	75	ILE
41	YY	86	ARG
41	YY	87	LYS
41	YY	89	PHE
41	YY	90	LEU
41	YY	95	LYS
41	YY	97	ARG

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Mol	Chain	Res	Type
42	YZ	5	LEU
42	YZ	6	LYS
42	YZ	8	TYR
42	YZ	20	ARG
42	YZ	24	LEU
42	YZ	35	ARG
42	YZ	42	VAL
42	YZ	52	SER
42	YZ	53	ILE
42	YZ	59	LEU
42	YZ	66	SER
42	YZ	71	VAL
42	YZ	72	ARG
42	YZ	76	LEU
42	YZ	78	LYS
42	YZ	81	ARG
42	YZ	86	VAL
42	YZ	88	PHE
42	YZ	91	LEU
42	YZ	94	GLU
42	YZ	105	VAL
42	YZ	119	GLU
42	YZ	121	HIS
42	YZ	122	ARG
42	YZ	124	ILE
42	YZ	128	VAL
42	YZ	131	ARG
42	YZ	133	ILE
42	YZ	139	VAL
42	YZ	140	ASP
42	YZ	144	LEU
42	YZ	145	GLU
42	YZ	146	ILE
42	YZ	150	LEU
42	YZ	151	HIS
42	YZ	153	SER
42	YZ	156	LYS
42	YZ	166	SER
42	YZ	168	GLU
42	YZ	178	GLU
42	YZ	182	LYS
43	Y0	9	SER

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Mol	Chain	Res	Type
43	Y0	10	THR
43	Y0	12	ASN
43	Y0	19	LYS
43	Y0	29	GLN
43	Y0	35	ASN
43	Y0	36	ILE
43	Y0	41	ARG
43	Y0	55	ARG
43	Y0	74	ARG
43	Y0	77	ARG
43	Y0	82	ARG
44	Y1	30	VAL
44	Y1	46	LEU
44	Y1	50	ARG
44	Y1	51	VAL
44	Y1	56	GLN
44	Y1	62	VAL
44	Y1	78	LYS
44	Y1	80	LEU
44	Y1	82	LEU
44	Y1	83	GLU
44	Y1	91	LYS
44	Y1	92	LYS
45	Y2	4	SER
45	Y2	7	ARG
45	Y2	9	GLN
45	Y2	16	LEU
45	Y2	23	LYS
45	Y2	24	LEU
45	Y2	27	GLU
45	Y2	32	LEU
45	Y2	34	GLU
45	Y2	41	ILE
45	Y2	47	ASN
45	Y2	50	ILE
45	Y2	51	ARG
45	Y2	52	ASP
45	Y2	53	LEU
45	Y2	64	LEU
45	Y2	65	ASN
46	Y3	6	VAL
46	Y3	8	LEU

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Mol	Chain	Res	Type
46	Y3	23	LEU
46	Y3	30	ARG
46	Y3	31	LEU
46	Y3	36	VAL
46	Y3	37	LEU
46	Y3	56	VAL
47	Y4	6	HIS
47	Y4	10	VAL
47	Y4	15	ILE
47	Y4	16	CYS
47	Y4	22	ILE
47	Y4	27	THR
47	Y4	34	GLU
47	Y4	39	CYS
47	Y4	42	PHE
47	Y4	43	TYR
47	Y4	48	ARG
47	Y4	49	PHE
47	Y4	53	GLU
47	Y4	57	GLU
47	Y4	58	ARG
47	Y4	61	ARG
47	Y4	63	TYR
47	Y4	67	TYR
47	Y4	68	ARG
47	Y4	71	ARG
48	Y5	3	LYS
48	Y5	4	HIS
48	Y5	6	VAL
48	Y5	11	THR
48	Y5	29	THR
48	Y5	36	CYS
48	Y5	37	LYS
48	Y5	40	LYS
48	Y5	48	GLU
48	Y5	49	CYS
48	Y5	51	TYR
48	Y5	52	TYR
48	Y5	56	LYS
48	Y5	58	LEU
49	Y6	6	ARG
49	Y6	8	LYS

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Mol	Chain	Res	Type
49	Y6	11	LEU
49	Y6	19	ARG
49	Y6	23	THR
49	Y6	30	THR
49	Y6	33	LYS
49	Y6	34	LEU
49	Y6	37	ARG
49	Y6	44	ARG
50	Y7	1	MET
50	Y7	4	THR
50	Y7	8	ASN
50	Y7	9	ARG
50	Y7	10	ARG
50	Y7	14	LYS
50	Y7	47	ARG
51	Y8	13	ARG
51	Y8	14	VAL
51	Y8	15	LYS
51	Y8	29	LYS
51	Y8	30	ARG
51	Y8	34	TRP
51	Y8	43	GLN
51	Y8	44	LYS
51	Y8	47	LYS
51	Y8	56	GLU
51	Y8	58	ILE
51	Y8	64	TYR
51	Y8	65	GLU
52	Y9	1	MET
52	Y9	17	ILE

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (20) such sidechains are listed below:

Mol	Chain	Res	Type
2	QB	19	HIS
2	QB	204	ASN
2	QB	212	GLN
10	QJ	13	HIS
10	QJ	78	ASN
13	QM	92	HIS
19	QS	47	HIS
25	RE	143	ASN

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Mol	Chain	Res	Type
28	RH	143	GLN
28	RH	147	ASN
29	RI	104	GLN
35	RS	34	HIS
43	R0	12	ASN
52	R9	29	ASN
52	R9	32	HIS
2	XB	19	HIS
2	XB	204	ASN
2	XB	212	GLN
10	XJ	78	ASN
36	YT	58	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	QA	1498/1522 (98%)	341 (22%)	49 (3%)
1	XA	1498/1522 (98%)	352 (23%)	40 (2%)
22	RA	2879/2916 (98%)	747 (25%)	65 (2%)
22	YA	2880/2916 (98%)	734 (25%)	57 (1%)
23	RB	119/122 (97%)	29 (24%)	2 (1%)
23	YB	119/122 (97%)	32 (26%)	1 (0%)
53	QV	76/77 (98%)	22 (28%)	1 (1%)
53	XV	76/77 (98%)	24 (31%)	3 (3%)
54	QX	7/25 (28%)	4 (57%)	1 (14%)
54	XX	7/25 (28%)	3 (42%)	1 (14%)
55	QY	7/17 (41%)	3 (42%)	0
55	XY	7/17 (41%)	2 (28%)	0
56	Z6	1/3 (33%)	0	0
56	Z8	1/3 (33%)	0	0
All	All	9175/9364 (97%)	2293 (24%)	220 (2%)

All (2293) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	QA	7	G
1	QA	9	G
1	QA	22	G
1	QA	32	A
1	QA	39	G
1	QA	43	C

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Mol	Chain	Res	Type
1	QA	44	G
1	QA	47	C
1	QA	48	C
1	QA	50	A
1	QA	51	A
1	QA	64	G
1	QA	65	U
1	QA	66	G
1	QA	73	G
1	QA	79	G
1	QA	89	U
1	QA	91	C
1	QA	101	A
1	QA	105	G
1	QA	108	G
1	QA	116	A
1	QA	120	A
1	QA	121	C
1	QA	122	G
1	QA	129(A)	G
1	QA	130	A
1	QA	135	C
1	QA	144	G
1	QA	146	G
1	QA	163	C
1	QA	173	U
1	QA	174	C
1	QA	182	U
1	QA	189	U
1	QA	190	G
1	QA	191(C)	G
1	QA	195	A
1	QA	197	A
1	QA	201	C
1	QA	208	U
1	QA	209	U
1	QA	210	U
1	QA	216	G
1	QA	244	U
1	QA	245	C
1	QA	247	G
1	QA	250	A

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Mol	Chain	Res	Type
1	QA	251	G
1	QA	260	G
1	QA	266	G
1	QA	267	C
1	QA	270	A
1	QA	271	C
1	QA	280	C
1	QA	281	G
1	QA	289	G
1	QA	298	A
1	QA	309	G
1	QA	314	C
1	QA	318	G
1	QA	321	A
1	QA	328	C
1	QA	329	A
1	QA	332	G
1	QA	344	A
1	QA	346	G
1	QA	347	G
1	QA	351	G
1	QA	352	C
1	QA	353	A
1	QA	354	G
1	QA	367	U
1	QA	369	C
1	QA	372	C
1	QA	373	A
1	QA	384	G
1	QA	388	G
1	QA	390	C
1	QA	397	A
1	QA	398	C
1	QA	406	G
1	QA	411	A
1	QA	412	A
1	QA	413	G
1	QA	414	A
1	QA	419	C
1	QA	422	C
1	QA	423	G
1	QA	429	U

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Mol	Chain	Res	Type
1	QA	430	A
1	QA	440	A
1	QA	442	C
1	QA	453	A
1	QA	466	C
1	QA	467	G
1	QA	468	A
1	QA	478	A
1	QA	485	G
1	QA	486	U
1	QA	496	A
1	QA	497	U
1	QA	500	G
1	QA	505	G
1	QA	509	A
1	QA	510	A
1	QA	511	C
1	QA	518	C
1	QA	521	G
1	QA	527	G
1	QA	531	U
1	QA	532	A
1	QA	533	A
1	QA	536	C
1	QA	545	C
1	QA	547	A
1	QA	558	G
1	QA	559	A
1	QA	561	U
1	QA	562	C
1	QA	563	A
1	QA	565	U
1	QA	566	G
1	QA	572	A
1	QA	573	A
1	QA	576	G
1	QA	577	G
1	QA	579	G
1	QA	604	G
1	QA	614	A
1	QA	618	C
1	QA	630	G

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Mol	Chain	Res	Type
1	QA	631	G
1	QA	633	G
1	QA	652	U
1	QA	653	A
1	QA	665	A
1	QA	687	A
1	QA	688	G
1	QA	698	G
1	QA	701	C
1	QA	702	A
1	QA	703	G
1	QA	704	A
1	QA	723	U
1	QA	728	A
1	QA	729	A
1	QA	731	G
1	QA	748	C
1	QA	749	C
1	QA	753	A
1	QA	754	C
1	QA	755	G
1	QA	760	G
1	QA	763	G
1	QA	778	G
1	QA	784	C
1	QA	792	A
1	QA	793	U
1	QA	794	A
1	QA	817	C
1	QA	819	A
1	QA	821	G
1	QA	828	A
1	QA	841	U
1	QA	842	C
1	QA	843	U
1	QA	848	C
1	QA	859	A
1	QA	870	U
1	QA	871	U
1	QA	872	A
1	QA	873	A
1	QA	884	U

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Mol	Chain	Res	Type
1	QA	889	A
1	QA	891	U
1	QA	902	G
1	QA	914	A
1	QA	927	G
1	QA	934	C
1	QA	935	A
1	QA	940	C
1	QA	960	U
1	QA	961	U
1	QA	968	A
1	QA	969	A
1	QA	971	G
1	QA	972	C
1	QA	974	A
1	QA	976	G
1	QA	977	A
1	QA	978	A
1	QA	981	U
1	QA	991	U
1	QA	992	U
1	QA	993	G
1	QA	994	A
1	QA	995	C
1	QA	1001	G
1	QA	1004	A
1	QA	1006	C
1	QA	1009	G
1	QA	1010	G
1	QA	1020	U
1	QA	1023	G
1	QA	1024	G
1	QA	1025	U
1	QA	1026	G
1	QA	1028	C
1	QA	1029	G
1	QA	1031	G
1	QA	1032(A)	G
1	QA	1036	G
1	QA	1038	C
1	QA	1040	U
1	QA	1042	G

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Mol	Chain	Res	Type
1	QA	1043	C
1	QA	1046	A
1	QA	1054	C
1	QA	1055	A
1	QA	1057	G
1	QA	1066	C
1	QA	1067	A
1	QA	1070	U
1	QA	1079	G
1	QA	1081	G
1	QA	1086	U
1	QA	1094	G
1	QA	1095	U
1	QA	1096	C
1	QA	1101	A
1	QA	1112	C
1	QA	1121	U
1	QA	1124	G
1	QA	1125	U
1	QA	1126	U
1	QA	1127	G
1	QA	1129	C
1	QA	1130	A
1	QA	1131	G
1	QA	1136	U
1	QA	1137	C
1	QA	1138	G
1	QA	1139	G
1	QA	1140	C
1	QA	1157	A
1	QA	1158	C
1	QA	1159	U
1	QA	1160	G
1	QA	1161	C
1	QA	1163	C
1	QA	1170	A
1	QA	1171	G
1	QA	1177	G
1	QA	1178	G
1	QA	1181	G
1	QA	1182	G
1	QA	1183	A

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Mol	Chain	Res	Type
1	QA	1185	G
1	QA	1186	G
1	QA	1187	G
1	QA	1191	A
1	QA	1193	G
1	QA	1194	U
1	QA	1196	U
1	QA	1197	G
1	QA	1200	C
1	QA	1201	A
1	QA	1202	G
1	QA	1204	A
1	QA	1212	U
1	QA	1213	A
1	QA	1214	C
1	QA	1215	G
1	QA	1225	A
1	QA	1227	A
1	QA	1238	A
1	QA	1240	U
1	QA	1241	G
1	QA	1256	A
1	QA	1257	U
1	QA	1258	G
1	QA	1263	C
1	QA	1267	C
1	QA	1268	A
1	QA	1270	C
1	QA	1273	G
1	QA	1280	A
1	QA	1281	U
1	QA	1282	C
1	QA	1286	A
1	QA	1287	A
1	QA	1288	A
1	QA	1297	C
1	QA	1298	C
1	QA	1299	A
1	QA	1300	G
1	QA	1301	U
1	QA	1302	U
1	QA	1303	C

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Mol	Chain	Res	Type
1	QA	1305	G
1	QA	1319	A
1	QA	1320	C
1	QA	1322	C
1	QA	1323	G
1	QA	1331	G
1	QA	1334	G
1	QA	1335	C
1	QA	1336	C
1	QA	1337	G
1	QA	1338	G
1	QA	1346	A
1	QA	1347	G
1	QA	1348	U
1	QA	1353	G
1	QA	1362(A)	C
1	QA	1368	G
1	QA	1370	G
1	QA	1379	G
1	QA	1394	A
1	QA	1397	C
1	QA	1398	A
1	QA	1411	C
1	QA	1419	G
1	QA	1442	G
1	QA	1446	A
1	QA	1447	G
1	QA	1452	C
1	QA	1453	G
1	QA	1454	G
1	QA	1492	A
1	QA	1499	A
1	QA	1503	A
1	QA	1504	G
1	QA	1505	G
1	QA	1506	U
1	QA	1517	G
1	QA	1519	A
1	QA	1520	G
1	QA	1529	G
1	QA	1530	G
22	RA	10	G

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Mol	Chain	Res	Type
22	RA	15	G
22	RA	28	A
22	RA	34	C
22	RA	35	G
22	RA	43	G
22	RA	46	C
22	RA	51	G
22	RA	55	G
22	RA	61	G
22	RA	64	A
22	RA	71	A
22	RA	72	U
22	RA	74	A
22	RA	75	G
22	RA	81	G
22	RA	82	G
22	RA	83	G
22	RA	95	G
22	RA	96	G
22	RA	101	G
22	RA	102	G
22	RA	103	A
22	RA	118	A
22	RA	120	U
22	RA	125	G
22	RA	127	A
22	RA	135	G
22	RA	138	G
22	RA	140	A
22	RA	161	U
22	RA	177	G
22	RA	181	A
22	RA	188	G
22	RA	196	A
22	RA	199	A
22	RA	201	C
22	RA	206	U
22	RA	214	G
22	RA	215	G
22	RA	216	A
22	RA	221	A
22	RA	222	A

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Mol	Chain	Res	Type
22	RA	223	A
22	RA	225	A
22	RA	228	A
22	RA	229	A
22	RA	230	U
22	RA	232	G
22	RA	233	A
22	RA	242	G
22	RA	243	U
22	RA	248	G
22	RA	249	C
22	RA	250	G
22	RA	252	G
22	RA	264	C
22	RA	265	A
22	RA	266	G
22	RA	269	U
22	RA	270(L)	U
22	RA	270(M)	U
22	RA	270(N)	G
22	RA	270(P)	C
22	RA	270(T)	G
22	RA	271(C)	U
22	RA	271	G
22	RA	272	G
22	RA	273(F)	C
22	RA	275	G
22	RA	276	A
22	RA	277	C
22	RA	278	A
22	RA	286	C
22	RA	299	A
22	RA	311	A
22	RA	312	G
22	RA	317	G
22	RA	323	G
22	RA	324	A
22	RA	327	G
22	RA	329	G
22	RA	330	A
22	RA	331	A
22	RA	332	A

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Mol	Chain	Res	Type
22	RA	333	G
22	RA	342	G
22	RA	343	C
22	RA	345	A
22	RA	346	A
22	RA	347	A
22	RA	352	G
22	RA	357	A
22	RA	364	C
22	RA	371	A
22	RA	372	G
22	RA	373	U
22	RA	394	A
22	RA	405	U
22	RA	407	G
22	RA	411	G
22	RA	412	A
22	RA	428	A
22	RA	434	U
22	RA	442	G
22	RA	444	C
22	RA	447	A
22	RA	448	U
22	RA	454	A
22	RA	455	C
22	RA	456	C
22	RA	457	A
22	RA	458	G
22	RA	470	A
22	RA	481	G
22	RA	496	G
22	RA	504	U
22	RA	505	A
22	RA	509	C
22	RA	513	A
22	RA	521	G
22	RA	527	C
22	RA	529	A
22	RA	530	G
22	RA	532	A
22	RA	533	G
22	RA	537	C

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Mol	Chain	Res	Type
22	RA	539	G
22	RA	540	G
22	RA	541	C
22	RA	544	C
22	RA	546	C
22	RA	549	G
22	RA	550	G
22	RA	554	U
22	RA	556	G
22	RA	563	G
22	RA	571	A
22	RA	573	G
22	RA	574	C
22	RA	575	A
22	RA	588	U
22	RA	603	A
22	RA	607	U
22	RA	609(A)	G
22	RA	613	U
22	RA	614	U
22	RA	615	G
22	RA	617	G
22	RA	621	A
22	RA	622	G
22	RA	627	A
22	RA	628	G
22	RA	631	A
22	RA	634	C
22	RA	637	A
22	RA	638	G
22	RA	645	C
22	RA	646	A
22	RA	647	G
22	RA	651	G
22	RA	652	C
22	RA	654	A
22	RA	654(A)	G
22	RA	654(T)	C
22	RA	657	U
22	RA	659	C
22	RA	668	G
22	RA	669	G

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Mol	Chain	Res	Type
22	RA	686	G
22	RA	701	G
22	RA	702	G
22	RA	704	G
22	RA	714	U
22	RA	717	G
22	RA	722	A
22	RA	726	G
22	RA	730	C
22	RA	747	U
22	RA	753	C
22	RA	758	C
22	RA	764	A
22	RA	771	G
22	RA	775	G
22	RA	776	G
22	RA	782	A
22	RA	784	A
22	RA	785	G
22	RA	788	A
22	RA	790	C
22	RA	792	G
22	RA	793	A
22	RA	800	A
22	RA	801	G
22	RA	805	G
22	RA	809	G
22	RA	812	C
22	RA	819	A
22	RA	827	U
22	RA	828	U
22	RA	831	G
22	RA	846	C
22	RA	847	U
22	RA	856	C
22	RA	857	C
22	RA	859	G
22	RA	860	U
22	RA	882	G
22	RA	884	C
22	RA	885	C
22	RA	886	C

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Mol	Chain	Res	Type
22	RA	888	C
22	RA	889	C
22	RA	893	C
22	RA	896	A
22	RA	897	C
22	RA	898	C
22	RA	899	A
22	RA	900	A
22	RA	901	A
22	RA	902	C
22	RA	904	C
22	RA	907	U
22	RA	910	A
22	RA	917	A
22	RA	918	A
22	RA	932	G
22	RA	933	A
22	RA	938	G
22	RA	941	A
22	RA	944	G
22	RA	945	A
22	RA	946	G
22	RA	958	U
22	RA	961	C
22	RA	962	G
22	RA	972	G
22	RA	973	A
22	RA	974	G
22	RA	974(A)	C
22	RA	975	G
22	RA	980	A
22	RA	983	A
22	RA	990	A
22	RA	996	A
22	RA	1003	G
22	RA	1010	A
22	RA	1011	G
22	RA	1012	U
22	RA	1013	C
22	RA	1015	G
22	RA	1019	U
22	RA	1020	A

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Mol	Chain	Res	Type
22	RA	1022	G
22	RA	1023	U
22	RA	1025	G
22	RA	1026	U
22	RA	1027	A
22	RA	1033	U
22	RA	1034	G
22	RA	1037	G
22	RA	1044	G
22	RA	1045	A
22	RA	1046	A
22	RA	1047	G
22	RA	1050	A
22	RA	1051	G
22	RA	1054	A
22	RA	1055	G
22	RA	1057	A
22	RA	1059	G
22	RA	1060	U
22	RA	1061	U
22	RA	1065	U
22	RA	1066	U
22	RA	1067	A
22	RA	1068	G
22	RA	1070	A
22	RA	1071	G
22	RA	1073	A
22	RA	1077	A
22	RA	1078	U
22	RA	1079	C
22	RA	1080	C
22	RA	1082	U
22	RA	1083	U
22	RA	1084	A
22	RA	1085	A
22	RA	1086	A
22	RA	1087	G
22	RA	1088	A
22	RA	1091	G
22	RA	1093	G
22	RA	1095	A
22	RA	1096	A

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Mol	Chain	Res	Type
22	RA	1101	U
22	RA	1104	C
22	RA	1105	U
22	RA	1110	G
22	RA	1111	A
22	RA	1112	G
22	RA	1115	G
22	RA	1122	G
22	RA	1128	A
22	RA	1130	U
22	RA	1131	G
22	RA	1135	C
22	RA	1136	G
22	RA	1139	G
22	RA	1142	U
22	RA	1142(A)	A
22	RA	1155	A
22	RA	1158	C
22	RA	1161	C
22	RA	1169	G
22	RA	1173	G
22	RA	1174	A
22	RA	1175	U
22	RA	1176	G
22	RA	1178	C
22	RA	1179	C
22	RA	1183	G
22	RA	1186	G
22	RA	1191	G
22	RA	1195	G
22	RA	1196	C
22	RA	1204	A
22	RA	1205	U
22	RA	1206	G
22	RA	1210	A
22	RA	1211	U
22	RA	1212	G
22	RA	1219	G
22	RA	1220	A
22	RA	1221	C
22	RA	1225	C
22	RA	1227	A

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Mol	Chain	Res	Type
22	RA	1236	G
22	RA	1238	G
22	RA	1246	A
22	RA	1247	A
22	RA	1248	G
22	RA	1252	G
22	RA	1253	A
22	RA	1256	G
22	RA	1265	A
22	RA	1271	G
22	RA	1272	A
22	RA	1273	U
22	RA	1282	U
22	RA	1287	A
22	RA	1300	U
22	RA	1301	A
22	RA	1302	A
22	RA	1312	U
22	RA	1313	U
22	RA	1314	C
22	RA	1319	G
22	RA	1321	A
22	RA	1329	U
22	RA	1349	A
22	RA	1352	U
22	RA	1365	A
22	RA	1379	A
22	RA	1380	G
22	RA	1384	A
22	RA	1385	G
22	RA	1386	C
22	RA	1390	U
22	RA	1395	A
22	RA	1406	U
22	RA	1407	C
22	RA	1408	C
22	RA	1411	C
22	RA	1416	G
22	RA	1419	A
22	RA	1420	U
22	RA	1421	G
22	RA	1428	C

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Mol	Chain	Res	Type
22	RA	1444(A)	A
22	RA	1445	C
22	RA	1449	A
22	RA	1449(A)	G
22	RA	1451	C
22	RA	1455	G
22	RA	1460	A
22	RA	1461	G
22	RA	1467	C
22	RA	1471	A
22	RA	1474	C
22	RA	1480	G
22	RA	1483	G
22	RA	1485	G
22	RA	1486	A
22	RA	1487	G
22	RA	1493	C
22	RA	1495	A
22	RA	1497	U
22	RA	1502	C
22	RA	1504	C
22	RA	1505	C
22	RA	1506	C
22	RA	1507	A
22	RA	1508	A
22	RA	1510	A
22	RA	1513	C
22	RA	1514	U
22	RA	1515	C
22	RA	1522	G
22	RA	1523	U
22	RA	1534	G
22	RA	1535	U
22	RA	1536	A
22	RA	1537	C
22	RA	1538	G
22	RA	1543	A
22	RA	1544	C
22	RA	1545	A
22	RA	1548	C
22	RA	1558	A
22	RA	1559	G

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Mol	Chain	Res	Type
22	RA	1560	G
22	RA	1569	A
22	RA	1578	U
22	RA	1579	A
22	RA	1580	A
22	RA	1581	G
22	RA	1585	C
22	RA	1586	A
22	RA	1593	G
22	RA	1598	C
22	RA	1608	A
22	RA	1609	A
22	RA	1610	A
22	RA	1616	A
22	RA	1617	C
22	RA	1618	A
22	RA	1630(A)	C
22	RA	1634	A
22	RA	1648	C
22	RA	1651	G
22	RA	1653	G
22	RA	1654	A
22	RA	1655	A
22	RA	1664	A
22	RA	1667	G
22	RA	1673	U
22	RA	1674	G
22	RA	1688	U
22	RA	1695	G
22	RA	1696	G
22	RA	1697	G
22	RA	1701	A
22	RA	1703	G
22	RA	1725	G
22	RA	1728	G
22	RA	1729	A
22	RA	1730	U
22	RA	1731	G
22	RA	1733	G
22	RA	1742	C
22	RA	1746	G
22	RA	1752	C

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Mol	Chain	Res	Type
22	RA	1763	G
22	RA	1764	G
22	RA	1766	U
22	RA	1769	G
22	RA	1773	A
22	RA	1776	G
22	RA	1780	A
22	RA	1782	C
22	RA	1791	A
22	RA	1799	G
22	RA	1800	C
22	RA	1815	A
22	RA	1816	G
22	RA	1820	U
22	RA	1829	A
22	RA	1834	U
22	RA	1835	G
22	RA	1847	A
22	RA	1858	G
22	RA	1864	U
22	RA	1869	G
22	RA	1872	A
22	RA	1878	G
22	RA	1882	C
22	RA	1885	A
22	RA	1886	C
22	RA	1888	G
22	RA	1889	A
22	RA	1905	C
22	RA	1906	G
22	RA	1913	A
22	RA	1914	C
22	RA	1919	A
22	RA	1920	C
22	RA	1927	A
22	RA	1929	G
22	RA	1931	U
22	RA	1934	C
22	RA	1936	A
22	RA	1938	A
22	RA	1940	U
22	RA	1944	U

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Mol	Chain	Res	Type
22	RA	1947	C
22	RA	1955	U
22	RA	1963	U
22	RA	1964	G
22	RA	1967	C
22	RA	1969	A
22	RA	1970	A
22	RA	1971	A
22	RA	1972	A
22	RA	1981	A
22	RA	1982	C
22	RA	1991	U
22	RA	1992	G
22	RA	1993	U
22	RA	1996	C
22	RA	2020	A
22	RA	2023	G
22	RA	2031	A
22	RA	2032	G
22	RA	2033	A
22	RA	2039	C
22	RA	2043	C
22	RA	2049	G
22	RA	2051	A
22	RA	2054	A
22	RA	2055	C
22	RA	2056	G
22	RA	2059	A
22	RA	2060	A
22	RA	2061	G
22	RA	2062	A
22	RA	2063	C
22	RA	2067	G
22	RA	2069	G
22	RA	2080	G
22	RA	2089	U
22	RA	2099	U
22	RA	2101	G
22	RA	2102	U
22	RA	2107	C
22	RA	2111	C
22	RA	2112	G

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Mol	Chain	Res	Type
22	RA	2113	U
22	RA	2114	A
22	RA	2115	G
22	RA	2116	G
22	RA	2117	A
22	RA	2119	A
22	RA	2126	A
22	RA	2127	G
22	RA	2128	C
22	RA	2131	G
22	RA	2132	U
22	RA	2133	G
22	RA	2134	A
22	RA	2135	A
22	RA	2136	C
22	RA	2145	C
22	RA	2147	G
22	RA	2148	G
22	RA	2150	U
22	RA	2160	G
22	RA	2161	C
22	RA	2166	G
22	RA	2167	U
22	RA	2168	G
22	RA	2170	A
22	RA	2173	A
22	RA	2178	C
22	RA	2179	C
22	RA	2189	U
22	RA	2190	G
22	RA	2192	G
22	RA	2198	A
22	RA	2199	A
22	RA	2207	C
22	RA	2208	U
22	RA	2210	G
22	RA	2211	G
22	RA	2212	A
22	RA	2213	U
22	RA	2215	G
22	RA	2225	A
22	RA	2227	A

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Mol	Chain	Res	Type
22	RA	2238	G
22	RA	2239	G
22	RA	2241	A
22	RA	2243	U
22	RA	2246	G
22	RA	2273	A
22	RA	2275	C
22	RA	2283	C
22	RA	2286	A
22	RA	2287	A
22	RA	2288	A
22	RA	2297	C
22	RA	2299	G
22	RA	2300	G
22	RA	2303	G
22	RA	2307	G
22	RA	2308	G
22	RA	2311	A
22	RA	2319	G
22	RA	2320	A
22	RA	2321	G
22	RA	2325	G
22	RA	2334	G
22	RA	2336	A
22	RA	2345	G
22	RA	2346	A
22	RA	2347	C
22	RA	2350	C
22	RA	2352	A
22	RA	2353	G
22	RA	2354	G
22	RA	2358	G
22	RA	2383	G
22	RA	2384	G
22	RA	2385	C
22	RA	2387	U
22	RA	2392	A
22	RA	2398	U
22	RA	2402	C
22	RA	2403	C
22	RA	2405	G
22	RA	2406	U

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Mol	Chain	Res	Type
22	RA	2410	G
22	RA	2422	A
22	RA	2423	U
22	RA	2424	C
22	RA	2425	A
22	RA	2429	G
22	RA	2430	A
22	RA	2431	U
22	RA	2435	A
22	RA	2439	A
22	RA	2440	C
22	RA	2441	C
22	RA	2443	C
22	RA	2445	G
22	RA	2448	A
22	RA	2469	A
22	RA	2470	G
22	RA	2474	C
22	RA	2475	C
22	RA	2482	G
22	RA	2487	G
22	RA	2490	G
22	RA	2494	G
22	RA	2502	G
22	RA	2505	G
22	RA	2513	G
22	RA	2519	U
22	RA	2525	G
22	RA	2529	G
22	RA	2540	C
22	RA	2542	A
22	RA	2543	G
22	RA	2545	G
22	RA	2546	U
22	RA	2554	U
22	RA	2556	C
22	RA	2558	C
22	RA	2564	A
22	RA	2567	G
22	RA	2572	A
22	RA	2573	C
22	RA	2574	G

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Mol	Chain	Res	Type
22	RA	2582	G
22	RA	2585	U
22	RA	2602	A
22	RA	2608	G
22	RA	2609	U
22	RA	2610	C
22	RA	2611	U
22	RA	2612	C
22	RA	2615	U
22	RA	2621	A
22	RA	2623	G
22	RA	2629	A
22	RA	2641	G
22	RA	2655	G
22	RA	2665	A
22	RA	2666	C
22	RA	2667	C
22	RA	2673	G
22	RA	2675	A
22	RA	2679	A
22	RA	2682	U
22	RA	2689	U
22	RA	2690	C
22	RA	2702	U
22	RA	2703	C
22	RA	2707	G
22	RA	2712	U
22	RA	2712(A)	A
22	RA	2713	A
22	RA	2714	G
22	RA	2726	U
22	RA	2733	A
22	RA	2747	G
22	RA	2748	A
22	RA	2750	A
22	RA	2752	C
22	RA	2758	A
22	RA	2761	G
22	RA	2764	A
22	RA	2765	A
22	RA	2767	C
22	RA	2770	G

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Mol	Chain	Res	Type
22	RA	2777	G
22	RA	2778	A
22	RA	2779	U
22	RA	2780	G
22	RA	2790	A
22	RA	2791	C
22	RA	2793	G
22	RA	2797	U
22	RA	2807	G
22	RA	2810	A
22	RA	2811	G
22	RA	2813	A
22	RA	2818	G
22	RA	2820	A
22	RA	2821	A
22	RA	2831	G
22	RA	2833	G
22	RA	2834	G
22	RA	2835	A
22	RA	2836	U
22	RA	2839	G
22	RA	2849	U
22	RA	2867	G
22	RA	2868	A
22	RA	2872	G
22	RA	2876	G
22	RA	2880	C
22	RA	2885	C
22	RA	2886	G
22	RA	2891	G
22	RA	2892	A
22	RA	2894	G
23	RB	2	C
23	RB	9	G
23	RB	13	A
23	RB	15	A
23	RB	16	G
23	RB	21	G
23	RB	22	U
23	RB	24	G
23	RB	25	A
23	RB	26	A

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Mol	Chain	Res	Type
23	RB	27	C
23	RB	29	A
23	RB	31	C
23	RB	32	C
23	RB	33	G
23	RB	40	U
23	RB	41	U
23	RB	42	C
23	RB	43	C
23	RB	44	G
23	RB	45	A
23	RB	56	G
23	RB	67	G
23	RB	73	A
23	RB	81	G
23	RB	89	G
23	RB	91	C
23	RB	109	G
23	RB	115	G
1	XA	6	G
1	XA	9	G
1	XA	10	A
1	XA	12	U
1	XA	19	C
1	XA	32	A
1	XA	34	C
1	XA	39	G
1	XA	47	C
1	XA	48	C
1	XA	50	A
1	XA	51	A
1	XA	59	A
1	XA	61	G
1	XA	64	G
1	XA	65	U
1	XA	66	G
1	XA	78	G
1	XA	79	G
1	XA	81	G
1	XA	89	U
1	XA	90	C
1	XA	91	C

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Mol	Chain	Res	Type
1	XA	92	G
1	XA	95	G
1	XA	108	G
1	XA	115	G
1	XA	116	A
1	XA	121	C
1	XA	129(A)	G
1	XA	130	A
1	XA	138	G
1	XA	144	G
1	XA	147	G
1	XA	163	C
1	XA	168	G
1	XA	172	A
1	XA	173	U
1	XA	174	C
1	XA	182	U
1	XA	189	U
1	XA	190	G
1	XA	191(C)	G
1	XA	191(E)	G
1	XA	195	A
1	XA	197	A
1	XA	199	G
1	XA	201	C
1	XA	209	U
1	XA	216	G
1	XA	218	C
1	XA	220	G
1	XA	222	U
1	XA	226	G
1	XA	240	C
1	XA	244	U
1	XA	245	C
1	XA	247	G
1	XA	251	G
1	XA	253	U
1	XA	266	G
1	XA	267	C
1	XA	270	A
1	XA	271	C
1	XA	280	C

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Mol	Chain	Res	Type
1	XA	281	G
1	XA	289	G
1	XA	298	A
1	XA	299	G
1	XA	306	G
1	XA	314	C
1	XA	318	G
1	XA	321	A
1	XA	328	C
1	XA	329	A
1	XA	330	C
1	XA	332	G
1	XA	338	A
1	XA	345	C
1	XA	346	G
1	XA	347	G
1	XA	348	G
1	XA	349	A
1	XA	352	C
1	XA	353	A
1	XA	354	G
1	XA	367	U
1	XA	372	C
1	XA	373	A
1	XA	384	G
1	XA	389	A
1	XA	397	A
1	XA	398	C
1	XA	406	G
1	XA	408	A
1	XA	409	G
1	XA	411	A
1	XA	412	A
1	XA	413	G
1	XA	414	A
1	XA	422	C
1	XA	423	G
1	XA	424	G
1	XA	427	U
1	XA	429	U
1	XA	430	A
1	XA	434	U

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Mol	Chain	Res	Type
1	XA	452	A
1	XA	466	C
1	XA	467	G
1	XA	481	G
1	XA	482	A
1	XA	485	G
1	XA	486	U
1	XA	496	A
1	XA	497	U
1	XA	505	G
1	XA	509	A
1	XA	510	A
1	XA	511	C
1	XA	513	C
1	XA	518	C
1	XA	527	G
1	XA	529	G
1	XA	531	U
1	XA	532	A
1	XA	533	A
1	XA	542	G
1	XA	545	C
1	XA	546	G
1	XA	547	A
1	XA	548	G
1	XA	559	A
1	XA	561	U
1	XA	562	C
1	XA	563	A
1	XA	564	C
1	XA	572	A
1	XA	573	A
1	XA	576	G
1	XA	577	G
1	XA	579	G
1	XA	607	A
1	XA	617	G
1	XA	620	C
1	XA	630	G
1	XA	631	G
1	XA	633	G
1	XA	653	A

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Mol	Chain	Res	Type
1	XA	657	G
1	XA	665	A
1	XA	688	G
1	XA	702	A
1	XA	703	G
1	XA	704	A
1	XA	721	G
1	XA	724	G
1	XA	731	G
1	XA	748	C
1	XA	749	C
1	XA	755	G
1	XA	760	G
1	XA	763	G
1	XA	777	A
1	XA	792	A
1	XA	793	U
1	XA	794	A
1	XA	796	C
1	XA	799	G
1	XA	813	U
1	XA	816	A
1	XA	817	C
1	XA	818	G
1	XA	819	A
1	XA	821	G
1	XA	828	A
1	XA	838	G
1	XA	841	U
1	XA	842	C
1	XA	843	U
1	XA	848	C
1	XA	853	G
1	XA	859	A
1	XA	864	A
1	XA	870	U
1	XA	871	U
1	XA	872	A
1	XA	873	A
1	XA	902	G
1	XA	914	A
1	XA	927	G

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Mol	Chain	Res	Type
1	XA	934	C
1	XA	935	A
1	XA	936	C
1	XA	939	G
1	XA	950	U
1	XA	960	U
1	XA	961	U
1	XA	966	G
1	XA	967	C
1	XA	968	A
1	XA	969	A
1	XA	971	G
1	XA	972	C
1	XA	974	A
1	XA	975	A
1	XA	976	G
1	XA	977	A
1	XA	983	A
1	XA	991	U
1	XA	992	U
1	XA	993	G
1	XA	994	A
1	XA	1000	A
1	XA	1001	G
1	XA	1002	G
1	XA	1004	A
1	XA	1006	C
1	XA	1008	C
1	XA	1016	A
1	XA	1021	G
1	XA	1024	G
1	XA	1026	G
1	XA	1028	C
1	XA	1029	G
1	XA	1032(A)	G
1	XA	1032(B)	G
1	XA	1036	G
1	XA	1039	C
1	XA	1040	U
1	XA	1042	G
1	XA	1053	G
1	XA	1054	C

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Mol	Chain	Res	Type
1	XA	1055	A
1	XA	1064	G
1	XA	1066	C
1	XA	1081	G
1	XA	1085	U
1	XA	1089	G
1	XA	1094	G
1	XA	1095	U
1	XA	1101	A
1	XA	1103	C
1	XA	1124	G
1	XA	1125	U
1	XA	1126	U
1	XA	1127	G
1	XA	1130	A
1	XA	1131	G
1	XA	1136	U
1	XA	1137	C
1	XA	1138	G
1	XA	1139	G
1	XA	1140	C
1	XA	1146	A
1	XA	1152	A
1	XA	1157	A
1	XA	1158	C
1	XA	1159	U
1	XA	1160	G
1	XA	1161	C
1	XA	1162	C
1	XA	1170	A
1	XA	1176	A
1	XA	1177	G
1	XA	1181	G
1	XA	1182	G
1	XA	1183	A
1	XA	1187	G
1	XA	1188	A
1	XA	1189	C
1	XA	1190	G
1	XA	1193	G
1	XA	1195	C
1	XA	1196	U

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Mol	Chain	Res	Type
1	XA	1201	A
1	XA	1211	U
1	XA	1212	U
1	XA	1214	C
1	XA	1220	G
1	XA	1225	A
1	XA	1226	C
1	XA	1238	A
1	XA	1240	U
1	XA	1256	A
1	XA	1257	U
1	XA	1258	G
1	XA	1264	C
1	XA	1270	C
1	XA	1272	G
1	XA	1275	A
1	XA	1277	C
1	XA	1278	U
1	XA	1280	A
1	XA	1281	U
1	XA	1282	C
1	XA	1285	A
1	XA	1286	A
1	XA	1287	A
1	XA	1288	A
1	XA	1290	G
1	XA	1298	C
1	XA	1299	A
1	XA	1300	G
1	XA	1301	U
1	XA	1302	U
1	XA	1305	G
1	XA	1306	A
1	XA	1318	A
1	XA	1320	C
1	XA	1321	C
1	XA	1322	C
1	XA	1323	G
1	XA	1329	A
1	XA	1331	G
1	XA	1336	C
1	XA	1337	G

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Mol	Chain	Res	Type
1	XA	1338	G
1	XA	1346	A
1	XA	1347	G
1	XA	1348	U
1	XA	1353	G
1	XA	1359	C
1	XA	1362(A)	C
1	XA	1363	A
1	XA	1378	C
1	XA	1379	G
1	XA	1394	A
1	XA	1397	C
1	XA	1401	G
1	XA	1419	G
1	XA	1442	G
1	XA	1443	G
1	XA	1446	A
1	XA	1452	C
1	XA	1453	G
1	XA	1482	G
1	XA	1483	A
1	XA	1487	G
1	XA	1492	A
1	XA	1497	G
1	XA	1499	A
1	XA	1503	A
1	XA	1504	G
1	XA	1506	U
1	XA	1517	G
1	XA	1518	A
1	XA	1519	A
1	XA	1520	G
1	XA	1528	U
1	XA	1529	G
1	XA	1530	G
22	YA	9	U
22	YA	13	A
22	YA	15	G
22	YA	28	A
22	YA	34	C
22	YA	35	G
22	YA	46	C

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Mol	Chain	Res	Type
22	YA	49	A
22	YA	55	G
22	YA	61	G
22	YA	63	U
22	YA	71	A
22	YA	72	U
22	YA	74	A
22	YA	75	G
22	YA	96	G
22	YA	97	C
22	YA	99	U
22	YA	101	G
22	YA	102	G
22	YA	103	A
22	YA	118	A
22	YA	119	A
22	YA	120	U
22	YA	121	G
22	YA	134	C
22	YA	155	C
22	YA	161	U
22	YA	162	U
22	YA	173	G
22	YA	181	A
22	YA	188	G
22	YA	196	A
22	YA	199	A
22	YA	215	G
22	YA	216	A
22	YA	221	A
22	YA	222	A
22	YA	223	A
22	YA	224	G
22	YA	226	G
22	YA	228	A
22	YA	229	A
22	YA	230	U
22	YA	232	G
22	YA	242	G
22	YA	243	U
22	YA	248	G
22	YA	249	C

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Mol	Chain	Res	Type
22	YA	250	G
22	YA	252	G
22	YA	261	G
22	YA	264	C
22	YA	265	A
22	YA	266	G
22	YA	269	U
22	YA	270(K)	C
22	YA	270(L)	U
22	YA	270(M)	U
22	YA	270(N)	G
22	YA	270(O)	U
22	YA	270(P)	C
22	YA	270(Q)	C
22	YA	270(W)	G
22	YA	270(Y)	G
22	YA	270(Z)	U
22	YA	271(A)	C
22	YA	271(C)	U
22	YA	271	G
22	YA	274	G
22	YA	275	G
22	YA	276	A
22	YA	278	A
22	YA	279	C
22	YA	299	A
22	YA	300	A
22	YA	311	A
22	YA	312	G
22	YA	315	G
22	YA	316	C
22	YA	323	G
22	YA	324	A
22	YA	329	G
22	YA	330	A
22	YA	332	A
22	YA	342	G
22	YA	345	A
22	YA	352	G
22	YA	356	G
22	YA	363	G
22	YA	364	C

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Mol	Chain	Res	Type
22	YA	371	A
22	YA	372	G
22	YA	373	U
22	YA	380	U
22	YA	386	G
22	YA	387	U
22	YA	394	A
22	YA	396	G
22	YA	405	U
22	YA	406	G
22	YA	411	G
22	YA	412	A
22	YA	428	A
22	YA	429	A
22	YA	442	G
22	YA	443	A
22	YA	444	C
22	YA	448	U
22	YA	451	C
22	YA	454	A
22	YA	457	A
22	YA	470	A
22	YA	472	A
22	YA	479	A
22	YA	480	A
22	YA	481	G
22	YA	483	A
22	YA	494	G
22	YA	496	G
22	YA	501	A
22	YA	503	A
22	YA	504	U
22	YA	505	A
22	YA	508	G
22	YA	509	C
22	YA	512	G
22	YA	513	A
22	YA	518	G
22	YA	528	A
22	YA	531	C
22	YA	532	A
22	YA	533	G

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Mol	Chain	Res	Type
22	YA	537	C
22	YA	539	G
22	YA	540	G
22	YA	546	C
22	YA	547	A
22	YA	549	G
22	YA	562	U
22	YA	563	G
22	YA	571	A
22	YA	573	G
22	YA	574	C
22	YA	575	A
22	YA	580	C
22	YA	586	A
22	YA	587	C
22	YA	588	U
22	YA	591	C
22	YA	599	G
22	YA	603	A
22	YA	607	U
22	YA	613	U
22	YA	614	U
22	YA	615	G
22	YA	617	G
22	YA	618	G
22	YA	622	G
22	YA	627	A
22	YA	634	C
22	YA	637	A
22	YA	638	G
22	YA	645	C
22	YA	646	A
22	YA	649	G
22	YA	651	G
22	YA	654	A
22	YA	654(A)	G
22	YA	654(B)	C
22	YA	654(T)	C
22	YA	657	U
22	YA	664	C
22	YA	668	G
22	YA	670	A

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Mol	Chain	Res	Type
22	YA	685	A
22	YA	686	G
22	YA	701	G
22	YA	702	G
22	YA	704	G
22	YA	716	A
22	YA	717	G
22	YA	719	C
22	YA	721	C
22	YA	722	A
22	YA	730	C
22	YA	740	U
22	YA	762	U
22	YA	776	G
22	YA	777	A
22	YA	782	A
22	YA	784	A
22	YA	785	G
22	YA	788	A
22	YA	789	A
22	YA	790	C
22	YA	791	C
22	YA	792	G
22	YA	793	A
22	YA	800	A
22	YA	805	G
22	YA	812	C
22	YA	813	U
22	YA	819	A
22	YA	827	U
22	YA	828	U
22	YA	830	G
22	YA	845	G
22	YA	846	C
22	YA	847	U
22	YA	856	C
22	YA	857	C
22	YA	858	U
22	YA	860	U
22	YA	869	G
22	YA	880	G
22	YA	881	G

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Mol	Chain	Res	Type
22	YA	882	G
22	YA	883	G
22	YA	884	C
22	YA	885	C
22	YA	886	C
22	YA	887	A
22	YA	889	C
22	YA	896	A
22	YA	897	C
22	YA	899	A
22	YA	900	A
22	YA	901	A
22	YA	907	U
22	YA	910	A
22	YA	914	C
22	YA	915	C
22	YA	917	A
22	YA	932	G
22	YA	938	G
22	YA	941	A
22	YA	945	A
22	YA	946	G
22	YA	957	A
22	YA	959	A
22	YA	961	C
22	YA	973	A
22	YA	974	G
22	YA	974(A)	C
22	YA	975	G
22	YA	980	A
22	YA	983	A
22	YA	986	C
22	YA	995	C
22	YA	996	A
22	YA	1003	G
22	YA	1005	C
22	YA	1010	A
22	YA	1011	G
22	YA	1012	U
22	YA	1013	C
22	YA	1016	G
22	YA	1020	A

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Mol	Chain	Res	Type
22	YA	1022	G
22	YA	1023	U
22	YA	1025	G
22	YA	1026	U
22	YA	1027	A
22	YA	1033	U
22	YA	1043	C
22	YA	1045	A
22	YA	1046	A
22	YA	1047	G
22	YA	1050	A
22	YA	1053	C
22	YA	1054	A
22	YA	1057	A
22	YA	1059	G
22	YA	1060	U
22	YA	1061	U
22	YA	1065	U
22	YA	1066	U
22	YA	1067	A
22	YA	1068	G
22	YA	1069	A
22	YA	1070	A
22	YA	1071	G
22	YA	1077	A
22	YA	1078	U
22	YA	1079	C
22	YA	1082	U
22	YA	1083	U
22	YA	1084	A
22	YA	1085	A
22	YA	1086	A
22	YA	1088	A
22	YA	1089	G
22	YA	1090	U
22	YA	1091	G
22	YA	1095	A
22	YA	1096	A
22	YA	1097	U
22	YA	1099	G
22	YA	1103	A
22	YA	1104	C

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Mol	Chain	Res	Type
22	YA	1110	G
22	YA	1111	A
22	YA	1122	G
22	YA	1126	A
22	YA	1128	A
22	YA	1130	U
22	YA	1131	G
22	YA	1135	C
22	YA	1136	G
22	YA	1139	G
22	YA	1142	U
22	YA	1142(A)	A
22	YA	1143	A
22	YA	1155	A
22	YA	1168	G
22	YA	1170	G
22	YA	1173	G
22	YA	1174	A
22	YA	1175	U
22	YA	1176	G
22	YA	1178	C
22	YA	1179	C
22	YA	1194	A
22	YA	1195	G
22	YA	1204	A
22	YA	1205	U
22	YA	1210	A
22	YA	1211	U
22	YA	1218	C
22	YA	1220	A
22	YA	1221	C
22	YA	1228	G
22	YA	1230	C
22	YA	1236	G
22	YA	1237	A
22	YA	1238	G
22	YA	1240	U
22	YA	1241	A
22	YA	1242	A
22	YA	1244	G
22	YA	1250	G
22	YA	1252	G

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Mol	Chain	Res	Type
22	YA	1253	A
22	YA	1255	U
22	YA	1256	G
22	YA	1257	C
22	YA	1265	A
22	YA	1271	G
22	YA	1272	A
22	YA	1273	U
22	YA	1300	U
22	YA	1301	A
22	YA	1306	C
22	YA	1309	G
22	YA	1313	U
22	YA	1319	G
22	YA	1321	A
22	YA	1329	U
22	YA	1349	A
22	YA	1352	U
22	YA	1365	A
22	YA	1368	G
22	YA	1371	G
22	YA	1372	U
22	YA	1379	A
22	YA	1383	C
22	YA	1384	A
22	YA	1385	G
22	YA	1386	C
22	YA	1389	G
22	YA	1391	U
22	YA	1395	A
22	YA	1407	C
22	YA	1411	C
22	YA	1416	G
22	YA	1417	C
22	YA	1419	A
22	YA	1420	U
22	YA	1421	G
22	YA	1428	C
22	YA	1429	G
22	YA	1444(A)	A
22	YA	1445	C
22	YA	1449	A

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Mol	Chain	Res	Type
22	YA	1449(A)	G
22	YA	1455	G
22	YA	1458	C
22	YA	1459	G
22	YA	1460	A
22	YA	1461	G
22	YA	1467	C
22	YA	1471	A
22	YA	1475	G
22	YA	1482	U
22	YA	1483	G
22	YA	1484	G
22	YA	1487	G
22	YA	1489	U
22	YA	1493	C
22	YA	1496	A
22	YA	1497	U
22	YA	1504	C
22	YA	1506	C
22	YA	1507	A
22	YA	1508	A
22	YA	1510	A
22	YA	1511	A
22	YA	1515	C
22	YA	1516	U
22	YA	1522	G
22	YA	1525	G
22	YA	1533	C
22	YA	1534	G
22	YA	1535	U
22	YA	1536	A
22	YA	1537	C
22	YA	1540	G
22	YA	1543	A
22	YA	1544	C
22	YA	1545	A
22	YA	1545(A)	A
22	YA	1549	C
22	YA	1554	A
22	YA	1558	A
22	YA	1559	G
22	YA	1560	G

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Mol	Chain	Res	Type
22	YA	1569	A
22	YA	1578	U
22	YA	1579	A
22	YA	1585	C
22	YA	1586	A
22	YA	1587	A
22	YA	1591	G
22	YA	1592	C
22	YA	1597	A
22	YA	1598	C
22	YA	1608	A
22	YA	1609	A
22	YA	1610	A
22	YA	1617	C
22	YA	1640	C
22	YA	1648	C
22	YA	1654	A
22	YA	1674	G
22	YA	1678	G
22	YA	1682	G
22	YA	1686	C
22	YA	1693	U
22	YA	1694	C
22	YA	1695	G
22	YA	1698	A
22	YA	1699	G
22	YA	1700	A
22	YA	1701	A
22	YA	1725	G
22	YA	1729	A
22	YA	1730	U
22	YA	1731	G
22	YA	1732	A
22	YA	1733	G
22	YA	1742	C
22	YA	1743	G
22	YA	1750	G
22	YA	1753	G
22	YA	1754	C
22	YA	1756	G
22	YA	1762	A
22	YA	1763	G

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Mol	Chain	Res	Type
22	YA	1764	G
22	YA	1773	A
22	YA	1780	A
22	YA	1781	C
22	YA	1787	A
22	YA	1791	A
22	YA	1799	G
22	YA	1800	C
22	YA	1801	G
22	YA	1805	U
22	YA	1816	G
22	YA	1824	G
22	YA	1826	G
22	YA	1829	A
22	YA	1835	G
22	YA	1847	A
22	YA	1848	A
22	YA	1858	G
22	YA	1869	G
22	YA	1871	A
22	YA	1872	A
22	YA	1878	G
22	YA	1882	C
22	YA	1889	A
22	YA	1896	G
22	YA	1899	G
22	YA	1900	A
22	YA	1903	G
22	YA	1906	G
22	YA	1913	A
22	YA	1919	A
22	YA	1929	G
22	YA	1930	G
22	YA	1931	U
22	YA	1935	G
22	YA	1936	A
22	YA	1938	A
22	YA	1939	U
22	YA	1941	C
22	YA	1955	U
22	YA	1956	U
22	YA	1963	U

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Mol	Chain	Res	Type
22	YA	1965	C
22	YA	1967	C
22	YA	1968	G
22	YA	1969	A
22	YA	1970	A
22	YA	1971	A
22	YA	1972	A
22	YA	1976	U
22	YA	1982	C
22	YA	1985	G
22	YA	1987	G
22	YA	1991	U
22	YA	1992	G
22	YA	1993	U
22	YA	1996	C
22	YA	2020	A
22	YA	2023	G
22	YA	2031	A
22	YA	2033	A
22	YA	2043	C
22	YA	2055	C
22	YA	2056	G
22	YA	2059	A
22	YA	2060	A
22	YA	2061	G
22	YA	2062	A
22	YA	2063	C
22	YA	2069	G
22	YA	2072	G
22	YA	2098	U
22	YA	2107	C
22	YA	2108	C
22	YA	2111	C
22	YA	2112	G
22	YA	2113	U
22	YA	2114	A
22	YA	2115	G
22	YA	2116	G
22	YA	2117	A
22	YA	2119	A
22	YA	2120	G
22	YA	2126	A

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Mol	Chain	Res	Type
22	YA	2127	G
22	YA	2128	C
22	YA	2131	G
22	YA	2132	U
22	YA	2133	G
22	YA	2136	C
22	YA	2145	C
22	YA	2147	G
22	YA	2148	G
22	YA	2158	A
22	YA	2159	G
22	YA	2166	G
22	YA	2167	U
22	YA	2168	G
22	YA	2173	A
22	YA	2177	C
22	YA	2183	C
22	YA	2189	U
22	YA	2190	G
22	YA	2192	G
22	YA	2194	G
22	YA	2195	C
22	YA	2198	A
22	YA	2209	C
22	YA	2210	G
22	YA	2211	G
22	YA	2212	A
22	YA	2215	G
22	YA	2225	A
22	YA	2238	G
22	YA	2239	G
22	YA	2242	G
22	YA	2243	U
22	YA	2263	C
22	YA	2267	A
22	YA	2269	A
22	YA	2274	A
22	YA	2275	C
22	YA	2278	A
22	YA	2280	G
22	YA	2283	C
22	YA	2287	A

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Mol	Chain	Res	Type
22	YA	2288	A
22	YA	2299	G
22	YA	2305	A
22	YA	2307	G
22	YA	2308	G
22	YA	2311	A
22	YA	2319	G
22	YA	2320	A
22	YA	2325	G
22	YA	2334	G
22	YA	2336	A
22	YA	2342	C
22	YA	2346	A
22	YA	2347	C
22	YA	2358	G
22	YA	2377	A
22	YA	2379	G
22	YA	2383	G
22	YA	2385	C
22	YA	2392	A
22	YA	2394	C
22	YA	2398	U
22	YA	2402	C
22	YA	2403	C
22	YA	2406	U
22	YA	2410	G
22	YA	2423	U
22	YA	2424	C
22	YA	2425	A
22	YA	2429	G
22	YA	2430	A
22	YA	2431	U
22	YA	2435	A
22	YA	2439	A
22	YA	2440	C
22	YA	2441	C
22	YA	2448	A
22	YA	2453	A
22	YA	2468	G
22	YA	2469	A
22	YA	2475	C
22	YA	2491	U

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Mol	Chain	Res	Type
22	YA	2494	G
22	YA	2497	A
22	YA	2502	G
22	YA	2505	G
22	YA	2518	A
22	YA	2524	G
22	YA	2525	G
22	YA	2529	G
22	YA	2531	A
22	YA	2542	A
22	YA	2543	G
22	YA	2554	U
22	YA	2562	U
22	YA	2566	A
22	YA	2567	G
22	YA	2573	C
22	YA	2574	G
22	YA	2582	G
22	YA	2585	U
22	YA	2595	G
22	YA	2596	U
22	YA	2602	A
22	YA	2609	U
22	YA	2611	U
22	YA	2612	C
22	YA	2615	U
22	YA	2621	A
22	YA	2623	G
22	YA	2626	C
22	YA	2629	A
22	YA	2632	A
22	YA	2640	G
22	YA	2646	C
22	YA	2651	C
22	YA	2654	A
22	YA	2660	A
22	YA	2665	A
22	YA	2666	C
22	YA	2673	G
22	YA	2675	A
22	YA	2679	A
22	YA	2682	U

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Mol	Chain	Res	Type
22	YA	2683	C
22	YA	2689	U
22	YA	2690	C
22	YA	2691	C
22	YA	2702	U
22	YA	2703	C
22	YA	2707	G
22	YA	2712	U
22	YA	2712(A)	A
22	YA	2713	A
22	YA	2714	G
22	YA	2718	G
22	YA	2719	G
22	YA	2720	U
22	YA	2726	U
22	YA	2733	A
22	YA	2734	A
22	YA	2739	U
22	YA	2742	C
22	YA	2749	A
22	YA	2750	A
22	YA	2751	G
22	YA	2752	C
22	YA	2758	A
22	YA	2761	G
22	YA	2765	A
22	YA	2766	G
22	YA	2770	G
22	YA	2771	C
22	YA	2777	G
22	YA	2778	A
22	YA	2779	U
22	YA	2789	C
22	YA	2790	A
22	YA	2791	C
22	YA	2793	G
22	YA	2795	G
22	YA	2797	U
22	YA	2798	C
22	YA	2804	C
22	YA	2807	G
22	YA	2808	U

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Mol	Chain	Res	Type
22	YA	2818	G
22	YA	2820	A
22	YA	2821	A
22	YA	2833	G
22	YA	2834	G
22	YA	2835	A
22	YA	2836	U
22	YA	2867	G
22	YA	2868	A
22	YA	2872	G
22	YA	2880	C
22	YA	2892	A
22	YA	2893	G
23	YB	2	C
23	YB	8	U
23	YB	13	A
23	YB	15	A
23	YB	16	G
23	YB	21	G
23	YB	22	U
23	YB	24	G
23	YB	25	A
23	YB	29	A
23	YB	31	C
23	YB	32	C
23	YB	39	A
23	YB	40	U
23	YB	41	U
23	YB	42	C
23	YB	44	G
23	YB	45	A
23	YB	52	A
23	YB	53	A
23	YB	65	C
23	YB	67	G
23	YB	72	G
23	YB	73	A
23	YB	81	G
23	YB	82	G
23	YB	90	C
23	YB	91	C
23	YB	107	U

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Mol	Chain	Res	Type
23	YB	108	C
23	YB	109	G
23	YB	115	G
53	QV	5	G
53	QV	7	G
53	QV	8	U
53	QV	16	C
53	QV	17(A)	U
53	QV	18	G
53	QV	19	G
53	QV	21	A
53	QV	22	G
53	QV	31	G
53	QV	41	C
53	QV	44	A
53	QV	47	U
53	QV	48	C
53	QV	50	U
53	QV	54	U
53	QV	59	A
53	QV	63	G
53	QV	64	G
53	QV	67	C
53	QV	75	C
53	QV	76	A
54	QX	2	U
54	QX	3	G
54	QX	4	C
54	QX	7	G
55	QY	34	C
55	QY	36	G
55	QY	38	A
53	XV	4	G
53	XV	5	G
53	XV	7	G
53	XV	10	G
53	XV	11	A
53	XV	16	C
53	XV	17(A)	U
53	XV	18	G
53	XV	19	G
53	XV	21	A

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Mol	Chain	Res	Type
53	XV	30	G
53	XV	31	G
53	XV	47	U
53	XV	48	C
53	XV	49	G
53	XV	50	U
53	XV	52	G
53	XV	54	U
53	XV	58	A
53	XV	63	G
53	XV	64	G
53	XV	66	C
53	XV	75	C
53	XV	76	A
54	XX	3	G
54	XX	4	C
54	XX	7	G
55	XY	34	C
55	XY	36	G

All (220) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	QA	31	G
1	QA	64	G
1	QA	115	G
1	QA	119	A
1	QA	181	G
1	QA	243	A
1	QA	244	U
1	QA	250	A
1	QA	266	G
1	QA	328	C
1	QA	353	A
1	QA	389	A
1	QA	410	G
1	QA	412	A
1	QA	421	U
1	QA	429	U
1	QA	452	A
1	QA	484	G
1	QA	485	G

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Mol	Chain	Res	Type
1	QA	509	A
1	QA	530	G
1	QA	560	U
1	QA	687	A
1	QA	701	C
1	QA	703	G
1	QA	752	G
1	QA	753	A
1	QA	792	A
1	QA	913	A
1	QA	934	C
1	QA	991	U
1	QA	992	U
1	QA	1025	U
1	QA	1027	C
1	QA	1065	U
1	QA	1157	A
1	QA	1200	C
1	QA	1280	A
1	QA	1285	A
1	QA	1297	C
1	QA	1336	C
1	QA	1337	G
1	QA	1346	A
1	QA	1347	G
1	QA	1446	A
1	QA	1453	G
1	QA	1498	U
1	QA	1503	A
1	QA	1528	U
22	RA	27	G
22	RA	71	A
22	RA	74	A
22	RA	99	U
22	RA	101	G
22	RA	196	A
22	RA	205	G
22	RA	222	A
22	RA	227	A
22	RA	229	A
22	RA	242	G
22	RA	271(B)	G

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Mol	Chain	Res	Type
22	RA	271(C)	U
22	RA	345	A
22	RA	370	G
22	RA	372	G
22	RA	405	U
22	RA	508	G
22	RA	512	G
22	RA	587	C
22	RA	637	A
22	RA	752	A
22	RA	774	A
22	RA	846	C
22	RA	856	C
22	RA	859	G
22	RA	974(A)	C
22	RA	1012	U
22	RA	1022	G
22	RA	1026	U
22	RA	1045	A
22	RA	1078	U
22	RA	1085	A
22	RA	1130	U
22	RA	1178	C
22	RA	1204	A
22	RA	1210	A
22	RA	1312	U
22	RA	1427	A
22	RA	1558	A
22	RA	1653	G
22	RA	1694	C
22	RA	1799	G
22	RA	1819	A
22	RA	1930	G
22	RA	1980	G
22	RA	1992	G
22	RA	2060	A
22	RA	2126	A
22	RA	2238	G
22	RA	2351	G
22	RA	2405	G
22	RA	2422	A
22	RA	2439	A

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Mol	Chain	Res	Type
22	RA	2481	G
22	RA	2518	A
22	RA	2566	A
22	RA	2581	G
22	RA	2610	C
22	RA	2689	U
22	RA	2712	U
22	RA	2726	U
22	RA	2776	A
22	RA	2832	U
22	RA	2867	G
23	RB	24	G
23	RB	66	A
1	XA	31	G
1	XA	60	A
1	XA	78	G
1	XA	89	U
1	XA	115	G
1	XA	181	G
1	XA	243	A
1	XA	244	U
1	XA	250	A
1	XA	266	G
1	XA	328	C
1	XA	345	C
1	XA	388	G
1	XA	412	A
1	XA	428	G
1	XA	429	U
1	XA	481	G
1	XA	484	G
1	XA	485	G
1	XA	509	A
1	XA	560	U
1	XA	687	A
1	XA	703	G
1	XA	812	C
1	XA	913	A
1	XA	960	U
1	XA	991	U
1	XA	992	U
1	XA	1025	U

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Mol	Chain	Res	Type
1	XA	1027	C
1	XA	1094	G
1	XA	1280	A
1	XA	1285	A
1	XA	1297	C
1	XA	1301	U
1	XA	1305	G
1	XA	1336	C
1	XA	1347	G
1	XA	1498	U
1	XA	1503	A
22	YA	27	G
22	YA	71	A
22	YA	99	U
22	YA	102	G
22	YA	195	A
22	YA	221	A
22	YA	222	A
22	YA	229	A
22	YA	242	G
22	YA	278	A
22	YA	372	G
22	YA	404	C
22	YA	503	A
22	YA	508	G
22	YA	532	A
22	YA	587	C
22	YA	637	A
22	YA	653	A
22	YA	654	A
22	YA	846	C
22	YA	856	C
22	YA	859	G
22	YA	896	A
22	YA	974	G
22	YA	974(A)	C
22	YA	1012	U
22	YA	1022	G
22	YA	1026	U
22	YA	1045	A
22	YA	1078	U
22	YA	1085	A

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Mol	Chain	Res	Type
22	YA	1109	C
22	YA	1130	U
22	YA	1178	C
22	YA	1204	A
22	YA	1210	A
22	YA	1427	A
22	YA	1558	A
22	YA	1653	G
22	YA	1698	A
22	YA	1799	G
22	YA	1899	G
22	YA	1930	G
22	YA	1955	U
22	YA	1992	G
22	YA	2126	A
22	YA	2406	U
22	YA	2422	A
22	YA	2439	A
22	YA	2566	A
22	YA	2610	C
22	YA	2681	C
22	YA	2689	U
22	YA	2712	U
22	YA	2776	A
22	YA	2832	U
22	YA	2867	G
23	YB	66	A
53	QV	53	G
54	QX	6	G
53	XV	19	G
53	XV	53	G
53	XV	60	U
54	XX	3	G

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

2 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$
56	PPU	Z6	76	56,22	32,40,41	1.02	1 (3%)	33,57,60	2.06	10 (30%)
56	PPU	Z8	76	56,22	32,40,41	1.04	3 (9%)	33,57,60	1.67	8 (24%)

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
56	PPU	Z6	76	56,22	-	3/21/43/44	0/4/4/4
56	PPU	Z8	76	56,22	-	1/21/43/44	0/4/4/4

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	Z8	76	PPU	C2'-C3'	-2.48	1.49	1.53
56	Z6	76	PPU	C5-C4	2.41	1.47	1.40
56	Z8	76	PPU	C5-C4	2.15	1.46	1.40
56	Z8	76	PPU	C4-N3	-2.11	1.32	1.35

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
56	Z6	76	PPU	C3'-N3'-C	-5.98	114.20	123.21
56	Z6	76	PPU	N1-C6-N6	4.60	121.89	117.06
56	Z8	76	PPU	N1-C6-N6	4.54	121.83	117.06
56	Z6	76	PPU	C10-N6-C6	-3.29	109.56	119.51
56	Z6	76	PPU	CM-OC-CZ	3.24	124.55	117.51
56	Z8	76	PPU	O2'-C2'-C3'	-3.11	103.55	111.16
56	Z8	76	PPU	C3'-N3'-C	-3.01	118.67	123.21
56	Z6	76	PPU	CG-CB-CA	-2.81	108.28	114.13
56	Z8	76	PPU	C4-C5-N7	-2.76	106.53	109.40
56	Z8	76	PPU	C10-N6-C6	-2.63	111.56	119.51
56	Z6	76	PPU	N3-C2-N1	-2.61	124.60	128.68
56	Z6	76	PPU	C9-N6-C6	-2.55	111.81	119.51
56	Z6	76	PPU	C4-C5-N7	-2.47	106.83	109.40
56	Z6	76	PPU	O-C-N3'	-2.43	118.42	122.93
56	Z8	76	PPU	C9-N6-C6	-2.42	112.19	119.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
56	Z8	76	PPU	N3-C2-N1	-2.32	125.05	128.68
56	Z8	76	PPU	O4'-C4'-C3'	2.07	107.03	104.06
56	Z6	76	PPU	C10-N6-C9	-2.04	109.56	116.12

There are no chirality outliers.

All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
56	Z6	76	PPU	CE1-CZ-OC-CM
56	Z6	76	PPU	CE2-CZ-OC-CM
56	Z8	76	PPU	C5-C6-N6-C9
56	Z6	76	PPU	C5-C6-N6-C9

There are no ring outliers.

1 monomer is involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
56	Z8	76	PPU	4	0

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

Of 706 ligands modelled in this entry, 704 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
57	PAR	QA	1601	-	45,45,45	1.47	7 (15%)	64,67,67	1.38	9 (14%)
57	PAR	XA	1601	-	45,45,45	1.50	6 (13%)	64,67,67	1.34	5 (7%)

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
57	PAR	QA	1601	-	-	8/18/94/94	0/4/4/4
57	PAR	XA	1601	-	-	6/18/94/94	0/4/4/4

All (13) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
57	QA	1601	PAR	C64-C54	5.14	1.59	1.52
57	XA	1601	PAR	C64-C54	4.91	1.58	1.52
57	QA	1601	PAR	C52-C42	3.16	1.58	1.52
57	QA	1601	PAR	O54-C14	2.86	1.49	1.41
57	XA	1601	PAR	O54-C14	2.85	1.49	1.41
57	XA	1601	PAR	C11-C21	2.85	1.57	1.52
57	XA	1601	PAR	C52-C42	2.84	1.58	1.52
57	XA	1601	PAR	O51-C11	2.62	1.48	1.41
57	QA	1601	PAR	C11-C21	2.36	1.57	1.52
57	QA	1601	PAR	O51-C11	2.35	1.47	1.41
57	XA	1601	PAR	C14-C24	2.19	1.56	1.52
57	QA	1601	PAR	C14-C24	2.08	1.56	1.52
57	QA	1601	PAR	C31-C21	2.03	1.56	1.53

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
57	XA	1601	PAR	O33-C14-C24	4.73	116.37	108.22
57	XA	1601	PAR	C14-O54-C54	4.30	122.13	113.69
57	QA	1601	PAR	O52-C13-C23	3.82	115.89	107.96
57	QA	1601	PAR	C14-O54-C54	3.79	121.13	113.69
57	QA	1601	PAR	O33-C14-C24	3.76	114.69	108.22
57	XA	1601	PAR	O52-C13-C23	3.44	115.09	107.96
57	QA	1601	PAR	O11-C42-C32	-3.13	101.71	109.18
57	QA	1601	PAR	O11-C42-C52	3.10	115.34	107.48
57	QA	1601	PAR	O54-C54-C64	2.98	111.56	106.01
57	XA	1601	PAR	O54-C54-C64	2.87	111.35	106.01
57	XA	1601	PAR	C11-O51-C51	2.56	118.72	113.69
57	QA	1601	PAR	O54-C54-C44	-2.12	105.85	109.69
57	QA	1601	PAR	C22-C32-C42	2.07	114.77	109.53
57	QA	1601	PAR	O41-C41-C51	2.02	114.31	109.30

There are no chirality outliers.

All (14) torsion outliers are listed below:

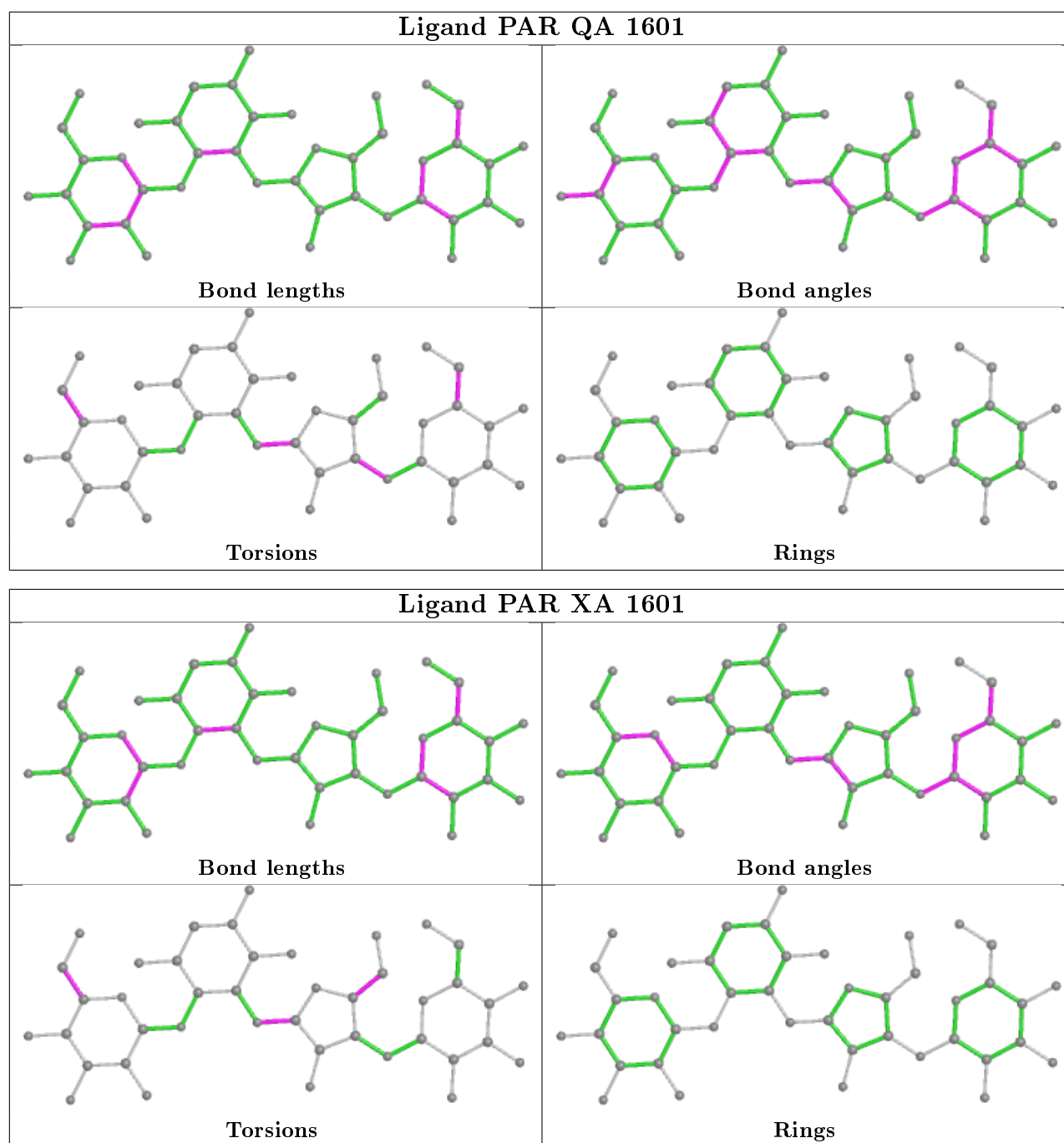
Mol	Chain	Res	Type	Atoms
57	QA	1601	PAR	C44-C54-C64-N64
57	QA	1601	PAR	O54-C54-C64-N64
57	XA	1601	PAR	O51-C51-C61-O61
57	QA	1601	PAR	O51-C51-C61-O61
57	XA	1601	PAR	C41-C51-C61-O61
57	QA	1601	PAR	C41-C51-C61-O61
57	XA	1601	PAR	C33-C43-C53-O53
57	XA	1601	PAR	O43-C13-O52-C52
57	QA	1601	PAR	O43-C13-O52-C52
57	XA	1601	PAR	O43-C43-C53-O53
57	XA	1601	PAR	C23-C13-O52-C52
57	QA	1601	PAR	C23-C13-O52-C52
57	QA	1601	PAR	C23-C33-O33-C14
57	QA	1601	PAR	C43-C33-O33-C14

There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
57	QA	1601	PAR	1	0
57	XA	1601	PAR	2	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

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, 95th 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 ²)	Q<0.9
1	QA	1500/1522 (98%)	0.42	75 (5%) 28 20	28, 70, 146, 264	0
1	XA	1500/1522 (98%)	0.54	83 (5%) 25 17	18, 64, 151, 247	0
2	QB	237/256 (92%)	0.13	9 (3%) 40 28	48, 115, 166, 191	0
2	XB	237/256 (92%)	-0.23	1 (0%) 92 88	35, 98, 150, 194	0
3	QC	205/239 (85%)	0.52	10 (4%) 29 21	45, 105, 149, 166	0
3	XC	205/239 (85%)	0.15	2 (0%) 82 72	35, 78, 130, 168	0
4	QD	208/209 (99%)	0.46	10 (4%) 30 21	27, 79, 119, 169	0
4	XD	208/209 (99%)	0.30	4 (1%) 66 54	34, 75, 127, 151	0
5	QE	151/162 (93%)	0.45	7 (4%) 32 22	37, 88, 135, 167	0
5	XE	151/162 (93%)	0.29	3 (1%) 65 52	29, 65, 115, 148	0
6	QF	101/101 (100%)	-0.20	1 (0%) 82 72	21, 76, 112, 185	0
6	XF	101/101 (100%)	0.21	0 100 100	32, 72, 115, 153	0
7	QG	155/156 (99%)	0.57	22 (14%) 2 2	46, 96, 152, 185	0
7	XG	155/156 (99%)	0.31	9 (5%) 23 15	40, 87, 145, 167	0
8	QH	138/138 (100%)	0.29	2 (1%) 75 63	41, 90, 125, 153	0
8	XH	138/138 (100%)	0.27	3 (2%) 62 48	33, 72, 108, 149	0
9	QI	127/128 (99%)	1.38	35 (27%) 0 0	67, 109, 148, 172	0
9	XI	127/128 (99%)	0.65	15 (11%) 4 4	28, 99, 147, 164	0
10	QJ	99/105 (94%)	0.96	16 (16%) 1 1	59, 114, 165, 205	0
10	XJ	99/105 (94%)	0.90	16 (16%) 1 1	41, 103, 147, 171	0
11	QK	119/129 (92%)	0.54	7 (5%) 22 15	35, 79, 130, 177	0
11	XK	119/129 (92%)	0.68	6 (5%) 28 20	24, 71, 125, 182	0
12	QL	125/132 (94%)	1.06	15 (12%) 4 3	30, 70, 120, 182	0
12	XL	125/132 (94%)	0.91	23 (18%) 1 1	15, 58, 120, 182	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
13	QM	121/126 (96%)	1.20	30 (24%) 0 0	36, 106, 144, 196	0
13	XM	121/126 (96%)	0.53	11 (9%) 9 6	38, 88, 137, 187	0
14	QN	60/61 (98%)	2.07	30 (50%) 0 0	58, 97, 124, 142	0
14	XN	60/61 (98%)	1.09	9 (15%) 2 1	34, 75, 109, 125	0
15	QO	88/89 (98%)	0.01	0 100 100	30, 79, 123, 154	0
15	XO	88/89 (98%)	0.25	1 (1%) 80 70	28, 73, 108, 124	0
16	QP	84/88 (95%)	0.44	1 (1%) 79 68	35, 69, 107, 152	0
16	XP	84/88 (95%)	1.14	20 (23%) 0 0	34, 74, 129, 163	0
17	QQ	100/105 (95%)	1.01	14 (14%) 2 2	24, 83, 122, 140	0
17	XQ	100/105 (95%)	0.98	14 (14%) 2 2	39, 78, 113, 165	0
18	QR	70/88 (79%)	0.06	1 (1%) 75 63	26, 78, 137, 167	0
18	XR	70/88 (79%)	0.31	3 (4%) 35 25	24, 70, 120, 147	0
19	QS	84/93 (90%)	1.71	32 (38%) 0 0	68, 111, 151, 176	0
19	XS	84/93 (90%)	0.60	8 (9%) 8 5	32, 97, 148, 177	0
20	QT	99/106 (93%)	0.91	9 (9%) 9 6	34, 79, 133, 144	0
20	XT	99/106 (93%)	1.63	34 (34%) 0 0	44, 88, 140, 174	0
21	QU	25/27 (92%)	3.33	20 (80%) 0 0	36, 102, 144, 147	0
21	XU	25/27 (92%)	2.34	15 (60%) 0 0	67, 92, 119, 132	0
22	RA	2882/2916 (98%)	0.47	145 (5%) 28 20	14, 51, 198, 261	0
22	YA	2883/2916 (98%)	0.42	106 (3%) 41 29	8, 43, 187, 292	0
23	RB	120/122 (98%)	-0.05	1 (0%) 86 77	53, 81, 118, 144	0
23	YB	120/122 (98%)	-0.03	1 (0%) 86 77	36, 67, 98, 136	0
24	RD	272/276 (98%)	0.34	4 (1%) 73 62	9, 50, 100, 155	0
24	YD	272/276 (98%)	0.60	5 (1%) 68 56	2, 42, 86, 187	0
25	RE	205/206 (99%)	0.37	7 (3%) 45 33	17, 61, 126, 193	0
25	YE	205/206 (99%)	0.19	2 (0%) 82 72	3, 56, 124, 170	0
26	RF	202/210 (96%)	-0.04	0 100 100	9, 61, 124, 182	0
26	YF	202/210 (96%)	0.01	1 (0%) 91 85	10, 53, 113, 148	0
27	RG	181/182 (99%)	0.49	9 (4%) 28 20	42, 97, 145, 178	0
27	YG	181/182 (99%)	0.12	4 (2%) 62 48	40, 80, 130, 201	0
28	RH	170/180 (94%)	1.84	67 (39%) 0 0	67, 134, 177, 201	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
28	YH	170/180 (94%)	-0.05	1 (0%) 89 83	24, 76, 126, 177	0
29	RI	146/148 (98%)	0.05	3 (2%) 63 50	24, 87, 130, 181	0
29	YI	146/148 (98%)	-0.04	3 (2%) 63 50	19, 86, 127, 152	0
30	RN	138/140 (98%)	0.44	7 (5%) 28 19	29, 68, 121, 174	0
30	YN	138/140 (98%)	0.11	0 100 100	13, 56, 111, 173	0
31	RO	122/122 (100%)	0.53	3 (2%) 57 43	11, 55, 102, 158	0
31	YO	122/122 (100%)	0.90	11 (9%) 9 6	9, 51, 88, 123	0
32	RP	150/150 (100%)	0.63	11 (7%) 15 10	13, 69, 133, 176	0
32	YP	150/150 (100%)	0.41	5 (3%) 46 34	12, 61, 122, 182	0
33	RQ	141/141 (100%)	1.22	29 (20%) 1 0	29, 71, 124, 164	0
33	YQ	141/141 (100%)	0.43	4 (2%) 53 39	16, 56, 115, 152	0
34	RR	118/118 (100%)	0.43	4 (3%) 45 33	3, 55, 102, 136	0
34	YR	118/118 (100%)	0.77	5 (4%) 36 25	27, 57, 95, 140	0
35	RS	111/112 (99%)	0.66	10 (9%) 9 6	34, 80, 124, 162	0
35	YS	111/112 (99%)	0.17	2 (1%) 68 56	27, 73, 113, 138	0
36	RT	137/146 (93%)	0.53	7 (5%) 28 19	27, 67, 143, 169	0
36	YT	137/146 (93%)	0.53	4 (2%) 51 38	19, 65, 135, 172	0
37	RU	117/118 (99%)	0.21	2 (1%) 70 58	12, 62, 111, 167	0
37	YU	117/118 (99%)	0.36	2 (1%) 70 58	13, 45, 111, 172	0
38	RV	101/101 (100%)	0.03	2 (1%) 65 52	16, 78, 131, 186	0
38	YV	101/101 (100%)	0.34	3 (2%) 50 36	21, 68, 139, 214	0
39	RW	113/113 (100%)	0.29	1 (0%) 84 75	15, 47, 106, 158	0
39	YW	113/113 (100%)	0.27	2 (1%) 68 56	16, 46, 106, 168	0
40	RX	92/96 (95%)	0.34	0 100 100	17, 56, 103, 130	0
40	YX	92/96 (95%)	0.10	0 100 100	9, 42, 86, 138	0
41	RY	102/110 (92%)	0.41	1 (0%) 82 72	28, 86, 142, 176	0
41	YY	102/110 (92%)	0.09	1 (0%) 82 72	30, 73, 138, 185	0
42	RZ	183/206 (88%)	0.42	12 (6%) 18 11	45, 92, 141, 160	0
42	YZ	183/206 (88%)	-0.18	1 (0%) 91 85	21, 82, 136, 178	0
43	R0	82/85 (96%)	0.97	7 (8%) 10 8	9, 51, 88, 102	0
43	Y0	82/85 (96%)	0.34	0 100 100	20, 48, 73, 92	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
44	R1	97/98 (98%)	0.82	6 (6%) 20 13	13, 60, 144, 182	0
44	Y1	97/98 (98%)	1.05	11 (11%) 5 4	7, 53, 136, 172	0
45	R2	69/72 (95%)	-0.06	0 100 100	36, 77, 136, 164	0
45	Y2	69/72 (95%)	-0.06	0 100 100	18, 57, 116, 159	0
46	R3	59/60 (98%)	0.80	2 (3%) 45 33	33, 76, 118, 142	0
46	Y3	59/60 (98%)	0.03	1 (1%) 70 58	19, 57, 109, 169	0
47	R4	71/71 (100%)	0.87	12 (16%) 1 1	61, 142, 196, 236	0
47	Y4	71/71 (100%)	0.14	5 (7%) 16 10	58, 131, 182, 223	0
48	R5	59/60 (98%)	0.42	2 (3%) 45 33	12, 66, 149, 160	0
48	Y5	59/60 (98%)	0.85	8 (13%) 3 2	17, 64, 166, 185	0
49	R6	49/54 (90%)	4.49	44 (89%) 0 0	101, 159, 184, 200	0
49	Y6	49/54 (90%)	3.64	42 (85%) 0 0	95, 152, 182, 209	0
50	R7	49/49 (100%)	0.39	2 (4%) 37 26	11, 41, 95, 153	0
50	Y7	49/49 (100%)	0.42	4 (8%) 11 8	6, 33, 78, 135	0
51	R8	64/65 (98%)	0.83	6 (9%) 8 5	18, 59, 121, 163	0
51	Y8	64/65 (98%)	0.74	5 (7%) 13 9	16, 52, 108, 164	0
52	R9	37/37 (100%)	8.37	37 (100%) 0 0	92, 141, 184, 204	0
52	Y9	37/37 (100%)	5.96	37 (100%) 0 0	102, 132, 168, 182	0
53	QV	77/77 (100%)	-0.12	1 (1%) 77 66	35, 82, 137, 160	0
53	XV	77/77 (100%)	-0.07	1 (1%) 77 66	11, 71, 111, 159	0
54	QX	8/25 (32%)	0.84	0 100 100	44, 56, 107, 137	0
54	XX	8/25 (32%)	1.20	2 (25%) 0 0	37, 46, 104, 148	0
55	QY	8/17 (47%)	1.51	2 (25%) 0 0	62, 74, 124, 144	0
55	XY	8/17 (47%)	0.50	1 (12%) 3 3	54, 71, 109, 122	0
56	Z6	2/3 (66%)	0.82	0 100 100	45, 45, 45, 52	0
56	Z8	2/3 (66%)	1.45	0 100 100	30, 30, 30, 32	0
All	All	20861/21492 (97%)	0.50	1352 (6%) 18 12	2, 66, 150, 292	0

All (1352) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
52	R9	11	CYS	18.9
52	R9	37	GLY	15.5

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Mol	Chain	Res	Type	RSRZ
52	R9	14	CYS	14.9
52	Y9	1	MET	14.0
52	R9	36	GLN	14.0
52	R9	12	ASP	12.9
11	XK	129	SER	12.3
22	YA	2105	C	12.1
22	RA	2146	C	11.6
49	R6	14	THR	11.5
52	R9	9	ARG	11.5
52	R9	15	LYS	11.2
52	Y9	34	GLN	11.1
49	R6	13	CYS	10.9
52	R9	16	VAL	10.4
52	R9	17	ILE	10.2
52	R9	13	LYS	10.1
49	Y6	26	ASN	9.5
22	RA	2145	C	9.5
22	RA	2159	G	9.4
52	R9	25	VAL	9.2
52	R9	34	GLN	9.1
52	R9	30	PRO	8.9
49	Y6	49	HIS	8.8
49	R6	50	ARG	8.6
22	RA	2121	G	8.5
49	Y6	53	LYS	8.5
52	R9	1	MET	8.4
52	Y9	21	GLY	8.4
52	Y9	36	GLN	8.4
49	Y6	42	TRP	8.1
52	R9	28	GLU	8.1
20	XT	9	ASN	8.0
22	YA	2141	G	8.0
28	RH	43	VAL	7.9
52	R9	32	HIS	7.9
52	R9	10	ILE	7.8
52	Y9	12	ASP	7.8
22	RA	2147	G	7.8
52	R9	26	ILE	7.8
22	RA	2148	G	7.7
52	R9	24	TYR	7.7
22	YA	2188	C	7.7
52	R9	22	ARG	7.6

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Mol	Chain	Res	Type	RSRZ
7	QG	82	GLY	7.6
52	R9	2	LYS	7.5
52	Y9	32	HIS	7.5
47	R4	71	ARG	7.5
49	R6	49	HIS	7.4
22	RA	2144	U	7.3
47	R4	68	ARG	7.3
52	Y9	24	TYR	7.3
11	QK	129	SER	7.2
7	QG	78	ARG	7.2
52	Y9	7	VAL	7.2
11	QK	11	LYS	7.2
47	R4	49	PHE	7.1
22	RA	2112	G	7.1
49	R6	20	ASN	7.0
47	R4	69	LYS	7.0
52	Y9	29	ASN	7.0
22	YA	2108	C	7.0
52	Y9	6	SER	7.0
44	Y1	97	LEU	6.9
44	Y1	96	LYS	6.9
22	RA	2160	G	6.9
52	Y9	9	ARG	6.9
22	RA	2142	C	6.9
22	YA	2166	G	6.9
52	R9	33	LYS	6.9
22	YA	2142	C	6.8
13	QM	101	GLN	6.8
22	RA	2141	G	6.8
52	Y9	25	VAL	6.7
49	R6	25	LYS	6.7
9	QI	110	GLU	6.7
32	RP	150	ALA	6.6
22	RA	2139	C	6.6
22	YA	2179	C	6.6
49	R6	43	CYS	6.6
22	RA	2136	C	6.6
18	QR	88	LYS	6.6
22	RA	2179	C	6.6
49	R6	42	TRP	6.5
13	QM	102	ARG	6.5
52	R9	20	HIS	6.5

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Mol	Chain	Res	Type	RSRZ
52	Y9	10	ILE	6.5
52	R9	3	VAL	6.5
11	XK	12	ARG	6.4
52	R9	29	ASN	6.4
22	YA	2107	C	6.4
28	RH	89	ILE	6.4
7	QG	79	ARG	6.3
52	R9	4	ARG	6.3
22	YA	2146	C	6.3
44	R1	98	LEU	6.3
52	R9	23	VAL	6.3
22	RA	2135	A	6.3
21	XU	15	ARG	6.2
52	Y9	8	LYS	6.2
49	R6	29	ASN	6.2
10	QJ	64	GLU	6.2
13	QM	122	LYS	6.1
52	R9	35	ARG	6.1
48	Y5	2	ALA	6.1
24	YD	26	LYS	6.0
49	R6	24	GLU	6.0
21	QU	26	LYS	6.0
22	YA	2106	G	6.0
22	YA	2116	G	6.0
52	Y9	5	ALA	6.0
12	QL	128	ALA	6.0
38	YV	36	PRO	6.0
12	QL	129	ALA	6.0
52	Y9	26	ILE	5.9
13	QM	6	GLY	5.9
22	RA	1100	C	5.9
22	RA	2156	G	5.9
52	R9	19	ARG	5.9
13	QM	7	VAL	5.9
22	RA	2166	G	5.9
22	RA	2155	G	5.9
52	Y9	35	ARG	5.9
52	R9	18	ARG	5.8
52	R9	27	CYS	5.8
22	RA	2167	U	5.8
52	Y9	4	ARG	5.8
22	RA	2168	G	5.8

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Mol	Chain	Res	Type	RSRZ
44	Y1	98	LEU	5.8
42	RZ	113	ALA	5.8
22	RA	1093	G	5.8
22	YA	2121	G	5.8
49	R6	12	GLU	5.7
49	Y6	13	CYS	5.7
22	RA	2143	C	5.7
22	YA	2804	C	5.7
47	R4	67	TYR	5.7
47	Y4	69	LYS	5.7
52	Y9	33	LYS	5.7
52	R9	7	VAL	5.7
22	RA	1092	C	5.7
49	Y6	37	ARG	5.6
22	YA	2140	C	5.6
52	Y9	14	CYS	5.6
22	RA	1103	A	5.6
49	R6	21	TYR	5.5
11	XK	11	LYS	5.5
49	R6	36	LEU	5.5
52	Y9	28	GLU	5.5
22	RA	2154	G	5.5
22	YA	2104	G	5.5
47	R4	66	SER	5.5
49	Y6	18	ARG	5.5
37	YU	118	GLY	5.5
22	YA	2145	C	5.4
28	RH	88	LEU	5.4
22	RA	2158	A	5.4
22	YA	2113	U	5.4
49	R6	41	PRO	5.4
22	RA	2116	G	5.4
12	XL	19	ARG	5.3
7	XG	78	ARG	5.3
49	R6	52	VAL	5.3
11	QK	128	ALA	5.3
10	QJ	46	ARG	5.3
52	Y9	22	ARG	5.2
13	QM	103	THR	5.2
22	RA	1095	A	5.2
22	YA	2153	G	5.2
49	R6	7	ILE	5.2

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Mol	Chain	Res	Type	RSRZ
13	XM	94	ARG	5.2
28	RH	24	VAL	5.2
22	RA	2797	U	5.2
14	QN	31	ARG	5.2
52	Y9	37	GLY	5.2
49	R6	34	LEU	5.2
22	RA	1099	G	5.2
52	R9	5	ALA	5.2
50	Y7	48	LYS	5.2
52	Y9	15	LYS	5.1
49	R6	40	CYS	5.1
27	RG	138	GLN	5.1
49	Y6	48	VAL	5.1
49	Y6	43	CYS	5.1
52	Y9	2	LYS	5.1
52	Y9	23	VAL	5.1
22	YA	2143	C	5.1
28	RH	29	PRO	5.1
52	R9	6	SER	5.1
22	RA	1082	U	5.1
47	R4	70	GLY	5.0
22	RA	2120	G	5.0
13	QM	121	LYS	5.0
13	QM	88	ARG	5.0
52	Y9	16	VAL	5.0
22	RA	2111	C	5.0
13	QM	97	PRO	5.0
28	RH	141	VAL	5.0
20	XT	18	GLN	5.0
49	R6	6	ARG	4.9
22	RA	1104	C	4.9
22	RA	2175	C	4.9
22	RA	2178	C	4.9
22	YA	2144	U	4.9
44	R1	96	LYS	4.9
48	R5	2	ALA	4.9
49	R6	27	LYS	4.9
20	XT	70	SER	4.9
52	Y9	27	CYS	4.9
22	RA	2138	C	4.9
22	RA	1096	A	4.9
22	RA	2109	U	4.8

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Mol	Chain	Res	Type	RSRZ
22	YA	2109	U	4.8
1	QA	1286	A	4.8
10	QJ	45	ARG	4.8
22	RA	2123	G	4.8
22	RA	2140	C	4.8
22	RA	1083	U	4.8
22	YA	2180	U	4.8
14	QN	39	LEU	4.8
34	YR	69	ASP	4.8
49	R6	9	LEU	4.8
22	RA	2799	A	4.8
21	QU	16	GLY	4.7
22	YA	887	A	4.7
28	RH	81	GLU	4.7
22	YA	2161	C	4.7
12	QL	28	LYS	4.7
20	XT	8	ARG	4.7
22	YA	2138	C	4.7
22	YA	2118	U	4.7
38	YV	101	GLY	4.6
42	YZ	113	ALA	4.6
11	QK	127	LYS	4.6
21	QU	15	ARG	4.6
52	Y9	11	CYS	4.6
13	QM	92	HIS	4.6
22	RA	2165	G	4.6
1	QA	1451	A	4.6
9	QI	127	LYS	4.6
22	RA	2115	G	4.6
21	QU	6	ARG	4.6
19	QS	71	LEU	4.6
16	XP	1	MET	4.6
22	RA	1094	U	4.6
22	RA	2169	A	4.6
44	R1	97	LEU	4.6
12	XL	129	ALA	4.6
32	RP	149	GLU	4.6
22	YA	2122	U	4.6
22	YA	2139	C	4.5
12	QL	127	GLU	4.5
21	XU	26	LYS	4.5
19	QS	85	LYS	4.5

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Mol	Chain	Res	Type	RSRZ
9	QI	128	ARG	4.5
47	Y4	68	ARG	4.5
22	RA	2114	A	4.5
28	RH	112	PRO	4.5
7	XG	5	ARG	4.5
22	YA	2120	G	4.5
52	R9	21	GLY	4.5
22	YA	2137	C	4.5
49	Y6	12	GLU	4.5
1	XA	106	C	4.5
33	RQ	80	GLU	4.5
49	R6	37	ARG	4.5
22	RA	889	C	4.5
21	QU	24	ARG	4.4
7	QG	32	ARG	4.4
22	YA	2110	G	4.4
22	RA	1057	A	4.4
20	XT	16	HIS	4.4
14	QN	34	TYR	4.4
22	YA	2103	C	4.4
12	XL	28	LYS	4.4
20	XT	19	SER	4.4
22	RA	2122	U	4.4
14	QN	35	ARG	4.4
49	Y6	22	ALA	4.4
16	XP	35	LYS	4.4
22	RA	2110	G	4.4
49	R6	26	ASN	4.4
20	XT	72	LEU	4.4
22	RA	2129	C	4.4
49	R6	8	LYS	4.4
1	XA	1451	A	4.3
49	Y6	52	VAL	4.3
49	Y6	47	THR	4.3
25	YE	205	ALA	4.3
9	QI	111	ARG	4.3
52	Y9	17	ILE	4.3
44	Y1	93	GLU	4.3
33	RQ	32	TYR	4.3
32	YP	13	ASN	4.3
49	R6	46	HIS	4.3
49	Y6	36	LEU	4.3

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Mol	Chain	Res	Type	RSRZ
48	Y5	54	GLY	4.3
9	QI	10	ARG	4.3
49	R6	22	ALA	4.3
52	Y9	30	PRO	4.3
22	RA	2170	A	4.2
13	QM	120	LYS	4.2
9	QI	36	TYR	4.2
1	XA	63	C	4.2
20	QT	26	ASN	4.2
49	Y6	38	LYS	4.2
9	QI	124	GLN	4.2
49	R6	53	LYS	4.2
52	Y9	13	LYS	4.2
49	Y6	29	ASN	4.2
35	YS	2	ALA	4.2
14	QN	38	GLY	4.2
21	QU	25	LYS	4.2
19	QS	35	SER	4.2
21	QU	2	GLY	4.2
22	RA	1084	A	4.1
22	RA	2125	G	4.1
22	RA	1061	U	4.1
1	XA	208	U	4.1
10	QJ	65	LEU	4.1
1	XA	108	G	4.1
28	RH	105	LEU	4.1
46	R3	60	GLU	4.1
22	RA	2108	C	4.1
28	YH	3	ARG	4.1
12	XL	21	LYS	4.1
28	RH	35	VAL	4.1
49	Y6	25	LYS	4.0
4	QD	49	ARG	4.0
4	XD	209	ARG	4.0
21	QU	17	THR	4.0
29	RI	12	LEU	4.0
1	XA	328	C	4.0
22	YA	2162	G	4.0
22	YA	2189	U	4.0
49	Y6	20	ASN	4.0
49	R6	11	LEU	4.0
22	RA	2157	G	4.0

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Mol	Chain	Res	Type	RSRZ
19	QS	15	LEU	4.0
32	RP	79	ARG	4.0
19	QS	36	ARG	4.0
51	R8	65	GLU	4.0
9	XI	8	GLY	4.0
33	RQ	66	ILE	4.0
22	YA	2149	G	4.0
49	Y6	14	THR	4.0
37	RU	118	GLY	4.0
42	RZ	114	GLY	4.0
14	XN	2	ALA	4.0
50	R7	49	ARG	3.9
21	QU	23	PRO	3.9
51	R8	64	TYR	3.9
22	YA	2112	G	3.9
22	RA	1098	A	3.9
50	Y7	49	ARG	3.9
10	XJ	59	SER	3.9
25	RE	143	ASN	3.9
12	QL	19	ARG	3.9
22	RA	1058	G	3.9
14	QN	2	ALA	3.9
21	QU	10	ARG	3.9
52	Y9	20	HIS	3.9
16	XP	29	ASP	3.9
28	RH	96	ALA	3.9
9	QI	65	VAL	3.9
1	XA	111	G	3.9
28	RH	90	LYS	3.9
22	RA	2104	G	3.8
12	XL	128	ALA	3.8
22	RA	1102	C	3.8
22	RA	2137	C	3.8
53	QV	1	C	3.8
9	XI	128	ARG	3.8
1	QA	108	G	3.8
22	RA	1059	G	3.8
36	YT	104	ASN	3.8
22	RA	1085	A	3.8
11	XK	128	ALA	3.8
49	R6	32	ASN	3.8
16	XP	25	ARG	3.8

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Mol	Chain	Res	Type	RSRZ
31	YO	80	ASP	3.8
49	R6	39	TYR	3.8
7	QG	156	TRP	3.8
22	RA	2133	G	3.8
21	QU	22	ARG	3.8
19	QS	2	PRO	3.8
22	RA	1177	A	3.8
43	R0	2	ALA	3.8
54	XX	8	A	3.7
20	QT	22	ARG	3.7
22	YA	2187	G	3.7
3	QC	193	TYR	3.7
28	RH	84	SER	3.7
19	QS	79	THR	3.7
12	XL	18	VAL	3.7
19	QS	53	ASN	3.7
14	QN	26	ARG	3.7
14	QN	37	PHE	3.7
22	RA	2117	A	3.7
20	XT	27	LYS	3.7
52	R9	31	LYS	3.7
10	XJ	60	ARG	3.7
33	RQ	63	LYS	3.7
49	Y6	51	GLU	3.7
27	RG	75	LYS	3.7
12	XL	9	GLN	3.7
22	RA	2118	U	3.7
33	RQ	112	GLU	3.7
7	QG	81	GLY	3.7
19	QS	39	THR	3.7
49	R6	23	THR	3.7
22	YA	2133	G	3.7
22	YA	2147	G	3.7
28	RH	109	PHE	3.7
10	XJ	5	ARG	3.6
28	RH	97	ARG	3.6
1	XA	135	C	3.6
13	XM	100	GLY	3.6
16	XP	7	ALA	3.6
22	RA	1176	G	3.6
42	RZ	112	ARG	3.6
1	XA	134	A	3.6

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Mol	Chain	Res	Type	RSRZ
27	RG	152	LEU	3.6
7	XG	153	HIS	3.6
21	QU	13	ILE	3.6
19	QS	69	HIS	3.6
21	QU	14	TRP	3.6
22	YA	2154	G	3.6
1	XA	1531	A	3.6
49	R6	5	VAL	3.6
22	YA	2167	U	3.6
20	XT	106	ALA	3.6
31	RO	1	MET	3.6
3	QC	190	ARG	3.6
22	YA	2165	G	3.6
49	Y6	30	THR	3.6
1	QA	1224	G	3.5
9	XI	126	SER	3.5
49	R6	30	THR	3.5
21	XU	2	GLY	3.5
1	QA	1354	C	3.5
10	XJ	64	GLU	3.5
22	RA	887	A	3.5
22	RA	1068	G	3.5
28	RH	103	LEU	3.5
28	RH	104	GLU	3.5
49	Y6	19	ARG	3.5
1	QA	1531	A	3.5
22	RA	1056	G	3.5
22	RA	1053	C	3.5
21	QU	5	ASP	3.5
1	QA	1251	A	3.5
21	QU	18	TYR	3.5
22	RA	2107	C	3.5
7	QG	5	ARG	3.5
20	XT	24	LEU	3.5
20	XT	69	GLY	3.5
37	YU	117	GLN	3.5
25	RE	205	ALA	3.5
35	RS	2	ALA	3.5
22	RA	1101	U	3.5
48	Y5	59	GLU	3.5
27	RG	182	LYS	3.5
43	R0	42	GLY	3.5

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Mol	Chain	Res	Type	RSRZ
14	QN	61	TRP	3.5
49	R6	51	GLU	3.5
22	RA	2128	C	3.4
29	YI	117	GLU	3.4
47	Y4	70	GLY	3.4
33	RQ	104	PHE	3.4
48	Y5	60	VAL	3.4
11	QK	13	GLN	3.4
9	QI	109	VAL	3.4
9	QI	117	HIS	3.4
44	Y1	92	LYS	3.4
49	R6	31	PRO	3.4
11	QK	12	ARG	3.4
28	RH	159	GLU	3.4
49	R6	33	LYS	3.4
28	RH	52	VAL	3.4
1	QA	1348	U	3.4
10	QJ	48	THR	3.4
36	RT	106	SER	3.4
10	QJ	55	LYS	3.4
46	Y3	60	GLU	3.4
49	Y6	39	TYR	3.4
10	XJ	47	PHE	3.4
2	QB	133	LYS	3.4
9	QI	119	ALA	3.4
1	QA	131	C	3.4
20	XT	21	LYS	3.3
27	RG	137	GLU	3.3
22	YA	2124	G	3.3
10	QJ	62	HIS	3.3
38	YV	45	THR	3.3
52	Y9	31	LYS	3.3
14	QN	23	ARG	3.3
29	YI	12	LEU	3.3
7	QG	33	ASP	3.3
28	RH	95	ARG	3.3
33	RQ	6	ARG	3.3
9	QI	70	LYS	3.3
10	QJ	47	PHE	3.3
1	XA	107	G	3.3
14	QN	41	ARG	3.3
49	R6	47	THR	3.3

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Mol	Chain	Res	Type	RSRZ
17	XQ	36	ILE	3.3
20	XT	17	ARG	3.3
12	XL	64	TYR	3.3
33	RQ	91	GLU	3.3
49	Y6	15	GLU	3.3
7	XG	79	ARG	3.3
28	RH	85	LYS	3.3
49	Y6	16	CYS	3.3
10	XJ	58	ASP	3.3
22	RA	1026	U	3.3
22	RA	2795	G	3.3
28	RH	94	TYR	3.3
1	QA	1226	C	3.3
43	R0	41	ARG	3.3
8	XH	3	THR	3.3
5	QE	24	ARG	3.3
21	XU	14	TRP	3.2
20	XT	75	ASN	3.2
28	RH	152	ARG	3.2
33	RQ	99	PRO	3.2
47	Y4	67	TYR	3.2
10	QJ	67	THR	3.2
9	QI	66	ARG	3.2
16	XP	67	THR	3.2
10	XJ	57	LYS	3.2
4	XD	134	ASP	3.2
1	XA	1529	G	3.2
22	RA	1060	U	3.2
22	YA	2181	G	3.2
28	RH	169	VAL	3.2
1	XA	105	G	3.2
22	YA	2125	G	3.2
10	QJ	54	PHE	3.2
12	QL	95	GLY	3.2
1	QA	947	G	3.2
1	XA	324	G	3.2
22	RA	2319	G	3.2
22	YA	2795	G	3.2
1	QA	1363	A	3.2
28	RH	106	THR	3.2
12	XL	20	LYS	3.2
22	YA	2136	C	3.2

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Mol	Chain	Res	Type	RSRZ
28	RH	115	VAL	3.2
22	RA	1089	G	3.1
22	YA	2155	G	3.1
9	QI	64	THR	3.1
13	XM	102	ARG	3.1
13	XM	97	PRO	3.1
21	XU	16	GLY	3.1
34	YR	72	ASP	3.1
22	RA	2134	A	3.1
22	YA	2801	A	3.1
22	YA	2175	C	3.1
52	R9	8	LYS	3.1
9	XI	106	ALA	3.1
22	RA	1066	U	3.1
22	YA	1177	A	3.1
22	RA	2182	G	3.1
49	Y6	46	HIS	3.1
22	YA	2117	A	3.1
47	Y4	71	ARG	3.1
13	QM	96	LEU	3.1
22	RA	2176	A	3.1
22	RA	2124	G	3.1
34	RR	69	ASP	3.1
5	XE	21	ALA	3.1
22	RA	2793	G	3.1
22	YA	2123	G	3.1
15	XO	89	GLY	3.1
9	QI	116	LYS	3.1
1	XA	110	C	3.1
14	QN	6	LEU	3.1
5	QE	13	ILE	3.1
22	RA	1087	G	3.1
28	RH	148	ILE	3.1
49	Y6	23	THR	3.1
33	RQ	1	MET	3.1
20	QT	9	ASN	3.1
20	QT	80	ARG	3.0
49	Y6	50	ARG	3.0
29	RI	1	MET	3.0
31	YO	81	ASP	3.0
1	QA	1307	U	3.0
13	QM	91	ARG	3.0

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Mol	Chain	Res	Type	RSRZ
17	QQ	4	LYS	3.0
20	QT	21	LYS	3.0
33	RQ	103	MET	3.0
7	XG	156	TRP	3.0
22	YA	2114	A	3.0
28	RH	108	GLY	3.0
1	QA	1202	G	3.0
22	RA	1125	G	3.0
1	QA	1362	C	3.0
14	QN	32	SER	3.0
28	RH	145	ALA	3.0
1	QA	948	C	3.0
7	QG	4	ARG	3.0
27	RG	89	GLY	3.0
1	QA	975	A	3.0
10	XJ	61	GLU	3.0
1	XA	378	G	3.0
7	XG	34	GLY	3.0
20	XT	73	HIS	3.0
47	R4	47	GLN	3.0
49	Y6	33	LYS	3.0
49	Y6	35	GLU	3.0
21	QU	21	TYR	3.0
32	RP	108	LYS	3.0
22	YA	2168	G	3.0
28	RH	25	LYS	3.0
13	QM	108	ARG	3.0
1	QA	1257	U	3.0
1	XA	1365	G	3.0
1	XA	1450	U	3.0
9	QI	125	TYR	3.0
19	QS	33	THR	3.0
22	RA	1097	U	3.0
20	XT	55	ILE	3.0
31	YO	1	MET	3.0
9	QI	13	ALA	3.0
20	XT	22	ARG	3.0
22	RA	2105	C	3.0
1	QA	1032	A	3.0
48	Y5	55	ARG	3.0
22	YA	888	C	2.9
1	QA	973	G	2.9

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Mol	Chain	Res	Type	RSRZ
14	XN	19	ARG	2.9
20	XT	79	ARG	2.9
33	RQ	5	ARG	2.9
1	QA	328	C	2.9
36	YT	106	SER	2.9
28	RH	98	LEU	2.9
19	QS	80	TYR	2.9
16	XP	27	LYS	2.9
28	RH	48	GLY	2.9
33	RQ	12	GLN	2.9
22	RA	2127	G	2.9
13	QM	99	ARG	2.9
34	YR	14	SER	2.9
1	XA	975	A	2.9
1	QA	1220	G	2.9
1	XA	103	C	2.9
1	XA	87	A	2.9
4	QD	50	ARG	2.9
20	XT	80	ARG	2.9
32	RP	13	ASN	2.9
19	QS	70	LYS	2.9
20	QT	72	LEU	2.9
28	RH	100	GLY	2.9
48	R5	54	GLY	2.9
1	XA	312	C	2.9
1	XA	1286	A	2.9
20	XT	28	ALA	2.9
1	QA	1221	G	2.9
22	YA	2805	G	2.9
2	XB	133	LYS	2.9
23	YB	1	U	2.9
9	QI	9	ARG	2.9
22	YA	2799	A	2.9
33	RQ	133	ARG	2.9
14	QN	25	VAL	2.9
19	QS	67	VAL	2.9
17	QQ	101	ARG	2.9
1	XA	1361	G	2.9
9	XI	105	ASP	2.9
12	XL	8	ASN	2.9
20	XT	14	LYS	2.8
1	XA	325	A	2.8

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Mol	Chain	Res	Type	RSRZ
14	QN	29	ARG	2.8
1	XA	102	G	2.8
16	XP	4	ILE	2.8
2	QB	165	VAL	2.8
25	YE	204	ALA	2.8
16	XP	28	ARG	2.8
20	XT	26	ASN	2.8
10	XJ	65	LEU	2.8
22	YA	2148	G	2.8
22	YA	2160	G	2.8
30	RN	10	GLU	2.8
31	YO	82	ASN	2.8
1	QA	1249	C	2.8
20	XT	23	ARG	2.8
13	QM	78	ILE	2.8
22	YA	2697	G	2.8
13	QM	106	ASN	2.8
20	XT	71	THR	2.8
1	QA	1450	U	2.8
1	XA	104	G	2.8
19	QS	83	HIS	2.8
22	RA	2171	A	2.8
48	Y5	58	LEU	2.8
3	QC	194	GLY	2.8
22	YA	2185	C	2.8
22	YA	2798	C	2.8
1	QA	1324	A	2.8
1	XA	313	A	2.8
43	R0	5	LYS	2.8
10	XJ	46	ARG	2.8
12	XL	63	GLY	2.8
32	YP	149	GLU	2.8
49	Y6	44	ARG	2.8
52	Y9	3	VAL	2.8
13	XM	96	LEU	2.8
19	QS	73	GLU	2.8
52	Y9	18	ARG	2.8
7	QG	153	HIS	2.8
19	QS	12	ASP	2.8
21	QU	9	ARG	2.8
33	YQ	80	GLU	2.8
14	QN	17	LYS	2.8

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Mol	Chain	Res	Type	RSRZ
19	QS	77	THR	2.8
39	YW	113	LYS	2.8
1	QA	1353	G	2.8
22	YA	2159	G	2.8
9	QI	123	PRO	2.8
28	RH	49	VAL	2.8
1	XA	210	U	2.8
36	RT	1	MET	2.8
20	QT	25	ARG	2.7
28	RH	162	ILE	2.7
22	YA	2186	G	2.7
13	XM	98	VAL	2.7
1	QA	1357	A	2.7
28	RH	42	ARG	2.7
16	XP	24	ALA	2.7
17	XQ	98	LEU	2.7
42	RZ	155	LEU	2.7
22	YA	1536	A	2.7
28	RH	10	PRO	2.7
9	QI	121	ARG	2.7
13	QM	81	LEU	2.7
19	XS	76	PRO	2.7
22	RA	1088	A	2.7
8	QH	1	MET	2.7
32	YP	16	ARG	2.7
49	R6	18	ARG	2.7
4	QD	24	GLU	2.7
22	RA	1055	G	2.7
22	RA	2334	G	2.7
22	YA	2174	C	2.7
28	RH	164	TYR	2.7
10	QJ	66	ARG	2.7
28	RH	170	ARG	2.7
12	QL	68	ALA	2.7
1	XA	1257	U	2.7
10	QJ	63	PHE	2.7
49	Y6	8	LYS	2.7
28	RH	144	VAL	2.7
22	YA	2129	C	2.7
1	QA	978	A	2.7
33	YQ	91	GLU	2.7
5	QE	125	SER	2.7

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Mol	Chain	Res	Type	RSRZ
12	QL	29	GLY	2.7
21	QU	7	ARG	2.7
28	RH	3	ARG	2.7
42	RZ	150	LEU	2.7
1	XA	136	C	2.7
17	XQ	45	HIS	2.7
25	RE	54	GLN	2.7
49	Y6	34	LEU	2.7
17	QQ	22	LEU	2.7
22	RA	2161	C	2.7
1	QA	378	G	2.7
13	QM	80	ARG	2.7
14	QN	19	ARG	2.7
18	XR	88	LYS	2.7
22	YA	2131	G	2.7
22	YA	2152	G	2.7
13	QM	119	GLY	2.7
44	Y1	16	ASN	2.7
12	QL	17	LYS	2.7
49	R6	48	VAL	2.7
14	XN	17	LYS	2.7
13	QM	104	ARG	2.6
49	Y6	41	PRO	2.6
1	QA	995	C	2.6
1	XA	311	C	2.6
42	RZ	169	GLU	2.6
47	R4	51	ASP	2.6
22	RA	2318	G	2.6
22	YA	2169	A	2.6
31	YO	65	THR	2.6
4	QD	169	LYS	2.6
28	RH	41	MET	2.6
19	QS	10	PHE	2.6
19	XS	74	PHE	2.6
20	XT	42	GLN	2.6
33	RQ	36	ALA	2.6
36	YT	51	ARG	2.6
1	XA	1354	C	2.6
3	QC	62	ASP	2.6
12	XL	127	GLU	2.6
12	XL	15	ARG	2.6
55	QY	40	G	2.6

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Mol	Chain	Res	Type	RSRZ
9	QI	115	GLY	2.6
1	XA	1437	C	2.6
33	RQ	102	VAL	2.6
4	QD	209	ARG	2.6
14	QN	7	ILE	2.6
3	XC	26	LYS	2.6
1	QA	310	G	2.6
14	QN	36	PHE	2.6
24	YD	50	THR	2.6
16	XP	31	LYS	2.6
7	QG	85	TYR	2.6
1	QA	1358	U	2.6
1	XA	1436	U	2.6
9	XI	127	LYS	2.6
14	QN	13	THR	2.6
14	QN	33	VAL	2.6
1	XA	1202	G	2.6
17	QQ	71	PHE	2.6
49	Y6	9	LEU	2.6
1	XA	327	A	2.6
13	QM	111	LYS	2.6
32	RP	35	HIS	2.6
9	QI	31	GLN	2.6
31	YO	45	GLU	2.6
14	QN	11	LYS	2.6
14	QN	55	GLY	2.6
31	YO	66	LYS	2.6
36	RT	2	ASN	2.6
22	RA	2131	G	2.6
22	YA	529	A	2.6
22	YA	1762	A	2.6
50	R7	48	LYS	2.6
17	QQ	68	ARG	2.6
1	XA	1368	G	2.6
22	RA	1067	A	2.6
22	YA	669	G	2.6
27	YG	84	LYS	2.6
7	QG	80	VAL	2.6
41	YY	103	GLY	2.6
19	QS	38	SER	2.6
44	Y1	95	LEU	2.5
6	QF	101	ALA	2.5

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Mol	Chain	Res	Type	RSRZ
19	QS	32	LYS	2.5
4	XD	156	GLU	2.5
5	XE	81	GLU	2.5
51	Y8	64	TYR	2.5
13	XM	104	ARG	2.5
21	XU	11	GLY	2.5
17	QQ	60	ILE	2.5
28	RH	111	HIS	2.5
49	Y6	40	CYS	2.5
21	XU	3	LYS	2.5
49	Y6	17	LYS	2.5
19	QS	11	VAL	2.5
20	XT	64	ASP	2.5
35	RS	33	LYS	2.5
22	RA	888	C	2.5
22	RA	2173	A	2.5
22	YA	2173	A	2.5
51	Y8	2	PRO	2.5
28	RH	87	LEU	2.5
16	XP	2	VAL	2.5
8	XH	1	MET	2.5
14	XN	12	ARG	2.5
51	R8	21	LYS	2.5
1	QA	1287	A	2.5
3	QC	87	LEU	2.5
22	RA	1086	A	2.5
3	XC	30	ARG	2.5
1	QA	31	G	2.5
44	R1	65	SER	2.5
8	QH	86	ILE	2.5
12	QL	64	TYR	2.5
1	XA	1362(A)	C	2.5
32	RP	106	LEU	2.5
2	QB	96	ARG	2.5
1	QA	322	C	2.5
1	QA	1234	C	2.5
20	XT	58	LYS	2.5
28	RH	86	GLU	2.5
53	XV	1	C	2.5
1	XA	1530	G	2.5
39	RW	94	ASP	2.5
1	QA	1369	C	2.5

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Mol	Chain	Res	Type	RSRZ
51	R8	63	PRO	2.5
16	XP	20	VAL	2.5
26	YF	69	HIS	2.5
13	XM	122	LYS	2.5
17	XQ	7	THR	2.5
17	XQ	16	GLN	2.5
22	RA	2321	G	2.5
32	RP	81	GLN	2.5
21	XU	22	ARG	2.5
22	YA	2163	C	2.5
36	RT	115	ARG	2.5
7	XG	85	TYR	2.5
5	QE	10	MET	2.5
5	XE	134	ALA	2.5
24	RD	55	GLY	2.5
12	XL	91	LYS	2.5
1	XA	972	C	2.4
22	RA	2174	C	2.4
22	RA	2755	C	2.4
22	YA	1836	C	2.4
13	QM	110	ARG	2.4
20	XT	87	LYS	2.4
37	RU	117	GLN	2.4
1	QA	1225	A	2.4
17	XQ	37	LYS	2.4
5	QE	94	ALA	2.4
14	QN	5	ALA	2.4
19	QS	74	PHE	2.4
20	XT	15	ARG	2.4
43	R0	37	LEU	2.4
16	XP	68	ASP	2.4
22	RA	2180	U	2.4
1	QA	1365	G	2.4
1	XA	1224	G	2.4
22	RA	1030	G	2.4
9	XI	120	ARG	2.4
28	RH	107	VAL	2.4
30	RN	83	LYS	2.4
35	RS	20	ARG	2.4
42	RZ	78	LYS	2.4
49	Y6	6	ARG	2.4
19	XS	38	SER	2.4

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Mol	Chain	Res	Type	RSRZ
7	QG	16	LEU	2.4
52	Y9	19	ARG	2.4
17	QQ	8	GLY	2.4
1	QA	1309	G	2.4
1	XA	306	G	2.4
1	XA	1222	G	2.4
14	QN	15	LYS	2.4
17	QQ	40	LYS	2.4
14	QN	8	GLU	2.4
22	RA	2189	U	2.4
27	RG	2	PRO	2.4
33	YQ	141	GLN	2.4
9	QI	27	THR	2.4
22	RA	1064	C	2.4
1	QA	1233	G	2.4
1	XA	64	G	2.4
14	XN	59	ALA	2.4
17	XQ	17	LYS	2.4
20	XT	25	ARG	2.4
25	RE	149	ARG	2.4
30	RN	84	LYS	2.4
44	Y1	42	GLN	2.4
13	QM	84	ILE	2.4
22	RA	1536	A	2.4
36	YT	109	GLU	2.4
1	QA	966	G	2.4
1	XA	1438	G	2.4
7	XG	33	ASP	2.4
9	QI	126	SER	2.4
22	RA	2149	G	2.4
28	RH	134	SER	2.4
13	XM	110	ARG	2.4
48	Y5	53	ALA	2.4
22	RA	1033	U	2.4
28	RH	11	VAL	2.4
32	RP	105	LEU	2.4
2	QB	4	GLU	2.4
8	XH	132	GLU	2.4
1	QA	1285	A	2.4
1	XA	913	A	2.4
9	QI	42	ARG	2.4
12	XL	61	THR	2.4

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Mol	Chain	Res	Type	RSRZ
13	QM	71	ARG	2.4
16	XP	22	THR	2.4
19	QS	81	ARG	2.4
9	QI	102	LEU	2.4
28	RH	165	ALA	2.4
1	QA	994	A	2.4
22	RA	1070	A	2.4
33	RQ	141	GLN	2.4
35	RS	64	GLU	2.4
5	QE	12	LEU	2.4
33	RQ	129	THR	2.4
1	QA	963	G	2.4
1	XA	1353	G	2.4
12	XL	23	LYS	2.4
48	Y5	3	LYS	2.4
28	RH	51	ARG	2.4
22	RA	2320	A	2.4
22	RA	2801	A	2.4
1	QA	1366	C	2.4
1	XA	1366	C	2.4
1	XA	1367	C	2.4
17	XQ	35	VAL	2.3
31	YO	84	ALA	2.3
28	RH	30	LYS	2.3
13	QM	8	GLU	2.3
17	QQ	20	THR	2.3
17	XQ	32	TYR	2.3
4	XD	50	ARG	2.3
13	XM	99	ARG	2.3
27	YG	137	GLU	2.3
13	QM	100	GLY	2.3
42	RZ	177	PRO	2.3
49	Y6	32	ASN	2.3
1	QA	1017	G	2.3
29	YI	79	ILE	2.3
4	QD	145	GLU	2.3
9	XI	110	GLU	2.3
3	QC	28	GLN	2.3
22	YA	2150	U	2.3
22	YA	2803	C	2.3
9	XI	116	LYS	2.3
7	QG	155	ARG	2.3

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Mol	Chain	Res	Type	RSRZ
10	XJ	62	HIS	2.3
10	XJ	98	ILE	2.3
14	XN	31	ARG	2.3
20	XT	63	ILE	2.3
22	RA	2695	C	2.3
7	XG	82	GLY	2.3
9	XI	121	ARG	2.3
10	XJ	48	THR	2.3
17	QQ	7	THR	2.3
51	R8	53	PRO	2.3
12	XL	27	LEU	2.3
9	QI	113	LYS	2.3
10	QJ	10	GLY	2.3
1	QA	1223	C	2.3
22	RA	1079	C	2.3
22	RA	2446	G	2.3
54	XX	7	G	2.3
33	RQ	90	VAL	2.3
19	QS	37	ARG	2.3
20	XT	20	LEU	2.3
1	XA	815	A	2.3
1	XA	61	G	2.3
1	XA	112	G	2.3
1	XA	1527	C	2.3
33	RQ	34	LEU	2.3
36	RT	99	LEU	2.3
49	Y6	31	PRO	2.3
30	RN	50	ASP	2.3
35	RS	5	THR	2.3
36	RT	46	GLU	2.3
11	XK	120	ARG	2.3
14	XN	18	VAL	2.3
22	RA	1054	A	2.3
22	YA	1755	A	2.3
22	YA	2062	A	2.3
22	RA	2798	C	2.3
4	QD	118	ARG	2.3
22	RA	1115	G	2.3
3	QC	196	LEU	2.3
9	QI	44	VAL	2.3
19	XS	71	LEU	2.3
22	RA	2113	U	2.3

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Mol	Chain	Res	Type	RSRZ
17	XQ	101	ARG	2.3
34	RR	7	GLY	2.3
1	XA	162	A	2.3
1	XA	729	A	2.3
9	QI	11	LYS	2.3
18	XR	31	LEU	2.3
1	XA	562	C	2.3
1	XA	230	G	2.3
1	XA	1435	G	2.3
21	XU	24	ARG	2.3
22	RA	1091	G	2.3
22	YA	1835	G	2.3
22	YA	2709	G	2.3
28	RH	5	GLY	2.3
24	YD	230	ASP	2.3
27	YG	116	ASP	2.3
33	RQ	130	LYS	2.3
28	RH	50	VAL	2.3
20	QT	18	GLN	2.3
12	XL	89	ARG	2.3
20	XT	29	LYS	2.3
49	Y6	7	ILE	2.3
25	RE	159	HIS	2.3
22	YA	1630	G	2.2
33	RQ	105	GLU	2.2
17	QQ	97	SER	2.2
20	XT	74	LYS	2.2
49	R6	17	LYS	2.2
27	RG	35	GLU	2.2
7	QG	83	ALA	2.2
38	RV	45	THR	2.2
42	RZ	121	HIS	2.2
51	R8	12	LYS	2.2
14	XN	61	TRP	2.2
28	RH	155	SER	2.2
12	XL	33	ARG	2.2
1	XA	177	C	2.2
1	XA	555	C	2.2
10	XJ	95	GLU	2.2
22	RA	1116	C	2.2
9	XI	49	PRO	2.2
25	RE	151	TYR	2.2

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Mol	Chain	Res	Type	RSRZ
34	RR	8	ARG	2.2
7	QG	36	LYS	2.2
24	RD	26	LYS	2.2
9	QI	30	GLY	2.2
9	QI	28	VAL	2.2
22	RA	2790	A	2.2
1	QA	1314	C	2.2
1	QA	1367	C	2.2
1	XA	379	C	2.2
1	XA	1066	C	2.2
9	QI	37	PHE	2.2
22	YA	2164	C	2.2
47	R4	48	ARG	2.2
17	QQ	24	GLU	2.2
1	XA	260	G	2.2
19	QS	52	TYR	2.2
22	YA	2156	G	2.2
28	RH	83	TYR	2.2
22	RA	2119	A	2.2
9	QI	101	PHE	2.2
11	QK	99	GLN	2.2
27	YG	80	PHE	2.2
44	R1	2	SER	2.2
33	RQ	100	GLY	2.2
13	QM	75	ALA	2.2
19	QS	66	MET	2.2
33	YQ	1	MET	2.2
1	XA	1502	A	2.2
22	RA	1129	A	2.2
22	RA	2062	A	2.2
51	Y8	63	PRO	2.2
22	YA	2506	U	2.2
47	R4	6	HIS	2.2
28	RH	114	VAL	2.2
34	RR	14	SER	2.2
11	XK	19	ALA	2.2
7	QG	28	ASN	2.2
10	QJ	59	SER	2.2
10	XJ	8	LEU	2.2
14	QN	49	HIS	2.2
1	QA	1323	G	2.2
1	XA	262	A	2.2

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Mol	Chain	Res	Type	RSRZ
10	XJ	53	PRO	2.2
17	XQ	2	PRO	2.2
12	XL	7	ILE	2.2
17	QQ	65	ILE	2.2
5	QE	26	PHE	2.2
39	YW	92	ARG	2.2
49	R6	44	ARG	2.2
49	R6	45	LYS	2.2
22	YA	2132	U	2.2
30	RN	9	VAL	2.2
21	XU	13	ILE	2.2
24	YD	227	ASN	2.2
28	RH	82	GLY	2.2
35	RS	3	ARG	2.2
1	QA	971	G	2.2
19	QS	50	ALA	2.2
50	Y7	1	MET	2.2
1	XA	322	C	2.2
21	XU	18	TYR	2.2
22	RA	34	C	2.2
22	YA	1076	C	2.2
16	QP	31	LYS	2.2
21	QU	20	LYS	2.2
24	RD	34	VAL	2.2
32	RP	109	GLY	2.2
21	XU	17	THR	2.2
22	YA	2696	U	2.2
2	QB	134	GLU	2.2
3	QC	135	LYS	2.2
12	QL	27	LEU	2.2
28	RH	4	ILE	2.2
42	RZ	23	LYS	2.2
9	XI	117	HIS	2.2
31	RO	81	ASP	2.2
7	QG	41	ARG	2.2
10	QJ	44	VAL	2.2
34	YR	21	TYR	2.2
43	R0	4	LYS	2.2
22	YA	1082	U	2.2
51	Y8	35	GLN	2.2
31	RO	98	VAL	2.1
32	RP	65	ARG	2.1

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Mol	Chain	Res	Type	RSRZ
46	R3	26	LEU	2.1
1	QA	976	G	2.1
22	RA	1252	G	2.1
22	YA	1678	G	2.1
22	YA	1758	G	2.1
28	RH	161	GLY	2.1
7	QG	2	ALA	2.1
1	QA	1235	U	2.1
1	QA	1364	U	2.1
3	QC	192	THR	2.1
21	XU	6	ARG	2.1
41	RY	46	LYS	2.1
7	QG	84	ASN	2.1
1	XA	60	A	2.1
13	QM	5	ALA	2.1
22	RA	575	A	2.1
22	YA	2170	A	2.1
36	RT	91	ARG	2.1
1	XA	817	C	2.1
22	YA	2695	C	2.1
22	YA	2794	C	2.1
28	RH	123	PHE	2.1
33	RQ	64	ILE	2.1
1	XA	1511	G	2.1
55	XY	33	U	2.1
9	XI	17	VAL	2.1
33	RQ	10	ARG	2.1
1	QA	262	A	2.1
1	QA	974	A	2.1
22	YA	229	A	2.1
13	QM	83	ASP	2.1
20	QT	64	ASP	2.1
19	QS	6	LYS	2.1
1	QA	1254	C	2.1
1	QA	1321	C	2.1
17	XQ	38	ARG	2.1
22	YA	2477	C	2.1
31	YO	122	LEU	2.1
22	RA	2172	U	2.1
16	XP	36	ILE	2.1
1	QA	230	G	2.1
1	XA	351	G	2.1

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Mol	Chain	Res	Type	RSRZ
22	YA	956	G	2.1
32	YP	34	GLY	2.1
2	QB	240	GLN	2.1
9	QI	43	ALA	2.1
12	QL	67	THR	2.1
49	R6	19	ARG	2.1
1	QA	1306	A	2.1
1	QA	1332	A	2.1
21	XU	23	PRO	2.1
22	RA	899	A	2.1
22	YA	2158	A	2.1
22	YA	2176	A	2.1
1	QA	311	C	2.1
1	QA	323	U	2.1
1	XA	320	C	2.1
22	YA	277	C	2.1
14	XN	22	THR	2.1
21	QU	8	THR	2.1
47	R4	50	VAL	2.1
49	R6	28	ARG	2.1
19	XS	53	ASN	2.1
4	QD	16	GLY	2.1
21	XU	10	ARG	2.1
2	QB	186	ALA	2.1
9	XI	124	GLN	2.1
30	RN	69	GLN	2.1
24	YD	92	ILE	2.1
22	RA	2177	C	2.1
25	RE	145	LYS	2.1
33	RQ	89	ASN	2.1
1	QA	962	C	2.1
35	RS	8	GLU	2.1
1	QA	112	G	2.1
1	XA	878	G	2.1
12	QL	47	LYS	2.1
22	RA	1051	G	2.1
22	YA	1296	G	2.1
28	RH	32	GLU	2.1
42	RZ	153	SER	2.1
9	QI	120	ARG	2.1
14	QN	54	PRO	2.1
19	XS	78	ARG	2.1

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Mol	Chain	Res	Type	RSRZ
44	Y1	41	ARG	2.1
1	QA	232	G	2.1
16	XP	19	ILE	2.1
19	XS	56	GLN	2.1
22	YA	1176	G	2.1
22	RA	567	A	2.1
12	XL	5	PRO	2.1
17	XQ	85	VAL	2.1
51	Y8	65	GLU	2.1
17	XQ	34	LYS	2.1
35	RS	35	ILE	2.1
38	RV	74	LYS	2.1
44	R1	69	LYS	2.1
9	XI	102	LEU	2.1
28	RH	93	GLY	2.1
1	QA	977	A	2.1
1	XA	149	A	2.1
1	XA	951	G	2.1
22	RA	2162	G	2.1
22	YA	2578	G	2.1
30	RN	72	TYR	2.1
1	QA	934	C	2.1
19	QS	41	VAL	2.1
7	QG	26	PHE	2.1
12	QL	71	PRO	2.1
19	QS	84	GLY	2.1
31	YO	108	GLU	2.1
35	RS	37	ALA	2.1
33	RQ	68	ILE	2.1
28	RH	74	ASN	2.1
1	QA	1236	A	2.0
1	XA	915	A	2.0
12	XL	16	GLU	2.1
1	QA	377	G	2.0
1	QA	1368	G	2.0
1	QA	1370	G	2.0
1	XA	310	G	2.0
1	XA	1523	G	2.0
19	XS	2	PRO	2.0
12	QL	101	VAL	2.0
33	RQ	35	VAL	2.0
33	RQ	37	LEU	2.0

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Mol	Chain	Res	Type	RSRZ
1	XA	62	U	2.0
19	QS	40	ILE	2.0
14	QN	22	THR	2.0
18	XR	42	ARG	2.0
55	QY	33	U	2.0
4	QD	140	VAL	2.0
22	RA	2126	A	2.0
23	RB	89(A)	A	2.0
1	XA	309	G	2.0
1	XA	769	G	2.0
1	QA	330	C	2.0
10	QJ	53	PRO	2.0
14	QN	60	SER	2.0
22	RA	902	C	2.0
34	YR	1	MET	2.0
50	Y7	47	ARG	2.0
28	RH	33	LEU	2.0
28	RH	116	GLU	2.0
7	QG	10	ARG	2.0
1	XA	958	A	2.0
22	YA	1637	A	2.0
44	Y1	39	LYS	2.0
4	QD	117	ALA	2.0
42	RZ	176	PRO	2.0
43	R0	53	MET	2.0
17	QQ	9	VAL	2.0
29	RI	18	VAL	2.0
31	YO	83	ALA	2.0
44	Y1	13	ILE	2.0
2	QB	149	LEU	2.0
3	QC	64	VAL	2.0
12	XL	96	VAL	2.0
24	RD	5	LYS	2.0
28	RH	131	VAL	2.0
27	RG	80	PHE	2.0
28	RH	168	PRO	2.0
35	RS	57	LYS	2.0
1	XA	976	G	2.0
16	XP	37	GLY	2.0
22	RA	832	G	2.0
22	RA	2183	C	2.0
2	QB	118	LEU	2.0

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Mol	Chain	Res	Type	RSRZ
13	XM	90	LEU	2.0
16	XP	32	TYR	2.0
35	YS	11	LYS	2.0
16	XP	30	GLY	2.0
32	YP	65	ARG	2.0
49	Y6	24	GLU	2.0

6.2 Non-standard residues in protein, DNA, RNA chains [i](#)

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. The B-factors column lists the minimum, median, 95th 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	RSCC	RSR	B-factors(Å ²)	Q<0.9
56	PPU	Z6	76	37/38	0.96	0.40	37,37,37,37	0
56	PPU	Z8	76	37/38	0.96	0.41	30,30,30,30	0

6.3 Carbohydrates [i](#)

There are no carbohydrates in this entry.

6.4 Ligands [i](#)

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. The B-factors column lists the minimum, median, 95th 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	RSCC	RSR	B-factors(Å ²)	Q<0.9
58	MG	RA	3227	1/1	0.32	0.47	60,60,60,60	0
58	MG	RA	3212	1/1	0.57	0.75	73,73,73,73	0
58	MG	XM	201	1/1	0.58	0.35	98,98,98,98	0
58	MG	RA	3221	1/1	0.60	0.23	30,30,30,30	0
58	MG	QA	1667	1/1	0.66	0.24	35,35,35,35	0
58	MG	YA	3214	1/1	0.66	0.68	50,50,50,50	0
58	MG	YA	3170	1/1	0.67	0.33	33,33,33,33	0
58	MG	RA	3157	1/1	0.67	0.38	37,37,37,37	0
58	MG	RA	3234	1/1	0.68	0.33	69,69,69,69	0
58	MG	YA	3205	1/1	0.70	0.37	62,62,62,62	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
58	MG	RA	3204	1/1	0.71	0.24	50,50,50,50	0
58	MG	RA	3209	1/1	0.73	0.25	47,47,47,47	0
58	MG	RA	3182	1/1	0.73	0.39	22,22,22,22	0
58	MG	RA	3144	1/1	0.73	0.33	32,32,32,32	0
58	MG	QA	1621	1/1	0.73	0.21	38,38,38,38	0
58	MG	RA	3225	1/1	0.74	0.39	33,33,33,33	0
58	MG	YA	3263	1/1	0.74	0.26	40,40,40,40	0
58	MG	YA	3174	1/1	0.75	0.12	10,10,10,10	0
58	MG	RA	3143	1/1	0.76	0.14	5,5,5,5	0
58	MG	RA	3002	1/1	0.76	0.46	30,30,30,30	0
58	MG	YA	3182	1/1	0.76	0.24	3,3,3,3	0
58	MG	RA	3138	1/1	0.76	0.28	38,38,38,38	0
58	MG	YA	3169	1/1	0.76	0.15	16,16,16,16	0
58	MG	QA	1604	1/1	0.76	0.25	5,5,5,5	0
58	MG	XA	1679	1/1	0.77	0.18	18,18,18,18	0
58	MG	RA	3067	1/1	0.77	0.94	74,74,74,74	0
58	MG	RA	3013	1/1	0.77	0.27	29,29,29,29	0
58	MG	RA	3171	1/1	0.77	0.29	31,31,31,31	0
58	MG	YA	3144	1/1	0.77	0.15	6,6,6,6	0
58	MG	YA	3126	1/1	0.78	0.15	0,0,0,0	0
58	MG	YA	3130	1/1	0.78	0.25	21,21,21,21	0
58	MG	RA	3164	1/1	0.78	0.30	45,45,45,45	0
58	MG	YA	3203	1/1	0.78	0.18	18,18,18,18	0
58	MG	RA	3196	1/1	0.78	0.26	63,63,63,63	0
58	MG	RA	3247	1/1	0.78	0.30	9,9,9,9	0
58	MG	YA	3254	1/1	0.79	0.29	16,16,16,16	0
58	MG	RA	3233	1/1	0.79	0.22	42,42,42,42	0
58	MG	Y0	101	1/1	0.79	0.42	74,74,74,74	0
58	MG	XA	1650	1/1	0.79	0.21	14,14,14,14	0
58	MG	XA	1680	1/1	0.79	0.31	45,45,45,45	0
58	MG	YA	3018	1/1	0.79	0.77	74,74,74,74	0
58	MG	YA	3116	1/1	0.80	0.22	14,14,14,14	0
58	MG	RA	3126	1/1	0.80	0.22	16,16,16,16	0
58	MG	YA	3222	1/1	0.81	0.19	13,13,13,13	0
58	MG	YA	3179	1/1	0.81	0.23	26,26,26,26	0
58	MG	RA	3232	1/1	0.81	0.11	15,15,15,15	0
58	MG	RA	3229	1/1	0.81	0.24	23,23,23,23	0
58	MG	RA	3006	1/1	0.81	0.41	10,10,10,10	0
58	MG	RA	3056	1/1	0.81	0.54	74,74,74,74	0
58	MG	QA	1603	1/1	0.81	0.23	11,11,11,11	0
58	MG	YA	3164	1/1	0.81	0.39	44,44,44,44	0
58	MG	YA	3228	1/1	0.81	0.14	9,9,9,9	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
58	MG	XA	1635	1/1	0.82	0.17	26,26,26,26	0
58	MG	QA	1677	1/1	0.83	0.19	47,47,47,47	0
58	MG	YA	3132	1/1	0.83	0.17	7,7,7,7	0
58	MG	RA	3201	1/1	0.83	0.25	34,34,34,34	0
58	MG	YA	3080	1/1	0.83	0.56	74,74,74,74	0
58	MG	XA	1632	1/1	0.83	0.14	9,9,9,9	0
58	MG	XA	1667	1/1	0.83	0.21	34,34,34,34	0
58	MG	YA	3165	1/1	0.83	0.22	1,1,1,1	0
58	MG	RA	3004	1/1	0.83	0.43	40,40,40,40	0
58	MG	YA	3236	1/1	0.83	0.22	18,18,18,18	0
58	MG	RA	3105	1/1	0.83	0.15	14,14,14,14	0
58	MG	YA	3151	1/1	0.83	0.21	3,3,3,3	0
58	MG	YA	3250	1/1	0.84	0.33	15,15,15,15	0
58	MG	RA	3203	1/1	0.84	0.18	15,15,15,15	0
58	MG	XA	1630	1/1	0.84	0.16	15,15,15,15	0
58	MG	YA	3259	1/1	0.84	0.28	5,5,5,5	0
58	MG	YA	3233	1/1	0.84	0.22	34,34,34,34	0
58	MG	YA	3218	1/1	0.84	0.82	59,59,59,59	0
58	MG	RA	3183	1/1	0.84	0.29	11,11,11,11	0
58	MG	YA	3133	1/1	0.84	0.25	32,32,32,32	0
58	MG	YA	3155	1/1	0.84	0.25	45,45,45,45	0
58	MG	XA	1681	1/1	0.84	0.20	31,31,31,31	0
58	MG	RA	3161	1/1	0.85	0.23	10,10,10,10	0
58	MG	RA	3220	1/1	0.85	0.15	13,13,13,13	0
58	MG	YD	301	1/1	0.85	0.46	74,74,74,74	0
58	MG	YA	3246	1/1	0.85	0.22	0,0,0,0	0
58	MG	XA	1602	1/1	0.85	0.23	15,15,15,15	0
58	MG	YA	3249	1/1	0.85	0.33	20,20,20,20	0
58	MG	YA	3099	1/1	0.85	0.58	74,74,74,74	0
58	MG	YA	3207	1/1	0.85	0.34	55,55,55,55	0
58	MG	RA	3228	1/1	0.85	0.16	13,13,13,13	0
58	MG	YA	3234	1/1	0.85	0.21	17,17,17,17	0
58	MG	RA	3005	1/1	0.86	0.22	24,24,24,24	0
58	MG	XA	1651	1/1	0.86	0.28	33,33,33,33	0
58	MG	YA	3183	1/1	0.86	0.12	19,19,19,19	0
58	MG	RA	3177	1/1	0.86	0.35	15,15,15,15	0
58	MG	XA	1658	1/1	0.86	0.14	3,3,3,3	0
58	MG	RA	3130	1/1	0.86	0.20	15,15,15,15	0
58	MG	XA	1656	1/1	0.86	0.20	17,17,17,17	0
58	MG	XA	1628	1/1	0.86	0.14	18,18,18,18	0
58	MG	YA	3105	1/1	0.86	0.19	19,19,19,19	0
58	MG	QA	1672	1/1	0.86	0.32	19,19,19,19	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
58	MG	YA	3248	1/1	0.86	0.20	8,8,8,8	0
58	MG	RA	3074	1/1	0.86	0.20	6,6,6,6	0
58	MG	RA	3205	1/1	0.86	0.46	17,17,17,17	0
58	MG	YA	3162	1/1	0.86	0.35	11,11,11,11	0
58	MG	YA	3118	1/1	0.86	0.35	8,8,8,8	0
58	MG	YA	3014	1/1	0.87	0.46	74,74,74,74	0
58	MG	XA	1646	1/1	0.87	0.14	21,21,21,21	0
58	MG	YA	3191	1/1	0.87	0.28	9,9,9,9	0
58	MG	YA	3217	1/1	0.87	0.13	18,18,18,18	0
58	MG	RA	3243	1/1	0.87	0.26	1,1,1,1	0
58	MG	QA	1675	1/1	0.87	0.26	32,32,32,32	0
58	MG	QA	1671	1/1	0.87	0.16	6,6,6,6	0
58	MG	RA	3159	1/1	0.87	0.12	23,23,23,23	0
58	MG	RA	3188	1/1	0.87	0.48	48,48,48,48	0
58	MG	QA	1645	1/1	0.87	0.29	4,4,4,4	0
58	MG	YA	3245	1/1	0.87	0.18	33,33,33,33	0
58	MG	YA	3120	1/1	0.87	0.29	46,46,46,46	0
58	MG	QA	1664	1/1	0.87	0.16	56,56,56,56	0
58	MG	RA	3199	1/1	0.87	0.78	63,63,63,63	0
58	MG	YA	3208	1/1	0.87	0.41	35,35,35,35	0
58	MG	XA	1672	1/1	0.87	0.19	16,16,16,16	0
58	MG	QA	1653	1/1	0.87	0.17	0,0,0,0	0
58	MG	YA	3181	1/1	0.87	0.26	0,0,0,0	0
58	MG	YA	3184	1/1	0.87	0.20	23,23,23,23	0
58	MG	YA	3216	1/1	0.87	0.34	55,55,55,55	0
58	MG	YA	3145	1/1	0.87	0.20	20,20,20,20	0
58	MG	RA	3158	1/1	0.87	0.22	15,15,15,15	0
58	MG	YA	3244	1/1	0.88	0.25	0,0,0,0	0
58	MG	YQ	201	1/1	0.88	0.11	90,90,90,90	0
58	MG	RA	3216	1/1	0.88	0.28	2,2,2,2	0
58	MG	YA	3187	1/1	0.88	0.29	41,41,41,41	0
58	MG	XA	1663	1/1	0.88	0.21	32,32,32,32	0
58	MG	YA	3102	1/1	0.88	0.10	8,8,8,8	0
58	MG	YA	3156	1/1	0.88	0.57	29,29,29,29	0
58	MG	YB	202	1/1	0.88	0.34	19,19,19,19	0
58	MG	RA	3235	1/1	0.88	0.47	74,74,74,74	0
58	MG	XA	1636	1/1	0.88	0.18	8,8,8,8	0
58	MG	YA	3223	1/1	0.88	0.21	34,34,34,34	0
58	MG	QA	1674	1/1	0.88	0.18	8,8,8,8	0
58	MG	RA	3193	1/1	0.88	0.23	47,47,47,47	0
58	MG	YA	3200	1/1	0.88	0.15	6,6,6,6	0
58	MG	YA	3013	1/1	0.88	0.32	3,3,3,3	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
58	MG	RA	3172	1/1	0.88	0.24	42,42,42,42	0
58	MG	YA	3247	1/1	0.88	0.49	34,34,34,34	0
58	MG	XB	301	1/1	0.88	0.17	41,41,41,41	0
58	MG	XA	1682	1/1	0.88	0.20	35,35,35,35	0
58	MG	YA	3041	1/1	0.88	0.56	74,74,74,74	0
58	MG	XA	1621	1/1	0.89	0.10	19,19,19,19	0
58	MG	RA	3214	1/1	0.89	0.26	24,24,24,24	0
58	MG	RA	3154	1/1	0.89	0.20	59,59,59,59	0
58	MG	YA	3127	1/1	0.89	0.30	23,23,23,23	0
58	MG	QA	1660	1/1	0.89	0.10	36,36,36,36	0
58	MG	YA	3075	1/1	0.89	0.15	12,12,12,12	0
58	MG	RA	3124	1/1	0.89	0.16	2,2,2,2	0
58	MG	RA	3073	1/1	0.89	0.21	10,10,10,10	0
58	MG	RA	3014	1/1	0.89	0.19	28,28,28,28	0
58	MG	YA	3262	1/1	0.89	0.23	26,26,26,26	0
58	MG	RA	3120	1/1	0.89	0.18	4,4,4,4	0
58	MG	RA	3223	1/1	0.89	0.32	54,54,54,54	0
58	MG	YA	3199	1/1	0.89	0.25	12,12,12,12	0
58	MG	YA	3163	1/1	0.89	0.29	21,21,21,21	0
58	MG	YB	201	1/1	0.89	0.25	33,33,33,33	0
58	MG	XA	1639	1/1	0.89	0.21	45,45,45,45	0
58	MG	RA	3202	1/1	0.89	0.30	0,0,0,0	0
58	MG	RA	3207	1/1	0.89	0.20	7,7,7,7	0
58	MG	YA	3150	1/1	0.89	0.30	16,16,16,16	0
58	MG	YA	3226	1/1	0.89	0.14	11,11,11,11	0
58	MG	RF	301	1/1	0.89	0.22	13,13,13,13	0
58	MG	QA	1640	1/1	0.89	0.27	13,13,13,13	0
58	MG	YA	3256	1/1	0.89	0.60	74,74,74,74	0
58	MG	RA	3148	1/1	0.89	0.39	47,47,47,47	0
58	MG	YA	3173	1/1	0.89	0.25	15,15,15,15	0
58	MG	QA	1632	1/1	0.89	0.17	42,42,42,42	0
58	MG	QA	1643	1/1	0.89	0.23	21,21,21,21	0
58	MG	YD	302	1/1	0.89	0.21	5,5,5,5	0
58	MG	XA	1676	1/1	0.89	0.34	19,19,19,19	0
58	MG	YA	3081	1/1	0.90	0.29	10,10,10,10	0
58	MG	YA	3012	1/1	0.90	0.29	10,10,10,10	0
58	MG	XA	1617	1/1	0.90	0.36	74,74,74,74	0
58	MG	RA	3094	1/1	0.90	0.28	16,16,16,16	0
58	MG	QA	1658	1/1	0.90	0.16	39,39,39,39	0
58	MG	YA	3197	1/1	0.90	1.19	42,42,42,42	0
58	MG	XA	1607	1/1	0.90	0.28	7,7,7,7	0
58	MG	YA	3072	1/1	0.90	0.21	22,22,22,22	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
58	MG	QA	1668	1/1	0.90	0.17	0,0,0,0	0
58	MG	XA	1610	1/1	0.90	0.21	6,6,6,6	0
58	MG	RA	3191	1/1	0.90	0.17	46,46,46,46	0
58	MG	YA	3158	1/1	0.90	0.36	21,21,21,21	0
58	MG	RA	3242	1/1	0.90	0.32	13,13,13,13	0
58	MG	RA	3017	1/1	0.90	0.35	18,18,18,18	0
58	MG	RA	3136	1/1	0.90	0.20	5,5,5,5	0
58	MG	YA	3135	1/1	0.90	0.22	6,6,6,6	0
58	MG	YA	3235	1/1	0.90	0.21	26,26,26,26	0
58	MG	XA	1665	1/1	0.90	0.15	33,33,33,33	0
58	MG	YA	3194	1/1	0.90	0.26	36,36,36,36	0
58	MG	YA	3176	1/1	0.90	0.13	45,45,45,45	0
58	MG	XA	1642	1/1	0.90	0.16	47,47,47,47	0
58	MG	YA	3210	1/1	0.90	0.20	17,17,17,17	0
58	MG	RA	3226	1/1	0.90	0.32	1,1,1,1	0
58	MG	RA	3238	1/1	0.90	0.24	32,32,32,32	0
58	MG	XV	102	1/1	0.90	0.18	2,2,2,2	0
58	MG	RA	3068	1/1	0.90	0.25	13,13,13,13	0
58	MG	RA	3088	1/1	0.90	0.16	7,7,7,7	0
58	MG	RA	3198	1/1	0.90	0.19	26,26,26,26	0
58	MG	YA	3161	1/1	0.90	0.26	23,23,23,23	0
58	MG	RA	3215	1/1	0.90	0.09	13,13,13,13	0
58	MG	XA	1604	1/1	0.90	0.29	9,9,9,9	0
58	MG	YA	3239	1/1	0.90	0.17	41,41,41,41	0
58	MG	RA	3010	1/1	0.91	0.47	14,14,14,14	0
58	MG	XA	1609	1/1	0.91	0.09	51,51,51,51	0
58	MG	YA	3219	1/1	0.91	0.42	22,22,22,22	0
58	MG	RA	3156	1/1	0.91	0.17	9,9,9,9	0
58	MG	YA	3142	1/1	0.91	0.61	31,31,31,31	0
58	MG	RA	3208	1/1	0.91	0.16	30,30,30,30	0
58	MG	QF	201	1/1	0.91	0.25	36,36,36,36	0
58	MG	YA	3056	1/1	0.91	0.22	5,5,5,5	0
58	MG	XA	1620	1/1	0.91	0.33	15,15,15,15	0
58	MG	YA	3036	1/1	0.91	0.28	11,11,11,11	0
58	MG	RA	3241	1/1	0.91	0.13	8,8,8,8	0
58	MG	YA	3090	1/1	0.91	0.27	26,26,26,26	0
58	MG	YA	3112	1/1	0.91	0.17	13,13,13,13	0
58	MG	YA	3251	1/1	0.91	0.57	10,10,10,10	0
58	MG	YA	3257	1/1	0.91	0.26	14,14,14,14	0
58	MG	RA	3155	1/1	0.91	0.16	54,54,54,54	0
58	MG	YA	3011	1/1	0.91	0.20	9,9,9,9	0
58	MG	YA	3230	1/1	0.91	0.15	42,42,42,42	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
58	MG	YA	3054	1/1	0.91	0.26	14,14,14,14	0
58	MG	QA	1673	1/1	0.91	0.24	9,9,9,9	0
58	MG	QA	1602	1/1	0.91	0.21	6,6,6,6	0
58	MG	XA	1655	1/1	0.91	0.29	68,68,68,68	0
58	MG	YA	3071	1/1	0.91	0.21	1,1,1,1	0
58	MG	RA	3012	1/1	0.91	0.40	31,31,31,31	0
58	MG	RA	3101	1/1	0.91	0.18	18,18,18,18	0
58	MG	RA	3072	1/1	0.91	0.29	18,18,18,18	0
58	MG	XA	1670	1/1	0.91	0.19	27,27,27,27	0
58	MG	QA	1627	1/1	0.91	0.18	30,30,30,30	0
58	MG	RA	3051	1/1	0.91	0.31	1,1,1,1	0
58	MG	YA	3264	1/1	0.91	0.35	5,5,5,5	0
58	MG	YA	3028	1/1	0.91	0.19	15,15,15,15	0
58	MG	YA	3137	1/1	0.91	0.11	10,10,10,10	0
58	MG	YA	3035	1/1	0.91	0.33	12,12,12,12	0
58	MG	RA	3237	1/1	0.91	0.38	6,6,6,6	0
58	MG	RA	3146	1/1	0.91	0.16	25,25,25,25	0
58	MG	RA	3135	1/1	0.91	0.13	12,12,12,12	0
58	MG	YA	3051	1/1	0.92	0.25	13,13,13,13	0
58	MG	QA	1618	1/1	0.92	0.09	17,17,17,17	0
58	MG	RA	3218	1/1	0.92	0.12	17,17,17,17	0
58	MG	YA	3206	1/1	0.92	0.27	52,52,52,52	0
58	MG	RE	301	1/1	0.92	0.20	9,9,9,9	0
58	MG	XA	1624	1/1	0.92	0.10	22,22,22,22	0
58	MG	RA	3063	1/1	0.92	0.24	19,19,19,19	0
58	MG	RA	3184	1/1	0.92	0.35	23,23,23,23	0
58	MG	RA	3162	1/1	0.92	0.52	18,18,18,18	0
58	MG	RA	3003	1/1	0.92	0.18	4,4,4,4	0
58	MG	YA	3115	1/1	0.92	0.22	17,17,17,17	0
58	MG	XA	1675	1/1	0.92	0.32	14,14,14,14	0
58	MG	YA	3188	1/1	0.92	0.13	13,13,13,13	0
58	MG	RA	3140	1/1	0.92	0.32	34,34,34,34	0
58	MG	RA	3224	1/1	0.92	0.83	142,142,142,142	0
58	MG	YA	3190	1/1	0.92	0.15	8,8,8,8	0
58	MG	YA	3139	1/1	0.92	0.15	8,8,8,8	0
58	MG	QA	1647	1/1	0.92	0.32	38,38,38,38	0
58	MG	RA	3181	1/1	0.92	0.33	21,21,21,21	0
58	MG	QA	1617	1/1	0.92	0.18	46,46,46,46	0
58	MG	YA	3160	1/1	0.92	0.14	16,16,16,16	0
58	MG	QA	1626	1/1	0.92	0.11	17,17,17,17	0
58	MG	YA	3093	1/1	0.92	0.27	10,10,10,10	0
58	MG	XA	1677	1/1	0.92	0.16	2,2,2,2	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
58	MG	RA	3092	1/1	0.92	0.32	0,0,0,0	0
58	MG	YA	3171	1/1	0.92	0.22	22,22,22,22	0
58	MG	YA	3255	1/1	0.92	0.38	12,12,12,12	0
57	PAR	QA	1601	42/42	0.92	0.35	42,42,42,42	0
58	MG	XA	1647	1/1	0.92	0.12	22,22,22,22	0
58	MG	QA	1612	1/1	0.92	0.29	15,15,15,15	0
58	MG	YA	3096	1/1	0.92	0.20	6,6,6,6	0
58	MG	YA	3152	1/1	0.92	0.24	27,27,27,27	0
58	MG	RA	3104	1/1	0.92	0.18	11,11,11,11	0
58	MG	QA	1616	1/1	0.92	0.15	52,52,52,52	0
58	MG	RA	3031	1/1	0.92	0.36	9,9,9,9	0
58	MG	YA	3140	1/1	0.92	0.34	8,8,8,8	0
58	MG	RA	3160	1/1	0.92	0.19	19,19,19,19	0
58	MG	RA	3033	1/1	0.92	0.37	6,6,6,6	0
58	MG	RA	3141	1/1	0.92	0.59	40,40,40,40	0
58	MG	XA	1637	1/1	0.92	0.16	14,14,14,14	0
58	MG	RA	3121	1/1	0.92	0.17	36,36,36,36	0
58	MG	RA	3001	1/1	0.92	0.27	16,16,16,16	0
58	MG	RA	3180	1/1	0.92	0.24	17,17,17,17	0
58	MG	YP	202	1/1	0.92	0.10	1,1,1,1	0
58	MG	RA	3129	1/1	0.92	0.23	21,21,21,21	0
58	MG	QA	1655	1/1	0.92	0.21	14,14,14,14	0
58	MG	XA	1611	1/1	0.92	0.15	11,11,11,11	0
58	MG	RA	3106	1/1	0.93	0.14	6,6,6,6	0
58	MG	YA	3040	1/1	0.93	0.17	19,19,19,19	0
58	MG	QA	1676	1/1	0.93	0.14	13,13,13,13	0
58	MG	RA	3173	1/1	0.93	0.28	35,35,35,35	0
58	MG	XA	1641	1/1	0.93	0.24	11,11,11,11	0
58	MG	YA	3231	1/1	0.93	0.20	34,34,34,34	0
58	MG	RA	3086	1/1	0.93	0.22	22,22,22,22	0
58	MG	YA	3049	1/1	0.93	0.39	74,74,74,74	0
58	MG	XA	1634	1/1	0.93	0.17	7,7,7,7	0
58	MG	R5	101	1/1	0.93	0.32	11,11,11,11	0
58	MG	YA	3153	1/1	0.93	0.11	14,14,14,14	0
58	MG	RA	3231	1/1	0.93	0.17	16,16,16,16	0
58	MG	YA	3243	1/1	0.93	0.21	13,13,13,13	0
58	MG	XA	1678	1/1	0.93	0.23	2,2,2,2	0
58	MG	XA	1664	1/1	0.93	0.19	22,22,22,22	0
58	MG	XA	1613	1/1	0.93	0.12	8,8,8,8	0
58	MG	QA	1622	1/1	0.93	0.09	12,12,12,12	0
58	MG	RA	3036	1/1	0.93	0.48	18,18,18,18	0
58	MG	YA	3146	1/1	0.93	0.23	40,40,40,40	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
58	MG	XA	1619	1/1	0.93	0.24	5,5,5,5	0
58	MG	YA	3172	1/1	0.93	0.37	40,40,40,40	0
58	MG	RA	3095	1/1	0.93	0.25	18,18,18,18	0
58	MG	RA	3062	1/1	0.93	0.36	21,21,21,21	0
58	MG	YA	3195	1/1	0.93	0.19	5,5,5,5	0
58	MG	YA	3154	1/1	0.93	0.44	11,11,11,11	0
58	MG	YA	3237	1/1	0.93	0.32	36,36,36,36	0
58	MG	YA	3060	1/1	0.93	0.24	8,8,8,8	0
58	MG	RA	3075	1/1	0.93	0.14	9,9,9,9	0
58	MG	XA	1640	1/1	0.93	0.26	27,27,27,27	0
58	MG	YA	3055	1/1	0.93	0.28	6,6,6,6	0
57	PAR	XA	1601	42/42	0.93	0.30	38,38,38,38	0
58	MG	RA	3185	1/1	0.93	0.22	16,16,16,16	0
58	MG	RA	3125	1/1	0.93	0.30	19,19,19,19	0
58	MG	RA	3076	1/1	0.93	0.15	7,7,7,7	0
58	MG	YA	3078	1/1	0.93	0.17	9,9,9,9	0
58	MG	QA	1670	1/1	0.93	0.34	5,5,5,5	0
58	MG	R0	101	1/1	0.93	0.09	2,2,2,2	0
58	MG	YA	3159	1/1	0.93	0.15	12,12,12,12	0
58	MG	YA	3141	1/1	0.93	0.13	19,19,19,19	0
58	MG	YA	3058	1/1	0.93	0.17	20,20,20,20	0
58	MG	RA	3142	1/1	0.93	0.38	20,20,20,20	0
58	MG	YA	3227	1/1	0.93	0.40	39,39,39,39	0
58	MG	YA	3002	1/1	0.94	0.22	0,0,0,0	0
58	MG	QA	1642	1/1	0.94	0.18	38,38,38,38	0
58	MG	RA	3186	1/1	0.94	0.28	17,17,17,17	0
58	MG	RA	3022	1/1	0.94	0.20	24,24,24,24	0
58	MG	XA	1626	1/1	0.94	0.13	15,15,15,15	0
58	MG	YA	3198	1/1	0.94	0.27	18,18,18,18	0
58	MG	YA	3074	1/1	0.94	0.12	1,1,1,1	0
58	MG	RA	3222	1/1	0.94	0.12	2,2,2,2	0
58	MG	YA	3220	1/1	0.94	0.16	1,1,1,1	0
58	MG	YA	3192	1/1	0.94	0.30	21,21,21,21	0
58	MG	QM	201	1/1	0.94	0.06	51,51,51,51	0
58	MG	YA	3024	1/1	0.94	0.24	10,10,10,10	0
58	MG	YA	3032	1/1	0.94	0.22	1,1,1,1	0
58	MG	RA	3127	1/1	0.94	0.16	22,22,22,22	0
58	MG	RA	3187	1/1	0.94	0.21	42,42,42,42	0
58	MG	YA	3215	1/1	0.94	0.13	42,42,42,42	0
58	MG	YA	3070	1/1	0.94	0.20	1,1,1,1	0
58	MG	QA	1636	1/1	0.94	0.18	1,1,1,1	0
58	MG	XA	1671	1/1	0.94	0.38	33,33,33,33	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
58	MG	RA	3230	1/1	0.94	0.20	41,41,41,41	0
58	MG	XA	1631	1/1	0.94	0.21	4,4,4,4	0
58	MG	RA	3115	1/1	0.94	0.26	21,21,21,21	0
58	MG	YA	3242	1/1	0.94	0.14	9,9,9,9	0
58	MG	RA	3149	1/1	0.94	0.25	4,4,4,4	0
58	MG	YA	3001	1/1	0.94	0.20	23,23,23,23	0
58	MG	YA	3046	1/1	0.94	0.50	74,74,74,74	0
58	MG	QA	1666	1/1	0.94	0.12	68,68,68,68	0
58	MG	RA	3163	1/1	0.94	0.26	34,34,34,34	0
58	MG	YA	3119	1/1	0.94	0.24	9,9,9,9	0
58	MG	RA	3178	1/1	0.94	0.13	25,25,25,25	0
58	MG	YA	3193	1/1	0.94	0.08	14,14,14,14	0
58	MG	YA	3108	1/1	0.94	0.30	7,7,7,7	0
58	MG	XA	1627	1/1	0.94	0.17	12,12,12,12	0
58	MG	YA	3020	1/1	0.94	0.41	8,8,8,8	0
58	MG	RA	3147	1/1	0.94	0.37	32,32,32,32	0
58	MG	YA	3260	1/1	0.94	0.71	74,74,74,74	0
58	MG	RD	301	1/1	0.94	0.33	12,12,12,12	0
58	MG	YA	3211	1/1	0.94	0.50	55,55,55,55	0
58	MG	RA	3122	1/1	0.94	0.15	5,5,5,5	0
58	MG	YA	3134	1/1	0.94	0.13	19,19,19,19	0
58	MG	QA	1641	1/1	0.94	0.14	43,43,43,43	0
58	MG	YA	3031	1/1	0.94	0.18	5,5,5,5	0
58	MG	XA	1661	1/1	0.94	0.09	2,2,2,2	0
58	MG	RA	3245	1/1	0.94	0.36	7,7,7,7	0
58	MG	RA	3190	1/1	0.94	0.07	40,40,40,40	0
58	MG	YA	3178	1/1	0.94	0.26	17,17,17,17	0
58	MG	QA	1665	1/1	0.94	0.09	37,37,37,37	0
58	MG	YA	3106	1/1	0.94	0.15	16,16,16,16	0
58	MG	YA	3053	1/1	0.94	0.22	8,8,8,8	0
58	MG	YA	3136	1/1	0.94	0.17	0,0,0,0	0
58	MG	YA	3003	1/1	0.94	0.42	74,74,74,74	0
58	MG	XA	1648	1/1	0.94	0.16	19,19,19,19	0
58	MG	QA	1639	1/1	0.94	0.22	33,33,33,33	0
58	MG	YA	3103	1/1	0.94	0.25	8,8,8,8	0
58	MG	XA	1643	1/1	0.94	0.34	74,74,74,74	0
58	MG	XA	1683	1/1	0.94	0.10	10,10,10,10	0
58	MG	QA	1629	1/1	0.94	0.20	11,11,11,11	0
58	MG	QA	1635	1/1	0.94	0.39	76,76,76,76	0
58	MG	YA	3124	1/1	0.94	0.23	6,6,6,6	0
58	MG	RA	3008	1/1	0.94	0.46	6,6,6,6	0
58	MG	XA	1654	1/1	0.94	0.27	54,54,54,54	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
58	MG	YA	3252	1/1	0.94	0.36	1,1,1,1	0
58	MG	XA	1633	1/1	0.94	0.10	7,7,7,7	0
58	MG	QA	1663	1/1	0.94	0.21	19,19,19,19	0
58	MG	YA	3059	1/1	0.94	0.14	11,11,11,11	0
58	MG	RA	3107	1/1	0.94	0.17	2,2,2,2	0
58	MG	YA	3016	1/1	0.94	0.10	7,7,7,7	0
58	MG	QA	1628	1/1	0.94	0.26	10,10,10,10	0
58	MG	RA	3009	1/1	0.95	0.94	74,74,74,74	0
58	MG	YA	3121	1/1	0.95	0.11	6,6,6,6	0
58	MG	QA	1619	1/1	0.95	0.25	12,12,12,12	0
58	MG	RA	3240	1/1	0.95	0.29	5,5,5,5	0
58	MG	YA	3147	1/1	0.95	0.27	9,9,9,9	0
58	MG	RA	3090	1/1	0.95	0.20	6,6,6,6	0
58	MG	RA	3044	1/1	0.95	0.21	8,8,8,8	0
58	MG	YA	3265	1/1	0.95	0.17	24,24,24,24	0
58	MG	XA	1662	1/1	0.95	0.14	12,12,12,12	0
58	MG	YA	3047	1/1	0.95	0.31	3,3,3,3	0
58	MG	QA	1634	1/1	0.95	0.42	23,23,23,23	0
58	MG	XA	1629	1/1	0.95	0.23	4,4,4,4	0
58	MG	QA	1649	1/1	0.95	0.14	32,32,32,32	0
58	MG	RA	3195	1/1	0.95	0.14	7,7,7,7	0
58	MG	QA	1615	1/1	0.95	0.21	9,9,9,9	0
58	MG	XA	1615	1/1	0.95	0.08	19,19,19,19	0
58	MG	XA	1618	1/1	0.95	0.12	0,0,0,0	0
58	MG	RA	3108	1/1	0.95	0.10	6,6,6,6	0
58	MG	RA	3042	1/1	0.95	0.23	1,1,1,1	0
58	MG	XA	1660	1/1	0.95	0.18	22,22,22,22	0
58	MG	QA	1630	1/1	0.95	0.17	7,7,7,7	0
58	MG	XA	1603	1/1	0.95	0.11	1,1,1,1	0
58	MG	XA	1606	1/1	0.95	0.23	3,3,3,3	0
58	MG	RA	3179	1/1	0.95	0.14	4,4,4,4	0
58	MG	RA	3071	1/1	0.95	0.24	11,11,11,11	0
58	MG	QA	1662	1/1	0.95	0.12	0,0,0,0	0
58	MG	RA	3175	1/1	0.95	0.27	14,14,14,14	0
58	MG	RA	3054	1/1	0.95	0.25	18,18,18,18	0
58	MG	RA	3114	1/1	0.95	0.16	10,10,10,10	0
58	MG	RA	3043	1/1	0.95	0.27	10,10,10,10	0
58	MG	QA	1613	1/1	0.95	0.36	8,8,8,8	0
58	MG	YA	3008	1/1	0.95	0.24	8,8,8,8	0
58	MG	XA	1673	1/1	0.95	0.12	6,6,6,6	0
58	MG	RA	3027	1/1	0.95	0.21	15,15,15,15	0
58	MG	YA	3007	1/1	0.95	0.16	8,8,8,8	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
58	MG	YA	3029	1/1	0.95	0.22	12,12,12,12	0
58	MG	YA	3019	1/1	0.95	0.34	13,13,13,13	0
58	MG	RA	3165	1/1	0.95	0.23	30,30,30,30	0
58	MG	QA	1625	1/1	0.95	0.29	29,29,29,29	0
58	MG	YA	3241	1/1	0.95	0.17	18,18,18,18	0
58	MG	RB	201	1/1	0.95	0.08	16,16,16,16	0
58	MG	YA	3258	1/1	0.95	0.34	4,4,4,4	0
58	MG	YA	3057	1/1	0.95	0.34	11,11,11,11	0
58	MG	YA	3065	1/1	0.95	0.22	31,31,31,31	0
58	MG	RA	3018	1/1	0.95	0.26	5,5,5,5	0
58	MG	QA	1669	1/1	0.95	0.20	18,18,18,18	0
58	MG	QA	1646	1/1	0.95	0.16	28,28,28,28	0
58	MG	RA	3102	1/1	0.95	0.33	21,21,21,21	0
58	MG	QA	1606	1/1	0.95	0.43	10,10,10,10	0
58	MG	RA	3219	1/1	0.95	0.24	8,8,8,8	0
58	MG	QA	1624	1/1	0.95	0.12	26,26,26,26	0
58	MG	YA	3030	1/1	0.95	0.61	18,18,18,18	0
58	MG	YA	3149	1/1	0.95	0.21	16,16,16,16	0
58	MG	RA	3055	1/1	0.95	0.12	10,10,10,10	0
58	MG	RA	3019	1/1	0.95	0.11	8,8,8,8	0
58	MG	XA	1669	1/1	0.95	0.06	55,55,55,55	0
58	MG	QA	1633	1/1	0.95	0.23	15,15,15,15	0
58	MG	YA	3186	1/1	0.95	0.24	25,25,25,25	0
58	MG	YA	3084	1/1	0.95	0.15	12,12,12,12	0
58	MG	XA	1622	1/1	0.95	0.23	6,6,6,6	0
58	MG	YA	3086	1/1	0.96	0.20	3,3,3,3	0
58	MG	XA	1605	1/1	0.96	0.35	15,15,15,15	0
58	MG	YA	3048	1/1	0.96	0.15	4,4,4,4	0
58	MG	YA	3004	1/1	0.96	0.15	11,11,11,11	0
58	MG	RA	3032	1/1	0.96	0.25	14,14,14,14	0
58	MG	YA	3015	1/1	0.96	0.52	74,74,74,74	0
58	MG	QA	1610	1/1	0.96	0.22	21,21,21,21	0
58	MG	RA	3064	1/1	0.96	0.24	4,4,4,4	0
58	MG	XA	1608	1/1	0.96	0.17	1,1,1,1	0
58	MG	XA	1623	1/1	0.96	0.05	28,28,28,28	0
58	MG	YA	3026	1/1	0.96	0.26	5,5,5,5	0
58	MG	RA	3119	1/1	0.96	0.16	20,20,20,20	0
58	MG	QA	1652	1/1	0.96	0.10	13,13,13,13	0
58	MG	YA	3076	1/1	0.96	0.34	10,10,10,10	0
58	MG	YA	3113	1/1	0.96	0.22	17,17,17,17	0
58	MG	RA	3038	1/1	0.96	0.22	4,4,4,4	0
58	MG	RA	3189	1/1	0.96	0.12	14,14,14,14	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
58	MG	YA	3143	1/1	0.96	0.09	0,0,0,0	0
58	MG	RA	3109	1/1	0.96	0.20	0,0,0,0	0
58	MG	RA	3034	1/1	0.96	0.27	6,6,6,6	0
58	MG	YA	3117	1/1	0.96	0.11	28,28,28,28	0
58	MG	YA	3043	1/1	0.96	0.28	5,5,5,5	0
58	MG	YA	3022	1/1	0.96	0.26	7,7,7,7	0
58	MG	RA	3166	1/1	0.96	0.23	5,5,5,5	0
58	MG	YA	3094	1/1	0.96	0.17	12,12,12,12	0
58	MG	XA	1674	1/1	0.96	0.17	4,4,4,4	0
58	MG	RA	3041	1/1	0.96	0.26	9,9,9,9	0
58	MG	YA	3177	1/1	0.96	0.13	4,4,4,4	0
58	MG	RA	3169	1/1	0.96	0.20	13,13,13,13	0
58	MG	RA	3167	1/1	0.96	0.18	1,1,1,1	0
58	MG	RA	3206	1/1	0.96	0.14	5,5,5,5	0
58	MG	RA	3197	1/1	0.96	0.18	81,81,81,81	0
58	MG	RA	3100	1/1	0.96	0.13	0,0,0,0	0
58	MG	YA	3079	1/1	0.96	0.19	22,22,22,22	0
58	MG	RA	3097	1/1	0.96	0.21	5,5,5,5	0
58	MG	YA	3240	1/1	0.96	0.15	12,12,12,12	0
58	MG	YA	3052	1/1	0.96	0.16	12,12,12,12	0
58	MG	YA	3189	1/1	0.96	0.07	30,30,30,30	0
58	MG	RA	3217	1/1	0.96	0.09	8,8,8,8	0
58	MG	YA	3034	1/1	0.96	0.22	7,7,7,7	0
58	MG	R8	101	1/1	0.96	0.15	6,6,6,6	0
58	MG	RA	3123	1/1	0.96	0.08	10,10,10,10	0
58	MG	RA	3060	1/1	0.96	0.20	15,15,15,15	0
58	MG	XA	1659	1/1	0.96	0.12	36,36,36,36	0
58	MG	YA	3067	1/1	0.96	0.27	17,17,17,17	0
58	MG	XA	1653	1/1	0.96	0.37	42,42,42,42	0
58	MG	RA	3070	1/1	0.96	0.17	4,4,4,4	0
58	MG	RA	3213	1/1	0.96	0.13	9,9,9,9	0
58	MG	YA	3077	1/1	0.96	0.25	6,6,6,6	0
58	MG	RA	3015	1/1	0.96	0.27	0,0,0,0	0
58	MG	RA	3079	1/1	0.96	0.07	25,25,25,25	0
58	MG	RA	3168	1/1	0.96	0.19	3,3,3,3	0
58	MG	RA	3046	1/1	0.96	0.36	24,24,24,24	0
58	MG	RA	3011	1/1	0.96	0.23	0,0,0,0	0
58	MG	YA	3261	1/1	0.96	0.49	16,16,16,16	0
58	MG	RA	3045	1/1	0.96	0.15	2,2,2,2	0
58	MG	YA	3224	1/1	0.96	0.26	18,18,18,18	0
58	MG	RA	3134	1/1	0.96	0.26	17,17,17,17	0
58	MG	RA	3150	1/1	0.96	0.23	27,27,27,27	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
58	MG	RA	3153	1/1	0.96	0.12	0,0,0,0	0
58	MG	QA	1637	1/1	0.96	0.09	17,17,17,17	0
58	MG	QA	1657	1/1	0.96	0.12	19,19,19,19	0
58	MG	XA	1649	1/1	0.96	0.13	17,17,17,17	0
58	MG	QA	1644	1/1	0.96	0.11	26,26,26,26	0
58	MG	YA	3005	1/1	0.96	0.22	26,26,26,26	0
58	MG	RA	3039	1/1	0.96	0.29	7,7,7,7	0
58	MG	YA	3196	1/1	0.96	0.11	41,41,41,41	0
58	MG	RA	3137	1/1	0.96	0.25	14,14,14,14	0
58	MG	RA	3007	1/1	0.96	0.42	8,8,8,8	0
58	MG	YX	101	1/1	0.96	0.19	47,47,47,47	0
58	MG	RA	3058	1/1	0.96	0.11	5,5,5,5	0
58	MG	RA	3133	1/1	0.96	0.16	7,7,7,7	0
58	MG	XA	1666	1/1	0.96	0.52	85,85,85,85	0
58	MG	RA	3026	1/1	0.96	0.24	7,7,7,7	0
58	MG	YA	3045	1/1	0.96	0.25	5,5,5,5	0
58	MG	YA	3212	1/1	0.96	0.09	10,10,10,10	0
58	MG	RA	3089	1/1	0.96	0.16	6,6,6,6	0
58	MG	RA	3084	1/1	0.96	0.20	14,14,14,14	0
58	MG	QA	1648	1/1	0.96	0.12	43,43,43,43	0
58	MG	RA	3025	1/1	0.96	0.23	3,3,3,3	0
58	MG	RA	3081	1/1	0.96	0.39	18,18,18,18	0
58	MG	RA	3111	1/1	0.96	0.20	12,12,12,12	0
58	MG	RA	3152	1/1	0.97	0.24	14,14,14,14	0
58	MG	YA	3039	1/1	0.97	0.17	20,20,20,20	0
58	MG	XA	1638	1/1	0.97	0.15	4,4,4,4	0
58	MG	YA	3044	1/1	0.97	0.24	2,2,2,2	0
58	MG	RA	3112	1/1	0.97	0.18	7,7,7,7	0
58	MG	YA	3209	1/1	0.97	0.14	7,7,7,7	0
58	MG	RA	3085	1/1	0.97	0.23	7,7,7,7	0
58	MG	YA	3068	1/1	0.97	0.19	20,20,20,20	0
58	MG	RA	3210	1/1	0.97	0.22	8,8,8,8	0
58	MG	RA	3116	1/1	0.97	0.11	8,8,8,8	0
58	MG	YA	3038	1/1	0.97	0.33	16,16,16,16	0
58	MG	YA	3225	1/1	0.97	0.14	12,12,12,12	0
58	MG	QA	1605	1/1	0.97	0.28	6,6,6,6	0
58	MG	YA	3037	1/1	0.97	0.14	16,16,16,16	0
58	MG	YA	3085	1/1	0.97	0.25	17,17,17,17	0
58	MG	YA	3025	1/1	0.97	0.13	16,16,16,16	0
58	MG	YA	3033	1/1	0.97	0.17	12,12,12,12	0
58	MG	RA	3077	1/1	0.97	0.18	6,6,6,6	0
58	MG	RA	3145	1/1	0.97	0.17	3,3,3,3	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
58	MG	RA	3049	1/1	0.97	0.23	12,12,12,12	0
58	MG	YA	3088	1/1	0.97	0.20	6,6,6,6	0
58	MG	RA	3028	1/1	0.97	0.30	17,17,17,17	0
58	MG	RA	3023	1/1	0.97	0.23	9,9,9,9	0
58	MG	RA	3170	1/1	0.97	0.09	9,9,9,9	0
58	MG	YA	3110	1/1	0.97	0.14	4,4,4,4	0
58	MG	RA	3211	1/1	0.97	0.20	16,16,16,16	0
58	MG	RA	3192	1/1	0.97	0.24	17,17,17,17	0
58	MG	YA	3095	1/1	0.97	0.20	19,19,19,19	0
58	MG	YA	3123	1/1	0.97	0.21	1,1,1,1	0
58	MG	YA	3114	1/1	0.97	0.22	6,6,6,6	0
58	MG	YA	3109	1/1	0.97	0.08	10,10,10,10	0
58	MG	YA	3221	1/1	0.97	0.08	19,19,19,19	0
58	MG	RA	3029	1/1	0.97	0.23	2,2,2,2	0
58	MG	RA	3113	1/1	0.97	0.13	1,1,1,1	0
58	MG	RA	3053	1/1	0.97	0.10	2,2,2,2	0
58	MG	YA	3167	1/1	0.97	0.12	15,15,15,15	0
58	MG	YA	3069	1/1	0.97	0.26	12,12,12,12	0
58	MG	XA	1652	1/1	0.97	0.07	32,32,32,32	0
58	MG	RA	3083	1/1	0.97	0.22	32,32,32,32	0
58	MG	QA	1651	1/1	0.97	0.11	5,5,5,5	0
58	MG	QA	1654	1/1	0.97	0.14	12,12,12,12	0
58	MG	YA	3129	1/1	0.97	0.16	20,20,20,20	0
58	MG	R8	102	1/1	0.97	0.20	2,2,2,2	0
58	MG	YA	3202	1/1	0.97	0.21	38,38,38,38	0
58	MG	YB	203	1/1	0.97	0.14	4,4,4,4	0
58	MG	XA	1657	1/1	0.97	0.18	19,19,19,19	0
58	MG	RA	3244	1/1	0.97	0.17	0,0,0,0	0
58	MG	QA	1620	1/1	0.97	0.10	3,3,3,3	0
58	MG	RA	3246	1/1	0.97	0.17	33,33,33,33	0
58	MG	YA	3122	1/1	0.97	0.15	9,9,9,9	0
58	MG	YA	3175	1/1	0.97	0.25	14,14,14,14	0
58	MG	RA	3061	1/1	0.97	0.16	0,0,0,0	0
58	MG	YA	3125	1/1	0.97	0.14	11,11,11,11	0
58	MG	YA	3042	1/1	0.97	0.23	15,15,15,15	0
58	MG	RA	3057	1/1	0.97	0.14	4,4,4,4	0
58	MG	XA	1625	1/1	0.97	0.11	5,5,5,5	0
58	MG	RA	3103	1/1	0.97	0.28	5,5,5,5	0
58	MG	RA	3066	1/1	0.97	0.16	7,7,7,7	0
58	MG	RA	3050	1/1	0.97	0.18	9,9,9,9	0
58	MG	RA	3069	1/1	0.97	0.17	19,19,19,19	0
58	MG	XA	1616	1/1	0.97	0.18	5,5,5,5	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
58	MG	RA	3093	1/1	0.97	0.24	12,12,12,12	0
58	MG	YA	3166	1/1	0.97	0.12	11,11,11,11	0
58	MG	YA	3062	1/1	0.97	0.20	4,4,4,4	0
58	MG	RA	3059	1/1	0.97	0.23	8,8,8,8	0
58	MG	YA	3204	1/1	0.97	0.59	42,42,42,42	0
58	MG	YA	3050	1/1	0.97	0.23	5,5,5,5	0
58	MG	RA	3131	1/1	0.97	0.30	7,7,7,7	0
58	MG	XA	1645	1/1	0.97	0.18	5,5,5,5	0
58	MG	RA	3030	1/1	0.97	0.19	8,8,8,8	0
58	MG	YA	3097	1/1	0.97	0.14	11,11,11,11	0
58	MG	RA	3099	1/1	0.97	0.31	11,11,11,11	0
58	MG	RA	3132	1/1	0.97	0.20	9,9,9,9	0
58	MG	RA	3052	1/1	0.97	0.17	1,1,1,1	0
58	MG	RA	3024	1/1	0.97	0.29	11,11,11,11	0
58	MG	RA	3236	1/1	0.97	0.37	13,13,13,13	0
58	MG	RA	3176	1/1	0.97	0.06	21,21,21,21	0
58	MG	YA	3104	1/1	0.97	0.09	0,0,0,0	0
58	MG	YA	3006	1/1	0.97	0.16	26,26,26,26	0
58	MG	RA	3037	1/1	0.98	0.88	74,74,74,74	0
58	MG	RA	3128	1/1	0.98	0.11	9,9,9,9	0
58	MG	RA	3139	1/1	0.98	0.19	12,12,12,12	0
58	MG	YA	3128	1/1	0.98	0.46	6,6,6,6	0
58	MG	RA	3117	1/1	0.98	0.12	11,11,11,11	0
58	MG	QV	101	1/1	0.98	0.20	22,22,22,22	0
58	MG	YA	3017	1/1	0.98	0.14	11,11,11,11	0
58	MG	YA	3229	1/1	0.98	0.15	14,14,14,14	0
58	MG	YA	3010	1/1	0.98	0.28	15,15,15,15	0
58	MG	YA	3082	1/1	0.98	0.13	17,17,17,17	0
58	MG	YA	3100	1/1	0.98	0.23	8,8,8,8	0
58	MG	RA	3020	1/1	0.98	0.20	4,4,4,4	0
58	MG	QA	1611	1/1	0.98	0.11	1,1,1,1	0
58	MG	XA	1668	1/1	0.98	0.13	0,0,0,0	0
58	MG	YA	3092	1/1	0.98	0.14	28,28,28,28	0
58	MG	YA	3101	1/1	0.98	0.32	5,5,5,5	0
58	MG	QA	1608	1/1	0.98	0.06	4,4,4,4	0
58	MG	YA	3157	1/1	0.98	0.17	0,0,0,0	0
58	MG	RA	3239	1/1	0.98	0.23	0,0,0,0	0
58	MG	YA	3253	1/1	0.98	0.14	22,22,22,22	0
58	MG	QA	1607	1/1	0.98	0.15	22,22,22,22	0
58	MG	QA	1609	1/1	0.98	0.10	32,32,32,32	0
58	MG	YA	3083	1/1	0.98	0.25	5,5,5,5	0
58	MG	YA	3087	1/1	0.98	0.19	5,5,5,5	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
58	MG	YP	201	1/1	0.98	1.20	54,54,54,54	0
58	MG	QA	1638	1/1	0.98	0.10	14,14,14,14	0
58	MG	RA	3200	1/1	0.98	0.12	9,9,9,9	0
58	MG	QA	1650	1/1	0.98	0.17	53,53,53,53	0
58	MG	RP	202	1/1	0.98	0.43	76,76,76,76	0
58	MG	XA	1614	1/1	0.98	0.10	21,21,21,21	0
58	MG	YA	3232	1/1	0.98	0.24	35,35,35,35	0
58	MG	XA	1612	1/1	0.98	0.24	10,10,10,10	0
58	MG	RA	3091	1/1	0.98	0.28	9,9,9,9	0
58	MG	YA	3201	1/1	0.98	0.13	57,57,57,57	0
58	MG	QA	1656	1/1	0.98	0.27	44,44,44,44	0
58	MG	YA	3089	1/1	0.98	0.26	13,13,13,13	0
58	MG	QA	1661	1/1	0.98	0.16	50,50,50,50	0
58	MG	YA	3009	1/1	0.98	0.17	15,15,15,15	0
58	MG	YA	3073	1/1	0.98	0.10	4,4,4,4	0
58	MG	YA	3091	1/1	0.98	0.22	29,29,29,29	0
58	MG	RA	3082	1/1	0.98	0.18	10,10,10,10	0
58	MG	YA	3131	1/1	0.98	0.14	16,16,16,16	0
58	MG	QA	1623	1/1	0.98	0.13	46,46,46,46	0
58	MG	RB	202	1/1	0.98	0.13	29,29,29,29	0
58	MG	YA	3023	1/1	0.98	0.29	18,18,18,18	0
58	MG	RA	3118	1/1	0.98	0.24	16,16,16,16	0
58	MG	RA	3040	1/1	0.98	0.20	13,13,13,13	0
58	MG	YA	3185	1/1	0.98	0.28	22,22,22,22	0
58	MG	YA	3061	1/1	0.98	0.14	15,15,15,15	0
58	MG	RE	302	1/1	0.98	0.23	15,15,15,15	0
58	MG	YA	3066	1/1	0.98	0.31	6,6,6,6	0
58	MG	XV	101	1/1	0.98	0.12	3,3,3,3	0
58	MG	RA	3047	1/1	0.98	0.15	19,19,19,19	0
58	MG	RA	3110	1/1	0.98	0.13	19,19,19,19	0
58	MG	RA	3065	1/1	0.98	0.19	0,0,0,0	0
58	MG	RP	201	1/1	0.98	0.92	118,118,118,118	0
59	ZN	XN	101	1/1	0.98	0.12	70,70,70,70	0
58	MG	YA	3138	1/1	0.98	0.18	6,6,6,6	0
58	MG	RA	3098	1/1	0.98	0.12	10,10,10,10	0
58	MG	RA	3078	1/1	0.98	0.21	16,16,16,16	0
58	MG	YA	3107	1/1	0.98	0.17	9,9,9,9	0
58	MG	QA	1631	1/1	0.98	0.14	50,50,50,50	0
58	MG	RA	3194	1/1	0.98	0.25	0,0,0,0	0
58	MG	RA	3021	1/1	0.98	0.22	18,18,18,18	0
58	MG	YA	3064	1/1	0.98	0.14	4,4,4,4	0
58	MG	YA	3098	1/1	0.98	0.33	8,8,8,8	0

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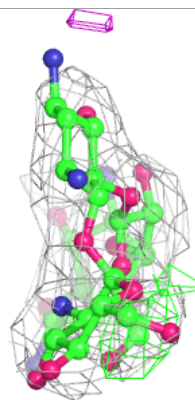
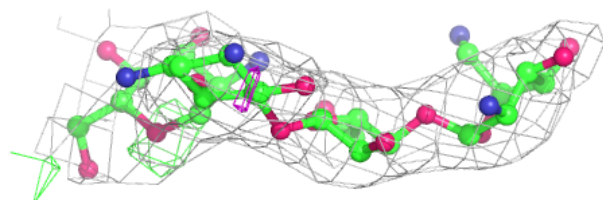
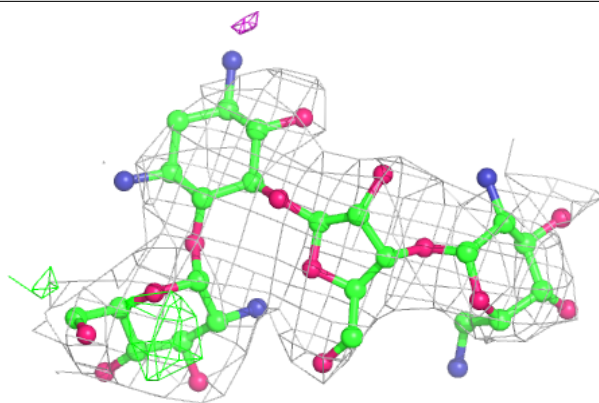
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
58	MG	Y5	101	1/1	0.98	0.26	13,13,13,13	0
58	MG	RA	3096	1/1	0.98	0.30	17,17,17,17	0
58	MG	QA	1614	1/1	0.98	0.13	2,2,2,2	0
58	MG	YA	3168	1/1	0.99	0.26	3,3,3,3	0
58	MG	RA	3080	1/1	0.99	0.25	10,10,10,10	0
58	MG	YA	3180	1/1	0.99	0.24	19,19,19,19	0
58	MG	YA	3148	1/1	0.99	0.12	15,15,15,15	0
58	MG	YA	3213	1/1	0.99	0.12	31,31,31,31	0
58	MG	YA	3238	1/1	0.99	0.27	76,76,76,76	0
58	MG	RA	3151	1/1	0.99	0.38	3,3,3,3	0
58	MG	YA	3111	1/1	0.99	0.08	26,26,26,26	0
58	MG	RA	3087	1/1	0.99	0.18	10,10,10,10	0
58	MG	RA	3174	1/1	0.99	0.06	17,17,17,17	0
58	MG	QA	1659	1/1	0.99	0.09	42,42,42,42	0
59	ZN	QN	101	1/1	0.99	0.07	86,86,86,86	0
58	MG	YA	3027	1/1	0.99	0.22	21,21,21,21	0
58	MG	RA	3035	1/1	0.99	0.11	2,2,2,2	0
58	MG	RA	3048	1/1	0.99	0.17	2,2,2,2	0
58	MG	RA	3016	1/1	0.99	0.18	8,8,8,8	0
58	MG	YA	3021	1/1	0.99	0.26	8,8,8,8	0
58	MG	XA	1644	1/1	0.99	0.13	4,4,4,4	0
58	MG	YA	3063	1/1	0.99	0.36	12,12,12,12	0
59	ZN	QD	301	1/1	1.00	0.23	27,27,27,27	0
59	ZN	XD	301	1/1	1.00	0.29	10,10,10,10	0

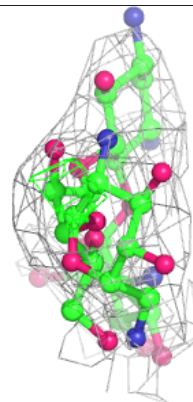
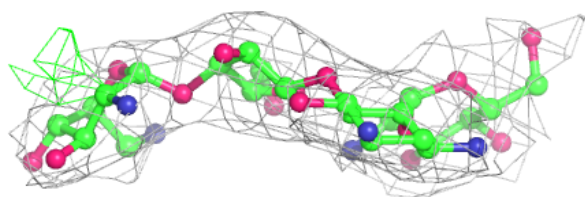
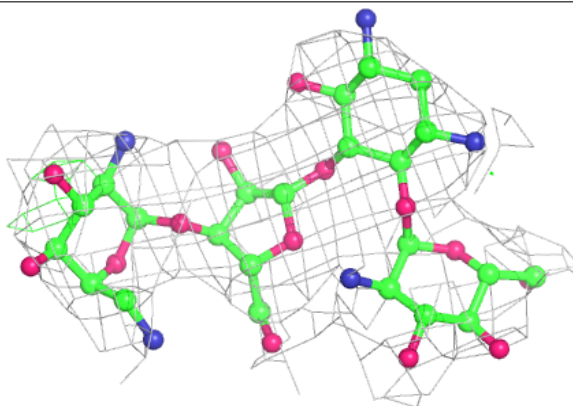
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around PAR QA 1601:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

**Electron density around PAR XA 1601:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



6.5 Other polymers [i](#)

There are no such residues in this entry.