



Full wwPDB/EMDatabank EM Map/Model Validation Report ⓘ

Feb 4, 2018 – 01:49 AM EST

PDB ID : 4UG0
EMDB ID: : EMD-2938
Title : STRUCTURE OF THE HUMAN 80S RIBOSOME
Authors : Khatter, H.; Myasnikov, A.G.; Natchiar, S.K.; Klaholz, B.P.
Deposited on : 2015-03-20
Resolution : 3.60 Å(reported)

This is a Full wwPDB/EMDatabank EM Map/Model Validation Report
for a publicly released PDB/EMDB entry.

We welcome your comments at validation@mail.wwpdb.org
A user guide is available at
<http://wwpdb.org/validation/2016/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

MolProbity : 4.02b-467
Percentile statistics : 20161228.v01 (using entries in the PDB archive December 28th 2016)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : rb-20030736

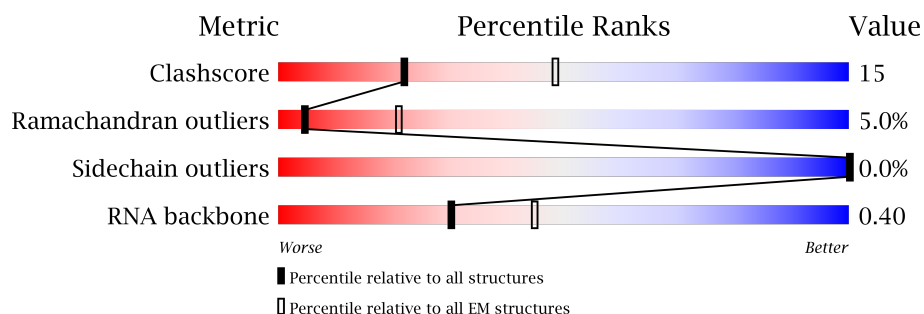
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.60 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)	EM structures (#Entries)
Clashscore	125131	1336
Ramachandran outliers	121729	1120
Sidechain outliers	121581	1026
RNA backbone	3398	335

The table below summarises the geometric issues observed across the polymeric chains. The red, orange, yellow and green segments on the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. 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 $\leq 5\%$

Mol	Chain	Length	Quality of chain
1	L5	5070	31% 30% 13% 26%
2	L7	121	57% 35% 7% .
3	L8	157	50% 37% 12% .
4	LA	257	60% 34% . .
5	LB	403	61% 36% .
6	LC	427	52% 32% . 14%
7	LD	297	66% 30% . .
8	LE	288	49% 31% . 16%


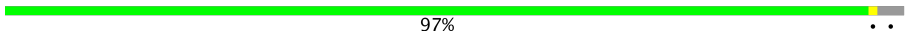
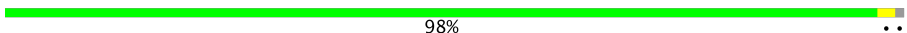



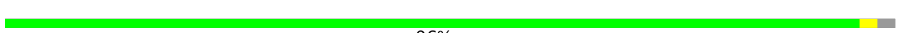








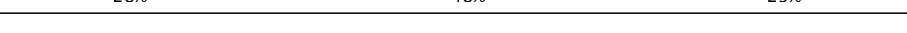









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Mol	Chain	Length	Quality of chain
9	LF	248	
10	LG	266	
11	LH	192	
12	LI	214	
13	LJ	178	
14	LL	211	
15	LM	215	
16	LN	204	
17	LO	203	
18	LP	184	
19	LQ	188	
20	LR	196	
21	LS	176	
22	LT	160	
23	LU	128	
24	LV	140	
25	LW	157	
26	LX	156	
27	LY	145	
28	LZ	136	
29	La	148	
30	Lb	159	
31	Lc	115	
32	Ld	125	
33	Le	135	










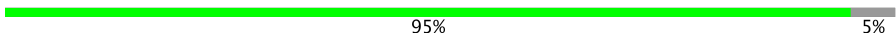

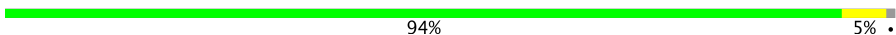
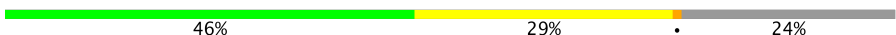







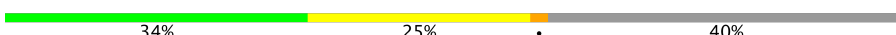
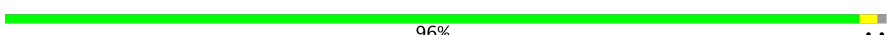

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Mol	Chain	Length	Quality of chain
34	Lf	110	
35	Lg	117	
36	Lh	123	
37	Li	105	
38	Lj	97	
39	Lk	70	
40	Ll	51	
41	Lm	128	
42	Ln	25	
43	Lo	106	
44	Lp	92	
45	Lr	137	
46	Lz	217	
47	S2	1869	
48	S6	75	
49	SA	295	
50	SB	264	
51	SD	243	
52	SE	263	
53	SF	204	
54	SH	194	
55	SI	208	
56	SK	165	
57	SL	158	
58	SP	145	

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Mol	Chain	Length	Quality of chain
59	SQ	146	
60	SR	135	
61	SS	152	
62	ST	145	
63	SU	119	
64	SV	83	
65	SX	143	
66	Sa	115	
67	Sc	69	
68	Sd	56	
69	Sf	156	
70	Sg	317	
71	SC	293	
72	SG	249	
73	SJ	194	
74	SM	132	
75	SN	151	
76	SO	151	
77	SW	130	
78	SY	133	
79	SZ	125	
80	Sb	84	
81	Se	59	

2 Entry composition

There are 83 unique types of molecules in this entry. The entry contains 218776 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 28S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	L5	3776	Total	C	N	O	P	0	0
			80184	35672	14597	26140	3775		

- Molecule 2 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	L7	120	Total	C	N	O	P	0	0
			2558	1141	456	842	119		

- Molecule 3 is a RNA chain called 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	L8	156	Total	C	N	O	P	0	0
			3314	1480	585	1094	155		

- Molecule 4 is a protein called 60S RIBOSOMAL PROTEIN L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	LA	248	Total	C	N	O	S	0	0
			1898	1189	389	314	6		

- Molecule 5 is a protein called 60S RIBOSOMAL PROTEIN L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	LB	402	Total	C	N	O	S	0	0
			3238	2060	608	556	14		

- Molecule 6 is a protein called 60S RIBOSOMAL PROTEIN L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	LC	367	Total	C	N	O	S	0	0
			2919	1835	582	488	14		

- Molecule 7 is a protein called 60S RIBOSOMAL PROTEIN L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	LD	293	Total	C	N	O	S	0	0
			2382	1507	434	427	14		

- Molecule 8 is a protein called 60S RIBOSOMAL PROTEIN L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	LE	242	Total	C	N	O	S	0	0
			1958	1257	372	325	4		

- Molecule 9 is a protein called 60S RIBOSOMAL PROTEIN L7.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	LF	225	Total	C	N	O	S	0	0
			1870	1202	358	301	9		

- Molecule 10 is a protein called 60S RIBOSOMAL PROTEIN L7A.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	LG	241	Total	C	N	O	S	0	0
			1927	1228	371	324	4		

- Molecule 11 is a protein called 60S RIBOSOMAL PROTEIN L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	LH	190	Total	C	N	O	S	0	0
			1518	956	284	272	6		

- Molecule 12 is a protein called 60S RIBOSOMAL PROTEIN L10-LIKE.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	LI	213	Total	C	N	O	S	0	0
			1711	1082	329	285	15		

- Molecule 13 is a protein called 60S RIBOSOMAL PROTEIN L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	LJ	176	Total	C	N	O	S	0	0
			1410	888	263	253	6		

- Molecule 14 is a protein called 60S RIBOSOMAL PROTEIN L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	LL	210	Total	C	N	O	S	0	0
			1701	1064	352	281	4		

- Molecule 15 is a protein called 60S RIBOSOMAL PROTEIN L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	LM	139	Total	C	N	O	S	0	0
			1138	730	218	183	7		

- Molecule 16 is a protein called 60S RIBOSOMAL PROTEIN L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	LN	203	Total	C	N	O	S	0	0
			1701	1072	359	266	4		

- Molecule 17 is a protein called 60S RIBOSOMAL PROTEIN L13A.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	LO	201	Total	C	N	O	S	0	0
			1650	1063	321	261	5		

- Molecule 18 is a protein called 60S RIBOSOMAL PROTEIN L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	LP	153	Total	C	N	O	S	0	0
			1242	776	241	216	9		

- Molecule 19 is a protein called 60S RIBOSOMAL PROTEIN L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	LQ	187	Total	C	N	O	S	0	0
			1513	944	314	250	5		

- Molecule 20 is a protein called 60S RIBOSOMAL PROTEIN L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	LR	187	Total	C	N	O	S	0	0
			1566	971	336	250	9		

- Molecule 21 is a protein called 60S RIBOSOMAL PROTEIN L18A.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	LS	175	Total	C	N	O	S	0	0
			1453	925	283	235	10		

- Molecule 22 is a protein called 60S RIBOSOMAL PROTEIN L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	LT	159	Total	C	N	O	S	0	0
			1298	823	252	217	6		

- Molecule 23 is a protein called 60S RIBOSOMAL PROTEIN L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	LU	101	Total	C	N	O	S	0	0
			825	529	144	150	2		

- Molecule 24 is a protein called 60S RIBOSOMAL PROTEIN L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	LV	131	Total	C	N	O	S	0	0
			979	618	184	172	5		

- Molecule 25 is a protein called 60S RIBOSOMAL PROTEIN L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	LW	124	Total	C	N	O	S	0	0
			1015	634	207	170	4		

- Molecule 26 is a protein called 60S RIBOSOMAL PROTEIN L23A.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	LX	120	Total	C	N	O	S	0	0
			985	630	185	169	1		

- Molecule 27 is a protein called 60S RIBOSOMAL PROTEIN L26.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	LY	134	Total	C	N	O	S	0	0
			1115	700	226	186	3		

- Molecule 28 is a protein called 60S RIBOSOMAL PROTEIN L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	LZ	135	Total	C	N	O	S	0	0
			1107	714	208	182	3		

- Molecule 29 is a protein called 60S RIBOSOMAL PROTEIN L27A.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	La	147	Total	C	N	O	S	0	0
			1162	736	237	186	3		

- Molecule 30 is a protein called 60S RIBOSOMAL PROTEIN L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	Lb	75	Total	C	N	O	S	0	0
			610	378	130	99	3		

- Molecule 31 is a protein called 60S RIBOSOMAL PROTEIN L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	Lc	98	Total	C	N	O	S	0	0
			764	485	135	138	6		

- Molecule 32 is a protein called 60S RIBOSOMAL PROTEIN L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Ld	107	Total	C	N	O	S	0	0
			888	560	171	155	2		

- Molecule 33 is a protein called 60S RIBOSOMAL PROTEIN L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Le	128	Total	C	N	O	S	0	0
			1053	667	216	165	5		

- Molecule 34 is a protein called 60S RIBOSOMAL PROTEIN L35A.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	Lf	109	Total	C	N	O	S	0	0
			876	555	174	144	3		

- Molecule 35 is a protein called 60S RIBOSOMAL PROTEIN L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	Lg	114	Total	C	N	O	S	0	0
			906	566	187	147	6		

- Molecule 36 is a protein called 60S RIBOSOMAL PROTEIN L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	Lh	122	Total	C	N	O	S	0	0
			1015	641	205	168	1		

- Molecule 37 is a protein called 60S RIBOSOMAL PROTEIN L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	Li	102	Total	C	N	O	S	0	0
			832	521	177	129	5		

- Molecule 38 is a protein called 60S RIBOSOMAL PROTEIN L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Lj	86	Total	C	N	O	S	0	0
			705	434	155	111	5		

- Molecule 39 is a protein called 60S RIBOSOMAL PROTEIN L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	Lk	69	Total	C	N	O	S	0	0
			569	366	103	99	1		

- Molecule 40 is a protein called 60S RIBOSOMAL PROTEIN L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	Ll	50	Total	C	N	O	S	0	0
			444	281	98	64	1		

- Molecule 41 is a protein called UBIQUITIN-60S RIBOSOMAL PROTEIN L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	Lm	52	Total	C	N	O	S	0	0
			429	266	90	67	6		

- Molecule 42 is a protein called 60S RIBOSOMAL PROTEIN L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	Ln	24	Total	C	N	O	S	0	0
			230	139	62	26	3		

- Molecule 43 is a protein called 60S RIBOSOMAL PROTEIN L36A.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	Lo	105	Total	C	N	O	S	0	0
			862	542	175	139	6		

- Molecule 44 is a protein called 60S RIBOSOMAL PROTEIN L37A.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	Lp	91	Total	C	N	O	S	0	0
			708	445	136	120	7		

- Molecule 45 is a protein called 60S RIBOSOMAL PROTEIN L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	Lr	125	Total	C	N	O	S	0	0
			1002	622	207	168	5		

- Molecule 46 is a protein called 60S RIBOSOMAL PROTEIN L10A.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	Lz	217	Total	C	N	O	S	0	0
			1741	1113	312	307	9		

- Molecule 47 is a RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	S2	1742	Total	C	N	O	P	0	0
			36900	16458	6595	12106	1741		

- Molecule 48 is a RNA chain called HUMAN INITIATOR MET-TRNA-I.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	S6	75	Total	C	N	O	P	0	0
			1604	717	298	515	74		

- Molecule 49 is a protein called 40S RIBOSOMAL PROTEIN SA.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	SA	222	Total	C	N	O	S	0	0
			1747	1109	306	324	8		

- Molecule 50 is a protein called 40S RIBOSOMAL PROTEIN S3A.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	SB	214	Total	C	N	O	S	0	0
			1738	1103	310	311	14		

- Molecule 51 is a protein called 40S RIBOSOMAL PROTEIN S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	SD	227	Total	C	N	O	S	0	0
			1765	1125	317	315	8		

- Molecule 52 is a protein called 40S RIBOSOMAL PROTEIN S4, X ISOFORM.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	SE	262	Total	C	N	O	S	0	0
			2076	1324	386	358	8		

- Molecule 53 is a protein called 40S RIBOSOMAL PROTEIN S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	SF	191	Total	C	N	O	S	0	0
			1509	943	286	273	7		

- Molecule 54 is a protein called 40S RIBOSOMAL PROTEIN S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	SH	189	Total	C	N	O	S	0	0
			1521	969	280	271	1		

- Molecule 55 is a protein called 40S RIBOSOMAL PROTEIN S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	SI	206	Total	C	N	O	S	0	0
			1686	1058	332	291	5		

- Molecule 56 is a protein called 40S RIBOSOMAL PROTEIN S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	SK	98	Total	C	N	O	S	0	0
			827	539	148	134	6		

- Molecule 57 is a protein called 40S RIBOSOMAL PROTEIN S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	SL	153	Total	C	N	O	S	0	0
			1247	793	234	214	6		

- Molecule 58 is a protein called 40S RIBOSOMAL PROTEIN S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	SP	97	Total	C	N	O	S	0	0
			804	505	155	138	6		

- Molecule 59 is a protein called 40S RIBOSOMAL PROTEIN S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	SQ	146	Total	C	N	O	S	0	0
			1158	736	218	200	4		

- Molecule 60 is a protein called 40S RIBOSOMAL PROTEIN S17-LIKE.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	SR	132	Total	C	N	O	S	0	0
			1072	673	199	195	5		

- Molecule 61 is a protein called 40S RIBOSOMAL PROTEIN S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	SS	150	Total	C	N	O	S	0	0
			1235	776	250	208	1		

- Molecule 62 is a protein called 40S RIBOSOMAL PROTEIN S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	ST	143	Total	C	N	O	S	0	0
			1112	697	214	198	3		

- Molecule 63 is a protein called 40S RIBOSOMAL PROTEIN S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	SU	104	Total	C	N	O	S	0	0
			821	514	155	148	4		

- Molecule 64 is a protein called 40S RIBOSOMAL PROTEIN S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	SV	83	Total	C	N	O	S	0	0
			636	393	117	121	5		

- Molecule 65 is a protein called 40S RIBOSOMAL PROTEIN S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	SX	141	Total	C	N	O	S	0	0
			1098	693	219	183	3		

- Molecule 66 is a protein called 40S RIBOSOMAL PROTEIN S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	Sa	107	Total	C	N	O	S	0	0
			847	528	176	138	5		

- Molecule 67 is a protein called 40S RIBOSOMAL PROTEIN S28.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	Sc	64	Total	C	N	O	S	0	0
			506	308	102	94	2		

- Molecule 68 is a protein called 40S RIBOSOMAL PROTEIN S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	Sd	53	Total	C	N	O	S	0	0
			445	278	90	72	5		

- Molecule 69 is a protein called UBIQUITIN-40S RIBOSOMAL PROTEIN S27A.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	Sf	71	Total	C	N	O	S	0	0
			581	367	109	98	7		

- Molecule 70 is a protein called GUANINE NUCLEOTIDE-BINDING PROTEIN SUBUNIT BETA-2-LIKE 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	Sg	313	Total	C	N	O	S	0	0
			2436	1535	424	465	12		

- Molecule 71 is a protein called 40S RIBOSOMAL PROTEIN S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	SC	222	Total	C	N	O	S	0	0
			1725	1115	298	302	10		

- Molecule 72 is a protein called 40S RIBOSOMAL PROTEIN S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	SG	237	Total	C	N	O	S	0	0
			1923	1200	387	329	7		

- Molecule 73 is a protein called 40S RIBOSOMAL PROTEIN S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	SJ	185	Total	C	N	O	S	0	0
			1525	969	306	248	2		

- Molecule 74 is a protein called 40S RIBOSOMAL PROTEIN.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	SM	122	Total	C	N	O	S	0	0
			952	596	169	179	8		

- Molecule 75 is a protein called 40S RIBOSOMAL PROTEIN S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	SN	150	Total	C	N	O	S	0	0
			1208	773	229	205	1		

- Molecule 76 is a protein called 40S RIBOSOMAL PROTEIN S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	SO	140	Total	C	N	O	S	0	0
			1049	642	204	197	6		

- Molecule 77 is a protein called 40S RIBOSOMAL PROTEIN S15A.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	SW	129	Total	C	N	O	S	0	0
			1034	659	193	176	6		

- Molecule 78 is a protein called 40S RIBOSOMAL PROTEIN S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	SY	131	Total	C	N	O	S	0	0
			1065	673	209	178	5		

- Molecule 79 is a protein called 40S RIBOSOMAL PROTEIN S25.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	SZ	75	Total	C	N	O	S	0	0
			598	382	111	104	1		

- Molecule 80 is a protein called 40S RIBOSOMAL PROTEIN S27.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	Sb	83	Total	C	N	O	S	0	0
			651	408	121	115	7		

- Molecule 81 is a protein called 40S RIBOSOMAL PROTEIN S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	Se	58	Total	C	N	O	S	0	0
			459	284	100	74	1		

- Molecule 82 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
82	L7	5	Total	Mg	0
			5	5	
82	L1	1	Total	Mg	0
			1	1	
82	LB	1	Total	Mg	0
			1	1	
82	S2	66	Total	Mg	0
			66	66	
82	L8	2	Total	Mg	0
			2	2	
82	Le	1	Total	Mg	0
			1	1	

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Mol	Chain	Residues	Atoms		AltConf
82	LN	1	Total 1	Mg 1	0
82	LQ	1	Total 1	Mg 1	0
82	LP	1	Total 1	Mg 1	0
82	La	1	Total 1	Mg 1	0
82	LH	1	Total 1	Mg 1	0
82	L5	149	Total 149	Mg 149	0
82	S6	7	Total 7	Mg 7	0
82	LA	1	Total 1	Mg 1	0
82	LJ	1	Total 1	Mg 1	0

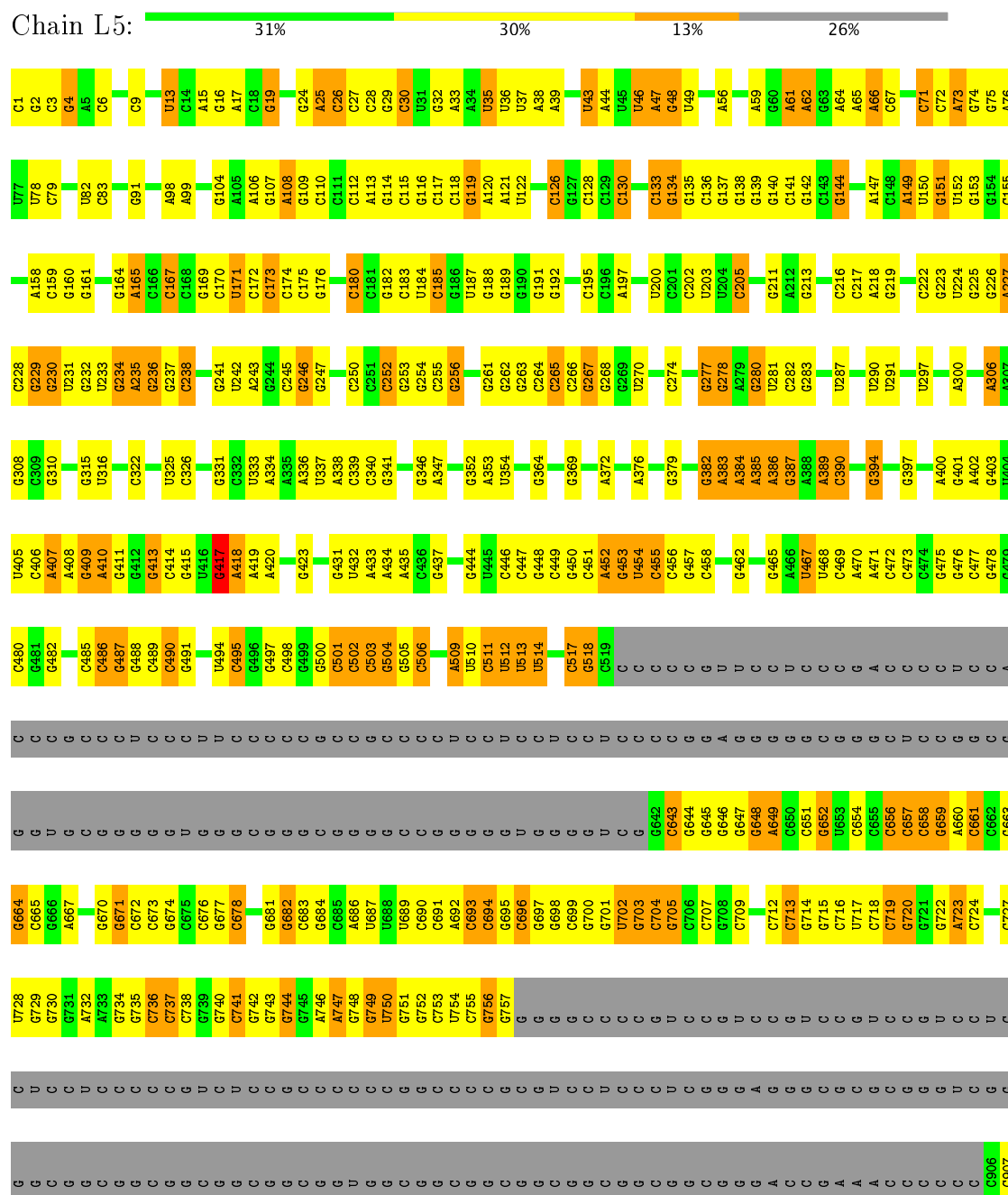
- Molecule 83 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
83	Lm	1	Total 1	Zn 1	0
83	Lo	1	Total 1	Zn 1	0
83	Lg	1	Total 1	Zn 1	0
83	Lp	1	Total 1	Zn 1	0
83	Sa	1	Total 1	Zn 1	0
83	Lj	1	Total 1	Zn 1	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. 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. 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: 28S ribosomal RNA






U2828	G2753	G2680	G3520	G2448	G2355	G2262	C2073
G2829	G2754	G2681	A2601	G2602	G2449	A2263	C2074
G2830	A2755	G2682	A2527	A2449	G2361	C2264	G2075
G2831	G2756	G2683	G2528	G2450	U2362	C2265	G2076
A2832	A2757	G2684	A2529	A2451	G2363	C2266	C2077
A2833	G2758	G2685	G2533	G2452	G2364	U2267	G
G2834	G2759	G2686	G2534	A2453	G2365	C2268	C2084
A2835	G2760	G2687	A2537	U2454	C2366	C2269	G2085
G2836	A2761	G2688	G2538	G2455	C2373	G2270	G
G2837	G2762	G2689	G2539	G2456	A2374	C2271	G
G2838	A2763	G2690	G2540	G2457	G2375	C2272	G
G2839	A2764	U2691	G2541	G2458	G2376	C2273	A
G2840	A2765	G2692	G2542	G2459	G2377	G2274	G
G2841	A2766	G2693	G2543	G2460	A2378	G2275	G
G2842	U2767	A2694	G2544	G2461	A2379	G2276	G
A2843	U2768	A2695	G2545	G2462	G2380	G2277	G
A2844	G2769	A2696	G2546	G2463	A2381	G2278	G
A2845	G2770	U2701	G2547	G2464	G2382	U2281	G
G2846	G2771	G2702	A2551	G2465	U2383	G2282	G
G2847	G2772	G2703	G2552	G2466	U2384	G2283	G
G2848	G2773	G2704	G2553	U2467	G2385	G2284	G
G2849	G2774	G2705	G2554	U2468	G2386	G2285	G
G2850	G2775	G2706	G2555	G2469	U2387	G2286	G
G2851	G2776	U2707	G2556	G2470	A2388	A2289	G
G2852	G2777	G2708	G2557	G2471	G2389	G2290	G
G2853	G2778	G2709	G2558	G2472	G2390	G2291	C2101
G2854	G2779	G2710	G2559	G2473	A2391	G2292	C2102
G2855	G2780	G2711	G2560	G2474	G2392	G2293	G2103
G2856	G2781	G2712	G2561	G2475	A2393	U2294	G2104
G2857	G2782	G2713	G2562	G2476	A2394	C2295	A2105
G2858	G2783	G2714	G2563	G2477	G2395	U2296	G2106
G2859	G2784	G2715	G2564	G2478	G2396	G2297	G2107
G2860	G2785	G2716	G2565	G2479	G2397	A2300	G2108
G2861	A2786	G2717	G2566	G2480	G2400	G2301	G2109
G2862	G2787	G2718	G2567	G2481	G2401	G2302	G2110
G2863	G2788	G2719	G2568	G2482	G2402	G2303	G2111
G2864	G2789	G2720	G2569	G2483	A2403	A2304	G2112
G2865	A2790	G2721	G2570	G2484	G2404	G2305	G2113
G2866	G2791	G2722	G2571	G2485	G2405	G2306	G2114
G2867	G2792	G2723	G2572	G2486	G2406	U2307	G2115
G2868	G2793	G2724	G2573	G2487	U2407	U2308	G2116
G2869	G2794	G2725	G2574	G2488	G2408	G2309	G2117
G2870	G2795	G2726	G2575	G2489	G2409	G2310	G2118
G2871	G2796	G2727	G2576	U2490	G2410	G2311	G2119
G2872	G2797	G2728	G2577	U2491	G2411	G2312	G2120
G2873	U2800	G2729	G2578	G2492	G2412	G2313	G2121
G2874	A2801	G2730	G2579	G2493	U2413	G2314	G2122
G2875	G2802	G2731	G2580	G2494	G2414	G2315	G2123
G2876	G2803	G2732	G2581	G2495	U2415	G2316	G2124
G2877	A2804	G2733	G2582	G2496	G2416	G2317	G2125
G2878	G2805	G2734	G2583	G2497	G2417	G2318	G2126
G2879	G2806	G2735	G2584	G2498	G2418	G2319	G2127
G2880	G2807	G2736	G2585	G2499	U2419	G2320	G2128
G2881	G2808	G2737	G2586	G2500	U2420	G2321	G2129
G2882	G2809	G2738	G2587				

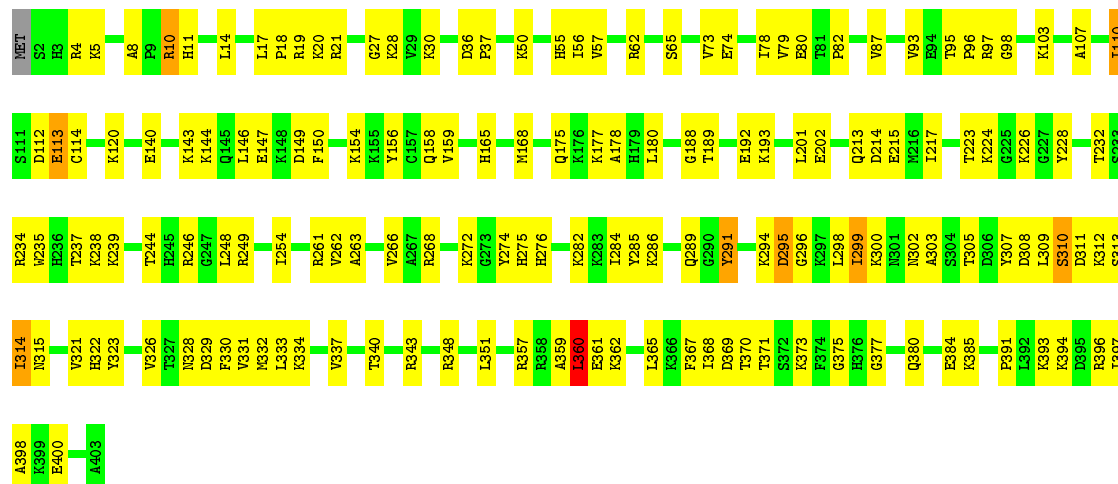

WORLDWIDE PDB
 PROTEIN DATA BANK

EMDataBank
 Unified Data Resource for 3DEM



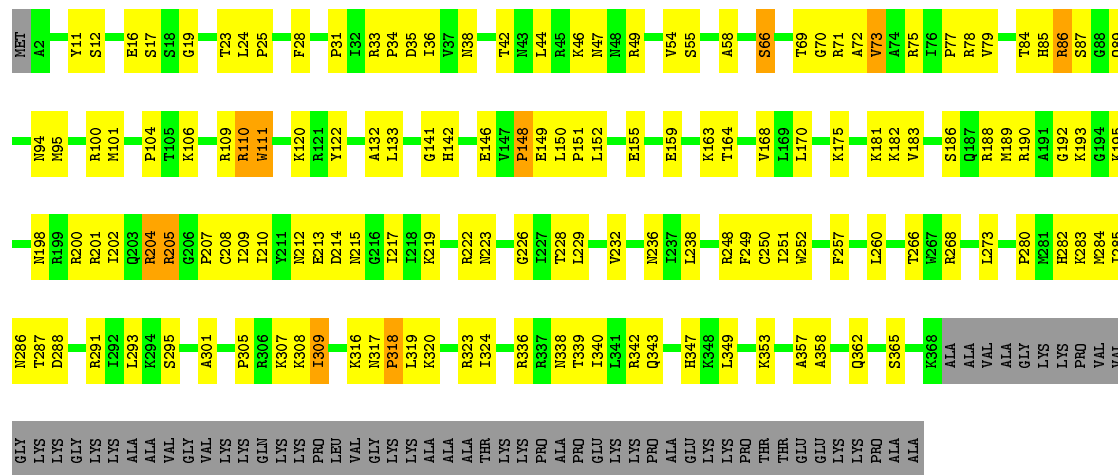
• Molecule 5: 60S RIBOSOMAL PROTEIN L3

Chain LB: 61% 36%



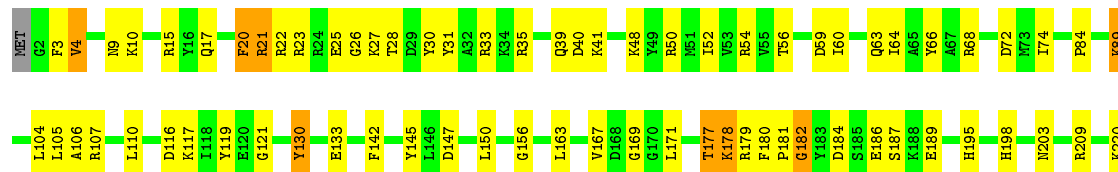
• Molecule 6: 60S RIBOSOMAL PROTEIN L4

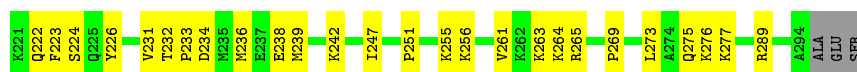
Chain LC: 52% 32% 14%



• Molecule 7: 60S RIBOSOMAL PROTEIN L5

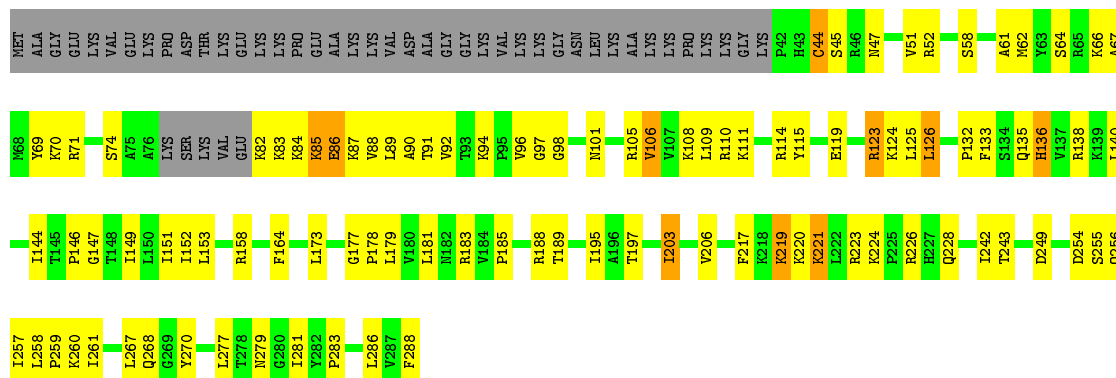
Chain LD: 66% 30%





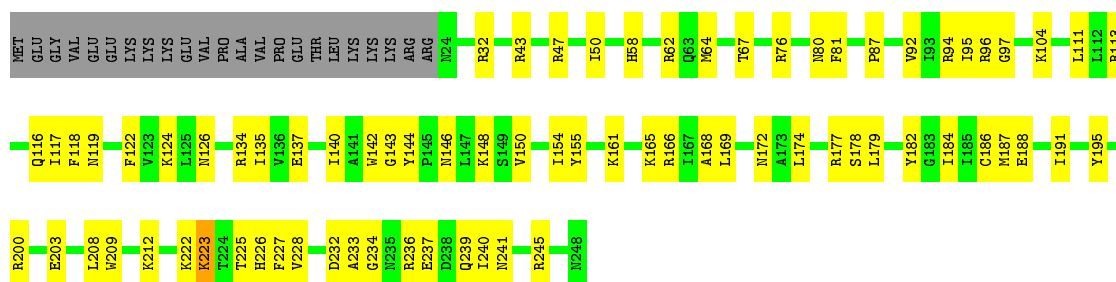
- Molecule 8: 60S RIBOSOMAL PROTEIN L6

Chain LE: 



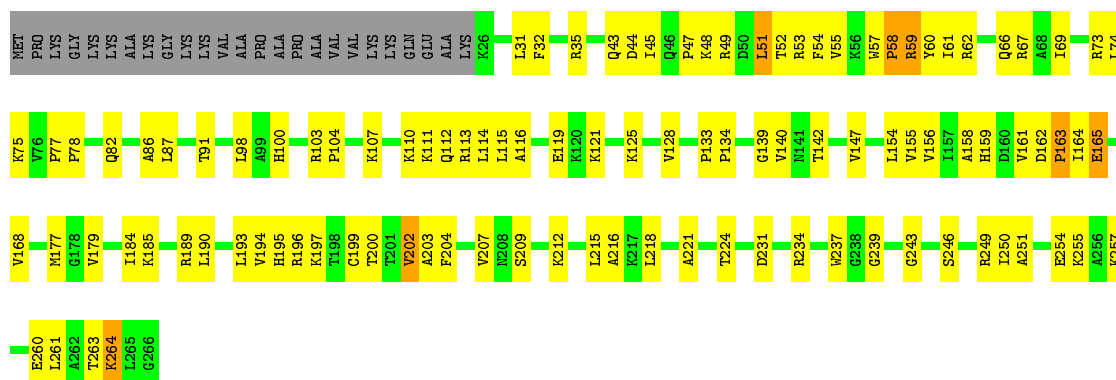
- Molecule 9: 60S RIBOSOMAL PROTEIN L7

Chain LF: 



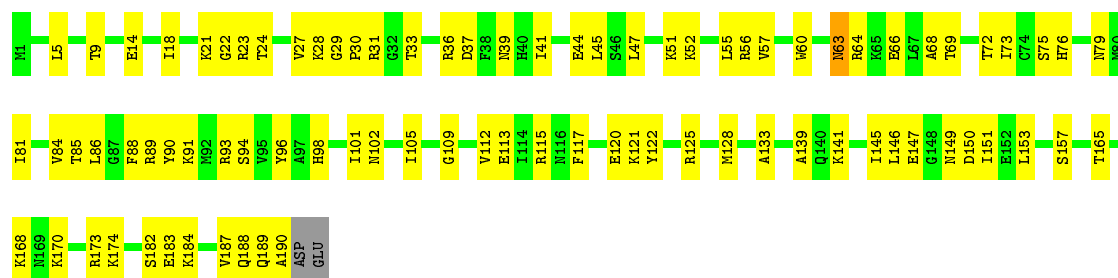
- Molecule 10: 60S RIBOSOMAL PROTEIN L7A

Chain LG: 



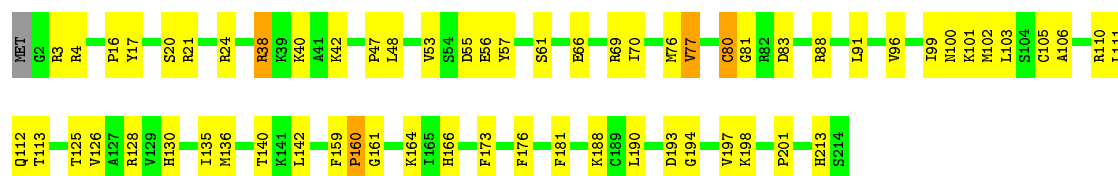
• Molecule 11: 60S RIBOSOMAL PROTEIN L9

Chain LH:  55% 44%



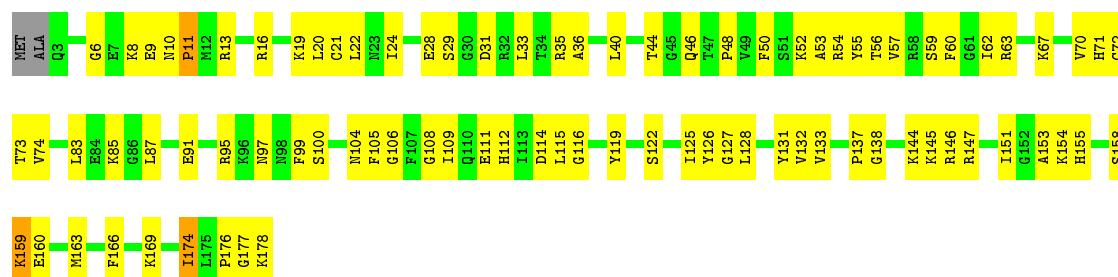
• Molecule 12: 60S RIBOSOMAL PROTEIN L10-LIKE

Chain LI: 70% 28% .



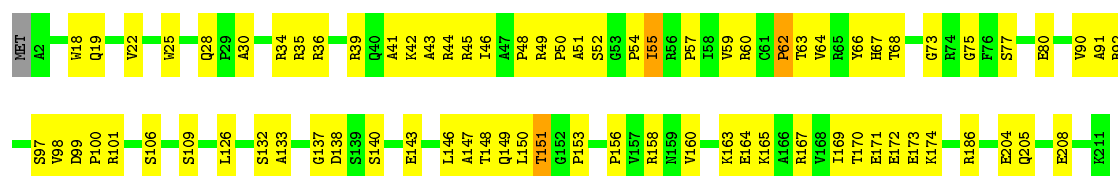
• Molecule 13: 60S RIBOSOMAL PROTEIN L11

Chain LJ: 51% 47% ..



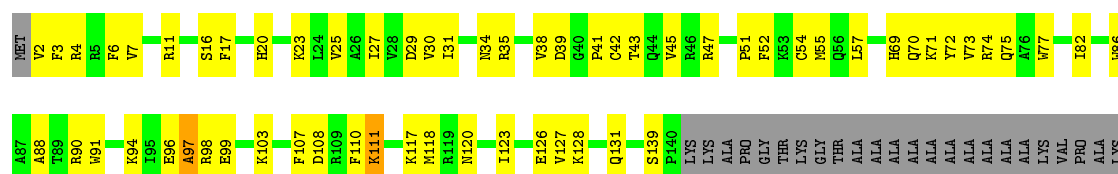
• Molecule 14: 60S RIBOSOMAL PROTEIN L13

Chain LL: 63% 35% .



• Molecule 15: 60S RIBOSOMAL PROTEIN L14

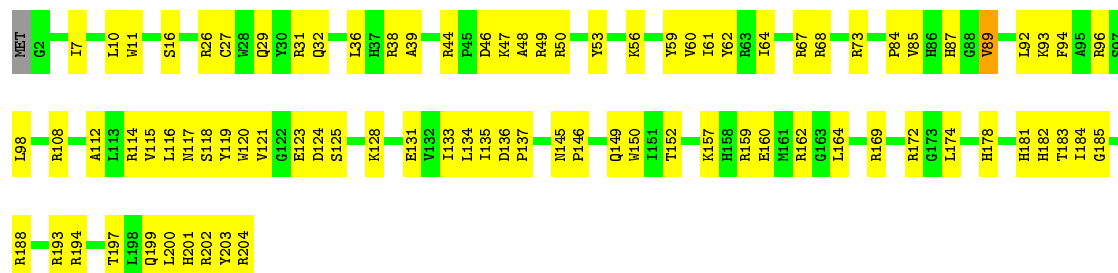
Chain LM: 36% 27% 35%



LYS
ILE
THR
ALA
SER
LYS
LYS
ALA
PRO
ALA
GLN
LYS
VAL
PRO
ALA
GLN
LYS
ALA
THR
GLY
LYS
ALA
ALA
PRO
ALA
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ALA
PRO
LYS
ALA
SER
GLY
LYS
LYS
ALA

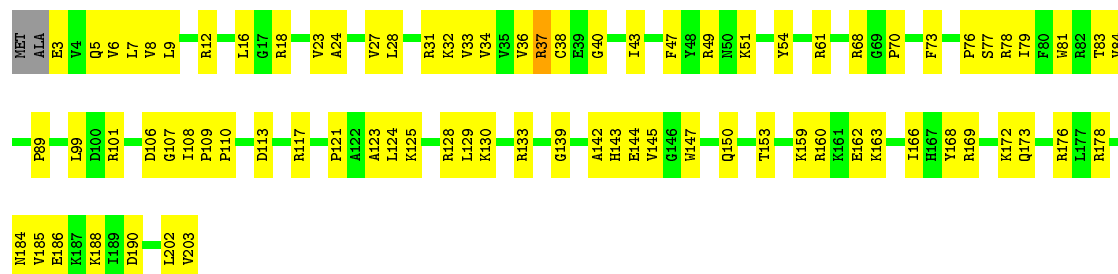
• Molecule 16: 60S RIBOSOMAL PROTEIN L15

Chain LN:  57% 42%



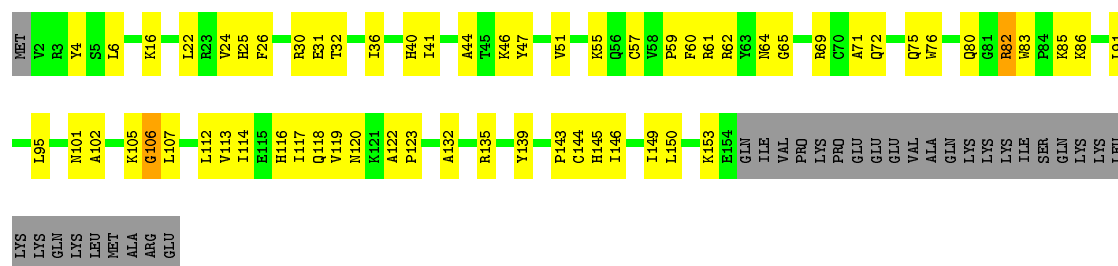
• Molecule 17: 60S RIBOSOMAL PROTEIN L13A

Chain LO:  59% 39%



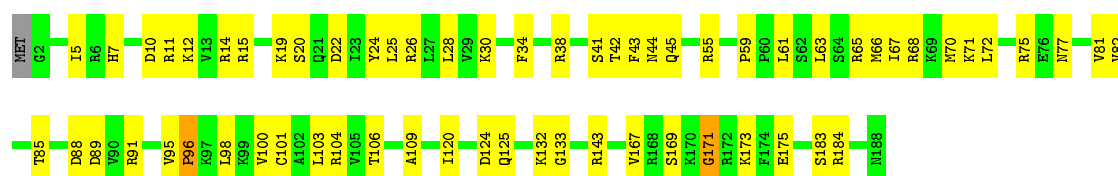
• Molecule 18: 60S RIBOSOMAL PROTEIN L17

Chain LP:  49% 33% 17%

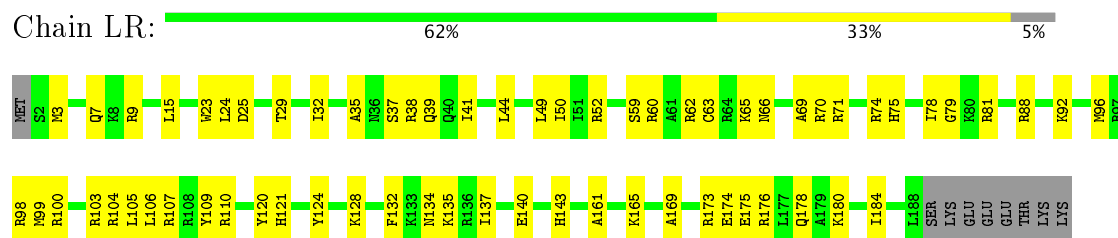


• Molecule 19: 60S RIBOSOMAL PROTEIN L18

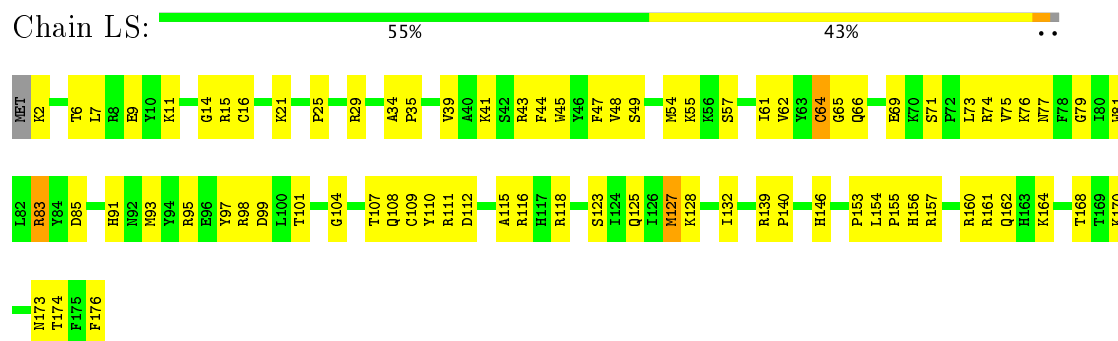
Chain LQ:  66% 32%



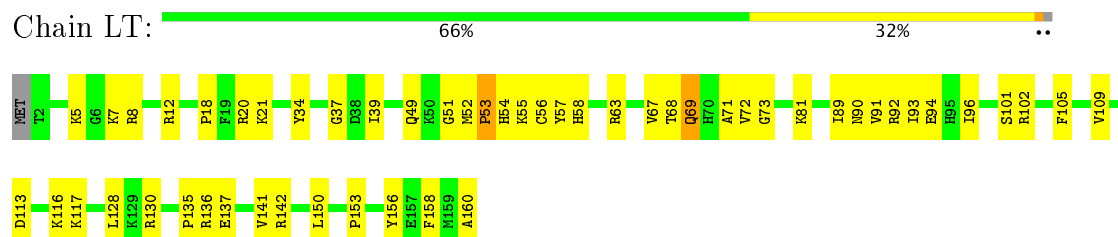
• Molecule 20: 60S RIBOSOMAL PROTEIN L19



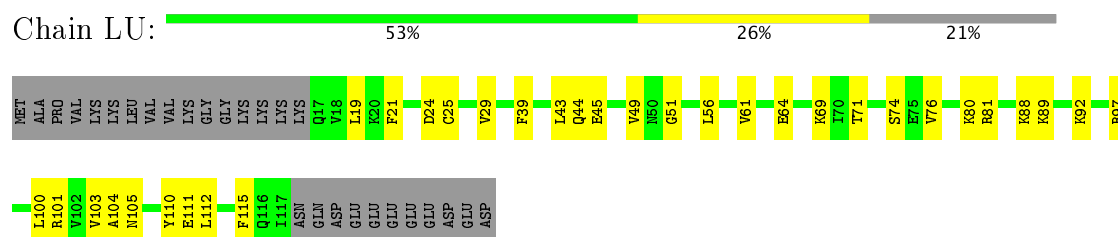
• Molecule 21: 60S RIBOSOMAL PROTEIN L18A



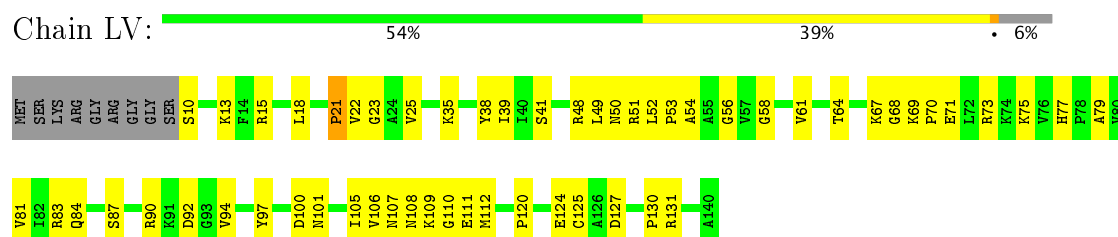
• Molecule 22: 60S RIBOSOMAL PROTEIN L21



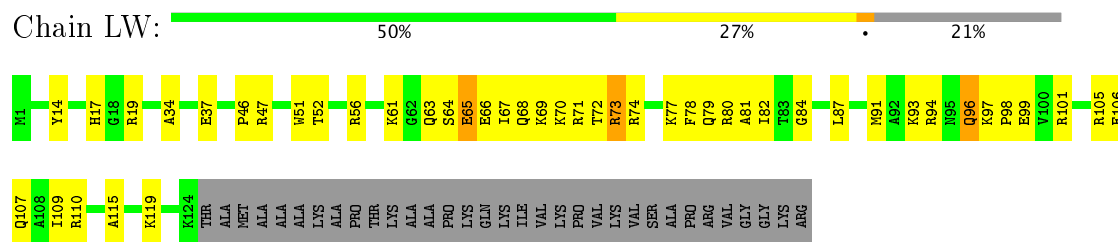
• Molecule 23: 60S RIBOSOMAL PROTEIN L22



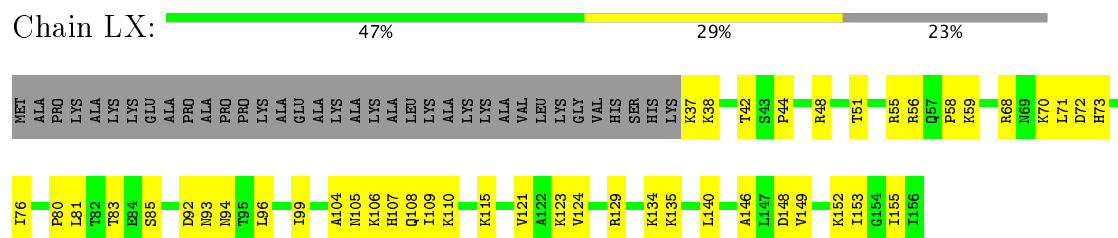
• Molecule 24: 60S RIBOSOMAL PROTEIN L23



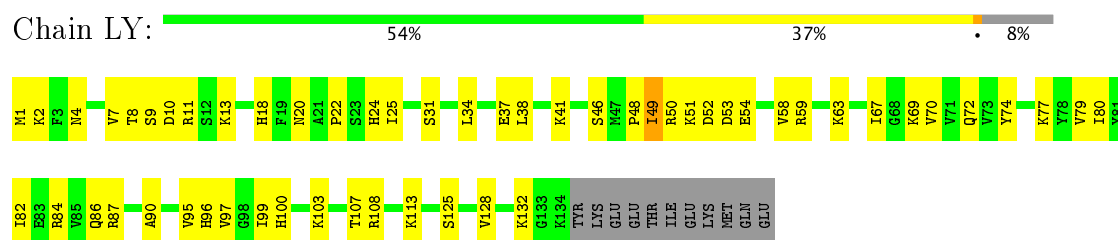
• Molecule 25: 60S RIBOSOMAL PROTEIN L24



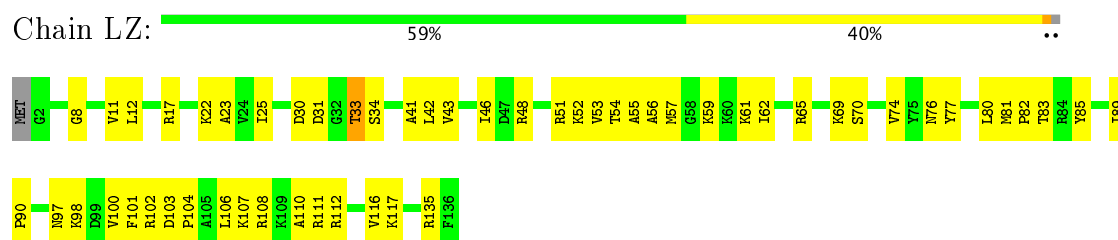
- Molecule 26: 60S RIBOSOMAL PROTEIN L23A



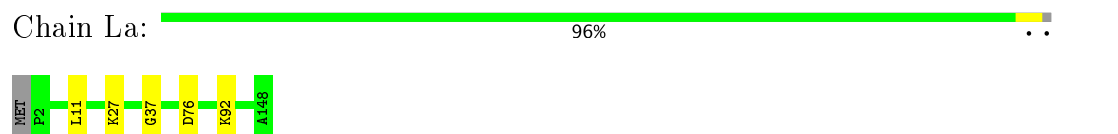
- Molecule 27: 60S RIBOSOMAL PROTEIN L26



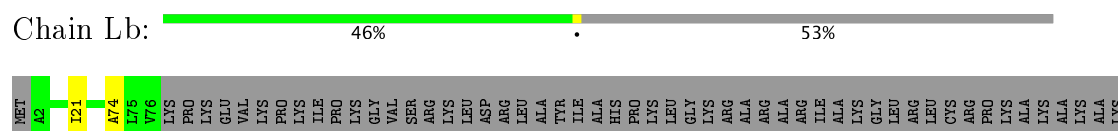
- Molecule 28: 60S RIBOSOMAL PROTEIN L27



- Molecule 29: 60S RIBOSOMAL PROTEIN L27A




- Molecule 30: 60S RIBOSOMAL PROTEIN L29




ALA
LYS
ASP
GLN
THR
LYS
ALA
GLN
ALA
ALA
ALA
ALA
PRO
ALA
SER
VAL
PRO
ALA
GLN
ALA
PRO
LYS
ARG
THR
GLN
ALA
PRO
THR
LYS
LYS
ALA
SER
GLU

• Molecule 31: 60S RIBOSOMAL PROTEIN L30

Chain Lc:  80% 5% 15%

MET
VAL
ALA
ALA
LYS
LYS
THR
LYS
K9
K23
N51
C52
P53
A54
S75
D101
R106
SER
MET
PRO
GLU
GLN
THR
GLY
GLU
LYS

• Molecule 32: 60S RIBOSOMAL PROTEIN L31

Chain Ld:  82% 14%

MET
ALA
PRO
ALA
LYS
LYS
GLY
GLY
GLU
LYS
LYS
LYS
GLY
ARG
SER
ALA
ALA
ILE
N18
V21
R44
Y82
E94
V120
K124
ASN

• Molecule 33: 60S RIBOSOMAL PROTEIN L32

Chain Le:  91% 5%

MET
K2
V8
S62
P71
S104
P125
L129
ARG
SER
GLU
GLU
ASN
GLU

• Molecule 34: 60S RIBOSOMAL PROTEIN L35A

Chain Lf:  95% 5%

MET
S2
L5
K54
M83
L105
Y106
P107
I110

• Molecule 35: 60S RIBOSOMAL PROTEIN L34

Chain Lg:  97%

MET
V2
R57
K115
ALA
LYS

• Molecule 36: 60S RIBOSOMAL PROTEIN L35

Chain Lh:  98%


MET
A2
G39
K37
A123

• Molecule 37: 60S RIBOSOMAL PROTEIN L36

Chain Li:  93%

MET
A2
L3
R4
C48
I73
K86
K103
LYS
ASP

• Molecule 38: 60S RIBOSOMAL PROTEIN L37

Chain Lj:  81% 7% 11%



- Molecule 39: 60S RIBOSOMAL PROTEIN L38

Chain Lk:  91% 7% .



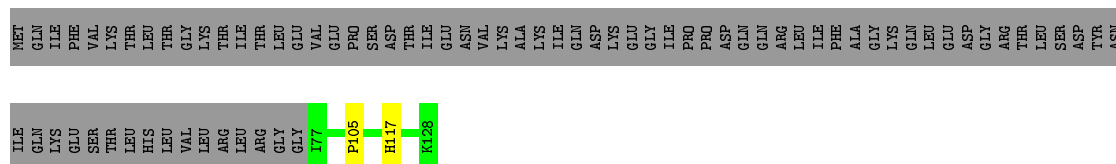
- Molecule 40: 60S RIBOSOMAL PROTEIN L39

Chain Ll:  96% . .



- Molecule 41: UBIQUITIN-60S RIBOSOMAL PROTEIN L40

Chain Lm:  39% . 59%



- Molecule 42: 60S RIBOSOMAL PROTEIN L41

Chain Ln:  96% .



- Molecule 43: 60S RIBOSOMAL PROTEIN L36A

Chain Lo:  96% . .




- Molecule 44: 60S RIBOSOMAL PROTEIN L37A

Chain Lp:  93% 5% .



- Molecule 45: 60S RIBOSOMAL PROTEIN L28

Chain Lr:  87% 9%



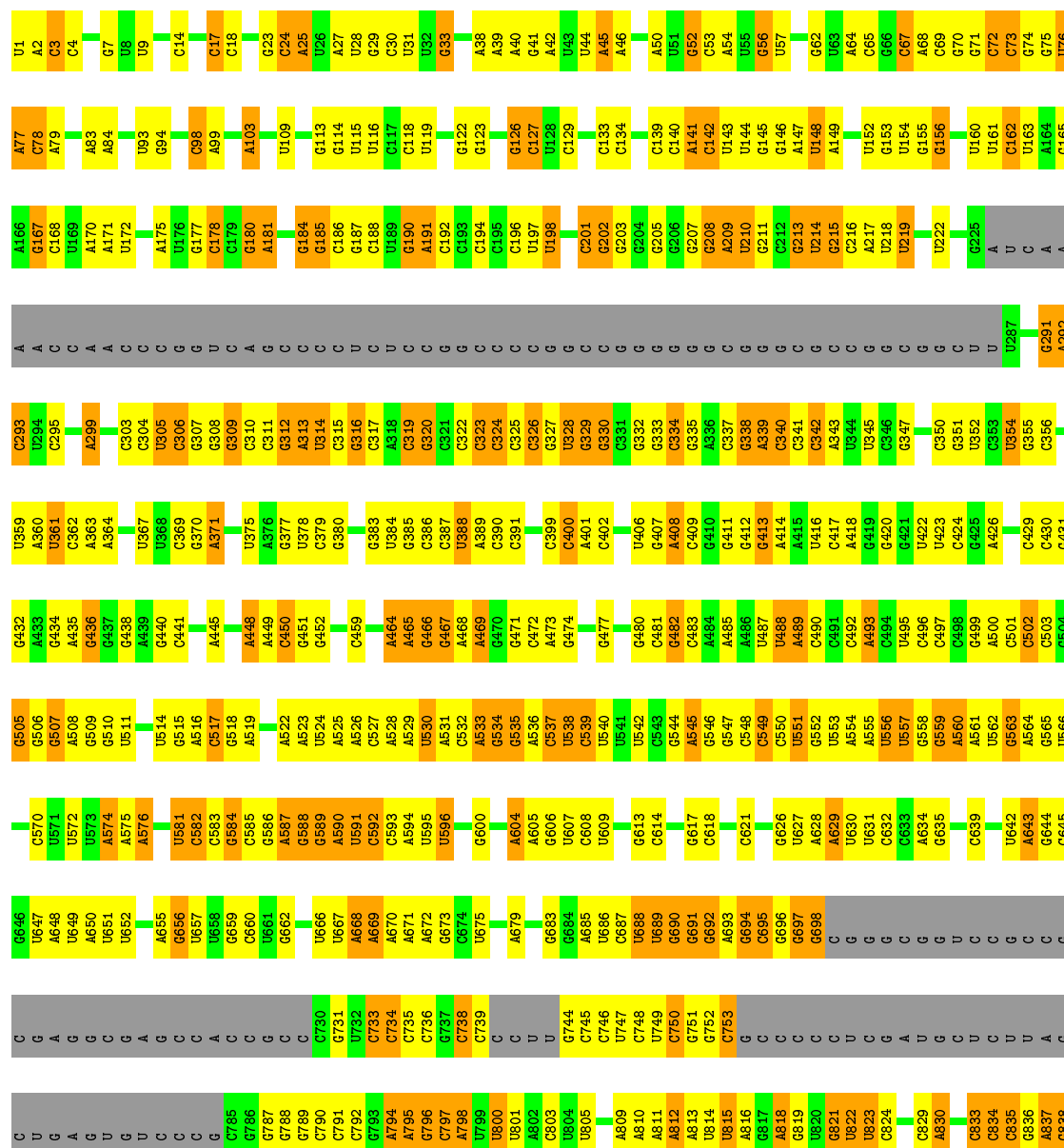
- Molecule 46: 60S RIBOSOMAL PROTEIN L10A

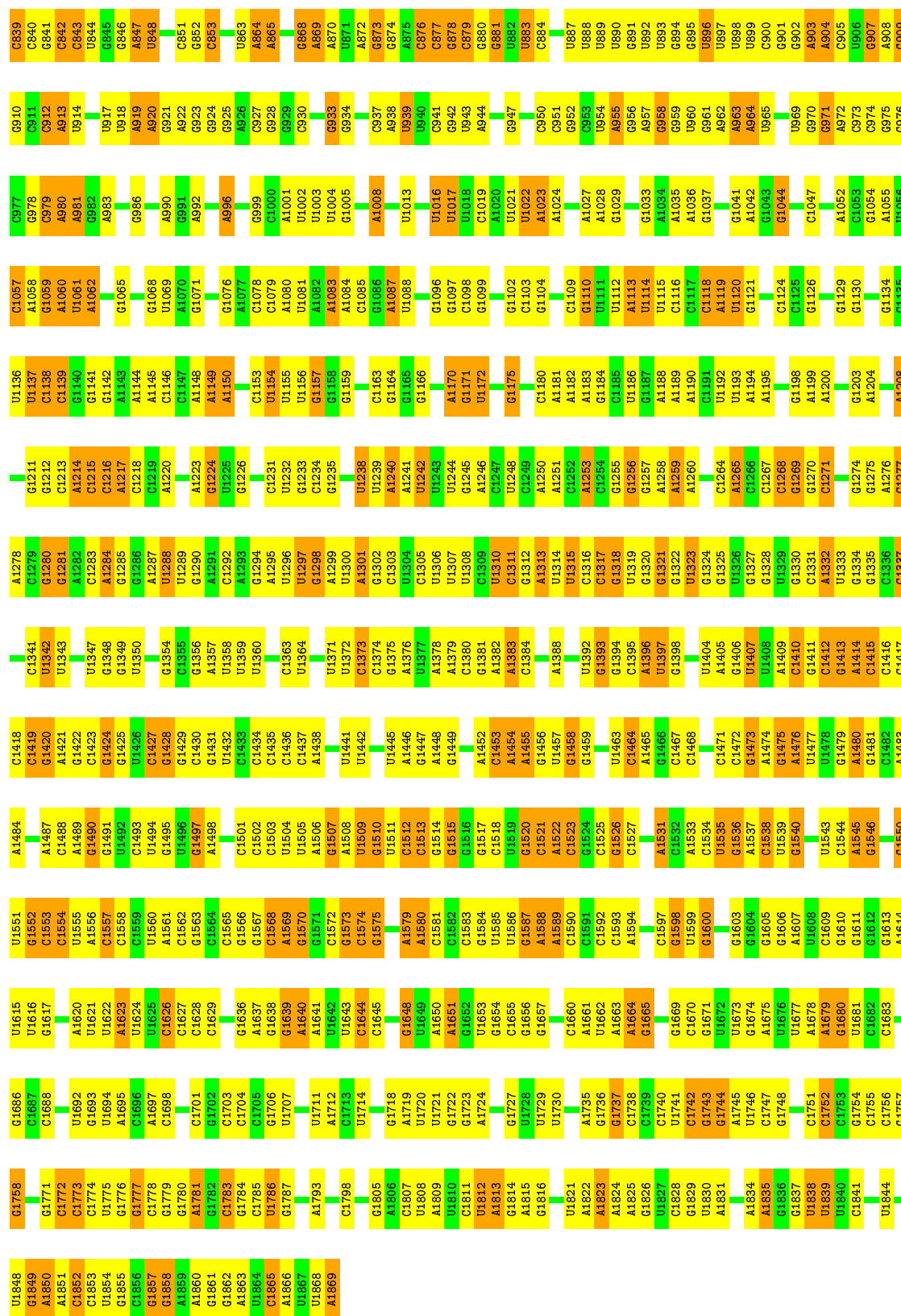
Chain Lz:  93% 7%



- Molecule 47: 18S ribosomal RNA

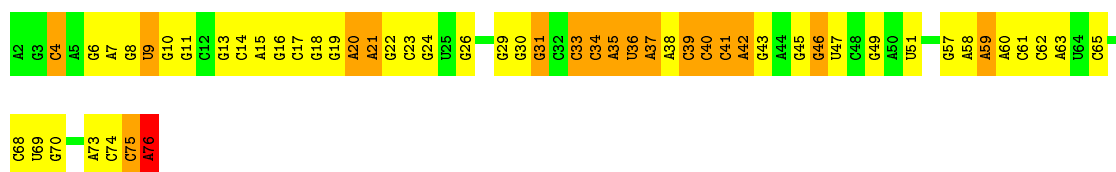
Chain S2:  32% 42% 19% 7%





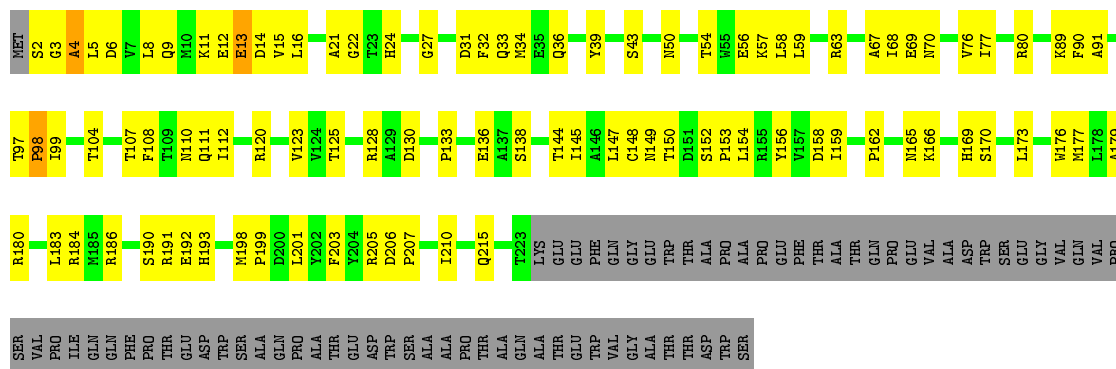
- Molecule 48: HUMAN INITIATOR MET-TRNA-I

Chain S6:  28% 48% 23%



• Molecule 49: 40S RIBOSOMAL PROTEIN SA

Chain SA:



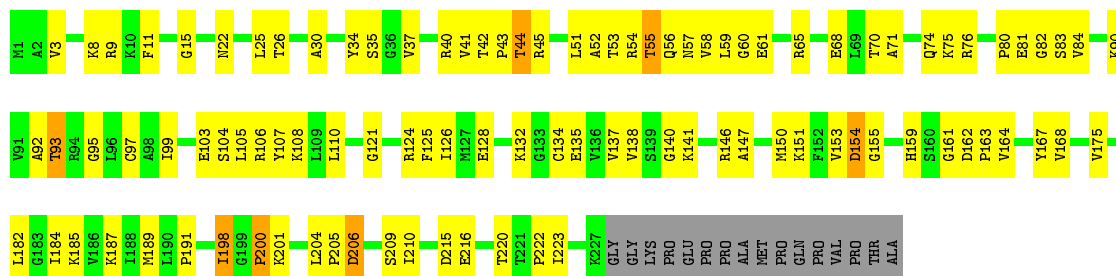
● Molecule 50: 40S RIBOSOMAL PROTEIN S3A

Chain SB: 

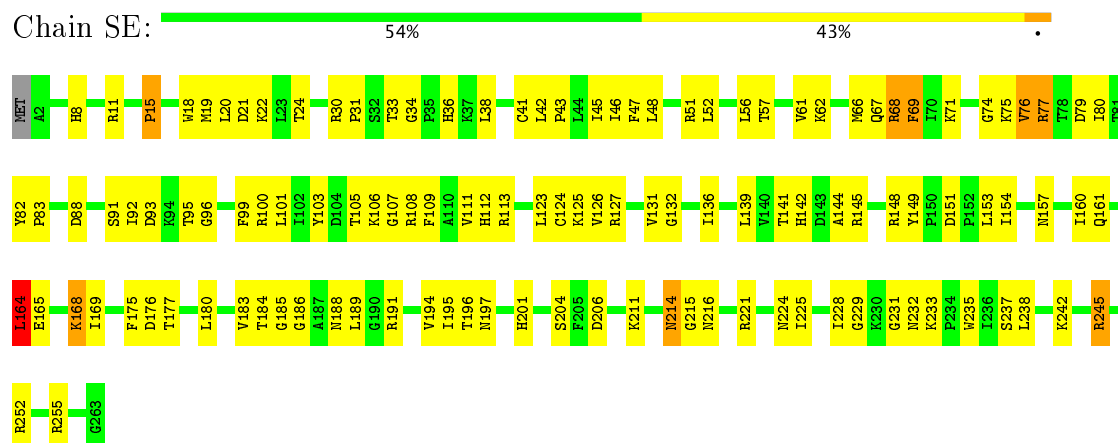


● Molecule 51: 40S RIBOSOMAL PROTEIN S3

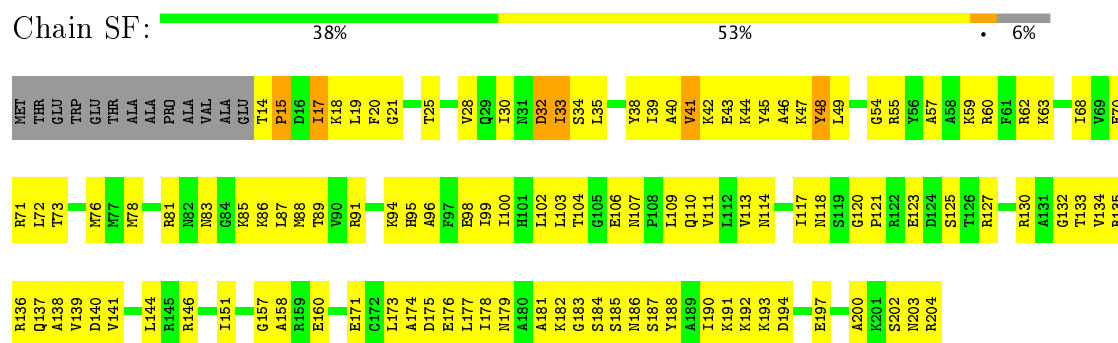
Chain SD:  52% 38% 7%



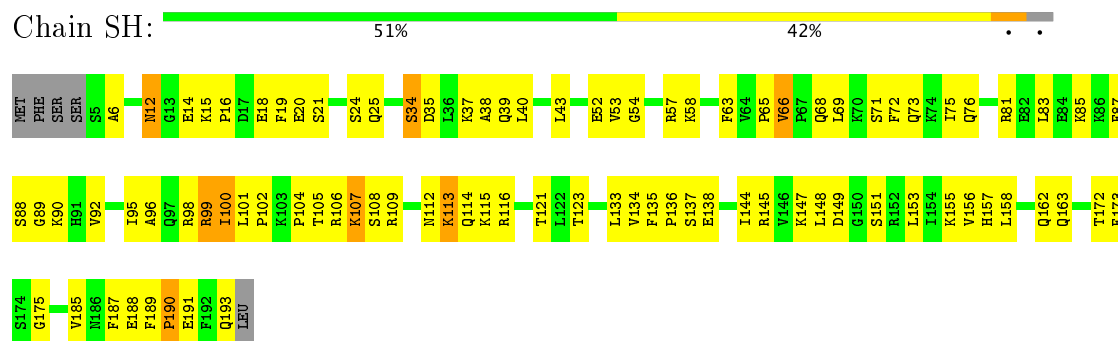
- Molecule 52: 40S RIBOSOMAL PROTEIN S4, X ISOFORM



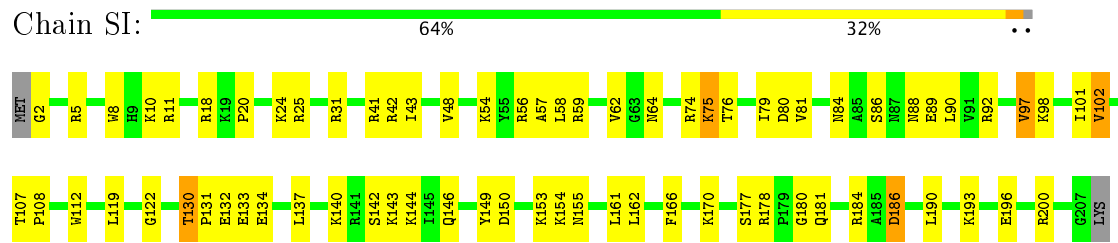
• Molecule 53: 40S RIBOSOMAL PROTEIN S5



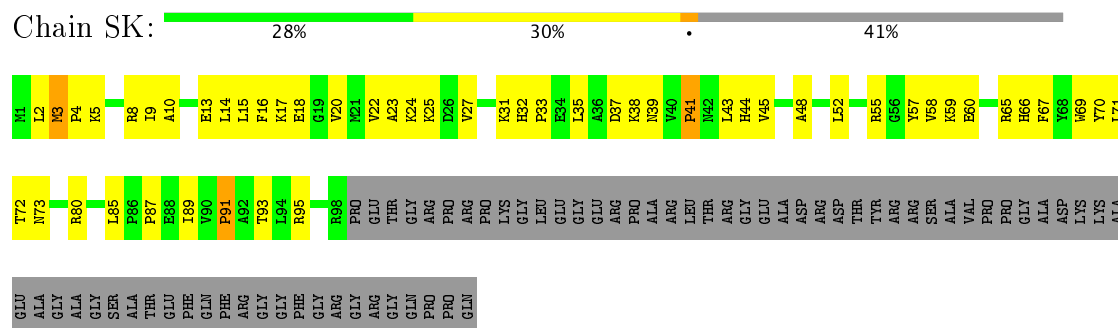
• Molecule 54: 40S RIBOSOMAL PROTEIN S7



• Molecule 55: 40S RIBOSOMAL PROTEIN S8



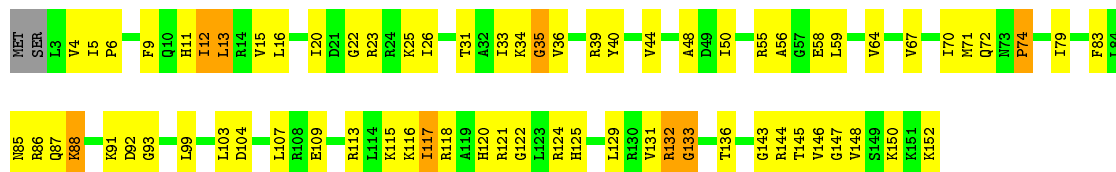
• Molecule 56: 40S RIBOSOMAL PROTEIN S10





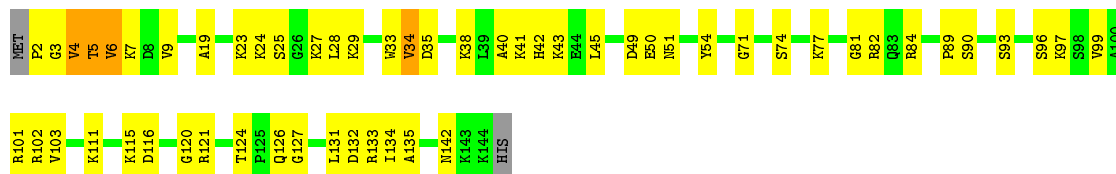
• Molecule 61: 40S RIBOSOMAL PROTEIN S18

Chain SS: 52% 41% 5%



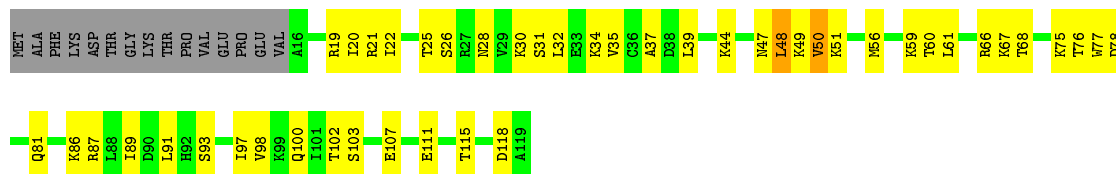
• Molecule 62: 40S RIBOSOMAL PROTEIN S19

Chain ST: 60% 36%



• Molecule 63: 40S RIBOSOMAL PROTEIN S20

Chain SU: 49% 37% 13%



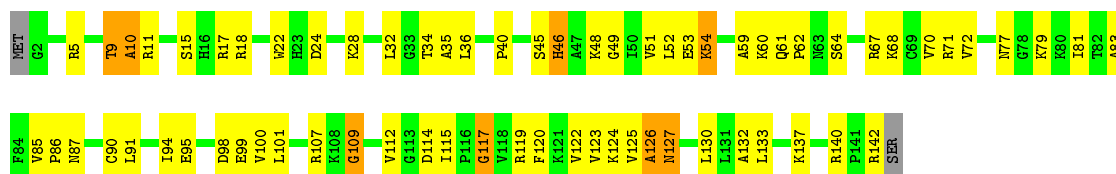
• Molecule 64: 40S RIBOSOMAL PROTEIN S21

Chain SV: 63% 36%



• Molecule 65: 40S RIBOSOMAL PROTEIN S23

Chain SX: 51% 42% 6%




• Molecule 66: 40S RIBOSOMAL PROTEIN S26

Chain Sa: 84% 9% 7%



- Molecule 67: 40S RIBOSOMAL PROTEIN S28

Chain Sc: 




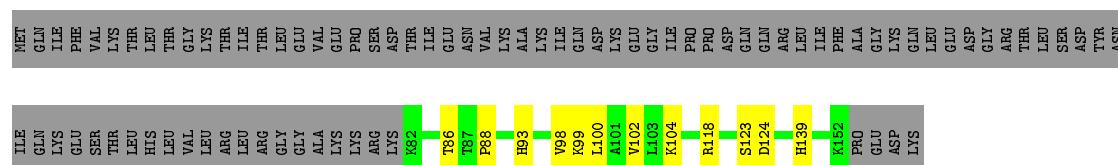
- Molecule 68: 40S RIBOSOMAL PROTEIN S29

Chain Sd: 95% 5%



- Molecule 69: UBIQUITIN-40S RIBOSOMAL PROTEIN S27A

Chain Sf: 



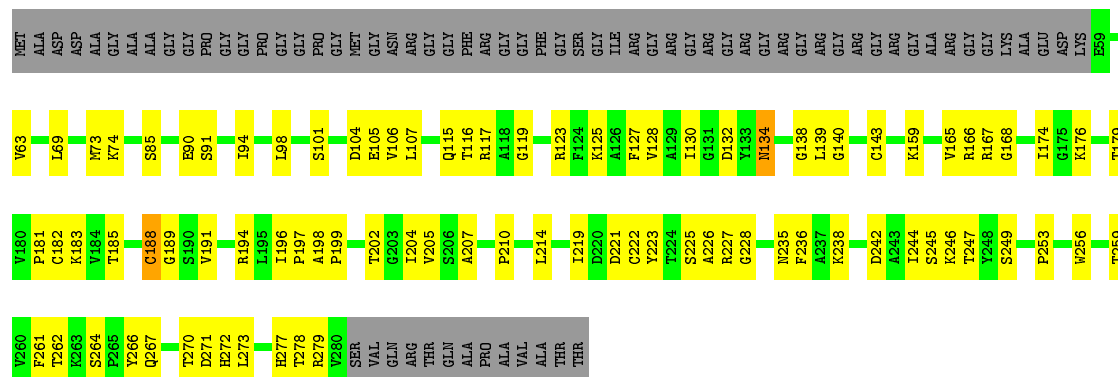
- Molecule 70: GUANINE NUCLEOTIDE-BINDING PROTEIN SUBUNIT BETA-2-LIKE 1

Chain Sg:  94% 5%

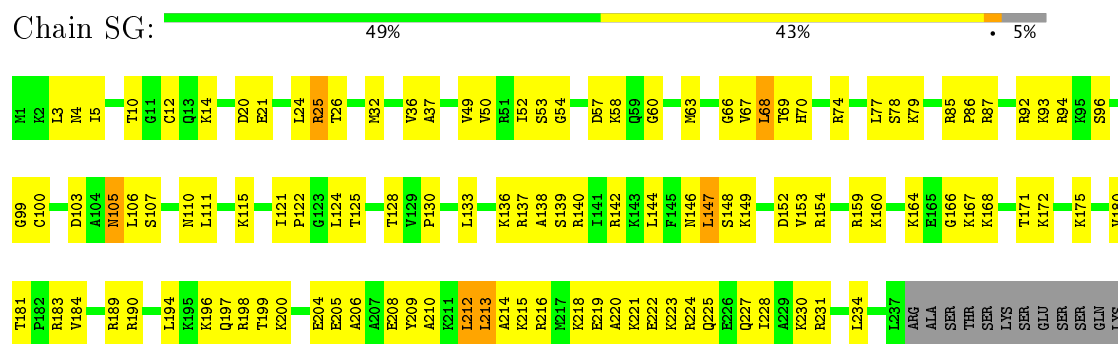


- Molecule 71: 40S RIBOSOMAL PROTEIN S2

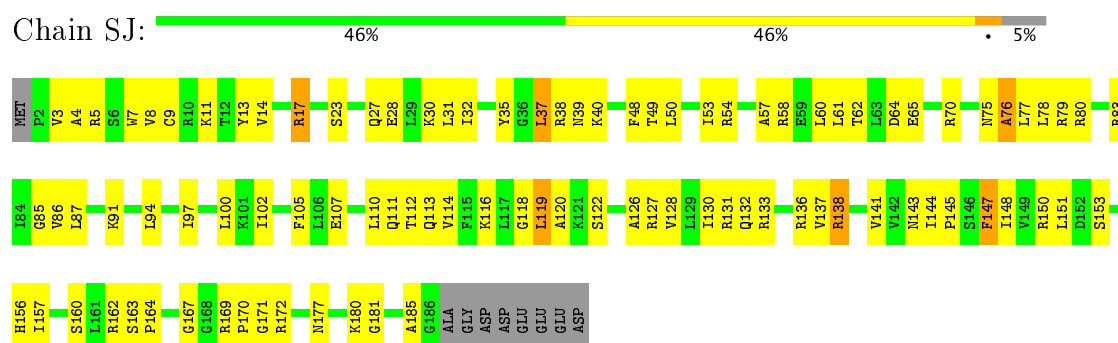
Chain SC: 



- Molecule 72: 40S RIBOSOMAL PROTEIN S6



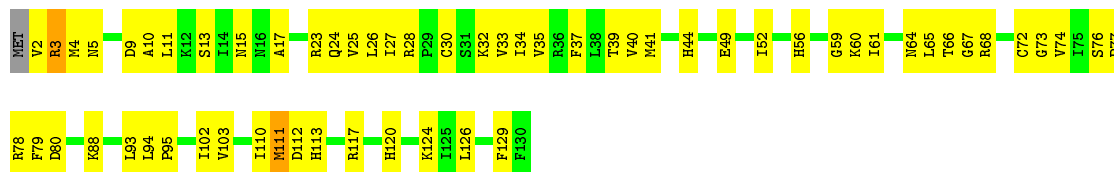
- Molecule 73: 40S RIBOSOMAL PROTEIN S9





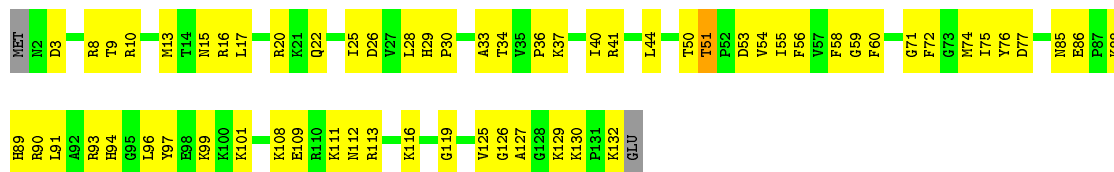
• Molecule 77: 40S RIBOSOMAL PROTEIN S15A

Chain SW: 53% 45% ..



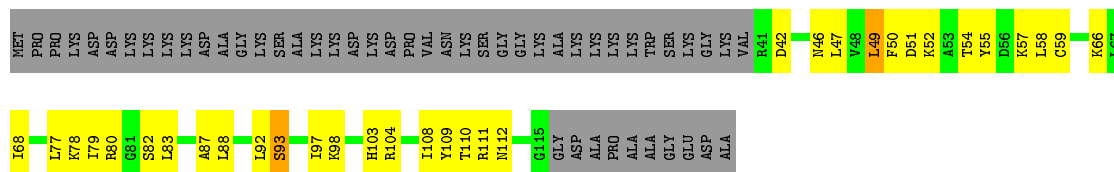
• Molecule 78: 40S RIBOSOMAL PROTEIN S24

Chain SY: 52% 46% ..



• Molecule 79: 40S RIBOSOMAL PROTEIN S25

Chain SZ: 34% 25% 40%



• Molecule 80: 40S RIBOSOMAL PROTEIN S27

Chain Sb: 96% ..



• Molecule 81: 40S RIBOSOMAL PROTEIN S30

Chain Se: 92% 7%



4 Experimental information

Property	Value	Source
Reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	24000	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	Not provided	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	60	Depositor
Minimum defocus (nm)	600	Depositor
Maximum defocus (nm)	4500	Depositor
Magnification	59000	Depositor
Image detector	FEI FALCON II (4k x 4k)	Depositor

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

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	$\# Z > 2$	RMSZ	$\# Z > 2$
1	L5	0.42	0/89645	0.79	26/139764 (0.0%)
10	LG	0.27	0/1960	0.50	0/2637
11	LH	0.26	0/1537	0.48	0/2066
12	LI	0.30	0/1751	0.50	0/2340
13	LJ	0.26	0/1433	0.49	0/1915
14	LL	0.30	0/1732	0.53	0/2315
15	LM	0.28	0/1161	0.46	0/1554
16	LN	0.33	0/1746	0.51	0/2338
17	LO	0.31	0/1682	0.47	0/2250
18	LP	0.31	0/1268	0.49	0/1701
19	LQ	0.30	0/1537	0.49	0/2052
2	L7	0.37	0/2858	0.73	0/4455
20	LR	0.28	0/1582	0.49	0/2091
21	LS	0.31	0/1493	0.48	0/2003
22	LT	0.32	0/1326	0.52	0/1770
23	LU	0.27	0/839	0.47	0/1126
24	LV	0.31	0/993	0.49	0/1332
25	LW	0.29	0/1030	0.57	0/1364
26	LX	0.29	0/1002	0.49	0/1345
27	LY	0.28	0/1132	0.47	0/1504
28	LZ	0.29	0/1130	0.47	0/1507
29	La	0.31	0/1191	0.50	0/1591
3	L8	0.40	0/3701	0.76	0/5766
30	Lb	0.26	0/620	0.44	0/819
31	Lc	0.29	0/774	0.48	0/1038
32	Ld	0.29	0/903	0.50	0/1216
33	Le	0.33	0/1071	0.53	0/1429
34	Lf	0.30	0/895	0.51	0/1198
35	Lg	0.28	0/916	0.49	0/1220
36	Lh	0.28	0/1023	0.46	0/1351
37	Li	0.28	0/843	0.47	0/1115
38	Lj	0.35	0/720	0.55	0/952

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >2	RMSZ	# Z >2
39	Lk	0.28	0/575	0.54	0/761
4	LA	0.34	0/1936	0.56	1/2596 (0.0%)
40	Ll	0.28	0/454	0.48	0/599
41	Lm	0.29	0/435	0.47	0/575
42	Ln	0.29	0/231	0.53	0/294
43	Lo	0.31	0/875	0.49	0/1153
44	Lp	0.36	0/718	0.51	0/953
45	Lr	0.27	0/1017	0.50	0/1364
46	Lz	0.24	0/1769	0.49	0/2371
47	S2	0.35	0/41243	0.77	11/64257 (0.0%)
48	S6	0.32	1/1795 (0.1%)	0.80	1/2798 (0.0%)
49	SA	0.26	0/1784	0.49	0/2424
5	LB	0.30	0/3306	0.52	1/4424 (0.0%)
50	SB	0.28	0/1765	0.52	0/2362
51	SD	0.26	0/1793	0.49	0/2414
52	SE	0.26	0/2118	0.53	1/2849 (0.0%)
53	SF	0.27	0/1531	0.52	0/2059
54	SH	0.26	0/1544	0.50	0/2068
55	SI	0.27	0/1715	0.48	0/2287
56	SK	0.27	0/851	0.50	0/1147
57	SL	0.29	0/1268	0.51	1/1696 (0.1%)
58	SP	0.26	0/815	0.56	0/1087
59	SQ	0.26	0/1177	0.48	0/1575
6	LC	0.29	0/2973	0.50	0/3992
60	SR	0.27	0/1086	0.57	0/1457
61	SS	0.25	0/1253	0.52	0/1676
62	ST	0.25	0/1131	0.48	0/1515
63	SU	0.26	0/831	0.56	0/1115
64	SV	0.26	0/643	0.44	0/860
65	SX	0.29	0/1116	0.47	0/1490
66	Sa	0.31	0/862	0.52	0/1156
67	Sc	0.25	0/508	0.51	0/680
68	Sd	0.26	0/455	0.42	0/603
69	Sf	0.25	0/593	0.47	0/786
7	LD	0.29	0/2428	0.47	0/3252
70	Sg	0.24	0/2493	0.50	0/3394
71	SC	0.29	0/1762	0.49	0/2381
72	SG	0.25	0/1946	0.52	0/2590
73	SJ	0.26	0/1550	0.47	0/2069
74	SM	0.23	0/962	0.53	0/1290
75	SN	0.28	0/1232	0.48	0/1656
76	SO	0.29	0/1062	0.57	1/1425 (0.1%)
77	SW	0.30	0/1051	0.52	0/1406

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z > 2	RMSZ	# Z > 2
78	SY	0.26	0/1083	0.47	0/1438
79	SZ	0.26	0/604	0.57	0/810
8	LE	0.27	0/1996	0.59	0/2673
80	Sb	0.27	0/665	0.51	0/891
81	Se	0.24	0/465	0.43	0/612
9	LF	0.31	0/1905	0.49	0/2539
All	All	0.36	1/234864 (0.0%)	0.69	43/344993 (0.0%)

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
34	Lf	0	1
58	SP	0	1
All	All	0	2

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	S6	76	A	C4'-O4'	-5.87	1.38	1.45

All (43) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	S6	76	A	C5'-C4'-O4'	13.26	125.02	109.10
1	L5	4083	U	N1-C2-O2	8.35	128.64	122.80
1	L5	4083	U	C2-N1-C1'	8.04	127.35	117.70
1	L5	4937	C	C2-N1-C1'	7.68	127.25	118.80
1	L5	1367	C	N1-C2-O2	7.38	123.33	118.90
47	S2	1453	C	C2-N1-C1'	7.27	126.80	118.80
47	S2	1016	U	C2-N1-C1'	6.95	126.03	117.70
1	L5	4083	U	N3-C2-O2	-6.89	117.38	122.20
47	S2	1453	C	N1-C2-O2	6.86	123.02	118.90
1	L5	1367	C	C2-N1-C1'	6.84	126.32	118.80
1	L5	4937	C	N1-C2-O2	6.69	122.92	118.90
5	LB	360	LEU	CA-CB-CG	6.22	129.61	115.30
47	S2	1016	U	N1-C2-O2	6.19	127.14	122.80
1	L5	1367	C	N3-C2-O2	-6.10	117.63	121.90
1	L5	3771	C	C6-N1-C2	-6.07	117.87	120.30
1	L5	115	C	C2-N1-C1'	6.05	125.45	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	L5	3771	C	C2-N1-C1'	5.99	125.39	118.80
1	L5	931	C	C2-N1-C1'	5.93	125.33	118.80
4	LA	150	LEU	CA-CB-CG	5.85	128.76	115.30
1	L5	5026	U	C2-N1-C1'	5.83	124.69	117.70
1	L5	3956	G	P-O3'-C3'	5.80	126.66	119.70
1	L5	1238	A	OP1-P-O3'	5.80	117.95	105.20
1	L5	956	A	OP2-P-O3'	5.75	117.86	105.20
1	L5	115	C	N1-C2-O2	5.75	122.35	118.90
1	L5	4083	U	C6-N1-C1'	-5.59	113.38	121.20
57	SL	33	LEU	CA-CB-CG	5.56	128.09	115.30
76	SO	17	LEU	CA-CB-CG	5.47	127.89	115.30
1	L5	4937	C	C6-N1-C1'	-5.43	114.28	120.80
1	L5	2362	U	C2-N1-C1'	5.41	124.19	117.70
47	S2	1016	U	N3-C2-O2	-5.40	118.42	122.20
1	L5	931	C	N1-C2-O2	5.34	122.11	118.90
47	S2	1453	C	C6-N1-C1'	-5.31	114.43	120.80
1	L5	3968	U	C2-N1-C1'	5.28	124.04	117.70
47	S2	1118	C	C2-N1-C1'	5.20	124.52	118.80
1	L5	5026	U	N1-C2-O2	5.17	126.42	122.80
47	S2	1057	C	N1-C2-O2	5.15	121.99	118.90
47	S2	1453	C	N3-C2-O2	-5.10	118.33	121.90
52	SE	164	LEU	CA-CB-CG	5.08	126.98	115.30
1	L5	115	C	N3-C2-O2	-5.06	118.36	121.90
47	S2	1057	C	C2-N1-C1'	5.05	124.35	118.80
1	L5	417	G	P-O3'-C3'	5.01	125.72	119.70
1	L5	1612	G	N3-C4-N9	5.00	129.00	126.00
47	S2	1624	U	C2-N1-C1'	5.00	123.71	117.70

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
34	Lf	105	LEU	Peptide
58	SP	72	LYS	Peptide

5.2 Too-close contacts ⓘ

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of 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	L5	80184	0	40397	1417	0
2	L7	2558	0	1296	34	0
3	L8	3314	0	1683	42	0
4	LA	1898	0	1993	79	0
5	LB	3238	0	3376	117	0
6	LC	2919	0	3092	112	0
7	LD	2382	0	2410	80	0
8	LE	1958	0	2126	76	0
9	LF	1870	0	1996	68	0
10	LG	1927	0	2074	78	0
11	LH	1518	0	1601	57	0
12	LI	1711	0	1749	44	0
13	LJ	1410	0	1441	55	0
14	LL	1701	0	1818	52	0
15	LM	1138	0	1204	53	0
16	LN	1701	0	1749	74	0
17	LO	1650	0	1794	61	0
18	LP	1242	0	1269	45	0
19	LQ	1513	0	1628	49	0
20	LR	1566	0	1729	51	0
21	LS	1453	0	1490	60	0
22	LT	1298	0	1366	49	0
23	LU	825	0	850	22	0
24	LV	979	0	1039	42	0
25	LW	1015	0	1079	50	0
26	LX	985	0	1066	35	0
27	LY	1115	0	1205	40	0
28	LZ	1107	0	1182	41	0
29	La	1162	0	1213	0	0
30	Lb	610	0	650	0	0
31	Lc	764	0	804	0	0
32	Ld	888	0	930	0	0
33	Le	1053	0	1147	0	0
34	Lf	876	0	912	0	0
35	Lg	906	0	1000	0	0
36	Lh	1015	0	1148	0	0
37	Li	832	0	917	0	0
38	Lj	705	0	738	0	0
39	Lk	569	0	637	0	0
40	Ll	444	0	483	0	0
41	Lm	429	0	466	0	0
42	Ln	230	0	276	0	0
43	Lo	862	0	932	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
44	Lp	708	0	757	0	0
45	Lr	1002	0	1068	0	0
46	Lz	1741	0	1854	0	0
47	S2	36900	0	18598	741	0
48	S6	1604	0	816	42	0
49	SA	1747	0	1751	71	0
50	SB	1738	0	1809	76	0
51	SD	1765	0	1865	72	0
52	SE	2076	0	2177	97	0
53	SF	1509	0	1563	97	0
54	SH	1521	0	1616	69	0
55	SI	1686	0	1772	55	0
56	SK	827	0	854	41	0
57	SL	1247	0	1323	44	0
58	SP	804	0	841	53	0
59	SQ	1158	0	1232	43	0
60	SR	1072	0	1130	54	0
61	SS	1235	0	1309	64	0
62	ST	1112	0	1146	45	0
63	SU	821	0	883	40	0
64	SV	636	0	637	25	0
65	SX	1098	0	1167	52	0
66	Sa	847	0	896	0	0
67	Sc	506	0	536	0	0
68	Sd	445	0	442	0	0
69	Sf	581	0	597	0	0
70	Sg	2436	0	2393	0	0
71	SC	1725	0	1813	59	0
72	SG	1923	0	2089	103	0
73	SJ	1525	0	1640	81	0
74	SM	952	0	983	46	0
75	SN	1208	0	1294	44	0
76	SO	1049	0	1073	55	0
77	SW	1034	0	1080	53	0
78	SY	1065	0	1142	55	0
79	SZ	598	0	656	28	0
80	Sb	651	0	672	0	0
81	Se	459	0	503	0	0
82	L5	149	0	0	0	0
82	L7	5	0	0	0	0
82	L8	2	0	0	0	0
82	LA	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
82	LB	1	0	0	0	0
82	LH	1	0	0	0	0
82	LJ	1	0	0	0	0
82	LN	1	0	0	0	0
82	LP	1	0	0	0	0
82	LQ	1	0	0	0	0
82	La	1	0	0	0	0
82	Le	1	0	0	0	0
82	Ll	1	0	0	0	0
82	S2	66	0	0	0	0
82	S6	7	0	0	0	0
83	Lg	1	0	0	0	0
83	Lj	1	0	0	0	0
83	Lm	1	0	0	0	0
83	Lo	1	0	0	0	0
83	Lp	1	0	0	0	0
83	Sa	1	0	0	0	0
All	All	218776	0	161932	4534	0

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 15.

All (4534) 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)
25:LW:69:LYS:H	25:LW:70:LYS:HB2	1.28	0.98
1:L5:747:A:H62	1:L5:916:C:H42	1.12	0.95
47:S2:122:G:H4'	52:SE:145:ARG:HG2	1.48	0.94
58:SP:96:VAL:HG11	61:SS:118:ARG:HG3	1.53	0.91
1:L5:1961:G:H1	1:L5:2024:G:HO2'	1.12	0.90
25:LW:77:LYS:HB3	25:LW:78:PHE:HB3	1.54	0.90
50:SB:28:LYS:HD3	50:SB:48:LEU:HD21	1.52	0.90
10:LG:47:PRO:HG2	10:LG:49:ARG:HE	1.37	0.90
1:L5:3953:G:N7	1:L5:4056:A:N6	2.21	0.88
1:L5:1176:C:N3	1:L5:1183:C:N4	2.22	0.88
53:SF:127:ARG:HB3	53:SF:137:GLN:HB2	1.57	0.87
47:S2:1270:G:N2	47:S2:1513:C:N3	2.23	0.87
54:SH:144:ILE:HG23	77:SW:52:ILE:HG23	1.58	0.86
1:L5:1072:C:N4	1:L5:1239:C:N3	2.24	0.86
1:L5:4296:U:O4	1:L5:4314:C:N4	2.10	0.85
47:S2:873:G:OP1	57:SL:154:GLN:NE2	2.09	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:LC:208:CYS:HB2	6:LC:248:ARG:HE	1.40	0.85
47:S2:337:C:H2'	47:S2:338:G:H4'	1.59	0.84
57:SL:55:TYR:OH	57:SL:116:CYS:SG	2.35	0.84
47:S2:1218:C:N3	47:S2:1680:G:N2	2.25	0.84
48:S6:51:U:H3	48:S6:63:A:H61	1.24	0.84
72:SG:216:ARG:HA	72:SG:219:GLU:HG2	1.59	0.83
52:SE:95:THR:HG22	78:SY:16:ARG:HD2	1.57	0.83
76:SO:30:VAL:HG12	76:SO:94:HIS:HB2	1.60	0.83
77:SW:26:LEU:HD11	77:SW:60:LYS:HB3	1.60	0.83
59:SQ:6:PRO:HG2	59:SQ:8:GLN:HE22	1.42	0.82
72:SG:5:ILE:HG12	72:SG:111:LEU:HB3	1.61	0.82
5:LB:14:LEU:HA	5:LB:17:LEU:HD13	1.60	0.82
1:L5:1761:G:H1	1:L5:1768:C:H42	1.24	0.82
1:L5:3692:A:H62	1:L5:3823:G:H21	1.23	0.82
1:L5:4875:G:H22	1:L5:4879:C:H5'	1.43	0.82
8:LE:203:ILE:HG22	8:LE:206:VAL:HG22	1.59	0.82
51:SD:40:ARG:HH22	63:SU:66:ARG:H	38.15	0.82
72:SG:148:SER:HB3	72:SG:149:LYS:HB2	1.61	0.82
20:LR:32:ILE:HG12	20:LR:49:LEU:HD21	1.61	0.81
19:LQ:85:THR:HG22	19:LQ:104:ARG:HB2	1.62	0.81
10:LG:264:LYS:HE3	50:SB:225:LEU:HD22	1.62	0.81
58:SP:81:ARG:HD3	58:SP:82:ASP:H	1.45	0.81
1:L5:985:C:N3	1:L5:1068:G:N2	2.27	0.81
76:SO:17:LEU:HD23	76:SO:18:GLY:H	1.44	0.81
1:L5:1985:G:N2	1:L5:2005:G:O6	2.14	0.81
1:L5:4087:G:N7	4:LA:67:TYR:OH	2.13	0.81
55:SI:130:THR:HA	55:SI:134:GLU:HB2	1.61	0.81
27:LY:8:THR:HG22	27:LY:10:ASP:H	1.46	0.81
61:SS:6:PRO:HG2	61:SS:58:GLU:HB2	1.62	0.81
1:L5:2119:C:H4'	1:L5:2120:G:H4'	1.63	0.81
48:S6:74:C:H5''	48:S6:75:C:OP2	1.81	0.81
4:LA:28:ARG:HD3	4:LA:123:ARG:HD3	1.62	0.80
8:LE:84:LYS:HB2	8:LE:85:LYS:HB3	1.62	0.80
1:L5:308:G:N2	1:L5:308:G:OP2	2.14	0.80
1:L5:3716:C:O2	1:L5:3737:A:N6	2.13	0.80
58:SP:92:SER:O	58:SP:104:GLN:NE2	2.13	0.80
79:SZ:46:ASN:HB3	79:SZ:80:ARG:HA	1.62	0.80
71:SC:182:CYS:SG	71:SC:183:LYS:N	2.53	0.80
56:SK:32:HIS:H	56:SK:41:PRO:HA	1.46	0.80
47:S2:1467:C:OP1	60:SR:1:MET:N	2.15	0.79
3:L8:122:G:N1	3:L8:127:U:O4	2.13	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:925:G:H1	47:S2:1017:U:H3	1.30	0.79
47:S2:380:G:OP1	55:SI:56:ARG:NH2	2.16	0.79
65:SX:51:VAL:HA	65:SX:72:VAL:HG12	1.65	0.79
1:L5:1726:U:H3	1:L5:1836:G:H1	1.30	0.79
1:L5:223:G:N3	6:LC:223:ASN:ND2	2.30	0.79
47:S2:1537:A:H5''	62:ST:84:ARG:HH12	1.48	0.79
1:L5:4648:A:OP1	20:LR:62:ARG:NH2	2.16	0.78
47:S2:1008:A:H1'	75:SN:101:HIS:HD1	1.48	0.78
56:SK:93:THR:OG1	56:SK:95:ARG:NH1	2.16	0.78
55:SI:74:ARG:HH21	55:SI:112:TRP:HB2	1.47	0.78
21:LS:95:ARG:NH1	21:LS:112:ASP:OD2	2.17	0.78
47:S2:969:U:O2	47:S2:971:G:N2	2.17	0.78
1:L5:3641:U:OP2	1:L5:3646:A:N6	2.16	0.78
1:L5:957:G:N2	1:L5:959:G:O6	2.16	0.78
1:L5:1236:C:N3	1:L5:1238:A:N6	2.32	0.78
55:SI:48:VAL:HG11	55:SI:54:LYS:HD3	1.64	0.78
49:SA:4:ALA:H	49:SA:5:LEU:HA	1.47	0.78
58:SP:84:ILE:HG13	58:SP:85:ILE:HG12	1.66	0.78
47:S2:1058:A:N6	47:S2:1830:U:OP1	2.16	0.78
47:S2:191:A:H62	47:S2:209:A:H1'	1.49	0.78
53:SF:125:SER:HA	53:SF:138:ALA:HA	1.67	0.77
1:L5:4093:G:H3'	1:L5:4094:G:H8	1.47	0.77
7:LD:177:THR:O	7:LD:179:ARG:N	2.18	0.77
47:S2:1024:A:OP2	75:SN:124:ARG:NH2	2.18	0.77
11:LH:75:SER:O	11:LH:79:ASN:ND2	2.18	0.77
17:LO:27:VAL:O	17:LO:101:ARG:NH2	2.17	0.77
17:LO:125:LYS:HG3	17:LO:129:LEU:HD12	1.64	0.77
50:SB:34:LYS:HA	50:SB:43:ASN:HA	1.67	0.77
1:L5:2559:G:H1	1:L5:2568:C:H42	1.33	0.77
24:LV:87:SER:OG	25:LW:19:ARG:NH1	2.17	0.76
47:S2:497:C:N4	47:S2:505:G:O6	2.18	0.76
47:S2:1285:G:N2	53:SF:103:LEU:O	127.02	0.76
1:L5:1955:G:N1	1:L5:2028:C:O2	2.14	0.76
1:L5:2710:C:OP1	20:LR:39:GLN:NE2	2.18	0.76
1:L5:4735:G:H1	1:L5:4964:C:H42	1.34	0.76
1:L5:1538:U:H4'	1:L5:1629:G:H5'	1.67	0.76
16:LN:98:LEU:HD22	16:LN:128:LYS:HD2	1.68	0.76
57:SL:135:SER:O	57:SL:139:ARG:NH1	2.18	0.76
60:SR:25:GLY:H	60:SR:31:ASN:HB3	1.48	0.76
1:L5:4765:G:H22	1:L5:4869:U:H3	1.32	0.76
47:S2:691:G:H3'	47:S2:692:G:H5''	1.67	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:SC:202:THR:HG22	73:SJ:54:ARG:HD3	1.68	0.76
53:SF:134:VAL:HG12	53:SF:135:ARG:HG2	1.67	0.76
54:SH:72:PHE:HB3	54:SH:76:GLN:HE21	1.50	0.76
1:L5:1594:C:O2'	1:L5:1597:G:O2'	2.04	0.75
20:LR:103:ARG:HD3	20:LR:106:LEU:HD13	7.62	0.75
27:LY:34:LEU:HD13	27:LY:46:SER:HA	1.67	0.75
71:SC:134:ASN:O	71:SC:167:ARG:NH2	2.19	0.75
1:L5:2414:G:O6	1:L5:2429:A:N6	2.19	0.75
47:S2:65:C:OP1	72:SG:136:LYS:NZ	2.20	0.75
1:L5:1076:C:N4	1:L5:1233:G:O6	2.19	0.75
1:L5:2114:G:O2'	1:L5:2115:G:N7	2.19	0.75
1:L5:2725:A:N6	20:LR:88:ARG:O	2.19	0.75
4:LA:30:ARG:O	4:LA:163:ARG:NH2	2.20	0.75
18:LP:122:ALA:HB3	18:LP:143:PRO:HB2	1.68	0.75
1:L5:1896:A:OP2	9:LF:96:ARG:NH1	2.19	0.75
1:L5:407:A:O2'	1:L5:410:A:OP1	2.05	0.75
1:L5:513:U:O2	1:L5:645:G:N1	2.20	0.75
3:L8:118:C:N4	3:L8:132:G:O6	2.20	0.75
3:L8:12:G:N2	18:LP:120:ASN:OD1	2.20	0.75
1:L5:2702:C:OP1	23:LU:101:ARG:NH2	2.19	0.75
23:LU:104:ALA:HA	23:LU:110:TYR:HA	1.68	0.75
49:SA:147:LEU:O	49:SA:165:ASN:ND2	2.20	0.75
12:LI:135:ILE:HG22	12:LI:136:MET:HG3	1.69	0.75
27:LY:38:LEU:HA	27:LY:41:LYS:HB3	1.69	0.75
47:S2:1679:A:H2'	53:SF:60:ARG:HD2	1.69	0.75
47:S2:837:A:H2'	47:S2:838:G:H4'	1.69	0.75
1:L5:3625:G:O2'	1:L5:3626:G:OP1	2.04	0.75
1:L5:4968:A:H5'	5:LB:120:LYS:HB2	1.68	0.75
25:LW:98:PRO:HA	25:LW:99:GLU:HB3	1.69	0.75
1:L5:4635:A:H2	1:L5:4663:G:H21	1.32	0.74
1:L5:4871:C:H3'	15:LM:91:TRP:CZ3	2.22	0.74
47:S2:583:C:OP1	73:SJ:162:ARG:NH2	2.19	0.74
1:L5:2300:A:N1	6:LC:181:LYS:NZ	2.34	0.74
14:LL:54:PRO:HA	14:LL:55:ILE:HG22	1.68	0.74
52:SE:125:LYS:NZ	52:SE:225:ILE:O	2.18	0.74
25:LW:87:LEU:HD22	72:SG:160:LYS:HB3	1.68	0.74
78:SY:91:LEU:HB3	78:SY:96:LEU:HD11	1.68	0.74
1:L5:501:C:H41	1:L5:503:C:H41	1.35	0.74
1:L5:975:C:OP1	9:LF:47:ARG:NH2	2.19	0.74
1:L5:229:G:H5'	27:LY:11:ARG:HG3	1.68	0.74
1:L5:3766:A:N6	47:S2:1828:C:O2	2.20	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:LC:66:SER:HB2	6:LC:77:PRO:HA	1.69	0.74
16:LN:73:ARG:HB3	16:LN:89:VAL:HG23	1.70	0.74
47:S2:877:C:H5'	47:S2:878:G:H5''	1.68	0.74
5:LB:285:TYR:HB2	5:LB:332:MET:HB3	1.67	0.74
19:LQ:20:SER:O	19:LQ:26:ARG:NH2	2.20	0.74
1:L5:1440:U:O2	1:L5:1441:C:N4	2.20	0.74
1:L5:1802:A:N3	22:LT:130:ARG:NH1	2.35	0.74
6:LC:283:LYS:H	19:LQ:24:TYR:HE2	1.36	0.74
47:S2:594:A:H4'	47:S2:595:U:H5'	1.70	0.74
18:LP:116:HIS:HB3	18:LP:149:ILE:HB	1.70	0.74
24:LV:71:GLU:O	24:LV:75:LYS:NZ	2.20	0.74
47:S2:493:A:H1'	47:S2:574:A:H5'	1.70	0.74
1:L5:715:G:H1	1:L5:953:C:H42	1.36	0.74
50:SB:122:GLU:OE2	50:SB:213:ARG:NH1	2.20	0.74
11:LH:30:PRO:HG2	11:LH:85:THR:HG22	1.70	0.73
47:S2:354:U:OP1	57:SL:90:ARG:NH1	2.21	0.73
3:L8:85:U:H2'	3:L8:86:U:H4'	1.70	0.73
51:SD:137:VAL:HB	51:SD:185:LYS:HB3	1.69	0.73
65:SX:46:HIS:HB3	65:SX:101:LEU:HD21	1.70	0.73
14:LL:171:GLU:HA	14:LL:174:LYS:HD3	1.69	0.73
47:S2:506:G:OP1	78:SY:108:LYS:NZ	2.21	0.73
7:LD:261:VAL:HG12	7:LD:263:LYS:H	1.54	0.73
53:SF:111:VAL:HG13	53:SF:181:ALA:HB2	1.71	0.73
8:LE:153:LEU:HD11	8:LE:195:ILE:HG13	1.70	0.73
50:SB:88:THR:OG1	50:SB:96:CYS:SG	2.46	0.73
5:LB:217:ILE:HD11	5:LB:333:LEU:HD21	1.70	0.73
6:LC:228:THR:OG1	6:LC:248:ARG:NH2	2.21	0.73
49:SA:177:MET:SD	49:SA:180:ARG:NH2	2.62	0.73
47:S2:581:U:OP1	73:SJ:133:ARG:NH2	2.21	0.73
47:S2:795:A:H2'	47:S2:796:G:H8	1.53	0.73
9:LF:148:LYS:HG3	9:LF:245:ARG:HH11	1.54	0.73
21:LS:109:CYS:O	21:LS:111:ARG:N	2.21	0.73
47:S2:996:A:OP1	75:SN:114:ARG:NH1	2.21	0.73
78:SY:20:ARG:NH1	78:SY:74:MET:SD	2.62	0.73
1:L5:1886:G:H1	1:L5:1893:C:H42	1.37	0.73
1:L5:3702:A:O2'	1:L5:3774:A:OP1	2.07	0.73
1:L5:4136:G:H1	1:L5:4148:C:H42	1.37	0.73
1:L5:4745:G:H1	1:L5:4955:A:H2	1.37	0.73
26:LX:56:ARG:HG2	26:LX:58:PRO:HD3	1.70	0.73
64:SV:4:ASP:HB3	71:SC:174:ILE:HA	1.69	0.73
1:L5:2574:G:N7	1:L5:2760:G:N2	2.37	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:LL:25:TRP:HE1	16:LN:199:GLN:HB3	1.54	0.72
61:SS:23:ARG:HH22	79:SZ:47:LEU:HA	1.53	0.72
1:L5:2760:G:O2'	1:L5:2762:G:N2	2.22	0.72
1:L5:977:C:H2'	1:L5:978:G:H8	1.53	0.72
1:L5:3857:G:H5''	18:LP:86:LYS:HB2	1.69	0.72
61:SS:35:GLY:HA3	61:SS:99:LEU:HG	1.70	0.72
75:SN:34:LYS:HG2	75:SN:74:ILE:HD11	1.71	0.72
12:LI:188:LYS:HD2	12:LI:213:HIS:HD2	1.54	0.72
47:S2:127:C:H1'	47:S2:129:C:H5'	1.72	0.72
7:LD:84:PRO:HB3	7:LD:89:LYS:HD3	1.70	0.72
8:LE:136:HIS:O	8:LE:138:ARG:NH1	2.23	0.72
47:S2:383:G:H21	57:SL:133:PRO:HG2	1.53	0.72
74:SM:50:CYS:SG	74:SM:51:VAL:N	2.62	0.72
1:L5:3663:A:OP1	4:LA:119:LYS:NZ	2.22	0.72
53:SF:15:PRO:HD3	59:SQ:57:LEU:HG	1.72	0.72
14:LL:153:PRO:HG2	14:LL:156:PRO:HG3	1.72	0.72
24:LV:21:PRO:HA	24:LV:54:ALA:HA	1.71	0.72
74:SM:50:CYS:HB3	74:SM:75:ASN:HB3	1.72	0.72
60:SR:95:ILE:H	60:SR:96:ILE:HA	1.55	0.72
4:LA:70:LYS:HD2	4:LA:72:ARG:HE	1.55	0.72
47:S2:1550:G:H3'	47:S2:1579:A:H61	1.54	0.72
47:S2:1648:G:N2	47:S2:1675:A:OP2	2.22	0.72
50:SB:32:ASP:HA	50:SB:46:LYS:HA	1.71	0.72
53:SF:78:MET:O	53:SF:83:ASN:ND2	2.23	0.72
27:LY:87:ARG:HB3	27:LY:95:VAL:HB	1.72	0.71
1:L5:4980:C:N3	18:LP:69:ARG:NH2	2.38	0.71
57:SL:77:VAL:HA	57:SL:88:ILE:HG22	1.71	0.71
74:SM:51:VAL:HG23	74:SM:77:ILE:HB	1.72	0.71
1:L5:1734:G:O2'	1:L5:1793:A:N6	2.22	0.71
22:LT:8:ARG:NH2	22:LT:52:MET:SD	2.64	0.71
25:LW:66:GLU:HB2	25:LW:67:ILE:HG13	1.72	0.71
47:S2:1130:G:H4'	75:SN:10:GLY:HA2	1.71	0.71
52:SE:101:LEU:HG	52:SE:111:VAL:HA	1.72	0.71
1:L5:3956:G:O2'	1:L5:3957:U:OP2	2.08	0.71
1:L5:734:G:N1	1:L5:931:C:OP1	2.23	0.71
1:L5:979:C:O2	1:L5:1275:G:N1	2.18	0.71
1:L5:470:A:N1	8:LE:105:ARG:NH1	2.38	0.71
51:SD:132:LYS:HE2	51:SD:191:PRO:HA	1.73	0.71
73:SJ:35:TYR:O	73:SJ:111:GLN:NE2	2.23	0.71
76:SO:12:GLU:HA	76:SO:13:GLN:HG3	1.73	0.71
1:L5:2458:C:O2'	1:L5:3671:G:N3	2.23	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:SY:60:PHE:H	78:SY:71:GLY:HA2	1.55	0.71
1:L5:4883:C:OP2	15:LM:117:LYS:NZ	2.23	0.71
47:S2:1539:U:H5'	62:ST:45:LEU:HB3	1.73	0.71
71:SC:202:THR:OG1	71:SC:221:ASP:OD2	2.08	0.71
1:L5:4935:C:H2'	8:LE:183:ARG:HH22	1.56	0.71
73:SJ:4:ALA:N	73:SJ:5:ARG:HB2	2.06	0.71
1:L5:1818:G:N2	1:L5:1818:G:OP2	2.24	0.71
8:LE:220:LYS:HG3	8:LE:221:LYS:H	1.55	0.71
50:SB:33:VAL:HG22	50:SB:96:CYS:HB3	1.73	0.71
71:SC:116:THR:OG1	71:SC:119:GLY:O	2.08	0.71
5:LB:188:GLY:O	5:LB:193:LYS:NZ	2.24	0.70
1:L5:2334:C:N4	6:LC:189:MET:O	2.24	0.70
1:L5:2385:U:H4'	20:LR:3:MET:HG3	1.71	0.70
52:SE:164:LEU:HD12	52:SE:165:GLU:H	1.55	0.70
53:SF:123:GLU:HG3	53:SF:200:ALA:HB2	1.71	0.70
64:SV:16:LYS:HG2	64:SV:23:ILE:HG22	1.73	0.70
63:SU:25:THR:HG22	63:SU:86:LYS:HA	1.74	0.70
47:S2:1583:C:H5''	47:S2:1584:G:H2'	1.73	0.70
72:SG:205:GLU:O	72:SG:209:TYR:N	2.23	0.70
58:SP:18:ARG:HH21	61:SS:93:GLY:HA2	1.55	0.70
77:SW:37:PHE:HE1	77:SW:103:VAL:HG21	1.55	0.70
8:LE:223:ARG:HB3	8:LE:224:LYS:HA	1.73	0.70
10:LG:193:LEU:HD12	10:LG:194:VAL:HG23	1.72	0.70
11:LH:23:ARG:HA	11:LH:45:LEU:HD12	1.72	0.70
47:S2:1253:A:OP2	47:S2:1526:G:N2	2.23	0.70
47:S2:190:G:OP1	55:SI:149:TYR:OH	2.09	0.70
47:S2:219:U:O2'	55:SI:186:ASP:OD2	2.08	0.70
1:L5:1387:A:N6	1:L5:1397:A:OP2	2.20	0.70
1:L5:4242:U:O2	1:L5:4283:G:N2	2.25	0.70
1:L5:2667:C:OP1	20:LR:100:ARG:NH2	2.23	0.70
50:SB:182:LYS:HG2	50:SB:231:LEU:HD13	1.72	0.70
5:LB:303:ALA:HB1	5:LB:368:ILE:HG21	1.74	0.70
1:L5:2755:A:OP2	28:LZ:51:ARG:NH2	2.24	0.70
18:LP:112:LEU:HD21	18:LP:150:LEU:HD13	1.74	0.70
56:SK:14:LEU:HD11	56:SK:35:LEU:HD22	1.74	0.70
1:L5:3965:A:N7	1:L5:4049:U:O2'	2.24	0.70
18:LP:16:LYS:O	18:LP:101:ASN:ND2	2.24	0.70
47:S2:852:G:N2	47:S2:853:C:N3	2.40	0.70
49:SA:2:SER:HB3	49:SA:56:GLU:HG2	1.73	0.70
1:L5:1751:A:OP2	12:LI:40:LYS:NZ	2.24	0.70
14:LL:50:PRO:HB3	14:LL:150:LEU:HD13	1.72	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:LO:54:TYR:OH	17:LO:73:PHE:O	2.09	0.70
4:LA:246:LEU:HD13	47:S2:1069:U:H4'	1.73	0.70
47:S2:1430:C:OP1	62:ST:7:LYS:NZ	2.25	0.70
1:L5:1957:U:O2	1:L5:1958:A:N6	2.24	0.69
6:LC:78:ARG:NH2	6:LC:89:GLN:O	2.25	0.69
47:S2:1756:C:H42	47:S2:1776:G:H22	1.40	0.69
47:S2:753:C:OP1	47:S2:792:C:O2'	2.10	0.69
1:L5:237:G:O2'	1:L5:238:C:OP1	2.10	0.69
50:SB:66:VAL:HG22	50:SB:87:ILE:HG22	1.74	0.69
58:SP:22:LEU:HA	58:SP:25:LEU:HB2	1.73	0.69
1:L5:3699:C:O2'	1:L5:3775:A:O2'	2.11	0.69
1:L5:4629:U:O2'	25:LW:19:ARG:NH2	2.25	0.69
48:S6:8:G:O2'	48:S6:49:G:OP2	2.08	0.69
55:SI:8:TRP:HA	55:SI:18:ARG:HH21	1.57	0.69
1:L5:2630:U:O4	23:LU:89:LYS:NZ	2.22	0.69
6:LC:188:ARG:HG3	6:LC:202:ILE:HG13	1.75	0.69
11:LH:102:ASN:HB2	11:LH:115:ARG:HB2	1.74	0.69
52:SE:11:ARG:NH1	52:SE:21:ASP:OD1	2.25	0.69
1:L5:994:G:N2	1:L5:1049:C:O2	2.25	0.69
1:L5:2809:G:O2'	1:L5:4644:G:OP1	2.09	0.69
12:LI:42:LYS:HG2	12:LI:194:GLY:HA2	1.74	0.69
50:SB:71:LEU:HD13	50:SB:82:ARG:HG3	1.73	0.69
1:L5:1973:G:N1	1:L5:1994:C:N3	2.40	0.69
47:S2:1271:C:N4	47:S2:1512:C:N3	2.41	0.69
49:SA:156:TYR:O	64:SV:60:ARG:NH2	2.26	0.69
52:SE:183:VAL:HG23	52:SE:189:LEU:HA	1.75	0.69
1:L5:1562:G:N2	1:L5:1565:A:OP2	2.25	0.69
1:L5:1271:G:H22	1:L5:2122:G:H5''	1.58	0.69
1:L5:957:G:O2'	1:L5:958:G:OP2	2.11	0.69
50:SB:103:MET:HG2	50:SB:215:VAL:HG12	1.74	0.69
73:SJ:136:ARG:NH1	73:SJ:138:ARG:O	2.25	0.69
1:L5:1352:C:OP2	19:LQ:104:ARG:NH1	2.26	0.69
1:L5:4431:U:OP2	12:LI:3:ARG:NH2	2.26	0.69
47:S2:380:G:N1	47:S2:383:G:OP2	2.26	0.69
76:SO:34:PHE:HB3	76:SO:41:PHE:HB2	1.75	0.69
1:L5:291:U:O2'	16:LN:182:HIS:NE2	2.21	0.68
1:L5:4589:A:N1	1:L5:4621:C:O2'	2.26	0.68
2:L7:113:G:N2	7:LD:72:ASP:O	2.27	0.68
1:L5:3748:A:OP1	4:LA:243:THR:OG1	2.11	0.68
5:LB:113:GLU:OE2	5:LB:168:MET:N	2.26	0.68
1:L5:76:A:H5'	14:LL:101:ARG:HH12	1.58	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1540:G:OP2	62:ST:43:LYS:NZ	2.20	0.68
47:S2:950:C:H42	47:S2:976:G:H1	1.40	0.68
1:L5:3783:A:H2	1:L5:3790:U:H3	1.38	0.68
1:L5:476:G:O6	1:L5:678:C:N4	2.26	0.68
47:S2:815:U:H2'	47:S2:816:A:H8	1.57	0.68
72:SG:54:GLY:HA3	72:SG:63:MET:HG2	1.76	0.68
1:L5:970:G:H22	8:LE:126:LEU:HD21	1.59	0.68
2:L7:67:C:N3	2:L7:108:G:N2	2.41	0.68
1:L5:1090:G:OP1	22:LT:142:ARG:NH1	2.25	0.68
28:LZ:12:LEU:HB2	28:LZ:81:MET:HB3	1.75	0.68
47:S2:920:A:O2'	47:S2:922:A:O5'	2.11	0.68
1:L5:2298:U:OP1	6:LC:204:ARG:NH2	2.26	0.68
48:S6:38:A:N7	53:SF:133:THR:N	2.42	0.68
47:S2:1609:C:OP1	61:SS:131:VAL:N	2.25	0.68
52:SE:56:LEU:HD12	78:SY:22:GLN:HE22	1.58	0.68
47:S2:1121:G:N2	50:SB:202:GLN:O	2.24	0.68
51:SD:54:ARG:HE	51:SD:57:ASN:HD22	1.41	0.68
73:SJ:137:VAL:HG22	73:SJ:157:ILE:HG22	1.74	0.68
47:S2:574:A:H4'	78:SY:89:HIS:HB2	1.76	0.68
1:L5:966:A:N6	1:L5:2253:A:OP2	2.25	0.68
5:LB:234:ARG:NH1	5:LB:268:ARG:O	2.27	0.68
5:LB:357:ARG:HD3	5:LB:360:LEU:HD21	1.74	0.68
47:S2:1036:A:N3	47:S2:1844:U:O2'	2.27	0.68
52:SE:75:LYS:O	52:SE:77:ARG:N	2.26	0.68
47:S2:317:C:OP1	72:SG:183:ARG:NH1	2.26	0.68
75:SN:29:THR:HG22	75:SN:31:ASP:H	1.59	0.68
75:SN:76:LYS:HD3	75:SN:81:ALA:HB3	1.75	0.68
1:L5:663:G:N2	1:L5:664:G:N7	2.41	0.68
5:LB:254:ILE:HG21	5:LB:262:VAL:HG22	1.75	0.68
6:LC:198:ASN:ND2	27:LY:10:ASP:OD1	2.26	0.68
71:SC:101:SER:OG	71:SC:132:ASP:OD1	2.12	0.68
73:SJ:138:ARG:NH2	73:SJ:153:SER:OG	2.26	0.68
56:SK:80:ARG:HA	56:SK:85:LEU:HD12	1.75	0.68
1:L5:1436:C:H5''	1:L5:2119:C:H42	1.59	0.67
1:L5:4200:G:N2	1:L5:4221:C:O2	2.23	0.67
1:L5:1187:G:H1'	7:LD:275:GLN:HE21	1.59	0.67
48:S6:11:G:N7	48:S6:26:G:N2	2.41	0.67
5:LB:305:THR:HG22	5:LB:307:TYR:H	1.58	0.67
13:LJ:106:GLY:HA3	13:LJ:131:TYR:HA	1.75	0.67
47:S2:1047:C:H42	47:S2:1071:G:H1	1.42	0.67
47:S2:1445:U:O4	47:S2:1446:A:N6	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:563:G:O2'	73:SJ:131:ARG:NH1	2.28	0.67
47:S2:795:A:H62	54:SH:109:ARG:HH22	1.41	0.67
53:SF:54:GLY:O	59:SQ:125:ARG:NH2	2.27	0.67
1:L5:1397:A:HO2'	1:L5:1467:C:HO2'	1.37	0.67
1:L5:3599:A:OP1	55:SI:200:ARG:NH1	2.27	0.67
1:L5:4093:G:H3'	1:L5:4094:G:C8	2.30	0.67
1:L5:2267:U:OP1	20:LR:37:SER:OG	115.16	0.67
1:L5:2541:G:H1	1:L5:2775:C:H42	1.42	0.67
1:L5:4078:C:O2'	1:L5:4172:A:N6	2.27	0.67
9:LF:228:VAL:HA	21:LS:39:VAL:HG12	1.75	0.67
1:L5:1242:G:H1	1:L5:1269:G:H21	1.42	0.67
1:L5:2514:G:H21	1:L5:2744:A:H2	1.41	0.67
1:L5:961:G:H2'	8:LE:123:ARG:HB2	1.76	0.67
1:L5:963:G:OP1	20:LR:107:ARG:NH1	173.19	0.67
1:L5:970:G:OP2	1:L5:970:G:N2	2.28	0.67
4:LA:247:ARG:NH1	4:LA:249:THR:O	2.27	0.67
1:L5:687:U:H4'	8:LE:106:VAL:HG11	1.77	0.67
47:S2:1218:C:H1'	47:S2:1683:C:H42	1.60	0.67
47:S2:127:C:N4	47:S2:180:G:O2'	2.27	0.67
60:SR:107:LYS:HA	60:SR:110:ASP:HB3	1.77	0.67
61:SS:120:HIS:CE1	61:SS:124:ARG:HE	2.12	0.67
1:L5:2669:C:O2'	1:L5:2670:C:O5'	2.12	0.67
27:LY:87:ARG:HB2	27:LY:97:VAL:HG23	1.77	0.67
47:S2:1354:G:N2	47:S2:1357:A:OP2	2.25	0.67
47:S2:1606:G:HO2'	47:S2:1607:A:H8	1.40	0.67
47:S2:14:C:OP1	71:SC:235:ASN:ND2	2.28	0.67
60:SR:44:LYS:HG3	60:SR:47:ARG:HH22	1.60	0.67
63:SU:66:ARG:NH1	63:SU:68:THR:OG1	2.28	0.67
79:SZ:83:LEU:O	79:SZ:87:ALA:N	2.22	0.67
1:L5:2645:G:O6	1:L5:2689:C:N4	2.20	0.67
14:LL:50:PRO:O	14:LL:52:SER:N	2.26	0.67
52:SE:105:THR:HG23	52:SE:106:LYS:HG2	1.74	0.67
55:SI:76:THR:HG22	55:SI:108:PRO:HG2	1.77	0.67
1:L5:2089:G:H21	6:LC:307:LYS:HE3	1.60	0.66
1:L5:2543:A:H2'	1:L5:2546:G:H21	1.60	0.66
6:LC:301:ALA:HB1	19:LQ:132:LYS:HE2	1.77	0.66
8:LE:277:LEU:HA	8:LE:281:ILE:HD11	1.77	0.66
16:LN:114:ARG:HE	16:LN:137:PRO:HB3	1.60	0.66
16:LN:38:ARG:HH21	16:LN:60:VAL:HG12	1.59	0.66
22:LT:135:PRO:O	22:LT:137:GLU:N	2.22	0.66
26:LX:83:THR:HG22	26:LX:85:SER:H	1.60	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:LY:2:LYS:HD2	27:LY:7:VAL:HG23	1.75	0.66
47:S2:388:U:O4	47:S2:389:A:N6	2.24	0.66
53:SF:188:TYR:HA	53:SF:191:LYS:HB2	1.77	0.66
1:L5:1440:U:O2'	1:L5:1442:C:N4	2.23	0.66
25:LW:79:GLN:HA	25:LW:80:ARG:HB3	1.77	0.66
1:L5:3807:A:HO2'	47:S2:1816:G:HO2'	1.38	0.66
47:S2:71:G:O2'	47:S2:72:C:OP1	2.13	0.66
76:SO:130:GLU:HG2	76:SO:131:ASP:H	1.61	0.66
78:SY:88:LYS:HE2	78:SY:99:LYS:HE2	1.77	0.66
1:L5:174:C:N3	1:L5:263:G:N2	2.42	0.66
1:L5:3715:U:OP1	48:S6:4:C:O2'	2.14	0.66
47:S2:1588:A:O2'	47:S2:1589:A:O5'	2.13	0.66
61:SS:44:VAL:HG13	61:SS:70:ILE:HG13	1.77	0.66
1:L5:4525:C:OP1	5:LB:246:ARG:NH1	2.29	0.66
1:L5:943:A:H3'	9:LF:148:LYS:HD3	1.76	0.66
47:S2:798:A:N6	47:S2:801:U:O5'	2.23	0.66
52:SE:52:LEU:HD21	52:SE:111:VAL:HG11	1.76	0.66
1:L5:1516:G:O2'	14:LL:18:TRP:NE1	2.24	0.66
1:L5:2634:C:H5'	20:LR:59:SER:HA	1.77	0.66
1:L5:4769:G:H1	1:L5:4865:C:H42	1.43	0.66
1:L5:4907:G:H1	1:L5:4914:C:H42	1.43	0.66
4:LA:150:LEU:HD12	4:LA:151:PRO:HD2	1.76	0.66
6:LC:250:CYS:HB3	6:LC:252:TRP:HE1	1.60	0.66
1:L5:2533:C:OP2	26:LX:123:LYS:NZ	2.29	0.66
58:SP:36:LEU:O	58:SP:38:SER:N	2.27	0.66
5:LB:282:LYS:HE2	5:LB:337:VAL:HG22	1.78	0.66
47:S2:847:A:N6	47:S2:848:U:O2	2.29	0.66
47:S2:1598:G:H2'	79:SZ:82:SER:HB3	1.77	0.66
9:LF:113:ARG:NH2	9:LF:208:LEU:O	2.28	0.66
17:LO:78:ARG:HD3	17:LO:81:TRP:HB3	1.77	0.66
25:LW:74:ARG:NH2	47:S2:1779:G:N7	2.44	0.66
56:SK:5:LYS:HA	56:SK:8:ARG:HB2	1.78	0.66
1:L5:1872:G:O2'	1:L5:4219:A:N3	2.27	0.66
10:LG:67:ARG:NH1	16:LN:29:GLN:OE1	2.23	0.66
50:SB:174:ARG:HG3	50:SB:175:GLU:HG2	1.77	0.66
51:SD:210:ILE:HD11	60:SR:16:ILE:HD13	1.77	0.66
1:L5:2811:G:N2	1:L5:2814:C:OP2	2.27	0.66
1:L5:2867:C:H42	1:L5:2883:G:H1	1.44	0.66
1:L5:3846:C:HO2'	1:L5:4632:U:HO2'	1.40	0.66
1:L5:4041:C:OP1	1:L5:4045:G:N1	2.29	0.66
1:L5:3960:A:N6	1:L5:4046:A:OP1	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:709:C:H42	1:L5:1287:G:H1	1.44	0.66
1:L5:2007:G:H1'	1:L5:2008:U:H5	1.60	0.66
71:SC:188:CYS:SG	71:SC:189:GLY:N	2.69	0.66
52:SE:42:LEU:HD21	52:SE:47:PHE:HB2	1.78	0.66
5:LB:340:THR:HG22	5:LB:343:ARG:HH12	1.61	0.65
47:S2:1605:G:OP1	62:ST:84:ARG:NH2	2.30	0.65
5:LB:175:GLN:HE21	5:LB:177:LYS:HB3	1.61	0.65
7:LD:104:LEU:HB2	7:LD:247:ILE:HD11	1.78	0.65
47:S2:1589:A:O3'	62:ST:82:ARG:NH1	2.28	0.65
49:SA:2:SER:HB2	49:SA:59:LEU:HD21	1.79	0.65
49:SA:54:THR:HG22	49:SA:162:PRO:HG2	1.77	0.65
47:S2:1103:C:OP1	50:SB:157:GLN:NE2	2.25	0.65
1:L5:1444:G:N2	1:L5:2102:G:O6	2.29	0.65
1:L5:3784:A:O2'	1:L5:3785:A:OP1	2.14	0.65
1:L5:48:G:N2	1:L5:49:U:O4	2.20	0.65
1:L5:683:C:O2'	8:LE:101:ASN:N	2.22	0.65
5:LB:201:LEU:HD23	5:LB:202:GLU:HG2	1.78	0.65
20:LR:78:ILE:HA	20:LR:81:ARG:HH11	1.60	0.65
47:S2:1281:G:H5''	74:SM:101:ARG:HG2	1.78	0.65
58:SP:37:TYR:O	58:SP:42:ARG:NH2	2.30	0.65
58:SP:84:ILE:HG23	58:SP:85:ILE:H	1.60	0.65
61:SS:44:VAL:HG22	61:SS:70:ILE:HG21	1.78	0.65
65:SX:34:THR:O	65:SX:36:LEU:N	2.29	0.65
1:L5:2789:A:O2'	14:LL:45:ARG:NH2	84.29	0.65
1:L5:4086:G:H5''	10:LG:54:PHE:HB3	1.78	0.65
1:L5:4730:C:OP2	1:L5:4965:U:O2'	2.13	0.65
1:L5:974:C:N3	6:LC:323:ARG:NH1	2.45	0.65
6:LC:104:PRO:O	6:LC:106:LYS:NZ	2.29	0.65
13:LJ:99:PHE:HB2	13:LJ:159:LYS:HE3	1.78	0.65
51:SD:198:ILE:HG23	51:SD:200:PRO:HD3	1.77	0.65
53:SF:18:LYS:HE3	53:SF:46:ALA:H	1.61	0.65
6:LC:362:GLN:HA	6:LC:365:SER:HB2	1.79	0.65
6:LC:316:LYS:HE3	6:LC:324:ILE:HD11	1.79	0.65
51:SD:106:ARG:HG3	51:SD:107:TYR:H	1.61	0.65
77:SW:3:ARG:HH22	77:SW:28:ARG:HD2	1.60	0.65
78:SY:109:GLU:OE2	78:SY:113:ARG:NE	2.30	0.65
78:SY:127:ALA:HA	78:SY:130:LYS:HD3	1.77	0.65
1:L5:2527:A:OP1	20:LR:9:ARG:NH1	2.27	0.65
53:SF:191:LYS:HA	53:SF:194:ASP:HB2	1.78	0.65
76:SO:14:VAL:H	76:SO:15:ILE:HA	1.61	0.65
19:LQ:61:LEU:HD22	19:LQ:82:VAL:HG11	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:LZ:53:VAL:HG13	28:LZ:54:THR:H	1.62	0.65
53:SF:120:GLY:HA3	53:SF:146:ARG:HE	1.61	0.65
60:SR:81:ARG:NH1	60:SR:84:TYR:OH	2.30	0.65
1:L5:4302:U:H4'	22:LT:5:LYS:HD3	1.78	0.65
4:LA:79:ALA:H	4:LA:82:ILE:HD12	1.62	0.65
47:S2:1707:U:O2'	47:S2:1849:G:N2	2.30	0.65
47:S2:190:G:O2'	47:S2:209:A:N6	2.30	0.65
54:SH:147:LYS:HB3	54:SH:151:SER:HB3	1.78	0.65
64:SV:36:VAL:HG12	64:SV:37:ALA:H	1.60	0.65
65:SX:101:LEU:HD13	65:SX:124:LYS:HD3	1.78	0.65
1:L5:137:G:H2'	1:L5:138:G:H8	1.61	0.65
1:L5:3973:G:H21	1:L5:4051:C:H5'	1.60	0.65
1:L5:4384:U:O2'	1:L5:4386:C:OP1	2.14	0.65
5:LB:57:VAL:HG22	5:LB:73:VAL:HG12	1.79	0.65
7:LD:64:ILE:HG13	7:LD:105:LEU:HD21	1.79	0.65
1:L5:1698:C:H3'	9:LF:177:ARG:HH21	1.61	0.65
12:LI:66:GLU:OE1	12:LI:69:ARG:NH1	2.29	0.65
47:S2:1204:A:OP1	71:SC:117:ARG:NE	2.26	0.64
47:S2:1280:G:H22	47:S2:1317:C:H41	1.45	0.64
71:SC:94:ILE:HD11	71:SC:98:LEU:HD12	1.79	0.64
51:SD:107:TYR:HA	51:SD:110:LEU:HB2	1.77	0.64
52:SE:71:LYS:HG3	52:SE:91:SER:HB2	1.79	0.64
47:S2:145:G:OP1	72:SG:139:SER:OG	2.15	0.64
47:S2:649:U:H1'	65:SX:45:SER:HB3	1.78	0.64
79:SZ:111:ARG:HG2	79:SZ:112:ASN:H	1.62	0.64
1:L5:3689:G:O2'	1:L5:3818:U:OP2	2.14	0.64
1:L5:1868:A:HO2'	1:L5:4402:C:HO2'	1.44	0.64
3:L8:93:C:HO2'	3:L8:94:G:H8	1.45	0.64
1:L5:1743:A:H1'	7:LD:15:ARG:HH21	1.61	0.64
54:SH:83:LEU:HD11	54:SH:92:VAL:HG11	1.79	0.64
64:SV:19:ALA:O	77:SW:23:ARG:NH2	2.30	0.64
1:L5:4281:A:H2'	1:L5:4282:A:H2'	1.79	0.64
1:L5:4128:A:H1'	10:LG:35:ARG:HG2	1.79	0.64
1:L5:4367:G:OP2	19:LQ:183:SER:OG	2.15	0.64
47:S2:1453:C:N3	47:S2:1475:G:N2	2.44	0.64
51:SD:54:ARG:NE	51:SD:57:ASN:HD22	1.95	0.64
75:SN:47:PRO:HD2	75:SN:86:GLU:HG3	1.79	0.64
58:SP:74:GLU:H	58:SP:93:MET:H	1.43	0.64
1:L5:3772:U:H4'	1:L5:3772:U:OP1	1.98	0.64
9:LF:116:GLN:O	9:LF:119:ASN:ND2	2.30	0.64
2:L7:55:A:O2'	13:LJ:151:ILE:O	2.15	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:SQ:93:VAL:HG13	59:SQ:105:LYS:HG3	1.79	0.64
47:S2:1629:C:O2'	61:SS:85:ASN:OD1	2.12	0.64
62:ST:9:VAL:HG21	62:ST:135:ALA:HB1	1.79	0.64
1:L5:1840:G:OP2	1:L5:1840:G:N2	2.27	0.64
1:L5:2106:G:N1	1:L5:2126:G:N7	2.45	0.64
1:L5:984:C:O2	1:L5:1069:G:N2	2.25	0.64
6:LC:358:ALA:O	6:LC:362:GLN:N	2.31	0.64
18:LP:112:LEU:HD11	18:LP:150:LEU:HB3	1.79	0.64
27:LY:79:VAL:HG13	27:LY:99:ILE:H	1.61	0.64
54:SH:145:ARG:NH2	77:SW:49:GLU:OE1	2.31	0.64
1:L5:2300:A:OP2	8:LE:83:LYS:NZ	48.36	0.64
1:L5:467:U:H3	1:L5:689:U:H3	1.43	0.64
10:LG:251:ALA:O	10:LG:255:LYS:N	2.31	0.64
50:SB:130:THR:OG1	50:SB:178:THR:O	2.14	0.64
72:SG:49:VAL:HG22	72:SG:115:LYS:HB2	1.79	0.64
54:SH:191:GLU:HG3	54:SH:193:GLN:H	1.61	0.64
1:L5:1802:A:H5''	1:L5:1803:G:H5'	1.79	0.64
1:L5:66:A:N6	1:L5:282:C:O2'	2.29	0.64
8:LE:147:GLY:HA2	8:LE:203:ILE:HD12	1.80	0.64
47:S2:814:U:OP1	52:SE:22:LYS:NZ	2.30	0.64
77:SW:37:PHE:CE1	77:SW:103:VAL:HG21	2.33	0.64
1:L5:4541:G:N2	1:L5:4544:A:OP2	2.30	0.64
15:LM:3:PHE:HB3	15:LM:6:PHE:HE1	1.62	0.64
1:L5:2626:U:O4	23:LU:97:ARG:NH1	2.31	0.64
47:S2:1488:C:O2'	47:S2:1490:G:OP2	2.16	0.64
47:S2:556:U:O2'	47:S2:558:G:OP2	2.15	0.64
47:S2:960:U:O2'	47:S2:962:A:N7	2.25	0.64
1:L5:472:C:H42	1:L5:682:G:H22	1.46	0.64
5:LB:57:VAL:HB	5:LB:367:PHE:HB3	1.78	0.64
7:LD:107:ARG:HG3	7:LD:251:PRO:HB3	1.79	0.64
15:LM:20:HIS:HB3	15:LM:23:LYS:HD2	1.79	0.64
21:LS:173:ASN:OD1	21:LS:174:THR:N	2.30	0.64
47:S2:1311:C:N4	47:S2:1312:G:O6	2.31	0.64
47:S2:1858:G:OP2	76:SO:146:ARG:NH2	2.31	0.64
47:S2:390:C:O2'	57:SL:8:ARG:NH2	2.31	0.64
72:SG:212:LEU:O	72:SG:216:ARG:N	2.28	0.64
54:SH:163:GLN:HE21	54:SH:189:PHE:HE2	1.46	0.64
1:L5:35:U:O2'	1:L5:1525:A:N1	2.31	0.64
1:L5:1552:G:H2'	1:L5:1574:G:N2	2.13	0.64
1:L5:4191:G:H1	1:L5:4204:C:H42	1.45	0.64
2:L7:53:U:H4'	2:L7:54:A:H5'	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:LF:124:LYS:NZ	9:LF:126:ASN:OD1	2.28	0.64
1:L5:1596:U:O2'	18:LP:135:ARG:NH2	2.31	0.64
47:S2:1267:C:N4	47:S2:1515:G:O6	2.31	0.64
47:S2:1738:C:OP1	72:SG:92:ARG:NH2	2.30	0.64
1:L5:3654:G:O2'	1:L5:3693:U:OP1	2.16	0.63
3:L8:141:C:O2'	16:LN:136:ASP:OD2	2.16	0.63
8:LE:96:VAL:N	8:LE:97:GLY:HA2	2.13	0.63
10:LG:115:LEU:O	10:LG:119:GLU:N	2.21	0.63
27:LY:49:ILE:HG21	27:LY:80:ILE:HD11	1.80	0.63
49:SA:12:GLU:HG3	49:SA:13:GLU:H	1.63	0.63
49:SA:33:GLN:HB2	49:SA:154:LEU:HD12	1.80	0.63
47:S2:39:A:H5'	73:SJ:7:TRP:HE1	1.63	0.63
57:SL:55:TYR:HH	57:SL:116:CYS:HG	1.21	0.63
79:SZ:51:ASP:OD1	79:SZ:52:LYS:N	2.30	0.63
1:L5:3965:A:H61	1:L5:4040:C:P	2.20	0.63
57:SL:78:THR:HG21	57:SL:89:ARG:HG3	1.80	0.63
61:SS:129:LEU:HD21	61:SS:136:THR:HG21	1.81	0.63
1:L5:1218:G:H2'	1:L5:1219:G:H4'	1.80	0.63
1:L5:1367:C:O2'	1:L5:1369:C:OP2	2.16	0.63
1:L5:3661:G:N2	1:L5:3682:A:OP2	2.26	0.63
1:L5:4769:G:N2	1:L5:4866:C:N3	2.47	0.63
5:LB:80:GLU:OE1	5:LB:323:TYR:OH	2.15	0.63
71:SC:94:ILE:HG21	71:SC:159:LYS:HB3	1.79	0.63
52:SE:189:LEU:H	52:SE:245:ARG:HH22	1.46	0.63
1:L5:4635:A:H8	1:L5:5048:A:H61	1.45	0.63
1:L5:4576:U:HO2'	1:L5:5067:U:HO2'	1.47	0.63
13:LJ:85:LYS:HZ2	13:LJ:115:LEU:HB2	1.63	0.63
24:LV:13:LYS:NZ	24:LV:124:GLU:OE1	2.31	0.63
28:LZ:97:ASN:OD1	28:LZ:98:LYS:N	2.27	0.63
53:SF:106:GLU:HG2	53:SF:107:ASN:H	1.63	0.63
53:SF:33:ILE:HG13	53:SF:34:SER:H	1.63	0.63
6:LC:12:SER:OG	6:LC:16:GLU:O	2.12	0.63
77:SW:9:ASP:OD1	77:SW:10:ALA:N	2.31	0.63
1:L5:2407:G:OP2	1:L5:2407:G:N2	2.27	0.63
1:L5:3970:G:H2'	1:L5:3971:G:H8	1.63	0.63
1:L5:390:C:H42	1:L5:401:G:H1	1.45	0.63
1:L5:4613:C:O2	11:LH:121:LYS:NZ	2.27	0.63
13:LJ:85:LYS:NZ	13:LJ:115:LEU:HB2	2.14	0.63
16:LN:120:TRP:HE1	16:LN:123:GLU:HG3	1.63	0.63
1:L5:4301:U:H4'	22:LT:54:HIS:CD2	2.33	0.63
28:LZ:48:ARG:HE	28:LZ:69:LYS:HD3	1.61	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:SW:11:LEU:HD21	77:SW:37:PHE:HE2	1.64	0.63
65:SX:67:ARG:NH1	65:SX:114:ASP:OD2	2.31	0.63
1:L5:1459:A:OP1	19:LQ:65:ARG:NH2	2.31	0.63
3:L8:71:A:O5'	27:LY:50:ARG:NH1	2.31	0.63
1:L5:1750:G:H5'	12:LI:40:LYS:HZ3	1.63	0.63
1:L5:19:G:OP1	11:LH:93:ARG:NE	165.31	0.63
1:L5:4902:C:H2'	1:L5:4903:G:H8	1.64	0.63
4:LA:114:CYS:HB2	4:LA:169:VAL:HG23	1.80	0.63
5:LB:74:GLU:OE2	5:LB:285:TYR:OH	2.15	0.63
12:LI:48:LEU:HD11	12:LI:142:LEU:HD23	1.81	0.63
52:SE:214:ASN:ND2	52:SE:216:ASN:OD1	2.32	0.63
72:SG:68:LEU:HG	72:SG:69:THR:HG23	1.81	0.63
54:SH:104:PRO:HA	54:SH:107:LYS:HD2	1.81	0.63
1:L5:4350:C:H42	1:L5:4364:G:H1	1.46	0.63
48:S6:60:A:OP1	48:S6:62:C:N4	2.31	0.63
76:SO:13:GLN:HE21	76:SO:21:VAL:CG1	2.12	0.63
1:L5:2098:G:O3'	1:L5:2259:G:N2	2.31	0.62
4:LA:42:LYS:HG2	4:LA:89:TYR:HE1	1.63	0.62
7:LD:52:ILE:HA	7:LD:147:ASP:HB3	1.81	0.62
15:LM:47:ARG:HB2	21:LS:73:LEU:HD11	1.81	0.62
23:LU:100:LEU:HD21	23:LU:112:LEU:HD22	1.81	0.62
47:S2:1314:U:H2'	47:S2:1315:U:H4'	1.80	0.62
54:SH:53:VAL:HG13	54:SH:175:GLY:HA3	1.80	0.62
63:SU:66:ARG:HE	63:SU:75:LYS:HG2	1.64	0.62
1:L5:2474:G:OP2	26:LX:48:ARG:NH2	2.32	0.62
1:L5:4474:A:H2'	1:L5:4476:C:H5''	1.81	0.62
1:L5:4600:G:O2'	1:L5:4601:U:O5'	2.16	0.62
1:L5:4981:G:H5'	18:LP:71:ALA:HB2	1.81	0.62
1:L5:704:C:N4	1:L5:705:G:O6	2.32	0.62
20:LR:99:MET:HE1	20:LR:128:LYS:HA	1.80	0.62
24:LV:49:LEU:HD23	24:LV:50:ASN:HB2	1.81	0.62
28:LZ:89:ILE:HD12	28:LZ:90:PRO:HD2	1.81	0.62
57:SL:73:LEU:O	57:SL:128:VAL:N	2.30	0.62
1:L5:4759:C:OP1	17:LO:117:ARG:NH2	2.28	0.62
6:LC:291:ARG:O	6:LC:295:SER:OG	2.13	0.62
6:LC:55:SER:HB3	6:LC:58:ALA:HB2	1.81	0.62
10:LG:51:LEU:O	10:LG:53:ARG:N	2.30	0.62
47:S2:1822:A:N1	47:S2:1823:A:N6	2.47	0.62
47:S2:876:C:N3	47:S2:910:G:N2	2.47	0.62
76:SO:103:ASN:ND2	76:SO:140:THR:O	2.33	0.62
1:L5:1076:C:O2	1:L5:1235:G:N1	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1380:G:N2	1:L5:1381:U:O4	2.29	0.62
1:L5:2130:G:O2'	1:L5:2244:C:O2	2.12	0.62
1:L5:2659:A:N6	1:L5:2675:G:O2'	2.32	0.62
1:L5:5005:G:H1'	1:L5:5042:A:H61	1.64	0.62
25:LW:79:GLN:HB3	25:LW:80:ARG:O	1.99	0.62
72:SG:221:LYS:O	72:SG:225:GLN:N	2.32	0.62
1:L5:1278:C:H2'	1:L5:1279:A:H4'	1.79	0.62
1:L5:1445:U:H3	1:L5:2099:G:H22	1.46	0.62
24:LV:84:GLN:HA	24:LV:101:ASN:HB3	1.81	0.62
47:S2:1410:C:N4	47:S2:1411:G:O6	2.32	0.62
47:S2:923:G:OP1	75:SN:2:GLY:N	2.33	0.62
71:SC:123:ARG:NH2	71:SC:143:CYS:SG	2.73	0.62
61:SS:148:VAL:HG11	61:SS:150:LYS:HE2	1.80	0.62
1:L5:3:C:H2'	1:L5:4:G:C8	2.33	0.62
9:LF:172:ASN:OD1	9:LF:187:MET:N	2.27	0.62
26:LX:148:ASP:OD1	26:LX:149:VAL:N	2.32	0.62
1:L5:1173:G:O6	1:L5:1174:G:N2	2.33	0.62
1:L5:4576:U:O2'	1:L5:5067:U:O2'	2.16	0.62
21:LS:64:CYS:SG	21:LS:65:GLY:N	2.73	0.62
47:S2:1189:A:H2'	47:S2:1190:A:H8	1.64	0.62
55:SI:41:ARG:HH11	55:SI:62:VAL:HG21	1.63	0.62
1:L5:2482:C:H2'	1:L5:2483:G:H4'	1.81	0.62
1:L5:254:G:C2	1:L5:255:C:H1'	2.35	0.62
1:L5:3893:C:H1'	18:LP:69:ARG:HH12	1.64	0.62
1:L5:744:G:N2	1:L5:921:C:O2	2.32	0.62
5:LB:93:VAL:HG23	5:LB:158:GLN:HE22	1.65	0.62
54:SH:66:VAL:HG22	54:SH:96:ALA:HB1	1.81	0.62
74:SM:18:LEU:HD21	74:SM:49:LEU:HD22	1.80	0.62
63:SU:25:THR:OG1	63:SU:111:GLU:OE1	2.17	0.62
6:LC:141:GLY:O	6:LC:182:LYS:NZ	2.28	0.62
9:LF:179:LEU:HB3	9:LF:184:ILE:HB	1.81	0.62
11:LH:174:LYS:HB2	15:LM:127:VAL:HG21	86.41	0.62
15:LM:31:ILE:HG22	21:LS:98:ARG:HE	1.65	0.62
1:L5:3859:G:OP2	18:LP:25:HIS:NE2	2.29	0.62
50:SB:128:LYS:HD3	50:SB:134:LEU:HD13	1.81	0.62
53:SF:100:ILE:HG12	53:SF:178:ILE:HD11	1.81	0.62
59:SQ:130:LYS:HA	59:SQ:137:ALA:HA	1.81	0.62
10:LG:147:VAL:HG13	10:LG:179:VAL:HG21	1.80	0.62
14:LL:205:GLN:HA	14:LL:208:GLU:HB2	1.82	0.62
47:S2:1545:A:HO2'	47:S2:1546:G:H8	1.47	0.62
47:S2:1834:A:H2	47:S2:1837:G:H1	1.48	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:413:G:N2	47:S2:424:C:O2	2.33	0.62
47:S2:795:A:H2'	47:S2:796:G:C8	2.34	0.62
1:L5:1489:G:H2'	1:L5:1490:G:H8	1.65	0.61
7:LD:156:GLY:HA2	7:LD:181:PRO:HD3	1.82	0.61
47:S2:1580:A:OP1	63:SU:86:LYS:NZ	2.32	0.61
47:S2:1849:G:H1'	47:S2:1850:A:H5'	1.82	0.61
53:SF:28:VAL:HG23	53:SF:109:LEU:HD22	1.82	0.61
13:LJ:33:LEU:HD12	13:LJ:36:ALA:HB3	1.81	0.61
24:LV:61:VAL:O	24:LV:79:ALA:N	2.34	0.61
47:S2:312:G:H5'	47:S2:313:A:H5'	1.82	0.61
47:S2:835:C:N4	78:SY:9:THR:O	2.32	0.61
47:S2:1594:A:OP1	59:SQ:45:ARG:NH2	2.32	0.61
62:ST:124:THR:HG23	62:ST:127:GLY:H	1.66	0.61
5:LB:223:THR:HB	5:LB:275:HIS:H	1.65	0.61
47:S2:1620:A:O2'	58:SP:40:ARG:NH2	2.34	0.61
56:SK:52:LEU:HA	56:SK:55:ARG:HG2	1.82	0.61
75:SN:71:ILE:HA	75:SN:74:ILE:HG22	1.82	0.61
1:L5:1240:G:N7	1:L5:1271:G:O2'	2.27	0.61
1:L5:4138:C:H3'	1:L5:4139:G:H8	1.64	0.61
1:L5:4272:G:OP2	1:L5:4272:G:N2	2.33	0.61
1:L5:4731:G:N2	1:L5:4731:G:OP1	2.26	0.61
47:S2:1857:G:H5''	76:SO:146:ARG:HE	1.65	0.61
78:SY:129:LYS:HA	78:SY:132:LYS:HD2	1.83	0.61
1:L5:2307:A:N3	1:L5:2333:G:O2'	2.32	0.61
1:L5:2612:G:H1	1:L5:2727:C:H42	1.46	0.61
1:L5:3605:C:OP1	20:LR:71:ARG:NE	2.32	0.61
1:L5:4741:C:O2'	1:L5:4742:G:O4'	2.18	0.61
10:LG:207:VAL:HG21	10:LG:215:LEU:HD13	1.81	0.61
17:LO:77:SER:HB3	17:LO:106:ASP:HB2	1.82	0.61
28:LZ:52:LYS:O	28:LZ:65:ARG:NE	2.33	0.61
47:S2:322:C:N3	47:S2:329:G:N1	2.48	0.61
58:SP:104:GLN:HG2	58:SP:105:VAL:N	2.16	0.61
62:ST:19:ALA:O	62:ST:23:LYS:N	2.33	0.61
1:L5:4125:C:H4'	10:LG:45:ILE:HG12	1.82	0.61
1:L5:486:C:O2	1:L5:671:G:N2	2.27	0.61
5:LB:359:ALA:O	5:LB:361:GLU:N	2.33	0.61
7:LD:198:HIS:ND1	7:LD:203:ASN:OD1	2.33	0.61
55:SI:101:ILE:HD12	55:SI:190:LEU:HD11	1.82	0.61
74:SM:17:ALA:HB1	74:SM:124:ILE:HD13	1.81	0.61
60:SR:86:PRO:O	60:SR:89:SER:OG	2.16	0.61
63:SU:22:ILE:N	63:SU:89:ILE:O	2.32	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1403:G:N1	1:L5:1414:C:N3	2.41	0.61
20:LR:25:ASP:HB3	20:LR:32:ILE:HD11	1.82	0.61
28:LZ:11:VAL:HG11	28:LZ:80:LEU:HB3	1.83	0.61
51:SD:11:PHE:O	51:SD:15:GLY:N	2.31	0.61
72:SG:225:GLN:HA	72:SG:228:ILE:HG22	1.83	0.61
63:SU:67:LYS:HB2	63:SU:78:ASP:HB2	1.83	0.61
1:L5:418:A:OP2	3:L8:16:G:N2	2.34	0.61
8:LE:270:TYR:HD1	15:LM:110:PHE:HB2	1.66	0.61
47:S2:1464:C:OP1	60:SR:60:ARG:NH2	2.33	0.61
52:SE:180:LEU:HA	52:SE:194:VAL:HA	1.83	0.61
73:SJ:169:ARG:HD2	73:SJ:170:PRO:HD2	1.82	0.61
57:SL:71:ARG:HB2	57:SL:130:GLU:HB2	1.83	0.61
1:L5:1266:G:N2	1:L5:1268:G:O5'	2.34	0.61
1:L5:2437:C:OP2	1:L5:2528:G:O2'	2.18	0.61
1:L5:4742:G:H22	1:L5:4958:C:H2'	1.66	0.61
22:LT:113:ASP:HB3	22:LT:117:LYS:HE3	1.82	0.61
1:L5:1540:C:H4'	4:LA:19:HIS:HD2	1.64	0.60
1:L5:491:G:H1	1:L5:663:G:H1'	1.64	0.60
8:LE:109:LEU:O	8:LE:111:LYS:N	2.33	0.60
47:S2:1270:G:H1	47:S2:1513:C:H42	1.49	0.60
1:L5:2843:U:H2'	1:L5:2844:A:C8	2.36	0.60
1:L5:2889:G:H21	1:L5:5034:A:H8	1.47	0.60
2:L7:7:G:OP1	7:LD:33:ARG:NE	2.34	0.60
6:LC:84:THR:HG23	6:LC:86:ARG:HB3	1.83	0.60
50:SB:134:LEU:HG	50:SB:218:LEU:HD12	1.82	0.60
51:SD:42:THR:OG1	51:SD:45:ARG:O	2.20	0.60
52:SE:164:LEU:CD1	52:SE:165:GLU:H	2.14	0.60
53:SF:193:LYS:O	53:SF:197:GLU:N	2.34	0.60
74:SM:69:LEU:HD23	74:SM:74:ILE:HD12	1.83	0.60
65:SX:59:ALA:HB2	65:SX:67:ARG:HG2	1.83	0.60
1:L5:180:C:O2	1:L5:256:G:N2	2.33	0.60
1:L5:518:G:N2	1:L5:643:C:O2	2.34	0.60
1:L5:917:A:N3	1:L5:918:G:N2	2.48	0.60
26:LX:96:LEU:HD11	26:LX:149:VAL:HG13	1.81	0.60
47:S2:126:G:O6	72:SG:196:LYS:NZ	2.33	0.60
47:S2:744:G:N2	47:S2:795:A:N1	2.49	0.60
53:SF:30:ILE:HG12	53:SF:113:VAL:HG11	1.84	0.60
56:SK:60:GLU:HB3	56:SK:69:TRP:HA	1.82	0.60
1:L5:4471:U:OP2	11:LH:168:LYS:NZ	2.34	0.60
1:L5:748:G:O6	1:L5:918:G:O2'	2.16	0.60
15:LM:25:VAL:HG22	15:LM:38:VAL:HG22	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:SZ:88:LEU:HB3	79:SZ:109:TYR:HE2	1.65	0.60
1:L5:1699:A:H62	1:L5:2118:G:H22	1.49	0.60
1:L5:2643:G:H1	1:L5:2691:U:H3	1.50	0.60
7:LD:54:ARG:NH2	7:LD:147:ASP:OD2	2.35	0.60
20:LR:98:ARG:NH1	20:LR:132:PHE:O	2.33	0.60
22:LT:68:THR:OG1	22:LT:71:ALA:O	2.16	0.60
47:S2:511:U:O2'	47:S2:576:A:N1	2.34	0.60
1:L5:2011:C:H3'	1:L5:2012:A:H4'	1.84	0.60
1:L5:4955:A:H2'	1:L5:4956:A:C8	2.37	0.60
10:LG:58:PRO:HD2	10:LG:61:ILE:HD11	1.82	0.60
47:S2:303:C:O4'	55:SI:64:ASN:ND2	2.35	0.60
58:SP:96:VAL:O	58:SP:96:VAL:HG12	2.01	0.60
1:L5:1978:C:O2	1:L5:1987:C:N4	2.33	0.60
1:L5:3713:U:OP1	1:L5:3740:G:N2	2.35	0.60
1:L5:3736:A:H1'	1:L5:3933:G:H5''	1.84	0.60
1:L5:4523:A:H5''	1:L5:4524:G:H5'	1.82	0.60
19:LQ:63:LEU:HB2	19:LQ:88:ASP:HA	1.84	0.60
23:LU:19:LEU:HB2	23:LU:74:SER:HB3	1.84	0.60
47:S2:836:G:H8	47:S2:837:A:H4'	1.66	0.60
72:SG:171:THR:HG22	72:SG:172:LYS:H	1.66	0.60
49:SA:5:LEU:HD21	64:SV:80:SER:HB2	1.84	0.60
1:L5:1281:G:N2	6:LC:320:LYS:O	2.35	0.60
6:LC:183:VAL:HG11	6:LC:226:GLY:HA3	1.82	0.60
47:S2:377:G:N2	47:S2:387:C:O2	2.33	0.60
47:S2:819:G:OP1	73:SJ:79:ARG:NH2	2.35	0.60
48:S6:20:A:H62	48:S6:59:A:H61	1.49	0.60
49:SA:4:ALA:N	49:SA:5:LEU:HA	2.16	0.60
47:S2:379:C:O2	55:SI:5:ARG:NH1	2.34	0.60
77:SW:30:CYS:HA	77:SW:34:ILE:HD11	1.83	0.60
78:SY:126:GLY:O	78:SY:130:LYS:NZ	2.27	0.60
1:L5:1973:G:H21	1:L5:1995:G:H1'	1.65	0.60
2:L7:118:C:OP2	7:LD:256:LYS:NZ	2.29	0.60
10:LG:112:GLN:O	10:LG:116:ALA:N	2.35	0.60
20:LR:38:ARG:HA	20:LR:41:ILE:HG22	1.84	0.60
47:S2:1120:U:N3	47:S2:1121:G:N7	2.49	0.60
47:S2:1337:C:H4'	63:SU:67:LYS:HE3	1.84	0.60
47:S2:879:C:O2	47:S2:907:G:N2	2.35	0.60
49:SA:36:GLN:NE2	64:SV:67:ASP:OD1	2.34	0.60
50:SB:65:ARG:H	50:SB:88:THR:HG22	1.67	0.60
73:SJ:128:VAL:HG12	73:SJ:132:GLN:HE22	1.67	0.60
76:SO:147:ARG:HD2	76:SO:150:ARG:HE	1.67	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:506:C:H42	1:L5:652:G:H1	1.48	0.60
9:LF:94:ARG:HD2	9:LF:117:ILE:HA	1.83	0.60
72:SG:74:ARG:HG2	72:SG:96:SER:HA	1.84	0.60
54:SH:157:HIS:NE2	54:SH:188:GLU:OE1	2.35	0.60
58:SP:98:ASN:HB2	58:SP:99:GLY:HA3	1.84	0.60
59:SQ:24:HIS:CE1	59:SQ:69:ARG:HB2	2.37	0.60
61:SS:23:ARG:NH2	79:SZ:47:LEU:HA	2.17	0.60
1:L5:1963:C:H2'	1:L5:1964:A:H8	1.67	0.59
1:L5:673:C:H2'	1:L5:674:G:C8	2.37	0.59
2:L7:71:G:O6	2:L7:104:C:N4	2.22	0.59
17:LO:173:GLN:HA	17:LO:176:ARG:HE	1.67	0.59
52:SE:11:ARG:NH1	52:SE:21:ASP:O	2.35	0.59
77:SW:17:ALA:HB1	77:SW:25:VAL:HG11	1.84	0.59
78:SY:113:ARG:HA	78:SY:116:LYS:HZ1	1.67	0.59
4:LA:118:GLU:HG3	4:LA:119:LYS:H	1.67	0.59
1:L5:5049:G:HO2'	5:LB:322:HIS:HE2	1.50	0.59
18:LP:113:VAL:HG21	18:LP:153:LYS:HE3	1.84	0.59
47:S2:165:G:H4'	72:SG:53:SER:HB2	1.84	0.59
47:S2:165:G:OP2	47:S2:165:G:N2	2.35	0.59
47:S2:821:G:N2	73:SJ:148:ILE:O	2.34	0.59
2:L7:58:A:H2'	2:L7:59:G:C8	2.37	0.59
13:LJ:40:LEU:HB2	13:LJ:48:PRO:HG3	1.83	0.59
77:SW:15:ASN:HD21	77:SW:72:CYS:H	1.51	0.59
79:SZ:49:LEU:H	79:SZ:83:LEU:HD12	1.67	0.59
1:L5:119:G:N7	10:LG:113:ARG:NH2	2.51	0.59
1:L5:2003:G:H22	1:L5:2016:C:H42	1.49	0.59
1:L5:4233:A:O2'	1:L5:4234:A:H2'	2.03	0.59
10:LG:194:VAL:O	10:LG:196:ARG:N	2.35	0.59
17:LO:128:ARG:HH12	21:LS:162:GLN:HG3	1.67	0.59
22:LT:116:LYS:HE2	22:LT:128:LEU:HD23	1.83	0.59
47:S2:947:G:H1	47:S2:979:C:H42	1.49	0.59
49:SA:110:ASN:OD1	49:SA:111:GLN:N	2.35	0.59
60:SR:52:GLY:O	60:SR:55:THR:OG1	2.20	0.59
1:L5:1691:G:H5'	19:LQ:15:ARG:HG3	1.84	0.59
1:L5:4471:U:H2'	1:L5:4472:G:H8	1.65	0.59
1:L5:977:C:H2'	1:L5:978:G:C8	2.35	0.59
5:LB:74:GLU:OE1	5:LB:334:LYS:NZ	2.32	0.59
7:LD:27:LYS:HG2	13:LJ:147:ARG:NH1	2.17	0.59
15:LM:70:GLN:O	15:LM:72:TYR:N	2.34	0.59
47:S2:600:G:H5'	47:S2:630:U:H2'	1.83	0.59
72:SG:85:ARG:O	72:SG:87:ARG:NH1	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:SM:49:LEU:HD21	74:SM:77:ILE:HD11	1.84	0.59
58:SP:18:ARG:HG3	58:SP:20:VAL:HG23	1.85	0.59
52:SE:69:PHE:HE1	78:SY:17:LEU:HD22	1.67	0.59
1:L5:197:A:N3	1:L5:222:C:O2'	2.36	0.59
1:L5:930:G:H4'	1:L5:931:C:O5'	2.03	0.59
47:S2:361:U:O4'	47:S2:1175:G:N2	2.35	0.59
47:S2:797:C:O2	54:SH:109:ARG:NH2	2.35	0.59
49:SA:158:ASP:OD1	49:SA:159:ILE:N	2.36	0.59
76:SO:46:ASP:O	76:SO:48:SER:N	2.32	0.59
76:SO:67:ASP:O	76:SO:69:SER:N	2.36	0.59
58:SP:98:ASN:H	58:SP:99:GLY:C	2.06	0.59
60:SR:100:PRO:HA	60:SR:117:LEU:HD12	1.85	0.59
47:S2:1609:C:H5''	61:SS:131:VAL:HB	1.85	0.59
77:SW:15:ASN:ND2	77:SW:72:CYS:H	2.00	0.59
1:L5:3960:A:N6	1:L5:4045:G:O2'	2.36	0.59
1:L5:736:C:H2'	1:L5:737:C:H4'	1.84	0.59
47:S2:1374:C:O2'	47:S2:1464:C:O2	2.20	0.59
73:SJ:77:LEU:HB3	73:SJ:80:ARG:HH21	1.67	0.59
1:L5:4769:G:H1	1:L5:4865:C:N4	2.00	0.59
1:L5:13:U:O4	3:L8:115:G:N2	2.35	0.59
5:LB:305:THR:O	5:LB:309:LEU:N	2.31	0.59
1:L5:1279:A:H2	6:LC:323:ARG:HH12	1.49	0.59
18:LP:40:HIS:O	18:LP:44:ALA:N	2.35	0.59
20:LR:78:ILE:HA	20:LR:81:ARG:NH1	2.18	0.59
47:S2:1284:A:H4'	47:S2:1285:G:H2'	1.85	0.59
47:S2:384:U:O4	55:SI:5:ARG:NH2	2.35	0.59
47:S2:944:A:H5''	76:SO:134:PRO:HB2	1.85	0.59
50:SB:34:LYS:NZ	50:SB:95:ASN:OD1	2.28	0.59
52:SE:185:GLY:H	52:SE:189:LEU:HB3	1.68	0.59
53:SF:188:TYR:O	53:SF:192:LYS:N	2.36	0.59
55:SI:89:GLU:OE2	55:SI:92:ARG:NH2	2.36	0.59
1:L5:3653:A:N6	1:L5:3691:G:O2'	2.33	0.59
1:L5:4662:C:O2'	1:L5:5004:C:OP1	2.21	0.59
1:L5:4618:G:H5'	24:LV:15:ARG:HB2	1.85	0.59
47:S2:1464:C:OP2	60:SR:60:ARG:NH1	2.35	0.59
47:S2:1617:G:OP2	58:SP:47:ARG:NH2	2.28	0.59
47:S2:1692:U:H2'	47:S2:1693:G:C8	2.37	0.59
60:SR:42:PRO:HD2	60:SR:46:LEU:HD23	1.85	0.59
60:SR:58:MET:HA	60:SR:61:ILE:HG12	1.82	0.59
15:LM:31:ILE:HG13	15:LM:35:ARG:HB3	1.84	0.59
47:S2:1587:G:N2	62:ST:74:SER:O	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1616:U:H3	47:S2:1620:A:H2	1.51	0.59
47:S2:879:C:N3	47:S2:880:G:N1	2.51	0.59
20:LR:176:ARG:NH2	47:S2:909:G:O3'	2.35	0.59
50:SB:208:HIS:CE1	50:SB:209:ASP:HB2	2.38	0.59
60:SR:5:ARG:HB2	60:SR:10:LYS:NZ	2.18	0.59
47:S2:1610:G:O2'	61:SS:86:ARG:NH2	2.36	0.59
1:L5:1556:C:O2'	1:L5:2669:C:OP1	2.16	0.58
1:L5:2601:A:N6	1:L5:2744:A:OP2	2.36	0.58
1:L5:5054:C:H4'	1:L5:5055:G:H5'	1.84	0.58
1:L5:4941:G:OP1	8:LE:219:LYS:NZ	2.36	0.58
1:L5:727:C:OP1	9:LF:76:ARG:NH1	2.36	0.58
73:SJ:11:LYS:NZ	73:SJ:13:TYR:O	2.30	0.58
74:SM:80:ASP:O	74:SM:83:LYS:HG2	2.03	0.58
1:L5:4103:C:H4'	1:L5:4104:G:C8	2.38	0.58
5:LB:11:HIS:HE1	5:LB:237:THR:HG23	1.69	0.58
15:LM:27:ILE:HA	15:LM:38:VAL:HG23	1.85	0.58
16:LN:114:ARG:N	16:LN:135:ILE:O	2.36	0.58
21:LS:15:ARG:HB2	21:LS:25:PRO:HG2	1.85	0.58
72:SG:152:ASP:OD1	72:SG:153:VAL:N	2.36	0.58
72:SG:215:LYS:O	72:SG:219:GLU:N	2.36	0.58
65:SX:109:GLY:O	65:SX:119:ARG:NH1	2.36	0.58
65:SX:132:ALA:HB1	65:SX:137:LYS:HD2	1.84	0.58
1:L5:4911:A:OP1	5:LB:97:ARG:NH1	2.32	0.58
5:LB:262:VAL:HG11	5:LB:268:ARG:HH11	1.68	0.58
27:LY:59:ARG:HG3	27:LY:103:LYS:HD2	1.83	0.58
47:S2:400:C:P	65:SX:11:ARG:HH12	2.27	0.58
51:SD:71:ALA:HB3	56:SK:20:VAL:HG11	1.84	0.58
60:SR:84:TYR:O	60:SR:87:GLU:HG2	2.03	0.58
65:SX:28:LYS:HE3	65:SX:32:LEU:HD13	1.85	0.58
1:L5:1266:G:N2	1:L5:2111:G:N3	2.51	0.58
1:L5:2459:G:H1	16:LN:108:ARG:HH22	1.50	0.58
1:L5:3708:C:OP1	4:LA:241:ARG:NH1	2.36	0.58
4:LA:137:ILE:HD11	4:LA:149:LYS:HB2	1.84	0.58
7:LD:223:PHE:HB3	7:LD:226:TYR:HB2	1.85	0.58
21:LS:34:ALA:HB1	21:LS:39:VAL:HG23	1.84	0.58
28:LZ:100:VAL:HG21	28:LZ:110:ALA:HB2	1.85	0.58
47:S2:614:C:O2'	47:S2:626:G:N2	2.35	0.58
47:S2:881:G:O6	47:S2:905:C:N4	2.36	0.58
1:L5:1370:G:H4'	1:L5:1371:A:H5'	1.85	0.58
1:L5:3961:G:H1'	1:L5:4048:A:H61	1.68	0.58
18:LP:26:PHE:HA	18:LP:144:CYS:SG	2.43	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:LS:11:LYS:HE2	21:LS:29:ARG:HE	1.68	0.58
21:LS:69:GLU:OE2	21:LS:76:LYS:NZ	2.35	0.58
47:S2:1033:G:N1	47:S2:1080:A:O2'	2.32	0.58
52:SE:229:GLY:H	52:SE:235:TRP:HB2	1.69	0.58
25:LW:105:ARG:HH22	72:SG:144:LEU:HD11	1.68	0.58
56:SK:58:VAL:HA	56:SK:71:LEU:HA	1.85	0.58
1:L5:1269:G:O6	1:L5:2111:G:N2	2.28	0.58
1:L5:2556:G:N2	1:L5:2571:C:O2	2.35	0.58
47:S2:1268:C:H42	47:S2:1514:G:H22	1.51	0.58
47:S2:1656:G:H2'	47:S2:1657:G:H8	1.69	0.58
49:SA:34:MET:HE2	49:SA:154:LEU:HD21	1.84	0.58
50:SB:144:LYS:HD2	50:SB:208:HIS:HB3	1.84	0.58
57:SL:61:PRO:HD3	57:SL:141:ASN:HD21	1.69	0.58
75:SN:17:PRO:O	75:SN:20:ARG:NH1	2.30	0.58
58:SP:78:THR:OG1	58:SP:96:VAL:N	2.37	0.58
61:SS:64:VAL:HA	61:SS:67:VAL:HG12	1.85	0.58
77:SW:94:LEU:HD11	77:SW:102:ILE:HG13	1.86	0.58
1:L5:1077:C:N4	1:L5:1233:G:O6	2.37	0.58
1:L5:2380:G:N2	1:L5:2425:U:OP1	2.26	0.58
1:L5:3774:A:O2'	1:L5:3775:A:N3	2.29	0.58
1:L5:3717:A:HO2'	1:L5:4178:A:HO2'	1.50	0.58
1:L5:3653:A:H5''	4:LA:179:ILE:HD11	1.86	0.58
1:L5:2057:A:OP1	17:LO:18:ARG:NH2	2.36	0.58
26:LX:92:ASP:OD1	26:LX:93:ASN:ND2	2.37	0.58
47:S2:536:A:N6	47:S2:549:C:O4'	2.36	0.58
47:S2:1008:A:H1'	75:SN:101:HIS:ND1	2.18	0.58
1:L5:1405:C:N4	1:L5:1411:C:N3	2.51	0.58
1:L5:4097:G:H22	1:L5:4113:U:H1'	1.68	0.58
1:L5:4315:A:OP1	22:LT:69:GLN:NE2	2.35	0.58
1:L5:4492:U:O2'	1:L5:4512:U:O2	2.21	0.58
1:L5:5022:U:N3	1:L5:5025:C:O2	2.36	0.58
11:LH:37:ASP:OD1	11:LH:39:ASN:ND2	2.37	0.58
47:S2:1328:G:H1	47:S2:1501:C:H42	1.51	0.58
47:S2:77:A:C4	72:SG:154:ARG:HG3	2.39	0.58
48:S6:35:A:H2'	48:S6:36:U:C2	2.39	0.58
53:SF:133:THR:OG1	53:SF:134:VAL:N	2.35	0.58
53:SF:179:ASN:HB3	53:SF:186:ASN:HB3	1.84	0.58
1:L5:1552:G:H2'	1:L5:1574:G:H22	1.68	0.58
1:L5:1804:A:N6	1:L5:1833:G:O4'	2.37	0.58
1:L5:4136:G:N2	1:L5:4148:C:N3	2.52	0.58
1:L5:712:C:H42	1:L5:956:A:H61	1.51	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:976:G:H2'	1:L5:977:C:N1	2.19	0.58
2:L7:48:G:OP1	7:LD:226:TYR:OH	2.22	0.58
1:L5:2462:C:OP1	16:LN:108:ARG:NH1	2.37	0.58
28:LZ:11:VAL:N	28:LZ:23:ALA:O	2.35	0.58
28:LZ:42:LEU:HA	28:LZ:74:VAL:HA	1.85	0.58
47:S2:1171:G:N2	47:S2:1188:A:OP2	2.36	0.58
47:S2:1412:C:O2'	47:S2:1413:G:N7	2.34	0.58
47:S2:1235:G:H1	47:S2:1523:C:H42	1.51	0.58
47:S2:213:G:O2'	47:S2:214:U:OP1	2.20	0.58
72:SG:219:GLU:HB2	72:SG:222:GLU:HB3	1.86	0.58
76:SO:31:CYS:HA	76:SO:44:VAL:HA	1.85	0.58
1:L5:1541:C:O2'	1:L5:2448:G:N3	2.37	0.58
1:L5:3770:U:H2'	1:L5:3771:C:O4'	2.04	0.58
1:L5:4044:U:O2'	1:L5:4045:G:N7	2.37	0.58
6:LC:318:PRO:HG2	9:LF:155:TYR:HD1	1.69	0.58
1:L5:1364:U:H5	14:LL:36:ARG:HH12	1.51	0.58
23:LU:64:GLU:HB3	23:LU:71:THR:HB	1.86	0.58
71:SC:130:ILE:O	71:SC:138:GLY:N	2.35	0.58
53:SF:17:ILE:HG23	53:SF:18:LYS:H	1.69	0.58
56:SK:80:ARG:HH21	56:SK:87:PRO:HA	1.69	0.58
10:LG:110:LYS:O	10:LG:114:LEU:N	2.32	0.57
16:LN:53:TYR:HB2	16:LN:133:ILE:HD13	1.86	0.57
20:LR:29:THR:HA	20:LR:32:ILE:HD12	1.85	0.57
23:LU:44:GLN:HG3	23:LU:56:LEU:HG	1.85	0.57
47:S2:563:G:O6	47:S2:592:C:N4	2.37	0.57
50:SB:122:GLU:HG2	50:SB:140:VAL:HG12	1.86	0.57
73:SJ:153:SER:HA	73:SJ:156:HIS:HD2	1.69	0.57
57:SL:124:ASP:HB2	57:SL:147:LYS:HB3	1.85	0.57
57:SL:148:ALA:HB1	57:SL:153:LYS:HE2	1.86	0.57
49:SA:89:LYS:NZ	60:SR:82:ASP:OD1	2.35	0.57
47:S2:1157:G:O3'	77:SW:76:SER:OG	2.22	0.57
5:LB:213:GLN:HG2	5:LB:362:LYS:HE2	1.85	0.57
14:LL:64:VAL:HA	14:LL:67:HIS:HB2	1.86	0.57
15:LM:16:SER:OG	15:LM:54:CYS:O	2.20	0.57
17:LO:76:PRO:HA	17:LO:79:ILE:HG22	1.86	0.57
1:L5:1501:C:H2'	19:LQ:68:ARG:HE	1.69	0.57
26:LX:80:PRO:HB3	26:LX:155:ILE:HD13	1.86	0.57
47:S2:1098:C:H2'	47:S2:1099:G:C8	2.39	0.57
47:S2:1109:C:O2'	47:S2:1110:G:O4'	2.22	0.57
47:S2:1643:U:O2'	47:S2:1644:C:O5'	2.20	0.57
47:S2:178:C:O5'	47:S2:313:A:N6	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:194:C:H42	47:S2:205:G:H1	1.51	0.57
52:SE:238:LEU:HD11	52:SE:242:LYS:HG2	1.86	0.57
60:SR:7:LYS:O	60:SR:11:LYS:N	2.35	0.57
1:L5:1721:G:N2	1:L5:1842:G:O2'	2.38	0.57
1:L5:223:G:O2'	1:L5:225:G:OP2	2.22	0.57
1:L5:28:C:H2'	1:L5:29:G:H8	1.69	0.57
3:L8:98:C:OP1	26:LX:70:LYS:NZ	2.33	0.57
1:L5:5000:G:OP1	5:LB:394:LYS:NZ	2.35	0.57
7:LD:31:TYR:O	7:LD:33:ARG:N	2.30	0.57
2:L7:7:G:O3'	7:LD:33:ARG:NH1	2.37	0.57
10:LG:184:ILE:HG21	10:LG:190:LEU:HD11	1.86	0.57
10:LG:57:TRP:O	10:LG:62:ARG:NH1	2.37	0.57
13:LJ:22:LEU:HD13	13:LJ:40:LEU:HD22	1.85	0.57
47:S2:207:G:C2	47:S2:208:G:H1'	2.39	0.57
47:S2:698:G:H5'	47:S2:733:C:H42	1.69	0.57
49:SA:176:TRP:CD1	49:SA:199:PRO:HA	2.39	0.57
47:S2:1679:A:C8	53:SF:60:ARG:HB3	2.38	0.57
47:S2:522:A:H5''	73:SJ:145:PRO:HD2	1.86	0.57
56:SK:23:ALA:HB3	56:SK:67:PHE:HB2	1.84	0.57
1:L5:1837:A:H2'	1:L5:1838:A:C8	2.40	0.57
1:L5:400:A:OP1	18:LP:4:TYR:OH	2.22	0.57
1:L5:4235:G:N2	1:L5:4292:A:OP1	2.29	0.57
10:LG:163:PRO:HA	16:LN:26:ARG:HH22	1.69	0.57
25:LW:70:LYS:HD2	47:S2:1783:C:H5	1.69	0.57
47:S2:1208:A:O2'	47:S2:1835:A:N7	2.36	0.57
52:SE:18:TRP:HB3	52:SE:20:LEU:HG	1.86	0.57
57:SL:40:ILE:HG12	57:SL:68:ILE:HD13	1.86	0.57
75:SN:96:VAL:HG11	75:SN:150:VAL:HG11	1.85	0.57
1:L5:1402:C:N3	1:L5:1415:G:N1	2.51	0.57
1:L5:1763:C:N4	1:L5:1769:G:O6	2.37	0.57
1:L5:713:C:H42	1:L5:955:G:H1	1.53	0.57
1:L5:962:C:H3'	1:L5:2264:C:N4	2.19	0.57
10:LG:184:ILE:HG23	10:LG:189:ARG:HH11	1.68	0.57
15:LM:41:PRO:HG3	15:LM:73:VAL:HG13	1.86	0.57
18:LP:6:LEU:HD23	18:LP:116:HIS:HD2	1.69	0.57
20:LR:92:LYS:O	20:LR:96:MET:HG3	2.04	0.57
47:S2:315:C:H42	47:S2:335:G:H1	1.53	0.57
49:SA:12:GLU:O	49:SA:14:ASP:N	2.37	0.57
51:SD:204:LEU:O	51:SD:206:ASP:N	2.36	0.57
54:SH:12:ASN:OD1	54:SH:14:GLU:HG2	2.05	0.57
54:SH:20:GLU:O	54:SH:24:SER:N	2.36	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:SI:43:ILE:HG12	55:SI:57:ALA:HA	1.86	0.57
73:SJ:65:GLU:HA	73:SJ:70:ARG:HD3	1.86	0.57
73:SJ:77:LEU:HA	73:SJ:80:ARG:HE	1.67	0.57
55:SI:10:LYS:HE2	57:SL:136:LYS:HE3	1.86	0.57
59:SQ:67:ASP:OD1	59:SQ:68:ILE:N	2.38	0.57
1:L5:1472:C:H42	1:L5:1492:G:H1	1.51	0.57
1:L5:408:A:O2'	1:L5:411:G:OP2	2.13	0.57
1:L5:4391:G:OP1	6:LC:75:ARG:NH1	2.32	0.57
1:L5:4909:A:O2'	1:L5:4910:G:O5'	2.21	0.57
1:L5:958:G:O2'	1:L5:959:G:OP1	2.19	0.57
9:LF:241:ASN:O	9:LF:245:ARG:NH2	2.38	0.57
10:LG:73:ARG:HH22	10:LG:243:GLY:HA3	1.69	0.57
13:LJ:56:THR:HB	13:LJ:57:VAL:HG22	1.86	0.57
47:S2:291:G:N2	47:S2:293:C:OP2	2.36	0.57
47:S2:1388:A:O2'	51:SD:205:PRO:O	2.16	0.57
51:SD:22:ASN:O	51:SD:26:THR:OG1	2.15	0.57
1:L5:1761:G:H1	1:L5:1768:C:N4	1.99	0.57
1:L5:173:C:N4	1:L5:264:C:O2	2.37	0.57
1:L5:3746:A:H5'	4:LA:243:THR:HG23	1.85	0.57
1:L5:3848:U:H2'	1:L5:3849:A:H8	1.69	0.57
1:L5:1090:G:H5''	22:LT:142:ARG:HH12	1.70	0.57
47:S2:596:U:HO2'	47:S2:645:C:HO2'	1.49	0.57
52:SE:34:GLY:HA3	52:SE:83:PRO:HG3	1.86	0.57
1:L5:1616:U:H2'	1:L5:1617:G:H8	1.70	0.57
1:L5:3631:U:O2'	1:L5:3805:U:OP1	2.21	0.57
17:LO:81:TRP:HZ2	17:LO:99:LEU:HD21	1.69	0.57
47:S2:830:A:OP2	47:S2:846:G:N2	2.37	0.57
50:SB:97:LEU:HD22	50:SB:232:HIS:NE2	2.20	0.57
52:SE:11:ARG:NH2	52:SE:24:THR:O	2.37	0.57
52:SE:231:GLY:O	52:SE:233:LYS:N	2.37	0.57
47:S2:798:A:H4'	54:SH:109:ARG:HG2	1.85	0.57
73:SJ:130:ILE:HD13	73:SJ:145:PRO:HA	1.86	0.57
49:SA:43:SER:HB2	60:SR:123:THR:HG22	1.86	0.57
60:SR:5:ARG:HE	60:SR:53:TYR:HB2	1.68	0.57
1:L5:2065:G:O2'	9:LF:80:ASN:OD1	48.87	0.57
1:L5:2848:G:O2'	1:L5:3838:U:O4	2.13	0.57
4:LA:26:ALA:H	4:LA:75:LEU:HD23	1.70	0.57
11:LH:18:ILE:HG22	11:LH:27:VAL:HA	1.86	0.57
11:LH:9:THR:HG22	11:LH:56:ARG:HB2	1.87	0.57
17:LO:130:LYS:HB2	17:LO:133:ARG:HG2	1.87	0.57
1:L5:2656:U:OP1	28:LZ:76:ASN:ND2	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1348:G:H22	47:S2:1381:G:H22	1.53	0.57
47:S2:1568:C:O2'	47:S2:1569:A:O5'	2.22	0.57
47:S2:1718:G:O2'	47:S2:1815:A:N6	2.38	0.57
50:SB:189:ILE:HB	50:SB:190:PRO:HD3	1.87	0.57
52:SE:189:LEU:O	52:SE:245:ARG:NH2	2.37	0.57
53:SF:138:ALA:H	53:SF:204:ARG:HA	1.70	0.57
72:SG:230:LYS:O	72:SG:234:LEU:N	2.37	0.57
1:L5:1350:C:H2'	1:L5:1351:G:C8	2.40	0.57
1:L5:458:C:H42	1:L5:698:G:H1	1.53	0.57
1:L5:4718:G:OP1	5:LB:20:LYS:NZ	2.31	0.57
4:LA:118:GLU:HG2	4:LA:125:LYS:HG3	1.86	0.57
4:LA:115:CYS:HB2	4:LA:165:VAL:HG12	1.87	0.57
1:L5:4617:G:O2'	24:LV:13:LYS:O	2.22	0.57
25:LW:69:LYS:H	25:LW:70:LYS:CB	2.10	0.57
47:S2:1570:G:N7	62:ST:97:LYS:NZ	2.42	0.57
50:SB:87:ILE:HG23	50:SB:101:HIS:HB2	1.85	0.57
52:SE:191:ARG:HE	52:SE:245:ARG:HB3	1.70	0.57
47:S2:143:U:C5	72:SG:180:VAL:HG22	2.39	0.57
72:SG:66:GLY:N	72:SG:100:CYS:SG	2.78	0.57
65:SX:115:ILE:HG22	65:SX:117:GLY:H	1.69	0.57
1:L5:1921:C:O3'	21:LS:160:ARG:HG2	2.04	0.56
1:L5:2005:G:N2	1:L5:2015:U:O2	2.37	0.56
1:L5:2006:U:OP2	1:L5:2007:G:N1	2.38	0.56
19:LQ:63:LEU:O	19:LQ:67:ILE:HG12	2.05	0.56
25:LW:82:ILE:HG12	25:LW:84:GLY:H	1.70	0.56
47:S2:317:C:H42	47:S2:333:G:H1	1.51	0.56
47:S2:688:U:H4'	47:S2:689:U:O5'	2.03	0.56
50:SB:129:THR:HG21	50:SB:133:TYR:HB2	1.87	0.56
53:SF:63:LYS:HG3	53:SF:71:ARG:HH22	1.70	0.56
57:SL:59:LYS:HG2	57:SL:134:LEU:HD11	1.87	0.56
47:S2:1281:G:H8	74:SM:101:ARG:HE	1.50	0.56
74:SM:26:LEU:HD12	74:SM:27:ILE:H	1.70	0.56
4:LA:113:VAL:HG12	4:LA:166:VAL:HA	1.86	0.56
6:LC:146:GLU:HG2	6:LC:175:LYS:HD2	1.85	0.56
13:LJ:60:PHE:HB2	13:LJ:62:ILE:HG12	1.87	0.56
21:LS:127:MET:HG2	22:LT:153:PRO:HG2	1.86	0.56
1:L5:4332:C:O2'	22:LT:49:GLN:NE2	2.37	0.56
47:S2:1869:A:H1'	50:SB:115:LYS:HG2	1.87	0.56
47:S2:525:A:H2'	47:S2:526:A:C8	2.40	0.56
48:S6:33:C:O2'	48:S6:34:C:O5'	2.23	0.56
48:S6:9:U:O2'	48:S6:46:G:N2	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:SA:6:ASP:HB2	49:SA:8:LEU:HG	1.87	0.56
49:SA:3:GLY:HA3	49:SA:8:LEU:HD11	1.88	0.56
59:SQ:124:PRO:O	59:SQ:126:ARG:NH2	2.38	0.56
77:SW:40:VAL:O	77:SW:44:HIS:ND1	2.30	0.56
65:SX:70:VAL:O	65:SX:83:ALA:N	2.36	0.56
1:L5:4522:G:O2'	1:L5:4525:C:OP2	2.18	0.56
2:L7:22:A:H2	7:LD:264:LYS:HE3	1.69	0.56
10:LG:58:PRO:O	10:LG:60:TYR:N	2.38	0.56
25:LW:71:ARG:HG2	25:LW:72:THR:HG23	1.87	0.56
47:S2:668:A:H5'	47:S2:669:A:OP2	2.05	0.56
53:SF:72:LEU:HD23	53:SF:151:ILE:HG23	1.86	0.56
76:SO:96:LYS:NZ	76:SO:130:GLU:OE1	2.36	0.56
58:SP:82:ASP:OD1	58:SP:83:MET:N	2.39	0.56
77:SW:72:CYS:SG	77:SW:73:GLY:N	2.73	0.56
47:S2:400:C:OP2	65:SX:11:ARG:NH1	2.38	0.56
1:L5:964:A:N1	1:L5:2251:G:O2'	2.32	0.56
5:LB:10:ARG:NH2	5:LB:11:HIS:O	2.38	0.56
47:S2:1316:C:N4	47:S2:1318:G:N7	2.52	0.56
47:S2:1320:G:C5	47:S2:1321:G:H1'	2.40	0.56
48:S6:38:A:OP2	48:S6:39:C:N4	2.32	0.56
53:SF:88:MET:HB2	53:SF:91:ARG:HH21	1.71	0.56
62:ST:42:HIS:CD2	62:ST:81:GLY:H	2.23	0.56
65:SX:68:LYS:HG2	65:SX:91:LEU:HD22	1.88	0.56
1:L5:956:A:H3'	1:L5:957:G:C8	2.39	0.56
5:LB:295:ASP:OD1	5:LB:296:GLY:N	2.36	0.56
12:LI:100:ASN:O	12:LI:102:MET:N	2.38	0.56
13:LJ:6:GLY:O	13:LJ:10:ASN:N	2.36	0.56
24:LV:39:ILE:HG12	24:LV:61:VAL:HG11	1.87	0.56
47:S2:33:G:H1	47:S2:522:A:H2	1.52	0.56
47:S2:794:A:H2'	47:S2:795:A:H4'	1.87	0.56
61:SS:40:TYR:HD1	61:SS:83:PHE:HE2	1.54	0.56
1:L5:1093:C:H2'	1:L5:1094:G:C8	2.41	0.56
1:L5:3705:G:H21	4:LA:224:THR:HG21	1.71	0.56
1:L5:3663:A:N6	1:L5:4168:G:O2'	2.34	0.56
1:L5:4471:U:H2'	1:L5:4472:G:C8	2.41	0.56
1:L5:4478:G:O3'	11:LH:170:LYS:NZ	2.39	0.56
19:LQ:88:ASP:HB3	19:LQ:109:ALA:HB2	1.88	0.56
47:S2:523:A:OP2	73:SJ:127:ARG:NH2	2.36	0.56
54:SH:116:ARG:NH2	54:SH:121:THR:HA	2.21	0.56
1:L5:1978:C:H41	1:L5:1979:A:H2	1.52	0.56
1:L5:3757:G:H5''	1:L5:3758:U:C5	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:LN:84:PRO:HA	16:LN:87:HIS:ND1	2.21	0.56
17:LO:47:PHE:HZ	17:LO:144:GLU:HG3	1.71	0.56
49:SA:68:ILE:HG22	49:SA:70:ASN:H	1.70	0.56
50:SB:132:GLY:HA3	50:SB:221:PRO:HG3	1.88	0.56
54:SH:95:ILE:HD11	54:SH:133:LEU:HD21	1.87	0.56
73:SJ:118:GLY:O	73:SJ:120:ALA:N	2.39	0.56
62:ST:42:HIS:NE2	62:ST:82:ARG:O	2.39	0.56
1:L5:2335:C:H2'	1:L5:2336:G:H8	1.70	0.56
1:L5:4237:C:O2'	1:L5:4326:G:N2	2.38	0.56
1:L5:4294:C:O2	1:L5:4316:G:N2	2.34	0.56
2:L7:83:A:H2	2:L7:93:G:H22	1.51	0.56
24:LV:35:LYS:HB2	24:LV:67:LYS:HB2	1.87	0.56
47:S2:1348:G:H22	47:S2:1381:G:N2	2.04	0.56
47:S2:1628:C:OP1	62:ST:38:LYS:NZ	2.36	0.56
48:S6:20:A:H62	48:S6:59:A:N6	2.02	0.56
71:SC:139:LEU:HD21	71:SC:238:LYS:HG3	1.87	0.56
72:SG:164:LYS:HG2	72:SG:166:GLY:H	1.71	0.56
77:SW:112:ASP:OD1	77:SW:113:HIS:N	2.37	0.56
1:L5:1955:G:O6	1:L5:1956:A:N6	2.39	0.56
1:L5:4043:G:OP2	1:L5:4045:G:N2	2.38	0.56
2:L7:40:U:O2	13:LJ:73:THR:OG1	2.16	0.56
4:LA:29:LEU:O	4:LA:123:ARG:NH1	2.38	0.56
7:LD:20:PHE:O	7:LD:22:ARG:N	2.39	0.56
27:LY:52:ASP:HB2	27:LY:69:LYS:HD3	1.87	0.56
47:S2:1737:G:OP1	72:SG:94:ARG:NH2	2.39	0.56
48:S6:9:U:OP2	48:S6:14:C:N4	2.38	0.56
50:SB:198:GLU:OE2	50:SB:210:VAL:HB	2.06	0.56
52:SE:112:HIS:NE2	52:SE:237:SER:O	2.39	0.56
57:SL:124:ASP:HA	57:SL:147:LYS:HD3	1.86	0.56
74:SM:49:LEU:HD12	74:SM:131:LYS:HE2	1.88	0.56
59:SQ:12:VAL:HG21	59:SQ:91:ALA:HA	1.86	0.56
47:S2:1563:G:H5'	62:ST:121:ARG:HH11	1.71	0.56
47:S2:659:G:N2	65:SX:17:ARG:HH22	2.03	0.56
1:L5:1698:C:H3'	9:LF:177:ARG:NH2	2.21	0.56
1:L5:2430:C:H2'	1:L5:2431:A:C8	2.41	0.56
1:L5:4100:C:H42	1:L5:4109:G:H1	1.54	0.56
1:L5:2843:U:O2'	1:L5:4632:U:OP1	2.24	0.56
13:LJ:46:GLN:NE2	13:LJ:72:CYS:SG	2.77	0.56
16:LN:11:TRP:CZ2	16:LN:44:ARG:HG2	2.41	0.56
21:LS:168:THR:HG22	21:LS:170:LYS:H	1.71	0.56
49:SA:180:ARG:O	49:SA:184:ARG:HG2	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:SA:120:ARG:NH1	71:SC:266:TYR:O	2.39	0.56
1:L5:2561:C:N4	1:L5:2562:G:O6	2.38	0.56
1:L5:2669:C:O2'	1:L5:2670:C:O4'	2.22	0.56
1:L5:4096:C:N4	1:L5:4115:G:OP2	2.39	0.56
1:L5:4734:A:H2'	1:L5:4735:G:C8	2.41	0.56
5:LB:103:LYS:NZ	5:LB:149:ASP:OD1	2.38	0.56
7:LD:40:ASP:OD1	22:LT:69:GLN:HA	2.06	0.56
47:S2:23:G:O2'	47:S2:416:U:OP1	2.24	0.56
76:SO:99:ALA:H	76:SO:133:THR:HB	1.71	0.56
64:SV:16:LYS:H	71:SC:259:THR:HG21	1.71	0.56
1:L5:116:G:N2	1:L5:155:C:N3	2.46	0.55
1:L5:2014:C:H2'	1:L5:2015:U:O4'	2.06	0.55
1:L5:1699:A:H2'	1:L5:2095:A:H4'	1.88	0.55
1:L5:2611:A:H5'	1:L5:2688:G:H4'	1.88	0.55
1:L5:3656:A:HO2'	1:L5:3747:A:HO2'	1.51	0.55
1:L5:4740:G:N1	1:L5:4959:U:O2	2.38	0.55
1:L5:1371:A:N6	3:L8:28:C:O2'	2.39	0.55
1:L5:5041:G:O4'	25:LW:56:ARG:NH2	2.39	0.55
28:LZ:112:ARG:HH12	28:LZ:116:VAL:HG13	1.71	0.55
47:S2:1821:U:O4	47:S2:1822:A:N6	2.39	0.55
47:S2:500:A:H3'	47:S2:501:C:H6	1.70	0.55
72:SG:50:VAL:HB	72:SG:111:LEU:HD11	1.88	0.55
72:SG:231:ARG:HA	72:SG:234:LEU:HB2	1.87	0.55
54:SH:52:GLU:HA	54:SH:58:LYS:HA	1.87	0.55
47:S2:1600:G:H5'	79:SZ:42:ASP:O	2.06	0.55
1:L5:1418:C:N4	1:L5:1419:G:O6	2.39	0.55
1:L5:1440:U:H1'	1:L5:1441:C:H5	1.71	0.55
1:L5:2001:G:H2'	1:L5:2002:A:H4'	1.87	0.55
1:L5:1958:A:O2'	1:L5:2025:A:N1	2.38	0.55
1:L5:746:A:H61	1:L5:915:A:H3'	1.70	0.55
1:L5:946:C:O2'	1:L5:947:C:H5''	2.07	0.55
4:LA:42:LYS:HG2	4:LA:89:TYR:CE1	2.40	0.55
11:LH:5:LEU:HA	11:LH:60:TRP:HA	1.87	0.55
17:LO:7:LEU:HD22	17:LO:31:ARG:HH12	1.71	0.55
18:LP:41:ILE:HG23	18:LP:95:LEU:HD23	1.88	0.55
28:LZ:100:VAL:HG23	28:LZ:106:LEU:HG	1.89	0.55
57:SL:4:ILE:HD13	57:SL:55:TYR:HA	1.88	0.55
1:L5:1187:G:H1'	7:LD:275:GLN:NE2	2.20	0.55
1:L5:2848:G:OP1	24:LV:25:VAL:N	2.30	0.55
1:L5:4094:G:N1	1:L5:4114:C:O2	2.39	0.55
1:L5:4670:C:O2'	1:L5:4672:A:OP2	2.20	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:752:G:H1	1:L5:911:U:H3	1.52	0.55
47:S2:1497:G:N7	56:SK:25:LYS:NZ	2.52	0.55
47:S2:1622:U:H3'	47:S2:1623:A:H4'	1.86	0.55
47:S2:818:A:OP1	73:SJ:80:ARG:NH2	2.38	0.55
25:LW:87:LEU:HD22	72:SG:160:LYS:HE2	1.89	0.55
47:S2:1594:A:P	59:SQ:45:ARG:HH21	2.29	0.55
1:L5:2428:A:N6	1:L5:2789:A:N7	2.53	0.55
20:LR:100:ARG:HG2	20:LR:104:ARG:HH21	1.70	0.55
48:S6:42:A:H2'	48:S6:43:G:C8	2.41	0.55
51:SD:132:LYS:HG3	51:SD:191:PRO:HB3	1.88	0.55
52:SE:11:ARG:HH11	52:SE:20:LEU:HB3	1.72	0.55
72:SG:70:HIS:ND1	72:SG:103:ASP:OD1	2.40	0.55
65:SX:53:GLU:HB2	65:SX:71:ARG:HB2	1.89	0.55
1:L5:226:G:OP2	27:LY:1:MET:N	2.33	0.55
1:L5:2486:G:H2'	1:L5:2487:G:C8	2.42	0.55
1:L5:2704:C:H42	1:L5:2712:G:H1	1.55	0.55
1:L5:4991:U:O2'	1:L5:4992:G:OP1	2.24	0.55
7:LD:41:LYS:HG3	22:LT:93:ILE:HG21	1.88	0.55
12:LI:88:ARG:HH22	12:LI:173:PHE:HB2	1.72	0.55
47:S2:1259:A:O2'	47:S2:1518:C:N4	2.39	0.55
64:SV:70:LEU:O	64:SV:74:LYS:HG2	2.07	0.55
78:SY:113:ARG:HA	78:SY:116:LYS:NZ	2.21	0.55
1:L5:33:A:N3	1:L5:1527:A:O2'	2.40	0.55
1:L5:2452:G:H1	1:L5:2467:U:H2'	1.71	0.55
1:L5:2645:G:N2	1:L5:2690:C:O2	2.40	0.55
1:L5:976:G:H2'	1:L5:977:C:C2	2.41	0.55
3:L8:123:U:O2'	3:L8:126:C:N4	2.39	0.55
5:LB:367:PHE:HZ	5:LB:380:GLN:HE22	1.54	0.55
6:LC:190:ARG:HG2	6:LC:192:GLY:H	1.72	0.55
1:L5:1516:G:HO2'	14:LL:18:TRP:HE1	1.43	0.55
16:LN:117:ASN:OD1	16:LN:118:SER:N	2.39	0.55
17:LO:159:LYS:O	17:LO:163:LYS:NZ	2.28	0.55
23:LU:61:VAL:HG12	23:LU:74:SER:HA	1.88	0.55
47:S2:1574:C:N4	47:S2:1575:G:O6	2.40	0.55
47:S2:1597:C:H2'	47:S2:1598:G:C8	2.41	0.55
71:SC:91:SER:O	71:SC:94:ILE:HG22	2.07	0.55
52:SE:201:HIS:HB3	52:SE:204:SER:HB3	1.88	0.55
74:SM:116:LYS:O	74:SM:118:SER:N	2.40	0.55
58:SP:81:ARG:NH1	58:SP:83:MET:O	2.39	0.55
77:SW:65:LEU:O	77:SW:67:GLY:N	2.40	0.55
1:L5:4102:C:H42	1:L5:4107:G:H1	1.55	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:917:A:O4'	1:L5:918:G:N2	2.40	0.55
3:L8:41:A:N6	3:L8:102:G:O2'	2.35	0.55
11:LH:91:LYS:O	11:LH:182:SER:OG	2.18	0.55
17:LO:110:PRO:HA	17:LO:113:ASP:CG	2.27	0.55
5:LB:96:PRO:HG3	17:LO:153:THR:HG22	1.89	0.55
47:S2:795:A:H5''	47:S2:797:C:H5	1.72	0.55
52:SE:92:ILE:HG23	52:SE:96:GLY:H	1.70	0.55
25:LW:82:ILE:HG21	72:SG:130:PRO:HG2	1.89	0.55
1:L5:2582:A:O2'	1:L5:2653:C:O2'	2.20	0.55
1:L5:405:U:N3	1:L5:408:A:OP2	2.25	0.55
1:L5:4573:G:N2	1:L5:4722:G:OP2	2.39	0.55
10:LG:154:LEU:HB3	10:LG:204:PHE:HD2	1.71	0.55
15:LM:42:CYS:HB3	15:LM:77:TRP:CD1	2.42	0.55
1:L5:15:A:OP1	26:LX:56:ARG:HG3	2.07	0.55
47:S2:1566:G:H8	62:ST:101:ARG:HH22	1.53	0.55
52:SE:238:LEU:HD13	52:SE:242:LYS:HA	1.89	0.55
65:SX:140:ARG:HH22	65:SX:142:ARG:HH11	1.53	0.55
1:L5:1550:G:H1	1:L5:1578:U:H3	1.55	0.55
1:L5:1758:G:O6	1:L5:1761:G:N2	2.40	0.55
1:L5:1266:G:H1'	1:L5:2111:G:H4'	1.88	0.55
1:L5:4097:G:H1	1:L5:4112:C:H42	1.55	0.55
1:L5:4903:G:H1	1:L5:4918:C:H42	1.54	0.55
5:LB:189:THR:HG23	5:LB:192:GLU:H	1.72	0.55
11:LH:14:GLU:HA	11:LH:52:LYS:HG2	1.89	0.55
47:S2:1297:U:H2'	47:S2:1298:G:H2'	1.87	0.55
47:S2:186:C:H2'	47:S2:187:G:H8	1.70	0.55
47:S2:533:A:H61	47:S2:552:G:H1'	1.72	0.55
53:SF:175:ASP:OD1	53:SF:176:GLU:N	2.40	0.55
73:SJ:97:ILE:HA	73:SJ:100:LEU:HD13	1.89	0.55
1:L5:1696:C:O2'	1:L5:1698:C:N4	2.33	0.55
1:L5:1951:G:H5'	21:LS:116:ARG:NH1	2.22	0.55
1:L5:417:G:H1'	3:L8:16:G:H22	1.72	0.55
1:L5:482:G:H1	1:L5:672:C:H42	1.55	0.55
1:L5:755:C:H2'	1:L5:756:G:H8	1.71	0.55
9:LF:150:VAL:HG23	9:LF:191:ILE:HD11	1.89	0.55
1:L5:1359:G:O2'	16:LN:203:TYR:HB2	2.07	0.55
20:LR:44:LEU:HD13	20:LR:49:LEU:HD23	1.88	0.55
28:LZ:11:VAL:HG22	28:LZ:82:PRO:HA	1.88	0.55
47:S2:1189:A:H2'	47:S2:1190:A:C8	2.41	0.55
47:S2:1327:G:N2	47:S2:1502:C:O2	2.34	0.55
47:S2:152:U:O2	47:S2:167:G:N2	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:527:C:H2'	47:S2:528:A:C8	2.41	0.55
47:S2:913:A:OP2	54:SH:99:ARG:NH1	2.40	0.55
62:ST:24:LYS:HG2	62:ST:25:SER:H	1.71	0.55
79:SZ:50:PHE:HB3	79:SZ:58:LEU:HD21	1.89	0.55
1:L5:1762:C:H42	1:L5:1772:C:N4	2.05	0.54
1:L5:2562:G:N2	1:L5:2565:A:OP2	2.39	0.54
1:L5:2562:G:O2'	1:L5:2565:A:N6	2.24	0.54
1:L5:4265:U:OP2	1:L5:4266:G:N2	2.40	0.54
6:LC:252:TRP:CZ3	6:LC:260:LEU:HD12	2.42	0.54
11:LH:105:ILE:HG22	11:LH:112:VAL:HG22	1.90	0.54
72:SG:219:GLU:O	72:SG:223:LYS:N	2.38	0.54
1:L5:1253:G:N2	1:L5:1257:A:O4'	2.40	0.54
1:L5:1800:U:H2'	1:L5:1801:A:C8	2.42	0.54
1:L5:2623:A:H61	1:L5:2633:U:H3	1.55	0.54
1:L5:2361:G:N2	1:L5:3860:A:OP2	2.30	0.54
1:L5:3879:G:O2'	1:L5:3881:G:OP2	2.22	0.54
8:LE:83:LYS:N	8:LE:84:LYS:HB3	2.22	0.54
1:L5:283:G:N2	12:LI:77:VAL:O	130.43	0.54
16:LN:46:ASP:OD1	16:LN:47:LYS:N	2.37	0.54
28:LZ:101:PHE:O	28:LZ:102:ARG:HG2	2.08	0.54
47:S2:208:G:N2	47:S2:209:A:N7	2.55	0.54
47:S2:941:C:H2'	47:S2:942:G:C8	2.43	0.54
50:SB:138:PHE:O	50:SB:213:ARG:N	2.39	0.54
51:SD:53:THR:HA	51:SD:90:LYS:HG3	1.89	0.54
76:SO:61:LYS:HE3	76:SO:76:LEU:HD13	1.88	0.54
59:SQ:102:GLU:HG2	59:SQ:106:LYS:HE2	1.88	0.54
62:ST:116:ASP:HB2	62:ST:120:GLY:HA3	1.89	0.54
1:L5:1234:G:H2'	1:L5:1235:G:C8	2.42	0.54
1:L5:1264:C:H2'	1:L5:1265:G:C8	2.43	0.54
1:L5:2107:C:N4	1:L5:2127:C:N3	2.55	0.54
1:L5:2108:G:H3'	1:L5:2109:G:C8	2.42	0.54
1:L5:3610:A:H2'	1:L5:3611:A:H8	1.73	0.54
15:LM:120:ASN:HA	15:LM:123:ILE:HG22	1.89	0.54
26:LX:140:LEU:HD12	26:LX:146:ALA:HB2	1.89	0.54
28:LZ:89:ILE:HG12	28:LZ:117:LYS:HB3	1.89	0.54
47:S2:1711:U:H2'	47:S2:1712:A:C8	2.42	0.54
20:LR:176:ARG:NH1	47:S2:909:G:OP1	2.40	0.54
47:S2:1003:U:O3'	50:SB:165:ARG:NH2	2.40	0.54
58:SP:101:THR:O	61:SS:118:ARG:NH1	2.40	0.54
65:SX:40:PRO:HG2	65:SX:120:PHE:HE2	1.71	0.54
1:L5:1699:A:H62	1:L5:2118:G:N2	2.04	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:2378:G:H2'	1:L5:2379:A:H5''	1.88	0.54
1:L5:4467:A:O2'	1:L5:4510:A:N3	2.35	0.54
24:LV:61:VAL:N	24:LV:79:ALA:O	2.39	0.54
71:SC:221:ASP:OD1	71:SC:222:CYS:N	2.40	0.54
71:SC:63:VAL:N	71:SC:90:GLU:OE2	2.40	0.54
53:SF:179:ASN:HB2	53:SF:187:SER:HB3	1.89	0.54
54:SH:108:SER:HB3	54:SH:113:LYS:HD3	1.89	0.54
58:SP:64:LYS:HG3	58:SP:73:PRO:HB2	1.89	0.54
61:SS:74:PRO:HA	61:SS:79:ILE:HB	1.88	0.54
1:L5:2785:C:O2'	1:L5:2786:C:OP1	2.25	0.54
1:L5:3726:A:N6	1:L5:4359:U:O2'	2.41	0.54
1:L5:4278:C:HO2'	1:L5:4281:A:H8	1.55	0.54
1:L5:4934:A:C4	1:L5:4935:C:H5	2.25	0.54
1:L5:735:G:OP1	15:LM:74:ARG:NH2	2.36	0.54
19:LQ:5:ILE:HG23	19:LQ:7:HIS:HD2	1.72	0.54
72:SG:206:ALA:HA	72:SG:209:TYR:CD2	2.43	0.54
65:SX:81:ILE:HG21	65:SX:120:PHE:HD2	1.72	0.54
1:L5:1743:A:H1'	7:LD:15:ARG:NH2	2.22	0.54
1:L5:1753:G:N2	1:L5:1778:C:O2	2.40	0.54
13:LJ:109:ILE:HG22	13:LJ:128:LEU:HD11	1.90	0.54
1:L5:2664:G:OP2	20:LR:121:HIS:HB2	2.08	0.54
47:S2:1785:C:O2'	47:S2:1786:U:O5'	2.23	0.54
72:SG:79:LYS:HB3	72:SG:86:PRO:HG3	1.90	0.54
56:SK:57:TYR:O	56:SK:72:THR:OG1	2.19	0.54
57:SL:42:LEU:HD21	57:SL:72:ILE:HD11	1.90	0.54
60:SR:100:PRO:HD3	60:SR:118:GLN:HB2	1.89	0.54
1:L5:25:A:N3	1:L5:339:C:O2'	2.38	0.54
1:L5:3773:U:O2'	1:L5:3774:A:H2'	2.08	0.54
1:L5:918:G:O2'	1:L5:919:C:OP1	2.25	0.54
5:LB:348:ARG:HH12	5:LB:351:LEU:HD23	1.73	0.54
8:LE:132:PRO:HG2	8:LE:135:GLN:OE1	2.07	0.54
8:LE:270:TYR:CD1	15:LM:110:PHE:HB2	2.43	0.54
9:LF:227:PHE:N	9:LF:233:ALA:O	2.39	0.54
9:LF:226:HIS:ND1	9:LF:228:VAL:HG22	2.23	0.54
19:LQ:41:SER:OG	19:LQ:44:ASN:OD1	2.26	0.54
72:SG:209:TYR:CD1	72:SG:213:LEU:HD23	2.43	0.54
1:L5:1244:G:H5''	1:L5:1269:G:C8	2.42	0.54
1:L5:2054:U:O4	17:LO:49:ARG:NH1	2.41	0.54
1:L5:189:G:H1	1:L5:252:C:H42	1.55	0.54
1:L5:267:G:H2'	1:L5:268:G:H8	1.72	0.54
1:L5:4040:C:N3	1:L5:4041:C:N4	2.56	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:4443:C:H1'	1:L5:4444:C:H5	1.73	0.54
1:L5:4775:C:O2	1:L5:4861:G:N2	2.41	0.54
1:L5:3870:C:O3'	5:LB:261:ARG:NH1	2.41	0.54
8:LE:270:TYR:CE1	15:LM:107:PHE:HA	2.42	0.54
19:LQ:81:VAL:HG22	19:LQ:101:CYS:SG	2.47	0.54
20:LR:180:LYS:HE3	20:LR:184:ILE:HD11	1.88	0.54
22:LT:105:PHE:O	22:LT:109:VAL:HG23	2.08	0.54
47:S2:1265:A:H2	47:S2:1517:G:H22	1.55	0.54
47:S2:1727:G:N2	47:S2:1807:C:O2	2.37	0.54
56:SK:24:LYS:HE2	56:SK:65:ARG:HD3	1.90	0.54
76:SO:14:VAL:HG21	76:SO:18:GLY:HA3	1.90	0.54
61:SS:26:ILE:HD11	61:SS:59:LEU:HD22	1.89	0.54
1:L5:1320:U:O2'	1:L5:1891:A:N1	2.29	0.54
1:L5:2060:G:N2	21:LS:115:ALA:HB2	2.22	0.54
1:L5:3614:G:H2'	1:L5:3617:G:H22	1.72	0.54
1:L5:3944:G:H2'	1:L5:3945:A:C8	2.42	0.54
5:LB:391:PRO:HD3	25:LW:63:GLN:HE21	1.71	0.54
47:S2:465:A:H4'	47:S2:466:G:O5'	2.08	0.54
55:SI:133:GLU:O	55:SI:137:LEU:N	2.41	0.54
55:SI:150:ASP:O	55:SI:154:LYS:NZ	2.39	0.54
73:SJ:4:ALA:HB3	73:SJ:5:ARG:HA	1.90	0.54
1:L5:2659:A:N1	1:L5:2672:C:O2'	2.40	0.54
1:L5:281:U:H2'	1:L5:282:C:H6	1.73	0.54
1:L5:26:C:O2'	1:L5:338:A:N3	2.38	0.54
2:L7:87:G:N2	2:L7:90:A:OP2	2.41	0.54
11:LH:45:LEU:HD23	11:LH:57:VAL:HG12	1.89	0.54
13:LJ:83:LEU:O	13:LJ:87:LEU:N	2.41	0.54
17:LO:3:GLU:OE1	17:LO:5:GLN:NE2	2.27	0.54
21:LS:101:THR:HG23	21:LS:104:GLY:H	1.72	0.54
26:LX:105:ASN:OD1	26:LX:106:LYS:N	2.41	0.54
47:S2:1752:C:N3	47:S2:1779:G:N1	2.55	0.54
47:S2:375:U:H3	47:S2:389:A:H61	1.54	0.54
74:SM:17:ALA:HB1	74:SM:124:ILE:HG21	1.90	0.54
1:L5:1441:C:OP1	1:L5:2109:G:O2'	2.23	0.53
3:L8:55:U:H3	3:L8:62:A:H2	1.53	0.53
47:S2:829:C:OP1	52:SE:22:LYS:N	2.42	0.53
57:SL:89:ARG:HG2	57:SL:108:ASN:HB3	1.90	0.53
74:SM:21:VAL:HG13	74:SM:22:LEU:HG	1.90	0.53
61:SS:109:GLU:O	61:SS:113:ARG:NH1	2.40	0.53
63:SU:28:ASN:HD21	63:SU:30:LYS:HB3	1.73	0.53
77:SW:77:PRO:HG2	77:SW:79:PHE:CE2	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:2561:C:O2	1:L5:2566:G:N2	2.40	0.53
1:L5:394:G:N2	1:L5:397:G:OP2	2.36	0.53
2:L7:77:A:H62	2:L7:99:G:H21	1.53	0.53
6:LC:214:ASP:OD1	6:LC:215:ASN:N	2.40	0.53
11:LH:128:MET:HE2	11:LH:157:SER:HB3	1.90	0.53
49:SA:69:GLU:HB2	71:SC:270:THR:HG21	1.89	0.53
1:L5:1252:C:O2'	1:L5:1258:G:O6	2.26	0.53
1:L5:1326:A:OP2	1:L5:4445:U:O2'	2.24	0.53
1:L5:2901:G:N7	1:L5:2902:G:N2	2.55	0.53
1:L5:3680:U:OP1	4:LA:54:ARG:NH1	2.38	0.53
1:L5:4767:C:H42	1:L5:4867:G:H1	1.57	0.53
4:LA:49:ILE:HD13	4:LA:60:LYS:NZ	2.23	0.53
6:LC:318:PRO:O	6:LC:320:LYS:N	2.41	0.53
7:LD:23:ARG:HG2	7:LD:30:TYR:HE1	1.72	0.53
17:LO:108:ILE:HG23	17:LO:160:ARG:HD3	1.90	0.53
47:S2:1159:G:OP2	65:SX:5:ARG:NH2	2.35	0.53
47:S2:1280:G:H1'	47:S2:1318:G:N2	2.23	0.53
47:S2:1320:G:H2'	47:S2:1321:G:H4'	1.90	0.53
47:S2:1534:C:O2	47:S2:1598:G:N2	2.41	0.53
47:S2:748:C:OP1	47:S2:796:G:N1	2.35	0.53
51:SD:60:GLY:HA3	51:SD:65:ARG:HB3	1.89	0.53
52:SE:125:LYS:H	52:SE:142:HIS:CE1	2.26	0.53
53:SF:18:LYS:HG3	53:SF:46:ALA:HB3	1.90	0.53
72:SG:137:ARG:HB2	72:SG:140:ARG:HB2	1.90	0.53
73:SJ:14:VAL:HG23	73:SJ:48:PHE:CD1	2.43	0.53
47:S2:1280:G:N7	74:SM:101:ARG:NH2	2.57	0.53
58:SP:57:LEU:HA	58:SP:60:LEU:HB3	1.91	0.53
59:SQ:132:PHE:HB2	63:SU:77:TRP:CD1	2.44	0.53
17:LO:61:ARG:HA	17:LO:70:PRO:HD2	1.91	0.53
1:L5:1352:C:H41	19:LQ:55:ARG:NH1	2.06	0.53
22:LT:54:HIS:ND1	22:LT:56:CYS:SG	2.74	0.53
47:S2:537:C:OP1	47:S2:539:C:N4	2.40	0.53
48:S6:42:A:H2'	48:S6:43:G:H8	1.74	0.53
52:SE:151:ASP:O	52:SE:154:ILE:HG12	2.08	0.53
73:SJ:87:LEU:HG	73:SJ:91:LYS:HE3	1.90	0.53
47:S2:1019:C:H5''	75:SN:72:LEU:HD22	1.89	0.53
60:SR:44:LYS:O	60:SR:48:ASN:ND2	2.42	0.53
1:L5:1170:G:H1	1:L5:1191:C:H42	1.57	0.53
1:L5:138:G:H2'	1:L5:139:G:C8	2.43	0.53
1:L5:2474:G:N2	1:L5:2502:G:H2'	2.23	0.53
1:L5:2639:U:H2'	1:L5:2694:G:H1	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:4734:A:H2'	1:L5:4735:G:H8	1.72	0.53
14:LL:106:SER:HG	14:LL:109:SER:HG	1.49	0.53
47:S2:647:U:H2'	47:S2:648:A:C8	2.44	0.53
71:SC:277:HIS:O	71:SC:279:ARG:N	2.42	0.53
47:S2:448:A:H5''	55:SI:25:ARG:HA	1.91	0.53
47:S2:1798:C:HO2'	55:SI:2:GLY:N	2.07	0.53
55:SI:42:ARG:HG2	55:SI:59:ARG:HB2	1.91	0.53
73:SJ:64:ASP:HB3	77:SW:117:ARG:HH21	1.72	0.53
58:SP:37:TYR:O	58:SP:39:ALA:N	2.40	0.53
63:SU:97:ILE:HG23	63:SU:100:GLN:HB3	1.91	0.53
77:SW:103:VAL:HB	77:SW:110:ILE:HD11	1.90	0.53
47:S2:918:U:O2'	77:SW:56:HIS:O	2.24	0.53
78:SY:29:HIS:ND1	78:SY:29:HIS:O	2.42	0.53
1:L5:988:C:N4	1:L5:1065:G:H1	2.05	0.53
1:L5:1075:G:H2'	1:L5:1076:C:H4'	1.90	0.53
1:L5:1730:U:H1'	22:LT:101:SER:HB2	1.90	0.53
1:L5:2893:U:O2'	55:SI:88:ASN:ND2	2.42	0.53
1:L5:364:G:O6	13:LJ:52:LYS:NZ	113.60	0.53
1:L5:3896:C:O2'	1:L5:3897:G:O4'	2.26	0.53
1:L5:497:G:N2	1:L5:657:C:N3	2.57	0.53
3:L8:153:C:H5'	10:LG:185:LYS:NZ	2.24	0.53
8:LE:140:LEU:HD11	8:LE:144:ILE:HG21	1.89	0.53
15:LM:6:PHE:O	15:LM:11:ARG:NE	2.39	0.53
24:LV:58:GLY:H	24:LV:81:VAL:HG23	1.73	0.53
5:LB:384:GLU:OE2	25:LW:14:TYR:OH	2.25	0.53
47:S2:1507:G:H5'	53:SF:94:LYS:HD2	90.89	0.53
47:S2:1333:U:H4'	51:SD:141:LYS:HE3	1.90	0.53
51:SD:55:THR:HG23	51:SD:56:GLN:H	1.72	0.53
78:SY:9:THR:HG22	78:SY:25:ILE:HA	1.90	0.53
1:L5:1242:G:O6	1:L5:1268:G:N2	2.41	0.53
1:L5:2361:G:O2'	1:L5:2362:U:H5''	2.08	0.53
1:L5:741:C:H2'	1:L5:742:G:C8	2.44	0.53
1:L5:933:G:H4'	1:L5:934:C:H5''	1.91	0.53
3:L8:83:C:N4	27:LY:50:ARG:HH22	2.06	0.53
17:LO:142:ALA:O	17:LO:147:TRP:HB3	2.09	0.53
25:LW:68:GLN:HE21	25:LW:69:LYS:NZ	2.07	0.53
1:L5:4128:A:H4'	28:LZ:54:THR:HG21	1.90	0.53
47:S2:1617:G:N2	47:S2:1620:A:O5'	2.42	0.53
71:SC:194:ARG:N	71:SC:225:SER:OG	2.42	0.53
52:SE:184:THR:O	52:SE:224:ASN:ND2	2.42	0.53
63:SU:47:ASN:HA	63:SU:48:LEU:HB2	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1774:C:H2'	1:L5:1775:A:O4'	2.09	0.53
1:L5:167:C:H42	1:L5:268:G:H1	1.56	0.53
1:L5:2422:C:O2'	1:L5:3857:G:O2'	2.24	0.53
1:L5:501:C:H41	1:L5:503:C:N4	2.04	0.53
11:LH:85:THR:O	11:LH:188:GLN:NE2	2.42	0.53
1:L5:1395:U:OP1	14:LL:186:ARG:NH1	2.42	0.53
14:LL:30:ALA:O	14:LL:34:ARG:HG3	2.08	0.53
24:LV:87:SER:HA	24:LV:97:TYR:HB3	1.89	0.53
65:SX:48:LYS:HB3	65:SX:99:GLU:OE2	2.09	0.53
1:L5:161:G:O6	1:L5:274:C:N4	2.42	0.53
1:L5:1971:C:N3	1:L5:2000:G:N2	2.56	0.53
1:L5:419:A:N3	1:L5:1332:C:O2'	2.42	0.53
1:L5:2493:G:O2'	3:L8:127:U:OP1	2.27	0.53
5:LB:397:ILE:HA	5:LB:400:GLU:HB3	1.91	0.53
47:S2:1103:C:H2'	47:S2:1104:G:C8	2.44	0.53
47:S2:1544:C:H42	47:S2:1588:A:H8	1.57	0.53
47:S2:537:C:O2'	47:S2:548:C:N3	2.41	0.53
47:S2:697:G:OP2	47:S2:734:C:O2'	2.16	0.53
47:S2:843:C:H2'	47:S2:844:U:H5'	1.91	0.53
52:SE:62:LYS:HA	52:SE:80:ILE:HG12	1.91	0.53
72:SG:216:ARG:HG3	72:SG:223:LYS:HZ2	1.73	0.53
61:SS:33:ILE:HG21	61:SS:99:LEU:HD23	1.91	0.53
63:SU:20:ILE:N	63:SU:91:LEU:O	2.28	0.53
1:L5:2113:G:N2	1:L5:2117:G:N7	2.55	0.53
1:L5:4210:U:H2'	1:L5:4211:C:C6	2.44	0.53
6:LC:11:TYR:HD1	6:LC:17:SER:HB3	1.74	0.53
1:L5:2273:G:H4'	6:LC:309:ILE:HG23	1.90	0.53
10:LG:98:LEU:HD23	10:LG:218:LEU:HD11	1.91	0.53
12:LI:4:ARG:HH11	12:LI:99:ILE:HD11	1.71	0.53
28:LZ:33:THR:O	28:LZ:34:SER:OG	2.24	0.53
47:S2:1270:G:H2'	47:S2:1271:C:O4'	2.08	0.53
47:S2:1322:G:H2'	47:S2:1323:U:O4'	2.08	0.53
47:S2:1741:U:H2'	47:S2:1742:C:O4'	2.09	0.53
47:S2:570:C:H4'	78:SY:36:PRO:HG3	1.91	0.53
51:SD:103:GLU:O	51:SD:106:ARG:HG2	2.09	0.53
52:SE:177:THR:HA	52:SE:195:ILE:HB	1.91	0.53
55:SI:79:ILE:HG21	55:SI:170:LYS:HZ2	1.73	0.53
47:S2:524:U:O4	73:SJ:38:ARG:NH2	2.42	0.53
63:SU:19:ARG:NH1	63:SU:118:ASP:OD1	2.42	0.53
77:SW:11:LEU:HD21	77:SW:37:PHE:CE2	2.43	0.53
77:SW:26:LEU:HD21	77:SW:60:LYS:HD3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1242:G:H1	1:L5:1269:G:N2	2.07	0.52
1:L5:1478:C:O2	1:L5:1487:G:N2	2.28	0.52
1:L5:2263:A:N7	1:L5:2265:G:O2'	2.35	0.52
1:L5:3974:G:H2'	1:L5:3975:C:H4'	1.89	0.52
1:L5:490:C:N4	1:L5:491:G:O6	2.41	0.52
1:L5:2073:C:H5'	9:LF:212:LYS:HB3	1.91	0.52
13:LJ:95:ARG:HB3	13:LJ:177:GLY:HA3	1.91	0.52
19:LQ:59:PRO:HG2	19:LQ:143:ARG:HA	1.90	0.52
47:S2:314:U:O4	47:S2:338:G:N2	2.42	0.52
47:S2:430:C:H2'	47:S2:431:G:C8	2.44	0.52
47:S2:551:U:H3'	47:S2:552:G:H8	1.74	0.52
47:S2:964:A:N1	47:S2:1065:G:O2'	2.36	0.52
53:SF:43:GLU:HB3	53:SF:44:LYS:HA	1.91	0.52
76:SO:85:CYS:HB2	76:SO:90:ILE:HD11	1.91	0.52
78:SY:94:HIS:NE2	78:SY:96:LEU:HD23	2.24	0.52
3:L8:80:A:H2'	3:L8:81:C:O4'	2.09	0.52
9:LF:117:ILE:HG12	9:LF:118:PHE:CD2	2.44	0.52
10:LG:73:ARG:NH1	10:LG:243:GLY:H	2.07	0.52
12:LI:55:ASP:OD1	12:LI:164:LYS:HE2	2.09	0.52
13:LJ:158:SER:O	13:LJ:160:GLU:N	2.37	0.52
1:L5:74:G:H5'	14:LL:59:VAL:HG13	1.90	0.52
24:LV:48:ARG:HG2	24:LV:49:LEU:N	2.24	0.52
49:SA:104:THR:HG1	49:SA:107:THR:HG1	1.53	0.52
51:SD:76:ARG:O	51:SD:76:ARG:NH1	2.37	0.52
53:SF:45:TYR:H	53:SF:46:ALA:HA	1.74	0.52
63:SU:49:LYS:O	63:SU:51:LYS:N	2.36	0.52
79:SZ:111:ARG:HG2	79:SZ:112:ASN:N	2.24	0.52
1:L5:1182:C:H5'	1:L5:1183:C:H1'	1.91	0.52
1:L5:137:G:H2'	1:L5:138:G:C8	2.43	0.52
1:L5:1389:U:O2'	1:L5:1469:C:O2	2.24	0.52
1:L5:1591:U:H3	1:L5:4555:U:H5''	1.73	0.52
1:L5:4948:C:H3'	1:L5:4949:G:N2	2.24	0.52
1:L5:497:G:H1	1:L5:656:C:H42	1.57	0.52
1:L5:977:C:O2'	1:L5:978:G:H5'	2.09	0.52
2:L7:69:U:H3	2:L7:106:G:H1	1.56	0.52
6:LC:109:ARG:O	6:LC:111:TRP:N	2.39	0.52
14:LL:43:ALA:O	14:LL:149:GLN:NE2	2.38	0.52
16:LN:120:TRP:NE1	16:LN:123:GLU:HG3	2.24	0.52
25:LW:69:LYS:N	25:LW:70:LYS:HB2	2.12	0.52
26:LX:149:VAL:HA	26:LX:152:LYS:HD2	1.90	0.52
47:S2:617:G:N7	65:SX:67:ARG:NH2	2.53	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:833:C:N4	78:SY:10:ARG:HB2	2.24	0.52
72:SG:3:LEU:HD13	72:SG:5:ILE:HG13	1.91	0.52
73:SJ:14:VAL:HG23	73:SJ:48:PHE:HD1	1.74	0.52
76:SO:83:GLN:O	76:SO:86:LYS:HG2	2.09	0.52
65:SX:140:ARG:NH2	65:SX:142:ARG:HH11	2.08	0.52
1:L5:417:G:H4'	1:L5:418:A:O5'	2.08	0.52
1:L5:691:C:H2'	1:L5:692:A:C8	2.44	0.52
13:LJ:105:PHE:O	13:LJ:132:VAL:N	2.42	0.52
19:LQ:67:ILE:HG22	19:LQ:71:LYS:NZ	2.25	0.52
1:L5:4313:A:H4'	22:LT:71:ALA:HB3	1.92	0.52
47:S2:1865:C:H5'	47:S2:1866:A:C8	2.44	0.52
47:S2:538:U:H5''	47:S2:546:G:C4	2.43	0.52
52:SE:188:ASN:HA	52:SE:245:ARG:HH12	1.74	0.52
47:S2:1674:G:H5''	53:SF:86:LYS:HB3	1.91	0.52
72:SG:24:LEU:O	72:SG:26:THR:N	2.42	0.52
54:SH:134:VAL:HG12	54:SH:137:SER:HB3	1.91	0.52
73:SJ:169:ARG:NH2	73:SJ:170:PRO:O	2.43	0.52
61:SS:116:LYS:O	61:SS:117:ILE:HG22	2.08	0.52
47:S2:1520:G:OP1	61:SS:136:THR:N	2.42	0.52
62:ST:131:LEU:HD12	62:ST:134:ILE:HD11	1.91	0.52
63:SU:60:THR:HG23	63:SU:81:GLN:HE22	1.74	0.52
52:SE:67:GLN:NE2	78:SY:85:ASN:HD21	2.07	0.52
1:L5:1402:C:H2'	1:L5:1403:G:O4'	2.09	0.52
1:L5:495:C:H42	1:L5:659:G:H1	1.57	0.52
6:LC:212:ASN:HB3	6:LC:232:VAL:HG12	1.91	0.52
10:LG:78:PRO:O	10:LG:82:GLN:HG3	2.08	0.52
23:LU:45:GLU:OE1	23:LU:45:GLU:N	2.43	0.52
47:S2:1452:A:N7	47:S2:1475:G:N1	2.57	0.52
51:SD:164:VAL:O	51:SD:168:VAL:HG22	2.10	0.52
74:SM:11:VAL:N	74:SM:123:VAL:O	2.43	0.52
59:SQ:134:GLY:HA3	59:SQ:141:TYR:H	1.74	0.52
1:L5:1185:G:H2'	1:L5:1186:U:C6	2.44	0.52
1:L5:2090:U:H4'	6:LC:305:PRO:HD2	1.90	0.52
1:L5:4202:U:O2'	1:L5:4203:A:OP2	2.27	0.52
1:L5:693:C:O2'	1:L5:694:C:OP1	2.22	0.52
4:LA:176:ASP:CG	4:LA:177:LYS:H	2.12	0.52
1:L5:3747:A:N7	4:LA:245:ARG:HD2	2.24	0.52
6:LC:94:ASN:HA	6:LC:100:ARG:O	2.10	0.52
8:LE:114:ARG:HG3	8:LE:115:TYR:H	1.75	0.52
8:LE:86:GLU:H	8:LE:89:LEU:HD12	1.75	0.52
14:LL:35:ARG:O	14:LL:39:ARG:N	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:LL:66:TYR:O	14:LL:68:THR:N	2.42	0.52
47:S2:1358:U:OP2	71:SC:123:ARG:NH1	2.43	0.52
47:S2:974:C:H2'	47:S2:975:G:H8	1.75	0.52
49:SA:128:ARG:HD3	49:SA:153:PRO:HD2	1.91	0.52
71:SC:69:LEU:HD22	71:SC:74:LYS:HD2	1.91	0.52
51:SD:80:PRO:O	51:SD:82:GLY:N	2.43	0.52
58:SP:38:SER:O	58:SP:41:GLN:HG2	2.10	0.52
62:ST:111:LYS:HB3	62:ST:126:GLN:NE2	2.24	0.52
1:L5:1091:C:H2'	1:L5:1092:G:C8	2.45	0.52
1:L5:1405:C:N3	1:L5:1412:G:N1	2.57	0.52
1:L5:2621:A:O2'	1:L5:2701:U:O2'	2.26	0.52
1:L5:28:C:O2'	16:LN:162:ARG:O	2.28	0.52
1:L5:509:A:H2'	14:LL:163:LYS:HE3	1.90	0.52
5:LB:11:HIS:CE1	5:LB:237:THR:HG23	2.45	0.52
5:LB:62:ARG:O	5:LB:65:SER:OG	2.19	0.52
47:S2:326:C:H4'	47:S2:327:G:H5'	1.92	0.52
52:SE:124:CYS:O	52:SE:160:ILE:N	2.29	0.52
72:SG:68:LEU:O	72:SG:69:THR:OG1	2.28	0.52
75:SN:84:LEU:HD21	75:SN:149:LEU:HD21	1.90	0.52
1:L5:4730:C:H4'	1:L5:4731:G:OP1	2.09	0.52
1:L5:3662:A:O2'	4:LA:118:GLU:OE1	2.21	0.52
4:LA:49:ILE:HG21	4:LA:60:LYS:HZ2	1.74	0.52
6:LC:94:ASN:OD1	6:LC:95:MET:N	2.42	0.52
47:S2:1562:C:OP1	62:ST:71:GLY:N	2.42	0.52
47:S2:1656:G:H2'	47:S2:1657:G:C8	2.44	0.52
50:SB:130:THR:HB	50:SB:180:ASP:OD1	2.09	0.52
50:SB:27:LYS:HA	50:SB:51:ARG:NH2	2.25	0.52
47:S2:162:C:H5'	72:SG:87:ARG:NH2	2.25	0.52
1:L5:3612:C:H1'	1:L5:5016:A:H8	1.74	0.52
5:LB:369:ASP:OD1	5:LB:370:THR:N	2.43	0.52
13:LJ:146:ARG:HG2	13:LJ:147:ARG:HG3	1.90	0.52
24:LV:107:ASN:O	24:LV:109:LYS:N	2.37	0.52
26:LX:72:ASP:O	26:LX:76:ILE:HG12	2.10	0.52
47:S2:1644:C:OP1	59:SQ:143:LYS:N	2.38	0.52
47:S2:309:G:H2'	47:S2:310:C:N1	2.24	0.52
47:S2:413:G:H2'	47:S2:414:A:H8	1.74	0.52
47:S2:559:G:O2'	47:S2:560:A:O4'	2.28	0.52
71:SC:210:PRO:HD3	71:SC:236:PHE:HE2	1.75	0.52
53:SF:25:THR:HA	53:SF:107:ASN:HD21	1.75	0.52
47:S2:305:U:H5'	55:SI:41:ARG:NH2	2.24	0.52
47:S2:824:C:H1'	73:SJ:144:ILE:HG21	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:SJ:27:GLN:O	73:SJ:30:LYS:HG2	2.10	0.52
1:L5:988:C:H42	1:L5:1065:G:H1	1.58	0.52
1:L5:1983:A:N6	1:L5:1987:C:O4'	2.43	0.52
1:L5:2089:G:H5'	19:LQ:38:ARG:HH12	1.75	0.52
1:L5:3757:G:H5''	1:L5:3758:U:H5	1.75	0.52
6:LC:209:ILE:HB	6:LC:229:LEU:HD23	1.91	0.52
7:LD:180:PHE:HB3	7:LD:195:HIS:CD2	2.45	0.52
21:LS:83:ARG:HD3	21:LS:125:GLN:OE1	2.10	0.52
47:S2:1447:G:OP1	63:SU:87:ARG:NH1	2.36	0.52
47:S2:440:G:O2'	47:S2:1737:G:H1'	2.10	0.52
47:S2:359:U:OP1	65:SX:22:TRP:NE1	2.37	0.52
47:S2:406:U:H2'	47:S2:408:A:C8	2.45	0.52
47:S2:1535:U:O3'	53:SF:88:MET:HE1	2.09	0.52
74:SM:18:LEU:HD23	74:SM:124:ILE:HD11	1.92	0.52
1:L5:1755:C:N3	7:LD:4:VAL:N	2.54	0.51
1:L5:1969:G:H1	1:L5:2019:C:N4	2.08	0.51
1:L5:1436:C:H5''	1:L5:2119:C:N4	2.23	0.51
1:L5:2291:G:N2	1:L5:2344:U:O2	2.32	0.51
1:L5:267:G:H2'	1:L5:268:G:C8	2.44	0.51
1:L5:2828:U:O2'	1:L5:2829:U:OP1	2.27	0.51
1:L5:3684:G:OP1	4:LA:174:ARG:NH2	2.39	0.51
1:L5:2845:A:H61	1:L5:3843:C:H42	1.58	0.51
6:LC:142:HIS:HE1	6:LC:248:ARG:HA	1.75	0.51
10:LG:73:ARG:HH12	10:LG:243:GLY:H	1.58	0.51
17:LO:173:GLN:HB3	17:LO:176:ARG:HH21	1.74	0.51
18:LP:64:ASN:HB2	18:LP:80:GLN:OE1	2.10	0.51
19:LQ:42:THR:HA	19:LQ:45:GLN:HE22	1.75	0.51
26:LX:146:ALA:HA	26:LX:149:VAL:HG12	1.90	0.51
47:S2:356:C:OP2	57:SL:105:ARG:NH1	2.20	0.51
49:SA:58:LEU:HD21	49:SA:177:MET:HG2	1.92	0.51
51:SD:135:GLU:OE2	51:SD:159:HIS:NE2	2.36	0.51
52:SE:45:ILE:HA	52:SE:61:VAL:HG11	1.92	0.51
53:SF:174:ALA:O	53:SF:178:ILE:HG12	2.10	0.51
61:SS:55:ARG:O	61:SS:59:LEU:HD13	2.10	0.51
47:S2:1611:G:H5'	61:SS:86:ARG:HH22	1.75	0.51
63:SU:39:LEU:HD22	63:SU:102:THR:HG22	1.92	0.51
1:L5:1198:G:H2'	1:L5:1199:G:C8	2.45	0.51
1:L5:1598:C:H2'	1:L5:1599:A:H8	1.75	0.51
1:L5:1758:G:N2	1:L5:1773:U:O4	2.36	0.51
1:L5:2709:C:N4	1:L5:2710:C:O2'	2.43	0.51
1:L5:3771:C:H3'	1:L5:3772:U:C5'	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L8:72:A:HO2'	3:L8:88:A:H2	1.58	0.51
11:LH:30:PRO:HD2	11:LH:84:VAL:HG22	1.92	0.51
12:LI:57:TYR:OH	12:LI:128:ARG:NH2	2.43	0.51
14:LL:19:GLN:HA	14:LL:22:VAL:HG13	1.92	0.51
21:LS:15:ARG:HH11	21:LS:25:PRO:HD2	1.74	0.51
24:LV:68:GLY:O	24:LV:73:ARG:NH2	2.42	0.51
47:S2:1419:C:H4'	47:S2:1420:G:OP1	2.09	0.51
47:S2:805:U:O3'	77:SW:120:HIS:NE2	2.42	0.51
49:SA:198:MET:SD	49:SA:199:PRO:HD2	2.50	0.51
71:SC:270:THR:HA	71:SC:273:LEU:HD12	1.92	0.51
78:SY:99:LYS:O	78:SY:101:LYS:NZ	2.41	0.51
1:L5:1378:C:H3'	1:L5:1379:C:C5'	2.40	0.51
1:L5:1806:G:O6	1:L5:1832:C:N4	2.26	0.51
1:L5:1870:C:H2'	1:L5:1871:A:C8	2.45	0.51
1:L5:205:C:O2	1:L5:211:G:N2	2.44	0.51
1:L5:3848:U:H2'	1:L5:3849:A:C8	2.45	0.51
1:L5:4038:C:H5	1:L5:4050:A:H4'	1.76	0.51
14:LL:146:LEU:HA	14:LL:147:ALA:HB3	1.93	0.51
23:LU:25:CYS:O	23:LU:29:VAL:HG23	2.10	0.51
3:L8:117:C:H4'	26:LX:55:ARG:HH22	1.75	0.51
47:S2:1752:C:O2	47:S2:1780:G:N1	2.31	0.51
47:S2:350:C:O2'	47:S2:383:G:N2	2.43	0.51
47:S2:553:U:O4	47:S2:554:A:N6	2.43	0.51
1:L5:2442:G:O2'	1:L5:2512:A:N3	2.35	0.51
1:L5:32:G:OP1	16:LN:73:ARG:NH1	2.43	0.51
1:L5:2:G:H2'	1:L5:3:C:O4'	2.11	0.51
3:L8:122:G:C5	3:L8:123:U:H1'	2.46	0.51
4:LA:181:LYS:HG2	4:LA:183:GLY:H	1.75	0.51
9:LF:122:PHE:CE1	9:LF:150:VAL:HG12	2.45	0.51
9:LF:94:ARG:HA	9:LF:140:ILE:HG22	1.91	0.51
28:LZ:12:LEU:HD23	28:LZ:22:LYS:HG2	1.93	0.51
1:L5:1177:U:H2'	1:L5:1178:G:H8	1.75	0.51
1:L5:2346:C:O2'	1:L5:2347:A:H3'	2.10	0.51
1:L5:2520:C:H1'	1:L5:2640:G:H21	1.75	0.51
1:L5:514:U:OP2	1:L5:648:G:N2	2.43	0.51
2:L7:11:A:O2'	2:L7:13:A:OP2	2.28	0.51
9:LF:116:GLN:HE22	9:LF:212:LYS:NZ	2.08	0.51
11:LH:47:LEU:HD23	11:LH:55:LEU:HD12	1.91	0.51
1:L5:4691:A:O2'	11:LH:68:ALA:O	2.27	0.51
1:L5:4871:C:H42	21:LS:157:ARG:HH21	1.58	0.51
47:S2:1112:U:H2'	47:S2:1113:A:H4'	1.90	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:SD:168:VAL:HG12	51:SD:189:MET:HA	1.93	0.51
47:S2:1016:U:H6	75:SN:17:PRO:HG3	1.75	0.51
58:SP:76:VAL:HB	58:SP:94:VAL:HA	1.92	0.51
47:S2:1588:A:H5''	62:ST:77:LYS:HE2	1.92	0.51
1:L5:1197:C:H2'	1:L5:1198:G:C8	2.45	0.51
1:L5:1352:C:P	19:LQ:104:ARG:HH12	2.33	0.51
1:L5:480:C:H42	1:L5:674:G:H1	1.58	0.51
1:L5:4772:C:O2	1:L5:4863:G:N1	2.44	0.51
1:L5:683:C:H4'	8:LE:101:ASN:HB2	1.92	0.51
1:L5:755:C:H2'	1:L5:756:G:C8	2.46	0.51
1:L5:4280:A:N6	7:LD:150:LEU:HD21	2.26	0.51
14:LL:42:LYS:HG3	14:LL:45:ARG:HH22	1.74	0.51
28:LZ:100:VAL:HG22	28:LZ:107:LYS:HA	1.92	0.51
47:S2:1854:U:H2'	47:S2:1855:G:C8	2.45	0.51
49:SA:190:SER:O	49:SA:192:GLU:N	2.40	0.51
49:SA:39:TYR:HB2	49:SA:50:ASN:HB3	1.91	0.51
73:SJ:113:GLN:HA	73:SJ:116:LYS:HG2	1.91	0.51
1:L5:2730:U:H2'	1:L5:2731:C:C6	2.46	0.51
1:L5:3753:G:H22	1:L5:3771:C:H1'	1.75	0.51
13:LJ:85:LYS:NZ	13:LJ:116:GLY:H	2.08	0.51
17:LO:16:LEU:HB2	17:LO:43:ILE:HG22	1.92	0.51
47:S2:794:A:N6	47:S2:796:G:O6	2.44	0.51
48:S6:38:A:H62	53:SF:133:THR:H	1.57	0.51
51:SD:92:ALA:O	51:SD:93:THR:OG1	2.27	0.51
72:SG:50:VAL:HG21	72:SG:111:LEU:HD21	1.93	0.51
57:SL:77:VAL:HG12	57:SL:122:ILE:HG22	1.92	0.51
75:SN:23:PRO:O	75:SN:25:TRP:N	2.44	0.51
75:SN:99:ARG:HG2	75:SN:115:LEU:HD11	1.93	0.51
76:SO:111:GLY:HA2	76:SO:114:SER:HB3	1.92	0.51
60:SR:27:ASP:O	60:SR:30:THR:OG1	2.24	0.51
62:ST:49:ASP:OD1	62:ST:50:GLU:N	2.44	0.51
1:L5:2108:G:C5	1:L5:2109:G:H1'	2.46	0.51
1:L5:383:A:O2'	1:L5:384:A:O5'	2.28	0.51
1:L5:3919:C:H5''	4:LA:207:VAL:HG22	1.92	0.51
1:L5:4228:G:H5''	1:L5:4229:U:O4'	2.11	0.51
1:L5:4478:G:O2'	1:L5:4602:A:N1	2.43	0.51
1:L5:969:C:H1'	1:L5:970:G:C4	2.45	0.51
6:LC:188:ARG:HE	6:LC:202:ILE:HD12	1.76	0.51
12:LI:176:PHE:HB2	12:LI:181:PHE:CE2	2.44	0.51
16:LN:169:ARG:HH21	16:LN:174:LEU:HD11	1.75	0.51
25:LW:91:MET:HG3	25:LW:94:ARG:HB3	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1611:G:O2'	61:SS:87:GLN:O	2.29	0.51
47:S2:1758:G:O2'	47:S2:1774:C:N4	2.44	0.51
1:L5:3766:A:H5''	47:S2:1849:G:O6	2.11	0.51
47:S2:196:C:O2'	47:S2:203:G:N2	2.44	0.51
57:SL:128:VAL:HG12	57:SL:140:PHE:HB3	1.92	0.51
75:SN:4:MET:HE1	75:SN:121:ARG:HG2	1.93	0.51
1:L5:1215:C:H3'	1:L5:1216:C:H5''	1.93	0.51
1:L5:3641:U:H5	1:L5:3646:A:N7	2.08	0.51
1:L5:4997:G:H2'	1:L5:4998:G:H8	1.76	0.51
6:LC:251:ILE:C	6:LC:252:TRP:HD1	2.13	0.51
7:LD:56:THR:OG1	7:LD:59:ASP:O	2.26	0.51
8:LE:44:CYS:SG	8:LE:45:SER:N	2.82	0.51
15:LM:126:GLU:OE2	17:LO:184:ASN:ND2	2.44	0.51
18:LP:83:TRP:O	18:LP:85:LYS:N	2.44	0.51
23:LU:39:PHE:O	23:LU:43:LEU:HD13	2.10	0.51
47:S2:1102:G:H2'	47:S2:1103:C:H6	1.76	0.51
47:S2:436:G:OP1	47:S2:471:G:O2'	2.29	0.51
47:S2:535:G:N2	47:S2:548:C:H42	2.09	0.51
48:S6:69:U:H2'	48:S6:70:G:H8	1.75	0.51
71:SC:253:PRO:HA	71:SC:256:TRP:CD2	2.45	0.51
53:SF:15:PRO:HG3	59:SQ:57:LEU:HA	1.93	0.51
53:SF:157:GLY:HA2	53:SF:160:GLU:HG2	1.93	0.51
60:SR:36:GLU:OE1	60:SR:36:GLU:N	2.43	0.51
1:L5:1478:C:H2'	1:L5:1479:G:C8	2.46	0.51
1:L5:180:C:N3	1:L5:256:G:N1	2.58	0.51
1:L5:3888:G:O2'	1:L5:3889:G:OP1	2.22	0.51
1:L5:4897:G:O2'	1:L5:4926:C:N4	2.43	0.51
5:LB:4:ARG:HH21	5:LB:8:ALA:HB3	1.75	0.51
6:LC:54:VAL:HG21	6:LC:101:MET:SD	2.50	0.51
1:L5:1520:C:H4'	6:LC:94:ASN:ND2	2.25	0.51
8:LE:242:ILE:O	8:LE:243:THR:OG1	2.27	0.51
12:LI:77:VAL:N	12:LI:80:CYS:SG	2.66	0.51
17:LO:16:LEU:HD21	17:LO:83:THR:HG21	1.93	0.51
18:LP:31:GLU:OE1	18:LP:60:PHE:HA	2.11	0.51
47:S2:1142:G:N2	47:S2:1144:A:H3'	2.25	0.51
47:S2:39:A:N6	47:S2:515:G:H1'	2.26	0.51
50:SB:102:GLY:HA2	50:SB:215:VAL:HG13	1.93	0.51
47:S2:156:G:N2	72:SG:60:GLY:O	2.44	0.51
54:SH:87:PHE:CE2	54:SH:90:LYS:HD2	2.46	0.51
73:SJ:61:LEU:HA	73:SJ:70:ARG:HH12	1.75	0.51
62:ST:81:GLY:O	62:ST:93:SER:N	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:SE:56:LEU:HD11	78:SY:58:PHE:HZ	1.76	0.51
1:L5:1176:C:H42	1:L5:1183:C:H41	1.59	0.50
1:L5:1508:A:OP1	6:LC:110:ARG:NH2	2.44	0.50
1:L5:1757:U:O2'	1:L5:1758:G:N3	2.33	0.50
1:L5:974:C:O2'	1:L5:975:C:OP1	2.25	0.50
5:LB:371:THR:OG1	5:LB:377:GLY:O	2.29	0.50
9:LF:188:GLU:O	9:LF:191:ILE:HG22	2.11	0.50
11:LH:63:ASN:OD1	11:LH:64:ARG:N	2.44	0.50
13:LJ:111:GLU:HG3	13:LJ:114:ASP:HB2	1.92	0.50
15:LM:127:VAL:HG21	17:LO:178:ARG:HE	1.76	0.50
1:L5:2059:C:O2	21:LS:118:ARG:NH1	2.44	0.50
24:LV:83:ARG:HD3	24:LV:120:PRO:HG2	1.93	0.50
47:S2:1569:A:O2'	47:S2:1626:C:O2	2.25	0.50
48:S6:31:G:N2	53:SF:134:VAL:HG13	2.26	0.50
53:SF:40:ALA:HA	53:SF:44:LYS:HE3	1.92	0.50
57:SL:13:GLN:NE2	57:SL:14:PRO:HD2	2.26	0.50
47:S2:399:C:H4'	65:SX:11:ARG:NH1	2.26	0.50
1:L5:262:G:H2'	1:L5:263:G:C8	2.46	0.50
1:L5:3612:C:H1'	1:L5:5016:A:C8	2.46	0.50
1:L5:3970:G:H2'	1:L5:3971:G:C8	2.44	0.50
1:L5:702:U:H2'	1:L5:703:G:H4'	1.93	0.50
5:LB:285:TYR:HD1	5:LB:365:LEU:HD21	1.76	0.50
11:LH:113:GLU:HG2	11:LH:125:ARG:HA	1.92	0.50
11:LH:41:ILE:HG21	11:LH:73:ILE:HD11	1.93	0.50
13:LJ:100:SER:N	13:LJ:104:ASN:O	2.32	0.50
16:LN:182:HIS:O	16:LN:183:THR:OG1	2.22	0.50
1:L5:151:G:H3'	16:LN:49:ARG:HH22	1.75	0.50
1:L5:1952:G:H4'	21:LS:93:MET:HG3	1.93	0.50
28:LZ:30:ASP:OD1	28:LZ:31:ASP:N	2.44	0.50
50:SB:32:ASP:OD1	50:SB:33:VAL:N	2.45	0.50
53:SF:133:THR:HB	53:SF:134:VAL:HG23	1.91	0.50
72:SG:200:LYS:O	72:SG:204:GLU:N	2.45	0.50
73:SJ:4:ALA:H	73:SJ:5:ARG:HB2	1.75	0.50
1:L5:1213:G:C6	1:L5:1215:C:C4	2.99	0.50
1:L5:1272:C:O2'	8:LE:74:SER:HB2	2.11	0.50
1:L5:724:C:N3	1:L5:942:G:N2	2.56	0.50
6:LC:11:TYR:CD1	6:LC:17:SER:HB3	2.46	0.50
9:LF:169:LEU:HA	9:LF:174:LEU:HD22	1.93	0.50
9:LF:222:LYS:HG3	9:LF:223:LYS:H	1.76	0.50
47:S2:1163:C:H2'	47:S2:1164:G:H8	1.75	0.50
47:S2:1678:A:H2'	47:S2:1679:A:C8	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:76:U:O2'	47:S2:78:C:OP2	2.25	0.50
52:SE:45:ILE:HG13	52:SE:61:VAL:HG11	1.93	0.50
54:SH:87:PHE:HE2	54:SH:90:LYS:HD2	1.75	0.50
74:SM:52:GLN:HE22	74:SM:66:GLU:HB3	1.76	0.50
76:SO:128:ARG:HH12	76:SO:130:GLU:HB2	1.76	0.50
76:SO:12:GLU:N	76:SO:14:VAL:HA	2.26	0.50
47:S2:864:A:H4'	77:SW:78:ARG:HH12	1.76	0.50
1:L5:15:A:H2'	1:L5:16:G:O4'	2.10	0.50
1:L5:1866:U:O2'	1:L5:1867:A:O5'	2.26	0.50
1:L5:1971:C:H3'	1:L5:2001:G:H22	1.77	0.50
1:L5:4381:A:H2'	1:L5:4382:G:O4'	2.12	0.50
1:L5:4415:A:N6	1:L5:4416:G:N3	2.59	0.50
1:L5:4725:C:H2'	1:L5:4726:G:H8	1.76	0.50
1:L5:4730:C:H1'	1:L5:4731:G:H3'	1.93	0.50
4:LA:176:ASP:OD1	4:LA:177:LYS:N	2.42	0.50
5:LB:150:PHE:O	5:LB:154:LYS:HG3	2.11	0.50
6:LC:266:THR:HG23	6:LC:268:ARG:H	1.77	0.50
14:LL:54:PRO:CA	14:LL:55:ILE:HG22	2.41	0.50
18:LP:105:LYS:HD2	18:LP:107:LEU:HD11	1.93	0.50
47:S2:1854:U:H2'	47:S2:1855:G:H8	1.77	0.50
47:S2:833:C:O2'	47:S2:834:C:OP1	2.28	0.50
50:SB:85:LYS:HB2	50:SB:101:HIS:HB3	1.93	0.50
53:SF:38:TYR:HD1	53:SF:144:LEU:HD13	1.77	0.50
75:SN:38:TYR:O	75:SN:42:LYS:HG3	2.11	0.50
47:S2:1620:A:OP1	58:SP:44:ARG:NH2	2.44	0.50
60:SR:10:LYS:HD3	60:SR:14:ARG:HH22	1.76	0.50
60:SR:28:PHE:HA	60:SR:55:THR:HG21	1.94	0.50
1:L5:2896:G:H1	1:L5:3605:C:H42	1.58	0.50
1:L5:413:G:OP2	14:LL:36:ARG:NH2	59.66	0.50
1:L5:4638:U:OP1	1:L5:5044:A:O2'	2.27	0.50
7:LD:236:MET:O	7:LD:239:MET:HG2	2.11	0.50
7:LD:9:ASN:OD1	7:LD:10:LYS:N	2.45	0.50
10:LG:251:ALA:O	10:LG:255:LYS:HG2	2.10	0.50
11:LH:36:ARG:NH1	11:LH:37:ASP:O	2.44	0.50
14:LL:42:LYS:HG3	14:LL:45:ARG:NH2	2.27	0.50
50:SB:32:ASP:HB2	50:SB:46:LYS:HG2	1.94	0.50
71:SC:166:ARG:O	71:SC:181:PRO:HD3	2.11	0.50
51:SD:161:GLY:O	51:SD:164:VAL:HG12	2.12	0.50
61:SS:4:VAL:HA	79:SZ:50:PHE:HE1	1.76	0.50
65:SX:9:THR:O	65:SX:11:ARG:N	2.44	0.50
1:L5:113:A:H2'	1:L5:114:G:O4'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1402:C:O2	1:L5:1416:G:N2	2.44	0.50
1:L5:2116:C:H4'	1:L5:2117:G:O5'	2.12	0.50
6:LC:212:ASN:CG	6:LC:213:GLU:H	2.15	0.50
12:LI:53:VAL:HG11	22:LT:160:ALA:OXT	2.11	0.50
15:LM:47:ARG:HE	21:LS:73:LEU:HD21	1.75	0.50
27:LY:74:TYR:HE2	27:LY:77:LYS:HD2	1.75	0.50
47:S2:1170:A:N6	47:S2:1189:A:OP2	2.42	0.50
49:SA:76:VAL:HG13	49:SA:123:VAL:HG23	1.94	0.50
49:SA:138:SER:HG	49:SA:156:TYR:HD1	1.59	0.50
50:SB:179:ASN:HB2	50:SB:183:GLU:HB3	1.94	0.50
50:SB:192:SER:O	50:SB:196:ASP:N	2.45	0.50
47:S2:126:G:H8	72:SG:199:THR:HG21	1.77	0.50
1:L5:2765:A:H2'	1:L5:2766:A:H5'	1.93	0.50
1:L5:3621:A:HO2'	1:L5:4658:G:HO2'	1.43	0.50
1:L5:5020:G:H1	1:L5:5029:C:H42	1.59	0.50
8:LE:82:LYS:HG3	8:LE:84:LYS:HB3	1.93	0.50
1:L5:78:U:H5''	16:LN:185:GLY:HA2	1.93	0.50
17:LO:139:GLY:O	17:LO:150:GLN:NE2	2.45	0.50
1:L5:1914:C:O3'	17:LO:89:PRO:HG3	2.12	0.50
47:S2:1395:C:H3'	47:S2:1396:A:H5''	1.93	0.50
24:LV:73:ARG:NH2	47:S2:1724:A:OP1	2.44	0.50
47:S2:355:G:OP1	57:SL:105:ARG:NH1	2.45	0.50
47:S2:94:G:O2'	47:S2:508:A:O2'	2.16	0.50
47:S2:690:G:H1	47:S2:738:C:N4	2.10	0.50
52:SE:211:LYS:HE2	52:SE:215:GLY:HA2	1.93	0.50
75:SN:122:ILE:O	75:SN:126:ALA:N	2.33	0.50
1:L5:1267:C:N4	1:L5:2122:G:OP2	2.44	0.50
1:L5:2264:C:O2'	1:L5:2265:G:OP1	2.25	0.50
1:L5:2387:G:H5''	20:LR:23:TRP:CD1	2.46	0.50
1:L5:281:U:H2'	1:L5:282:C:C6	2.47	0.50
1:L5:3610:A:H2'	1:L5:3611:A:C8	2.47	0.50
1:L5:4118:U:C4	4:LA:89:TYR:HD2	2.29	0.50
1:L5:4263:C:H2'	1:L5:4264:G:O4'	2.12	0.50
1:L5:4741:C:O2	1:L5:4959:U:N3	2.35	0.50
1:L5:477:C:H42	1:L5:677:G:H1	1.59	0.50
3:L8:153:C:H2'	3:L8:154:G:C8	2.47	0.50
8:LE:181:LEU:HD22	8:LE:268:GLN:HG3	1.94	0.50
14:LL:126:LEU:HD23	14:LL:137:GLY:HA2	1.93	0.50
15:LM:90:ARG:O	15:LM:94:LYS:HG3	2.12	0.50
25:LW:34:ALA:HA	25:LW:37:GLU:HB3	1.94	0.50
1:L5:230:G:O2'	27:LY:18:HIS:NE2	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:SJ:23:SER:O	73:SJ:27:GLN:N	2.45	0.50
73:SJ:78:LEU:HD21	73:SJ:97:ILE:HD11	1.93	0.50
75:SN:40:LEU:HD22	75:SN:45:LEU:HD12	1.92	0.50
59:SQ:112:LEU:HB3	59:SQ:119:LEU:HD13	1.93	0.50
47:S2:1238:U:O2'	61:SS:147:GLY:O	2.30	0.50
1:L5:1697:G:H3'	1:L5:1698:C:C6	2.47	0.50
1:L5:2243:C:H2'	1:L5:2244:C:H5	1.77	0.50
1:L5:2898:G:OP2	20:LR:135:LYS:NZ	2.40	0.50
1:L5:2900:U:H2'	1:L5:2901:G:H8	1.77	0.50
1:L5:2900:U:H2'	1:L5:2901:G:C8	2.47	0.50
1:L5:3593:C:H2'	1:L5:3595:U:C4	2.47	0.50
1:L5:4755:G:H1	1:L5:4878:C:H42	1.58	0.50
5:LB:17:LEU:O	5:LB:19:ARG:N	2.45	0.50
10:LG:100:HIS:CE1	10:LG:103:ARG:HH21	2.30	0.50
10:LG:190:LEU:HB3	10:LG:199:CYS:HB3	1.94	0.50
10:LG:87:LEU:HD11	10:LG:91:THR:HG21	1.94	0.50
22:LT:51:GLY:HA3	22:LT:92:ARG:HG3	1.94	0.50
47:S2:197:U:H2'	47:S2:198:U:H4'	1.92	0.50
47:S2:222:U:H3	47:S2:299:A:H61	1.60	0.50
47:S2:330:G:N7	72:SG:189:ARG:NH1	2.60	0.50
48:S6:31:G:H22	53:SF:134:VAL:HG13	1.77	0.50
53:SF:123:GLU:OE2	53:SF:197:GLU:HA	2.12	0.50
47:S2:483:C:H5''	65:SX:48:LYS:NZ	2.27	0.50
1:L5:1969:G:H3'	1:L5:1970:A:C8	2.47	0.49
1:L5:182:G:N1	1:L5:255:C:O2	2.34	0.49
1:L5:2744:A:H2'	1:L5:2745:A:C8	2.47	0.49
1:L5:3625:G:HO2'	1:L5:3626:G:P	2.31	0.49
1:L5:376:A:H4'	6:LC:86:ARG:HD3	1.94	0.49
1:L5:3798:U:O2'	1:L5:3800:A:N7	2.39	0.49
1:L5:385:A:C2	1:L5:387:G:H5'	2.46	0.49
1:L5:4875:G:N1	1:L5:4878:C:O3'	2.45	0.49
1:L5:5050:C:H4'	5:LB:322:HIS:H	1.77	0.49
1:L5:494:U:H3	1:L5:660:A:H61	1.60	0.49
1:L5:958:G:O2'	1:L5:959:G:H5'	2.12	0.49
1:L5:974:C:H2'	1:L5:975:C:C6	2.46	0.49
16:LN:38:ARG:HB2	16:LN:62:TYR:CE2	2.47	0.49
47:S2:1736:G:H2'	47:S2:1737:G:C8	2.46	0.49
47:S2:878:G:N3	47:S2:878:G:H2'	2.27	0.49
49:SA:108:PHE:HB2	49:SA:136:GLU:HB3	1.94	0.49
71:SC:271:ASP:OD1	71:SC:272:HIS:N	2.45	0.49
52:SE:191:ARG:HE	52:SE:245:ARG:HD2	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65: SX:60: LYS: HB3	65: SX:62: PRO: HD2	1.93	0.49
1: L5:1180: C: H3'	1: L5:1181: C: C5'	2.42	0.49
1: L5:128: C: O2	1: L5:140: G: N2	2.29	0.49
1: L5:1617: G: H1'	1: L5:2513: A: N6	2.26	0.49
1: L5:4101: C: H2'	1: L5:4102: C: C5	2.47	0.49
6: LC:339: THR: O	6: LC:343: GLN: HG2	2.13	0.49
11: LH:21: LYS: HB3	11: LH:24: THR: HB	1.93	0.49
12: LI:47: PRO: HB2	12: LI:48: LEU: HD12	1.92	0.49
13: LJ:112: HIS: CE1	13: LJ:126: TYR: H	2.30	0.49
14: LL:77: SER: HB3	14: LL:80: GLU: HG2	1.94	0.49
14: LL:54: PRO: HB3	14: LL:97: SER: HB2	1.94	0.49
15: LM:17: PHE: CE1	15: LM:54: CYS: HA	2.47	0.49
25: LW:101: ARG: NE	72: SG:148: SER: O	2.45	0.49
47: S2:1102: G: H2'	47: S2:1103: C: C6	2.47	0.49
47: S2:1170: A: H5'	47: S2:1172: U: H1'	1.93	0.49
47: S2:1622: U: OP2	47: S2:1623: A: O2'	2.26	0.49
47: S2:363: A: N6	47: S2:400: C: O2'	2.45	0.49
47: S2:56: G: OP1	78: SY:111: LYS: NZ	2.41	0.49
48: S6:16: G: H1'	48: S6:20: A: H61	1.77	0.49
49: SA:145: ILE: HG22	49: SA:159: ILE: HB	1.93	0.49
51: SD:124: ARG: O	51: SD:128: GLU: N	2.40	0.49
72: SG:32: MET: HA	72: SG:52: ILE: HG13	1.94	0.49
54: SH:53: VAL: HG11	54: SH:172: THR: HA	1.93	0.49
49: SA:39: TYR: CE2	60: SR:105: MET: HB3	2.46	0.49
1: L5:2333: G: H5''	6: LC:195: LYS: HE2	1.94	0.49
1: L5:2409: U: H5''	1: L5:2410: C: H5	1.77	0.49
1: L5:2794: C: H3'	1: L5:2795: A: H8	1.77	0.49
1: L5:3682: A: OP1	4: LA:128: ARG: N	2.45	0.49
1: L5:3717: A: O2'	1: L5:4178: A: O2'	2.19	0.49
1: L5:676: C: H2'	1: L5:677: G: C8	2.47	0.49
1: L5:732: A: H61	1: L5:934: C: H41	1.59	0.49
1: L5:980: U: H2'	1: L5:981: C: H6	1.77	0.49
22: LT:53: PRO: HB3	22: LT:91: VAL: HG22	1.94	0.49
26: LX:68: ARG: NH1	26: LX:70: LYS: HG2	2.27	0.49
47: S2:1553: C: H4'	47: S2:1554: C: H5	1.78	0.49
50: SB:198: GLU: O	50: SB:202: GLN: HB2	2.12	0.49
53: SF:19: LEU: O	53: SF:21: GLY: N	2.43	0.49
47: S2:561: A: O3'	73: SJ:164: PRO: HG3	2.12	0.49
47: S2:3: C: H41	73: SJ:17: ARG: HE	1.60	0.49
56: SK:4: PRO: HG2	56: SK:8: ARG: HE	1.77	0.49
76: SO:34: PHE: CD1	76: SO:98: ARG: HD3	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:SS:120:HIS:O	61:SS:122:GLY:N	2.45	0.49
77:SW:37:PHE:O	77:SW:40:VAL:HG22	2.11	0.49
78:SY:20:ARG:HD2	78:SY:76:TYR:CE1	2.47	0.49
1:L5:1356:U:O2'	1:L5:1505:C:O2	2.29	0.49
1:L5:1818:G:O2'	1:L5:1819:G:H5''	2.13	0.49
1:L5:2120:G:O2'	1:L5:2121:C:OP1	2.30	0.49
1:L5:4102:C:N4	1:L5:4103:C:O2	2.46	0.49
1:L5:4326:G:O2'	7:LD:35:ARG:HD2	2.13	0.49
1:L5:489:C:H42	1:L5:664:G:H1	1.61	0.49
5:LB:360:LEU:HD12	5:LB:361:GLU:N	2.27	0.49
6:LC:150:LEU:HB3	6:LC:151:PRO:HD3	1.93	0.49
10:LG:111:LYS:HA	10:LG:114:LEU:HD12	1.93	0.49
15:LM:7:VAL:HG13	15:LM:27:ILE:HD13	1.94	0.49
17:LO:12:ARG:HA	17:LO:40:GLY:HA3	1.94	0.49
1:L5:3859:G:H4'	18:LP:139:TYR:CE1	2.47	0.49
18:LP:57:CYS:HB3	18:LP:72:GLN:HB2	1.94	0.49
20:LR:110:ARG:HD3	20:LR:120:TYR:CG	2.47	0.49
47:S2:1022:U:H5'	47:S2:1023:A:C8	2.48	0.49
47:S2:311:C:H4'	47:S2:339:A:H4'	1.94	0.49
47:S2:980:A:O2'	47:S2:981:A:OP1	2.27	0.49
49:SA:120:ARG:HH12	71:SC:267:GLN:HA	1.76	0.49
76:SO:74:ALA:HB1	76:SO:115:ALA:HB2	1.93	0.49
77:SW:80:ASP:OD1	77:SW:124:LYS:HG2	2.13	0.49
1:L5:1090:G:H2'	1:L5:1091:C:O4'	2.11	0.49
1:L5:1902:G:H2'	1:L5:1903:G:H8	1.77	0.49
1:L5:1971:C:H3'	1:L5:2001:G:N2	2.27	0.49
1:L5:2774:C:H2'	1:L5:2775:C:H6	1.78	0.49
1:L5:4061:G:C6	1:L5:4062:A:C4	3.01	0.49
1:L5:4661:G:N2	1:L5:5005:G:OP1	2.41	0.49
1:L5:980:U:H2'	1:L5:981:C:C6	2.47	0.49
8:LE:261:ILE:HG23	8:LE:267:LEU:HD22	1.95	0.49
10:LG:57:TRP:O	10:LG:59:ARG:N	2.38	0.49
13:LJ:35:ARG:NE	13:LJ:122:SER:O	2.40	0.49
27:LY:128:VAL:O	27:LY:132:LYS:N	2.45	0.49
47:S2:1183:A:H2'	47:S2:1184:G:H8	1.77	0.49
47:S2:962:A:O3'	76:SO:66:ARG:NH2	2.43	0.49
53:SF:185:SER:O	53:SF:191:LYS:NZ	2.33	0.49
60:SR:5:ARG:HB2	60:SR:10:LYS:HZ1	1.78	0.49
62:ST:33:TRP:HH2	62:ST:102:ARG:HH11	1.60	0.49
79:SZ:93:SER:N	79:SZ:97:ILE:HG21	2.26	0.49
1:L5:160:G:H2'	1:L5:161:G:H8	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:176:G:H1'	1:L5:261:G:H22	1.78	0.49
1:L5:4578:G:H2'	1:L5:4579:U:C6	2.48	0.49
1:L5:5027:C:H4'	1:L5:5028:G:O5'	2.11	0.49
1:L5:648:G:O2'	1:L5:649:A:OP1	2.26	0.49
2:L7:63:C:H5'	2:L7:64:G:H5''	1.93	0.49
7:LD:106:ALA:HB1	7:LD:169:GLY:HA3	1.95	0.49
8:LE:89:LEU:N	8:LE:90:ALA:HA	2.28	0.49
9:LF:166:ARG:HD2	9:LF:209:TRP:CE2	2.47	0.49
9:LF:182:TYR:CE2	9:LF:203:GLU:HG2	2.47	0.49
47:S2:103:A:N6	47:S2:356:C:O4'	2.46	0.49
47:S2:1650:A:H3'	47:S2:1651:A:H8	1.78	0.49
47:S2:28:U:H2'	47:S2:29:G:H8	1.78	0.49
47:S2:595:U:O2'	47:S2:596:U:O5'	2.31	0.49
48:S6:58:A:O2'	48:S6:59:A:H5''	2.12	0.49
57:SL:89:ARG:HA	57:SL:108:ASN:HA	1.95	0.49
74:SM:40:LYS:NZ	74:SM:43:ASP:OD2	2.34	0.49
1:L5:1372:A:OP1	16:LN:202:ARG:NH2	2.46	0.49
1:L5:1758:G:H2'	1:L5:1759:G:O4'	2.12	0.49
1:L5:3714:G:H8	1:L5:3714:G:OP2	1.96	0.49
1:L5:385:A:H4'	1:L5:386:A:OP1	2.10	0.49
1:L5:4243:C:N4	1:L5:4264:G:H2'	2.28	0.49
11:LH:85:THR:OG1	11:LH:86:LEU:N	2.46	0.49
1:L5:4430:G:H5'	12:LI:3:ARG:HH12	1.78	0.49
1:L5:62:A:H5'	16:LN:174:LEU:HD22	1.94	0.49
26:LX:153:ILE:HG13	26:LX:155:ILE:HG12	1.94	0.49
27:LY:4:ASN:HD22	27:LY:7:VAL:HG13	1.78	0.49
47:S2:1560:U:H2'	47:S2:1561:A:C8	2.47	0.49
47:S2:170:A:H5'	72:SG:137:ARG:HG3	1.95	0.49
47:S2:371:A:OP2	55:SI:10:LYS:HB2	2.12	0.49
48:S6:29:G:H2'	48:S6:30:G:C8	2.48	0.49
71:SC:106:VAL:HG22	71:SC:128:VAL:HG22	1.94	0.49
54:SH:88:SER:O	54:SH:90:LYS:N	2.42	0.49
55:SI:42:ARG:HG3	55:SI:58:LEU:HB2	1.94	0.49
62:ST:23:LYS:HE3	62:ST:51:ASN:OD1	2.13	0.49
64:SV:76:ASP:OD1	64:SV:77:GLY:N	2.45	0.49
1:L5:1447:C:H2'	1:L5:1448:G:C8	2.48	0.49
1:L5:2362:U:OP1	18:LP:82:ARG:NH1	2.46	0.49
1:L5:2458:C:OP1	16:LN:67:ARG:NH2	2.44	0.49
1:L5:3588:C:H2'	1:L5:3589:G:C8	2.47	0.49
1:L5:3959:U:O2'	1:L5:3961:G:N7	2.42	0.49
1:L5:4102:C:O2'	1:L5:4104:G:O6	2.26	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:LA:97:ASN:HB3	4:LA:100:ASN:ND2	2.28	0.49
1:L5:958:G:H21	8:LE:125:LEU:HD23	1.77	0.49
8:LE:152:ILE:HG23	8:LE:158:ARG:HA	1.94	0.49
14:LL:126:LEU:N	14:LL:138:ASP:OD2	2.41	0.49
19:LQ:124:ASP:OD1	19:LQ:125:GLN:N	2.45	0.49
21:LS:154:LEU:HB3	21:LS:157:ARG:HD3	1.95	0.49
24:LV:22:VAL:HG21	24:LV:52:LEU:HD22	1.94	0.49
26:LX:73:HIS:CD2	26:LX:115:LYS:HG2	2.48	0.49
47:S2:1083:A:O2'	47:S2:1858:G:N2	2.44	0.49
47:S2:1325:G:H1	47:S2:1503:C:H42	1.60	0.49
47:S2:1395:C:O2	47:S2:1474:A:N6	2.45	0.49
47:S2:190:G:H22	47:S2:208:G:H3'	1.78	0.49
47:S2:40:A:H61	47:S2:514:U:H3	1.61	0.49
49:SA:104:THR:OG1	49:SA:107:THR:OG1	2.25	0.49
49:SA:32:PHE:CE2	49:SA:33:GLN:HG3	2.48	0.49
50:SB:27:LYS:HA	50:SB:51:ARG:HH21	1.77	0.49
53:SF:35:LEU:HD21	53:SF:146:ARG:HD3	1.94	0.49
72:SG:209:TYR:O	72:SG:214:ALA:N	2.46	0.49
54:SH:105:THR:OG1	54:SH:106:ARG:N	2.46	0.49
56:SK:13:GLU:O	56:SK:17:LYS:N	2.42	0.49
56:SK:18:GLU:HG3	56:SK:20:VAL:HG22	1.94	0.49
75:SN:39:LYS:HA	75:SN:42:LYS:HD2	1.95	0.49
78:SY:15:ASN:HD21	78:SY:20:ARG:HH21	1.59	0.49
1:L5:2557:G:H1	1:L5:2570:U:H3	1.61	0.49
1:L5:2770:C:H2'	1:L5:2771:G:H8	1.77	0.49
1:L5:61:A:O2'	16:LN:172:ARG:NH2	2.43	0.49
2:L7:38:U:HO2'	2:L7:40:U:H5	1.59	0.49
4:LA:97:ASN:HB3	4:LA:100:ASN:HD22	1.78	0.49
13:LJ:54:ARG:HG3	13:LJ:55:TYR:N	2.28	0.49
16:LN:200:LEU:HD22	16:LN:204:ARG:NH1	2.28	0.49
3:L8:83:C:H42	27:LY:50:ARG:HH22	1.59	0.49
47:S2:1060:A:O2'	47:S2:1062:A:N7	2.45	0.49
47:S2:1392:U:H2'	47:S2:1393:G:H8	1.78	0.49
47:S2:1531:A:OP2	53:SF:81:ARG:NH1	2.46	0.49
47:S2:440:G:OP1	55:SI:24:LYS:NZ	2.41	0.49
47:S2:912:C:O2'	47:S2:913:A:OP1	2.30	0.49
49:SA:111:GLN:HG3	49:SA:112:ILE:HG13	1.94	0.49
47:S2:562:U:C5	73:SJ:172:ARG:HD3	2.48	0.49
56:SK:43:LEU:HG	56:SK:44:HIS:ND1	2.27	0.49
47:S2:1373:C:H5'	60:SR:7:LYS:HB2	1.94	0.49
51:SD:8:LYS:NZ	63:SU:59:LYS:HG2	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:SW:24:GLN:HG3	77:SW:64:ASN:HA	1.94	0.49
78:SY:125:VAL:O	78:SY:129:LYS:HG3	2.12	0.49
1:L5:1977:C:H5'	1:L5:1978:C:C5	2.48	0.49
1:L5:2115:G:O2'	1:L5:2117:G:O4'	2.30	0.49
1:L5:2610:G:H1	1:L5:2729:C:H42	1.61	0.49
1:L5:389:A:H1'	27:LY:90:ALA:O	2.13	0.49
1:L5:4767:C:O3'	1:L5:4874:A:N6	2.46	0.49
7:LD:163:LEU:O	7:LD:167:VAL:HG23	2.13	0.49
7:LD:177:THR:OG1	7:LD:178:LYS:N	2.45	0.49
7:LD:184:ASP:HB2	7:LD:189:GLU:HB2	1.94	0.49
7:LD:63:GLN:HG3	7:LD:74:ILE:HD12	1.95	0.49
9:LF:241:ASN:HB3	9:LF:245:ARG:HH22	1.77	0.49
1:L5:4124:G:N2	10:LG:43:GLN:O	2.46	0.49
47:S2:1139:C:H5	47:S2:1149:A:H62	1.61	0.49
47:S2:1232:U:H2'	47:S2:1233:G:H8	1.78	0.49
47:S2:1284:A:H61	74:SM:33:ARG:HE	1.61	0.49
47:S2:1288:U:O2'	47:S2:1312:G:N2	2.46	0.49
47:S2:377:G:H5'	55:SI:98:LYS:HE2	1.95	0.49
47:S2:388:U:C4	47:S2:389:A:N7	2.81	0.49
47:S2:52:G:N2	47:S2:507:G:O6	2.46	0.49
71:SC:244:ILE:HA	71:SC:247:THR:HG23	1.95	0.49
53:SF:32:ASP:CG	53:SF:33:ILE:H	2.16	0.49
59:SQ:54:PRO:HG2	59:SQ:88:ILE:HD11	1.94	0.49
63:SU:44:LYS:HA	63:SU:47:ASN:HB3	1.94	0.49
78:SY:88:LYS:HD2	78:SY:91:LEU:HB2	1.94	0.49
1:L5:2361:G:H5'	18:LP:65:GLY:H	1.78	0.48
1:L5:2555:G:N2	1:L5:2572:C:H42	2.11	0.48
1:L5:2695:A:H4'	1:L5:2696:A:O5'	2.13	0.48
1:L5:277:G:O2'	1:L5:278:G:OP2	2.26	0.48
1:L5:336:A:H5''	1:L5:337:U:OP2	2.12	0.48
1:L5:2457:G:H21	1:L5:3672:G:N2	2.11	0.48
1:L5:3961:G:H1'	1:L5:4048:A:N6	2.28	0.48
1:L5:4039:G:H2'	1:L5:4040:C:C6	2.48	0.48
3:L8:29:G:H2'	3:L8:30:U:C6	2.48	0.48
5:LB:371:THR:O	5:LB:373:LYS:NZ	2.40	0.48
7:LD:220:LYS:O	7:LD:224:SER:OG	2.29	0.48
11:LH:188:GLN:O	11:LH:190:ALA:N	2.46	0.48
1:L5:1925:G:N3	21:LS:115:ALA:HB1	2.28	0.48
26:LX:105:ASN:HB3	26:LX:108:GLN:HG2	1.94	0.48
49:SA:91:ALA:HB3	49:SA:98:PRO:HB3	1.95	0.48
48:S6:38:A:N7	53:SF:132:GLY:HA3	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:SG:139:SER:HA	72:SG:142:ARG:HD3	1.95	0.48
54:SH:156:VAL:HB	54:SH:187:PHE:CD1	2.47	0.48
62:ST:5:THR:OG1	62:ST:6:VAL:N	2.44	0.48
65:SX:81:ILE:HG21	65:SX:120:PHE:CD2	2.47	0.48
65:SX:125:VAL:HG22	65:SX:126:ALA:H	1.78	0.48
1:L5:1972:G:N3	1:L5:1972:G:H2'	2.29	0.48
1:L5:2363:A:H2'	1:L5:2364:G:O4'	2.13	0.48
1:L5:2389:A:O2'	1:L5:2390:G:OP1	2.29	0.48
1:L5:2862:G:N3	1:L5:3624:A:H2'	2.27	0.48
4:LA:118:GLU:HG3	4:LA:119:LYS:N	2.28	0.48
8:LE:152:ILE:HD11	8:LE:189:THR:HG21	1.95	0.48
9:LF:237:GLU:OE1	21:LS:41:LYS:NZ	2.33	0.48
12:LI:56:GLU:OE1	12:LI:161:GLY:HA3	2.12	0.48
15:LM:70:GLN:HA	15:LM:73:VAL:HG12	1.96	0.48
47:S2:1392:U:H2'	47:S2:1393:G:C8	2.48	0.48
47:S2:1673:U:H5''	59:SQ:78:VAL:HB	1.95	0.48
52:SE:195:ILE:O	52:SE:197:ASN:N	2.45	0.48
58:SP:64:LYS:HB2	58:SP:74:GLU:OE1	2.14	0.48
1:L5:1332:C:H2'	1:L5:1333:A:C8	2.48	0.48
1:L5:3896:C:O2'	1:L5:3897:G:O5'	2.24	0.48
1:L5:4508:C:N3	1:L5:4512:U:H5	2.11	0.48
1:L5:714:G:H5''	6:LC:316:LYS:HG2	1.94	0.48
6:LC:219:LYS:HE3	6:LC:222:ARG:NH2	2.28	0.48
10:LG:86:ALA:HB1	10:LG:185:LYS:HB2	1.94	0.48
15:LM:47:ARG:HD2	15:LM:70:GLN:HE21	1.77	0.48
16:LN:56:LYS:HB2	16:LN:59:TYR:CE2	2.48	0.48
47:S2:1244:U:H2'	47:S2:1245:G:H8	1.77	0.48
47:S2:1627:C:H5'	62:ST:41:LYS:HD2	1.96	0.48
47:S2:305:U:O2'	47:S2:309:G:OP2	2.29	0.48
47:S2:388:U:N3	47:S2:389:A:N7	2.61	0.48
53:SF:120:GLY:O	53:SF:146:ARG:NH2	2.46	0.48
25:LW:82:ILE:CG2	72:SG:130:PRO:HG2	2.42	0.48
76:SO:130:GLU:HG2	76:SO:131:ASP:N	2.28	0.48
58:SP:101:THR:HB	58:SP:102:PHE:HB3	1.94	0.48
1:L5:1420:A:H2'	1:L5:1501:C:OP2	2.14	0.48
1:L5:1477:C:H2'	1:L5:1478:C:O4'	2.14	0.48
1:L5:1905:U:P	9:LF:76:ARG:HH12	41.31	0.48
1:L5:3713:U:H4'	1:L5:3714:G:OP2	2.11	0.48
1:L5:5011:A:H61	1:L5:5037:U:H3	1.61	0.48
1:L5:975:C:N3	1:L5:976:G:C4	2.82	0.48
4:LA:35:ALA:O	4:LA:39:GLY:N	2.38	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:LA:5:ILE:HD12	4:LA:6:ARG:O	2.14	0.48
5:LB:56:ILE:HD11	5:LB:365:LEU:HB3	1.95	0.48
7:LD:25:GLU:HG3	7:LD:27:LYS:HG3	1.94	0.48
8:LE:91:THR:HG22	8:LE:92:VAL:HG22	1.95	0.48
1:L5:4251:A:C2	13:LJ:127:GLY:HA3	2.49	0.48
47:S2:847:A:C6	47:S2:848:U:H1'	2.48	0.48
48:S6:41:C:H2'	48:S6:42:A:C8	2.48	0.48
50:SB:97:LEU:HD22	50:SB:232:HIS:CD2	2.49	0.48
52:SE:68:ARG:HG3	52:SE:76:VAL:HG21	1.96	0.48
54:SH:39:GLN:HB3	54:SH:75:ILE:HD11	1.94	0.48
73:SJ:181:GLY:O	73:SJ:185:ALA:N	2.46	0.48
56:SK:45:VAL:HA	56:SK:48:ALA:HB3	1.96	0.48
77:SW:72:CYS:HA	77:SW:129:PHE:HA	1.96	0.48
1:L5:1244:G:H1'	1:L5:1245:C:C2	2.48	0.48
1:L5:1455:G:O2'	1:L5:1456:C:OP1	2.30	0.48
1:L5:2496:G:H3'	1:L5:2497:C:C6	2.49	0.48
1:L5:2724:G:O2'	1:L5:2726:G:OP2	2.32	0.48
1:L5:4414:A:O2'	1:L5:4427:G:N2	2.46	0.48
5:LB:140:GLU:O	5:LB:144:LYS:HG2	2.14	0.48
1:L5:4616:A:H4'	5:LB:65:SER:HB3	1.96	0.48
6:LC:152:LEU:HD11	6:LC:251:ILE:HG13	1.95	0.48
7:LD:50:ARG:HA	7:LD:145:TYR:H	1.79	0.48
47:S2:1347:U:H2'	47:S2:1348:G:C8	2.48	0.48
47:S2:194:C:N3	47:S2:205:G:N2	2.50	0.48
53:SF:158:ALA:HB2	53:SF:173:LEU:HB3	1.95	0.48
47:S2:77:A:O3'	72:SG:159:ARG:NH2	2.46	0.48
55:SI:130:THR:HB	55:SI:131:PRO:HD3	1.96	0.48
57:SL:35:ARG:NE	57:SL:50:ALA:O	2.45	0.48
74:SM:52:GLN:H	74:SM:77:ILE:H	1.60	0.48
1:L5:2307:A:C8	1:L5:2332:A:C6	3.01	0.48
1:L5:224:U:HO2'	1:L5:243:A:HO2'	1.61	0.48
1:L5:246:G:H2'	1:L5:247:G:H8	1.78	0.48
1:L5:346:G:O2'	1:L5:1367:C:N4	2.34	0.48
1:L5:3956:G:HO2'	1:L5:3957:U:P	2.33	0.48
1:L5:456:C:H2'	1:L5:457:G:C8	2.49	0.48
1:L5:718:C:H2'	1:L5:719:C:O4'	2.13	0.48
1:L5:746:A:N6	1:L5:916:C:OP2	2.47	0.48
1:L5:982:U:O4	8:LE:71:ARG:NH1	2.46	0.48
5:LB:393:LYS:HA	5:LB:396:ARG:HH11	1.79	0.48
6:LC:142:HIS:CE1	6:LC:249:PHE:H	2.30	0.48
6:LC:336:ARG:O	6:LC:340:ILE:HG12	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:LO:81:TRP:HA	17:LO:84:VAL:HG12	1.96	0.48
24:LV:92:ASP:OD1	24:LV:94:VAL:HG22	2.13	0.48
47:S2:1280:G:H1'	47:S2:1318:G:H22	1.77	0.48
47:S2:1383:A:H2'	47:S2:1384:C:C6	2.48	0.48
47:S2:500:A:H3'	47:S2:501:C:C6	2.47	0.48
53:SF:76:MET:HB2	53:SF:89:THR:HB	1.95	0.48
54:SH:18:GLU:HG2	54:SH:19:PHE:H	1.78	0.48
55:SI:8:TRP:HZ3	55:SI:20:PRO:HB3	1.78	0.48
74:SM:85:LEU:HD21	74:SM:108:CYS:N	2.29	0.48
47:S2:983:A:C2	76:SO:139:SER:HB3	2.49	0.48
76:SO:54:CYS:SG	76:SO:84:ARG:HB3	2.53	0.48
60:SR:41:ILE:HD13	60:SR:47:ARG:HB2	1.96	0.48
64:SV:56:CYS:HB3	64:SV:59:ILE:HG12	1.96	0.48
53:SF:91:ARG:HD2	79:SZ:103:HIS:HE2	1.79	0.48
1:L5:1324:A:O2'	1:L5:1326:A:OP1	2.28	0.48
1:L5:36:U:N3	1:L5:46:U:O2	2.47	0.48
1:L5:4906:C:H42	1:L5:4915:G:H1	1.62	0.48
1:L5:5029:C:H2'	1:L5:5030:U:O4'	2.14	0.48
1:L5:1661:C:N4	4:LA:9:ARG:O	73.49	0.48
14:LL:150:LEU:O	14:LL:151:THR:OG1	2.30	0.48
15:LM:99:GLU:O	15:LM:103:LYS:HG2	2.14	0.48
18:LP:22:LEU:HD12	18:LP:146:ILE:HD13	1.96	0.48
47:S2:1419:C:N3	47:S2:1428:G:N2	2.55	0.48
47:S2:958:G:N2	76:SO:68:GLU:OE2	2.47	0.48
71:SC:125:LYS:HA	71:SC:143:CYS:HA	1.95	0.48
74:SM:26:LEU:HD12	74:SM:27:ILE:N	2.28	0.48
76:SO:72:TYR:HA	76:SO:75:MET:SD	2.53	0.48
59:SQ:39:LEU:HD23	59:SQ:52:LEU:HA	1.95	0.48
1:L5:1279:A:H3'	1:L5:1280:C:C6	2.49	0.48
1:L5:1629:G:H1	4:LA:208:GLU:CD	2.17	0.48
1:L5:1956:A:C5	1:L5:1957:U:H1'	2.49	0.48
1:L5:2843:U:H2'	1:L5:2844:A:H8	1.76	0.48
1:L5:79:C:OP2	16:LN:194:ARG:NH2	2.47	0.48
1:L5:988:C:H3'	1:L5:989:U:H5''	1.95	0.48
4:LA:196:TRP:O	4:LA:198:ARG:N	2.46	0.48
5:LB:95:THR:HG23	5:LB:98:GLY:N	2.28	0.48
9:LF:150:VAL:O	9:LF:154:ILE:HG12	2.14	0.48
10:LG:246:SER:HA	10:LG:249:ARG:HH12	1.78	0.48
14:LL:92:ARG:NH2	14:LL:98:VAL:HB	2.29	0.48
50:SB:63:LYS:HG3	50:SB:89:GLU:O	2.13	0.48
72:SG:194:LEU:HA	72:SG:197:GLN:HB3	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:SO:46:ASP:OD1	76:SO:53:ILE:HD11	2.14	0.48
78:SY:88:LYS:HZ3	78:SY:97:TYR:HD2	1.61	0.48
79:SZ:88:LEU:HB3	79:SZ:109:TYR:CE2	2.47	0.48
1:L5:1380:G:O2'	1:L5:1382:G:O6	2.30	0.48
1:L5:2045:G:O2'	1:L5:2046:G:H5''	2.14	0.48
1:L5:2118:G:N3	1:L5:2118:G:H2'	2.29	0.48
1:L5:5004:C:H2'	1:L5:5005:G:O4'	2.13	0.48
1:L5:977:C:N3	1:L5:1277:G:N1	2.48	0.48
10:LG:57:TRP:CE3	10:LG:61:ILE:HD11	2.49	0.48
26:LX:94:ASN:OD1	26:LX:146:ALA:N	2.46	0.48
47:S2:496:C:H2'	47:S2:497:C:C6	2.48	0.48
54:SH:185:VAL:HB	54:SH:187:PHE:CE1	2.49	0.48
57:SL:73:LEU:HD22	57:SL:90:ARG:HH21	1.78	0.48
61:SS:48:ALA:HB3	61:SS:50:ILE:HG12	1.96	0.48
47:S2:483:C:H5'	65:SX:48:LYS:H	1.78	0.48
78:SY:15:ASN:HD21	78:SY:20:ARG:NH2	2.12	0.48
78:SY:58:PHE:O	78:SY:72:PHE:N	2.32	0.48
1:L5:112:C:H2'	1:L5:113:A:H8	1.79	0.48
1:L5:1870:C:H2'	1:L5:1871:A:H8	1.78	0.48
1:L5:2028:C:H2'	1:L5:2029:A:C8	2.48	0.48
1:L5:2442:G:N2	1:L5:2780:C:O2	2.34	0.48
1:L5:2858:A:O2'	1:L5:2859:G:O5'	2.32	0.48
1:L5:3667:C:H4'	4:LA:7:GLY:O	2.14	0.48
5:LB:28:LYS:NZ	5:LB:30:LYS:HD2	2.28	0.48
14:LL:140:SER:HA	14:LL:143:GLU:HB3	1.96	0.48
16:LN:120:TRP:HE1	16:LN:123:GLU:CG	2.27	0.48
21:LS:14:GLY:HA2	21:LS:62:VAL:HG23	1.96	0.48
47:S2:1703:C:H2'	47:S2:1704:C:O4'	2.14	0.48
50:SB:36:PRO:HD3	50:SB:98:THR:HG23	1.95	0.48
52:SE:42:LEU:HG	52:SE:46:ILE:HD11	1.96	0.48
72:SG:37:ALA:HA	72:SG:49:VAL:HA	1.95	0.48
54:SH:73:GLN:HB3	54:SH:135:PHE:CZ	2.48	0.48
1:L5:1930:U:H5'	17:LO:49:ARG:HG2	1.94	0.47
1:L5:2252:G:O2'	1:L5:2254:G:OP2	2.32	0.47
1:L5:3682:A:H5'	4:LA:129:ALA:HB2	1.95	0.47
1:L5:4499:G:H1'	1:L5:4528:G:H21	1.79	0.47
8:LE:179:LEU:HA	8:LE:183:ARG:HA	1.95	0.47
12:LI:110:ARG:HG3	12:LI:111:LEU:HD13	1.95	0.47
13:LJ:144:LYS:HE2	13:LJ:146:ARG:O	2.14	0.47
17:LO:3:GLU:HB3	17:LO:5:GLN:OE1	2.13	0.47
25:LW:64:SER:OG	25:LW:65:GLU:N	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1406:G:H22	47:S2:1441:U:H3	1.62	0.47
47:S2:1410:C:H42	47:S2:1435:C:H42	1.61	0.47
47:S2:1473:G:N2	47:S2:1475:G:O5'	2.46	0.47
47:S2:649:U:H2'	47:S2:650:A:O4'	2.14	0.47
48:S6:31:G:H22	53:SF:135:ARG:H	1.60	0.47
72:SG:210:ALA:O	72:SG:215:LYS:HB2	2.14	0.47
55:SI:142:SER:O	55:SI:144:LYS:N	2.47	0.47
56:SK:27:VAL:HG13	56:SK:43:LEU:HD13	1.95	0.47
58:SP:81:ARG:HD3	58:SP:82:ASP:N	2.23	0.47
58:SP:92:SER:HB3	58:SP:94:VAL:HG13	1.94	0.47
1:L5:1064:G:C2	1:L5:1065:G:H1'	2.50	0.47
1:L5:1271:G:N2	1:L5:2122:G:H5''	2.27	0.47
1:L5:4885:U:H2'	1:L5:4886:C:O4'	2.14	0.47
1:L5:511:C:H42	1:L5:648:G:H1	1.61	0.47
1:L5:76:A:H5'	14:LL:101:ARG:HH22	1.79	0.47
2:L7:97:G:H4'	9:LF:134:ARG:NE	2.29	0.47
16:LN:27:CYS:O	16:LN:31:ARG:HG3	2.14	0.47
19:LQ:15:ARG:NH2	19:LQ:19:LYS:HG2	2.29	0.47
21:LS:81:TRP:CE3	21:LS:128:LYS:HG3	2.49	0.47
47:S2:1313:A:H5''	47:S2:1314:U:H5	1.79	0.47
47:S2:1670:C:H2'	47:S2:1671:G:C8	2.50	0.47
48:S6:13:G:C2	48:S6:14:C:H1'	2.49	0.47
49:SA:15:VAL:HG23	49:SA:16:LEU:HD12	1.96	0.47
49:SA:6:ASP:O	49:SA:9:GLN:NE2	2.34	0.47
53:SF:171:GLU:HA	53:SF:174:ALA:HB3	1.95	0.47
55:SI:79:ILE:HG21	55:SI:170:LYS:HD3	1.97	0.47
56:SK:10:ALA:O	56:SK:14:LEU:N	2.37	0.47
74:SM:46:GLN:HG3	74:SM:112:LYS:HG3	1.96	0.47
1:L5:1180:C:H3'	1:L5:1181:C:H5''	1.95	0.47
1:L5:1801:A:H2'	1:L5:1802:A:C8	2.50	0.47
1:L5:2577:C:H41	28:LZ:17:ARG:HH21	1.62	0.47
1:L5:4768:G:P	1:L5:4874:A:H61	2.37	0.47
5:LB:394:LYS:O	5:LB:398:ALA:N	2.47	0.47
12:LI:57:TYR:HD1	12:LI:130:HIS:HA	1.80	0.47
13:LJ:16:ARG:HE	13:LJ:137:PRO:HG3	1.79	0.47
13:LJ:31:ASP:HB3	13:LJ:35:ARG:HH22	1.79	0.47
17:LO:54:TYR:CD2	17:LO:145:VAL:HG21	2.48	0.47
47:S2:1113:A:N3	47:S2:1113:A:H2'	2.29	0.47
47:S2:217:A:H2'	47:S2:218:U:H5'	1.95	0.47
47:S2:75:G:H21	72:SG:159:ARG:HH11	1.60	0.47
47:S2:823:U:H5	73:SJ:143:ASN:HB3	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:SA:206:ASP:HA	49:SA:207:PRO:HD3	1.74	0.47
50:SB:173:THR:HG23	50:SB:177:GLN:OE1	2.14	0.47
71:SC:196:ILE:HG23	71:SC:223:TYR:HB2	1.95	0.47
53:SF:91:ARG:HH12	79:SZ:104:ARG:HH21	1.63	0.47
54:SH:145:ARG:NH1	54:SH:153:LEU:HD12	2.28	0.47
1:L5:1088:C:H2'	1:L5:1089:G:C8	2.50	0.47
1:L5:1326:A:H2'	1:L5:1327:C:C6	2.49	0.47
1:L5:1609:U:H2'	1:L5:1610:C:O4'	2.14	0.47
1:L5:1969:G:N2	1:L5:2019:C:N3	2.59	0.47
1:L5:2635:U:H2'	1:L5:2636:U:C6	2.50	0.47
1:L5:3880:G:HO2'	1:L5:3881:G:H8	1.59	0.47
1:L5:4080:C:H2'	1:L5:4081:G:C8	2.49	0.47
1:L5:4901:G:N1	1:L5:4921:C:O2	2.48	0.47
4:LA:20:VAL:HA	4:LA:23:ARG:HD3	1.96	0.47
1:L5:4314:C:O2'	5:LB:36:ASP:OD1	136.57	0.47
16:LN:184:ILE:HG23	16:LN:194:ARG:HH12	1.78	0.47
47:S2:1342:U:N3	47:S2:1483:A:N1	2.61	0.47
52:SE:176:ASP:OD1	52:SE:177:THR:N	2.41	0.47
53:SF:190:ILE:O	53:SF:194:ASP:N	2.48	0.47
73:SJ:86:VAL:HG21	73:SJ:105:PHE:CE1	2.49	0.47
57:SL:16:ILE:HG23	57:SL:36:TYR:HB2	1.97	0.47
59:SQ:8:GLN:HA	59:SQ:99:TYR:CZ	2.49	0.47
60:SR:32:LYS:HZ1	60:SR:47:ARG:HH21	1.62	0.47
63:SU:50:VAL:HG23	63:SU:91:LEU:HD21	1.95	0.47
1:L5:1553:A:OP2	1:L5:1574:G:N2	2.45	0.47
1:L5:1667:G:N1	1:L5:2281:U:OP2	2.35	0.47
1:L5:2389:A:H2'	1:L5:2390:G:C8	2.49	0.47
1:L5:3867:A:H2'	1:L5:3868:G:O4'	2.15	0.47
1:L5:5027:C:H1'	1:L5:5028:G:OP2	2.15	0.47
1:L5:722:G:N2	1:L5:946:C:O2	2.34	0.47
4:LA:238:ILE:O	4:LA:240:ALA:N	2.48	0.47
6:LC:71:ARG:O	6:LC:73:VAL:N	2.41	0.47
7:LD:184:ASP:HB3	7:LD:189:GLU:H	1.79	0.47
1:L5:960:A:H5''	8:LE:125:LEU:HD13	1.94	0.47
10:LG:103:ARG:HD2	10:LG:193:LEU:O	2.15	0.47
10:LG:77:PRO:HA	10:LG:237:TRP:CZ3	2.49	0.47
11:LH:76:HIS:HA	11:LH:79:ASN:HD22	1.79	0.47
11:LH:81:ILE:HA	11:LH:84:VAL:HG12	1.96	0.47
19:LQ:167:VAL:HG12	19:LQ:169:SER:H	1.79	0.47
20:LR:41:ILE:HD12	20:LR:44:LEU:HD11	1.96	0.47
21:LS:16:CYS:HB3	21:LS:25:PRO:HG3	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:LZ:57:MET:HG2	28:LZ:61:LYS:HB2	1.96	0.47
28:LZ:59:LYS:O	28:LZ:62:ILE:HG22	2.15	0.47
47:S2:1199:A:H2'	47:S2:1200:A:O4'	2.15	0.47
47:S2:800:U:H3	47:S2:865:A:H2	1.62	0.47
47:S2:837:A:O2'	47:S2:839:C:OP1	2.32	0.47
47:S2:963:A:OP2	76:SO:66:ARG:HB3	2.14	0.47
72:SG:144:LEU:HB2	72:SG:147:LEU:H	1.80	0.47
54:SH:72:PHE:HB3	54:SH:76:GLN:HG2	1.97	0.47
73:SJ:60:LEU:HD11	73:SJ:70:ARG:HA	1.97	0.47
57:SL:69:ARG:HH22	57:SL:132:ARG:HA	1.78	0.47
74:SM:93:LYS:HD3	74:SM:101:ARG:HH11	1.79	0.47
64:SV:16:LYS:HA	64:SV:23:ILE:HA	1.96	0.47
1:L5:1195:G:H2'	1:L5:1196:G:C8	2.49	0.47
1:L5:1404:G:N1	1:L5:1414:C:O2	2.48	0.47
1:L5:2003:G:H1'	1:L5:2004:U:C5	2.49	0.47
1:L5:2540:C:H2'	1:L5:2541:G:C8	2.49	0.47
1:L5:280:G:N2	1:L5:306:A:OP2	2.28	0.47
1:L5:3901:A:H5'	1:L5:3902:A:H5''	1.97	0.47
1:L5:4231:C:H5'	1:L5:4234:A:N6	2.30	0.47
1:L5:475:G:H2'	1:L5:476:G:C8	2.49	0.47
1:L5:4871:C:C4	21:LS:176:PHE:HE1	2.32	0.47
1:L5:2739:C:O2'	4:LA:188:LYS:HD3	2.15	0.47
5:LB:289:GLN:HA	5:LB:329:ASP:OD1	2.15	0.47
5:LB:321:VAL:HG12	5:LB:322:HIS:ND1	2.29	0.47
1:L5:2257:C:OP2	9:LF:32:ARG:NH1	2.47	0.47
14:LL:132:SER:OG	14:LL:133:ALA:N	2.43	0.47
15:LM:52:PHE:HA	15:LM:55:MET:HG2	1.96	0.47
17:LO:162:GLU:O	17:LO:166:ILE:HG13	2.14	0.47
25:LW:106:GLU:HA	25:LW:109:ILE:HD12	1.97	0.47
25:LW:56:ARG:HH11	25:LW:61:LYS:HB3	1.79	0.47
47:S2:1852:C:H2'	47:S2:1853:C:C6	2.50	0.47
47:S2:38:A:H5''	73:SJ:5:ARG:HD2	1.97	0.47
56:SK:15:LEU:HD21	56:SK:71:LEU:HD11	1.95	0.47
58:SP:74:GLU:O	58:SP:93:MET:HB3	2.15	0.47
62:ST:40:ALA:H	62:ST:96:SER:HB2	1.79	0.47
1:L5:1958:A:N3	1:L5:1958:A:H2'	2.30	0.47
1:L5:2863:G:O4'	1:L5:3619:G:N2	2.48	0.47
1:L5:3614:G:H2'	1:L5:3617:G:N2	2.30	0.47
1:L5:46:U:H5''	1:L5:47:A:H2'	1.96	0.47
5:LB:113:GLU:HG2	5:LB:178:ALA:HB2	1.97	0.47
5:LB:308:ASP:OD2	5:LB:312:LYS:NZ	2.33	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:715:G:OP1	6:LC:317:ASN:ND2	2.48	0.47
1:L5:376:A:O2'	6:LC:85:HIS:O	2.32	0.47
10:LG:250:ILE:O	10:LG:254:GLU:N	2.48	0.47
10:LG:257:LYS:O	10:LG:261:LEU:N	2.43	0.47
15:LM:82:ILE:O	15:LM:86:TRP:HB3	2.15	0.47
19:LQ:89:ASP:OD2	19:LQ:91:ARG:HB3	2.15	0.47
21:LS:97:TYR:HE2	21:LS:109:CYS:HB2	1.80	0.47
21:LS:48:VAL:CG1	21:LS:54:MET:HB2	2.45	0.47
1:L5:4595:G:N2	24:LV:10:SER:O	2.40	0.47
27:LY:24:HIS:CE1	27:LY:25:ILE:HG13	2.49	0.47
47:S2:1137:U:O2'	47:S2:1138:C:OP1	2.29	0.47
47:S2:122:G:H1	47:S2:342:C:H42	1.63	0.47
47:S2:1298:G:H4'	58:SP:78:THR:H	1.79	0.47
47:S2:98:C:H42	47:S2:432:G:H1	1.63	0.47
47:S2:957:A:H1'	47:S2:958:G:H5'	1.96	0.47
72:SG:220:ALA:HA	72:SG:223:LYS:HZ1	1.80	0.47
56:SK:31:LYS:HA	56:SK:41:PRO:HA	1.96	0.47
59:SQ:96:TYR:HA	59:SQ:100:VAL:HG22	1.95	0.47
62:ST:28:LEU:HD13	62:ST:54:TYR:CD2	2.50	0.47
1:L5:1086:C:H2'	1:L5:1087:A:H8	1.80	0.47
1:L5:2000:G:C8	1:L5:2018:C:H1'	2.50	0.47
1:L5:382:G:N1	1:L5:385:A:OP2	2.47	0.47
1:L5:4731:G:C8	1:L5:4733:C:H3'	2.50	0.47
1:L5:712:C:H5'	1:L5:713:C:OP2	2.15	0.47
1:L5:954:C:H2'	1:L5:955:G:C8	2.50	0.47
2:L7:38:U:H2'	2:L7:40:U:OP2	2.14	0.47
4:LA:117:GLU:HA	4:LA:125:LYS:HB2	1.96	0.47
4:LA:189:TYR:HA	4:LA:192:LYS:HB2	1.97	0.47
6:LC:349:LEU:O	6:LC:353:LYS:HG2	2.14	0.47
6:LC:79:VAL:HG13	6:LC:87:SER:HA	1.96	0.47
7:LD:22:ARG:HE	7:LD:27:LYS:HB2	1.78	0.47
11:LH:150:ASP:HB3	11:LH:153:LEU:H	1.80	0.47
13:LJ:48:PRO:HA	13:LJ:72:CYS:HB2	1.96	0.47
27:LY:31:SER:HA	27:LY:48:PRO:HA	1.96	0.47
47:S2:1220:A:N3	47:S2:1677:U:O2'	2.40	0.47
47:S2:1490:G:H2'	47:S2:1491:G:C8	2.50	0.47
47:S2:587:A:H1'	47:S2:589:G:N2	2.30	0.47
47:S2:77:A:H2'	47:S2:78:C:O4'	2.14	0.47
50:SB:228:LEU:HG	50:SB:232:HIS:HB2	1.96	0.47
51:SD:106:ARG:O	51:SD:110:LEU:N	2.39	0.47
60:SR:102:THR:O	60:SR:105:MET:HG2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:SW:76:SER:HB2	77:SW:77:PRO:HD3	1.95	0.47
1:L5:1250:C:H3'	1:L5:1251:C:H6	1.79	0.47
1:L5:1923:A:O3'	15:LM:34:ASN:ND2	2.47	0.47
1:L5:2709:C:N4	1:L5:2710:C:HO2'	2.13	0.47
1:L5:1676:C:H41	1:L5:4378:A:H5''	1.79	0.47
1:L5:48:G:N7	1:L5:290:U:H5''	2.29	0.47
4:LA:108:PRO:O	4:LA:111:THR:OG1	2.21	0.47
5:LB:310:SER:OG	5:LB:311:ASP:N	2.46	0.47
10:LG:107:LYS:O	10:LG:111:LYS:N	2.43	0.47
1:L5:4313:A:OP1	22:LT:92:ARG:HD2	2.14	0.47
28:LZ:53:VAL:HG21	28:LZ:62:ILE:HG13	1.96	0.47
47:S2:1310:U:H2'	47:S2:1311:C:O4'	2.14	0.47
47:S2:1415:C:H2'	47:S2:1417:C:H5'	1.97	0.47
47:S2:1640:A:H2'	47:S2:1641:A:O4'	2.15	0.47
47:S2:493:A:H61	47:S2:510:G:H1'	1.79	0.47
47:S2:555:A:H8	47:S2:556:U:H4'	1.80	0.47
47:S2:963:A:C6	47:S2:964:A:C6	3.03	0.47
47:S2:1:U:H1'	71:SC:205:VAL:HG12	1.96	0.47
51:SD:138:VAL:HB	51:SD:150:MET:HB3	1.97	0.47
58:SP:78:THR:HG21	58:SP:97:TYR:HB2	1.96	0.47
59:SQ:132:PHE:HB2	63:SU:77:TRP:HD1	1.80	0.47
1:L5:130:C:H42	1:L5:138:G:H1	1.61	0.47
1:L5:1485:C:O2	1:L5:4349:C:O2'	2.21	0.47
1:L5:1489:G:H2'	1:L5:1490:G:C8	2.47	0.47
1:L5:2543:A:H5''	1:L5:2544:G:N7	2.30	0.47
1:L5:2861:C:H3'	1:L5:2862:G:C8	2.50	0.47
1:L5:1:C:O2'	1:L5:2:G:N7	2.41	0.47
1:L5:4339:A:H2'	1:L5:4340:U:C6	2.50	0.47
1:L5:4475:G:H5''	1:L5:4476:C:H5'	1.96	0.47
1:L5:4492:U:H5''	1:L5:4493:U:H5'	1.97	0.47
1:L5:4612:C:H2'	1:L5:4613:C:H6	1.80	0.47
1:L5:5028:G:H2'	1:L5:5029:C:C6	2.49	0.47
1:L5:2089:G:H4'	6:LC:305:PRO:HG2	1.97	0.47
12:LI:77:VAL:HA	12:LI:81:GLY:O	2.15	0.47
16:LN:84:PRO:HA	16:LN:87:HIS:HD1	1.77	0.47
23:LU:24:ASP:HB3	23:LU:69:LYS:HD3	1.96	0.47
25:LW:73:ARG:HA	25:LW:74:ARG:HA	1.59	0.47
47:S2:545:A:O2'	47:S2:546:G:H8	1.98	0.47
47:S2:689:U:H2'	47:S2:690:G:H4'	1.97	0.47
47:S2:1124:C:OP1	50:SB:150:ILE:HG13	2.15	0.47
52:SE:125:LYS:HG2	52:SE:126:VAL:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:SG:220:ALA:HA	72:SG:223:LYS:NZ	2.29	0.47
54:SH:6:ALA:O	54:SH:24:SER:OG	2.26	0.47
76:SO:14:VAL:HG11	76:SO:17:LEU:C	2.35	0.47
47:S2:975:G:O2'	76:SO:49:GLY:O	2.28	0.47
65:SX:107:ARG:HD3	65:SX:112:VAL:HB	1.97	0.47
47:S2:53:C:P	78:SY:112:ASN:HD22	2.37	0.47
1:L5:1509:C:H2'	1:L5:1510:G:C8	2.50	0.47
1:L5:2109:G:H2'	1:L5:2110:C:H6	1.79	0.47
1:L5:2373:C:H5''	7:LD:50:ARG:NH2	158.66	0.47
1:L5:4909:A:OP2	5:LB:156:TYR:OH	2.19	0.47
1:L5:4988:U:H4'	1:L5:4989:U:C4	2.50	0.47
1:L5:5049:G:O2'	5:LB:322:HIS:NE2	2.40	0.47
3:L8:19:C:H2'	3:L8:20:A:C8	2.50	0.47
5:LB:300:LYS:HG2	5:LB:311:ASP:OD1	2.15	0.47
6:LC:200:ARG:NH1	6:LC:201:ARG:HH12	2.12	0.47
7:LD:222:GLN:HG3	7:LD:223:PHE:CD1	2.49	0.47
8:LE:133:PHE:HA	8:LE:136:HIS:CE1	2.50	0.47
9:LF:143:GLY:HA3	9:LF:240:ILE:HB	1.96	0.47
17:LO:185:VAL:HB	17:LO:188:LYS:HD3	1.97	0.47
4:LA:180:LEU:HD21	18:LP:22:LEU:HB3	87.22	0.47
20:LR:105:LEU:HD11	20:LR:109:TYR:HE2	1.80	0.47
24:LV:22:VAL:HG22	24:LV:53:PRO:HD2	1.96	0.47
25:LW:56:ARG:NH1	25:LW:61:LYS:HB3	2.29	0.47
10:LG:55:VAL:HG22	26:LX:44:PRO:HA	1.97	0.47
28:LZ:76:ASN:OD1	28:LZ:77:TYR:N	2.47	0.47
47:S2:1539:U:H3	47:S2:1594:A:H61	1.63	0.47
47:S2:380:G:H5''	55:SI:31:ARG:NH1	2.29	0.47
53:SF:102:LEU:O	79:SZ:66:LYS:HD3	2.15	0.47
54:SH:65:PRO:HB2	54:SH:68:GLN:HE22	1.80	0.47
47:S2:983:A:H2	76:SO:139:SER:HB3	1.79	0.47
58:SP:18:ARG:H	61:SS:91:LYS:HG3	1.79	0.47
64:SV:66:ASP:OD1	64:SV:67:ASP:N	2.48	0.47
1:L5:1540:C:H42	1:L5:1619:G:H1	1.63	0.46
1:L5:1739:G:N3	1:L5:1742:A:N6	2.62	0.46
1:L5:1892:A:O2'	1:L5:1893:C:H5'	2.15	0.46
1:L5:2252:G:O6	20:LR:98:ARG:NH1	177.86	0.46
1:L5:2335:C:H2'	1:L5:2336:G:C8	2.49	0.46
1:L5:4158:C:H2'	1:L5:4159:C:C6	2.50	0.46
1:L5:497:G:H22	1:L5:656:C:N4	2.13	0.46
1:L5:5016:A:N6	1:L5:5033:G:O2'	2.48	0.46
1:L5:737:C:N3	1:L5:927:G:N2	2.62	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:957:G:HO2'	1:L5:958:G:P	2.35	0.46
2:L7:75:G:H5''	21:LS:49:SER:O	2.15	0.46
1:L5:4568:A:H5''	5:LB:21:ARG:NH1	2.30	0.46
5:LB:79:VAL:HB	5:LB:331:VAL:HG13	1.97	0.46
5:LB:95:THR:HG23	5:LB:98:GLY:H	1.80	0.46
7:LD:273:LEU:O	7:LD:277:LYS:HG3	2.15	0.46
19:LQ:10:ASP:OD1	19:LQ:11:ARG:N	2.47	0.46
20:LR:15:LEU:O	20:LR:52:ARG:NH2	2.47	0.46
20:LR:169:ALA:O	20:LR:173:ARG:N	2.45	0.46
47:S2:863:U:O2	77:SW:124:LYS:NZ	2.38	0.46
48:S6:13:G:H1'	48:S6:24:G:N2	2.30	0.46
50:SB:110:MET:HE1	50:SB:213:ARG:HE	1.79	0.46
51:SD:35:SER:HB2	51:SD:51:LEU:O	2.16	0.46
52:SE:99:PHE:CD1	52:SE:113:ARG:HG2	2.50	0.46
75:SN:40:LEU:HD12	75:SN:50:ILE:HG23	1.97	0.46
60:SR:119:VAL:HA	60:SR:120:THR:HA	1.72	0.46
47:S2:1521:C:H4'	61:SS:145:THR:OG1	2.15	0.46
61:SS:118:ARG:HH22	61:SS:152:LYS:HD2	1.79	0.46
1:L5:108:A:N1	1:L5:333:U:O2'	2.41	0.46
1:L5:133:C:H5'	1:L5:134:G:OP1	2.16	0.46
1:L5:2495:U:H2'	1:L5:2496:G:H8	1.80	0.46
1:L5:3604:A:H2'	1:L5:3605:C:O4'	2.15	0.46
1:L5:37:U:H2'	1:L5:38:A:O4'	2.16	0.46
1:L5:3971:G:H21	1:L5:4050:A:H62	1.61	0.46
1:L5:418:A:N6	3:L8:16:G:H1'	2.29	0.46
1:L5:454:U:O2'	1:L5:456:C:N4	2.47	0.46
1:L5:4648:A:H2'	1:L5:4649:G:H8	1.79	0.46
1:L5:5013:C:N3	1:L5:5027:C:O2'	2.49	0.46
1:L5:713:C:N4	1:L5:955:G:H1	2.13	0.46
5:LB:302:ASN:HB2	5:LB:313:SER:HA	1.97	0.46
6:LC:73:VAL:HB	6:LC:78:ARG:HH11	1.80	0.46
10:LG:51:LEU:C	10:LG:52:THR:HG1	2.16	0.46
21:LS:99:ASP:HB2	21:LS:108:GLN:OE1	2.15	0.46
47:S2:1013:U:OP1	47:S2:1129:G:O2'	2.32	0.46
47:S2:1239:U:H5''	61:SS:148:VAL:HG12	1.96	0.46
47:S2:1552:G:N3	47:S2:1557:C:N4	2.45	0.46
47:S2:1594:A:OP2	79:SZ:104:ARG:HG3	2.15	0.46
47:S2:1807:C:H2'	47:S2:1808:U:C6	2.51	0.46
47:S2:1808:U:H2'	47:S2:1809:A:C8	2.50	0.46
47:S2:1812:U:H2'	47:S2:1813:A:H5''	1.97	0.46
53:SF:106:GLU:HG2	53:SF:107:ASN:N	2.29	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:142:C:O2	72:SG:180:VAL:HG11	2.15	0.46
73:SJ:136:ARG:HA	73:SJ:141:VAL:HA	1.97	0.46
73:SJ:49:THR:O	73:SJ:53:ILE:HG12	2.15	0.46
76:SO:43:HIS:HA	76:SO:55:ARG:HA	1.97	0.46
1:L5:1838:A:H2	9:LF:111:LEU:HD22	1.79	0.46
1:L5:2695:A:H1'	1:L5:2696:A:OP2	2.15	0.46
1:L5:2774:C:H2'	1:L5:2775:C:C6	2.51	0.46
1:L5:67:C:N4	1:L5:325:U:O2'	2.47	0.46
1:L5:3771:C:H3'	1:L5:3772:U:H5''	1.97	0.46
1:L5:4049:U:O2'	1:L5:4050:A:OP2	2.33	0.46
1:L5:4244:A:H2'	1:L5:4245:G:O4'	2.16	0.46
1:L5:4888:U:O2'	1:L5:4931:G:N2	2.48	0.46
1:L5:747:A:H62	1:L5:916:C:N4	1.96	0.46
4:LA:49:ILE:HD13	4:LA:60:LYS:HZ2	1.81	0.46
1:L5:729:G:O4'	9:LF:76:ARG:NH2	2.49	0.46
10:LG:48:LYS:HE3	26:LX:42:THR:OG1	2.15	0.46
13:LJ:22:LEU:O	13:LJ:71:HIS:HB2	2.15	0.46
21:LS:29:ARG:NH1	22:LT:150:LEU:HB2	2.31	0.46
21:LS:44:PHE:O	21:LS:48:VAL:HG23	2.15	0.46
47:S2:482:G:N1	47:S2:485:A:OP2	2.45	0.46
48:S6:40:C:H2'	48:S6:41:C:H5'	1.96	0.46
51:SD:167:TYR:OH	51:SD:201:LYS:O	2.30	0.46
72:SG:164:LYS:HD2	72:SG:167:LYS:HB2	1.97	0.46
55:SI:119:LEU:HD12	55:SI:153:LYS:HE3	1.97	0.46
73:SJ:61:LEU:HD12	73:SJ:70:ARG:HH22	1.79	0.46
74:SM:114:TYR:O	74:SM:117:GLU:HB2	2.15	0.46
59:SQ:47:LEU:O	59:SQ:49:TYR:N	2.47	0.46
52:SE:69:PHE:CE1	78:SY:17:LEU:HD22	2.50	0.46
1:L5:1376:C:OP2	1:L5:1379:C:N4	2.46	0.46
1:L5:2243:C:H2'	1:L5:2244:C:C5	2.50	0.46
1:L5:2904:U:N3	1:L5:3592:G:O4'	2.48	0.46
1:L5:4049:U:H4'	1:L5:4051:C:H41	1.80	0.46
1:L5:517:C:H41	1:L5:645:G:H21	1.63	0.46
1:L5:954:C:N4	1:L5:955:G:O6	2.48	0.46
5:LB:114:CYS:HB2	5:LB:165:HIS:NE2	2.31	0.46
6:LC:286:ASN:O	6:LC:288:ASP:N	2.48	0.46
9:LF:148:LYS:HE3	9:LF:245:ARG:NE	2.30	0.46
16:LN:172:ARG:HH11	16:LN:174:LEU:HD23	1.79	0.46
17:LO:168:TYR:O	17:LO:172:LYS:HG3	2.16	0.46
20:LR:60:ARG:NH2	20:LR:63:CYS:SG	2.88	0.46
20:LR:62:ARG:HA	20:LR:65:LYS:HB3	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:LS:79:GLY:H	21:LS:132:ILE:HG12	1.80	0.46
47:S2:1277:C:H3'	47:S2:1278:A:C8	2.51	0.46
47:S2:450:C:H2'	47:S2:451:G:H5''	1.97	0.46
47:S2:903:A:H3'	47:S2:903:A:N3	2.30	0.46
52:SE:141:THR:OG1	52:SE:145:ARG:N	2.49	0.46
72:SG:14:LYS:HG2	72:SG:124:LEU:HD11	1.96	0.46
72:SG:209:TYR:HD1	72:SG:213:LEU:HD23	1.80	0.46
54:SH:121:THR:HG22	54:SH:123:THR:H	1.81	0.46
60:SR:94:GLU:HA	60:SR:96:ILE:HG12	1.97	0.46
1:L5:2124:G:H4'	1:L5:2125:C:OP1	2.16	0.46
1:L5:2465:C:H1'	1:L5:3672:G:H1	1.79	0.46
1:L5:4623:G:N2	1:L5:4674:C:O2	2.38	0.46
1:L5:4764:A:OP1	11:LH:23:ARG:NH2	2.49	0.46
1:L5:4873:G:H1	15:LM:98:ARG:HH11	1.61	0.46
3:L8:133:G:H2'	3:L8:134:G:H8	1.81	0.46
1:L5:3748:A:H1'	4:LA:224:THR:HG23	1.98	0.46
22:LT:54:HIS:CG	22:LT:55:LYS:N	2.83	0.46
1:L5:4122:G:H21	28:LZ:135:ARG:HB2	1.80	0.46
28:LZ:25:ILE:HA	28:LZ:43:VAL:HG12	1.97	0.46
47:S2:1414:A:N6	47:S2:1419:C:H41	2.14	0.46
47:S2:57:U:O2'	47:S2:499:G:N3	2.44	0.46
47:S2:509:G:H2'	47:S2:510:G:H8	1.80	0.46
49:SA:27:GLY:HA3	49:SA:150:THR:OG1	2.15	0.46
71:SC:188:CYS:SG	71:SC:191:VAL:HB	2.55	0.46
72:SG:181:THR:HG22	72:SG:184:VAL:HG23	1.97	0.46
72:SG:209:TYR:HB3	72:SG:214:ALA:HB2	1.98	0.46
51:SD:76:ARG:HH21	56:SK:66:HIS:CE1	2.34	0.46
76:SO:99:ALA:O	76:SO:101:GLY:N	2.48	0.46
61:SS:148:VAL:HB	61:SS:150:LYS:HG2	1.98	0.46
63:SU:49:LYS:C	63:SU:51:LYS:H	2.18	0.46
77:SW:33:VAL:HG13	77:SW:34:ILE:HG23	1.98	0.46
47:S2:1159:G:P	77:SW:76:SER:HB3	2.56	0.46
1:L5:1757:U:H5'	1:L5:1758:G:OP1	2.14	0.46
1:L5:2387:G:H2'	1:L5:2388:A:H8	1.79	0.46
1:L5:171:U:O2'	1:L5:265:C:O2	2.30	0.46
1:L5:4920:C:H2'	1:L5:4921:C:O4'	2.14	0.46
1:L5:742:G:H2'	1:L5:743:G:C8	2.51	0.46
4:LA:116:LEU:HD23	4:LA:158:ILE:HG13	1.96	0.46
7:LD:180:PHE:O	7:LD:182:GLY:N	2.49	0.46
11:LH:31:ARG:HD2	11:LH:149:ASN:HD21	1.80	0.46
15:LM:69:HIS:ND1	15:LM:69:HIS:O	2.47	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:LS:29:ARG:HH11	22:LT:150:LEU:HB2	1.81	0.46
47:S2:1240:A:OP1	61:SS:150:LYS:NZ	2.44	0.46
47:S2:148:U:H2'	47:S2:149:A:H8	1.80	0.46
47:S2:1644:C:H2'	47:S2:1645:C:C6	2.51	0.46
47:S2:209:A:C6	47:S2:210:U:H1'	2.51	0.46
49:SA:9:GLN:O	49:SA:11:LYS:HG2	2.15	0.46
50:SB:71:LEU:HA	50:SB:74:LEU:HB3	1.97	0.46
52:SE:124:CYS:SG	52:SE:141:THR:HB	2.56	0.46
73:SJ:50:LEU:HD13	73:SJ:102:ILE:HD13	1.97	0.46
47:S2:1615:U:OP2	58:SP:43:ARG:NH1	2.49	0.46
60:SR:67:ARG:HA	60:SR:68:GLY:HA2	1.58	0.46
1:L5:1196:G:C2	1:L5:1197:C:H1'	2.51	0.46
1:L5:1579:C:H2'	1:L5:1580:C:C6	2.51	0.46
1:L5:1962:A:H8	1:L5:2024:G:N2	2.14	0.46
1:L5:1993:C:H2'	1:L5:1994:C:C6	2.51	0.46
1:L5:3940:U:H5''	10:LG:75:LYS:HD2	1.98	0.46
1:L5:3973:G:H2'	1:L5:3974:G:C5	2.51	0.46
1:L5:423:G:O2'	18:LP:118:GLN:HB2	2.15	0.46
1:L5:4288:C:H2'	1:L5:4289:U:O4'	2.15	0.46
1:L5:737:C:H42	1:L5:927:G:H1	1.64	0.46
4:LA:49:ILE:HG21	4:LA:60:LYS:NZ	2.31	0.46
9:LF:222:LYS:HG2	9:LF:225:THR:HG22	1.97	0.46
15:LM:31:ILE:HG22	21:LS:98:ARG:NE	2.29	0.46
16:LN:114:ARG:HH12	16:LN:157:LYS:HG2	1.81	0.46
18:LP:102:ALA:O	18:LP:106:GLY:N	2.42	0.46
21:LS:77:ASN:HB2	21:LS:132:ILE:O	2.15	0.46
24:LV:90:ARG:NH2	24:LV:92:ASP:OD2	2.38	0.46
25:LW:98:PRO:HA	25:LW:99:GLU:CB	2.42	0.46
27:LY:82:ILE:HG22	27:LY:84:ARG:H	1.79	0.46
47:S2:1057:C:H6	47:S2:1059:G:H8	1.64	0.46
47:S2:420:G:OP1	77:SW:88:LYS:NZ	2.45	0.46
49:SA:57:LYS:HD3	64:SV:70:LEU:HD21	1.97	0.46
51:SD:106:ARG:HB3	51:SD:175:VAL:HG12	1.97	0.46
55:SI:81:VAL:HG22	55:SI:102:VAL:HG12	1.98	0.46
55:SI:80:ASP:OD1	55:SI:81:VAL:N	2.48	0.46
56:SK:32:HIS:N	56:SK:41:PRO:HA	2.22	0.46
74:SM:56:CYS:SG	74:SM:57:ASP:N	2.84	0.46
75:SN:91:LEU:HD11	75:SN:121:ARG:HD2	1.98	0.46
77:SW:2:VAL:O	77:SW:4:MET:N	2.46	0.46
78:SY:54:VAL:HB	78:SY:76:TYR:HB2	1.98	0.46
1:L5:3670:C:O2'	1:L5:3671:G:C8	2.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:651:C:H2'	1:L5:652:G:C8	2.51	0.46
1:L5:418:A:H62	3:L8:16:G:H1'	1.81	0.46
1:L5:4580:U:H4'	5:LB:180:LEU:HD22	1.98	0.46
8:LE:82:LYS:N	8:LE:84:LYS:HD3	2.31	0.46
10:LG:133:PRO:HA	10:LG:134:PRO:HD3	1.79	0.46
11:LH:173:ARG:HG2	15:LM:127:VAL:HB	85.66	0.46
15:LM:43:THR:HG23	15:LM:45:VAL:HG23	1.98	0.46
16:LN:169:ARG:HG3	16:LN:174:LEU:HD21	1.98	0.46
24:LV:41:SER:O	24:LV:61:VAL:HG13	2.16	0.46
47:S2:1393:G:H2'	47:S2:1394:G:C8	2.51	0.46
47:S2:1610:G:N2	47:S2:1629:C:O2	2.45	0.46
47:S2:367:U:OP1	55:SI:11:ARG:NH2	2.49	0.46
47:S2:509:G:H2'	47:S2:510:G:C8	2.51	0.46
48:S6:35:A:H2'	48:S6:36:U:N1	2.31	0.46
51:SD:35:SER:H	51:SD:52:ALA:HA	1.81	0.46
52:SE:126:VAL:HG12	52:SE:139:LEU:HD13	1.98	0.46
72:SG:138:ALA:O	72:SG:142:ARG:HG3	2.15	0.46
72:SG:36:VAL:N	72:SG:50:VAL:O	2.48	0.46
54:SH:96:ALA:HB3	54:SH:98:ARG:NH1	2.31	0.46
73:SJ:107:GLU:O	73:SJ:112:THR:OG1	2.33	0.46
74:SM:86:GLY:O	74:SM:106:CYS:N	2.43	0.46
61:SS:125:HIS:CE1	61:SS:131:VAL:HG21	2.51	0.46
47:S2:1613:G:OP1	61:SS:88:LYS:NZ	2.49	0.46
78:SY:9:THR:H	78:SY:26:ASP:HB3	1.80	0.46
1:L5:112:C:H2'	1:L5:113:A:C8	2.51	0.46
1:L5:1396:G:O2'	1:L5:1468:C:O2'	2.29	0.46
1:L5:4251:A:OP1	13:LJ:108:GLY:N	2.42	0.46
1:L5:4991:U:HO2'	1:L5:4992:G:P	2.38	0.46
1:L5:940:C:H2'	1:L5:941:C:O4'	2.16	0.46
4:LA:140:ASN:HB3	4:LA:145:LYS:HB3	1.98	0.46
5:LB:215:GLU:N	5:LB:284:ILE:HG22	2.31	0.46
5:LB:78:ILE:HG21	5:LB:314:ILE:HD12	1.98	0.46
13:LJ:155:HIS:O	13:LJ:155:HIS:ND1	2.49	0.46
27:LY:70:VAL:HG13	27:LY:80:ILE:HG23	1.96	0.46
28:LZ:104:PRO:HA	28:LZ:107:LYS:HB3	1.97	0.46
47:S2:1103:C:N3	47:S2:1130:G:N2	2.64	0.46
1:L5:3796:U:HO2'	47:S2:1720:U:HO2'	1.62	0.46
47:S2:375:U:OP2	57:SL:59:LYS:NZ	2.41	0.46
47:S2:528:A:H2'	47:S2:529:A:O4'	2.16	0.46
47:S2:868:G:O2'	47:S2:869:A:OP1	2.28	0.46
48:S6:49:G:H1	48:S6:65:C:H42	1.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:SA:149:ASN:HB2	49:SA:165:ASN:OD1	2.16	0.46
53:SF:179:ASN:O	53:SF:183:GLY:HA2	2.16	0.46
56:SK:58:VAL:CG2	56:SK:69:TRP:HB3	2.46	0.46
57:SL:57:ASP:OD1	57:SL:58:LYS:N	2.49	0.46
47:S2:1281:G:C5'	74:SM:101:ARG:HG2	2.43	0.46
74:SM:26:LEU:HD12	74:SM:27:ILE:HG12	1.98	0.46
76:SO:128:ARG:NH1	76:SO:130:GLU:HB2	2.31	0.46
62:ST:34:VAL:HG23	62:ST:35:ASP:H	1.81	0.46
1:L5:1273:G:H4'	8:LE:74:SER:HA	1.96	0.46
1:L5:969:C:N3	1:L5:2256:C:N4	2.64	0.46
1:L5:2647:A:H3'	1:L5:2648:G:H8	1.81	0.46
1:L5:2590:G:H2'	1:L5:2754:G:H22	1.81	0.46
1:L5:3602:C:H2'	1:L5:3603:G:C8	2.51	0.46
1:L5:5026:U:H4'	1:L5:5028:G:H5''	1.98	0.46
4:LA:23:ARG:HG2	4:LA:52:PRO:O	2.16	0.46
8:LE:108:LYS:HB3	8:LE:109:LEU:H	1.52	0.46
8:LE:62:MET:O	8:LE:66:LYS:HG2	2.15	0.46
1:L5:4763:U:O2	11:LH:44:GLU:N	2.48	0.46
17:LO:9:LEU:O	17:LO:36:VAL:N	2.48	0.46
20:LR:7:GLN:NE2	20:LR:35:ALA:O	2.49	0.46
20:LR:78:ILE:HD12	20:LR:81:ARG:HH11	1.81	0.46
1:L5:4871:C:C4	21:LS:176:PHE:CE1	3.04	0.46
1:L5:923:C:OP1	21:LS:74:ARG:NH2	2.49	0.46
25:LW:47:ARG:HH12	47:S2:1793:A:H4'	1.80	0.46
28:LZ:108:ARG:HG2	28:LZ:111:ARG:HH21	1.79	0.46
28:LZ:30:ASP:CG	28:LZ:31:ASP:H	2.18	0.46
28:LZ:41:ALA:HB2	28:LZ:77:TYR:CZ	2.50	0.46
47:S2:1214:A:O2'	47:S2:1216:C:OP1	2.28	0.46
47:S2:1285:G:H5''	74:SM:35:ILE:HB	1.98	0.46
47:S2:1349:G:H1	47:S2:1380:C:H42	1.63	0.46
47:S2:490:C:H42	47:S2:510:G:H1	1.63	0.46
47:S2:842:C:H2'	47:S2:843:C:O4'	2.16	0.46
48:S6:31:G:H1	53:SF:134:VAL:HA	1.81	0.46
50:SB:105:LEU:HD23	50:SB:110:MET:HE2	1.97	0.46
51:SD:56:GLN:HA	51:SD:59:LEU:HD13	1.98	0.46
51:SD:71:ALA:HB1	51:SD:75:LYS:HD2	1.98	0.46
60:SR:44:LYS:HG3	60:SR:47:ARG:NH2	2.27	0.46
1:L5:170:C:H1'	1:L5:171:U:O4'	2.15	0.45
1:L5:2252:G:OP1	8:LE:87:LYS:HA	2.16	0.45
1:L5:1548:G:O2'	1:L5:2812:A:N3	2.42	0.45
1:L5:4748:U:H1'	1:L5:4953:G:N2	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L8:19:C:H2'	3:L8:20:A:H8	1.79	0.45
3:L8:4:C:H5'	18:LP:61:ARG:HB3	1.98	0.45
9:LF:104:LYS:HE2	9:LF:135:ILE:HD13	1.97	0.45
12:LI:105:CYS:HA	12:LI:106:ALA:HA	1.65	0.45
18:LP:32:THR:O	18:LP:36:ILE:HG12	2.16	0.45
47:S2:1113:A:H3'	47:S2:1114:U:H5'	1.97	0.45
47:S2:1382:A:H2'	47:S2:1383:A:H5'	1.99	0.45
47:S2:1465:A:OP1	60:SR:56:HIS:NE2	2.45	0.45
47:S2:213:G:HO2'	47:S2:214:U:P	2.37	0.45
47:S2:986:G:N2	76:SO:135:ILE:HD12	2.30	0.45
72:SG:209:TYR:HA	72:SG:213:LEU:HB3	1.99	0.45
73:SJ:58:ARG:O	73:SJ:62:THR:HG23	2.16	0.45
56:SK:5:LYS:HE2	74:SM:27:ILE:HG21	1.97	0.45
47:S2:1285:G:H4'	74:SM:36:ARG:HB2	1.98	0.45
79:SZ:77:LEU:HD22	79:SZ:79:ILE:HB	1.98	0.45
1:L5:1573:G:OP1	1:L5:2667:C:O2'	2.31	0.45
1:L5:1890:G:O2'	1:L5:1891:A:H5'	2.16	0.45
1:L5:3723:A:H2'	1:L5:3724:A:H8	1.81	0.45
1:L5:4097:G:N2	1:L5:4113:U:H1'	2.31	0.45
1:L5:4325:A:C8	1:L5:4326:G:H1'	2.51	0.45
1:L5:737:C:N4	1:L5:927:G:H1	2.15	0.45
1:L5:1778:C:H4'	7:LD:4:VAL:O	2.15	0.45
8:LE:149:ILE:HG23	8:LE:197:THR:HB	1.99	0.45
10:LG:147:VAL:O	10:LG:177:MET:HG2	2.17	0.45
12:LI:96:VAL:HA	12:LI:125:THR:HA	1.98	0.45
16:LN:193:ARG:O	16:LN:197:THR:HG23	2.16	0.45
22:LT:39:ILE:HD12	22:LT:102:ARG:HD3	1.98	0.45
47:S2:1021:U:H4'	47:S2:1022:U:O4'	2.16	0.45
47:S2:1454:A:C8	60:SR:3:ARG:HG3	2.51	0.45
47:S2:1537:A:H2	47:S2:1597:C:N3	2.14	0.45
49:SA:104:THR:O	49:SA:107:THR:OG1	2.20	0.45
51:SD:121:GLY:O	51:SD:125:PHE:N	2.41	0.45
51:SD:53:THR:HG23	51:SD:90:LYS:HE3	1.98	0.45
53:SF:104:THR:OG1	53:SF:178:ILE:HD12	2.16	0.45
72:SG:159:ARG:HB3	72:SG:172:LYS:HB3	1.99	0.45
54:SH:134:VAL:HG22	54:SH:173:PHE:CD2	2.51	0.45
54:SH:147:LYS:O	54:SH:149:ASP:N	2.48	0.45
73:SJ:83:ARG:HG3	73:SJ:150:ARG:NE	2.30	0.45
76:SO:46:ASP:O	76:SO:49:GLY:N	2.39	0.45
51:SD:34:TYR:CZ	63:SU:61:LEU:HD22	27.45	0.45
78:SY:20:ARG:NH1	78:SY:22:GLN:OE1	2.44	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1367:C:H1'	1:L5:1371:A:OP1	2.17	0.45
1:L5:235:A:H5'	1:L5:236:G:OP2	2.17	0.45
1:L5:28:C:H2'	1:L5:29:G:C8	2.51	0.45
1:L5:3970:G:H1'	1:L5:4052:C:H42	1.81	0.45
8:LE:149:ILE:HD13	8:LE:270:TYR:HE2	1.80	0.45
16:LN:150:TRP:HH2	16:LN:159:ARG:NH1	2.14	0.45
26:LX:109:ILE:HD11	26:LX:124:VAL:HG11	1.99	0.45
28:LZ:51:ARG:HE	28:LZ:65:ARG:NH2	2.14	0.45
47:S2:146:G:O6	47:S2:147:A:N6	2.49	0.45
47:S2:1869:A:N7	50:SB:112:SER:HA	2.31	0.45
51:SD:204:LEU:C	51:SD:206:ASP:H	2.19	0.45
52:SE:56:LEU:HD23	52:SE:57:THR:HG23	1.97	0.45
58:SP:104:GLN:HG2	58:SP:105:VAL:H	1.81	0.45
1:L5:1217:G:H2'	1:L5:1218:G:C5	2.52	0.45
1:L5:1273:G:N3	1:L5:1273:G:H2'	2.32	0.45
1:L5:142:G:H2'	1:L5:144:G:H5''	1.99	0.45
1:L5:150:U:C4	10:LG:161:VAL:HG13	2.50	0.45
1:L5:1694:C:H42	1:L5:1842:G:H1	1.64	0.45
1:L5:2003:G:H1'	1:L5:2004:U:H5	1.81	0.45
1:L5:1245:C:H1'	1:L5:2111:G:C6	2.51	0.45
1:L5:2541:G:H1	1:L5:2775:C:N4	2.14	0.45
1:L5:331:G:O3'	16:LN:159:ARG:NH2	2.49	0.45
1:L5:3754:G:C6	1:L5:3755:G:C6	3.04	0.45
1:L5:3921:U:O2'	1:L5:4542:U:N3	2.44	0.45
1:L5:4043:G:N7	1:L5:4045:G:H1'	2.32	0.45
1:L5:4101:C:H2'	1:L5:4102:C:H5	1.82	0.45
1:L5:5002:U:OP2	5:LB:385:LYS:NZ	2.43	0.45
3:L8:21:C:C2'	3:L8:22:U:H5'	2.46	0.45
5:LB:340:THR:HG22	5:LB:343:ARG:NH1	2.28	0.45
10:LG:156:VAL:HB	10:LG:202:VAL:HG13	1.98	0.45
10:LG:212:LYS:O	10:LG:216:ALA:N	2.48	0.45
10:LG:221:ALA:O	10:LG:224:THR:OG1	2.25	0.45
11:LH:86:LEU:HD22	11:LH:188:GLN:O	2.17	0.45
14:LL:164:GLU:OE2	14:LL:167:ARG:NH2	2.50	0.45
15:LM:6:PHE:H	15:LM:11:ARG:NH2	2.14	0.45
1:L5:29:G:H5''	16:LN:172:ARG:HG3	1.98	0.45
18:LP:6:LEU:HD23	18:LP:116:HIS:CD2	2.51	0.45
22:LT:67:VAL:HG13	22:LT:72:VAL:HG22	1.98	0.45
47:S2:562:U:H4'	73:SJ:132:GLN:HB2	1.99	0.45
49:SA:158:ASP:HB3	64:SV:60:ARG:HH12	1.81	0.45
49:SA:173:LEU:HB2	49:SA:203:PHE:HE1	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SF:118:ASN:ND2	53:SF:183:GLY:HA3	2.32	0.45
53:SF:88:MET:HB2	53:SF:91:ARG:NH2	2.30	0.45
58:SP:74:GLU:H	58:SP:93:MET:N	2.11	0.45
59:SQ:34:VAL:N	59:SQ:37:ARG:O	2.25	0.45
62:ST:27:LYS:HG3	62:ST:29:LYS:HG2	1.99	0.45
1:L5:1836:G:H4'	22:LT:130:ARG:O	2.16	0.45
1:L5:2374:A:H5'	7:LD:64:ILE:O	169.93	0.45
1:L5:2680:G:C2	1:L5:2681:G:H1'	2.51	0.45
1:L5:4109:G:N2	1:L5:4110:C:N3	2.64	0.45
1:L5:487:G:C2	1:L5:488:G:H1'	2.51	0.45
1:L5:486:C:N4	1:L5:670:G:O6	2.44	0.45
1:L5:4716:C:OP2	5:LB:30:LYS:HE2	2.16	0.45
5:LB:50:LYS:HD3	5:LB:340:THR:O	2.17	0.45
6:LC:33:ARG:HE	6:LC:36:ILE:HD12	1.81	0.45
6:LC:38:ASN:O	6:LC:42:THR:HG23	2.16	0.45
10:LG:60:TYR:CZ	10:LG:61:ILE:HG23	2.52	0.45
47:S2:50:A:H62	47:S2:477:G:H21	1.63	0.45
47:S2:71:G:H3'	47:S2:72:C:H5''	1.97	0.45
71:SC:196:ILE:CG2	71:SC:223:TYR:HB2	2.46	0.45
72:SG:223:LYS:O	72:SG:227:GLN:HG2	2.17	0.45
54:SH:135:PHE:HB3	54:SH:136:PRO:HD3	1.99	0.45
63:SU:34:LYS:HA	63:SU:37:ALA:HB3	1.99	0.45
1:L5:978:G:N2	1:L5:1277:G:H1'	2.31	0.45
1:L5:1890:G:N2	1:L5:1939:A:H61	2.15	0.45
1:L5:2654:C:H2'	1:L5:2655:C:C6	2.52	0.45
1:L5:1321:G:H2'	1:L5:3876:A:N7	2.31	0.45
1:L5:3955:G:O6	1:L5:4057:C:N4	2.40	0.45
1:L5:3971:G:N2	1:L5:4050:A:H62	2.13	0.45
1:L5:4493:U:H2'	1:L5:4494:G:H8	1.81	0.45
1:L5:4948:C:O2'	1:L5:4949:G:OP1	2.30	0.45
1:L5:478:G:N2	1:L5:676:C:O2	2.50	0.45
1:L5:922:C:H2'	1:L5:923:C:C6	2.52	0.45
4:LA:7:GLY:HA2	4:LA:10:LYS:HE3	1.99	0.45
6:LC:204:ARG:HG3	6:LC:205:ARG:H	1.80	0.45
10:LG:139:GLY:O	10:LG:142:THR:OG1	2.23	0.45
11:LH:117:PHE:CE1	11:LH:165:THR:HB	2.52	0.45
12:LI:17:TYR:O	12:LI:96:VAL:HG12	2.17	0.45
13:LJ:20:LEU:O	13:LJ:74:VAL:N	2.31	0.45
17:LO:109:PRO:HA	17:LO:110:PRO:HD3	1.81	0.45
25:LW:80:ARG:HA	25:LW:81:ALA:HA	1.53	0.45
47:S2:1414:A:N6	47:S2:1429:G:H1	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1453:C:H42	47:S2:1475:G:H1	1.64	0.45
47:S2:317:C:N4	47:S2:333:G:H1	2.14	0.45
47:S2:380:G:OP1	55:SI:31:ARG:HD2	2.16	0.45
47:S2:553:U:H2'	47:S2:554:A:C8	2.51	0.45
47:S2:583:C:H5'	47:S2:584:G:OP2	2.17	0.45
47:S2:938:A:H2'	47:S2:939:U:O4'	2.16	0.45
47:S2:1005:G:OP1	50:SB:162:ARG:NH1	2.50	0.45
47:S2:1203:G:H1'	71:SC:115:GLN:HG3	1.99	0.45
57:SL:135:SER:HB3	57:SL:138:VAL:HB	1.97	0.45
74:SM:16:THR:HB	74:SM:79:VAL:HG22	1.98	0.45
77:SW:77:PRO:HG2	77:SW:79:PHE:CZ	2.52	0.45
1:L5:106:A:H2'	1:L5:107:G:O4'	2.16	0.45
1:L5:1290:G:H21	1:L5:4942:C:N4	2.14	0.45
1:L5:2074:C:H2'	1:L5:2075:G:C8	2.51	0.45
1:L5:2579:G:N1	1:L5:2582:A:OP2	2.48	0.45
1:L5:3597:G:OP1	20:LR:143:HIS:NE2	2.50	0.45
1:L5:405:U:P	27:LY:87:ARG:HH12	2.40	0.45
1:L5:4082:G:C2	1:L5:4083:U:H5	2.35	0.45
1:L5:4631:G:H2'	1:L5:4632:U:O4'	2.17	0.45
1:L5:4937:C:OP1	8:LE:183:ARG:NH1	2.46	0.45
1:L5:4978:G:O2'	1:L5:4980:C:OP2	2.28	0.45
1:L5:965:G:H8	8:LE:88:VAL:HG13	1.82	0.45
18:LP:114:ILE:HA	18:LP:150:LEU:HD23	1.99	0.45
21:LS:85:ASP:HB3	21:LS:123:SER:HB2	1.99	0.45
22:LT:73:GLY:HA2	22:LT:90:ASN:HA	1.98	0.45
1:L5:2622:G:O6	23:LU:81:ARG:NH2	2.50	0.45
24:LV:70:PRO:HA	24:LV:73:ARG:HD2	1.98	0.45
27:LY:50:ARG:HG3	27:LY:51:LYS:N	2.32	0.45
47:S2:883:U:H2'	47:S2:884:C:C6	2.51	0.45
71:SC:191:VAL:HA	71:SC:228:GLY:HA3	1.98	0.45
51:SD:30:ALA:HB1	51:SD:103:GLU:OE1	2.17	0.45
62:ST:3:GLY:O	62:ST:4:VAL:HG12	2.17	0.45
63:SU:86:LYS:O	63:SU:87:ARG:NH2	2.44	0.45
64:SV:24:ILE:HG23	64:SV:28:ASP:HB3	1.99	0.45
79:SZ:92:LEU:HA	79:SZ:97:ILE:HB	1.99	0.45
1:L5:1884:C:H4'	1:L5:2070:U:H5	1.82	0.45
1:L5:235:A:N6	1:L5:238:C:N3	2.65	0.45
1:L5:2478:C:H2'	1:L5:2479:G:C8	2.51	0.45
1:L5:3877:A:O2'	1:L5:4400:G:N2	2.47	0.45
1:L5:4537:C:H2'	1:L5:4538:G:C8	2.52	0.45
2:L7:23:A:HO2'	2:L7:24:C:H6	1.61	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:LA:40:TYR:HB3	4:LA:94:ALA:HB2	1.99	0.45
5:LB:144:LYS:HD3	5:LB:147:GLU:OE2	2.17	0.45
5:LB:371:THR:HG21	25:LW:17:HIS:CE1	2.52	0.45
21:LS:139:ARG:HA	21:LS:140:PRO:HD3	1.83	0.45
24:LV:18:LEU:HA	24:LV:56:GLY:HA2	1.99	0.45
47:S2:109:U:H3	47:S2:352:U:H3	1.65	0.45
47:S2:1565:C:H2'	47:S2:1566:G:O4'	2.16	0.45
47:S2:180:G:O2'	47:S2:181:A:H2'	2.17	0.45
47:S2:338:G:O2'	47:S2:339:A:H5'	2.17	0.45
47:S2:379:C:OP2	55:SI:181:GLN:NE2	2.49	0.45
47:S2:535:G:H22	47:S2:537:C:H1'	1.82	0.45
48:S6:10:G:O2'	48:S6:11:G:N7	2.46	0.45
51:SD:76:ARG:HD3	56:SK:22:VAL:HB	1.98	0.45
52:SE:82:TYR:CD1	52:SE:83:PRO:HD2	2.51	0.45
54:SH:68:GLN:O	54:SH:71:SER:OG	2.25	0.45
55:SI:162:LEU:HG	55:SI:166:PHE:HE2	1.82	0.45
55:SI:8:TRP:CZ3	55:SI:20:PRO:HB3	2.51	0.45
65:SX:90:CYS:HB3	65:SX:130:LEU:HD11	1.99	0.45
1:L5:2043:A:H1'	1:L5:4462:C:H1'	1.99	0.45
1:L5:3620:G:OP1	1:L5:3622:C:N4	2.50	0.45
1:L5:3784:A:O2'	1:L5:3785:A:H5'	2.17	0.45
1:L5:4988:U:H5'	1:L5:5061:A:C8	2.52	0.45
5:LB:107:ALA:CB	5:LB:201:LEU:HD21	2.47	0.45
5:LB:114:CYS:SG	5:LB:180:LEU:HD12	2.57	0.45
5:LB:28:LYS:HZ1	5:LB:30:LYS:HD2	1.82	0.45
7:LD:116:ASP:OD2	7:LD:117:LYS:NZ	2.43	0.45
10:LG:260:GLU:O	10:LG:263:THR:HG22	2.17	0.45
12:LI:188:LYS:HD2	12:LI:213:HIS:CD2	2.43	0.45
14:LL:170:THR:HG22	14:LL:172:GLU:H	1.82	0.45
16:LN:124:ASP:OD1	16:LN:125:SER:N	2.48	0.45
16:LN:160:GLU:OE1	16:LN:160:GLU:N	2.39	0.45
1:L5:2057:A:H62	17:LO:18:ARG:HD3	1.82	0.45
17:LO:38:CYS:SG	17:LO:77:SER:HA	2.57	0.45
19:LQ:12:LYS:HD3	19:LQ:14:ARG:HH12	1.81	0.45
24:LV:75:LYS:HE2	24:LV:77:HIS:NE2	2.31	0.45
26:LX:110:LYS:HG3	26:LX:121:VAL:HG21	1.98	0.45
26:LX:129:ARG:HD3	26:LX:135:LYS:HD2	1.98	0.45
47:S2:1192:U:H2'	47:S2:1193:U:C6	2.52	0.45
47:S2:1572:C:H2'	47:S2:1573:G:O4'	2.17	0.45
47:S2:924:G:OP1	75:SN:3:ARG:HD3	2.16	0.45
47:S2:93:U:H2'	47:S2:94:G:O4'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:SD:43:PRO:O	51:SD:44:THR:OG1	2.32	0.45
1:L5:1729:A:H61	1:L5:1800:U:H3	1.65	0.45
1:L5:420:A:H2	1:L5:2355:G:HO2'	1.64	0.45
1:L5:2562:G:O2'	1:L5:2564:G:N7	2.38	0.45
1:L5:280:G:OP2	16:LN:44:ARG:NH1	2.47	0.45
1:L5:3767:C:O2'	1:L5:3768:U:OP1	2.32	0.45
2:L7:77:A:H62	2:L7:99:G:N2	2.13	0.45
9:LF:58:HIS:CE1	9:LF:62:ARG:HD2	2.52	0.45
12:LI:21:ARG:O	12:LI:24:ARG:NH1	2.50	0.45
13:LJ:29:SER:OG	13:LJ:67:LYS:O	2.30	0.45
24:LV:100:ASP:OD1	24:LV:101:ASN:N	2.50	0.45
50:SB:34:LYS:HG2	50:SB:43:ASN:HB3	1.99	0.45
51:SD:71:ALA:O	51:SD:75:LYS:N	2.47	0.45
61:SS:39:ARG:NH1	62:ST:38:LYS:HB3	2.32	0.45
65:SX:51:VAL:HG21	65:SX:94:ILE:HD11	1.99	0.45
1:L5:1339:U:H2'	1:L5:1340:C:C6	2.52	0.44
1:L5:454:U:H1'	1:L5:455:C:C6	2.52	0.44
1:L5:716:C:H2'	1:L5:717:U:C6	2.52	0.44
1:L5:987:C:H2'	1:L5:988:C:C6	2.52	0.44
4:LA:40:TYR:HB2	4:LA:89:TYR:HB3	1.99	0.44
5:LB:291:TYR:HE1	5:LB:299:ILE:HG13	1.82	0.44
1:L5:4280:A:C2	7:LD:31:TYR:HE1	2.35	0.44
7:LD:60:ILE:HG13	7:LD:60:ILE:O	2.17	0.44
9:LF:87:PRO:HG2	9:LF:144:TYR:CD2	2.52	0.44
9:LF:92:VAL:HG12	9:LF:142:TRP:HB3	1.99	0.44
12:LI:38:ARG:HG2	12:LI:83:ASP:HB2	1.98	0.44
19:LQ:25:LEU:HD12	19:LQ:28:LEU:HD12	1.98	0.44
47:S2:1036:A:H2'	47:S2:1037:G:H5'	1.99	0.44
47:S2:1325:G:H4'	47:S2:1510:G:H4'	1.99	0.44
47:S2:1535:U:H5'	47:S2:1536:G:C8	2.52	0.44
47:S2:380:G:H5''	55:SI:31:ARG:HH11	1.82	0.44
47:S2:563:G:O6	47:S2:564:A:N6	2.50	0.44
47:S2:851:C:H5''	47:S2:852:G:O4'	2.18	0.44
52:SE:252:ARG:NH2	73:SJ:75:ASN:HB3	2.32	0.44
52:SE:71:LYS:HD3	52:SE:74:GLY:HA2	1.98	0.44
53:SF:86:LYS:O	53:SF:87:LEU:HD12	2.17	0.44
54:SH:158:LEU:O	54:SH:190:PRO:HD2	2.18	0.44
55:SI:193:LYS:O	55:SI:196:GLU:HG2	2.17	0.44
53:SF:49:LEU:HD11	59:SQ:49:TYR:HB3	1.99	0.44
77:SW:27:ILE:HG12	77:SW:61:ILE:HB	1.98	0.44
65:SX:52:LEU:HD22	65:SX:53:GLU:HG2	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65: SX:85: VAL: HA	65: SX:86: PRO: HD2	1.88	0.44
1: L5:2701: U: H3	1: L5:2715: G: H1	1.65	0.44
1: L5:3766: A: H62	47: S2:1829: G: H1'	1.83	0.44
1: L5:2350: U: N3	1: L5:3906: A: OP1	2.47	0.44
3: L8:2: G: H3'	3: L8:3: A: C8	2.52	0.44
1: L5:4081: G: O2'	4: LA:122: ASP: HB3	2.17	0.44
5: LB:112: ASP: O	5: LB:113: GLU: HB2	2.17	0.44
20: LR:174: GLU: O	20: LR:178: GLN: N	2.45	0.44
47: S2:1078: C: H2'	47: S2:1079: C: C6	2.52	0.44
47: S2:1865: C: H5'	47: S2:1866: A: N7	2.31	0.44
47: S2:339: A: O2'	47: S2:340: C: O5'	2.35	0.44
47: S2:872: A: O2'	47: S2:873: G: OP2	2.33	0.44
71: SC:207: ALA: O	71: SC:210: PRO: HD2	2.17	0.44
51: SD:54: ARG: HB2	51: SD:58: VAL: HG13	1.98	0.44
52: SE:127: ARG: NE	52: SE:142: HIS: HA	2.33	0.44
73: SJ:110: LEU: HD22	73: SJ:147: PHE: CD2	2.53	0.44
47: S2:3: C: N4	73: SJ:17: ARG: HE	2.16	0.44
73: SJ:85: GLY: HA2	73: SJ:151: LEU: HD22	1.99	0.44
57: SL:5: GLN: O	57: SL:7: GLU: N	2.46	0.44
64: SV:69: ILE: O	64: SV:73: ALA: N	2.38	0.44
77: SW:10: ALA: O	77: SW:13: SER: OG	2.24	0.44
65: SX:91: LEU: O	65: SX:94: ILE: HG22	2.16	0.44
1: L5:1354: A: OP2	19: LQ:106: THR: HG21	2.17	0.44
1: L5:227: A: C2	27: LY:9: SER: HB2	2.52	0.44
1: L5:4911: A: H3'	1: L5:4912: G: H4'	1.98	0.44
1: L5:4949: G: C2	1: L5:4950: U: H2'	2.52	0.44
1: L5:4979: A: OP1	5: LB:228: TYR: HB2	2.17	0.44
1: L5:693: C: H2'	1: L5:694: C: C6	2.52	0.44
1: L5:3651: A: H5''	4: LA:199: VAL: HA	1.98	0.44
6: LC:252: TRP: HE3	6: LC:257: PHE: HD1	1.65	0.44
7: LD:187: SER: HB3	7: LD:189: GLU: HG3	1.98	0.44
9: LF:148: LYS: CG	9: LF:245: ARG: HH11	2.26	0.44
47: S2:1473: G: N2	47: S2:1475: G: H8	2.15	0.44
47: S2:180: G: O2'	47: S2:181: A: N3	2.50	0.44
47: S2:24: C: O2'	47: S2:25: A: H2'	2.18	0.44
49: SA:183: LEU: HD23	49: SA:186: ARG: HD2	1.99	0.44
50: SB:128: LYS: HG3	50: SB:129: THR: O	2.18	0.44
50: SB:33: VAL: HG13	50: SB:96: CYS: O	2.16	0.44
51: SD:106: ARG: HG3	51: SD:107: TYR: N	2.30	0.44
53: SF:173: LEU: O	53: SF:177: LEU: HG	2.17	0.44
53: SF:182: LYS: O	53: SF:184: SER: N	2.41	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:SJ:163:SER:H	73:SJ:167:GLY:HA3	1.81	0.44
47:S2:1019:C:H5''	75:SN:72:LEU:HB2	1.99	0.44
62:ST:99:VAL:O	62:ST:103:VAL:HG23	2.17	0.44
1:L5:1178:G:H5'	7:LD:289:ARG:HE	1.82	0.44
1:L5:1297:U:H2'	1:L5:1298:C:C6	2.53	0.44
1:L5:1677:U:H4'	1:L5:1680:G:C2	2.52	0.44
1:L5:191:G:H2'	1:L5:192:G:H8	1.82	0.44
1:L5:1963:C:H2'	1:L5:1964:A:C8	2.50	0.44
1:L5:197:A:N1	1:L5:225:G:O2'	2.45	0.44
1:L5:3684:G:H2'	1:L5:3685:C:C6	2.52	0.44
1:L5:4046:A:P	1:L5:4046:A:H8	2.41	0.44
1:L5:4325:A:N7	1:L5:4326:G:H1'	2.33	0.44
1:L5:4948:C:H3'	1:L5:4949:G:H21	1.81	0.44
1:L5:673:C:H2'	1:L5:674:G:H8	1.81	0.44
1:L5:455:C:N4	1:L5:702:U:O2	2.50	0.44
5:LB:238:LYS:NZ	5:LB:239:LYS:O	2.37	0.44
5:LB:348:ARG:NH1	5:LB:351:LEU:HD23	2.31	0.44
5:LB:87:VAL:HG11	5:LB:110:ILE:HD12	1.99	0.44
11:LH:96:TYR:HB3	11:LH:101:ILE:HD12	1.99	0.44
1:L5:19:G:H1'	16:LN:112:ALA:HB2	1.99	0.44
24:LV:111:GLU:OE2	24:LV:131:ARG:NH2	2.50	0.44
47:S2:1325:G:N2	47:S2:1504:U:O2	2.50	0.44
47:S2:1546:G:H21	47:S2:1669:G:N2	2.15	0.44
47:S2:691:G:H3'	47:S2:692:G:C5'	2.44	0.44
47:S2:837:A:C2	47:S2:839:C:H5''	2.52	0.44
47:S2:933:G:H1'	47:S2:1001:A:H5''	1.99	0.44
49:SA:190:SER:HB2	49:SA:193:HIS:HB3	1.99	0.44
51:SD:74:GLN:NE2	51:SD:84:VAL:O	2.50	0.44
73:SJ:114:VAL:HB	73:SJ:126:ALA:HB1	1.99	0.44
58:SP:101:THR:HA	58:SP:102:PHE:HA	1.80	0.44
58:SP:104:GLN:N	58:SP:104:GLN:OE1	2.50	0.44
1:L5:1755:C:C2	7:LD:3:PHE:HA	2.52	0.44
1:L5:227:A:H2	27:LY:9:SER:HB2	1.83	0.44
1:L5:233:U:H1'	1:L5:234:G:H21	1.83	0.44
1:L5:719:C:H3'	1:L5:720:G:H8	1.82	0.44
1:L5:917:A:N6	1:L5:919:C:H41	2.16	0.44
3:L8:140:C:H2'	3:L8:141:C:C6	2.53	0.44
5:LB:291:TYR:O	5:LB:298:LEU:HB2	2.17	0.44
9:LF:80:ASN:OD1	22:LT:142:ARG:HA	2.17	0.44
10:LG:44:ASP:OD1	10:LG:45:ILE:N	2.49	0.44
18:LP:24:VAL:HG12	18:LP:86:LYS:HG3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:LQ:167:VAL:HG22	19:LQ:175:GLU:OE1	2.17	0.44
23:LU:49:VAL:O	23:LU:51:GLY:N	2.42	0.44
25:LW:68:GLN:HE21	25:LW:69:LYS:HZ2	1.65	0.44
47:S2:186:C:H2'	47:S2:187:G:C8	2.51	0.44
47:S2:380:G:P	55:SI:56:ARG:HH22	2.39	0.44
47:S2:483:C:H5''	65:SX:48:LYS:HG3	1.99	0.44
47:S2:535:G:N3	47:S2:535:G:H2'	2.32	0.44
47:S2:557:U:H2'	47:S2:558:G:C8	2.52	0.44
51:SD:70:THR:O	51:SD:74:GLN:HG2	2.18	0.44
53:SF:55:ARG:HG2	53:SF:62:ARG:NH1	2.33	0.44
54:SH:69:LEU:HA	54:SH:72:PHE:HD2	1.83	0.44
54:SH:58:LYS:O	54:SH:90:LYS:HD3	2.16	0.44
74:SM:85:LEU:HD21	74:SM:108:CYS:H	1.83	0.44
76:SO:84:ARG:HA	76:SO:87:GLU:OE2	2.18	0.44
58:SP:77:LYS:HA	58:SP:78:THR:HB	1.98	0.44
77:SW:65:LEU:C	77:SW:67:GLY:H	2.21	0.44
1:L5:1305:C:H2'	1:L5:1306:C:C6	2.53	0.44
1:L5:2505:C:H4'	1:L5:2506:G:O5'	2.17	0.44
1:L5:2579:G:N2	1:L5:2581:A:H3'	2.32	0.44
1:L5:2850:A:H5''	1:L5:4496:A:OP1	2.18	0.44
1:L5:2893:U:H2'	1:L5:2894:A:O4'	2.18	0.44
1:L5:4174:U:H2'	1:L5:4175:G:C8	2.53	0.44
1:L5:4413:C:H41	1:L5:4429:C:H41	1.66	0.44
1:L5:4759:C:H5''	17:LO:37:ARG:NH1	2.32	0.44
1:L5:4948:C:HO2'	1:L5:4949:G:P	2.41	0.44
1:L5:4974:C:H1'	1:L5:4985:U:C2	2.52	0.44
12:LI:100:ASN:C	12:LI:102:MET:H	2.20	0.44
13:LJ:159:LYS:O	13:LJ:163:MET:N	2.49	0.44
15:LM:128:LYS:HD2	15:LM:131:GLN:HE21	1.83	0.44
1:L5:4759:C:H5''	17:LO:37:ARG:HH12	1.83	0.44
19:LQ:72:LEU:HD22	19:LQ:75:ARG:NH1	2.32	0.44
21:LS:2:LYS:HD2	21:LS:35:PRO:HD3	2.00	0.44
25:LW:71:ARG:O	25:LW:72:THR:OG1	2.33	0.44
47:S2:1144:A:H2'	47:S2:1145:A:C8	2.53	0.44
47:S2:1079:C:O2'	47:S2:1182:A:N1	2.45	0.44
47:S2:1280:G:C2	47:S2:1281:G:H1'	2.53	0.44
47:S2:1421:A:H62	47:S2:1422:G:N2	2.15	0.44
47:S2:1479:G:H2'	47:S2:1480:A:O4'	2.17	0.44
47:S2:1747:C:H42	47:S2:1787:G:H1	1.65	0.44
47:S2:332:G:N7	72:SG:190:ARG:NH2	2.66	0.44
73:SJ:169:ARG:NH2	73:SJ:170:PRO:HG2	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:399:C:C2	57:SL:106:HIS:HD2	2.36	0.44
74:SM:42:LEU:HD12	74:SM:43:ASP:N	2.33	0.44
76:SO:71:PRO:O	76:SO:75:MET:HG3	2.17	0.44
59:SQ:109:LYS:HE2	59:SQ:120:LEU:HD21	1.99	0.44
61:SS:12:ILE:O	61:SS:22:GLY:N	2.35	0.44
78:SY:20:ARG:HH11	78:SY:74:MET:HA	1.82	0.44
1:L5:1520:C:H4'	6:LC:94:ASN:HD22	1.83	0.44
1:L5:1768:C:H4'	1:L5:1769:G:C8	2.52	0.44
1:L5:2069:A:N1	1:L5:2071:A:H1'	2.33	0.44
1:L5:2415:U:C4	1:L5:2416:G:C6	3.05	0.44
1:L5:24:G:H5''	1:L5:25:A:OP1	2.18	0.44
1:L5:2502:G:H3'	1:L5:2503:G:H5''	1.99	0.44
1:L5:3775:A:H5'	1:L5:3776:G:OP2	2.18	0.44
1:L5:408:A:H5''	1:L5:409:G:OP1	2.18	0.44
1:L5:3895:G:O6	1:L5:4564:A:N6	2.51	0.44
2:L7:1:G:H4'	7:LD:265:ARG:HG2	2.00	0.44
10:LG:165:GLU:HA	10:LG:168:VAL:HG13	2.00	0.44
11:LH:41:ILE:HD11	11:LH:69:THR:HB	2.00	0.44
14:LL:62:PRO:HB2	14:LL:63:THR:H	1.71	0.44
19:LQ:100:VAL:HG13	19:LQ:120:ILE:HD12	1.99	0.44
27:LY:22:PRO:HG2	27:LY:25:ILE:HB	1.99	0.44
27:LY:51:LYS:HD2	27:LY:72:GLN:HA	2.00	0.44
47:S2:1096:G:H2'	47:S2:1097:G:H8	1.82	0.44
47:S2:1255:G:H5'	47:S2:1256:G:H4'	1.99	0.44
47:S2:689:U:C4	47:S2:690:G:H1'	2.53	0.44
48:S6:13:G:C6	48:S6:14:C:C2	3.05	0.44
52:SE:186:GLY:N	52:SE:189:LEU:HD23	2.32	0.44
52:SE:38:LEU:HA	52:SE:41:CYS:SG	2.57	0.44
52:SE:61:VAL:HG12	52:SE:80:ILE:HG23	2.00	0.44
53:SF:110:GLN:O	53:SF:114:ASN:ND2	2.51	0.44
47:S2:523:A:OP1	73:SJ:127:ARG:NH1	2.50	0.44
50:SB:65:ARG:NH2	76:SO:51:GLU:OE2	2.50	0.44
58:SP:75:VAL:O	58:SP:77:LYS:N	2.51	0.44
1:L5:1264:C:H2'	1:L5:1265:G:H8	1.83	0.44
1:L5:1350:C:H2'	1:L5:1351:G:H8	1.83	0.44
1:L5:1390:G:N2	1:L5:1393:G:OP2	2.37	0.44
1:L5:1447:C:H2'	1:L5:1448:G:H8	1.82	0.44
1:L5:1699:A:OP2	9:LF:177:ARG:NH2	2.50	0.44
1:L5:4648:A:H2'	1:L5:4649:G:C8	2.53	0.44
1:L5:491:G:N1	1:L5:663:G:H1'	2.32	0.44
1:L5:923:C:H2'	1:L5:924:C:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L7:36:C:N4	2:L7:37:G:O6	2.50	0.44
5:LB:315:ASN:HD21	5:LB:326:VAL:HG12	1.83	0.44
11:LH:63:ASN:OD1	11:LH:66:GLU:HG2	2.17	0.44
15:LM:2:VAL:O	15:LM:4:ARG:HG3	2.18	0.44
1:L5:920:C:H5'	15:LM:72:TYR:OH	2.18	0.44
15:LM:31:ILE:HD13	21:LS:75:VAL:HG12	2.00	0.44
23:LU:105:ASN:HB2	23:LU:111:GLU:HB2	2.00	0.44
47:S2:1848:U:N3	47:S2:1850:A:OP2	2.51	0.44
47:S2:694:G:O6	47:S2:738:C:O2'	2.29	0.44
72:SG:144:LEU:HB2	72:SG:147:LEU:N	2.33	0.44
56:SK:24:LYS:HA	56:SK:66:HIS:HA	1.99	0.44
75:SN:55:ARG:HA	75:SN:60:VAL:O	2.18	0.44
1:L5:1628:C:H42	4:LA:3:ARG:HD3	1.83	0.44
1:L5:1693:U:H2'	1:L5:1694:C:O4'	2.18	0.44
1:L5:2318:G:N2	1:L5:2321:G:OP2	2.50	0.44
1:L5:2482:C:N3	1:L5:2483:G:H1'	2.32	0.44
1:L5:4769:G:HO2'	1:L5:4771:C:N4	2.16	0.44
1:L5:4765:G:N2	1:L5:4869:U:H3	2.08	0.44
1:L5:66:A:H61	1:L5:282:C:HO2'	1.64	0.44
1:L5:943:A:OP1	9:LF:146:ASN:ND2	2.50	0.44
2:L7:10:C:C4	7:LD:20:PHE:HD1	2.35	0.44
5:LB:232:THR:OG1	5:LB:249:ARG:NH2	2.51	0.44
5:LB:80:GLU:HG2	5:LB:82:PRO:HD3	1.99	0.44
6:LC:284:MET:O	19:LQ:24:TYR:OH	2.31	0.44
8:LE:151:ILE:HB	8:LE:195:ILE:HB	2.00	0.44
8:LE:257:ILE:HD12	8:LE:260:LYS:HB2	2.00	0.44
13:LJ:166:PHE:HB3	13:LJ:174:ILE:HD11	1.98	0.44
17:LO:7:LEU:O	17:LO:34:VAL:N	2.49	0.44
20:LR:175:GLU:HA	20:LR:178:GLN:HB3	2.00	0.44
23:LU:74:SER:OG	23:LU:76:VAL:O	2.31	0.44
24:LV:48:ARG:HH21	24:LV:51:ARG:NH1	2.16	0.44
26:LX:76:ILE:CG2	26:LX:109:ILE:HG22	2.48	0.44
27:LY:24:HIS:ND1	27:LY:25:ILE:HG13	2.33	0.44
10:LG:32:PHE:CE2	28:LZ:55:ALA:HB2	2.53	0.44
47:S2:1334:G:H2'	47:S2:1335:G:O4'	2.17	0.44
47:S2:1545:A:C6	47:S2:1546:G:C6	3.06	0.44
48:S6:33:C:H4'	48:S6:34:C:OP1	2.18	0.44
48:S6:37:A:N7	53:SF:132:GLY:HA2	2.33	0.44
58:SP:97:TYR:O	58:SP:98:ASN:ND2	2.51	0.44
64:SV:35:ASN:HB3	64:SV:50:PHE:CD1	2.52	0.44
47:S2:921:G:H2'	77:SW:28:ARG:NH1	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1248:C:H2'	1:L5:1249:C:C6	2.53	0.43
1:L5:1361:G:OP2	14:LL:28:GLN:NE2	2.50	0.43
1:L5:149:A:H5''	1:L5:151:G:H5'	2.00	0.43
1:L5:1979:A:C2	1:L5:1983:A:H5''	2.53	0.43
1:L5:2683:C:H2'	1:L5:2684:C:C6	2.53	0.43
1:L5:2887:U:O2'	20:LR:79:GLY:HA3	2.18	0.43
1:L5:3973:G:N2	1:L5:4050:A:H2'	2.33	0.43
1:L5:4978:G:H2'	1:L5:4979:A:H5''	1.99	0.43
1:L5:724:C:H42	1:L5:942:G:H1	1.66	0.43
1:L5:735:G:H2'	1:L5:736:C:C5	2.52	0.43
8:LE:58:SER:N	8:LE:61:ALA:HB3	2.33	0.43
17:LO:7:LEU:HD22	17:LO:31:ARG:HH22	1.83	0.43
18:LP:30:ARG:HB2	18:LP:119:VAL:HG21	2.00	0.43
21:LS:83:ARG:CZ	22:LT:156:TYR:HD1	2.31	0.43
22:LT:34:TYR:CE2	22:LT:96:ILE:HD11	2.52	0.43
23:LU:21:PHE:CE1	23:LU:80:LYS:HB2	2.52	0.43
47:S2:1270:G:O2'	47:S2:1301:A:N7	2.42	0.43
1:L5:3766:A:N3	47:S2:1849:G:C6	2.86	0.43
49:SA:215:GLN:N	49:SA:215:GLN:OE1	2.51	0.43
47:S2:656:G:O2'	71:SC:227:ARG:NH1	2.51	0.43
72:SG:58:LYS:HE3	72:SG:105:ASN:HB2	2.00	0.43
47:S2:67:C:N4	72:SG:164:LYS:HB2	2.33	0.43
72:SG:194:LEU:O	72:SG:198:ARG:N	2.43	0.43
74:SM:44:LYS:HD3	74:SM:112:LYS:NZ	2.33	0.43
76:SO:147:ARG:HD2	76:SO:150:ARG:NE	2.31	0.43
51:SD:209:SER:HB2	60:SR:40:ILE:HB	2.00	0.43
61:SS:131:VAL:O	61:SS:133:GLY:N	2.44	0.43
61:SS:22:GLY:HA2	61:SS:56:ALA:HB3	1.99	0.43
47:S2:803:C:H4'	77:SW:80:ASP:OD2	2.18	0.43
65:SX:101:LEU:O	65:SX:123:VAL:HG22	2.18	0.43
65:SX:125:VAL:O	65:SX:127:ASN:N	2.51	0.43
65:SX:22:TRP:O	65:SX:24:ASP:N	2.47	0.43
1:L5:138:G:H2'	1:L5:139:G:H8	1.82	0.43
1:L5:1969:G:H3'	1:L5:1970:A:H8	1.83	0.43
1:L5:1442:C:N3	1:L5:2104:G:N2	2.66	0.43
1:L5:227:A:H2'	1:L5:228:C:O4'	2.19	0.43
1:L5:2770:C:H2'	1:L5:2771:G:C8	2.53	0.43
1:L5:3670:C:O2'	1:L5:3671:G:OP2	2.37	0.43
1:L5:3670:C:O2'	1:L5:3671:G:N7	2.48	0.43
1:L5:3755:G:N1	1:L5:3770:U:O2	2.51	0.43
1:L5:4049:U:H4'	1:L5:4051:C:N4	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:4769:G:N2	1:L5:4865:C:N3	2.58	0.43
1:L5:700:G:H2'	1:L5:701:G:O4'	2.18	0.43
1:L5:705:G:H1	1:L5:1292:C:H42	1.67	0.43
1:L5:753:C:H42	1:L5:910:G:H1	1.66	0.43
7:LD:209:ARG:NH1	7:LD:234:ASP:OD2	2.50	0.43
8:LE:146:PRO:HA	8:LE:164:PHE:HD2	1.83	0.43
11:LH:182:SER:OG	11:LH:183:GLU:N	2.48	0.43
14:LL:146:LEU:HB2	14:LL:148:THR:N	2.34	0.43
1:L5:185:C:C5	14:LL:44:ARG:HD3	2.53	0.43
15:LM:96:GLU:HA	15:LM:99:GLU:HB2	2.00	0.43
16:LN:115:VAL:HA	16:LN:134:LEU:HD23	2.01	0.43
18:LP:59:PRO:HG2	18:LP:76:TRP:HB2	1.99	0.43
20:LR:66:ASN:O	20:LR:70:ARG:N	2.51	0.43
21:LS:160:ARG:HG3	21:LS:161:ARG:H	1.82	0.43
47:S2:1044:G:H8	47:S2:1044:G:OP2	2.01	0.43
47:S2:1060:A:H4'	47:S2:1061:U:O5'	2.18	0.43
47:S2:1406:G:H2'	47:S2:1407:U:O4'	2.18	0.43
47:S2:1673:U:OP1	59:SQ:79:ALA:N	2.50	0.43
47:S2:589:G:O3'	47:S2:590:A:H2'	2.17	0.43
47:S2:895:G:H2'	47:S2:896:U:H4'	2.00	0.43
50:SB:214:LYS:HD3	50:SB:216:LYS:HD2	2.00	0.43
53:SF:14:THR:HA	53:SF:15:PRO:HA	1.72	0.43
53:SF:39:ILE:HG23	53:SF:68:ILE:HG21	1.99	0.43
54:SH:37:LYS:O	54:SH:39:GLN:N	2.47	0.43
59:SQ:87:SER:O	59:SQ:91:ALA:N	2.50	0.43
60:SR:98:VAL:HB	60:SR:115:SER:HB3	2.00	0.43
77:SW:41:MET:HG2	77:SW:129:PHE:CE2	2.53	0.43
65:SX:15:SER:O	65:SX:18:ARG:HG2	2.18	0.43
79:SZ:57:LYS:HE2	79:SZ:77:LEU:HD11	1.98	0.43
1:L5:1361:G:H2'	1:L5:1362:G:O4'	2.18	0.43
1:L5:1687:U:H2'	1:L5:1688:G:C8	2.53	0.43
1:L5:1932:A:H62	1:L5:2053:C:N4	2.15	0.43
1:L5:963:G:H1'	1:L5:2252:G:C6	2.53	0.43
1:L5:3753:G:H22	1:L5:3771:C:H6	1.66	0.43
1:L5:4231:C:O2'	1:L5:4233:A:H1'	2.17	0.43
1:L5:980:U:O2'	1:L5:981:C:H5'	2.18	0.43
6:LC:33:ARG:NH1	19:LQ:22:ASP:HB2	2.34	0.43
13:LJ:9:GLU:O	13:LJ:13:ARG:HB2	2.18	0.43
17:LO:8:VAL:HG23	17:LO:117:ARG:HA	2.00	0.43
18:LP:114:ILE:HD11	18:LP:117:ILE:HB	1.98	0.43
19:LQ:43:PHE:CD2	19:LQ:133:GLY:HA3	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:LT:51:GLY:HA3	22:LT:92:ARG:CD	2.49	0.43
24:LV:69:LYS:HA	24:LV:70:PRO:HD3	1.87	0.43
25:LW:70:LYS:HD2	47:S2:1783:C:C5	2.52	0.43
28:LZ:112:ARG:NH1	28:LZ:116:VAL:HG13	2.34	0.43
47:S2:1420:G:H5'	62:ST:133:ARG:NH2	2.31	0.43
47:S2:496:C:H42	47:S2:506:G:H1	1.65	0.43
47:S2:535:G:N2	47:S2:537:C:H1'	2.33	0.43
47:S2:565:G:N1	47:S2:586:G:H1'	2.34	0.43
47:S2:913:A:N6	54:SH:98:ARG:HB3	2.33	0.43
49:SA:80:ARG:HH22	49:SA:166:LYS:HG2	1.82	0.43
50:SB:167:LYS:O	50:SB:171:ILE:HG12	2.18	0.43
51:SD:95:GLY:O	51:SD:97:CYS:N	2.48	0.43
52:SE:201:HIS:N	52:SE:206:ASP:OD1	2.35	0.43
52:SE:31:PRO:HB3	52:SE:43:PRO:HB3	2.00	0.43
57:SL:132:ARG:O	57:SL:134:LEU:N	2.50	0.43
75:SN:130:LYS:NZ	75:SN:137:PRO:O	2.34	0.43
76:SO:92:ALA:CB	76:SO:125:LYS:HB2	2.48	0.43
58:SP:36:LEU:HG	58:SP:37:TYR:CE2	2.53	0.43
60:SR:88:VAL:O	60:SR:92:ASP:HB2	2.18	0.43
61:SS:72:GLN:O	61:SS:74:PRO:HD3	2.18	0.43
47:S2:572:U:H5''	78:SY:59:GLY:O	2.19	0.43
1:L5:1097:C:O2	1:L5:1200:G:N2	2.51	0.43
1:L5:1670:G:H2'	1:L5:1855:G:H5''	2.00	0.43
1:L5:1725:U:H5''	9:LF:104:LYS:HG3	1.99	0.43
1:L5:2411:C:H42	1:L5:2433:G:H1	1.64	0.43
1:L5:4136:G:H2'	1:L5:4137:C:C6	2.54	0.43
1:L5:4489:G:N2	1:L5:4592:C:OP1	2.50	0.43
3:L8:110:U:O2'	3:L8:111:U:H4'	2.18	0.43
13:LJ:21:CYS:SG	13:LJ:73:THR:HG22	2.58	0.43
16:LN:114:ARG:NH1	16:LN:157:LYS:HA	2.32	0.43
1:L5:423:G:OP1	18:LP:62:ARG:NH1	2.51	0.43
21:LS:69:GLU:HG3	21:LS:71:SER:H	1.83	0.43
22:LT:89:ILE:H	22:LT:89:ILE:HD12	1.84	0.43
47:S2:1058:A:H2'	47:S2:1059:G:O4'	2.18	0.43
47:S2:1239:U:H1'	47:S2:1242:U:C5	2.52	0.43
47:S2:1244:U:H2'	47:S2:1245:G:C8	2.52	0.43
47:S2:1281:G:C8	74:SM:101:ARG:HB3	2.53	0.43
47:S2:38:A:H4'	73:SJ:7:TRP:CD1	2.53	0.43
47:S2:642:U:P	73:SJ:39:ASN:HB2	2.58	0.43
52:SE:103:TYR:HB3	52:SE:107:GLY:HA2	2.01	0.43
53:SF:125:SER:O	53:SF:136:ARG:NH2	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:SG:218:LYS:O	72:SG:221:LYS:NZ	2.27	0.43
54:SH:98:ARG:O	54:SH:100:ILE:N	2.48	0.43
73:SJ:110:LEU:HB2	73:SJ:147:PHE:O	2.18	0.43
76:SO:103:ASN:CG	76:SO:142:ARG:HB2	2.39	0.43
60:SR:13:ALA:O	60:SR:16:ILE:HG22	2.19	0.43
47:S2:1623:A:O5'	61:SS:133:GLY:HA3	2.18	0.43
61:SS:11:HIS:O	61:SS:13:LEU:N	2.51	0.43
61:SS:25:LYS:HA	61:SS:55:ARG:HA	1.99	0.43
65:SX:95:GLU:HB2	65:SX:98:ASP:OD2	2.18	0.43
1:L5:1243:C:O2'	1:L5:1244:G:H5'	2.18	0.43
1:L5:195:C:H42	1:L5:246:G:H1	1.65	0.43
1:L5:1971:C:H5'	1:L5:2015:U:O4	2.18	0.43
1:L5:2543:A:H5''	1:L5:2544:G:C8	2.54	0.43
1:L5:2778:G:H4'	26:LX:107:HIS:CE1	2.53	0.43
1:L5:3762:U:H3'	1:L5:3763:A:C8	2.53	0.43
1:L5:715:G:H1	1:L5:953:C:N4	2.11	0.43
10:LG:66:GLN:O	10:LG:69:ILE:HG22	2.18	0.43
13:LJ:153:ALA:HA	13:LJ:154:LYS:HA	1.60	0.43
1:L5:4861:G:H4'	17:LO:169:ARG:NH2	2.33	0.43
17:LO:23:VAL:HG13	17:LO:33:VAL:HG11	2.01	0.43
17:LO:81:TRP:CZ2	17:LO:99:LEU:HD21	2.51	0.43
22:LT:18:PRO:HB2	22:LT:21:LYS:HG3	2.01	0.43
1:L5:4334:U:H4'	22:LT:7:LYS:HG3	2.00	0.43
25:LW:93:LYS:HD2	72:SG:144:LEU:HD22	2.01	0.43
47:S2:1269:G:N2	47:S2:1514:G:N3	2.66	0.43
47:S2:215:G:N7	47:S2:312:G:N1	2.67	0.43
47:S2:412:G:O2'	47:S2:812:A:N6	2.51	0.43
47:S2:464:A:OP2	47:S2:465:A:N6	2.51	0.43
47:S2:903:A:H2'	47:S2:904:A:C5	2.54	0.43
52:SE:36:HIS:ND1	52:SE:41:CYS:HB3	2.33	0.43
53:SF:113:VAL:O	53:SF:117:ILE:HG12	2.18	0.43
53:SF:19:LEU:H	53:SF:48:TYR:HE1	1.66	0.43
58:SP:84:ILE:HG23	58:SP:85:ILE:N	2.30	0.43
47:S2:1397:U:O4	59:SQ:12:VAL:HA	2.18	0.43
62:ST:82:ARG:HG3	62:ST:90:SER:HB2	2.00	0.43
77:SW:74:VAL:HG23	77:SW:126:LEU:O	2.18	0.43
65:SX:49:GLY:O	65:SX:100:VAL:HG22	2.18	0.43
1:L5:1606:U:H2'	1:L5:1607:C:O4'	2.18	0.43
1:L5:3692:A:H62	1:L5:3823:G:N2	2.04	0.43
1:L5:4128:A:H2'	1:L5:4129:G:O4'	2.19	0.43
1:L5:4235:G:O2'	1:L5:4330:G:H1'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:4944:C:H5''	8:LE:158:ARG:NH2	2.33	0.43
5:LB:36:ASP:HA	5:LB:37:PRO:HD3	2.26	0.43
6:LC:31:PRO:HD3	6:LC:282:HIS:CE1	2.53	0.43
6:LC:44:LEU:HA	6:LC:47:ASN:HD22	1.84	0.43
7:LD:22:ARG:HB3	7:LD:28:THR:HG22	2.00	0.43
12:LI:190:LEU:HD13	12:LI:197:VAL:HG23	2.00	0.43
13:LJ:87:LEU:O	13:LJ:91:GLU:N	2.51	0.43
15:LM:34:ASN:HA	15:LM:51:PRO:HA	1.99	0.43
17:LO:6:VAL:HG13	17:LO:32:LYS:HE2	2.00	0.43
20:LR:161:ALA:O	20:LR:165:LYS:HB3	2.19	0.43
47:S2:1238:U:C4	47:S2:1239:U:C2	3.06	0.43
47:S2:1583:C:H3'	47:S2:1584:G:H8	1.83	0.43
47:S2:216:C:H41	47:S2:309:G:H1	1.66	0.43
47:S2:314:U:H2'	47:S2:315:C:C5	2.54	0.43
47:S2:667:U:H5''	47:S2:1087:A:C5	2.54	0.43
48:S6:15:A:H61	48:S6:21:A:H2	1.66	0.43
49:SA:34:MET:HE1	49:SA:148:CYS:HB2	2.01	0.43
49:SA:90:PHE:CD1	49:SA:179:ALA:HB2	2.53	0.43
51:SD:104:SER:HB3	51:SD:108:LYS:HE2	2.00	0.43
72:SG:57:ASP:HA	72:SG:106:LEU:HB2	1.99	0.43
72:SG:221:LYS:HA	72:SG:224:ARG:HB3	2.01	0.43
57:SL:151:THR:HA	75:SN:133:ARG:NH2	2.33	0.43
59:SQ:134:GLY:HA3	59:SQ:141:TYR:N	2.33	0.43
59:SQ:24:HIS:HE1	59:SQ:69:ARG:HB2	1.83	0.43
47:S2:1454:A:C5'	60:SR:5:ARG:HH22	2.31	0.43
63:SU:26:SER:HB2	63:SU:32:LEU:HD22	1.99	0.43
1:L5:1951:G:O2'	21:LS:95:ARG:NH2	2.51	0.43
1:L5:231:U:H4'	27:LY:100:HIS:CD2	2.54	0.43
1:L5:3701:C:C2	1:L5:3745:U:C4	3.07	0.43
1:L5:3798:U:H1'	1:L5:3801:U:C5	2.53	0.43
1:L5:3697:U:H1'	1:L5:3819:G:N2	2.34	0.43
1:L5:4905:C:H2'	1:L5:4906:C:H6	1.83	0.43
1:L5:5047:C:H2'	1:L5:5050:C:H5	1.83	0.43
1:L5:4121:G:H5''	4:LA:87:PHE:CE1	2.54	0.43
7:LD:17:GLN:NE2	22:LT:20:ARG:O	2.52	0.43
8:LE:254:ASP:OD1	8:LE:255:SER:N	2.52	0.43
16:LN:62:TYR:CD1	16:LN:134:LEU:HD12	2.54	0.43
1:L5:4209:G:H4'	22:LT:12:ARG:HH21	1.84	0.43
24:LV:106:VAL:HG12	24:LV:107:ASN:O	2.18	0.43
3:L8:84:A:N1	27:LY:113:LYS:HE3	2.34	0.43
47:S2:1154:U:OP1	47:S2:1156:U:H5'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1318:G:C2	47:S2:1319:U:C2	3.06	0.43
47:S2:1413:G:H5''	47:S2:1414:A:OP2	2.19	0.43
47:S2:1476:A:N3	47:S2:1476:A:H3'	2.34	0.43
47:S2:1589:A:O2'	62:ST:82:ARG:NH1	2.52	0.43
1:L5:3766:A:N3	47:S2:1849:G:C5	2.87	0.43
47:S2:314:U:H2'	47:S2:315:C:C6	2.54	0.43
47:S2:313:A:O2'	47:S2:314:U:O5'	2.30	0.43
47:S2:488:U:O2'	47:S2:489:A:OP1	2.34	0.43
47:S2:530:U:N3	47:S2:531:A:N7	2.67	0.43
47:S2:822:U:H5''	47:S2:824:C:P	2.58	0.43
49:SA:77:ILE:HA	49:SA:99:ILE:O	2.19	0.43
51:SD:126:ILE:HG21	51:SD:134:CYS:HB3	2.01	0.43
47:S2:1332:A:H2'	51:SD:141:LYS:HZ3	1.84	0.43
53:SF:135:ARG:HB3	53:SF:203:ASN:ND2	2.34	0.43
52:SE:168:LYS:HE2	72:SG:208:GLU:OE2	2.18	0.43
72:SG:77:LEU:N	72:SG:93:LYS:O	2.44	0.43
56:SK:37:ASP:HB3	56:SK:38:LYS:H	1.70	0.43
59:SQ:116:ASP:O	59:SQ:118:THR:N	2.52	0.43
61:SS:109:GLU:N	61:SS:109:GLU:OE1	2.50	0.43
78:SY:8:ARG:O	78:SY:9:THR:OG1	2.33	0.43
1:L5:3753:G:N2	1:L5:3771:C:H6	2.17	0.43
1:L5:3808:C:N4	1:L5:3809:G:O6	2.52	0.43
1:L5:3897:G:O2'	1:L5:4559:A:N6	2.43	0.43
1:L5:3907:G:H2'	1:L5:4447:C:O2'	2.19	0.43
1:L5:3974:G:C5	1:L5:3975:C:H1'	2.54	0.43
1:L5:4041:C:H3'	1:L5:4042:G:C5'	2.47	0.43
1:L5:4088:C:C6	10:LG:54:PHE:HZ	2.37	0.43
1:L5:4623:G:H2'	1:L5:4624:A:O4'	2.19	0.43
1:L5:4935:C:O2'	1:L5:4936:G:H5'	2.18	0.43
1:L5:698:G:H2'	1:L5:699:C:C6	2.53	0.43
1:L5:150:U:H3	10:LG:162:ASP:HB3	1.84	0.43
14:LL:55:ILE:HD12	14:LL:55:ILE:HA	1.90	0.43
15:LM:96:GLU:N	15:LM:99:GLU:OE1	2.52	0.43
18:LP:59:PRO:HG2	18:LP:76:TRP:CG	2.54	0.43
1:L5:4313:A:H1'	22:LT:90:ASN:ND2	2.34	0.43
25:LW:66:GLU:HA	25:LW:67:ILE:HA	1.59	0.43
47:S2:1035:A:H2'	47:S2:1036:A:O4'	2.19	0.43
47:S2:1422:G:H1'	47:S2:1424:G:C8	2.53	0.43
47:S2:327:G:H1'	47:S2:328:U:O4'	2.18	0.43
47:S2:795:A:H62	54:SH:109:ARG:NH2	2.10	0.43
72:SG:4:ASN:HB2	72:SG:110:ASN:OD1	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:SH:157:HIS:HB3	54:SH:190:PRO:HG3	2.00	0.43
73:SJ:4:ALA:H	73:SJ:5:ARG:NE	2.17	0.43
56:SK:93:THR:HG1	56:SK:95:ARG:NH1	2.15	0.43
62:ST:115:LYS:HA	62:ST:121:ARG:HA	2.01	0.43
78:SY:37:LYS:O	78:SY:41:ARG:HG2	2.18	0.43
1:L5:3717:A:H2'	1:L5:3718:A:C8	2.54	0.43
1:L5:390:C:N4	1:L5:401:G:H1	2.14	0.43
1:L5:2042:A:O4'	1:L5:4462:C:O2'	2.37	0.43
1:L5:695:G:H2'	1:L5:696:C:H5'	2.00	0.43
1:L5:924:C:H2'	1:L5:925:C:C6	2.54	0.43
6:LC:159:GLU:HA	6:LC:217:ILE:HB	2.00	0.43
7:LD:39:GLN:HA	7:LD:48:LYS:HE3	2.00	0.43
9:LF:226:HIS:CD2	9:LF:234:GLY:HA3	2.54	0.43
11:LH:90:TYR:HD1	11:LH:184:LYS:HA	1.83	0.43
22:LT:92:ARG:NH1	22:LT:94:GLU:OE2	2.52	0.43
24:LV:23:GLY:HA2	24:LV:39:ILE:O	2.19	0.43
47:S2:1113:A:H1'	47:S2:1121:G:H1	1.83	0.43
47:S2:480:G:H2'	47:S2:481:C:O4'	2.18	0.43
47:S2:872:A:O2'	47:S2:873:G:H8	2.02	0.43
49:SA:205:ARG:CG	49:SA:210:ILE:HG21	2.48	0.43
71:SC:242:ASP:HA	71:SC:245:SER:OG	2.19	0.43
52:SE:148:ARG:HE	52:SE:149:TYR:HE2	1.67	0.43
52:SE:151:ASP:OD2	52:SE:153:LEU:HB2	2.19	0.43
73:SJ:32:ILE:HD11	73:SJ:40:LYS:HG2	2.01	0.43
52:SE:252:ARG:HH22	73:SJ:76:ALA:N	2.17	0.43
47:S2:1298:G:H4'	58:SP:78:THR:HG22	2.01	0.43
1:L5:1250:C:H3'	1:L5:1251:C:C6	2.53	0.43
1:L5:1293:G:C6	1:L5:1294:A:C8	3.07	0.43
1:L5:1974:U:H3	1:L5:2002:A:H62	1.65	0.43
1:L5:254:G:N1	1:L5:255:C:O2	2.51	0.43
1:L5:3659:G:OP1	4:LA:241:ARG:HG2	2.19	0.43
1:L5:3913:G:H3'	1:L5:3914:U:H4'	2.01	0.43
1:L5:3942:A:H61	1:L5:4071:U:H3	1.66	0.43
1:L5:4988:U:H5'	1:L5:5061:A:N7	2.33	0.43
1:L5:964:A:H2'	1:L5:964:A:N3	2.34	0.43
3:L8:64:U:H2'	3:L8:65:A:O4'	2.18	0.43
4:LA:5:ILE:HG22	4:LA:208:GLU:O	2.19	0.43
7:LD:133:GLU:OE1	7:LD:133:GLU:N	2.52	0.43
11:LH:89:ARG:HG3	11:LH:93:ARG:NH1	14.79	0.43
16:LN:149:GLN:O	16:LN:152:THR:HG22	2.19	0.43
17:LO:36:VAL:HG22	17:LO:107:GLY:O	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:LS:45:TRP:HE1	21:LS:61:ILE:HD11	1.83	0.43
47:S2:1054:G:C2	47:S2:1055:A:H1'	2.54	0.43
47:S2:133:C:H5'	47:S2:134:C:H5'	2.01	0.43
47:S2:1664:A:HO2'	47:S2:1665:G:P	2.42	0.43
49:SA:22:GLY:O	49:SA:24:HIS:N	2.46	0.43
50:SB:103:MET:HG2	50:SB:215:VAL:CG1	2.48	0.43
50:SB:100:PHE:HZ	50:SB:215:VAL:HG11	1.84	0.43
56:SK:59:LYS:O	56:SK:70:TYR:N	2.37	0.43
57:SL:13:GLN:HG2	57:SL:36:TYR:HB3	2.00	0.43
75:SN:90:HIS:HA	75:SN:93:LYS:HE3	2.01	0.43
61:SS:15:VAL:O	61:SS:20:ILE:HD13	2.18	0.43
62:ST:40:ALA:HB2	62:ST:96:SER:N	2.34	0.43
1:L5:2123:C:O2'	1:L5:2124:G:O5'	2.31	0.42
1:L5:962:C:H5'	1:L5:2264:C:C4	2.54	0.42
1:L5:2757:A:H2'	1:L5:2758:G:C8	2.54	0.42
1:L5:3673:C:O2'	1:L5:3674:G:OP1	2.29	0.42
6:LC:338:ASN:O	6:LC:342:ARG:HG3	2.19	0.42
1:L5:948:C:H5''	8:LE:51:VAL:HG11	2.00	0.42
9:LF:64:MET:O	9:LF:67:THR:HG22	2.18	0.42
11:LH:91:LYS:HD2	11:LH:145:ILE:HG22	2.01	0.42
12:LI:16:PRO:HG3	12:LI:128:ARG:NH1	2.34	0.42
13:LJ:57:VAL:C	13:LJ:59:SER:H	2.22	0.42
17:LO:54:TYR:CE2	17:LO:145:VAL:HG21	2.54	0.42
1:L5:1733:G:H5'	22:LT:58:HIS:NE2	2.34	0.42
25:LW:97:LYS:H	72:SG:146:ASN:CG	2.22	0.42
47:S2:1141:G:H1	47:S2:1146:C:H42	1.66	0.42
47:S2:1455:A:OP1	60:SR:5:ARG:NH1	2.52	0.42
47:S2:184:G:H3'	47:S2:185:G:H8	1.82	0.42
47:S2:291:G:H1'	47:S2:292:A:H5''	2.01	0.42
47:S2:319:C:H5'	47:S2:320:G:OP2	2.19	0.42
47:S2:467:G:H2'	47:S2:468:A:H8	1.83	0.42
47:S2:524:U:H5''	47:S2:525:A:O4'	2.19	0.42
47:S2:587:A:H1'	47:S2:589:G:H22	1.84	0.42
47:S2:927:C:H2'	47:S2:928:G:C8	2.54	0.42
50:SB:37:ALA:O	50:SB:39:PHE:N	2.47	0.42
51:SD:146:ARG:HH11	51:SD:147:ALA:H	1.67	0.42
72:SG:10:THR:OG1	72:SG:128:THR:HG21	2.19	0.42
59:SQ:13:PHE:HA	59:SQ:21:ALA:O	2.19	0.42
65:SX:60:LYS:HG2	65:SX:114:ASP:O	2.19	0.42
65:SX:9:THR:OG1	65:SX:10:ALA:N	2.51	0.42
1:L5:1612:G:N3	1:L5:1612:G:H2'	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:2758:G:H1'	1:L5:2765:A:H1'	2.00	0.42
1:L5:4183:G:N3	1:L5:4183:G:H2'	2.33	0.42
1:L5:1798:G:H4'	1:L5:4215:C:C4	2.54	0.42
5:LB:27:GLY:HA2	5:LB:276:HIS:CD2	2.55	0.42
7:LD:142:PHE:HD2	7:LD:171:LEU:HD22	1.84	0.42
7:LD:21:ARG:O	7:LD:25:GLU:HG2	2.18	0.42
8:LE:69:TYR:O	8:LE:70:LYS:HB3	2.19	0.42
10:LG:159:HIS:HB2	10:LG:184:ILE:O	2.19	0.42
10:LG:155:VAL:HA	10:LG:203:ALA:HA	2.01	0.42
12:LI:61:SER:HA	12:LI:126:VAL:HG22	2.02	0.42
13:LJ:112:HIS:HE1	13:LJ:125:ILE:HA	1.84	0.42
1:L5:99:A:H4'	16:LN:181:HIS:ND1	2.34	0.42
16:LN:48:ALA:O	16:LN:53:TYR:HB3	2.19	0.42
17:LO:51:LYS:HE2	17:LO:144:GLU:HB3	2.00	0.42
19:LQ:171:GLY:O	19:LQ:173:LYS:N	2.48	0.42
1:L5:1802:A:H4'	22:LT:105:PHE:CE1	2.54	0.42
47:S2:1217:A:H2'	47:S2:1218:C:C6	2.54	0.42
47:S2:1454:A:H5'	60:SR:5:ARG:HH22	1.84	0.42
47:S2:1522:A:H2	47:S2:1523:C:C6	2.36	0.42
47:S2:594:A:O4'	47:S2:643:A:N6	2.52	0.42
47:S2:958:G:H2'	47:S2:958:G:N3	2.34	0.42
53:SF:59:LYS:HB2	53:SF:62:ARG:HD3	2.00	0.42
54:SH:101:LEU:HA	54:SH:102:PRO:HD3	1.79	0.42
54:SH:43:LEU:HB2	54:SH:72:PHE:CZ	2.54	0.42
60:SR:18:GLU:HA	60:SR:70:SER:HB2	2.01	0.42
77:SW:111:MET:HG3	77:SW:112:ASP:H	1.84	0.42
77:SW:3:ARG:HD3	77:SW:9:ASP:OD2	2.19	0.42
1:L5:1444:G:C4	1:L5:2100:A:C6	3.07	0.42
1:L5:4438:U:H2'	1:L5:4439:U:O4'	2.19	0.42
1:L5:4725:C:H2'	1:L5:4726:G:C8	2.54	0.42
1:L5:458:C:N4	1:L5:698:G:H1	2.15	0.42
5:LB:226:LYS:HD2	5:LB:272:LYS:HE3	2.01	0.42
1:L5:4525:C:O2'	5:LB:244:THR:HA	2.19	0.42
6:LC:214:ASP:O	6:LC:215:ASN:ND2	2.52	0.42
6:LC:318:PRO:HG2	9:LF:155:TYR:CD1	2.51	0.42
7:LD:106:ALA:O	7:LD:110:LEU:HD13	2.19	0.42
11:LH:28:LYS:HB3	11:LH:33:THR:OG1	2.20	0.42
24:LV:107:ASN:OD1	24:LV:111:GLU:N	2.50	0.42
28:LZ:46:ILE:HA	28:LZ:70:SER:HA	2.01	0.42
47:S2:1226:G:N1	47:S2:1639:G:OP2	2.51	0.42
47:S2:1643:U:O2'	47:S2:1644:C:H6	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1743:G:C6	47:S2:1744:G:N1	2.88	0.42
47:S2:141:A:O2'	47:S2:178:C:N3	2.37	0.42
47:S2:819:G:H4'	52:SE:255:ARG:NH2	2.35	0.42
47:S2:896:U:O4	47:S2:898:U:N3	2.52	0.42
48:S6:6:G:H1	48:S6:68:C:H42	1.67	0.42
50:SB:68:GLU:HA	50:SB:84:PHE:O	2.19	0.42
71:SC:168:GLY:N	71:SC:179:THR:O	2.32	0.42
72:SG:216:ARG:O	72:SG:220:ALA:N	2.53	0.42
59:SQ:138:ARG:O	59:SQ:140:ARG:HG3	2.19	0.42
61:SS:117:ILE:HG13	61:SS:118:ARG:H	1.85	0.42
61:SS:31:THR:HA	61:SS:36:VAL:HG13	2.01	0.42
47:S2:1590:C:P	62:ST:82:ARG:HH12	2.42	0.42
65:SX:85:VAL:HG12	65:SX:122:VAL:HG11	2.02	0.42
1:L5:2024:G:H8	1:L5:2024:G:OP2	2.02	0.42
1:L5:2552:G:N2	1:L5:2764:A:N7	2.66	0.42
1:L5:3774:A:O2'	1:L5:3775:A:H5''	2.20	0.42
1:L5:3975:C:H2'	1:L5:3976:C:O4'	2.19	0.42
1:L5:4566:U:H1'	5:LB:268:ARG:HG2	2.00	0.42
1:L5:4769:G:H3'	1:L5:4770:U:H5''	2.01	0.42
1:L5:4924:C:O2'	1:L5:4925:U:H5'	2.19	0.42
2:L7:58:A:H2'	2:L7:59:G:H8	1.82	0.42
5:LB:286:LYS:HE2	5:LB:330:PHE:HZ	1.84	0.42
6:LC:148:PRO:HB2	6:LC:149:GLU:H	1.75	0.42
7:LD:226:TYR:HD1	7:LD:231:VAL:HG11	1.84	0.42
8:LE:206:VAL:O	8:LE:256:GLN:HG2	2.19	0.42
8:LE:219:LYS:HB3	8:LE:220:LYS:H	1.57	0.42
13:LJ:97:ASN:ND2	13:LJ:178:LYS:HB2	2.34	0.42
16:LN:162:ARG:HH12	16:LN:164:LEU:HD21	1.84	0.42
1:L5:4365:C:OP1	19:LQ:184:ARG:NH2	2.52	0.42
19:LQ:70:MET:SD	19:LQ:98:LEU:HD22	2.60	0.42
47:S2:1234:C:H4'	47:S2:1246:A:H61	1.85	0.42
47:S2:1235:G:H1	47:S2:1523:C:N4	2.14	0.42
47:S2:1350:U:H3	47:S2:1379:A:H61	1.66	0.42
47:S2:1490:G:H2'	47:S2:1491:G:H8	1.83	0.42
47:S2:1504:U:H1'	47:S2:1509:U:H5	1.84	0.42
47:S2:1537:A:H2'	47:S2:1538:C:O4'	2.20	0.42
47:S2:1673:U:H2'	47:S2:1674:G:O4'	2.20	0.42
47:S2:303:C:H5''	55:SI:75:LYS:HD3	2.01	0.42
50:SB:143:THR:HB	50:SB:205:TYR:HE2	1.85	0.42
52:SE:47:PHE:HD2	52:SE:48:LEU:HD12	1.84	0.42
53:SF:140:ASP:OD1	53:SF:141:VAL:N	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SF:157:GLY:HA2	53:SF:160:GLU:OE2	2.20	0.42
53:SF:191:LYS:HA	53:SF:194:ASP:CB	2.46	0.42
72:SG:37:ALA:HA	72:SG:49:VAL:HG12	2.02	0.42
54:SH:72:PHE:O	54:SH:76:GLN:N	2.51	0.42
57:SL:77:VAL:O	57:SL:123:GLY:N	2.46	0.42
74:SM:25:ALA:HA	74:SM:28:HIS:CE1	2.53	0.42
58:SP:17:TYR:HA	61:SS:91:LYS:HA	2.00	0.42
65:SX:61:GLN:N	65:SX:62:PRO:HD2	2.34	0.42
1:L5:1752:G:O6	1:L5:1777:C:N4	2.51	0.42
1:L5:1886:G:H1	1:L5:1893:C:N4	2.10	0.42
1:L5:2117:G:H3'	1:L5:2117:G:N3	2.35	0.42
1:L5:2268:A:O2'	19:LQ:30:LYS:HE2	2.20	0.42
1:L5:2287:G:O6	4:LA:10:LYS:HE3	82.25	0.42
1:L5:2671:C:OP1	18:LP:46:LYS:NZ	110.12	0.42
1:L5:3640:U:H3'	1:L5:3646:A:N6	2.35	0.42
1:L5:3914:U:H5'	1:L5:3915:U:OP1	2.18	0.42
1:L5:4107:G:H2'	1:L5:4108:G:H8	1.84	0.42
1:L5:505:G:H5'	1:L5:506:C:OP2	2.19	0.42
2:L7:96:U:H4'	9:LF:137:GLU:OE2	2.20	0.42
4:LA:113:VAL:O	4:LA:133:TYR:HB2	2.19	0.42
9:LF:43:ARG:O	9:LF:47:ARG:HG2	2.19	0.42
20:LR:24:LEU:HA	20:LR:50:ILE:HG22	2.01	0.42
21:LS:9:GLU:O	21:LS:66:GLN:HG3	2.19	0.42
24:LV:105:ILE:O	24:LV:112:MET:HG3	2.19	0.42
26:LX:81:LEU:HD11	26:LX:99:ILE:HD11	2.01	0.42
47:S2:1223:A:H2'	47:S2:1224:G:O4'	2.19	0.42
47:S2:1375:G:H2'	47:S2:1376:A:C8	2.55	0.42
47:S2:1421:A:P	62:ST:133:ARG:HH22	2.43	0.42
47:S2:1511:U:O2'	47:S2:1512:C:O5'	2.32	0.42
47:S2:1610:G:N7	61:SS:132:ARG:NH2	2.66	0.42
47:S2:1706:G:H2'	47:S2:1707:U:C6	2.55	0.42
47:S2:692:G:OP1	47:S2:692:G:H4'	2.18	0.42
49:SA:3:GLY:HA2	49:SA:63:ARG:NH2	2.35	0.42
53:SF:41:VAL:HG11	53:SF:68:ILE:HG12	2.00	0.42
54:SH:18:GLU:HG2	54:SH:19:PHE:N	2.35	0.42
55:SI:107:THR:OG1	55:SI:108:PRO:HD3	2.19	0.42
55:SI:142:SER:HA	55:SI:146:GLN:HG2	2.01	0.42
76:SO:17:LEU:CD2	76:SO:18:GLY:H	2.21	0.42
76:SO:34:PHE:HE1	76:SO:98:ARG:CZ	2.33	0.42
58:SP:34:MET:SD	58:SP:45:LEU:HB3	2.59	0.42
61:SS:5:ILE:HA	61:SS:6:PRO:HA	1.74	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:SU:61:LEU:H	63:SU:81:GLN:NE2	2.17	0.42
79:SZ:55:TYR:HB3	79:SZ:59:CYS:SG	2.60	0.42
1:L5:1501:C:O3'	19:LQ:91:ARG:NH1	2.52	0.42
1:L5:1509:C:H2'	1:L5:1510:G:H8	1.83	0.42
1:L5:3680:U:H5''	4:LA:54:ARG:NH1	2.34	0.42
1:L5:3757:G:N2	1:L5:3769:C:C4	2.88	0.42
1:L5:3765:G:N3	1:L5:3765:G:H2'	2.35	0.42
1:L5:3757:G:C2	1:L5:3768:U:N3	2.87	0.42
1:L5:4087:G:H4'	10:LG:54:PHE:CZ	2.54	0.42
1:L5:4201:G:H21	1:L5:4203:A:H62	1.68	0.42
1:L5:4902:C:H2'	1:L5:4903:G:C8	2.48	0.42
1:L5:681:G:H2'	1:L5:682:G:O4'	2.20	0.42
1:L5:737:C:H2'	1:L5:738:C:H6	1.85	0.42
1:L5:948:C:H2'	1:L5:949:G:C8	2.53	0.42
5:LB:223:THR:O	5:LB:274:TYR:HA	2.18	0.42
6:LC:183:VAL:HA	6:LC:204:ARG:HB3	2.01	0.42
6:LC:122:TYR:CE2	6:LC:280:PRO:HB3	2.54	0.42
1:L5:943:A:P	9:LF:148:LYS:HE2	2.59	0.42
9:LF:96:ARG:HH11	9:LF:97:GLY:H	1.67	0.42
12:LI:48:LEU:HB2	12:LI:140:THR:O	2.19	0.42
13:LJ:50:PHE:CE1	13:LJ:70:VAL:HG12	2.54	0.42
14:LL:158:ARG:O	14:LL:160:VAL:N	2.48	0.42
14:LL:75:GLY:HA3	14:LL:99:ASP:HB2	2.02	0.42
16:LN:7:ILE:HA	16:LN:10:LEU:HB3	2.01	0.42
16:LN:119:TYR:OH	16:LN:131:GLU:OE1	2.17	0.42
21:LS:160:ARG:HD3	21:LS:160:ARG:HA	1.91	0.42
47:S2:1142:G:H2'	47:S2:1144:A:OP2	2.19	0.42
47:S2:1163:C:H2'	47:S2:1164:G:C8	2.53	0.42
47:S2:118:C:H2'	47:S2:119:U:O4'	2.19	0.42
47:S2:1215:C:O2'	47:S2:1645:C:OP2	2.37	0.42
48:S6:6:G:H2'	48:S6:7:A:H8	1.85	0.42
49:SA:21:ALA:HB1	49:SA:169:HIS:O	2.20	0.42
71:SC:165:VAL:HG12	71:SC:244:ILE:HB	2.02	0.42
52:SE:132:GLY:N	52:SE:136:ILE:O	2.47	0.42
52:SE:79:ASP:CG	52:SE:80:ILE:H	2.22	0.42
53:SF:96:ALA:HA	53:SF:99:ILE:HG22	2.01	0.42
72:SG:78:SER:OG	72:SG:79:LYS:N	2.53	0.42
54:SH:63:PHE:HA	54:SH:95:ILE:O	2.19	0.42
73:SJ:28:GLU:HA	73:SJ:31:LEU:HD13	2.01	0.42
56:SK:89:ILE:O	56:SK:91:PRO:HD3	2.19	0.42
59:SQ:15:ARG:HG2	59:SQ:20:THR:OG1	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:LJ:119:TYR:HD2	61:SS:12:ILE:HG21	1.84	0.42
63:SU:28:ASN:ND2	63:SU:30:LYS:HB3	2.34	0.42
63:SU:31:SER:O	63:SU:35:VAL:HG23	2.20	0.42
77:SW:32:LYS:HA	77:SW:35:VAL:HG22	2.01	0.42
78:SY:28:LEU:HG	78:SY:30:PRO:HD3	2.00	0.42
78:SY:90:ARG:HA	78:SY:93:ARG:HG2	2.02	0.42
1:L5:1403:G:N2	1:L5:1415:G:N3	2.68	0.42
1:L5:1757:U:H4'	1:L5:1758:G:H5'	2.02	0.42
1:L5:2046:G:O2'	1:L5:2047:A:N7	2.45	0.42
1:L5:2658:G:N2	1:L5:2676:A:OP2	2.33	0.42
1:L5:369:G:N2	1:L5:372:A:OP2	2.52	0.42
1:L5:3910:C:H2'	1:L5:3911:C:C6	2.55	0.42
1:L5:3965:A:N6	1:L5:4039:G:O3'	2.52	0.42
1:L5:691:C:N3	1:L5:692:A:N6	2.67	0.42
1:L5:742:G:H2'	1:L5:743:G:H8	1.84	0.42
1:L5:976:G:C8	1:L5:977:C:C4	3.08	0.42
7:LD:121:GLY:HA2	7:LD:130:TYR:CE2	2.54	0.42
7:LD:22:ARG:O	7:LD:26:GLY:N	2.52	0.42
1:L5:4946:U:O2	8:LE:158:ARG:HD2	2.20	0.42
10:LG:209:SER:HA	10:LG:212:LYS:HB2	2.02	0.42
13:LJ:36:ALA:O	13:LJ:70:VAL:HG21	2.19	0.42
14:LL:57:PRO:HG2	14:LL:73:GLY:HA3	2.02	0.42
17:LO:186:GLU:O	17:LO:190:ASP:N	2.53	0.42
23:LU:88:LYS:HD2	23:LU:97:ARG:HH12	1.85	0.42
25:LW:78:PHE:CD2	25:LW:79:GLN:N	2.88	0.42
47:S2:378:U:C4	47:S2:379:C:C4	3.07	0.42
47:S2:590:A:O2'	47:S2:591:U:O4'	2.37	0.42
47:S2:750:C:N4	47:S2:794:A:H1'	2.35	0.42
71:SC:104:ASP:OD1	71:SC:105:GLU:N	2.53	0.42
71:SC:189:GLY:C	71:SC:191:VAL:H	2.22	0.42
73:SJ:94:LEU:HA	73:SJ:97:ILE:HD12	2.02	0.42
47:S2:519:A:O2'	73:SJ:9:CYS:HB3	2.19	0.42
75:SN:99:ARG:NH1	75:SN:143:SER:HA	2.35	0.42
76:SO:35:ALA:HB3	76:SO:98:ARG:O	2.19	0.42
1:L5:1175:A:N1	1:L5:1185:G:N1	2.67	0.42
1:L5:118:C:H42	1:L5:153:G:H1	1.67	0.42
1:L5:1249:C:N3	1:L5:1261:G:N2	2.67	0.42
1:L5:1288:G:O2'	1:L5:1289:C:OP1	2.33	0.42
1:L5:1392:A:H2'	1:L5:1393:G:C8	2.55	0.42
1:L5:1440:U:H1'	1:L5:1441:C:C5	2.54	0.42
1:L5:1736:A:H2'	1:L5:1737:A:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:2018:C:H2'	1:L5:2019:C:C6	2.55	0.42
1:L5:2465:C:HO2'	1:L5:3672:G:H1	1.68	0.42
1:L5:254:G:N2	1:L5:255:C:H1'	2.35	0.42
1:L5:3750:G:H2'	1:L5:3751:G:H8	1.85	0.42
1:L5:3767:C:H2'	1:L5:3768:U:N1	2.35	0.42
1:L5:4149:C:H2'	1:L5:4150:G:C8	2.55	0.42
1:L5:749:G:C2	1:L5:750:U:H1'	2.55	0.42
1:L5:916:C:H2'	1:L5:917:A:H5'	2.01	0.42
6:LC:164:THR:O	6:LC:168:VAL:HG23	2.20	0.42
1:L5:723:A:H5''	6:LC:347:HIS:HA	2.02	0.42
9:LF:182:TYR:HD1	9:LF:200:ARG:HD2	1.85	0.42
1:L5:278:G:N2	16:LN:50:ARG:O	2.46	0.42
17:LO:108:ILE:HG21	17:LO:160:ARG:NH1	2.35	0.42
19:LQ:95:VAL:HA	19:LQ:96:PRO:HD3	1.76	0.42
5:LB:8:ALA:HB2	24:LV:49:LEU:HD13	2.01	0.42
28:LZ:103:ASP:O	28:LZ:107:LYS:N	2.42	0.42
47:S2:1119:A:C6	47:S2:1120:U:H1'	2.55	0.42
47:S2:1771:G:N3	47:S2:1771:G:H3'	2.35	0.42
47:S2:54:A:H3'	47:S2:451:G:H22	1.85	0.42
47:S2:534:G:H2'	47:S2:535:G:H8	1.85	0.42
50:SB:62:LEU:O	50:SB:88:THR:HG21	2.20	0.42
47:S2:809:A:H4'	52:SE:221:ARG:CZ	2.49	0.42
51:SD:75:LYS:NZ	56:SK:18:GLU:HG2	2.34	0.42
56:SK:5:LYS:O	56:SK:9:ILE:N	2.53	0.42
1:L5:985:C:H42	1:L5:1068:G:H1	1.67	0.42
1:L5:1253:G:H22	1:L5:1256:G:H3'	1.84	0.42
1:L5:169:G:H2'	1:L5:170:C:H6	1.84	0.42
1:L5:1750:G:H5'	12:LI:40:LYS:NZ	2.31	0.42
1:L5:1768:C:H4'	1:L5:1769:G:H8	1.85	0.42
1:L5:3728:A:H3'	1:L5:3729:U:H6	1.84	0.42
1:L5:3801:U:O2	1:L5:3803:A:N6	2.53	0.42
1:L5:3873:G:H2'	1:L5:3874:G:C8	2.54	0.42
1:L5:3971:G:H2'	1:L5:3972:A:H5''	2.02	0.42
1:L5:402:A:H2'	1:L5:403:G:O4'	2.20	0.42
1:L5:4502:C:H2'	1:L5:4503:A:O4'	2.19	0.42
1:L5:3786:U:OP1	1:L5:4550:G:O2'	2.37	0.42
1:L5:4667:C:OP1	5:LB:224:LYS:NZ	2.32	0.42
2:L7:9:C:OP2	2:L7:10:C:N4	2.43	0.42
5:LB:56:ILE:HG13	5:LB:367:PHE:O	2.20	0.42
6:LC:210:ILE:HD12	6:LC:252:TRP:NE1	2.35	0.42
6:LC:252:TRP:CE3	6:LC:257:PHE:HD1	2.38	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:LF:223:LYS:HA	9:LF:232:ASP:HB3	2.01	0.42
13:LJ:8:LYS:O	13:LJ:11:PRO:HD2	2.19	0.42
13:LJ:53:ALA:HB3	13:LJ:63:ARG:O	2.19	0.42
15:LM:72:TYR:HA	15:LM:75:GLN:HG2	2.02	0.42
15:LM:97:ALA:HB1	17:LO:203:VAL:HG21	2.01	0.42
22:LT:54:HIS:HB3	22:LT:57:TYR:HD2	1.85	0.42
25:LW:46:PRO:O	25:LW:52:THR:OG1	2.24	0.42
47:S2:1616:U:OP2	58:SP:43:ARG:NH2	2.51	0.42
47:S2:1680:G:H2'	47:S2:1681:U:C6	2.55	0.42
47:S2:1777:G:H2'	47:S2:1778:C:C2	2.54	0.42
47:S2:1723:G:N2	47:S2:1811:C:O2	2.38	0.42
47:S2:588:G:H21	47:S2:589:G:H1	1.67	0.42
71:SC:204:ILE:HA	71:SC:221:ASP:OD1	2.20	0.42
47:S2:1256:G:C8	51:SD:40:ARG:HD2	35.38	0.42
47:S2:345:U:H1'	52:SE:33:THR:HG23	2.01	0.42
72:SG:167:LYS:HB3	72:SG:168:LYS:H	1.51	0.42
73:SJ:38:ARG:HG2	73:SJ:39:ASN:H	1.85	0.42
76:SO:39:ASP:N	76:SO:69:SER:HB3	2.35	0.42
63:SU:56:MET:HB2	63:SU:86:LYS:HB2	2.02	0.42
63:SU:91:LEU:HB3	63:SU:93:SER:HB3	2.01	0.42
79:SZ:98:LYS:HB2	79:SZ:110:THR:OG1	2.19	0.42
1:L5:1171:G:C2	1:L5:1191:C:C2	3.08	0.42
1:L5:2093:A:H4'	1:L5:2095:A:OP2	2.20	0.42
1:L5:2779:C:H2'	1:L5:2780:C:H6	1.85	0.42
1:L5:346:G:H2'	1:L5:347:A:O4'	2.20	0.42
1:L5:3801:U:H3	1:L5:3803:A:N6	2.17	0.42
1:L5:3883:U:H2'	1:L5:3884:U:O4'	2.20	0.42
1:L5:4114:C:H5'	1:L5:4115:G:C2	2.55	0.42
1:L5:4950:U:H1'	1:L5:4952:G:OP2	2.19	0.42
1:L5:717:U:H3	1:L5:951:G:H1	1.67	0.42
2:L7:108:G:P	7:LD:273:LEU:HD21	2.60	0.42
7:LD:232:THR:HA	7:LD:233:PRO:HD3	1.84	0.42
8:LE:249:ASP:N	8:LE:249:ASP:OD1	2.51	0.42
9:LF:50:ILE:HG12	9:LF:186:CYS:HB2	2.01	0.42
14:LL:204:GLU:HG3	14:LL:205:GLN:HG3	2.02	0.42
16:LN:73:ARG:HH21	16:LN:92:LEU:HD21	1.84	0.42
17:LO:121:PRO:HA	17:LO:124:LEU:HD13	2.01	0.42
18:LP:120:ASN:O	18:LP:145:HIS:N	2.50	0.42
47:S2:115:U:H2'	47:S2:116:U:C6	2.54	0.42
71:SC:246:LYS:O	71:SC:249:SER:OG	2.31	0.42
71:SC:73:MET:O	71:SC:73:MET:HG3	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:SD:105:LEU:HD23	51:SD:184:ILE:HD12	2.01	0.42
52:SE:123:LEU:HD12	52:SE:160:ILE:O	2.20	0.42
52:SE:51:ARG:NH2	52:SE:109:PHE:O	2.53	0.42
53:SF:35:LEU:HD12	53:SF:117:ILE:HD13	2.02	0.42
72:SG:231:ARG:HA	72:SG:234:LEU:HD12	2.02	0.42
55:SI:90:LEU:HD13	55:SI:97:VAL:HG21	2.02	0.42
74:SM:50:CYS:SG	74:SM:110:VAL:HG13	2.60	0.42
75:SN:71:ILE:HD12	75:SN:71:ILE:H	1.85	0.42
58:SP:68:PRO:O	58:SP:70:MET:N	2.53	0.42
47:S2:1592:C:H4'	59:SQ:44:PRO:HB2	2.02	0.42
78:SY:86:GLU:HG3	78:SY:90:ARG:HB2	2.00	0.42
1:L5:1386:C:O2'	1:L5:1502:G:N2	2.48	0.41
1:L5:1861:U:H2'	1:L5:1862:U:O4'	2.19	0.41
1:L5:225:G:OP2	6:LC:223:ASN:HB2	2.20	0.41
1:L5:2540:C:H2'	1:L5:2541:G:H8	1.85	0.41
1:L5:3923:A:H1'	1:L5:4381:A:O4'	2.20	0.41
3:L8:16:G:O2'	3:L8:17:A:O5'	2.32	0.41
4:LA:245:ARG:O	4:LA:247:ARG:HG3	2.19	0.41
5:LB:234:ARG:NH1	5:LB:235:TRP:HE1	2.17	0.41
6:LC:250:CYS:HB3	6:LC:252:TRP:NE1	2.29	0.41
6:LC:34:PRO:O	6:LC:38:ASN:ND2	2.53	0.41
7:LD:186:GLU:N	7:LD:186:GLU:OE1	2.53	0.41
2:L7:62:U:OP1	7:LD:276:LYS:HG3	2.20	0.41
7:LD:39:GLN:NE2	7:LD:48:LYS:HB2	2.35	0.41
8:LE:188:ARG:NH1	8:LE:217:PHE:O	2.53	0.41
8:LE:86:GLU:HB3	8:LE:87:LYS:H	1.58	0.41
10:LG:231:ASP:HA	10:LG:234:ARG:HH11	1.85	0.41
11:LH:89:ARG:HA	11:LH:146:LEU:O	2.20	0.41
12:LI:103:LEU:HD13	12:LI:113:THR:OG1	2.20	0.41
14:LL:25:TRP:NE1	16:LN:201:HIS:HD2	2.17	0.41
15:LM:108:ASP:O	15:LM:111:LYS:HB3	2.19	0.41
15:LM:29:ASP:OD1	15:LM:30:VAL:N	2.53	0.41
15:LM:91:TRP:HA	15:LM:94:LYS:HD2	2.01	0.41
20:LR:105:LEU:HD22	20:LR:135:LYS:HG3	2.01	0.41
47:S2:1217:A:H2'	47:S2:1218:C:H6	1.85	0.41
49:SA:144:THR:N	49:SA:158:ASP:OD2	2.52	0.41
50:SB:197:ILE:O	50:SB:201:CYS:N	2.35	0.41
50:SB:87:ILE:N	50:SB:99:ASN:O	2.53	0.41
51:SD:25:LEU:HD23	51:SD:37:VAL:HG11	2.02	0.41
52:SE:88:ASP:O	52:SE:100:ARG:HA	2.19	0.41
73:SJ:114:VAL:HG13	73:SJ:119:LEU:HD22	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:SJ:136:ARG:HD3	73:SJ:160:SER:HA	2.01	0.41
73:SJ:57:ALA:O	73:SJ:61:LEU:N	2.47	0.41
75:SN:125:LEU:O	75:SN:128:TYR:HB3	2.20	0.41
58:SP:15:PHE:O	58:SP:16:THR:OG1	2.32	0.41
64:SV:74:LYS:O	64:SV:81:LYS:NZ	2.31	0.41
1:L5:1181:C:H2'	1:L5:1182:C:H4'	2.01	0.41
1:L5:2482:C:C4	1:L5:2483:G:H1'	2.55	0.41
1:L5:2590:G:H2'	1:L5:2754:G:N2	2.35	0.41
1:L5:455:C:H41	1:L5:701:G:N2	2.17	0.41
1:L5:689:U:H2'	1:L5:690:C:H6	1.86	0.41
8:LE:257:ILE:HD12	8:LE:260:LYS:HD2	2.02	0.41
10:LG:113:ARG:HA	10:LG:116:ALA:HB3	2.02	0.41
10:LG:69:ILE:HG12	10:LG:73:ARG:HE	1.85	0.41
16:LN:178:HIS:HA	16:LN:181:HIS:CE1	2.54	0.41
28:LZ:53:VAL:HG13	28:LZ:54:THR:N	2.30	0.41
28:LZ:83:THR:HG22	28:LZ:85:TYR:H	1.85	0.41
50:SB:103:MET:HG3	50:SB:103:MET:O	2.19	0.41
50:SB:81:PHE:O	50:SB:105:LEU:HD12	2.20	0.41
52:SE:184:THR:HA	52:SE:189:LEU:HB2	2.02	0.41
52:SE:238:LEU:CD1	52:SE:242:LYS:HG2	2.50	0.41
52:SE:36:HIS:HD1	52:SE:41:CYS:HB3	1.85	0.41
72:SG:14:LYS:HG2	72:SG:124:LEU:CD1	2.50	0.41
47:S2:869:A:N6	54:SH:114:GLN:O	2.53	0.41
78:SY:13:MET:O	78:SY:22:GLN:N	2.47	0.41
1:L5:1209:U:H5''	1:L5:1210:C:OP2	2.20	0.41
1:L5:126:C:N4	1:L5:142:G:H22	2.18	0.41
1:L5:1460:C:H2'	1:L5:1461:C:C6	2.55	0.41
1:L5:2750:G:OP1	1:L5:2768:C:H1'	2.19	0.41
1:L5:3956:G:H1'	1:L5:3957:U:C5'	2.51	0.41
1:L5:3965:A:N6	1:L5:4048:A:O2'	2.53	0.41
1:L5:4564:A:H5''	17:LO:68:ARG:HH22	1.85	0.41
4:LA:147:ARG:HG2	4:LA:157:VAL:HG22	2.01	0.41
1:L5:2294:G:OP1	6:LC:193:LYS:HG2	2.19	0.41
6:LC:305:PRO:HG3	19:LQ:38:ARG:NH2	2.35	0.41
14:LL:41:ALA:HA	14:LL:44:ARG:CZ	2.50	0.41
16:LN:60:VAL:HG23	16:LN:134:LEU:HB2	2.02	0.41
19:LQ:15:ARG:HH22	19:LQ:19:LYS:HG2	1.85	0.41
20:LR:134:ASN:O	20:LR:137:ILE:HG22	2.20	0.41
25:LW:94:ARG:O	25:LW:97:LYS:NZ	2.47	0.41
27:LY:86:GLN:HE22	27:LY:96:HIS:CE1	2.38	0.41
47:S2:1522:A:C8	61:SS:146:VAL:HG22	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:745:C:H4'	54:SH:107:LYS:HB3	2.01	0.41
47:S2:919:A:H5'	75:SN:16:LEU:HD22	2.02	0.41
48:S6:38:A:H62	53:SF:133:THR:N	2.17	0.41
49:SA:97:THR:HA	49:SA:98:PRO:HD3	1.80	0.41
50:SB:197:ILE:HD11	50:SB:210:VAL:HG11	2.02	0.41
50:SB:197:ILE:HD11	50:SB:210:VAL:HG21	2.02	0.41
73:SJ:64:ASP:HB3	77:SW:117:ARG:NH2	2.36	0.41
57:SL:48:LYS:O	57:SL:52:GLU:HG2	2.20	0.41
76:SO:65:ASP:O	76:SO:68:GLU:HB2	2.20	0.41
58:SP:61:ARG:HG2	58:SP:89:MET:SD	2.60	0.41
71:SC:183:LYS:HE3	77:SW:95:PRO:HA	2.03	0.41
65:SX:133:LEU:HD23	65:SX:133:LEU:HA	1.92	0.41
1:L5:1174:G:H2'	1:L5:1175:A:C8	2.55	0.41
1:L5:1321:G:OP1	1:L5:1880:G:O2'	2.34	0.41
1:L5:1374:G:OP2	6:LC:120:LYS:NZ	2.49	0.41
1:L5:1406:G:H3'	1:L5:1407:C:H3'	2.01	0.41
1:L5:1501:C:H1'	19:LQ:91:ARG:HH11	1.85	0.41
1:L5:1833:G:O2'	1:L5:1834:U:O4'	2.38	0.41
1:L5:1868:A:O2'	1:L5:4402:C:O2'	2.26	0.41
1:L5:2845:A:H61	1:L5:3843:C:N4	2.18	0.41
1:L5:3855:C:H2'	1:L5:3856:A:H8	1.85	0.41
1:L5:446:C:H2'	1:L5:447:C:C6	2.54	0.41
1:L5:3921:U:HO2'	1:L5:4542:U:H3	1.63	0.41
1:L5:4555:U:O2'	1:L5:4556:U:H5'	2.20	0.41
1:L5:4635:A:H3'	1:L5:4636:U:H4'	2.02	0.41
1:L5:4685:U:H2'	1:L5:4686:G:C8	2.55	0.41
1:L5:5023:C:N4	1:L5:5025:C:O2'	2.53	0.41
1:L5:71:C:C2	1:L5:73:A:H1'	2.55	0.41
1:L5:942:G:H1	1:L5:943:A:N6	2.17	0.41
1:L5:982:U:H2'	1:L5:983:C:C6	2.56	0.41
3:L8:122:G:N2	3:L8:128:C:H41	2.19	0.41
4:LA:150:LEU:CD1	4:LA:151:PRO:HD2	2.45	0.41
5:LB:82:PRO:HB3	5:LB:328:ASN:ND2	2.35	0.41
6:LC:207:PRO:HB3	6:LC:249:PHE:HD2	1.85	0.41
7:LD:63:GLN:N	7:LD:63:GLN:OE1	2.53	0.41
8:LE:94:LYS:H	8:LE:106:VAL:HG23	1.85	0.41
1:L5:4200:G:N2	12:LI:112:GLN:OE1	2.53	0.41
16:LN:36:LEU:HD13	16:LN:64:ILE:HD13	2.01	0.41
20:LR:69:ALA:HB1	20:LR:74:ARG:HB2	2.01	0.41
21:LS:45:TRP:HA	21:LS:48:VAL:HB	2.03	0.41
22:LT:57:TYR:CE1	22:LT:89:ILE:HD11	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:LX:37:LYS:HA	26:LX:38:LYS:HA	1.59	0.41
47:S2:337:C:C2'	47:S2:338:G:H4'	2.39	0.41
47:S2:468:A:H2'	47:S2:469:A:O4'	2.21	0.41
47:S2:659:G:O2'	47:S2:662:G:O3'	2.38	0.41
50:SB:224:GLU:CD	50:SB:226:GLY:H	2.24	0.41
51:SD:137:VAL:HG22	51:SD:151:LYS:HG2	2.01	0.41
51:SD:154:ASP:OD1	51:SD:155:GLY:N	2.53	0.41
51:SD:8:LYS:HG3	63:SU:61:LEU:HD21	2.02	0.41
54:SH:54:GLY:HA3	54:SH:57:ARG:HH21	1.86	0.41
56:SK:31:LYS:HG2	56:SK:32:HIS:O	2.20	0.41
75:SN:84:LEU:CD2	75:SN:149:LEU:HD21	2.50	0.41
59:SQ:37:ARG:HB3	59:SQ:41:MET:HG3	2.03	0.41
59:SQ:10:VAL:HG22	59:SQ:98:LYS:HD3	2.02	0.41
60:SR:58:MET:O	60:SR:62:GLN:HG3	2.20	0.41
63:SU:21:ARG:HB3	63:SU:115:THR:HG21	2.02	0.41
1:L5:1293:G:H3'	1:L5:1294:A:C2	2.55	0.41
1:L5:1329:G:OP1	1:L5:2350:U:O2'	2.38	0.41
1:L5:1625:G:H4'	1:L5:1626:G:H5''	2.02	0.41
1:L5:2018:C:H2'	1:L5:2019:C:C5	2.55	0.41
1:L5:225:G:OP1	6:LC:222:ARG:HD2	2.20	0.41
1:L5:2558:C:N4	1:L5:2559:G:O6	2.53	0.41
1:L5:2622:G:H2'	1:L5:2623:A:H8	1.86	0.41
1:L5:387:G:O4'	1:L5:411:G:N2	2.53	0.41
1:L5:4238:G:O6	1:L5:4286:C:N4	2.31	0.41
1:L5:4344:U:H2'	1:L5:4345:C:O4'	2.20	0.41
1:L5:3846:C:O2'	1:L5:4632:U:O2'	2.16	0.41
1:L5:648:G:HO2'	1:L5:649:A:P	2.44	0.41
6:LC:11:TYR:CE2	6:LC:149:GLU:HG2	2.56	0.41
6:LC:163:LYS:HB2	6:LC:163:LYS:HE2	1.87	0.41
7:LD:66:TYR:HE2	7:LD:68:ARG:HH21	1.67	0.41
8:LE:83:LYS:HB2	8:LE:84:LYS:HA	2.02	0.41
9:LF:186:CYS:SG	9:LF:187:MET:N	2.94	0.41
12:LI:159:PHE:HA	12:LI:160:PRO:HD3	1.85	0.41
13:LJ:19:LYS:HE3	13:LJ:133:VAL:HG11	2.03	0.41
16:LN:68:ARG:HA	16:LN:98:LEU:HD11	2.03	0.41
25:LW:91:MET:HG3	25:LW:94:ARG:HE	1.85	0.41
27:LY:54:GLU:HG2	27:LY:67:ILE:HG22	2.01	0.41
47:S2:141:A:N3	47:S2:143:U:H1'	2.36	0.41
47:S2:1520:G:H5'	47:S2:1521:C:OP2	2.20	0.41
47:S2:1592:C:H2'	47:S2:1593:C:C6	2.56	0.41
47:S2:45:A:N6	47:S2:481:C:H4'	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:604:A:N3	47:S2:639:C:O2'	2.50	0.41
50:SB:138:PHE:CD2	50:SB:214:LYS:HB3	2.56	0.41
51:SD:162:ASP:N	51:SD:163:PRO:HD2	2.36	0.41
74:SM:73:GLN:HB3	74:SM:74:ILE:H	1.66	0.41
47:S2:1522:A:H4'	61:SS:143:GLY:C	2.41	0.41
64:SV:74:LYS:HE2	64:SV:81:LYS:HZ1	1.85	0.41
77:SW:35:VAL:O	77:SW:39:THR:HG23	2.20	0.41
47:S2:582:C:O4'	78:SY:33:ALA:HB2	2.21	0.41
78:SY:55:ILE:HG23	78:SY:75:ILE:HG12	2.02	0.41
1:L5:195:C:O2'	27:LY:125:SER:OG	2.34	0.41
1:L5:2007:G:H1'	1:L5:2008:U:C5	2.49	0.41
1:L5:233:U:H4'	1:L5:234:G:OP1	2.19	0.41
1:L5:165:A:N6	1:L5:270:U:H3	2.19	0.41
1:L5:3712:A:H4'	1:L5:3713:U:OP2	2.21	0.41
1:L5:4100:C:N4	1:L5:4109:G:H1	2.17	0.41
1:L5:512:U:H3	1:L5:648:G:N2	2.19	0.41
1:L5:720:G:H2'	1:L5:720:G:N3	2.35	0.41
1:L5:735:G:C2	1:L5:736:C:N4	2.89	0.41
5:LB:248:LEU:HD12	5:LB:249:ARG:HG3	2.02	0.41
5:LB:263:ALA:O	5:LB:266:VAL:HG12	2.21	0.41
5:LB:285:TYR:CD1	5:LB:365:LEU:HD21	2.55	0.41
6:LC:12:SER:HA	6:LC:155:GLU:HG2	2.03	0.41
6:LC:35:ASP:OD1	6:LC:36:ILE:N	2.54	0.41
6:LC:46:LYS:O	6:LC:49:ARG:HG2	2.21	0.41
7:LD:178:LYS:HE2	7:LD:179:ARG:NH1	2.36	0.41
8:LE:258:LEU:N	8:LE:259:PRO:HD2	2.35	0.41
13:LJ:24:ILE:HG12	13:LJ:127:GLY:O	2.20	0.41
16:LN:121:VAL:HG11	16:LN:131:GLU:HG3	2.03	0.41
16:LN:116:LEU:HB2	16:LN:135:ILE:CD1	2.51	0.41
16:LN:200:LEU:HA	16:LN:200:LEU:HD23	1.92	0.41
1:L5:4971:A:O3'	18:LP:55:LYS:NZ	2.53	0.41
20:LR:137:ILE:HD12	20:LR:140:GLU:OE2	2.21	0.41
21:LS:43:ARG:HD2	21:LS:47:PHE:HE2	1.86	0.41
12:LI:166:HIS:CG	22:LT:158:PHE:HE2	2.38	0.41
47:S2:1349:G:H1	47:S2:1380:C:N4	2.19	0.41
47:S2:1036:A:C2	47:S2:1844:U:H4'	2.56	0.41
47:S2:629:A:C6	47:S2:632:C:C2	3.08	0.41
54:SH:68:GLN:N	54:SH:68:GLN:OE1	2.54	0.41
55:SI:84:ASN:HD21	55:SI:90:LEU:HD12	1.85	0.41
74:SM:41:ALA:O	74:SM:44:LYS:HG2	2.20	0.41
74:SM:79:VAL:HG11	74:SM:84:LYS:H	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:SN:143:SER:OG	75:SN:144:SER:N	2.53	0.41
61:SS:104:ASP:HA	61:SS:107:LEU:HD12	2.02	0.41
59:SQ:132:PHE:CE2	63:SU:76:THR:HA	2.54	0.41
47:S2:618:C:N4	65:SX:114:ASP:OD2	2.52	0.41
78:SY:40:ILE:O	78:SY:44:LEU:HD13	2.21	0.41
1:L5:1072:C:H4'	1:L5:1073:G:OP1	2.20	0.41
1:L5:1329:G:O2'	1:L5:1330:A:OP1	2.31	0.41
1:L5:1435:G:H2'	1:L5:1436:C:H5'	2.03	0.41
1:L5:147:A:OP1	10:LG:197:LYS:HD2	2.20	0.41
1:L5:1881:C:H5'	1:L5:2281:U:H1'	2.03	0.41
1:L5:2365:C:O2'	1:L5:2828:U:O2	2.39	0.41
1:L5:2478:C:N4	1:L5:2479:G:O6	2.53	0.41
1:L5:2758:G:O2'	1:L5:2764:A:N3	2.43	0.41
1:L5:4056:A:H2'	1:L5:4057:C:C5	2.55	0.41
1:L5:43:U:H5''	16:LN:85:VAL:HG22	2.03	0.41
1:L5:4742:G:H2'	1:L5:4743:G:C8	2.56	0.41
1:L5:5018:C:H2'	1:L5:5019:A:H8	1.85	0.41
1:L5:477:C:N4	1:L5:677:G:H1	2.18	0.41
1:L5:714:G:C6	1:L5:715:G:C6	3.08	0.41
1:L5:757:G:N3	1:L5:757:G:H2'	2.36	0.41
6:LC:24:LEU:HA	6:LC:25:PRO:HD3	1.94	0.41
6:LC:33:ARG:HE	6:LC:36:ILE:CD1	2.33	0.41
8:LE:135:GLN:N	8:LE:135:GLN:OE1	2.53	0.41
8:LE:177:GLY:HA2	8:LE:178:PRO:HD3	1.89	0.41
1:L5:150:U:OP2	10:LG:140:VAL:HG23	2.20	0.41
11:LH:29:GLY:HA3	11:LH:30:PRO:HD3	1.85	0.41
16:LN:145:ASN:HA	16:LN:146:PRO:HD3	1.87	0.41
21:LS:55:LYS:HG3	21:LS:57:SER:HB3	2.01	0.41
47:S2:1412:C:H5'	47:S2:1413:G:OP1	2.20	0.41
47:S2:1458:G:C6	47:S2:1459:G:C5	3.09	0.41
47:S2:1740:C:H2'	47:S2:1741:U:C6	2.56	0.41
47:S2:378:U:H5'	55:SI:97:VAL:CG1	2.51	0.41
47:S2:481:C:H5''	47:S2:482:G:OP2	2.21	0.41
51:SD:61:GLU:OE2	56:SK:73:ASN:ND2	2.53	0.41
72:SG:21:GLU:O	72:SG:25:ARG:HG2	2.20	0.41
72:SG:67:VAL:HG11	72:SG:99:GLY:HA2	2.03	0.41
47:S2:563:G:HO2'	73:SJ:131:ARG:NH1	2.19	0.41
56:SK:32:HIS:ND1	56:SK:33:PRO:HD2	2.35	0.41
75:SN:114:ARG:O	75:SN:118:ILE:HG13	2.21	0.41
60:SR:81:ARG:HA	60:SR:84:TYR:HE2	1.86	0.41
62:ST:2:PRO:HA	62:ST:3:GLY:HA3	1.70	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:SC:256:TRP:HB3	77:SW:68:ARG:NH1	2.36	0.41
1:L5:1598:C:H2'	1:L5:1599:A:C8	2.54	0.41
1:L5:2414:G:H2'	1:L5:2415:U:C6	2.56	0.41
1:L5:2464:C:HO2'	1:L5:2465:C:P	2.44	0.41
1:L5:4120:U:O2'	1:L5:4121:G:OP1	2.37	0.41
1:L5:4280:A:N3	7:LD:31:TYR:HE1	2.19	0.41
1:L5:2844:A:O2'	1:L5:4631:G:H4'	2.21	0.41
1:L5:4977:A:OP1	5:LB:343:ARG:NH2	2.46	0.41
1:L5:5000:G:H2'	1:L5:5001:U:O4'	2.20	0.41
1:L5:501:C:O3'	1:L5:504:G:H8	2.04	0.41
1:L5:5025:C:H5	1:L5:5026:U:C6	2.39	0.41
1:L5:927:G:O2'	1:L5:928:C:P	2.78	0.41
1:L5:978:G:H1	1:L5:1276:C:N4	2.18	0.41
3:L8:153:C:H5'	10:LG:185:LYS:HZ3	1.85	0.41
4:LA:219:ILE:HG22	4:LA:221:LYS:H	1.85	0.41
8:LE:64:SER:C	8:LE:67:ALA:H	2.24	0.41
9:LF:122:PHE:HE1	9:LF:150:VAL:HG12	1.84	0.41
10:LG:103:ARG:HA	10:LG:104:PRO:HD3	1.86	0.41
12:LI:42:LYS:HA	12:LI:194:GLY:O	2.21	0.41
13:LJ:160:GLU:O	13:LJ:163:MET:HB3	2.21	0.41
25:LW:79:GLN:HA	25:LW:80:ARG:CB	2.46	0.41
47:S2:1356:G:H2'	47:S2:1357:A:C8	2.56	0.41
47:S2:1522:A:H8	61:SS:146:VAL:HG22	1.85	0.41
47:S2:1648:G:H5''	59:SQ:125:ARG:HB3	2.03	0.41
47:S2:306:C:H5'	47:S2:309:G:OP2	2.20	0.41
47:S2:319:C:O2	47:S2:332:G:N2	2.54	0.41
47:S2:517:C:H2'	47:S2:518:G:O4'	2.20	0.41
47:S2:535:G:H22	47:S2:548:C:H42	1.68	0.41
1:L5:4341:C:N4	48:S6:76:A:C2	2.89	0.41
49:SA:152:SER:HA	49:SA:153:PRO:HD2	1.91	0.41
49:SA:184:ARG:HB3	49:SA:191:ARG:HH21	1.85	0.41
71:SC:185:THR:HG22	71:SC:194:ARG:HB3	2.02	0.41
54:SH:145:ARG:HH11	54:SH:153:LEU:HD12	1.85	0.41
55:SI:177:SER:HB2	55:SI:186:ASP:HB2	2.02	0.41
75:SN:101:HIS:NE2	75:SN:105:ASN:ND2	2.69	0.41
49:SA:201:LEU:HA	60:SR:85:VAL:HG11	2.03	0.41
60:SR:6:THR:HG22	60:SR:8:THR:H	1.86	0.41
64:SV:28:ASP:OD2	64:SV:31:SER:HB3	2.20	0.41
78:SY:76:TYR:HB3	78:SY:77:ASP:H	1.66	0.41
1:L5:158:A:N6	1:L5:277:G:C4	2.88	0.41
1:L5:1953:U:H2'	1:L5:1954:U:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1969:G:H1	1:L5:2019:C:H42	1.69	0.41
1:L5:2495:U:H2'	1:L5:2496:G:C8	2.55	0.41
1:L5:2714:G:H2'	1:L5:2715:G:C8	2.56	0.41
1:L5:2889:G:OP1	20:LR:75:HIS:ND1	2.40	0.41
1:L5:3960:A:N6	1:L5:4045:G:HO2'	2.18	0.41
1:L5:4114:C:H3'	1:L5:4115:G:O4'	2.21	0.41
1:L5:452:A:HO2'	1:L5:453:G:P	2.44	0.41
1:L5:4690:G:O2'	1:L5:4700:A:N6	2.51	0.41
1:L5:4885:U:H3	1:L5:4935:C:N4	2.18	0.41
3:L8:33:G:H4'	3:L8:34:U:C5	2.55	0.41
1:L5:1341:U:H5'	6:LC:109:ARG:HA	2.03	0.41
6:LC:71:ARG:O	6:LC:73:VAL:HG22	2.21	0.41
9:LF:116:GLN:HE22	9:LF:212:LYS:HZ2	1.67	0.41
9:LF:236:ARG:HB2	9:LF:239:GLN:HB3	2.02	0.41
10:LG:73:ARG:NH2	10:LG:243:GLY:HA3	2.34	0.41
11:LH:168:LYS:O	11:LH:170:LYS:N	2.51	0.41
14:LL:46:ILE:HB	14:LL:49:ARG:CG	2.51	0.41
17:LO:128:ARG:NH1	21:LS:162:GLN:HG3	2.36	0.41
23:LU:103:VAL:HG12	23:LU:104:ALA:O	2.21	0.41
25:LW:96:GLN:HE21	25:LW:101:ARG:HH12	1.68	0.41
26:LX:104:ALA:O	26:LX:134:LYS:NZ	2.54	0.41
47:S2:1780:G:H2'	47:S2:1781:A:O4'	2.20	0.41
47:S2:323:C:O2'	47:S2:324:C:O5'	2.36	0.41
47:S2:795:A:H62	54:SH:109:ARG:HH12	1.68	0.41
47:S2:955:A:H8	47:S2:955:A:OP2	2.04	0.41
71:SC:107:LEU:HB2	71:SC:127:PHE:HB2	2.02	0.41
52:SE:180:LEU:HD12	52:SE:228:ILE:HG13	2.02	0.41
52:SE:56:LEU:HD12	78:SY:22:GLN:NE2	2.31	0.41
53:SF:125:SER:O	53:SF:136:ARG:NE	2.51	0.41
72:SG:121:ILE:O	72:SG:125:THR:OG1	2.30	0.41
72:SG:133:LEU:HG	72:SG:160:LYS:NZ	2.36	0.41
72:SG:160:LYS:H	72:SG:172:LYS:HG2	1.85	0.41
54:SH:15:LYS:H	54:SH:16:PRO:HD2	1.85	0.41
75:SN:123:HIS:O	75:SN:127:ARG:NH1	2.54	0.41
60:SR:7:LYS:NZ	60:SR:11:LYS:HD2	2.35	0.41
61:SS:40:TYR:CD1	61:SS:83:PHE:HE2	2.35	0.41
49:SA:67:ALA:HB2	64:SV:36:VAL:O	2.21	0.41
77:SW:30:CYS:HB3	77:SW:59:GLY:H	1.85	0.41
78:SY:56:PHE:HB2	78:SY:74:MET:HB3	2.01	0.41
78:SY:20:ARG:HB3	78:SY:76:TYR:CD1	2.55	0.41
1:L5:1075:G:N1	1:L5:1076:C:O2	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1084:C:H2'	1:L5:1085:C:C6	2.55	0.41
1:L5:1633:G:H5'	1:L5:1634:A:OP1	2.21	0.41
1:L5:4086:G:C8	26:LX:44:PRO:HG3	2.56	0.41
1:L5:4767:C:N4	1:L5:4867:G:H1	2.17	0.41
1:L5:4742:G:N2	1:L5:4958:C:H2'	2.33	0.41
1:L5:501:C:H3'	1:L5:502:C:C5'	2.50	0.41
1:L5:962:C:OP1	1:L5:2265:G:N1	2.52	0.41
2:L7:37:G:H2'	2:L7:38:U:O4'	2.21	0.41
4:LA:115:CYS:O	4:LA:116:LEU:HB2	2.21	0.41
1:L5:3651:A:OP1	4:LA:200:ARG:HG2	2.21	0.41
8:LE:164:PHE:CE1	8:LE:173:LEU:HD22	2.56	0.41
1:L5:977:C:H4'	8:LE:47:ASN:HD21	1.85	0.41
11:LH:89:ARG:HE	11:LH:187:VAL:HA	1.86	0.41
15:LM:39:ASP:HB2	15:LM:47:ARG:HG2	2.03	0.41
17:LO:24:ALA:O	17:LO:28:LEU:HG	2.20	0.41
18:LP:72:GLN:O	18:LP:75:GLN:HG2	2.20	0.41
21:LS:83:ARG:HA	21:LS:91:HIS:O	2.21	0.41
24:LV:107:ASN:ND2	24:LV:111:GLU:HB2	2.36	0.41
26:LX:71:LEU:HB3	26:LX:76:ILE:HD11	2.03	0.41
27:LY:107:THR:OG1	27:LY:108:ARG:N	2.54	0.41
28:LZ:89:ILE:CG1	28:LZ:117:LYS:HB3	2.50	0.41
47:S2:1772:C:H5''	47:S2:1773:C:OP2	2.21	0.41
47:S2:609:U:O2	47:S2:635:G:N2	2.53	0.41
47:S2:422:U:O2'	47:S2:652:U:H5''	2.21	0.41
48:S6:49:G:N2	48:S6:65:C:N3	2.63	0.41
71:SC:127:PHE:HA	71:SC:140:GLY:O	2.20	0.41
51:SD:99:ILE:O	51:SD:103:GLU:HG2	2.21	0.41
51:SD:140:GLY:HA3	51:SD:182:LEU:HB2	2.02	0.41
52:SE:19:MET:HE1	52:SE:108:ARG:HH11	1.86	0.41
52:SE:229:GLY:N	52:SE:235:TRP:HB2	2.36	0.41
47:S2:93:U:O2'	52:SE:8:HIS:ND1	2.42	0.41
53:SF:121:PRO:O	53:SF:141:VAL:HG11	2.21	0.41
72:SG:67:VAL:N	72:SG:100:CYS:SG	2.90	0.41
47:S2:744:G:O2'	54:SH:107:LYS:HA	2.21	0.41
56:SK:16:PHE:CE2	56:SK:85:LEU:HD13	2.55	0.41
75:SN:76:LYS:C	75:SN:79:GLY:H	2.24	0.41
60:SR:93:GLN:HB3	60:SR:94:GLU:H	1.69	0.41
62:ST:40:ALA:N	62:ST:96:SER:HB2	2.35	0.41
63:SU:21:ARG:O	63:SU:115:THR:OG1	2.24	0.41
78:SY:125:VAL:HG12	78:SY:129:LYS:NZ	2.36	0.41
1:L5:1836:G:C2'	1:L5:1837:A:H5'	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1979:A:C6	1:L5:1983:A:H5''	2.55	0.41
1:L5:2626:U:C6	23:LU:92:LYS:HG2	2.56	0.41
1:L5:2601:A:O2'	1:L5:2743:A:OP1	2.32	0.41
1:L5:3769:C:H2'	1:L5:3770:U:H1'	2.03	0.41
1:L5:4389:C:H2'	1:L5:4390:A:C8	2.55	0.41
1:L5:4612:C:H1'	11:LH:120:GLU:OE2	2.21	0.41
1:L5:4933:C:H2'	1:L5:4934:A:C8	2.55	0.41
9:LF:226:HIS:HE1	9:LF:228:VAL:HG13	1.85	0.41
10:LG:154:LEU:HB3	10:LG:204:PHE:CD2	2.53	0.41
10:LG:74:LEU:O	10:LG:239:GLY:HA3	2.21	0.41
11:LH:133:ALA:N	11:LH:147:GLU:O	2.54	0.41
12:LI:76:MET:O	12:LI:77:VAL:HB	2.20	0.41
19:LQ:67:ILE:HG22	19:LQ:71:LYS:HZ3	1.85	0.41
24:LV:56:GLY:O	24:LV:81:VAL:HG21	2.21	0.41
25:LW:96:GLN:HB2	72:SG:146:ASN:OD1	2.21	0.41
26:LX:73:HIS:CG	26:LX:115:LYS:HG2	2.56	0.41
26:LX:148:ASP:O	26:LX:152:LYS:HG3	2.21	0.41
47:S2:7:G:H1	47:S2:17:C:H42	1.69	0.41
47:S2:1838:U:O2'	47:S2:1839:U:H5'	2.21	0.41
47:S2:303:C:H1'	55:SI:184:ARG:NH2	2.36	0.41
47:S2:525:A:H61	47:S2:588:G:H22	1.68	0.41
47:S2:72:C:O3'	47:S2:73:C:H2'	2.21	0.41
47:S2:958:G:C6	47:S2:959:G:N1	2.89	0.41
52:SE:157:ASN:O	52:SE:175:PHE:HB2	2.21	0.41
53:SF:91:ARG:O	53:SF:95:HIS:ND1	2.54	0.41
56:SK:2:LEU:HD12	56:SK:3:MET:HB2	2.02	0.41
74:SM:59:PRO:O	74:SM:60:MET:HB2	2.21	0.41
75:SN:136:PRO:HA	75:SN:137:PRO:HD3	1.99	0.41
75:SN:62:GLN:HB3	75:SN:65:PHE:CD2	2.56	0.41
58:SP:56:LEU:O	58:SP:60:LEU:N	2.46	0.41
49:SA:201:LEU:N	60:SR:85:VAL:HG11	2.35	0.41
63:SU:60:THR:HG23	63:SU:81:GLN:NE2	2.36	0.41
63:SU:61:LEU:H	63:SU:81:GLN:HE22	1.67	0.41
64:SV:53:TYR:CE1	64:SV:72:LEU:HB3	2.56	0.41
1:L5:1302:U:H5	1:L5:1303:A:C6	2.39	0.40
1:L5:1354:A:N1	1:L5:1385:G:O2'	2.42	0.40
1:L5:1379:C:P	1:L5:1380:G:H5'	2.61	0.40
1:L5:1417:C:H2'	1:L5:1418:C:O4'	2.21	0.40
1:L5:1979:A:N1	1:L5:1983:A:H5''	2.36	0.40
1:L5:2415:U:H2'	1:L5:2416:G:O4'	2.21	0.40
1:L5:2622:G:H2'	1:L5:2623:A:C8	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:29:G:H2'	1:L5:30:C:O4'	2.19	0.40
1:L5:4334:U:H1'	22:LT:8:ARG:HB2	2.03	0.40
1:L5:4665:A:H2'	1:L5:4666:G:O4'	2.21	0.40
1:L5:4873:G:H1	15:LM:98:ARG:NH1	2.18	0.40
1:L5:4885:U:H3	1:L5:4935:C:H42	1.70	0.40
1:L5:501:C:H3'	1:L5:502:C:H5''	2.02	0.40
1:L5:964:A:N1	1:L5:965:G:H2'	2.37	0.40
6:LC:25:PRO:HD2	6:LC:28:PHE:CE2	2.55	0.40
16:LN:94:PHE:CE2	16:LN:96:ARG:HB3	2.55	0.40
9:LF:81:PHE:HB2	22:LT:141:VAL:HB	2.03	0.40
24:LV:22:VAL:HG23	24:LV:52:LEU:HB3	2.03	0.40
25:LW:107:GLN:HA	25:LW:110:ARG:HH11	1.86	0.40
47:S2:1083:A:N7	47:S2:1841:C:O2'	2.52	0.40
47:S2:1145:A:N6	47:S2:1150:A:H2	2.19	0.40
47:S2:1511:U:HO2'	47:S2:1512:C:P	2.43	0.40
47:S2:938:A:C2	47:S2:939:U:H1'	2.56	0.40
49:SA:130:ASP:O	49:SA:133:PRO:HD2	2.21	0.40
71:SC:196:ILE:HA	71:SC:197:PRO:HD3	1.81	0.40
51:SD:71:ALA:HB1	56:SK:20:VAL:HG21	2.02	0.40
52:SE:15:PRO:HD2	52:SE:18:TRP:CE3	2.57	0.40
54:SH:21:SER:O	54:SH:25:GLN:HG3	2.21	0.40
73:SJ:37:LEU:HB3	73:SJ:38:ARG:H	1.45	0.40
59:SQ:32:ILE:HD11	59:SQ:63:PHE:CE1	2.57	0.40
64:SV:55:ILE:HD11	64:SV:69:ILE:HD11	2.03	0.40
78:SY:50:THR:O	78:SY:51:THR:OG1	2.26	0.40
79:SZ:68:ILE:HG22	79:SZ:109:TYR:HD2	1.87	0.40
1:L5:1472:C:N4	1:L5:1492:G:H1	2.18	0.40
1:L5:2003:G:H22	1:L5:2016:C:N4	2.17	0.40
1:L5:1265:G:H4'	1:L5:2113:G:N7	2.36	0.40
1:L5:2270:G:C6	1:L5:2271:C:N3	2.90	0.40
1:L5:1:C:O3'	1:L5:2:G:H8	2.04	0.40
1:L5:3673:C:HO2'	1:L5:3674:G:P	2.42	0.40
1:L5:3798:U:H2'	1:L5:3800:A:OP2	2.21	0.40
1:L5:4233:A:HO2'	1:L5:4234:A:H2'	1.84	0.40
1:L5:4430:G:OP1	12:LI:3:ARG:NH1	2.54	0.40
5:LB:114:CYS:HB2	5:LB:165:HIS:CD2	2.56	0.40
5:LB:214:ASP:HB3	5:LB:362:LYS:HA	2.03	0.40
6:LC:46:LYS:HE2	6:LC:46:LYS:HB3	1.84	0.40
7:LD:238:GLU:OE1	7:LD:242:LYS:NZ	2.54	0.40
7:LD:39:GLN:HG3	7:LD:40:ASP:O	2.20	0.40
9:LF:95:ILE:HG13	9:LF:96:ARG:N	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:LH:94:SER:OG	11:LH:101:ILE:HD13	2.21	0.40
11:LH:88:PHE:CZ	11:LH:151:ILE:HB	2.56	0.40
14:LL:170:THR:HB	14:LL:173:GLU:HG2	2.03	0.40
10:LG:59:ARG:NH2	16:LN:32:GLN:O	2.49	0.40
17:LO:173:GLN:CB	17:LO:176:ARG:HH21	2.33	0.40
24:LV:38:TYR:HB3	24:LV:64:THR:O	2.22	0.40
27:LY:8:THR:HG23	27:LY:13:LYS:HD2	2.03	0.40
47:S2:1136:U:H2'	47:S2:1137:U:C6	2.57	0.40
47:S2:123:G:O3'	52:SE:148:ARG:NH1	2.50	0.40
47:S2:201:C:C5	47:S2:202:G:H1'	2.56	0.40
47:S2:315:C:H2'	47:S2:316:G:H8	1.86	0.40
50:SB:167:LYS:NZ	50:SB:200:ALA:O	2.54	0.40
71:SC:214:LEU:HD22	71:SC:219:ILE:HG13	2.03	0.40
52:SE:191:ARG:NE	52:SE:245:ARG:HB3	2.35	0.40
72:SG:216:ARG:HD2	72:SG:223:LYS:HD3	2.03	0.40
57:SL:151:THR:HA	75:SN:133:ARG:CZ	2.52	0.40
57:SL:68:ILE:HA	57:SL:130:GLU:O	2.21	0.40
76:SO:75:MET:O	76:SO:79:GLN:HG2	2.21	0.40
60:SR:9:VAL:O	60:SR:13:ALA:N	2.53	0.40
61:SS:117:ILE:HG13	61:SS:118:ARG:N	2.36	0.40
63:SU:49:LYS:O	63:SU:50:VAL:HG12	2.21	0.40
65:SX:53:GLU:HB3	65:SX:54:LYS:H	1.71	0.40
79:SZ:77:LEU:HD23	79:SZ:78:LYS:H	1.85	0.40
1:L5:1329:G:HO2'	1:L5:1330:A:P	2.41	0.40
1:L5:189:G:H1	1:L5:252:C:N4	2.18	0.40
1:L5:2758:G:H2'	1:L5:2759:G:C8	2.56	0.40
1:L5:3663:A:H2'	1:L5:3663:A:N3	2.36	0.40
1:L5:369:G:N1	1:L5:372:A:OP2	2.54	0.40
1:L5:3772:U:H1'	1:L5:3776:G:N1	2.36	0.40
1:L5:3827:G:H3'	1:L5:3828:A:H5''	2.02	0.40
1:L5:3965:A:H1'	1:L5:4038:C:C2	2.57	0.40
1:L5:4324:A:H2'	1:L5:4325:A:C8	2.55	0.40
1:L5:4477:A:H2'	1:L5:4478:G:C8	2.56	0.40
1:L5:4504:C:H2'	1:L5:4505:C:C6	2.56	0.40
1:L5:4875:G:N2	1:L5:4879:C:H5'	2.22	0.40
1:L5:658:C:H2'	1:L5:659:G:O4'	2.21	0.40
1:L5:660:A:N6	1:L5:661:C:O2	2.53	0.40
1:L5:744:G:H1	1:L5:920:C:H42	1.69	0.40
1:L5:82:U:H2'	1:L5:83:C:O4'	2.21	0.40
2:L7:23:A:H2	2:L7:118:C:HO2'	1.64	0.40
11:LH:69:THR:O	11:LH:72:THR:OG1	2.29	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:LN:39:ALA:HB3	16:LN:61:ILE:HD11	2.03	0.40
20:LR:103:ARG:NH1	20:LR:124:TYR:CZ	2.89	0.40
21:LS:6:THR:O	21:LS:107:THR:OG1	2.36	0.40
22:LT:39:ILE:HA	22:LT:63:ARG:HA	2.04	0.40
25:LW:115:ALA:O	25:LW:119:LYS:HG2	2.22	0.40
27:LY:58:VAL:O	27:LY:63:LYS:HG3	2.22	0.40
47:S2:148:U:H2'	47:S2:149:A:C8	2.56	0.40
47:S2:316:G:H1	47:S2:334:C:H42	1.69	0.40
47:S2:878:G:OP1	47:S2:878:G:H3'	2.21	0.40
47:S2:937:C:H2'	47:S2:938:A:C8	2.56	0.40
50:SB:158:HIS:O	50:SB:162:ARG:HG3	2.22	0.40
50:SB:180:ASP:O	50:SB:184:VAL:HG23	2.22	0.40
50:SB:40:ASN:N	50:SB:75:GLN:OE1	2.34	0.40
71:SC:210:PRO:HD3	71:SC:236:PHE:CE2	2.56	0.40
51:SD:135:GLU:HB2	51:SD:187:LYS:HB2	2.02	0.40
54:SH:34:SER:OG	54:SH:35:ASP:N	2.54	0.40
54:SH:40:LEU:HD23	54:SH:40:LEU:O	2.21	0.40
54:SH:81:ARG:O	54:SH:85:LYS:HD3	2.21	0.40
55:SI:161:LEU:HD23	55:SI:196:GLU:HB3	2.03	0.40
55:SI:178:ARG:O	55:SI:178:ARG:HG3	2.21	0.40
79:SZ:51:ASP:N	79:SZ:54:THR:OG1	2.41	0.40
1:L5:1086:C:H2'	1:L5:1087:A:C8	2.56	0.40
1:L5:2438:A:O2'	1:L5:2440:U:OP2	2.29	0.40
1:L5:2506:G:O2'	1:L5:2507:A:H5'	2.22	0.40
1:L5:2752:G:H3'	1:L5:2753:G:H8	1.86	0.40
1:L5:3759:A:N7	1:L5:3763:A:H2	2.19	0.40
1:L5:3767:C:O2'	1:L5:3768:U:P	2.79	0.40
1:L5:3969:G:H4'	1:L5:4054:C:H41	1.85	0.40
1:L5:4307:A:H2'	1:L5:4308:C:C6	2.56	0.40
1:L5:4475:G:P	11:LH:173:ARG:HH12	2.44	0.40
1:L5:4480:A:H2'	1:L5:4481:U:O4'	2.22	0.40
1:L5:4757:C:H5''	1:L5:4758:U:OP2	2.22	0.40
1:L5:509:A:H2'	14:LL:163:LYS:CE	2.51	0.40
3:L8:40:A:OP2	3:L8:102:G:N1	2.40	0.40
6:LC:141:GLY:O	6:LC:204:ARG:NH1	2.51	0.40
8:LE:283:PRO:HA	8:LE:286:LEU:HD12	2.04	0.40
8:LE:286:LEU:HB3	8:LE:288:PHE:HD2	1.86	0.40
11:LH:120:GLU:OE2	11:LH:122:TYR:HB3	2.21	0.40
12:LI:91:LEU:HD11	12:LI:135:ILE:HG12	2.03	0.40
15:LM:11:ARG:HG2	15:LM:57:LEU:HD22	2.03	0.40
1:L5:287:U:O2	16:LN:93:LYS:HE3	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:LC:285:ILE:N	19:LQ:124:ASP:OD2	2.44	0.40
6:LC:293:LEU:HD22	19:LQ:34:PHE:CD2	2.56	0.40
19:LQ:61:LEU:HD21	19:LQ:66:MET:HB3	2.02	0.40
47:S2:1004:U:H2'	47:S2:1005:G:C8	2.56	0.40
47:S2:118:C:H1'	47:S2:445:A:C4	2.56	0.40
47:S2:1359:U:H2'	47:S2:1360:U:C6	2.57	0.40
47:S2:312:G:C5'	47:S2:313:A:H5'	2.49	0.40
47:S2:30:C:O2'	47:S2:596:U:H5''	2.22	0.40
47:S2:694:G:H2'	47:S2:695:C:O4'	2.22	0.40
47:S2:950:C:H2'	47:S2:951:C:O4'	2.21	0.40
71:SC:198:ALA:HA	71:SC:199:PRO:HD3	1.96	0.40
51:SD:58:VAL:HG23	51:SD:59:LEU:HD12	2.04	0.40
47:S2:502:C:O4'	52:SE:66:MET:HG3	2.21	0.40
53:SF:70:GLU:O	53:SF:73:THR:OG1	2.30	0.40
53:SF:98:GLU:OE1	53:SF:98:GLU:N	2.54	0.40
54:SH:145:ARG:HD3	54:SH:155:LYS:HE3	2.04	0.40
54:SH:163:GLN:HG2	54:SH:189:PHE:CZ	2.55	0.40
61:SS:34:LYS:HE3	61:SS:103:LEU:HD11	2.03	0.40
61:SS:115:LYS:HG3	61:SS:116:LYS:HG3	2.04	0.40
61:SS:4:VAL:HA	79:SZ:50:PHE:CE1	2.57	0.40
47:S2:1665:G:H5''	62:ST:89:PRO:HD2	2.03	0.40
1:L5:2253:A:H2'	1:L5:2254:G:H5''	2.04	0.40
1:L5:2561:C:H1'	1:L5:2567:G:N2	2.36	0.40
1:L5:2785:C:HO2'	1:L5:2786:C:P	2.43	0.40
1:L5:3777:G:O2'	1:L5:3815:G:O6	2.26	0.40
1:L5:4040:C:N4	1:L5:4042:G:O6	2.45	0.40
1:L5:407:A:O2'	1:L5:408:A:H5'	2.22	0.40
1:L5:4627:U:HO2'	5:LB:55:HIS:HD1	1.65	0.40
4:LA:49:ILE:HG13	4:LA:49:ILE:O	2.21	0.40
5:LB:143:LYS:HA	5:LB:146:LEU:HG	2.04	0.40
6:LC:236:ASN:OD1	6:LC:238:LEU:HG	2.22	0.40
9:LF:161:LYS:HA	9:LF:165:LYS:O	2.21	0.40
12:LI:193:ASP:OD2	12:LI:198:LYS:HE3	2.21	0.40
13:LJ:44:THR:HG23	13:LJ:46:GLN:HG2	2.04	0.40
18:LP:47:TYR:O	18:LP:51:VAL:HG23	2.22	0.40
23:LU:100:LEU:HD11	23:LU:112:LEU:HD13	2.02	0.40
47:S2:1312:G:H3'	74:SM:29:ASP:OD1	2.21	0.40
47:S2:1420:G:H22	47:S2:1427:C:H2'	1.86	0.40
47:S2:1520:G:H5''	47:S2:1521:C:C5	2.57	0.40
47:S2:1554:C:H41	51:SD:9:ARG:NH2	2.20	0.40
49:SA:154:LEU:HD13	64:SV:66:ASP:OD2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:SE:161:GLN:O	52:SE:169:ILE:HA	2.22	0.40
53:SF:96:ALA:O	53:SF:99:ILE:HG22	2.21	0.40
73:SJ:177:ASN:O	73:SJ:180:LYS:HG2	2.21	0.40
73:SJ:86:VAL:HG21	73:SJ:105:PHE:CD1	2.56	0.40
57:SL:37:TYR:CD2	57:SL:51:ILE:HG12	2.56	0.40
76:SO:28:PHE:HD2	76:SO:94:HIS:CE1	2.39	0.40
59:SQ:60:LYS:O	59:SQ:64:ALA:N	2.55	0.40
47:S2:833:C:H41	78:SY:10:ARG:HB2	1.83	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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	
4	LA	246/257 (96%)	207 (84%)	25 (10%)	14 (6%)	2	23
5	LB	400/403 (99%)	344 (86%)	42 (10%)	14 (4%)	4	37
6	LC	365/427 (86%)	311 (85%)	30 (8%)	24 (7%)	1	20
7	LD	291/297 (98%)	258 (89%)	22 (8%)	11 (4%)	4	34
8	LE	238/288 (83%)	182 (76%)	37 (16%)	19 (8%)	1	14
9	LF	223/248 (90%)	201 (90%)	18 (8%)	4 (2%)	10	51
10	LG	239/266 (90%)	205 (86%)	19 (8%)	15 (6%)	1	21
11	LH	188/192 (98%)	162 (86%)	18 (10%)	8 (4%)	3	30
12	LI	211/214 (99%)	177 (84%)	26 (12%)	8 (4%)	4	34
13	LJ	174/178 (98%)	147 (84%)	19 (11%)	8 (5%)	3	29
14	LL	208/211 (99%)	179 (86%)	18 (9%)	11 (5%)	2	25
15	LM	137/215 (64%)	115 (84%)	16 (12%)	6 (4%)	3	30
16	LN	201/204 (98%)	180 (90%)	18 (9%)	3 (2%)	12	55

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
17	LO	199/203 (98%)	180 (90%)	15 (8%)	4 (2%)	9	49
18	LP	151/184 (82%)	130 (86%)	16 (11%)	5 (3%)	4	38
19	LQ	185/188 (98%)	159 (86%)	22 (12%)	4 (2%)	8	47
20	LR	185/196 (94%)	168 (91%)	17 (9%)	0	100	100
21	LS	173/176 (98%)	141 (82%)	21 (12%)	11 (6%)	1	21
22	LT	157/160 (98%)	134 (85%)	18 (12%)	5 (3%)	5	38
23	LU	99/128 (77%)	81 (82%)	17 (17%)	1 (1%)	18	62
24	LV	129/140 (92%)	105 (81%)	18 (14%)	6 (5%)	3	28
25	LW	122/157 (78%)	96 (79%)	22 (18%)	4 (3%)	4	38
26	LX	118/156 (76%)	103 (87%)	13 (11%)	2 (2%)	11	52
27	LY	132/145 (91%)	118 (89%)	10 (8%)	4 (3%)	5	40
28	LZ	133/136 (98%)	118 (89%)	12 (9%)	3 (2%)	7	46
29	La	145/148 (98%)	122 (84%)	18 (12%)	5 (3%)	4	38
30	Lb	73/159 (46%)	62 (85%)	9 (12%)	2 (3%)	6	42
31	Lc	96/115 (84%)	81 (84%)	9 (9%)	6 (6%)	1	21
32	Ld	105/125 (84%)	85 (81%)	15 (14%)	5 (5%)	2	27
33	Le	126/135 (93%)	107 (85%)	14 (11%)	5 (4%)	3	32
34	Lf	107/110 (97%)	87 (81%)	16 (15%)	4 (4%)	4	35
35	Lg	112/117 (96%)	103 (92%)	8 (7%)	1 (1%)	20	64
36	Lh	120/123 (98%)	110 (92%)	8 (7%)	2 (2%)	11	52
37	Li	100/105 (95%)	92 (92%)	4 (4%)	4 (4%)	3	32
38	Lj	84/97 (87%)	67 (80%)	10 (12%)	7 (8%)	1	13
39	Lk	67/70 (96%)	50 (75%)	12 (18%)	5 (8%)	1	16
40	Ll	48/51 (94%)	44 (92%)	3 (6%)	1 (2%)	8	48
41	Lm	50/128 (39%)	43 (86%)	5 (10%)	2 (4%)	3	32
42	Ln	22/25 (88%)	20 (91%)	2 (9%)	0	100	100
43	Lo	102/106 (96%)	85 (83%)	15 (15%)	2 (2%)	9	49
44	Lp	89/92 (97%)	71 (80%)	13 (15%)	5 (6%)	2	24
45	Lr	123/137 (90%)	102 (83%)	15 (12%)	6 (5%)	2	27
46	Lz	215/217 (99%)	168 (78%)	31 (14%)	16 (7%)	1	16
49	SA	220/295 (75%)	187 (85%)	27 (12%)	6 (3%)	6	42

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
50	SB	212/264 (80%)	174 (82%)	30 (14%)	8 (4%)	4	34
51	SD	225/243 (93%)	183 (81%)	24 (11%)	18 (8%)	1	14
52	SE	260/263 (99%)	215 (83%)	30 (12%)	15 (6%)	2	23
53	SF	189/204 (93%)	144 (76%)	31 (16%)	14 (7%)	1	16
54	SH	187/194 (96%)	145 (78%)	27 (14%)	15 (8%)	1	14
55	SI	204/208 (98%)	168 (82%)	24 (12%)	12 (6%)	2	23
56	SK	96/165 (58%)	76 (79%)	16 (17%)	4 (4%)	3	31
57	SL	151/158 (96%)	130 (86%)	11 (7%)	10 (7%)	1	20
58	SP	95/145 (66%)	61 (64%)	21 (22%)	13 (14%)	0	5
59	SQ	144/146 (99%)	114 (79%)	20 (14%)	10 (7%)	1	19
60	SR	130/135 (96%)	104 (80%)	17 (13%)	9 (7%)	1	19
61	SS	148/152 (97%)	121 (82%)	13 (9%)	14 (10%)	1	11
62	ST	141/145 (97%)	119 (84%)	16 (11%)	6 (4%)	3	30
63	SU	102/119 (86%)	86 (84%)	11 (11%)	5 (5%)	2	27
64	SV	81/83 (98%)	65 (80%)	11 (14%)	5 (6%)	2	22
65	SX	139/143 (97%)	114 (82%)	12 (9%)	13 (9%)	1	11
66	Sa	103/115 (90%)	77 (75%)	16 (16%)	10 (10%)	1	11
67	Sc	62/69 (90%)	47 (76%)	9 (14%)	6 (10%)	1	11
68	Sd	51/56 (91%)	44 (86%)	7 (14%)	0	100	100
69	Sf	69/156 (44%)	47 (68%)	10 (14%)	12 (17%)	0	3
70	Sg	311/317 (98%)	237 (76%)	58 (19%)	16 (5%)	2	26
71	SC	220/293 (75%)	188 (86%)	23 (10%)	9 (4%)	3	32
72	SG	235/249 (94%)	198 (84%)	26 (11%)	11 (5%)	3	28
73	SJ	183/194 (94%)	157 (86%)	16 (9%)	10 (6%)	2	24
74	SM	120/132 (91%)	79 (66%)	29 (24%)	12 (10%)	1	10
75	SN	148/151 (98%)	133 (90%)	8 (5%)	7 (5%)	3	28
76	SO	138/151 (91%)	101 (73%)	24 (17%)	13 (9%)	1	11
77	SW	127/130 (98%)	109 (86%)	13 (10%)	5 (4%)	3	33
78	SY	129/133 (97%)	108 (84%)	16 (12%)	5 (4%)	3	33
79	SZ	73/125 (58%)	59 (81%)	11 (15%)	3 (4%)	3	32
80	Sb	81/84 (96%)	67 (83%)	12 (15%)	2 (2%)	6	44

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
81	Se	56/59 (95%)	41 (73%)	11 (20%)	4 (7%)	1	18
All	All	11518/12905 (89%)	9598 (83%)	1346 (12%)	574 (5%)	5	26

All (574) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	LA	118	GLU
5	LB	360	LEU
6	LC	23	THR
6	LC	148	PRO
6	LC	186	SER
6	LC	204	ARG
7	LD	4	VAL
8	LE	110	ARG
8	LE	123	ARG
8	LE	226	ARG
10	LG	195	HIS
11	LH	139	ALA
11	LH	141	LYS
12	LI	77	VAL
12	LI	101	LYS
12	LI	160	PRO
21	LS	21	LYS
21	LS	127	MET
22	LT	53	PRO
22	LT	81	LYS
23	LU	115	PHE
32	Ld	82	TYR
33	Le	62	SER
33	Le	104	SER
36	Lh	39	GLY
37	Li	73	ILE
45	Lr	46	ARG
46	Lz	17	VAL
46	Lz	122	ARG
49	SA	125	THR
50	SB	147	ASN
51	SD	3	VAL
51	SD	55	THR
51	SD	81	GLU
52	SE	76	VAL
52	SE	164	LEU

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Mol	Chain	Res	Type
53	SF	15	PRO
53	SF	33	ILE
54	SH	66	VAL
54	SH	107	LYS
55	SI	130	THR
56	SK	3	MET
57	SL	8	ARG
57	SL	116	CYS
58	SP	37	TYR
58	SP	76	VAL
59	SQ	42	ILE
59	SQ	117	ARG
60	SR	42	PRO
60	SR	94	GLU
61	SS	117	ILE
62	ST	4	VAL
63	SU	50	VAL
63	SU	103	SER
63	SU	107	GLU
65	SX	35	ALA
66	Sa	3	LYS
66	Sa	18	VAL
66	Sa	106	ALA
67	Sc	67	ARG
69	Sf	93	HIS
70	Sg	55	PRO
70	Sg	99	ARG
70	Sg	102	VAL
70	Sg	281	ALA
71	SC	262	THR
72	SG	107	SER
72	SG	122	PRO
73	SJ	3	VAL
73	SJ	8	VAL
73	SJ	17	ARG
74	SM	108	CYS
74	SM	117	GLU
75	SN	24	THR
77	SW	66	THR
4	LA	172	GLY
4	LA	195	CYS
5	LB	113	GLU

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Mol	Chain	Res	Type
6	LC	69	THR
6	LC	73	VAL
6	LC	86	ARG
6	LC	273	LEU
6	LC	308	LYS
6	LC	319	LEU
6	LC	357	ALA
7	LD	21	ARG
7	LD	89	LYS
7	LD	119	TYR
7	LD	177	THR
8	LE	106	VAL
8	LE	124	LYS
8	LE	185	PRO
8	LE	279	ASN
9	LF	168	ALA
9	LF	178	SER
9	LF	223	LYS
10	LG	200	THR
10	LG	202	VAL
11	LH	63	ASN
11	LH	189	GLN
12	LI	70	ILE
12	LI	80	CYS
13	LJ	11	PRO
13	LJ	28	GLU
14	LL	62	PRO
14	LL	90	VAL
14	LL	100	PRO
14	LL	165	LYS
15	LM	71	LYS
16	LN	16	SER
17	LO	123	ALA
17	LO	143	HIS
18	LP	91	LEU
18	LP	132	ALA
19	LQ	77	ASN
19	LQ	103	LEU
21	LS	110	TYR
22	LT	136	ARG
24	LV	21	PRO
24	LV	125	CYS

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Mol	Chain	Res	Type
24	LV	127	ASP
25	LW	51	TRP
25	LW	96	GLN
26	LX	51	THR
26	LX	59	LYS
27	LY	20	ASN
27	LY	49	ILE
28	LZ	33	THR
29	La	11	LEU
29	La	76	ASP
29	La	92	LYS
31	Lc	23	LYS
31	Lc	51	ASN
31	Lc	54	ALA
31	Lc	101	ASP
32	Ld	44	ARG
32	Ld	94	GLU
33	Le	125	PRO
34	Lf	54	LYS
34	Lf	83	MET
36	Lh	97	LYS
39	Lk	9	LYS
44	Lp	64	VAL
45	Lr	22	LYS
45	Lr	67	ARG
46	Lz	93	LEU
49	SA	13	GLU
49	SA	31	ASP
49	SA	170	SER
50	SB	22	VAL
50	SB	37	ALA
50	SB	83	LYS
50	SB	190	PRO
51	SD	93	THR
51	SD	198	ILE
52	SE	144	ALA
52	SE	214	ASN
53	SF	17	ILE
53	SF	48	TYR
53	SF	57	ALA
53	SF	130	ARG
53	SF	139	VAL

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Mol	Chain	Res	Type
53	SF	202	SER
54	SH	34	SER
54	SH	115	LYS
55	SI	75	LYS
55	SI	122	GLY
55	SI	140	LYS
55	SI	143	LYS
55	SI	155	ASN
55	SI	186	ASP
58	SP	15	PHE
58	SP	94	VAL
58	SP	100	LYS
58	SP	105	VAL
59	SQ	100	VAL
60	SR	72	LYS
60	SR	119	VAL
60	SR	131	PRO
61	SS	12	ILE
61	SS	71	MET
61	SS	74	PRO
61	SS	88	LYS
61	SS	121	ARG
61	SS	133	GLY
62	ST	5	THR
62	ST	132	ASP
64	SV	9	VAL
64	SV	10	ASP
64	SV	78	ILE
65	SX	10	ALA
66	Sa	13	LYS
66	Sa	46	GLU
66	Sa	89	ARG
67	Sc	59	LEU
69	Sf	102	VAL
69	Sf	139	HIS
70	Sg	15	ASN
70	Sg	28	PRO
70	Sg	56	GLN
70	Sg	145	GLU
70	Sg	261	LEU
71	SC	261	PHE
71	SC	278	THR

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Mol	Chain	Res	Type
72	SG	12	CYS
72	SG	20	ASP
72	SG	25	ARG
72	SG	147	LEU
73	SJ	37	LEU
73	SJ	147	PHE
74	SM	41	ALA
74	SM	91	LEU
74	SM	96	ARG
75	SN	3	ARG
75	SN	102	LEU
76	SO	48	SER
76	SO	126	ILE
76	SO	128	ARG
77	SW	5	ASN
78	SY	34	THR
78	SY	119	GLY
79	SZ	93	SER
80	Sb	10	PRO
80	Sb	75	GLU
81	Se	29	THR
81	Se	47	PRO
4	LA	144	LYS
4	LA	180	LEU
4	LA	239	ALA
4	LA	240	ALA
5	LB	291	TYR
5	LB	295	ASP
5	LB	314	ILE
6	LC	110	ARG
6	LC	111	TRP
6	LC	132	ALA
6	LC	170	LEU
6	LC	287	THR
6	LC	309	ILE
6	LC	318	PRO
7	LD	20	PHE
7	LD	130	TYR
7	LD	178	LYS
7	LD	182	GLY
7	LD	255	LYS
8	LE	52	ARG

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Mol	Chain	Res	Type
8	LE	86	GLU
8	LE	136	HIS
8	LE	228	GLN
10	LG	58	PRO
10	LG	264	LYS
11	LH	98	HIS
12	LI	38	ARG
13	LJ	169	LYS
14	LL	91	ALA
15	LM	111	LYS
15	LM	118	MET
17	LO	37	ARG
17	LO	202	LEU
19	LQ	96	PRO
21	LS	7	LEU
21	LS	64	CYS
21	LS	83	ARG
21	LS	146	HIS
22	LT	69	GLN
24	LV	130	PRO
25	LW	65	GLU
25	LW	73	ARG
27	LY	37	GLU
28	LZ	8	GLY
29	La	37	GLY
31	Lc	75	SER
32	Ld	21	VAL
35	Lg	57	ARG
37	Li	48	CYS
38	Lj	21	ARG
38	Lj	63	ARG
39	Lk	38	CYS
39	Lk	68	GLU
41	Lm	117	HIS
44	Lp	71	TYR
45	Lr	68	SER
46	Lz	27	LYS
46	Lz	86	ASP
46	Lz	129	ASN
49	SA	98	PRO
51	SD	44	THR
51	SD	215	ASP

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Mol	Chain	Res	Type
51	SD	216	GLU
52	SE	77	ARG
52	SE	93	ASP
52	SE	196	THR
52	SE	232	ASN
53	SF	42	LYS
53	SF	47	LYS
53	SF	85	LYS
54	SH	112	ASN
54	SH	148	LEU
55	SI	86	SER
55	SI	132	GLU
55	SI	180	GLY
57	SL	3	ASP
57	SL	21	LYS
57	SL	33	LEU
57	SL	133	PRO
57	SL	148	ALA
58	SP	16	THR
58	SP	51	ARG
58	SP	95	GLY
59	SQ	4	LYS
59	SQ	48	GLN
59	SQ	56	LEU
59	SQ	101	ASP
59	SQ	145	TYR
61	SS	16	LEU
61	SS	92	ASP
61	SS	132	ARG
61	SS	144	ARG
62	ST	34	VAL
64	SV	36	VAL
65	SX	46	HIS
65	SX	64	SER
65	SX	77	ASN
65	SX	79	LYS
65	SX	109	GLY
65	SX	126	ALA
66	Sa	5	ARG
66	Sa	61	ALA
67	Sc	36	ASP
69	Sf	99	LYS

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Mol	Chain	Res	Type
69	Sf	100	LEU
69	Sf	104	LYS
69	Sf	118	ARG
69	Sf	124	ASP
70	Sg	105	THR
70	Sg	244	ASN
70	Sg	246	TYR
71	SC	188	CYS
71	SC	226	ALA
72	SG	175	LYS
72	SG	212	LEU
72	SG	213	LEU
73	SJ	119	LEU
73	SJ	122	SER
74	SM	23	LYS
74	SM	29	ASP
74	SM	56	CYS
74	SM	83	LYS
75	SN	12	SER
76	SO	65	ASP
76	SO	67	ASP
76	SO	68	GLU
76	SO	138	ASP
76	SO	140	THR
77	SW	93	LEU
78	SY	3	ASP
4	LA	28	ARG
4	LA	80	GLU
4	LA	115	CYS
5	LB	5	LYS
5	LB	10	ARG
5	LB	294	LYS
5	LB	310	SER
6	LC	66	SER
6	LC	205	ARG
8	LE	219	LYS
8	LE	221	LYS
10	LG	59	ARG
10	LG	121	LYS
10	LG	128	VAL
10	LG	165	GLU
12	LI	20	SER

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Mol	Chain	Res	Type
13	LJ	138	GLY
13	LJ	174	ILE
14	LL	151	THR
14	LL	169	ILE
15	LM	88	ALA
16	LN	188	ARG
21	LS	153	PRO
21	LS	155	PRO
24	LV	108	ASN
24	LV	110	GLY
27	LY	53	ASP
29	La	27	LYS
30	Lb	74	ALA
33	Le	8	VAL
34	Lf	5	LEU
37	Li	4	ARG
38	Lj	15	THR
38	Lj	36	LYS
39	Lk	62	PRO
40	Ll	42	ARG
41	Lm	105	PRO
44	Lp	65	ALA
44	Lp	91	ASP
45	Lr	86	ALA
46	Lz	153	SER
46	Lz	195	LYS
46	Lz	203	ALA
49	SA	4	ALA
50	SB	76	ASN
50	SB	86	LEU
50	SB	223	PHE
51	SD	83	SER
51	SD	153	VAL
51	SD	206	ASP
51	SD	222	PRO
51	SD	223	ILE
52	SE	68	ARG
52	SE	131	VAL
54	SH	12	ASN
54	SH	38	ALA
54	SH	138	GLU
54	SH	162	GLN

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Mol	Chain	Res	Type
56	SK	39	ASN
56	SK	41	PRO
56	SK	91	PRO
57	SL	4	ILE
57	SL	6	THR
59	SQ	144	SER
60	SR	110	ASP
62	ST	6	VAL
63	SU	48	LEU
65	SX	9	THR
65	SX	87	ASN
65	SX	117	GLY
66	Sa	62	TYR
66	Sa	64	LEU
69	Sf	86	THR
69	Sf	88	PRO
69	Sf	98	VAL
70	Sg	191	HIS
71	SC	85	SER
71	SC	134	ASN
71	SC	264	SER
73	SJ	138	ARG
74	SM	26	LEU
75	SN	143	SER
76	SO	47	LEU
76	SO	129	ILE
77	SW	111	MET
78	SY	51	THR
78	SY	53	ASP
79	SZ	49	LEU
4	LA	21	LYS
4	LA	26	ALA
4	LA	177	LYS
5	LB	159	VAL
6	LC	72	ALA
6	LC	133	LEU
8	LE	85	LYS
8	LE	126	LEU
9	LF	195	TYR
10	LG	31	LEU
10	LG	51	LEU
10	LG	158	ALA

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Mol	Chain	Res	Type
11	LH	22	GLY
11	LH	51	LYS
12	LI	201	PRO
13	LJ	145	LYS
14	LL	51	ALA
14	LL	55	ILE
14	LL	60	ARG
15	LM	97	ALA
18	LP	106	GLY
18	LP	123	PRO
21	LS	164	LYS
30	Lb	21	ILE
31	Lc	52	CYS
33	Le	71	PRO
37	Li	86	LYS
38	Lj	14	LYS
38	Lj	27	TYR
39	Lk	32	VAL
43	Lo	99	ARG
44	Lp	20	ALA
46	Lz	81	ASP
46	Lz	113	SER
46	Lz	125	GLY
46	Lz	137	LEU
51	SD	68	GLU
51	SD	220	THR
52	SE	30	ARG
52	SE	69	PHE
52	SE	168	LYS
52	SE	245	ARG
53	SF	20	PHE
53	SF	32	ASP
54	SH	89	GLY
54	SH	99	ARG
54	SH	100	ILE
58	SP	77	LYS
58	SP	82	ASP
60	SR	69	ILE
61	SS	9	PHE
61	SS	35	GLY
63	SU	98	VAL
64	SV	45	ARG

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Mol	Chain	Res	Type
65	SX	54	LYS
65	SX	127	ASN
69	Sf	123	SER
71	SC	176	LYS
72	SG	105	ASN
75	SN	8	GLY
76	SO	56	VAL
76	SO	112	ALA
76	SO	134	PRO
77	SW	3	ARG
79	SZ	108	ILE
81	Se	4	GLY
81	Se	14	GLY
7	LD	269	PRO
8	LE	44	CYS
8	LE	119	GLU
10	LG	125	LYS
10	LG	163	PRO
11	LH	109	GLY
13	LJ	159	LYS
18	LP	82	ARG
21	LS	156	HIS
28	LZ	56	ALA
34	Lf	107	PRO
38	Lj	85	LYS
43	Lo	62	THR
51	SD	154	ASP
53	SF	41	VAL
54	SH	113	LYS
54	SH	190	PRO
55	SI	97	VAL
57	SL	98	LYS
60	SR	97	GLU
61	SS	13	LEU
62	ST	142	ASN
67	Sc	38	THR
72	SG	68	LEU
73	SJ	76	ALA
74	SM	30	GLY
5	LB	375	GLY
16	LN	89	VAL
58	SP	48	GLY

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Mol	Chain	Res	Type
67	Sc	8	PRO
70	Sg	13	GLY
73	SJ	171	GLY
75	SN	68	GLY
14	LL	48	PRO
45	Lr	103	ARG
51	SD	41	VAL
52	SE	15	PRO
59	SQ	6	PRO
5	LB	18	PRO
5	LB	299	ILE
10	LG	164	ILE
13	LJ	176	PRO
46	Lz	201	VAL
51	SD	200	PRO
55	SI	102	VAL
60	SR	121	GLN
70	Sg	61	GLY
70	Sg	267	VAL
4	LA	43	GLY
5	LB	110	ILE
6	LC	19	GLY
6	LC	70	GLY
8	LE	203	ILE
22	LT	37	GLY
32	Ld	120	VAL
46	Lz	100	VAL
46	Lz	162	VAL
58	SP	69	PRO
8	LE	98	GLY
15	LM	139	SER
19	LQ	171	GLY
67	Sc	22	GLY
74	SM	103	VAL

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 PDB entries followed by that with respect to all EM entries.

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	
4	LA	190/199 (96%)	189 (100%)	1 (0%)	91	97
5	LB	348/349 (100%)	348 (100%)	0	100	100
6	LC	305/348 (88%)	305 (100%)	0	100	100
7	LD	246/250 (98%)	246 (100%)	0	100	100
8	LE	215/252 (85%)	215 (100%)	0	100	100
9	LF	194/215 (90%)	194 (100%)	0	100	100
10	LG	203/223 (91%)	203 (100%)	0	100	100
11	LH	169/171 (99%)	169 (100%)	0	100	100
12	LI	180/181 (99%)	180 (100%)	0	100	100
13	LJ	148/149 (99%)	148 (100%)	0	100	100
14	LL	176/177 (99%)	176 (100%)	0	100	100
15	LM	118/161 (73%)	118 (100%)	0	100	100
16	LN	171/172 (99%)	171 (100%)	0	100	100
17	LO	173/174 (99%)	173 (100%)	0	100	100
18	LP	134/163 (82%)	134 (100%)	0	100	100
19	LQ	164/165 (99%)	164 (100%)	0	100	100
20	LR	166/175 (95%)	166 (100%)	0	100	100
21	LS	156/157 (99%)	156 (100%)	0	100	100
22	LT	139/140 (99%)	139 (100%)	0	100	100
23	LU	91/115 (79%)	91 (100%)	0	100	100
24	LV	101/107 (94%)	101 (100%)	0	100	100
25	LW	103/126 (82%)	103 (100%)	0	100	100
26	LX	108/133 (81%)	108 (100%)	0	100	100
27	LY	124/135 (92%)	124 (100%)	0	100	100
28	LZ	117/118 (99%)	117 (100%)	0	100	100
29	La	120/121 (99%)	120 (100%)	0	100	100
30	Lb	63/126 (50%)	63 (100%)	0	100	100
31	Lc	83/97 (86%)	83 (100%)	0	100	100
32	Ld	98/110 (89%)	98 (100%)	0	100	100
33	Le	114/121 (94%)	114 (100%)	0	100	100
34	Lf	88/89 (99%)	88 (100%)	0	100	100
35	Lg	98/100 (98%)	98 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
36	Lh	109/110 (99%)	109 (100%)	0	100	100
37	Li	86/89 (97%)	86 (100%)	0	100	100
38	Lj	73/80 (91%)	73 (100%)	0	100	100
39	Lk	64/65 (98%)	64 (100%)	0	100	100
40	Ll	47/48 (98%)	47 (100%)	0	100	100
41	Lm	48/116 (41%)	48 (100%)	0	100	100
42	Ln	23/24 (96%)	23 (100%)	0	100	100
43	Lo	93/94 (99%)	92 (99%)	1 (1%)	78	91
44	Lp	74/75 (99%)	74 (100%)	0	100	100
45	Lr	109/121 (90%)	109 (100%)	0	100	100
46	Lz	195/196 (100%)	195 (100%)	0	100	100
49	SA	184/243 (76%)	184 (100%)	0	100	100
50	SB	195/231 (84%)	195 (100%)	0	100	100
51	SD	190/202 (94%)	190 (100%)	0	100	100
52	SE	224/225 (100%)	224 (100%)	0	100	100
53	SF	161/170 (95%)	161 (100%)	0	100	100
54	SH	169/174 (97%)	169 (100%)	0	100	100
55	SI	178/180 (99%)	178 (100%)	0	100	100
56	SK	89/136 (65%)	89 (100%)	0	100	100
57	SL	137/142 (96%)	137 (100%)	0	100	100
58	SP	87/130 (67%)	87 (100%)	0	100	100
59	SQ	121/121 (100%)	121 (100%)	0	100	100
60	SR	120/122 (98%)	120 (100%)	0	100	100
61	SS	130/132 (98%)	130 (100%)	0	100	100
62	ST	113/115 (98%)	113 (100%)	0	100	100
63	SU	94/107 (88%)	94 (100%)	0	100	100
64	SV	67/67 (100%)	67 (100%)	0	100	100
65	SX	113/115 (98%)	113 (100%)	0	100	100
66	Sa	90/98 (92%)	90 (100%)	0	100	100
67	Sc	57/62 (92%)	57 (100%)	0	100	100
68	Sd	47/49 (96%)	47 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
69	Sf	64/140 (46%)	64 (100%)	0	100	100
70	Sg	272/275 (99%)	272 (100%)	0	100	100
71	SC	188/225 (84%)	188 (100%)	0	100	100
72	SG	207/218 (95%)	207 (100%)	0	100	100
73	SJ	161/168 (96%)	161 (100%)	0	100	100
74	SM	104/108 (96%)	104 (100%)	0	100	100
75	SN	130/131 (99%)	130 (100%)	0	100	100
76	SO	110/119 (92%)	110 (100%)	0	100	100
77	SW	112/113 (99%)	112 (100%)	0	100	100
78	SY	113/115 (98%)	113 (100%)	0	100	100
79	SZ	66/103 (64%)	66 (100%)	0	100	100
80	Sb	75/76 (99%)	75 (100%)	0	100	100
81	Se	47/48 (98%)	47 (100%)	0	100	100
All	All	10039/10997 (91%)	10037 (100%)	2 (0%)	100	100

All (2) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	LA	215	ASN
43	Lo	31	ASP

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (95) such sidechains are listed below:

Mol	Chain	Res	Type
4	LA	22	HIS
4	LA	215	ASN
5	LB	11	HIS
5	LB	175	GLN
5	LB	179	HIS
5	LB	258	HIS
5	LB	354	GLN
6	LC	47	ASN
6	LC	119	GLN
6	LC	142	HIS
6	LC	215	ASN
6	LC	317	ASN

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Mol	Chain	Res	Type
7	LD	111	ASN
8	LE	101	ASN
8	LE	191	GLN
8	LE	228	GLN
8	LE	284	HIS
9	LF	116	GLN
9	LF	119	ASN
9	LF	239	GLN
10	LG	100	HIS
11	LH	79	ASN
11	LH	149	ASN
11	LH	188	GLN
12	LI	213	HIS
13	LJ	98	ASN
14	LL	15	HIS
14	LL	113	ASN
15	LM	20	HIS
15	LM	131	GLN
17	LO	26	GLN
17	LO	150	GLN
17	LO	184	ASN
18	LP	80	GLN
18	LP	116	HIS
18	LP	137	ASN
19	LQ	7	HIS
21	LS	117	HIS
21	LS	146	HIS
25	LW	17	HIS
25	LW	63	GLN
25	LW	68	GLN
25	LW	96	GLN
27	LY	24	HIS
29	La	41	HIS
29	La	44	ASN
29	La	85	GLN
30	Lb	60	ASN
33	Le	117	GLN
35	Lg	112	GLN
36	Lh	68	ASN
40	Li	17	GLN
44	Lp	56	HIS
45	Lr	6	GLN

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Mol	Chain	Res	Type
45	Lr	70	GLN
45	Lr	100	ASN
46	Lz	35	GLN
46	Lz	143	ASN
49	SA	36	GLN
50	SB	202	GLN
51	SD	57	ASN
51	SD	226	GLN
52	SE	67	GLN
53	SF	83	ASN
53	SF	118	ASN
54	SH	33	ASN
54	SH	76	GLN
54	SH	163	GLN
55	SI	88	ASN
56	SK	50	GLN
56	SK	73	ASN
57	SL	13	GLN
57	SL	141	ASN
59	SQ	8	GLN
59	SQ	35	ASN
63	SU	81	GLN
65	SX	63	ASN
65	SX	110	HIS
69	Sf	151	ASN
70	Sg	62	HIS
70	Sg	187	ASN
70	Sg	188	HIS
70	Sg	285	GLN
71	SC	115	GLN
72	SG	4	ASN
73	SJ	156	HIS
74	SM	52	GLN
75	SN	58	HIS
75	SN	105	ASN
76	SO	13	GLN
76	SO	26	ASN
76	SO	103	ASN
77	SW	15	ASN
79	SZ	89	GLN
81	Se	44	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	L5	3707/5070 (73%)	1303 (35%)	56 (1%)
2	L7	119/121 (98%)	21 (17%)	0
3	L8	155/157 (98%)	44 (28%)	2 (1%)
47	S2	1716/1869 (91%)	677 (39%)	22 (1%)
48	S6	74/75 (98%)	28 (37%)	2 (2%)
All	All	5771/7292 (79%)	2073 (35%)	82 (1%)

All (2073) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	L5	4	G
1	L5	6	C
1	L5	9	C
1	L5	13	U
1	L5	17	A
1	L5	19	G
1	L5	25	A
1	L5	26	C
1	L5	27	C
1	L5	30	C
1	L5	35	U
1	L5	39	A
1	L5	43	U
1	L5	44	A
1	L5	46	U
1	L5	47	A
1	L5	48	G
1	L5	56	A
1	L5	59	A
1	L5	61	A
1	L5	62	A
1	L5	64	A
1	L5	65	A
1	L5	66	A
1	L5	71	C
1	L5	72	C
1	L5	73	A
1	L5	75	G
1	L5	91	G
1	L5	98	A
1	L5	104	G

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Mol	Chain	Res	Type
1	L5	108	A
1	L5	109	G
1	L5	110	C
1	L5	117	C
1	L5	119	G
1	L5	120	A
1	L5	121	A
1	L5	122	U
1	L5	126	C
1	L5	130	C
1	L5	133	C
1	L5	134	G
1	L5	135	G
1	L5	136	C
1	L5	141	C
1	L5	144	G
1	L5	149	A
1	L5	151	G
1	L5	152	U
1	L5	159	C
1	L5	164	G
1	L5	165	A
1	L5	167	C
1	L5	171	U
1	L5	172	C
1	L5	173	C
1	L5	175	C
1	L5	180	C
1	L5	183	C
1	L5	184	U
1	L5	185	C
1	L5	187	U
1	L5	188	G
1	L5	200	U
1	L5	202	C
1	L5	203	U
1	L5	205	C
1	L5	213	G
1	L5	216	C
1	L5	217	C
1	L5	218	A
1	L5	219	G

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Mol	Chain	Res	Type
1	L5	227	A
1	L5	229	G
1	L5	230	G
1	L5	232	G
1	L5	234	G
1	L5	235	A
1	L5	236	G
1	L5	238	C
1	L5	241	G
1	L5	242	U
1	L5	245	C
1	L5	246	G
1	L5	250	C
1	L5	252	C
1	L5	253	G
1	L5	256	G
1	L5	265	C
1	L5	266	C
1	L5	267	G
1	L5	277	G
1	L5	278	G
1	L5	280	G
1	L5	297	U
1	L5	300	A
1	L5	306	A
1	L5	310	G
1	L5	315	G
1	L5	316	U
1	L5	322	C
1	L5	326	C
1	L5	334	A
1	L5	340	C
1	L5	341	G
1	L5	352	G
1	L5	353	A
1	L5	354	U
1	L5	379	G
1	L5	382	G
1	L5	383	A
1	L5	384	A
1	L5	386	A
1	L5	387	G

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Mol	Chain	Res	Type
1	L5	389	A
1	L5	390	C
1	L5	394	G
1	L5	406	C
1	L5	407	A
1	L5	409	G
1	L5	410	A
1	L5	413	G
1	L5	414	C
1	L5	415	G
1	L5	418	A
1	L5	431	G
1	L5	432	U
1	L5	433	A
1	L5	434	A
1	L5	435	A
1	L5	437	G
1	L5	444	G
1	L5	448	G
1	L5	449	C
1	L5	450	G
1	L5	451	C
1	L5	452	A
1	L5	453	G
1	L5	454	U
1	L5	455	C
1	L5	462	G
1	L5	465	G
1	L5	467	U
1	L5	468	U
1	L5	469	C
1	L5	471	A
1	L5	473	C
1	L5	485	C
1	L5	486	C
1	L5	487	G
1	L5	490	C
1	L5	495	C
1	L5	498	C
1	L5	500	G
1	L5	501	C
1	L5	502	C

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Mol	Chain	Res	Type
1	L5	503	C
1	L5	504	G
1	L5	506	C
1	L5	509	A
1	L5	510	U
1	L5	511	C
1	L5	512	U
1	L5	513	U
1	L5	514	U
1	L5	517	C
1	L5	518	G
1	L5	643	C
1	L5	644	G
1	L5	646	G
1	L5	647	G
1	L5	648	G
1	L5	649	A
1	L5	652	G
1	L5	654	C
1	L5	656	C
1	L5	657	C
1	L5	658	C
1	L5	659	G
1	L5	661	C
1	L5	664	G
1	L5	665	C
1	L5	667	A
1	L5	671	G
1	L5	678	C
1	L5	682	G
1	L5	684	G
1	L5	686	A
1	L5	694	C
1	L5	696	C
1	L5	697	G
1	L5	702	U
1	L5	703	G
1	L5	704	C
1	L5	705	G
1	L5	707	C
1	L5	713	C
1	L5	719	C

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Mol	Chain	Res	Type
1	L5	720	G
1	L5	723	A
1	L5	728	U
1	L5	730	G
1	L5	736	C
1	L5	737	C
1	L5	740	G
1	L5	741	C
1	L5	744	G
1	L5	747	A
1	L5	749	G
1	L5	750	U
1	L5	751	G
1	L5	754	U
1	L5	756	G
1	L5	907	C
1	L5	910	G
1	L5	911	U
1	L5	915	A
1	L5	916	C
1	L5	917	A
1	L5	918	G
1	L5	919	C
1	L5	920	C
1	L5	926	G
1	L5	927	G
1	L5	928	C
1	L5	929	A
1	L5	930	G
1	L5	931	C
1	L5	932	A
1	L5	933	G
1	L5	934	C
1	L5	938	C
1	L5	940	C
1	L5	942	G
1	L5	944	A
1	L5	945	U
1	L5	946	C
1	L5	947	C
1	L5	950	G
1	L5	956	A

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Mol	Chain	Res	Type
1	L5	957	G
1	L5	958	G
1	L5	959	G
1	L5	960	A
1	L5	961	G
1	L5	962	C
1	L5	963	G
1	L5	964	A
1	L5	965	G
1	L5	966	A
1	L5	967	C
1	L5	968	C
1	L5	969	C
1	L5	975	C
1	L5	976	G
1	L5	978	G
1	L5	981	C
1	L5	982	U
1	L5	984	C
1	L5	985	C
1	L5	986	C
1	L5	989	U
1	L5	991	C
1	L5	992	C
1	L5	995	C
1	L5	996	G
1	L5	1049	C
1	L5	1051	G
1	L5	1065	G
1	L5	1071	C
1	L5	1072	C
1	L5	1073	G
1	L5	1076	C
1	L5	1078	A
1	L5	1079	C
1	L5	1080	C
1	L5	1081	C
1	L5	1083	U
1	L5	1096	C
1	L5	1100	U
1	L5	1169	G
1	L5	1170	G

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Mol	Chain	Res	Type
1	L5	1172	C
1	L5	1173	G
1	L5	1178	G
1	L5	1179	U
1	L5	1180	C
1	L5	1181	C
1	L5	1182	C
1	L5	1183	C
1	L5	1184	A
1	L5	1188	C
1	L5	1191	C
1	L5	1193	C
1	L5	1202	C
1	L5	1203	G
1	L5	1205	G
1	L5	1210	C
1	L5	1211	G
1	L5	1214	C
1	L5	1215	C
1	L5	1216	C
1	L5	1217	G
1	L5	1219	G
1	L5	1221	G
1	L5	1222	A
1	L5	1233	G
1	L5	1237	C
1	L5	1238	A
1	L5	1239	C
1	L5	1243	C
1	L5	1244	G
1	L5	1245	C
1	L5	1250	C
1	L5	1252	C
1	L5	1254	A
1	L5	1256	G
1	L5	1257	A
1	L5	1259	G
1	L5	1260	G
1	L5	1262	G
1	L5	1267	C
1	L5	1268	G
1	L5	1269	G

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Mol	Chain	Res	Type
1	L5	1270	A
1	L5	1271	G
1	L5	1272	C
1	L5	1273	G
1	L5	1274	A
1	L5	1275	G
1	L5	1276	C
1	L5	1277	G
1	L5	1279	A
1	L5	1280	C
1	L5	1281	G
1	L5	1285	U
1	L5	1288	G
1	L5	1289	C
1	L5	1290	G
1	L5	1293	G
1	L5	1295	C
1	L5	1296	G
1	L5	1297	U
1	L5	1298	C
1	L5	1301	C
1	L5	1303	A
1	L5	1322	A
1	L5	1326	A
1	L5	1330	A
1	L5	1339	U
1	L5	1343	A
1	L5	1353	G
1	L5	1354	A
1	L5	1358	G
1	L5	1359	G
1	L5	1360	G
1	L5	1364	U
1	L5	1365	C
1	L5	1366	G
1	L5	1367	C
1	L5	1368	A
1	L5	1369	C
1	L5	1370	G
1	L5	1371	A
1	L5	1372	A
1	L5	1376	C

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Mol	Chain	Res	Type
1	L5	1377	G
1	L5	1378	C
1	L5	1379	C
1	L5	1381	U
1	L5	1387	A
1	L5	1394	G
1	L5	1396	G
1	L5	1399	G
1	L5	1404	G
1	L5	1407	C
1	L5	1409	C
1	L5	1410	U
1	L5	1411	C
1	L5	1413	C
1	L5	1415	G
1	L5	1416	G
1	L5	1417	C
1	L5	1418	C
1	L5	1420	A
1	L5	1421	G
1	L5	1425	G
1	L5	1428	U
1	L5	1434	G
1	L5	1435	G
1	L5	1437	C
1	L5	1438	U
1	L5	1440	U
1	L5	1441	C
1	L5	1446	C
1	L5	1453	G
1	L5	1456	C
1	L5	1457	G
1	L5	1472	C
1	L5	1475	G
1	L5	1480	C
1	L5	1481	C
1	L5	1482	G
1	L5	1483	C
1	L5	1485	C
1	L5	1486	C
1	L5	1493	G
1	L5	1495	G

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Mol	Chain	Res	Type
1	L5	1497	A
1	L5	1498	G
1	L5	1501	C
1	L5	1502	G
1	L5	1503	A
1	L5	1512	G
1	L5	1523	A
1	L5	1525	A
1	L5	1530	G
1	L5	1534	A
1	L5	1539	G
1	L5	1540	C
1	L5	1547	A
1	L5	1552	G
1	L5	1563	A
1	L5	1564	A
1	L5	1566	C
1	L5	1574	G
1	L5	1578	U
1	L5	1582	U
1	L5	1591	U
1	L5	1592	G
1	L5	1596	U
1	L5	1597	G
1	L5	1611	C
1	L5	1612	G
1	L5	1613	A
1	L5	1614	C
1	L5	1623	A
1	L5	1624	G
1	L5	1625	G
1	L5	1626	G
1	L5	1629	G
1	L5	1631	A
1	L5	1633	G
1	L5	1634	A
1	L5	1638	A
1	L5	1641	G
1	L5	1646	A
1	L5	1650	A
1	L5	1651	G
1	L5	1654	G

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Mol	Chain	Res	Type
1	L5	1656	U
1	L5	1657	G
1	L5	1661	C
1	L5	1676	C
1	L5	1677	U
1	L5	1681	G
1	L5	1686	C
1	L5	1694	C
1	L5	1696	C
1	L5	1697	G
1	L5	1698	C
1	L5	1699	A
1	L5	1719	A
1	L5	1721	G
1	L5	1723	A
1	L5	1725	U
1	L5	1727	U
1	L5	1728	U
1	L5	1729	A
1	L5	1731	C
1	L5	1734	G
1	L5	1735	U
1	L5	1741	G
1	L5	1742	A
1	L5	1748	U
1	L5	1750	G
1	L5	1751	A
1	L5	1753	G
1	L5	1754	U
1	L5	1755	C
1	L5	1756	U
1	L5	1757	U
1	L5	1758	G
1	L5	1759	G
1	L5	1760	G
1	L5	1761	G
1	L5	1762	C
1	L5	1763	C
1	L5	1764	G
1	L5	1765	A
1	L5	1766	A
1	L5	1767	A

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Mol	Chain	Res	Type
1	L5	1768	C
1	L5	1771	U
1	L5	1772	C
1	L5	1775	A
1	L5	1777	C
1	L5	1778	C
1	L5	1781	U
1	L5	1787	A
1	L5	1788	A
1	L5	1793	A
1	L5	1804	A
1	L5	1805	A
1	L5	1806	G
1	L5	1807	C
1	L5	1815	G
1	L5	1820	C
1	L5	1821	G
1	L5	1822	U
1	L5	1829	G
1	L5	1832	C
1	L5	1833	G
1	L5	1834	U
1	L5	1835	G
1	L5	1836	G
1	L5	1837	A
1	L5	1842	G
1	L5	1855	G
1	L5	1856	C
1	L5	1866	U
1	L5	1867	A
1	L5	1869	G
1	L5	1882	U
1	L5	1890	G
1	L5	1893	C
1	L5	1897	A
1	L5	1910	G
1	L5	1915	C
1	L5	1918	U
1	L5	1919	G
1	L5	1920	C
1	L5	1921	C
1	L5	1922	G

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Mol	Chain	Res	Type
1	L5	1925	G
1	L5	1929	A
1	L5	1930	U
1	L5	1932	A
1	L5	1936	C
1	L5	1940	G
1	L5	1948	G
1	L5	1954	U
1	L5	1956	A
1	L5	1958	A
1	L5	1959	U
1	L5	1960	A
1	L5	1961	G
1	L5	1963	C
1	L5	1966	C
1	L5	1968	G
1	L5	1971	C
1	L5	1974	U
1	L5	1975	G
1	L5	1976	G
1	L5	1977	C
1	L5	1978	C
1	L5	1981	G
1	L5	1982	G
1	L5	1983	A
1	L5	1984	A
1	L5	1985	G
1	L5	1987	C
1	L5	1989	G
1	L5	1990	A
1	L5	1991	A
1	L5	1993	C
1	L5	1994	C
1	L5	1997	U
1	L5	1998	A
1	L5	1999	A
1	L5	2001	G
1	L5	2002	A
1	L5	2003	G
1	L5	2005	G
1	L5	2006	U
1	L5	2007	G

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Mol	Chain	Res	Type
1	L5	2008	U
1	L5	2009	A
1	L5	2010	A
1	L5	2011	C
1	L5	2012	A
1	L5	2013	A
1	L5	2017	A
1	L5	2018	C
1	L5	2020	U
1	L5	2023	C
1	L5	2026	A
1	L5	2034	G
1	L5	2045	G
1	L5	2046	G
1	L5	2048	U
1	L5	2055	G
1	L5	2056	G
1	L5	2057	A
1	L5	2062	C
1	L5	2063	G
1	L5	2064	G
1	L5	2068	C
1	L5	2069	A
1	L5	2073	C
1	L5	2075	G
1	L5	2077	C
1	L5	2084	C
1	L5	2085	G
1	L5	2089	G
1	L5	2090	U
1	L5	2091	C
1	L5	2092	G
1	L5	2093	A
1	L5	2094	G
1	L5	2095	A
1	L5	2097	U
1	L5	2099	G
1	L5	2100	A
1	L5	2104	G
1	L5	2107	C
1	L5	2108	G
1	L5	2109	G

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Mol	Chain	Res	Type
1	L5	2110	C
1	L5	2111	G
1	L5	2112	G
1	L5	2113	G
1	L5	2114	G
1	L5	2115	G
1	L5	2116	C
1	L5	2117	G
1	L5	2118	G
1	L5	2119	C
1	L5	2120	G
1	L5	2121	C
1	L5	2122	G
1	L5	2123	C
1	L5	2124	G
1	L5	2125	C
1	L5	2126	G
1	L5	2128	G
1	L5	2130	G
1	L5	2244	C
1	L5	2247	C
1	L5	2250	C
1	L5	2251	G
1	L5	2252	G
1	L5	2254	G
1	L5	2255	C
1	L5	2256	C
1	L5	2257	C
1	L5	2259	G
1	L5	2260	C
1	L5	2262	G
1	L5	2263	A
1	L5	2264	C
1	L5	2265	G
1	L5	2268	A
1	L5	2270	G
1	L5	2278	G
1	L5	2289	C
1	L5	2290	C
1	L5	2299	G
1	L5	2300	A
1	L5	2301	G

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Mol	Chain	Res	Type
1	L5	2304	U
1	L5	2312	U
1	L5	2324	C
1	L5	2327	G
1	L5	2331	G
1	L5	2332	A
1	L5	2333	G
1	L5	2346	C
1	L5	2347	A
1	L5	2348	G
1	L5	2351	C
1	L5	2361	G
1	L5	2362	U
1	L5	2364	G
1	L5	2379	A
1	L5	2382	A
1	L5	2390	G
1	L5	2395	A
1	L5	2396	A
1	L5	2397	G
1	L5	2402	G
1	L5	2404	A
1	L5	2410	C
1	L5	2414	G
1	L5	2422	C
1	L5	2425	U
1	L5	2426	U
1	L5	2431	A
1	L5	2448	G
1	L5	2450	G
1	L5	2454	U
1	L5	2465	C
1	L5	2468	U
1	L5	2471	G
1	L5	2474	G
1	L5	2475	G
1	L5	2482	C
1	L5	2483	G
1	L5	2484	A
1	L5	2486	G
1	L5	2487	G
1	L5	2488	C

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Mol	Chain	Res	Type
1	L5	2489	C
1	L5	2490	U
1	L5	2491	C
1	L5	2495	U
1	L5	2502	G
1	L5	2503	G
1	L5	2504	C
1	L5	2505	C
1	L5	2506	G
1	L5	2507	A
1	L5	2511	A
1	L5	2513	A
1	L5	2518	G
1	L5	2519	U
1	L5	2527	A
1	L5	2529	A
1	L5	2537	A
1	L5	2544	G
1	L5	2546	G
1	L5	2547	G
1	L5	2551	A
1	L5	2553	A
1	L5	2554	U
1	L5	2556	G
1	L5	2569	G
1	L5	2570	U
1	L5	2572	C
1	L5	2573	A
1	L5	2576	G
1	L5	2583	C
1	L5	2586	G
1	L5	2587	A
1	L5	2588	C
1	L5	2596	G
1	L5	2601	A
1	L5	2602	G
1	L5	2605	G
1	L5	2618	G
1	L5	2624	G
1	L5	2634	C
1	L5	2636	U
1	L5	2638	G

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Mol	Chain	Res	Type
1	L5	2639	U
1	L5	2648	G
1	L5	2649	G
1	L5	2653	C
1	L5	2662	G
1	L5	2670	C
1	L5	2675	G
1	L5	2676	A
1	L5	2681	G
1	L5	2686	G
1	L5	2687	U
1	L5	2689	C
1	L5	2695	A
1	L5	2696	A
1	L5	2701	U
1	L5	2702	C
1	L5	2703	G
1	L5	2704	C
1	L5	2705	G
1	L5	2708	U
1	L5	2710	C
1	L5	2712	G
1	L5	2714	G
1	L5	2717	G
1	L5	2719	C
1	L5	2721	G
1	L5	2723	U
1	L5	2725	A
1	L5	2726	G
1	L5	2735	G
1	L5	2739	C
1	L5	2740	U
1	L5	2743	A
1	L5	2753	G
1	L5	2754	G
1	L5	2756	G
1	L5	2760	G
1	L5	2761	U
1	L5	2762	G
1	L5	2763	U
1	L5	2766	A
1	L5	2768	C

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Mol	Chain	Res	Type
1	L5	2769	U
1	L5	2770	C
1	L5	2776	G
1	L5	2783	A
1	L5	2786	C
1	L5	2787	A
1	L5	2788	U
1	L5	2789	A
1	L5	2794	C
1	L5	2797	C
1	L5	2803	U
1	L5	2807	A
1	L5	2814	C
1	L5	2815	A
1	L5	2816	G
1	L5	2822	G
1	L5	2825	A
1	L5	2826	U
1	L5	2827	G
1	L5	2828	U
1	L5	2829	U
1	L5	2830	G
1	L5	2831	G
1	L5	2833	A
1	L5	2845	A
1	L5	2857	A
1	L5	2859	G
1	L5	2860	C
1	L5	2862	G
1	L5	2864	A
1	L5	2869	U
1	L5	2870	A
1	L5	2874	U
1	L5	2877	G
1	L5	2884	G
1	L5	2885	A
1	L5	2887	U
1	L5	2888	G
1	L5	2894	A
1	L5	2896	G
1	L5	2902	G
1	L5	2903	G

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Mol	Chain	Res	Type
1	L5	2904	U
1	L5	2905	C
1	L5	2906	G
1	L5	2907	G
1	L5	2909	C
1	L5	3587	C
1	L5	3589	G
1	L5	3593	C
1	L5	3596	A
1	L5	3597	G
1	L5	3600	G
1	L5	3606	U
1	L5	3608	A
1	L5	3615	G
1	L5	3616	U
1	L5	3625	G
1	L5	3626	G
1	L5	3635	A
1	L5	3640	U
1	L5	3642	A
1	L5	3644	U
1	L5	3646	A
1	L5	3659	G
1	L5	3661	G
1	L5	3662	A
1	L5	3669	G
1	L5	3670	C
1	L5	3671	G
1	L5	3672	G
1	L5	3673	C
1	L5	3674	G
1	L5	3681	G
1	L5	3682	A
1	L5	3690	U
1	L5	3696	C
1	L5	3697	U
1	L5	3699	C
1	L5	3705	G
1	L5	3709	U
1	L5	3710	G
1	L5	3711	A
1	L5	3713	U

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Mol	Chain	Res	Type
1	L5	3714	G
1	L5	3723	A
1	L5	3727	A
1	L5	3728	A
1	L5	3729	U
1	L5	3730	U
1	L5	3732	A
1	L5	3734	U
1	L5	3735	G
1	L5	3736	A
1	L5	3742	G
1	L5	3745	U
1	L5	3748	A
1	L5	3750	G
1	L5	3751	G
1	L5	3753	G
1	L5	3755	G
1	L5	3756	A
1	L5	3757	G
1	L5	3758	U
1	L5	3759	A
1	L5	3760	A
1	L5	3761	C
1	L5	3762	U
1	L5	3764	U
1	L5	3766	A
1	L5	3767	C
1	L5	3768	U
1	L5	3769	C
1	L5	3770	U
1	L5	3772	U
1	L5	3776	G
1	L5	3777	G
1	L5	3785	A
1	L5	3786	U
1	L5	3789	C
1	L5	3790	U
1	L5	3791	C
1	L5	3795	A
1	L5	3802	U
1	L5	3803	A
1	L5	3807	A

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Mol	Chain	Res	Type
1	L5	3811	G
1	L5	3813	A
1	L5	3814	U
1	L5	3817	A
1	L5	3818	U
1	L5	3819	G
1	L5	3840	U
1	L5	3843	C
1	L5	3866	C
1	L5	3867	A
1	L5	3868	G
1	L5	3869	C
1	L5	3870	C
1	L5	3871	A
1	L5	3877	A
1	L5	3878	C
1	L5	3879	G
1	L5	3881	G
1	L5	3885	G
1	L5	3888	G
1	L5	3889	G
1	L5	3890	A
1	L5	3892	U
1	L5	3895	G
1	L5	3897	G
1	L5	3901	A
1	L5	3905	A
1	L5	3906	A
1	L5	3907	G
1	L5	3908	A
1	L5	3914	U
1	L5	3915	U
1	L5	3922	G
1	L5	3923	A
1	L5	3933	G
1	L5	3935	C
1	L5	3938	G
1	L5	3939	G
1	L5	3943	A
1	L5	3944	G
1	L5	3947	A
1	L5	3948	C

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Mol	Chain	Res	Type
1	L5	3949	A
1	L5	3954	A
1	L5	3956	G
1	L5	3957	U
1	L5	3958	G
1	L5	3959	U
1	L5	3960	A
1	L5	3961	G
1	L5	3962	A
1	L5	3963	A
1	L5	3965	A
1	L5	3966	A
1	L5	3968	U
1	L5	3969	G
1	L5	3972	A
1	L5	3973	G
1	L5	3975	C
1	L5	3977	C
1	L5	4034	G
1	L5	4036	G
1	L5	4037	C
1	L5	4039	G
1	L5	4042	G
1	L5	4043	G
1	L5	4044	U
1	L5	4047	A
1	L5	4048	A
1	L5	4049	U
1	L5	4050	A
1	L5	4051	C
1	L5	4052	C
1	L5	4054	C
1	L5	4055	U
1	L5	4058	U
1	L5	4059	C
1	L5	4062	A
1	L5	4064	C
1	L5	4065	G
1	L5	4071	U
1	L5	4076	G
1	L5	4077	A
1	L5	4078	C

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Mol	Chain	Res	Type
1	L5	4079	C
1	L5	4083	U
1	L5	4084	G
1	L5	4086	G
1	L5	4087	G
1	L5	4095	G
1	L5	4100	C
1	L5	4102	C
1	L5	4103	C
1	L5	4104	G
1	L5	4107	G
1	L5	4110	C
1	L5	4112	C
1	L5	4114	C
1	L5	4115	G
1	L5	4116	C
1	L5	4117	U
1	L5	4118	U
1	L5	4119	C
1	L5	4120	U
1	L5	4121	G
1	L5	4125	C
1	L5	4127	A
1	L5	4131	G
1	L5	4138	C
1	L5	4139	G
1	L5	4140	C
1	L5	4141	G
1	L5	4142	C
1	L5	4143	G
1	L5	4144	C
1	L5	4146	G
1	L5	4151	G
1	L5	4153	C
1	L5	4154	G
1	L5	4156	G
1	L5	4158	C
1	L5	4161	G
1	L5	4162	C
1	L5	4163	U
1	L5	4164	C
1	L5	4166	G

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Mol	Chain	Res	Type
1	L5	4168	G
1	L5	4169	G
1	L5	4170	A
1	L5	4171	C
1	L5	4172	A
1	L5	4173	G
1	L5	4177	C
1	L5	4183	G
1	L5	4184	G
1	L5	4190	U
1	L5	4191	G
1	L5	4193	C
1	L5	4194	U
1	L5	4201	G
1	L5	4202	U
1	L5	4203	A
1	L5	4205	A
1	L5	4209	G
1	L5	4212	A
1	L5	4220	A
1	L5	4222	G
1	L5	4225	G
1	L5	4229	U
1	L5	4234	A
1	L5	4235	G
1	L5	4237	C
1	L5	4245	G
1	L5	4248	A
1	L5	4251	A
1	L5	4254	G
1	L5	4255	A
1	L5	4256	A
1	L5	4258	C
1	L5	4260	U
1	L5	4268	A
1	L5	4271	A
1	L5	4273	A
1	L5	4277	G
1	L5	4280	A
1	L5	4281	A
1	L5	4286	C
1	L5	4287	G

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Mol	Chain	Res	Type
1	L5	4288	C
1	L5	4291	G
1	L5	4292	A
1	L5	4296	U
1	L5	4297	G
1	L5	4302	U
1	L5	4305	G
1	L5	4306	U
1	L5	4311	A
1	L5	4314	C
1	L5	4317	A
1	L5	4319	C
1	L5	4328	G
1	L5	4330	G
1	L5	4337	C
1	L5	4338	G
1	L5	4339	A
1	L5	4346	U
1	L5	4349	C
1	L5	4350	C
1	L5	4367	G
1	L5	4369	A
1	L5	4376	A
1	L5	4377	G
1	L5	4378	A
1	L5	4380	A
1	L5	4381	A
1	L5	4382	G
1	L5	4384	U
1	L5	4385	A
1	L5	4387	C
1	L5	4394	A
1	L5	4396	A
1	L5	4398	C
1	L5	4414	A
1	L5	4415	A
1	L5	4419	U
1	L5	4420	U
1	L5	4422	A
1	L5	4427	G
1	L5	4429	C
1	L5	4438	U

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Mol	Chain	Res	Type
1	L5	4448	G
1	L5	4449	A
1	L5	4464	A
1	L5	4465	U
1	L5	4475	G
1	L5	4476	C
1	L5	4477	A
1	L5	4478	G
1	L5	4481	U
1	L5	4488	A
1	L5	4489	G
1	L5	4491	G
1	L5	4498	U
1	L5	4500	U
1	L5	4504	C
1	L5	4510	A
1	L5	4511	A
1	L5	4512	U
1	L5	4513	A
1	L5	4515	G
1	L5	4518	A
1	L5	4523	A
1	L5	4524	G
1	L5	4528	G
1	L5	4531	U
1	L5	4534	G
1	L5	4545	G
1	L5	4548	A
1	L5	4549	G
1	L5	4557	U
1	L5	4560	C
1	L5	4567	G
1	L5	4571	A
1	L5	4573	G
1	L5	4575	G
1	L5	4581	G
1	L5	4583	C
1	L5	4587	G
1	L5	4589	A
1	L5	4590	A
1	L5	4595	G
1	L5	4599	A

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Mol	Chain	Res	Type
1	L5	4600	G
1	L5	4601	U
1	L5	4609	G
1	L5	4617	G
1	L5	4627	U
1	L5	4636	U
1	L5	4637	G
1	L5	4639	G
1	L5	4641	U
1	L5	4642	U
1	L5	4656	A
1	L5	4657	U
1	L5	4658	G
1	L5	4670	C
1	L5	4672	A
1	L5	4677	U
1	L5	4678	G
1	L5	4682	U
1	L5	4693	C
1	L5	4695	C
1	L5	4696	C
1	L5	4699	U
1	L5	4700	A
1	L5	4708	A
1	L5	4709	U
1	L5	4728	U
1	L5	4730	C
1	L5	4731	G
1	L5	4732	G
1	L5	4733	C
1	L5	4734	A
1	L5	4738	C
1	L5	4739	C
1	L5	4743	G
1	L5	4744	A
1	L5	4749	C
1	L5	4750	G
1	L5	4753	U
1	L5	4756	C
1	L5	4757	C
1	L5	4758	U
1	L5	4760	G

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Mol	Chain	Res	Type
1	L5	4761	G
1	L5	4764	A
1	L5	4768	G
1	L5	4770	U
1	L5	4771	C
1	L5	4772	C
1	L5	4774	C
1	L5	4775	C
1	L5	4776	G
1	L5	4860	G
1	L5	4861	G
1	L5	4862	G
1	L5	4863	G
1	L5	4865	C
1	L5	4868	G
1	L5	4869	U
1	L5	4870	G
1	L5	4871	C
1	L5	4872	G
1	L5	4873	G
1	L5	4874	A
1	L5	4875	G
1	L5	4876	U
1	L5	4877	G
1	L5	4878	C
1	L5	4880	C
1	L5	4882	U
1	L5	4883	C
1	L5	4884	G
1	L5	4888	U
1	L5	4890	G
1	L5	4894	A
1	L5	4896	G
1	L5	4900	C
1	L5	4901	G
1	L5	4902	C
1	L5	4910	G
1	L5	4911	A
1	L5	4912	G
1	L5	4913	G
1	L5	4914	C
1	L5	4918	C

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Mol	Chain	Res	Type
1	L5	4923	C
1	L5	4925	U
1	L5	4926	C
1	L5	4927	G
1	L5	4936	G
1	L5	4938	A
1	L5	4939	C
1	L5	4941	G
1	L5	4945	G
1	L5	4946	U
1	L5	4949	G
1	L5	4950	U
1	L5	4951	G
1	L5	4952	G
1	L5	4956	A
1	L5	4957	C
1	L5	4958	C
1	L5	4959	U
1	L5	4963	G
1	L5	4964	C
1	L5	4968	A
1	L5	4970	C
1	L5	4973	U
1	L5	4976	U
1	L5	4982	A
1	L5	4985	U
1	L5	4988	U
1	L5	4989	U
1	L5	4991	U
1	L5	4992	G
1	L5	5007	A
1	L5	5011	A
1	L5	5014	A
1	L5	5017	G
1	L5	5018	C
1	L5	5022	U
1	L5	5024	C
1	L5	5025	C
1	L5	5026	U
1	L5	5027	C
1	L5	5028	G
1	L5	5031	G

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Mol	Chain	Res	Type
1	L5	5034	A
1	L5	5035	U
1	L5	5041	G
1	L5	5043	A
1	L5	5050	C
1	L5	5054	C
1	L5	5055	G
1	L5	5058	A
1	L5	5061	A
1	L5	5064	G
1	L5	5066	U
1	L5	5068	G
2	L7	7	G
2	L7	20	U
2	L7	22	A
2	L7	24	C
2	L7	25	G
2	L7	26	C
2	L7	36	C
2	L7	40	U
2	L7	49	A
2	L7	54	A
2	L7	60	G
2	L7	63	C
2	L7	64	G
2	L7	73	U
2	L7	84	U
2	L7	97	G
2	L7	100	A
2	L7	109	U
2	L7	110	G
2	L7	111	C
2	L7	120	U
3	L8	2	G
3	L8	8	U
3	L8	17	A
3	L8	22	U
3	L8	23	C
3	L8	27	U
3	L8	34	U
3	L8	35	C
3	L8	48	A

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Mol	Chain	Res	Type
3	L8	50	C
3	L8	52	A
3	L8	56	G
3	L8	59	A
3	L8	63	U
3	L8	76	C
3	L8	80	A
3	L8	82	A
3	L8	83	C
3	L8	84	A
3	L8	86	U
3	L8	87	G
3	L8	88	A
3	L8	89	U
3	L8	93	C
3	L8	95	A
3	L8	98	C
3	L8	103	A
3	L8	104	A
3	L8	105	C
3	L8	109	C
3	L8	110	U
3	L8	114	G
3	L8	118	C
3	L8	122	G
3	L8	123	U
3	L8	124	U
3	L8	125	C
3	L8	126	C
3	L8	127	U
3	L8	128	C
3	L8	129	C
3	L8	146	U
3	L8	149	G
3	L8	150	C
47	S2	2	A
47	S2	3	C
47	S2	4	C
47	S2	9	U
47	S2	17	C
47	S2	18	C
47	S2	25	A

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Mol	Chain	Res	Type
47	S2	27	A
47	S2	31	U
47	S2	33	G
47	S2	41	G
47	S2	42	A
47	S2	44	U
47	S2	45	A
47	S2	46	A
47	S2	52	G
47	S2	56	G
47	S2	62	G
47	S2	64	A
47	S2	67	C
47	S2	68	A
47	S2	69	C
47	S2	70	G
47	S2	72	C
47	S2	73	C
47	S2	74	G
47	S2	76	U
47	S2	77	A
47	S2	78	C
47	S2	79	A
47	S2	83	A
47	S2	84	A
47	S2	98	C
47	S2	99	A
47	S2	103	A
47	S2	113	G
47	S2	114	G
47	S2	126	G
47	S2	127	C
47	S2	139	C
47	S2	140	C
47	S2	141	A
47	S2	142	C
47	S2	144	U
47	S2	148	U
47	S2	153	G
47	S2	154	U
47	S2	155	G
47	S2	156	G

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Mol	Chain	Res	Type
47	S2	160	U
47	S2	161	U
47	S2	162	C
47	S2	163	U
47	S2	167	G
47	S2	168	C
47	S2	171	A
47	S2	172	U
47	S2	175	A
47	S2	177	G
47	S2	178	C
47	S2	180	G
47	S2	181	A
47	S2	184	G
47	S2	185	G
47	S2	188	C
47	S2	190	G
47	S2	191	A
47	S2	192	C
47	S2	198	U
47	S2	201	C
47	S2	202	G
47	S2	208	G
47	S2	209	A
47	S2	210	U
47	S2	211	G
47	S2	214	U
47	S2	215	G
47	S2	219	U
47	S2	291	G
47	S2	292	A
47	S2	293	C
47	S2	295	C
47	S2	299	A
47	S2	304	C
47	S2	305	U
47	S2	306	C
47	S2	307	G
47	S2	308	G
47	S2	309	G
47	S2	312	G
47	S2	313	A

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Mol	Chain	Res	Type
47	S2	314	U
47	S2	316	G
47	S2	319	C
47	S2	320	G
47	S2	323	C
47	S2	324	C
47	S2	325	C
47	S2	326	C
47	S2	328	U
47	S2	329	G
47	S2	330	G
47	S2	334	C
47	S2	338	G
47	S2	339	A
47	S2	340	C
47	S2	341	C
47	S2	342	C
47	S2	343	A
47	S2	347	G
47	S2	351	G
47	S2	354	U
47	S2	360	A
47	S2	361	U
47	S2	362	C
47	S2	364	A
47	S2	369	C
47	S2	370	G
47	S2	371	A
47	S2	385	G
47	S2	386	C
47	S2	388	U
47	S2	391	C
47	S2	400	C
47	S2	401	A
47	S2	402	C
47	S2	407	G
47	S2	408	A
47	S2	409	C
47	S2	411	G
47	S2	413	G
47	S2	417	C
47	S2	418	A

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Mol	Chain	Res	Type
47	S2	423	U
47	S2	426	A
47	S2	429	C
47	S2	434	G
47	S2	435	A
47	S2	436	G
47	S2	438	G
47	S2	441	C
47	S2	448	A
47	S2	449	A
47	S2	450	C
47	S2	452	G
47	S2	459	C
47	S2	464	A
47	S2	465	A
47	S2	466	G
47	S2	467	G
47	S2	469	A
47	S2	472	C
47	S2	473	A
47	S2	474	G
47	S2	482	G
47	S2	487	U
47	S2	488	U
47	S2	489	A
47	S2	492	C
47	S2	493	A
47	S2	495	U
47	S2	502	C
47	S2	503	C
47	S2	505	G
47	S2	507	G
47	S2	516	A
47	S2	517	C
47	S2	530	U
47	S2	532	C
47	S2	533	A
47	S2	534	G
47	S2	535	G
47	S2	537	C
47	S2	538	U
47	S2	539	C

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Mol	Chain	Res	Type
47	S2	540	U
47	S2	542	U
47	S2	544	G
47	S2	545	A
47	S2	547	G
47	S2	549	C
47	S2	550	C
47	S2	551	U
47	S2	556	U
47	S2	557	U
47	S2	559	G
47	S2	560	A
47	S2	563	G
47	S2	566	U
47	S2	574	A
47	S2	575	A
47	S2	576	A
47	S2	581	U
47	S2	582	C
47	S2	584	G
47	S2	585	C
47	S2	587	A
47	S2	588	G
47	S2	589	G
47	S2	590	A
47	S2	591	U
47	S2	592	C
47	S2	593	C
47	S2	596	U
47	S2	604	A
47	S2	605	A
47	S2	606	G
47	S2	607	U
47	S2	608	C
47	S2	613	G
47	S2	621	C
47	S2	627	U
47	S2	628	A
47	S2	629	A
47	S2	631	U
47	S2	634	A
47	S2	643	A

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Mol	Chain	Res	Type
47	S2	644	G
47	S2	651	U
47	S2	655	A
47	S2	656	G
47	S2	657	U
47	S2	660	C
47	S2	666	U
47	S2	669	A
47	S2	670	A
47	S2	671	A
47	S2	672	A
47	S2	673	G
47	S2	675	U
47	S2	679	A
47	S2	683	G
47	S2	685	A
47	S2	686	U
47	S2	687	C
47	S2	688	U
47	S2	689	U
47	S2	690	G
47	S2	691	G
47	S2	692	G
47	S2	693	A
47	S2	694	G
47	S2	695	C
47	S2	696	G
47	S2	697	G
47	S2	698	G
47	S2	731	G
47	S2	733	C
47	S2	734	C
47	S2	735	C
47	S2	736	C
47	S2	738	C
47	S2	739	C
47	S2	746	C
47	S2	747	U
47	S2	749	U
47	S2	750	C
47	S2	751	G
47	S2	752	G

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Mol	Chain	Res	Type
47	S2	753	C
47	S2	787	G
47	S2	788	G
47	S2	789	G
47	S2	790	C
47	S2	791	C
47	S2	794	A
47	S2	795	A
47	S2	796	G
47	S2	797	C
47	S2	798	A
47	S2	800	U
47	S2	810	A
47	S2	811	A
47	S2	812	A
47	S2	813	A
47	S2	815	U
47	S2	818	A
47	S2	821	G
47	S2	822	U
47	S2	823	U
47	S2	830	A
47	S2	834	C
47	S2	835	C
47	S2	837	A
47	S2	838	G
47	S2	839	C
47	S2	840	C
47	S2	841	G
47	S2	842	C
47	S2	843	C
47	S2	847	A
47	S2	848	U
47	S2	853	C
47	S2	864	A
47	S2	865	A
47	S2	869	A
47	S2	870	A
47	S2	873	G
47	S2	874	G
47	S2	876	C
47	S2	877	C

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Mol	Chain	Res	Type
47	S2	878	G
47	S2	879	C
47	S2	881	G
47	S2	883	U
47	S2	887	U
47	S2	888	U
47	S2	889	U
47	S2	890	U
47	S2	891	G
47	S2	892	U
47	S2	893	U
47	S2	894	G
47	S2	896	U
47	S2	897	U
47	S2	899	U
47	S2	900	C
47	S2	901	G
47	S2	902	G
47	S2	903	A
47	S2	904	A
47	S2	907	G
47	S2	908	A
47	S2	909	G
47	S2	913	A
47	S2	914	U
47	S2	917	U
47	S2	919	A
47	S2	920	A
47	S2	930	C
47	S2	933	G
47	S2	934	G
47	S2	939	U
47	S2	943	U
47	S2	952	G
47	S2	954	U
47	S2	955	A
47	S2	956	G
47	S2	958	G
47	S2	961	G
47	S2	963	A
47	S2	964	A
47	S2	965	U

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Mol	Chain	Res	Type
47	S2	970	G
47	S2	971	G
47	S2	972	A
47	S2	973	C
47	S2	978	G
47	S2	979	C
47	S2	981	A
47	S2	990	A
47	S2	992	A
47	S2	996	A
47	S2	999	G
47	S2	1002	U
47	S2	1008	A
47	S2	1017	U
47	S2	1022	U
47	S2	1023	A
47	S2	1027	A
47	S2	1028	A
47	S2	1029	G
47	S2	1041	G
47	S2	1042	A
47	S2	1044	G
47	S2	1052	A
47	S2	1059	G
47	S2	1060	A
47	S2	1061	U
47	S2	1062	A
47	S2	1068	G
47	S2	1076	G
47	S2	1081	U
47	S2	1083	A
47	S2	1084	A
47	S2	1085	C
47	S2	1087	A
47	S2	1088	U
47	S2	1110	G
47	S2	1113	A
47	S2	1114	U
47	S2	1115	U
47	S2	1116	C
47	S2	1118	C
47	S2	1119	A

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Mol	Chain	Res	Type
47	S2	1120	U
47	S2	1126	G
47	S2	1134	G
47	S2	1138	C
47	S2	1139	C
47	S2	1148	A
47	S2	1149	A
47	S2	1150	A
47	S2	1153	C
47	S2	1154	U
47	S2	1155	U
47	S2	1157	G
47	S2	1166	G
47	S2	1170	A
47	S2	1171	G
47	S2	1172	U
47	S2	1175	G
47	S2	1180	C
47	S2	1181	A
47	S2	1186	U
47	S2	1194	A
47	S2	1195	A
47	S2	1198	G
47	S2	1208	A
47	S2	1211	G
47	S2	1212	G
47	S2	1213	C
47	S2	1214	A
47	S2	1215	C
47	S2	1216	C
47	S2	1217	A
47	S2	1224	G
47	S2	1231	C
47	S2	1238	U
47	S2	1240	A
47	S2	1241	A
47	S2	1242	U
47	S2	1248	U
47	S2	1250	A
47	S2	1251	A
47	S2	1253	A
47	S2	1256	G

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Mol	Chain	Res	Type
47	S2	1257	G
47	S2	1258	A
47	S2	1259	A
47	S2	1260	A
47	S2	1264	C
47	S2	1265	A
47	S2	1268	C
47	S2	1269	G
47	S2	1271	C
47	S2	1274	G
47	S2	1275	G
47	S2	1276	A
47	S2	1277	C
47	S2	1280	G
47	S2	1281	G
47	S2	1283	C
47	S2	1284	A
47	S2	1287	A
47	S2	1288	U
47	S2	1289	U
47	S2	1290	G
47	S2	1292	C
47	S2	1294	G
47	S2	1295	A
47	S2	1296	U
47	S2	1297	U
47	S2	1298	G
47	S2	1299	A
47	S2	1300	U
47	S2	1301	A
47	S2	1302	G
47	S2	1303	C
47	S2	1305	C
47	S2	1306	U
47	S2	1307	U
47	S2	1308	U
47	S2	1310	U
47	S2	1311	C
47	S2	1313	A
47	S2	1315	U
47	S2	1317	C
47	S2	1318	G

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Mol	Chain	Res	Type
47	S2	1321	G
47	S2	1323	U
47	S2	1324	G
47	S2	1330	G
47	S2	1331	C
47	S2	1332	A
47	S2	1337	C
47	S2	1341	C
47	S2	1342	U
47	S2	1343	U
47	S2	1363	C
47	S2	1364	U
47	S2	1371	U
47	S2	1372	U
47	S2	1373	C
47	S2	1378	A
47	S2	1383	A
47	S2	1393	G
47	S2	1396	A
47	S2	1397	U
47	S2	1398	G
47	S2	1404	U
47	S2	1405	A
47	S2	1407	U
47	S2	1409	A
47	S2	1410	C
47	S2	1412	C
47	S2	1413	G
47	S2	1414	A
47	S2	1415	C
47	S2	1416	C
47	S2	1418	C
47	S2	1419	C
47	S2	1420	G
47	S2	1423	C
47	S2	1424	G
47	S2	1425	G
47	S2	1427	C
47	S2	1428	G
47	S2	1431	G
47	S2	1432	U
47	S2	1434	C

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Mol	Chain	Res	Type
47	S2	1436	C
47	S2	1437	C
47	S2	1438	A
47	S2	1442	U
47	S2	1448	A
47	S2	1449	G
47	S2	1454	A
47	S2	1455	A
47	S2	1456	G
47	S2	1457	U
47	S2	1458	G
47	S2	1463	U
47	S2	1464	C
47	S2	1468	C
47	S2	1471	C
47	S2	1472	C
47	S2	1473	G
47	S2	1475	G
47	S2	1476	A
47	S2	1477	U
47	S2	1480	A
47	S2	1481	G
47	S2	1484	A
47	S2	1487	A
47	S2	1489	A
47	S2	1490	G
47	S2	1493	C
47	S2	1494	U
47	S2	1495	G
47	S2	1497	G
47	S2	1498	A
47	S2	1505	U
47	S2	1506	A
47	S2	1507	G
47	S2	1508	A
47	S2	1509	U
47	S2	1510	G
47	S2	1512	C
47	S2	1513	C
47	S2	1515	G
47	S2	1520	G
47	S2	1521	C

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Mol	Chain	Res	Type
47	S2	1522	A
47	S2	1523	C
47	S2	1525	C
47	S2	1526	G
47	S2	1527	C
47	S2	1531	A
47	S2	1533	A
47	S2	1535	U
47	S2	1536	G
47	S2	1538	C
47	S2	1540	G
47	S2	1543	U
47	S2	1545	A
47	S2	1546	G
47	S2	1550	G
47	S2	1551	U
47	S2	1552	G
47	S2	1553	C
47	S2	1554	C
47	S2	1555	U
47	S2	1556	A
47	S2	1557	C
47	S2	1558	C
47	S2	1567	G
47	S2	1568	C
47	S2	1569	A
47	S2	1570	G
47	S2	1573	G
47	S2	1574	C
47	S2	1575	G
47	S2	1579	A
47	S2	1580	A
47	S2	1581	C
47	S2	1585	U
47	S2	1586	U
47	S2	1587	G
47	S2	1588	A
47	S2	1589	A
47	S2	1598	G
47	S2	1599	U
47	S2	1600	G
47	S2	1603	G

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Mol	Chain	Res	Type
47	S2	1614	A
47	S2	1621	U
47	S2	1623	A
47	S2	1626	C
47	S2	1636	G
47	S2	1637	A
47	S2	1638	G
47	S2	1639	G
47	S2	1640	A
47	S2	1644	C
47	S2	1648	G
47	S2	1651	A
47	S2	1653	U
47	S2	1654	G
47	S2	1655	C
47	S2	1660	C
47	S2	1661	A
47	S2	1662	U
47	S2	1663	A
47	S2	1664	A
47	S2	1665	G
47	S2	1679	A
47	S2	1680	G
47	S2	1686	G
47	S2	1688	C
47	S2	1694	U
47	S2	1695	A
47	S2	1697	A
47	S2	1698	C
47	S2	1701	C
47	S2	1714	U
47	S2	1719	A
47	S2	1721	U
47	S2	1722	G
47	S2	1729	U
47	S2	1730	U
47	S2	1735	A
47	S2	1737	G
47	S2	1742	C
47	S2	1743	G
47	S2	1744	G
47	S2	1745	A

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Mol	Chain	Res	Type
47	S2	1746	U
47	S2	1748	G
47	S2	1751	C
47	S2	1752	C
47	S2	1754	G
47	S2	1755	C
47	S2	1757	G
47	S2	1758	G
47	S2	1772	C
47	S2	1773	C
47	S2	1775	U
47	S2	1777	G
47	S2	1781	A
47	S2	1783	C
47	S2	1784	G
47	S2	1786	U
47	S2	1805	G
47	S2	1812	U
47	S2	1813	A
47	S2	1814	G
47	S2	1823	A
47	S2	1824	A
47	S2	1825	A
47	S2	1826	G
47	S2	1831	A
47	S2	1835	A
47	S2	1838	U
47	S2	1839	U
47	S2	1849	G
47	S2	1850	A
47	S2	1851	A
47	S2	1852	C
47	S2	1857	G
47	S2	1858	G
47	S2	1861	G
47	S2	1862	G
47	S2	1863	A
47	S2	1865	C
47	S2	1868	U
47	S2	1869	A
48	S6	4	C
48	S6	9	U

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Mol	Chain	Res	Type
48	S6	17	C
48	S6	18	G
48	S6	19	G
48	S6	20	A
48	S6	21	A
48	S6	22	G
48	S6	23	C
48	S6	31	G
48	S6	33	C
48	S6	34	C
48	S6	35	A
48	S6	36	U
48	S6	37	A
48	S6	39	C
48	S6	40	C
48	S6	41	C
48	S6	42	A
48	S6	45	G
48	S6	46	G
48	S6	47	U
48	S6	57	G
48	S6	59	A
48	S6	61	C
48	S6	73	A
48	S6	75	C
48	S6	76	A

All (82) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	L5	172	C
1	L5	385	A
1	L5	406	C
1	L5	417	G
1	L5	648	G
1	L5	693	C
1	L5	918	G
1	L5	930	G
1	L5	931	C
1	L5	956	A
1	L5	958	G
1	L5	974	C

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Mol	Chain	Res	Type
1	L5	1072	C
1	L5	1238	A
1	L5	1329	G
1	L5	1359	G
1	L5	1410	U
1	L5	1455	G
1	L5	1633	G
1	L5	1649	U
1	L5	1821	G
1	L5	1947	U
1	L5	2019	C
1	L5	2068	C
1	L5	2096	G
1	L5	2116	C
1	L5	2119	C
1	L5	2120	G
1	L5	2124	G
1	L5	2256	C
1	L5	2389	A
1	L5	2467	U
1	L5	2505	C
1	L5	2695	A
1	L5	2785	C
1	L5	2806	A
1	L5	2828	U
1	L5	3625	G
1	L5	3673	C
1	L5	3713	U
1	L5	3767	C
1	L5	3784	A
1	L5	3810	C
1	L5	3888	G
1	L5	3956	G
1	L5	4600	G
1	L5	4730	C
1	L5	4731	G
1	L5	4889	G
1	L5	4909	A
1	L5	4913	G
1	L5	4937	C
1	L5	4948	C
1	L5	4958	C

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Mol	Chain	Res	Type
1	L5	4991	U
1	L5	5027	C
3	L8	16	G
3	L8	87	G
47	S2	24	C
47	S2	213	G
47	S2	339	A
47	S2	370	G
47	S2	417	C
47	S2	465	A
47	S2	604	A
47	S2	606	G
47	S2	668	A
47	S2	688	U
47	S2	795	A
47	S2	833	C
47	S2	868	G
47	S2	912	C
47	S2	980	A
47	S2	1061	U
47	S2	1137	U
47	S2	1404	U
47	S2	1419	C
47	S2	1664	A
47	S2	1823	A
47	S2	1860	A
48	S6	33	C
48	S6	34	C

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

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

Of 245 ligands modelled in this entry, 245 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
43	Lo	1
66	Sa	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	Lo	105:GLN	C	106:PHE	N	3.21
1	Sa	99:PRO	C	100:ARG	N	3.14