



Full wwPDB EM Validation Report ⓘ

Mar 5, 2026 – 03:00 PM UTC

PDB ID : 9M0P / pdb_00009m0p
EMDB ID : EMD-63560
Title : Cryo-EM structure of human 80S ribosome in complex with montanine
Authors : Sakai, R.; Tanaka, Y.; Sato, K.; Tsugita, A.; Matumoto, K.; Thaveepornkul, L.; Chinnaronk, S.; Takada, A.; Miyamoto, H.; Kurokawa, R.; Yoshida, M.; Yokoyama, T.; Evidente, A.; Tsuge, Y.; Watari, H.; Sumiya, T.
Deposited on : 2025-02-25
Resolution : 2.78 Å(reported)

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

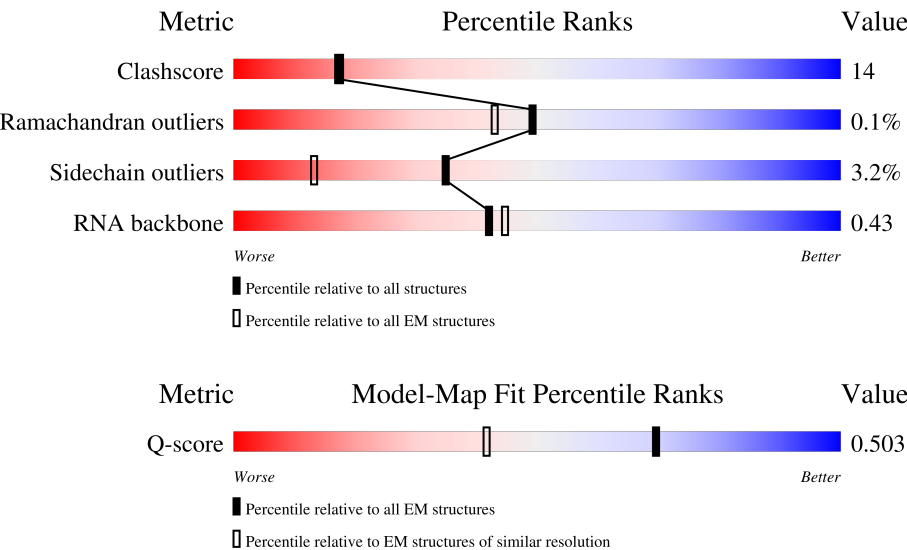
EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 2.78 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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	10754 (2.28 - 3.28)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	SL	158	
2	SR	135	
3	SP	145	

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Mol	Chain	Length	Quality of chain
4	SQ	146	
5	SV	83	
6	SX	143	
7	Sa	115	
8	SU	119	
9	Sc	69	
10	ST	145	
11	Sg	317	
12	SC	293	
13	Sd	56	
14	SJ	194	
15	SN	151	
16	SO	151	
17	SG	249	
18	SW	130	
19	SY	133	
20	Se	59	
21	Sb	84	
22	SZ	125	
23	SA	295	
24	SB	264	
25	SE	263	
26	SD	243	
27	SH	194	
28	SI	208	

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Mol	Chain	Length	Quality of chain
29	SK	165	
30	SF	204	
31	LA	257	
32	LB	403	
33	LC	427	
34	LD	297	
35	LE	288	
36	LF	248	
37	LG	266	
38	LH	192	
39	LI	214	
40	LJ	178	
41	LL	211	
42	LM	215	
43	LN	204	
44	LO	203	
45	LP	184	
46	LQ	188	
47	LR	196	
48	LS	176	
49	LT	160	
50	LU	128	
51	LV	140	
52	LW	157	
53	LX	156	

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Mol	Chain	Length	Quality of chain
54	LY	145	
55	LZ	136	
56	La	148	
57	Lb	159	
58	Lc	115	
59	Ld	125	
60	Le	135	
61	Lf	110	
62	Lg	117	
63	Lh	123	
64	Li	105	
65	Lj	97	
66	Lk	70	
67	Ll	51	
68	Lm	128	
69	Ln	25	
70	Lo	106	
71	Lp	92	
72	Lr	137	
73	L5	5070	
74	L7	121	
75	L8	157	
76	S2	1869	
77	S6	75	
78	CA	858	

2 Entry composition

There are 81 unique types of molecules in this entry. The entry contains 202018 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 protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	SL	133	Total	C	N	O	S	0	0
			1099	700	206	187	6		

- Molecule 2 is a protein called 40S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	SR	108	Total	C	N	O	S	0	0
			883	556	161	163	3		

- Molecule 3 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	SP	58	Total	C	N	O	S	0	0
			494	306	102	83	3		

- Molecule 4 is a protein called 40S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	SQ	141	Total	C	N	O	S	0	0
			1124	715	212	194	3		

- Molecule 5 is a protein called 40S ribosomal protein S21.

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

- Molecule 6 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	SX	137	Total	C	N	O	S	0	0
			1060	671	209	177	3		

- Molecule 7 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	Sa	96	Total	C	N	O	S	0	0
			767	476	159	127	5		

- Molecule 8 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	SU	69	Total	C	N	O	S	0	0
			554	346	109	95	4		

- Molecule 9 is a protein called 40S ribosomal protein S28.

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

- Molecule 10 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	ST	138	Total	C	N	O	S	0	0
			1078	675	208	192	3		

- Molecule 11 is a protein called Receptor of activated protein C kinase 1.

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

- Molecule 12 is a protein called 40S ribosomal protein S2.

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

- Molecule 13 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	Sd	44	Total	C	N	O	S	0	0
			361	224	76	56	5		

- Molecule 14 is a protein called 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	SJ	179	Total	C	N	O	S	0	0
			1495	953	299	241	2		

- Molecule 15 is a protein called 40S ribosomal protein S13.

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

- Molecule 16 is a protein called 40S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	SO	128	Total	C	N	O	S	0	0
			961	587	190	178	6		

- Molecule 17 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	SG	230	Total	C	N	O	S	0	0
			1862	1164	371	320	7		

- Molecule 18 is a protein called 40S ribosomal protein S15a.

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

- Molecule 19 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	SY	125	Total	C	N	O	S	0	0
			1015	642	199	169	5		

- Molecule 20 is a protein called 40S ribosomal protein S30.

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

- Molecule 21 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	Sb	81	Total	C	N	O	S	0	0
			631	397	116	111	7		

- Molecule 22 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	SZ	66	Total	C	N	O	S	0	0
			523	338	93	91	1		

- Molecule 23 is a protein called Small ribosomal subunit protein uS2.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	SA	180	Total	C	N	O	S	0	0
			1436	916	256	257	7		

- Molecule 24 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	SB	211	Total	C	N	O	S	0	0
			1715	1088	307	306	14		

- Molecule 25 is a protein called 40S ribosomal protein S4, X isoform.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	SE	258	Total	C	N	O	S	0	0
			2050	1311	381	350	8		

- Molecule 26 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	SD	211	Total	C	N	O	S	0	0
			1641	1047	298	289	7		

- Molecule 27 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	SH	184	Total	C	N	O	S	0	0
			1481	943	273	264	1		

- Molecule 28 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	SI	184	Total	C	N	O	S	0	0
			1510	949	297	259	5		

- Molecule 29 is a protein called 40S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	SK	82	Total	C	N	O	S	0	0
			697	456	121	114	6		

- Molecule 30 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	SF	179	Total	C	N	O	S	0	0
			1419	890	265	257	7		

- Molecule 31 is a protein called 60S ribosomal protein L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	LA	245	Total	C	N	O	S	0	0
			1876	1177	383	310	6		

- Molecule 32 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	LB	395	Total	C	N	O	S	0	0
			3189	2030	600	545	14		

- Molecule 33 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	LC	354	Total	C	N	O	S	0	0
			2830	1782	566	469	13		

- Molecule 34 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	LD	287	Total	C	N	O	S	0	0
			2332	1476	423	419	14		

- Molecule 35 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	LE	190	Total	C	N	O	S	0	0
			1547	999	293	251	4		

- Molecule 36 is a protein called 60S ribosomal protein L7.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	LF	217	Total	C	N	O	S	0	0
			1803	1157	347	290	9		

- Molecule 37 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	LG	207	Total	C	N	O	S	0	0
			1673	1069	318	282	4		

- Molecule 38 is a protein called 60S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	LH	189	Total	C	N	O	S	0	0
			1513	953	283	271	6		

- Molecule 39 is a protein called 60S ribosomal protein L10-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	LI	199	Total	C	N	O	S	0	0
			1615	1027	311	264	13		

- Molecule 40 is a protein called 60S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	LJ	165	Total	C	N	O	S	0	0
			1324	837	248	233	6		

- Molecule 41 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	LL	191	Total	C	N	O	S	0	0
			1553	975	328	246	4		

- Molecule 42 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	LM	135	Total	C	N	O	S	0	0
			1111	713	213	178	7		

- Molecule 43 is a protein called 60S ribosomal protein L15.

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

- Molecule 44 is a protein called 60S ribosomal protein L13a.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	LO	199	Total	C	N	O	S	0	0
			1634	1053	319	257	5		

- Molecule 45 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	LP	152	Total	C	N	O	S	0	0
			1233	771	240	213	9		

- Molecule 46 is a protein called 60S ribosomal protein L18.

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

- Molecule 47 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	LR	173	Total	C	N	O	S	0	0
			1448	896	315	228	9		

- Molecule 48 is a protein called 60S ribosomal protein L18a.

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

- Molecule 49 is a protein called 60S ribosomal protein L21.

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

- Molecule 50 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	LU	99	Total	C	N	O	S	0	0
			808	518	141	147	2		

- Molecule 51 is a protein called 60S ribosomal protein L23.

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

- Molecule 52 is a protein called 60S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	LW	64	Total	C	N	O	S	0	0
			534	340	104	87	3		

- Molecule 53 is a protein called 60S ribosomal protein L23a.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	LX	117	Total	C	N	O	S	0	0
			958	612	180	165	1		

- Molecule 54 is a protein called 60S ribosomal protein L26.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	LY	131	Total	C	N	O	S	0	0
			1093	686	221	183	3		

- Molecule 55 is a protein called 60S ribosomal protein L27.

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

- Molecule 56 is a protein called 60S ribosomal protein L27a.

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

- Molecule 57 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	Lb	66	Total	C	N	O	S	0	0
			543	335	117	88	3		

- Molecule 58 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	Lc	93	Total	C	N	O	S	0	0
			721	459	126	130	6		

- Molecule 59 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	Ld	106	Total	C	N	O	S	0	0
			879	555	170	152	2		

- Molecule 60 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	Le	127	Total	C	N	O	S	0	0
			1048	664	215	164	5		

- Molecule 61 is a protein called 60S ribosomal protein L35a.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	Lf	108	Total	C	N	O	S	0	0
			870	552	173	142	3		

- Molecule 62 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	Lg	106	Total	C	N	O	S	0	0
			845	530	174	135	6		

- Molecule 63 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	Lh	120	Total	C	N	O	S	0	0
			1001	632	202	166	1		

- Molecule 64 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	Li	100	Total	C	N	O	S	0	0
			818	512	174	127	5		

- Molecule 65 is a protein called 60S ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	Lj	85	Total	C	N	O	S	0	0
			696	428	153	110	5		

- Molecule 66 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	Lk	68	Total	C	N	O	S	0	0
			559	360	101	97	1		

- Molecule 67 is a protein called 60S ribosomal protein L39.

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

- Molecule 68 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	Lm	51	Total	C	N	O	S	0	0
			419	260	88	65	6		

- Molecule 69 is a protein called 60S ribosomal protein L41.

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

- Molecule 70 is a protein called 60S ribosomal protein L36a.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	Lo	102	Total	C	N	O	S	0	0
			834	522	171	135	6		

- Molecule 71 is a protein called 60S ribosomal protein L37a.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	Lp	89	Total	C	N	O	S	0	0
			690	436	133	114	7		

- Molecule 72 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	Lr	124	Total	C	N	O	S	0	0
			995	617	206	167	5		

- Molecule 73 is a RNA chain called 28S ribosomal RNA|HOMO SAPIENS.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	L5	3292	Total	C	N	O	P	0	0
			70611	31452	12942	22925	3292		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
L5	4942	G	C	conflict	GB 86475748
L5	4943	C	A	conflict	GB 86475748

- Molecule 74 is a RNA chain called 5S ribosomal RNA|HOMO SAPIENS.

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

- Molecule 75 is a RNA chain called 5.8S ribosomal RNA|HOMO SAPIENS.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	L8	151	Total	C	N	O	P	0	0
			3214	1434	570	1059	151		

- Molecule 76 is a RNA chain called 18S ribosomal RNA|HOMO SAPIENS.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	S2	1625	Total	C	N	O	P	0	0
			34646	15464	6230	11328	1624		

There are 5 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
S2	582	C	U	conflict	GB 36162
S2	583	C	A	conflict	GB 36162
S2	584	G	A	conflict	GB 36162
S2	798	A	G	conflict	GB 36162
S2	1095	U	C	conflict	GB 36162

- Molecule 77 is a RNA chain called HUMAN INITIATOR MET-TRNA-I|HOMO SAPIENS.

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

- Molecule 78 is a protein called Elongation factor 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	CA	550	Total	C	N	O	S	0	0
			4327	2756	747	798	26		

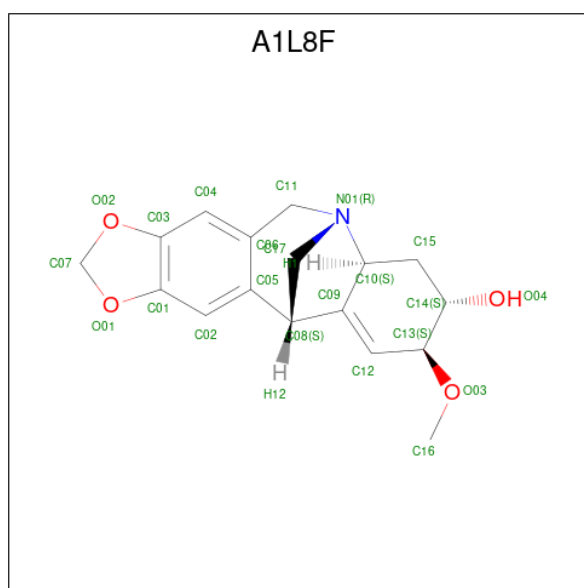
- Molecule 79 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
79	SX	1	Total	Mg	0
			1	1	
79	LA	3	Total	Mg	0
			3	3	
79	LN	1	Total	Mg	0
			1	1	
79	LO	1	Total	Mg	0
			1	1	
79	L5	234	Total	Mg	0
			234	234	
79	L7	10	Total	Mg	0
			10	10	
79	L8	6	Total	Mg	0
			6	6	
79	S2	35	Total	Mg	0
			35	35	

- Molecule 80 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
80	Sa	1	Total	Zn	0
			1	1	
80	Lg	1	Total	Zn	0
			1	1	
80	Lj	1	Total	Zn	0
			1	1	
80	Lm	1	Total	Zn	0
			1	1	
80	Lo	1	Total	Zn	0
			1	1	
80	Lp	1	Total	Zn	0
			1	1	

- Molecule 81 is (1S,13S,15S,16S)-16-methoxy-5,7-dioxa-12-azapentacyclo[10.6.1.0²,10.0⁴,8.0¹³,18]nonadeca-2,4(8),9,17-tetraen-15-ol (CCD ID: A1L8F) (formula: C₁₇H₁₉NO₄) (labeled as "Ligand of Interest" by depositor).

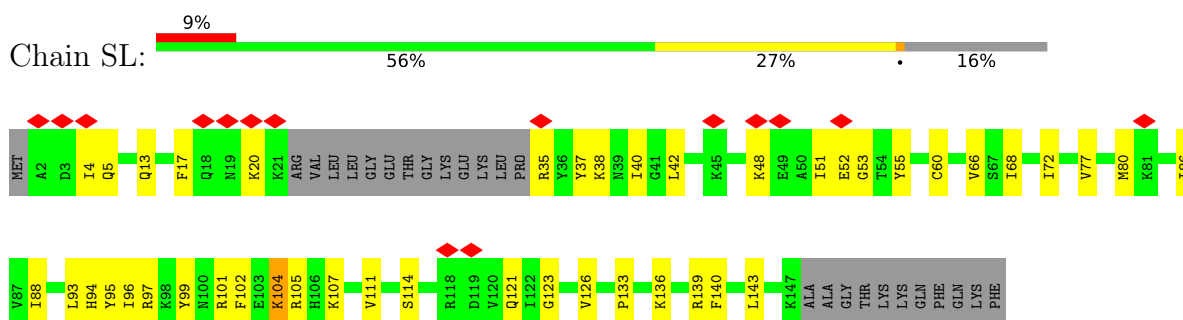


Mol	Chain	Residues	Atoms				AltConf
81	L5	1	Total	C	N	O	0
			22	17	1	4	

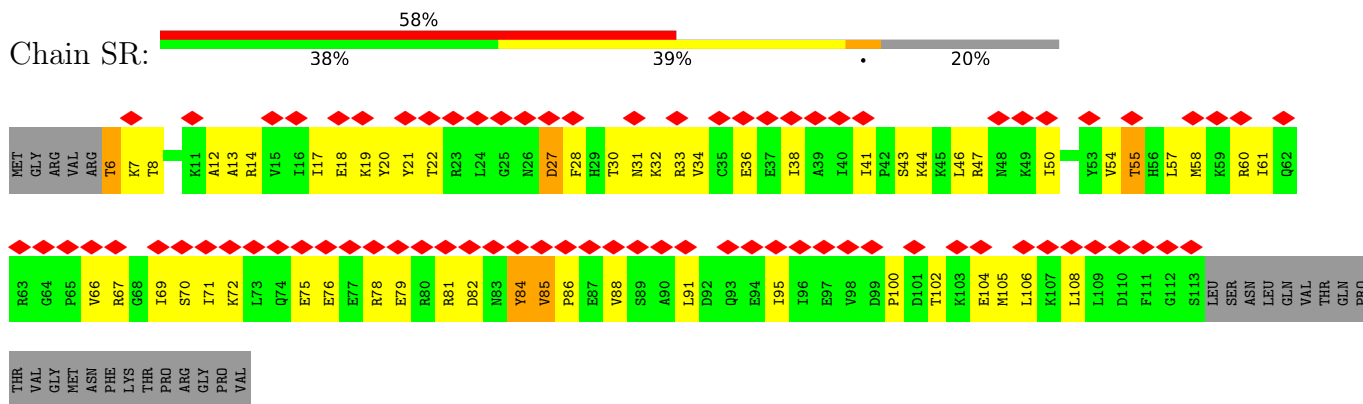
3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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.

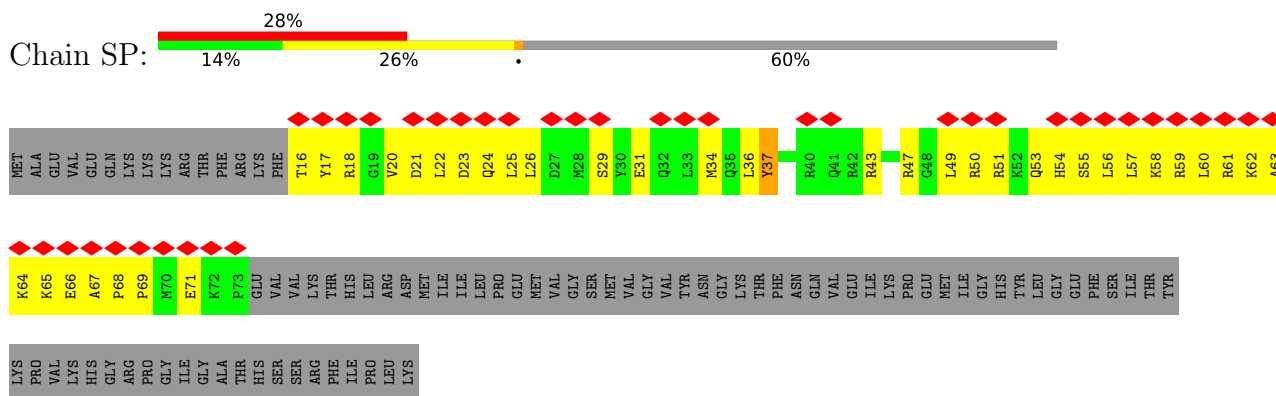
- Molecule 1: 40S ribosomal protein S11



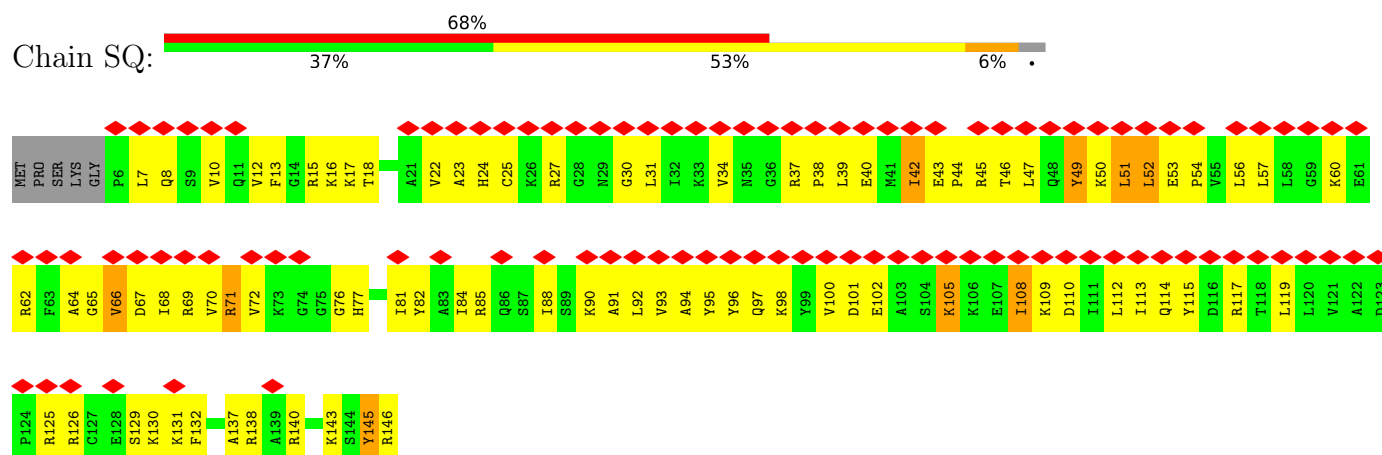
- Molecule 2: 40S ribosomal protein S17



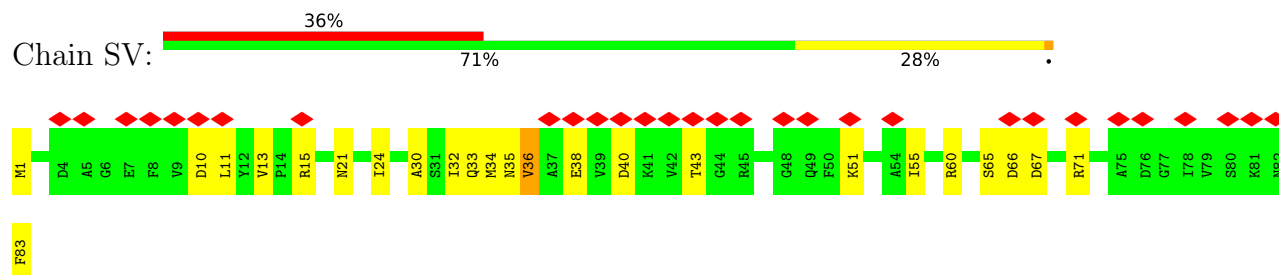
- Molecule 3: 40S ribosomal protein S15



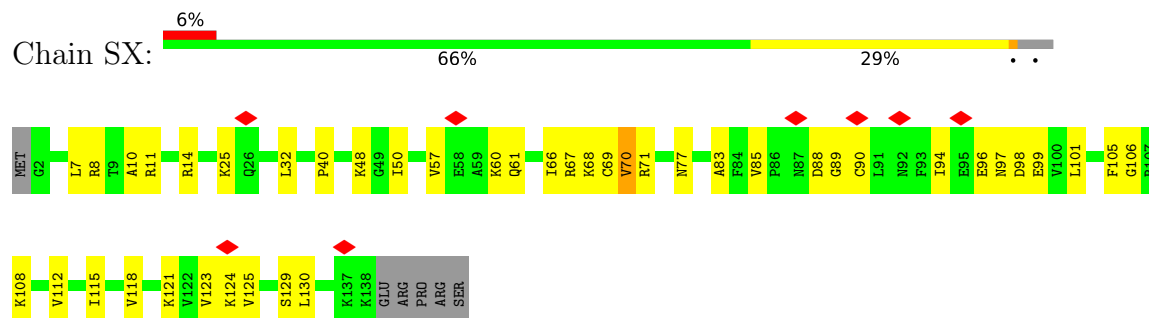
- Molecule 4: 40S ribosomal protein S16



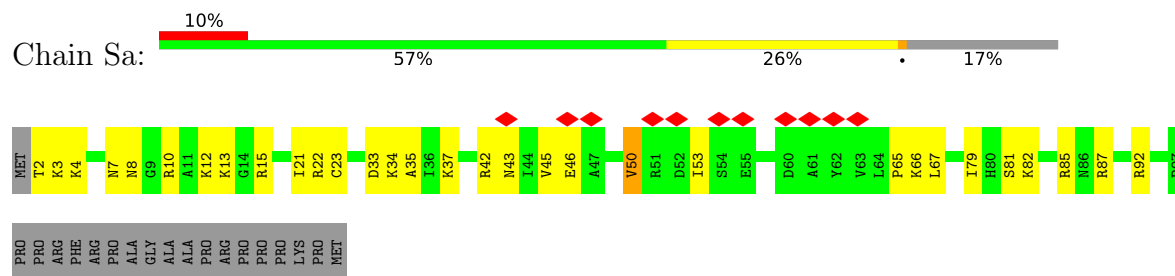
- Molecule 5: 40S ribosomal protein S21



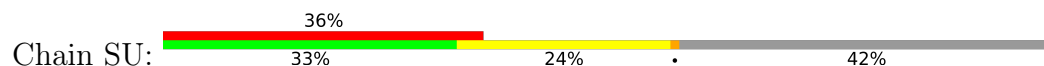
- Molecule 6: 40S ribosomal protein S23

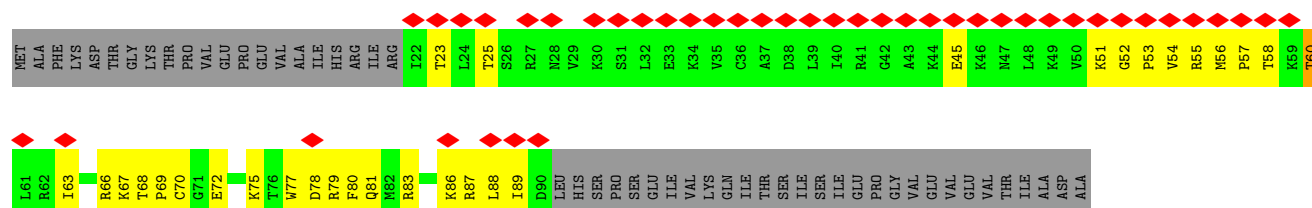


- Molecule 7: 40S ribosomal protein S26

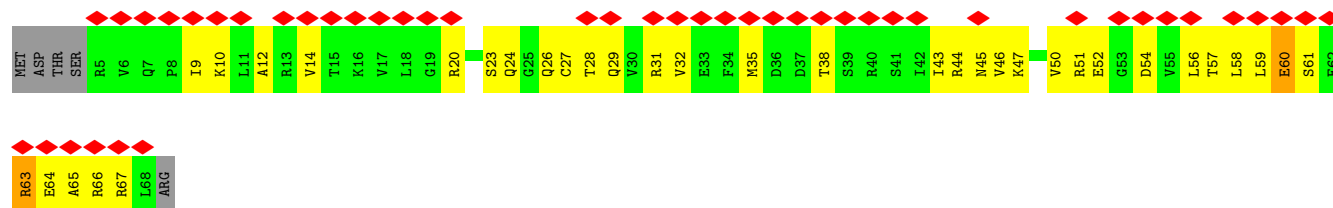
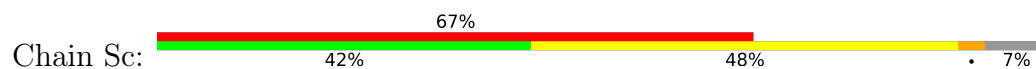


- Molecule 8: 40S ribosomal protein S20

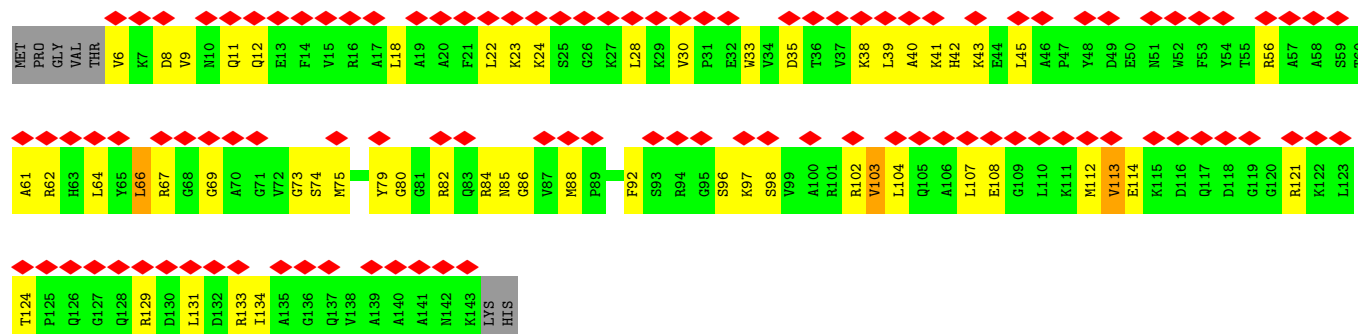
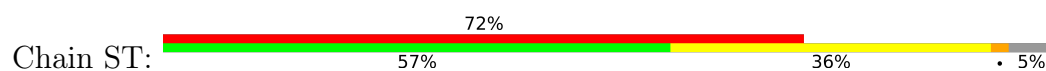




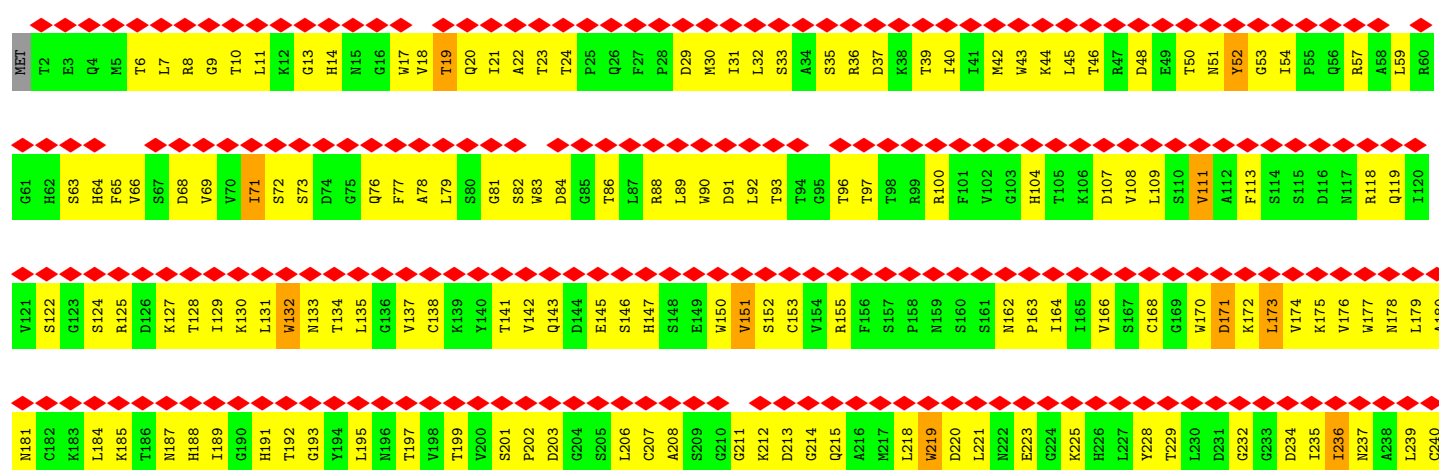
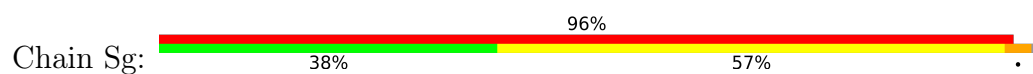
• Molecule 9: 40S ribosomal protein S28



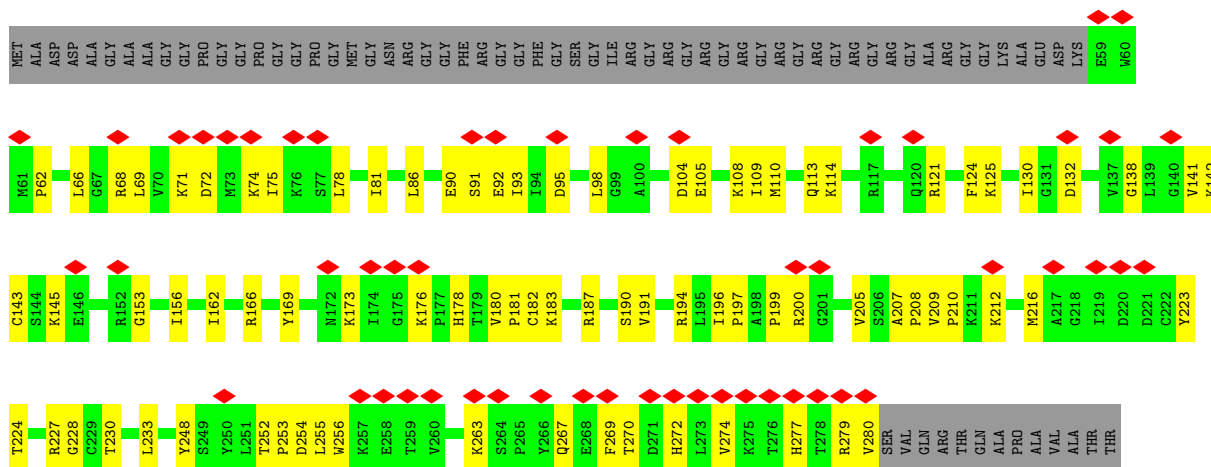
• Molecule 10: 40S ribosomal protein S19



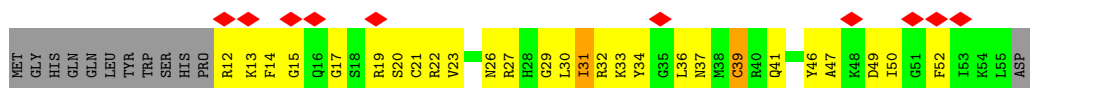
• Molecule 11: Receptor of activated protein C kinase 1



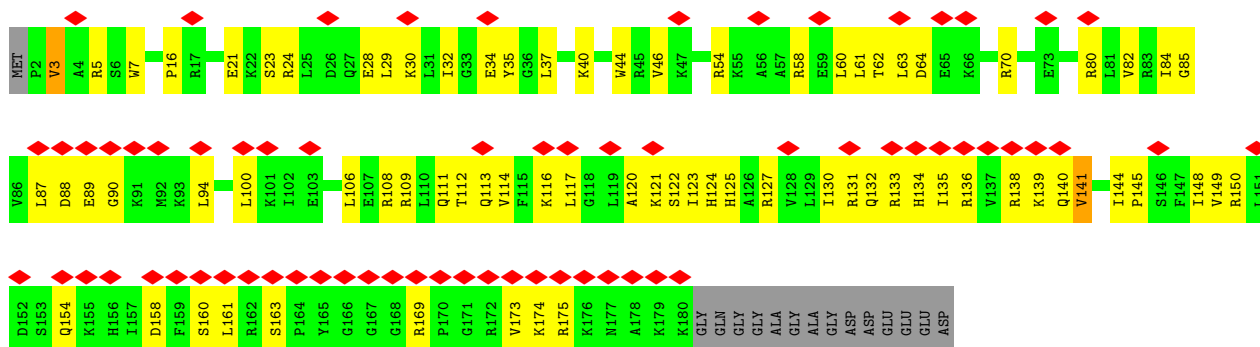
- Molecule 12: 40S ribosomal protein S2



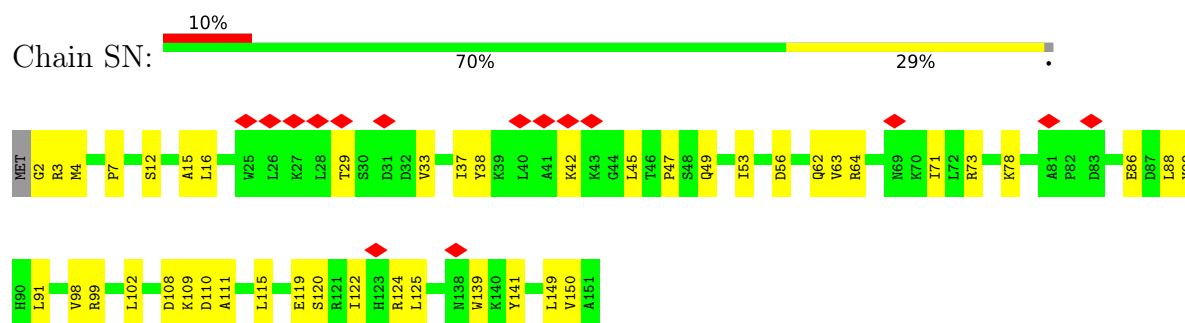
- Molecule 13: 40S ribosomal protein S29



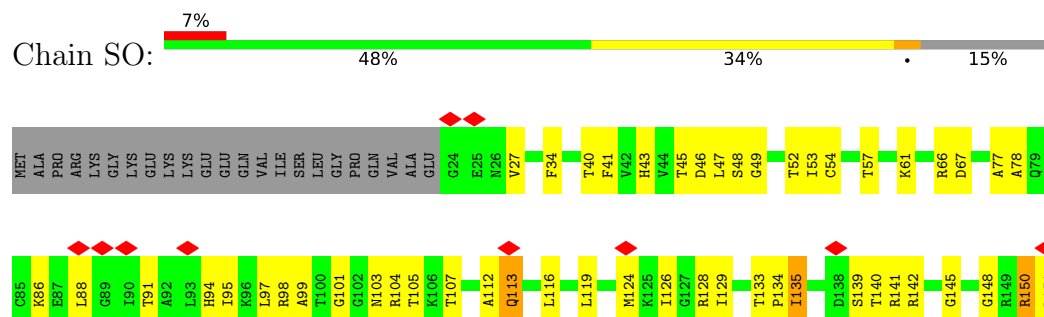
- Molecule 14: 40S ribosomal protein S9



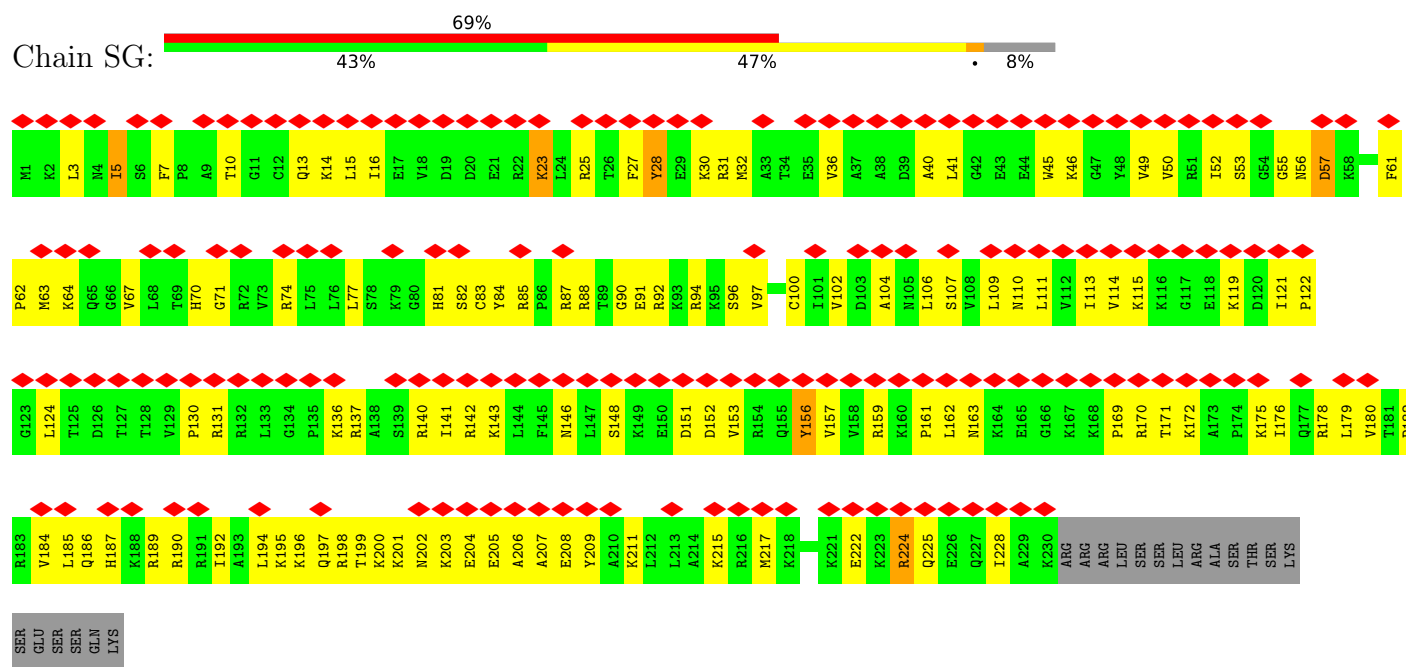
- Molecule 15: 40S ribosomal protein S13



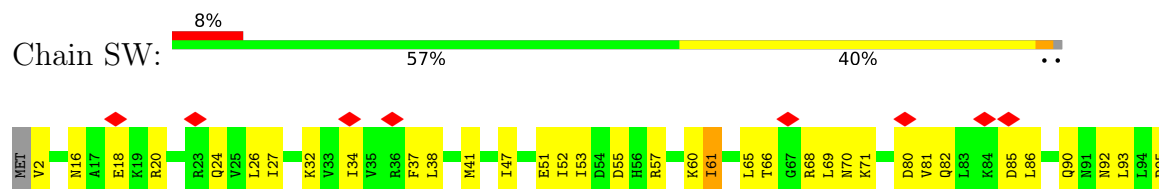
• Molecule 16: 40S ribosomal protein S14



• Molecule 17: 40S ribosomal protein S6

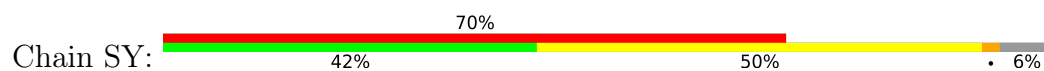


• Molecule 18: 40S ribosomal protein S15a





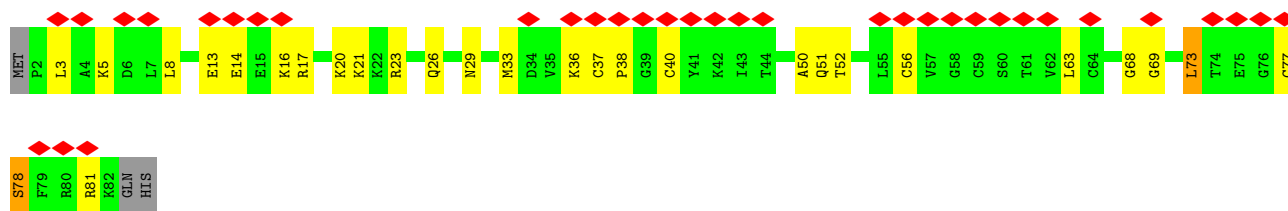
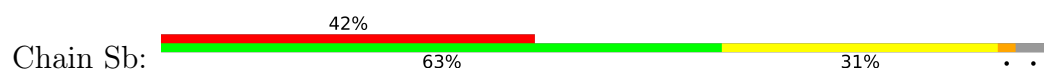
- Molecule 19: 40S ribosomal protein S24



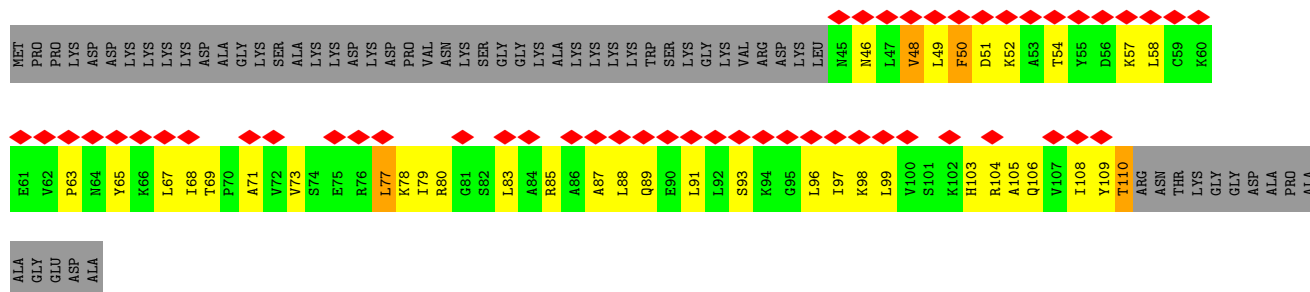
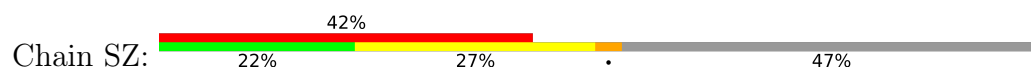
- Molecule 20: 40S ribosomal protein S30



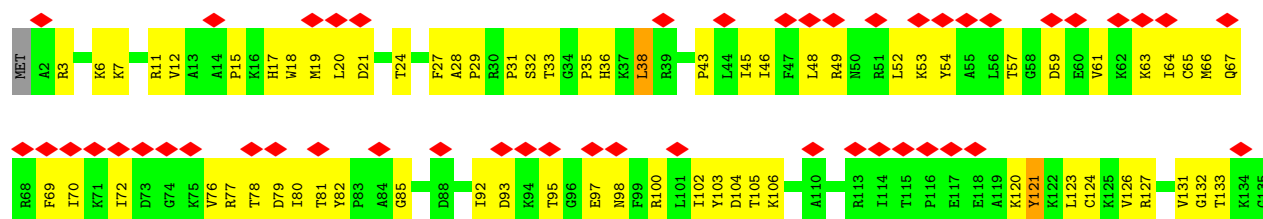
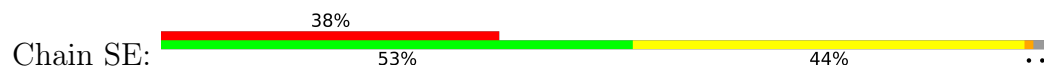
- Molecule 21: 40S ribosomal protein S27

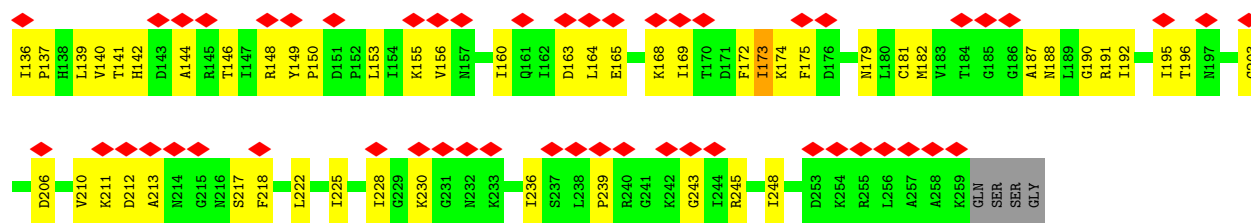


- Molecule 22: 40S ribosomal protein S25

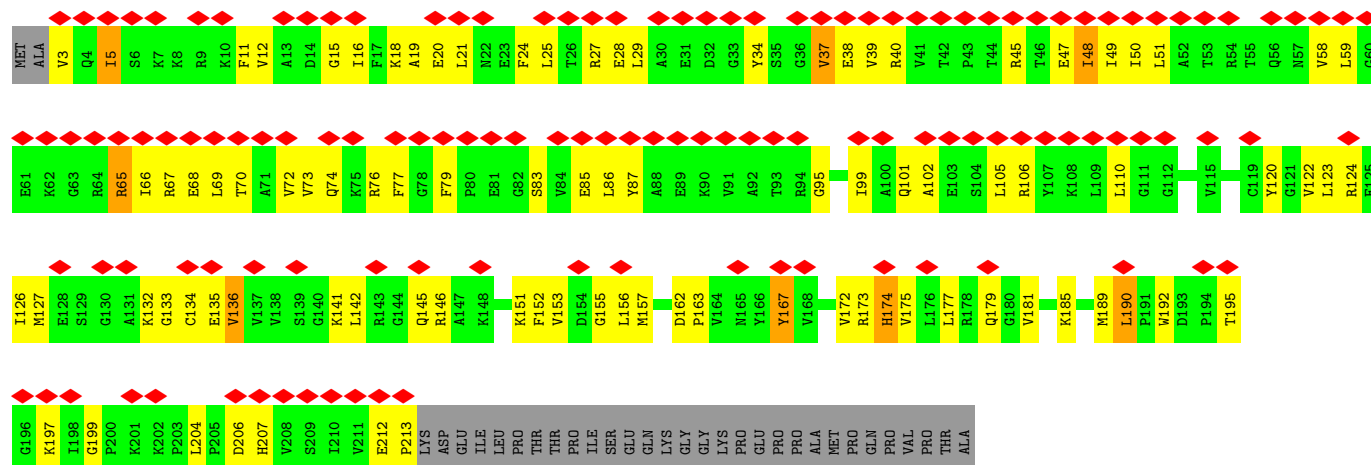


Chain SA:

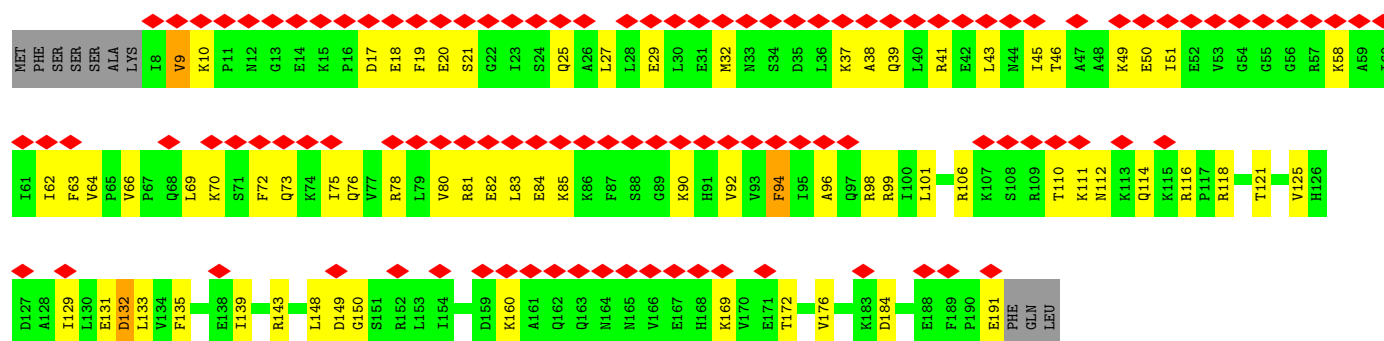




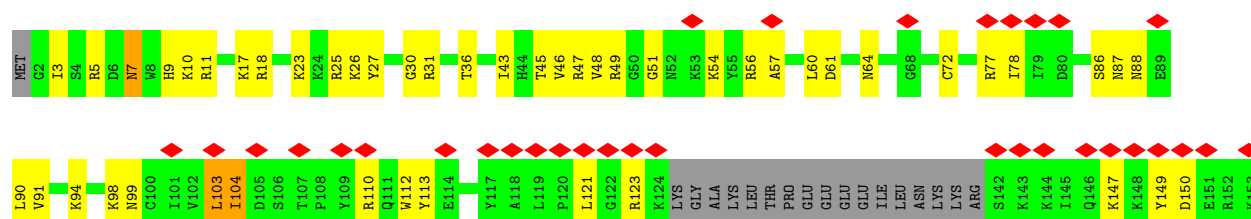
• Molecule 26: 40S ribosomal protein S3

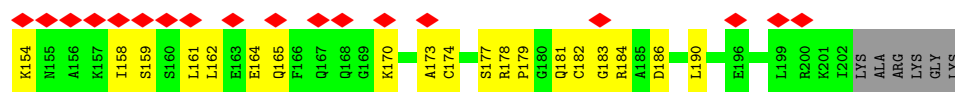


• Molecule 27: 40S ribosomal protein S7

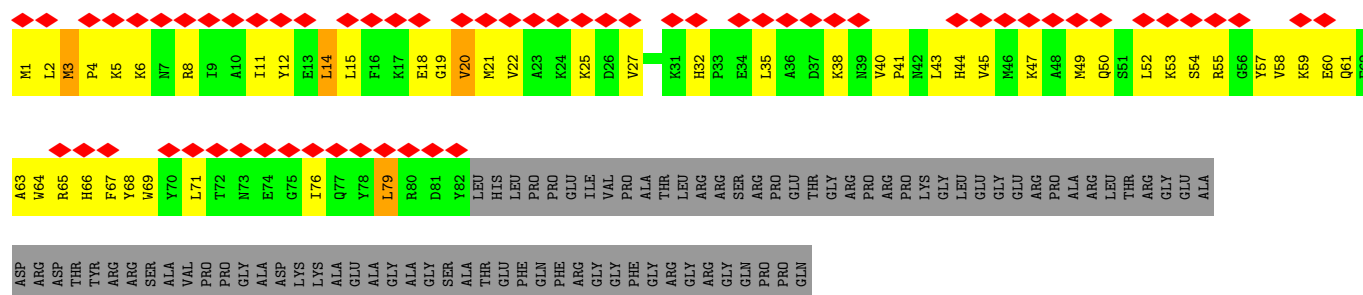


• Molecule 28: 40S ribosomal protein S8





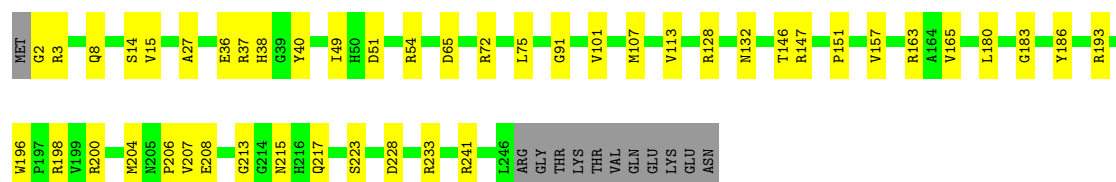
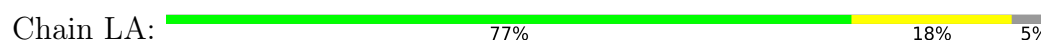
• Molecule 29: 40S ribosomal protein S10



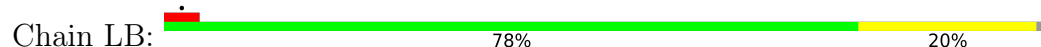
• Molecule 30: 40S ribosomal protein S5

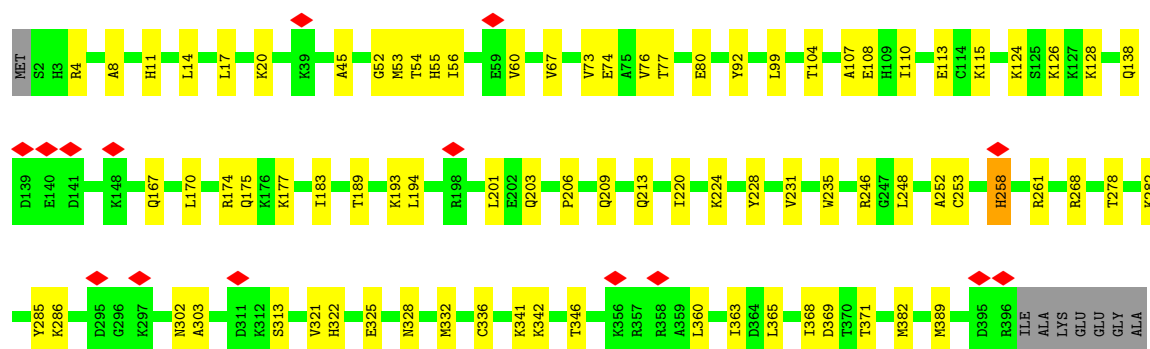


• Molecule 31: 60S ribosomal protein L8



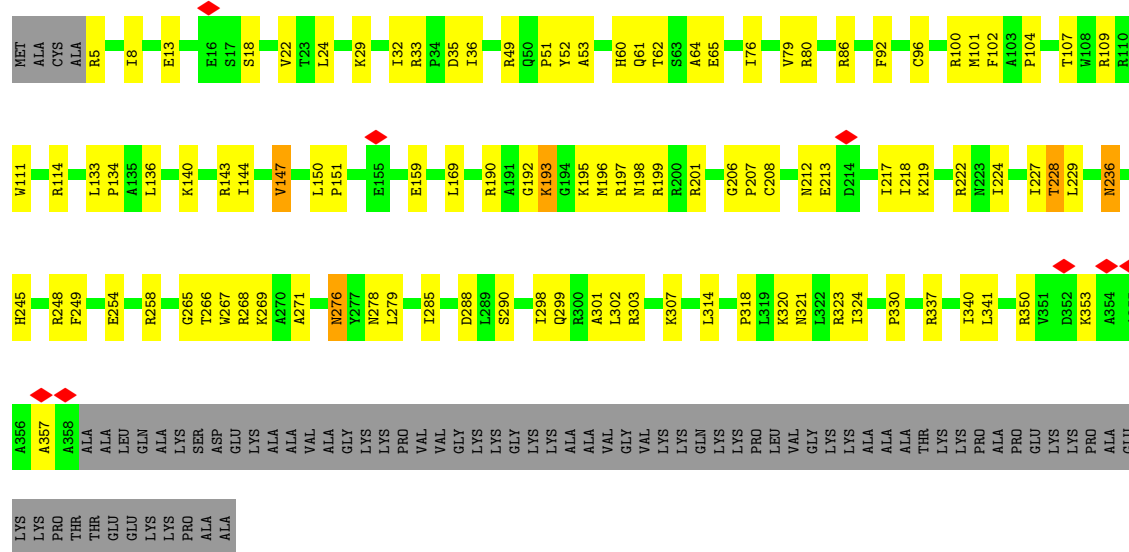
• Molecule 32: 60S ribosomal protein L3





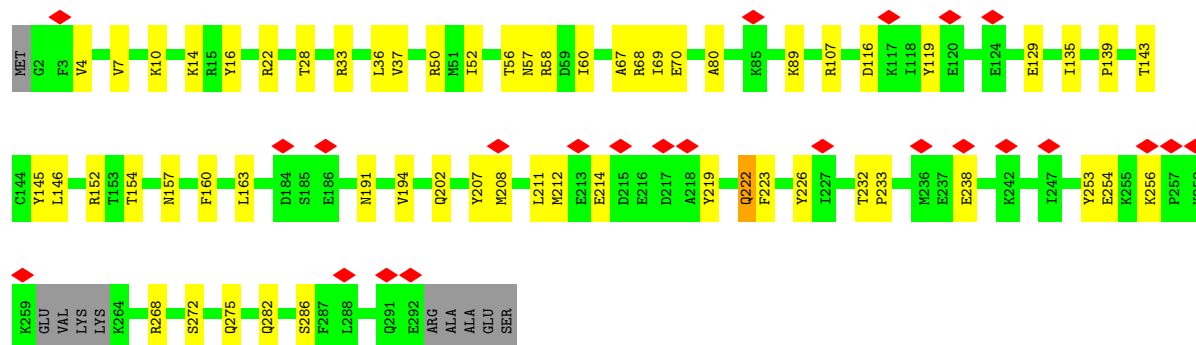
• Molecule 33: 60S ribosomal protein L4

Chain LC: 59% 23% 17%



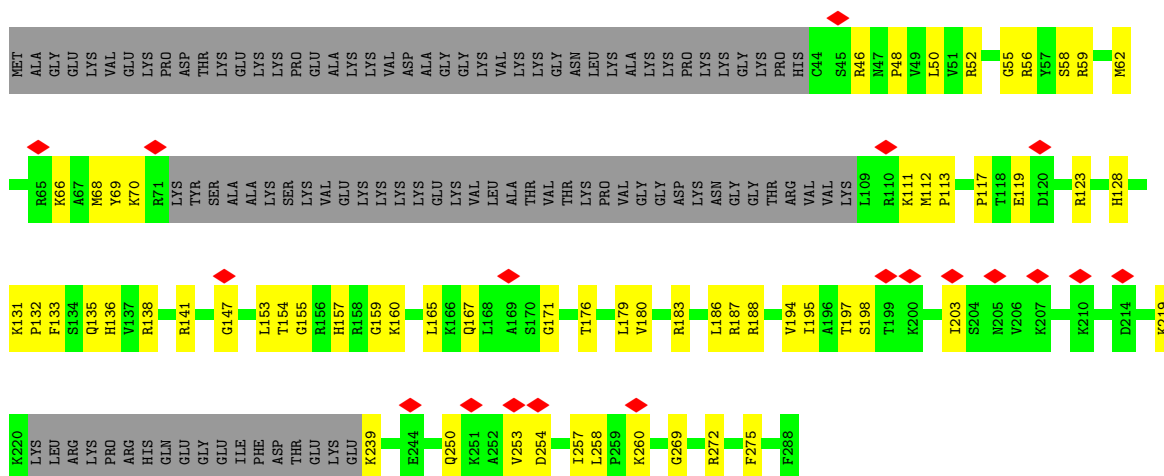
• Molecule 34: 60S ribosomal protein L5

Chain LD: 77% 20%

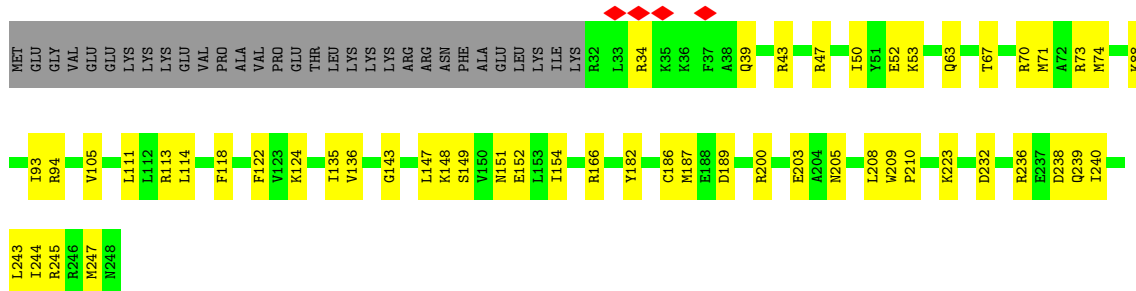


• Molecule 35: 60S ribosomal protein L6

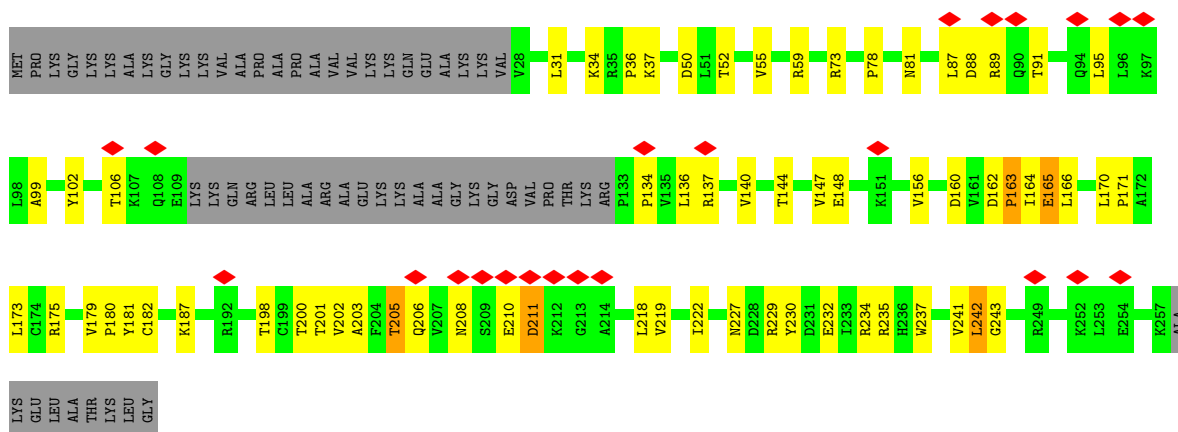
Chain LE: 45% 21% 34%



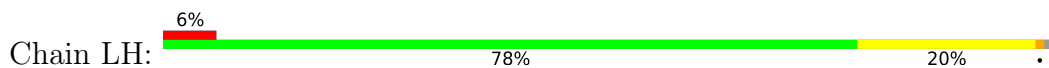
• Molecule 36: 60S ribosomal protein L7

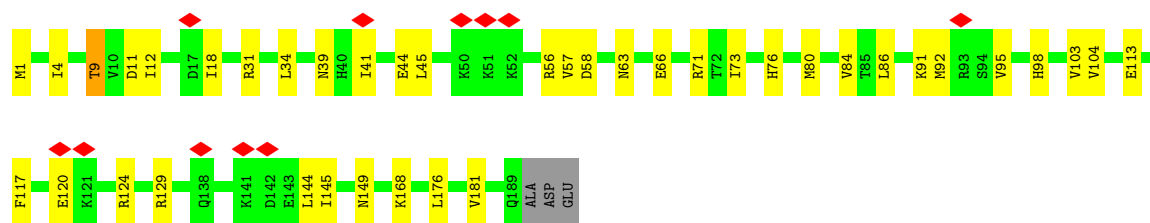


• Molecule 37: 60S ribosomal protein L7a



• Molecule 38: 60S ribosomal protein L9





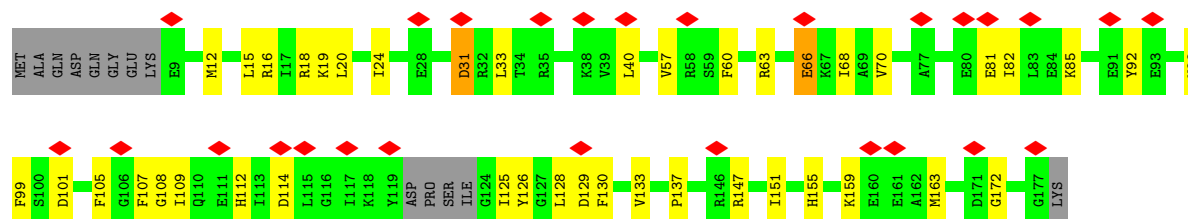
- Molecule 39: 60S ribosomal protein L10-like

Chain LI: 68% 24% 7%



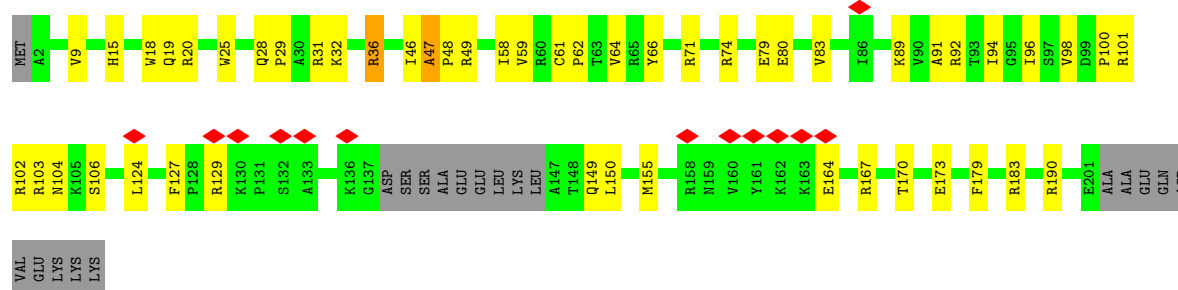
- Molecule 40: 60S ribosomal protein L11

Chain LJ: 15% 69% 22% 7%



- Molecule 41: 60S ribosomal protein L13

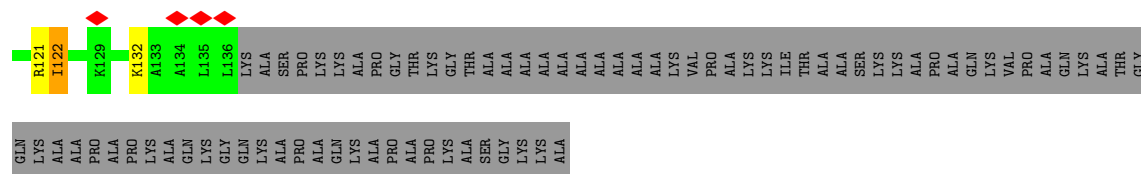
Chain LL: 6% 66% 23% 9%



- Molecule 42: 60S ribosomal protein L14

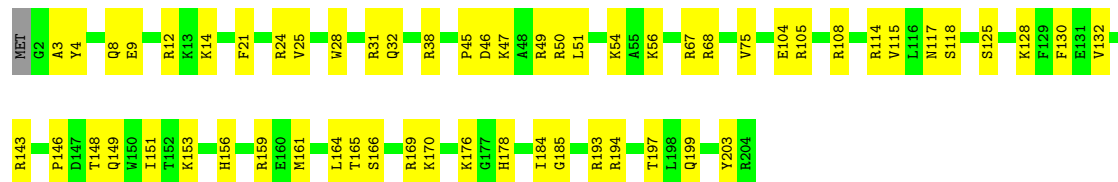
Chain LM: 46% 16% 37%





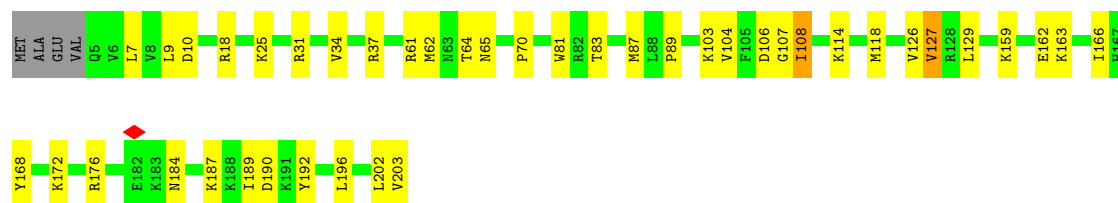
- Molecule 43: 60S ribosomal protein L15

Chain LN: 71% 28%



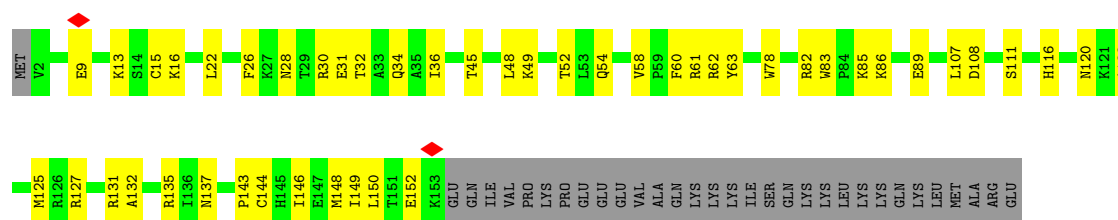
- Molecule 44: 60S ribosomal protein L13a

Chain LO: 77% 20%



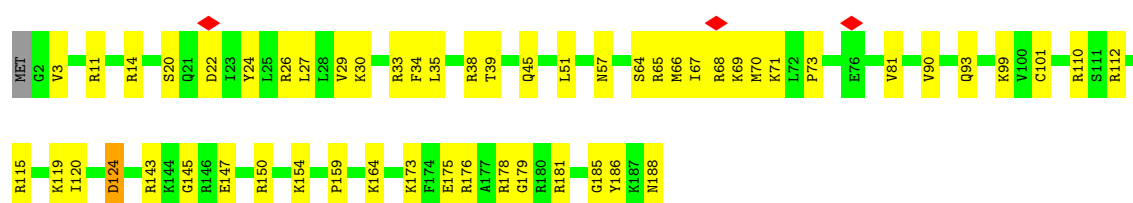
- Molecule 45: 60S ribosomal protein L17

Chain LP: 57% 26% 17%

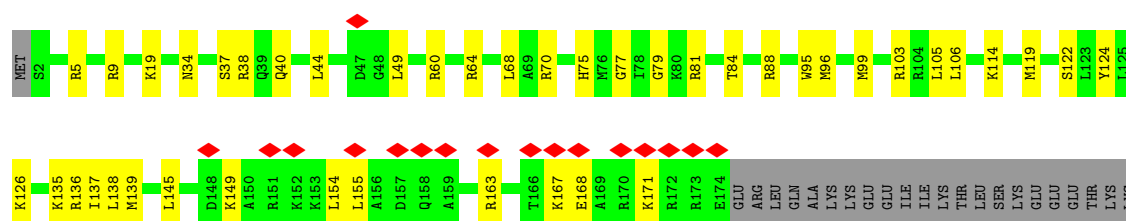


- Molecule 46: 60S ribosomal protein L18

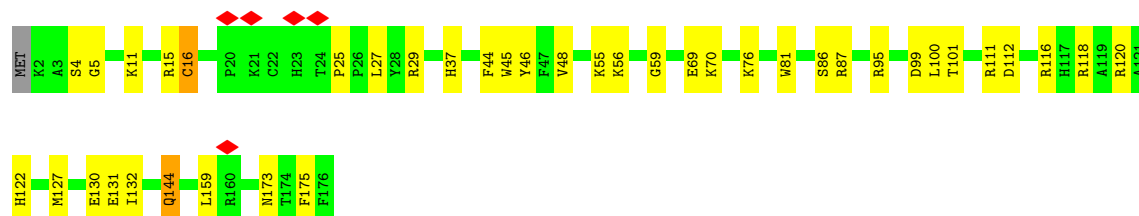
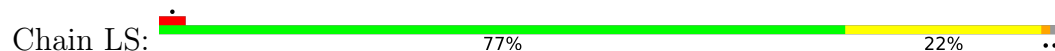
Chain LQ: 71% 28%



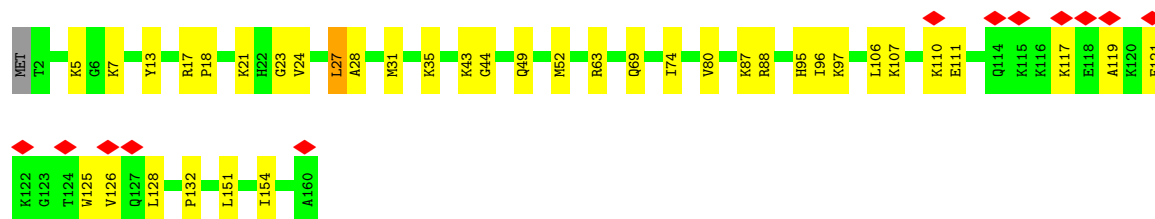
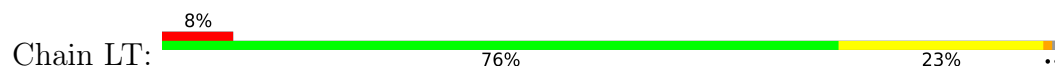
- Molecule 47: 60S ribosomal protein L19



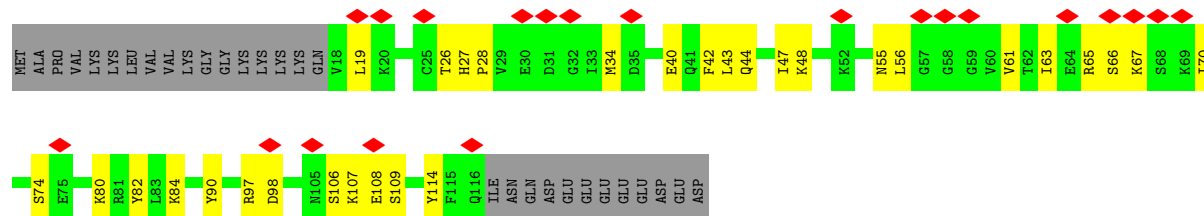
- Molecule 48: 60S ribosomal protein L18a



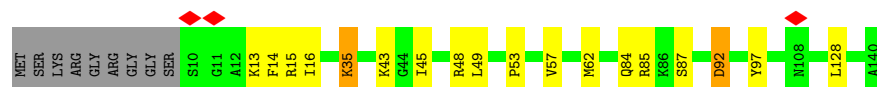
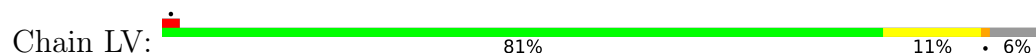
- Molecule 49: 60S ribosomal protein L21



- Molecule 50: 60S ribosomal protein L22



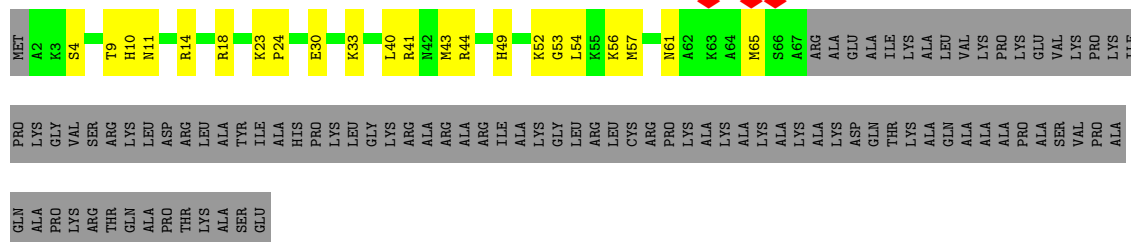
- Molecule 51: 60S ribosomal protein L23



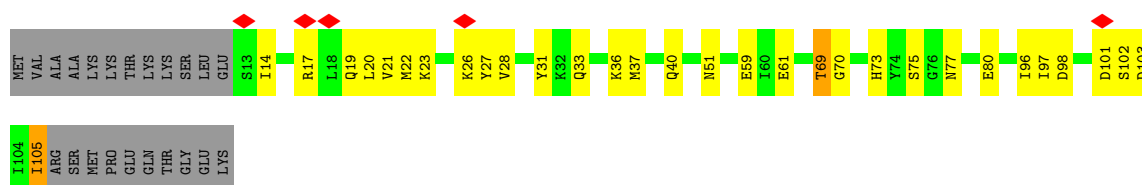
- [illegible]



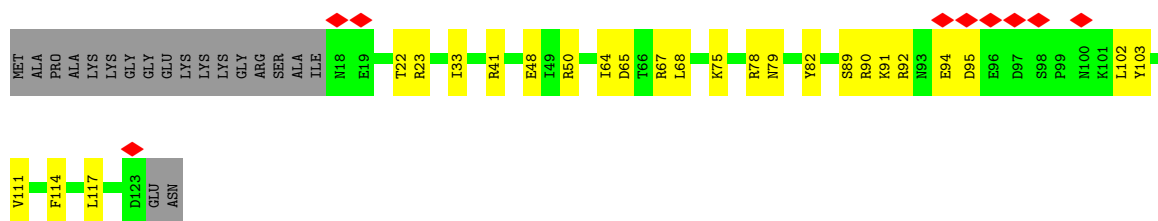
- Molecule 57: 60S ribosomal protein L29



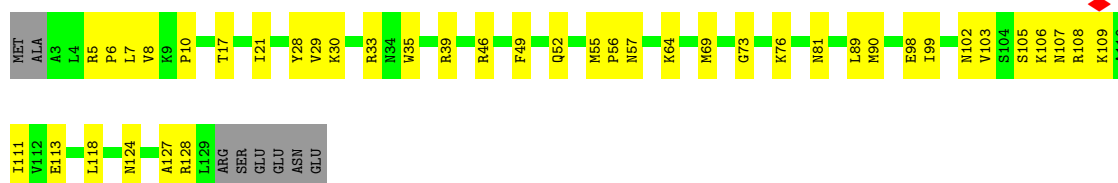
- Molecule 58: 60S ribosomal protein L30



- Molecule 59: 60S ribosomal protein L31



- Molecule 60: 60S ribosomal protein L32



- Molecule 61: 60S ribosomal protein L35a

Chain Lf:  85% 14%



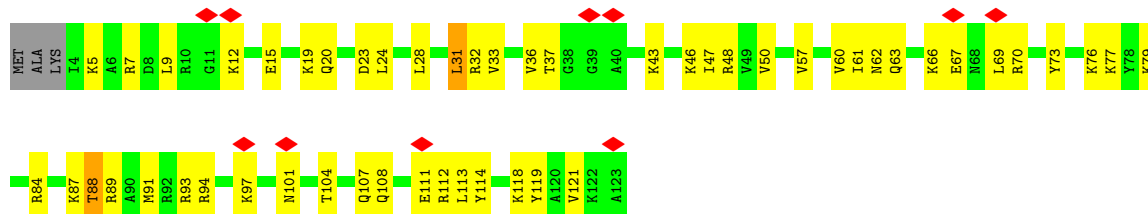
- Molecule 62: 60S ribosomal protein L34

Chain Lg:  73% 18% 9%



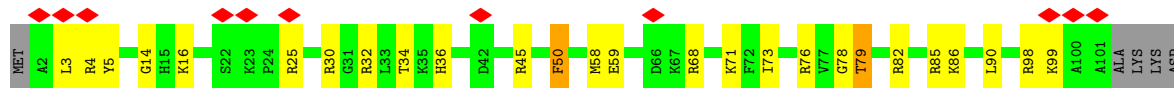
- Molecule 63: 60S ribosomal protein L35

Chain Lh:  8% 55% 41%



- Molecule 64: 60S ribosomal protein L36

Chain Li:  10% 70% 23% 5%



- Molecule 65: 60S ribosomal protein L37

Chain Lj:  59% 28% 12%



- Molecule 66: 60S ribosomal protein L38

Chain Lk:  24% 67% 30%

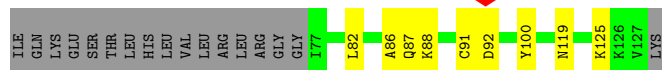
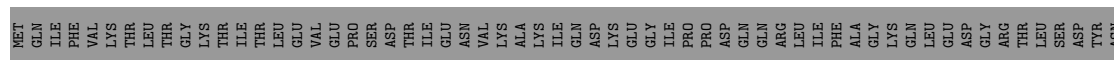
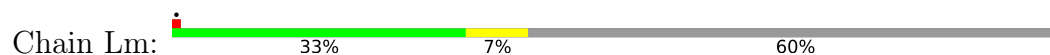


- Molecule 67: 60S ribosomal protein L39

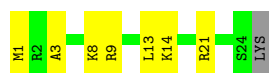
Chain Ll:  47% 47% 6%



- Molecule 68: Ubiquitin-60S ribosomal protein L40



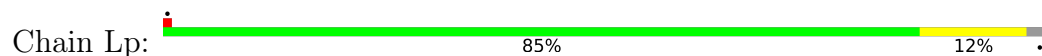
- Molecule 69: 60S ribosomal protein L41



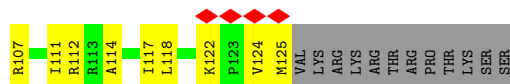
- Molecule 70: 60S ribosomal protein L36a



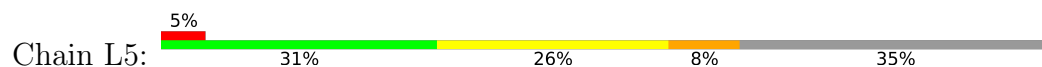
- Molecule 71: 60S ribosomal protein L37a



- Molecule 72: 60S ribosomal protein L28



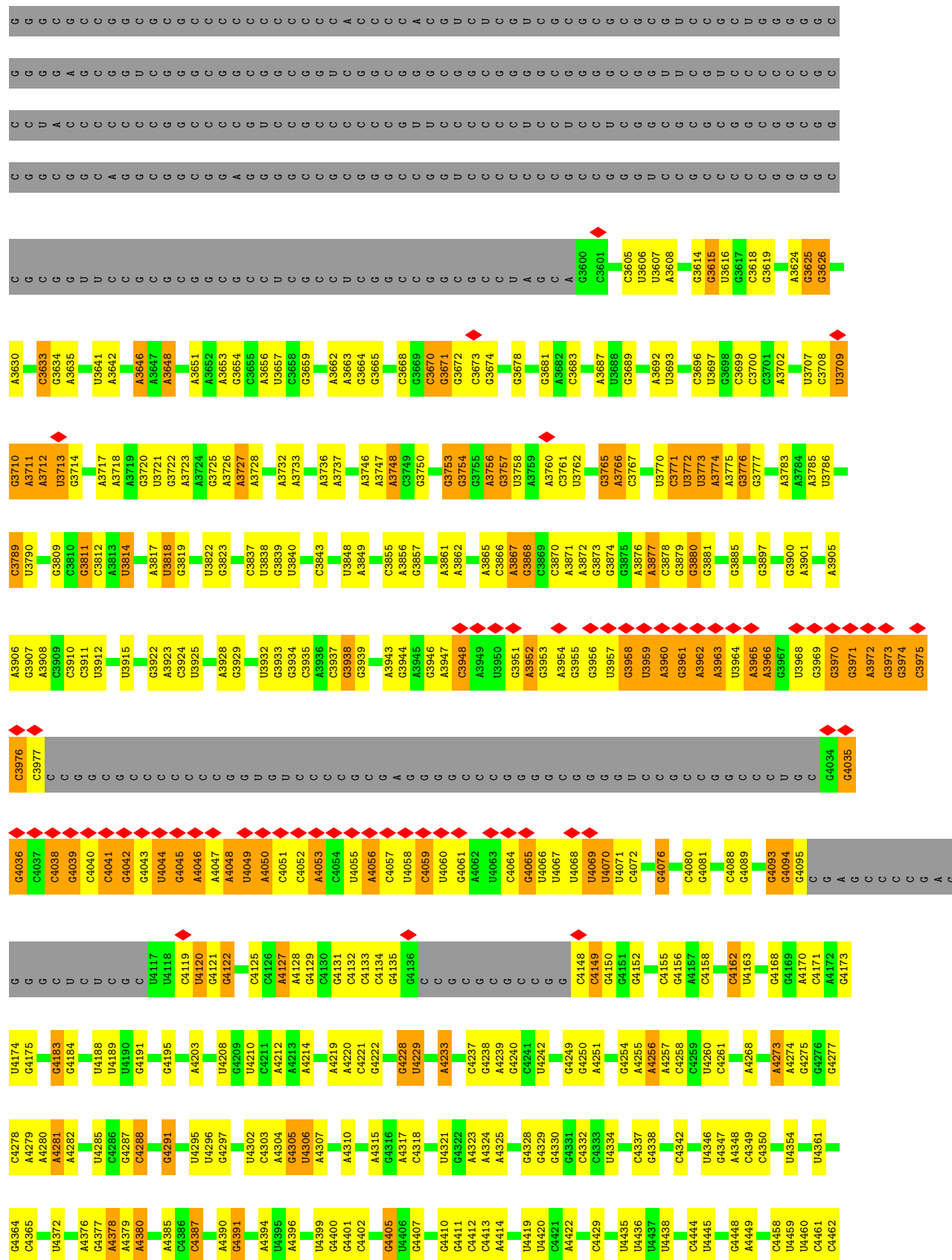
- Molecule 73: 28S ribosomal RNA|HOMO SAPIENS

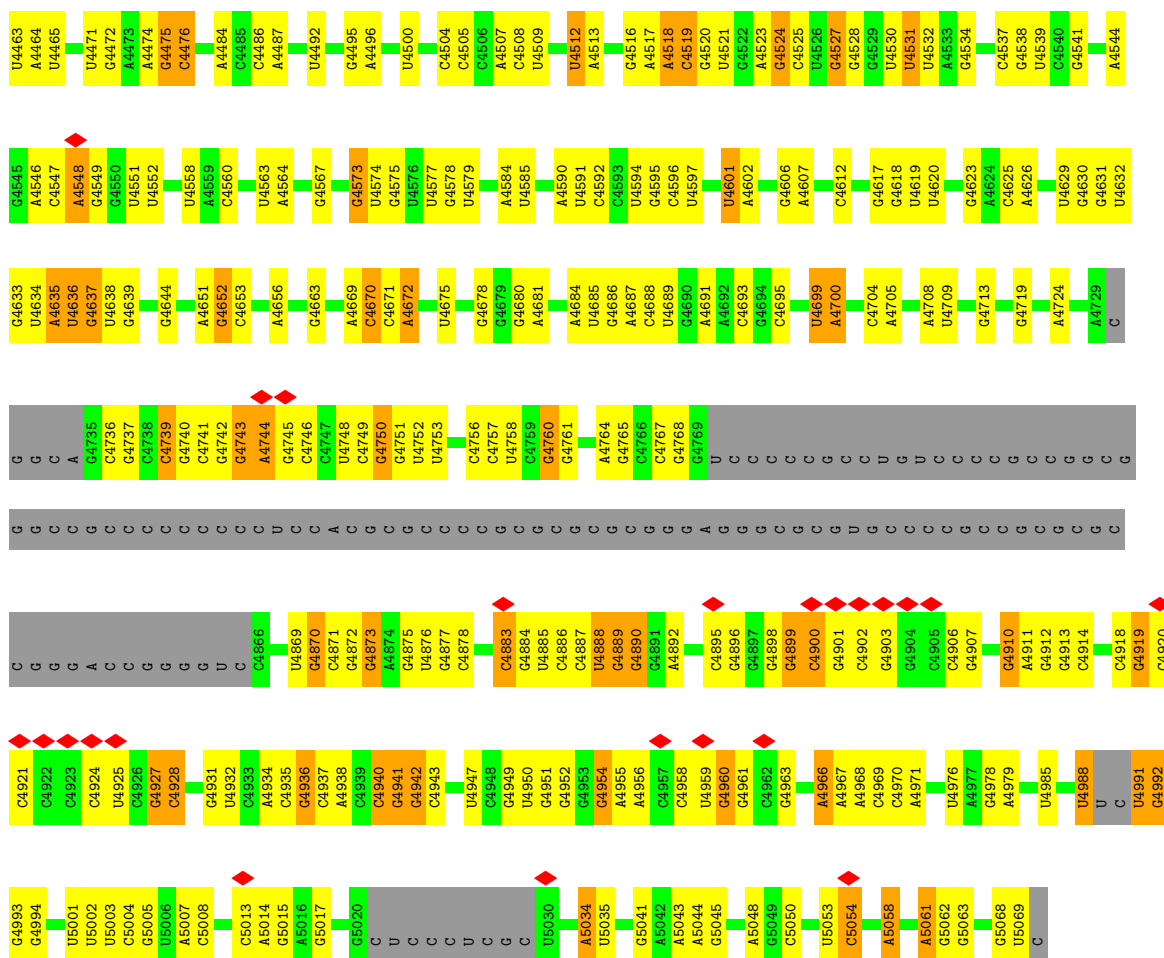




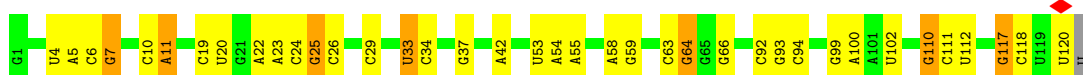




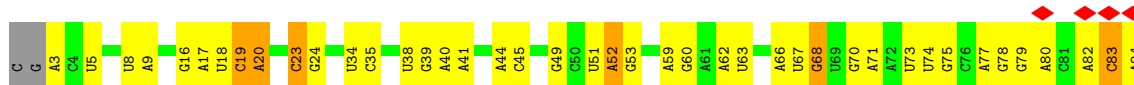




• Molecule 74: 5S ribosomal RNA|HOMO SAPIENS

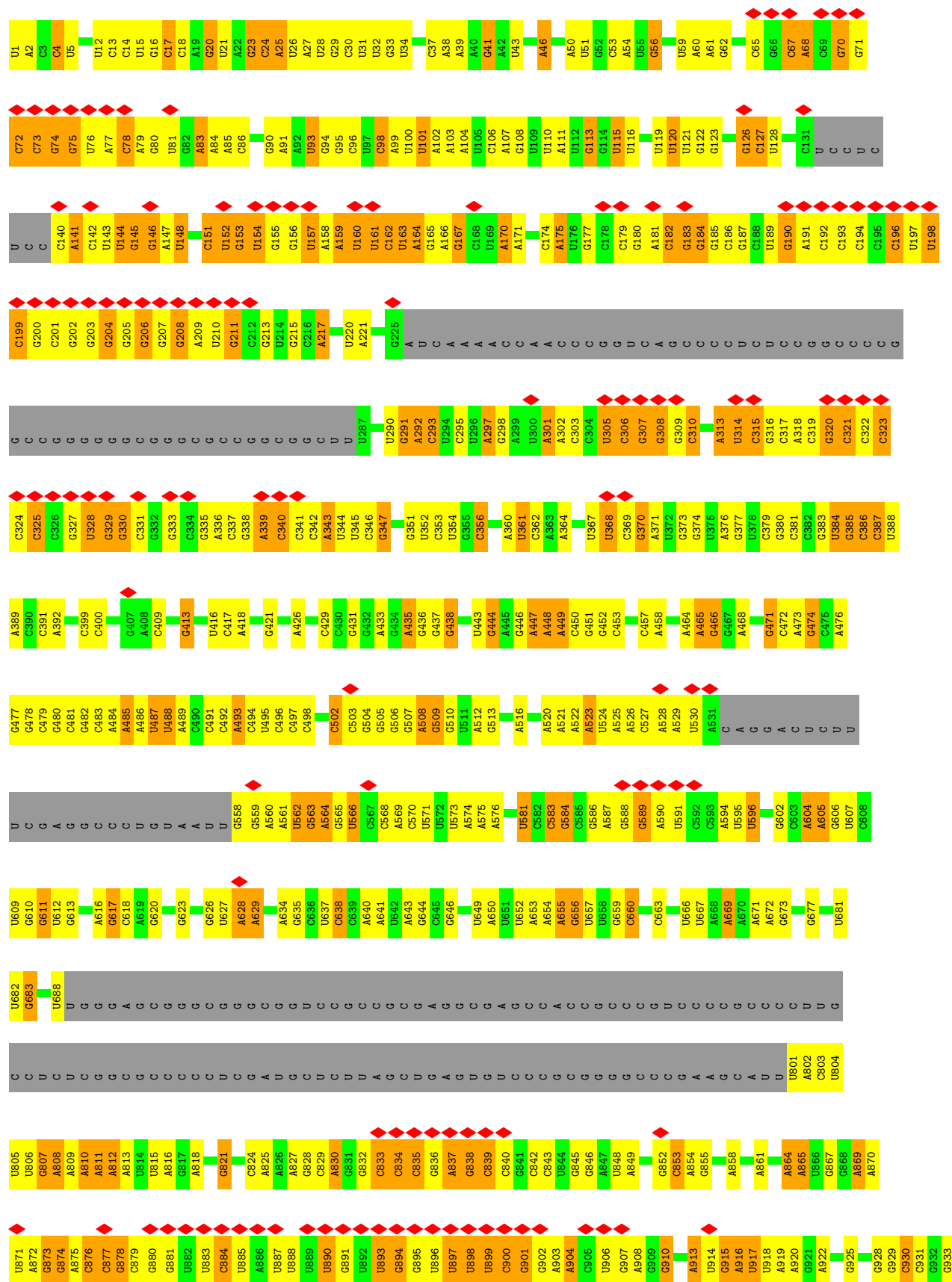


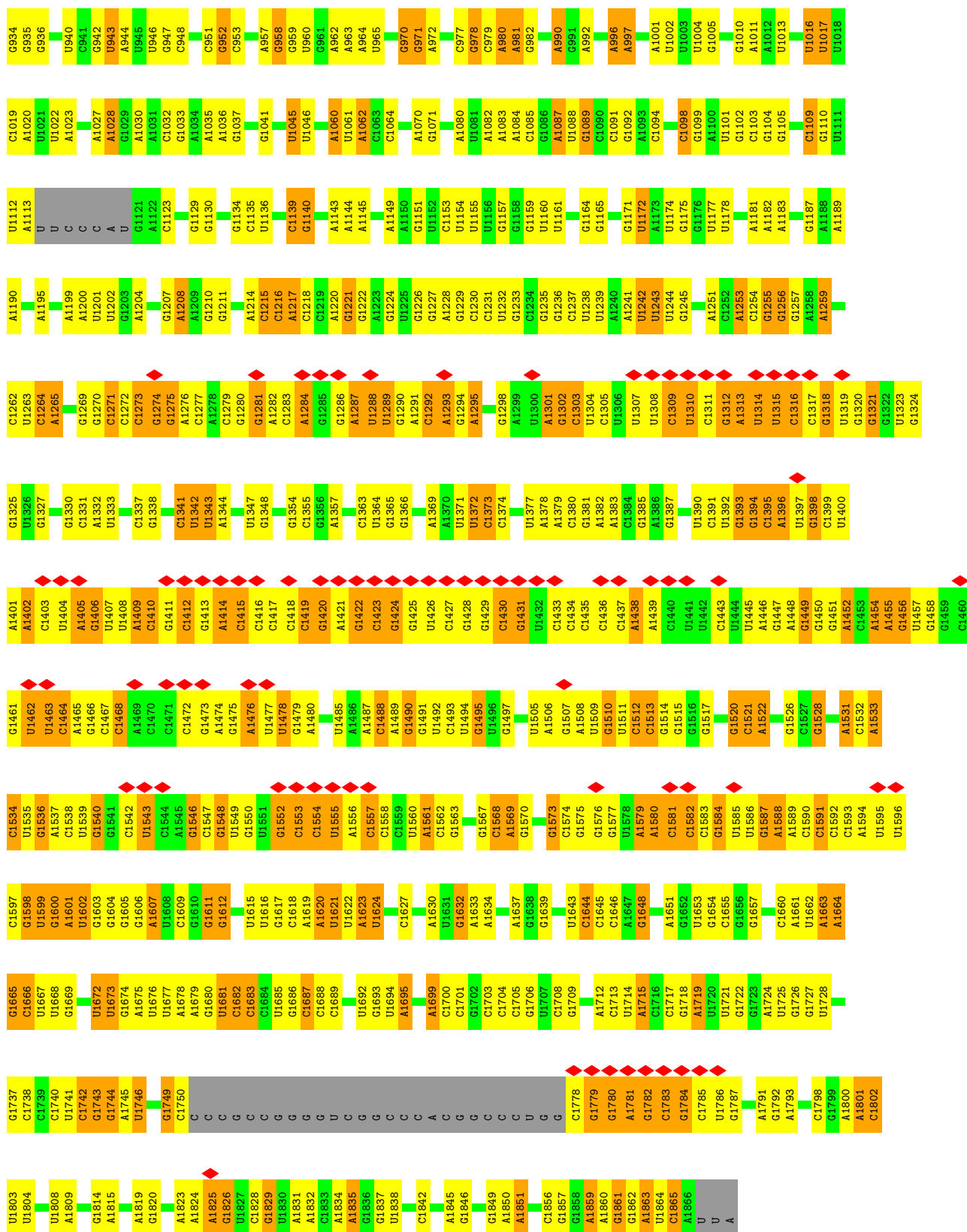
• Molecule 75: 5.8S ribosomal RNA|HOMO SAPIENS

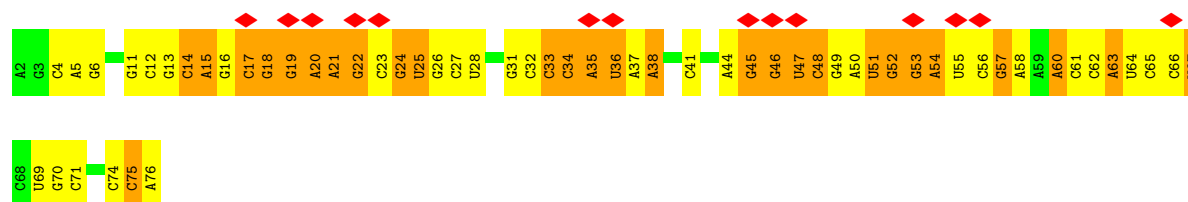


• Molecule 76: 18S ribosomal RNA|HOMO SAPIENS

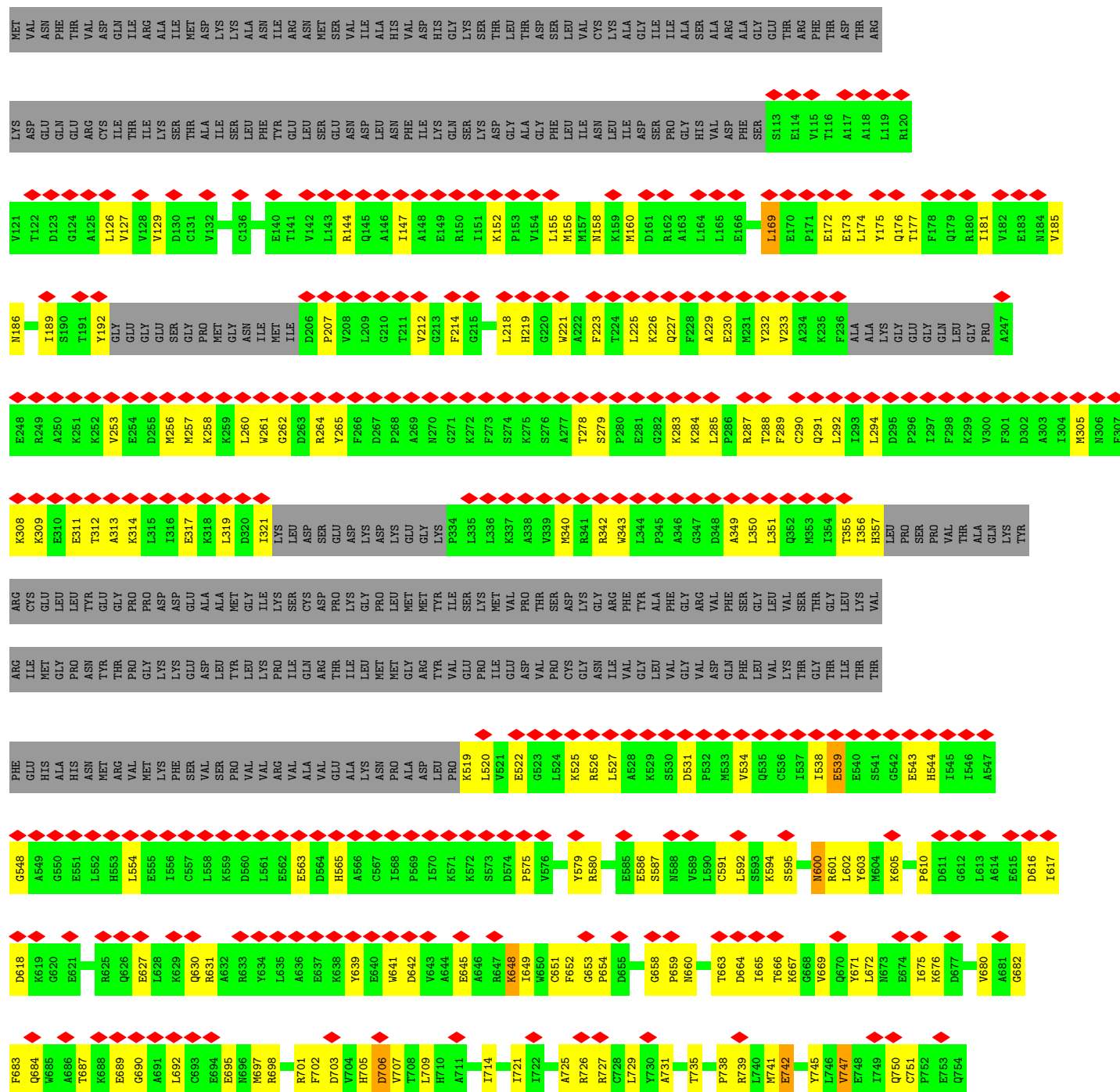
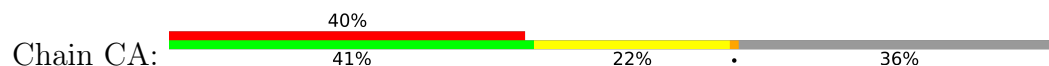


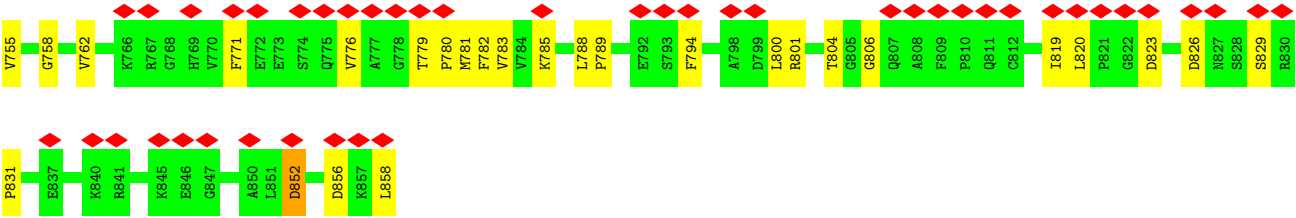






• Molecule 78: Elongation factor 2





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	Not provided	
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	JEOL CRYO ARM 300	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	40	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2400	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.721	Depositor
Minimum map value	-0.370	Depositor
Average map value	0.006	Depositor
Map value standard deviation	0.037	Depositor
Recommended contour level	0.13	Depositor
Map size (Å)	403.45596, 403.45596, 403.45596	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.7879999, 0.7879999, 0.7879999	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, A1L8F, 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	$\# Z > 5$	RMSZ	$\# Z > 5$
1	SL	0.17	0/1118	0.33	0/1495
2	SR	0.19	0/894	0.54	0/1198
3	SP	0.20	0/500	0.58	0/663
4	SQ	0.21	0/1142	0.50	0/1528
5	SV	0.14	0/643	0.36	0/860
6	SX	0.17	0/1077	0.38	0/1438
7	Sa	0.17	0/778	0.33	0/1041
8	SU	0.22	0/560	0.49	0/747
9	Sc	0.19	0/508	0.58	0/680
10	ST	0.16	0/1096	0.48	0/1468
11	Sg	0.19	0/2493	0.52	0/3394
12	SC	0.16	0/1762	0.37	0/2381
13	Sd	0.17	0/366	0.46	0/481
14	SJ	0.17	0/1520	0.39	0/2030
15	SN	0.16	0/1232	0.32	0/1656
16	SO	0.16	0/973	0.35	0/1303
17	SG	0.19	0/1885	0.52	0/2510
18	SW	0.19	0/1051	0.40	0/1406
19	SY	0.18	0/1032	0.42	0/1371
20	Se	0.16	0/465	0.42	0/612
21	Sb	0.16	0/644	0.45	0/864
22	SZ	0.19	0/529	0.52	0/712
23	SA	0.17	0/1471	0.37	0/2004
24	SB	0.15	0/1742	0.31	0/2330
25	SE	0.16	0/2092	0.44	0/2816
26	SD	0.17	0/1667	0.41	0/2243
27	SH	0.16	0/1503	0.37	0/2014
28	SI	0.16	0/1537	0.40	0/2052
29	SK	0.19	0/717	0.46	0/963
30	SF	0.19	0/1439	0.50	0/1933
31	LA	0.22	0/1914	0.36	0/2567
32	LB	0.20	0/3257	0.33	0/4359

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	LC	0.18	0/2884	0.36	0/3873
34	LD	0.16	0/2377	0.33	0/3184
35	LE	0.16	0/1577	0.36	0/2115
36	LF	0.18	0/1837	0.28	0/2449
37	LG	0.21	0/1704	0.38	1/2299 (0.0%)
38	LH	0.17	0/1532	0.29	0/2059
39	LI	0.18	0/1654	0.32	0/2210
40	LJ	0.16	0/1345	0.34	0/1796
41	LL	0.16	0/1583	0.32	0/2117
42	LM	0.15	0/1133	0.29	0/1516
43	LN	0.19	0/1746	0.35	0/2338
44	LO	0.18	0/1666	0.30	0/2228
45	LP	0.18	0/1259	0.31	0/1689
46	LQ	0.18	0/1537	0.37	0/2052
47	LR	0.16	0/1464	0.32	0/1935
48	LS	0.24	0/1493	0.34	0/2003
49	LT	0.17	0/1326	0.29	0/1770
50	LU	0.13	0/822	0.33	0/1103
51	LV	0.18	0/993	0.33	0/1332
52	LW	0.15	0/547	0.31	0/728
53	LX	0.17	0/975	0.36	0/1312
54	LY	0.16	0/1110	0.31	0/1477
55	LZ	0.16	0/1130	0.30	0/1507
56	La	0.22	0/1191	0.44	0/1591
57	Lb	0.16	0/553	0.31	0/729
58	Lc	0.18	0/731	0.37	0/982
59	Ld	0.19	0/894	0.33	0/1204
60	Le	0.20	0/1066	0.35	0/1422
61	Lf	0.20	0/889	0.35	0/1190
62	Lg	0.17	0/855	0.33	0/1140
63	Lh	0.16	0/1009	0.34	0/1333
64	Li	0.17	0/829	0.41	0/1097
65	Lj	0.19	0/711	0.42	0/941
66	Lk	0.16	0/565	0.27	0/750
67	Ll	0.21	0/454	0.40	0/599
68	Lm	0.17	0/425	0.42	0/564
69	Ln	0.18	0/231	0.28	0/294
70	Lo	0.25	0/847	0.40	0/1117
71	Lp	0.18	0/700	0.29	0/930
72	Lr	0.19	0/1010	0.39	0/1354
73	L5	0.23	0/78988	0.36	0/123170
74	L7	0.20	0/2858	0.26	0/4455
75	L8	0.20	0/3589	0.32	0/5589

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
76	S2	0.18	0/38744	0.36	0/60383
77	S6	0.18	0/1795	0.41	0/2798
78	CA	0.14	0/4411	0.36	0/5955
All	All	0.20	0/216646	0.36	1/317798 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	LG	163	PRO	N-CA-C	-5.40	101.35	112.47

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	SL	1099	0	1155	36	0
2	SR	883	0	925	56	0
3	SP	494	0	527	35	0
4	SQ	1124	0	1193	95	0
5	SV	636	0	637	21	0
6	SX	1060	0	1128	40	0
7	Sa	767	0	815	31	0
8	SU	554	0	608	36	0
9	Sc	506	0	536	37	0
10	ST	1078	0	1106	46	0
11	Sg	2436	0	2393	177	0
12	SC	1725	0	1813	66	0
13	Sd	361	0	369	32	0
14	SJ	1495	0	1615	74	0
15	SN	1208	0	1294	32	0
16	SO	961	0	985	41	0
17	SG	1862	0	2018	136	0
18	SW	1034	0	1080	45	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
19	SY	1015	0	1086	85	0
20	Se	459	0	503	29	0
21	Sb	631	0	655	22	0
22	SZ	523	0	573	42	0
23	SA	1436	0	1443	52	0
24	SB	1715	0	1785	48	0
25	SE	2050	0	2156	94	0
26	SD	1641	0	1732	78	0
27	SH	1481	0	1576	51	0
28	SI	1510	0	1574	59	0
29	SK	697	0	711	53	0
30	SF	1419	0	1467	100	0
31	LA	1876	0	1970	34	0
32	LB	3189	0	3327	52	0
33	LC	2830	0	3002	84	0
34	LD	2332	0	2350	42	0
35	LE	1547	0	1683	45	0
36	LF	1803	0	1922	39	0
37	LG	1673	0	1781	58	0
38	LH	1513	0	1596	28	0
39	LI	1615	0	1654	34	0
40	LJ	1324	0	1358	33	0
41	LL	1553	0	1669	44	0
42	LM	1111	0	1174	27	0
43	LN	1701	0	1749	46	0
44	LO	1634	0	1779	35	0
45	LP	1233	0	1263	36	0
46	LQ	1513	0	1628	49	0
47	LR	1448	0	1595	35	0
48	LS	1453	0	1490	27	0
49	LT	1298	0	1366	36	0
50	LU	808	0	831	24	0
51	LV	979	0	1039	13	0
52	LW	534	0	546	7	0
53	LX	958	0	1029	22	0
54	LY	1093	0	1176	45	0
55	LZ	1107	0	1182	27	0
56	La	1162	0	1213	43	0
57	Lb	543	0	572	19	0
58	Lc	721	0	756	21	0
59	Ld	879	0	924	16	0
60	Le	1048	0	1142	31	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
61	Lf	870	0	907	13	0
62	Lg	845	0	933	20	0
63	Lh	1001	0	1130	46	0
64	Li	818	0	899	23	0
65	Lj	696	0	724	30	0
66	Lk	559	0	624	18	0
67	Ll	444	0	483	26	0
68	Lm	419	0	452	9	0
69	Ln	230	0	276	8	0
70	Lo	834	0	901	23	0
71	Lp	690	0	744	8	0
72	Lr	995	0	1059	26	0
73	L5	70611	0	35657	1290	0
74	L7	2558	0	1296	29	0
75	L8	3214	0	1630	73	0
76	S2	34646	0	17488	983	0
77	S6	1604	0	816	50	0
78	CA	4327	0	4370	131	0
79	L5	234	0	0	0	0
79	L7	10	0	0	0	0
79	L8	6	0	0	0	0
79	LA	3	0	0	0	0
79	LN	1	0	0	0	0
79	LO	1	0	0	0	0
79	S2	35	0	0	0	0
79	SX	1	0	0	0	0
80	Lg	1	0	0	0	0
80	Lj	1	0	0	0	0
80	Lm	1	0	0	0	0
80	Lo	1	0	0	0	0
80	Lp	1	0	0	0	0
80	Sa	1	0	0	0	0
81	L5	22	0	0	0	0
All	All	202018	0	150613	4766	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 14.

All (4766) 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)
73:L5:1173:G:H22	73:L5:1187:G:H22	1.04	1.01
73:L5:492:U:H3	73:L5:662:C:N4	1.60	0.99
10:ST:18:LEU:HD23	10:ST:134:ILE:HG21	1.47	0.96
22:SZ:79:ILE:HD12	22:SZ:83:LEU:HD22	1.46	0.96
76:S2:320:G:N2	76:S2:331:C:O2	1.98	0.96
73:L5:1290:G:H21	73:L5:4942:G:H1	0.99	0.95
73:L5:3960:A:N6	73:L5:4045:G:O2'	2.01	0.93
76:S2:1348:G:H1	76:S2:1381:G:H22	1.18	0.92
73:L5:4748:U:H3	73:L5:4951:G:H1	1.02	0.92
73:L5:752:G:H1	73:L5:911:U:H3	1.15	0.92
2:SR:20:TYR:HD2	2:SR:38:ILE:HG23	1.36	0.90
17:SG:201:LYS:HA	17:SG:205:GLU:HB3	1.54	0.90
73:L5:1073:G:H1	73:L5:1238:A:H2	1.15	0.89
35:LE:155:GLY:HA2	73:L5:4942:G:H5'	1.53	0.88
19:SY:119:GLY:HA2	19:SY:124:ASN:HD22	1.36	0.88
23:SA:38:ILE:HD11	23:SA:47:TYR:HB3	1.56	0.88
29:SK:3:MET:HA	76:S2:1313:A:H4'	1.56	0.87
30:SF:19:LEU:HA	30:SF:24:SER:HB3	1.57	0.86
73:L5:2465:C:H1'	73:L5:3672:G:H22	1.40	0.86
19:SY:110:ARG:HE	19:SY:128:GLY:HA2	1.40	0.86
41:LL:36:ARG:NH2	73:L5:1364:U:OP2	2.09	0.85
73:L5:492:U:H3	73:L5:662:C:H42	0.86	0.85
76:S2:1550:G:H3'	76:S2:1579:A:H61	1.42	0.84
2:SR:33:ARG:HE	11:Sg:125:ARG:HE	1.24	0.84
78:CA:290:CYS:HA	78:CA:294:LEU:HD12	1.59	0.84
76:S2:1834:A:H2	76:S2:1837:G:H1	1.24	0.84
24:SB:148:ASN:O	76:S2:1123:C:O2'	1.95	0.84
73:L5:3692:A:H62	73:L5:3823:G:H21	1.20	0.84
18:SW:2:VAL:N	76:S2:1091:C:HO2'	1.74	0.84
73:L5:179:G:N2	73:L5:258:G:N7	2.27	0.83
26:SD:101:GLN:HE21	26:SD:126:ILE:HG22	1.43	0.83
73:L5:3946:G:H1	73:L5:4067:U:H3	0.84	0.83
22:SZ:85:ARG:NH1	76:S2:1597:C:OP2	2.11	0.82
9:Sc:44:ARG:HH22	9:Sc:60:GLU:HB3	1.43	0.82
63:Lh:12:LYS:HB3	63:Lh:12:LYS:HZ3	1.44	0.82
76:S2:155:G:N2	76:S2:164:A:N7	2.28	0.82
73:L5:1073:G:N1	73:L5:1238:A:C2	2.46	0.82
31:LA:128:ARG:NH1	73:L5:3681:G:OP2	2.13	0.82
12:SC:279:ARG:HH11	12:SC:280:VAL:H	1.27	0.82
73:L5:2574:G:N1	73:L5:2762:G:O6	2.12	0.82
22:SZ:65:TYR:HB3	22:SZ:68:ILE:HG23	1.60	0.81
73:L5:492:U:O2	73:L5:662:C:N3	2.13	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:Lm:100:TYR:O	73:L5:4472:G:O2'	1.97	0.81
17:SG:5:ILE:H	17:SG:14:LYS:HB3	1.44	0.81
76:S2:1417:C:N4	76:S2:1419:C:N3	2.29	0.81
48:LS:95:ARG:NH2	48:LS:112:ASP:OD2	2.14	0.80
73:L5:1073:G:O6	73:L5:1238:A:N1	2.14	0.80
9:Sc:44:ARG:HG3	9:Sc:58:LEU:HD11	1.62	0.80
78:CA:627:GLU:HG2	78:CA:630:GLN:H	1.47	0.80
32:LB:206:PRO:HD2	32:LB:209:GLN:HG3	1.64	0.80
11:Sg:206:LEU:HA	11:Sg:220:ASP:HB3	1.63	0.80
73:L5:471:A:H61	73:L5:683:C:H1'	1.46	0.80
73:L5:699:C:H2'	73:L5:700:G:H8	1.47	0.80
73:L5:745:G:H22	73:L5:919:C:H42	1.27	0.80
21:Sb:3:LEU:HB2	21:Sb:5:LYS:HD2	1.63	0.79
19:SY:20:ARG:NH1	19:SY:74:MET:SD	2.55	0.79
41:LL:48:PRO:HA	41:LL:149:GLN:HB2	1.64	0.79
44:LO:37:ARG:NH2	73:L5:4760:G:OP2	2.14	0.79
14:SJ:160:SER:HB3	14:SJ:163:SER:HB3	1.65	0.79
73:L5:319:A:H1'	73:L5:3726:A:H8	1.48	0.79
73:L5:1173:G:H1	73:L5:1187:G:H1	1.29	0.79
11:Sg:100:ARG:HH12	76:S2:1399:C:H5''	1.48	0.79
11:Sg:163:PRO:HG2	11:Sg:179:LEU:HD13	1.65	0.79
72:Lr:66:ARG:NH1	73:L5:480:C:OP2	2.15	0.79
73:L5:1582:U:O2	73:L5:2396:A:N6	2.16	0.79
63:Lh:47:ILE:HD11	75:L8:49:G:H5'	1.64	0.78
38:LH:39:ASN:O	38:LH:39:ASN:ND2	2.16	0.78
25:SE:124:CYS:HB3	25:SE:141:THR:HB	1.64	0.78
76:S2:1779:G:H2'	76:S2:1780:G:C4	2.18	0.78
10:ST:114:GLU:HG3	10:ST:124:THR:HG22	1.65	0.78
29:SK:38:LYS:HD2	29:SK:40:VAL:HG22	1.65	0.78
76:S2:903:A:N7	76:S2:904:A:N6	2.32	0.78
76:S2:157:U:O2'	76:S2:159:A:OP2	2.02	0.78
67:Ll:26:TRP:HA	67:Ll:29:MET:HE1	1.65	0.78
9:Sc:63:ARG:HD3	9:Sc:64:GLU:H	1.49	0.78
64:Li:68:ARG:NH2	73:L5:3723:A:OP2	2.16	0.78
70:Lo:11:PHE:O	70:Lo:81:ARG:NH2	2.17	0.78
76:S2:1286:G:N2	76:S2:1313:A:C4	2.52	0.78
19:SY:10:ARG:HG2	19:SY:24:VAL:HB	1.66	0.78
73:L5:3689:G:O2'	73:L5:3818:U:OP2	2.03	0.77
73:L5:3958:G:O5'	77:S6:19:G:O2'	2.02	0.77
4:SQ:96:TYR:HA	4:SQ:100:VAL:HB	1.65	0.77
17:SG:189:ARG:NH2	76:S2:330:G:OP2	2.17	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:3717:A:H2'	73:L5:3718:A:C8	2.19	0.77
76:S2:155:G:N1	76:S2:164:A:N6	2.32	0.77
73:L5:505:G:N2	73:L5:653:U:O2	2.15	0.77
11:Sg:107:ASP:HB2	11:Sg:125:ARG:HG3	1.67	0.77
22:SZ:46:ASN:OD1	22:SZ:80:ARG:NH2	2.17	0.77
22:SZ:85:ARG:NH2	76:S2:1598:G:N7	2.33	0.77
55:LZ:50:PRO:HD3	55:LZ:68:ILE:HD12	1.67	0.77
11:Sg:250:ALA:HB3	11:Sg:257:LYS:HD2	1.64	0.77
17:SG:200:LYS:HG2	17:SG:204:GLU:HB3	1.66	0.77
73:L5:184:U:H6	73:L5:253:G:H1	1.31	0.77
14:SJ:32:ILE:HG13	14:SJ:37:LEU:HB2	1.65	0.76
76:S2:121:U:H2'	76:S2:122:G:H8	1.47	0.76
76:S2:437:G:N2	76:S2:1801:A:OP1	2.18	0.76
23:SA:49:ILE:HD11	23:SA:162:PRO:HB2	1.67	0.76
65:Lj:72:ARG:NH1	75:L8:94:G:OP2	2.18	0.76
73:L5:3641:U:OP2	73:L5:3646:A:N6	2.18	0.76
4:SQ:18:THR:OG1	76:S2:1672:U:OP1	2.02	0.76
14:SJ:121:LYS:HG2	76:S2:527:C:H4'	1.67	0.76
70:Lo:99:ARG:HH11	70:Lo:102:GLN:HG3	1.50	0.76
43:LN:104:GLU:OE2	43:LN:108:ARG:NH2	2.19	0.76
56:La:26:ARG:NH2	73:L5:1656:U:OP2	2.18	0.76
4:SQ:132:PHE:O	4:SQ:140:ARG:NH1	2.19	0.76
18:SW:41:MET:HB2	18:SW:47:ILE:HG12	1.68	0.76
73:L5:751:G:H1	73:L5:912:G:H1	1.32	0.76
76:S2:1098:C:H2'	76:S2:1099:G:C8	2.21	0.76
1:SL:93:LEU:HD22	1:SL:102:PHE:HB3	1.66	0.76
6:SX:61:GLN:NE2	76:S2:1824:A:OP2	2.18	0.76
28:SI:54:LYS:HE2	76:S2:381:C:H5''	1.68	0.76
76:S2:1392:U:N3	76:S2:1478:U:O4	2.16	0.76
1:SL:104:LYS:O	6:SX:11:ARG:NH2	2.18	0.76
11:Sg:208:ALA:HB1	11:Sg:239:LEU:HD23	1.67	0.76
53:LX:55:ARG:NH1	53:LX:56:ARG:O	2.19	0.76
76:S2:1281:G:H1	76:S2:1315:U:H5	1.31	0.76
21:Sb:37:CYS:HB2	21:Sb:40:CYS:HB2	1.67	0.76
33:LC:323:ARG:NH1	73:L5:1279:A:O2'	2.19	0.75
61:Lf:73:LYS:NZ	73:L5:953:C:OP1	2.16	0.75
76:S2:828:G:N2	76:S2:830:A:O2'	2.18	0.75
78:CA:675:ILE:HD12	78:CA:721:ILE:HG13	1.68	0.75
38:LH:9:THR:HG22	38:LH:56:ARG:HG3	1.69	0.75
72:Lr:66:ARG:HD3	73:L5:479:G:H5'	1.67	0.75
26:SD:49:ILE:HA	26:SD:87:TYR:HB2	1.67	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:369:G:N2	73:L5:372:A:OP2	2.18	0.75
14:SJ:64:ASP:HB2	18:SW:117:ARG:HH12	1.50	0.75
73:L5:2758:G:H2'	73:L5:2759:G:C8	2.21	0.75
76:S2:413:G:H5'	76:S2:813:A:H61	1.51	0.75
4:SQ:125:ARG:NH2	76:S2:1648:G:OP2	2.15	0.75
16:SO:148:GLY:O	16:SO:150:ARG:NH1	2.20	0.75
40:LJ:147:ARG:NH2	74:L7:26:C:O2'	2.20	0.75
73:L5:755:C:H2'	73:L5:756:G:C8	2.22	0.75
3:SP:49:LEU:HD22	76:S2:1618:C:H4'	1.69	0.75
27:SH:76:GLN:HE21	27:SH:80:VAL:HG11	1.51	0.75
76:S2:127:C:O2	76:S2:182:C:N4	2.20	0.75
4:SQ:101:ASP:OD2	11:Sg:44:LYS:NZ	2.20	0.74
73:L5:1073:G:N1	73:L5:1238:A:H2	1.83	0.74
76:S2:98:C:OP2	76:S2:426:A:O2'	2.05	0.74
7:Sa:10:ARG:HG3	7:Sa:34:LYS:HB2	1.69	0.74
11:Sg:153:CYS:SG	11:Sg:155:ARG:NH2	2.61	0.74
12:SC:190:SER:HB2	76:S2:1143:A:H5'	1.67	0.74
73:L5:3717:A:H2'	73:L5:3718:A:H8	1.52	0.74
4:SQ:43:GLU:HB2	4:SQ:44:PRO:HD3	1.68	0.74
5:SV:30:ALA:O	5:SV:60:ARG:NH1	2.21	0.74
17:SG:207:ALA:O	17:SG:211:LYS:N	2.19	0.74
31:LA:3:ARG:HG2	31:LA:207:VAL:HG22	1.70	0.74
43:LN:193:ARG:O	43:LN:197:THR:OG1	2.05	0.74
46:LQ:35:LEU:O	46:LQ:39:THR:OG1	2.06	0.74
73:L5:449:C:N4	73:L5:1297:U:O4	2.20	0.74
76:S2:1273:C:O2	76:S2:1508:A:N6	2.19	0.74
23:SA:89:LYS:HA	23:SA:89:LYS:HE3	1.70	0.74
25:SE:136:ILE:HD13	25:SE:148:ARG:HH22	1.53	0.74
29:SK:53:LYS:HD3	29:SK:60:GLU:HB3	1.69	0.74
12:SC:253:PRO:HG3	18:SW:99:PHE:HB3	1.68	0.74
33:LC:268:ARG:NH1	73:L5:655:C:OP1	2.20	0.74
2:SR:20:TYR:CD2	2:SR:38:ILE:HG23	2.23	0.74
33:LC:101:MET:HE3	33:LC:104:PRO:HA	1.68	0.74
73:L5:950:G:H2'	73:L5:951:G:H8	1.51	0.74
73:L5:1173:G:H22	73:L5:1187:G:N2	1.84	0.74
76:S2:655:A:H4'	76:S2:656:G:H5'	1.70	0.74
78:CA:156:MET:HG3	78:CA:350:LEU:HD21	1.69	0.74
10:ST:12:GLN:NE2	76:S2:1593:C:O2	2.21	0.73
70:Lo:74:GLU:HB2	70:Lo:77:CYS:SG	2.27	0.73
6:SX:123:VAL:HG12	6:SX:124:LYS:HG3	1.69	0.73
70:Lo:80:LYS:HE2	73:L5:4346:U:H5''	1.70	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:SC:109:ILE:HD11	12:SC:124:PHE:HB3	1.70	0.73
17:SG:49:VAL:HB	17:SG:115:LYS:HB2	1.70	0.73
17:SG:92:ARG:O	76:S2:453:C:O2'	2.05	0.73
11:Sg:197:THR:OG1	11:Sg:237:ASN:O	2.06	0.73
44:LO:37:ARG:HD2	44:LO:108:ILE:HD11	1.71	0.73
73:L5:505:G:H1	73:L5:653:U:H3	1.35	0.73
2:SR:32:LYS:HE2	2:SR:47:ARG:HH22	1.54	0.73
45:LP:22:LEU:HD12	45:LP:146:ILE:HD12	1.70	0.73
55:LZ:68:ILE:O	55:LZ:115:LYS:NZ	2.21	0.73
76:S2:1396:A:O2'	76:S2:1398:G:N7	2.22	0.73
30:SF:74:ASN:O	76:S2:1675:A:O2'	2.07	0.73
13:Sd:15:GLY:O	13:Sd:19:ARG:NH1	2.22	0.73
22:SZ:79:ILE:HB	22:SZ:83:LEU:HD13	1.69	0.73
71:Lp:47:MET:HE2	71:Lp:57:CYS:HB2	1.70	0.73
73:L5:1320:U:O2'	73:L5:1891:A:N1	2.21	0.73
13:Sd:26:ASN:HD22	76:S2:1495:G:H4'	1.54	0.73
76:S2:1743:G:H21	76:S2:1791:A:H62	1.36	0.73
29:SK:15:LEU:HD22	29:SK:49:MET:HE1	1.69	0.73
76:S2:1536:G:H2'	76:S2:1537:A:H8	1.54	0.73
31:LA:36:GLU:HG3	31:LA:91:GLY:HA2	1.71	0.72
12:SC:145:LYS:HE3	76:S2:1348:G:H5'	1.71	0.72
73:L5:712:C:H42	73:L5:956:A:H61	1.36	0.72
76:S2:1424:G:N7	76:S2:1426:U:N3	2.38	0.72
62:Lg:26:PRO:O	73:L5:2638:G:N2	2.21	0.72
76:S2:1461:G:O2'	76:S2:1464:C:N4	2.23	0.72
32:LB:258:HIS:ND1	73:L5:4518:A:OP2	2.23	0.72
73:L5:738:C:H2'	73:L5:739:G:C8	2.24	0.72
25:SE:31:PRO:HG2	25:SE:38:LEU:HB2	1.71	0.72
78:CA:618:ASP:OD2	78:CA:698:ARG:NH2	2.22	0.72
16:SO:57:THR:OG1	76:S2:957:A:OP1	2.06	0.72
16:SO:95:ILE:HD13	16:SO:116:LEU:HD11	1.72	0.72
25:SE:195:ILE:HA	25:SE:210:VAL:HG22	1.70	0.72
26:SD:206:ASP:OD2	76:S2:1387:G:N2	2.23	0.72
15:SN:108:ASP:OD1	76:S2:935:G:O2'	2.06	0.72
73:L5:2601:A:N6	73:L5:2744:A:OP2	2.23	0.72
11:Sg:299:PHE:HA	11:Sg:310:TRP:CZ2	2.24	0.72
47:LR:9:ARG:NH1	73:L5:2527:A:OP1	2.20	0.72
76:S2:527:C:H2'	76:S2:528:A:H8	1.55	0.72
77:S6:18:G:O2'	77:S6:57:G:N2	2.23	0.72
6:SX:40:PRO:O	6:SX:77:ASN:ND2	2.22	0.72
7:Sa:43:ASN:HA	7:Sa:66:LYS:HA	1.72	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:SI:9:HIS:NE2	76:S2:387:C:OP1	2.23	0.72
28:SI:98:LYS:HD2	28:SI:178:ARG:HG2	1.70	0.72
67:L1:3:SER:O	73:L5:2781:G:O2'	2.06	0.71
73:L5:750:U:H2'	73:L5:751:G:C8	2.25	0.71
73:L5:3772:U:H2'	73:L5:3773:U:H2'	1.72	0.71
76:S2:1430:C:O2'	76:S2:1431:G:N7	2.22	0.71
11:Sg:22:ALA:HB1	11:Sg:71:ILE:HG22	1.71	0.71
33:LC:268:ARG:HH12	73:L5:655:C:P	2.13	0.71
48:LS:95:ARG:NH1	73:L5:1951:G:O2'	2.22	0.71
73:L5:462:G:H2'	73:L5:463:A:H8	1.54	0.71
11:Sg:109:LEU:HG	11:Sg:125:ARG:HG2	1.71	0.71
70:Lo:97:LYS:NZ	73:L5:4233:A:OP2	2.20	0.71
73:L5:5015:G:H21	73:L5:5034:A:H2	1.38	0.71
7:Sa:82:LYS:NZ	76:S2:1210:G:OP1	2.23	0.71
45:LP:116:HIS:HB3	45:LP:149:ILE:HB	1.71	0.71
66:Lk:23:VAL:HG12	66:Lk:36:VAL:HG22	1.72	0.71
73:L5:673:C:H2'	73:L5:674:G:C8	2.25	0.71
8:SU:69:PRO:HA	13:Sd:41:GLN:HG2	1.73	0.71
10:ST:86:GLY:HA3	76:S2:1606:G:H5''	1.73	0.71
11:Sg:119:GLN:HA	11:Sg:133:ASN:HA	1.71	0.71
14:SJ:111:GLN:HB2	14:SJ:145:PRO:HB3	1.71	0.71
26:SD:76:ARG:HB2	29:SK:22:VAL:HG11	1.73	0.71
73:L5:4869:U:O2'	73:L5:4873:G:OP1	2.08	0.71
2:SR:58:MET:HE2	2:SR:58:MET:HA	1.72	0.71
73:L5:746:A:H61	73:L5:915:A:H3'	1.54	0.71
76:S2:981:A:H2'	76:S2:982:G:C8	2.25	0.71
11:Sg:36:ARG:HD2	11:Sg:65:PHE:HB3	1.73	0.71
28:SI:98:LYS:HB2	76:S2:377:G:H5'	1.73	0.71
64:Li:99:LYS:HA	64:Li:99:LYS:HE3	1.73	0.71
70:Lo:2:VAL:N	70:Lo:90:HIS:O	2.23	0.71
76:S2:1533:A:H2	76:S2:1536:G:N3	1.88	0.71
4:SQ:92:LEU:HD11	4:SQ:108:ILE:HG21	1.72	0.70
17:SG:31:ARG:NH2	76:S2:1746:U:OP1	2.24	0.70
27:SH:111:LYS:NZ	76:S2:875:A:OP1	2.23	0.70
59:Ld:64:ILE:HG23	59:Ld:68:LEU:HD23	1.73	0.70
73:L5:1332:C:H2'	73:L5:1333:A:H8	1.55	0.70
76:S2:1609:C:OP2	76:S2:1623:A:N6	2.24	0.70
25:SE:123:LEU:HG	25:SE:236:ILE:HD11	1.73	0.70
12:SC:227:ARG:NH2	76:S2:663:C:O2'	2.24	0.70
26:SD:195:THR:HA	26:SD:199:GLY:HA3	1.72	0.70
73:L5:1820:C:H2'	73:L5:1822:U:H5'	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:3625:G:O2'	73:L5:3626:G:OP1	2.08	0.70
73:L5:3783:A:H2	73:L5:3790:U:H3	1.38	0.70
73:L5:4413:C:H5	73:L5:4429:C:H42	1.39	0.70
73:L5:4991:U:H2'	73:L5:4992:G:C8	2.27	0.70
2:SR:27:ASP:HB2	2:SR:30:THR:HB	1.72	0.70
9:Sc:9:ILE:HA	9:Sc:59:LEU:HA	1.72	0.70
15:SN:64:ARG:NH2	76:S2:919:A:OP2	2.24	0.70
12:SC:191:VAL:HA	12:SC:228:GLY:HA3	1.73	0.70
20:Se:28:LYS:HE2	20:Se:32:ALA:HB1	1.73	0.70
24:SB:144:LYS:HD2	24:SB:208:HIS:HB3	1.73	0.70
76:S2:192:C:H2'	76:S2:193:C:C6	2.26	0.70
4:SQ:71:ARG:NH1	76:S2:1409:A:OP1	2.19	0.70
17:SG:148:SER:HB2	17:SG:151:ASP:HB2	1.73	0.70
73:L5:4765:G:H1	73:L5:4869:U:H3	1.39	0.70
14:SJ:108:ARG:HH21	14:SJ:149:VAL:HG23	1.57	0.70
22:SZ:106:GLN:NE2	30:SF:171:GLU:OE1	2.24	0.70
46:LQ:65:ARG:NH1	73:L5:1459:A:OP1	2.23	0.70
27:SH:82:GLU:HA	27:SH:85:LYS:HE3	1.74	0.69
73:L5:730:G:H22	73:L5:939:G:N2	1.89	0.69
73:L5:1328:G:O2'	73:L5:2349:A:OP1	2.09	0.69
34:LD:33:ARG:NH1	74:L7:7:G:OP1	2.24	0.69
76:S2:980:A:H2'	76:S2:981:A:C8	2.27	0.69
11:Sg:125:ARG:HA	11:Sg:150:TRP:HB3	1.74	0.69
22:SZ:49:LEU:O	22:SZ:51:ASP:N	2.25	0.69
73:L5:1214:C:OP1	73:L5:1215:C:O2'	2.10	0.69
25:SE:160:ILE:HG22	25:SE:172:PHE:HB3	1.74	0.69
32:LB:74:GLU:OE1	32:LB:285:TYR:OH	2.10	0.69
33:LC:350:ARG:NH1	73:L5:724:C:OP2	2.24	0.69
45:LP:127:ARG:NH1	73:L5:2420:A:OP2	2.24	0.69
76:S2:155:G:H1	76:S2:164:A:N6	1.90	0.69
10:ST:41:LYS:HD2	76:S2:1627:C:H5''	1.74	0.69
26:SD:145:GLN:O	76:S2:1332:A:O2'	2.09	0.69
73:L5:418:A:OP2	75:L8:16:G:N2	2.26	0.69
73:L5:471:A:N6	73:L5:683:C:H1'	2.05	0.69
4:SQ:130:LYS:HA	4:SQ:137:ALA:HA	1.73	0.69
27:SH:69:LEU:HD22	27:SH:96:ALA:HB2	1.75	0.69
51:LV:48:ARG:HG2	51:LV:49:LEU:H	1.57	0.69
62:Lg:6:THR:HG22	73:L5:2400:G:H21	1.56	0.69
73:L5:3663:A:N6	73:L5:4168:G:O2'	2.26	0.69
20:Se:58:ASN:ND2	76:S2:637:U:O2	2.26	0.69
35:LE:157:HIS:HB3	35:LE:160:LYS:HD2	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:La:37:GLY:H	56:La:41:HIS:HB2	1.58	0.69
75:L8:103:A:H3'	75:L8:104:A:H5'	1.74	0.69
11:Sg:251:ALA:HA	11:Sg:256:ILE:HG22	1.74	0.69
16:SO:84:ARG:HH11	16:SO:88:LEU:HD11	1.58	0.69
26:SD:40:ARG:HB3	26:SD:47:GLU:HB2	1.73	0.69
73:L5:1097:C:H2'	73:L5:1098:G:C8	2.28	0.69
73:L5:4039:G:H2'	73:L5:4040:C:C6	2.26	0.69
11:Sg:272:GLN:OE1	11:Sg:272:GLN:N	2.26	0.69
17:SG:52:ILE:HG23	17:SG:109:LEU:HD21	1.74	0.69
22:SZ:46:ASN:HD21	22:SZ:80:ARG:HE	1.41	0.69
73:L5:469:C:H41	73:L5:684:G:H1'	1.57	0.69
73:L5:1075:G:N2	73:L5:1236:C:O2	2.27	0.69
13:Sd:30:LEU:O	76:S2:1256:G:N2	2.21	0.68
20:Se:12:VAL:HA	20:Se:15:GLN:HG2	1.75	0.68
36:LF:52:GLU:OE2	73:L5:1237:C:O2'	2.11	0.68
73:L5:4048:A:O2'	73:L5:4049:U:O5'	2.12	0.68
9:Sc:20:ARG:HH22	76:S2:1679:A:H5''	1.58	0.68
73:L5:462:G:H2'	73:L5:463:A:C8	2.27	0.68
73:L5:3654:G:O2'	73:L5:3693:U:OP1	2.11	0.68
73:L5:4038:C:H5	73:L5:4050:A:H4'	1.57	0.68
4:SQ:97:GLN:HB2	4:SQ:105:LYS:HE3	1.73	0.68
22:SZ:77:LEU:HB3	22:SZ:79:ILE:HG23	1.73	0.68
73:L5:2889:G:H21	73:L5:5034:A:H8	1.39	0.68
43:LN:24:ARG:NH1	73:L5:3938:G:OP2	2.25	0.68
55:LZ:60:LYS:H	55:LZ:60:LYS:HD3	1.59	0.68
56:La:132:ARG:NH2	73:L5:1468:C:OP1	2.26	0.68
57:Lb:23:LYS:HG3	57:Lb:24:PRO:HD2	1.76	0.68
76:S2:1372:U:O2'	76:S2:1373:C:O5'	2.11	0.68
11:Sg:109:LEU:HB2	11:Sg:124:SER:HA	1.76	0.68
16:SO:95:ILE:HD11	16:SO:126:ILE:HG13	1.74	0.68
25:SE:32:SER:OG	25:SE:81:THR:OG1	2.12	0.68
37:LG:162:ASP:HB2	37:LG:163:PRO:HD3	1.76	0.68
78:CA:594:LYS:HG2	78:CA:601:ARG:HG2	1.75	0.68
57:Lb:41:ARG:NH1	73:L5:1492:G:O2'	2.27	0.68
26:SD:21:LEU:HD21	26:SD:48:ILE:HG12	1.75	0.68
11:Sg:192:THR:HG23	11:Sg:212:LYS:HG2	1.76	0.68
14:SJ:133:ARG:HD3	14:SJ:133:ARG:H	1.59	0.68
17:SG:121:ILE:HG13	17:SG:122:PRO:HD2	1.74	0.68
17:SG:195:LYS:HD3	76:S2:126:G:H5''	1.74	0.68
28:SI:164:GLU:N	28:SI:164:GLU:OE2	2.26	0.68
35:LE:155:GLY:HA2	73:L5:4942:G:C5'	2.24	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:LM:29:ASP:OD1	42:LM:30:VAL:N	2.27	0.68
73:L5:2638:G:H22	73:L5:2697:A:H2	1.41	0.68
76:S2:198:U:O2'	76:S2:202:G:N2	2.25	0.68
4:SQ:24:HIS:O	4:SQ:68:ILE:HA	1.94	0.68
42:LM:12:VAL:O	42:LM:58:THR:OG1	2.11	0.68
64:Li:76:ARG:NH1	73:L5:305:A:OP1	2.26	0.68
73:L5:2407:G:OP2	73:L5:2407:G:N2	2.26	0.68
11:Sg:11:LEU:HD13	11:Sg:53:GLY:HA3	1.74	0.67
11:Sg:235:ILE:O	11:Sg:253:GLY:N	2.27	0.67
17:SG:153:VAL:HB	17:SG:156:TYR:CD1	2.28	0.67
26:SD:135:GLU:HG2	26:SD:153:VAL:HG22	1.76	0.67
34:LD:152:ARG:O	34:LD:157:ASN:ND2	2.27	0.67
76:S2:1528:G:O2'	76:S2:1666:C:OP1	2.13	0.67
26:SD:99:ILE:H	26:SD:99:ILE:HD12	1.58	0.67
43:LN:176:LYS:HE3	73:L5:77:U:H5''	1.76	0.67
73:L5:976:G:H2'	73:L5:977:C:H5''	1.76	0.67
76:S2:1620:A:O2'	76:S2:1624:U:OP2	2.12	0.67
2:SR:71:ILE:HG22	2:SR:72:LYS:H	1.59	0.67
14:SJ:82:VAL:HG22	14:SJ:88:ASP:HA	1.76	0.67
25:SE:127:ARG:HD2	25:SE:142:HIS:HA	1.76	0.67
26:SD:146:ARG:NH1	76:S2:1333:U:OP1	2.26	0.67
43:LN:105:ARG:NH1	73:L5:2461:G:OP1	2.27	0.67
73:L5:2745:A:H2'	73:L5:2746:A:H8	1.60	0.67
11:Sg:195:LEU:HA	11:Sg:211:GLY:HA3	1.74	0.67
17:SG:178:ARG:NE	76:S2:144:U:OP2	2.20	0.67
42:LM:4:ARG:NH1	73:L5:4870:G:O6	2.27	0.67
48:LS:5:GLY:O	48:LS:111:ARG:NH2	2.27	0.67
73:L5:2669:C:HO2'	73:L5:2670:C:H6	1.41	0.67
73:L5:4991:U:H2'	73:L5:4992:G:H8	1.59	0.67
76:S2:613:G:N2	76:S2:626:G:OP1	2.25	0.67
11:Sg:215:GLN:O	11:Sg:229:THR:OG1	2.12	0.67
17:SG:200:LYS:O	17:SG:204:GLU:N	2.26	0.67
41:LL:47:ALA:HB1	41:LL:48:PRO:HD2	1.76	0.67
73:L5:106:A:O2'	73:L5:335:A:N3	2.28	0.67
76:S2:493:A:H61	76:S2:510:G:H1'	1.59	0.67
76:S2:907:G:H2'	76:S2:908:A:C8	2.29	0.67
76:S2:1488:C:O2'	76:S2:1490:G:OP2	2.12	0.67
25:SE:106:LYS:NZ	76:S2:846:G:OP2	2.22	0.67
36:LF:105:VAL:HG13	36:LF:136:VAL:HG12	1.77	0.67
76:S2:106:C:OP1	76:S2:431:G:O2'	2.11	0.67
76:S2:160:U:O2	76:S2:468:A:O2'	2.09	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:LA:27:ALA:O	31:LA:128:ARG:NH2	2.28	0.67
38:LH:92:MET:HG2	38:LH:181:VAL:HA	1.77	0.67
76:S2:1226:G:N1	76:S2:1639:G:OP2	2.20	0.67
25:SE:65:CYS:HA	25:SE:70:ILE:HD12	1.76	0.67
43:LN:50:ARG:NH1	73:L5:279:A:OP1	2.28	0.67
73:L5:979:C:H2'	73:L5:980:U:C6	2.30	0.67
4:SQ:50:LYS:NZ	4:SQ:53:GLU:OE1	2.27	0.67
22:SZ:80:ARG:NH1	76:S2:1598:G:OP1	2.27	0.67
73:L5:4537:C:H2'	73:L5:4538:G:C8	2.30	0.67
76:S2:1607:A:N6	76:S2:1632:G:O2'	2.28	0.67
2:SR:60:ARG:HG2	2:SR:66:VAL:HG11	1.77	0.67
10:ST:84:ARG:NH1	76:S2:1605:G:OP1	2.28	0.67
23:SA:180:ARG:HH11	23:SA:184:ARG:HH22	1.43	0.67
33:LC:268:ARG:NH1	73:L5:654:C:H5'	2.10	0.67
49:LT:63:ARG:NH2	57:Lb:30:GLU:OE1	2.27	0.67
50:LU:28:PRO:HB2	50:LU:34:MET:HG2	1.75	0.67
41:LL:18:TRP:NE1	73:L5:1516:G:O2'	2.28	0.66
65:Lj:20:ARG:NH1	75:L8:109:C:O2'	2.28	0.66
73:L5:1326:A:OP2	73:L5:4445:U:O2'	2.13	0.66
76:S2:1013:U:OP1	76:S2:1129:G:O2'	2.13	0.66
76:S2:1401:A:H2	76:S2:1445:U:H3	1.41	0.66
11:Sg:132:TRP:HB3	11:Sg:138:CYS:H	1.60	0.66
77:S6:11:G:H1	77:S6:25:U:H3	0.75	0.66
19:SY:91:LEU:HD22	19:SY:96:LEU:HD12	1.77	0.66
26:SD:204:LEU:HB2	26:SD:207:HIS:HB2	1.77	0.66
43:LN:153:LYS:NZ	73:L5:333:U:OP1	2.28	0.66
58:Lc:103:ASP:HB3	58:Lc:105:ILE:HD13	1.77	0.66
73:L5:3959:U:O2'	73:L5:3960:A:O4'	2.13	0.66
76:S2:1552:G:H5''	76:S2:1557:C:C2	2.30	0.66
22:SZ:91:LEU:HD23	22:SZ:97:ILE:HD13	1.77	0.66
47:LR:105:LEU:HD23	47:LR:138:LEU:HD23	1.76	0.66
65:Lj:57:ASN:O	65:Lj:57:ASN:ND2	2.28	0.66
70:Lo:34:TYR:O	70:Lo:39:ARG:NH1	2.29	0.66
73:L5:1178:G:H1'	73:L5:1184:A:H61	1.60	0.66
73:L5:4741:C:H2'	73:L5:4742:G:C8	2.31	0.66
73:L5:4741:C:H2'	73:L5:4742:G:H8	1.60	0.66
75:L8:93:C:HO2'	75:L8:94:G:H8	1.44	0.66
76:S2:338:G:H5'	76:S2:339:A:C8	2.31	0.66
14:SJ:62:THR:HA	18:SW:97:ARG:HH22	1.60	0.66
28:SI:91:VAL:O	28:SI:94:LYS:NZ	2.26	0.66
30:SF:97:PHE:HD1	30:SF:108:PRO:HB2	1.59	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:S2:95:G:H1	76:S2:435:A:H61	1.44	0.66
17:SG:142:ARG:HA	17:SG:146:ASN:HB2	1.77	0.66
26:SD:67:ARG:HD3	26:SD:67:ARG:H	1.59	0.66
30:SF:76:MET:HE2	30:SF:169:ILE:HD11	1.78	0.66
78:CA:147:ILE:HD11	78:CA:192:TYR:HB2	1.78	0.66
14:SJ:46:VAL:HG21	14:SJ:106:LEU:HD21	1.78	0.66
4:SQ:125:ARG:NE	4:SQ:125:ARG:HA	2.11	0.66
11:Sg:7:LEU:HD23	11:Sg:309:VAL:HA	1.78	0.66
14:SJ:125:HIS:ND1	76:S2:526:A:O2'	2.26	0.66
55:LZ:88:ASP:O	55:LZ:121:ARG:NH1	2.29	0.66
73:L5:4892:A:H61	73:L5:4928:C:H42	1.43	0.66
12:SC:252:THR:O	12:SC:256:TRP:NE1	2.29	0.66
14:SJ:63:LEU:HD23	14:SJ:70:ARG:HB2	1.78	0.66
36:LF:53:LYS:NZ	36:LF:189:ASP:OD2	2.29	0.66
37:LG:34:LYS:HG2	37:LG:36:PRO:HD3	1.77	0.66
1:SL:60:CYS:SG	1:SL:114:SER:OG	2.54	0.65
25:SE:49:ARG:NH1	76:S2:496:C:OP1	2.27	0.65
73:L5:4134:C:H2'	73:L5:4135:G:H8	1.61	0.65
76:S2:126:G:H21	76:S2:180:G:H1'	1.60	0.65
76:S2:1286:G:N1	76:S2:1312:G:O2'	2.29	0.65
78:CA:683:PHE:HD1	78:CA:729:LEU:HD21	1.60	0.65
11:Sg:199:THR:HG21	11:Sg:240:CYS:HA	1.78	0.65
22:SZ:48:VAL:HA	22:SZ:83:LEU:HD12	1.78	0.65
76:S2:1579:A:O2'	76:S2:1581:C:OP2	2.07	0.65
4:SQ:140:ARG:HB2	76:S2:1644:C:H4'	1.78	0.65
18:SW:57:ARG:NH1	21:Sb:26:GLN:OE1	2.28	0.65
73:L5:482:G:H2'	73:L5:483:G:C8	2.31	0.65
78:CA:531:ASP:HB3	78:CA:534:VAL:HG22	1.78	0.65
2:SR:6:THR:OG1	2:SR:7:LYS:N	2.28	0.65
10:ST:23:LYS:HB3	10:ST:24:LYS:HZ2	1.61	0.65
17:SG:25:ARG:HA	17:SG:28:TYR:HB2	1.78	0.65
55:LZ:17:ARG:NH2	73:L5:2578:G:N7	2.43	0.65
73:L5:4459:U:H2'	73:L5:4460:U:C6	2.31	0.65
73:L5:4474:A:H2'	73:L5:4476:C:H5''	1.78	0.65
76:S2:1421:A:O2'	76:S2:1422:G:O4'	2.14	0.65
78:CA:305:MET:HA	78:CA:305:MET:HE3	1.78	0.65
78:CA:654:PRO:HD2	78:CA:658:GLY:HA3	1.77	0.65
10:ST:9:VAL:O	10:ST:11:GLN:NE2	2.30	0.65
19:SY:51:THR:O	19:SY:54:VAL:HG12	1.97	0.65
25:SE:52:LEU:HD21	25:SE:54:TYR:HB2	1.77	0.65
41:LL:25:TRP:HE1	43:LN:199:GLN:HG3	1.61	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:LY:30:MET:HB3	54:LY:101:PRO:HG2	1.76	0.65
73:L5:1174:G:H22	73:L5:1186:U:H3	1.44	0.65
76:S2:197:U:H2'	76:S2:202:G:H2'	1.79	0.65
76:S2:1446:A:HO2'	76:S2:1447:G:H8	1.42	0.65
11:Sg:170:TRP:O	11:Sg:195:LEU:N	2.23	0.65
17:SG:199:THR:O	17:SG:203:LYS:N	2.30	0.65
30:SF:101:HIS:HB2	30:SF:108:PRO:HG3	1.79	0.65
76:S2:429:C:O2'	76:S2:811:A:N1	2.28	0.65
11:Sg:128:THR:OG1	11:Sg:143:GLN:O	2.15	0.65
17:SG:208:GLU:HA	17:SG:211:LYS:HB2	1.77	0.65
26:SD:172:VAL:O	26:SD:173:ARG:NH1	2.29	0.65
48:LS:99:ASP:OD1	48:LS:100:LEU:N	2.30	0.65
56:La:39:HIS:O	56:La:40:HIS:ND1	2.30	0.65
75:L8:128:C:H2'	75:L8:129:C:H6	1.61	0.65
31:LA:215:ASN:ND2	73:L5:4546:A:N7	2.44	0.65
73:L5:972:C:H2'	73:L5:973:G:C8	2.31	0.65
76:S2:476:A:N3	76:S2:488:U:O2'	2.27	0.65
76:S2:824:C:H2'	76:S2:825:A:C8	2.32	0.65
78:CA:587:SER:HB2	78:CA:605:LYS:HG3	1.78	0.65
16:SO:61:LYS:NZ	16:SO:80:ASP:OD2	2.23	0.65
54:LY:34:LEU:HD23	54:LY:38:LEU:HD13	1.77	0.65
73:L5:4537:C:H2'	73:L5:4538:G:H8	1.62	0.65
76:S2:209:A:C5	76:S2:210:U:H1'	2.31	0.65
76:S2:367:U:H4'	76:S2:371:A:C8	2.32	0.65
9:Sc:63:ARG:HD3	9:Sc:64:GLU:N	2.12	0.65
15:SN:63:VAL:HG11	15:SN:71:ILE:HG12	1.77	0.65
28:SI:87:ASN:HB3	28:SI:90:LEU:HG	1.79	0.65
51:LV:45:ILE:HG21	51:LV:53:PRO:HB3	1.79	0.65
76:S2:1435:C:O2'	76:S2:1438:A:OP2	2.11	0.65
76:S2:1824:A:OP2	76:S2:1825:A:N6	2.30	0.65
25:SE:80:ILE:HG23	25:SE:81:THR:HG23	1.79	0.64
37:LG:87:LEU:HD21	37:LG:182:CYS:HB2	1.77	0.64
53:LX:105:ASN:ND2	75:L8:131:G:OP1	2.30	0.64
76:S2:1101:U:H2'	76:S2:1102:G:C8	2.32	0.64
76:S2:1582:C:H2'	76:S2:1583:C:C6	2.32	0.64
9:Sc:57:THR:HG21	30:SF:122:ARG:HH12	1.62	0.64
17:SG:32:MET:HG2	17:SG:52:ILE:HG22	1.77	0.64
32:LB:224:LYS:NZ	73:L5:4626:A:OP2	2.20	0.64
56:La:125:LYS:HG2	56:La:145:VAL:HB	1.79	0.64
73:L5:4046:A:H1'	77:S6:56:C:N3	2.12	0.64
73:L5:4129:G:O6	73:L5:4156:G:N2	2.31	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:S2:1617:G:N2	76:S2:1620:A:OP2	2.31	0.64
22:SZ:54:THR:HG22	22:SZ:57:LYS:HE3	1.79	0.64
42:LM:117:LYS:NZ	73:L5:4883:C:OP1	2.25	0.64
53:LX:121:VAL:HG13	53:LX:138:VAL:HG13	1.78	0.64
11:Sg:13:GLY:H	11:Sg:43:TRP:HH2	1.45	0.64
51:LV:13:LYS:HD2	51:LV:128:LEU:HD11	1.79	0.64
73:L5:325:U:H2'	73:L5:326:C:C6	2.31	0.64
73:L5:699:C:H2'	73:L5:700:G:C8	2.31	0.64
76:S2:391:C:H2'	76:S2:392:A:H8	1.62	0.64
76:S2:1743:G:N2	76:S2:1791:A:H62	1.94	0.64
32:LB:261:ARG:HB2	44:LO:64:THR:HG21	1.80	0.64
40:LJ:31:ASP:OD1	40:LJ:31:ASP:N	2.30	0.64
49:LT:28:ALA:HA	49:LT:31:MET:HG3	1.79	0.64
73:L5:911:U:H2'	73:L5:912:G:C8	2.32	0.64
76:S2:145:G:H2'	76:S2:146:G:C8	2.32	0.64
19:SY:29:HIS:HB2	19:SY:32:LYS:HB2	1.80	0.64
30:SF:179:ASN:HB2	30:SF:187:SER:HB3	1.79	0.64
73:L5:3811:G:O2'	73:L5:3814:U:OP2	2.15	0.64
7:Sa:8:ASN:ND2	76:S2:1861:G:OP1	2.31	0.64
12:SC:92:GLU:HA	12:SC:95:ASP:HB2	1.80	0.64
73:L5:950:G:H2'	73:L5:951:G:C8	2.32	0.64
73:L5:3720:G:H22	73:L5:3733:A:H2	1.45	0.64
76:S2:1536:G:H2'	76:S2:1537:A:C8	2.32	0.64
73:L5:923:C:H2'	73:L5:924:C:C6	2.33	0.64
76:S2:1344:A:N1	76:S2:1385:G:O2'	2.26	0.64
76:S2:1593:C:H2'	76:S2:1594:A:H8	1.61	0.64
78:CA:653:GLY:HA2	78:CA:687:THR:HG21	1.80	0.64
2:SR:75:GLU:HA	2:SR:78:ARG:HD2	1.80	0.64
3:SP:61:ARG:HA	3:SP:65:LYS:HG2	1.80	0.64
5:SV:15:ARG:NH1	5:SV:33:GLN:OE1	2.30	0.64
35:LE:46:ARG:NH2	73:L5:977:C:O2'	2.30	0.64
46:LQ:14:ARG:NH2	73:L5:2083:C:OP2	2.30	0.64
73:L5:26:C:O2'	73:L5:338:A:N3	2.26	0.64
73:L5:2756:G:H2'	73:L5:2757:A:C8	2.33	0.64
75:L8:19:C:H2'	75:L8:20:A:C8	2.32	0.64
76:S2:1323:U:H2'	76:S2:1324:G:H8	1.63	0.64
3:SP:43:ARG:NH1	76:S2:1615:U:OP2	2.31	0.64
17:SG:10:THR:HA	17:SG:130:PRO:HG2	1.80	0.64
50:LU:97:ARG:NH1	73:L5:2626:U:O4	2.30	0.64
54:LY:10:ASP:O	54:LY:14:ASN:ND2	2.28	0.64
73:L5:976:G:H1	73:L5:1277:G:H1	1.46	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:1096:C:H2'	73:L5:1097:C:O4'	1.97	0.64
73:L5:1552:G:O2'	73:L5:1575:A:N6	2.30	0.64
73:L5:4635:A:H2	73:L5:4663:G:H21	1.45	0.64
76:S2:360:A:H4'	76:S2:361:U:H5'	1.80	0.64
17:SG:205:GLU:O	17:SG:209:TYR:N	2.31	0.63
73:L5:2550:G:O2'	73:L5:2587:A:N1	2.29	0.63
73:L5:2745:A:H2'	73:L5:2746:A:C8	2.33	0.63
77:S6:19:G:N2	77:S6:57:G:O4'	2.31	0.63
78:CA:669:VAL:HG21	78:CA:672:LEU:HD22	1.81	0.63
7:Sa:10:ARG:NH2	76:S2:1860:A:OP2	2.31	0.63
11:Sg:131:LEU:O	11:Sg:141:THR:OG1	2.15	0.63
13:Sd:22:ARG:HH21	13:Sd:37:ASN:HB2	1.63	0.63
73:L5:463:A:H2	73:L5:692:A:N1	1.95	0.63
73:L5:504:G:H2'	73:L5:505:G:H8	1.63	0.63
76:S2:1513:C:H2'	76:S2:1514:G:H8	1.63	0.63
77:S6:44:A:O2'	77:S6:45:G:O4'	2.11	0.63
4:SQ:7:LEU:HD13	4:SQ:8:GLN:H	1.61	0.63
6:SX:67:ARG:HG2	6:SX:115:ILE:HD11	1.79	0.63
19:SY:43:LYS:HE3	19:SY:47:MET:HE2	1.80	0.63
28:SI:149:TYR:OH	76:S2:190:G:OP1	2.16	0.63
17:SG:32:MET:HG3	17:SG:63:MET:HE3	1.80	0.63
33:LC:102:PHE:HB2	73:L5:1337:A:H5'	1.79	0.63
73:L5:733:A:H2'	73:L5:734:G:H8	1.63	0.63
73:L5:4069:U:HO2'	73:L5:4070:U:H6	1.46	0.63
76:S2:28:U:H2'	76:S2:29:G:H8	1.64	0.63
76:S2:182:C:H2'	76:S2:184:G:C8	2.34	0.63
6:SX:70:VAL:HG12	6:SX:83:ALA:HB3	1.80	0.63
7:Sa:21:ILE:HD11	7:Sa:35:ALA:HB2	1.80	0.63
11:Sg:286:CYS:HA	11:Sg:302:TYR:HA	1.80	0.63
15:SN:2:GLY:N	76:S2:1092:G:OP1	2.32	0.63
20:Se:35:ARG:O	20:Se:39:ASN:ND2	2.31	0.63
37:LG:89:ARG:H	37:LG:89:ARG:HD2	1.63	0.63
50:LU:106:SER:HG	50:LU:109:SER:HG	1.43	0.63
56:La:10:LYS:NZ	73:L5:2287:G:O6	2.32	0.63
8:SU:55:ARG:HD3	76:S2:1446:A:H1'	1.81	0.63
9:Sc:63:ARG:HH11	9:Sc:65:ALA:H	1.45	0.63
10:ST:97:LYS:NZ	76:S2:1570:G:N7	2.46	0.63
11:Sg:8:ARG:N	11:Sg:308:ARG:HH22	1.96	0.63
25:SE:38:LEU:HD22	76:S2:346:C:H5''	1.80	0.63
44:LO:34:VAL:HG22	44:LO:103:LYS:HB2	1.80	0.63
61:Lf:14:TYR:OH	61:Lf:92:LEU:O	2.14	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:S2:1140:G:HO2'	76:S2:1151:G:HO2'	1.44	0.63
6:SX:61:GLN:HE22	76:S2:1823:A:H5''	1.64	0.63
48:LS:118:ARG:O	48:LS:120:ARG:NH1	2.32	0.63
73:L5:461:G:N1	73:L5:694:C:O2	2.18	0.63
73:L5:1290:G:N2	73:L5:4942:G:H1	1.84	0.63
77:S6:11:G:O6	77:S6:25:U:O4	2.17	0.63
78:CA:279:SER:HA	78:CA:285:LEU:HD13	1.81	0.63
67:L1:2:SER:OG	73:L5:2405:G:N7	2.32	0.63
3:SP:31:GLU:OE1	3:SP:31:GLU:N	2.32	0.63
9:Sc:23:SER:OG	9:Sc:24:GLN:OE1	2.14	0.63
73:L5:2404:A:H61	73:L5:2787:A:H61	1.47	0.63
76:S2:1289:U:H2'	76:S2:1290:G:H4'	1.81	0.63
10:ST:112:MET:HE2	10:ST:112:MET:HA	1.80	0.62
41:LL:91:ALA:HB1	41:LL:96:ILE:HB	1.81	0.62
41:LL:124:LEU:HD21	63:Lh:119:TYR:HB2	1.80	0.62
50:LU:65:ARG:HG3	50:LU:70:ILE:HG13	1.80	0.62
67:L1:7:PHE:HB3	75:L8:111:U:H5''	1.81	0.62
73:L5:1099:C:H3'	73:L5:1100:U:H6	1.63	0.62
73:L5:3976:C:O2'	73:L5:4035:G:N7	2.32	0.62
76:S2:183:G:O2'	76:S2:185:G:N7	2.31	0.62
19:SY:60:PHE:CD1	19:SY:71:GLY:HA3	2.34	0.62
25:SE:66:MET:SD	25:SE:78:THR:OG1	2.53	0.62
54:LY:4:ASN:HB3	54:LY:7:VAL:HG22	1.81	0.62
73:L5:2411:C:O2'	73:L5:2526:C:O2	2.15	0.62
11:Sg:301:GLY:HA3	11:Sg:307:VAL:HA	1.80	0.62
32:LB:322:HIS:O	32:LB:342:LYS:NZ	2.31	0.62
35:LE:187:ARG:HD2	73:L5:4940:C:H5'	1.81	0.62
37:LG:102:TYR:OH	37:LG:211:ASP:OD2	2.17	0.62
73:L5:710:G:H2'	73:L5:711:A:C8	2.35	0.62
73:L5:3670:C:O2'	73:L5:3671:G:H8	1.82	0.62
76:S2:1742:C:H3'	76:S2:1743:G:H8	1.63	0.62
17:SG:151:ASP:HB3	17:SG:153:VAL:HG13	1.81	0.62
25:SE:195:ILE:H	25:SE:195:ILE:HD12	1.64	0.62
73:L5:750:U:H2'	73:L5:751:G:H8	1.64	0.62
73:L5:978:G:N7	73:L5:1277:G:N2	2.47	0.62
4:SQ:62:ARG:O	4:SQ:96:TYR:OH	2.16	0.62
11:Sg:40:ILE:HB	11:Sg:59:LEU:HB3	1.81	0.62
12:SC:72:ASP:HB2	12:SC:74:LYS:HE3	1.82	0.62
14:SJ:169:ARG:HD3	14:SJ:175:ARG:HH11	1.63	0.62
17:SG:142:ARG:HH12	17:SG:152:ASP:HA	1.64	0.62
32:LB:128:LYS:HG3	73:L5:4966:A:H5'	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:Lj:5:THR:OG1	73:L5:1601:A:OP1	2.14	0.62
73:L5:3670:C:O2'	73:L5:3671:G:O5'	2.17	0.62
76:S2:1253:A:H4'	76:S2:1254:C:H5''	1.81	0.62
76:S2:1411:G:H3'	76:S2:1412:C:H4'	1.79	0.62
43:LN:143:ARG:O	43:LN:149:GLN:NE2	2.31	0.62
67:Ll:34:LYS:O	67:Ll:36:ARG:NH1	2.33	0.62
73:L5:4274:A:H2'	73:L5:4275:G:H8	1.64	0.62
73:L5:4992:G:H2'	73:L5:4993:G:C8	2.35	0.62
76:S2:1410:C:H2'	76:S2:1411:G:C8	2.34	0.62
78:CA:169:LEU:HD23	78:CA:174:LEU:HD13	1.81	0.62
78:CA:739:ARG:HG2	78:CA:819:ILE:HD11	1.81	0.62
8:SU:51:LYS:HD3	8:SU:52:GLY:H	1.64	0.62
12:SC:252:THR:HB	12:SC:253:PRO:HD2	1.80	0.62
27:SH:114:GLN:OE1	27:SH:114:GLN:N	2.33	0.62
28:SI:23:LYS:NZ	76:S2:435:A:OP1	2.31	0.62
51:LV:43:LYS:NZ	51:LV:62:MET:SD	2.72	0.62
73:L5:35:U:O2'	73:L5:1525:A:N1	2.33	0.62
73:L5:691:C:H2'	73:L5:692:A:C8	2.33	0.62
73:L5:5068:G:N2	73:L5:5069:U:O4	2.30	0.62
76:S2:41:G:OP2	76:S2:486:A:N6	2.31	0.62
76:S2:43:U:OP2	76:S2:485:A:N6	2.24	0.62
76:S2:1330:G:H4'	76:S2:1331:C:H5''	1.81	0.62
11:Sg:21:ILE:HG13	11:Sg:33:SER:HB2	1.79	0.62
14:SJ:114:VAL:HG12	14:SJ:120:ALA:HB2	1.82	0.62
30:SF:25:THR:OG1	30:SF:107:ASN:OD1	2.11	0.62
37:LG:200:THR:HG23	37:LG:201:THR:HG22	1.82	0.62
73:L5:385:A:N3	73:L5:387:G:H5'	2.15	0.62
73:L5:2848:G:O2'	73:L5:3838:U:O4	2.15	0.62
76:S2:525:A:N6	76:S2:589:G:O6	2.32	0.62
78:CA:788:LEU:HD12	78:CA:789:PRO:HD2	1.81	0.62
19:SY:7:ILE:HG22	19:SY:27:VAL:HG13	1.81	0.62
64:Li:32:ARG:NH1	73:L5:309:C:O2	2.33	0.62
73:L5:4274:A:H2'	73:L5:4275:G:C8	2.35	0.62
76:S2:71:G:O2'	76:S2:72:C:OP1	2.16	0.62
76:S2:107:A:H2'	76:S2:108:G:C8	2.34	0.62
76:S2:634:A:H2'	76:S2:635:G:H8	1.65	0.62
76:S2:804:U:H2'	76:S2:805:U:C6	2.35	0.62
76:S2:1214:A:H2'	76:S2:1217:A:N7	2.15	0.62
76:S2:1664:A:O2'	76:S2:1666:C:N4	2.33	0.62
73:L5:1398:A:H61	73:L5:1501:C:N4	1.98	0.62
75:L8:128:C:H2'	75:L8:129:C:C6	2.35	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:S2:474:G:O2'	76:S2:508:A:OP1	2.17	0.62
2:SR:33:ARG:HH22	11:Sg:83:TRP:HB3	1.64	0.61
11:Sg:51:ASN:OD1	11:Sg:52:TYR:N	2.29	0.61
55:LZ:68:ILE:HG22	55:LZ:119:GLU:HG3	1.82	0.61
65:Lj:76:HIS:NE2	75:L8:93:C:OP1	2.32	0.61
73:L5:1332:C:H2'	73:L5:1333:A:C8	2.34	0.61
25:SE:3:ARG:HD2	76:S2:447:A:H4'	1.81	0.61
73:L5:1879:C:O2'	73:L5:1891:A:N3	2.33	0.61
76:S2:60:A:N3	76:S2:317:C:O2'	2.34	0.61
76:S2:1511:U:H1'	76:S2:1512:C:H5'	1.82	0.61
5:SV:32:ILE:HD12	5:SV:34:MET:HB3	1.82	0.61
22:SZ:49:LEU:C	22:SZ:51:ASP:H	2.07	0.61
22:SZ:99:LEU:HD12	22:SZ:109:TYR:HB3	1.81	0.61
76:S2:508:A:H3'	76:S2:509:G:H8	1.65	0.61
7:Sa:10:ARG:HH22	76:S2:1859:A:P	2.23	0.61
30:SF:91:ARG:NH1	76:S2:1592:C:OP1	2.34	0.61
46:LQ:173:LYS:NZ	73:L5:88:A:N7	2.47	0.61
48:LS:70:LYS:NZ	73:L5:732:A:OP1	2.33	0.61
71:Lp:46:LYS:HE2	71:Lp:59:SER:HB2	1.81	0.61
73:L5:1096:C:O2	73:L5:1200:G:N1	2.32	0.61
73:L5:1339:U:H2'	73:L5:1340:C:C6	2.34	0.61
76:S2:121:U:H2'	76:S2:122:G:C8	2.34	0.61
76:S2:497:C:H2'	76:S2:498:C:C6	2.36	0.61
13:Sd:21:CYS:HB3	13:Sd:39:CYS:H	1.63	0.61
76:S2:609:U:H2'	76:S2:610:G:H8	1.65	0.61
76:S2:1365:G:H2'	76:S2:1366:G:C8	2.35	0.61
11:Sg:91:ASP:HB2	11:Sg:93:THR:HG22	1.83	0.61
15:SN:62:GLN:OE1	76:S2:1016:U:O2'	2.18	0.61
18:SW:69:LEU:HD12	18:SW:70:ASN:H	1.65	0.61
23:SA:151:ASP:OD1	23:SA:151:ASP:N	2.34	0.61
29:SK:47:LYS:HE2	76:S2:1274:G:H1'	1.83	0.61
31:LA:8:GLN:NE2	73:L5:3668:C:OP1	2.25	0.61
76:S2:1454:A:N6	76:S2:1476:A:OP2	2.22	0.61
36:LF:113:ARG:HD2	73:L5:1840:G:H5''	1.82	0.61
73:L5:498:C:O2	73:L5:499:G:N1	2.33	0.61
73:L5:2611:A:H2'	73:L5:2612:G:C8	2.35	0.61
2:SR:20:TYR:HD2	2:SR:38:ILE:CG2	2.13	0.61
26:SD:38:GLU:OE1	26:SD:39:VAL:N	2.34	0.61
28:SI:159:SER:HB3	28:SI:162:LEU:HG	1.83	0.61
32:LB:286:LYS:HB3	32:LB:332:MET:HG2	1.81	0.61
76:S2:12:U:H2'	76:S2:13:C:C6	2.36	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:SY:54:VAL:HG23	19:SY:76:TYR:O	2.01	0.61
35:LE:119:GLU:HB2	60:Le:7:LEU:HD13	1.82	0.61
36:LF:182:TYR:HB3	36:LF:200:ARG:HG3	1.83	0.61
46:LQ:57:ASN:OD1	46:LQ:143:ARG:NH1	2.34	0.61
65:Lj:38:GLY:O	65:Lj:41:ALA:N	2.34	0.61
73:L5:1073:G:C6	73:L5:1238:A:N1	2.68	0.61
73:L5:1214:C:H5''	73:L5:1215:C:H4'	1.83	0.61
73:L5:1617:G:H1'	73:L5:2513:A:N6	2.16	0.61
73:L5:2669:C:O2'	73:L5:2670:C:H6	1.83	0.61
73:L5:4041:C:P	73:L5:4045:G:H1	2.23	0.61
74:L7:58:A:H2'	74:L7:59:G:C8	2.36	0.61
78:CA:692:LEU:HD11	78:CA:738:PRO:HB2	1.83	0.61
11:Sg:107:ASP:O	11:Sg:124:SER:HB2	2.01	0.61
12:SC:125:LYS:HG2	12:SC:143:CYS:HB2	1.82	0.61
17:SG:131:ARG:NH1	76:S2:167:G:O3'	2.33	0.61
25:SE:131:VAL:HA	25:SE:137:PRO:HA	1.82	0.61
59:Ld:23:ARG:NH1	73:L5:5058:A:H4'	2.15	0.61
73:L5:673:C:H2'	73:L5:674:G:H8	1.65	0.61
73:L5:1563:A:N6	76:S2:1028:A:N1	2.49	0.61
73:L5:4364:G:H2'	73:L5:4365:C:H6	1.66	0.61
73:L5:4541:G:N2	73:L5:4544:A:OP2	2.26	0.61
76:S2:1098:C:H2'	76:S2:1099:G:H8	1.64	0.61
78:CA:671:TYR:HB2	78:CA:709:LEU:HD22	1.83	0.61
17:SG:77:LEU:HD13	17:SG:84:TYR:HB2	1.83	0.60
32:LB:108:GLU:OE2	32:LB:138:GLN:NE2	2.33	0.60
43:LN:4:TYR:OH	73:L5:151:G:OP2	2.16	0.60
73:L5:495:C:H2'	73:L5:496:G:C8	2.36	0.60
4:SQ:93:VAL:HG22	4:SQ:105:LYS:HZ1	1.66	0.60
26:SD:132:LYS:O	26:SD:156:LEU:N	2.33	0.60
26:SD:141:LYS:HE2	26:SD:179:GLN:HB3	1.82	0.60
27:SH:43:LEU:HB3	27:SH:72:PHE:CZ	2.36	0.60
51:LV:15:ARG:HB2	73:L5:4618:G:H5'	1.83	0.60
13:Sd:49:ASP:HB3	26:SD:18:LYS:HZ3	1.66	0.60
46:LQ:179:GLY:HA2	46:LQ:186:TYR:CE1	2.36	0.60
51:LV:48:ARG:HG2	51:LV:49:LEU:N	2.14	0.60
54:LY:54:GLU:HB3	54:LY:67:ILE:HG22	1.83	0.60
73:L5:4745:G:H1	73:L5:4954:G:H22	1.47	0.60
73:L5:4935:C:H2'	73:L5:4936:G:C8	2.37	0.60
11:Sg:8:ARG:H	11:Sg:308:ARG:HH22	1.49	0.60
54:LY:15:ARG:NH1	73:L5:230:G:OP1	2.34	0.60
73:L5:489:C:H2'	73:L5:490:C:O4'	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:4685:U:H2'	73:L5:4686:G:C8	2.36	0.60
73:L5:4888:U:H3	73:L5:4932:U:H3	1.48	0.60
1:SL:37:TYR:CG	1:SL:51:ILE:HD13	2.36	0.60
19:SY:86:GLU:OE2	19:SY:90:ARG:HB2	2.00	0.60
49:LT:23:GLY:N	73:L5:4278:C:OP1	2.33	0.60
63:Lh:62:ASN:ND2	75:L8:60:G:O6	2.32	0.60
76:S2:46:A:H61	76:S2:433:A:H2	1.48	0.60
76:S2:870:A:N6	76:S2:915:G:O2'	2.35	0.60
3:SP:36:LEU:HG	3:SP:37:TYR:H	1.65	0.60
6:SX:115:ILE:HG21	6:SX:118:VAL:HB	1.82	0.60
14:SJ:112:THR:O	14:SJ:116:LYS:HG2	2.01	0.60
73:L5:3753:G:H1'	73:L5:3754:G:O5'	2.00	0.60
76:S2:147:A:HO2'	76:S2:148:U:H6	1.48	0.60
5:SV:21:ASN:ND2	18:SW:66:THR:O	2.35	0.60
25:SE:120:LYS:O	25:SE:164:LEU:HB3	2.02	0.60
39:LI:15:LYS:NZ	73:L5:1863:U:OP1	2.35	0.60
43:LN:159:ARG:HB3	43:LN:164:LEU:HB2	1.83	0.60
60:Le:108:ARG:NH2	73:L5:2326:G:OP1	2.34	0.60
73:L5:3765:G:O2'	73:L5:3767:C:N4	2.35	0.60
75:L8:71:A:N6	75:L8:83:C:O4'	2.34	0.60
76:S2:885:U:H1'	76:S2:902:G:H22	1.63	0.60
76:S2:1714:U:H2'	76:S2:1715:A:C8	2.36	0.60
11:Sg:46:THR:OG1	11:Sg:48:ASP:OD1	2.18	0.60
38:LH:45:LEU:HD23	38:LH:57:VAL:HG12	1.83	0.60
3:SP:22:LEU:HA	3:SP:25:LEU:HD12	1.82	0.60
17:SG:84:TYR:OH	17:SG:91:GLU:O	2.19	0.60
29:SK:15:LEU:HD13	29:SK:21:MET:HG3	1.83	0.60
32:LB:175:GLN:NE2	32:LB:177:LYS:O	2.30	0.60
48:LS:11:LYS:HD2	48:LS:29:ARG:HD2	1.82	0.60
64:Li:30:ARG:NH2	73:L5:278:G:OP2	2.34	0.60
73:L5:651:C:H2'	73:L5:652:G:C8	2.36	0.60
17:SG:14:LYS:HD2	17:SG:16:ILE:HD13	1.84	0.60
30:SF:40:ALA:HB3	30:SF:67:PRO:HA	1.83	0.60
40:LJ:12:MET:HE1	74:L7:29:C:H4'	1.84	0.60
61:Lf:8:LYS:HB2	61:Lf:31:GLU:HG3	1.84	0.60
73:L5:1775:A:H2'	73:L5:1776:A:C8	2.37	0.60
73:L5:3961:G:O2'	73:L5:3965:A:O5'	2.14	0.60
76:S2:391:C:H2'	76:S2:392:A:C8	2.37	0.60
76:S2:877:C:H3'	76:S2:878:G:H5''	1.82	0.60
33:LC:147:VAL:HG21	33:LC:249:PHE:HZ	1.66	0.59
73:L5:2786:C:H5''	73:L5:2787:A:H5'	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:2843:U:O2'	73:L5:4632:U:OP1	2.19	0.59
76:S2:925:G:H22	76:S2:1017:U:H3	1.48	0.59
76:S2:1662:U:O4	76:S2:1663:A:N6	2.35	0.59
26:SD:136:VAL:HG13	26:SD:152:PHE:HB2	1.83	0.59
48:LS:173:ASN:ND2	48:LS:175:PHE:O	2.35	0.59
55:LZ:48:ARG:HB2	55:LZ:69:LYS:HB3	1.83	0.59
56:La:26:ARG:HB2	56:La:29:PRO:HG3	1.84	0.59
76:S2:1743:G:H3'	76:S2:1744:G:C8	2.37	0.59
14:SJ:21:GLU:OE2	14:SJ:23:SER:OG	2.19	0.59
30:SF:100:ILE:HD11	30:SF:174:ALA:HA	1.84	0.59
40:LJ:112:HIS:ND1	40:LJ:112:HIS:O	2.35	0.59
47:LR:95:TRP:CZ2	47:LR:99:MET:HE1	2.37	0.59
56:La:32:ARG:HD2	73:L5:37:U:H4'	1.83	0.59
57:Lb:14:ARG:NH2	73:L5:1878:G:OP2	2.35	0.59
63:Lh:97:LYS:O	63:Lh:101:ASN:ND2	2.36	0.59
67:Ll:48:LYS:NZ	73:L5:2406:G:O2'	2.36	0.59
8:SU:80:PHE:CZ	13:Sd:52:PHE:HB3	2.37	0.59
16:SO:101:GLY:HA3	16:SO:134:PRO:HG2	1.82	0.59
18:SW:52:ILE:HA	18:SW:61:ILE:HG22	1.84	0.59
20:Se:55:PRO:HG3	76:S2:605:A:H4'	1.85	0.59
24:SB:151:ARG:NH2	76:S2:1123:C:OP1	2.36	0.59
29:SK:5:LYS:HG2	76:S2:1313:A:H5'	1.83	0.59
73:L5:3962:A:OP1	73:L5:3963:A:N6	2.34	0.59
76:S2:1415:C:H2'	76:S2:1417:C:H5'	1.84	0.59
76:S2:1845:A:H2'	76:S2:1846:G:C8	2.38	0.59
78:CA:703:ASP:HB2	78:CA:705:HIS:CE1	2.37	0.59
3:SP:16:THR:HB	3:SP:20:VAL:H	1.66	0.59
12:SC:207:ALA:HB2	76:S2:4:C:H4'	1.84	0.59
17:SG:211:LYS:HB3	17:SG:215:LYS:HG2	1.83	0.59
26:SD:72:VAL:HG22	29:SK:20:VAL:HB	1.83	0.59
55:LZ:62:ILE:O	55:LZ:66:SER:OG	2.19	0.59
64:Li:25:ARG:HD2	73:L5:159:C:H5''	1.83	0.59
73:L5:1806:G:H2'	73:L5:1807:C:C6	2.38	0.59
76:S2:155:G:C6	76:S2:164:A:N6	2.70	0.59
76:S2:1286:G:C2	76:S2:1313:A:C5	2.90	0.59
78:CA:227:GLN:HE22	78:CA:349:ALA:HA	1.67	0.59
1:SL:48:LYS:HZ3	1:SL:52:GLU:HG3	1.68	0.59
4:SQ:39:LEU:HD22	4:SQ:52:LEU:HB3	1.84	0.59
22:SZ:73:VAL:HG12	22:SZ:77:LEU:HD22	1.84	0.59
36:LF:135:ILE:HD11	73:L5:1726:U:H5'	1.84	0.59
46:LQ:69:LYS:HE2	73:L5:1458:C:H5''	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:927:G:O2'	73:L5:928:C:O5'	2.19	0.59
73:L5:1886:G:HO2'	73:L5:1909:G:HO2'	1.47	0.59
7:Sa:45:VAL:HG11	7:Sa:53:ILE:HD12	1.83	0.59
16:SO:135:ILE:O	76:S2:943:U:O2'	2.21	0.59
73:L5:449:C:H3'	73:L5:450:G:H8	1.68	0.59
73:L5:4750:G:H3'	73:L5:4751:G:H21	1.68	0.59
76:S2:184:G:H2'	76:S2:185:G:H8	1.66	0.59
76:S2:210:U:H2'	76:S2:211:G:C8	2.38	0.59
11:Sg:221:LEU:HD23	11:Sg:221:LEU:H	1.67	0.59
17:SG:189:ARG:HH11	76:S2:331:C:H41	1.50	0.59
25:SE:18:TRP:HH2	25:SE:31:PRO:HD3	1.67	0.59
33:LC:268:ARG:CZ	73:L5:654:C:H5'	2.32	0.59
35:LE:153:LEU:HD11	35:LE:195:ILE:HG13	1.84	0.59
73:L5:4064:C:H2'	73:L5:4065:G:C8	2.38	0.59
76:S2:848:U:H2'	76:S2:849:A:H8	1.67	0.59
76:S2:1741:U:H2'	76:S2:1742:C:O4'	2.03	0.59
78:CA:278:THR:HA	78:CA:284:LYS:HA	1.83	0.59
78:CA:683:PHE:O	78:CA:687:THR:OG1	2.16	0.59
11:Sg:30:MET:HB2	11:Sg:44:LYS:HA	1.84	0.59
11:Sg:188:HIS:ND1	11:Sg:225:LYS:HG3	2.18	0.59
17:SG:196:LYS:HD3	76:S2:126:G:N7	2.18	0.59
50:LU:27:HIS:HB3	50:LU:114:TYR:HE1	1.67	0.59
58:Lc:20:LEU:HD21	58:Lc:101:ASP:HB2	1.84	0.59
73:L5:69:A:N1	73:L5:324:A:O2'	2.33	0.59
73:L5:138:G:H2'	73:L5:139:G:C8	2.38	0.59
76:S2:527:C:H2'	76:S2:528:A:C8	2.38	0.59
76:S2:1466:G:H2'	76:S2:1467:C:C6	2.38	0.59
2:SR:66:VAL:H	2:SR:69:ILE:HD11	1.68	0.59
3:SP:20:VAL:HG12	3:SP:24:GLN:NE2	2.18	0.59
9:Sc:10:LYS:HG3	9:Sc:61:SER:HB3	1.84	0.59
12:SC:230:THR:OG1	76:S2:5:U:OP2	2.13	0.59
19:SY:104:ARG:NH2	76:S2:507:G:OP1	2.35	0.59
26:SD:172:VAL:HG22	26:SD:185:LYS:HG2	1.84	0.59
33:LC:52:TYR:OH	73:L5:2343:G:OP1	2.19	0.59
37:LG:99:ALA:HB1	37:LG:136:LEU:HD11	1.85	0.59
42:LM:52:PHE:HA	42:LM:55:MET:HE3	1.83	0.59
60:Le:128:ARG:NH1	73:L5:2306:G:OP1	2.36	0.59
73:L5:4052:C:C2	73:L5:4053:A:H8	2.21	0.59
76:S2:1593:C:H2'	76:S2:1594:A:C8	2.37	0.59
24:SB:103:MET:HG2	24:SB:215:VAL:HB	1.85	0.58
30:SF:35:LEU:HD11	30:SF:147:VAL:HG22	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:SF:171:GLU:OE2	30:SF:171:GLU:N	2.31	0.58
36:LF:149:SER:OG	36:LF:245:ARG:NH2	2.35	0.58
72:Lr:41:ASN:OD1	72:Lr:44:ILE:HG12	2.03	0.58
5:SV:15:ARG:HE	5:SV:24:ILE:HD12	1.67	0.58
11:Sg:147:HIS:NE2	11:Sg:173:LEU:O	2.36	0.58
15:SN:16:LEU:HD21	76:S2:919:A:H5'	1.85	0.58
17:SG:56:ASN:HB2	76:S2:156:G:H1'	1.85	0.58
26:SD:18:LYS:HD2	26:SD:18:LYS:C	2.28	0.58
48:LS:76:LYS:NZ	48:LS:100:LEU:O	2.30	0.58
50:LU:56:LEU:HD23	50:LU:61:VAL:HG12	1.85	0.58
73:L5:139:G:H2'	73:L5:140:G:H8	1.68	0.58
73:L5:472:C:H2'	73:L5:473:C:C6	2.37	0.58
73:L5:3971:G:H2'	73:L5:3972:A:H4'	1.85	0.58
73:L5:4900:C:H42	73:L5:4950:U:H3	1.50	0.58
13:Sd:23:VAL:HA	29:SK:64:TRP:HB2	1.86	0.58
46:LQ:178:ARG:HG3	46:LQ:185:GLY:HA3	1.84	0.58
73:L5:1604:G:H2'	73:L5:1605:G:C8	2.38	0.58
73:L5:3953:G:H2'	73:L5:3954:A:H8	1.68	0.58
73:L5:4239:A:H2'	73:L5:4240:G:C8	2.38	0.58
76:S2:113:G:N2	76:S2:293:C:O4'	2.36	0.58
76:S2:1686:G:H2'	76:S2:1687:C:C6	2.38	0.58
4:SQ:25:CYS:HB3	4:SQ:27:ARG:HH21	1.68	0.58
10:ST:103:VAL:HG12	10:ST:104:LEU:HD22	1.83	0.58
11:Sg:130:LYS:HA	11:Sg:142:VAL:HG22	1.86	0.58
43:LN:114:ARG:NH1	43:LN:151:ILE:O	2.36	0.58
73:L5:754:U:H2'	73:L5:755:C:O4'	2.03	0.58
73:L5:1097:C:H2'	73:L5:1098:G:H8	1.68	0.58
76:S2:587:A:H1'	76:S2:589:G:H22	1.67	0.58
9:Sc:44:ARG:NH2	9:Sc:60:GLU:O	2.36	0.58
10:ST:69:GLY:O	10:ST:121:ARG:N	2.36	0.58
11:Sg:21:ILE:HG21	11:Sg:299:PHE:CD2	2.39	0.58
14:SJ:5:ARG:HG3	76:S2:38:A:OP1	2.03	0.58
19:SY:29:HIS:HD2	19:SY:35:VAL:HG23	1.67	0.58
19:SY:108:LYS:NZ	76:S2:506:G:OP1	2.36	0.58
33:LC:140:LYS:HE3	33:LC:245:HIS:HB2	1.84	0.58
73:L5:2404:A:H61	73:L5:2787:A:N6	2.01	0.58
76:S2:184:G:H2'	76:S2:185:G:C8	2.38	0.58
76:S2:1218:C:H1'	76:S2:1683:C:H42	1.68	0.58
11:Sg:45:LEU:HD11	11:Sg:299:PHE:HZ	1.69	0.58
14:SJ:87:LEU:HD23	14:SJ:100:LEU:HD11	1.84	0.58
30:SF:176:GLU:HG3	30:SF:187:SER:HB2	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:LH:44:GLU:HB3	38:LH:58:ASP:HB2	1.86	0.58
45:LP:85:LYS:O	45:LP:89:GLU:HG2	2.04	0.58
73:L5:385:A:C2	73:L5:387:G:H5'	2.38	0.58
73:L5:3964:U:O2'	73:L5:3966:A:OP1	2.22	0.58
8:SU:80:PHE:CE1	13:Sd:52:PHE:HB3	2.38	0.58
8:SU:83:ARG:NH1	76:S2:1392:U:OP1	2.36	0.58
14:SJ:109:ARG:HH22	14:SJ:127:ARG:HH21	1.51	0.58
17:SG:49:VAL:HG12	17:SG:114:VAL:HB	1.85	0.58
32:LB:80:GLU:OE2	32:LB:328:ASN:ND2	2.37	0.58
33:LC:307:LYS:NZ	73:L5:2089:G:O2'	2.37	0.58
61:Lf:73:LYS:HE2	73:L5:953:C:H5''	1.84	0.58
73:L5:2029:A:H2'	73:L5:2030:A:C8	2.39	0.58
76:S2:71:G:H5''	76:S2:72:C:C5	2.39	0.58
6:SX:67:ARG:HH21	76:S2:618:C:H41	1.51	0.58
11:Sg:268:ASP:N	11:Sg:268:ASP:OD1	2.37	0.58
22:SZ:88:LEU:HD12	22:SZ:89:GLN:HG3	1.85	0.58
41:LL:101:ARG:NH2	73:L5:76:A:H5'	2.19	0.58
54:LY:91:ASN:HA	73:L5:389:A:H1'	1.84	0.58
73:L5:25:A:H2'	73:L5:26:C:H6	1.69	0.58
73:L5:300:A:H2'	73:L5:301:G:H8	1.67	0.58
73:L5:311:G:H2'	73:L5:312:G:H8	1.68	0.58
73:L5:4260:U:H2'	73:L5:4261:C:C6	2.39	0.58
76:S2:1348:G:H22	76:S2:1381:G:N2	2.01	0.58
7:Sa:37:LYS:NZ	76:S2:990:A:OP2	2.36	0.58
12:SC:121:ARG:NH2	76:S2:1347:U:OP1	2.36	0.58
17:SG:27:PHE:HD2	17:SG:36:VAL:HG11	1.68	0.58
28:SI:25:ARG:HA	76:S2:448:A:H5''	1.84	0.58
28:SI:47:ARG:NH2	76:S2:444:G:H3'	2.19	0.58
41:LL:124:LEU:HD23	63:Lh:121:VAL:HG12	1.85	0.58
66:Lk:35:LYS:NZ	73:L5:2695:A:OP1	2.34	0.58
69:Ln:14:LYS:HD3	76:S2:1172:U:H5'	1.86	0.58
73:L5:83:C:O2'	73:L5:100:C:N4	2.37	0.58
73:L5:1188:C:H2'	73:L5:1189:G:C8	2.39	0.58
73:L5:4208:U:OP1	73:L5:4334:U:O2'	2.20	0.58
76:S2:1215:C:H5''	76:S2:1218:C:H41	1.69	0.58
2:SR:43:SER:HB2	2:SR:46:LEU:HB3	1.85	0.58
11:Sg:219:TRP:H	11:Sg:219:TRP:CD1	2.22	0.58
12:SC:130:ILE:O	12:SC:138:GLY:N	2.34	0.58
14:SJ:138:ARG:HG3	14:SJ:138:ARG:O	2.04	0.58
26:SD:65:ARG:HE	26:SD:69:LEU:HG	1.69	0.58
40:LJ:129:ASP:HB2	73:L5:4250:G:O2'	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:LT:13:TYR:OH	73:L5:1790:U:OP2	2.19	0.58
76:S2:805:U:H3	76:S2:858:A:H62	1.51	0.58
76:S2:957:A:H2'	76:S2:958:G:H21	1.67	0.58
2:SR:44:LYS:NZ	76:S2:1451:G:N7	2.52	0.57
11:Sg:91:ASP:N	11:Sg:91:ASP:OD1	2.37	0.57
11:Sg:207:CYS:N	11:Sg:219:TRP:O	2.36	0.57
19:SY:91:LEU:HB3	19:SY:96:LEU:HB2	1.85	0.57
26:SD:25:LEU:HB3	26:SD:34:TYR:CE2	2.39	0.57
73:L5:455:C:H2'	73:L5:456:C:O4'	2.04	0.57
73:L5:676:C:H2'	73:L5:677:G:H8	1.68	0.57
73:L5:3873:G:H2'	73:L5:3874:G:C8	2.39	0.57
73:L5:4902:C:H2'	73:L5:4903:G:C8	2.39	0.57
73:L5:4967:A:H2'	73:L5:4968:A:H8	1.69	0.57
76:S2:1395:C:O2'	76:S2:1396:A:H5''	2.04	0.57
19:SY:56:PHE:HE2	19:SY:82:ALA:HB1	1.69	0.57
22:SZ:96:LEU:HD23	22:SZ:97:ILE:HG12	1.86	0.57
26:SD:106:ARG:O	26:SD:110:LEU:HD23	2.04	0.57
57:Lb:65:MET:HA	57:Lb:65:MET:HE3	1.86	0.57
58:Lc:31:TYR:OH	58:Lc:59:GLU:OE1	2.21	0.57
73:L5:504:G:H2'	73:L5:505:G:C8	2.39	0.57
73:L5:3726:A:H2'	73:L5:3727:A:C8	2.39	0.57
73:L5:3910:C:H2'	73:L5:3911:C:C6	2.39	0.57
78:CA:610:PRO:HB2	78:CA:639:TYR:HD2	1.68	0.57
3:SP:56:LEU:O	3:SP:60:LEU:HD12	2.05	0.57
28:SI:27:TYR:HB2	76:S2:381:C:H41	1.68	0.57
32:LB:110:ILE:HG22	32:LB:115:LYS:HG3	1.86	0.57
44:LO:196:LEU:HD23	44:LO:202:LEU:HD23	1.85	0.57
76:S2:193:C:H2'	76:S2:194:C:C6	2.39	0.57
76:S2:907:G:H2'	76:S2:908:A:H8	1.69	0.57
76:S2:1552:G:O5'	76:S2:1553:C:H5'	2.05	0.57
78:CA:526:ARG:NH1	78:CA:565:HIS:O	2.38	0.57
1:SL:133:PRO:HG2	76:S2:383:G:H21	1.70	0.57
8:SU:55:ARG:HE	8:SU:87:ARG:HH22	1.52	0.57
18:SW:55:ASP:O	18:SW:57:ARG:NH2	2.37	0.57
30:SF:74:ASN:HB2	76:S2:1675:A:H4'	1.85	0.57
33:LC:79:VAL:HG11	33:LC:86:ARG:HG3	1.85	0.57
73:L5:3670:C:HO2'	73:L5:3671:G:H8	1.50	0.57
73:L5:3946:G:O6	73:L5:4067:U:O4	2.22	0.57
77:S6:14:C:H2'	77:S6:15:A:H5''	1.86	0.57
2:SR:67:ARG:HE	2:SR:67:ARG:C	2.12	0.57
5:SV:35:ASN:ND2	12:SC:267:GLN:OE1	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:SG:87:ARG:NH2	76:S2:163:U:OP2	2.36	0.57
25:SE:43:PRO:O	25:SE:46:ILE:HG22	2.05	0.57
33:LC:353:LYS:NZ	33:LC:357:ALA:HB2	2.19	0.57
38:LH:120:GLU:HG2	38:LH:124:ARG:HH12	1.68	0.57
58:Lc:61:GLU:OE2	58:Lc:73:HIS:NE2	2.30	0.57
73:L5:3619:G:H22	73:L5:3624:A:H1'	1.70	0.57
77:S6:17:C:H1'	77:S6:60:A:O2'	2.05	0.57
4:SQ:76:GLY:HA3	76:S2:1673:U:OP2	2.04	0.57
4:SQ:109:LYS:O	4:SQ:113:ILE:HG12	2.04	0.57
17:SG:163:ASN:HA	17:SG:169:PRO:HB3	1.87	0.57
32:LB:174:ARG:NH2	73:L5:4994:G:OP1	2.38	0.57
33:LC:266:THR:HG22	33:LC:269:LYS:HG2	1.86	0.57
40:LJ:19:LYS:HG2	40:LJ:133:VAL:HB	1.86	0.57
45:LP:13:LYS:NZ	45:LP:152:GLU:OE2	2.33	0.57
54:LY:19:PHE:O	54:LY:26:ARG:NH2	2.37	0.57
73:L5:62:A:N3	73:L5:77:U:O2'	2.34	0.57
73:L5:1552:G:H2'	73:L5:1574:G:H22	1.70	0.57
78:CA:641:TRP:HE1	78:CA:701:ARG:HH12	1.51	0.57
3:SP:55:SER:HA	3:SP:58:LYS:HE3	1.85	0.57
5:SV:34:MET:HE1	23:SA:159:ILE:HD11	1.85	0.57
11:Sg:79:LEU:HD13	11:Sg:89:LEU:HG	1.87	0.57
11:Sg:290:ALA:HB3	11:Sg:299:PHE:HB2	1.86	0.57
31:LA:37:ARG:NH1	73:L5:4088:C:OP1	2.36	0.57
43:LN:14:LYS:HE3	73:L5:280:G:H5''	1.87	0.57
73:L5:463:A:H2'	73:L5:464:G:C8	2.39	0.57
73:L5:2468:U:O2'	73:L5:2506:G:N2	2.37	0.57
73:L5:4239:A:H2'	73:L5:4240:G:H8	1.69	0.57
73:L5:4594:U:H2'	73:L5:4595:G:H8	1.69	0.57
76:S2:191:A:H61	76:S2:208:G:H2'	1.69	0.57
14:SJ:61:LEU:HD21	14:SJ:94:LEU:HB3	1.87	0.57
27:SH:114:GLN:NE2	76:S2:873:G:N3	2.52	0.57
38:LH:4:ILE:HG13	48:LS:144:GLN:HG2	1.87	0.57
44:LO:18:ARG:NH1	73:L5:2057:A:N7	2.52	0.57
45:LP:9:GLU:OE1	45:LP:9:GLU:N	2.34	0.57
46:LQ:112:ARG:HG2	46:LQ:115:ARG:HH22	1.68	0.57
47:LR:37:SER:OG	47:LR:38:ARG:N	2.38	0.57
76:S2:1310:U:H2'	76:S2:1311:C:C6	2.40	0.57
78:CA:351:LEU:O	78:CA:355:THR:OG1	2.21	0.57
4:SQ:130:LYS:NZ	4:SQ:131:LYS:O	2.38	0.57
14:SJ:130:ILE:HG12	14:SJ:135:ILE:HG21	1.87	0.57
18:SW:27:ILE:HD11	18:SW:61:ILE:HD11	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:LB:60:VAL:HB	32:LB:67:VAL:HG12	1.87	0.57
32:LB:369:ASP:OD2	32:LB:371:THR:OG1	2.23	0.57
38:LH:71:ARG:HG2	73:L5:4691:A:H4'	1.87	0.57
43:LN:8:GLN:O	43:LN:12:ARG:HG2	2.04	0.57
56:La:98:ALA:HB2	56:La:121:PRO:HB2	1.87	0.57
73:L5:2550:G:H1	73:L5:2767:U:H3	1.51	0.57
76:S2:12:U:H2'	76:S2:13:C:H6	1.70	0.57
2:SR:85:VAL:HG12	23:SA:85:ARG:HH12	1.69	0.57
11:Sg:174:VAL:HB	11:Sg:188:HIS:CD2	2.39	0.57
14:SJ:113:GLN:NE2	14:SJ:149:VAL:HG21	2.20	0.57
28:SI:26:LYS:HE2	76:S2:447:A:P	2.45	0.57
30:SF:124:ASP:O	30:SF:139:VAL:HB	2.05	0.57
43:LN:146:PRO:HG2	63:Lh:104:THR:HG23	1.87	0.57
61:Lf:100:ARG:NH1	73:L5:4752:U:OP1	2.38	0.57
73:L5:1633:G:H5'	73:L5:1634:A:OP1	2.05	0.57
73:L5:4633:G:O2'	73:L5:4635:A:OP2	2.19	0.57
76:S2:496:C:H2'	76:S2:497:C:C6	2.40	0.57
12:SC:90:GLU:HB2	12:SC:93:ILE:HD12	1.87	0.56
33:LC:190:ARG:HH22	73:L5:2296:G:P	2.28	0.56
73:L5:4048:A:HO2'	73:L5:4049:U:P	2.27	0.56
73:L5:4238:G:H2'	73:L5:4239:A:H8	1.70	0.56
76:S2:1144:A:H5'	76:S2:1355:C:H41	1.70	0.56
4:SQ:112:LEU:HD22	4:SQ:119:LEU:HD23	1.86	0.56
11:Sg:32:LEU:HA	11:Sg:42:MET:HA	1.88	0.56
13:Sd:21:CYS:HB3	13:Sd:39:CYS:N	2.20	0.56
17:SG:61:PHE:HE2	17:SG:96:SER:HB3	1.69	0.56
29:SK:1:MET:HG2	29:SK:2:LEU:N	2.19	0.56
30:SF:168:THR:HG23	76:S2:1535:U:OP2	2.05	0.56
39:LI:205:PRO:HD2	39:LI:208:LYS:HD2	1.86	0.56
43:LN:125:SER:HB2	73:L5:3937:C:H1'	1.87	0.56
48:LS:46:TYR:OH	74:L7:94:C:OP1	2.23	0.56
54:LY:50:ARG:NH2	75:L8:83:C:N3	2.46	0.56
60:Le:89:LEU:HD13	60:Le:118:LEU:HB3	1.87	0.56
63:Lh:33:VAL:O	63:Lh:37:THR:HG22	2.04	0.56
66:Lk:23:VAL:HG13	66:Lk:64:LEU:HD21	1.87	0.56
76:S2:1228:A:H2'	76:S2:1229:G:C8	2.40	0.56
76:S2:1664:A:H4'	76:S2:1665:G:OP1	2.05	0.56
78:CA:311:GLU:HA	78:CA:314:LYS:HB3	1.87	0.56
1:SL:40:ILE:HD11	1:SL:68:ILE:HD13	1.87	0.56
4:SQ:44:PRO:O	4:SQ:47:LEU:N	2.38	0.56
7:Sa:3:LYS:HE3	7:Sa:8:ASN:HD21	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SU:81:GLN:OE1	8:SU:83:ARG:HG2	2.06	0.56
15:SN:4:MET:SD	15:SN:124:ARG:NH1	2.79	0.56
15:SN:47:PRO:HD2	15:SN:86:GLU:OE1	2.05	0.56
15:SN:56:ASP:OD2	21:Sb:52:THR:OG1	2.21	0.56
16:SO:104:ARG:NH2	76:S2:959:G:OP1	2.38	0.56
25:SE:64:ILE:HG22	25:SE:70:ILE:HD11	1.86	0.56
33:LC:208:CYS:HB3	33:LC:228:THR:HG23	1.86	0.56
38:LH:103:VAL:HG11	38:LH:144:LEU:HD21	1.85	0.56
42:LM:96:GLU:OE1	42:LM:100:ARG:NH1	2.38	0.56
44:LO:81:TRP:HB2	44:LO:104:VAL:HG21	1.87	0.56
54:LY:50:ARG:NE	75:L8:71:A:OP2	2.35	0.56
59:Ld:90:ARG:HD3	59:Ld:102:LEU:HD13	1.86	0.56
60:Le:21:ILE:HG22	60:Le:33:ARG:HD3	1.86	0.56
66:Lk:14:THR:HA	66:Lk:17:ARG:HD3	1.86	0.56
73:L5:192:G:H2'	73:L5:193:G:H8	1.71	0.56
73:L5:1171:G:H8	73:L5:1171:G:OP1	1.88	0.56
73:L5:2637:U:O2'	73:L5:2718:U:O2'	2.23	0.56
76:S2:67:C:H4'	76:S2:68:A:C8	2.40	0.56
76:S2:199:C:H3'	76:S2:200:G:H8	1.70	0.56
76:S2:368:U:OP1	76:S2:369:C:O2'	2.20	0.56
76:S2:1657:G:H1	76:S2:1667:U:H3	1.50	0.56
78:CA:321:ILE:HD11	78:CA:342:ARG:HB3	1.88	0.56
17:SG:106:LEU:HD11	17:SG:109:LEU:HB2	1.86	0.56
17:SG:211:LYS:O	17:SG:215:LYS:N	2.38	0.56
24:SB:40:ASN:ND2	24:SB:75:GLN:OE1	2.38	0.56
24:SB:52:THR:HG23	24:SB:57:ILE:HA	1.87	0.56
32:LB:17:LEU:HD21	32:LB:235:TRP:HH2	1.71	0.56
33:LC:159:GLU:HA	33:LC:217:ILE:HB	1.87	0.56
41:LL:74:ARG:HD2	73:L5:75:G:H3'	1.87	0.56
54:LY:80:ILE:HG23	54:LY:101:PRO:HG3	1.87	0.56
54:LY:82:ILE:HG22	54:LY:83:GLU:H	1.70	0.56
73:L5:1379:C:H4'	73:L5:1380:G:H5'	1.86	0.56
73:L5:4237:C:H2'	73:L5:4238:G:H8	1.70	0.56
73:L5:5053:U:H3'	73:L5:5054:C:C6	2.40	0.56
76:S2:338:G:O2'	76:S2:340:C:N4	2.37	0.56
76:S2:1455:A:O2'	76:S2:1456:G:H8	1.89	0.56
4:SQ:43:GLU:HB2	4:SQ:44:PRO:CD	2.35	0.56
4:SQ:47:LEU:HB3	4:SQ:81:ILE:HG21	1.86	0.56
4:SQ:102:GLU:HA	4:SQ:105:LYS:HB3	1.88	0.56
11:Sg:290:ALA:N	11:Sg:299:PHE:O	2.38	0.56
17:SG:28:TYR:CZ	17:SG:104:ALA:HA	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:SD:167:TYR:HD2	26:SD:189:MET:HE3	1.70	0.56
65:Lj:20:ARG:NH2	65:Lj:39:TYR:OH	2.37	0.56
73:L5:1178:G:H5''	73:L5:1179:U:H5	1.70	0.56
73:L5:3721:U:H2'	73:L5:3722:G:C8	2.40	0.56
76:S2:896:U:H2'	76:S2:897:U:C6	2.40	0.56
78:CA:653:GLY:N	78:CA:660:ASN:O	2.38	0.56
2:SR:12:ALA:HB3	2:SR:50:ILE:HD13	1.86	0.56
11:Sg:124:SER:H	11:Sg:151:VAL:HG13	1.71	0.56
12:SC:183:LYS:HE2	18:SW:95:PRO:HA	1.87	0.56
14:SJ:173:VAL:HG12	76:S2:560:A:H5''	1.88	0.56
17:SG:64:LYS:NZ	17:SG:82:SER:O	2.39	0.56
37:LG:163:PRO:HD2	37:LG:166:LEU:HD12	1.86	0.56
73:L5:4630:G:H2'	73:L5:4631:G:H8	1.71	0.56
76:S2:28:U:H2'	76:S2:29:G:C8	2.41	0.56
22:SZ:46:ASN:HD21	22:SZ:80:ARG:HB2	1.70	0.56
30:SF:139:VAL:HG23	30:SF:140:ASP:N	2.21	0.56
33:LC:330:PRO:HG3	36:LF:47:ARG:NH2	2.20	0.56
44:LO:168:TYR:CE2	44:LO:172:LYS:HD2	2.40	0.56
47:LR:135:LYS:HG2	47:LR:139:MET:HE2	1.88	0.56
55:LZ:41:ALA:HB2	55:LZ:77:TYR:HE1	1.69	0.56
73:L5:4967:A:H2'	73:L5:4968:A:C8	2.41	0.56
76:S2:1324:G:H2'	76:S2:1325:G:C8	2.41	0.56
76:S2:1673:U:H2'	76:S2:1674:G:O4'	2.04	0.56
16:SO:77:ALA:O	16:SO:81:VAL:HG23	2.06	0.56
17:SG:205:GLU:HA	17:SG:208:GLU:HB3	1.87	0.56
22:SZ:103:HIS:CD2	22:SZ:105:ALA:H	2.24	0.56
30:SF:18:LYS:HB3	30:SF:48:TYR:CE1	2.41	0.56
35:LE:180:VAL:HG21	35:LE:258:LEU:HD11	1.87	0.56
40:LJ:24:ILE:HG12	40:LJ:128:LEU:HB3	1.88	0.56
41:LL:28:GLN:NE2	73:L5:1361:G:OP2	2.39	0.56
76:S2:416:U:O2'	76:S2:652:U:O2'	2.16	0.56
76:S2:1303:C:H2'	76:S2:1304:U:C6	2.41	0.56
3:SP:29:SER:OG	3:SP:31:GLU:OE1	2.24	0.56
17:SG:92:ARG:NH2	76:S2:1738:C:OP1	2.39	0.56
19:SY:54:VAL:HG23	19:SY:76:TYR:C	2.30	0.56
21:Sb:26:GLN:O	21:Sb:26:GLN:HG2	2.05	0.56
23:SA:191:ARG:NE	23:SA:192:GLU:H	2.04	0.56
37:LG:242:LEU:H	37:LG:242:LEU:HD12	1.70	0.56
40:LJ:15:LEU:H	40:LJ:15:LEU:HD12	1.70	0.56
45:LP:135:ARG:NH2	73:L5:1596:U:O2'	2.35	0.56
54:LY:2:LYS:HD2	54:LY:7:VAL:HG23	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:Lf:8:LYS:HE2	61:Lf:100:ARG:HH12	1.71	0.56
73:L5:1176:C:O2'	73:L5:1177:U:OP2	2.20	0.56
76:S2:878:G:H22	76:S2:908:A:H2	1.54	0.56
7:Sa:23:CYS:O	16:SO:142:ARG:NH2	2.39	0.56
8:SU:55:ARG:NH2	76:S2:1400:U:O2	2.32	0.56
11:Sg:14:HIS:HE1	11:Sg:39:THR:HG23	1.70	0.56
11:Sg:51:ASN:CG	11:Sg:52:TYR:H	2.14	0.56
11:Sg:59:LEU:HD11	11:Sg:90:TRP:HB3	1.88	0.56
14:SJ:158:ASP:OD1	14:SJ:158:ASP:N	2.37	0.56
19:SY:40:ILE:HD11	19:SY:57:VAL:HG21	1.88	0.56
30:SF:97:PHE:CD1	30:SF:108:PRO:HB2	2.40	0.56
73:L5:32:G:H21	73:L5:50:C:H5	1.54	0.56
73:L5:1097:C:C2	73:L5:1098:G:C8	2.94	0.56
73:L5:1359:G:O3'	73:L5:1360:G:H8	1.89	0.56
73:L5:2637:U:HO2'	73:L5:2718:U:HO2'	1.53	0.56
76:S2:1237:C:O2'	76:S2:1522:A:N6	2.39	0.56
76:S2:1705:C:H2'	76:S2:1706:G:C8	2.41	0.56
2:SR:72:LYS:HE3	2:SR:75:GLU:HG3	1.88	0.55
3:SP:51:ARG:NH1	3:SP:53:GLN:OE1	2.38	0.55
4:SQ:115:TYR:OH	30:SF:46:ALA:O	2.16	0.55
11:Sg:76:GLN:O	11:Sg:91:ASP:HA	2.06	0.55
30:SF:88:MET:HE2	30:SF:91:ARG:HH22	1.71	0.55
37:LG:162:ASP:HB2	73:L5:150:U:H3	1.72	0.55
54:LY:31:SER:HA	54:LY:48:PRO:HA	1.87	0.55
58:Lc:51:ASN:O	73:L5:2674:A:N6	2.39	0.55
59:Ld:23:ARG:HH12	73:L5:5058:A:H4'	1.70	0.55
63:Lh:112:ARG:HH12	73:L5:172:C:H5''	1.70	0.55
73:L5:433:A:C2	73:L5:3867:A:H4'	2.41	0.55
73:L5:1280:C:O3'	73:L5:1281:G:H2'	2.06	0.55
76:S2:1701:C:OP2	77:S6:35:A:N6	2.39	0.55
1:SL:136:LYS:HA	76:S2:385:G:H5''	1.88	0.55
4:SQ:51:LEU:HD23	4:SQ:81:ILE:HG23	1.88	0.55
11:Sg:33:SER:HB3	11:Sg:43:TRP:HE1	1.72	0.55
12:SC:196:ILE:HB	12:SC:223:TYR:HB2	1.87	0.55
17:SG:110:ASN:HD22	76:S2:165:G:H1'	1.70	0.55
31:LA:132:ASN:HD22	31:LA:151:PRO:HB3	1.70	0.55
34:LD:272:SER:HB2	34:LD:275:GLN:HG3	1.89	0.55
40:LJ:16:ARG:HH21	40:LJ:137:PRO:HA	1.71	0.55
73:L5:10:A:H2'	73:L5:11:G:H8	1.70	0.55
73:L5:488:G:N2	73:L5:669:C:C2	2.75	0.55
73:L5:1075:G:H2'	73:L5:1076:C:H4'	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:4745:G:H22	73:L5:4954:G:N2	2.04	0.55
3:SP:53:GLN:HG2	3:SP:56:LEU:HD23	1.88	0.55
23:SA:49:ILE:HG13	23:SA:49:ILE:O	2.05	0.55
33:LC:207:PRO:HB3	33:LC:249:PHE:CD2	2.41	0.55
33:LC:303:ARG:HH21	46:LQ:38:ARG:HD2	1.71	0.55
43:LN:51:LEU:O	43:LN:117:ASN:ND2	2.35	0.55
53:LX:82:THR:O	53:LX:82:THR:OG1	2.24	0.55
73:L5:178:C:H2'	73:L5:179:G:C8	2.41	0.55
73:L5:938:C:H2'	73:L5:939:G:C8	2.41	0.55
73:L5:4378:A:O2'	73:L5:4379:A:H2'	2.06	0.55
76:S2:437:G:H21	76:S2:1801:A:P	2.29	0.55
76:S2:1597:C:H4'	76:S2:1603:G:C6	2.42	0.55
2:SR:85:VAL:HG21	23:SA:201:LEU:HA	1.87	0.55
17:SG:55:GLY:O	17:SG:63:MET:HB2	2.05	0.55
24:SB:103:MET:SD	24:SB:188:LEU:HD22	2.46	0.55
25:SE:173:ILE:HG22	25:SE:174:LYS:H	1.72	0.55
28:SI:26:LYS:NZ	76:S2:446:G:H5''	2.22	0.55
73:L5:93:G:H2'	73:L5:94:A:C8	2.42	0.55
76:S2:1573:G:H2'	76:S2:1574:C:C6	2.42	0.55
2:SR:19:LYS:HE3	26:SD:213:PRO:HD3	1.88	0.55
3:SP:16:THR:HA	3:SP:21:ASP:HA	1.89	0.55
17:SG:56:ASN:ND2	76:S2:156:G:N3	2.55	0.55
25:SE:67:GLN:HA	76:S2:502:C:H42	1.72	0.55
29:SK:52:LEU:HD22	29:SK:55:ARG:HH21	1.70	0.55
30:SF:123:GLU:HA	30:SF:141:VAL:HG23	1.88	0.55
30:SF:167:LYS:HG2	30:SF:172:CYS:SG	2.46	0.55
30:SF:192:LYS:HA	30:SF:192:LYS:HE3	1.89	0.55
31:LA:147:ARG:HG2	31:LA:157:VAL:HG22	1.89	0.55
45:LP:132:ALA:O	45:LP:135:ARG:NH1	2.39	0.55
63:Lh:66:LYS:HG3	75:L8:96:C:H5''	1.88	0.55
64:Li:4:ARG:HG3	64:Li:4:ARG:O	2.06	0.55
76:S2:325:C:OP1	76:S2:328:U:O2'	2.25	0.55
76:S2:496:C:H2'	76:S2:497:C:H6	1.71	0.55
76:S2:640:A:H2'	76:S2:641:A:C8	2.41	0.55
76:S2:853:C:H2'	76:S2:854:A:H8	1.72	0.55
76:S2:1401:A:H2'	76:S2:1402:A:C8	2.41	0.55
2:SR:8:THR:HG22	2:SR:50:ILE:HD11	1.89	0.55
3:SP:60:LEU:HA	3:SP:64:LYS:HB2	1.89	0.55
4:SQ:117:ARG:NE	4:SQ:117:ARG:HA	2.21	0.55
6:SX:85:VAL:HG12	6:SX:90:CYS:SG	2.46	0.55
9:Sc:46:VAL:HG21	9:Sc:56:LEU:HD11	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:SB:108:ASP:OD1	24:SB:108:ASP:N	2.27	0.55
24:SB:162:ARG:NH2	76:S2:1005:G:OP2	2.40	0.55
30:SF:80:GLY:C	30:SF:82:ASN:H	2.14	0.55
73:L5:749:G:H2'	73:L5:750:U:O4'	2.07	0.55
73:L5:3671:G:H2'	73:L5:3672:G:C8	2.42	0.55
73:L5:3699:C:HO2'	73:L5:3775:A:HO2'	1.55	0.55
76:S2:436:G:OP2	76:S2:471:G:O2'	2.24	0.55
76:S2:1600:G:N3	76:S2:1600:G:H2'	2.22	0.55
76:S2:1676:U:H2'	76:S2:1677:U:O4'	2.06	0.55
76:S2:1719:A:N6	76:S2:1814:G:O2'	2.40	0.55
1:SL:111:VAL:HG12	1:SL:140:PHE:HB2	1.87	0.55
23:SA:66:VAL:HA	23:SA:186:ARG:HH21	1.70	0.55
25:SE:79:ASP:HB2	25:SE:82:TYR:HB2	1.89	0.55
27:SH:83:LEU:HD12	27:SH:92:VAL:HG11	1.87	0.55
55:LZ:60:LYS:NZ	73:L5:4149:C:H5'	2.22	0.55
61:Lf:8:LYS:HB3	61:Lf:100:ARG:NH1	2.22	0.55
73:L5:1552:G:H2'	73:L5:1574:G:N2	2.21	0.55
74:L7:24:C:H2'	74:L7:25:G:O4'	2.07	0.55
76:S2:207:G:C2	76:S2:208:G:H1'	2.41	0.55
76:S2:1037:G:H4'	76:S2:1845:A:H4'	1.89	0.55
8:SU:80:PHE:HD1	8:SU:81:GLN:H	1.53	0.55
9:Sc:44:ARG:NH2	9:Sc:60:GLU:HB3	2.19	0.55
11:Sg:228:TYR:HB3	11:Sg:261:LEU:HD13	1.87	0.55
15:SN:7:PRO:HG3	76:S2:996:A:H5''	1.89	0.55
25:SE:102:ILE:HG21	25:SE:239:PRO:HD3	1.89	0.55
29:SK:32:HIS:CD2	29:SK:45:VAL:HG21	2.42	0.55
46:LQ:67:ILE:O	46:LQ:71:LYS:HG3	2.06	0.55
73:L5:2553:A:H2	73:L5:2764:A:H62	1.54	0.55
76:S2:830:A:OP2	76:S2:846:G:N2	2.37	0.55
76:S2:1415:C:H5''	76:S2:1433:C:O2'	2.06	0.55
7:Sa:22:ARG:NH2	16:SO:145:GLY:O	2.40	0.55
17:SG:196:LYS:HA	17:SG:199:THR:HG1	1.72	0.55
17:SG:197:GLN:O	17:SG:200:LYS:HB3	2.07	0.55
19:SY:16:ARG:HA	19:SY:19:GLN:HA	1.89	0.55
25:SE:33:THR:HG23	76:S2:345:U:H1'	1.89	0.55
29:SK:61:GLN:HE21	29:SK:68:TYR:HD2	1.55	0.55
33:LC:33:ARG:HH12	46:LQ:22:ASP:CG	2.15	0.55
54:LY:37:GLU:OE1	54:LY:37:GLU:N	2.38	0.55
73:L5:3721:U:H2'	73:L5:3722:G:H8	1.72	0.55
73:L5:4635:A:O2'	73:L5:4637:G:OP1	2.23	0.55
73:L5:4885:U:H2'	73:L5:4886:C:O4'	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:S2:16:G:H2'	76:S2:17:C:C6	2.42	0.55
76:S2:1553:C:O2'	76:S2:1555:U:OP1	2.22	0.55
2:SR:70:SER:C	2:SR:71:ILE:HD13	2.32	0.55
23:SA:180:ARG:NH1	23:SA:184:ARG:HH22	2.05	0.55
25:SE:27:PHE:O	76:S2:495:U:O2'	2.23	0.55
30:SF:60:ARG:NH2	76:S2:1679:A:OP1	2.38	0.55
42:LM:94:LYS:HG2	73:L5:4873:G:C2	2.42	0.55
73:L5:2639:U:O2'	73:L5:2694:G:O6	2.25	0.55
76:S2:1782:G:H2'	76:S2:1783:C:H4'	1.89	0.55
78:CA:155:LEU:HD22	78:CA:185:VAL:HG11	1.88	0.55
1:SL:94:HIS:HB2	1:SL:105:ARG:HD2	1.88	0.54
4:SQ:34:VAL:N	4:SQ:37:ARG:O	2.40	0.54
9:Sc:24:GLN:OE1	9:Sc:24:GLN:N	2.40	0.54
13:Sd:34:TYR:OH	76:S2:1549:U:OP1	2.19	0.54
16:SO:151:LEU:HB2	76:S2:1064:C:H5'	1.88	0.54
44:LO:89:PRO:HD3	73:L5:1914:C:H4'	1.90	0.54
47:LR:167:LYS:O	47:LR:171:LYS:HG3	2.07	0.54
73:L5:449:C:H3'	73:L5:450:G:C8	2.42	0.54
73:L5:1176:C:N3	73:L5:1183:C:N4	2.55	0.54
73:L5:1478:C:H2'	73:L5:1479:G:H8	1.70	0.54
75:L8:103:A:H3'	75:L8:104:A:C5'	2.37	0.54
76:S2:1221:G:O2'	76:S2:1676:U:O2	2.22	0.54
4:SQ:49:TYR:OH	30:SF:19:LEU:HD23	2.07	0.54
11:Sg:175:LYS:HD3	11:Sg:184:LEU:HD11	1.90	0.54
12:SC:104:ASP:OD1	12:SC:105:GLU:N	2.40	0.54
19:SY:12:PHE:HB2	76:S2:837:A:N6	2.22	0.54
19:SY:60:PHE:O	76:S2:571:U:O2'	2.19	0.54
23:SA:66:VAL:HG21	23:SA:185:MET:HB3	1.88	0.54
28:SI:31:ARG:HH11	76:S2:380:G:H5''	1.71	0.54
28:SI:57:ALA:HB2	28:SI:183:GLY:HA2	1.88	0.54
31:LA:233:ARG:HB2	73:L5:4184:G:H5'	1.88	0.54
46:LQ:181:ARG:NH2	73:L5:1391:A:OP1	2.34	0.54
54:LY:20:ASN:ND2	75:L8:23:C:O2	2.37	0.54
73:L5:324:A:H2'	73:L5:325:U:C6	2.42	0.54
73:L5:1818:G:OP2	73:L5:1818:G:N2	2.26	0.54
76:S2:23:G:O2'	76:S2:416:U:OP1	2.25	0.54
76:S2:1681:U:H2'	76:S2:1682:C:C6	2.42	0.54
78:CA:675:ILE:HG12	78:CA:709:LEU:HD21	1.89	0.54
11:Sg:14:HIS:CE1	11:Sg:39:THR:HG23	2.43	0.54
11:Sg:104:HIS:CE1	11:Sg:130:LYS:HG2	2.43	0.54
14:SJ:132:GLN:OE1	76:S2:562:U:H4'	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:SO:105:THR:HG22	16:SO:107:THR:H	1.72	0.54
18:SW:82:GLN:H	18:SW:85:ASP:HB2	1.72	0.54
22:SZ:93:SER:O	22:SZ:96:LEU:HD22	2.07	0.54
24:SB:139:CYS:HB2	24:SB:172:MET:SD	2.47	0.54
31:LA:2:GLY:HA2	31:LA:207:VAL:HG23	1.89	0.54
37:LG:95:LEU:HB2	37:LG:218:LEU:HD21	1.90	0.54
64:Li:78:GLY:O	64:Li:79:THR:HG22	2.07	0.54
70:Lo:37:GLY:HA3	73:L5:4342:C:O3'	2.07	0.54
73:L5:1751:A:H3'	73:L5:1752:G:H21	1.71	0.54
73:L5:2744:A:H2'	73:L5:2745:A:C8	2.42	0.54
73:L5:4174:U:H2'	73:L5:4175:G:H8	1.72	0.54
74:L7:110:G:H2'	74:L7:111:C:C6	2.42	0.54
76:S2:482:G:O2'	76:S2:484:A:N7	2.40	0.54
76:S2:917:U:H2'	76:S2:918:U:C6	2.43	0.54
76:S2:1232:U:H2'	76:S2:1233:G:H8	1.73	0.54
76:S2:1686:G:H2'	76:S2:1687:C:H6	1.71	0.54
78:CA:595:SER:HB2	78:CA:600:ASN:HB2	1.88	0.54
2:SR:81:ARG:O	23:SA:85:ARG:NH1	2.41	0.54
8:SU:51:LYS:HD2	76:S2:1402:A:H4'	1.90	0.54
10:ST:42:HIS:ND1	10:ST:42:HIS:O	2.40	0.54
11:Sg:191:HIS:CE1	11:Sg:215:GLN:HB3	2.42	0.54
12:SC:142:LYS:HD3	12:SC:153:GLY:HA3	1.89	0.54
17:SG:187:HIS:HE1	76:S2:316:G:C5	2.25	0.54
24:SB:38:MET:N	24:SB:38:MET:SD	2.81	0.54
28:SI:47:ARG:NH1	28:SI:51:GLY:HA2	2.22	0.54
38:LH:120:GLU:OE2	73:L5:4612:C:H1'	2.08	0.54
47:LR:70:ARG:HG2	47:LR:75:HIS:HB2	1.90	0.54
49:LT:7:LYS:NZ	73:L5:4310:A:N3	2.53	0.54
67:Ll:29:MET:HE3	67:Ll:29:MET:H	1.71	0.54
73:L5:2520:C:H2'	73:L5:2521:G:H8	1.73	0.54
73:L5:3736:A:H2'	73:L5:3737:A:C8	2.43	0.54
73:L5:4699:U:H1'	73:L5:4700:A:H5''	1.88	0.54
76:S2:290:U:O2	76:S2:292:A:O2'	2.25	0.54
76:S2:1259:A:H1'	76:S2:1264:C:H42	1.73	0.54
78:CA:706:ASP:N	78:CA:706:ASP:OD1	2.40	0.54
28:SI:47:ARG:HH22	76:S2:444:G:H3'	1.72	0.54
35:LE:132:PRO:HD2	35:LE:135:GLN:HG3	1.88	0.54
47:LR:99:MET:HG3	47:LR:103:ARG:HG3	1.90	0.54
73:L5:172:C:H1'	73:L5:173:C:C6	2.43	0.54
73:L5:730:G:H1	73:L5:939:G:H1	1.56	0.54
73:L5:1173:G:N2	73:L5:1187:G:H22	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:3861:A:H2'	73:L5:3862:A:H8	1.72	0.54
73:L5:4458:C:H2'	73:L5:4459:U:C6	2.43	0.54
6:SX:50:ILE:HD12	6:SX:50:ILE:O	2.07	0.54
10:ST:40:ALA:HB3	10:ST:43:LYS:HG3	1.89	0.54
15:SN:15:ALA:HB2	21:Sb:21:LYS:HE2	1.89	0.54
17:SG:74:ARG:HG2	17:SG:96:SER:HB2	1.89	0.54
19:SY:53:ASP:OD1	19:SY:54:VAL:N	2.39	0.54
19:SY:121:ALA:HB2	76:S2:151:C:OP1	2.08	0.54
20:Se:32:ALA:HB2	76:S2:525:A:H5''	1.90	0.54
33:LC:198:ASN:ND2	54:LY:10:ASP:OD1	2.41	0.54
38:LH:117:PHE:O	38:LH:120:GLU:HB2	2.06	0.54
45:LP:26:PHE:HA	45:LP:144:CYS:SG	2.47	0.54
73:L5:261:G:H2'	73:L5:262:G:C8	2.43	0.54
73:L5:3712:A:H5'	73:L5:3713:U:OP1	2.07	0.54
73:L5:4238:G:H2'	73:L5:4239:A:C8	2.43	0.54
76:S2:344:U:H2'	76:S2:345:U:C6	2.42	0.54
76:S2:1200:A:O2'	76:S2:1357:A:N1	2.34	0.54
2:SR:60:ARG:HH12	76:S2:1465:A:P	2.31	0.54
19:SY:15:ASN:HD22	19:SY:18:LEU:HD13	1.72	0.54
25:SE:136:ILE:HD13	25:SE:148:ARG:NH2	2.22	0.54
33:LC:32:ILE:N	46:LQ:24:TYR:OH	2.39	0.54
33:LC:212:ASN:HD22	33:LC:213:GLU:HG3	1.73	0.54
33:LC:236:ASN:HD21	73:L5:1372:A:H2	1.54	0.54
36:LF:238:ASP:OD2	48:LS:37:HIS:NE2	2.36	0.54
73:L5:461:G:H2'	73:L5:462:G:H8	1.73	0.54
73:L5:722:G:H2'	73:L5:723:A:C8	2.43	0.54
73:L5:1333:A:H2'	73:L5:1334:A:C8	2.43	0.54
73:L5:2611:A:H5'	73:L5:2688:G:H4'	1.88	0.54
76:S2:940:U:H3	76:S2:1002:U:H3	1.55	0.54
76:S2:1462:U:H2'	76:S2:1464:C:C5	2.43	0.54
14:SJ:140:GLN:NE2	14:SJ:141:VAL:O	2.39	0.54
16:SO:43:HIS:NE2	16:SO:52:THR:HG23	2.22	0.54
20:Se:5:SER:HB3	20:Se:8:ARG:HE	1.72	0.54
24:SB:25:PHE:HA	24:SB:28:LYS:HG3	1.89	0.54
39:LI:145:GLU:O	39:LI:148:VAL:HG12	2.07	0.54
41:LL:106:SER:OG	73:L5:73:A:OP1	2.23	0.54
42:LM:41:PRO:HB2	42:LM:74:ARG:HG3	1.90	0.54
73:L5:676:C:H2'	73:L5:677:G:C8	2.43	0.54
76:S2:196:C:O2'	76:S2:203:G:N1	2.40	0.54
76:S2:1845:A:H2'	76:S2:1846:G:H8	1.73	0.54
77:S6:70:G:H2'	77:S6:71:C:C6	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:SW:16:ASN:OD1	76:S2:1094:C:O2'	2.20	0.54
23:SA:42:LYS:HG3	23:SA:48:ILE:HD11	1.89	0.54
24:SB:198:GLU:HB2	24:SB:210:VAL:HB	1.90	0.54
29:SK:32:HIS:CE1	29:SK:35:LEU:HD22	2.43	0.54
36:LF:39:GLN:HE22	36:LF:43:ARG:HH11	1.55	0.54
44:LO:184:ASN:O	44:LO:187:LYS:NZ	2.39	0.54
49:LT:132:PRO:HD3	73:L5:1838:A:H5''	1.89	0.54
58:Lc:21:VAL:HG11	58:Lc:96:ILE:HD12	1.89	0.54
73:L5:1927:U:OP1	73:L5:1949:U:O2'	2.25	0.54
73:L5:4039:G:OP2	73:L5:4039:G:H8	1.91	0.54
76:S2:193:C:H2'	76:S2:194:C:H6	1.73	0.54
76:S2:306:C:H2'	76:S2:307:G:C2	2.43	0.54
76:S2:1289:U:C2	76:S2:1290:G:H1'	2.43	0.54
77:S6:37:A:H3'	77:S6:38:A:N3	2.23	0.54
78:CA:287:ARG:HH11	78:CA:287:ARG:HG3	1.73	0.54
3:SP:53:GLN:HA	3:SP:56:LEU:HB3	1.89	0.54
4:SQ:117:ARG:NH1	30:SF:56:TYR:OH	2.41	0.54
14:SJ:109:ARG:NH2	14:SJ:111:GLN:OE1	2.40	0.54
26:SD:76:ARG:HD3	26:SD:77:PHE:CD1	2.43	0.54
34:LD:211:LEU:HB3	34:LD:219:TYR:HB2	1.88	0.54
36:LF:148:LYS:O	36:LF:152:GLU:HG2	2.08	0.54
67:L1:23:ILE:HD12	67:L1:27:ILE:HD11	1.89	0.54
73:L5:655:C:H2'	73:L5:656:C:H6	1.72	0.54
73:L5:957:G:H1'	73:L5:958:G:OP2	2.08	0.54
73:L5:1479:G:H2'	73:L5:1480:C:C6	2.43	0.54
76:S2:17:C:H2'	76:S2:18:C:C6	2.43	0.54
76:S2:126:G:O2'	76:S2:181:A:N6	2.39	0.54
76:S2:893:U:H2'	76:S2:894:G:C8	2.43	0.54
76:S2:1060:A:O2'	76:S2:1062:A:N7	2.37	0.54
78:CA:519:LYS:HD3	78:CA:520:LEU:H	1.73	0.54
9:Sc:29:GLN:HE22	9:Sc:67:ARG:HA	1.73	0.53
11:Sg:33:SER:HB3	11:Sg:43:TRP:NE1	2.23	0.53
14:SJ:132:GLN:NE2	76:S2:562:U:O5'	2.41	0.53
27:SH:110:THR:HG21	76:S2:867:G:N2	2.23	0.53
33:LC:199:ARG:NE	73:L5:2295:C:H5''	2.23	0.53
46:LQ:22:ASP:O	46:LQ:26:ARG:HG2	2.08	0.53
73:L5:418:A:C2	75:L8:17:A:H1'	2.44	0.53
73:L5:2579:G:N2	73:L5:2582:A:OP2	2.32	0.53
10:ST:38:LYS:NZ	10:ST:45:LEU:O	2.33	0.53
11:Sg:241:PHE:HA	11:Sg:248:LEU:HA	1.90	0.53
12:SC:178:HIS:CD2	12:SC:200:ARG:HG2	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:SG:53:SER:HB3	76:S2:165:G:H4'	1.90	0.53
17:SG:159:ARG:HG2	17:SG:172:LYS:O	2.09	0.53
26:SD:177:LEU:HG	76:S2:628:A:H61	1.74	0.53
30:SF:162:ALA:HB2	30:SF:172:CYS:SG	2.48	0.53
36:LF:122:PHE:O	36:LF:205:ASN:ND2	2.30	0.53
73:L5:4934:A:H2'	73:L5:4935:C:H6	1.73	0.53
4:SQ:77:HIS:H	76:S2:1673:U:P	2.31	0.53
11:Sg:32:LEU:HD23	11:Sg:32:LEU:H	1.71	0.53
11:Sg:178:ASN:HB3	11:Sg:181:ASN:HB3	1.89	0.53
11:Sg:258:ILE:N	11:Sg:269:GLU:OE2	2.28	0.53
12:SC:166:ARG:HD3	12:SC:181:PRO:HG3	1.89	0.53
12:SC:253:PRO:HA	12:SC:256:TRP:NE1	2.23	0.53
16:SO:66:ARG:HE	76:S2:962:A:H5''	1.74	0.53
20:Se:12:VAL:HG13	76:S2:616:A:H1'	1.90	0.53
26:SD:37:VAL:HG22	26:SD:50:ILE:HA	1.90	0.53
28:SI:36:THR:OG1	28:SI:57:ALA:O	2.21	0.53
32:LB:220:ILE:HB	32:LB:346:THR:HB	1.90	0.53
32:LB:258:HIS:HB2	73:L5:4517:A:O2'	2.09	0.53
33:LC:13:GLU:CD	33:LC:13:GLU:H	2.16	0.53
48:LS:16:CYS:HA	48:LS:59:GLY:HA2	1.91	0.53
73:L5:4260:U:H2'	73:L5:4261:C:H6	1.71	0.53
77:S6:15:A:H2'	77:S6:16:G:O4'	2.08	0.53
10:ST:74:SER:OG	10:ST:75:MET:SD	2.63	0.53
11:Sg:36:ARG:HA	11:Sg:66:VAL:HB	1.90	0.53
17:SG:13:GLN:OE1	76:S2:153:G:O3'	2.27	0.53
19:SY:9:THR:HG23	76:S2:837:A:C5	2.44	0.53
20:Se:35:ARG:NH1	76:S2:526:A:OP1	2.42	0.53
20:Se:35:ARG:HH12	76:S2:526:A:H5''	1.74	0.53
25:SE:63:LYS:O	25:SE:67:GLN:HB2	2.08	0.53
26:SD:192:TRP:CZ2	26:SD:197:LYS:HB2	2.44	0.53
34:LD:223:PHE:HB3	34:LD:226:TYR:HB2	1.90	0.53
40:LJ:159:LYS:O	40:LJ:163:MET:HG3	2.09	0.53
49:LT:69:GLN:NE2	73:L5:4315:A:OP1	2.42	0.53
73:L5:406:C:O2'	73:L5:407:A:OP1	2.24	0.53
73:L5:683:C:OP2	73:L5:684:G:N2	2.41	0.53
73:L5:1739:G:H5''	74:L7:102:U:H1'	1.89	0.53
73:L5:4635:A:OP1	73:L5:4636:U:O2'	2.20	0.53
76:S2:834:C:H2'	76:S2:835:C:O4'	2.08	0.53
76:S2:1019:C:H2'	76:S2:1020:A:O4'	2.08	0.53
76:S2:1588:A:O2'	76:S2:1654:G:O2'	2.25	0.53
9:Sc:29:GLN:HE21	9:Sc:45:ASN:HB3	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:SE:140:VAL:HG11	76:S2:343:A:O2'	2.08	0.53
28:SI:3:ILE:O	28:SI:30:GLY:N	2.38	0.53
29:SK:6:LYS:HG3	76:S2:1312:G:H5'	1.90	0.53
31:LA:101:VAL:HG22	31:LA:165:VAL:HG22	1.90	0.53
41:LL:102:ARG:NH1	73:L5:74:G:OP2	2.40	0.53
73:L5:1577:G:O2'	73:L5:1612:G:H4'	2.08	0.53
73:L5:3953:G:H2'	73:L5:3954:A:C8	2.44	0.53
76:S2:341:C:H2'	76:S2:342:C:O4'	2.07	0.53
76:S2:1426:U:H2'	76:S2:1427:C:O4'	2.09	0.53
77:S6:36:U:H2'	77:S6:37:A:O4'	2.07	0.53
78:CA:703:ASP:HB2	78:CA:705:HIS:HE1	1.73	0.53
17:SG:70:HIS:CG	17:SG:71:GLY:H	2.27	0.53
25:SE:7:LYS:HD3	76:S2:498:C:H5''	1.90	0.53
27:SH:131:GLU:HG3	27:SH:139:ILE:HD13	1.91	0.53
27:SH:149:ASP:OD1	27:SH:150:GLY:N	2.41	0.53
37:LG:218:LEU:O	37:LG:222:ILE:HG13	2.09	0.53
72:Lr:84:LYS:HD2	72:Lr:88:ALA:HB3	1.91	0.53
73:L5:139:G:H5''	73:L5:262:G:O2'	2.09	0.53
73:L5:4039:G:H2'	73:L5:4040:C:N1	2.23	0.53
76:S2:101:U:H5'	76:S2:102:A:OP2	2.09	0.53
4:SQ:13:PHE:HA	4:SQ:22:VAL:HA	1.90	0.53
31:LA:206:PRO:HG3	31:LA:213:GLY:HA3	1.89	0.53
34:LD:119:TYR:OH	34:LD:139:PRO:O	2.27	0.53
46:LQ:11:ARG:NH2	73:L5:1690:C:OP2	2.28	0.53
63:Lh:77:LYS:NZ	73:L5:127:G:OP2	2.40	0.53
72:Lr:2:SER:O	72:Lr:6:GLN:HB2	2.08	0.53
73:L5:407:A:O2'	73:L5:410:A:OP1	2.18	0.53
76:S2:95:G:H21	76:S2:474:G:H5'	1.74	0.53
76:S2:110:U:H2'	76:S2:111:A:H8	1.74	0.53
76:S2:634:A:H2'	76:S2:635:G:C8	2.42	0.53
76:S2:1347:U:H2'	76:S2:1348:G:C8	2.43	0.53
1:SL:37:TYR:CD1	1:SL:51:ILE:HD13	2.44	0.53
2:SR:19:LYS:HE3	26:SD:212:GLU:HA	1.90	0.53
7:Sa:43:ASN:OD1	7:Sa:66:LYS:NZ	2.40	0.53
29:SK:14:LEU:HD12	29:SK:21:MET:SD	2.48	0.53
34:LD:52:ILE:HD13	74:L7:6:C:H4'	1.91	0.53
50:LU:61:VAL:HG22	50:LU:74:SER:HB2	1.91	0.53
72:Lr:39:ARG:NE	72:Lr:105:ASP:OD2	2.38	0.53
73:L5:1178:G:H1	73:L5:1182:C:H5''	1.74	0.53
73:L5:2079:G:H2'	73:L5:2080:U:C6	2.43	0.53
73:L5:2457:G:H21	73:L5:3672:G:N2	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:3753:G:O2'	73:L5:3754:G:N2	2.34	0.53
76:S2:24:C:O2'	76:S2:25:A:H8	1.92	0.53
76:S2:487:U:O5'	76:S2:513:G:N2	2.40	0.53
10:ST:56:ARG:NH2	76:S2:1540:G:H5'	2.24	0.53
10:ST:85:ASN:HB2	10:ST:88:MET:O	2.08	0.53
17:SG:53:SER:O	17:SG:110:ASN:HB2	2.07	0.53
17:SG:92:ARG:HH22	76:S2:1738:C:P	2.32	0.53
19:SY:16:ARG:C	19:SY:19:GLN:H	2.17	0.53
19:SY:17:LEU:HD22	25:SE:69:PHE:CD2	2.44	0.53
24:SB:62:LEU:HA	24:SB:65:ARG:HE	1.74	0.53
25:SE:19:MET:HA	25:SE:19:MET:HE3	1.91	0.53
28:SI:60:LEU:HD12	28:SI:61:ASP:H	1.73	0.53
30:SF:154:LEU:HD11	30:SF:177:LEU:HD12	1.90	0.53
37:LG:160:ASP:OD1	37:LG:160:ASP:N	2.39	0.53
39:LI:61:SER:OG	39:LI:63:GLU:OE1	2.26	0.53
42:LM:38:VAL:HG11	42:LM:50:MET:HE3	1.91	0.53
60:Le:90:MET:HE2	60:Le:90:MET:HA	1.89	0.53
73:L5:747:A:H1'	73:L5:748:G:H5''	1.91	0.53
73:L5:976:G:N2	73:L5:1278:C:O2	2.42	0.53
76:S2:835:C:O2'	76:S2:836:G:N7	2.41	0.53
76:S2:1601:A:H4'	76:S2:1602:U:H5'	1.89	0.53
77:S6:44:A:H3'	77:S6:45:G:H5''	1.90	0.53
1:SL:68:ILE:HG12	1:SL:143:LEU:HD11	1.90	0.53
2:SR:31:ASN:ND2	2:SR:54:VAL:HG12	2.24	0.53
27:SH:73:GLN:HB3	27:SH:135:PHE:CE2	2.44	0.53
42:LM:104:MET:HG2	42:LM:108:ASP:HB2	1.90	0.53
46:LQ:81:VAL:HG22	46:LQ:101:CYS:HB3	1.91	0.53
48:LS:55:LYS:NZ	74:L7:99:G:N7	2.54	0.53
49:LT:44:GLY:HA2	49:LT:95:HIS:HB3	1.90	0.53
73:L5:139:G:H2'	73:L5:140:G:C8	2.43	0.53
73:L5:286:U:H2'	73:L5:287:U:C6	2.44	0.53
73:L5:459:C:H2'	73:L5:460:C:C6	2.43	0.53
76:S2:177:G:N2	76:S2:313:A:N7	2.57	0.53
76:S2:306:C:H5''	76:S2:307:G:C5	2.44	0.53
76:S2:321:C:H2'	76:S2:322:C:O4'	2.08	0.53
76:S2:457:C:H2'	76:S2:458:A:H8	1.72	0.53
76:S2:1174:U:H2'	76:S2:1175:G:H8	1.74	0.53
78:CA:683:PHE:CD1	78:CA:729:LEU:HD21	2.42	0.53
5:SV:38:GLU:OE1	5:SV:38:GLU:N	2.41	0.52
12:SC:209:VAL:HG21	12:SC:233:LEU:HD22	1.90	0.52
19:SY:114:MET:HG3	19:SY:128:GLY:HA3	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:LE:269:GLY:HA2	35:LE:272:ARG:HG3	1.91	0.52
38:LH:41:ILE:HG13	38:LH:73:ILE:HD11	1.91	0.52
43:LN:21:PHE:O	43:LN:25:VAL:HG22	2.08	0.52
73:L5:3861:A:H2'	73:L5:3862:A:C8	2.43	0.52
73:L5:3968:U:H2'	73:L5:3969:G:O4'	2.09	0.52
76:S2:203:G:H8	76:S2:203:G:O5'	1.92	0.52
27:SH:114:GLN:HG3	76:S2:869:A:C6	2.44	0.52
41:LL:127:PHE:CD1	63:Lh:118:LYS:HG2	2.44	0.52
43:LN:184:ILE:O	43:LN:194:ARG:NH2	2.22	0.52
50:LU:47:ILE:HD12	50:LU:63:ILE:HD11	1.90	0.52
74:L7:4:U:H2'	74:L7:5:A:H8	1.73	0.52
76:S2:339:A:H4'	76:S2:340:C:O5'	2.09	0.52
76:S2:352:U:H2'	76:S2:353:C:C6	2.44	0.52
76:S2:808:A:H2	76:S2:855:G:H22	1.57	0.52
76:S2:928:G:H2'	76:S2:929:G:C8	2.44	0.52
76:S2:1653:U:H2'	76:S2:1654:G:H8	1.73	0.52
10:ST:104:LEU:HB3	10:ST:121:ARG:HH11	1.74	0.52
11:Sg:201:SER:HB3	11:Sg:203:ASP:OD1	2.09	0.52
12:SC:114:LYS:HE3	76:S2:1202:U:H4'	1.90	0.52
17:SG:5:ILE:HG23	17:SG:14:LYS:HG2	1.91	0.52
17:SG:192:ILE:O	17:SG:195:LYS:HB2	2.10	0.52
19:SY:29:HIS:CD2	19:SY:35:VAL:HG23	2.44	0.52
23:SA:149:ASN:OD1	23:SA:150:THR:N	2.39	0.52
31:LA:200:ARG:NH1	73:L5:3651:A:OP2	2.42	0.52
32:LB:53:MET:HG2	32:LB:76:VAL:O	2.09	0.52
39:LI:61:SER:HA	39:LI:126:VAL:HG12	1.91	0.52
55:LZ:103:ASP:OD2	55:LZ:106:LEU:HG	2.10	0.52
73:L5:125:C:H2'	73:L5:126:C:C6	2.44	0.52
73:L5:651:C:H2'	73:L5:652:G:H8	1.74	0.52
73:L5:1743:A:N1	73:L5:1789:C:O2'	2.43	0.52
73:L5:4920:C:H2'	73:L5:4921:C:C6	2.44	0.52
76:S2:1279:C:H2'	76:S2:1280:G:H8	1.75	0.52
78:CA:155:LEU:O	78:CA:212:VAL:HA	2.10	0.52
4:SQ:47:LEU:HD21	30:SF:51:HIS:CD2	2.45	0.52
16:SO:53:ILE:HD12	16:SO:88:LEU:HD22	1.91	0.52
19:SY:55:ILE:HD12	19:SY:75:ILE:HG13	1.90	0.52
73:L5:181:C:OP2	73:L5:181:C:H6	1.93	0.52
73:L5:488:G:C2	73:L5:489:C:C2	2.97	0.52
76:S2:29:G:H2'	76:S2:30:C:H6	1.75	0.52
76:S2:558:G:H2'	76:S2:559:G:C8	2.44	0.52
76:S2:656:G:N2	76:S2:663:C:H5''	2.23	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:S2:1010:G:H2'	76:S2:1011:A:C8	2.44	0.52
76:S2:1568:C:O2'	76:S2:1569:A:O4'	2.25	0.52
78:CA:602:LEU:HD23	78:CA:707:VAL:HG12	1.91	0.52
11:Sg:172:LYS:HD2	11:Sg:189:ILE:HD12	1.91	0.52
17:SG:70:HIS:CG	17:SG:71:GLY:N	2.77	0.52
22:SZ:63:PRO:HG3	22:SZ:96:LEU:HD12	1.91	0.52
45:LP:120:ASN:ND2	73:L5:423:G:H1'	2.25	0.52
49:LT:17:ARG:HG2	73:L5:4277:G:H5''	1.91	0.52
54:LY:126:ARG:HG2	54:LY:130:LYS:HE3	1.90	0.52
58:Lc:26:LYS:HE3	58:Lc:98:ASP:HB3	1.90	0.52
73:L5:747:A:H62	73:L5:916:C:H42	1.57	0.52
73:L5:1075:G:H1	73:L5:1235:G:H1	1.57	0.52
73:L5:1400:G:H2'	73:L5:1401:C:C6	2.45	0.52
73:L5:2608:G:H2'	73:L5:2609:G:H8	1.74	0.52
73:L5:4688:C:H2'	73:L5:4689:U:C6	2.44	0.52
76:S2:801:U:H2'	76:S2:802:A:H8	1.74	0.52
78:CA:356:ILE:HG22	78:CA:357:HIS:ND1	2.24	0.52
59:Ld:114:PHE:HA	59:Ld:117:LEU:HD12	1.91	0.52
60:Le:57:ASN:OD1	73:L5:1899:G:O2'	2.25	0.52
76:S2:158:A:H2'	76:S2:159:A:C8	2.45	0.52
2:SR:81:ARG:HA	2:SR:84:TYR:HB2	1.91	0.52
11:Sg:308:ARG:HA	11:Sg:310:TRP:CZ2	2.44	0.52
14:SJ:113:GLN:NE2	14:SJ:154:GLN:OE1	2.42	0.52
25:SE:203:GLY:HA2	76:S2:291:G:H3'	1.91	0.52
45:LP:122:ALA:HB3	45:LP:143:PRO:HB2	1.90	0.52
55:LZ:95:VAL:HG23	55:LZ:96:VAL:HG23	1.92	0.52
73:L5:184:U:O2'	73:L5:189:G:O4'	2.28	0.52
73:L5:1238:A:H1'	73:L5:1239:C:H5'	1.91	0.52
76:S2:1070:A:H2'	76:S2:1071:G:O4'	2.09	0.52
77:S6:19:G:O6	77:S6:56:C:N4	2.42	0.52
77:S6:26:G:O6	77:S6:44:A:N1	2.43	0.52
6:SX:101:LEU:HD22	6:SX:124:LYS:HD3	1.92	0.52
11:Sg:207:CYS:SG	11:Sg:208:ALA:N	2.83	0.52
20:Se:8:ARG:HG2	20:Se:8:ARG:HH11	1.75	0.52
22:SZ:80:ARG:HH11	76:S2:1598:G:P	2.32	0.52
24:SB:136:ARG:HB2	24:SB:218:LEU:HD11	1.90	0.52
48:LS:4:SER:O	73:L5:2062:C:H4'	2.09	0.52
53:LX:56:ARG:HG3	73:L5:15:A:OP1	2.09	0.52
73:L5:2539:C:H2'	73:L5:2540:C:C6	2.45	0.52
73:L5:3911:C:H2'	73:L5:3912:U:H6	1.74	0.52
73:L5:4635:A:H8	73:L5:5048:A:H61	1.57	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:S2:1596:U:H2'	76:S2:1597:C:O4'	2.10	0.52
4:SQ:38:PRO:HB2	4:SQ:40:GLU:HG3	1.91	0.52
10:ST:33:TRP:HZ2	10:ST:102:ARG:HG3	1.75	0.52
14:SJ:63:LEU:O	14:SJ:70:ARG:NH1	2.43	0.52
17:SG:143:LYS:NZ	76:S2:146:G:OP1	2.31	0.52
25:SE:146:THR:H	76:S2:122:G:HO2'	1.54	0.52
25:SE:174:LYS:O	25:SE:179:ASN:ND2	2.43	0.52
29:SK:1:MET:N	29:SK:4:PRO:HG3	2.24	0.52
29:SK:71:LEU:HD21	29:SK:79:LEU:HD11	1.90	0.52
35:LE:56:ARG:HD2	35:LE:56:ARG:O	2.10	0.52
36:LF:71:MET:HA	36:LF:74:MET:HE3	1.91	0.52
39:LI:4:ARG:NH1	73:L5:1866:U:OP1	2.42	0.52
61:Lf:106:TYR:HB2	61:Lf:107:PRO:HD3	1.92	0.52
67:Ll:28:ARG:NH2	67:Ll:36:ARG:O	2.43	0.52
69:Ln:3:ALA:HB3	76:S2:1842:C:OP1	2.10	0.52
73:L5:3753:G:N2	73:L5:3776:G:N3	2.58	0.52
73:L5:4601:U:H2'	73:L5:4602:A:H8	1.75	0.52
76:S2:928:G:H1	76:S2:1013:U:H3	1.57	0.52
78:CA:279:SER:OG	78:CA:283:LYS:N	2.42	0.52
2:SR:7:LYS:N	76:S2:1373:C:OP1	2.43	0.52
2:SR:81:ARG:NE	23:SA:85:ARG:HD3	2.25	0.52
3:SP:16:THR:HB	3:SP:20:VAL:N	2.24	0.52
4:SQ:7:LEU:HD13	4:SQ:8:GLN:N	2.25	0.52
25:SE:11:ARG:NH1	25:SE:24:THR:O	2.43	0.52
25:SE:155:LYS:HG3	25:SE:156:VAL:H	1.73	0.52
26:SD:68:GLU:O	26:SD:72:VAL:HG23	2.10	0.52
50:LU:19:LEU:HD11	50:LU:74:SER:HB3	1.91	0.52
51:LV:35:LYS:NZ	76:S2:1804:U:OP2	2.40	0.52
54:LY:114:ASP:CG	75:L8:87:G:H1	2.18	0.52
62:Lg:76:ARG:NH2	73:L5:2583:C:OP2	2.43	0.52
73:L5:3946:G:H2'	73:L5:3947:A:C8	2.45	0.52
75:L8:16:G:O2'	75:L8:17:A:OP2	2.26	0.52
75:L8:51:U:HO2'	75:L8:52:A:H8	1.58	0.52
75:L8:85:U:H3	75:L8:87:G:H8	1.52	0.52
4:SQ:130:LYS:HG3	76:S2:1669:G:H5''	1.91	0.51
15:SN:120:SER:OG	76:S2:677:G:OP1	2.28	0.51
26:SD:120:TYR:HB3	26:SD:124:ARG:HH21	1.75	0.51
32:LB:302:ASN:HB2	32:LB:313:SER:HA	1.93	0.51
35:LE:219:LYS:NZ	73:L5:1292:C:OP1	2.25	0.51
36:LF:154:ILE:HG22	36:LF:187:MET:HE1	1.92	0.51
43:LN:68:ARG:NH2	73:L5:303:C:OP2	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:LQ:65:ARG:O	46:LQ:69:LYS:HG2	2.10	0.51
54:LY:49:ILE:HD11	54:LY:104:VAL:HG21	1.93	0.51
62:Lg:97:ILE:HG12	73:L5:4120:U:C4	2.45	0.51
71:Lp:16:THR:HG22	73:L5:2876:G:C8	2.45	0.51
73:L5:317:A:C2	73:L5:4361:U:H1'	2.45	0.51
73:L5:491:G:C5	73:L5:665:C:N4	2.79	0.51
73:L5:1669:A:H4'	73:L5:1685:G:N2	2.25	0.51
75:L8:93:C:O2'	75:L8:94:G:H8	1.92	0.51
76:S2:465:A:H4'	76:S2:466:G:O5'	2.09	0.51
76:S2:1199:A:H2'	76:S2:1200:A:C8	2.45	0.51
76:S2:1549:U:O4	76:S2:1584:G:O6	2.27	0.51
78:CA:519:LYS:HD3	78:CA:520:LEU:N	2.25	0.51
2:SR:85:VAL:HA	2:SR:88:VAL:HG22	1.92	0.51
11:Sg:218:LEU:HD22	11:Sg:228:TYR:HB2	1.92	0.51
23:SA:34:MET:HE3	23:SA:154:LEU:HD21	1.92	0.51
25:SE:191:ARG:HD2	25:SE:218:PHE:CZ	2.45	0.51
28:SI:31:ARG:NH1	76:S2:380:G:H5''	2.26	0.51
30:SF:23:TRP:HZ2	30:SF:97:PHE:HB3	1.74	0.51
36:LF:238:ASP:OD1	36:LF:239:GLN:NE2	2.38	0.51
45:LP:127:ARG:NH2	73:L5:2422:C:OP1	2.37	0.51
46:LQ:145:GLY:O	73:L5:1503:A:H5'	2.10	0.51
60:Le:69:MET:HE3	60:Le:73:GLY:HA2	1.92	0.51
73:L5:445:U:H2'	73:L5:446:C:O4'	2.11	0.51
73:L5:1378:C:H3'	73:L5:1379:C:H5''	1.92	0.51
73:L5:2415:U:H2'	73:L5:2416:G:C8	2.46	0.51
73:L5:4669:A:N3	73:L5:4671:C:O2'	2.43	0.51
74:L7:58:A:H2'	74:L7:59:G:H8	1.74	0.51
76:S2:113:G:N2	76:S2:292:A:H1'	2.25	0.51
76:S2:864:A:H2'	76:S2:865:A:H8	1.75	0.51
78:CA:207:PRO:HG2	78:CA:261:TRP:CE2	2.46	0.51
1:SL:35:ARG:NH1	1:SL:53:GLY:O	2.40	0.51
10:ST:75:MET:SD	10:ST:75:MET:N	2.82	0.51
11:Sg:36:ARG:HG3	11:Sg:37:ASP:H	1.75	0.51
12:SC:256:TRP:CE3	18:SW:68:ARG:HD2	2.46	0.51
15:SN:88:LEU:HD13	15:SN:125:LEU:HD23	1.92	0.51
19:SY:90:ARG:HA	19:SY:93:ARG:HB2	1.93	0.51
24:SB:185:VAL:O	24:SB:189:ILE:HG12	2.09	0.51
27:SH:19:PHE:CZ	27:SH:50:GLU:HB3	2.45	0.51
28:SI:5:ARG:NH2	76:S2:384:U:O2	2.43	0.51
28:SI:26:LYS:HE2	76:S2:447:A:OP2	2.11	0.51
29:SK:1:MET:HB2	76:S2:1314:U:C4	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:SF:39:ILE:HG23	30:SF:68:ILE:HG13	1.93	0.51
34:LD:16:TYR:O	74:L7:11:A:N6	2.43	0.51
38:LH:95:VAL:HG22	68:Lm:82:LEU:HB3	1.93	0.51
44:LO:106:ASP:O	73:L5:4910:G:N2	2.44	0.51
50:LU:98:ASP:OD1	50:LU:98:ASP:N	2.38	0.51
73:L5:10:A:H2'	73:L5:11:G:C8	2.45	0.51
73:L5:158:A:H5''	73:L5:159:C:H2'	1.91	0.51
73:L5:1175:A:C6	73:L5:1176:C:N4	2.78	0.51
73:L5:4765:G:H22	73:L5:4869:U:H3	1.59	0.51
74:L7:33:U:H2'	74:L7:34:C:C6	2.45	0.51
76:S2:74:G:H2'	76:S2:75:G:O4'	2.11	0.51
76:S2:140:C:N3	76:S2:144:U:H1'	2.25	0.51
76:S2:1217:A:H2'	76:S2:1218:C:C6	2.45	0.51
76:S2:1390:U:H2'	76:S2:1391:C:C6	2.46	0.51
6:SX:68:LYS:HG3	20:Se:6:LEU:HD23	1.91	0.51
9:Sc:14:VAL:HA	9:Sc:32:VAL:HG12	1.92	0.51
11:Sg:150:TRP:HB2	11:Sg:170:TRP:HE1	1.75	0.51
18:SW:18:GLU:OE1	18:SW:65:LEU:HD12	2.09	0.51
18:SW:93:LEU:HD22	18:SW:128:PHE:CE2	2.46	0.51
18:SW:112:ASP:OD1	18:SW:112:ASP:N	2.34	0.51
19:SY:88:LYS:HA	19:SY:91:LEU:HD12	1.91	0.51
23:SA:110:ASN:HB3	23:SA:113:GLN:HG2	1.92	0.51
27:SH:81:ARG:HH11	27:SH:82:GLU:HG2	1.75	0.51
37:LG:205:THR:OG1	37:LG:206:GLN:N	2.43	0.51
59:Ld:65:ASP:OD1	59:Ld:67:ARG:NH1	2.44	0.51
73:L5:2318:G:N2	73:L5:2321:G:OP2	2.36	0.51
76:S2:1405:A:H2'	76:S2:1406:G:H8	1.75	0.51
76:S2:1743:G:H21	76:S2:1791:A:N6	2.05	0.51
78:CA:319:LEU:HD11	78:CA:343:TRP:CZ2	2.46	0.51
17:SG:170:ARG:HA	76:S2:74:G:H1	1.76	0.51
17:SG:182:PRO:HA	17:SG:185:LEU:HD23	1.92	0.51
19:SY:12:PHE:HB2	76:S2:837:A:H61	1.75	0.51
19:SY:76:TYR:CE2	19:SY:86:GLU:HB2	2.45	0.51
33:LC:65:GLU:OE1	33:LC:80:ARG:NH1	2.43	0.51
47:LR:114:LYS:H	47:LR:114:LYS:HD2	1.75	0.51
59:Ld:91:LYS:NZ	59:Ld:103:TYR:OH	2.43	0.51
63:Lh:79:LYS:O	63:Lh:84:ARG:NE	2.44	0.51
66:Lk:7:GLU:CD	66:Lk:7:GLU:H	2.17	0.51
73:L5:730:G:H22	73:L5:939:G:H22	1.57	0.51
73:L5:1181:C:H2'	73:L5:1182:C:H4'	1.93	0.51
73:L5:2844:A:O2'	73:L5:4631:G:H4'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:SQ:145:TYR:HE1	76:S2:1643:U:H5''	1.75	0.51
5:SV:60:ARG:NE	23:SA:158:ASP:OD1	2.42	0.51
8:SU:56:MET:SD	76:S2:1580:A:H8	2.33	0.51
9:Sc:44:ARG:NH1	30:SF:140:ASP:OD1	2.43	0.51
12:SC:78:LEU:HD11	12:SC:98:LEU:HG	1.91	0.51
20:Se:6:LEU:H	20:Se:6:LEU:HD12	1.76	0.51
28:SI:26:LYS:HZ1	76:S2:446:G:H5''	1.76	0.51
30:SF:164:ARG:HA	76:S2:1534:C:OP2	2.10	0.51
45:LP:32:THR:HG22	45:LP:58:VAL:HG11	1.93	0.51
54:LY:8:THR:HG22	54:LY:17:ARG:HH12	1.75	0.51
63:Lh:5:LYS:HD2	75:L8:86:U:H5'	1.91	0.51
69:Ln:8:LYS:NZ	76:S2:1846:G:O6	2.43	0.51
73:L5:487:G:C2	73:L5:670:G:N1	2.78	0.51
73:L5:1806:G:H2'	73:L5:1807:C:H6	1.74	0.51
73:L5:3641:U:H5	73:L5:3646:A:N7	2.08	0.51
73:L5:4906:C:H2'	73:L5:4907:G:H8	1.74	0.51
73:L5:4951:G:H2'	73:L5:4952:G:H8	1.75	0.51
75:L8:77:A:H2'	75:L8:78:G:C8	2.45	0.51
76:S2:320:G:H2'	76:S2:321:C:C6	2.45	0.51
76:S2:1220:A:H2'	76:S2:1221:G:O4'	2.10	0.51
78:CA:631:ARG:HD2	78:CA:652:PHE:HZ	1.74	0.51
78:CA:771:PHE:HB3	78:CA:785:LYS:HZ2	1.75	0.51
4:SQ:143:LYS:NZ	76:S2:1216:C:O2'	2.25	0.51
9:Sc:67:ARG:H	9:Sc:67:ARG:HD3	1.75	0.51
15:SN:99:ARG:HG3	15:SN:115:LEU:HD21	1.91	0.51
18:SW:53:ILE:N	18:SW:60:LYS:O	2.43	0.51
29:SK:2:LEU:HD13	76:S2:1315:U:H4'	1.92	0.51
34:LD:22:ARG:HH11	34:LD:28:THR:HG1	1.57	0.51
73:L5:1280:C:O2'	73:L5:1281:G:H3'	2.11	0.51
73:L5:3656:A:H2'	73:L5:3657:U:C6	2.46	0.51
73:L5:4934:A:H2'	73:L5:4935:C:C6	2.46	0.51
76:S2:525:A:H2'	76:S2:526:A:H8	1.75	0.51
78:CA:856:ASP:OD1	78:CA:856:ASP:N	2.42	0.51
3:SP:18:ARG:CZ	3:SP:18:ARG:HA	2.41	0.51
6:SX:108:LYS:HD2	76:S2:650:A:OP2	2.11	0.51
11:Sg:162:ASN:O	11:Sg:164:ILE:N	2.43	0.51
11:Sg:220:ASP:OD2	11:Sg:223:GLU:HB2	2.11	0.51
25:SE:19:MET:HG3	76:S2:846:G:C2	2.45	0.51
28:SI:150:ASP:O	28:SI:154:LYS:HG3	2.10	0.51
33:LC:35:ASP:OD1	33:LC:36:ILE:N	2.41	0.51
35:LE:141:ARG:NH2	61:Lf:110:ILE:O	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:LJ:151:ILE:HG23	40:LJ:155:HIS:HB3	1.91	0.51
49:LT:128:LEU:HG	73:L5:1834:U:O2	2.11	0.51
56:La:105:ARG:HD3	73:L5:509:A:C6	2.46	0.51
65:Lj:21:ARG:NH2	65:Lj:41:ALA:O	2.40	0.51
65:Lj:59:THR:HG23	75:L8:41:A:H4'	1.91	0.51
73:L5:1308:C:H2'	73:L5:1309:C:C6	2.45	0.51
76:S2:72:C:H1'	76:S2:73:C:H2'	1.93	0.51
76:S2:873:G:H2'	76:S2:874:G:H8	1.76	0.51
76:S2:1621:U:O2'	76:S2:1622:U:H2'	2.10	0.51
2:SR:13:ALA:HB2	2:SR:50:ILE:HG23	1.92	0.51
8:SU:51:LYS:HD2	76:S2:1402:A:O5'	2.11	0.51
9:Sc:12:ALA:HB1	9:Sc:32:VAL:HB	1.92	0.51
11:Sg:236:ILE:HA	11:Sg:252:THR:HA	1.93	0.51
18:SW:122:GLY:O	76:S2:804:U:H4'	2.09	0.51
30:SF:20:PHE:HB2	30:SF:24:SER:HA	1.93	0.51
34:LD:268:ARG:HD2	73:L5:1175:A:H5'	1.92	0.51
45:LP:111:SER:OG	45:LP:152:GLU:OE1	2.28	0.51
46:LQ:124:ASP:OD1	46:LQ:124:ASP:N	2.37	0.51
56:La:79:TRP:CH2	56:La:122:VAL:HB	2.46	0.51
62:Lg:90:ARG:HD2	73:L5:4122:G:H4'	1.93	0.51
73:L5:4413:C:H2'	73:L5:4414:A:O4'	2.10	0.51
73:L5:4739:C:N4	73:L5:4740:G:O6	2.43	0.51
73:L5:4906:C:H2'	73:L5:4907:G:C8	2.46	0.51
73:L5:4918:C:H2'	73:L5:4919:G:C8	2.46	0.51
74:L7:23:A:N3	74:L7:118:C:O2'	2.33	0.51
75:L8:133:G:H2'	75:L8:134:G:H8	1.76	0.51
76:S2:1491:G:H2'	76:S2:1492:U:C6	2.46	0.51
2:SR:71:ILE:HG22	2:SR:72:LYS:N	2.26	0.51
4:SQ:82:TYR:HH	30:SF:51:HIS:CD2	2.29	0.51
9:Sc:44:ARG:HD3	9:Sc:65:ALA:CB	2.41	0.51
11:Sg:20:GLN:HB3	11:Sg:68:ASP:HA	1.92	0.51
19:SY:54:VAL:HG22	19:SY:75:ILE:HG23	1.93	0.51
27:SH:29:GLU:O	27:SH:32:MET:HG3	2.11	0.51
29:SK:52:LEU:HD13	29:SK:57:TYR:HB2	1.93	0.51
31:LA:37:ARG:HG3	31:LA:38:HIS:ND1	2.26	0.51
35:LE:219:LYS:HE3	73:L5:4940:C:C5	2.45	0.51
73:L5:472:C:H2'	73:L5:473:C:H6	1.74	0.51
73:L5:725:G:H2'	73:L5:726:G:C8	2.46	0.51
73:L5:1893:C:H1'	73:L5:1937:C:O2	2.11	0.51
73:L5:3946:G:N2	73:L5:4067:U:O2	2.29	0.51
73:L5:4044:U:O5'	73:L5:4045:G:H5'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:S2:443:U:H2'	76:S2:444:G:O4'	2.11	0.51
77:S6:49:G:H2'	77:S6:50:A:C8	2.45	0.51
78:CA:207:PRO:HA	78:CA:212:VAL:HG22	1.92	0.51
11:Sg:14:HIS:HE2	11:Sg:35:SER:H	1.57	0.50
11:Sg:51:ASN:CG	11:Sg:52:TYR:N	2.70	0.50
11:Sg:72:SER:HB3	11:Sg:77:PHE:HB2	1.94	0.50
12:SC:74:LYS:HE2	12:SC:272:HIS:ND1	2.26	0.50
12:SC:81:ILE:HG23	12:SC:86:LEU:HB2	1.93	0.50
17:SG:94:ARG:NH2	76:S2:1737:G:OP1	2.43	0.50
29:SK:52:LEU:HB3	29:SK:58:VAL:HG12	1.92	0.50
36:LF:113:ARG:NH2	36:LF:208:LEU:O	2.44	0.50
44:LO:83:THR:HG23	73:L5:2052:G:H5'	1.92	0.50
47:LR:136:ARG:HG2	47:LR:137:ILE:HD12	1.92	0.50
54:LY:87:ARG:NH2	73:L5:404:U:O3'	2.43	0.50
69:Ln:9:ARG:NH2	76:S2:1851:A:OP1	2.44	0.50
70:Lo:6:LYS:HG3	70:Lo:94:GLY:HA3	1.93	0.50
73:L5:494:U:H2'	73:L5:495:C:C6	2.46	0.50
73:L5:4584:A:H2'	73:L5:4585:U:O4'	2.11	0.50
76:S2:869:A:O2'	76:S2:915:G:N7	2.44	0.50
4:SQ:15:ARG:HD2	4:SQ:126:ARG:NH2	2.26	0.50
7:Sa:2:THR:N	76:S2:1199:A:OP1	2.44	0.50
10:ST:107:LEU:HB3	10:ST:112:MET:HB3	1.94	0.50
11:Sg:51:ASN:HD22	11:Sg:54:ILE:HG23	1.74	0.50
11:Sg:145:GLU:OE1	11:Sg:145:GLU:N	2.45	0.50
23:SA:178:LEU:O	23:SA:182:VAL:HG13	2.11	0.50
25:SE:191:ARG:HD2	25:SE:218:PHE:CE2	2.46	0.50
29:SK:32:HIS:ND1	29:SK:35:LEU:HB2	2.25	0.50
33:LC:276:ASN:O	33:LC:276:ASN:ND2	2.40	0.50
34:LD:222:GLN:HE21	34:LD:222:GLN:C	2.19	0.50
51:LV:43:LYS:HD3	73:L5:4508:C:H5''	1.93	0.50
51:LV:92:ASP:OD1	51:LV:92:ASP:N	2.43	0.50
67:Ll:24:PRO:HG2	67:Ll:27:ILE:HG23	1.93	0.50
70:Lo:61:LYS:HG3	70:Lo:87:ARG:HH12	1.76	0.50
72:Lr:19:LYS:HG2	72:Lr:24:THR:HG23	1.93	0.50
73:L5:1662:C:H2'	73:L5:1663:C:C6	2.46	0.50
76:S2:385:G:N2	76:S2:386:C:H41	2.09	0.50
76:S2:890:U:H3	76:S2:895:G:H2'	1.76	0.50
76:S2:1514:G:H2'	76:S2:1515:G:H8	1.76	0.50
9:Sc:51:ARG:HB3	9:Sc:54:ASP:HB3	1.93	0.50
11:Sg:256:ILE:HD12	11:Sg:256:ILE:O	2.11	0.50
13:Sd:22:ARG:HH12	26:SD:16:ILE:HG13	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:SY:93:ARG:HH21	76:S2:575:A:P	2.34	0.50
25:SE:97:GLU:C	25:SE:98:ASN:HD22	2.19	0.50
26:SD:151:LYS:NZ	76:S2:1485:U:OP1	2.43	0.50
29:SK:49:MET:HB3	29:SK:69:TRP:CZ2	2.46	0.50
32:LB:228:TYR:O	73:L5:2835:A:O2'	2.28	0.50
35:LE:165:LEU:HD11	35:LE:176:THR:HB	1.93	0.50
37:LG:55:VAL:HG22	53:LX:44:PRO:HA	1.92	0.50
39:LI:83:ASP:OD1	39:LI:83:ASP:N	2.43	0.50
56:La:75:LEU:HD11	56:La:133:ALA:HA	1.93	0.50
73:L5:179:G:H2'	73:L5:180:C:C5	2.46	0.50
73:L5:489:C:H6	73:L5:489:C:O5'	1.94	0.50
73:L5:976:G:N2	73:L5:1277:G:H22	2.09	0.50
73:L5:1941:A:H2'	73:L5:1942:A:H8	1.77	0.50
73:L5:2538:U:H2'	73:L5:2539:C:C6	2.46	0.50
73:L5:2809:G:O2'	73:L5:4644:G:OP1	2.29	0.50
73:L5:3848:U:H2'	73:L5:3849:A:H8	1.77	0.50
73:L5:4237:C:H2'	73:L5:4238:G:C8	2.45	0.50
73:L5:4993:G:H22	73:L5:5058:A:H2	1.59	0.50
76:S2:70:G:H2'	76:S2:71:G:H8	1.76	0.50
76:S2:174:C:H2'	76:S2:175:A:O4'	2.11	0.50
76:S2:190:G:O2'	76:S2:209:A:N6	2.43	0.50
76:S2:368:U:H3'	76:S2:369:C:H2'	1.92	0.50
15:SN:98:VAL:HG13	15:SN:115:LEU:HD13	1.92	0.50
26:SD:122:VAL:O	26:SD:126:ILE:HG23	2.12	0.50
30:SF:69:VAL:O	30:SF:73:THR:OG1	2.28	0.50
32:LB:213:GLN:NE2	32:LB:285:TYR:O	2.34	0.50
33:LC:219:LYS:HA	33:LC:222:ARG:HD3	1.92	0.50
37:LG:208:ASN:HB3	37:LG:210:GLU:CD	2.36	0.50
39:LI:35:ASP:HB3	39:LI:86:HIS:HE1	1.77	0.50
42:LM:17:PHE:HZ	42:LM:53:LYS:HG2	1.76	0.50
45:LP:30:ARG:HD2	45:LP:63:TYR:HE2	1.75	0.50
45:LP:120:ASN:HD21	73:L5:423:G:H1'	1.76	0.50
54:LY:89:LYS:NZ	73:L5:386:A:O5'	2.44	0.50
72:Lr:49:VAL:HG11	72:Lr:97:ILE:HD11	1.94	0.50
73:L5:26:C:H42	73:L5:56:A:N6	2.10	0.50
73:L5:184:U:H1'	73:L5:253:G:H22	1.76	0.50
73:L5:270:U:H2'	73:L5:271:C:C6	2.47	0.50
73:L5:503:C:P	73:L5:504:G:H5'	2.51	0.50
76:S2:127:C:H4'	76:S2:128:U:OP1	2.12	0.50
76:S2:807:G:HO2'	76:S2:808:A:H8	1.57	0.50
76:S2:1533:A:C2	76:S2:1534:C:C5	2.98	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:Sg:19:THR:HA	11:Sg:287:THR:HG22	1.92	0.50
11:Sg:201:SER:HA	11:Sg:241:PHE:HB2	1.94	0.50
13:Sd:27:ARG:HD2	76:S2:1263:U:H4'	1.94	0.50
14:SJ:64:ASP:HB2	18:SW:117:ARG:NH1	2.24	0.50
14:SJ:108:ARG:NH2	14:SJ:149:VAL:O	2.44	0.50
30:SF:104:THR:HG21	30:SF:178:ILE:HG12	1.92	0.50
31:LA:51:ASP:HB3	31:LA:54:ARG:HB3	1.92	0.50
33:LC:192:GLY:O	33:LC:195:LYS:NZ	2.45	0.50
33:LC:218:ILE:HG22	33:LC:229:LEU:HG	1.94	0.50
35:LE:167:GLN:HE21	35:LE:171:GLY:HA2	1.77	0.50
36:LF:94:ARG:NH1	36:LF:114:LEU:O	2.45	0.50
47:LR:34:ASN:O	47:LR:40:GLN:NE2	2.44	0.50
58:Lc:28:VAL:HG22	58:Lc:97:ILE:HD11	1.93	0.50
60:Le:76:LYS:HD3	60:Le:98:GLU:OE1	2.10	0.50
73:L5:1307:A:H2'	73:L5:1308:C:C6	2.45	0.50
73:L5:2602:G:H2'	73:L5:2603:C:C6	2.46	0.50
73:L5:3606:U:H2'	73:L5:3607:U:C6	2.46	0.50
73:L5:4412:C:H2'	73:L5:4413:C:O2	2.11	0.50
76:S2:71:G:H3'	76:S2:72:C:H5''	1.92	0.50
76:S2:494:C:H2'	76:S2:495:U:C6	2.47	0.50
16:SO:97:LEU:HD11	16:SO:112:ALA:HB1	1.94	0.50
17:SG:62:PRO:HG2	17:SG:97:VAL:HG13	1.92	0.50
26:SD:76:ARG:HD3	26:SD:77:PHE:HD1	1.76	0.50
29:SK:12:TYR:CE1	29:SK:52:LEU:HD21	2.47	0.50
29:SK:54:SER:OG	76:S2:1277:C:H5'	2.11	0.50
30:SF:68:ILE:HG21	30:SF:116:ILE:HD13	1.94	0.50
30:SF:156:THR:O	30:SF:159:ARG:HG3	2.11	0.50
39:LI:162:ARG:HH21	39:LI:164:LYS:NZ	2.10	0.50
45:LP:61:ARG:HD3	75:L8:3:A:O2'	2.11	0.50
60:Le:28:TYR:HB3	60:Le:30:LYS:HG2	1.93	0.50
60:Le:35:TRP:CZ2	60:Le:56:PRO:HD2	2.46	0.50
60:Le:102:ASN:OD1	60:Le:102:ASN:N	2.38	0.50
73:L5:251:C:H2'	73:L5:252:C:C6	2.46	0.50
73:L5:951:G:H2'	73:L5:952:G:H8	1.76	0.50
73:L5:2695:A:H4'	73:L5:2696:A:H5'	1.92	0.50
76:S2:302:A:H2'	76:S2:303:C:C6	2.47	0.50
76:S2:832:G:N1	76:S2:843:C:N3	2.60	0.50
76:S2:1534:C:H5'	76:S2:1536:G:O4'	2.11	0.50
4:SQ:53:GLU:HG3	30:SF:48:TYR:CE2	2.46	0.50
15:SN:150:VAL:HG13	15:SN:150:VAL:O	2.11	0.50
25:SE:11:ARG:HA	25:SE:28:ALA:HB2	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:SI:147:LYS:HA	28:SI:150:ASP:HB2	1.92	0.50
33:LC:337:ARG:NH1	35:LE:55:GLY:O	2.44	0.50
41:LL:62:PRO:O	73:L5:71:C:H1'	2.10	0.50
53:LX:64:SER:OG	63:Lh:69:LEU:HD13	2.12	0.50
73:L5:211:G:H5'	73:L5:234:G:O2'	2.12	0.50
73:L5:753:C:H2'	73:L5:754:U:O4'	2.10	0.50
73:L5:1867:A:H2'	73:L5:1868:A:C8	2.47	0.50
76:S2:682:U:O2'	76:S2:1159:G:H4'	2.12	0.50
76:S2:1010:G:H2'	76:S2:1011:A:H8	1.77	0.50
76:S2:1220:A:N3	76:S2:1677:U:O2'	2.37	0.50
76:S2:1227:G:H5'	76:S2:1639:G:H1	1.77	0.50
76:S2:1536:G:C2	76:S2:1537:A:C5	3.00	0.50
4:SQ:23:ALA:HB3	4:SQ:91:ALA:HB2	1.94	0.50
11:Sg:132:TRP:HA	11:Sg:138:CYS:HB2	1.93	0.50
12:SC:279:ARG:NH1	12:SC:280:VAL:H	2.04	0.50
19:SY:110:ARG:NE	19:SY:128:GLY:HA2	2.18	0.50
27:SH:84:GLU:HG3	27:SH:92:VAL:HG12	1.93	0.50
34:LD:152:ARG:HG3	34:LD:154:THR:HG23	1.94	0.50
49:LT:119:ALA:HB2	49:LT:126:VAL:HG13	1.94	0.50
67:Ll:9:ILE:HG23	67:Ll:51:LEU:HD11	1.93	0.50
73:L5:1545:G:H2'	73:L5:1546:C:C6	2.47	0.50
73:L5:1881:C:H5'	73:L5:2281:U:H1'	1.93	0.50
73:L5:3974:G:H2'	73:L5:3975:C:O4'	2.11	0.50
73:L5:4748:U:H2'	73:L5:4749:C:O4'	2.12	0.50
77:S6:47:U:H3'	77:S6:48:C:H5'	1.94	0.50
78:CA:731:ALA:O	78:CA:735:THR:HG22	2.12	0.50
1:SL:136:LYS:NZ	28:SI:11:ARG:O	2.36	0.50
4:SQ:53:GLU:HG3	30:SF:48:TYR:HE2	1.77	0.50
11:Sg:166:VAL:HG12	11:Sg:176:VAL:HG22	1.94	0.50
41:LL:101:ARG:NH2	73:L5:75:G:O2'	2.43	0.50
41:LL:190:ARG:NH2	73:L5:1487:G:OP1	2.45	0.50
46:LQ:73:PRO:O	73:L5:1456:C:O2'	2.28	0.50
47:LR:96:MET:HG2	73:L5:2667:C:O4'	2.12	0.50
59:Ld:92:ARG:HG2	59:Ld:94:GLU:H	1.76	0.50
65:Lj:43:ARG:NH2	73:L5:21:G:OP2	2.44	0.50
73:L5:318:A:H2'	73:L5:319:A:C8	2.47	0.50
73:L5:1097:C:O2	73:L5:1199:G:N2	2.45	0.50
73:L5:2292:C:H2'	73:L5:2293:U:C6	2.47	0.50
73:L5:3969:G:H3'	73:L5:3970:G:H5''	1.93	0.50
73:L5:4060:U:H2'	73:L5:4061:G:O4'	2.12	0.50
73:L5:4902:C:H2'	73:L5:4903:G:H8	1.75	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:S2:116:U:H3	76:S2:347:G:H1	1.59	0.50
76:S2:613:G:N2	76:S2:629:A:OP2	2.37	0.50
76:S2:1286:G:N3	76:S2:1313:A:C6	2.80	0.50
76:S2:1448:A:O2'	76:S2:1449:G:O5'	2.30	0.50
11:Sg:36:ARG:HD2	11:Sg:65:PHE:CB	2.41	0.49
13:Sd:36:LEU:HD22	26:SD:12:VAL:HG11	1.94	0.49
14:SJ:28:GLU:OE1	14:SJ:44:TRP:NE1	2.44	0.49
16:SO:95:ILE:HD12	16:SO:129:ILE:HG12	1.92	0.49
33:LC:5:ARG:NE	33:LC:24:LEU:O	2.32	0.49
37:LG:187:LYS:HD2	73:L5:150:U:O4	2.12	0.49
39:LI:91:LEU:HD22	39:LI:127:ALA:HB1	1.93	0.49
45:LP:82:ARG:NH2	73:L5:2362:U:OP1	2.44	0.49
70:Lo:61:LYS:HD3	73:L5:4372:U:OP2	2.12	0.49
73:L5:2307:A:H2'	73:L5:2308:A:H8	1.76	0.49
76:S2:1654:G:H2'	76:S2:1655:C:H6	1.76	0.49
76:S2:1780:G:H2'	76:S2:1781:A:O4'	2.12	0.49
77:S6:70:G:H2'	77:S6:71:C:H6	1.75	0.49
78:CA:522:GLU:HA	78:CA:525:LYS:HG3	1.94	0.49
78:CA:675:ILE:HG23	78:CA:721:ILE:HG21	1.92	0.49
1:SL:101:ARG:NH2	76:S2:660:C:O2'	2.46	0.49
13:Sd:26:ASN:ND2	76:S2:1495:G:H4'	2.25	0.49
16:SO:83:GLN:HA	16:SO:86:LYS:HE2	1.95	0.49
16:SO:119:LEU:O	16:SO:124:MET:HB2	2.12	0.49
17:SG:189:ARG:NH1	76:S2:330:G:N7	2.59	0.49
19:SY:111:LYS:HA	19:SY:114:MET:SD	2.52	0.49
21:Sb:68:GLY:O	76:S2:928:G:N2	2.43	0.49
22:SZ:58:LEU:HD22	22:SZ:87:ALA:CB	2.41	0.49
26:SD:132:LYS:HB3	26:SD:189:MET:HG2	1.94	0.49
29:SK:64:TRP:O	29:SK:64:TRP:HD1	1.95	0.49
32:LB:252:ALA:HB1	73:L5:4524:G:C2	2.47	0.49
36:LF:223:LYS:HE3	73:L5:1907:A:H4'	1.94	0.49
46:LQ:65:ARG:NH2	73:L5:1502:G:OP1	2.39	0.49
46:LQ:176:ARG:O	56:La:56:VAL:HG21	2.12	0.49
65:Lj:43:ARG:HG2	65:Lj:43:ARG:HH11	1.76	0.49
70:Lo:54:PRO:O	77:S6:75:C:O2'	2.25	0.49
73:L5:460:C:H2'	73:L5:460:C:O2	2.12	0.49
76:S2:71:G:H2'	76:S2:72:C:C2	2.46	0.49
76:S2:322:C:O2'	76:S2:329:G:N2	2.45	0.49
76:S2:1461:G:H22	76:S2:1464:C:H3'	1.77	0.49
2:SR:60:ARG:CZ	76:S2:1464:C:H5''	2.43	0.49
11:Sg:24:THR:OG1	11:Sg:71:ILE:HG23	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:Sg:29:ASP:O	11:Sg:45:LEU:HB2	2.11	0.49
19:SY:34:THR:O	76:S2:570:C:O2'	2.31	0.49
64:Li:14:GLY:O	64:Li:16:LYS:NZ	2.44	0.49
65:Lj:82:THR:OG1	75:L8:94:G:N2	2.39	0.49
72:Lr:28:GLU:OE1	72:Lr:42:GLY:N	2.44	0.49
73:L5:57:G:N2	73:L5:59:A:N3	2.57	0.49
73:L5:686:A:O2'	73:L5:687:U:H5'	2.12	0.49
73:L5:3753:G:N2	73:L5:3776:G:C2	2.81	0.49
73:L5:4960:G:H2'	73:L5:4961:G:H8	1.77	0.49
76:S2:478:G:H2'	76:S2:479:C:H6	1.77	0.49
78:CA:313:ALA:O	78:CA:317:GLU:HG2	2.12	0.49
2:SR:38:ILE:HD12	2:SR:38:ILE:H	1.77	0.49
4:SQ:8:GLN:HG2	4:SQ:27:ARG:NH1	2.28	0.49
4:SQ:10:VAL:HG11	4:SQ:94:ALA:HB1	1.93	0.49
8:SU:51:LYS:HD3	8:SU:52:GLY:N	2.27	0.49
12:SC:194:ARG:HD3	12:SC:196:ILE:HD11	1.93	0.49
18:SW:111:MET:HB2	18:SW:115:GLU:HB2	1.94	0.49
42:LM:118:MET:HG2	44:LO:192:TYR:CZ	2.47	0.49
43:LN:28:TRP:O	43:LN:32:GLN:HG2	2.12	0.49
57:Lb:40:LEU:O	57:Lb:44:ARG:HG3	2.13	0.49
61:Lf:53:ALA:HB1	73:L5:442:G:H5''	1.94	0.49
73:L5:417:G:H1'	73:L5:418:A:OP2	2.12	0.49
73:L5:461:G:H2'	73:L5:462:G:C8	2.47	0.49
73:L5:1321:G:H2'	73:L5:3876:A:N7	2.28	0.49
73:L5:4577:U:H2'	73:L5:4578:G:C8	2.48	0.49
73:L5:4578:G:H2'	73:L5:4579:U:C6	2.47	0.49
76:S2:1828:C:H2'	76:S2:1829:G:O4'	2.13	0.49
10:ST:18:LEU:O	10:ST:22:LEU:HD22	2.13	0.49
12:SC:166:ARG:HB2	12:SC:248:TYR:CD2	2.48	0.49
14:SJ:29:LEU:HA	14:SJ:32:ILE:HG22	1.94	0.49
17:SG:194:LEU:HB3	17:SG:198:ARG:HH21	1.78	0.49
19:SY:16:ARG:NE	19:SY:16:ARG:H	2.11	0.49
37:LG:73:ARG:HH12	73:L5:4162:C:H5	1.60	0.49
41:LL:36:ARG:NH1	73:L5:1363:C:OP1	2.45	0.49
44:LO:114:LYS:NZ	73:L5:4757:C:N3	2.60	0.49
55:LZ:81:MET:HE2	62:Lg:92:LYS:HG2	1.95	0.49
60:Le:109:LYS:O	60:Le:113:GLU:HG2	2.12	0.49
72:Lr:10:VAL:HG13	72:Lr:14:SER:HB2	1.94	0.49
73:L5:176:G:H2'	73:L5:177:G:C8	2.47	0.49
73:L5:661:C:O2'	73:L5:662:C:O5'	2.31	0.49
73:L5:747:A:N6	73:L5:916:C:H42	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:4242:U:H3	73:L5:4281:A:H2	1.60	0.49
76:S2:563:G:C2	76:S2:564:A:C8	3.00	0.49
76:S2:1109:C:H2'	76:S2:1110:G:O4'	2.12	0.49
76:S2:1414:A:O2'	76:S2:1415:C:H5'	2.11	0.49
76:S2:1513:C:H2'	76:S2:1514:G:C8	2.45	0.49
76:S2:1781:A:H2'	76:S2:1782:G:N7	2.28	0.49
78:CA:227:GLN:NE2	78:CA:349:ALA:HA	2.26	0.49
1:SL:97:ARG:HG3	76:S2:421:G:OP1	2.12	0.49
6:SX:57:VAL:O	6:SX:67:ARG:N	2.40	0.49
12:SC:69:LEU:HD22	12:SC:74:LYS:HD2	1.94	0.49
17:SG:27:PHE:CD2	17:SG:36:VAL:HG11	2.47	0.49
34:LD:208:MET:O	34:LD:212:MET:HG2	2.13	0.49
37:LG:37:LYS:HG3	73:L5:4127:A:C2	2.48	0.49
38:LH:120:GLU:HG2	38:LH:124:ARG:NH1	2.27	0.49
42:LM:122:ILE:HD11	44:LO:189:ILE:HG23	1.95	0.49
59:Ld:41:ARG:HG3	59:Ld:78:ARG:HA	1.93	0.49
73:L5:665:C:H4'	73:L5:666:G:N7	2.27	0.49
73:L5:1478:C:H2'	73:L5:1479:G:C8	2.47	0.49
73:L5:2764:A:H2'	73:L5:2765:A:C8	2.48	0.49
73:L5:3877:A:N3	73:L5:4401:G:O2'	2.39	0.49
73:L5:4281:A:H2'	73:L5:4282:A:H8	1.77	0.49
76:S2:437:G:H2'	76:S2:438:G:O4'	2.13	0.49
76:S2:495:U:H2'	76:S2:496:C:O4'	2.12	0.49
76:S2:875:A:H2	76:S2:910:G:H1	1.60	0.49
76:S2:970:G:H3'	76:S2:971:G:H5'	1.94	0.49
8:SU:58:THR:HG22	76:S2:1446:A:OP1	2.12	0.49
14:SJ:87:LEU:HB3	14:SJ:100:LEU:HD21	1.94	0.49
20:Se:49:PHE:HB2	20:Se:51:LYS:HZ2	1.76	0.49
21:Sb:51:GLN:O	21:Sb:51:GLN:HG2	2.12	0.49
25:SE:182:MET:HB2	25:SE:228:ILE:HD11	1.94	0.49
28:SI:5:ARG:NH1	76:S2:379:C:O2	2.41	0.49
35:LE:183:ARG:HD2	73:L5:4936:G:C5	2.48	0.49
59:Ld:75:LYS:HB2	59:Ld:79:ASN:O	2.13	0.49
73:L5:307:A:N3	73:L5:310:G:O2'	2.35	0.49
73:L5:1078:A:N6	73:L5:1216:C:OP2	2.46	0.49
73:L5:1177:U:N3	73:L5:1183:C:N4	2.60	0.49
73:L5:3971:G:C2	73:L5:3972:A:H1'	2.47	0.49
73:L5:4056:A:H2'	73:L5:4057:C:C6	2.48	0.49
76:S2:70:G:H1'	76:S2:80:G:N2	2.27	0.49
76:S2:1144:A:H2'	76:S2:1145:A:C8	2.47	0.49
76:S2:1834:A:H2	76:S2:1837:G:N1	2.02	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:SR:81:ARG:HE	23:SA:85:ARG:HD3	1.78	0.49
7:Sa:42:ARG:O	7:Sa:67:LEU:N	2.46	0.49
8:SU:80:PHE:CZ	13:Sd:47:ALA:HB1	2.48	0.49
10:ST:62:ARG:HE	10:ST:66:LEU:HD21	1.77	0.49
12:SC:190:SER:HB3	76:S2:14:C:H5'	1.94	0.49
17:SG:46:LYS:HB2	17:SG:119:LYS:HE3	1.94	0.49
20:Se:58:ASN:HD21	76:S2:638:C:H1'	1.78	0.49
30:SF:65:GLN:OE1	30:SF:65:GLN:N	2.45	0.49
31:LA:208:GLU:HG2	73:L5:1629:G:H1	1.77	0.49
32:LB:4:ARG:HH12	32:LB:8:ALA:HB3	1.78	0.49
32:LB:252:ALA:HB1	73:L5:4524:G:N3	2.28	0.49
41:LL:129:ARG:NE	41:LL:129:ARG:HA	2.27	0.49
43:LN:54:LYS:HG3	73:L5:152:U:H5''	1.95	0.49
47:LR:103:ARG:NH2	73:L5:2668:G:OP2	2.46	0.49
63:Lh:47:ILE:HD11	75:L8:49:G:C5'	2.39	0.49
73:L5:283:G:H2'	73:L5:284:G:H8	1.78	0.49
76:S2:115:U:O2'	76:S2:381:C:O2	2.28	0.49
76:S2:165:G:OP2	76:S2:165:G:N2	2.37	0.49
76:S2:1341:C:H5'	76:S2:1343:U:H1'	1.95	0.49
76:S2:1639:G:H8	77:S6:41:C:O2'	1.96	0.49
76:S2:1808:U:H2'	76:S2:1809:A:C8	2.48	0.49
17:SG:204:GLU:O	17:SG:207:ALA:HB3	2.13	0.49
27:SH:118:ARG:HG3	76:S2:917:U:O4'	2.12	0.49
28:SI:161:LEU:O	28:SI:165:GLN:NE2	2.46	0.49
38:LH:71:ARG:NH2	73:L5:4695:C:OP2	2.46	0.49
73:L5:40:G:N2	73:L5:4380:A:H62	2.11	0.49
73:L5:383:A:H8	73:L5:383:A:OP1	1.96	0.49
73:L5:3710:G:O2'	73:L5:3711:A:H5'	2.13	0.49
73:L5:4068:U:H2'	73:L5:4069:U:O4'	2.13	0.49
75:L8:8:U:H2'	75:L8:9:A:C8	2.48	0.49
76:S2:189:U:C2	76:S2:190:G:H1'	2.48	0.49
76:S2:1302:G:H5''	76:S2:1303:C:H5	1.77	0.49
76:S2:1405:A:H2'	76:S2:1406:G:C8	2.48	0.49
78:CA:676:LYS:O	78:CA:680:VAL:HG23	2.13	0.49
2:SR:31:ASN:HD22	2:SR:54:VAL:HG12	1.77	0.49
3:SP:21:ASP:O	3:SP:25:LEU:HG	2.13	0.49
9:Sc:20:ARG:HH12	76:S2:1679:A:H5''	1.78	0.49
11:Sg:174:VAL:HB	11:Sg:188:HIS:HD2	1.78	0.49
11:Sg:201:SER:OG	11:Sg:206:LEU:O	2.21	0.49
11:Sg:202:PRO:HD2	11:Sg:241:PHE:HB2	1.95	0.49
17:SG:186:GLN:HG3	76:S2:331:C:H42	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:Sb:3:LEU:HD12	21:Sb:5:LYS:H	1.78	0.49
21:Sb:33:MET:HA	21:Sb:81:ARG:O	2.12	0.49
23:SA:36:GLN:O	23:SA:53:ARG:NH1	2.45	0.49
25:SE:15:PRO:HB2	25:SE:17:HIS:HD2	1.78	0.49
30:SF:55:ARG:HG2	30:SF:55:ARG:HH11	1.77	0.49
30:SF:63:LYS:HB3	30:SF:71:ARG:NH1	2.27	0.49
35:LE:52:ARG:NH2	73:L5:1281:G:OP1	2.44	0.49
49:LT:87:LYS:NZ	73:L5:4305:G:H22	2.11	0.49
59:Ld:92:ARG:HG2	59:Ld:94:GLU:HB3	1.95	0.49
73:L5:214:G:H2'	73:L5:215:C:C6	2.47	0.49
76:S2:952:G:H2'	76:S2:953:C:C6	2.48	0.49
16:SO:78:ALA:HB1	16:SO:119:LEU:HG	1.93	0.48
17:SG:64:LYS:HZ1	17:SG:81:HIS:HB3	1.78	0.48
17:SG:175:LYS:HG3	76:S2:78:C:H2'	1.95	0.48
18:SW:37:PHE:CD1	18:SW:41:MET:HE2	2.48	0.48
27:SH:17:ASP:O	27:SH:21:SER:N	2.46	0.48
33:LC:143:ARG:HG3	73:L5:2300:A:H62	1.78	0.48
40:LJ:18:ARG:HB2	40:LJ:133:VAL:HG12	1.94	0.48
41:LL:167:ARG:HG2	56:La:100:ILE:HD11	1.95	0.48
54:LY:56:GLN:NE2	54:LY:64:GLY:O	2.45	0.48
73:L5:1092:G:H2'	73:L5:1093:C:O4'	2.13	0.48
73:L5:4155:C:H2'	73:L5:4156:G:O4'	2.14	0.48
76:S2:872:A:O2'	76:S2:873:G:H8	1.96	0.48
76:S2:1449:G:O2'	76:S2:1450:G:OP2	2.26	0.48
78:CA:801:ARG:HG2	78:CA:806:GLY:HA2	1.95	0.48
78:CA:820:LEU:HB3	78:CA:831:PRO:HG3	1.95	0.48
11:Sg:22:ALA:HB2	11:Sg:69:VAL:HG13	1.95	0.48
12:SC:74:LYS:HB3	12:SC:269:PHE:CE1	2.48	0.48
16:SO:139:SER:OG	16:SO:140:THR:N	2.42	0.48
17:SG:197:GLN:OE1	17:SG:197:GLN:HA	2.13	0.48
18:SW:2:VAL:N	76:S2:1091:C:O2'	2.44	0.48
25:SE:36:HIS:CD2	25:SE:85:GLY:HA3	2.48	0.48
33:LC:51:PRO:HB3	33:LC:111:TRP:NE1	2.27	0.48
37:LG:210:GLU:OE1	37:LG:210:GLU:N	2.34	0.48
39:LI:40:LYS:HD3	39:LI:40:LYS:N	2.28	0.48
44:LO:61:ARG:HA	44:LO:70:PRO:HD2	1.95	0.48
57:Lb:54:LEU:H	57:Lb:54:LEU:HD23	1.78	0.48
64:Li:71:LYS:NZ	73:L5:3725:G:O6	2.44	0.48
73:L5:176:G:H2'	73:L5:177:G:H8	1.77	0.48
73:L5:739:G:H2'	73:L5:740:G:C8	2.48	0.48
73:L5:1183:C:H2'	73:L5:1185:G:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:4407:G:H1'	73:L5:4438:U:C2	2.47	0.48
76:S2:104:A:H62	76:S2:356:C:H5	1.60	0.48
76:S2:1688:C:H2'	76:S2:1689:C:C6	2.48	0.48
10:ST:12:GLN:HE21	76:S2:1593:C:H1'	1.78	0.48
11:Sg:23:THR:HG22	11:Sg:31:ILE:HG21	1.95	0.48
12:SC:253:PRO:HA	12:SC:256:TRP:CE2	2.48	0.48
17:SG:106:LEU:HD22	17:SG:107:SER:H	1.78	0.48
24:SB:125:VAL:HG13	24:SB:169:MET:HG2	1.94	0.48
25:SE:77:ARG:NH2	76:S2:122:G:OP1	2.29	0.48
26:SD:105:LEU:HB2	26:SD:122:VAL:HG11	1.95	0.48
26:SD:190:LEU:HD13	26:SD:192:TRP:CE3	2.49	0.48
28:SI:86:SER:OG	76:S2:376:A:N3	2.46	0.48
34:LD:222:GLN:O	34:LD:222:GLN:NE2	2.41	0.48
47:LR:114:LYS:HD2	47:LR:114:LYS:N	2.29	0.48
53:LX:94:ASN:OD1	53:LX:140:LEU:HB2	2.13	0.48
58:Lc:33:GLN:HG3	73:L5:2675:G:H1	1.77	0.48
73:L5:1461:C:H2'	73:L5:1462:A:H8	1.79	0.48
76:S2:373:G:H2'	76:S2:374:G:H8	1.78	0.48
76:S2:808:A:C4	76:S2:809:A:C8	3.01	0.48
77:S6:35:A:H5''	77:S6:36:U:OP1	2.14	0.48
78:CA:617:ILE:HG21	78:CA:659:PRO:HA	1.95	0.48
3:SP:50:ARG:HH22	3:SP:54:HIS:CG	2.31	0.48
12:SC:227:ARG:O	12:SC:227:ARG:HG2	2.13	0.48
14:SJ:150:ARG:HD3	76:S2:821:G:H21	1.77	0.48
16:SO:133:THR:O	24:SB:107:ARG:NH2	2.33	0.48
23:SA:30:LEU:HD21	23:SA:35:GLU:HB2	1.94	0.48
27:SH:98:ARG:HH21	27:SH:129:ILE:HG22	1.78	0.48
32:LB:170:LEU:O	32:LB:328:ASN:ND2	2.39	0.48
73:L5:491:G:C4	73:L5:665:C:N4	2.81	0.48
73:L5:751:G:C5	73:L5:752:G:C8	3.01	0.48
74:L7:19:C:H2'	74:L7:20:U:C6	2.48	0.48
76:S2:885:U:H1'	76:S2:902:G:N2	2.29	0.48
76:S2:1033:G:N1	76:S2:1080:A:O2'	2.38	0.48
76:S2:1700:C:C2	76:S2:1834:A:N6	2.81	0.48
77:S6:25:U:H2'	77:S6:26:G:O4'	2.13	0.48
4:SQ:13:PHE:HB3	4:SQ:22:VAL:HG12	1.95	0.48
21:Sb:23:ARG:NH1	21:Sb:29:ASN:OD1	2.46	0.48
73:L5:1073:G:H2'	73:L5:1074:G:H5''	1.95	0.48
73:L5:1177:U:H2'	73:L5:1178:G:C8	2.48	0.48
73:L5:1548:G:O2'	73:L5:2812:A:N3	2.42	0.48
73:L5:3774:A:H2'	73:L5:3775:A:N3	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:4623:G:N2	73:L5:4675:U:C2	2.81	0.48
76:S2:189:U:H3	76:S2:210:U:H3	1.61	0.48
76:S2:964:A:H2'	76:S2:965:U:C6	2.49	0.48
76:S2:1292:C:H2'	76:S2:1293:A:C8	2.49	0.48
2:SR:41:ILE:CD1	2:SR:50:ILE:HD12	2.44	0.48
11:Sg:33:SER:HB3	11:Sg:43:TRP:CD1	2.48	0.48
14:SJ:109:ARG:NH2	14:SJ:127:ARG:HH21	2.11	0.48
24:SB:89:GLU:HB3	24:SB:223:PHE:CZ	2.49	0.48
24:SB:171:ILE:O	24:SB:175:GLU:HG2	2.13	0.48
27:SH:78:ARG:HD3	27:SH:81:ARG:HH12	1.79	0.48
29:SK:41:PRO:HB2	29:SK:44:HIS:HB2	1.96	0.48
33:LC:18:SER:O	33:LC:18:SER:OG	2.23	0.48
35:LE:58:SER:O	35:LE:62:MET:HB2	2.14	0.48
54:LY:87:ARG:HH22	73:L5:405:U:H5'	1.79	0.48
70:Lo:51:GLN:O	73:L5:4379:A:N6	2.44	0.48
73:L5:752:G:N2	73:L5:911:U:O2	2.37	0.48
73:L5:2517:A:N3	73:L5:2539:C:O2'	2.46	0.48
73:L5:4288:C:O2'	73:L5:4321:U:OP1	2.32	0.48
76:S2:209:A:C4	76:S2:210:U:H1'	2.49	0.48
4:SQ:56:LEU:HD12	30:SF:48:TYR:CZ	2.49	0.48
14:SJ:123:ILE:HG23	14:SJ:124:HIS:CD2	2.49	0.48
16:SO:82:ALA:O	16:SO:86:LYS:HG3	2.13	0.48
19:SY:18:LEU:HG	25:SE:64:ILE:HD11	1.95	0.48
19:SY:40:ILE:HD13	19:SY:60:PHE:CE2	2.49	0.48
20:Se:49:PHE:O	20:Se:51:LYS:NZ	2.46	0.48
22:SZ:103:HIS:CG	22:SZ:104:ARG:N	2.81	0.48
22:SZ:108:ILE:HD13	30:SF:99:ILE:HG12	1.95	0.48
27:SH:129:ILE:HA	27:SH:132:ASP:HB3	1.96	0.48
29:SK:12:TYR:HE1	29:SK:52:LEU:HD21	1.77	0.48
33:LC:133:LEU:HG	33:LC:134:PRO:HD2	1.96	0.48
33:LC:265:GLY:H	33:LC:271:ALA:HB2	1.79	0.48
51:LV:87:SER:HA	51:LV:97:TYR:HB3	1.94	0.48
67:Ll:42:ARG:NH1	73:L5:2408:U:OP1	2.34	0.48
73:L5:1477:C:H2'	73:L5:1478:C:H6	1.79	0.48
73:L5:1786:A:H2'	73:L5:1789:C:C5	2.49	0.48
73:L5:3753:G:H4'	73:L5:3754:G:OP1	2.14	0.48
73:L5:4606:G:H2'	73:L5:4607:A:C8	2.49	0.48
76:S2:167:G:C8	76:S2:167:G:H3'	2.48	0.48
76:S2:996:A:O2'	76:S2:997:A:OP2	2.26	0.48
76:S2:1302:G:H5''	76:S2:1303:C:C5	2.48	0.48
76:S2:1678:A:H2'	76:S2:1679:A:C8	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SU:23:THR:HG22	8:SU:88:LEU:HD22	1.95	0.48
10:ST:8:ASP:OD1	10:ST:8:ASP:N	2.45	0.48
13:Sd:32:ARG:HH22	76:S2:1660:C:H3'	1.79	0.48
19:SY:111:LYS:NZ	76:S2:56:G:OP1	2.46	0.48
23:SA:191:ARG:CZ	23:SA:192:GLU:H	2.27	0.48
24:SB:82:ARG:HD3	24:SB:103:MET:HE1	1.95	0.48
43:LN:169:ARG:NH1	73:L5:63:G:OP1	2.46	0.48
50:LU:84:LYS:NZ	73:L5:2622:G:OP2	2.45	0.48
54:LY:113:LYS:O	54:LY:117:LYS:HG2	2.14	0.48
59:Ld:82:TYR:HD2	73:L5:5045:G:H5''	1.78	0.48
67:Ll:19:GLN:O	75:L8:52:A:O2'	2.30	0.48
73:L5:209:U:O2'	73:L5:210:C:H5''	2.14	0.48
73:L5:716:C:H2'	73:L5:717:U:C6	2.49	0.48
73:L5:1662:C:H2'	73:L5:1663:C:H6	1.78	0.48
73:L5:3871:A:H2'	73:L5:3872:A:C8	2.48	0.48
76:S2:189:U:C2	76:S2:211:G:C2	3.02	0.48
76:S2:1802:C:H2'	76:S2:1803:U:C6	2.48	0.48
78:CA:592:LEU:HD11	78:CA:601:ARG:HD2	1.95	0.48
4:SQ:125:ARG:HD3	76:S2:1648:G:N7	2.28	0.48
8:SU:55:ARG:O	76:S2:1445:U:O2'	2.31	0.48
11:Sg:244:ASN:O	11:Sg:246:TYR:N	2.43	0.48
11:Sg:308:ARG:HG2	11:Sg:310:TRP:CZ3	2.49	0.48
19:SY:15:ASN:HA	25:SE:54:TYR:CE2	2.49	0.48
25:SE:45:ILE:HD11	25:SE:49:ARG:CZ	2.44	0.48
25:SE:175:PHE:CE2	25:SE:222:LEU:HD11	2.48	0.48
26:SD:174:HIS:C	26:SD:174:HIS:ND1	2.72	0.48
42:LM:79:LYS:O	42:LM:79:LYS:HD2	2.14	0.48
43:LN:45:PRO:O	43:LN:49:ARG:HG3	2.14	0.48
50:LU:80:LYS:NZ	50:LU:109:SER:H	2.12	0.48
56:La:112:LEU:HB3	73:L5:1397:A:OP2	2.14	0.48
62:Lg:69:LYS:HG3	73:L5:2768:C:H2'	1.96	0.48
63:Lh:57:VAL:O	63:Lh:61:ILE:HG13	2.14	0.48
73:L5:201:C:O2'	73:L5:202:C:OP1	2.31	0.48
73:L5:282:C:H2'	73:L5:283:G:O4'	2.14	0.48
73:L5:487:G:N1	73:L5:670:G:C6	2.82	0.48
73:L5:703:G:N3	73:L5:703:G:H2'	2.29	0.48
73:L5:1591:U:H5''	73:L5:4527:G:OP1	2.14	0.48
73:L5:3848:U:H2'	73:L5:3849:A:C8	2.49	0.48
76:S2:31:U:H2'	76:S2:32:U:C6	2.49	0.48
76:S2:153:G:C6	76:S2:166:A:C6	3.02	0.48
76:S2:197:U:C2'	76:S2:202:G:H2'	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:S2:508:A:H3'	76:S2:509:G:C8	2.48	0.48
76:S2:980:A:H2'	76:S2:981:A:H8	1.76	0.48
76:S2:1239:U:O2'	76:S2:1241:A:N7	2.37	0.48
76:S2:1405:A:H1'	76:S2:1580:A:C8	2.49	0.48
76:S2:1577:G:O2'	76:S2:1579:A:N3	2.42	0.48
76:S2:1740:C:H2'	76:S2:1741:U:C6	2.49	0.48
1:SL:96:ILE:HD12	6:SX:10:ALA:HB1	1.95	0.48
4:SQ:34:VAL:HA	4:SQ:70:VAL:HB	1.96	0.48
6:SX:61:GLN:HE21	76:S2:1825:A:N6	2.12	0.48
12:SC:74:LYS:C	12:SC:75:ILE:HD13	2.39	0.48
14:SJ:40:LYS:HE2	20:Se:34:ARG:HH21	1.79	0.48
17:SG:195:LYS:HB3	76:S2:126:G:C8	2.49	0.48
20:Se:8:ARG:HG2	20:Se:8:ARG:NH1	2.29	0.48
22:SZ:51:ASP:O	22:SZ:54:THR:OG1	2.31	0.48
25:SE:104:ASP:OD1	25:SE:104:ASP:N	2.41	0.48
38:LH:12:ILE:HD13	38:LH:18:ILE:HG21	1.95	0.48
40:LJ:129:ASP:OD1	40:LJ:129:ASP:N	2.46	0.48
73:L5:473:C:H2'	73:L5:474:C:C6	2.49	0.48
73:L5:735:G:C2	73:L5:929:A:C8	3.01	0.48
73:L5:1098:G:H2'	73:L5:1099:C:O4'	2.13	0.48
73:L5:1306:C:H2'	73:L5:1307:A:H8	1.79	0.48
73:L5:2079:G:H2'	73:L5:2080:U:H6	1.79	0.48
73:L5:2520:C:H2'	73:L5:2521:G:C8	2.49	0.48
73:L5:3753:G:HO2'	73:L5:3754:G:H21	1.56	0.48
73:L5:3934:G:H2'	73:L5:3935:C:C6	2.48	0.48
73:L5:4507:A:H2'	73:L5:4508:C:C6	2.49	0.48
76:S2:958:G:H2'	76:S2:959:G:C8	2.49	0.48
76:S2:1134:G:H2'	76:S2:1135:C:C6	2.49	0.48
76:S2:1140:G:O2'	76:S2:1151:G:O2'	2.25	0.48
76:S2:1273:C:N3	76:S2:1508:A:N7	2.62	0.48
76:S2:1286:G:N2	76:S2:1313:A:N9	2.62	0.48
1:SL:136:LYS:CA	76:S2:385:G:H5''	2.44	0.47
6:SX:105:PHE:HB2	6:SX:121:LYS:HG3	1.95	0.47
17:SG:137:ARG:HB3	17:SG:140:ARG:HD3	1.96	0.47
25:SE:53:LYS:HE2	25:SE:53:LYS:HB2	1.80	0.47
25:SE:163:ASP:N	25:SE:168:LYS:O	2.47	0.47
26:SD:28:GLU:HG2	26:SD:69:LEU:HD21	1.95	0.47
29:SK:59:LYS:HD2	29:SK:59:LYS:HA	1.63	0.47
40:LJ:85:LYS:NZ	40:LJ:114:ASP:HB3	2.29	0.47
45:LP:125:MET:HE1	73:L5:2418:A:H5''	1.96	0.47
47:LR:124:TYR:OH	73:L5:2666:U:OP2	2.22	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:LT:87:LYS:HE3	73:L5:4305:G:H22	1.78	0.47
56:La:29:PRO:O	73:L5:1680:G:O2'	2.30	0.47
61:Lf:91:ASN:O	73:L5:440:U:O2'	2.31	0.47
66:Lk:11:PHE:HA	66:Lk:14:THR:HG22	1.96	0.47
73:L5:256:G:H2'	73:L5:257:C:O4'	2.13	0.47
73:L5:4279:A:H5'	73:L5:4281:A:H1'	1.96	0.47
73:L5:4594:U:H2'	73:L5:4595:G:C8	2.47	0.47
73:L5:4748:U:O4	73:L5:4951:G:O6	2.32	0.47
75:L8:92:U:H2'	75:L8:93:C:O4'	2.14	0.47
76:S2:143:U:H5''	76:S2:144:U:H5'	1.96	0.47
76:S2:147:A:O2'	76:S2:148:U:H6	1.96	0.47
76:S2:186:C:H2'	76:S2:187:G:C8	2.49	0.47
76:S2:1088:U:H4'	76:S2:1089:G:OP2	2.14	0.47
76:S2:1446:A:O2'	76:S2:1447:G:H5''	2.14	0.47
78:CA:820:LEU:HD23	78:CA:831:PRO:HG3	1.95	0.47
6:SX:71:ARG:HB3	6:SX:71:ARG:HH11	1.79	0.47
16:SO:84:ARG:O	16:SO:88:LEU:HD12	2.14	0.47
17:SG:62:PRO:HG3	17:SG:83:CYS:SG	2.53	0.47
22:SZ:98:LYS:HB2	22:SZ:110:THR:OG1	2.13	0.47
25:SE:179:ASN:O	25:SE:195:ILE:HD12	2.14	0.47
27:SH:38:ALA:O	27:SH:41:ARG:HG3	2.14	0.47
28:SI:46:VAL:HG23	28:SI:56:ARG:HB2	1.96	0.47
28:SI:178:ARG:HB2	28:SI:181:GLN:HB2	1.96	0.47
39:LI:198:LYS:HE2	73:L5:1780:A:H2'	1.96	0.47
41:LL:61:CYS:SG	41:LL:71:ARG:HG2	2.54	0.47
44:LO:62:MET:HG2	44:LO:65:ASN:H	1.78	0.47
47:LR:79:GLY:O	73:L5:3619:G:H4'	2.14	0.47
63:Lh:89:ARG:O	63:Lh:93:ARG:HG2	2.14	0.47
73:L5:1327:C:H2'	73:L5:1328:G:C8	2.48	0.47
73:L5:1329:G:O2'	73:L5:1330:A:OP1	2.25	0.47
73:L5:1354:A:H2'	73:L5:1502:G:N1	2.29	0.47
73:L5:1895:G:H2'	73:L5:1896:A:O4'	2.14	0.47
73:L5:4898:G:H2'	73:L5:4899:G:O4'	2.15	0.47
75:L8:144:U:H2'	75:L8:145:C:C6	2.49	0.47
76:S2:1446:A:O2'	76:S2:1447:G:H8	1.95	0.47
4:SQ:24:HIS:CD2	76:S2:1409:A:H5'	2.49	0.47
8:SU:70:CYS:SG	8:SU:72:GLU:HB2	2.54	0.47
14:SJ:133:ARG:O	14:SJ:133:ARG:HG2	2.15	0.47
19:SY:16:ARG:H	19:SY:16:ARG:HE	1.63	0.47
24:SB:167:LYS:O	24:SB:171:ILE:HG12	2.14	0.47
25:SE:141:THR:OG1	25:SE:144:ALA:HB3	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:SD:162:ASP:N	26:SD:163:PRO:HD2	2.29	0.47
27:SH:39:GLN:HB3	27:SH:75:ILE:HD13	1.97	0.47
31:LA:65:ASP:OD1	31:LA:72:ARG:NE	2.45	0.47
35:LE:186:LEU:HD21	35:LE:253:VAL:HG11	1.96	0.47
46:LQ:20:SER:O	46:LQ:26:ARG:NH1	2.46	0.47
63:Lh:31:LEU:HD13	63:Lh:31:LEU:HA	1.69	0.47
73:L5:125:C:H2'	73:L5:126:C:H6	1.78	0.47
73:L5:427:A:H2'	73:L5:428:G:C8	2.50	0.47
73:L5:1524:A:H61	73:L5:1651:G:H22	1.61	0.47
73:L5:1727:U:H2'	73:L5:1728:U:C6	2.49	0.47
73:L5:1775:A:H2'	73:L5:1776:A:H8	1.79	0.47
73:L5:3765:G:H1'	73:L5:3766:A:H2	1.78	0.47
76:S2:388:U:O4	76:S2:389:A:N6	2.48	0.47
76:S2:1598:G:H4'	76:S2:1600:G:O6	2.13	0.47
76:S2:1688:C:H2'	76:S2:1689:C:H6	1.80	0.47
78:CA:253:VAL:O	78:CA:257:MET:HG2	2.15	0.47
2:SR:18:GLU:HA	2:SR:71:ILE:HD11	1.95	0.47
12:SC:199:PRO:HG2	14:SJ:58:ARG:HE	1.78	0.47
26:SD:127:MET:HE1	26:SD:133:GLY:HA2	1.96	0.47
28:SI:5:ARG:HH22	76:S2:384:U:H3	1.61	0.47
28:SI:56:ARG:NH2	76:S2:380:G:OP1	2.47	0.47
28:SI:177:SER:OG	28:SI:182:CYS:SG	2.72	0.47
30:SF:63:LYS:HB2	30:SF:144:LEU:HD11	1.96	0.47
33:LC:134:PRO:HA	33:LC:150:LEU:HD21	1.95	0.47
33:LC:278:ASN:OD1	33:LC:279:LEU:N	2.47	0.47
35:LE:147:GLY:HA2	35:LE:203:ILE:HG13	1.95	0.47
47:LR:5:ARG:NH2	73:L5:2427:G:OP1	2.46	0.47
48:LS:81:TRP:HZ3	48:LS:130:GLU:HG3	1.79	0.47
54:LY:73:VAL:HG22	54:LY:80:ILE:HG22	1.96	0.47
55:LZ:88:ASP:OD1	55:LZ:88:ASP:N	2.48	0.47
63:Lh:73:TYR:O	63:Lh:79:LYS:NZ	2.41	0.47
73:L5:426:A:H2'	73:L5:427:A:C8	2.49	0.47
73:L5:1306:C:H2'	73:L5:1307:A:C8	2.49	0.47
73:L5:1398:A:H4'	73:L5:1399:G:H5'	1.96	0.47
75:L8:51:U:O2'	75:L8:52:A:H8	1.97	0.47
76:S2:1201:U:H2'	76:S2:1202:U:C6	2.49	0.47
77:S6:49:G:H2'	77:S6:50:A:H8	1.78	0.47
78:CA:214:PHE:HB2	78:CA:223:PHE:CZ	2.49	0.47
78:CA:258:LYS:O	78:CA:264:ARG:NH1	2.48	0.47
4:SQ:138:ARG:HB3	76:S2:1645:C:H4'	1.96	0.47
7:Sa:85:ARG:NH1	76:S2:1210:G:O5'	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:ST:129:ARG:O	10:ST:133:ARG:HB2	2.15	0.47
14:SJ:109:ARG:HH22	14:SJ:127:ARG:NH2	2.13	0.47
14:SJ:111:GLN:HA	14:SJ:130:ILE:HD12	1.95	0.47
15:SN:91:LEU:HB3	15:SN:122:ILE:HG12	1.96	0.47
23:SA:48:ILE:HG22	23:SA:50:ASN:H	1.79	0.47
25:SE:206:ASP:OD1	25:SE:206:ASP:N	2.33	0.47
27:SH:172:THR:O	27:SH:176:VAL:HG22	2.14	0.47
30:SF:152:TRP:CH2	76:S2:1221:G:H4'	2.49	0.47
33:LC:33:ARG:NH1	33:LC:35:ASP:OD2	2.48	0.47
38:LH:31:ARG:NE	38:LH:149:ASN:OD1	2.46	0.47
43:LN:193:ARG:NH1	73:L5:27:C:OP1	2.47	0.47
54:LY:11:ARG:HG3	73:L5:229:G:H5''	1.96	0.47
60:Le:35:TRP:CH2	60:Le:55:MET:HG2	2.49	0.47
62:Lg:6:THR:HG22	73:L5:2400:G:N2	2.28	0.47
65:Lj:72:ARG:NH1	75:L8:93:C:H3'	2.29	0.47
73:L5:491:G:N3	73:L5:491:G:H2'	2.30	0.47
73:L5:1202:C:H2'	73:L5:1203:G:O4'	2.14	0.47
73:L5:1846:G:H2'	73:L5:1847:C:C6	2.50	0.47
76:S2:95:G:H1	76:S2:435:A:N6	2.10	0.47
4:SQ:42:ILE:H	4:SQ:42:ILE:HG12	1.51	0.47
17:SG:14:LYS:HD2	17:SG:16:ILE:CD1	2.45	0.47
17:SG:142:ARG:NH2	17:SG:153:VAL:H	2.11	0.47
17:SG:153:VAL:HG23	17:SG:153:VAL:O	2.14	0.47
18:SW:65:LEU:O	18:SW:66:THR:OG1	2.26	0.47
19:SY:66:GLY:HA3	76:S2:581:U:H4'	1.95	0.47
19:SY:105:LYS:O	19:SY:109:GLU:HG3	2.14	0.47
20:Se:31:ARG:NH2	76:S2:524:U:OP1	2.47	0.47
22:SZ:104:ARG:HH12	76:S2:1538:C:H42	1.62	0.47
23:SA:122:LEU:HD13	23:SA:142:LEU:HD21	1.96	0.47
25:SE:126:VAL:HG22	25:SE:139:LEU:HD11	1.97	0.47
35:LE:117:PRO:O	72:Lr:112:ARG:NH1	2.46	0.47
36:LF:73:ARG:NH1	73:L5:729:G:N3	2.63	0.47
37:LG:179:VAL:O	37:LG:227:ASN:ND2	2.48	0.47
40:LJ:109:ILE:HD11	40:LJ:128:LEU:HD23	1.95	0.47
41:LL:79:GLU:O	41:LL:83:VAL:HG22	2.13	0.47
43:LN:47:LYS:HE3	73:L5:280:G:OP1	2.15	0.47
48:LS:69:GLU:HG2	48:LS:101:THR:HG22	1.96	0.47
54:LY:59:ARG:NH1	73:L5:200:U:O2'	2.48	0.47
55:LZ:100:VAL:HG21	55:LZ:110:ALA:HB2	1.95	0.47
60:Le:106:LYS:HG2	60:Le:107:ASN:OD1	2.15	0.47
63:Lh:7:ARG:HD3	75:L8:86:U:C6	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:L1:21:ARG:NH2	75:L8:51:U:H4'	2.30	0.47
74:L7:23:A:H2'	74:L7:24:C:C6	2.49	0.47
74:L7:111:C:H2'	74:L7:112:U:O4'	2.14	0.47
76:S2:960:U:H1'	76:S2:963:A:N7	2.30	0.47
76:S2:1315:U:H3'	76:S2:1316:C:O4'	2.15	0.47
8:SU:83:ARG:HH12	76:S2:1392:U:P	2.38	0.47
9:Sc:29:GLN:HG3	9:Sc:45:ASN:HB3	1.96	0.47
11:Sg:63:SER:O	11:Sg:86:THR:HG21	2.14	0.47
11:Sg:259:TRP:NE1	11:Sg:265:ILE:HG13	2.29	0.47
14:SJ:3:VAL:HG13	14:SJ:5:ARG:HE	1.79	0.47
16:SO:98:ARG:NH1	16:SO:99:ALA:O	2.48	0.47
17:SG:202:ASN:HA	17:SG:206:ALA:HB2	1.96	0.47
17:SG:222:GLU:HA	17:SG:225:GLN:HB3	1.97	0.47
21:Sb:20:LYS:HA	21:Sb:23:ARG:HH11	1.79	0.47
25:SE:132:GLY:N	25:SE:136:ILE:O	2.40	0.47
27:SH:46:THR:N	27:SH:63:PHE:O	2.47	0.47
30:SF:23:TRP:HH2	30:SF:98:GLU:HA	1.79	0.47
30:SF:50:PRO:HG3	30:SF:69:VAL:HG22	1.96	0.47
30:SF:77:MET:HE3	30:SF:86:LYS:N	2.29	0.47
32:LB:54:THR:OG1	32:LB:55:HIS:N	2.47	0.47
33:LC:197:ARG:NH2	73:L5:351:C:OP2	2.37	0.47
37:LG:37:LYS:HE2	73:L5:4127:A:C4	2.48	0.47
38:LH:144:LEU:O	38:LH:145:ILE:HD13	2.15	0.47
39:LI:30:LYS:O	39:LI:30:LYS:HD3	2.14	0.47
43:LN:114:ARG:NH1	43:LN:156:HIS:O	2.48	0.47
43:LN:176:LYS:HA	43:LN:176:LYS:HD3	1.66	0.47
53:LX:109:ILE:O	53:LX:113:VAL:HG23	2.14	0.47
54:LY:50:ARG:HH12	75:L8:83:C:H42	1.62	0.47
60:Le:105:SER:HA	60:Le:108:ARG:HB3	1.95	0.47
73:L5:387:G:O4'	73:L5:411:G:N2	2.47	0.47
73:L5:505:G:N2	73:L5:654:C:C2	2.83	0.47
73:L5:1233:G:C6	73:L5:1234:G:C4	3.03	0.47
73:L5:2634:C:H2'	73:L5:2635:U:C6	2.49	0.47
73:L5:3971:G:N2	73:L5:4039:G:H21	2.12	0.47
73:L5:4174:U:H2'	73:L5:4175:G:C8	2.48	0.47
73:L5:4413:C:H5	73:L5:4429:C:N4	2.08	0.47
73:L5:4744:A:H61	73:L5:4955:A:H61	1.63	0.47
76:S2:85:A:H2'	76:S2:86:C:H6	1.80	0.47
76:S2:164:A:H3'	76:S2:165:G:N2	2.30	0.47
76:S2:564:A:H2'	76:S2:565:G:O4'	2.15	0.47
76:S2:1112:U:H2'	76:S2:1113:A:H8	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:S2:1532:C:OP1	76:S2:1604:G:O2'	2.31	0.47
76:S2:1615:U:H2'	76:S2:1616:U:C6	2.49	0.47
76:S2:1785:C:O5'	76:S2:1785:C:H6	1.97	0.47
12:SC:91:SER:HB2	12:SC:156:ILE:HG23	1.96	0.47
13:Sd:49:ASP:HB3	26:SD:18:LYS:NZ	2.29	0.47
14:SJ:136:ARG:HA	14:SJ:141:VAL:HA	1.96	0.47
17:SG:56:ASN:HD22	76:S2:156:G:H1'	1.79	0.47
17:SG:87:ARG:NH1	76:S2:161:U:O2'	2.48	0.47
17:SG:141:ILE:HG21	17:SG:157:VAL:HG23	1.97	0.47
19:SY:124:ASN:O	19:SY:128:GLY:N	2.47	0.47
20:Se:58:ASN:OD1	20:Se:58:ASN:N	2.48	0.47
23:SA:183:LEU:HD12	23:SA:186:ARG:HD2	1.97	0.47
24:SB:83:LYS:HE3	24:SB:104:ASP:HB3	1.97	0.47
25:SE:15:PRO:HB2	25:SE:17:HIS:CD2	2.50	0.47
26:SD:49:ILE:HG22	26:SD:51:LEU:HD12	1.97	0.47
29:SK:27:VAL:HG13	29:SK:43:LEU:HD22	1.96	0.47
30:SF:187:SER:O	30:SF:191:LYS:HG3	2.14	0.47
33:LC:62:THR:HG23	73:L5:375:G:OP1	2.15	0.47
33:LC:100:ARG:HG2	33:LC:101:MET:O	2.15	0.47
34:LD:253:TYR:OH	74:L7:117:G:OP1	2.25	0.47
39:LI:140:THR:OG1	39:LI:141:LYS:N	2.48	0.47
42:LM:105:THR:O	42:LM:109:ARG:HG3	2.15	0.47
46:LQ:27:LEU:HD23	46:LQ:30:LYS:HD3	1.97	0.47
56:La:110:LYS:HD3	56:La:112:LEU:HD21	1.97	0.47
63:Lh:107:GLN:NE2	63:Lh:111:GLU:OE2	2.48	0.47
68:Lm:119:ASN:ND2	73:L5:1946:G:H5''	2.30	0.47
72:Lr:6:GLN:HB3	72:Lr:44:ILE:HG22	1.97	0.47
73:L5:172:C:H1'	73:L5:173:C:C5	2.49	0.47
73:L5:1234:G:H2'	73:L5:1235:G:O4'	2.14	0.47
73:L5:1933:G:H2'	73:L5:1934:A:C8	2.49	0.47
73:L5:3910:C:H2'	73:L5:3911:C:H6	1.80	0.47
75:L8:67:U:H2'	75:L8:68:G:H8	1.80	0.47
76:S2:306:C:H5''	76:S2:307:G:C4	2.50	0.47
76:S2:1708:C:H2'	76:S2:1709:G:H8	1.80	0.47
78:CA:745:TYR:CZ	78:CA:747:VAL:HG22	2.49	0.47
18:SW:51:GLU:CD	27:SH:143:ARG:HB3	2.40	0.47
19:SY:8:ARG:NH2	76:S2:835:C:H5''	2.29	0.47
33:LC:60:HIS:HA	33:LC:92:PHE:CE1	2.50	0.47
35:LE:188:ARG:NH2	73:L5:4941:G:OP2	2.44	0.47
37:LG:59:ARG:HD2	73:L5:2471:G:H5'	1.95	0.47
37:LG:164:ILE:O	37:LG:165:GLU:C	2.57	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:LI:162:ARG:HH21	39:LI:164:LYS:HZ3	1.62	0.47
41:LL:49:ARG:NH1	63:Lh:118:LYS:HA	2.29	0.47
42:LM:74:ARG:NH1	73:L5:735:G:OP1	2.47	0.47
42:LM:116:LYS:HG2	44:LO:196:LEU:HD21	1.95	0.47
46:LQ:11:ARG:HG3	73:L5:2081:C:H5''	1.96	0.47
52:LW:45:ASN:HB3	52:LW:48:GLN:HG3	1.97	0.47
66:Lk:23:VAL:HG21	66:Lk:60:LEU:HD13	1.97	0.47
73:L5:978:G:H4'	73:L5:979:C:OP2	2.15	0.47
73:L5:2448:G:H2'	73:L5:2449:A:C8	2.49	0.47
73:L5:3938:G:H4'	73:L5:3939:G:O5'	2.15	0.47
73:L5:4040:C:H2'	73:L5:4042:G:N7	2.30	0.47
73:L5:4652:G:H2'	73:L5:4653:C:H6	1.80	0.47
73:L5:4745:G:H22	73:L5:4954:G:H22	1.62	0.47
75:L8:152:U:H2'	75:L8:153:C:O4'	2.15	0.47
76:S2:26:U:H2'	76:S2:27:A:C8	2.50	0.47
76:S2:34:U:H5''	76:S2:565:G:OP1	2.13	0.47
76:S2:99:A:H2'	76:S2:100:U:O4'	2.15	0.47
76:S2:919:A:O2'	76:S2:1020:A:N1	2.37	0.47
76:S2:1171:G:O2'	76:S2:1187:G:O6	2.24	0.47
76:S2:1667:U:H2'	76:S2:1668:U:C6	2.50	0.47
1:SL:13:GLN:HE22	1:SL:35:ARG:HE	1.63	0.47
1:SL:96:ILE:HD12	6:SX:10:ALA:CB	2.45	0.47
4:SQ:8:GLN:HG2	4:SQ:27:ARG:HH12	1.80	0.47
4:SQ:69:ARG:NH1	76:S2:1429:G:OP1	2.46	0.47
11:Sg:92:LEU:HD13	11:Sg:92:LEU:O	2.15	0.47
15:SN:38:TYR:CZ	15:SN:78:LYS:HG3	2.50	0.47
17:SG:159:ARG:HD2	17:SG:171:THR:HB	1.97	0.47
17:SG:195:LYS:HD3	76:S2:126:G:O4'	2.15	0.47
19:SY:56:PHE:N	19:SY:74:MET:O	2.46	0.47
22:SZ:78:LYS:HE2	22:SZ:78:LYS:HA	1.97	0.47
25:SE:21:ASP:HB2	76:S2:829:C:OP1	2.15	0.47
30:SF:19:LEU:HD12	30:SF:24:SER:H	1.80	0.47
33:LC:29:LYS:HB2	33:LC:267:TRP:HH2	1.79	0.47
33:LC:62:THR:HG22	33:LC:64:ALA:H	1.79	0.47
34:LD:36:LEU:HD13	73:L5:4325:A:H1'	1.96	0.47
38:LH:98:HIS:CD2	73:L5:4602:A:H5''	2.50	0.47
40:LJ:68:ILE:HD11	73:L5:4258:C:H5'	1.97	0.47
40:LJ:92:TYR:HB3	40:LJ:172:GLY:HA2	1.96	0.47
40:LJ:112:HIS:N	40:LJ:126:TYR:O	2.48	0.47
41:LL:15:HIS:CE1	73:L5:95:G:H5'	2.50	0.47
44:LO:7:LEU:HD13	44:LO:31:ARG:NH2	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:LR:163:ARG:HD2	76:S2:871:U:C6	2.50	0.47
56:La:103:VAL:HG22	56:La:125:LYS:O	2.15	0.47
57:Lb:52:LYS:HB3	57:Lb:52:LYS:HE3	1.65	0.47
60:Le:102:ASN:O	73:L5:2302:C:O2'	2.32	0.47
65:Lj:18:LEU:O	67:Ll:8:ARG:NH2	2.47	0.47
73:L5:311:G:H2'	73:L5:312:G:C8	2.49	0.47
73:L5:500:G:H1'	73:L5:656:C:C2	2.50	0.47
73:L5:697:G:C2	73:L5:698:G:C8	3.03	0.47
73:L5:4071:U:H2'	73:L5:4072:C:C6	2.50	0.47
73:L5:4530:U:H3'	73:L5:4531:U:H2'	1.97	0.47
76:S2:1221:G:H2'	76:S2:1222:G:C8	2.49	0.47
76:S2:1337:C:H2'	76:S2:1338:G:H8	1.80	0.47
76:S2:1687:C:H2'	76:S2:1688:C:H6	1.80	0.47
4:SQ:130:LYS:HD3	76:S2:1669:G:C8	2.50	0.46
11:Sg:57:ARG:NH2	11:Sg:92:LEU:O	2.48	0.46
15:SN:109:LYS:HD2	76:S2:1032:C:H5'	1.97	0.46
26:SD:74:GLN:HG3	26:SD:79:PHE:HB2	1.98	0.46
33:LC:49:ARG:HD3	33:LC:111:TRP:HB3	1.97	0.46
33:LC:268:ARG:C	33:LC:268:ARG:HD3	2.40	0.46
33:LC:301:ALA:O	33:LC:302:LEU:HD23	2.15	0.46
34:LD:22:ARG:NH1	34:LD:28:THR:HG1	2.13	0.46
37:LG:243:GLY:HA2	73:L5:4162:C:C5	2.50	0.46
40:LJ:107:PHE:O	40:LJ:130:PHE:N	2.41	0.46
46:LQ:34:PHE:CE1	46:LQ:38:ARG:HG3	2.51	0.46
48:LS:81:TRP:CZ3	48:LS:130:GLU:HG3	2.50	0.46
56:La:85:GLN:HE22	73:L5:508:G:H1'	1.80	0.46
73:L5:7:C:H2'	73:L5:8:U:C6	2.49	0.46
73:L5:1076:C:OP1	73:L5:1078:A:N6	2.48	0.46
73:L5:1280:C:O2'	73:L5:1282:G:OP2	2.34	0.46
73:L5:2695:A:H1'	73:L5:2697:A:N7	2.30	0.46
73:L5:3656:A:O2'	73:L5:3747:A:O2'	2.28	0.46
76:S2:1856:C:H2'	76:S2:1857:G:C8	2.51	0.46
78:CA:648:LYS:HE3	78:CA:664:ASP:O	2.15	0.46
2:SR:41:ILE:HD11	2:SR:46:LEU:HG	1.96	0.46
4:SQ:44:PRO:HG2	4:SQ:47:LEU:HB2	1.97	0.46
11:Sg:88:ARG:HG2	11:Sg:97:THR:HG21	1.97	0.46
17:SG:224:ARG:H	17:SG:224:ARG:HD2	1.79	0.46
19:SY:17:LEU:O	25:SE:67:GLN:NE2	2.48	0.46
21:Sb:14:GLU:HA	21:Sb:17:ARG:HG2	1.97	0.46
21:Sb:50:ALA:C	21:Sb:52:THR:H	2.23	0.46
21:Sb:73:LEU:HB3	21:Sb:77:CYS:HB2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:SK:3:MET:O	29:SK:3:MET:HG2	2.14	0.46
33:LC:53:ALA:HB3	33:LC:107:THR:HG23	1.97	0.46
39:LI:38:ARG:HD3	39:LI:83:ASP:HB2	1.97	0.46
40:LJ:101:ASP:C	40:LJ:101:ASP:OD1	2.59	0.46
49:LT:87:LYS:HZ1	73:L5:4305:G:H22	1.62	0.46
53:LX:60:TYR:OH	73:L5:17:A:OP2	2.31	0.46
65:Lj:66:HIS:O	65:Lj:70:VAL:HG23	2.16	0.46
72:Lr:53:PRO:HB3	72:Lr:117:ILE:HG23	1.98	0.46
73:L5:1319:U:O2'	73:L5:1321:G:N7	2.47	0.46
73:L5:1942:A:H2'	73:L5:1943:A:C8	2.50	0.46
73:L5:2654:C:H2'	73:L5:2655:C:H6	1.79	0.46
73:L5:3938:G:N2	73:L5:4171:C:OP2	2.43	0.46
76:S2:323:C:O2'	76:S2:328:U:O2	2.33	0.46
76:S2:493:A:O2'	76:S2:574:A:H5'	2.15	0.46
76:S2:807:G:N3	76:S2:808:A:C8	2.83	0.46
76:S2:1508:A:C5	76:S2:1510:G:C5	3.03	0.46
76:S2:1778:C:H5''	76:S2:1779:G:OP2	2.14	0.46
78:CA:229:ALA:O	78:CA:233:VAL:HG13	2.15	0.46
2:SR:60:ARG:HH22	76:S2:1465:A:P	2.38	0.46
4:SQ:24:HIS:NE2	76:S2:1409:A:H4'	2.29	0.46
4:SQ:93:VAL:HA	4:SQ:105:LYS:NZ	2.30	0.46
9:Sc:47:LYS:HG2	30:SF:126:THR:HG21	1.97	0.46
11:Sg:51:ASN:ND2	11:Sg:54:ILE:HG23	2.30	0.46
17:SG:85:ARG:NH2	76:S2:86:C:OP1	2.47	0.46
18:SW:130:PHE:CD1	18:SW:130:PHE:N	2.83	0.46
25:SE:133:THR:HA	76:S2:297:A:H5'	1.98	0.46
33:LC:353:LYS:HZ3	33:LC:357:ALA:HB2	1.80	0.46
37:LG:171:PRO:HB3	37:LG:181:TYR:CZ	2.51	0.46
40:LJ:63:ARG:NH2	40:LJ:66:GLU:OE2	2.49	0.46
44:LO:168:TYR:OH	73:L5:4767:C:OP1	2.26	0.46
46:LQ:99:LYS:HG3	46:LQ:119:LYS:HB3	1.96	0.46
46:LQ:110:ARG:HG3	46:LQ:120:ILE:HD12	1.97	0.46
71:Lp:4:ARG:NE	73:L5:1554:A:OP2	2.38	0.46
73:L5:2552:G:OP2	73:L5:2553:A:O2'	2.19	0.46
73:L5:4651:A:H2'	73:L5:4652:G:O4'	2.15	0.46
76:S2:833:C:O2'	76:S2:834:C:OP1	2.27	0.46
76:S2:1265:A:N3	76:S2:1265:A:H2'	2.30	0.46
76:S2:1547:C:N4	76:S2:1586:U:O4	2.41	0.46
77:S6:37:A:H5''	77:S6:38:A:H2	1.80	0.46
78:CA:309:LYS:HA	78:CA:312:THR:HG22	1.96	0.46
1:SL:77:VAL:HG12	1:SL:88:ILE:HG22	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:Sg:272:GLN:H	11:Sg:272:GLN:CD	2.18	0.46
14:SJ:131:ARG:HD2	14:SJ:131:ARG:HA	1.78	0.46
14:SJ:132:GLN:HE22	76:S2:561:A:C2'	2.27	0.46
22:SZ:46:ASN:ND2	22:SZ:80:ARG:HB2	2.31	0.46
26:SD:123:LEU:HG	26:SD:134:CYS:SG	2.55	0.46
32:LB:56:ILE:HD13	32:LB:365:LEU:HD22	1.97	0.46
41:LL:92:ARG:NH2	41:LL:98:VAL:HB	2.31	0.46
45:LP:54:GLN:HA	45:LP:83:TRP:CD1	2.50	0.46
53:LX:117:TYR:CE1	53:LX:153:ILE:HG12	2.51	0.46
54:LY:13:LYS:O	54:LY:17:ARG:HG3	2.15	0.46
64:Li:68:ARG:HG2	64:Li:68:ARG:HH11	1.81	0.46
64:Li:98:ARG:HD2	64:Li:99:LYS:HD2	1.96	0.46
73:L5:717:U:H3	73:L5:951:G:H1	1.63	0.46
73:L5:1094:G:C4	73:L5:1095:A:C8	3.03	0.46
73:L5:1185:G:O2'	73:L5:1186:U:OP1	2.33	0.46
73:L5:2519:U:H1'	73:L5:2520:C:C6	2.51	0.46
73:L5:4685:U:H2'	73:L5:4686:G:H8	1.80	0.46
76:S2:1703:C:H2'	76:S2:1704:C:O4'	2.16	0.46
12:SC:182:CYS:HA	18:SW:96:SER:HB2	1.97	0.46
13:Sd:29:GLY:HA2	76:S2:1256:G:H5''	1.98	0.46
26:SD:20:GLU:O	26:SD:24:PHE:HB3	2.16	0.46
29:SK:27:VAL:HG22	29:SK:43:LEU:HD13	1.97	0.46
35:LE:113:PRO:HA	73:L5:459:C:OP1	2.16	0.46
43:LN:148:THR:O	43:LN:151:ILE:HG22	2.15	0.46
49:LT:5:LYS:HD2	73:L5:4302:U:H4'	1.97	0.46
49:LT:107:LYS:O	49:LT:111:GLU:HG2	2.16	0.46
68:Lm:125:LYS:HG3	73:L5:4474:A:H5''	1.98	0.46
73:L5:459:C:H2'	73:L5:460:C:H6	1.80	0.46
73:L5:658:C:H2'	73:L5:659:G:C8	2.50	0.46
73:L5:2043:A:O2'	73:L5:4461:C:O2	2.33	0.46
73:L5:2654:C:H2'	73:L5:2655:C:C6	2.50	0.46
73:L5:3702:A:C4	73:L5:3774:A:C8	3.03	0.46
73:L5:3725:G:N2	73:L5:3728:A:OP2	2.36	0.46
73:L5:4303:C:H2'	73:L5:4305:G:C8	2.51	0.46
76:S2:29:G:H2'	76:S2:30:C:C6	2.51	0.46
76:S2:185:G:H2'	76:S2:186:C:C6	2.50	0.46
76:S2:1552:G:P	76:S2:1553:C:H5'	2.56	0.46
76:S2:1825:A:H4'	76:S2:1826:G:O5'	2.16	0.46
1:SL:42:LEU:HD23	1:SL:72:ILE:HD11	1.98	0.46
4:SQ:72:VAL:HG22	4:SQ:84:ILE:HD11	1.97	0.46
6:SX:129:SER:HB2	76:S2:29:G:H4'	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:Sa:46:GLU:O	7:Sa:50:VAL:N	2.47	0.46
9:Sc:44:ARG:HD3	9:Sc:65:ALA:HB2	1.98	0.46
10:ST:104:LEU:HB3	10:ST:121:ARG:NH1	2.30	0.46
12:SC:279:ARG:HA	12:SC:279:ARG:HD2	1.75	0.46
13:Sd:17:GLY:N	76:S2:1262:C:O2	2.47	0.46
17:SG:28:TYR:CE1	17:SG:104:ALA:HA	2.50	0.46
17:SG:178:ARG:NH2	76:S2:145:G:N7	2.64	0.46
19:SY:92:ALA:HB2	19:SY:98:GLU:HG3	1.98	0.46
20:Se:15:GLN:NE2	76:S2:612:U:O4'	2.48	0.46
20:Se:21:LYS:HD3	20:Se:21:LYS:N	2.31	0.46
33:LC:321:ASN:ND2	33:LC:324:ILE:HG12	2.31	0.46
34:LD:282:GLN:HB3	73:L5:1177:U:H1'	1.97	0.46
35:LE:48:PRO:HG2	35:LE:56:ARG:HB3	1.97	0.46
35:LE:197:THR:HG22	35:LE:198:SER:H	1.81	0.46
36:LF:182:TYR:CZ	36:LF:203:GLU:HG2	2.51	0.46
45:LP:83:TRP:O	73:L5:3856:A:H5''	2.16	0.46
54:LY:117:LYS:HE2	54:LY:117:LYS:N	2.30	0.46
55:LZ:60:LYS:HD3	55:LZ:60:LYS:N	2.28	0.46
65:Lj:56:ARG:O	65:Lj:61:THR:HG21	2.16	0.46
72:Lr:11:ARG:HD2	73:L5:2268:A:OP2	2.16	0.46
73:L5:493:G:H22	73:L5:660:A:H61	1.64	0.46
73:L5:751:G:H22	73:L5:912:G:H22	1.63	0.46
73:L5:1200:G:N1	73:L5:1201:U:C2	2.83	0.46
73:L5:1461:C:H2'	73:L5:1462:A:C8	2.51	0.46
73:L5:1956:A:H2'	73:L5:1957:U:C6	2.50	0.46
73:L5:2727:C:H2'	73:L5:2728:U:C6	2.50	0.46
73:L5:4459:U:H2'	73:L5:4460:U:H6	1.78	0.46
73:L5:4547:C:H4'	73:L5:4548:A:C6	2.50	0.46
73:L5:4670:C:O2'	73:L5:4672:A:OP2	2.23	0.46
73:L5:5001:U:H2'	73:L5:5002:U:O4'	2.15	0.46
76:S2:183:G:H4'	76:S2:184:G:N7	2.31	0.46
76:S2:1377:U:O2	76:S2:1379:A:H5'	2.16	0.46
76:S2:1452:A:H61	76:S2:1473:G:H1'	1.81	0.46
4:SQ:117:ARG:HD2	30:SF:47:LYS:HE3	1.97	0.46
6:SX:69:CYS:HB2	6:SX:83:ALA:O	2.15	0.46
7:Sa:65:PRO:HG2	16:SO:129:ILE:O	2.16	0.46
9:Sc:29:GLN:OE1	9:Sc:67:ARG:HB3	2.15	0.46
9:Sc:57:THR:HG23	9:Sc:57:THR:O	2.16	0.46
12:SC:180:VAL:HG23	12:SC:197:PRO:HG3	1.98	0.46
17:SG:224:ARG:O	17:SG:228:ILE:HG12	2.14	0.46
18:SW:86:LEU:O	18:SW:90:GLN:HG2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:SW:106:THR:HG23	18:SW:123:GLY:N	2.31	0.46
19:SY:12:PHE:HB2	76:S2:837:A:C6	2.51	0.46
19:SY:48:TYR:O	19:SY:49:LYS:HB3	2.16	0.46
24:SB:36:PRO:HB2	24:SB:38:MET:HG2	1.97	0.46
24:SB:86:LEU:HB3	24:SB:98:THR:HB	1.97	0.46
25:SE:142:HIS:CG	25:SE:142:HIS:O	2.68	0.46
27:SH:110:THR:HG21	76:S2:867:G:H21	1.80	0.46
32:LB:52:GLY:HA2	32:LB:341:LYS:HE3	1.98	0.46
32:LB:113:GLU:OE2	32:LB:167:GLN:HA	2.15	0.46
62:Lg:86:CYS:O	62:Lg:90:ARG:HG3	2.15	0.46
63:Lh:48:ARG:HG2	63:Lh:48:ARG:HH11	1.81	0.46
63:Lh:76:LYS:H	63:Lh:79:LYS:HZ1	1.64	0.46
64:Li:85:ARG:HD3	73:L5:307:A:H4'	1.97	0.46
73:L5:271:C:H2'	73:L5:272:U:C6	2.51	0.46
73:L5:2758:G:H2'	73:L5:2759:G:N7	2.31	0.46
73:L5:2764:A:H2'	73:L5:2765:A:H8	1.81	0.46
73:L5:2860:C:H4'	73:L5:3837:C:H4'	1.97	0.46
73:L5:4411:G:H2'	73:L5:4412:C:H6	1.80	0.46
73:L5:4591:U:H2'	73:L5:4592:C:C6	2.51	0.46
73:L5:4970:C:C2	73:L5:4971:A:C8	3.03	0.46
76:S2:80:G:H2'	76:S2:81:U:C6	2.50	0.46
76:S2:205:G:O5'	76:S2:205:G:H8	1.98	0.46
76:S2:388:U:H2'	76:S2:389:A:C8	2.50	0.46
76:S2:444:G:N1	76:S2:447:A:OP2	2.41	0.46
77:S6:46:G:HO2'	77:S6:47:U:P	2.37	0.46
78:CA:172:GLU:O	78:CA:176:GLN:HG2	2.16	0.46
10:ST:23:LYS:HB3	10:ST:24:LYS:NZ	2.30	0.46
12:SC:208:PRO:O	12:SC:212:LYS:HG2	2.15	0.46
15:SN:89:TYR:CE1	15:SN:150:VAL:HG23	2.51	0.46
19:SY:8:ARG:HH22	76:S2:835:C:H5''	1.80	0.46
26:SD:167:TYR:CD2	26:SD:189:MET:HE3	2.50	0.46
38:LH:168:LYS:HB3	38:LH:168:LYS:HE2	1.70	0.46
39:LI:8:CYS:SG	73:L5:4405:G:H5'	2.56	0.46
60:Le:5:ARG:HG3	60:Le:6:PRO:HD2	1.96	0.46
65:Lj:76:HIS:CD2	75:L8:93:C:H5''	2.51	0.46
67:Ll:45:ARG:HH22	73:L5:2789:A:H1'	1.81	0.46
73:L5:8:U:H2'	73:L5:9:C:O4'	2.16	0.46
73:L5:268:G:H2'	73:L5:269:G:C8	2.51	0.46
73:L5:1303:A:N6	73:L5:1304:C:H41	2.12	0.46
73:L5:2389:A:O2'	73:L5:2390:G:OP1	2.32	0.46
73:L5:3880:G:H2'	73:L5:3881:G:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:3947:A:H2'	73:L5:3948:C:C6	2.51	0.46
76:S2:313:A:C4'	76:S2:314:U:H5'	2.45	0.46
76:S2:845:G:H3'	76:S2:846:G:C8	2.50	0.46
76:S2:1546:G:H2'	76:S2:1547:C:H6	1.81	0.46
76:S2:1653:U:H2'	76:S2:1654:G:C8	2.51	0.46
76:S2:1718:G:C6	76:S2:1814:G:C6	3.03	0.46
78:CA:221:TRP:CD1	78:CA:340:MET:HB3	2.51	0.46
78:CA:779:THR:HB	78:CA:780:PRO:HD3	1.98	0.46
5:SV:15:ARG:NH1	5:SV:33:GLN:HB2	2.31	0.46
6:SX:94:ILE:HG13	6:SX:125:VAL:CG2	2.46	0.46
9:Sc:31:ARG:HA	9:Sc:43:ILE:HA	1.98	0.46
17:SG:50:VAL:HG22	17:SG:111:LEU:HB3	1.97	0.46
20:Se:49:PHE:HB2	20:Se:51:LYS:NZ	2.31	0.46
30:SF:78:MET:HE1	30:SF:159:ARG:HB3	1.98	0.46
31:LA:14:SER:OG	31:LA:15:VAL:N	2.49	0.46
33:LC:321:ASN:ND2	73:L5:1281:G:O3'	2.49	0.46
35:LE:112:MET:O	72:Lr:87:ARG:NE	2.49	0.46
43:LN:128:LYS:HB3	43:LN:130:PHE:CE1	2.50	0.46
54:LY:80:ILE:HG12	54:LY:99:ILE:O	2.16	0.46
65:Lj:47:TYR:OH	73:L5:1530:G:H5'	2.15	0.46
73:L5:180:C:H2'	73:L5:181:C:C6	2.51	0.46
73:L5:318:A:H2'	73:L5:319:A:H8	1.80	0.46
73:L5:1577:G:H5'	73:L5:1578:U:H5''	1.98	0.46
73:L5:2803:U:H2'	73:L5:2804:C:H6	1.81	0.46
73:L5:2861:C:H2'	73:L5:2862:G:O4'	2.16	0.46
74:L7:4:U:H2'	74:L7:5:A:C8	2.50	0.46
76:S2:183:G:H4'	76:S2:184:G:C8	2.51	0.46
76:S2:187:G:C6	76:S2:213:G:C6	3.04	0.46
76:S2:1425:G:C5	76:S2:1426:U:H1'	2.51	0.46
76:S2:1693:G:H21	76:S2:1834:A:H8	1.61	0.46
78:CA:225:LEU:H	78:CA:225:LEU:HD12	1.80	0.46
78:CA:697:MET:HE1	78:CA:702:PHE:HZ	1.80	0.46
2:SR:28:PHE:O	2:SR:32:LYS:HB3	2.16	0.46
2:SR:72:LYS:HA	2:SR:75:GLU:HG2	1.97	0.46
4:SQ:57:LEU:HD23	30:SF:48:TYR:OH	2.16	0.46
4:SQ:71:ARG:HH22	76:S2:1443:C:H1'	1.80	0.46
4:SQ:110:ASP:O	4:SQ:114:GLN:HG2	2.16	0.46
6:SX:68:LYS:H	6:SX:68:LYS:HE2	1.81	0.46
11:Sg:21:ILE:HG22	11:Sg:23:THR:HG23	1.97	0.46
17:SG:57:ASP:HA	17:SG:107:SER:N	2.31	0.46
18:SW:24:GLN:HE22	21:Sb:8:LEU:HD12	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:SZ:77:LEU:HB3	22:SZ:79:ILE:CG2	2.41	0.46
30:SF:123:GLU:OE1	30:SF:200:ALA:HB3	2.16	0.46
30:SF:178:ILE:O	30:SF:182:LYS:HD3	2.16	0.46
31:LA:198:ARG:NH2	73:L5:3687:A:OP2	2.48	0.46
46:LQ:159:PRO:HD2	73:L5:4306:U:OP2	2.15	0.46
67:L1:21:ARG:HD2	67:L1:22:PRO:HD2	1.97	0.46
73:L5:176:G:H22	73:L5:261:G:H1	1.62	0.46
73:L5:362:A:N3	75:L8:53:G:H1'	2.31	0.46
73:L5:2690:C:H2'	73:L5:2691:U:O4'	2.16	0.46
73:L5:2780:C:H2'	73:L5:2781:G:H8	1.80	0.46
73:L5:4551:U:H2'	73:L5:4552:U:C6	2.51	0.46
74:L7:92:C:H2'	74:L7:93:G:H8	1.80	0.46
75:L8:73:U:H2'	75:L8:74:U:O4'	2.15	0.46
76:S2:146:G:O2'	76:S2:147:A:H5'	2.15	0.46
76:S2:1531:A:H2'	76:S2:1532:C:C6	2.51	0.46
78:CA:221:TRP:CG	78:CA:340:MET:HB3	2.49	0.46
78:CA:823:ASP:HB3	78:CA:826:ASP:OD1	2.16	0.46
2:SR:79:GLU:HA	2:SR:82:ASP:HB3	1.97	0.45
8:SU:25:THR:HA	8:SU:86:LYS:HA	1.98	0.45
12:SC:205:VAL:O	12:SC:224:THR:OG1	2.28	0.45
25:SE:192:ILE:HD13	25:SE:243:GLY:HA3	1.98	0.45
28:SI:72:CYS:HG	28:SI:112:TRP:CG	2.34	0.45
31:LA:180:LEU:HD11	71:Lp:22:LEU:HB3	1.98	0.45
34:LD:50:ARG:HA	34:LD:145:TYR:H	1.80	0.45
34:LD:67:ALA:CB	49:LT:31:MET:HE1	2.47	0.45
34:LD:69:ILE:HG12	49:LT:31:MET:HB2	1.97	0.45
34:LD:70:GLU:O	74:L7:7:G:N2	2.48	0.45
35:LE:46:ARG:HH21	73:L5:978:G:H5'	1.81	0.45
43:LN:159:ARG:HH21	43:LN:165:THR:HA	1.80	0.45
45:LP:62:ARG:NH1	75:L8:5:U:OP2	2.50	0.45
49:LT:110:LYS:HE3	73:L5:1807:C:O3'	2.16	0.45
63:Lh:91:MET:HA	63:Lh:94:ARG:HE	1.81	0.45
72:Lr:85:ASN:O	72:Lr:89:THR:OG1	2.22	0.45
73:L5:1734:G:N2	73:L5:1735:U:O4	2.28	0.45
73:L5:2080:U:H2'	73:L5:2081:C:C6	2.51	0.45
76:S2:526:A:C2	76:S2:560:A:C2	3.04	0.45
76:S2:805:U:H3	76:S2:858:A:N6	2.13	0.45
76:S2:1409:A:H8	76:S2:1409:A:OP2	1.99	0.45
78:CA:129:VAL:HG11	78:CA:181:ILE:HG21	1.98	0.45
78:CA:160:MET:SD	78:CA:221:TRP:HH2	2.39	0.45
78:CA:539:GLU:HB2	78:CA:543:GLU:HG2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:CA:776:VAL:HB	78:CA:781:MET:HB3	1.98	0.45
3:SP:58:LYS:O	3:SP:62:LYS:HB2	2.16	0.45
5:SV:66:ASP:OD1	23:SA:37:TYR:OH	2.32	0.45
7:Sa:79:ILE:HD12	76:S2:1863:A:H1'	1.97	0.45
11:Sg:237:ASN:HD22	11:Sg:237:ASN:N	2.14	0.45
15:SN:108:ASP:HB3	15:SN:111:ALA:HB3	1.98	0.45
22:SZ:98:LYS:H	22:SZ:110:THR:C	2.24	0.45
26:SD:45:ARG:HD2	26:SD:85:GLU:OE2	2.17	0.45
30:SF:29:GLN:HG2	30:SF:30:ILE:H	1.81	0.45
33:LC:109:ARG:O	33:LC:109:ARG:HG2	2.16	0.45
34:LD:208:MET:HB3	34:LD:233:PRO:HG3	1.97	0.45
36:LF:63:GLN:O	36:LF:67:THR:OG1	2.27	0.45
39:LI:200:VAL:HG11	39:LI:212:LEU:HD11	1.98	0.45
40:LJ:99:PHE:CD2	40:LJ:163:MET:HG2	2.52	0.45
46:LQ:112:ARG:HG2	46:LQ:115:ARG:NH2	2.30	0.45
56:La:86:THR:HG22	56:La:99:PRO:HB3	1.98	0.45
62:Lg:62:LYS:HE3	73:L5:2517:A:H5'	1.99	0.45
64:Li:25:ARG:HB3	73:L5:159:C:OP2	2.16	0.45
73:L5:940:C:H2'	73:L5:941:C:C6	2.52	0.45
73:L5:2084:C:H3'	73:L5:2084:C:P	2.56	0.45
73:L5:2589:C:O2'	73:L5:2766:A:O2'	2.13	0.45
73:L5:4173:G:H2'	73:L5:4174:U:C6	2.51	0.45
73:L5:4619:U:H2'	73:L5:4620:U:C6	2.51	0.45
73:L5:5004:C:H2'	73:L5:5005:G:O4'	2.16	0.45
75:L8:40:A:H2'	75:L8:41:A:C8	2.52	0.45
76:S2:525:A:H2'	76:S2:526:A:C8	2.51	0.45
76:S2:587:A:H1'	76:S2:589:G:H1	1.81	0.45
76:S2:604:A:H4'	76:S2:605:A:OP1	2.15	0.45
76:S2:1227:G:C2	76:S2:1228:A:C8	3.04	0.45
76:S2:1271:C:H2'	76:S2:1272:C:H6	1.81	0.45
76:S2:1402:A:H5''	76:S2:1402:A:H8	1.81	0.45
76:S2:1547:C:H2'	76:S2:1548:G:O4'	2.16	0.45
77:S6:52:G:C4	77:S6:53:G:C8	3.04	0.45
11:Sg:11:LEU:HB2	11:Sg:43:TRP:CZ3	2.51	0.45
19:SY:109:GLU:HB3	19:SY:113:ARG:HH22	1.81	0.45
21:Sb:56:CYS:HB2	21:Sb:63:LEU:HD13	1.97	0.45
24:SB:87:ILE:HB	24:SB:101:HIS:HB2	1.98	0.45
28:SI:173:ALA:HA	28:SI:190:LEU:H	1.81	0.45
30:SF:77:MET:HE3	30:SF:86:LYS:H	1.81	0.45
32:LB:220:ILE:HG12	32:LB:278:THR:HG23	1.97	0.45
33:LC:318:PRO:C	33:LC:320:LYS:H	2.25	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:LH:63:ASN:OD1	38:LH:66:GLU:HG3	2.15	0.45
46:LQ:64:SER:HB3	73:L5:1501:C:O2'	2.16	0.45
49:LT:125:TRP:NE1	73:L5:1834:U:C2	2.84	0.45
50:LU:27:HIS:HB2	50:LU:28:PRO:HD3	1.98	0.45
56:La:35:ALA:HB2	73:L5:38:A:H5''	1.97	0.45
62:Lg:36:LYS:NZ	73:L5:2519:U:OP2	2.26	0.45
63:Lh:28:LEU:O	63:Lh:32:ARG:HG3	2.16	0.45
66:Lk:7:GLU:OE1	66:Lk:7:GLU:N	2.49	0.45
70:Lo:100:LYS:NZ	73:L5:4285:U:OP1	2.33	0.45
73:L5:2417:A:H61	73:L5:2430:C:H1'	1.81	0.45
73:L5:4400:G:C6	73:L5:4401:G:N7	2.83	0.45
73:L5:4492:U:O2'	73:L5:4512:U:O2	2.24	0.45
73:L5:4896:G:OP2	73:L5:4896:G:H8	1.99	0.45
73:L5:5002:U:H2'	73:L5:5003:U:C6	2.52	0.45
76:S2:935:G:H2'	76:S2:936:G:C8	2.52	0.45
76:S2:1174:U:H2'	76:S2:1175:G:C8	2.49	0.45
76:S2:1390:U:H2'	76:S2:1391:C:H6	1.81	0.45
76:S2:1412:C:H3'	76:S2:1414:A:O4'	2.17	0.45
76:S2:1573:G:H2'	76:S2:1574:C:H6	1.81	0.45
76:S2:1588:A:H2'	76:S2:1589:A:C8	2.52	0.45
78:CA:129:VAL:O	78:CA:158:ASN:N	2.46	0.45
78:CA:160:MET:O	78:CA:160:MET:HG2	2.15	0.45
6:SX:14:ARG:HH11	6:SX:14:ARG:HB3	1.81	0.45
9:Sc:51:ARG:HG3	9:Sc:52:GLU:N	2.32	0.45
11:Sg:81:GLY:H	11:Sg:111:VAL:HG21	1.81	0.45
11:Sg:146:SER:HA	11:Sg:177:TRP:CZ2	2.51	0.45
11:Sg:172:LYS:HB2	11:Sg:191:HIS:HB3	1.98	0.45
11:Sg:234:ASP:CG	11:Sg:235:ILE:H	2.24	0.45
11:Sg:247:TRP:HB3	11:Sg:258:ILE:CG2	2.46	0.45
12:SC:205:VAL:HG22	12:SC:223:TYR:HA	1.99	0.45
14:SJ:7:TRP:NE1	76:S2:39:A:OP1	2.41	0.45
23:SA:51:LEU:HD23	23:SA:51:LEU:HA	1.81	0.45
25:SE:6:LYS:HA	76:S2:93:U:H4'	1.98	0.45
36:LF:166:ARG:HD3	73:L5:2276:A:OP1	2.16	0.45
39:LI:184:MET:HA	39:LI:187:LYS:HG2	1.97	0.45
46:LQ:188:ASN:N	46:LQ:188:ASN:OD1	2.48	0.45
49:LT:87:LYS:HE3	73:L5:4305:G:N2	2.32	0.45
54:LY:102:SER:OG	54:LY:103:LYS:NZ	2.49	0.45
54:LY:113:LYS:HE3	54:LY:113:LYS:HB2	1.63	0.45
58:Lc:17:ARG:HD3	58:Lc:103:ASP:O	2.16	0.45
63:Lh:31:LEU:HB3	63:Lh:47:ILE:CG2	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:Lr:118:LEU:O	72:Lr:122:LYS:HG2	2.16	0.45
73:L5:491:G:O6	73:L5:662:C:N4	2.50	0.45
73:L5:1168:G:H2'	73:L5:1169:G:H8	1.81	0.45
73:L5:3932:U:H2'	73:L5:3933:G:C8	2.52	0.45
73:L5:4460:U:H2'	73:L5:4461:C:H6	1.79	0.45
73:L5:4486:C:H2'	73:L5:4487:A:O4'	2.16	0.45
73:L5:4516:G:H2'	73:L5:4517:A:O4'	2.15	0.45
76:S2:199:C:H3'	76:S2:200:G:C8	2.51	0.45
76:S2:201:C:H2'	76:S2:202:G:O4'	2.16	0.45
76:S2:479:C:C2	76:S2:480:G:C8	3.04	0.45
76:S2:809:A:C6	76:S2:810:A:C6	3.04	0.45
76:S2:815:U:H2'	76:S2:816:A:H8	1.81	0.45
76:S2:1288:U:O4	76:S2:1311:C:N3	2.49	0.45
76:S2:1725:U:H2'	76:S2:1726:G:H8	1.82	0.45
2:SR:76:GLU:O	2:SR:79:GLU:HG3	2.17	0.45
4:SQ:42:ILE:HD12	4:SQ:45:ARG:HE	1.82	0.45
6:SX:48:LYS:HG3	76:S2:483:C:H5''	1.98	0.45
6:SX:96:GLU:OE1	6:SX:97:ASN:ND2	2.49	0.45
11:Sg:178:ASN:OD1	11:Sg:180:ALA:N	2.49	0.45
12:SC:252:THR:C	12:SC:254:ASP:H	2.25	0.45
12:SC:253:PRO:HD3	18:SW:99:PHE:CG	2.51	0.45
14:SJ:127:ARG:NH1	76:S2:523:A:OP1	2.49	0.45
19:SY:13:MET:HB2	19:SY:22:GLN:HB2	1.98	0.45
24:SB:225:LEU:O	24:SB:229:MET:HG2	2.15	0.45
25:SE:93:ASP:O	25:SE:95:THR:N	2.49	0.45
26:SD:95:GLY:C	26:SD:101:GLN:HE22	2.25	0.45
30:SF:107:ASN:HB3	30:SF:110:GLN:OE1	2.16	0.45
31:LA:228:ASP:OD1	31:LA:228:ASP:N	2.37	0.45
34:LD:22:ARG:NH1	34:LD:28:THR:OG1	2.49	0.45
37:LG:81:ASN:ND2	37:LG:237:TRP:O	2.49	0.45
49:LT:154:ILE:H	49:LT:154:ILE:HG13	1.68	0.45
56:La:79:TRP:CE3	56:La:87:ARG:HG3	2.51	0.45
58:Lc:36:LYS:O	58:Lc:40:GLN:HG2	2.17	0.45
60:Le:8:VAL:HG12	60:Le:10:PRO:HD3	1.99	0.45
60:Le:103:VAL:O	60:Le:128:ARG:NH2	2.49	0.45
65:Lj:72:ARG:HG2	65:Lj:72:ARG:HH11	1.81	0.45
73:L5:270:U:H2'	73:L5:271:C:H6	1.81	0.45
73:L5:426:A:H2'	73:L5:427:A:H8	1.82	0.45
73:L5:1200:G:C6	73:L5:1201:U:N3	2.85	0.45
73:L5:2465:C:H2'	73:L5:2466:G:O4'	2.17	0.45
73:L5:3923:A:H2'	73:L5:3924:C:C6	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:S2:1217:A:H2'	76:S2:1218:C:H6	1.79	0.45
76:S2:1271:C:H2'	76:S2:1272:C:C6	2.51	0.45
76:S2:1372:U:OP1	76:S2:1385:G:N2	2.39	0.45
76:S2:1422:G:H2'	76:S2:1423:C:H3'	1.98	0.45
4:SQ:146:ARG:HG3	77:S6:34:C:N4	2.32	0.45
10:ST:28:LEU:O	10:ST:30:VAL:HG23	2.17	0.45
11:Sg:17:TRP:HA	11:Sg:304:ASP:H	1.80	0.45
15:SN:3:ARG:HD2	15:SN:3:ARG:N	2.32	0.45
16:SO:27:VAL:H	16:SO:91:THR:HG1	1.63	0.45
17:SG:15:LEU:HD11	76:S2:154:U:O3'	2.17	0.45
18:SW:34:ILE:O	18:SW:38:LEU:HG	2.17	0.45
30:SF:86:LYS:HG3	30:SF:86:LYS:O	2.17	0.45
35:LE:66:LYS:CE	35:LE:68:MET:HE3	2.46	0.45
44:LO:25:LYS:HD2	44:LO:25:LYS:HA	1.75	0.45
45:LP:36:ILE:HG21	45:LP:48:LEU:HD21	1.98	0.45
47:LR:44:LEU:HD22	47:LR:49:LEU:HD22	1.98	0.45
66:Lk:9:LYS:HE3	66:Lk:9:LYS:HB2	1.78	0.45
73:L5:99:A:H2'	73:L5:100:C:O2	2.16	0.45
73:L5:161:G:H2'	73:L5:162:A:H8	1.82	0.45
73:L5:3771:C:H4'	73:L5:3772:U:OP1	2.17	0.45
73:L5:3977:C:O2'	73:L5:4035:G:H1'	2.17	0.45
73:L5:4760:G:H2'	73:L5:4761:G:C8	2.52	0.45
76:S2:29:G:C6	76:S2:646:G:C6	3.04	0.45
76:S2:1135:C:C4	76:S2:1136:U:C4	3.05	0.45
76:S2:1294:G:H3'	76:S2:1295:A:H8	1.82	0.45
77:S6:66:C:O2'	77:S6:67:U:H6	1.99	0.45
78:CA:580:ARG:HB2	78:CA:741:MET:HB2	1.98	0.45
2:SR:31:ASN:O	2:SR:34:VAL:HG22	2.17	0.45
6:SX:88:ASP:HA	76:S2:617:G:H4'	1.97	0.45
17:SG:23:LYS:HD3	17:SG:40:ALA:O	2.17	0.45
19:SY:109:GLU:HB3	19:SY:113:ARG:NH2	2.31	0.45
24:SB:185:VAL:HA	24:SB:188:LEU:HB2	1.98	0.45
28:SI:99:ASN:HA	28:SI:174:CYS:SG	2.56	0.45
37:LG:229:ARG:NH2	37:LG:232:GLU:OE1	2.48	0.45
43:LN:9:GLU:OE1	43:LN:12:ARG:NH1	2.49	0.45
43:LN:165:THR:O	43:LN:169:ARG:HB2	2.17	0.45
45:LP:15:CYS:SG	45:LP:150:LEU:HB2	2.57	0.45
50:LU:56:LEU:HD21	50:LU:63:ILE:HG13	1.99	0.45
57:Lb:4:SER:HB2	73:L5:1855:G:OP1	2.17	0.45
73:L5:58:G:O3'	73:L5:59:A:H4'	2.16	0.45
73:L5:458:C:H2'	73:L5:459:C:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:498:C:C2	73:L5:500:G:C8	3.05	0.45
73:L5:1327:C:H2'	73:L5:1328:G:H8	1.82	0.45
73:L5:1398:A:N3	73:L5:1419:G:N2	2.64	0.45
73:L5:2704:C:N4	73:L5:2705:G:O6	2.49	0.45
73:L5:3974:G:C6	73:L5:3975:C:C4	3.04	0.45
76:S2:521:A:H2'	76:S2:522:A:O4'	2.16	0.45
76:S2:947:G:H2'	76:S2:948:C:H6	1.82	0.45
76:S2:1255:G:OP1	76:S2:1256:G:O2'	2.23	0.45
78:CA:219:HIS:HB2	78:CA:221:TRP:CD1	2.51	0.45
4:SQ:39:LEU:HD23	4:SQ:51:LEU:HD12	1.98	0.45
13:Sd:46:TYR:CZ	29:SK:64:TRP:HZ3	2.34	0.45
17:SG:57:ASP:HA	17:SG:107:SER:H	1.81	0.45
19:SY:44:LEU:HD23	19:SY:55:ILE:HG13	1.99	0.45
19:SY:108:LYS:HE3	76:S2:53:C:O3'	2.17	0.45
23:SA:198:MET:HG3	23:SA:199:PRO:HD2	1.98	0.45
25:SE:48:LEU:HB3	25:SE:61:VAL:HG22	1.99	0.45
26:SD:11:PHE:O	26:SD:15:GLY:N	2.47	0.45
28:SI:10:LYS:NZ	76:S2:370:G:O3'	2.46	0.45
30:SF:42:LYS:HB2	30:SF:43:GLU:OE2	2.16	0.45
30:SF:154:LEU:HA	30:SF:189:ALA:HB2	1.99	0.45
34:LD:58:ARG:HB2	34:LD:58:ARG:NH1	2.32	0.45
37:LG:147:VAL:HG11	37:LG:173:LEU:HG	1.99	0.45
44:LO:87:MET:HE2	73:L5:1912:G:N2	2.32	0.45
47:LR:168:GLU:OE2	47:LR:171:LYS:NZ	2.43	0.45
51:LV:16:ILE:HD13	51:LV:57:VAL:HG22	1.98	0.45
53:LX:145:ASP:O	53:LX:149:VAL:HG23	2.17	0.45
58:Lc:14:ILE:H	58:Lc:14:ILE:HD12	1.81	0.45
73:L5:123:C:H2'	73:L5:124:C:H6	1.81	0.45
73:L5:189:G:C6	73:L5:253:G:C6	3.05	0.45
73:L5:704:C:H2'	73:L5:705:G:C8	2.52	0.45
73:L5:1077:C:H3'	73:L5:1078:A:O4'	2.16	0.45
73:L5:1178:G:H3'	73:L5:1179:U:C6	2.52	0.45
73:L5:1468:C:H2'	73:L5:1469:C:H6	1.82	0.45
73:L5:1733:G:N3	73:L5:4214:A:H2'	2.32	0.45
73:L5:3648:A:H1'	73:L5:3785:A:N6	2.31	0.45
73:L5:4435:U:H2'	73:L5:4436:U:C6	2.52	0.45
73:L5:4951:G:H2'	73:L5:4952:G:C8	2.50	0.45
76:S2:186:C:H2'	76:S2:187:G:H8	1.82	0.45
76:S2:894:G:H2'	76:S2:895:G:O4'	2.16	0.45
76:S2:1035:A:H2'	76:S2:1036:A:O4'	2.17	0.45
76:S2:1289:U:OP1	76:S2:1315:U:O2'	2.35	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:S2:1792:G:H2'	76:S2:1793:A:H8	1.82	0.45
78:CA:207:PRO:O	78:CA:225:LEU:HD13	2.16	0.45
78:CA:758:GLY:O	78:CA:762:VAL:HG23	2.17	0.45
1:SL:77:VAL:HG23	1:SL:123:GLY:H	1.82	0.45
2:SR:106:LEU:HD23	2:SR:106:LEU:HA	1.81	0.45
5:SV:55:ILE:HG21	5:SV:65:SER:HB3	1.99	0.45
8:SU:83:ARG:NH2	76:S2:1391:C:O3'	2.44	0.45
10:ST:61:ALA:HA	10:ST:64:LEU:HB2	1.98	0.45
11:Sg:188:HIS:HB3	11:Sg:219:TRP:CZ3	2.52	0.45
17:SG:189:ARG:HH22	76:S2:330:G:H8	1.64	0.45
19:SY:18:LEU:HD22	19:SY:20:ARG:HH21	1.81	0.45
22:SZ:48:VAL:CA	22:SZ:83:LEU:HD12	2.43	0.45
24:SB:214:LYS:HD3	24:SB:216:LYS:HD2	1.98	0.45
26:SD:133:GLY:HA2	26:SD:155:GLY:HA3	1.98	0.45
33:LC:8:ILE:HG21	33:LC:151:PRO:HG2	1.97	0.45
33:LC:134:PRO:CA	33:LC:150:LEU:HD21	2.47	0.45
40:LJ:40:LEU:HD12	40:LJ:70:VAL:HG12	1.99	0.45
41:LL:100:PRO:O	64:Li:25:ARG:NH1	2.45	0.45
41:LL:150:LEU:HD12	63:Lh:121:VAL:HG23	1.98	0.45
42:LM:132:LYS:HB2	42:LM:132:LYS:HE2	1.88	0.45
50:LU:66:SER:OG	50:LU:67:LYS:N	2.49	0.45
57:Lb:49:HIS:NE2	73:L5:1815:G:O6	2.39	0.45
60:Le:29:VAL:HB	73:L5:1332:C:H5''	1.99	0.45
63:Lh:33:VAL:O	63:Lh:36:VAL:HG22	2.17	0.45
73:L5:319:A:H1'	73:L5:3726:A:C8	2.39	0.45
73:L5:741:C:H2'	73:L5:742:G:C8	2.52	0.45
73:L5:2730:U:H2'	73:L5:2731:C:C6	2.52	0.45
73:L5:3970:G:H2'	73:L5:3971:G:C8	2.52	0.45
73:L5:4652:G:H2'	73:L5:4653:C:C6	2.52	0.45
76:S2:897:U:H4'	76:S2:898:U:OP1	2.14	0.45
76:S2:1693:G:N2	76:S2:1834:A:H8	2.15	0.45
78:CA:690:GLY:N	78:CA:695:GLU:O	2.41	0.45
2:SR:105:MET:O	2:SR:108:LEU:HD23	2.17	0.45
4:SQ:125:ARG:HA	4:SQ:125:ARG:HE	1.82	0.45
11:Sg:193:GLY:HA3	11:Sg:212:LYS:HB2	1.99	0.45
11:Sg:240:CYS:O	11:Sg:249:CYS:N	2.49	0.45
12:SC:209:VAL:HB	12:SC:210:PRO:HD3	1.99	0.45
16:SO:54:CYS:HB3	16:SO:81:VAL:HG13	1.99	0.45
19:SY:86:GLU:HA	19:SY:87:PRO:HD3	1.90	0.45
23:SA:42:LYS:N	23:SA:46:ILE:O	2.37	0.45
27:SH:101:LEU:HD12	27:SH:116:ARG:HG3	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:SI:78:ILE:HA	28:SI:104:ILE:HG22	1.98	0.45
29:SK:22:VAL:HG22	29:SK:68:TYR:HA	1.99	0.45
35:LE:250:GLN:NE2	35:LE:254:ASP:OD2	2.45	0.45
37:LG:88:ASP:OD1	37:LG:91:THR:HG23	2.17	0.45
43:LN:178:HIS:ND1	73:L5:68:U:OP1	2.34	0.45
45:LP:108:ASP:HB3	45:LP:152:GLU:OE1	2.17	0.45
55:LZ:31:ASP:OD1	55:LZ:31:ASP:N	2.38	0.45
56:La:102:ASP:H	73:L5:509:A:H62	1.64	0.45
63:Lh:31:LEU:HD11	63:Lh:43:LYS:HD2	1.99	0.45
73:L5:192:G:H2'	73:L5:193:G:C8	2.51	0.45
73:L5:3732:A:H2'	73:L5:3733:A:C8	2.52	0.45
73:L5:3974:G:H8	73:L5:3974:G:O5'	2.00	0.45
73:L5:4273:A:H2'	73:L5:4274:A:C8	2.52	0.45
73:L5:4387:C:OP2	73:L5:4532:U:O2'	2.33	0.45
73:L5:4471:U:H2'	73:L5:4472:G:C8	2.52	0.45
73:L5:4736:C:H2'	73:L5:4737:G:H8	1.81	0.45
75:L8:128:C:C2	75:L8:129:C:C5	3.05	0.45
76:S2:5:U:O2'	76:S2:602:G:H4'	2.17	0.45
76:S2:145:G:C2	76:S2:146:G:C5	3.05	0.45
76:S2:520:A:H2'	76:S2:521:A:C8	2.53	0.45
76:S2:653:A:H2'	76:S2:654:A:O4'	2.17	0.45
76:S2:805:U:H2'	76:S2:806:U:O4'	2.17	0.45
78:CA:126:LEU:O	78:CA:126:LEU:HD12	2.17	0.45
78:CA:616:ASP:N	78:CA:616:ASP:OD1	2.50	0.45
3:SP:65:LYS:HD3	3:SP:65:LYS:HA	1.64	0.44
4:SQ:30:GLY:HA3	4:SQ:64:ALA:HA	1.98	0.44
10:ST:56:ARG:HH21	76:S2:1540:G:H5'	1.82	0.44
11:Sg:48:ASP:OD1	11:Sg:48:ASP:N	2.50	0.44
17:SG:142:ARG:HH22	17:SG:152:ASP:N	2.16	0.44
17:SG:142:ARG:HH22	17:SG:153:VAL:H	1.65	0.44
23:SA:84:GLN:O	23:SA:88:LEU:HG	2.16	0.44
27:SH:72:PHE:HB3	27:SH:94:PHE:CE2	2.52	0.44
32:LB:67:VAL:HG23	51:LV:14:PHE:CE2	2.51	0.44
36:LF:187:MET:HE3	36:LF:187:MET:HB3	1.82	0.44
41:LL:46:ILE:O	41:LL:49:ARG:HB2	2.18	0.44
41:LL:59:VAL:HB	73:L5:74:G:H5'	1.99	0.44
44:LO:159:LYS:O	44:LO:162:GLU:HG2	2.16	0.44
48:LS:44:PHE:O	48:LS:48:VAL:HG22	2.17	0.44
49:LT:117:LYS:O	49:LT:121:GLU:HG2	2.17	0.44
56:La:102:ASP:O	56:La:105:ARG:HG2	2.17	0.44
58:Lc:23:LYS:HD2	58:Lc:23:LYS:C	2.42	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:Lc:37:MET:HA	58:Lc:37:MET:HE2	1.99	0.44
62:Lg:87:VAL:O	62:Lg:91:ILE:HG13	2.17	0.44
65:Lj:52:LYS:HE3	73:L5:375:G:OP2	2.17	0.44
73:L5:202:C:H2'	73:L5:203:U:H6	1.82	0.44
73:L5:739:G:H2'	73:L5:740:G:H8	1.82	0.44
73:L5:1094:G:N3	73:L5:1095:A:C8	2.85	0.44
73:L5:1329:G:OP1	73:L5:2350:U:O2'	2.35	0.44
73:L5:2045:G:O2'	73:L5:2046:G:H5''	2.17	0.44
73:L5:2306:G:O2'	73:L5:2331:G:N2	2.47	0.44
73:L5:2411:C:H2'	73:L5:2412:A:H8	1.81	0.44
73:L5:4080:C:H2'	73:L5:4081:G:H8	1.82	0.44
76:S2:203:G:H2'	76:S2:204:G:O4'	2.17	0.44
76:S2:291:G:H4'	76:S2:292:A:C8	2.52	0.44
76:S2:1286:G:N2	76:S2:1313:A:C5	2.85	0.44
76:S2:1434:C:H2'	76:S2:1435:C:C6	2.52	0.44
78:CA:319:LEU:HD21	78:CA:343:TRP:CD2	2.51	0.44
78:CA:680:VAL:O	78:CA:684:GLN:HG2	2.17	0.44
2:SR:17:ILE:HG13	2:SR:58:MET:HE3	1.99	0.44
7:Sa:7:ASN:HB2	76:S2:1865:C:H1'	1.98	0.44
11:Sg:39:THR:O	11:Sg:66:VAL:HG21	2.17	0.44
11:Sg:118:ARG:HB3	11:Sg:119:GLN:OE1	2.17	0.44
11:Sg:236:ILE:HG12	11:Sg:252:THR:HG22	1.98	0.44
13:Sd:30:LEU:HD12	13:Sd:31:ILE:H	1.82	0.44
17:SG:28:TYR:HD1	17:SG:28:TYR:HA	1.64	0.44
23:SA:57:LYS:HE3	23:SA:57:LYS:HB3	1.69	0.44
25:SE:35:PRO:HB2	25:SE:36:HIS:CD2	2.52	0.44
25:SE:196:THR:HG21	25:SE:211:LYS:HG3	1.98	0.44
28:SI:43:ILE:HD13	28:SI:57:ALA:HA	1.98	0.44
29:SK:3:MET:N	29:SK:4:PRO:HD3	2.32	0.44
29:SK:32:HIS:CD2	29:SK:45:VAL:HG11	2.51	0.44
30:SF:171:GLU:H	30:SF:171:GLU:CD	2.23	0.44
34:LD:67:ALA:HB3	49:LT:31:MET:HE1	1.98	0.44
39:LI:99:ILE:HB	39:LI:123:GLN:HG3	1.99	0.44
53:LX:152:LYS:HD3	53:LX:152:LYS:HA	1.72	0.44
56:La:37:GLY:O	56:La:42:ARG:HA	2.18	0.44
73:L5:956:A:H3'	73:L5:957:G:C4	2.52	0.44
73:L5:2756:G:H2'	73:L5:2757:A:H8	1.81	0.44
76:S2:667:U:H5''	76:S2:1087:A:C5	2.53	0.44
76:S2:832:G:N2	76:S2:843:C:C2	2.85	0.44
76:S2:946:U:H2'	76:S2:947:G:H8	1.82	0.44
76:S2:1177:U:H2'	76:S2:1178:U:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:S2:1274:G:OP2	76:S2:1275:G:H5''	2.17	0.44
76:S2:1279:C:H2'	76:S2:1280:G:C8	2.51	0.44
76:S2:1395:C:O2'	76:S2:1396:A:N3	2.39	0.44
76:S2:1589:A:H2'	76:S2:1590:C:H6	1.83	0.44
76:S2:1598:G:N2	76:S2:1599:U:O4	2.43	0.44
78:CA:591:CYS:O	78:CA:603:TYR:HA	2.18	0.44
78:CA:747:VAL:O	78:CA:785:LYS:HA	2.17	0.44
1:SL:55:TYR:OH	1:SL:60:CYS:SG	2.70	0.44
2:SR:27:ASP:OD1	2:SR:27:ASP:N	2.48	0.44
4:SQ:30:GLY:N	4:SQ:65:GLY:H	2.16	0.44
4:SQ:77:HIS:O	4:SQ:81:ILE:HD13	2.16	0.44
10:ST:108:GLU:HB2	10:ST:113:VAL:HG22	1.99	0.44
28:SI:45:THR:OG1	76:S2:308:G:O2'	2.24	0.44
28:SI:64:ASN:ND2	76:S2:303:C:O4'	2.50	0.44
35:LE:203:ILE:HA	35:LE:260:LYS:NZ	2.32	0.44
36:LF:88:LYS:HB3	36:LF:88:LYS:HE2	1.74	0.44
37:LG:164:ILE:O	37:LG:166:LEU:N	2.50	0.44
37:LG:182:CYS:HB3	37:LG:222:ILE:HG23	2.00	0.44
45:LP:107:LEU:HD22	45:LP:152:GLU:OE2	2.17	0.44
45:LP:131:ARG:HG3	45:LP:137:ASN:ND2	2.32	0.44
46:LQ:90:VAL:HB	56:La:80:THR:HG21	1.99	0.44
50:LU:107:LYS:HB2	50:LU:107:LYS:HE3	1.62	0.44
56:La:62:HIS:HB2	73:L5:315:G:C8	2.53	0.44
67:Ll:22:PRO:HG3	67:Ll:41:ARG:NH1	2.33	0.44
69:Ln:21:ARG:HD3	76:S2:1717:C:O3'	2.17	0.44
73:L5:696:C:H5''	73:L5:697:G:OP1	2.18	0.44
73:L5:926:G:O2'	73:L5:927:G:H5'	2.18	0.44
73:L5:1199:G:H2'	73:L5:1200:G:C8	2.52	0.44
73:L5:1397:A:N1	73:L5:1498:G:O2'	2.49	0.44
73:L5:1725:U:H2'	73:L5:1726:U:H6	1.81	0.44
73:L5:1870:C:H2'	73:L5:1871:A:H8	1.82	0.44
73:L5:1876:U:H2'	73:L5:1877:G:C8	2.52	0.44
73:L5:2669:C:O2'	73:L5:2670:C:P	2.75	0.44
73:L5:3972:A:O2'	73:L5:4041:C:N4	2.49	0.44
73:L5:4924:C:H2'	73:L5:4925:U:C6	2.52	0.44
75:L8:44:A:H2'	75:L8:45:C:C6	2.52	0.44
76:S2:474:G:N2	76:S2:507:G:O2'	2.31	0.44
76:S2:848:U:H2'	76:S2:849:A:C8	2.50	0.44
76:S2:1458:G:H8	76:S2:1458:G:O5'	2.01	0.44
77:S6:22:G:H2'	77:S6:23:C:H6	1.83	0.44
4:SQ:71:ARG:NH2	76:S2:1443:C:H1'	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:Sa:87:ARG:NH2	7:Sa:92:ARG:O	2.50	0.44
8:SU:66:ARG:O	8:SU:68:THR:HG23	2.18	0.44
11:Sg:100:ARG:HH12	76:S2:1399:C:C5'	2.22	0.44
11:Sg:127:LYS:HA	11:Sg:150:TRP:HA	1.98	0.44
14:SJ:24:ARG:NH1	14:SJ:24:ARG:HG2	2.32	0.44
17:SG:83:CYS:SG	76:S2:163:U:H4'	2.58	0.44
18:SW:20:ARG:HA	18:SW:20:ARG:HD2	1.61	0.44
19:SY:10:ARG:HG3	19:SY:11:LYS:HG3	2.00	0.44
25:SE:11:ARG:NH1	25:SE:20:LEU:O	2.49	0.44
25:SE:181:CYS:HB2	25:SE:225:ILE:HG23	1.97	0.44
25:SE:212:ASP:OD1	25:SE:213:ALA:N	2.47	0.44
27:SH:45:ILE:HD13	27:SH:64:VAL:HG12	1.99	0.44
28:SI:7:ASN:O	28:SI:7:ASN:ND2	2.48	0.44
29:SK:2:LEU:CD1	76:S2:1315:U:H4'	2.48	0.44
32:LB:285:TYR:CE1	32:LB:363:ILE:HG12	2.53	0.44
40:LJ:112:HIS:HD2	40:LJ:126:TYR:H	1.66	0.44
49:LT:74:ILE:O	49:LT:88:ARG:HA	2.17	0.44
52:LW:12:LYS:HB3	52:LW:12:LYS:HE2	1.52	0.44
55:LZ:60:LYS:NZ	73:L5:4149:C:OP1	2.45	0.44
57:Lb:18:ARG:NH1	73:L5:1686:C:O2'	2.50	0.44
65:Lj:21:ARG:HG3	75:L8:102:G:H4'	2.00	0.44
69:Ln:13:LEU:HD21	76:S2:1819:A:H4'	1.98	0.44
70:Lo:50:GLY:HA3	73:L5:3925:U:O2'	2.18	0.44
73:L5:63:G:H1'	73:L5:77:U:H1'	2.00	0.44
73:L5:1199:G:C2	73:L5:1200:G:C6	3.05	0.44
73:L5:1380:G:N2	73:L5:1381:U:O4	2.38	0.44
73:L5:1551:C:H2'	73:L5:1552:G:O4'	2.17	0.44
73:L5:1920:C:H3'	73:L5:1921:C:H5''	1.98	0.44
73:L5:2518:G:H1'	73:L5:2539:C:H1'	1.99	0.44
73:L5:2529:A:O2'	73:L5:2531:C:OP2	2.36	0.44
73:L5:2814:C:O2	73:L5:2814:C:H2'	2.18	0.44
73:L5:4401:G:H2'	73:L5:4402:C:H6	1.83	0.44
73:L5:4578:G:H2'	73:L5:4579:U:H6	1.82	0.44
73:L5:4629:U:C2	73:L5:4630:G:C8	3.06	0.44
73:L5:4993:G:O2'	73:L5:4994:G:H5''	2.18	0.44
76:S2:202:G:H5''	76:S2:203:G:OP1	2.16	0.44
76:S2:520:A:H2'	76:S2:521:A:H8	1.82	0.44
76:S2:935:G:H2'	76:S2:936:G:H8	1.81	0.44
76:S2:1139:C:H2'	76:S2:1140:G:O4'	2.17	0.44
76:S2:1159:G:H2'	76:S2:1160:U:O4'	2.17	0.44
76:S2:1243:U:H2'	76:S2:1244:U:O4'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:S2:1476:A:H3'	76:S2:1476:A:N3	2.31	0.44
78:CA:649:ILE:HA	78:CA:663:THR:HG22	1.98	0.44
78:CA:829:SER:OG	78:CA:831:PRO:HD2	2.17	0.44
5:SV:1:MET:HB3	5:SV:10:ASP:HB2	2.00	0.44
10:ST:82:ARG:HD3	76:S2:1590:C:H5'	2.00	0.44
17:SG:7:PHE:HD2	17:SG:10:THR:O	2.00	0.44
22:SZ:46:ASN:CG	22:SZ:80:ARG:HH21	2.23	0.44
23:SA:65:ILE:HD12	23:SA:178:LEU:HD21	1.98	0.44
30:SF:74:ASN:HB3	30:SF:86:LYS:HE2	2.00	0.44
30:SF:125:SER:OG	30:SF:200:ALA:HA	2.18	0.44
34:LD:10:LYS:HG2	34:LD:14:LYS:HD2	1.99	0.44
37:LG:162:ASP:CB	37:LG:163:PRO:HD3	2.46	0.44
37:LG:182:CYS:HB3	37:LG:222:ILE:HD13	1.98	0.44
41:LL:59:VAL:HB	73:L5:74:G:C5'	2.48	0.44
42:LM:85:LYS:O	42:LM:89:THR:HG23	2.18	0.44
47:LR:9:ARG:HA	47:LR:19:LYS:HE3	2.00	0.44
47:LR:60:ARG:NH1	73:L5:2616:C:OP1	2.51	0.44
47:LR:145:LEU:HA	47:LR:145:LEU:HD23	1.82	0.44
53:LX:117:TYR:HE1	53:LX:153:ILE:HG12	1.81	0.44
53:LX:119:ILE:HD12	53:LX:140:LEU:HD22	2.00	0.44
55:LZ:48:ARG:NH2	73:L5:2575:U:OP1	2.51	0.44
72:Lr:17:LEU:HD22	72:Lr:19:LYS:HG3	1.99	0.44
73:L5:271:C:H2'	73:L5:272:U:H6	1.83	0.44
73:L5:3911:C:H2'	73:L5:3912:U:C6	2.52	0.44
73:L5:3954:A:H61	73:L5:4057:C:H42	1.65	0.44
73:L5:4680:G:H2'	73:L5:4681:A:C8	2.53	0.44
76:S2:54:A:N6	76:S2:451:G:H1'	2.32	0.44
76:S2:141:A:N1	76:S2:313:A:N6	2.61	0.44
76:S2:206:G:H2'	76:S2:207:G:C8	2.53	0.44
76:S2:942:G:H2'	76:S2:943:U:C6	2.53	0.44
11:Sg:234:ASP:OD2	11:Sg:235:ILE:HG22	2.17	0.44
14:SJ:122:SER:H	14:SJ:125:HIS:HB3	1.82	0.44
15:SN:37:ILE:HD12	15:SN:71:ILE:HG23	1.99	0.44
17:SG:156:TYR:CD1	17:SG:156:TYR:N	2.86	0.44
30:SF:149:GLN:O	30:SF:153:LEU:HG	2.17	0.44
39:LI:75:TYR:CZ	39:LI:150:GLU:HG2	2.52	0.44
50:LU:48:LYS:HG2	50:LU:82:TYR:OH	2.17	0.44
50:LU:107:LYS:O	50:LU:108:GLU:HG2	2.17	0.44
52:LW:54:LEU:HD23	52:LW:54:LEU:HA	1.83	0.44
54:LY:100:HIS:CD2	73:L5:231:U:H4'	2.53	0.44
57:Lb:43:MET:HE2	57:Lb:43:MET:HB2	1.94	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:Li:58:MET:HE2	64:Li:90:LEU:HD22	2.00	0.44
72:Lr:124:VAL:O	72:Lr:125:MET:HE2	2.17	0.44
73:L5:453:G:H1	73:L5:1294:A:H8	1.64	0.44
73:L5:688:U:H2'	73:L5:689:U:O4'	2.18	0.44
73:L5:2824:C:H2'	73:L5:2825:A:C8	2.53	0.44
73:L5:2843:U:H2'	73:L5:2844:A:O4'	2.18	0.44
73:L5:3664:G:H2'	73:L5:3665:G:H8	1.81	0.44
73:L5:5007:A:H2'	73:L5:5008:C:C6	2.52	0.44
74:L7:22:A:H2'	74:L7:23:A:C8	2.52	0.44
75:L8:88:A:H2'	75:L8:89:U:O4'	2.18	0.44
76:S2:206:G:C2	76:S2:207:G:C5	3.06	0.44
76:S2:563:G:N7	76:S2:586:G:N2	2.66	0.44
76:S2:568:C:H2'	76:S2:569:A:C8	2.52	0.44
76:S2:947:G:H2'	76:S2:948:C:C6	2.53	0.44
76:S2:1315:U:H5''	76:S2:1316:C:C6	2.53	0.44
76:S2:1315:U:C5	76:S2:1316:C:H1'	2.52	0.44
8:SU:52:GLY:HA3	76:S2:1401:A:H5''	1.99	0.44
11:Sg:14:HIS:HB2	11:Sg:43:TRP:CZ2	2.52	0.44
11:Sg:241:PHE:CD2	11:Sg:248:LEU:HB3	2.53	0.44
16:SO:103:ASN:ND2	16:SO:141:ARG:O	2.50	0.44
17:SG:190:ARG:O	17:SG:190:ARG:HD3	2.17	0.44
19:SY:12:PHE:HB2	76:S2:839:C:H41	1.83	0.44
24:SB:94:LYS:HD3	24:SB:94:LYS:HA	1.64	0.44
25:SE:187:ALA:N	76:S2:809:A:OP1	2.47	0.44
27:SH:37:LYS:HE3	27:SH:37:LYS:HB2	1.86	0.44
27:SH:106:ARG:HG2	76:S2:861:A:C6	2.53	0.44
31:LA:8:GLN:O	73:L5:3668:C:H5'	2.18	0.44
33:LC:207:PRO:HB3	33:LC:249:PHE:HD2	1.81	0.44
35:LE:131:LYS:HD2	73:L5:1280:C:H42	1.82	0.44
36:LF:111:LEU:HD22	73:L5:1840:G:H1'	2.00	0.44
40:LJ:108:GLY:HA2	40:LJ:129:ASP:HA	1.99	0.44
42:LM:94:LYS:HG3	44:LO:203:VAL:HG21	1.99	0.44
50:LU:42:PHE:CE1	50:LU:90:TYR:HB2	2.52	0.44
50:LU:43:LEU:HB3	50:LU:63:ILE:HD13	2.00	0.44
72:Lr:84:LYS:HD2	72:Lr:88:ALA:CB	2.48	0.44
73:L5:450:G:N1	73:L5:451:C:O2	2.51	0.44
73:L5:2459:G:H2'	73:L5:2461:G:OP2	2.18	0.44
73:L5:2640:G:H2'	73:L5:2641:A:C8	2.51	0.44
73:L5:3868:G:H22	73:L5:3900:G:H1'	1.82	0.44
75:L8:140:C:H2'	75:L8:141:C:C6	2.53	0.44
76:S2:1103:C:H2'	76:S2:1104:G:H8	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:S2:1304:U:H2'	76:S2:1305:C:C6	2.52	0.44
76:S2:1429:G:C2'	76:S2:1430:C:H5'	2.48	0.44
76:S2:1542:C:O2'	76:S2:1543:U:H5'	2.18	0.44
6:SX:121:LYS:HB2	6:SX:121:LYS:HE3	1.78	0.44
7:Sa:4:LYS:HE3	7:Sa:92:ARG:CZ	2.48	0.44
8:SU:80:PHE:CE2	13:Sd:47:ALA:HB1	2.52	0.44
11:Sg:23:THR:HA	11:Sg:31:ILE:HD12	2.00	0.44
12:SC:263:LYS:HB3	12:SC:267:GLN:HB3	1.99	0.44
14:SJ:174:LYS:HE2	14:SJ:174:LYS:HA	1.99	0.44
20:Se:11:LYS:HE2	20:Se:11:LYS:HB3	1.75	0.44
26:SD:70:THR:HG21	26:SD:86:LEU:HD22	2.00	0.44
27:SH:133:LEU:HD13	27:SH:176:VAL:HG23	2.00	0.44
29:SK:67:PHE:HB3	29:SK:69:TRP:CH2	2.52	0.44
36:LF:124:LYS:HE2	73:L5:1839:U:OP1	2.18	0.44
37:LG:156:VAL:HB	37:LG:202:VAL:HG12	1.99	0.44
41:LL:89:LYS:HE3	63:Lh:114:TYR:OH	2.18	0.44
49:LT:35:LYS:HE3	73:L5:1824:G:H5''	2.00	0.44
56:La:84:GLU:O	56:La:88:VAL:HG22	2.18	0.44
63:Lh:108:GLN:HG2	73:L5:266:C:H41	1.82	0.44
73:L5:50:C:C2	73:L5:51:A:C8	3.06	0.44
73:L5:467:U:N3	73:L5:468:U:O2	2.51	0.44
73:L5:2895:A:H2'	73:L5:2896:G:C8	2.52	0.44
73:L5:3753:G:H21	73:L5:3776:G:H2'	1.82	0.44
73:L5:3961:G:O2'	73:L5:3963:A:N7	2.51	0.44
76:S2:874:G:H2'	76:S2:875:A:C8	2.52	0.44
76:S2:1276:A:H62	76:S2:1321:G:H8	1.66	0.44
76:S2:1468:C:O2	76:S2:1468:C:H2'	2.17	0.44
1:SL:4:ILE:HG13	1:SL:5:GLN:HE21	1.82	0.44
3:SP:43:ARG:HH21	3:SP:47:ARG:HH12	1.65	0.44
5:SV:40:ASP:OD2	5:SV:43:THR:HG22	2.18	0.44
11:Sg:275:ILE:HG12	11:Sg:281:ALA:HB1	2.00	0.44
13:Sd:14:PHE:HD2	76:S2:1661:A:C8	2.36	0.44
15:SN:12:SER:OG	76:S2:1013:U:OP2	2.31	0.44
18:SW:92:ASN:C	18:SW:92:ASN:OD1	2.61	0.44
19:SY:25:ILE:N	19:SY:71:GLY:O	2.49	0.44
24:SB:175:GLU:HB3	24:SB:187:LYS:HE2	2.00	0.44
25:SE:104:ASP:O	25:SE:190:GLY:HA3	2.18	0.44
26:SD:5:ILE:HD12	76:S2:1554:C:H42	1.82	0.44
26:SD:40:ARG:HA	26:SD:40:ARG:HD2	1.85	0.44
28:SI:184:ARG:NE	76:S2:305:U:O4	2.41	0.44
32:LB:124:LYS:NZ	73:L5:5063:G:O6	2.43	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:LB:189:THR:O	32:LB:193:LYS:HG3	2.18	0.44
35:LE:111:LYS:N	73:L5:460:C:OP1	2.51	0.44
36:LF:209:TRP:CD1	36:LF:210:PRO:HD2	2.52	0.44
37:LG:175:ARG:CZ	37:LG:230:TYR:HD2	2.30	0.44
38:LH:91:LYS:HG2	38:LH:145:ILE:HD12	2.00	0.44
53:LX:147:LEU:HD23	53:LX:147:LEU:HA	1.82	0.44
56:La:46:ASP:OD1	56:La:46:ASP:C	2.61	0.44
65:Lj:56:ARG:NH1	73:L5:374:G:OP2	2.49	0.44
73:L5:158:A:N1	73:L5:276:C:O2'	2.40	0.44
73:L5:198:A:C6	73:L5:237:G:H4'	2.52	0.44
73:L5:461:G:N2	73:L5:694:C:O2'	2.47	0.44
73:L5:751:G:N2	73:L5:912:G:H22	2.16	0.44
73:L5:976:G:C2'	73:L5:977:C:H5''	2.45	0.44
73:L5:1094:G:C2	73:L5:1095:A:C8	3.06	0.44
73:L5:1591:U:OP1	73:L5:1592:G:H5'	2.18	0.44
73:L5:3855:C:H2'	73:L5:3856:A:H8	1.82	0.44
73:L5:3870:C:H2'	73:L5:3871:A:H8	1.83	0.44
73:L5:5003:U:H2'	73:L5:5004:C:C6	2.53	0.44
4:SQ:27:ARG:HE	4:SQ:66:VAL:HG12	1.83	0.43
6:SX:60:LYS:HA	6:SX:60:LYS:HD3	1.68	0.43
8:SU:60:THR:HG23	76:S2:1548:G:OP1	2.18	0.43
8:SU:63:ILE:HB	8:SU:80:PHE:HB3	2.00	0.43
11:Sg:129:ILE:HD11	11:Sg:151:VAL:HG21	1.99	0.43
11:Sg:171:ASP:OD1	11:Sg:171:ASP:N	2.51	0.43
13:Sd:22:ARG:O	29:SK:65:ARG:HG3	2.18	0.43
18:SW:71:LYS:NZ	76:S2:1153:C:OP2	2.41	0.43
19:SY:12:PHE:HB2	76:S2:837:A:N1	2.32	0.43
19:SY:15:ASN:OD1	19:SY:15:ASN:N	2.51	0.43
24:SB:52:THR:OG1	24:SB:58:ALA:N	2.36	0.43
30:SF:166:ILE:HG12	76:S2:1599:U:H2'	2.00	0.43
31:LA:241:ARG:NH1	73:L5:3659:G:OP1	2.49	0.43
34:LD:107:ARG:NH2	34:LD:116:ASP:HB2	2.33	0.43
39:LI:91:LEU:HD11	39:LI:129:VAL:HB	1.99	0.43
40:LJ:40:LEU:HD23	40:LJ:40:LEU:HA	1.91	0.43
47:LR:88:ARG:NH1	73:L5:3607:U:OP1	2.50	0.43
48:LS:15:ARG:HD2	48:LS:25:PRO:HG2	2.00	0.43
56:La:4:ARG:NH2	73:L5:2341:A:OP2	2.32	0.43
58:Lc:22:MET:HA	58:Lc:27:TYR:CE2	2.53	0.43
58:Lc:69:THR:OG1	58:Lc:70:GLY:N	2.49	0.43
62:Lg:41:ALA:O	62:Lg:52:ARG:HD2	2.18	0.43
63:Lh:23:ASP:N	63:Lh:23:ASP:OD1	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:65:A:N1	73:L5:76:A:H5''	2.33	0.43
73:L5:752:G:C4	73:L5:753:C:C5	3.06	0.43
73:L5:972:C:O2'	73:L5:973:G:O4'	2.32	0.43
73:L5:1182:C:H41	73:L5:1184:A:H5''	1.82	0.43
73:L5:1381:U:H2'	73:L5:1382:G:O4'	2.18	0.43
73:L5:2607:C:H2'	73:L5:2608:G:H8	1.83	0.43
73:L5:4088:C:H2'	73:L5:4089:G:H8	1.82	0.43
73:L5:4133:C:C2	73:L5:4152:G:C2	3.05	0.43
73:L5:4495:G:C2	73:L5:4496:A:N7	2.86	0.43
76:S2:107:A:H2'	76:S2:108:G:H8	1.81	0.43
76:S2:383:G:H2'	76:S2:384:U:C4'	2.48	0.43
76:S2:1737:G:H2'	76:S2:1738:C:H6	1.83	0.43
76:S2:1782:G:C5	76:S2:1784:G:C6	3.05	0.43
78:CA:144:ARG:NH1	78:CA:781:MET:HE1	2.33	0.43
4:SQ:131:LYS:HG3	8:SU:79:ARG:HH22	1.83	0.43
12:SC:68:ARG:HD3	12:SC:68:ARG:HA	1.85	0.43
17:SG:161:PRO:HA	17:SG:172:LYS:HB2	1.99	0.43
19:SY:18:LEU:HD22	19:SY:20:ARG:HE	1.83	0.43
22:SZ:50:PHE:CD2	22:SZ:83:LEU:HD21	2.53	0.43
24:SB:62:LEU:HA	24:SB:65:ARG:NE	2.32	0.43
25:SE:163:ASP:HB3	25:SE:165:GLU:OE1	2.18	0.43
26:SD:173:ARG:HD3	26:SD:173:ARG:HA	1.87	0.43
27:SH:39:GLN:HG2	27:SH:75:ILE:HG21	1.99	0.43
31:LA:204:MET:HG2	73:L5:1631:A:C2	2.52	0.43
41:LL:31:ARG:HH22	73:L5:338:A:P	2.41	0.43
43:LN:28:TRP:HA	43:LN:31:ARG:HH12	1.83	0.43
44:LO:9:LEU:HD23	44:LO:118:MET:HB2	2.01	0.43
46:LQ:175:GLU:HA	56:La:51:GLY:O	2.18	0.43
47:LR:119:MET:HE2	47:LR:145:LEU:HD13	2.00	0.43
60:Le:17:THR:HG21	73:L5:1301:C:N3	2.34	0.43
60:Le:64:LYS:NZ	73:L5:2079:G:OP2	2.46	0.43
73:L5:21:G:H1'	75:L8:103:A:N3	2.32	0.43
73:L5:461:G:C2	73:L5:462:G:C5	3.06	0.43
73:L5:679:C:H2'	73:L5:680:G:H8	1.82	0.43
73:L5:1087:A:H2'	73:L5:1088:C:C6	2.53	0.43
73:L5:1202:C:C4	73:L5:1203:G:N7	2.86	0.43
73:L5:1216:C:H3'	73:L5:1217:G:H5'	2.00	0.43
73:L5:2363:A:H2'	73:L5:2364:G:O4'	2.17	0.43
73:L5:2542:G:H2'	73:L5:2543:A:C8	2.53	0.43
73:L5:4043:G:OP2	73:L5:4045:G:N2	2.51	0.43
73:L5:4255:A:H2'	73:L5:4256:A:H5''	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:4281:A:H2'	73:L5:4282:A:H2'	2.00	0.43
73:L5:4988:U:H2'	73:L5:5061:A:C2	2.53	0.43
76:S2:70:G:N2	76:S2:80:G:O6	2.50	0.43
76:S2:85:A:H2'	76:S2:86:C:C6	2.53	0.43
76:S2:106:C:H2'	76:S2:107:A:H8	1.83	0.43
76:S2:583:C:H2'	76:S2:584:G:H8	1.83	0.43
76:S2:837:A:H2'	76:S2:837:A:N3	2.33	0.43
76:S2:1552:G:H5''	76:S2:1557:C:N3	2.32	0.43
76:S2:1706:G:N3	76:S2:1850:A:O2'	2.47	0.43
78:CA:290:CYS:SG	78:CA:291:GLN:N	2.91	0.43
78:CA:665:ILE:HG12	78:CA:703:ASP:HB3	2.00	0.43
1:SL:99:TYR:O	1:SL:101:ARG:NE	2.51	0.43
5:SV:60:ARG:HG3	5:SV:60:ARG:HH11	1.83	0.43
8:SU:67:LYS:HB2	8:SU:78:ASP:HB2	1.99	0.43
18:SW:105:THR:HG23	18:SW:124:LYS:HB2	1.99	0.43
22:SZ:96:LEU:HD23	22:SZ:97:ILE:N	2.33	0.43
23:SA:121:LEU:HD11	23:SA:145:ILE:HD11	2.00	0.43
23:SA:166:LYS:HD3	23:SA:166:LYS:HA	1.81	0.43
23:SA:195:TRP:CD1	23:SA:197:VAL:HB	2.52	0.43
28:SI:10:LYS:HZ1	76:S2:371:A:P	2.42	0.43
31:LA:200:ARG:NH2	31:LA:217:GLN:OE1	2.51	0.43
32:LB:382:MET:HE3	32:LB:382:MET:HB2	1.69	0.43
33:LC:195:LYS:HE3	73:L5:2333:G:H5''	2.00	0.43
34:LD:68:ARG:HD2	34:LD:68:ARG:HA	1.75	0.43
34:LD:207:TYR:O	34:LD:211:LEU:HD23	2.18	0.43
53:LX:155:ILE:H	53:LX:155:ILE:HD12	1.83	0.43
66:Lk:11:PHE:CZ	66:Lk:34:PHE:HB3	2.52	0.43
71:Lp:47:MET:HE1	71:Lp:64:VAL:HG23	2.00	0.43
73:L5:408:A:O2'	73:L5:411:G:OP2	2.36	0.43
73:L5:1082:C:OP1	73:L5:1219:G:N2	2.50	0.43
73:L5:1399:G:H5''	73:L5:1466:G:O2'	2.19	0.43
73:L5:2538:U:H2'	73:L5:2539:C:H6	1.83	0.43
73:L5:3606:U:H2'	73:L5:3607:U:H6	1.83	0.43
73:L5:3954:A:H61	73:L5:4057:C:N4	2.16	0.43
73:L5:3958:G:O6	77:S6:19:G:C6	2.71	0.43
73:L5:4517:A:H5''	73:L5:4518:A:H5''	2.00	0.43
73:L5:4968:A:H2'	73:L5:4969:C:H6	1.83	0.43
76:S2:1290:G:C2	76:S2:1310:U:C2	3.05	0.43
76:S2:1354:G:N2	76:S2:1357:A:OP2	2.34	0.43
76:S2:1654:G:H2'	76:S2:1655:C:C6	2.53	0.43
77:S6:64:U:H2'	77:S6:65:C:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:ST:67:ARG:HD2	76:S2:1587:G:C6	2.54	0.43
10:ST:73:GLY:H	76:S2:1562:C:P	2.42	0.43
11:Sg:59:LEU:HD21	11:Sg:90:TRP:CG	2.53	0.43
11:Sg:64:HIS:HB3	11:Sg:83:TRP:O	2.18	0.43
12:SC:62:PRO:HG2	12:SC:71:LYS:HB3	2.01	0.43
16:SO:46:ASP:OD1	16:SO:48:SER:N	2.52	0.43
30:SF:94:LYS:HE2	30:SF:94:LYS:HB2	1.56	0.43
30:SF:152:TRP:CZ2	76:S2:1221:G:H4'	2.53	0.43
33:LC:340:ILE:HB	35:LE:50:LEU:HD21	2.00	0.43
39:LI:4:ARG:NH1	39:LI:99:ILE:HG13	2.34	0.43
43:LN:38:ARG:HH21	75:L8:141:C:P	2.40	0.43
43:LN:67:ARG:NH2	73:L5:3672:G:H4'	2.33	0.43
53:LX:117:TYR:O	53:LX:119:ILE:HG23	2.18	0.43
57:Lb:10:HIS:NE2	73:L5:1877:G:O6	2.50	0.43
63:Lh:15:GLU:O	63:Lh:19:LYS:HG3	2.18	0.43
67:Ll:40:LYS:HD2	75:L8:53:G:H4'	2.00	0.43
73:L5:60:G:H2'	73:L5:61:A:C8	2.53	0.43
73:L5:167:C:H2'	73:L5:168:C:C6	2.53	0.43
73:L5:1177:U:H2'	73:L5:1178:G:H8	1.81	0.43
73:L5:1177:U:C4	73:L5:1183:C:N4	2.87	0.43
73:L5:1617:G:H1'	73:L5:2513:A:H61	1.80	0.43
73:L5:1725:U:H2'	73:L5:1726:U:C6	2.54	0.43
73:L5:1739:G:H2'	73:L5:1740:C:C6	2.53	0.43
73:L5:2275:G:H2'	73:L5:2276:A:C8	2.53	0.43
73:L5:4291:G:H2'	73:L5:4328:G:H21	1.82	0.43
73:L5:4743:G:H1	73:L5:4956:A:H2	1.63	0.43
76:S2:810:A:H3'	76:S2:811:A:H5''	2.00	0.43
76:S2:1365:G:H2'	76:S2:1366:G:H8	1.83	0.43
78:CA:226:LYS:O	78:CA:230:GLU:HG2	2.18	0.43
78:CA:664:ASP:OD1	78:CA:664:ASP:N	2.49	0.43
6:SX:106:GLY:HA2	6:SX:112:VAL:HG11	1.98	0.43
11:Sg:300:ALA:N	11:Sg:310:TRP:HE1	2.17	0.43
14:SJ:124:HIS:ND1	20:Se:31:ARG:HD3	2.33	0.43
17:SG:180:VAL:HA	76:S2:143:U:O4	2.18	0.43
17:SG:187:HIS:HD1	76:S2:315:C:N4	2.16	0.43
17:SG:206:ALA:HA	17:SG:209:TYR:CB	2.48	0.43
23:SA:127:PRO:HG3	23:SA:146:ALA:HB1	1.99	0.43
24:SB:57:ILE:HG13	24:SB:60:ASP:H	1.83	0.43
26:SD:157:MET:HE2	26:SD:157:MET:HB2	1.81	0.43
28:SI:7:ASN:HD22	28:SI:7:ASN:C	2.26	0.43
28:SI:103:LEU:HG	28:SI:170:LYS:HB2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:SF:148:ASN:O	30:SF:152:TRP:HB2	2.18	0.43
32:LB:77:THR:O	32:LB:332:MET:HA	2.18	0.43
32:LB:92:TYR:HB3	32:LB:99:LEU:HG	2.00	0.43
39:LI:47:PRO:HB3	39:LI:171:TRP:CZ2	2.53	0.43
56:La:92:LYS:HE2	56:La:92:LYS:HB3	1.88	0.43
58:Lc:77:ASN:O	58:Lc:80:GLU:N	2.51	0.43
73:L5:202:C:H2'	73:L5:203:U:C6	2.54	0.43
73:L5:382:G:H5'	73:L5:383:A:OP2	2.19	0.43
73:L5:1400:G:H2'	73:L5:1401:C:H6	1.83	0.43
73:L5:1928:C:H42	73:L5:2054:U:H1'	1.83	0.43
73:L5:2328:G:H2'	73:L5:2329:U:H6	1.83	0.43
73:L5:3656:A:H2'	73:L5:3657:U:H6	1.83	0.43
73:L5:3947:A:H61	73:L5:4066:U:H3	1.65	0.43
73:L5:4629:U:N3	73:L5:4630:G:N7	2.66	0.43
76:S2:217:A:H1'	76:S2:310:C:N3	2.34	0.43
76:S2:478:G:H2'	76:S2:479:C:C6	2.53	0.43
76:S2:877:C:H5'	76:S2:878:G:C5'	2.49	0.43
76:S2:1189:A:H2'	76:S2:1190:A:C8	2.54	0.43
76:S2:1405:A:O4'	76:S2:1580:A:O2'	2.33	0.43
76:S2:1428:G:H2'	76:S2:1429:G:C8	2.54	0.43
78:CA:642:ASP:HB3	78:CA:645:GLU:HG2	1.99	0.43
10:ST:112:MET:O	10:ST:124:THR:HG23	2.17	0.43
11:Sg:191:HIS:CD2	11:Sg:195:LEU:HD21	2.54	0.43
17:SG:189:ARG:HA	17:SG:192:ILE:HB	2.00	0.43
17:SG:217:MET:HE3	17:SG:217:MET:C	2.44	0.43
19:SY:104:ARG:HG2	76:S2:491:C:OP2	2.19	0.43
24:SB:143:THR:HA	24:SB:207:LEU:HD23	1.99	0.43
29:SK:8:ARG:O	29:SK:11:ILE:HG12	2.19	0.43
29:SK:63:ALA:HB3	29:SK:66:HIS:HB2	2.01	0.43
33:LC:285:ILE:N	46:LQ:124:ASP:OD2	2.47	0.43
35:LE:154:THR:O	73:L5:4942:G:H4'	2.19	0.43
36:LF:73:ARG:NH2	73:L5:726:G:H5''	2.34	0.43
37:LG:187:LYS:HG2	37:LG:198:THR:HB	2.01	0.43
45:LP:16:LYS:HD2	45:LP:149:ILE:HD11	2.00	0.43
49:LT:87:LYS:CE	73:L5:4305:G:H22	2.31	0.43
62:Lg:65:MET:HG3	73:L5:2748:C:O3'	2.19	0.43
65:Lj:85:LYS:O	75:L8:67:U:H5''	2.18	0.43
73:L5:1693:U:H2'	73:L5:1694:C:O4'	2.19	0.43
73:L5:1787:A:N3	73:L5:4210:U:O2'	2.50	0.43
73:L5:2855:G:H1'	73:L5:2857:A:N6	2.33	0.43
73:L5:3960:A:C5	73:L5:4045:G:H4'	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:4035:G:H3'	73:L5:4036:G:C8	2.53	0.43
73:L5:4060:U:H3'	73:L5:4061:G:H8	1.84	0.43
73:L5:4475:G:H5''	73:L5:4476:C:H5'	2.00	0.43
76:S2:12:U:H1'	76:S2:1357:A:H1'	2.00	0.43
76:S2:1648:G:N2	76:S2:1675:A:OP2	2.39	0.43
76:S2:1724:A:H2'	76:S2:1725:U:C6	2.53	0.43
78:CA:265:TYR:HB3	78:CA:285:LEU:HD23	1.99	0.43
78:CA:580:ARG:HD3	78:CA:580:ARG:HA	1.78	0.43
3:SP:36:LEU:CG	3:SP:37:TYR:H	2.30	0.43
4:SQ:27:ARG:HD2	4:SQ:95:TYR:CE1	2.54	0.43
5:SV:32:ILE:O	5:SV:32:ILE:HG13	2.19	0.43
12:SC:212:LYS:O	12:SC:216:MET:HG3	2.18	0.43
12:SC:227:ARG:HH22	76:S2:663:C:HO2'	1.64	0.43
14:SJ:136:ARG:NH1	14:SJ:139:LYS:H	2.16	0.43
16:SO:116:LEU:HA	16:SO:116:LEU:HD12	1.71	0.43
17:SG:136:LYS:HB3	76:S2:170:A:O5'	2.19	0.43
18:SW:104:LEU:HD12	18:SW:125:ILE:HA	2.01	0.43
21:Sb:16:LYS:O	21:Sb:23:ARG:NH2	2.51	0.43
21:Sb:69:GLY:HA3	76:S2:1105:G:O3'	2.18	0.43
23:SA:126:ASP:HB3	23:SA:129:ALA:HB3	2.00	0.43
24:SB:34:LYS:O	24:SB:98:THR:OG1	2.28	0.43
25:SE:136:ILE:HG23	25:SE:149:TYR:CE1	2.53	0.43
26:SD:59:LEU:HA	26:SD:66:ILE:HG13	2.01	0.43
29:SK:15:LEU:HD12	29:SK:19:GLY:HA2	2.01	0.43
31:LA:183:GLY:HA2	73:L5:1613:A:H5''	2.01	0.43
32:LB:261:ARG:HB3	73:L5:4564:A:O2'	2.18	0.43
34:LD:56:THR:HG22	34:LD:57:ASN:N	2.34	0.43
36:LF:50:ILE:HG13	36:LF:186:CYS:HB3	2.00	0.43
44:LO:176:ARG:NE	73:L5:4768:G:H5'	2.33	0.43
46:LQ:154:LYS:HE3	46:LQ:154:LYS:HB3	1.64	0.43
53:LX:86:ALA:O	53:LX:90:ILE:HG12	2.18	0.43
59:Ld:89:SER:O	59:Ld:89:SER:OG	2.31	0.43
67:Ll:37:TYR:CD1	67:Ll:39:SER:HB2	2.53	0.43
73:L5:456:C:H2'	73:L5:457:G:H8	1.83	0.43
73:L5:1274:A:O2'	73:L5:1275:G:O5'	2.35	0.43
73:L5:4036:G:H8	73:L5:4036:G:O5'	2.01	0.43
76:S2:383:G:H2'	76:S2:384:U:H4'	2.00	0.43
76:S2:929:G:N2	76:S2:1104:G:H4'	2.33	0.43
76:S2:977:C:H2'	76:S2:978:G:O4'	2.19	0.43
76:S2:1280:G:N3	76:S2:1281:G:H1'	2.34	0.43
76:S2:1284:A:C4	76:S2:1286:G:N7	2.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:SL:17:PHE:CE2	1:SL:20:LYS:HB2	2.53	0.43
3:SP:57:LEU:HD23	3:SP:57:LEU:HA	1.92	0.43
10:ST:56:ARG:HD2	10:ST:79:TYR:CZ	2.54	0.43
10:ST:104:LEU:HD13	10:ST:104:LEU:HA	1.89	0.43
11:Sg:22:ALA:CB	11:Sg:71:ILE:HG22	2.46	0.43
11:Sg:214:GLY:HA2	11:Sg:236:ILE:HG13	2.00	0.43
13:Sd:30:LEU:HD12	13:Sd:31:ILE:N	2.33	0.43
15:SN:53:ILE:HD12	15:SN:53:ILE:HA	1.91	0.43
19:SY:4:THR:HB	19:SY:32:LYS:NZ	2.34	0.43
19:SY:40:ILE:HD13	19:SY:60:PHE:HE2	1.83	0.43
22:SZ:69:THR:HG22	22:SZ:71:ALA:H	1.83	0.43
27:SH:10:LYS:HA	27:SH:45:ILE:O	2.18	0.43
28:SI:88:ASN:O	28:SI:91:VAL:HG22	2.19	0.43
30:SF:55:ARG:HG2	30:SF:55:ARG:NH1	2.33	0.43
30:SF:169:ILE:HD12	76:S2:1535:U:C4	2.53	0.43
31:LA:107:MET:HE1	31:LA:113:VAL:HG11	2.01	0.43
32:LB:45:ALA:HB3	32:LB:183:ILE:HG23	2.01	0.43
32:LB:107:ALA:HB2	32:LB:201:LEU:HD22	2.01	0.43
37:LG:182:CYS:HB3	37:LG:222:ILE:CG2	2.49	0.43
38:LH:104:VAL:HB	38:LH:113:GLU:HB2	1.99	0.43
39:LI:51:HIS:CE1	39:LI:168:SER:HB2	2.53	0.43
40:LJ:155:HIS:HB2	74:L7:55:A:H4'	1.99	0.43
45:LP:86:LYS:HB2	73:L5:3857:G:H5''	2.00	0.43
53:LX:101:ASP:OD1	53:LX:102:VAL:N	2.52	0.43
55:LZ:60:LYS:HZ1	73:L5:4149:C:H5'	1.82	0.43
58:Lc:14:ILE:HD12	58:Lc:14:ILE:N	2.33	0.43
63:Lh:63:GLN:O	63:Lh:67:GLU:HG3	2.19	0.43
72:Lr:51:VAL:HG11	72:Lr:114:ALA:HB2	2.01	0.43
73:L5:268:G:H2'	73:L5:269:G:H8	1.83	0.43
73:L5:2380:G:N2	73:L5:2424:G:H5''	2.34	0.43
73:L5:2895:A:H2'	73:L5:2896:G:H8	1.84	0.43
73:L5:4195:G:OP1	73:L5:4221:C:O2'	2.34	0.43
76:S2:871:U:O2	76:S2:871:U:H2'	2.19	0.43
77:S6:20:A:H2'	77:S6:20:A:N3	2.34	0.43
77:S6:24:G:C6	77:S6:25:U:C4	3.07	0.43
78:CA:592:LEU:HD12	78:CA:603:TYR:CE2	2.53	0.43
4:SQ:16:LYS:HD2	4:SQ:17:LYS:HG2	2.01	0.43
7:Sa:10:ARG:HG2	7:Sa:33:ASP:OD2	2.19	0.43
17:SG:192:ILE:HD13	17:SG:195:LYS:HG3	2.01	0.43
19:SY:19:GLN:HG3	19:SY:81:TYR:CD2	2.53	0.43
19:SY:99:LYS:HD3	19:SY:100:LYS:N	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:SE:29:PRO:HA	76:S2:496:C:H5'	2.01	0.43
28:SI:184:ARG:HG2	28:SI:186:ASP:OD1	2.19	0.43
29:SK:50:GLN:HG2	76:S2:1276:A:O2'	2.18	0.43
29:SK:64:TRP:O	29:SK:64:TRP:CD1	2.72	0.43
34:LD:60:ILE:HB	34:LD:80:ALA:HB2	2.01	0.43
34:LD:286:SER:OG	73:L5:1177:U:O2'	2.20	0.43
37:LG:34:LYS:HG3	73:L5:4128:A:H2	1.84	0.43
42:LM:121:ARG:HH11	42:LM:121:ARG:HG3	1.84	0.43
48:LS:122:HIS:HB2	74:L7:94:C:H4'	2.00	0.43
56:La:20:GLY:HA3	73:L5:1852:U:OP1	2.19	0.43
64:Li:99:LYS:HA	64:Li:99:LYS:CE	2.45	0.43
66:Lk:30:ASP:OD1	66:Lk:30:ASP:N	2.51	0.43
73:L5:208:A:N3	73:L5:232:G:O2'	2.49	0.43
73:L5:1333:A:H2'	73:L5:1334:A:H8	1.82	0.43
73:L5:4058:U:H3'	73:L5:4059:C:H4'	2.01	0.43
76:S2:30:C:O2'	76:S2:596:U:OP1	2.29	0.43
76:S2:199:C:C2	76:S2:200:G:C8	3.07	0.43
76:S2:563:G:O2'	76:S2:564:A:O5'	2.36	0.43
76:S2:957:A:O2'	76:S2:958:G:O5'	2.36	0.43
76:S2:1244:U:H2'	76:S2:1245:G:C8	2.54	0.43
76:S2:1456:G:H2'	76:S2:1457:U:H6	1.83	0.43
3:SP:23:ASP:HA	3:SP:26:LEU:HD23	2.01	0.43
5:SV:36:VAL:O	5:SV:51:LYS:N	2.52	0.43
6:SX:7:LEU:HD12	6:SX:7:LEU:HA	1.88	0.43
8:SU:66:ARG:NH1	8:SU:75:LYS:HG2	2.34	0.43
10:ST:35:ASP:OD1	10:ST:35:ASP:O	2.37	0.43
11:Sg:269:GLU:OE1	11:Sg:269:GLU:HA	2.19	0.43
12:SC:176:LYS:HB2	12:SC:176:LYS:HE2	1.73	0.43
14:SJ:24:ARG:HG2	14:SJ:24:ARG:HH11	1.84	0.43
26:SD:29:LEU:HB2	26:SD:34:TYR:HD2	1.84	0.43
29:SK:25:LYS:O	29:SK:65:ARG:NH1	2.52	0.43
35:LE:46:ARG:HH11	35:LE:66:LYS:HD3	1.83	0.43
43:LN:75:VAL:O	73:L5:3670:C:H5'	2.19	0.43
44:LO:190:ASP:OD1	44:LO:190:ASP:C	2.62	0.43
45:LP:52:THR:OG1	45:LP:89:GLU:OE2	2.30	0.43
46:LQ:66:MET:O	46:LQ:70:MET:HG2	2.18	0.43
46:LQ:69:LYS:CE	73:L5:1458:C:H5''	2.48	0.43
54:LY:56:GLN:HE21	54:LY:65:GLN:HA	1.83	0.43
55:LZ:64:LYS:HD3	55:LZ:64:LYS:HA	1.82	0.43
66:Lk:9:LYS:H	66:Lk:9:LYS:HG3	1.63	0.43
71:Lp:44:LYS:NZ	73:L5:2672:C:OP1	2.46	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:453:G:H2'	73:L5:704:C:C6	2.53	0.43
73:L5:1098:G:N2	73:L5:1198:G:C4	2.87	0.43
73:L5:1341:U:H2'	73:L5:1342:A:C8	2.54	0.43
73:L5:2335:C:H2'	73:L5:2336:G:H8	1.83	0.43
73:L5:2443:G:H3'	73:L5:2444:U:C6	2.54	0.43
73:L5:4704:C:H2'	73:L5:4705:A:H8	1.84	0.43
76:S2:317:C:H42	76:S2:333:G:H22	1.66	0.43
76:S2:832:G:C2	76:S2:843:C:C2	3.07	0.43
76:S2:1423:C:N4	76:S2:1424:G:H21	2.16	0.43
76:S2:1455:A:C2	76:S2:1456:G:N7	2.87	0.43
76:S2:1617:G:N2	76:S2:1619:A:H3'	2.33	0.43
1:SL:133:PRO:HA	1:SL:139:ARG:HD3	2.00	0.42
2:SR:85:VAL:HG13	2:SR:86:PRO:HD3	2.00	0.42
11:Sg:82:SER:HB2	11:Sg:86:THR:HG23	2.00	0.42
12:SC:108:LYS:HE2	12:SC:110:MET:HB3	2.00	0.42
16:SO:46:ASP:OD1	16:SO:46:ASP:C	2.61	0.42
17:SG:7:PHE:HE1	17:SG:113:ILE:HG21	1.83	0.42
17:SG:187:HIS:CE1	76:S2:316:G:C5	3.06	0.42
18:SW:101:PHE:HB2	18:SW:129:PHE:CE1	2.54	0.42
19:SY:98:GLU:CD	19:SY:99:LYS:H	2.26	0.42
20:Se:8:ARG:O	76:S2:616:A:H4'	2.19	0.42
26:SD:58:VAL:O	26:SD:65:ARG:NH2	2.30	0.42
26:SD:76:ARG:HE	29:SK:66:HIS:CD2	2.37	0.42
26:SD:105:LEU:HD12	26:SD:122:VAL:HG21	2.01	0.42
30:SF:80:GLY:C	30:SF:82:ASN:N	2.77	0.42
37:LG:73:ARG:HG2	73:L5:4076:G:C8	2.54	0.42
49:LT:18:PRO:HB2	49:LT:21:LYS:HD2	2.00	0.42
63:Lh:37:THR:O	63:Lh:37:THR:OG1	2.37	0.42
66:Lk:7:GLU:HG2	66:Lk:10:ASP:HB2	2.01	0.42
66:Lk:26:LYS:NZ	73:L5:2696:A:OP1	2.45	0.42
67:Ll:9:ILE:HD12	67:Ll:51:LEU:HD21	2.00	0.42
68:Lm:88:LYS:HA	68:Lm:92:ASP:OD2	2.19	0.42
69:Ln:1:MET:HG2	76:S2:1706:G:H5'	2.01	0.42
73:L5:309:C:H4'	73:L5:310:G:H8	1.84	0.42
73:L5:1099:C:O2	73:L5:1099:C:H2'	2.19	0.42
73:L5:1168:G:C2	73:L5:1169:G:N7	2.87	0.42
73:L5:1687:U:H2'	73:L5:1688:G:C8	2.54	0.42
73:L5:2027:U:H2'	73:L5:2028:C:H6	1.83	0.42
73:L5:2370:A:N1	73:L5:2390:G:O2'	2.46	0.42
73:L5:2858:A:H1'	73:L5:2859:G:H5'	2.01	0.42
73:L5:3753:G:HO2'	73:L5:3754:G:N2	2.17	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:4523:A:H5''	73:L5:4524:G:H5'	2.01	0.42
74:L7:92:C:H2'	74:L7:93:G:C8	2.54	0.42
76:S2:93:U:H2'	76:S2:94:G:O4'	2.19	0.42
76:S2:1189:A:H2'	76:S2:1190:A:H8	1.84	0.42
76:S2:1235:G:H2'	76:S2:1236:G:C8	2.54	0.42
76:S2:1302:G:H5'	76:S2:1302:G:C8	2.54	0.42
76:S2:1420:G:H2'	76:S2:1421:A:O4'	2.19	0.42
76:S2:1561:A:C6	76:S2:1575:G:C2	3.07	0.42
76:S2:1643:U:O2'	76:S2:1644:C:H6	2.01	0.42
78:CA:666:THR:OG1	78:CA:667:LYS:N	2.52	0.42
4:SQ:132:PHE:HB2	8:SU:77:TRP:CD1	2.53	0.42
9:Sc:63:ARG:NH1	9:Sc:64:GLU:HB3	2.35	0.42
11:Sg:36:ARG:HD2	11:Sg:65:PHE:CG	2.54	0.42
11:Sg:108:VAL:HA	11:Sg:124:SER:HB2	2.00	0.42
11:Sg:185:LYS:HA	11:Sg:185:LYS:HD2	1.80	0.42
15:SN:139:TRP:HZ2	15:SN:149:LEU:HD21	1.84	0.42
19:SY:118:ARG:HH12	76:S2:85:A:H5''	1.84	0.42
24:SB:42:ARG:HA	24:SB:42:ARG:HD2	1.95	0.42
24:SB:128:LYS:HA	24:SB:134:LEU:HA	2.00	0.42
24:SB:175:GLU:HG3	24:SB:193:ILE:HG23	2.00	0.42
27:SH:51:ILE:HD12	27:SH:51:ILE:HA	1.82	0.42
28:SI:26:LYS:HZ2	28:SI:49:ARG:HD2	1.83	0.42
32:LB:282:LYS:NZ	32:LB:336:CYS:O	2.38	0.42
33:LC:76:ILE:HG12	33:LC:96:CYS:SG	2.59	0.42
34:LD:191:ASN:OD1	34:LD:194:VAL:HG23	2.19	0.42
41:LL:61:CYS:SG	73:L5:102:G:H5''	2.59	0.42
42:LM:65:PRO:HG2	73:L5:920:C:H4'	2.01	0.42
43:LN:166:SER:O	43:LN:170:LYS:HG3	2.18	0.42
57:Lb:33:LYS:HE2	57:Lb:33:LYS:HB3	1.63	0.42
62:Lg:46:CYS:HB3	62:Lg:86:CYS:SG	2.60	0.42
68:Lm:125:LYS:CG	73:L5:4474:A:H5''	2.49	0.42
73:L5:122:U:H2'	73:L5:123:C:H6	1.84	0.42
73:L5:247:G:H2'	73:L5:248:C:H6	1.84	0.42
73:L5:302:C:H2'	73:L5:303:C:C6	2.54	0.42
73:L5:975:C:H2'	73:L5:976:G:C1'	2.49	0.42
73:L5:978:G:N7	73:L5:1278:C:H1'	2.33	0.42
73:L5:1171:G:C6	73:L5:1191:C:N3	2.87	0.42
73:L5:1426:G:N1	73:L5:1458:C:OP2	2.45	0.42
73:L5:1431:C:H2'	73:L5:1432:G:O4'	2.19	0.42
73:L5:3961:G:H1'	73:L5:4048:A:H61	1.85	0.42
76:S2:144:U:O4	76:S2:313:A:N6	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:S2:352:U:H2'	76:S2:353:C:H6	1.84	0.42
76:S2:1229:G:H2'	76:S2:1230:C:C6	2.54	0.42
76:S2:1695:A:N1	76:S2:1832:A:O2'	2.48	0.42
77:S6:11:G:N2	77:S6:25:U:O2	2.30	0.42
78:CA:261:TRP:CD1	78:CA:262:GLY:H	2.36	0.42
1:SL:136:LYS:HA	76:S2:385:G:C5'	2.49	0.42
3:SP:66:GLU:OE1	3:SP:66:GLU:N	2.53	0.42
4:SQ:60:LYS:H	4:SQ:60:LYS:HG3	1.70	0.42
7:Sa:8:ASN:HD22	7:Sa:8:ASN:HA	1.64	0.42
16:SO:113:GLN:H	16:SO:113:GLN:CD	2.28	0.42
17:SG:67:VAL:HG23	17:SG:100:CYS:H	1.84	0.42
17:SG:136:LYS:HA	17:SG:136:LYS:HD3	1.93	0.42
25:SE:121:TYR:N	25:SE:121:TYR:HD1	2.18	0.42
27:SH:82:GLU:O	27:SH:85:LYS:HG2	2.20	0.42
30:SF:188:TYR:CZ	30:SF:192:LYS:HD3	2.54	0.42
33:LC:266:THR:CG2	33:LC:269:LYS:HG2	2.47	0.42
33:LC:298:ILE:O	33:LC:302:LEU:HG	2.19	0.42
33:LC:299:GLN:OE1	33:LC:302:LEU:HD12	2.19	0.42
35:LE:159:GLY:O	35:LE:275:PHE:N	2.51	0.42
38:LH:31:ARG:HD3	38:LH:86:LEU:O	2.19	0.42
38:LH:76:HIS:O	38:LH:80:MET:HG3	2.20	0.42
44:LO:126:VAL:HG13	44:LO:127:VAL:HG13	2.01	0.42
46:LQ:24:TYR:CE1	72:Lr:5:LEU:HD13	2.55	0.42
49:LT:132:PRO:CD	73:L5:1838:A:H5''	2.50	0.42
56:La:145:VAL:HG13	64:Li:5:TYR:CE1	2.55	0.42
62:Lg:56:VAL:HG13	62:Lg:72:LYS:HA	2.01	0.42
73:L5:275:C:H2'	73:L5:276:C:C6	2.55	0.42
73:L5:732:A:H61	73:L5:934:C:N4	2.17	0.42
73:L5:1677:U:H4'	73:L5:1680:G:C2	2.53	0.42
73:L5:2306:G:H1'	73:L5:2332:A:N6	2.35	0.42
73:L5:4188:U:H2'	73:L5:4189:U:C6	2.54	0.42
76:S2:436:G:C6	76:S2:458:A:C6	3.07	0.42
76:S2:564:A:C8	76:S2:565:G:C8	3.07	0.42
76:S2:1323:U:H2'	76:S2:1324:G:C8	2.49	0.42
76:S2:1380:C:H2'	76:S2:1381:G:O4'	2.18	0.42
3:SP:68:PRO:N	3:SP:69:PRO:HD2	2.34	0.42
4:SQ:82:TYR:OH	30:SF:51:HIS:CD2	2.72	0.42
4:SQ:85:ARG:HD3	4:SQ:119:LEU:CD1	2.49	0.42
7:Sa:92:ARG:HB3	76:S2:1865:C:O2	2.19	0.42
19:SY:20:ARG:HD3	19:SY:76:TYR:CZ	2.54	0.42
25:SE:121:TYR:N	25:SE:121:TYR:CD1	2.86	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:SI:98:LYS:HG2	28:SI:177:SER:O	2.19	0.42
28:SI:177:SER:O	28:SI:179:PRO:HD3	2.19	0.42
30:SF:20:PHE:CG	30:SF:109:LEU:HD11	2.54	0.42
31:LA:193:ARG:HH12	73:L5:3678:G:P	2.43	0.42
34:LD:160:PHE:HD1	34:LD:163:LEU:HD23	1.85	0.42
39:LI:46:PHE:HB2	39:LI:139:ARG:HD2	2.01	0.42
40:LJ:99:PHE:CD2	40:LJ:105:PHE:HB3	2.55	0.42
48:LS:15:ARG:HB3	48:LS:27:LEU:HD23	2.00	0.42
50:LU:26:THR:OG1	50:LU:27:HIS:N	2.50	0.42
56:La:55:LYS:HE2	73:L5:92:C:C2	2.55	0.42
56:La:110:LYS:NZ	73:L5:1396:G:N7	2.46	0.42
60:Le:49:PHE:O	60:Le:52:GLN:HG2	2.20	0.42
60:Le:124:ASN:OD1	60:Le:124:ASN:N	2.51	0.42
63:Lh:7:ARG:H	63:Lh:7:ARG:HG2	1.67	0.42
64:Li:34:THR:HG22	64:Li:36:HIS:H	1.84	0.42
68:Lm:87:GLN:HB3	68:Lm:91:CYS:HB2	2.02	0.42
73:L5:1168:G:C2	73:L5:1169:G:C5	3.08	0.42
73:L5:1379:C:H1'	73:L5:1380:G:C8	2.54	0.42
73:L5:2693:G:H2'	73:L5:2694:G:N2	2.34	0.42
73:L5:4219:A:H2'	73:L5:4220:A:C8	2.54	0.42
73:L5:4347:G:O2'	73:L5:4348:A:H5'	2.18	0.42
73:L5:4460:U:H2'	73:L5:4461:C:C6	2.54	0.42
74:L7:63:C:H5'	74:L7:64:G:H5''	2.02	0.42
76:S2:220:U:H2'	76:S2:221:A:H8	1.85	0.42
76:S2:683:G:N1	76:S2:1022:U:OP2	2.42	0.42
76:S2:1045:U:H2'	76:S2:1046:U:H6	1.85	0.42
76:S2:1102:G:N2	76:S2:1130:G:N2	2.68	0.42
76:S2:1112:U:H2'	76:S2:1113:A:C8	2.55	0.42
76:S2:1208:A:OP2	76:S2:1835:A:O2'	2.37	0.42
76:S2:1269:G:H2'	76:S2:1270:G:H8	1.84	0.42
76:S2:1307:U:O4	76:S2:1309:C:N4	2.53	0.42
76:S2:1473:G:O2'	76:S2:1474:A:H2'	2.18	0.42
78:CA:230:GLU:HA	78:CA:233:VAL:HG22	2.01	0.42
1:SL:107:LYS:HD3	76:S2:354:U:OP2	2.19	0.42
1:SL:139:ARG:HG2	76:S2:352:U:H5'	2.02	0.42
4:SQ:53:GLU:N	4:SQ:54:PRO:HD2	2.33	0.42
12:SC:169:TYR:CD1	12:SC:173:LYS:HA	2.55	0.42
14:SJ:85:GLY:HA3	14:SJ:108:ARG:NH1	2.35	0.42
15:SN:119:GLU:OE1	15:SN:141:TYR:HE2	2.02	0.42
26:SD:24:PHE:CE2	26:SD:73:VAL:HG12	2.55	0.42
33:LC:8:ILE:N	33:LC:22:VAL:O	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LD:207:TYR:CD1	74:L7:33:U:C2	3.07	0.42
35:LE:239:LYS:HZ2	35:LE:239:LYS:HG2	1.74	0.42
60:Le:99:ILE:HG22	60:Le:103:VAL:HG21	2.00	0.42
63:Lh:46:LYS:O	63:Lh:50:VAL:HG23	2.20	0.42
73:L5:723:A:C2	73:L5:943:A:N1	2.87	0.42
73:L5:953:C:H2'	73:L5:954:C:C6	2.54	0.42
73:L5:1081:C:N4	73:L5:1219:G:O6	2.52	0.42
73:L5:1099:C:H3'	73:L5:1100:U:C6	2.49	0.42
73:L5:2634:C:H2'	73:L5:2635:U:H6	1.84	0.42
73:L5:2676:A:H2'	73:L5:2677:G:O4'	2.20	0.42
73:L5:4684:A:H2'	73:L5:4685:U:O4'	2.20	0.42
76:S2:194:C:C2	76:S2:206:G:N2	2.87	0.42
76:S2:853:C:H2'	76:S2:854:A:C8	2.54	0.42
76:S2:1271:C:H5''	76:S2:1301:A:N7	2.35	0.42
76:S2:1780:G:H2'	76:S2:1781:A:C4'	2.49	0.42
78:CA:173:GLU:O	78:CA:177:THR:HG22	2.19	0.42
3:SP:17:TYR:O	3:SP:18:ARG:NE	2.53	0.42
11:Sg:72:SER:OG	11:Sg:73:SER:N	2.52	0.42
11:Sg:294:ASP:HB2	11:Sg:297:THR:HB	2.00	0.42
13:Sd:20:SER:HB3	13:Sd:27:ARG:HG2	2.00	0.42
14:SJ:30:LYS:HB2	20:Se:42:PHE:HE2	1.85	0.42
19:SY:16:ARG:NE	25:SE:54:TYR:OH	2.53	0.42
22:SZ:88:LEU:HD22	22:SZ:109:TYR:CE1	2.54	0.42
25:SE:100:ARG:NH1	25:SE:236:ILE:HG23	2.35	0.42
27:SH:160:LYS:HD2	27:SH:191:GLU:HA	2.01	0.42
30:SF:85:LYS:HD2	76:S2:1591:C:H5'	2.02	0.42
32:LB:246:ARG:HD2	73:L5:4524:G:OP2	2.20	0.42
33:LC:222:ARG:NE	73:L5:225:G:OP1	2.38	0.42
34:LD:146:LEU:HD23	73:L5:4323:A:C2	2.54	0.42
36:LF:147:LEU:O	36:LF:151:ASN:ND2	2.52	0.42
37:LG:78:PRO:HD3	37:LG:237:TRP:CE2	2.54	0.42
37:LG:87:LEU:HD11	37:LG:182:CYS:SG	2.60	0.42
39:LI:188:LYS:HB2	39:LI:188:LYS:HE3	1.70	0.42
44:LO:10:ASP:OD1	44:LO:37:ARG:HD3	2.18	0.42
52:LW:1:MET:HE3	52:LW:3:VAL:HG13	2.01	0.42
54:LY:60:GLY:O	54:LY:63:LYS:HD3	2.20	0.42
59:Ld:22:THR:HG22	59:Ld:89:SER:HB2	2.01	0.42
70:Lo:82:MET:HE2	70:Lo:82:MET:HB2	1.62	0.42
73:L5:177:G:H3'	73:L5:178:C:H6	1.85	0.42
73:L5:1080:C:N3	73:L5:1081:C:N4	2.68	0.42
73:L5:1383:G:H2'	73:L5:1384:C:C6	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:1669:A:H4'	73:L5:1685:G:H22	1.85	0.42
73:L5:1883:G:O6	73:L5:1896:A:H2	2.02	0.42
73:L5:2776:G:H2'	73:L5:2777:G:C8	2.54	0.42
73:L5:2871:A:H2'	73:L5:2872:C:O4'	2.19	0.42
73:L5:3969:G:H3'	73:L5:3970:G:C5'	2.49	0.42
76:S2:20:G:H5'	76:S2:620:G:C4	2.55	0.42
76:S2:96:C:H1'	76:S2:474:G:H5''	2.02	0.42
76:S2:152:U:C4	76:S2:153:G:C8	3.07	0.42
76:S2:197:U:H4'	76:S2:203:G:C2	2.55	0.42
76:S2:504:G:H2'	76:S2:505:G:C8	2.54	0.42
76:S2:1606:G:O2'	76:S2:1632:G:N2	2.50	0.42
77:S6:22:G:H2'	77:S6:23:C:C6	2.55	0.42
77:S6:57:G:O2'	77:S6:58:A:H5'	2.20	0.42
7:Sa:81:SER:O	7:Sa:81:SER:OG	2.34	0.42
8:SU:81:GLN:NE2	8:SU:81:GLN:C	2.77	0.42
10:ST:80:GLY:HA3	10:ST:92:PHE:CE1	2.54	0.42
14:SJ:109:ARG:HB3	14:SJ:145:PRO:O	2.20	0.42
14:SJ:117:LEU:HD23	14:SJ:117:LEU:HA	1.80	0.42
17:SG:88:ARG:NH2	76:S2:449:A:N1	2.68	0.42
18:SW:38:LEU:HD23	18:SW:41:MET:HE3	2.01	0.42
25:SE:137:PRO:HB2	25:SE:150:PRO:HD2	2.01	0.42
26:SD:133:GLY:HA3	26:SD:156:LEU:O	2.19	0.42
27:SH:84:GLU:OE2	27:SH:169:LYS:NZ	2.53	0.42
30:SF:87:LEU:HA	30:SF:90:VAL:HG12	2.02	0.42
49:LT:43:LYS:HD3	73:L5:1732:C:H5''	2.01	0.42
52:LW:4:GLU:HB3	52:LW:30:GLN:NE2	2.34	0.42
52:LW:44:ARG:HE	73:L5:3615:G:H8	1.68	0.42
54:LY:122:LYS:HG2	73:L5:195:C:H4'	2.02	0.42
62:Lg:46:CYS:CB	62:Lg:86:CYS:SG	3.07	0.42
72:Lr:83:ASN:O	72:Lr:83:ASN:ND2	2.47	0.42
73:L5:459:C:C2	73:L5:460:C:C5	3.08	0.42
73:L5:972:C:C4	73:L5:973:G:C6	3.07	0.42
73:L5:1168:G:C2	73:L5:1194:G:C5	3.08	0.42
73:L5:3633:C:H2'	73:L5:3634:G:C8	2.54	0.42
73:L5:4094:G:H3'	73:L5:4095:G:H8	1.84	0.42
73:L5:4508:C:H2'	73:L5:4509:U:O4'	2.19	0.42
73:L5:4889:G:H4'	73:L5:4890:G:OP1	2.19	0.42
73:L5:5002:U:H2'	73:L5:5003:U:H6	1.84	0.42
76:S2:50:A:H2'	76:S2:51:U:O4'	2.20	0.42
76:S2:70:G:H1'	76:S2:80:G:H22	1.84	0.42
76:S2:221:A:N1	76:S2:301:A:N6	2.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:S2:1204:A:H1'	76:S2:1699:A:H2'	2.02	0.42
1:SL:35:ARG:HG3	1:SL:35:ARG:HH11	1.85	0.42
6:SX:14:ARG:HH11	6:SX:14:ARG:CB	2.32	0.42
7:Sa:92:ARG:NH2	76:S2:1692:U:O3'	2.53	0.42
10:ST:102:ARG:HD3	10:ST:102:ARG:HA	1.82	0.42
15:SN:64:ARG:HH22	76:S2:919:A:P	2.42	0.42
19:SY:27:VAL:HB	19:SY:69:THR:HB	2.01	0.42
23:SA:82:THR:HG22	23:SA:171:VAL:HG11	2.01	0.42
29:SK:76:ILE:HA	29:SK:79:LEU:HD12	2.02	0.42
41:LL:80:GLU:OE2	41:LL:104:ASN:ND2	2.29	0.42
45:LP:45:THR:HG22	45:LP:49:LYS:HE3	2.00	0.42
45:LP:148:MET:O	45:LP:149:ILE:HD12	2.18	0.42
46:LQ:147:GLU:O	46:LQ:147:GLU:HG3	2.18	0.42
54:LY:103:LYS:HA	54:LY:103:LYS:HD3	1.93	0.42
56:La:110:LYS:HG3	56:La:128:PHE:HB2	2.01	0.42
66:Lk:19:ASP:O	66:Lk:21:LYS:HE3	2.19	0.42
72:Lr:63:VAL:HA	72:Lr:78:VAL:O	2.19	0.42
73:L5:247:G:H2'	73:L5:248:C:C6	2.55	0.42
73:L5:300:A:H2'	73:L5:301:G:C8	2.52	0.42
73:L5:499:G:N3	73:L5:499:G:H2'	2.34	0.42
73:L5:704:C:H2'	73:L5:705:G:H8	1.85	0.42
73:L5:4935:C:H2'	73:L5:4936:G:H8	1.83	0.42
76:S2:811:A:O2'	76:S2:812:A:OP1	2.35	0.42
76:S2:946:U:H2'	76:S2:947:G:C8	2.54	0.42
76:S2:1286:G:H3'	76:S2:1312:G:H22	1.85	0.42
76:S2:1599:U:H1'	76:S2:1600:G:N2	2.34	0.42
76:S2:1685:U:H2'	76:S2:1686:G:C8	2.55	0.42
76:S2:1785:C:H2'	76:S2:1786:U:O4'	2.20	0.42
78:CA:186:ASN:O	78:CA:189:ILE:HG13	2.20	0.42
78:CA:575:PRO:HG2	78:CA:794:PHE:HE1	1.84	0.42
78:CA:682:GLY:HA3	78:CA:725:ALA:HB3	2.01	0.42
78:CA:852:ASP:C	78:CA:852:ASP:OD1	2.62	0.42
1:SL:80:MET:HG2	1:SL:86:ILE:HG22	2.01	0.42
6:SX:8:ARG:O	76:S2:681:U:H5''	2.19	0.42
8:SU:54:VAL:HG22	8:SU:88:LEU:H	1.85	0.42
10:ST:62:ARG:NH1	76:S2:1542:C:H5''	2.35	0.42
12:SC:166:ARG:NH2	12:SC:255:LEU:HD11	2.35	0.42
12:SC:200:ARG:O	14:SJ:54:ARG:NH1	2.42	0.42
14:SJ:82:VAL:HG23	14:SJ:87:LEU:HD12	2.02	0.42
17:SG:27:PHE:HA	17:SG:30:LYS:HG3	2.02	0.42
25:SE:245:ARG:HE	25:SE:245:ARG:HB2	1.57	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:SI:110:ARG:HH22	28:SI:123:ARG:HD2	1.85	0.42
30:SF:21:GLY:O	30:SF:22:LYS:HB3	2.20	0.42
34:LD:254:GLU:O	34:LD:256:LYS:HE2	2.19	0.42
35:LE:257:ILE:HD13	35:LE:257:ILE:HA	1.89	0.42
37:LG:136:LEU:HD22	37:LG:202:VAL:CG2	2.50	0.42
37:LG:144:THR:HG21	43:LN:3:ALA:N	2.34	0.42
41:LL:19:GLN:HE22	73:L5:1518:A:H61	1.67	0.42
43:LN:185:GLY:HA2	73:L5:78:U:H5''	2.01	0.42
45:LP:28:ASN:O	45:LP:32:THR:HG23	2.20	0.42
46:LQ:14:ARG:HH22	73:L5:2083:C:P	2.41	0.42
56:La:29:PRO:HA	73:L5:1654:G:H5''	2.02	0.42
58:Lc:19:GLN:C	58:Lc:19:GLN:OE1	2.63	0.42
64:Li:79:THR:CG2	64:Li:82:ARG:HB2	2.50	0.42
66:Lk:57:LYS:HA	66:Lk:60:LEU:HG	2.02	0.42
73:L5:143:C:H5''	73:L5:144:G:H5''	2.01	0.42
73:L5:689:U:H2'	73:L5:690:C:C6	2.55	0.42
73:L5:1535:C:H2'	73:L5:1536:U:O4'	2.19	0.42
73:L5:1663:C:H2'	73:L5:1664:U:H6	1.85	0.42
73:L5:1846:G:H2'	73:L5:1847:C:H6	1.85	0.42
73:L5:2431:A:H2'	73:L5:2432:U:C6	2.55	0.42
73:L5:3607:U:H2'	73:L5:3608:A:C8	2.55	0.42
73:L5:4131:G:H2'	73:L5:4132:C:O4'	2.19	0.42
73:L5:4277:G:H2'	73:L5:4278:C:C6	2.55	0.42
73:L5:4678:G:N2	73:L5:4713:G:H1'	2.35	0.42
75:L8:66:A:H2'	75:L8:67:U:C6	2.55	0.42
75:L8:127:U:H6	75:L8:127:U:H2'	1.62	0.42
76:S2:602:G:N2	76:S2:620:G:N7	2.66	0.42
76:S2:873:G:H2'	76:S2:874:G:C8	2.55	0.42
76:S2:1802:C:H2'	76:S2:1803:U:H6	1.84	0.42
78:CA:527:LEU:HD12	78:CA:565:HIS:ND1	2.35	0.42
2:SR:100:PRO:O	2:SR:104:GLU:HG3	2.20	0.42
5:SV:11:LEU:HB2	12:SC:248:TYR:OH	2.20	0.42
6:SX:89:GLY:HA3	20:Se:10:GLY:HA3	2.02	0.42
11:Sg:21:ILE:HD11	11:Sg:307:VAL:HG21	2.00	0.42
14:SJ:34:GLU:C	14:SJ:35:TYR:HD1	2.27	0.42
16:SO:45:THR:OG1	16:SO:49:GLY:HA2	2.20	0.42
17:SG:7:PHE:CE1	17:SG:113:ILE:HG21	2.55	0.42
25:SE:179:ASN:OD1	25:SE:230:LYS:HA	2.20	0.42
27:SH:9:VAL:HG11	27:SH:27:LEU:HG	2.01	0.42
33:LC:224:ILE:HB	33:LC:227:ILE:HD12	2.01	0.42
33:LC:254:GLU:O	33:LC:258:ARG:HG2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:LC:288:ASP:OD1	33:LC:290:SER:OG	2.30	0.42
36:LF:93:ILE:HD12	36:LF:243:LEU:HD23	2.02	0.42
40:LJ:112:HIS:O	40:LJ:112:HIS:CG	2.72	0.42
47:LR:64:ARG:O	47:LR:68:LEU:HD23	2.19	0.42
48:LS:45:TRP:NE1	48:LS:56:LYS:HD3	2.35	0.42
49:LT:97:LYS:HE2	49:LT:97:LYS:HB3	1.65	0.42
49:LT:106:LEU:O	49:LT:110:LYS:HG2	2.20	0.42
55:LZ:30:ASP:O	55:LZ:39:SER:OG	2.35	0.42
57:Lb:11:ASN:ND2	73:L5:1669:A:OP1	2.49	0.42
57:Lb:18:ARG:HH22	73:L5:1669:A:P	2.40	0.42
59:Ld:50:ARG:NH2	73:L5:2374:A:OP1	2.53	0.42
65:Lj:67:LEU:HD12	65:Lj:67:LEU:HA	1.78	0.42
67:Ll:21:ARG:O	67:Ll:38:ASN:ND2	2.53	0.42
69:Ln:1:MET:HE3	69:Ln:1:MET:HB2	1.90	0.42
73:L5:179:G:H2'	73:L5:180:C:C6	2.54	0.42
73:L5:258:G:N3	73:L5:258:G:H2'	2.35	0.42
73:L5:670:G:N1	73:L5:671:G:C5	2.88	0.42
73:L5:1077:C:C2	73:L5:1233:G:C6	3.08	0.42
73:L5:1082:C:C2	73:L5:1218:G:N2	2.88	0.42
73:L5:1170:G:N3	73:L5:1170:G:H2'	2.34	0.42
73:L5:1189:G:C2	73:L5:1190:C:C2	3.08	0.42
73:L5:1190:C:H6	73:L5:1190:C:O5'	2.02	0.42
73:L5:1661:C:H2'	73:L5:1662:C:C6	2.55	0.42
73:L5:2683:C:H2'	73:L5:2684:C:C6	2.55	0.42
73:L5:3709:U:H4'	73:L5:3710:G:OP1	2.19	0.42
73:L5:3711:A:O2'	73:L5:3712:A:H5''	2.19	0.42
73:L5:3758:U:H2'	73:L5:3765:G:N2	2.35	0.42
73:L5:4504:C:H2'	73:L5:4505:C:C6	2.55	0.42
75:L8:51:U:O2'	75:L8:52:A:C8	2.73	0.42
76:S2:903:A:H2'	76:S2:904:A:C8	2.55	0.42
76:S2:1750:C:O5'	76:S2:1750:C:H6	2.02	0.42
78:CA:127:VAL:HB	78:CA:155:LEU:HD12	2.02	0.42
4:SQ:84:ILE:O	4:SQ:88:ILE:HG22	2.19	0.41
7:Sa:3:LYS:HE3	7:Sa:8:ASN:ND2	2.33	0.41
7:Sa:13:LYS:O	7:Sa:15:ARG:NH1	2.53	0.41
8:SU:57:PRO:HD3	76:S2:1580:A:N7	2.35	0.41
11:Sg:297:THR:HG23	11:Sg:310:TRP:CZ3	2.55	0.41
13:Sd:47:ALA:O	13:Sd:50:ILE:HG22	2.19	0.41
14:SJ:28:GLU:HG3	14:SJ:40:LYS:NZ	2.35	0.41
14:SJ:84:ILE:H	14:SJ:84:ILE:HG13	1.74	0.41
17:SG:162:LEU:HD11	76:S2:67:C:H2'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:SW:90:GLN:OE1	18:SW:113:HIS:ND1	2.51	0.41
19:SY:17:LEU:HG	25:SE:54:TYR:CE2	2.55	0.41
23:SA:111:GLN:HA	23:SA:116:PHE:CG	2.54	0.41
25:SE:43:PRO:HA	25:SE:82:TYR:O	2.20	0.41
26:SD:15:GLY:O	26:SD:18:LYS:HE3	2.20	0.41
27:SH:18:GLU:C	27:SH:20:GLU:H	2.27	0.41
27:SH:21:SER:O	27:SH:25:GLN:HG2	2.20	0.41
27:SH:62:ILE:HG13	27:SH:94:PHE:HB3	2.01	0.41
28:SI:113:TYR:HB3	28:SI:121:LEU:HD22	2.02	0.41
31:LA:49:ILE:HD11	31:LA:75:LEU:HD11	2.02	0.41
32:LB:303:ALA:HA	32:LB:368:ILE:HD12	2.02	0.41
33:LC:236:ASN:OD1	33:LC:236:ASN:N	2.52	0.41
40:LJ:57:VAL:HB	40:LJ:60:PHE:HB2	2.02	0.41
43:LN:54:LYS:O	43:LN:56:LYS:N	2.52	0.41
44:LO:163:LYS:O	44:LO:166:ILE:HG13	2.20	0.41
46:LQ:68:ARG:NH2	73:L5:1501:C:C4	2.88	0.41
47:LR:99:MET:HG2	47:LR:103:ARG:CZ	2.50	0.41
52:LW:43:LYS:HB3	52:LW:43:LYS:HE3	1.81	0.41
63:Lh:66:LYS:O	63:Lh:70:ARG:HG3	2.20	0.41
70:Lo:51:GLN:HB3	73:L5:4379:A:N1	2.35	0.41
73:L5:91:G:H5'	73:L5:93:G:N7	2.35	0.41
73:L5:713:C:H2'	73:L5:714:G:C8	2.54	0.41
73:L5:957:G:H5''	73:L5:2076:G:H5''	2.01	0.41
73:L5:1177:U:N3	73:L5:1183:C:C4	2.88	0.41
73:L5:1208:G:O2'	73:L5:1209:U:H5'	2.19	0.41
73:L5:1839:U:H2'	73:L5:1840:G:C8	2.55	0.41
73:L5:2270:G:H2'	73:L5:2271:C:C6	2.54	0.41
73:L5:2292:C:H2'	73:L5:2293:U:H6	1.84	0.41
73:L5:2607:C:H2'	73:L5:2608:G:C8	2.55	0.41
73:L5:2611:A:H2'	73:L5:2612:G:H8	1.81	0.41
73:L5:4385:A:N6	73:L5:4531:U:H5'	2.35	0.41
73:L5:4573:G:H2'	73:L5:4574:U:O4'	2.20	0.41
73:L5:4638:U:OP1	73:L5:5044:A:O2'	2.35	0.41
73:L5:4978:G:H2'	73:L5:4979:A:H5''	2.02	0.41
76:S2:122:G:N1	76:S2:123:G:C5	2.88	0.41
76:S2:884:C:H2'	76:S2:885:U:O4'	2.20	0.41
76:S2:1182:A:C5	76:S2:1183:A:H1'	2.54	0.41
76:S2:1405:A:O2'	76:S2:1406:G:H5'	2.20	0.41
77:S6:62:C:H2'	77:S6:63:A:O4'	2.20	0.41
78:CA:714:ILE:HD12	78:CA:714:ILE:H	1.84	0.41
3:SP:17:TYR:OH	3:SP:36:LEU:HA	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:SP:47:ARG:NH1	76:S2:1617:G:N7	2.68	0.41
4:SQ:109:LYS:HA	4:SQ:109:LYS:HD2	1.88	0.41
9:Sc:14:VAL:HG22	9:Sc:54:ASP:H	1.85	0.41
10:ST:39:LEU:O	10:ST:96:SER:OG	2.28	0.41
19:SY:75:ILE:O	19:SY:75:ILE:HG22	2.19	0.41
22:SZ:104:ARG:NH1	76:S2:1595:U:O4	2.53	0.41
23:SA:122:LEU:O	23:SA:144:THR:HA	2.20	0.41
25:SE:100:ARG:HH11	25:SE:236:ILE:HG23	1.84	0.41
27:SH:18:GLU:O	27:SH:19:PHE:HB3	2.19	0.41
27:SH:94:PHE:O	27:SH:94:PHE:HD1	2.02	0.41
27:SH:121:THR:O	27:SH:125:VAL:HG12	2.20	0.41
31:LA:223:SER:OG	73:L5:3748:A:O2'	2.34	0.41
34:LD:238:GLU:H	34:LD:238:GLU:HG2	1.63	0.41
35:LE:136:HIS:HB2	35:LE:138:ARG:NH1	2.35	0.41
36:LF:39:GLN:NE2	36:LF:43:ARG:HD3	2.35	0.41
37:LG:164:ILE:C	37:LG:166:LEU:N	2.76	0.41
43:LN:118:SER:HB2	43:LN:132:VAL:HG22	2.02	0.41
45:LP:31:GLU:HG2	45:LP:60:PHE:HA	2.01	0.41
47:LR:106:LEU:HD23	47:LR:106:LEU:HA	1.91	0.41
57:Lb:56:LYS:NZ	73:L5:1812:C:H5''	2.35	0.41
57:Lb:61:ASN:O	57:Lb:65:MET:HG2	2.20	0.41
58:Lc:17:ARG:HG2	58:Lc:102:SER:HB3	2.02	0.41
64:Li:73:ILE:HG21	64:Li:86:LYS:HB3	2.01	0.41
66:Lk:39:SER:HB3	73:L5:2773:G:H5''	2.02	0.41
72:Lr:107:ARG:O	72:Lr:111:ILE:HG12	2.20	0.41
73:L5:24:G:H5''	73:L5:25:A:OP1	2.19	0.41
73:L5:360:A:C4	75:L8:24:G:H1'	2.55	0.41
73:L5:497:G:H8	73:L5:497:G:O5'	2.03	0.41
73:L5:662:C:H5	73:L5:663:G:C5	2.37	0.41
73:L5:975:C:OP1	73:L5:1237:C:N4	2.54	0.41
73:L5:1079:C:H1'	73:L5:1233:G:C1'	2.51	0.41
73:L5:1200:G:C6	73:L5:1201:U:C4	3.08	0.41
73:L5:2281:U:C2	73:L5:2282:A:C8	3.08	0.41
73:L5:3973:G:H2'	73:L5:3974:G:C8	2.55	0.41
73:L5:4183:G:H2'	73:L5:4183:G:N3	2.35	0.41
73:L5:4625:C:O2'	73:L5:4626:A:H5'	2.20	0.41
76:S2:649:U:H2'	76:S2:650:A:H8	1.84	0.41
76:S2:815:U:H2'	76:S2:816:A:C8	2.55	0.41
76:S2:870:A:H62	76:S2:916:A:H5'	1.85	0.41
76:S2:1405:A:H1'	76:S2:1580:A:N9	2.34	0.41
76:S2:1672:U:H2'	76:S2:1673:U:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:S2:1727:G:H2'	76:S2:1728:U:C6	2.55	0.41
78:CA:548:GLY:N	78:CA:554:LEU:HD21	2.35	0.41
1:SL:139:ARG:HG2	76:S2:352:U:C5'	2.49	0.41
2:SR:33:ARG:HD2	2:SR:36:GLU:OE1	2.20	0.41
7:Sa:7:ASN:O	7:Sa:8:ASN:HB2	2.20	0.41
9:Sc:28:THR:HB	9:Sc:50:VAL:HG21	2.02	0.41
11:Sg:96:THR:HG23	11:Sg:97:THR:N	2.34	0.41
12:SC:194:ARG:O	12:SC:224:THR:HA	2.19	0.41
14:SJ:94:LEU:HD23	14:SJ:94:LEU:HA	1.94	0.41
17:SG:41:LEU:HD12	17:SG:45:TRP:CD1	2.55	0.41
17:SG:187:HIS:CE1	76:S2:316:G:N7	2.89	0.41
23:SA:195:TRP:NE1	23:SA:197:VAL:HB	2.34	0.41
26:SD:162:ASP:OD2	76:S2:1390:U:H4'	2.20	0.41
29:SK:18:GLU:HG2	29:SK:20:VAL:HG22	2.01	0.41
30:SF:83:ASN:ND2	76:S2:1651:A:O2'	2.52	0.41
30:SF:125:SER:HA	30:SF:139:VAL:HG12	2.02	0.41
30:SF:139:VAL:CG2	30:SF:140:ASP:N	2.82	0.41
32:LB:20:LYS:HB2	32:LB:20:LYS:HE3	1.77	0.41
33:LC:133:LEU:HB3	33:LC:136:LEU:HG	2.00	0.41
33:LC:323:ARG:NH2	73:L5:974:C:N3	2.64	0.41
37:LG:134:PRO:HG2	37:LG:208:ASN:OD1	2.20	0.41
40:LJ:81:GLU:O	40:LJ:85:LYS:HG3	2.21	0.41
41:LL:170:THR:HG23	41:LL:173:GLU:H	1.84	0.41
44:LO:87:MET:HG2	73:L5:1913:C:H1'	2.01	0.41
47:LR:84:THR:O	47:LR:88:ARG:HG3	2.20	0.41
55:LZ:9:LYS:HE3	55:LZ:83:THR:O	2.20	0.41
63:Lh:20:GLN:O	63:Lh:24:LEU:HD23	2.20	0.41
65:Lj:72:ARG:NH1	65:Lj:72:ARG:HG2	2.36	0.41
73:L5:406:C:HO2'	73:L5:407:A:P	2.43	0.41
73:L5:1941:A:H2'	73:L5:1942:A:C8	2.54	0.41
73:L5:2752:G:H2'	73:L5:2753:G:O4'	2.19	0.41
73:L5:3700:C:H2'	73:L5:3746:A:H61	1.84	0.41
73:L5:4066:U:H2'	73:L5:4067:U:O4'	2.20	0.41
73:L5:4228:G:H5''	73:L5:4229:U:O4'	2.21	0.41
73:L5:4390:A:H2'	73:L5:4391:G:O4'	2.20	0.41
73:L5:4563:U:H2'	73:L5:4564:A:C8	2.55	0.41
73:L5:4927:G:H5''	73:L5:4928:C:C5	2.55	0.41
76:S2:126:G:N2	76:S2:180:G:H1'	2.31	0.41
76:S2:476:A:O3'	76:S2:487:U:H2'	2.21	0.41
76:S2:666:U:O3'	76:S2:1087:A:H2'	2.20	0.41
76:S2:810:A:H3'	76:S2:811:A:C5'	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:S2:876:C:O2	76:S2:910:G:N2	2.54	0.41
76:S2:1380:C:H2'	76:S2:1381:G:C8	2.55	0.41
76:S2:1520:G:H5''	76:S2:1521:C:C6	2.55	0.41
78:CA:289:PHE:CD1	78:CA:289:PHE:C	2.98	0.41
9:Sc:26:GLN:HG2	9:Sc:27:CYS:SG	2.60	0.41
11:Sg:134:THR:HB	11:Sg:135:LEU:HD12	2.02	0.41
11:Sg:212:LYS:CG	11:Sg:213:ASP:H	2.33	0.41
17:SG:143:LYS:O	17:SG:143:LYS:HG2	2.20	0.41
18:SW:128:PHE:N	18:SW:128:PHE:CD1	2.88	0.41
19:SY:13:MET:HE3	19:SY:13:MET:HB3	1.71	0.41
24:SB:46:LYS:HD3	24:SB:46:LYS:HA	1.85	0.41
28:SI:48:VAL:HG11	76:S2:381:C:H5'	2.02	0.41
30:SF:88:MET:HE3	30:SF:88:MET:HB2	1.76	0.41
31:LA:36:GLU:CD	31:LA:163:ARG:HH11	2.29	0.41
36:LF:143:GLY:HA3	36:LF:240:ILE:HB	2.03	0.41
39:LI:190:LEU:O	39:LI:191:ILE:HD13	2.21	0.41
43:LN:115:VAL:HG12	43:LN:165:THR:HG21	2.02	0.41
44:LO:37:ARG:HH22	73:L5:4760:G:P	2.40	0.41
44:LO:187:LYS:HE2	44:LO:187:LYS:HB2	1.83	0.41
47:LR:149:LYS:HE2	47:LR:149:LYS:HB2	1.84	0.41
47:LR:154:LEU:HD23	47:LR:155:LEU:HD23	2.01	0.41
50:LU:34:MET:HE3	50:LU:34:MET:HB2	1.98	0.41
51:LV:57:VAL:HG13	51:LV:84:GLN:HG2	2.02	0.41
54:LY:91:ASN:HB3	73:L5:389:A:H4'	2.02	0.41
54:LY:106:ILE:HG21	54:LY:109:LEU:HB3	2.02	0.41
56:La:134:GLU:HG3	56:La:144:CYS:SG	2.61	0.41
65:Lj:84:PRO:HG3	75:L8:94:G:C5	2.54	0.41
67:Ll:9:ILE:CD1	67:Ll:51:LEU:HD21	2.51	0.41
73:L5:755:C:H2'	73:L5:756:G:N9	2.35	0.41
73:L5:951:G:H2'	73:L5:952:G:C8	2.53	0.41
73:L5:2683:C:H2'	73:L5:2684:C:H6	1.85	0.41
73:L5:2738:C:O2'	73:L5:2740:U:O2	2.36	0.41
73:L5:3934:G:H2'	73:L5:3935:C:H6	1.85	0.41
75:L8:110:U:N3	75:L8:112:G:H1'	2.35	0.41
76:S2:565:G:C4	76:S2:566:U:C5	3.09	0.41
76:S2:610:G:C4	76:S2:611:G:C8	3.09	0.41
76:S2:803:C:H2'	76:S2:804:U:C6	2.56	0.41
76:S2:1134:G:H2'	76:S2:1135:C:H6	1.84	0.41
76:S2:1204:A:H62	76:S2:1694:U:H3	1.69	0.41
76:S2:1382:A:H2'	76:S2:1383:A:H8	1.86	0.41
11:Sg:18:VAL:HG12	11:Sg:288:SER:OG	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:Sd:12:ARG:HH12	13:Sd:13:LYS:HE3	1.85	0.41
14:SJ:132:GLN:HE21	14:SJ:134:HIS:CD2	2.37	0.41
24:SB:189:ILE:HB	24:SB:190:PRO:HD3	2.02	0.41
26:SD:142:LEU:HD23	26:SD:142:LEU:HA	1.87	0.41
36:LF:148:LYS:HA	36:LF:151:ASN:HD22	1.86	0.41
39:LI:207:ASP:O	39:LI:211:VAL:HG23	2.19	0.41
42:LM:110:PHE:O	42:LM:114:LYS:HG2	2.20	0.41
42:LM:118:MET:O	42:LM:122:ILE:HG23	2.20	0.41
48:LS:48:VAL:HG12	49:LT:151:LEU:HD12	2.03	0.41
49:LT:27:LEU:HD13	49:LT:27:LEU:HA	1.88	0.41
54:LY:54:GLU:HB3	54:LY:67:ILE:CG2	2.49	0.41
55:LZ:109:LYS:HE3	55:LZ:109:LYS:HB3	1.87	0.41
73:L5:215:C:H2'	73:L5:220:C:O4'	2.20	0.41
73:L5:279:A:H2	73:L5:307:A:H62	1.69	0.41
73:L5:958:G:O6	73:L5:1285:U:H3'	2.21	0.41
73:L5:1177:U:O2	73:L5:1178:G:N7	2.53	0.41
73:L5:1794:A:H5''	73:L5:4214:A:H61	1.85	0.41
73:L5:2270:G:H2'	73:L5:2271:C:H6	1.85	0.41
73:L5:4927:G:H5''	73:L5:4928:C:H5	1.86	0.41
74:L7:11:A:N1	74:L7:66:G:O2'	2.49	0.41
76:S2:1287:A:H3'	76:S2:1288:U:C5'	2.51	0.41
77:S6:27:C:H2'	77:S6:28:U:C6	2.56	0.41
1:SL:38:LYS:HE3	76:S2:293:C:C3'	2.51	0.41
2:SR:14:ARG:HA	2:SR:17:ILE:HG22	2.01	0.41
3:SP:59:ARG:HG3	3:SP:63:ALA:HB3	2.01	0.41
6:SX:71:ARG:HB3	6:SX:71:ARG:NH1	2.36	0.41
11:Sg:220:ASP:N	11:Sg:220:ASP:OD1	2.53	0.41
13:Sd:50:ILE:HA	26:SD:18:LYS:HE2	2.01	0.41
14:SJ:16:PRO:HG3	14:SJ:24:ARG:CZ	2.51	0.41
16:SO:139:SER:HB2	76:S2:944:A:H1'	2.02	0.41
17:SG:5:ILE:N	17:SG:14:LYS:HB3	2.25	0.41
17:SG:171:THR:CG2	76:S2:75:G:H21	2.32	0.41
17:SG:184:VAL:HA	17:SG:187:HIS:HB2	2.03	0.41
27:SH:58:LYS:HB2	27:SH:90:LYS:HE3	2.03	0.41
32:LB:389:MET:HE3	32:LB:389:MET:HB3	2.00	0.41
33:LC:150:LEU:HB3	33:LC:151:PRO:HD3	2.02	0.41
34:LD:160:PHE:HA	34:LD:163:LEU:HB3	2.01	0.41
37:LG:50:ASP:OD1	53:LX:40:ILE:HA	2.20	0.41
40:LJ:81:GLU:HG3	40:LJ:82:ILE:N	2.35	0.41
41:LL:28:GLN:HB3	41:LL:29:PRO:HD3	2.02	0.41
46:LQ:20:SER:OG	73:L5:1350:C:OP1	2.25	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:LQ:51:LEU:HD23	46:LQ:51:LEU:HA	1.94	0.41
47:LR:99:MET:HE2	47:LR:99:MET:HB2	1.90	0.41
59:Ld:33:ILE:HG13	59:Ld:33:ILE:O	2.19	0.41
61:Lf:36:ARG:HD2	61:Lf:79:GLY:O	2.20	0.41
61:Lf:53:ALA:HB3	61:Lf:68:ARG:NE	2.36	0.41
63:Lh:97:LYS:HE2	73:L5:176:G:H4'	2.03	0.41
67:Ll:38:ASN:C	67:Ll:40:LYS:H	2.28	0.41
70:Lo:51:GLN:HG2	70:Lo:55:ILE:HD11	2.03	0.41
70:Lo:99:ARG:NH1	70:Lo:99:ARG:HB2	2.35	0.41
73:L5:201:C:C2	73:L5:202:C:C5	3.09	0.41
73:L5:752:G:C2	73:L5:753:C:C2	3.08	0.41
73:L5:1199:G:C2	73:L5:1200:G:C5	3.09	0.41
73:L5:2762:G:H1'	73:L5:2763:U:O4'	2.20	0.41
73:L5:3736:A:O2'	73:L5:3933:G:H5'	2.20	0.41
73:L5:3952:A:H2'	73:L5:3953:G:C8	2.56	0.41
73:L5:4399:U:C2	73:L5:4400:G:C8	3.08	0.41
75:L8:79:G:H2'	75:L8:80:A:N3	2.35	0.41
76:S2:336:A:H2'	76:S2:337:C:O4'	2.19	0.41
76:S2:899:U:H2'	76:S2:900:C:C4'	2.50	0.41
76:S2:1265:A:H2	76:S2:1517:G:H22	1.67	0.41
76:S2:1456:G:H2'	76:S2:1457:U:C6	2.56	0.41
76:S2:1466:G:H2'	76:S2:1467:C:H6	1.81	0.41
76:S2:1583:C:H2'	76:S2:1584:G:C8	2.55	0.41
76:S2:1718:G:O2'	76:S2:1815:A:N6	2.53	0.41
77:S6:33:C:O2	77:S6:36:U:H5''	2.21	0.41
78:CA:645:GLU:OE1	78:CA:665:ILE:HD12	2.20	0.41
11:Sg:29:ASP:O	11:Sg:29:ASP:OD1	2.39	0.41
11:Sg:78:ALA:O	11:Sg:90:TRP:N	2.52	0.41
11:Sg:302:TYR:HD2	11:Sg:306:LEU:HG	1.86	0.41
12:SC:66:LEU:HD12	12:SC:66:LEU:HA	1.90	0.41
16:SO:34:PHE:CD1	16:SO:34:PHE:C	2.98	0.41
17:SG:5:ILE:HD11	17:SG:45:TRP:HH2	1.85	0.41
20:Se:39:ASN:O	20:Se:43:VAL:HG22	2.21	0.41
21:Sb:38:PRO:HD3	21:Sb:77:CYS:SG	2.61	0.41
24:SB:123:ALA:HB2	24:SB:165:ARG:HG3	2.03	0.41
25:SE:211:LYS:NZ	25:SE:217:SER:HB2	2.36	0.41
26:SD:102:ALA:O	26:SD:106:ARG:HB2	2.21	0.41
30:SF:35:LEU:HD11	30:SF:147:VAL:CG2	2.48	0.41
30:SF:55:ARG:NE	30:SF:55:ARG:HA	2.35	0.41
32:LB:104:THR:HG22	73:L5:4724:A:O2'	2.21	0.41
33:LC:341:LEU:HD21	35:LE:56:ARG:NH1	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:LG:170:LEU:HB3	37:LG:171:PRO:HD3	2.03	0.41
42:LM:24:LEU:HD11	42:LM:86:TRP:CG	2.56	0.41
54:LY:117:LYS:HA	54:LY:120:GLU:HG2	2.03	0.41
73:L5:242:U:H2'	73:L5:243:A:H8	1.86	0.41
73:L5:284:G:H2'	73:L5:285:G:H8	1.85	0.41
73:L5:754:U:O2	73:L5:910:G:C2	2.73	0.41
73:L5:1567:U:H2'	73:L5:1568:C:C6	2.55	0.41
73:L5:4538:G:H2'	73:L5:4539:U:C6	2.56	0.41
73:L5:4669:A:O2'	73:L5:4671:C:H2'	2.21	0.41
73:L5:4750:G:H3'	73:L5:4751:G:N2	2.35	0.41
76:S2:929:G:H2'	76:S2:930:C:O4'	2.21	0.41
76:S2:1164:G:O2'	76:S2:1165:G:H5'	2.21	0.41
78:CA:751:CYS:HB2	78:CA:755:VAL:HG23	2.02	0.41
2:SR:55:THR:HA	2:SR:58:MET:HB2	2.03	0.41
3:SP:17:TYR:CE1	3:SP:20:VAL:HB	2.56	0.41
4:SQ:129:SER:O	4:SQ:131:LYS:NZ	2.47	0.41
5:SV:83:PHE:C	5:SV:83:PHE:CD1	2.99	0.41
13:Sd:33:LYS:HE3	13:Sd:33:LYS:HB3	1.88	0.41
15:SN:29:THR:O	15:SN:33:VAL:HG12	2.20	0.41
15:SN:45:LEU:HD23	15:SN:49:GLN:HB3	2.02	0.41
16:SO:94:HIS:CD2	16:SO:128:ARG:HB2	2.56	0.41
17:SG:87:ARG:HH12	76:S2:162:C:H5'	1.85	0.41
18:SW:32:LYS:HB2	18:SW:32:LYS:HE2	1.65	0.41
19:SY:110:ARG:HD2	19:SY:113:ARG:HD2	2.03	0.41
21:Sb:36:LYS:HE3	21:Sb:78:SER:O	2.21	0.41
23:SA:75:SER:OG	23:SA:119:PRO:HB3	2.21	0.41
36:LF:39:GLN:HE22	36:LF:43:ARG:NH1	2.16	0.41
36:LF:232:ASP:HA	36:LF:236:ARG:HH21	1.86	0.41
38:LH:34:LEU:HD12	38:LH:84:VAL:HG13	2.03	0.41
39:LI:66:GLU:OE1	39:LI:66:GLU:HA	2.21	0.41
41:LL:164:GLU:CG	56:La:100:ILE:HD12	2.51	0.41
42:LM:39:ASP:OD2	42:LM:47:ARG:NE	2.43	0.41
42:LM:79:LYS:HD2	42:LM:79:LYS:C	2.45	0.41
60:Le:35:TRP:CE2	60:Le:56:PRO:HD2	2.56	0.41
63:Lh:87:LYS:O	63:Lh:91:MET:HB2	2.21	0.41
66:Lk:52:LYS:HA	66:Lk:55:LYS:HD2	2.03	0.41
71:Lp:29:ILE:HG23	71:Lp:69:TRP:CG	2.55	0.41
73:L5:201:C:H2'	73:L5:202:C:H6	1.85	0.41
73:L5:353:A:C2	73:L5:379:G:C8	3.08	0.41
73:L5:496:G:O5'	73:L5:496:G:H8	2.04	0.41
73:L5:3753:G:N3	73:L5:3754:G:N2	2.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:3822:U:H2'	73:L5:3823:G:C8	2.56	0.41
73:L5:4958:C:H2'	73:L5:4959:U:O4'	2.21	0.41
73:L5:5043:A:H2'	73:L5:5044:A:C8	2.56	0.41
75:L8:127:U:H2'	75:L8:128:C:C5	2.55	0.41
76:S2:669:A:H3'	76:S2:669:A:OP2	2.21	0.41
76:S2:902:G:C2	76:S2:903:A:C8	3.09	0.41
76:S2:1713:C:H2'	76:S2:1714:U:C6	2.55	0.41
76:S2:1784:G:H2'	76:S2:1785:C:O4'	2.21	0.41
77:S6:57:G:H8	77:S6:57:G:OP2	2.04	0.41
78:CA:726:ARG:HG3	78:CA:727:ARG:N	2.36	0.41
78:CA:858:LEU:H	78:CA:858:LEU:HD12	1.86	0.41
7:Sa:12:LYS:HB2	7:Sa:33:ASP:OD2	2.21	0.41
8:SU:53:PRO:HG3	8:SU:89:ILE:HD11	2.03	0.41
8:SU:87:ARG:HD3	76:S2:1447:G:OP1	2.21	0.41
9:Sc:44:ARG:HA	9:Sc:65:ALA:HB1	2.03	0.41
9:Sc:46:VAL:HA	30:SF:140:ASP:HB2	2.03	0.41
11:Sg:175:LYS:HB3	11:Sg:177:TRP:HE1	1.86	0.41
11:Sg:214:GLY:HA3	11:Sg:232:GLY:H	1.85	0.41
11:Sg:237:ASN:N	11:Sg:237:ASN:ND2	2.67	0.41
16:SO:48:SER:HB2	24:SB:67:PHE:CE1	2.55	0.41
17:SG:64:LYS:O	17:SG:100:CYS:HB3	2.21	0.41
17:SG:106:LEU:CD1	17:SG:109:LEU:HB2	2.51	0.41
19:SY:20:ARG:HD3	19:SY:76:TYR:CE2	2.56	0.41
23:SA:46:ILE:HD13	23:SA:46:ILE:HA	1.91	0.41
23:SA:96:ALA:O	23:SA:98:PRO:HD3	2.21	0.41
24:SB:121:ILE:HD12	24:SB:161:VAL:HG13	2.03	0.41
24:SB:217:MET:SD	24:SB:220:LYS:HG2	2.60	0.41
26:SD:45:ARG:HA	26:SD:83:SER:OG	2.21	0.41
30:SF:19:LEU:HD12	30:SF:24:SER:N	2.36	0.41
30:SF:157:GLY:HA3	30:SF:176:GLU:OE2	2.19	0.41
31:LA:40:TYR:HA	31:LA:91:GLY:HA3	2.03	0.41
33:LC:206:GLY:O	33:LC:248:ARG:NH2	2.53	0.41
33:LC:307:LYS:HE3	33:LC:307:LYS:HB2	1.88	0.41
34:LD:222:GLN:HE21	34:LD:222:GLN:CA	2.34	0.41
35:LE:59:ARG:HB2	73:L5:1237:C:H5''	2.03	0.41
36:LF:118:PHE:HB3	36:LF:247:MET:HE1	2.01	0.41
37:LG:52:THR:O	75:L8:150:C:N4	2.54	0.41
37:LG:102:TYR:OH	37:LG:208:ASN:HB2	2.21	0.41
37:LG:137:ARG:HB2	37:LG:203:ALA:HB3	2.02	0.41
37:LG:144:THR:O	37:LG:148:GLU:HG3	2.21	0.41
37:LG:180:PRO:HG2	37:LG:219:VAL:HG13	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:LI:193:ASP:OD1	39:LI:193:ASP:O	2.39	0.41
40:LJ:33:LEU:HD12	40:LJ:33:LEU:HA	1.71	0.41
45:LP:52:THR:HG23	45:LP:85:LYS:HE3	2.02	0.41
48:LS:127:MET:HE2	48:LS:127:MET:HB2	1.91	0.41
49:LT:69:GLN:H	49:LT:69:GLN:HG2	1.54	0.41
54:LY:24:HIS:CE1	54:LY:25:ILE:HG12	2.55	0.41
56:La:3:SER:HA	56:La:6:ARG:HG3	2.03	0.41
60:Le:39:ARG:HA	60:Le:46:ARG:HD3	2.03	0.41
62:Lg:19:LYS:HA	62:Lg:19:LYS:HD3	1.88	0.41
62:Lg:69:LYS:HE2	73:L5:2768:C:H6	1.86	0.41
63:Lh:48:ARG:HG2	63:Lh:48:ARG:NH1	2.36	0.41
63:Lh:87:LYS:O	63:Lh:88:THR:OG1	2.32	0.41
70:Lo:12:CYS:HB3	70:Lo:15:CYS:HB2	2.02	0.41
70:Lo:35:ALA:O	70:Lo:39:ARG:HG3	2.21	0.41
72:Lr:23:GLN:HG3	72:Lr:25:TYR:CE2	2.55	0.41
73:L5:149:A:H5''	73:L5:151:G:O4'	2.21	0.41
73:L5:377:A:H2'	73:L5:378:A:O4'	2.21	0.41
73:L5:456:C:H2'	73:L5:457:G:C8	2.56	0.41
73:L5:1186:U:H3'	73:L5:1187:G:H8	1.86	0.41
73:L5:1847:C:H2'	73:L5:1848:C:C6	2.55	0.41
73:L5:2277:C:O2'	73:L5:2278:G:H5'	2.21	0.41
73:L5:3928:A:H2'	73:L5:3929:G:O4'	2.20	0.41
73:L5:5034:A:H5'	73:L5:5035:U:OP2	2.20	0.41
75:L8:18:U:H2'	75:L8:19:C:C6	2.56	0.41
75:L8:19:C:H2'	75:L8:20:A:H8	1.82	0.41
75:L8:130:C:H2'	75:L8:131:G:H8	1.86	0.41
76:S2:167:G:C8	76:S2:167:G:C3'	3.04	0.41
76:S2:497:C:H2'	76:S2:498:C:H6	1.84	0.41
76:S2:604:A:H2'	76:S2:605:A:C8	2.55	0.41
76:S2:832:G:C6	76:S2:833:C:N4	2.88	0.41
76:S2:1103:C:H2'	76:S2:1104:G:C8	2.56	0.41
76:S2:1231:C:H2'	76:S2:1232:U:C2	2.55	0.41
76:S2:1273:C:H5''	76:S2:1274:G:OP1	2.21	0.41
76:S2:1393:G:H2'	76:S2:1394:G:O4'	2.20	0.41
76:S2:1462:U:O2'	76:S2:1463:U:H4'	2.21	0.41
76:S2:1505:U:O2'	76:S2:1506:A:N7	2.49	0.41
76:S2:1576:G:O2'	76:S2:1582:C:O4'	2.20	0.41
76:S2:1643:U:HO2'	76:S2:1644:C:H6	1.69	0.41
78:CA:175:TYR:CD1	78:CA:175:TYR:C	2.98	0.41
78:CA:701:ARG:HD3	78:CA:703:ASP:OD1	2.20	0.41
6:SX:50:ILE:HA	6:SX:98:ASP:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:Sg:9:GLY:H	11:Sg:308:ARG:NH2	2.19	0.41
11:Sg:82:SER:O	11:Sg:108:VAL:HB	2.21	0.41
11:Sg:122:SER:O	11:Sg:130:LYS:N	2.54	0.41
11:Sg:150:TRP:HE3	11:Sg:170:TRP:HE1	1.69	0.41
11:Sg:152:SER:HB2	11:Sg:168:CYS:SG	2.60	0.41
11:Sg:251:ALA:N	11:Sg:289:LEU:HD11	2.35	0.41
11:Sg:304:ASP:OD1	11:Sg:304:ASP:N	2.53	0.41
14:SJ:21:GLU:HG3	14:SJ:24:ARG:H	1.86	0.41
18:SW:111:MET:HE1	18:SW:119:LYS:HG3	2.02	0.41
23:SA:121:LEU:HD21	23:SA:145:ILE:HD11	2.02	0.41
25:SE:103:TYR:HB3	25:SE:190:GLY:HA2	2.03	0.41
31:LA:186:TYR:HB2	31:LA:196:TRP:CZ3	2.56	0.41
33:LC:193:LYS:NZ	33:LC:196:MET:SD	2.94	0.41
35:LE:133:PHE:HA	35:LE:136:HIS:CD2	2.56	0.41
36:LF:67:THR:HG23	36:LF:70:ARG:NH2	2.36	0.41
37:LG:230:TYR:O	37:LG:234:ARG:HB2	2.21	0.41
38:LH:129:ARG:HA	38:LH:129:ARG:HD3	1.85	0.41
44:LO:107:GLY:HA3	73:L5:4910:G:H22	1.86	0.41
44:LO:159:LYS:NZ	73:L5:4910:G:OP1	2.43	0.41
48:LS:116:ARG:HE	48:LS:116:ARG:HB3	1.67	0.41
55:LZ:59:LYS:HG3	73:L5:4148:C:OP1	2.21	0.41
65:Lj:2:THR:O	65:Lj:7:SER:OG	2.28	0.41
67:Ll:21:ARG:HH21	75:L8:51:U:H4'	1.86	0.41
73:L5:62:A:H2'	73:L5:63:G:O4'	2.20	0.41
73:L5:180:C:H2'	73:L5:181:C:O4'	2.21	0.41
73:L5:695:G:H8	73:L5:696:C:O2	2.04	0.41
73:L5:1195:G:H2'	73:L5:1196:G:O4'	2.20	0.41
73:L5:1536:U:H2'	73:L5:1537:A:H8	1.86	0.41
73:L5:1661:C:H2'	73:L5:1662:C:H6	1.86	0.41
73:L5:1907:A:H2'	73:L5:1908:A:C8	2.56	0.41
73:L5:2065:G:H2'	73:L5:2066:C:O4'	2.21	0.41
73:L5:3789:C:H2'	73:L5:3790:U:C5	2.56	0.41
73:L5:4067:U:H2'	73:L5:4068:U:C6	2.56	0.41
73:L5:4093:G:C6	73:L5:4094:G:C5	3.09	0.41
76:S2:96:C:C1'	76:S2:474:G:H5''	2.51	0.41
76:S2:113:G:C2	76:S2:292:A:H1'	2.56	0.41
76:S2:119:U:H2'	76:S2:120:U:H6	1.86	0.41
76:S2:444:G:N2	76:S2:447:A:OP2	2.51	0.41
76:S2:480:G:C5	76:S2:481:C:C4	3.09	0.41
76:S2:1160:U:H2'	76:S2:1161:U:H6	1.86	0.41
76:S2:1737:G:H2'	76:S2:1738:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:S6:5:A:H2'	77:S6:6:G:C8	2.56	0.41
77:S6:27:C:H2'	77:S6:28:U:H6	1.86	0.41
78:CA:232:TYR:HB3	78:CA:256:MET:HE3	2.03	0.41
78:CA:256:MET:O	78:CA:260:LEU:HB2	2.21	0.41
78:CA:538:ILE:HD12	78:CA:544:HIS:CE1	2.56	0.41
3:SP:59:ARG:O	3:SP:64:LYS:N	2.41	0.40
4:SQ:8:GLN:O	4:SQ:24:HIS:HE1	2.04	0.40
4:SQ:22:VAL:HG21	4:SQ:71:ARG:NE	2.36	0.40
4:SQ:56:LEU:HD12	30:SF:48:TYR:OH	2.21	0.40
4:SQ:132:PHE:CD1	4:SQ:132:PHE:C	2.99	0.40
6:SX:66:ILE:HG22	6:SX:68:LYS:HD3	2.03	0.40
6:SX:99:GLU:HA	6:SX:99:GLU:OE1	2.20	0.40
9:Sc:66:ARG:O	9:Sc:66:ARG:HG3	2.21	0.40
10:ST:6:VAL:O	10:ST:9:VAL:HG22	2.21	0.40
11:Sg:228:TYR:CD1	11:Sg:228:TYR:N	2.89	0.40
14:SJ:62:THR:HA	18:SW:97:ARG:NH2	2.31	0.40
17:SG:56:ASN:O	17:SG:107:SER:HB2	2.20	0.40
23:SA:42:LYS:HG3	23:SA:48:ILE:CD1	2.51	0.40
24:SB:159:GLN:HG3	76:S2:931:C:OP2	2.21	0.40
26:SD:27:ARG:HG2	29:SK:61:GLN:CD	2.46	0.40
29:SK:2:LEU:HG	29:SK:3:MET:SD	2.61	0.40
29:SK:35:LEU:HD23	29:SK:40:VAL:HG21	2.03	0.40
30:SF:80:GLY:O	30:SF:81:ARG:HG2	2.22	0.40
32:LB:11:HIS:HB3	32:LB:235:TRP:O	2.21	0.40
32:LB:253:CYS:SG	73:L5:4521:U:H1'	2.61	0.40
33:LC:114:ARG:HB3	43:LN:203:TYR:CD1	2.56	0.40
39:LI:52:MET:HE1	39:LI:159:PHE:CD2	2.56	0.40
48:LS:86:SER:OG	48:LS:87:ARG:N	2.54	0.40
55:LZ:76:ASN:ND2	73:L5:2656:U:OP1	2.44	0.40
60:Le:81:ASN:HA	60:Le:111:ILE:HD11	2.04	0.40
63:Lh:9:LEU:HB2	63:Lh:60:VAL:HG21	2.03	0.40
68:Lm:92:ASP:OD1	68:Lm:92:ASP:O	2.38	0.40
70:Lo:85:ILE:HG22	70:Lo:86:LYS:N	2.36	0.40
73:L5:82:U:H2'	73:L5:83:C:O4'	2.21	0.40
73:L5:1097:C:C2	73:L5:1199:G:N2	2.89	0.40
73:L5:1379:C:H4'	73:L5:1380:G:C5'	2.50	0.40
73:L5:2280:G:N2	73:L5:2281:U:O4	2.54	0.40
73:L5:2307:A:H2'	73:L5:2308:A:C8	2.55	0.40
73:L5:2691:U:H2'	73:L5:2692:U:C6	2.56	0.40
73:L5:2837:U:H2'	73:L5:2838:G:O4'	2.21	0.40
73:L5:2859:G:N2	73:L5:3837:C:O2	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:3707:U:H2'	73:L5:3708:C:C6	2.56	0.40
73:L5:3958:G:N1	77:S6:19:G:C2	2.89	0.40
73:L5:4523:A:H1'	73:L5:4558:U:C4	2.56	0.40
73:L5:4633:G:O3'	73:L5:4634:U:H3'	2.21	0.40
76:S2:351:G:C2	76:S2:352:U:C6	3.09	0.40
76:S2:1238:U:H3	76:S2:1242:U:H5	1.68	0.40
76:S2:1456:G:C4	76:S2:1457:U:C5	3.09	0.40
76:S2:1712:A:H2'	76:S2:1713:C:C6	2.56	0.40
78:CA:750:GLN:HG3	78:CA:783:VAL:HG22	2.02	0.40
78:CA:826:ASP:OD1	78:CA:826:ASP:N	2.52	0.40
1:SL:95:TYR:HB2	1:SL:102:PHE:HE1	1.86	0.40
2:SR:17:ILE:O	2:SR:21:TYR:HB2	2.21	0.40
4:SQ:31:LEU:HD22	4:SQ:67:ASP:OD2	2.22	0.40
4:SQ:51:LEU:HD23	4:SQ:81:ILE:HG13	2.03	0.40
4:SQ:98:LYS:HD3	4:SQ:98:LYS:HA	1.89	0.40
14:SJ:89:GLU:HG3	14:SJ:90:GLY:N	2.36	0.40
15:SN:73:ARG:HH11	15:SN:73:ARG:HG3	1.86	0.40
23:SA:176:TRP:HE1	23:SA:195:TRP:HD1	1.68	0.40
24:SB:179:ASN:HB2	24:SB:183:GLU:HB3	2.02	0.40
25:SE:188:ASN:HB3	25:SE:191:ARG:HE	1.86	0.40
26:SD:69:LEU:O	26:SD:73:VAL:HG13	2.22	0.40
27:SH:49:LYS:HE2	27:SH:49:LYS:HB2	1.91	0.40
30:SF:153:LEU:HD12	30:SF:154:LEU:N	2.36	0.40
32:LB:56:ILE:O	32:LB:73:VAL:HA	2.22	0.40
32:LB:126:LYS:HB3	32:LB:128:LYS:HG2	2.03	0.40
45:LP:107:LEU:HD23	45:LP:107:LEU:HA	1.86	0.40
53:LX:145:ASP:HB3	53:LX:148:ASP:HB3	2.03	0.40
58:Lc:75:SER:O	58:Lc:75:SER:OG	2.31	0.40
60:Le:108:ARG:HD3	60:Le:127:ALA:HB3	2.02	0.40
64:Li:86:LYS:HD2	64:Li:86:LYS:HA	1.79	0.40
65:Lj:43:ARG:NE	73:L5:21:G:OP1	2.43	0.40
70:Lo:32:SER:C	70:Lo:34:TYR:H	2.30	0.40
73:L5:458:C:C4	73:L5:459:C:C4	3.08	0.40
73:L5:1084:C:N3	73:L5:1216:C:N4	2.69	0.40
73:L5:1206:C:H2'	73:L5:1207:C:C6	2.56	0.40
73:L5:2299:G:H2'	73:L5:2301:G:O4'	2.21	0.40
73:L5:3865:A:H2'	73:L5:3866:C:C6	2.56	0.40
75:L8:70:G:N2	75:L8:87:G:H1'	2.37	0.40
76:S2:68:A:H8	76:S2:68:A:OP1	2.04	0.40
76:S2:140:C:HO2'	76:S2:141:A:P	2.44	0.40
76:S2:351:G:N3	76:S2:351:G:H2'	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:S2:864:A:H2'	76:S2:865:A:C8	2.56	0.40
76:S2:1004:U:H2'	76:S2:1005:G:H8	1.85	0.40
76:S2:1611:G:C6	76:S2:1612:G:N7	2.89	0.40
77:S6:53:G:H2'	77:S6:53:G:N3	2.35	0.40
4:SQ:72:VAL:CG2	4:SQ:84:ILE:HD11	2.52	0.40
11:Sg:10:THR:HB	11:Sg:306:LEU:HD13	2.03	0.40
11:Sg:188:HIS:HB3	11:Sg:219:TRP:CH2	2.55	0.40
14:SJ:80:ARG:NH1	76:S2:818:A:OP1	2.41	0.40
14:SJ:136:ARG:NH2	14:SJ:158:ASP:OD2	2.54	0.40
15:SN:38:TYR:O	15:SN:42:LYS:HE3	2.22	0.40
16:SO:34:PHE:HB3	16:SO:41:PHE:HB2	2.02	0.40
17:SG:90:GLY:O	17:SG:92:ARG:N	2.52	0.40
17:SG:186:GLN:HA	17:SG:189:ARG:HG2	2.02	0.40
21:Sb:50:ALA:O	21:Sb:51:GLN:HB3	2.21	0.40
25:SE:49:ARG:HG3	25:SE:57:THR:O	2.21	0.40
27:SH:111:LYS:O	27:SH:111:LYS:HD3	2.21	0.40
36:LF:240:ILE:O	36:LF:244:ILE:HG13	2.20	0.40
37:LG:140:VAL:HG23	37:LG:200:THR:HG21	2.04	0.40
37:LG:218:LEU:HD12	37:LG:218:LEU:HA	1.93	0.40
38:LH:176:LEU:HB3	68:Lm:86:ALA:HB1	2.03	0.40
41:LL:32:LYS:HD2	73:L5:1362:G:OP2	2.21	0.40
46:LQ:29:VAL:O	46:LQ:33:ARG:HB2	2.21	0.40
47:LR:77:GLY:O	47:LR:81:ARG:HG3	2.21	0.40
50:LU:40:GLU:OE1	50:LU:65:ARG:HD3	2.21	0.40
55:LZ:100:VAL:HG13	55:LZ:107:LYS:HA	2.03	0.40
56:La:18:GLY:O	73:L5:2283:G:H5''	2.22	0.40
57:Lb:53:GLY:O	57:Lb:57:MET:HG3	2.20	0.40
62:Lg:97:ILE:HD12	73:L5:4122:G:N7	2.37	0.40
64:Li:45:ARG:HD2	64:Li:50:PHE:CZ	2.56	0.40
65:Lj:54:LYS:O	65:Lj:58:THR:HB	2.21	0.40
67:Ll:37:TYR:HD1	67:Ll:39:SER:HB2	1.86	0.40
73:L5:929:A:C8	73:L5:930:G:H3'	2.56	0.40
73:L5:1079:C:O2	73:L5:1079:C:H2'	2.20	0.40
73:L5:1170:G:C2	73:L5:1171:G:C8	3.09	0.40
73:L5:1185:G:HO2'	73:L5:1186:U:P	2.44	0.40
73:L5:3696:C:H2'	73:L5:3697:U:O4'	2.21	0.40
73:L5:4519:C:OP1	73:L5:4520:G:H5''	2.22	0.40
73:L5:4596:C:C4	73:L5:4597:U:C4	3.09	0.40
73:L5:4888:U:C4	73:L5:4889:G:N1	2.89	0.40
73:L5:4968:A:H2'	73:L5:4969:C:C6	2.56	0.40
73:L5:4970:C:H2'	73:L5:4971:A:H8	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:S2:15:U:H2'	76:S2:16:G:O4'	2.20	0.40
76:S2:59:U:H2'	76:S2:60:A:H2'	2.03	0.40
76:S2:90:G:H2'	76:S2:91:A:O4'	2.21	0.40
76:S2:512:A:C2	76:S2:513:G:C8	3.10	0.40
76:S2:837:A:H2	76:S2:838:G:H21	1.68	0.40
76:S2:901:G:H2'	76:S2:902:G:O4'	2.21	0.40
76:S2:1045:U:H2'	76:S2:1046:U:C6	2.57	0.40
76:S2:1244:U:H2'	76:S2:1245:G:H8	1.86	0.40
76:S2:1317:C:H5'	76:S2:1318:G:OP2	2.22	0.40
76:S2:1666:C:H2'	76:S2:1667:U:C6	2.57	0.40
77:S6:20:A:H2'	77:S6:21:A:H5''	2.04	0.40
77:S6:23:C:H2'	77:S6:24:G:O4'	2.21	0.40
77:S6:51:U:C2	77:S6:52:G:C8	3.09	0.40
77:S6:53:G:H3'	77:S6:54:A:H8	1.87	0.40
78:CA:232:TYR:CZ	78:CA:292:LEU:HD23	2.56	0.40
78:CA:800:LEU:O	78:CA:804:THR:OG1	2.21	0.40
5:SV:32:ILE:HG23	5:SV:60:ARG:NH1	2.36	0.40
5:SV:67:ASP:O	5:SV:71:ARG:HG2	2.20	0.40
10:ST:97:LYS:HB2	10:ST:97:LYS:HE3	1.88	0.40
11:Sg:6:THR:HB	11:Sg:311:GLN:HB3	2.03	0.40
12:SC:132:ASP:N	12:SC:132:ASP:OD1	2.54	0.40
22:SZ:52:LYS:O	22:SZ:54:THR:N	2.47	0.40
23:SA:42:LYS:HE2	23:SA:44:ASP:OD1	2.21	0.40
24:SB:25:PHE:CZ	76:S2:953:C:H4'	2.56	0.40
26:SD:69:LEU:HD23	26:SD:69:LEU:HA	1.86	0.40
28:SI:17:LYS:HG3	28:SI:18:ARG:N	2.37	0.40
33:LC:61:GLN:OE1	65:Lj:55:ARG:NH2	2.55	0.40
35:LE:69:TYR:HE1	35:LE:70:LYS:HD3	1.86	0.40
37:LG:31:LEU:HD23	37:LG:31:LEU:HA	1.92	0.40
39:LI:60:LEU:HD13	39:LI:159:PHE:CD1	2.56	0.40
41:LL:61:CYS:HB2	41:LL:66:TYR:O	2.21	0.40
43:LN:4:TYR:CD1	43:LN:46:ASP:HB3	2.57	0.40
46:LQ:45:GLN:H	46:LQ:45:GLN:HG2	1.63	0.40
46:LQ:164:LYS:HG3	73:L5:1497:A:H1'	2.04	0.40
60:Le:99:ILE:O	60:Le:124:ASN:ND2	2.51	0.40
73:L5:221:C:H2'	73:L5:222:C:C6	2.56	0.40
73:L5:509:A:OP2	73:L5:509:A:H4'	2.22	0.40
73:L5:696:C:H4'	73:L5:697:G:H8	1.87	0.40
73:L5:1213:G:P	73:L5:1214:C:H5'	2.62	0.40
73:L5:2858:A:O2'	73:L5:2859:G:OP2	2.40	0.40
73:L5:4601:U:H2'	73:L5:4602:A:C8	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:4638:U:H2'	73:L5:4639:G:N3	2.37	0.40
75:L8:16:G:HO2'	75:L8:17:A:P	2.44	0.40
75:L8:130:C:H2'	75:L8:131:G:C8	2.56	0.40
76:S2:83:A:N3	76:S2:83:A:H2'	2.37	0.40
76:S2:1221:G:C2	76:S2:1222:G:C5	3.09	0.40
76:S2:1342:U:H4'	76:S2:1343:U:C6	2.57	0.40
76:S2:1430:C:H4'	76:S2:1431:G:C8	2.56	0.40
76:S2:1514:G:H2'	76:S2:1515:G:C8	2.56	0.40
76:S2:1520:G:H5'	76:S2:1521:C:OP2	2.21	0.40
76:S2:1749:G:H22	76:S2:1785:C:C2'	2.34	0.40
78:CA:654:PRO:CD	78:CA:658:GLY:HA3	2.48	0.40
3:SP:67:ALA:N	3:SP:68:PRO:HD3	2.36	0.40
4:SQ:12:VAL:HG13	4:SQ:90:LYS:HE2	2.02	0.40
6:SX:66:ILE:HB	76:S2:616:A:OP1	2.22	0.40
12:SC:86:LEU:HD23	23:SA:141:ASN:ND2	2.35	0.40
14:SJ:130:ILE:HG12	14:SJ:135:ILE:CG2	2.51	0.40
17:SG:92:ARG:NH2	76:S2:1737:G:O3'	2.54	0.40
19:SY:36:PRO:HG3	76:S2:570:C:H4'	2.04	0.40
25:SE:67:GLN:HE21	25:SE:69:PHE:HE2	1.67	0.40
26:SD:18:LYS:HD2	26:SD:19:ALA:N	2.36	0.40
27:SH:99:ARG:HH21	76:S2:913:A:C5'	2.34	0.40
30:SF:22:LYS:HB3	30:SF:22:LYS:HE2	1.73	0.40
30:SF:169:ILE:HG22	76:S2:1535:U:OP2	2.21	0.40
32:LB:14:LEU:O	32:LB:17:LEU:HG	2.22	0.40
34:LD:119:TYR:CE1	34:LD:135:ILE:HD12	2.56	0.40
37:LG:73:ARG:NH1	37:LG:241:VAL:O	2.51	0.40
39:LI:91:LEU:HD23	39:LI:91:LEU:HA	1.90	0.40
41:LL:9:VAL:HG23	56:La:49:HIS:CE1	2.57	0.40
41:LL:20:ARG:O	41:LL:20:ARG:HG3	2.22	0.40
41:LL:103:ARG:HH22	73:L5:325:U:P	2.43	0.40
41:LL:179:PHE:O	41:LL:183:ARG:HG2	2.22	0.40
46:LQ:186:TYR:CD2	73:L5:4307:A:H4'	2.57	0.40
47:LR:105:LEU:HD22	47:LR:135:LYS:HG3	2.03	0.40
47:LR:122:SER:O	47:LR:126:LYS:HG3	2.22	0.40
49:LT:49:GLN:HA	49:LT:52:MET:HE2	2.02	0.40
50:LU:40:GLU:O	50:LU:44:GLN:HG3	2.21	0.40
73:L5:974:C:H42	73:L5:1279:A:H2	1.69	0.40
73:L5:1670:G:O2'	73:L5:1854:G:H5'	2.22	0.40
73:L5:2777:G:H5''	73:L5:2778:G:H5'	2.03	0.40
73:L5:3756:A:H2'	73:L5:3757:G:O4'	2.21	0.40
73:L5:4088:C:H2'	73:L5:4089:G:C8	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:L5:4324:A:H2'	73:L5:4325:A:C8	2.57	0.40
73:L5:4400:G:C2	73:L5:4401:G:C8	3.10	0.40
73:L5:4410:G:C2	73:L5:4411:G:C8	3.10	0.40
73:L5:4462:C:O2'	73:L5:4463:U:H5'	2.22	0.40
73:L5:4760:G:H2'	73:L5:4761:G:H8	1.87	0.40
73:L5:4892:A:H61	73:L5:4928:C:N4	2.16	0.40
76:S2:573:U:O2'	76:S2:575:A:N7	2.51	0.40
76:S2:1553:C:C6	76:S2:1555:U:H5'	2.56	0.40
78:CA:579:TYR:HE1	78:CA:742:GLU:HG2	1.87	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	
1	SL	129/158 (82%)	125 (97%)	4 (3%)	0	100	100
2	SR	106/135 (78%)	95 (90%)	11 (10%)	0	100	100
3	SP	56/145 (39%)	45 (80%)	11 (20%)	0	100	100
4	SQ	139/146 (95%)	118 (85%)	21 (15%)	0	100	100
5	SV	81/83 (98%)	78 (96%)	3 (4%)	0	100	100
6	SX	135/143 (94%)	122 (90%)	13 (10%)	0	100	100
7	Sa	94/115 (82%)	91 (97%)	3 (3%)	0	100	100
8	SU	67/119 (56%)	63 (94%)	4 (6%)	0	100	100
9	Sc	62/69 (90%)	52 (84%)	8 (13%)	2 (3%)	3	10
10	ST	136/145 (94%)	122 (90%)	14 (10%)	0	100	100
11	Sg	311/317 (98%)	251 (81%)	59 (19%)	1 (0%)	36	63
12	SC	220/293 (75%)	207 (94%)	13 (6%)	0	100	100
13	Sd	42/56 (75%)	41 (98%)	1 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	SJ	177/194 (91%)	164 (93%)	13 (7%)	0	100	100
15	SN	148/151 (98%)	146 (99%)	2 (1%)	0	100	100
16	SO	126/151 (83%)	116 (92%)	10 (8%)	0	100	100
17	SG	228/249 (92%)	204 (90%)	24 (10%)	0	100	100
18	SW	127/130 (98%)	118 (93%)	9 (7%)	0	100	100
19	SY	123/133 (92%)	118 (96%)	4 (3%)	1 (1%)	16	40
20	Se	56/59 (95%)	53 (95%)	3 (5%)	0	100	100
21	Sb	79/84 (94%)	68 (86%)	11 (14%)	0	100	100
22	SZ	64/125 (51%)	55 (86%)	8 (12%)	1 (2%)	7	23
23	SA	178/295 (60%)	163 (92%)	15 (8%)	0	100	100
24	SB	209/264 (79%)	202 (97%)	7 (3%)	0	100	100
25	SE	256/263 (97%)	229 (90%)	27 (10%)	0	100	100
26	SD	209/243 (86%)	198 (95%)	11 (5%)	0	100	100
27	SH	182/194 (94%)	171 (94%)	11 (6%)	0	100	100
28	SI	180/208 (86%)	165 (92%)	15 (8%)	0	100	100
29	SK	80/165 (48%)	76 (95%)	4 (5%)	0	100	100
30	SF	175/204 (86%)	146 (83%)	28 (16%)	1 (1%)	21	47
31	LA	243/257 (95%)	234 (96%)	9 (4%)	0	100	100
32	LB	393/403 (98%)	384 (98%)	9 (2%)	0	100	100
33	LC	352/427 (82%)	332 (94%)	20 (6%)	0	100	100
34	LD	283/297 (95%)	272 (96%)	10 (4%)	1 (0%)	30	57
35	LE	184/288 (64%)	174 (95%)	10 (5%)	0	100	100
36	LF	215/248 (87%)	206 (96%)	9 (4%)	0	100	100
37	LG	203/266 (76%)	194 (96%)	9 (4%)	0	100	100
38	LH	187/192 (97%)	172 (92%)	15 (8%)	0	100	100
39	LI	195/214 (91%)	190 (97%)	5 (3%)	0	100	100
40	LJ	161/178 (90%)	155 (96%)	6 (4%)	0	100	100
41	LL	187/211 (89%)	181 (97%)	5 (3%)	1 (0%)	24	52
42	LM	133/215 (62%)	127 (96%)	6 (4%)	0	100	100
43	LN	201/204 (98%)	195 (97%)	6 (3%)	0	100	100
44	LO	197/203 (97%)	196 (100%)	1 (0%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
45	LP	150/184 (82%)	147 (98%)	3 (2%)	0	100	100
46	LQ	185/188 (98%)	172 (93%)	13 (7%)	0	100	100
47	LR	171/196 (87%)	169 (99%)	2 (1%)	0	100	100
48	LS	173/176 (98%)	170 (98%)	3 (2%)	0	100	100
49	LT	157/160 (98%)	150 (96%)	6 (4%)	1 (1%)	21	47
50	LU	97/128 (76%)	93 (96%)	4 (4%)	0	100	100
51	LV	129/140 (92%)	125 (97%)	4 (3%)	0	100	100
52	LW	62/157 (40%)	60 (97%)	2 (3%)	0	100	100
53	LX	115/156 (74%)	108 (94%)	7 (6%)	0	100	100
54	LY	129/145 (89%)	123 (95%)	6 (5%)	0	100	100
55	LZ	133/136 (98%)	127 (96%)	6 (4%)	0	100	100
56	La	145/148 (98%)	129 (89%)	15 (10%)	1 (1%)	18	44
57	Lb	64/159 (40%)	64 (100%)	0	0	100	100
58	Lc	91/115 (79%)	90 (99%)	1 (1%)	0	100	100
59	Ld	104/125 (83%)	100 (96%)	4 (4%)	0	100	100
60	Le	125/135 (93%)	121 (97%)	4 (3%)	0	100	100
61	Lf	106/110 (96%)	101 (95%)	4 (4%)	1 (1%)	14	37
62	Lg	104/117 (89%)	104 (100%)	0	0	100	100
63	Lh	118/123 (96%)	115 (98%)	2 (2%)	1 (1%)	16	40
64	Li	98/105 (93%)	94 (96%)	2 (2%)	2 (2%)	6	18
65	Lj	83/97 (86%)	77 (93%)	6 (7%)	0	100	100
66	Lk	66/70 (94%)	64 (97%)	2 (3%)	0	100	100
67	Ll	48/51 (94%)	45 (94%)	3 (6%)	0	100	100
68	Lm	49/128 (38%)	48 (98%)	1 (2%)	0	100	100
69	Ln	22/25 (88%)	22 (100%)	0	0	100	100
70	Lo	100/106 (94%)	96 (96%)	4 (4%)	0	100	100
71	Lp	87/92 (95%)	85 (98%)	2 (2%)	0	100	100
72	Lr	122/137 (89%)	115 (94%)	7 (6%)	0	100	100
78	CA	540/858 (63%)	517 (96%)	22 (4%)	1 (0%)	43	70
All	All	10882/13106 (83%)	10245 (94%)	622 (6%)	15 (0%)	49	75

All (15) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
22	SZ	50	PHE
30	SF	140	ASP
56	La	122	VAL
9	Sc	35	MET
9	Sc	63	ARG
41	LL	47	ALA
61	Lf	54	LYS
11	Sg	305	ASN
49	LT	24	VAL
78	CA	586	GLU
34	LD	232	THR
63	Lh	88	THR
64	Li	50	PHE
64	Li	79	THR
19	SY	86	GLU

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	
1	SL	122/142 (86%)	118 (97%)	4 (3%)	33	66
2	SR	98/122 (80%)	87 (89%)	11 (11%)	6	17
3	SP	53/130 (41%)	50 (94%)	3 (6%)	18	46
4	SQ	117/121 (97%)	107 (92%)	10 (8%)	10	28
5	SV	67/67 (100%)	65 (97%)	2 (3%)	36	69
6	SX	109/115 (95%)	105 (96%)	4 (4%)	30	62
7	Sa	83/98 (85%)	82 (99%)	1 (1%)	63	84
8	SU	63/107 (59%)	61 (97%)	2 (3%)	34	67
9	Sc	57/62 (92%)	55 (96%)	2 (4%)	32	64
10	ST	109/115 (95%)	104 (95%)	5 (5%)	24	55
11	Sg	272/275 (99%)	256 (94%)	16 (6%)	18	44
12	SC	188/225 (84%)	181 (96%)	7 (4%)	30	62
13	Sd	38/49 (78%)	36 (95%)	2 (5%)	20	49

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
14	SJ	160/168 (95%)	154 (96%)	6 (4%)	29	61
15	SN	130/131 (99%)	128 (98%)	2 (2%)	57	81
16	SO	100/119 (84%)	93 (93%)	7 (7%)	14	37
17	SG	200/218 (92%)	189 (94%)	11 (6%)	19	47
18	SW	112/113 (99%)	106 (95%)	6 (5%)	20	48
19	SY	107/115 (93%)	104 (97%)	3 (3%)	38	70
20	Se	47/48 (98%)	46 (98%)	1 (2%)	47	76
21	Sb	73/76 (96%)	70 (96%)	3 (4%)	27	59
22	SZ	58/103 (56%)	54 (93%)	4 (7%)	14	38
23	SA	153/243 (63%)	146 (95%)	7 (5%)	24	55
24	SB	192/231 (83%)	185 (96%)	7 (4%)	31	63
25	SE	221/225 (98%)	209 (95%)	12 (5%)	20	48
26	SD	175/202 (87%)	164 (94%)	11 (6%)	16	41
27	SH	165/174 (95%)	157 (95%)	8 (5%)	23	53
28	SI	160/180 (89%)	155 (97%)	5 (3%)	35	68
29	SK	74/136 (54%)	70 (95%)	4 (5%)	20	48
30	SF	152/170 (89%)	144 (95%)	8 (5%)	20	49
31	LA	188/199 (94%)	187 (100%)	1 (0%)	81	92
32	LB	344/349 (99%)	335 (97%)	9 (3%)	40	72
33	LC	297/348 (85%)	288 (97%)	9 (3%)	36	69
34	LD	241/250 (96%)	232 (96%)	9 (4%)	30	62
35	LE	171/252 (68%)	167 (98%)	4 (2%)	44	75
36	LF	187/215 (87%)	186 (100%)	1 (0%)	81	92
37	LG	180/223 (81%)	174 (97%)	6 (3%)	33	66
38	LH	169/171 (99%)	166 (98%)	3 (2%)	51	79
39	LI	170/181 (94%)	164 (96%)	6 (4%)	32	64
40	LJ	138/149 (93%)	133 (96%)	5 (4%)	31	63
41	LL	160/177 (90%)	155 (97%)	5 (3%)	35	68
42	LM	115/161 (71%)	112 (97%)	3 (3%)	40	72
43	LN	171/172 (99%)	170 (99%)	1 (1%)	78	91
44	LO	171/174 (98%)	168 (98%)	3 (2%)	51	79

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
45	LP	133/163 (82%)	131 (98%)	2 (2%)	57	81
46	LQ	164/165 (99%)	160 (98%)	4 (2%)	43	74
47	LR	153/175 (87%)	153 (100%)	0	100	100
48	LS	156/157 (99%)	151 (97%)	5 (3%)	34	67
49	LT	139/140 (99%)	136 (98%)	3 (2%)	45	75
50	LU	89/115 (77%)	88 (99%)	1 (1%)	65	85
51	LV	101/107 (94%)	98 (97%)	3 (3%)	36	69
52	LW	56/126 (44%)	55 (98%)	1 (2%)	51	79
53	LX	105/133 (79%)	103 (98%)	2 (2%)	50	78
54	LY	122/135 (90%)	117 (96%)	5 (4%)	27	59
55	LZ	117/118 (99%)	116 (99%)	1 (1%)	70	87
56	La	120/121 (99%)	119 (99%)	1 (1%)	73	89
57	Lb	57/126 (45%)	56 (98%)	1 (2%)	51	79
58	Lc	78/97 (80%)	76 (97%)	2 (3%)	40	72
59	Ld	97/110 (88%)	94 (97%)	3 (3%)	35	68
60	Le	114/121 (94%)	114 (100%)	0	100	100
61	Lf	87/89 (98%)	87 (100%)	0	100	100
62	Lg	92/100 (92%)	90 (98%)	2 (2%)	45	75
63	Lh	108/110 (98%)	106 (98%)	2 (2%)	50	78
64	Li	85/89 (96%)	83 (98%)	2 (2%)	43	74
65	Lj	72/80 (90%)	70 (97%)	2 (3%)	38	70
66	Lk	63/65 (97%)	62 (98%)	1 (2%)	55	81
67	Ll	47/48 (98%)	44 (94%)	3 (6%)	16	41
68	Lm	47/116 (40%)	47 (100%)	0	100	100
69	Ln	23/24 (96%)	23 (100%)	0	100	100
70	Lo	90/94 (96%)	88 (98%)	2 (2%)	45	75
71	Lp	72/75 (96%)	72 (100%)	0	100	100
72	Lr	108/121 (89%)	104 (96%)	4 (4%)	30	62
78	CA	468/730 (64%)	452 (97%)	16 (3%)	32	65
All	All	9520/11151 (85%)	9213 (97%)	307 (3%)	35	67

All (307) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	SL	66	VAL
1	SL	104	LYS
1	SL	121	GLN
1	SL	126	VAL
2	SR	6	THR
2	SR	22	THR
2	SR	27	ASP
2	SR	55	THR
2	SR	57	LEU
2	SR	61	ILE
2	SR	84	TYR
2	SR	85	VAL
2	SR	91	LEU
2	SR	95	ILE
2	SR	102	THR
3	SP	34	MET
3	SP	37	TYR
3	SP	71	GLU
4	SQ	42	ILE
4	SQ	46	THR
4	SQ	49	TYR
4	SQ	51	LEU
4	SQ	52	LEU
4	SQ	66	VAL
4	SQ	71	ARG
4	SQ	105	LYS
4	SQ	108	ILE
4	SQ	145	TYR
5	SV	13	VAL
5	SV	36	VAL
6	SX	25	LYS
6	SX	32	LEU
6	SX	70	VAL
6	SX	130	LEU
7	Sa	50	VAL
8	SU	45	GLU
8	SU	60	THR
9	Sc	38	THR
9	Sc	60	GLU
10	ST	66	LEU
10	ST	98	SER
10	ST	103	VAL
10	ST	113	VAL

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Mol	Chain	Res	Type
10	ST	131	LEU
11	Sg	19	THR
11	Sg	50	THR
11	Sg	52	TYR
11	Sg	71	ILE
11	Sg	84	ASP
11	Sg	111	VAL
11	Sg	113	PHE
11	Sg	132	TRP
11	Sg	137	VAL
11	Sg	151	VAL
11	Sg	171	ASP
11	Sg	173	LEU
11	Sg	187	ASN
11	Sg	219	TRP
11	Sg	236	ILE
11	Sg	310	TRP
12	SC	113	GLN
12	SC	141	VAL
12	SC	162	ILE
12	SC	187	ARG
12	SC	270	THR
12	SC	274	VAL
12	SC	277	HIS
13	Sd	31	ILE
13	Sd	39	CYS
14	SJ	3	VAL
14	SJ	60	LEU
14	SJ	141	VAL
14	SJ	144	ILE
14	SJ	148	ILE
14	SJ	161	LEU
15	SN	102	LEU
15	SN	110	ASP
16	SO	40	THR
16	SO	47	LEU
16	SO	67	ASP
16	SO	83	GLN
16	SO	113	GLN
16	SO	135	ILE
16	SO	150	ARG
17	SG	3	LEU

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Mol	Chain	Res	Type
17	SG	5	ILE
17	SG	23	LYS
17	SG	28	TYR
17	SG	57	ASP
17	SG	102	VAL
17	SG	124	LEU
17	SG	156	TYR
17	SG	176	ILE
17	SG	179	LEU
17	SG	224	ARG
18	SW	26	LEU
18	SW	61	ILE
18	SW	80	ASP
18	SW	81	VAL
18	SW	104	LEU
18	SW	128	PHE
19	SY	74	MET
19	SY	76	TYR
19	SY	122	LYS
20	Se	43	VAL
21	Sb	13	GLU
21	Sb	73	LEU
21	Sb	78	SER
22	SZ	48	VAL
22	SZ	67	LEU
22	SZ	77	LEU
22	SZ	110	THR
23	SA	28	THR
23	SA	54	THR
23	SA	66	VAL
23	SA	94	THR
23	SA	97	THR
23	SA	111	GLN
23	SA	145	ILE
24	SB	38	MET
24	SB	62	LEU
24	SB	68	GLU
24	SB	108	ASP
24	SB	125	VAL
24	SB	137	LEU
24	SB	163	GLN
25	SE	12	VAL

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Mol	Chain	Res	Type
25	SE	38	LEU
25	SE	59	ASP
25	SE	72	ILE
25	SE	76	VAL
25	SE	92	ILE
25	SE	105	THR
25	SE	121	TYR
25	SE	153	LEU
25	SE	169	ILE
25	SE	173	ILE
25	SE	248	ILE
26	SD	3	VAL
26	SD	5	ILE
26	SD	37	VAL
26	SD	48	ILE
26	SD	65	ARG
26	SD	136	VAL
26	SD	167	TYR
26	SD	174	HIS
26	SD	175	VAL
26	SD	181	VAL
26	SD	190	LEU
27	SH	9	VAL
27	SH	66	VAL
27	SH	70	LYS
27	SH	94	PHE
27	SH	112	ASN
27	SH	132	ASP
27	SH	148	LEU
27	SH	184	ASP
28	SI	7	ASN
28	SI	77	ARG
28	SI	103	LEU
28	SI	104	ILE
28	SI	158	ILE
29	SK	3	MET
29	SK	14	LEU
29	SK	20	VAL
29	SK	79	LEU
30	SF	22	LYS
30	SF	25	THR
30	SF	77	MET

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Mol	Chain	Res	Type
30	SF	98	GLU
30	SF	103	LEU
30	SF	113	VAL
30	SF	127	ARG
30	SF	169	ILE
31	LA	146	THR
32	LB	194	LEU
32	LB	203	GLN
32	LB	231	VAL
32	LB	248	LEU
32	LB	258	HIS
32	LB	268	ARG
32	LB	321	VAL
32	LB	325	GLU
32	LB	360	LEU
33	LC	144	ILE
33	LC	147	VAL
33	LC	169	LEU
33	LC	193	LYS
33	LC	201	ARG
33	LC	228	THR
33	LC	236	ASN
33	LC	276	ASN
33	LC	314	LEU
34	LD	4	VAL
34	LD	7	VAL
34	LD	37	VAL
34	LD	89	LYS
34	LD	129	GLU
34	LD	143	THR
34	LD	202	GLN
34	LD	214	GLU
34	LD	222	GLN
35	LE	123	ARG
35	LE	128	HIS
35	LE	179	LEU
35	LE	194	VAL
36	LF	34	ARG
37	LG	106	THR
37	LG	165	GLU
37	LG	205	THR
37	LG	211	ASP

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Mol	Chain	Res	Type
37	LG	235	ARG
37	LG	242	LEU
38	LH	1	MET
38	LH	9	THR
38	LH	11	ASP
39	LI	28	ASP
39	LI	43	VAL
39	LI	140	THR
39	LI	179	ASP
39	LI	189	CYS
39	LI	203	HIS
40	LJ	20	LEU
40	LJ	31	ASP
40	LJ	66	GLU
40	LJ	98	ASN
40	LJ	125	ILE
41	LL	36	ARG
41	LL	58	ILE
41	LL	64	VAL
41	LL	94	ILE
41	LL	155	MET
42	LM	75	GLN
42	LM	96	GLU
42	LM	122	ILE
43	LN	161	MET
44	LO	108	ILE
44	LO	127	VAL
44	LO	129	LEU
45	LP	34	GLN
45	LP	78	TRP
46	LQ	3	VAL
46	LQ	93	GLN
46	LQ	124	ASP
46	LQ	150	ARG
48	LS	16	CYS
48	LS	131	GLU
48	LS	132	ILE
48	LS	144	GLN
48	LS	159	LEU
49	LT	27	LEU
49	LT	80	VAL
49	LT	96	ILE

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Mol	Chain	Res	Type
50	LU	55	ASN
51	LV	35	LYS
51	LV	85	ARG
51	LV	92	ASP
52	LW	3	VAL
53	LX	82	THR
53	LX	116	LEU
54	LY	24	HIS
54	LY	47	MET
54	LY	74	TYR
54	LY	79	VAL
54	LY	109	LEU
55	LZ	100	VAL
56	La	67	GLN
57	Lb	9	THR
58	Lc	69	THR
58	Lc	105	ILE
59	Ld	48	GLU
59	Ld	95	ASP
59	Ld	111	VAL
62	Lg	5	LEU
62	Lg	106	VAL
63	Lh	31	LEU
63	Lh	113	LEU
64	Li	3	LEU
64	Li	59	GLU
65	Lj	80	GLU
65	Lj	82	THR
66	Lk	12	LEU
67	Ll	15	LYS
67	Ll	27	ILE
67	Ll	36	ARG
70	Lo	10	THR
70	Lo	14	LYS
72	Lr	6	GLN
72	Lr	17	LEU
72	Lr	23	GLN
72	Lr	48	THR
78	CA	152	LYS
78	CA	169	LEU
78	CA	218	LEU
78	CA	288	THR

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Mol	Chain	Res	Type
78	CA	308	LYS
78	CA	539	GLU
78	CA	563	GLU
78	CA	600	ASN
78	CA	648	LYS
78	CA	651	CYS
78	CA	689	GLU
78	CA	706	ASP
78	CA	742	GLU
78	CA	747	VAL
78	CA	782	PHE
78	CA	852	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (92) such sidechains are listed below:

Mol	Chain	Res	Type
4	SQ	11	GLN
6	SX	16	HIS
6	SX	26	GLN
6	SX	61	GLN
6	SX	97	ASN
7	Sa	8	ASN
8	SU	47	ASN
9	Sc	7	GLN
9	Sc	29	GLN
10	ST	11	GLN
11	Sg	56	GLN
14	SJ	113	GLN
14	SJ	132	GLN
15	SN	90	HIS
17	SG	56	ASN
18	SW	24	GLN
19	SY	15	ASN
19	SY	22	GLN
19	SY	124	ASN
21	Sb	49	HIS
22	SZ	46	ASN
22	SZ	103	HIS
23	SA	33	GLN
23	SA	36	GLN
23	SA	50	ASN
24	SB	92	GLN

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Mol	Chain	Res	Type
25	SE	36	HIS
25	SE	50	ASN
25	SE	98	ASN
25	SE	216	ASN
25	SE	224	ASN
26	SD	101	GLN
27	SH	44	ASN
27	SH	76	GLN
28	SI	7	ASN
28	SI	64	ASN
28	SI	99	ASN
28	SI	111	GLN
28	SI	116	HIS
28	SI	168	GLN
29	SK	39	ASN
29	SK	42	ASN
30	SF	149	GLN
30	SF	203	ASN
31	LA	132	ASN
32	LB	68	ASN
32	LB	302	ASN
32	LB	354	GLN
33	LC	198	ASN
33	LC	317	ASN
33	LC	321	ASN
34	LD	122	GLN
34	LD	131	ASN
36	LF	39	GLN
36	LF	116	GLN
37	LG	43	GLN
37	LG	66	GLN
38	LH	98	HIS
38	LH	102	ASN
38	LH	116	ASN
39	LI	51	HIS
39	LI	147	HIS
43	LN	145	ASN
44	LO	5	GLN
44	LO	50	ASN
44	LO	184	ASN
45	LP	34	GLN
45	LP	56	GLN

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Mol	Chain	Res	Type
45	LP	80	GLN
45	LP	120	ASN
46	LQ	21	GLN
46	LQ	125	GLN
48	LS	23	HIS
49	LT	69	GLN
51	LV	50	ASN
54	LY	43	ASN
57	Lb	6	ASN
61	Lf	56	ASN
63	Lh	101	ASN
63	Lh	107	GLN
66	Lk	58	GLN
67	Ll	4	HIS
68	Lm	119	ASN
70	Lo	102	GLN
72	Lr	4	HIS
72	Lr	23	GLN
72	Lr	30	ASN
78	CA	168	GLN
78	CA	227	GLN
78	CA	306	ASN
78	CA	544	HIS
78	CA	720	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
73	L5	3262/5070 (64%)	750 (22%)	35 (1%)
74	L7	119/121 (98%)	14 (11%)	0
75	L8	149/157 (94%)	36 (24%)	0
76	S2	1615/1869 (86%)	514 (31%)	21 (1%)
77	S6	74/75 (98%)	37 (50%)	2 (2%)
All	All	5219/7292 (71%)	1351 (25%)	58 (1%)

All (1351) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
73	L5	9	C
73	L5	13	U
73	L5	14	C

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Mol	Chain	Res	Type
73	L5	15	A
73	L5	25	A
73	L5	39	A
73	L5	42	A
73	L5	48	G
73	L5	56	A
73	L5	58	G
73	L5	59	A
73	L5	63	G
73	L5	64	A
73	L5	65	A
73	L5	66	A
73	L5	70	A
73	L5	72	C
73	L5	73	A
73	L5	74	G
73	L5	76	A
73	L5	85	G
73	L5	91	G
73	L5	98	A
73	L5	104	G
73	L5	109	G
73	L5	110	C
73	L5	117	C
73	L5	119	G
73	L5	120	A
73	L5	138	G
73	L5	139	G
73	L5	144	G
73	L5	152	U
73	L5	159	C
73	L5	165	A
73	L5	171	U
73	L5	172	C
73	L5	177	G
73	L5	179	G
73	L5	182	G
73	L5	183	C
73	L5	184	U
73	L5	200	U
73	L5	202	C
73	L5	207	G

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Mol	Chain	Res	Type
73	L5	210	C
73	L5	227	A
73	L5	233	U
73	L5	234	G
73	L5	235	A
73	L5	237	G
73	L5	250	C
73	L5	255	C
73	L5	256	G
73	L5	261	G
73	L5	265	C
73	L5	266	C
73	L5	267	G
73	L5	269	G
73	L5	275	C
73	L5	276	C
73	L5	278	G
73	L5	279	A
73	L5	280	G
73	L5	297	U
73	L5	306	A
73	L5	310	G
73	L5	315	G
73	L5	316	U
73	L5	334	A
73	L5	335	A
73	L5	340	C
73	L5	341	G
73	L5	348	G
73	L5	355	A
73	L5	357	U
73	L5	361	C
73	L5	372	A
73	L5	381	U
73	L5	383	A
73	L5	387	G
73	L5	402	A
73	L5	407	A
73	L5	409	G
73	L5	410	A
73	L5	412	G
73	L5	417	G

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Mol	Chain	Res	Type
73	L5	418	A
73	L5	433	A
73	L5	448	G
73	L5	449	C
73	L5	450	G
73	L5	451	C
73	L5	452	A
73	L5	453	G
73	L5	454	U
73	L5	455	C
73	L5	460	C
73	L5	461	G
73	L5	464	G
73	L5	468	U
73	L5	469	C
73	L5	488	G
73	L5	490	C
73	L5	493	G
73	L5	494	U
73	L5	498	C
73	L5	499	G
73	L5	500	G
73	L5	501	C
73	L5	502	C
73	L5	503	C
73	L5	504	G
73	L5	505	G
73	L5	506	C
73	L5	507	G
73	L5	509	A
73	L5	648	G
73	L5	653	U
73	L5	654	C
73	L5	655	C
73	L5	658	C
73	L5	659	G
73	L5	661	C
73	L5	662	C
73	L5	663	G
73	L5	664	G
73	L5	665	C
73	L5	666	G

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Mol	Chain	Res	Type
73	L5	667	A
73	L5	669	C
73	L5	670	G
73	L5	671	G
73	L5	681	G
73	L5	682	G
73	L5	683	C
73	L5	684	G
73	L5	685	C
73	L5	686	A
73	L5	694	C
73	L5	695	G
73	L5	696	C
73	L5	697	G
73	L5	701	G
73	L5	702	U
73	L5	703	G
73	L5	707	C
73	L5	719	C
73	L5	728	U
73	L5	729	G
73	L5	730	G
73	L5	737	C
73	L5	739	G
73	L5	740	G
73	L5	742	G
73	L5	743	G
73	L5	744	G
73	L5	745	G
73	L5	746	A
73	L5	747	A
73	L5	748	G
73	L5	756	G
73	L5	910	G
73	L5	912	G
73	L5	913	U
73	L5	916	C
73	L5	917	A
73	L5	918	G
73	L5	919	C
73	L5	920	C
73	L5	927	G

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Mol	Chain	Res	Type
73	L5	928	C
73	L5	930	G
73	L5	931	C
73	L5	932	A
73	L5	934	C
73	L5	936	C
73	L5	938	C
73	L5	940	C
73	L5	944	A
73	L5	945	U
73	L5	946	C
73	L5	957	G
73	L5	958	G
73	L5	960	A
73	L5	976	G
73	L5	977	C
73	L5	978	G
73	L5	979	C
73	L5	1074	G
73	L5	1076	C
73	L5	1077	C
73	L5	1078	A
73	L5	1079	C
73	L5	1081	C
73	L5	1082	C
73	L5	1083	U
73	L5	1084	C
73	L5	1095	A
73	L5	1099	C
73	L5	1100	U
73	L5	1170	G
73	L5	1171	G
73	L5	1172	C
73	L5	1177	U
73	L5	1178	G
73	L5	1179	U
73	L5	1180	C
73	L5	1181	C
73	L5	1182	C
73	L5	1183	C
73	L5	1184	A
73	L5	1185	G

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Mol	Chain	Res	Type
73	L5	1186	U
73	L5	1193	C
73	L5	1200	G
73	L5	1203	G
73	L5	1205	G
73	L5	1210	C
73	L5	1211	G
73	L5	1214	C
73	L5	1215	C
73	L5	1216	C
73	L5	1217	G
73	L5	1219	G
73	L5	1237	C
73	L5	1238	A
73	L5	1239	C
73	L5	1275	G
73	L5	1276	C
73	L5	1277	G
73	L5	1279	A
73	L5	1280	C
73	L5	1281	G
73	L5	1282	G
73	L5	1283	G
73	L5	1285	U
73	L5	1286	C
73	L5	1288	G
73	L5	1295	C
73	L5	1296	G
73	L5	1297	U
73	L5	1301	C
73	L5	1302	U
73	L5	1303	A
73	L5	1307	A
73	L5	1326	A
73	L5	1330	A
73	L5	1337	A
73	L5	1354	A
73	L5	1359	G
73	L5	1360	G
73	L5	1377	G
73	L5	1378	C
73	L5	1379	C

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Mol	Chain	Res	Type
73	L5	1381	U
73	L5	1387	A
73	L5	1397	A
73	L5	1402	C
73	L5	1420	A
73	L5	1421	G
73	L5	1425	G
73	L5	1452	A
73	L5	1481	C
73	L5	1482	G
73	L5	1483	C
73	L5	1484	G
73	L5	1485	C
73	L5	1486	C
73	L5	1497	A
73	L5	1498	G
73	L5	1502	G
73	L5	1503	A
73	L5	1518	A
73	L5	1523	A
73	L5	1530	G
73	L5	1534	A
73	L5	1547	A
73	L5	1552	G
73	L5	1562	G
73	L5	1564	A
73	L5	1566	C
73	L5	1574	G
73	L5	1578	U
73	L5	1582	U
73	L5	1586	G
73	L5	1591	U
73	L5	1596	U
73	L5	1597	G
73	L5	1612	G
73	L5	1613	A
73	L5	1623	A
73	L5	1624	G
73	L5	1625	G
73	L5	1631	A
73	L5	1633	G
73	L5	1634	A

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Mol	Chain	Res	Type
73	L5	1638	A
73	L5	1640	C
73	L5	1641	G
73	L5	1642	A
73	L5	1654	G
73	L5	1656	U
73	L5	1661	C
73	L5	1676	C
73	L5	1677	U
73	L5	1678	C
73	L5	1681	G
73	L5	1691	G
73	L5	1694	C
73	L5	1724	G
73	L5	1734	G
73	L5	1741	G
73	L5	1742	A
73	L5	1750	G
73	L5	1753	G
73	L5	1781	U
73	L5	1785	C
73	L5	1787	A
73	L5	1798	G
73	L5	1803	G
73	L5	1804	A
73	L5	1815	G
73	L5	1820	C
73	L5	1821	G
73	L5	1822	U
73	L5	1823	G
73	L5	1824	G
73	L5	1825	A
73	L5	1826	G
73	L5	1829	G
73	L5	1832	C
73	L5	1833	G
73	L5	1834	U
73	L5	1835	G
73	L5	1836	G
73	L5	1837	A
73	L5	1838	A
73	L5	1839	U

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Mol	Chain	Res	Type
73	L5	1842	G
73	L5	1844	G
73	L5	1855	G
73	L5	1869	G
73	L5	1882	U
73	L5	1890	G
73	L5	1892	A
73	L5	1897	A
73	L5	1910	G
73	L5	1915	C
73	L5	1918	U
73	L5	1919	G
73	L5	1920	C
73	L5	1921	C
73	L5	1922	G
73	L5	1925	G
73	L5	1931	C
73	L5	1932	A
73	L5	1948	G
73	L5	1951	G
73	L5	1955	G
73	L5	1961	G
73	L5	1966	C
73	L5	1967	A
73	L5	2026	A
73	L5	2044	U
73	L5	2046	G
73	L5	2048	U
73	L5	2052	G
73	L5	2055	G
73	L5	2056	G
73	L5	2064	G
73	L5	2069	A
73	L5	2070	U
73	L5	2071	A
73	L5	2084	C
73	L5	2085	G
73	L5	2089	G
73	L5	2268	A
73	L5	2277	C
73	L5	2278	G
73	L5	2289	C

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Mol	Chain	Res	Type
73	L5	2300	A
73	L5	2301	G
73	L5	2304	U
73	L5	2313	A
73	L5	2316	G
73	L5	2331	G
73	L5	2332	A
73	L5	2333	G
73	L5	2342	G
73	L5	2348	G
73	L5	2351	C
73	L5	2360	A
73	L5	2362	U
73	L5	2382	A
73	L5	2390	G
73	L5	2395	A
73	L5	2397	G
73	L5	2417	A
73	L5	2422	C
73	L5	2425	U
73	L5	2437	C
73	L5	2451	A
73	L5	2454	U
73	L5	2469	C
73	L5	2471	G
73	L5	2507	A
73	L5	2511	A
73	L5	2513	A
73	L5	2520	C
73	L5	2529	A
73	L5	2554	U
73	L5	2555	G
73	L5	2556	G
73	L5	2557	G
73	L5	2583	C
73	L5	2586	G
73	L5	2587	A
73	L5	2588	C
73	L5	2589	C
73	L5	2601	A
73	L5	2602	G
73	L5	2638	G

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Mol	Chain	Res	Type
73	L5	2648	G
73	L5	2653	C
73	L5	2662	G
73	L5	2669	C
73	L5	2670	C
73	L5	2674	A
73	L5	2687	U
73	L5	2694	G
73	L5	2695	A
73	L5	2696	A
73	L5	2703	G
73	L5	2704	C
73	L5	2714	G
73	L5	2724	G
73	L5	2725	A
73	L5	2726	G
73	L5	2728	U
73	L5	2739	C
73	L5	2740	U
73	L5	2743	A
73	L5	2759	G
73	L5	2760	G
73	L5	2763	U
73	L5	2767	U
73	L5	2768	C
73	L5	2769	U
73	L5	2787	A
73	L5	2788	U
73	L5	2790	U
73	L5	2794	C
73	L5	2797	C
73	L5	2814	C
73	L5	2815	A
73	L5	2826	U
73	L5	2827	G
73	L5	2830	G
73	L5	2838	G
73	L5	2855	G
73	L5	2856	C
73	L5	2859	G
73	L5	2860	C
73	L5	2870	A

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Mol	Chain	Res	Type
73	L5	2877	G
73	L5	2895	A
73	L5	3605	C
73	L5	3614	G
73	L5	3615	G
73	L5	3616	U
73	L5	3618	C
73	L5	3625	G
73	L5	3626	G
73	L5	3630	A
73	L5	3633	C
73	L5	3635	A
73	L5	3642	A
73	L5	3646	A
73	L5	3648	A
73	L5	3653	A
73	L5	3662	A
73	L5	3670	C
73	L5	3671	G
73	L5	3673	C
73	L5	3674	G
73	L5	3683	C
73	L5	3709	U
73	L5	3710	G
73	L5	3711	A
73	L5	3712	A
73	L5	3713	U
73	L5	3714	G
73	L5	3727	A
73	L5	3748	A
73	L5	3750	G
73	L5	3753	G
73	L5	3754	G
73	L5	3756	A
73	L5	3757	G
73	L5	3760	A
73	L5	3761	C
73	L5	3762	U
73	L5	3765	G
73	L5	3766	A
73	L5	3770	U
73	L5	3772	U

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Mol	Chain	Res	Type
73	L5	3773	U
73	L5	3774	A
73	L5	3776	G
73	L5	3777	G
73	L5	3786	U
73	L5	3789	C
73	L5	3809	G
73	L5	3811	G
73	L5	3812	C
73	L5	3814	U
73	L5	3817	A
73	L5	3818	U
73	L5	3819	G
73	L5	3839	G
73	L5	3840	U
73	L5	3843	C
73	L5	3867	A
73	L5	3868	G
73	L5	3877	A
73	L5	3878	C
73	L5	3879	G
73	L5	3880	G
73	L5	3885	G
73	L5	3897	G
73	L5	3901	A
73	L5	3905	A
73	L5	3906	A
73	L5	3907	G
73	L5	3908	A
73	L5	3915	U
73	L5	3922	G
73	L5	3938	G
73	L5	3943	A
73	L5	3944	G
73	L5	3948	C
73	L5	3951	G
73	L5	3952	A
73	L5	3955	G
73	L5	3956	G
73	L5	3957	U
73	L5	3958	G
73	L5	3959	U

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Mol	Chain	Res	Type
73	L5	3960	A
73	L5	3961	G
73	L5	3962	A
73	L5	3963	A
73	L5	3965	A
73	L5	3966	A
73	L5	3970	G
73	L5	3971	G
73	L5	3972	A
73	L5	3973	G
73	L5	3975	C
73	L5	3976	C
73	L5	4035	G
73	L5	4036	G
73	L5	4038	C
73	L5	4039	G
73	L5	4041	C
73	L5	4042	G
73	L5	4044	U
73	L5	4045	G
73	L5	4046	A
73	L5	4047	A
73	L5	4048	A
73	L5	4049	U
73	L5	4050	A
73	L5	4051	C
73	L5	4053	A
73	L5	4055	U
73	L5	4056	A
73	L5	4059	C
73	L5	4065	G
73	L5	4069	U
73	L5	4070	U
73	L5	4076	G
73	L5	4093	G
73	L5	4094	G
73	L5	4119	C
73	L5	4120	U
73	L5	4121	G
73	L5	4122	G
73	L5	4125	C
73	L5	4127	A

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Mol	Chain	Res	Type
73	L5	4149	C
73	L5	4150	G
73	L5	4158	C
73	L5	4162	C
73	L5	4163	U
73	L5	4170	A
73	L5	4183	G
73	L5	4191	G
73	L5	4203	A
73	L5	4212	A
73	L5	4222	G
73	L5	4228	G
73	L5	4229	U
73	L5	4233	A
73	L5	4249	G
73	L5	4251	A
73	L5	4254	G
73	L5	4256	A
73	L5	4257	A
73	L5	4268	A
73	L5	4273	A
73	L5	4280	A
73	L5	4281	A
73	L5	4287	G
73	L5	4288	C
73	L5	4291	G
73	L5	4295	U
73	L5	4296	U
73	L5	4297	G
73	L5	4304	A
73	L5	4305	G
73	L5	4306	U
73	L5	4317	A
73	L5	4318	C
73	L5	4329	G
73	L5	4330	G
73	L5	4332	C
73	L5	4337	C
73	L5	4338	G
73	L5	4349	C
73	L5	4350	C
73	L5	4354	U

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Mol	Chain	Res	Type
73	L5	4376	A
73	L5	4377	G
73	L5	4378	A
73	L5	4380	A
73	L5	4387	C
73	L5	4391	G
73	L5	4394	A
73	L5	4396	A
73	L5	4405	G
73	L5	4419	U
73	L5	4420	U
73	L5	4422	A
73	L5	4444	C
73	L5	4448	G
73	L5	4449	A
73	L5	4464	A
73	L5	4465	U
73	L5	4475	G
73	L5	4476	C
73	L5	4484	A
73	L5	4500	U
73	L5	4512	U
73	L5	4513	A
73	L5	4518	A
73	L5	4519	C
73	L5	4524	G
73	L5	4525	C
73	L5	4527	G
73	L5	4528	G
73	L5	4531	U
73	L5	4534	G
73	L5	4548	A
73	L5	4549	G
73	L5	4560	C
73	L5	4567	G
73	L5	4573	G
73	L5	4575	G
73	L5	4590	A
73	L5	4601	U
73	L5	4617	G
73	L5	4635	A
73	L5	4636	U

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Mol	Chain	Res	Type
73	L5	4637	G
73	L5	4652	G
73	L5	4656	A
73	L5	4670	C
73	L5	4672	A
73	L5	4687	A
73	L5	4693	C
73	L5	4700	A
73	L5	4708	A
73	L5	4709	U
73	L5	4719	G
73	L5	4739	C
73	L5	4743	G
73	L5	4744	A
73	L5	4746	C
73	L5	4750	G
73	L5	4753	U
73	L5	4756	C
73	L5	4758	U
73	L5	4760	G
73	L5	4764	A
73	L5	4870	G
73	L5	4871	C
73	L5	4872	G
73	L5	4873	G
73	L5	4875	G
73	L5	4876	U
73	L5	4877	G
73	L5	4878	C
73	L5	4883	C
73	L5	4884	G
73	L5	4887	C
73	L5	4888	U
73	L5	4889	G
73	L5	4890	G
73	L5	4895	C
73	L5	4899	G
73	L5	4900	C
73	L5	4901	G
73	L5	4910	G
73	L5	4911	A
73	L5	4912	G

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Mol	Chain	Res	Type
73	L5	4913	G
73	L5	4914	C
73	L5	4919	G
73	L5	4927	G
73	L5	4928	C
73	L5	4931	G
73	L5	4936	G
73	L5	4937	C
73	L5	4938	A
73	L5	4940	C
73	L5	4941	G
73	L5	4942	G
73	L5	4943	C
73	L5	4947	U
73	L5	4949	G
73	L5	4954	G
73	L5	4960	G
73	L5	4963	G
73	L5	4966	A
73	L5	4976	U
73	L5	4985	U
73	L5	4988	U
73	L5	4992	G
73	L5	5013	C
73	L5	5014	A
73	L5	5017	G
73	L5	5034	A
73	L5	5041	G
73	L5	5050	C
73	L5	5054	C
73	L5	5058	A
73	L5	5061	A
73	L5	5062	G
74	L7	7	G
74	L7	10	C
74	L7	11	A
74	L7	25	G
74	L7	33	U
74	L7	37	G
74	L7	42	A
74	L7	53	U
74	L7	54	A

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Mol	Chain	Res	Type
74	L7	64	G
74	L7	100	A
74	L7	110	G
74	L7	117	G
74	L7	120	U
75	L8	19	C
75	L8	20	A
75	L8	23	C
75	L8	34	U
75	L8	35	C
75	L8	38	U
75	L8	39	G
75	L8	52	A
75	L8	59	A
75	L8	62	A
75	L8	63	U
75	L8	68	G
75	L8	75	G
75	L8	82	A
75	L8	83	C
75	L8	84	A
75	L8	85	U
75	L8	86	U
75	L8	87	G
75	L8	91	A
75	L8	100	U
75	L8	103	A
75	L8	104	A
75	L8	105	C
75	L8	106	G
75	L8	108	A
75	L8	110	U
75	L8	111	U
75	L8	112	G
75	L8	114	G
75	L8	127	U
75	L8	128	C
75	L8	149	G
75	L8	150	C
75	L8	153	C
75	L8	156	U
76	S2	2	A

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Mol	Chain	Res	Type
76	S2	4	C
76	S2	17	C
76	S2	20	G
76	S2	21	U
76	S2	23	G
76	S2	25	A
76	S2	33	G
76	S2	37	C
76	S2	41	G
76	S2	46	A
76	S2	56	G
76	S2	61	A
76	S2	62	G
76	S2	65	C
76	S2	67	C
76	S2	68	A
76	S2	70	G
76	S2	72	C
76	S2	73	C
76	S2	74	G
76	S2	75	G
76	S2	76	U
76	S2	77	A
76	S2	78	C
76	S2	79	A
76	S2	83	A
76	S2	84	A
76	S2	93	U
76	S2	98	C
76	S2	101	U
76	S2	103	A
76	S2	113	G
76	S2	115	U
76	S2	120	U
76	S2	126	G
76	S2	127	C
76	S2	141	A
76	S2	142	C
76	S2	144	U
76	S2	145	G
76	S2	146	G
76	S2	148	U

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Mol	Chain	Res	Type
76	S2	151	C
76	S2	152	U
76	S2	153	G
76	S2	154	U
76	S2	157	U
76	S2	159	A
76	S2	160	U
76	S2	161	U
76	S2	162	C
76	S2	163	U
76	S2	164	A
76	S2	167	G
76	S2	170	A
76	S2	171	A
76	S2	175	A
76	S2	179	C
76	S2	182	C
76	S2	183	G
76	S2	184	G
76	S2	190	G
76	S2	196	C
76	S2	198	U
76	S2	199	C
76	S2	204	G
76	S2	206	G
76	S2	208	G
76	S2	211	G
76	S2	215	G
76	S2	217	A
76	S2	291	G
76	S2	292	A
76	S2	293	C
76	S2	295	C
76	S2	297	A
76	S2	298	G
76	S2	301	A
76	S2	305	U
76	S2	306	C
76	S2	307	G
76	S2	308	G
76	S2	309	G
76	S2	310	C

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Mol	Chain	Res	Type
76	S2	313	A
76	S2	314	U
76	S2	315	C
76	S2	318	A
76	S2	319	C
76	S2	320	G
76	S2	321	C
76	S2	323	C
76	S2	324	C
76	S2	325	C
76	S2	327	G
76	S2	328	U
76	S2	329	G
76	S2	330	G
76	S2	335	G
76	S2	339	A
76	S2	340	C
76	S2	343	A
76	S2	347	G
76	S2	356	C
76	S2	361	U
76	S2	362	C
76	S2	364	A
76	S2	368	U
76	S2	370	G
76	S2	384	U
76	S2	385	G
76	S2	386	C
76	S2	387	C
76	S2	399	C
76	S2	400	C
76	S2	409	C
76	S2	413	G
76	S2	417	C
76	S2	418	A
76	S2	435	A
76	S2	438	G
76	S2	444	G
76	S2	447	A
76	S2	448	A
76	S2	449	A
76	S2	450	C

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Mol	Chain	Res	Type
76	S2	452	G
76	S2	464	A
76	S2	465	A
76	S2	466	G
76	S2	471	G
76	S2	472	C
76	S2	473	A
76	S2	474	G
76	S2	477	G
76	S2	485	A
76	S2	487	U
76	S2	488	U
76	S2	489	A
76	S2	492	C
76	S2	493	A
76	S2	502	C
76	S2	503	C
76	S2	508	A
76	S2	509	G
76	S2	516	A
76	S2	523	A
76	S2	529	A
76	S2	530	U
76	S2	562	U
76	S2	563	G
76	S2	564	A
76	S2	566	U
76	S2	576	A
76	S2	581	U
76	S2	583	C
76	S2	584	G
76	S2	588	G
76	S2	589	G
76	S2	590	A
76	S2	591	U
76	S2	594	A
76	S2	595	U
76	S2	596	U
76	S2	604	A
76	S2	605	A
76	S2	606	G
76	S2	607	U

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Mol	Chain	Res	Type
76	S2	611	G
76	S2	617	G
76	S2	623	G
76	S2	627	U
76	S2	628	A
76	S2	629	A
76	S2	638	C
76	S2	643	A
76	S2	644	G
76	S2	655	A
76	S2	656	G
76	S2	657	U
76	S2	659	G
76	S2	660	C
76	S2	669	A
76	S2	671	A
76	S2	672	A
76	S2	673	G
76	S2	683	G
76	S2	688	U
76	S2	807	G
76	S2	808	A
76	S2	810	A
76	S2	811	A
76	S2	812	A
76	S2	821	G
76	S2	827	A
76	S2	830	A
76	S2	834	C
76	S2	835	C
76	S2	837	A
76	S2	838	G
76	S2	839	C
76	S2	840	C
76	S2	842	C
76	S2	852	G
76	S2	853	C
76	S2	864	A
76	S2	865	A
76	S2	869	A
76	S2	873	G
76	S2	874	G

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Mol	Chain	Res	Type
76	S2	876	C
76	S2	877	C
76	S2	878	G
76	S2	879	C
76	S2	880	G
76	S2	881	G
76	S2	883	U
76	S2	884	C
76	S2	887	U
76	S2	888	U
76	S2	890	U
76	S2	891	G
76	S2	893	U
76	S2	894	G
76	S2	897	U
76	S2	898	U
76	S2	899	U
76	S2	900	C
76	S2	901	G
76	S2	904	A
76	S2	906	U
76	S2	910	G
76	S2	913	A
76	S2	914	U
76	S2	915	G
76	S2	916	A
76	S2	917	U
76	S2	920	A
76	S2	922	A
76	S2	930	C
76	S2	933	G
76	S2	934	G
76	S2	943	U
76	S2	951	C
76	S2	952	G
76	S2	958	G
76	S2	970	G
76	S2	971	G
76	S2	972	A
76	S2	978	G
76	S2	979	C
76	S2	980	A

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Mol	Chain	Res	Type
76	S2	981	A
76	S2	990	A
76	S2	992	A
76	S2	996	A
76	S2	997	A
76	S2	1001	A
76	S2	1016	U
76	S2	1017	U
76	S2	1023	A
76	S2	1027	A
76	S2	1028	A
76	S2	1030	A
76	S2	1041	G
76	S2	1045	U
76	S2	1060	A
76	S2	1061	U
76	S2	1062	A
76	S2	1082	A
76	S2	1083	A
76	S2	1084	A
76	S2	1085	C
76	S2	1087	A
76	S2	1089	G
76	S2	1098	C
76	S2	1109	C
76	S2	1139	C
76	S2	1140	G
76	S2	1149	A
76	S2	1154	U
76	S2	1155	U
76	S2	1157	G
76	S2	1172	U
76	S2	1181	A
76	S2	1195	A
76	S2	1207	G
76	S2	1208	A
76	S2	1211	G
76	S2	1215	C
76	S2	1216	C
76	S2	1217	A
76	S2	1221	G
76	S2	1224	G

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Mol	Chain	Res	Type
76	S2	1242	U
76	S2	1243	U
76	S2	1251	A
76	S2	1253	A
76	S2	1255	G
76	S2	1256	G
76	S2	1257	G
76	S2	1259	A
76	S2	1264	C
76	S2	1265	A
76	S2	1271	C
76	S2	1273	C
76	S2	1274	G
76	S2	1275	G
76	S2	1281	G
76	S2	1282	A
76	S2	1283	C
76	S2	1284	A
76	S2	1287	A
76	S2	1288	U
76	S2	1289	U
76	S2	1291	A
76	S2	1292	C
76	S2	1293	A
76	S2	1295	A
76	S2	1298	G
76	S2	1301	A
76	S2	1302	G
76	S2	1303	C
76	S2	1308	U
76	S2	1309	C
76	S2	1310	U
76	S2	1312	G
76	S2	1313	A
76	S2	1314	U
76	S2	1315	U
76	S2	1316	C
76	S2	1318	G
76	S2	1319	U
76	S2	1320	G
76	S2	1321	G
76	S2	1327	G

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Mol	Chain	Res	Type
76	S2	1341	C
76	S2	1342	U
76	S2	1343	U
76	S2	1363	C
76	S2	1364	U
76	S2	1369	A
76	S2	1371	U
76	S2	1372	U
76	S2	1373	C
76	S2	1374	C
76	S2	1378	A
76	S2	1393	G
76	S2	1394	G
76	S2	1395	C
76	S2	1396	A
76	S2	1397	U
76	S2	1398	G
76	S2	1402	A
76	S2	1403	C
76	S2	1404	U
76	S2	1405	A
76	S2	1406	G
76	S2	1407	U
76	S2	1408	U
76	S2	1409	A
76	S2	1410	C
76	S2	1412	C
76	S2	1413	G
76	S2	1414	A
76	S2	1415	C
76	S2	1416	C
76	S2	1418	C
76	S2	1419	C
76	S2	1420	G
76	S2	1422	G
76	S2	1423	C
76	S2	1424	G
76	S2	1430	C
76	S2	1431	G
76	S2	1436	C
76	S2	1437	C
76	S2	1438	A

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Mol	Chain	Res	Type
76	S2	1439	A
76	S2	1449	G
76	S2	1452	A
76	S2	1454	A
76	S2	1455	A
76	S2	1456	G
76	S2	1462	U
76	S2	1463	U
76	S2	1464	C
76	S2	1468	C
76	S2	1472	C
76	S2	1475	G
76	S2	1476	A
76	S2	1477	U
76	S2	1478	U
76	S2	1479	G
76	S2	1480	A
76	S2	1487	A
76	S2	1488	C
76	S2	1489	A
76	S2	1490	G
76	S2	1493	C
76	S2	1494	U
76	S2	1495	G
76	S2	1497	G
76	S2	1507	G
76	S2	1509	U
76	S2	1510	G
76	S2	1512	C
76	S2	1513	C
76	S2	1520	G
76	S2	1521	C
76	S2	1522	A
76	S2	1526	G
76	S2	1528	G
76	S2	1531	A
76	S2	1533	A
76	S2	1534	C
76	S2	1536	G
76	S2	1539	U
76	S2	1540	G
76	S2	1543	U

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Mol	Chain	Res	Type
76	S2	1546	G
76	S2	1548	G
76	S2	1552	G
76	S2	1553	C
76	S2	1554	C
76	S2	1555	U
76	S2	1556	A
76	S2	1557	C
76	S2	1558	C
76	S2	1560	U
76	S2	1561	A
76	S2	1563	G
76	S2	1567	G
76	S2	1568	C
76	S2	1569	A
76	S2	1573	G
76	S2	1579	A
76	S2	1580	A
76	S2	1581	C
76	S2	1582	C
76	S2	1584	G
76	S2	1585	U
76	S2	1587	G
76	S2	1588	A
76	S2	1591	C
76	S2	1598	G
76	S2	1599	U
76	S2	1600	G
76	S2	1601	A
76	S2	1602	U
76	S2	1607	A
76	S2	1611	G
76	S2	1612	G
76	S2	1620	A
76	S2	1621	U
76	S2	1623	A
76	S2	1624	U
76	S2	1630	A
76	S2	1632	G
76	S2	1633	A
76	S2	1634	A
76	S2	1637	A

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Mol	Chain	Res	Type
76	S2	1644	C
76	S2	1646	C
76	S2	1648	G
76	S2	1663	A
76	S2	1664	A
76	S2	1665	G
76	S2	1666	C
76	S2	1672	U
76	S2	1673	U
76	S2	1680	G
76	S2	1681	U
76	S2	1682	C
76	S2	1683	C
76	S2	1687	C
76	S2	1695	A
76	S2	1699	A
76	S2	1715	A
76	S2	1719	A
76	S2	1721	U
76	S2	1722	G
76	S2	1742	C
76	S2	1743	G
76	S2	1744	G
76	S2	1745	A
76	S2	1746	U
76	S2	1749	G
76	S2	1779	G
76	S2	1781	A
76	S2	1782	G
76	S2	1783	C
76	S2	1784	G
76	S2	1787	G
76	S2	1798	C
76	S2	1800	A
76	S2	1801	A
76	S2	1802	C
76	S2	1820	G
76	S2	1825	A
76	S2	1826	G
76	S2	1829	G
76	S2	1831	A
76	S2	1835	A

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Mol	Chain	Res	Type
76	S2	1838	U
76	S2	1849	G
76	S2	1851	A
76	S2	1859	A
76	S2	1861	G
76	S2	1862	G
76	S2	1863	A
76	S2	1864	U
76	S2	1865	C
77	S6	4	C
77	S6	12	C
77	S6	13	G
77	S6	14	C
77	S6	15	A
77	S6	17	C
77	S6	18	G
77	S6	19	G
77	S6	20	A
77	S6	21	A
77	S6	22	G
77	S6	24	G
77	S6	25	U
77	S6	31	G
77	S6	32	C
77	S6	33	C
77	S6	34	C
77	S6	35	A
77	S6	36	U
77	S6	38	A
77	S6	45	G
77	S6	46	G
77	S6	47	U
77	S6	48	C
77	S6	51	U
77	S6	52	G
77	S6	53	G
77	S6	54	A
77	S6	55	U
77	S6	57	G
77	S6	61	C
77	S6	63	A
77	S6	67	U

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Mol	Chain	Res	Type
77	S6	69	U
77	S6	74	C
77	S6	75	C
77	S6	76	A

All (58) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
73	L5	201	C
73	L5	406	C
73	L5	417	G
73	L5	916	C
73	L5	930	G
73	L5	931	C
73	L5	957	G
73	L5	977	C
73	L5	978	G
73	L5	1185	G
73	L5	1238	A
73	L5	1329	G
73	L5	1359	G
73	L5	1633	G
73	L5	1821	G
73	L5	1833	G
73	L5	1834	U
73	L5	1835	G
73	L5	1837	A
73	L5	2068	C
73	L5	2070	U
73	L5	2389	A
73	L5	2587	A
73	L5	3615	G
73	L5	3625	G
73	L5	3673	C
73	L5	3753	G
73	L5	3771	C
73	L5	3974	G
73	L5	4048	A
73	L5	4378	A
73	L5	4699	U
73	L5	4889	G
73	L5	4913	G

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Mol	Chain	Res	Type
73	L5	4991	U
76	S2	1	U
76	S2	24	C
76	S2	74	G
76	S2	339	A
76	S2	417	C
76	S2	465	A
76	S2	604	A
76	S2	643	A
76	S2	811	A
76	S2	833	C
76	S2	835	C
76	S2	837	A
76	S2	876	C
76	S2	897	U
76	S2	915	G
76	S2	980	A
76	S2	1414	A
76	S2	1419	C
76	S2	1664	A
76	S2	1780	G
76	S2	1825	A
77	S6	54	A
77	S6	60	A

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 oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 298 ligands modelled in this entry, 297 are monoatomic - leaving 1 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond

length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
81	A1L8F	L5	5332	-	24,26,26	2.76	8 (33%)	26,40,40	1.94	4 (15%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
81	A1L8F	L5	5332	-	-	0/2/44/44	0/5/5/5

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
81	L5	5332	A1L8F	C10-C09	-7.22	1.43	1.51
81	L5	5332	A1L8F	O01-C01	6.64	1.49	1.38
81	L5	5332	A1L8F	O02-C07	-4.54	1.34	1.43
81	L5	5332	A1L8F	C05-C08	-3.92	1.47	1.52
81	L5	5332	A1L8F	C15-C10	-3.53	1.47	1.53
81	L5	5332	A1L8F	C06-C05	2.74	1.44	1.40
81	L5	5332	A1L8F	C17-C08	-2.33	1.46	1.54
81	L5	5332	A1L8F	C11-C06	2.24	1.56	1.51

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
81	L5	5332	A1L8F	C06-C11-N01	-6.71	102.06	113.36
81	L5	5332	A1L8F	O01-C01-C02	3.30	132.24	127.86
81	L5	5332	A1L8F	C07-O01-C01	-2.60	101.83	105.32
81	L5	5332	A1L8F	O02-C07-O01	2.54	112.08	108.09

There are no chirality outliers.

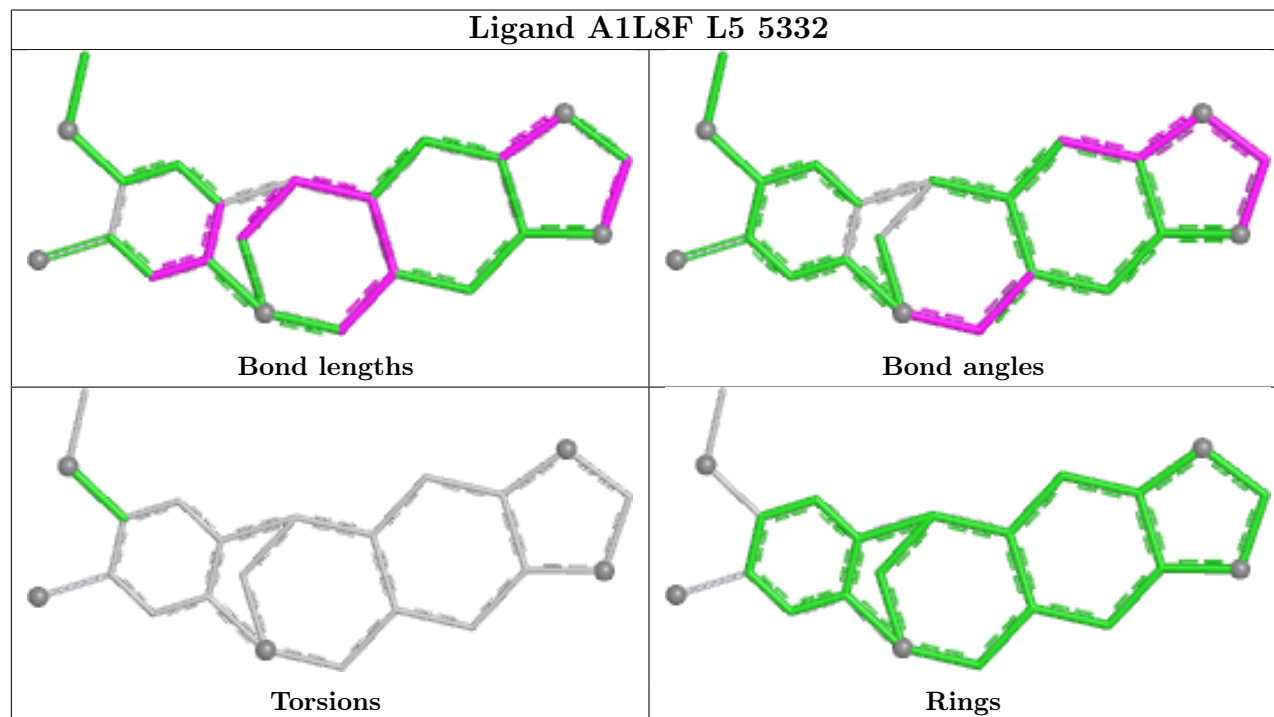
There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In

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



5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

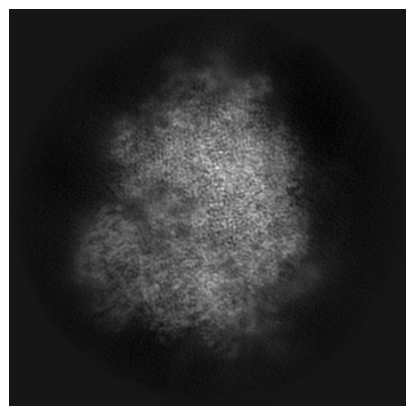
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-63560. These allow visual inspection of the internal detail of the map and identification of artifacts.

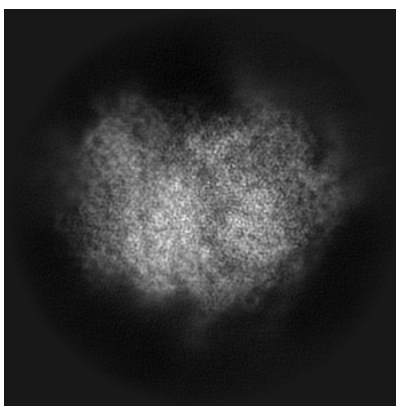
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

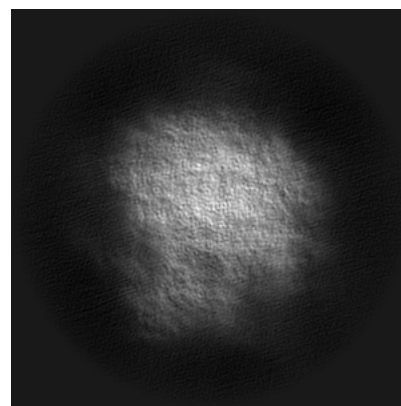
6.1.1 Primary map



X

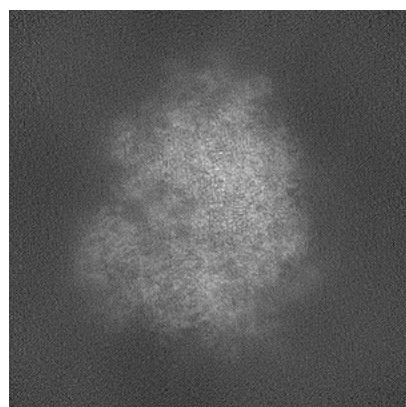


Y

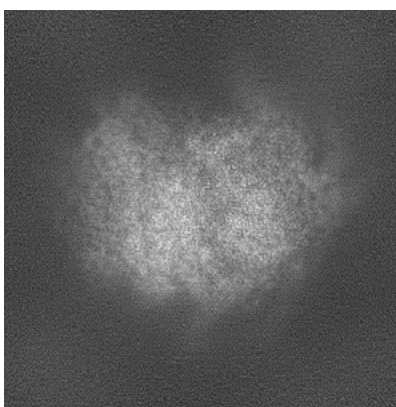


Z

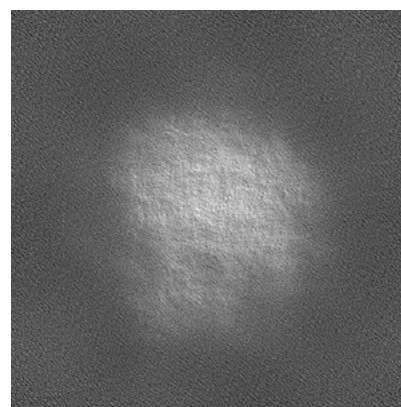
6.1.2 Raw map



X



Y

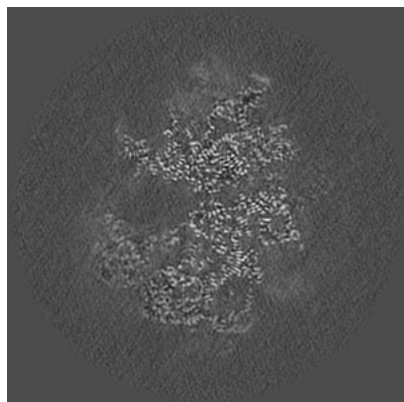


Z

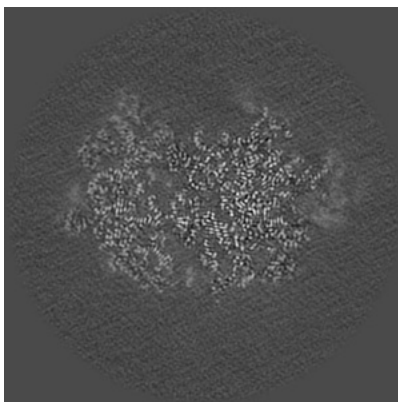
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

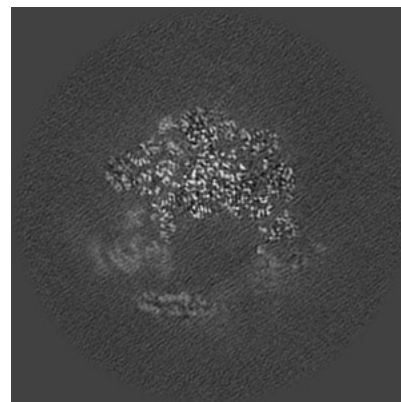
6.2.1 Primary map



X Index: 256

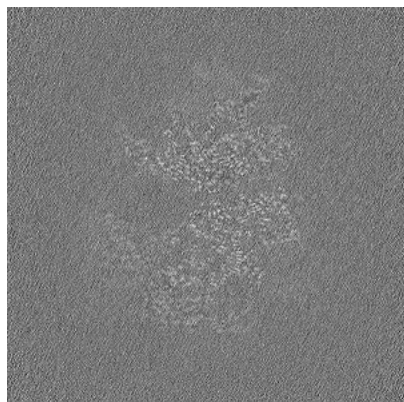


Y Index: 256

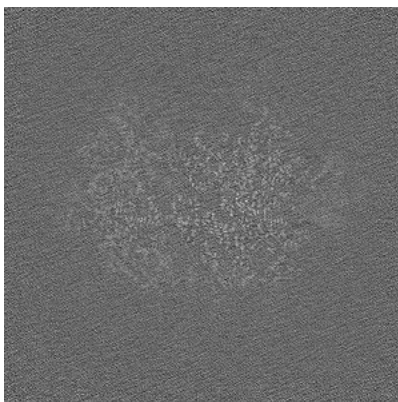


Z Index: 256

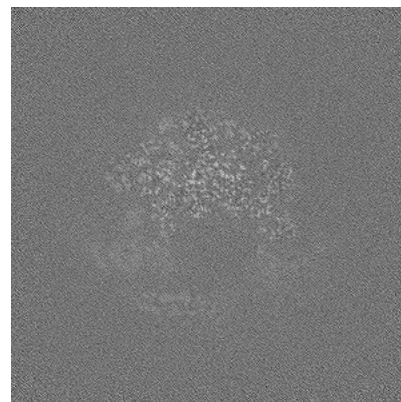
6.2.2 Raw map



X Index: 256



Y Index: 256

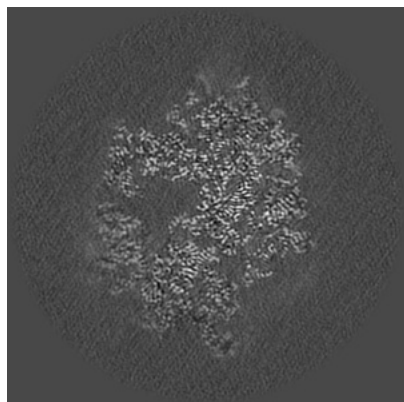


Z Index: 256

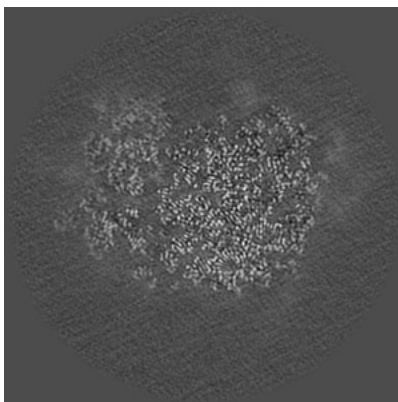
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

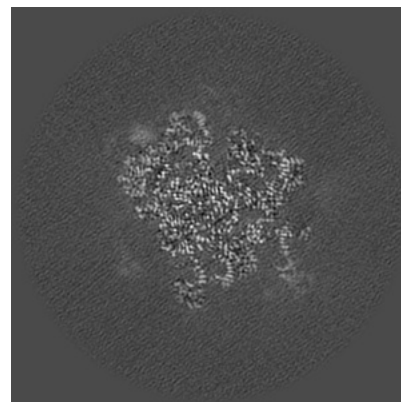
6.3.1 Primary map



X Index: 234

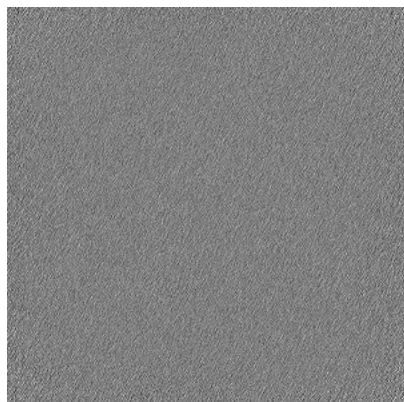


Y Index: 272

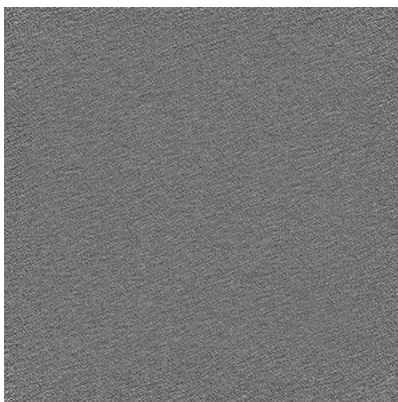


Z Index: 296

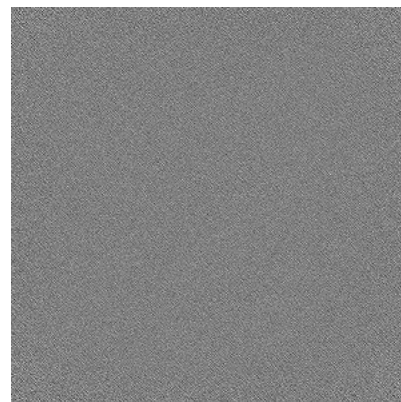
6.3.2 Raw map



X Index: 0



Y Index: 0

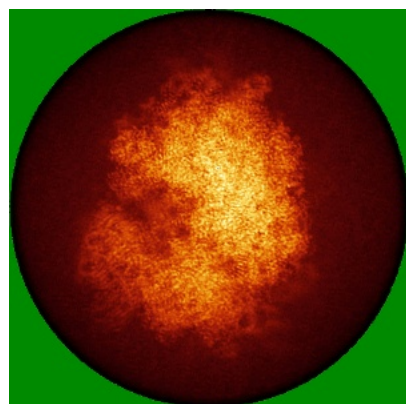


Z Index: 0

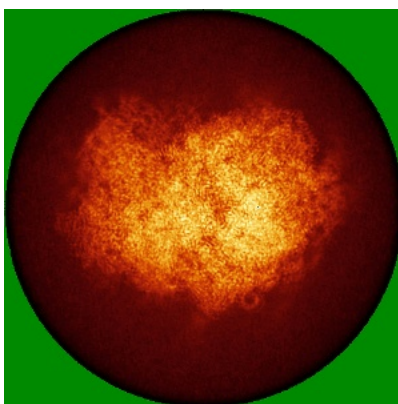
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

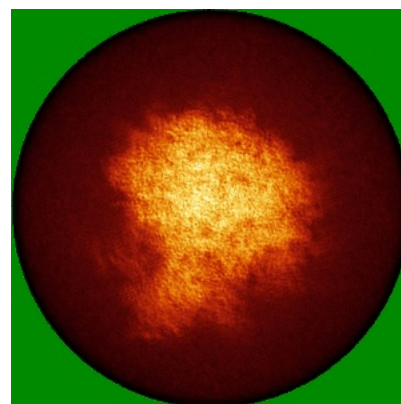
6.4.1 Primary map



X

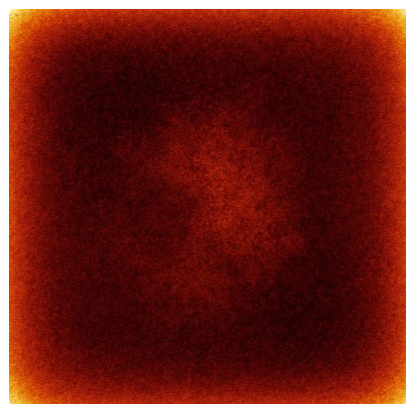


Y

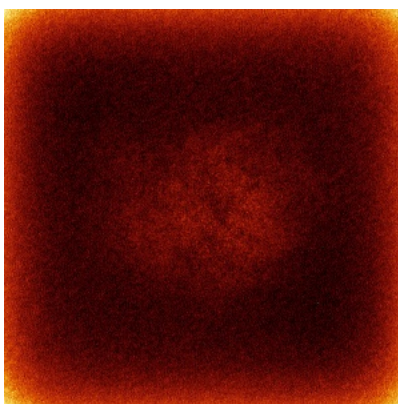


Z

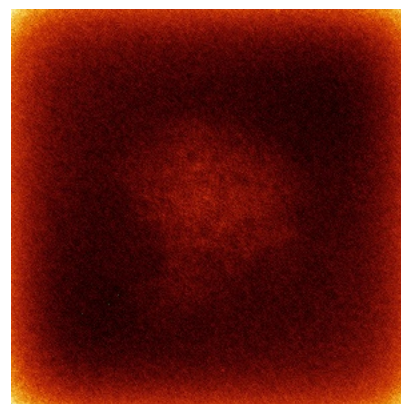
6.4.2 Raw map



X



Y



Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

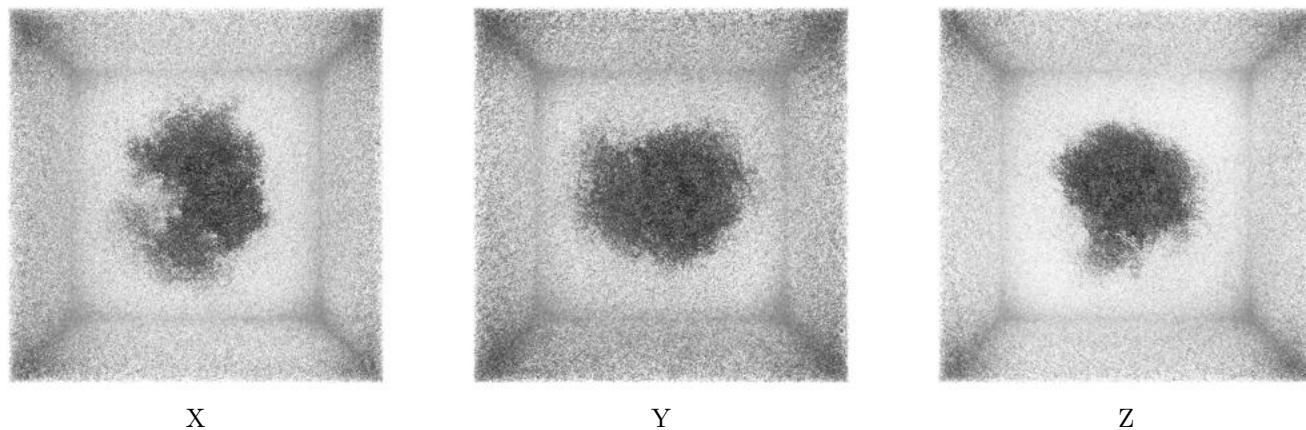
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.13. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

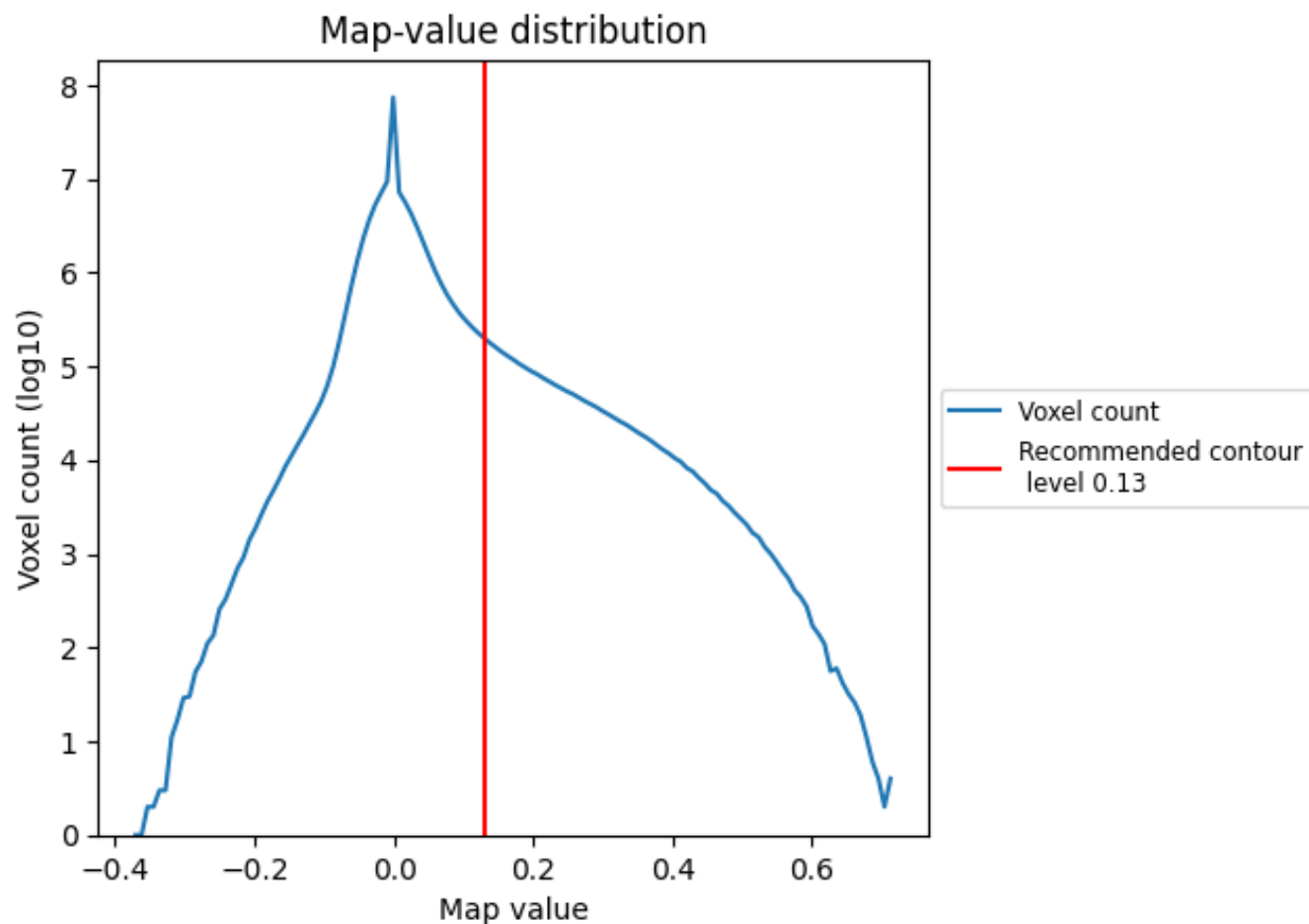
6.6 Mask visualisation [i](#)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis [i](#)

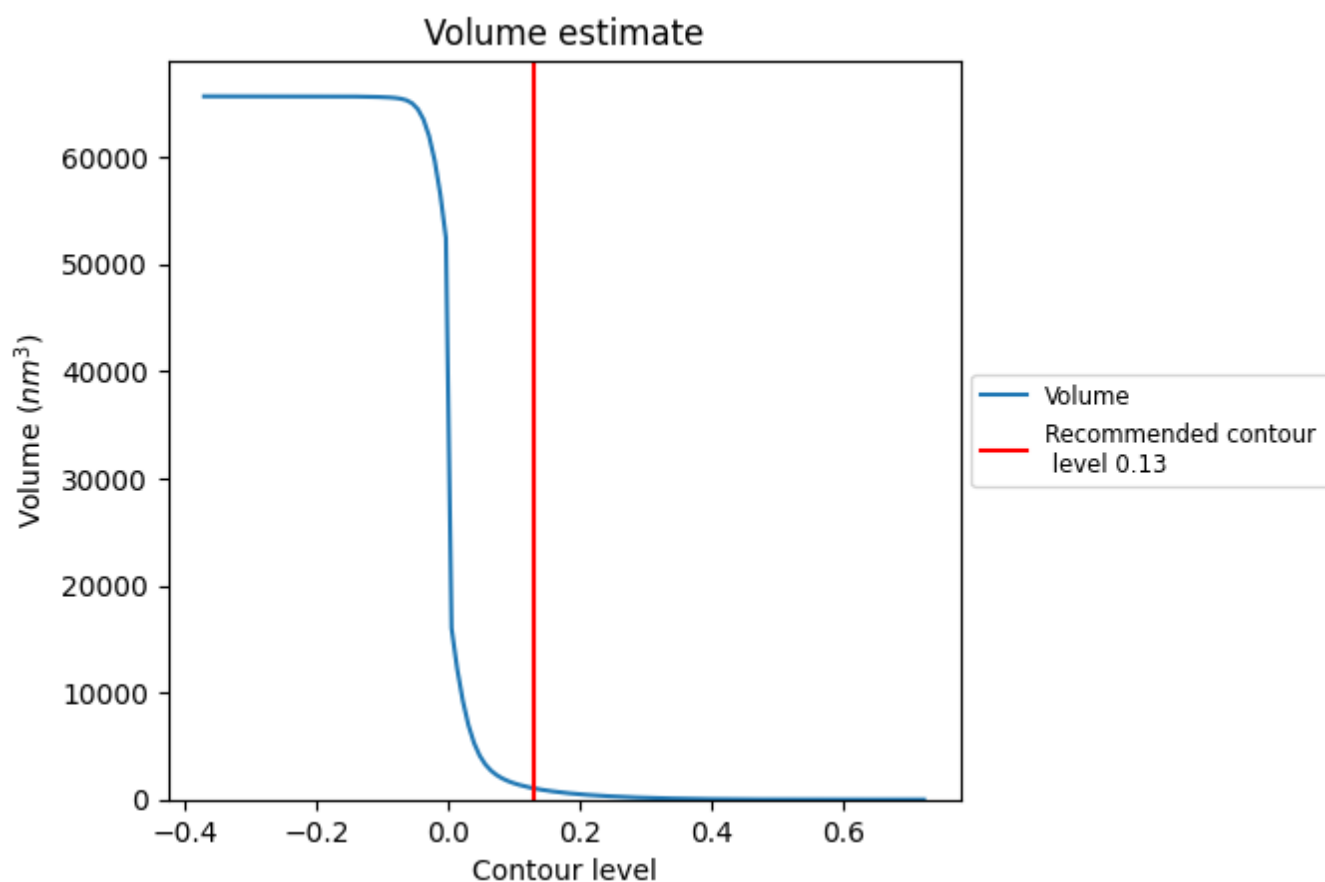
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

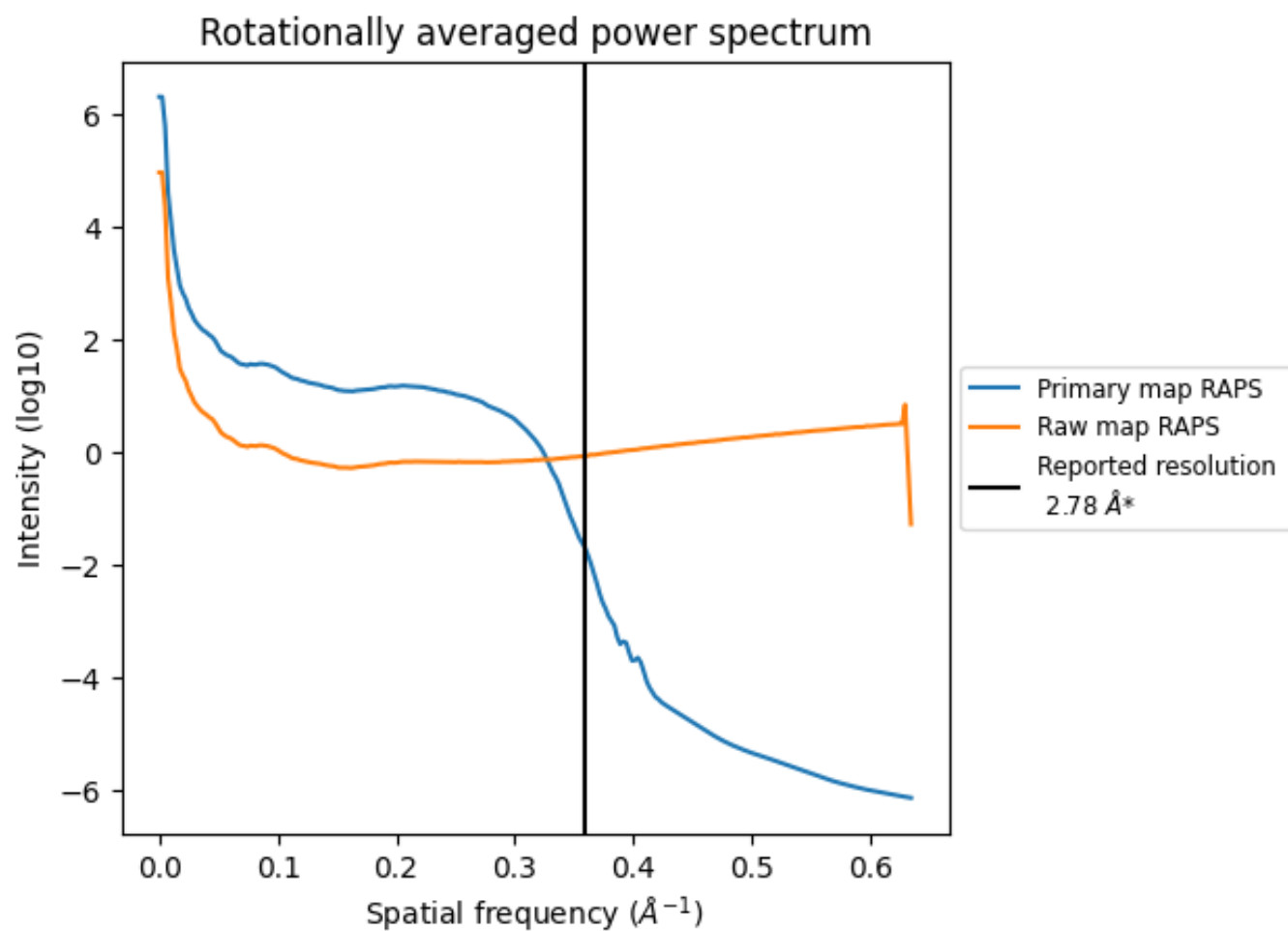
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1046 nm³; this corresponds to an approximate mass of 945 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum ⓘ

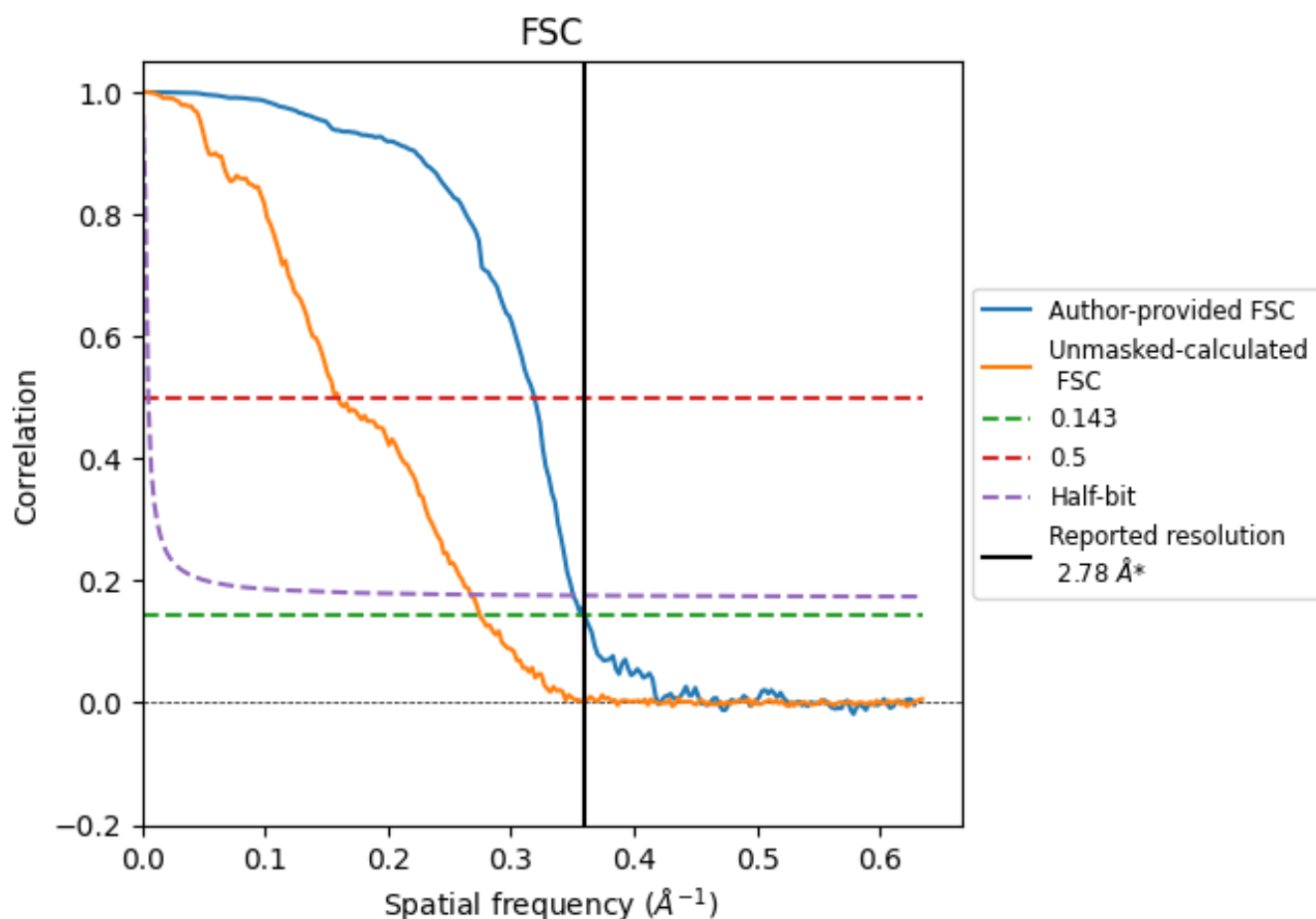


*Reported resolution corresponds to spatial frequency of 0.360 $\text{\AA}^{-1}$

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.360 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

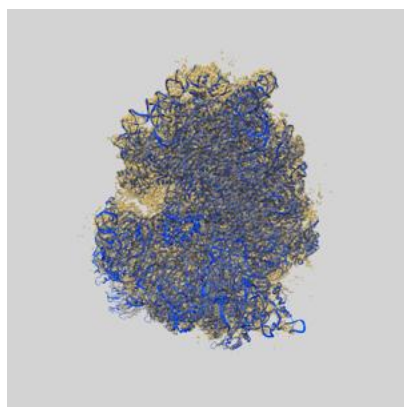
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.78	-	-
Author-provided FSC curve	2.78	3.13	2.85
Unmasked-calculated*	3.64	6.27	3.74

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.64 differs from the reported value 2.78 by more than 10 %

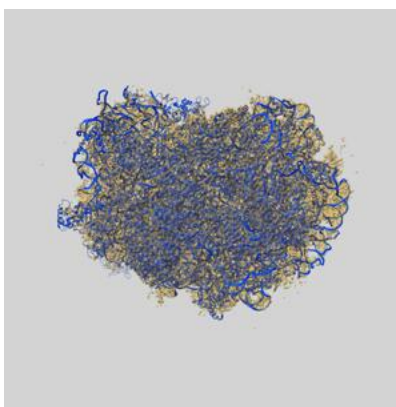
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-63560 and PDB model 9M0P. Per-residue inclusion information can be found in section 3 on page 19.

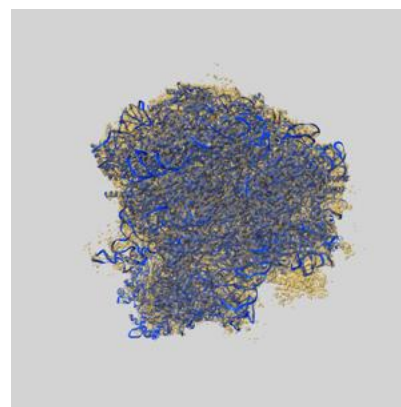
9.1 Map-model overlay [i](#)



X



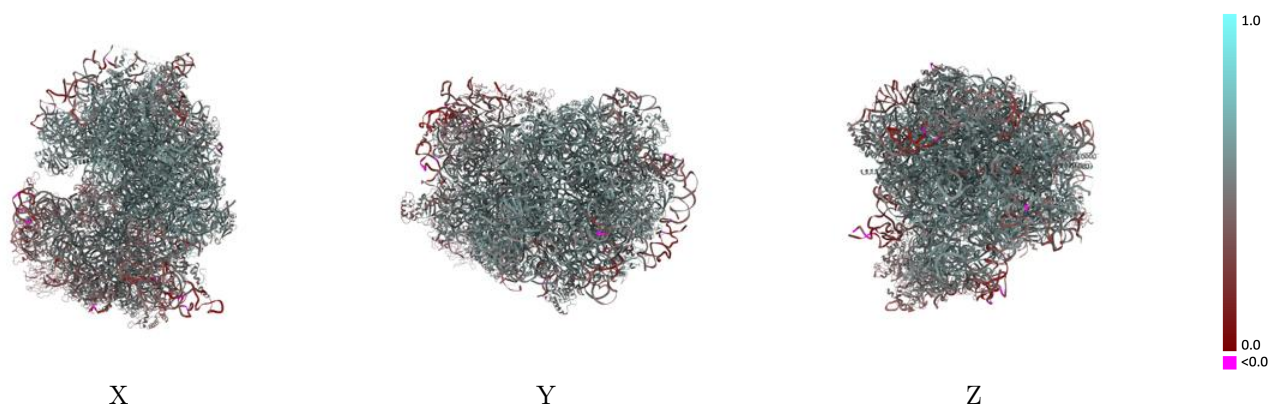
Y



Z

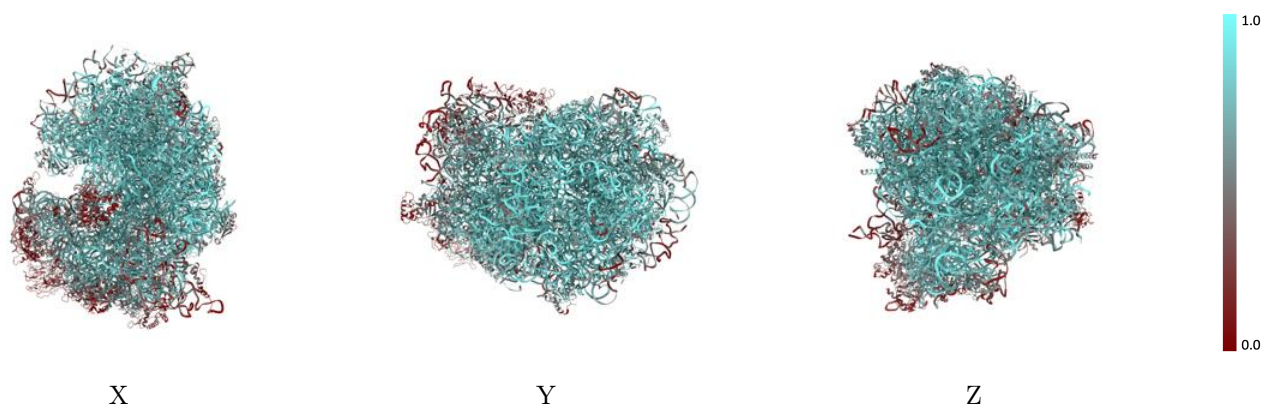
The images above show the 3D surface view of the map at the recommended contour level 0.13 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



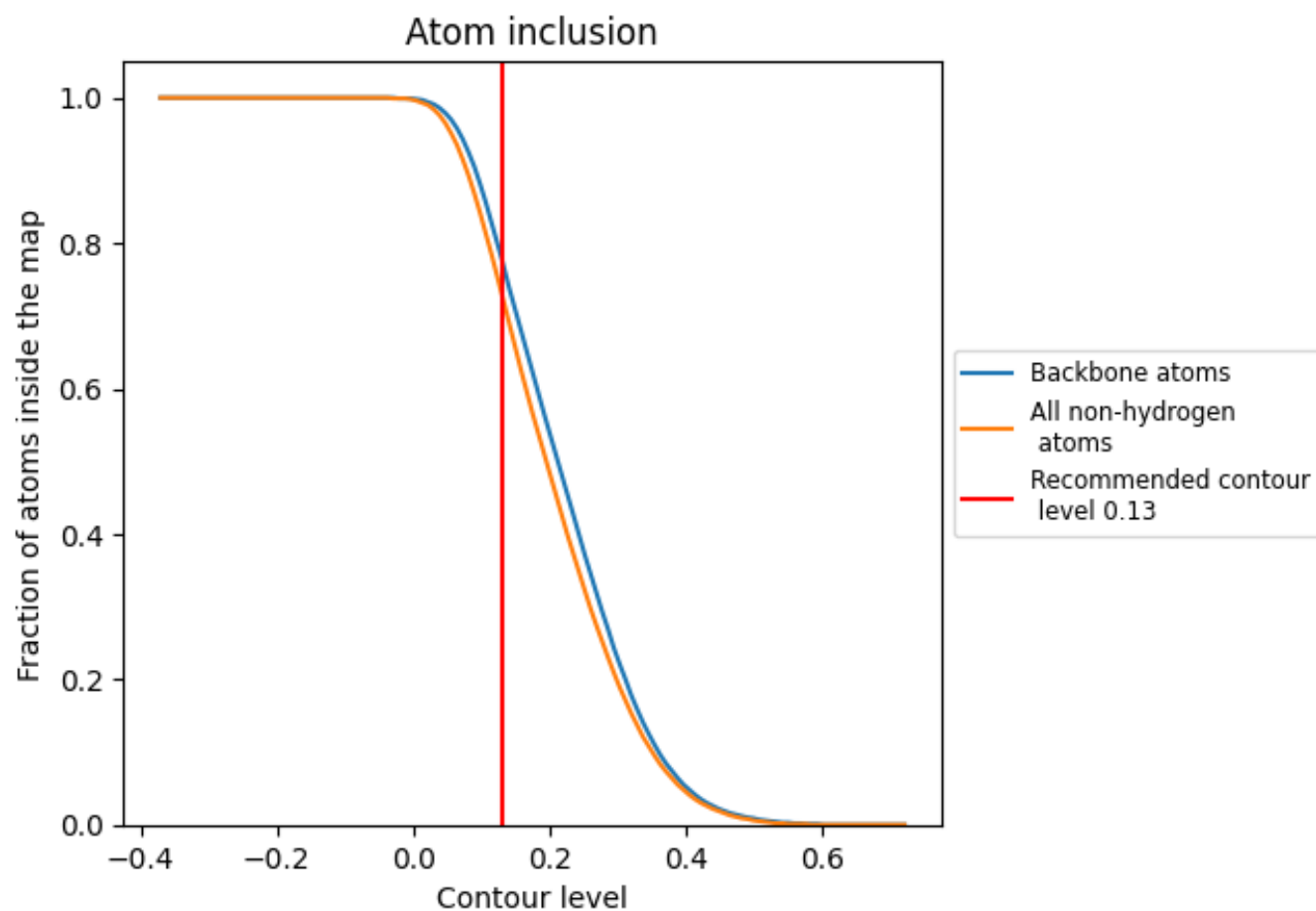
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.13).

9.4 Atom inclusion [i](#)



At the recommended contour level, 78% of all backbone atoms, 73% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.13) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7310	 0.5030
CA	 0.3250	 0.4630
L5	 0.8570	 0.5230
L7	 0.9160	 0.5680
L8	 0.8680	 0.5110
LA	 0.9000	 0.5980
LB	 0.7840	 0.5800
LC	 0.7960	 0.5510
LD	 0.7290	 0.5540
LE	 0.6740	 0.5400
LF	 0.8320	 0.5780
LG	 0.6790	 0.5280
LH	 0.7090	 0.5540
LI	 0.8170	 0.5770
LJ	 0.6240	 0.5350
LL	 0.7510	 0.5350
LM	 0.7580	 0.5580
LN	 0.9080	 0.5720
LO	 0.8170	 0.5790
LP	 0.8310	 0.5750
LQ	 0.8380	 0.5680
LR	 0.7740	 0.5500
LS	 0.8290	 0.5800
LT	 0.7720	 0.5670
LU	 0.5950	 0.5060
LV	 0.7880	 0.5780
LW	 0.7360	 0.5740
LX	 0.7370	 0.5460
LY	 0.6990	 0.5190
LZ	 0.7410	 0.5540
La	 0.8370	 0.5700
Lb	 0.7810	 0.5580
Lc	 0.7620	 0.5580
Ld	 0.7620	 0.5520
Le	 0.8170	 0.5730



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Chain	Atom inclusion	Q-score
Lf	 0.8520	 0.5820
Lg	 0.8520	 0.5730
Lh	 0.6890	 0.5200
Li	 0.7470	 0.5380
Lj	 0.9110	 0.5790
Lk	 0.6090	 0.5270
Ll	 0.8700	 0.5500
Lm	 0.8150	 0.5660
Ln	 0.8610	 0.5730
Lo	 0.8250	 0.5810
Lp	 0.8540	 0.5900
Lr	 0.7250	 0.5330
S2	 0.7220	 0.4440
S6	 0.6230	 0.4140
SA	 0.4960	 0.4870
SB	 0.6100	 0.5210
SC	 0.5540	 0.4810
SD	 0.3350	 0.4120
SE	 0.4810	 0.4600
SF	 0.3050	 0.4030
SG	 0.2540	 0.3680
SH	 0.3200	 0.4390
SI	 0.5370	 0.4860
SJ	 0.4920	 0.4530
SK	 0.2730	 0.3580
SL	 0.6830	 0.5320
SN	 0.6690	 0.5330
SO	 0.6890	 0.5300
SP	 0.2990	 0.3780
SQ	 0.2720	 0.3890
SR	 0.2830	 0.4190
ST	 0.2560	 0.3940
SU	 0.3220	 0.3610
SV	 0.4740	 0.4870
SW	 0.6730	 0.5190
SX	 0.7120	 0.5230
SY	 0.2700	 0.4010
SZ	 0.2110	 0.3510
Sa	 0.7210	 0.5340
Sb	 0.4590	 0.4710
Sc	 0.2370	 0.3980
Sd	 0.6320	 0.4930

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Chain	Atom inclusion	Q-score
Se	 0.4050	 0.4070
Sg	 0.0620	 0.3050