



Full wwPDB EM Validation Report ⓘ

Mar 25, 2026 – 01:09 AM UTC

PDB ID : 9G8M / pdb_00009g8m
EMDB ID : EMD-51132
Title : human 80S ribosome bound by a SKI2-exosome complex
Authors : Koegel, A.; Keidel, A.; Loukeri, M.J.; Kuhn, C.C.; Langer, L.M.; Schaefer, I.B.; Conti, E.
Deposited on : 2024-07-23
Resolution : 3.30 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
MolProbity : 4-5-2 with Phenix2.0
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

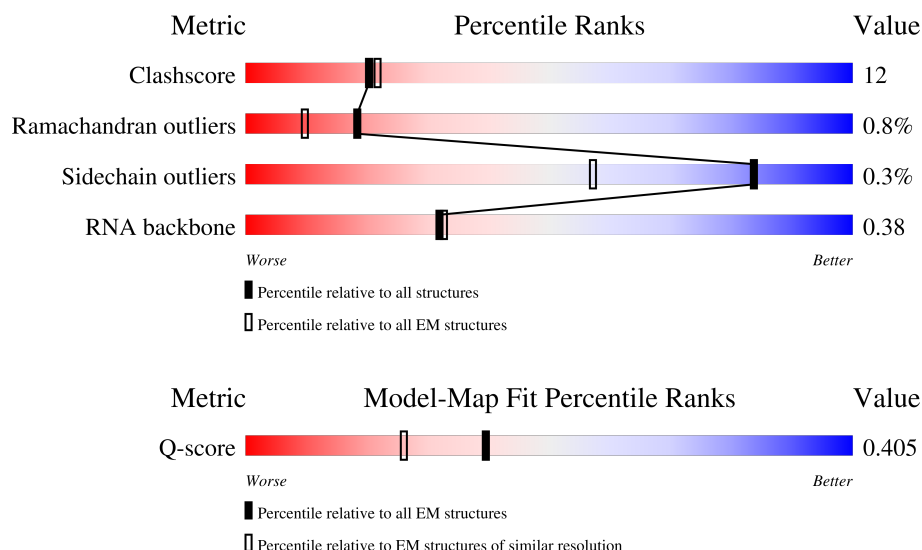
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.30 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	15087 (2.80 - 3.80)

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	A	1246	
2	L	245	
3	N	280	

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Mol	Chain	Length	Quality of chain
4	O	239	
5	F	295	
6	G	272	
7	H	371	
8	I	297	
9	J	199	
10	K	443	
11	E	274	
12	M	1096	
13	X	249	
14	S2	1869	
15	SA	295	
16	SB	264	
17	SD	243	
18	SE	263	
19	SF	204	
20	SH	194	
21	SI	208	
22	SK	165	
23	SL	158	
24	SP	145	
25	SQ	146	
26	SR	135	
27	SS	152	
28	ST	145	

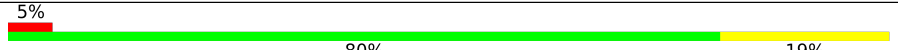
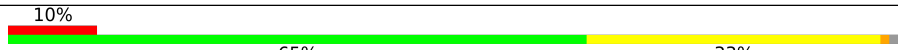
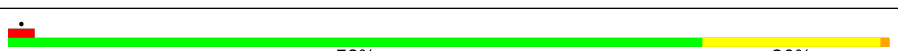
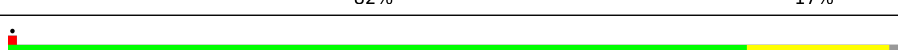
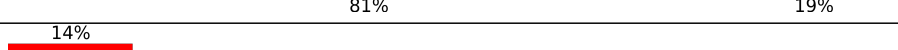
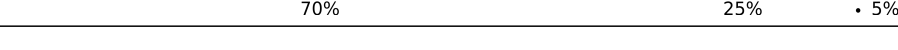
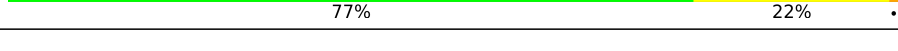
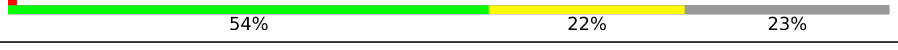
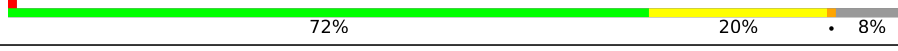
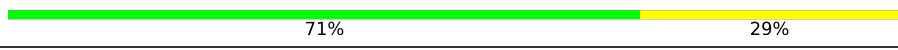
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Mol	Chain	Length	Quality of chain
29	SU	119	
30	SV	83	
31	SX	143	
32	Sa	115	
33	Sc	69	
34	Sd	56	
35	Sf	156	
36	Sg	317	
37	SC	293	
38	SG	249	
39	SJ	194	
40	SM	132	
41	SN	151	
42	SO	151	
43	SW	130	
44	SY	133	
45	SZ	125	
46	Sb	84	
47	Se	59	
48	L5	5066	
49	L7	121	
50	L8	157	
51	LA	257	
52	LB	403	
53	LC	427	

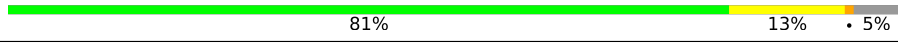
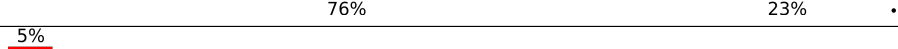
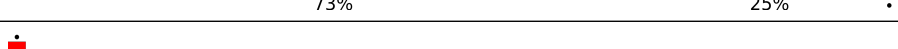
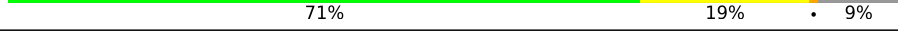
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Mol	Chain	Length	Quality of chain
54	LD	297	
55	LE	288	
56	LF	248	
57	LG	266	
58	LH	192	
59	LI	214	
60	LJ	178	
61	LL	211	
62	LM	215	
63	LN	204	
64	LO	203	
65	LP	184	
66	LQ	188	
67	LR	196	
68	LS	176	
69	LT	160	
70	LU	128	
71	LV	140	
72	LW	157	
73	LX	156	
74	LY	145	
75	LZ	136	
76	La	148	
77	Lb	159	
78	Lc	115	

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Mol	Chain	Length	Quality of chain
79	Ld	125	
80	Le	135	
81	Lf	110	
82	Lg	117	
83	Lh	123	
84	Li	105	
85	Lj	97	
86	Lk	70	
87	Ll	51	
88	Lm	128	
89	Ln	25	
90	Lo	106	
91	Lp	92	
92	Lr	137	

2 Entry composition [i](#)

There are 94 unique types of molecules in this entry. The entry contains 251092 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 Helicase SKI2W.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	949	Total	C	N	O	S	0	0
			7438	4710	1316	1370	42		

- Molecule 2 is a protein called Exosome complex component RRP41.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	L	241	Total	C	N	O	S	0	0
			1819	1123	343	344	9		

- Molecule 3 is a protein called Exosome complex component RRP43.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	N	265	Total	C	N	O	S	0	0
			2020	1272	337	397	14		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
N	-3	GLY	-	expression tag	UNP Q96B26
N	-2	PRO	-	expression tag	UNP Q96B26
N	-1	ASP	-	expression tag	UNP Q96B26
N	0	SER	-	expression tag	UNP Q96B26

- Molecule 4 is a protein called Exosome complex component RRP46.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	O	208	Total	C	N	O	S	0	0
			1566	979	278	297	12		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
O	-3	GLY	-	expression tag	UNP Q9NQT4

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Chain	Residue	Modelled	Actual	Comment	Reference
O	-2	PRO	-	expression tag	UNP Q9NQT4
O	-1	ASP	-	expression tag	UNP Q9NQT4
O	0	SER	-	expression tag	UNP Q9NQT4

- Molecule 5 is a protein called Exosome complex component RRP42.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	F	286	Total	C	N	O	S	0	0
			2194	1373	374	432	15		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
F	-3	GLY	-	expression tag	UNP Q15024
F	-2	PRO	-	expression tag	UNP Q15024
F	-1	ASP	-	expression tag	UNP Q15024
F	0	SER	-	expression tag	UNP Q15024

- Molecule 6 is a protein called Exosome complex component MTR3.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	G	251	Total	C	N	O	S	0	0
			1852	1149	352	344	7		

- Molecule 7 is a protein called Exosome complex component RRP40,Exosome complex component MTR3.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	H	237	Total	C	N	O	S	0	0
			1810	1139	331	328	12		

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
H	-3	GLY	-	expression tag	UNP Q9NQT5
H	-2	PRO	-	expression tag	UNP Q9NQT5
H	-1	ASP	-	expression tag	UNP Q9NQT5
H	0	SER	-	expression tag	UNP Q9NQT5
H	61	HIS	SER	conflict	UNP Q9NQT5
H	225	HIS	TYR	variant	UNP Q9NQT5

- Molecule 8 is a protein called Exosome complex component RRP4.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	I	289	Total	C	N	O	S	0	0
			2263	1424	405	419	15		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
I	-3	GLY	-	expression tag	UNP Q13868
I	-2	PRO	-	expression tag	UNP Q13868
I	-1	ASP	-	expression tag	UNP Q13868
I	0	SER	-	expression tag	UNP Q13868

- Molecule 9 is a protein called Exosome complex component CSL4.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	J	184	Total	C	N	O	S	0	0
			1414	889	248	267	10		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
J	-3	GLY	-	expression tag	UNP Q9Y3B2
J	-2	PRO	-	expression tag	UNP Q9Y3B2
J	-1	ASP	-	expression tag	UNP Q9Y3B2
J	0	SER	-	expression tag	UNP Q9Y3B2

- Molecule 10 is a protein called Exosome complex component RRP45.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	K	341	Total	C	N	O	S	0	0
			2673	1680	468	506	19		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
K	-3	GLY	-	expression tag	UNP Q06265
K	-2	PRO	-	expression tag	UNP Q06265
K	-1	ASP	-	expression tag	UNP Q06265
K	0	SER	-	expression tag	UNP Q06265

- Molecule 11 is a protein called Isoform 2 of HBS1-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	E	63	Total	C	N	O	S	0	0
			499	324	83	91	1		

There are 10 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
E	365	GLY	-	expression tag	UNP Q9Y450
E	366	PRO	-	expression tag	UNP Q9Y450
E	367	ASP	-	expression tag	UNP Q9Y450
E	368	SER	-	expression tag	UNP Q9Y450
E	633	LEU	-	expression tag	UNP Q9Y450
E	634	GLU	-	expression tag	UNP Q9Y450
E	635	VAL	-	expression tag	UNP Q9Y450
E	636	LEU	-	expression tag	UNP Q9Y450
E	637	PHE	-	expression tag	UNP Q9Y450
E	638	GLN	-	expression tag	UNP Q9Y450

- Molecule 12 is a protein called DIS3-like exonuclease 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	M	983	Total	C	N	O	S	0	0
			7967	5028	1412	1486	41		

There are 43 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
M	-41	MET	-	initiating methionine	UNP Q8TF46
M	-40	SER	-	expression tag	UNP Q8TF46
M	-39	ALA	-	expression tag	UNP Q8TF46
M	-38	TRP	-	expression tag	UNP Q8TF46
M	-37	SER	-	expression tag	UNP Q8TF46
M	-36	HIS	-	expression tag	UNP Q8TF46
M	-35	PRO	-	expression tag	UNP Q8TF46
M	-34	GLN	-	expression tag	UNP Q8TF46
M	-33	PHE	-	expression tag	UNP Q8TF46
M	-32	GLU	-	expression tag	UNP Q8TF46
M	-31	LYS	-	expression tag	UNP Q8TF46
M	-30	GLY	-	expression tag	UNP Q8TF46
M	-29	GLY	-	expression tag	UNP Q8TF46
M	-28	GLY	-	expression tag	UNP Q8TF46
M	-27	SER	-	expression tag	UNP Q8TF46
M	-26	GLY	-	expression tag	UNP Q8TF46
M	-25	GLY	-	expression tag	UNP Q8TF46

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Chain	Residue	Modelled	Actual	Comment	Reference
M	-24	GLY	-	expression tag	UNP Q8TF46
M	-23	SER	-	expression tag	UNP Q8TF46
M	-22	GLY	-	expression tag	UNP Q8TF46
M	-21	GLY	-	expression tag	UNP Q8TF46
M	-20	SER	-	expression tag	UNP Q8TF46
M	-19	ALA	-	expression tag	UNP Q8TF46
M	-18	TRP	-	expression tag	UNP Q8TF46
M	-17	SER	-	expression tag	UNP Q8TF46
M	-16	HIS	-	expression tag	UNP Q8TF46
M	-15	PRO	-	expression tag	UNP Q8TF46
M	-14	GLN	-	expression tag	UNP Q8TF46
M	-13	PHE	-	expression tag	UNP Q8TF46
M	-12	GLU	-	expression tag	UNP Q8TF46
M	-11	LYS	-	expression tag	UNP Q8TF46
M	-10	THR	-	expression tag	UNP Q8TF46
M	-9	ALA	-	expression tag	UNP Q8TF46
M	-8	GLY	-	expression tag	UNP Q8TF46
M	-7	LEU	-	expression tag	UNP Q8TF46
M	-6	GLU	-	expression tag	UNP Q8TF46
M	-5	VAL	-	expression tag	UNP Q8TF46
M	-4	LEU	-	expression tag	UNP Q8TF46
M	-3	PHE	-	expression tag	UNP Q8TF46
M	-2	GLN	-	expression tag	UNP Q8TF46
M	-1	GLY	-	expression tag	UNP Q8TF46
M	0	PRO	-	expression tag	UNP Q8TF46
M	486	ASN	ASP	conflict	UNP Q8TF46

- Molecule 13 is a RNA chain called CrPV-IRES RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	X	194	Total	C	N	O	P	0	0
			4020	1802	633	1391	194		

- Molecule 14 is a RNA chain called 18S ribosomal RNA.

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

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

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

- Molecule 16 is a protein called 40S ribosomal protein S3a.

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

- Molecule 17 is a protein called 40S ribosomal protein S3.

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

- Molecule 18 is a protein called 40S ribosomal protein S4, X isoform.

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

- Molecule 19 is a protein called 40S ribosomal protein S5.

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

- Molecule 20 is a protein called 40S ribosomal protein S7.

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

- Molecule 21 is a protein called 40S ribosomal protein S8.

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

- Molecule 22 is a protein called 40S ribosomal protein S10.

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

- Molecule 23 is a protein called 40S ribosomal protein S11.

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

- Molecule 24 is a protein called 40S ribosomal protein S15.

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

- Molecule 25 is a protein called 40S ribosomal protein S16.

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

- Molecule 26 is a protein called 40S ribosomal protein S17.

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

- Molecule 27 is a protein called 40S ribosomal protein S18.

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

- Molecule 28 is a protein called 40S ribosomal protein S19.

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

- Molecule 29 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	SU	104	Total	C	N	O	S	0	0
			822	514	156	148	4		

- Molecule 30 is a protein called 40S ribosomal protein S21.

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

- Molecule 31 is a protein called 40S ribosomal protein S23.

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

- Molecule 32 is a protein called 40S ribosomal protein S26.

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

- Molecule 33 is a protein called 40S ribosomal protein S28.

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

- Molecule 34 is a protein called 40S ribosomal protein S29.

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

- Molecule 35 is a protein called Ubiquitin.

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

- Molecule 36 is a protein called Receptor of activated protein C kinase 1.

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

- Molecule 37 is a protein called 40S ribosomal protein S2.

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

- Molecule 38 is a protein called 40S ribosomal protein S6.

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

- Molecule 39 is a protein called 40S ribosomal protein S9.

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

- Molecule 40 is a protein called 40S ribosomal protein S12.

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

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
SM	52	GLN	LEU	conflict	UNP P25398
SM	69	LEU	CYS	conflict	UNP P25398
SM	99	ASN	LYS	conflict	UNP P25398

- Molecule 41 is a protein called 40S ribosomal protein S13.

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

- Molecule 42 is a protein called 40S ribosomal protein S14.

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

- Molecule 43 is a protein called 40S ribosomal protein S15a.

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

- Molecule 44 is a protein called 40S ribosomal protein S24.

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

- Molecule 45 is a protein called 40S ribosomal protein S25.

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

- Molecule 46 is a protein called 40S ribosomal protein S27.

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

- Molecule 47 is a protein called 40S ribosomal protein S30.

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

- Molecule 48 is a RNA chain called 28S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	L5	3654	Total	C	N	O	P	0	0
			78316	34871	14334	25458	3653		

- Molecule 49 is a RNA chain called 5S ribosomal RNA.

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

- Molecule 50 is a RNA chain called 5.8S ribosomal RNA.

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

- Molecule 51 is a protein called 60S ribosomal protein L8.

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

- Molecule 52 is a protein called 60S ribosomal protein L3.

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

- Molecule 53 is a protein called 60S ribosomal protein L4.

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

- Molecule 54 is a protein called 60S ribosomal protein L5.

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

- Molecule 55 is a protein called Large ribosomal subunit protein eL6.

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

- Molecule 56 is a protein called Large ribosomal subunit protein uL30.

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

- Molecule 57 is a protein called 60S ribosomal protein L7a.

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

- Molecule 58 is a protein called 60S ribosomal protein L9.

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

- Molecule 59 is a protein called Ribosomal protein uL16-like.

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

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

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

- Molecule 61 is a protein called 60S ribosomal protein L13.

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

- Molecule 62 is a protein called 60S ribosomal protein L14.

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

- Molecule 63 is a protein called 60S ribosomal protein L15.

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

- Molecule 64 is a protein called 60S ribosomal protein L13a.

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

- Molecule 65 is a protein called 60S ribosomal protein L17.

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

- Molecule 66 is a protein called 60S ribosomal protein L18.

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

- Molecule 67 is a protein called 60S ribosomal protein L19.

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

- Molecule 68 is a protein called 60S ribosomal protein L18a.

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

- Molecule 69 is a protein called 60S ribosomal protein L21.

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

- Molecule 70 is a protein called 60S ribosomal protein L22.

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

- Molecule 71 is a protein called 60S ribosomal protein L23.

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

- Molecule 72 is a protein called 60S ribosomal protein L24.

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

- Molecule 73 is a protein called 60S ribosomal protein L23a.

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

- Molecule 74 is a protein called 60S ribosomal protein L26.

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

- Molecule 75 is a protein called 60S ribosomal protein L27.

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

- Molecule 76 is a protein called 60S ribosomal protein L27a.

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

- Molecule 77 is a protein called 60S ribosomal protein L29.

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

- Molecule 78 is a protein called 60S ribosomal protein L30.

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

- Molecule 79 is a protein called 60S ribosomal protein L31.

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

- Molecule 80 is a protein called 60S ribosomal protein L32.

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

- Molecule 81 is a protein called 60S ribosomal protein L35a.

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

- Molecule 82 is a protein called 60S ribosomal protein L34.

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

- Molecule 83 is a protein called 60S ribosomal protein L35.

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

- Molecule 84 is a protein called 60S ribosomal protein L36.

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

- Molecule 85 is a protein called 60S ribosomal protein L37.

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

- Molecule 86 is a protein called 60S ribosomal protein L38.

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

- Molecule 87 is a protein called 60S ribosomal protein L39.

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

- Molecule 88 is a protein called Ubiquitin-60S ribosomal protein L40.

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

- Molecule 89 is a protein called 60S ribosomal protein L41.

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

- Molecule 90 is a protein called 60S ribosomal protein L36a.

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

- Molecule 91 is a protein called 60S ribosomal protein L37a.

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

- Molecule 92 is a protein called 60S ribosomal protein L28.

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

- Molecule 93 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
93	S2	65	Total	Mg	0
			65	65	
93	Sc	1	Total	Mg	0
			1	1	
93	L5	145	Total	Mg	0
			145	145	
93	L7	7	Total	Mg	0
			7	7	
93	L8	5	Total	Mg	0
			5	5	
93	LA	1	Total	Mg	0
			1	1	
93	LH	1	Total	Mg	0
			1	1	
93	LN	1	Total	Mg	0
			1	1	
93	LP	1	Total	Mg	0
			1	1	
93	LQ	1	Total	Mg	0
			1	1	
93	LV	2	Total	Mg	0
			2	2	
93	Ll	1	Total	Mg	0
			1	1	
93	Lr	1	Total	Mg	0
			1	1	

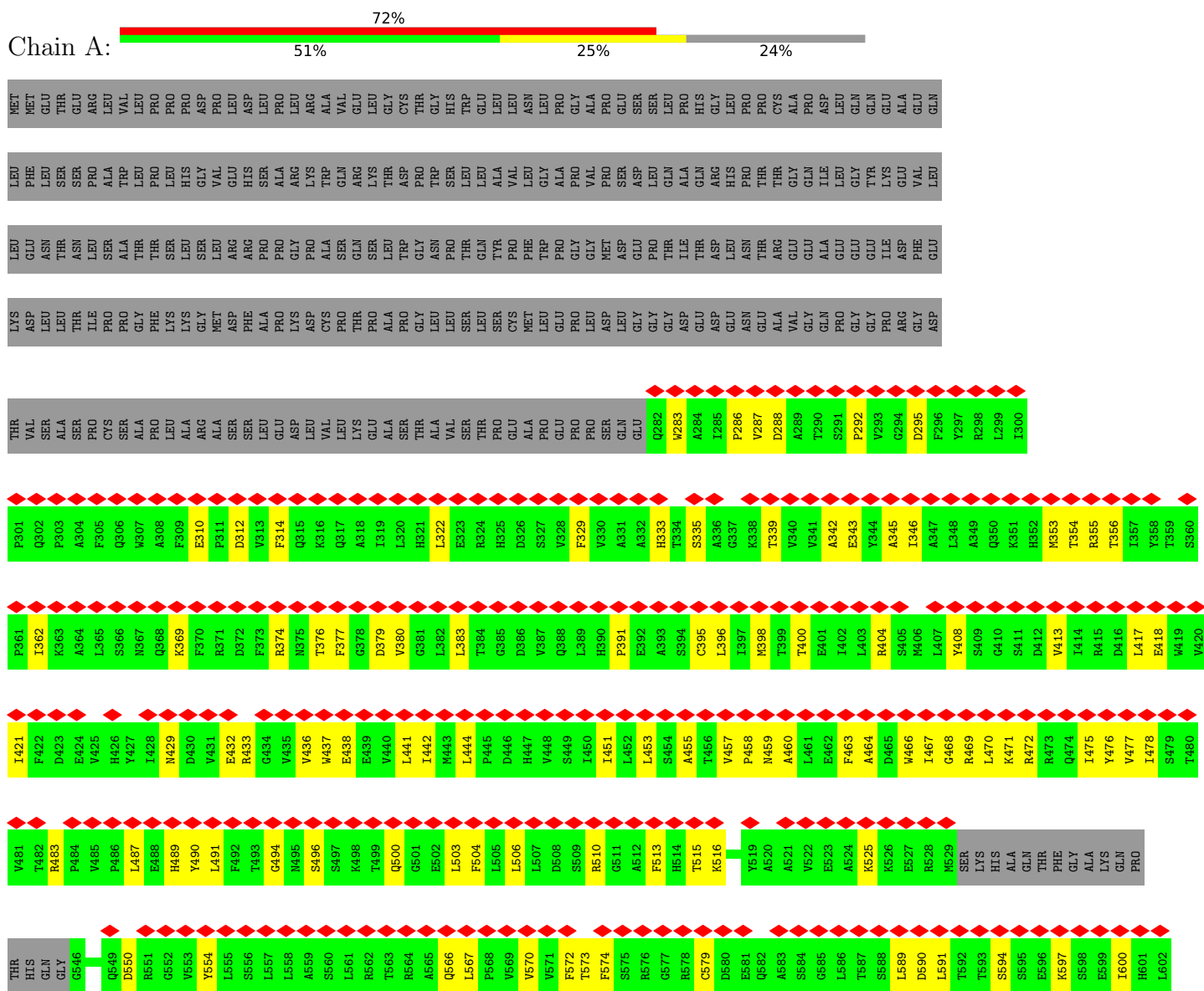
- Molecule 94 is ZINC ION (CCD ID: ZN) (formula: Zn).

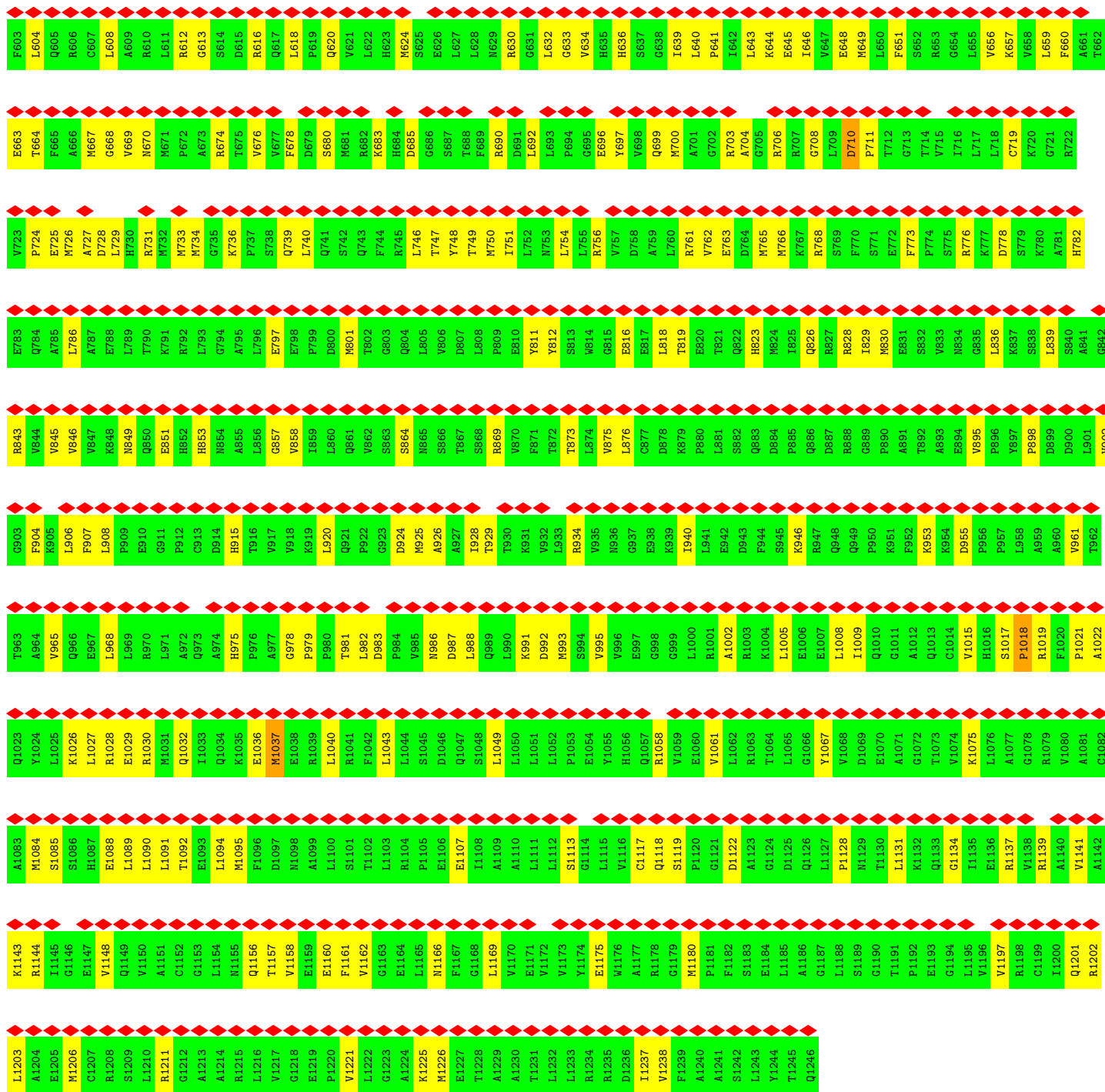
Mol	Chain	Residues	Atoms		AltConf
94	Sa	1	Total 1	Zn 1	0
94	Lg	1	Total 1	Zn 1	0
94	Lj	1	Total 1	Zn 1	0
94	Lm	1	Total 1	Zn 1	0
94	Lo	1	Total 1	Zn 1	0
94	Lp	1	Total 1	Zn 1	0

3 Residue-property plots

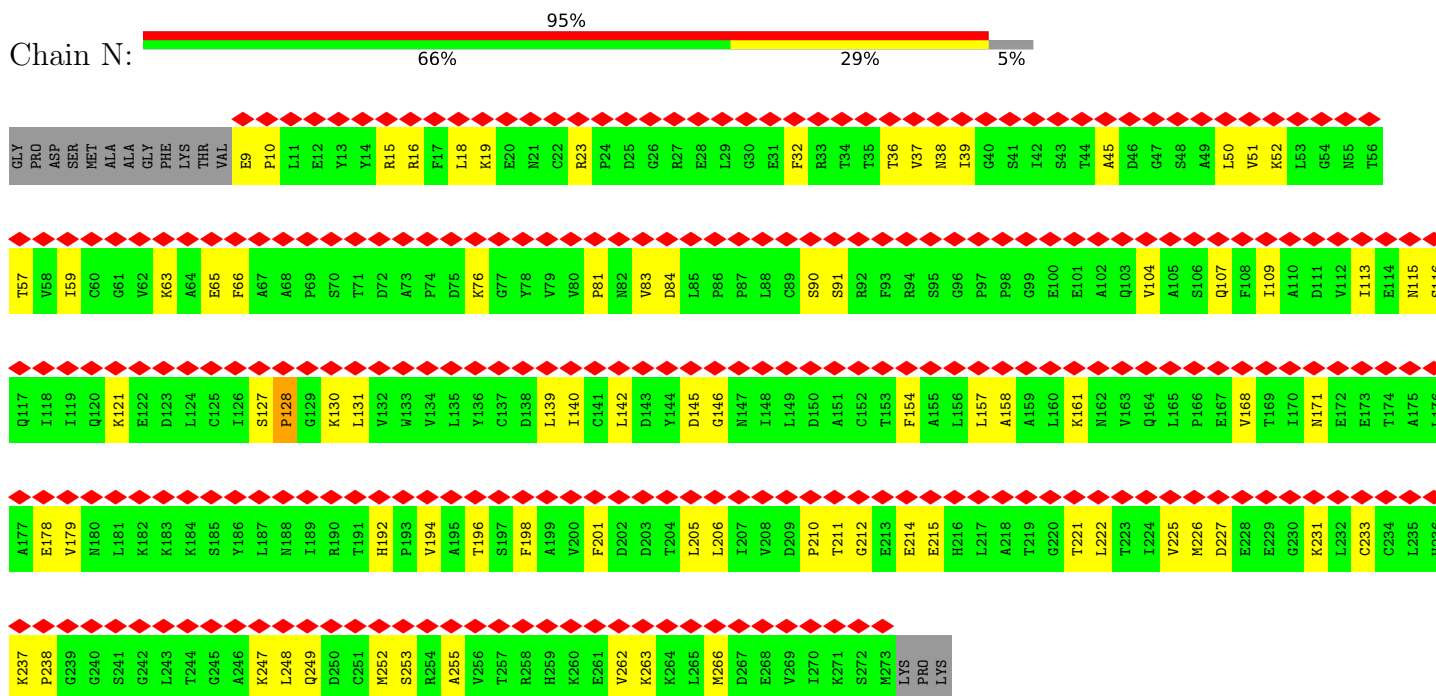
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: Helicase SKI2W

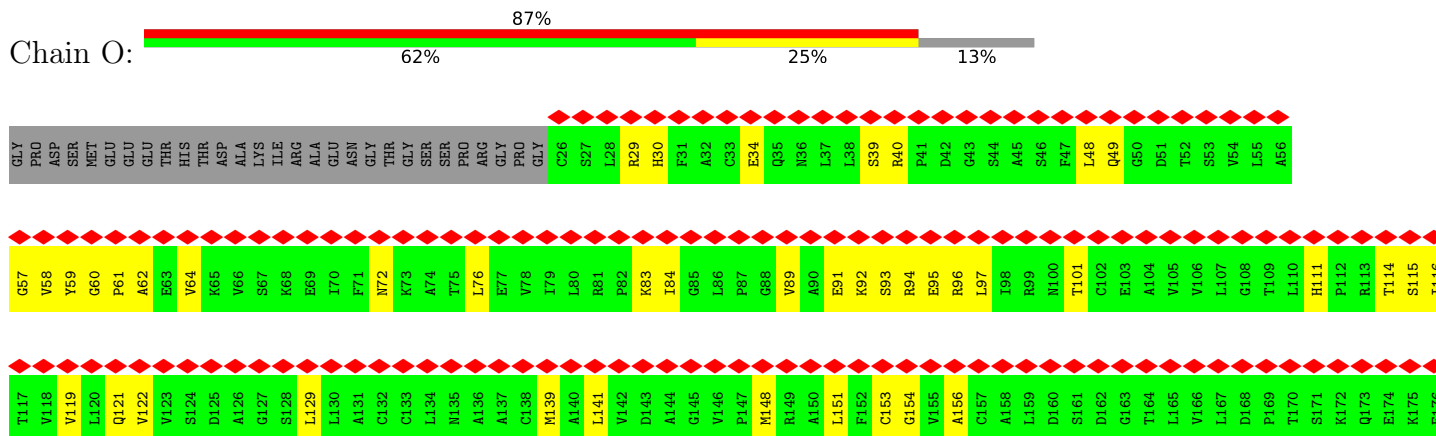


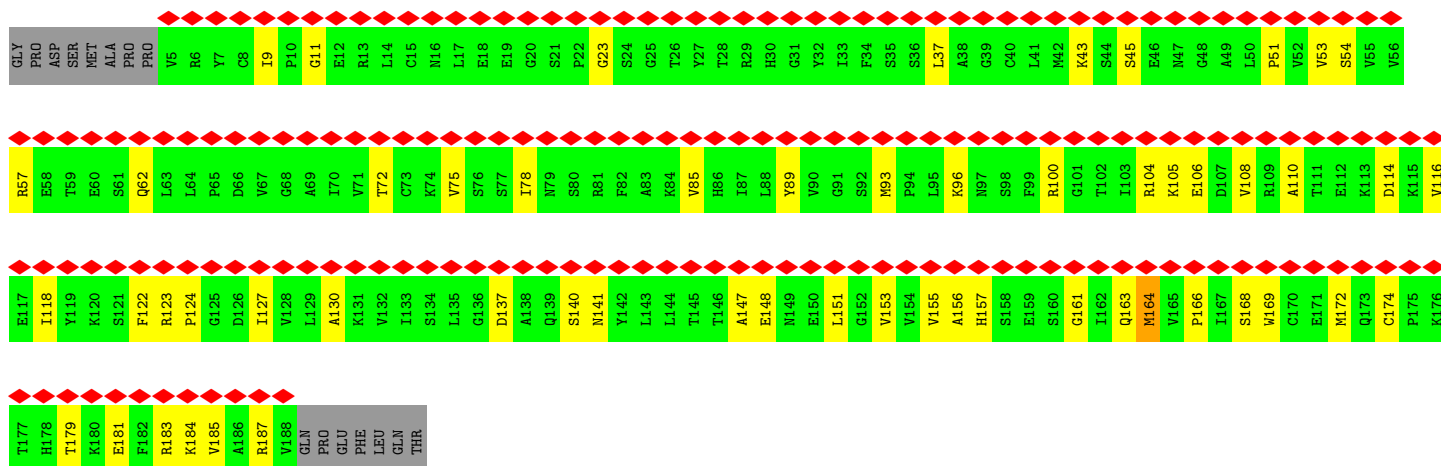


- Molecule 3: Exosome complex component RRP43

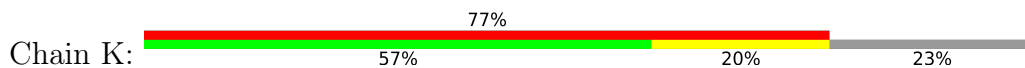


- Molecule 4: Exosome complex component RRP46

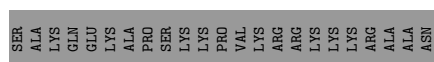
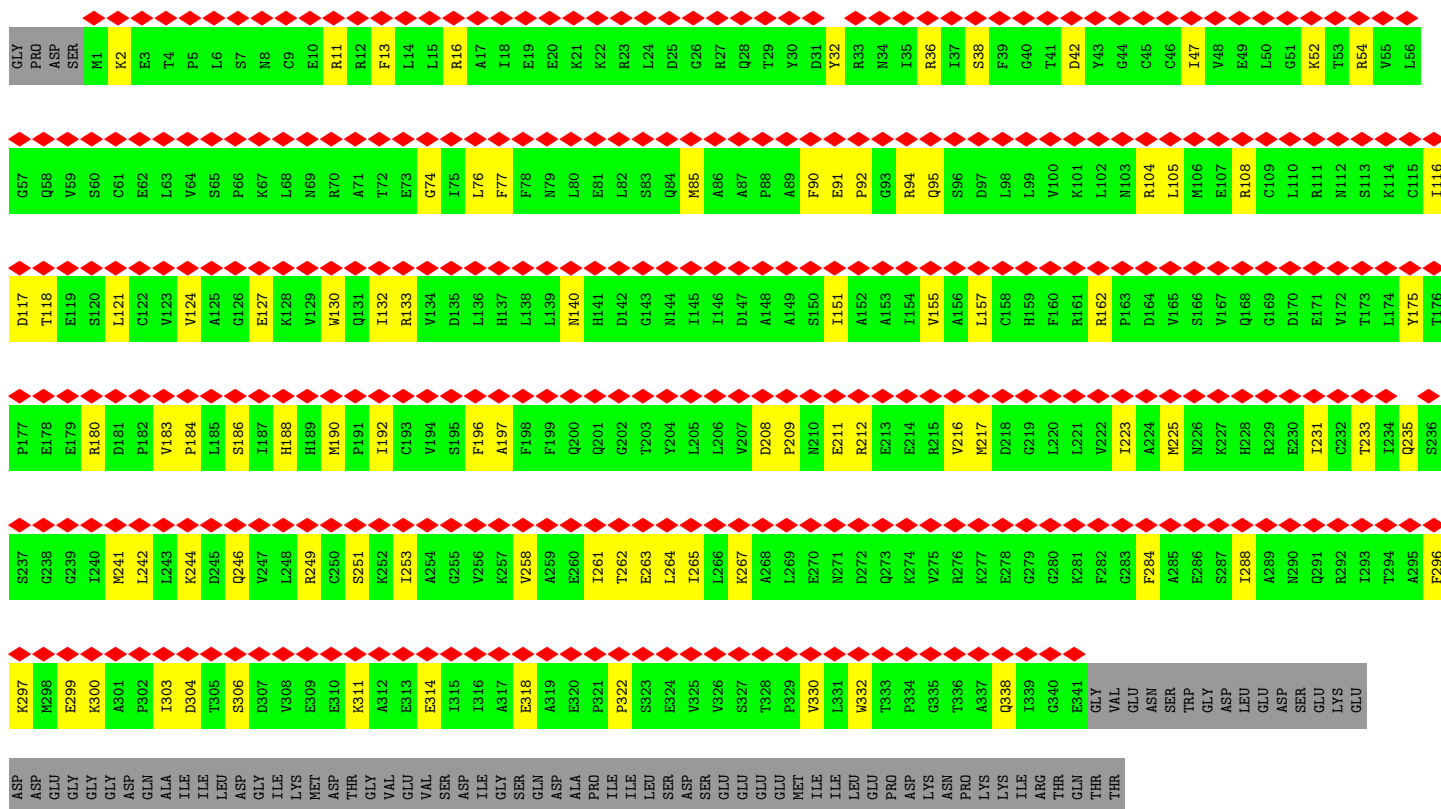




• Molecule 10: Exosome complex component RRP45



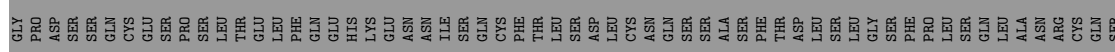
Chain K:

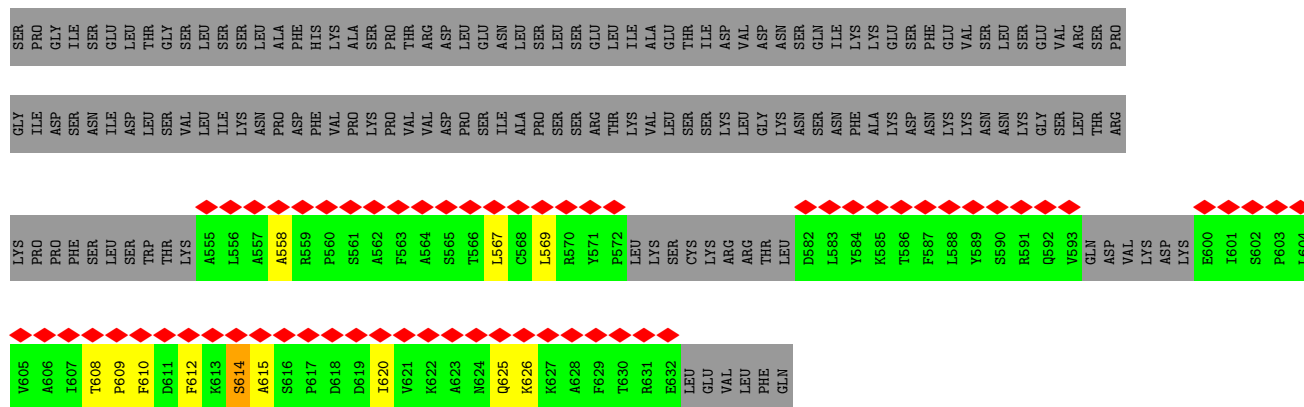


• Molecule 11: Isoform 2 of HBS1-like protein

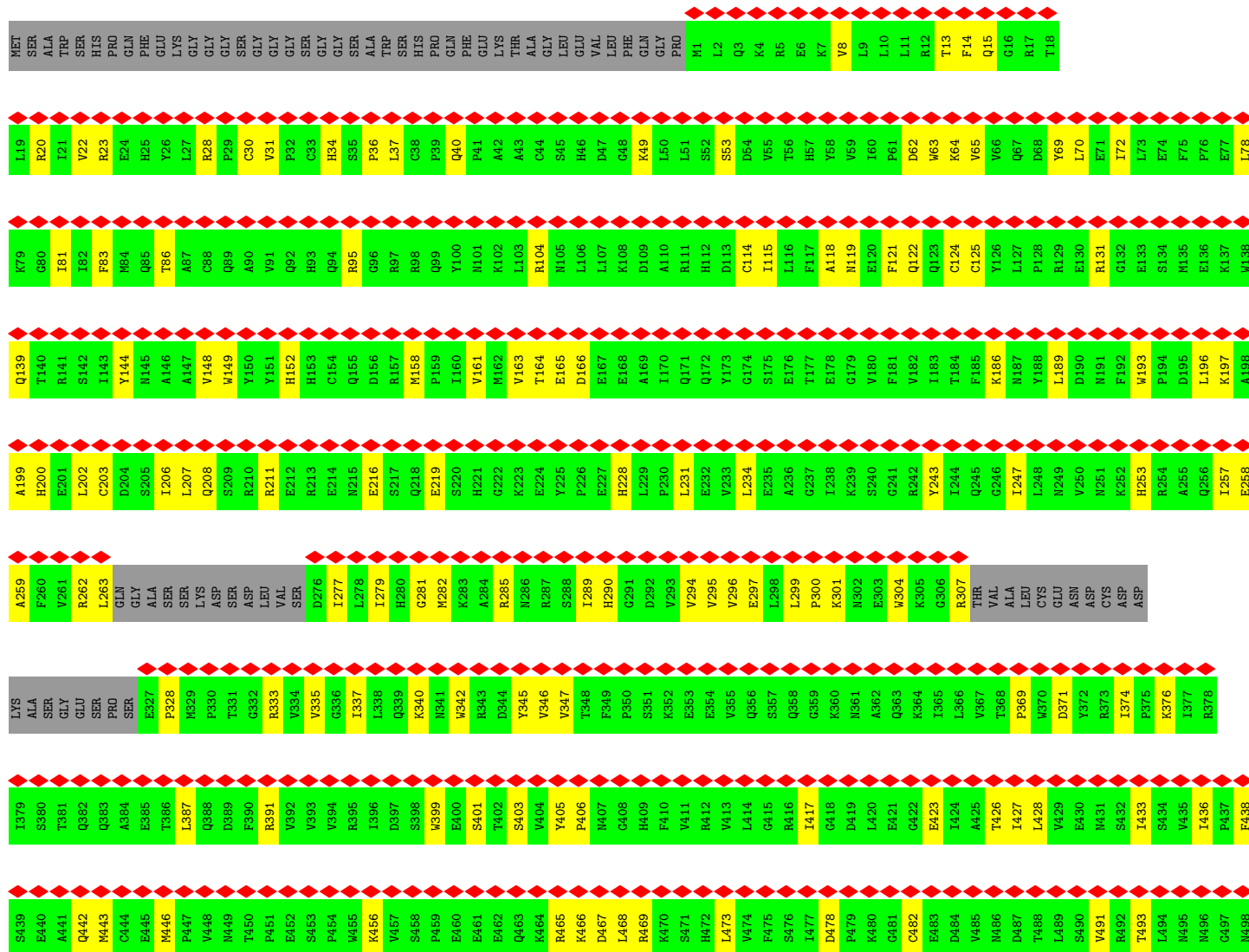


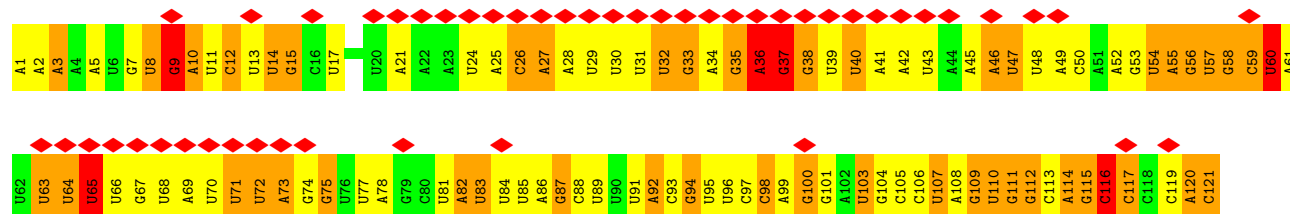
Chain E:



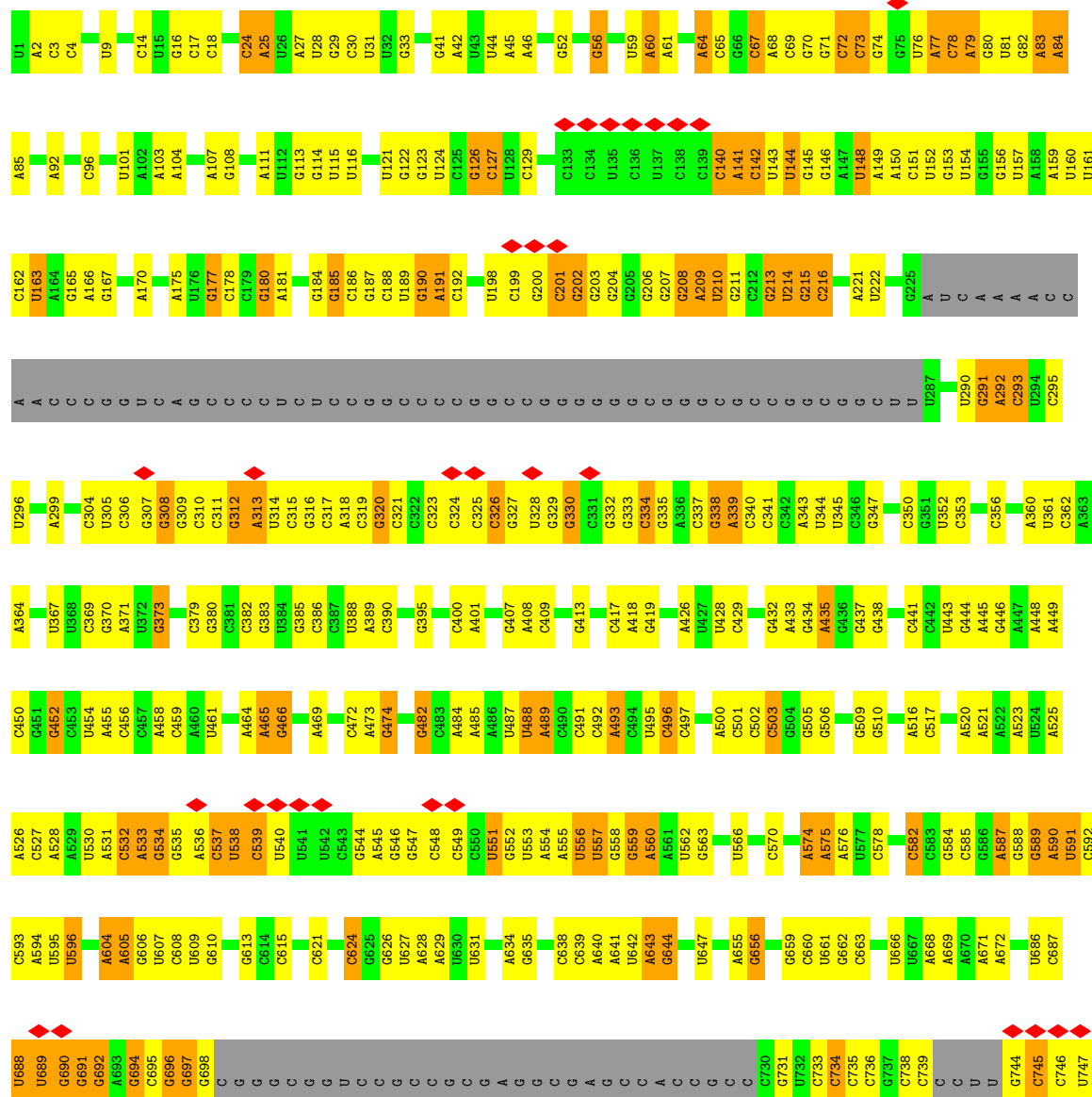


• Molecule 12: DIS3-like exonuclease 1

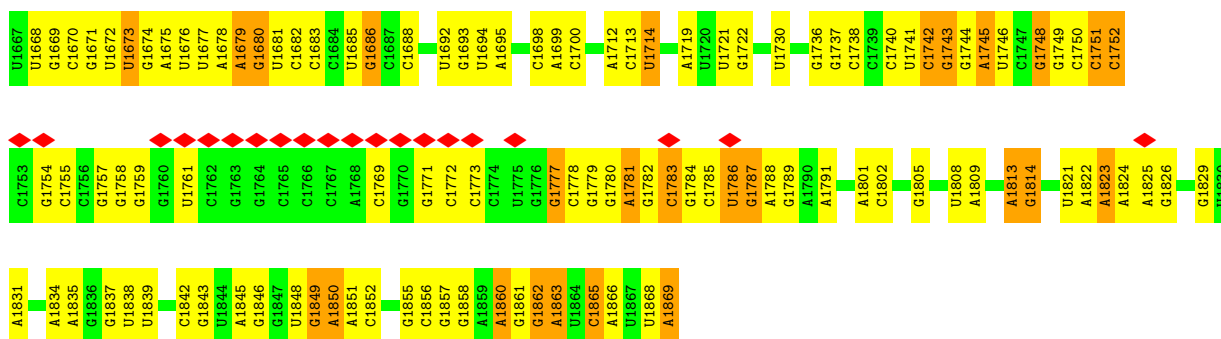




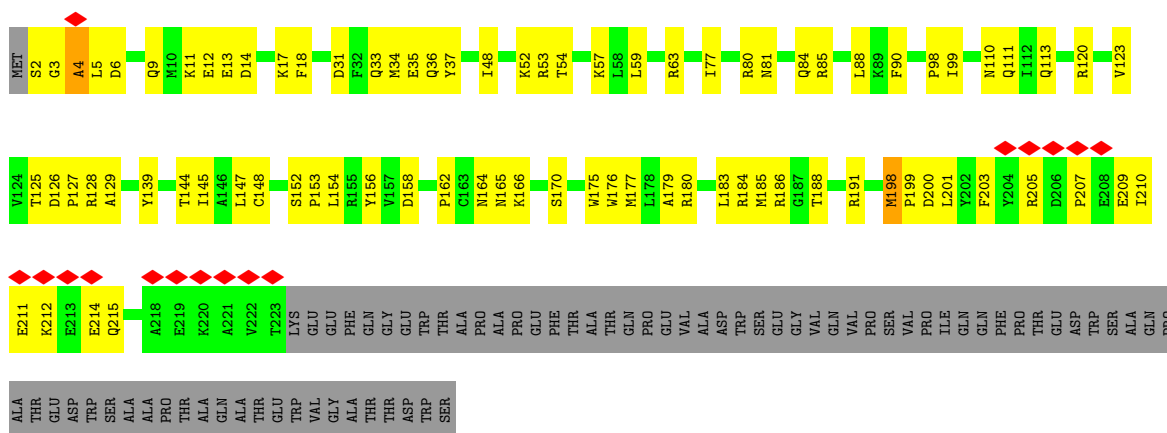
- Molecule 14: 18S ribosomal RNA



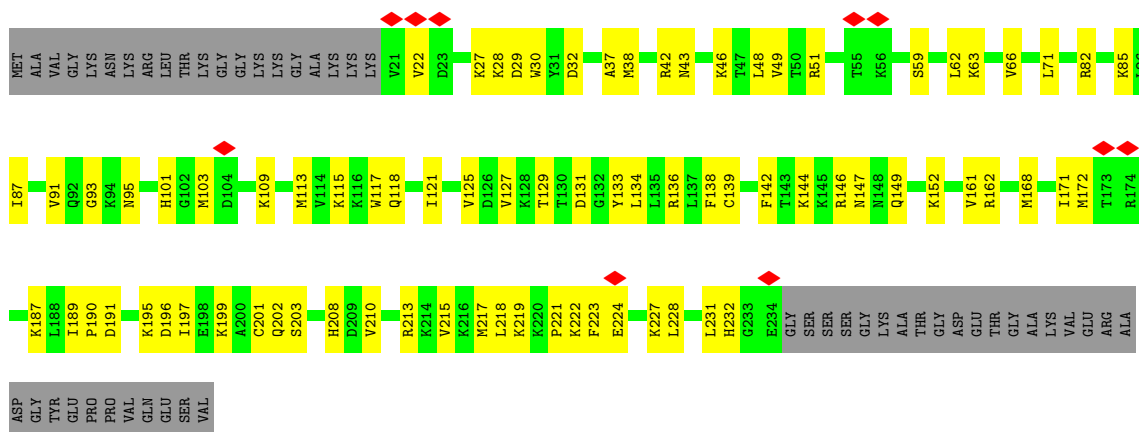




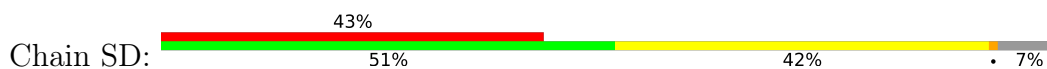
• Molecule 15: 40S ribosomal protein SA

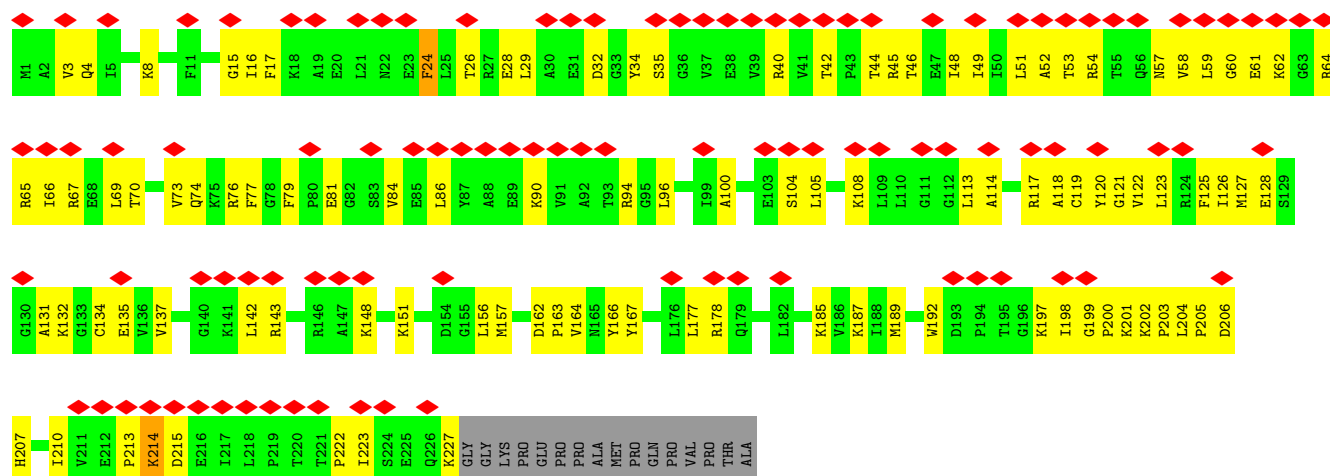


• Molecule 16: 40S ribosomal protein S3a

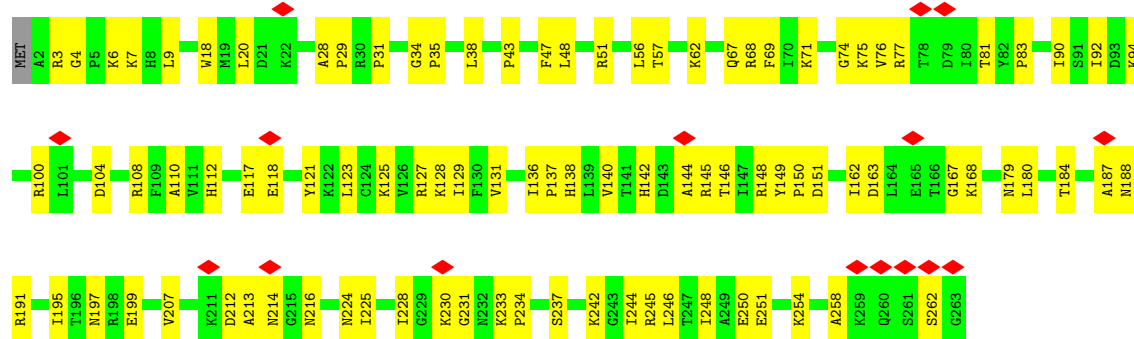


• Molecule 17: 40S ribosomal protein S3

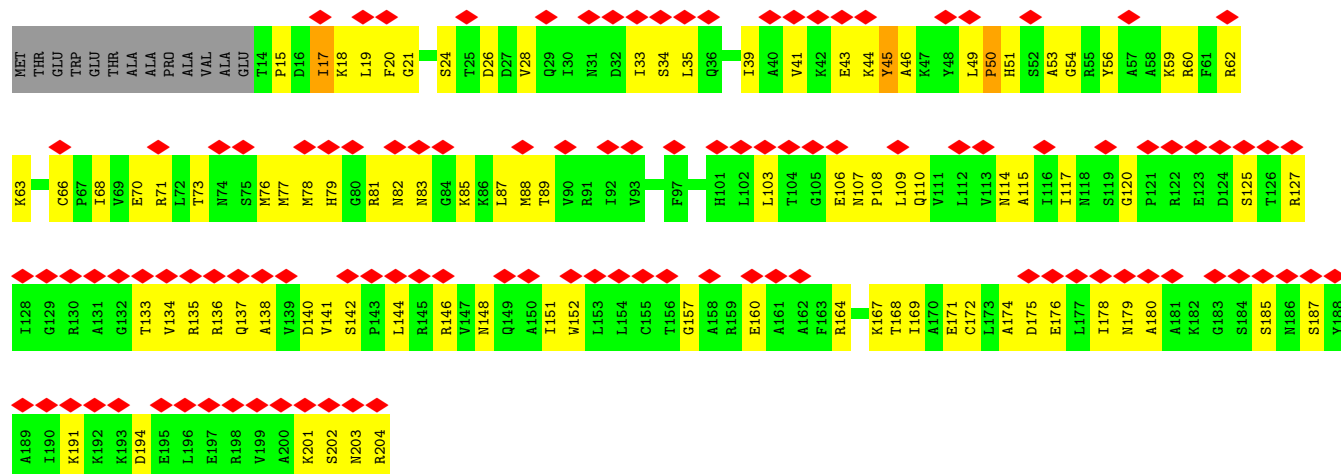




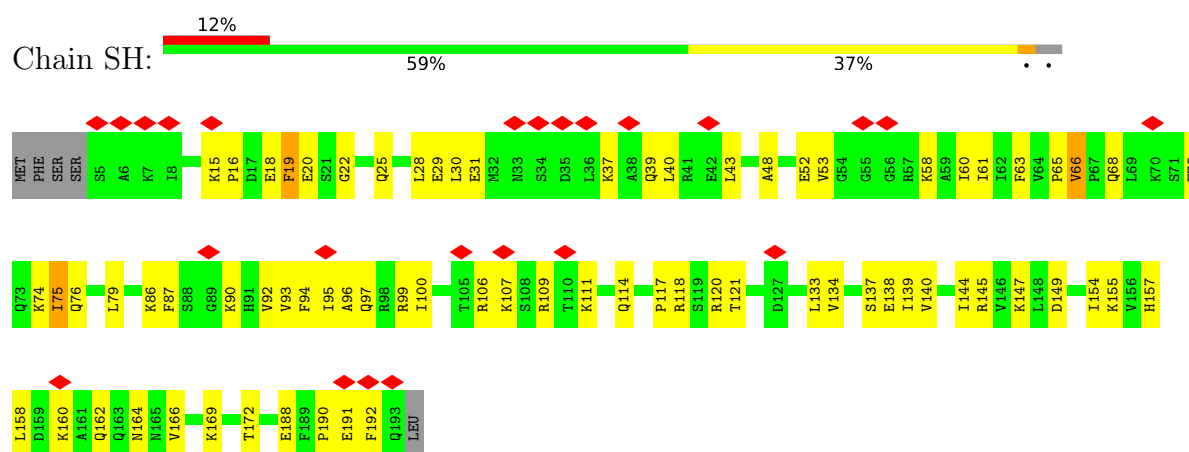
- Molecule 18: 40S ribosomal protein S4, X isoform



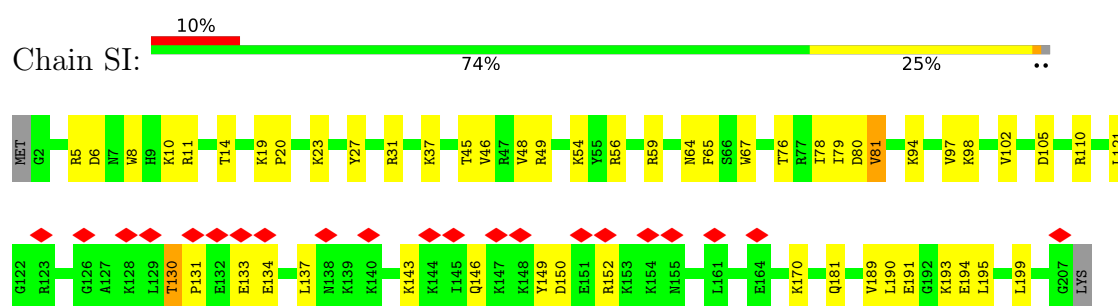
- Molecule 19: 40S ribosomal protein S5



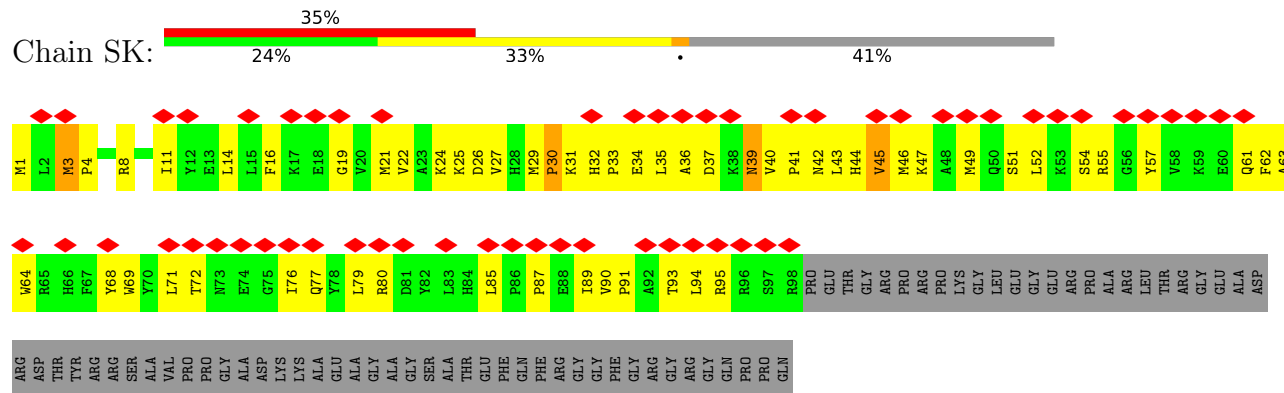
- Molecule 20: 40S ribosomal protein S7



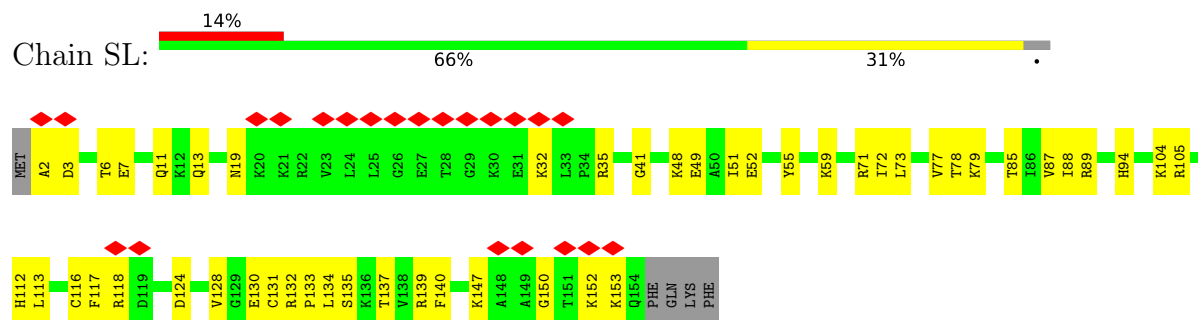
- Molecule 21: 40S ribosomal protein S8



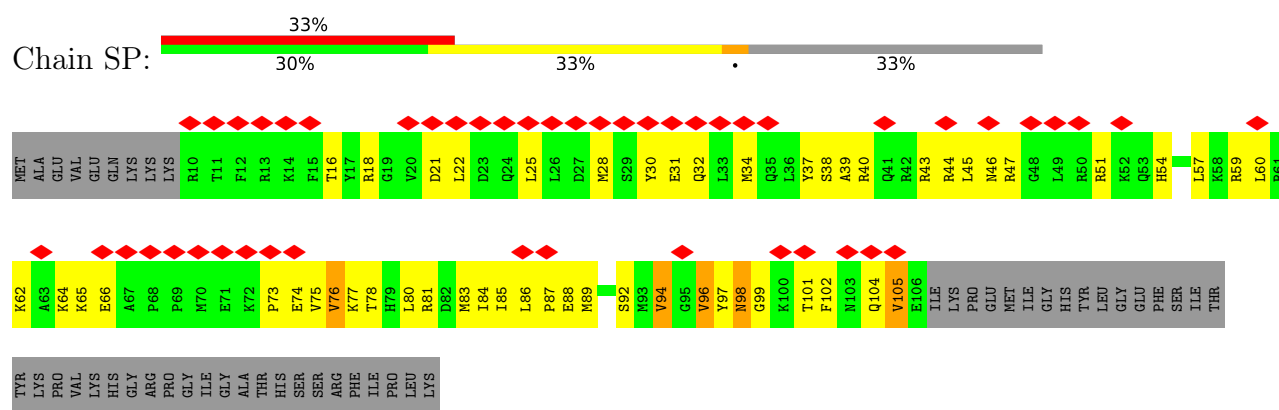
- Molecule 22: 40S ribosomal protein S10



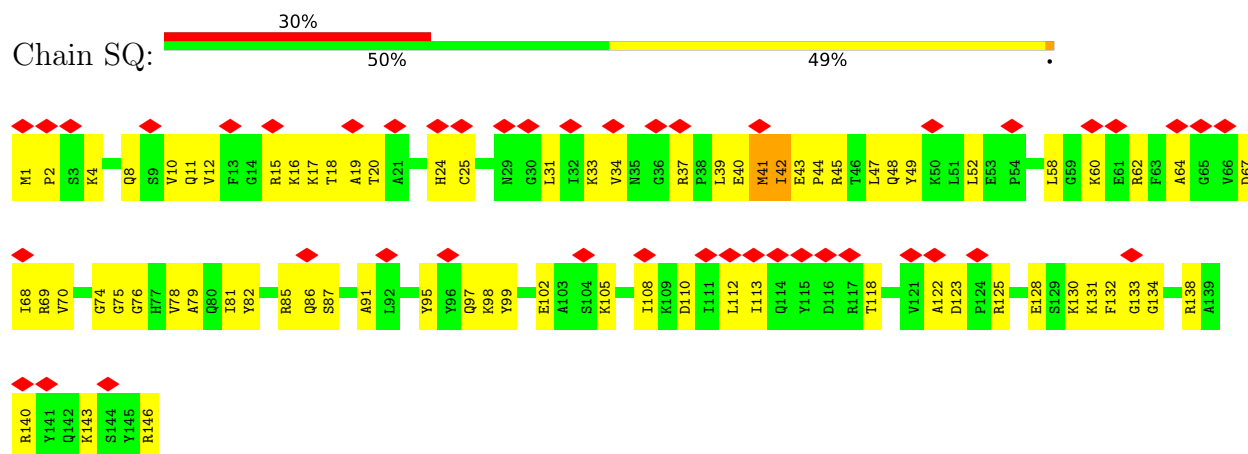
- Molecule 23: 40S ribosomal protein S11



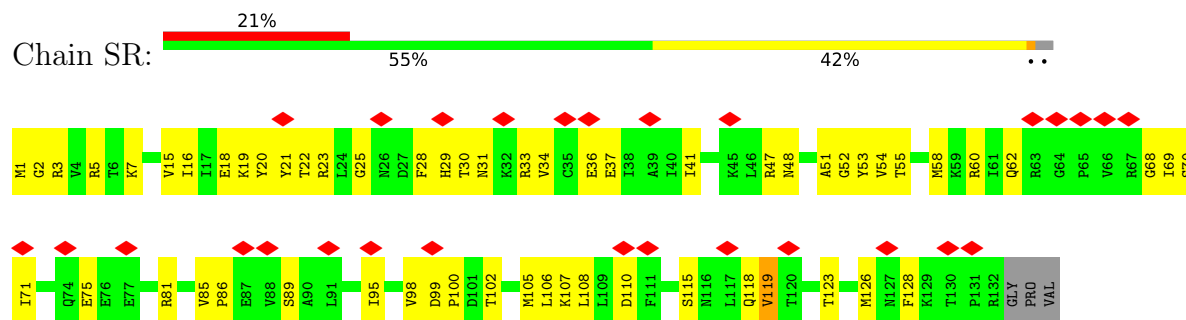
- Molecule 24: 40S ribosomal protein S15



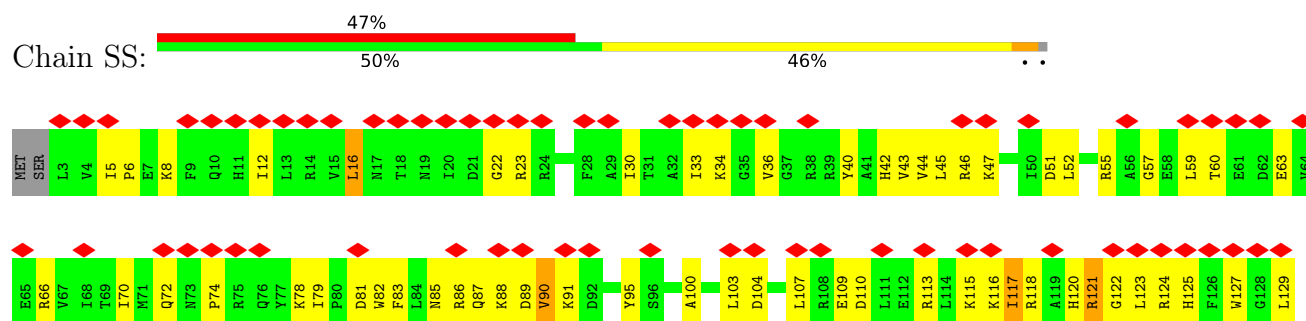
• Molecule 25: 40S ribosomal protein S16

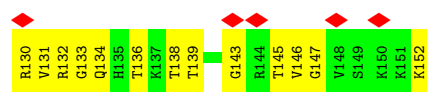


• Molecule 26: 40S ribosomal protein S17

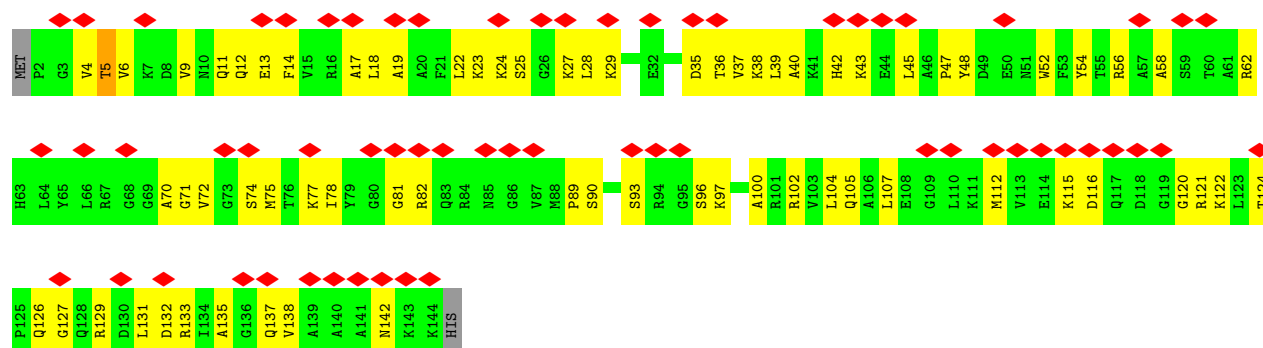
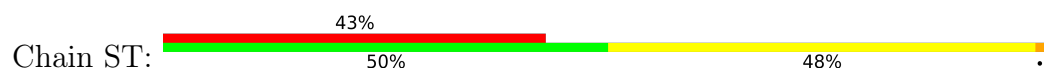


• Molecule 27: 40S ribosomal protein S18

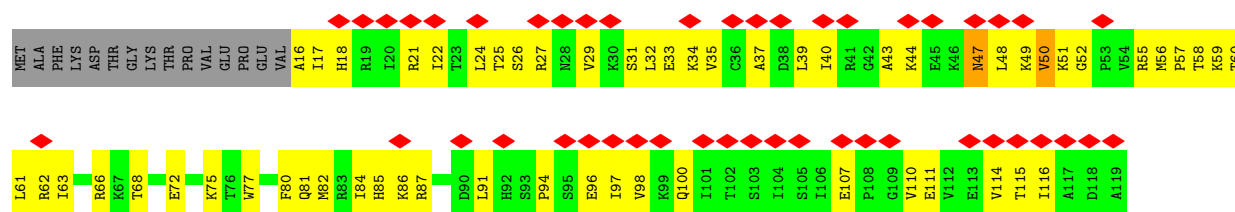




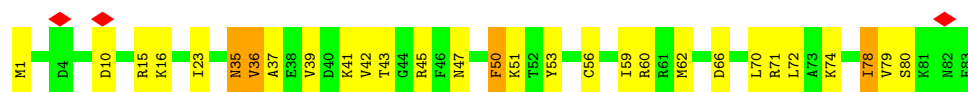
• Molecule 28: 40S ribosomal protein S19



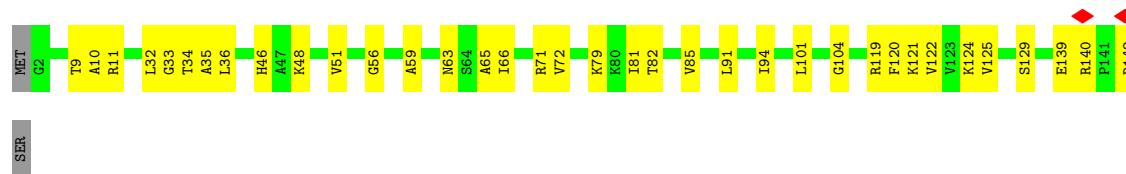
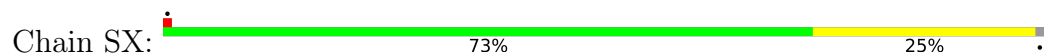
• Molecule 29: 40S ribosomal protein S20



• Molecule 30: 40S ribosomal protein S21



• Molecule 31: 40S ribosomal protein S23

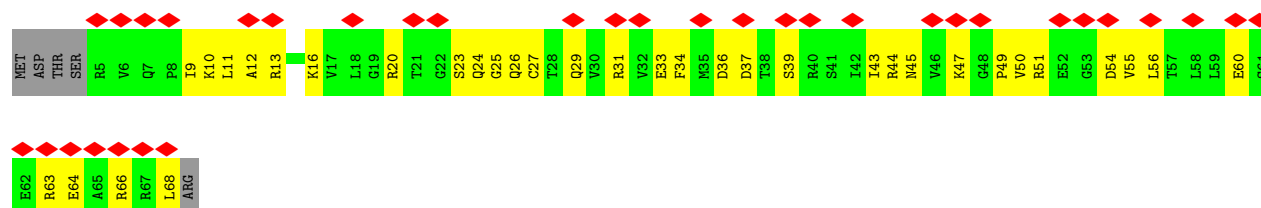
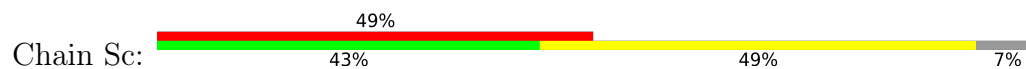


• Molecule 32: 40S ribosomal protein S26





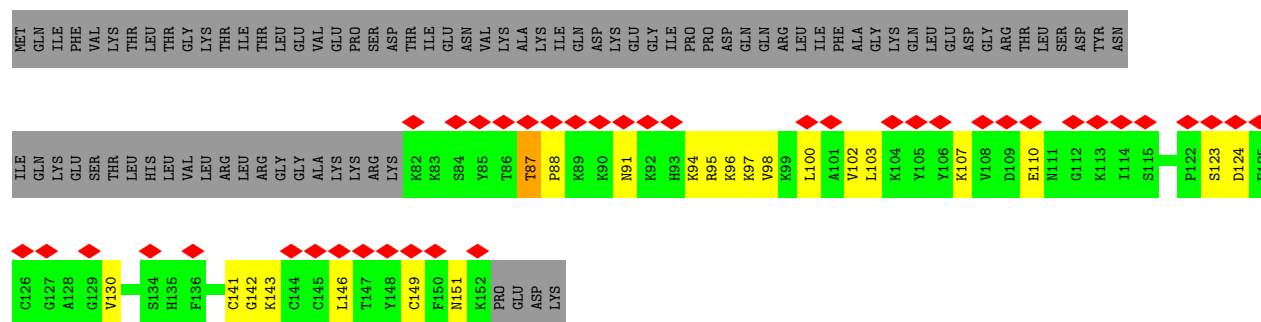
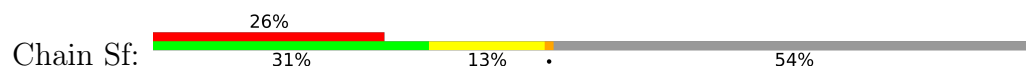
• Molecule 33: 40S ribosomal protein S28



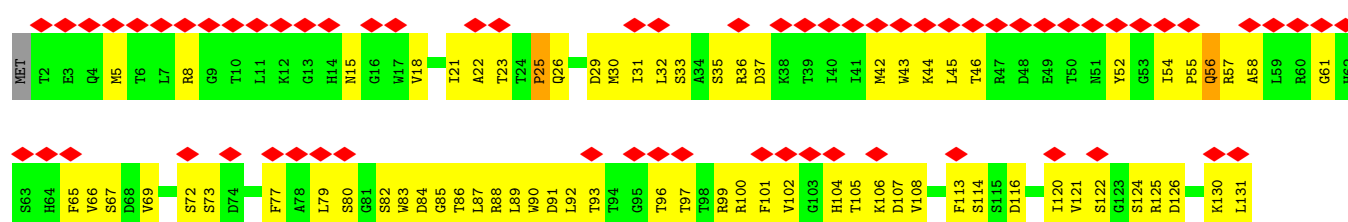
• Molecule 34: 40S ribosomal protein S29



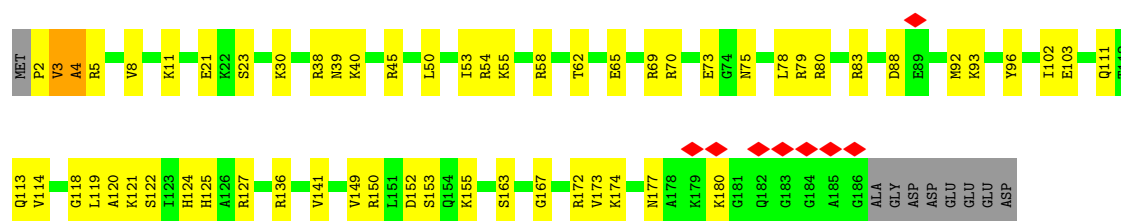
• Molecule 35: Ubiquitin



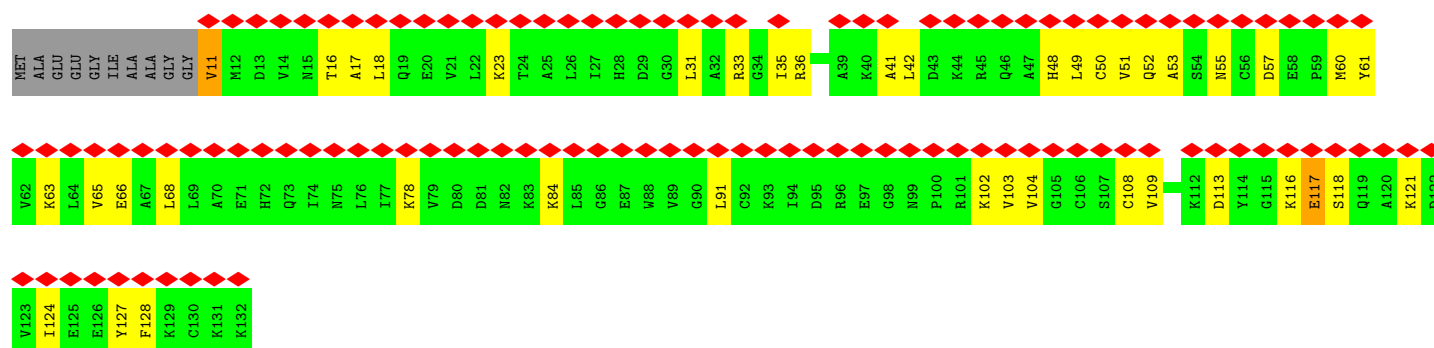
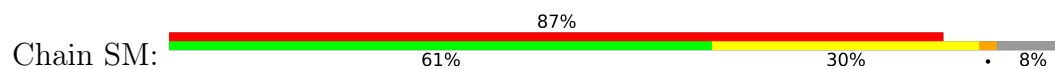
• Molecule 36: Receptor of activated protein C kinase 1



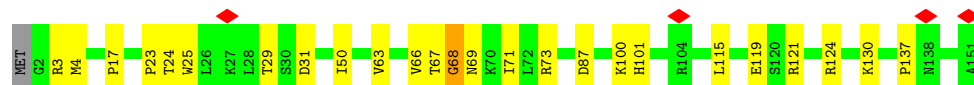
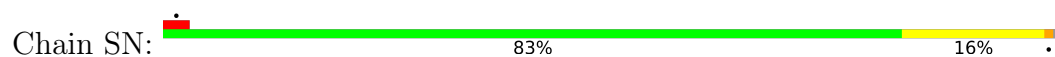




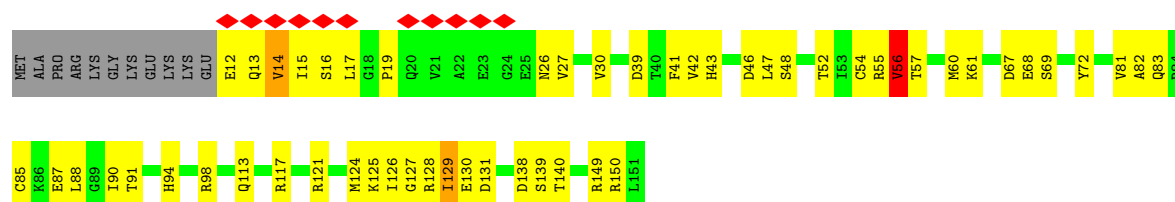
• Molecule 40: 40S ribosomal protein S12



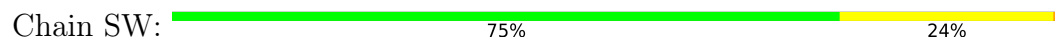
• Molecule 41: 40S ribosomal protein S13



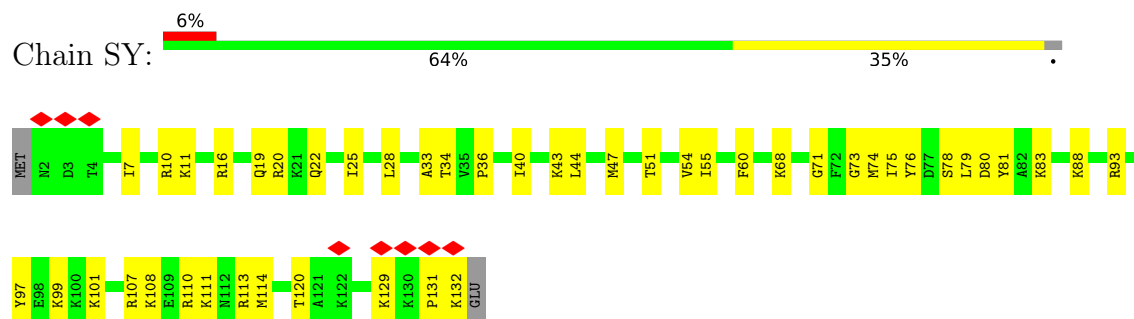
• Molecule 42: 40S ribosomal protein S14



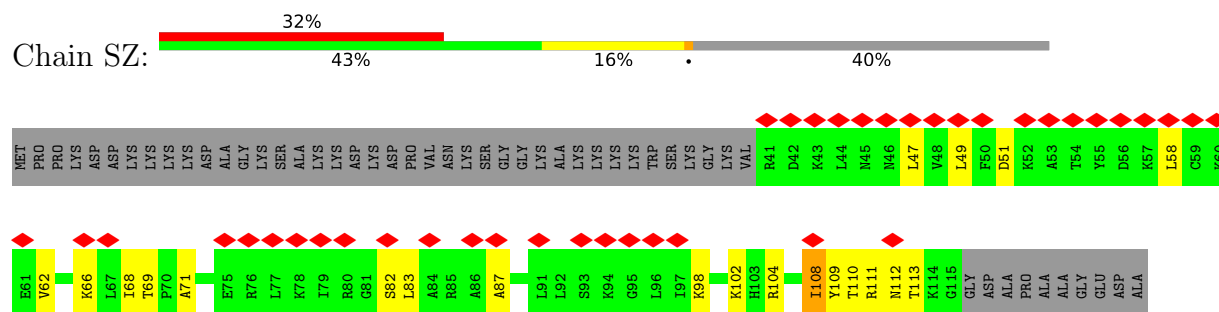
• Molecule 43: 40S ribosomal protein S15a



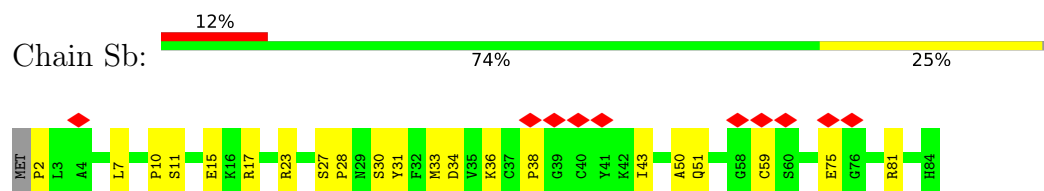
- Molecule 44: 40S ribosomal protein S24



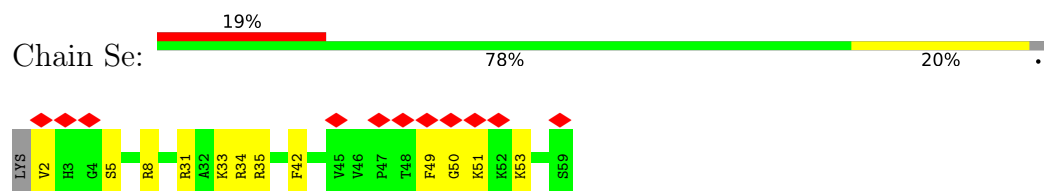
- Molecule 45: 40S ribosomal protein S25



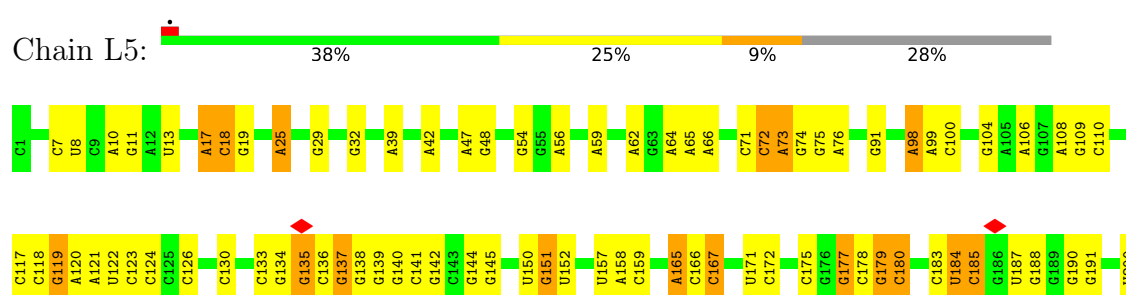
- Molecule 46: 40S ribosomal protein S27



- Molecule 47: 40S ribosomal protein S30



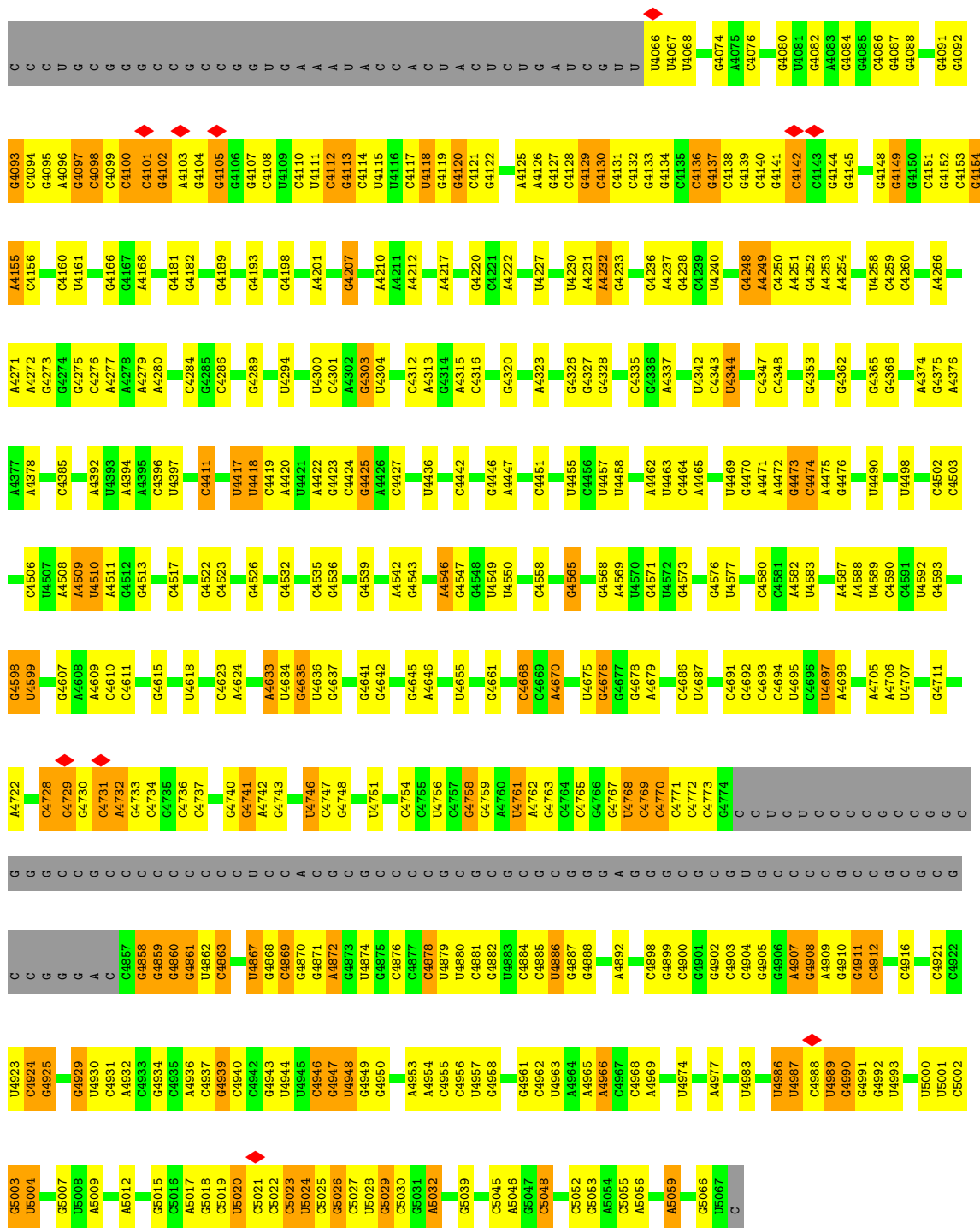
- Molecule 48: 28S ribosomal RNA





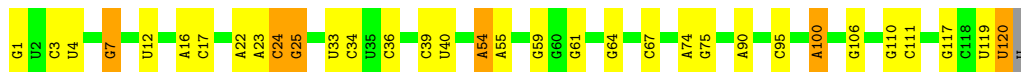
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A2535	C2439	C2287	C	G2091	C1933	A1805	G1720	G1625	C1486	U1395	G1394
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G2537	G2446	C2289	C	A2093	G1938	C1812	U1725	A1631	A1497	A1397	C1310
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G2542	G2448	C2294	C	G2096	A1940	G1821	U1729	A1633	C1318	G1400	C1318
C2543	U2459	C2298	C	A2097	U1945	U1822	A1729	A1634	C1501	C1401	A1322
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A2591	U2415	U2397	C	U1990	U1990	U1872	G1797	A1713	C	C	C
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G2596	G2425	A2402	C	A1995	A1995	U1877	C	C	C	C	C
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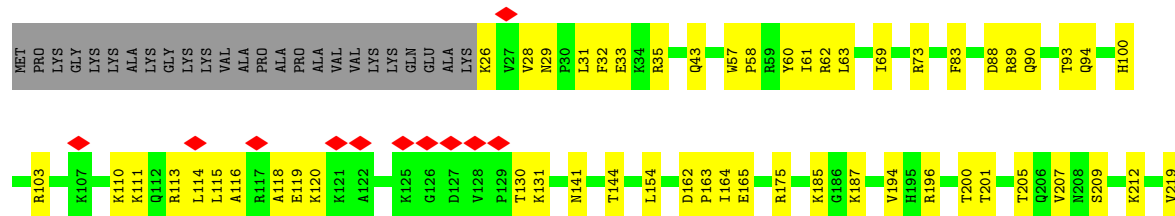
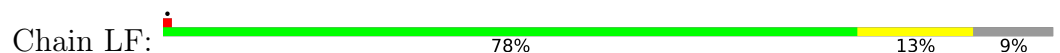
• Molecule 49: 5S ribosomal RNA

Chain L7: 72% 22% 5%



• Molecule 50: 5.8S ribosomal RNA

Chain LD:





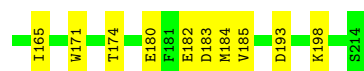
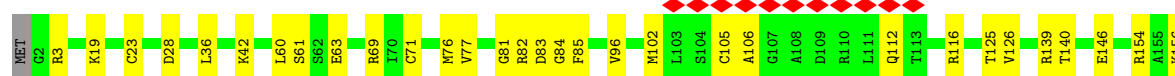
- Molecule 58: 60S ribosomal protein L9

Chain LH: 75% 24%



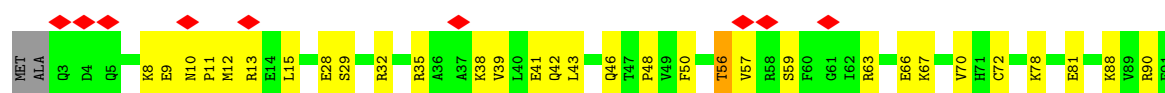
- Molecule 59: Ribosomal protein uL16-like

Chain LI: 5% 80% 19%



- Molecule 60: 60S ribosomal protein L11

Chain LJ: 10% 65% 33%



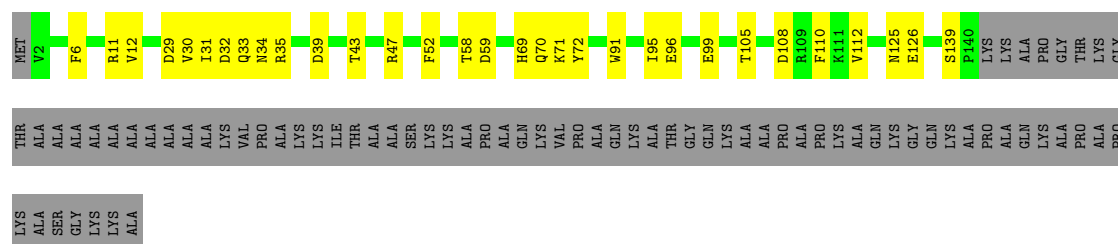
- Molecule 61: 60S ribosomal protein L13

Chain LL: 78% 20%



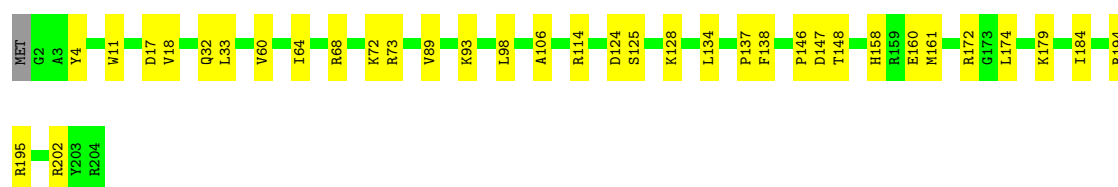
- Molecule 62: 60S ribosomal protein L14

Chain LM:  50% 14% 35%



- Molecule 63: 60S ribosomal protein L15

Chain LN:  82% 17%



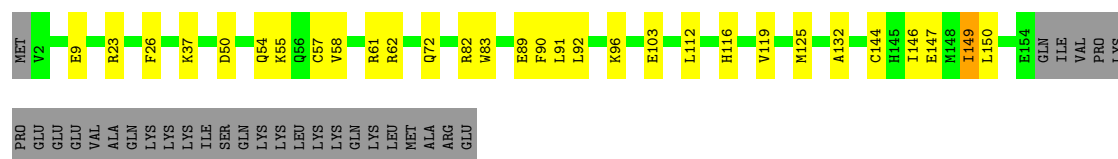
- Molecule 64: 60S ribosomal protein L13a

Chain LO:  83% 16%



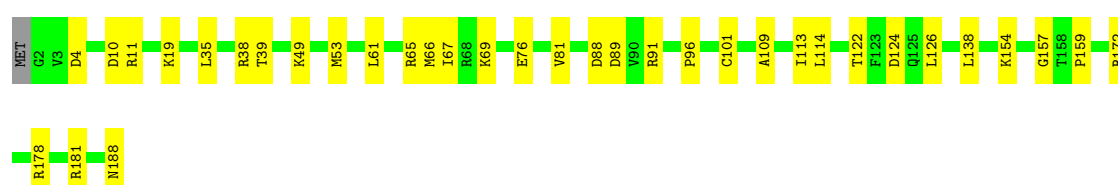
- Molecule 65: 60S ribosomal protein L17

Chain LP:  67% 16% 17%

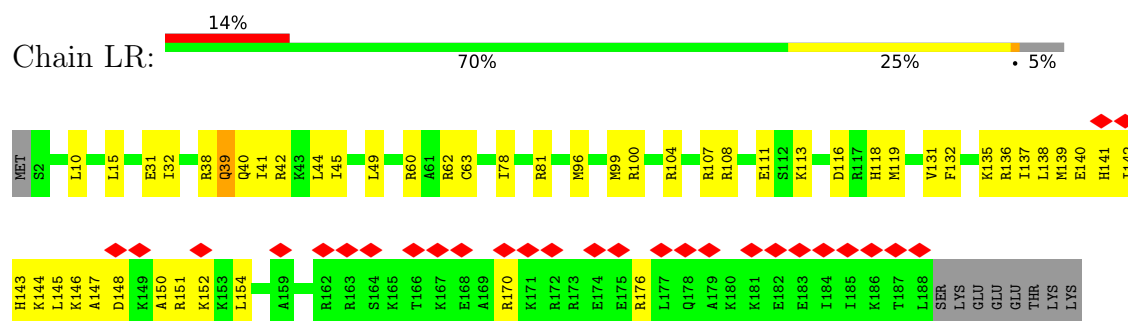


- Molecule 66: 60S ribosomal protein L18

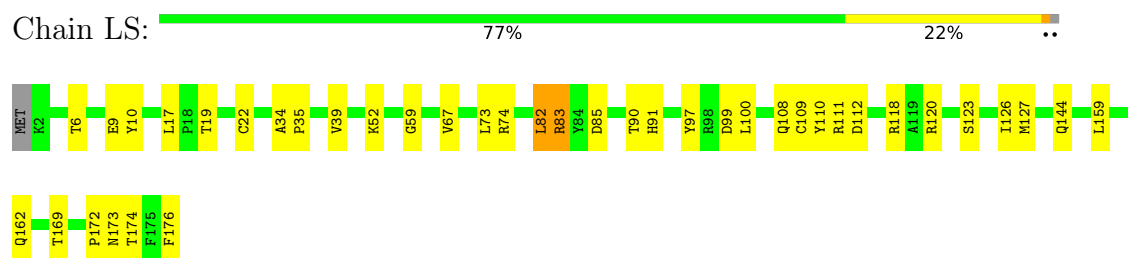
Chain LQ:  81% 19%



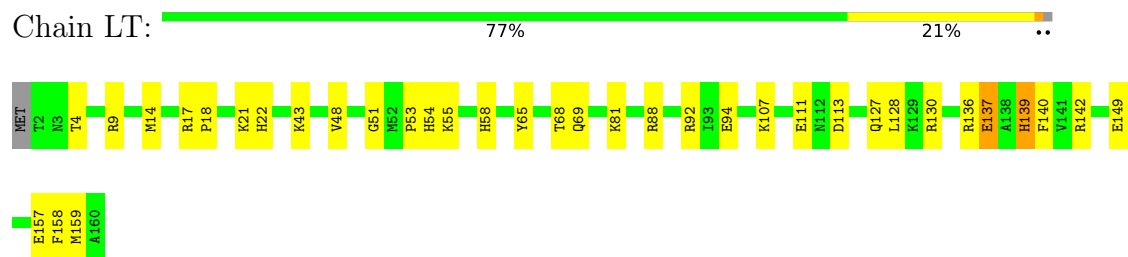
- Molecule 67: 60S ribosomal protein L19



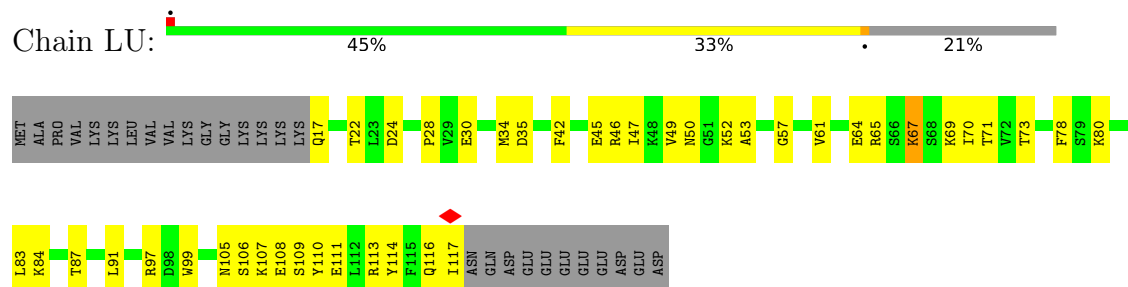
- Molecule 68: 60S ribosomal protein L18a



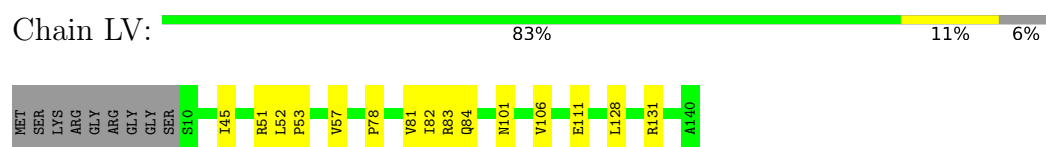
- Molecule 69: 60S ribosomal protein L21



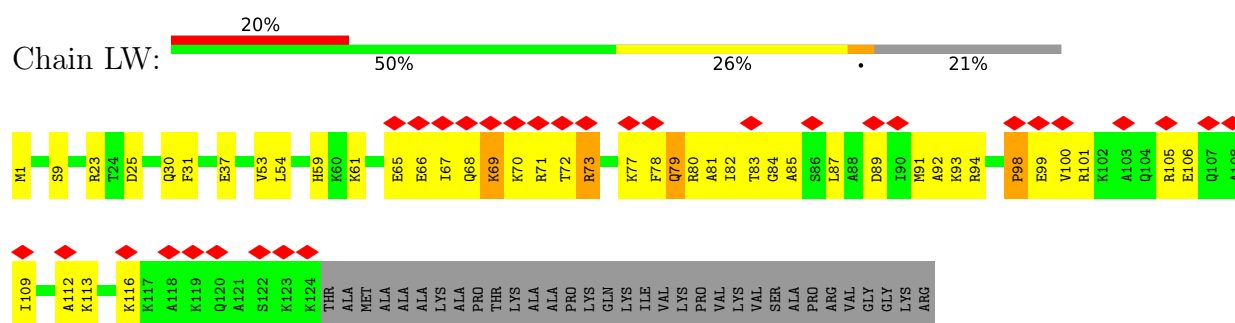
- Molecule 70: 60S ribosomal protein L22



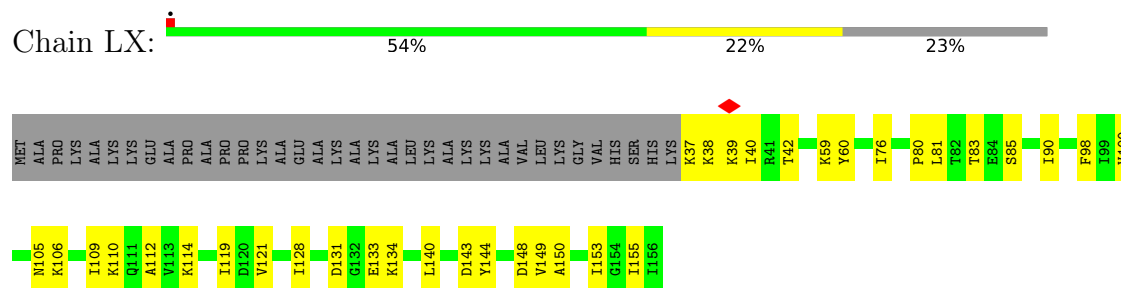
- Molecule 71: 60S ribosomal protein L23



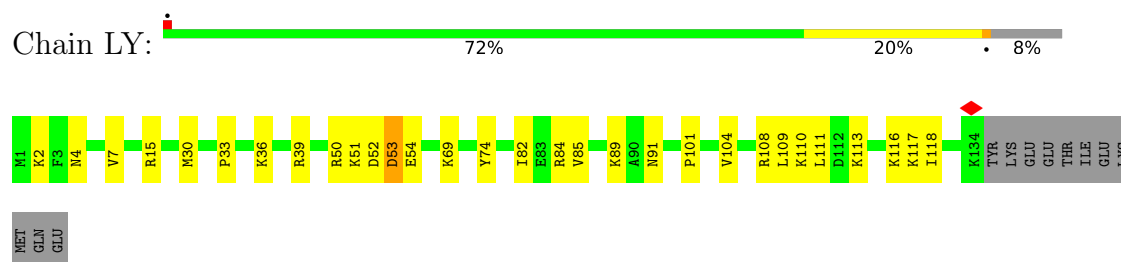
- Molecule 72: 60S ribosomal protein L24



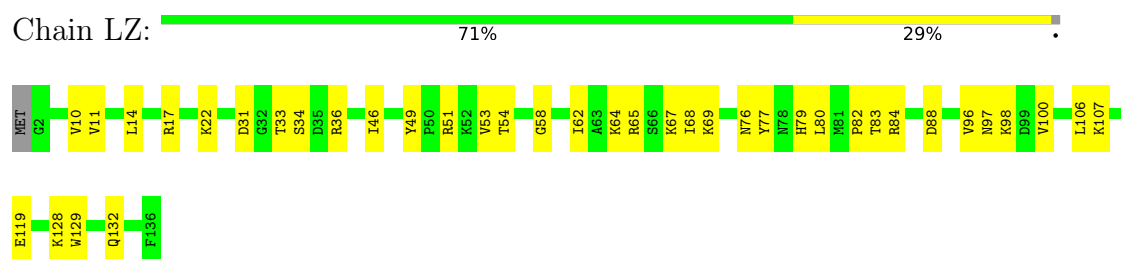
- Molecule 73: 60S ribosomal protein L23a



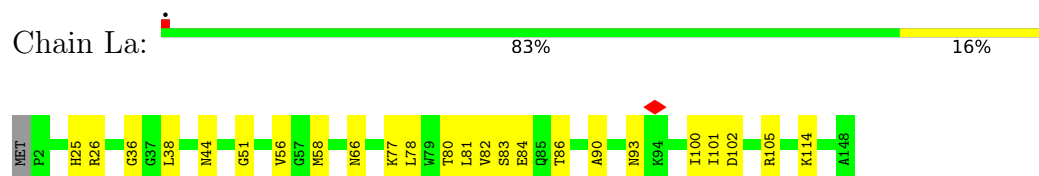
- Molecule 74: 60S ribosomal protein L26



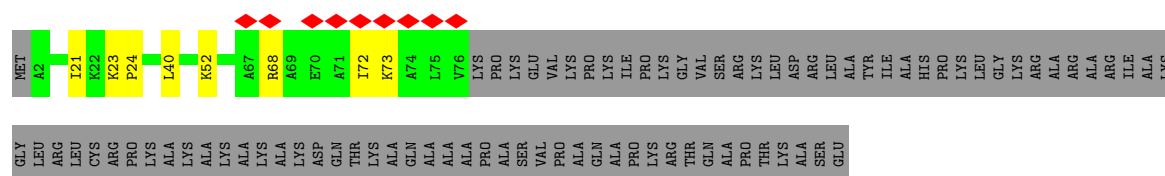
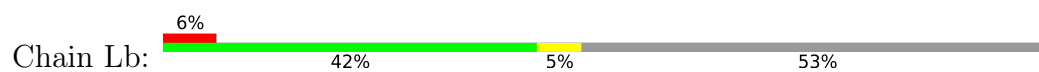
- Molecule 75: 60S ribosomal protein L27



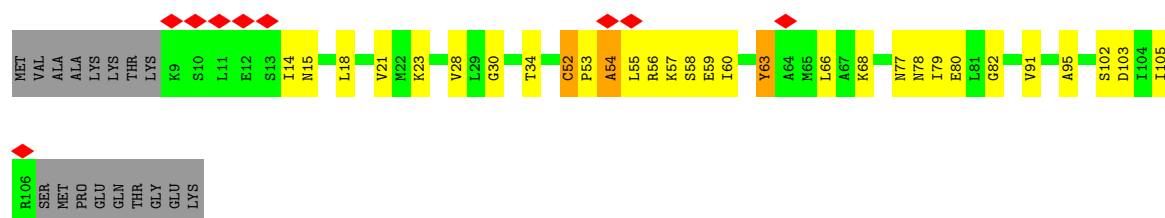
- Molecule 76: 60S ribosomal protein L27a



- Molecule 77: 60S ribosomal protein L29



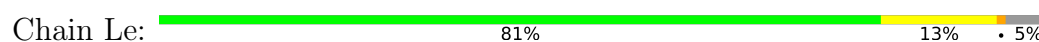
- Molecule 78: 60S ribosomal protein L30



- Molecule 79: 60S ribosomal protein L31



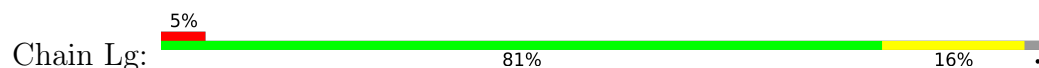
- Molecule 80: 60S ribosomal protein L32



- Molecule 81: 60S ribosomal protein L35a



- Molecule 82: 60S ribosomal protein L34



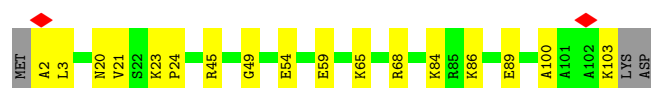
- Molecule 83: 60S ribosomal protein L35

Chain Lh:  74% 24% ..



- Molecule 84: 60S ribosomal protein L36

Chain Li:  81% 16% .



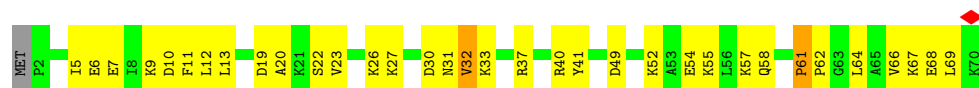
- Molecule 85: 60S ribosomal protein L37

Chain Lj:  66% 23% 11%



- Molecule 86: 60S ribosomal protein L38

Chain Lk:  50% 46% ..



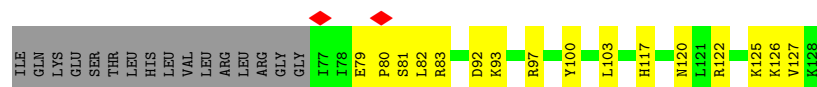
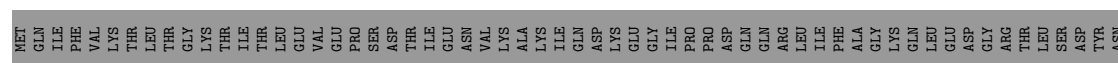
- Molecule 87: 60S ribosomal protein L39

Chain Ll:  73% 25% .



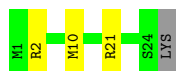
- Molecule 88: Ubiquitin-60S ribosomal protein L40

Chain Lm:  28% 12% 59%

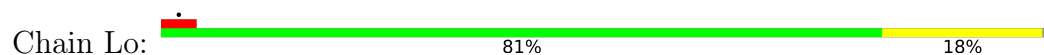


- Molecule 89: 60S ribosomal protein L41

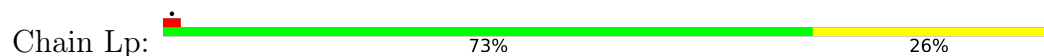
Chain Ln:  84% 12% .



- Molecule 90: 60S ribosomal protein L36a



- Molecule 91: 60S ribosomal protein L37a



- Molecule 92: 60S ribosomal protein L28



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	79353	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	64.2	Depositor
Minimum defocus (nm)	600	Depositor
Maximum defocus (nm)	2400	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.070	Depositor
Minimum map value	-0.023	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.002	Depositor
Recommended contour level	0.01	Depositor
Map size (Å)	708.19836, 708.19836, 708.19836	wwPDB
Map dimensions	832, 832, 832	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.8512, 0.8512, 0.8512	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# $ Z > 5$	RMSZ	# $ Z > 5$
1	A	0.15	0/7577	0.38	1/10257 (0.0%)
2	L	0.22	1/1843 (0.1%)	0.33	0/2492
3	N	0.70	2/2053 (0.1%)	0.81	4/2786 (0.1%)
4	O	0.13	0/1586	0.35	0/2145
5	F	0.12	0/2225	0.36	0/3007
6	G	0.15	0/1881	0.42	2/2551 (0.1%)
7	H	0.14	0/1837	0.39	0/2474
8	I	0.12	0/2296	0.37	0/3092
9	J	0.16	0/1438	0.39	0/1942
10	K	0.14	0/2714	0.33	0/3665
11	E	0.13	0/509	0.32	0/687
12	M	0.26	4/8139 (0.0%)	0.46	8/11009 (0.1%)
13	X	0.45	1/4477 (0.0%)	0.82	24/6954 (0.3%)
14	S2	0.13	0/41243	0.31	0/64257
15	SA	0.18	0/1784	0.54	2/2424 (0.1%)
16	SB	0.22	0/1765	0.53	0/2362
17	SD	0.21	0/1793	0.54	1/2414 (0.0%)
18	SE	0.17	0/2118	0.47	0/2849
19	SF	0.21	0/1531	0.62	4/2059 (0.2%)
20	SH	0.21	0/1544	0.56	1/2068 (0.0%)
21	SI	0.22	0/1715	0.51	0/2287
22	SK	0.32	0/851	0.77	3/1147 (0.3%)
23	SL	0.18	0/1268	0.50	0/1696
24	SP	0.23	0/815	0.76	4/1087 (0.4%)
25	SQ	0.21	0/1177	0.55	1/1575 (0.1%)
26	SR	0.20	0/1086	0.78	4/1457 (0.3%)
27	SS	0.23	0/1253	0.47	0/1676
28	ST	0.18	0/1131	0.55	0/1515
29	SU	0.21	0/832	0.61	2/1117 (0.2%)
30	SV	0.18	0/643	0.47	0/860
31	SX	0.17	0/1116	0.46	0/1490
32	Sa	0.35	1/863 (0.1%)	0.69	5/1159 (0.4%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	Sc	0.22	0/508	0.58	0/680
34	Sd	1.44	3/455 (0.7%)	1.65	5/603 (0.8%)
35	Sf	0.18	0/593	0.49	0/786
36	Sg	0.28	1/2493 (0.0%)	0.62	4/3394 (0.1%)
37	SC	0.19	0/1762	0.50	0/2381
38	SG	0.17	0/1946	0.49	0/2590
39	SJ	0.17	0/1550	0.55	2/2069 (0.1%)
40	SM	0.27	1/962 (0.1%)	0.57	1/1290 (0.1%)
41	SN	0.16	0/1232	0.41	0/1656
42	SO	0.23	0/1062	0.63	3/1425 (0.2%)
43	SW	0.20	0/1051	0.46	0/1406
44	SY	0.16	0/1083	0.44	0/1438
45	SZ	0.13	0/604	0.47	0/810
46	Sb	0.21	0/665	0.51	0/891
47	Se	0.17	0/465	0.55	0/612
48	L5	0.17	0/87605	0.34	0/136661
49	L7	0.16	0/2858	0.28	0/4455
50	L8	0.15	0/3701	0.29	0/5766
51	LA	0.24	0/1936	0.56	2/2596 (0.1%)
52	LB	0.21	0/3306	0.49	0/4424
53	LC	0.22	0/2973	0.48	0/3992
54	LD	0.20	0/2428	0.46	0/3252
55	LE	0.23	0/1996	0.84	13/2673 (0.5%)
56	LF	0.22	0/1905	0.46	0/2539
57	LG	0.21	0/1960	0.51	0/2637
58	LH	0.25	0/1537	0.56	0/2066
59	LI	0.22	0/1751	0.53	0/2340
60	LJ	0.23	0/1433	0.58	2/1915 (0.1%)
61	LL	0.21	0/1732	0.70	4/2315 (0.2%)
62	LM	0.22	0/1161	0.50	0/1554
63	LN	0.24	0/1746	0.49	0/2338
64	LO	0.22	0/1682	0.45	0/2250
65	LP	0.23	0/1268	0.53	1/1701 (0.1%)
66	LQ	0.23	0/1537	0.50	0/2052
67	LR	0.22	0/1582	0.55	1/2091 (0.0%)
68	LS	0.26	0/1493	0.57	1/2003 (0.0%)
69	LT	0.23	0/1326	0.54	0/1770
70	LU	0.27	0/839	0.59	1/1126 (0.1%)
71	LV	0.24	0/993	0.55	0/1332
72	LW	0.21	0/1030	0.84	6/1364 (0.4%)
73	LX	0.22	0/1002	0.52	0/1345
74	LY	0.22	0/1132	0.52	0/1504
75	LZ	0.21	0/1130	0.53	1/1507 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
76	La	0.23	0/1191	0.49	0/1591
77	Lb	0.20	0/620	0.44	0/819
78	Lc	0.29	0/774	0.54	0/1038
79	Ld	0.23	0/903	0.53	1/1216 (0.1%)
80	Le	0.25	0/1071	0.54	0/1429
81	Lf	0.22	0/895	0.49	0/1198
82	Lg	0.23	0/916	0.50	0/1220
83	Lh	0.23	0/1023	0.50	0/1351
84	Li	0.20	0/843	0.52	0/1115
85	Lj	0.26	0/720	0.52	0/952
86	Lk	0.30	0/575	0.67	1/761 (0.1%)
87	Ll	0.22	0/454	0.45	0/599
88	Lm	0.21	0/435	0.51	0/575
89	Ln	0.25	0/231	0.49	0/294
90	Lo	0.22	0/876	0.47	0/1156
91	Lp	0.22	0/718	0.51	0/953
92	Lr	0.24	0/1017	0.59	1/1364 (0.1%)
All	All	0.21	14/267838 (0.0%)	0.44	116/389790 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
32	Sa	0	3
70	LU	0	1
All	All	0	5

All (14) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	N	128	PRO	CB-CG	24.51	2.72	1.49
34	Sd	11	PRO	CB-CG	22.57	2.62	1.49
34	Sd	11	PRO	CG-CD	-18.51	0.87	1.50
3	N	128	PRO	CG-CD	-18.44	0.88	1.50
12	M	980	PRO	CG-CD	-16.13	0.95	1.50
36	Sg	25	PRO	CG-CD	-9.60	1.18	1.50
2	L	194	GLN	CB-CG	-6.87	1.31	1.52
13	X	137	C	C1'-N1	6.55	1.58	1.48
34	Sd	11	PRO	N-CD	6.29	1.56	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
12	M	979	ILE	N-CA	5.75	1.53	1.47
32	Sa	100	ARG	N-CA	5.70	1.53	1.46
12	M	980	PRO	N-CD	5.62	1.55	1.47
40	SM	11	VAL	CB-CG1	-5.15	1.35	1.52
12	M	980	PRO	CB-CG	5.02	1.74	1.49

All (116) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	N	128	PRO	CB-CG-CD	-33.15	0.01	106.10
34	Sd	11	PRO	CB-CG-CD	-31.42	5.56	106.10
12	M	980	PRO	N-CD-CG	-19.36	74.17	103.20
36	Sg	25	PRO	N-CD-CG	-18.20	75.91	103.20
61	LL	54	PRO	CA-C-N	14.34	147.51	121.70
61	LL	54	PRO	C-N-CA	14.34	147.51	121.70
13	X	37	G	OP1-P-O3'	-13.28	68.15	108.00
13	X	37	G	OP2-P-O3'	-13.23	68.30	108.00
3	N	128	PRO	CA-CB-CG	-12.88	80.03	104.50
13	X	37	G	P-O3'-C3'	12.79	139.38	120.20
13	X	37	G	O3'-P-O5'	-12.30	85.55	104.00
34	Sd	11	PRO	N-CA-CB	-12.27	92.39	103.31
36	Sg	25	PRO	CA-CB-CG	-12.21	81.31	104.50
72	LW	69	LYS	CA-C-N	11.75	142.86	121.70
72	LW	69	LYS	C-N-CA	11.75	142.86	121.70
22	SK	30	PRO	CA-N-CD	-11.54	95.84	112.00
26	SR	95	ILE	CA-C-N	11.04	141.57	121.70
26	SR	95	ILE	C-N-CA	11.04	141.57	121.70
3	N	128	PRO	CA-N-CD	-10.81	96.87	112.00
55	LE	223	ARG	CA-C-N	10.39	140.40	121.70
55	LE	223	ARG	C-N-CA	10.39	140.40	121.70
34	Sd	11	PRO	CA-N-CD	-10.38	97.46	112.00
13	X	36	A	C2'-C3'-O3'	10.38	125.07	109.50
34	Sd	11	PRO	CA-CB-CG	-10.00	85.49	104.50
39	SJ	4	ALA	CA-C-N	9.99	139.69	121.70
39	SJ	4	ALA	C-N-CA	9.99	139.69	121.70
72	LW	98	PRO	CA-C-N	9.88	139.49	121.70
72	LW	98	PRO	C-N-CA	9.88	139.49	121.70
12	M	980	PRO	CA-CB-CG	-9.65	86.16	104.50
55	LE	83	LYS	CA-C-N	9.64	139.05	121.70
55	LE	83	LYS	C-N-CA	9.64	139.05	121.70
55	LE	96	VAL	CA-C-N	9.61	138.99	121.70
55	LE	96	VAL	C-N-CA	9.61	138.99	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	Sg	25	PRO	N-CA-CB	-9.55	94.44	103.52
13	X	33	G	P-O3'-C3'	-9.32	106.22	120.20
12	M	979	ILE	CA-C-N	-8.91	110.37	119.99
12	M	979	ILE	C-N-CA	-8.91	110.37	119.99
55	LE	88	VAL	CA-C-N	8.77	137.48	121.70
55	LE	88	VAL	C-N-CA	8.77	137.48	121.70
12	M	980	PRO	N-CA-CB	-8.74	94.89	103.19
19	SF	50	PRO	CA-N-CD	-8.63	99.92	112.00
13	X	125	A	P-O3'-C3'	-8.62	107.26	120.20
6	G	91	ALA	CA-C-N	8.57	137.12	121.70
6	G	91	ALA	C-N-CA	8.57	137.12	121.70
13	X	3	A	P-O3'-C3'	-8.49	107.46	120.20
22	SK	45	VAL	N-CA-C	-8.39	105.30	113.53
13	X	9	G	P-O3'-C3'	-8.33	107.71	120.20
3	N	128	PRO	N-CA-CB	-8.32	94.51	103.25
13	X	36	A	C4'-C3'-C2'	-8.30	94.30	102.60
22	SK	30	PRO	N-CD-CG	-8.11	91.03	103.20
61	LL	146	LEU	CA-C-N	7.99	136.08	121.70
61	LL	146	LEU	C-N-CA	7.99	136.08	121.70
13	X	31	U	P-O3'-C3'	-7.92	108.32	120.20
15	SA	4	ALA	CA-C-N	7.81	135.76	121.70
15	SA	4	ALA	C-N-CA	7.81	135.76	121.70
72	LW	79	GLN	CA-C-N	7.78	135.71	121.70
72	LW	79	GLN	C-N-CA	7.78	135.71	121.70
13	X	14	U	P-O3'-C3'	-7.68	108.67	120.20
32	Sa	100	ARG	CA-C-N	-7.63	106.96	121.54
32	Sa	100	ARG	C-N-CA	-7.63	106.96	121.54
13	X	116	C	P-O3'-C3'	-7.07	109.59	120.20
13	X	32	U	P-O3'-C3'	-7.05	109.62	120.20
1	A	1037	MET	CG-SD-CE	7.04	116.39	100.90
13	X	206	U	P-O3'-C3'	6.82	130.43	120.20
25	SQ	41	MET	CB-CG-SD	6.73	132.89	112.70
24	SP	73	PRO	CA-C-N	6.71	133.78	121.70
24	SP	73	PRO	C-N-CA	6.71	133.78	121.70
26	SR	119	VAL	CA-C-N	6.70	133.77	121.70
26	SR	119	VAL	C-N-CA	6.70	133.77	121.70
12	M	980	PRO	CA-N-CD	-6.70	102.62	112.00
29	SU	47	ASN	CA-C-N	6.42	133.26	121.70
29	SU	47	ASN	C-N-CA	6.42	133.26	121.70
13	X	34	A	C2'-C3'-O3'	6.42	119.13	109.50
13	X	65	U	P-O3'-C3'	-6.40	110.59	120.20
13	X	36	A	P-O3'-C3'	-6.37	110.65	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
65	LP	91	LEU	N-CA-C	-6.32	106.79	114.75
34	Sd	11	PRO	N-CD-CG	-6.26	93.81	103.20
19	SF	202	SER	N-CA-C	-6.21	106.92	114.75
67	LR	131	VAL	N-CA-C	-6.17	107.84	113.71
42	SO	14	VAL	CA-C-N	6.06	132.61	121.70
42	SO	14	VAL	C-N-CA	6.06	132.61	121.70
13	X	136	C	O3'-P-O5'	-6.03	94.96	104.00
12	M	980	PRO	CA-C-N	-6.01	110.30	122.31
12	M	980	PRO	C-N-CA	-6.01	110.30	122.31
13	X	205	A	O3'-P-O5'	6.00	113.00	104.00
60	LJ	56	THR	CA-C-N	5.96	132.44	121.70
60	LJ	56	THR	C-N-CA	5.96	132.44	121.70
86	Lk	61	PRO	N-CA-C	5.94	117.95	110.70
17	SD	3	VAL	N-CA-C	-5.87	108.13	113.71
92	Lr	100	ASN	N-CA-C	-5.84	107.39	114.75
13	X	60	U	P-O3'-C3'	-5.80	111.50	120.20
13	X	7	G	P-O3'-C3'	-5.79	111.52	120.20
24	SP	98	ASN	CA-C-N	5.78	132.10	121.70
24	SP	98	ASN	C-N-CA	5.78	132.10	121.70
19	SF	45	TYR	CA-C-N	5.75	132.06	121.70
19	SF	45	TYR	C-N-CA	5.75	132.06	121.70
32	Sa	99	PRO	CA-C-N	5.75	132.53	121.54
32	Sa	99	PRO	C-N-CA	5.75	132.53	121.54
13	X	29	U	P-O3'-C3'	-5.72	111.62	120.20
32	Sa	100	ARG	CA-C-O	-5.69	112.38	120.51
13	X	56	G	P-O3'-C3'	-5.55	111.88	120.20
55	LE	89	LEU	CA-C-N	5.52	131.64	121.70
55	LE	89	LEU	C-N-CA	5.52	131.64	121.70
75	LZ	129	TRP	N-CA-C	-5.48	107.60	114.56
68	LS	82	LEU	N-CA-C	5.45	119.42	112.12
55	LE	108	LYS	N-CA-C	5.43	115.57	108.07
79	Ld	77	ILE	N-CA-C	-5.41	108.23	113.53
40	SM	113	ASP	CB-CA-C	-5.35	110.42	116.63
51	LA	128	ARG	CA-C-N	-5.29	115.23	121.90
51	LA	128	ARG	C-N-CA	-5.29	115.23	121.90
70	LU	67	LYS	CB-CA-C	-5.28	110.05	117.23
36	Sg	25	PRO	CA-N-CD	-5.23	104.68	112.00
42	SO	48	SER	N-CA-C	-5.09	108.33	114.75
20	SH	75	ILE	N-CA-C	-5.03	108.93	113.71
55	LE	97	GLY	CA-C-N	5.03	130.76	121.70
55	LE	97	GLY	C-N-CA	5.03	130.76	121.70

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1017	SER	Peptide
70	LU	97	ARG	Peptide
32	Sa	100	ARG	Sidechain
32	Sa	99	PRO	Peptide,Mainchain

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	7438	0	7568	241	0
2	L	1819	0	1818	55	0
3	N	2020	0	2035	65	0
4	O	1566	0	1605	47	0
5	F	2194	0	2205	53	0
6	G	1852	0	1881	45	0
7	H	1810	0	1867	44	0
8	I	2263	0	2337	53	0
9	J	1414	0	1441	42	0
10	K	2673	0	2718	78	0
11	E	499	0	505	11	0
12	M	7967	0	7892	210	0
13	X	4020	0	2025	91	0
14	S2	36900	0	18591	862	0
15	SA	1747	0	1751	72	0
16	SB	1738	0	1809	63	0
17	SD	1765	0	1865	92	0
18	SE	2076	0	2177	64	0
19	SF	1509	0	1563	78	0
20	SH	1521	0	1616	62	0
21	SI	1686	0	1772	46	0
22	SK	827	0	854	65	0
23	SL	1247	0	1323	31	0
24	SP	804	0	841	56	0
25	SQ	1158	0	1232	73	0
26	SR	1072	0	1130	65	0
27	SS	1235	0	1309	89	0
28	ST	1112	0	1146	72	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
29	SU	822	0	887	66	0
30	SV	636	0	637	31	0
31	SX	1098	0	1167	23	0
32	Sa	847	0	895	30	0
33	Sc	506	0	535	34	0
34	Sd	445	0	442	34	0
35	Sf	581	0	597	20	0
36	Sg	2436	0	2393	130	0
37	SC	1725	0	1813	53	0
38	SG	1923	0	2089	117	0
39	SJ	1525	0	1640	44	0
40	SM	952	0	983	36	0
41	SN	1208	0	1294	17	0
42	SO	1049	0	1073	50	0
43	SW	1034	0	1080	25	0
44	SY	1065	0	1142	39	0
45	SZ	598	0	656	17	0
46	Sb	651	0	672	17	0
47	Se	459	0	503	12	0
48	L5	78316	0	39566	1147	0
49	L7	2558	0	1295	19	0
50	L8	3314	0	1683	41	0
51	LA	1898	0	1993	39	0
52	LB	3238	0	3376	58	0
53	LC	2919	0	3092	71	0
54	LD	2382	0	2410	52	0
55	LE	1958	0	2126	56	0
56	LF	1870	0	1996	32	0
57	LG	1927	0	2074	49	0
58	LH	1518	0	1601	35	0
59	LI	1711	0	1749	26	0
60	LJ	1410	0	1441	82	0
61	LL	1701	0	1818	34	0
62	LM	1138	0	1204	25	0
63	LN	1701	0	1749	28	0
64	LO	1650	0	1794	24	0
65	LP	1242	0	1269	20	0
66	LQ	1513	0	1628	29	0
67	LR	1566	0	1729	46	0
68	LS	1453	0	1490	33	0
69	LT	1298	0	1366	28	0
70	LU	825	0	850	36	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
71	LV	979	0	1038	10	0
72	LW	1015	0	1079	38	0
73	LX	985	0	1066	25	0
74	LY	1115	0	1205	25	0
75	LZ	1107	0	1182	26	0
76	La	1162	0	1213	23	0
77	Lb	610	0	650	6	0
78	Lc	764	0	804	25	0
79	Ld	888	0	930	17	0
80	Le	1053	0	1147	14	0
81	Lf	876	0	912	17	0
82	Lg	906	0	998	17	0
83	Lh	1015	0	1148	26	0
84	Li	832	0	917	11	0
85	Lj	705	0	738	19	0
86	Lk	569	0	637	29	0
87	Ll	444	0	483	10	0
88	Lm	429	0	466	13	0
89	Ln	230	0	276	4	0
90	Lo	862	0	932	29	0
91	Lp	708	0	756	18	0
92	Lr	1002	0	1067	25	0
93	L5	145	0	0	0	0
93	L7	7	0	0	0	0
93	L8	5	0	0	0	0
93	LA	1	0	0	0	0
93	LH	1	0	0	0	0
93	LN	1	0	0	0	0
93	LP	1	0	0	0	0
93	LQ	1	0	0	0	0
93	LV	2	0	0	0	0
93	Ll	1	0	0	0	0
93	Lr	1	0	0	0	0
93	S2	65	0	0	1	0
93	Sc	1	0	0	0	0
94	Lg	1	0	0	0	0
94	Lj	1	0	0	0	0
94	Lm	1	0	0	0	0
94	Lo	1	0	0	0	0
94	Lp	1	0	0	0	0
94	Sa	1	0	0	0	0
All	All	251092	0	194317	5320	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 12.

All (5320) 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)
60:LJ:63:ARG:HD2	90:Lo:106:PHE:CB	1.43	1.47
34:Sd:11:PRO:N	34:Sd:11:PRO:CG	1.84	1.37
3:N:128:PRO:CG	3:N:128:PRO:N	1.81	1.36
48:L5:747:A:N6	48:L5:916:C:H42	1.39	1.20
48:L5:747:A:H62	48:L5:916:C:N4	1.37	1.19
60:LJ:63:ARG:CD	90:Lo:106:PHE:CB	2.21	1.17
34:Sd:11:PRO:CD	34:Sd:11:PRO:HG2	1.65	1.15
14:S2:1398:G:N1	14:S2:1448:A:H2	1.44	1.13
14:S2:1260:A:C2	14:S2:1617:G:N2	2.16	1.12
14:S2:1398:G:N1	14:S2:1448:A:C2	2.16	1.12
3:N:128:PRO:CD	3:N:128:PRO:HG2	1.65	1.10
7:H:220:GLU:HA	7:H:223:LYS:HE2	1.16	1.10
14:S2:1260:A:H2	14:S2:1617:G:N2	1.50	1.10
34:Sd:11:PRO:CD	34:Sd:11:PRO:HG3	1.65	1.09
3:N:128:PRO:CD	3:N:128:PRO:HG3	1.65	1.09
19:SF:50:PRO:HD2	19:SF:51:HIS:H	1.18	1.07
34:Sd:11:PRO:CG	34:Sd:11:PRO:HD2	1.55	1.06
34:Sd:11:PRO:CG	34:Sd:11:PRO:HD3	1.55	1.06
1:A:1203:LEU:HA	1:A:1206:MET:HE3	1.35	1.05
3:N:128:PRO:CG	3:N:128:PRO:HD2	1.54	1.05
44:SY:20:ARG:NH2	44:SY:74:MET:SD	2.29	1.05
7:H:38:GLU:C	7:H:61:HIS:N	2.15	1.04
60:LJ:63:ARG:HD2	90:Lo:106:PHE:CG	1.91	1.04
60:LJ:63:ARG:CZ	90:Lo:106:PHE:HB3	1.88	1.03
60:LJ:63:ARG:HD2	90:Lo:106:PHE:HB2	1.11	1.03
3:N:128:PRO:CG	3:N:128:PRO:HD3	1.54	1.02
78:Lc:60:ILE:HA	78:Lc:63:TYR:CE2	1.95	1.01
48:L5:499:G:N2	48:L5:656:C:O2	1.97	0.97
14:S2:1656:G:H1	14:S2:1668:U:H3	1.10	0.97
48:L5:3753:G:H1	48:L5:3768:U:H3	1.00	0.96
12:M:64:LYS:HD2	12:M:165:GLU:HB3	1.44	0.96
60:LJ:63:ARG:CD	90:Lo:106:PHE:HB3	1.90	0.96
2:L:194:GLN:HE22	10:K:242:LEU:N	1.63	0.96
30:SV:59:ILE:HA	30:SV:62:MET:HE3	1.49	0.95
48:L5:165:A:H61	48:L5:270:U:H3	1.15	0.95
17:SD:199:GLY:HA2	17:SD:202:LYS:HE3	1.49	0.94
60:LJ:63:ARG:NH1	90:Lo:106:PHE:HB3	1.83	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:L5:1100:U:H3	48:L5:1195:G:H1	1.15	0.93
60:LJ:63:ARG:CD	90:Lo:106:PHE:HB2	1.93	0.92
10:K:303:ILE:HG13	10:K:304:ASP:H	1.34	0.92
72:LW:69:LYS:H	72:LW:70:LYS:HB3	1.31	0.92
48:L5:2636:G:N2	48:L5:2695:A:N1	2.16	0.92
14:S2:878:G:O6	14:S2:908:A:N1	2.02	0.92
55:LE:203:ILE:HG13	55:LE:206:VAL:HG22	1.51	0.92
48:L5:483:G:H22	48:L5:671:G:H22	1.17	0.91
48:L5:1072:C:N4	48:L5:1239:C:N3	2.17	0.91
48:L5:1979:G:H1	48:L5:4417:U:HO2'	1.15	0.91
55:LE:241:GLU:OE2	55:LE:243:THR:N	2.04	0.91
16:SB:228:LEU:HD12	16:SB:231:LEU:HD11	1.54	0.90
7:H:220:GLU:HA	7:H:223:LYS:CE	2.00	0.90
48:L5:184:U:H3	48:L5:253:G:H1	1.13	0.90
14:S2:170:A:H5'	38:SG:137:ARG:HG3	1.52	0.90
67:LR:139:MET:HB2	67:LR:143:HIS:CE1	2.07	0.89
14:S2:1743:G:H21	14:S2:1791:A:H62	1.18	0.89
48:L5:491:G:N2	48:L5:662:C:O2	2.06	0.88
60:LJ:63:ARG:NE	90:Lo:106:PHE:HB3	1.87	0.88
48:L5:1405:C:N3	48:L5:1412:G:N1	2.21	0.88
48:L5:1443:A:H62	48:L5:2101:G:H1	1.19	0.88
14:S2:1232:U:H3	14:S2:1526:G:H1	0.90	0.88
48:L5:491:G:N1	48:L5:662:C:N3	2.21	0.88
48:L5:1264:C:H2'	48:L5:1265:G:H8	1.39	0.88
3:N:128:PRO:CG	3:N:128:PRO:CD	0.88	0.88
78:Lc:60:ILE:HA	78:Lc:63:TYR:CD2	2.09	0.88
48:L5:180:C:N3	48:L5:256:G:N1	2.23	0.87
22:SK:8:ARG:NH1	22:SK:44:HIS:O	2.06	0.87
34:Sd:11:PRO:CG	34:Sd:11:PRO:CD	0.87	0.87
50:L8:85:U:H2'	50:L8:86:U:H4'	1.54	0.87
48:L5:911:U:H2'	48:L5:912:G:H8	1.39	0.87
20:SH:66:VAL:HG22	20:SH:96:ALA:HB1	1.56	0.86
48:L5:2843:A:H61	48:L5:3841:C:H42	1.18	0.86
48:L5:180:C:O2	48:L5:256:G:N2	2.08	0.86
7:H:38:GLU:O	7:H:61:HIS:N	2.07	0.86
48:L5:3942:G:H1	48:L5:4067:U:H3	1.19	0.86
48:L5:457:G:H22	48:L5:699:C:H42	1.19	0.85
48:L5:506:C:H42	48:L5:652:G:H1	1.25	0.85
48:L5:1075:G:H1	48:L5:1235:G:H1	1.24	0.85
67:LR:136:ARG:HA	67:LR:139:MET:HG2	1.58	0.85
14:S2:152:U:H3	14:S2:166:A:H61	1.21	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:L5:977:C:H2'	48:L5:978:G:H8	1.41	0.84
33:Sc:10:LYS:HE2	33:Sc:36:ASP:HB3	1.59	0.84
1:A:510:ARG:HE	40:SM:11:VAL:CG1	1.90	0.84
48:L5:1405:C:O2	48:L5:1412:G:N2	2.09	0.84
48:L5:1758:G:OP2	48:L5:1768:C:N4	2.10	0.84
22:SK:27:VAL:HG13	22:SK:43:LEU:HD13	1.58	0.84
22:SK:8:ARG:CZ	22:SK:44:HIS:HB3	2.07	0.83
86:Lk:61:PRO:HD2	86:Lk:62:PRO:HD3	1.58	0.83
19:SF:50:PRO:HD2	19:SF:51:HIS:N	1.91	0.83
48:L5:2588:G:N2	48:L5:2754:G:O6	2.11	0.83
67:LR:148:ASP:HA	67:LR:151:ARG:HB3	1.61	0.83
9:J:166:PRO:HA	9:J:172:MET:SD	2.18	0.83
48:L5:957:G:N2	48:L5:959:G:O6	2.10	0.83
48:L5:3715:A:OP2	48:L5:3733:G:N2	2.12	0.83
9:J:72:THR:HB	9:J:89:TYR:HB2	1.59	0.83
46:Sb:15:GLU:OE1	46:Sb:15:GLU:N	2.11	0.83
48:L5:1100:U:H2'	48:L5:1167:C:H41	1.43	0.82
14:S2:1607:A:OP2	14:S2:1632:G:N2	2.12	0.82
16:SB:32:ASP:OD2	16:SB:43:ASN:ND2	2.11	0.82
1:A:457:VAL:HG13	1:A:460:ALA:HB2	1.58	0.82
2:L:27:ARG:HH21	2:L:30:VAL:HG11	1.44	0.82
14:S2:1441:U:O2	14:S2:1443:C:N4	2.12	0.82
4:O:59:TYR:HB3	7:H:108:ARG:HH21	1.43	0.82
48:L5:1176:C:N3	48:L5:1183:C:N4	2.26	0.82
48:L5:3749:G:H21	48:L5:3773:A:H8	1.28	0.82
7:H:38:GLU:C	7:H:61:HIS:CA	2.53	0.81
15:SA:120:ARG:HH22	37:SC:267:GLN:HG3	1.45	0.81
14:S2:909:G:OP2	67:LR:176:ARG:NH1	2.13	0.81
48:L5:712:C:H42	48:L5:956:A:H61	1.26	0.81
48:L5:1983:G:N2	48:L5:2003:G:O6	2.13	0.81
5:F:71:LEU:HA	5:F:129:ARG:HH12	1.46	0.81
48:L5:5020:U:N3	48:L5:5023:C:O2	2.13	0.81
48:L5:1176:C:O2	48:L5:1185:G:N2	2.14	0.81
61:LL:205:GLN:HB3	61:LL:209:LYS:HG3	1.62	0.81
1:A:1032:GLN:O	1:A:1036:GLU:HG3	1.80	0.81
14:S2:70:G:H21	14:S2:79:A:H62	1.29	0.81
48:L5:464:G:N2	48:L5:465:G:O6	2.14	0.81
59:LI:180:GLU:HG3	59:LI:184:MET:HE3	1.60	0.81
33:Sc:10:LYS:NZ	33:Sc:11:LEU:O	2.14	0.81
91:Lp:88:GLU:OE1	91:Lp:88:GLU:N	2.13	0.81
42:SO:56:VAL:HA	42:SO:60:MET:CE	2.11	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:SK:24:LYS:O	22:SK:42:ASN:ND2	2.14	0.80
92:Lr:85:ASN:O	92:Lr:85:ASN:ND2	2.12	0.80
75:LZ:128:LYS:O	75:LZ:132:GLN:NE2	2.13	0.80
90:Lo:63:THR:HG21	90:Lo:89:LYS:HG2	1.63	0.80
14:S2:1398:G:O6	14:S2:1448:A:N1	2.15	0.80
21:SI:79:ILE:HD13	21:SI:170:LYS:HZ2	1.43	0.80
48:L5:2248:C:N4	48:L5:2250:G:N3	2.29	0.80
1:A:836:LEU:HD12	1:A:869:ARG:HD2	1.64	0.80
14:S2:321:C:N3	14:S2:330:G:N1	2.25	0.80
14:S2:852:G:N2	14:S2:853:C:N3	2.30	0.80
25:SQ:12:VAL:HG21	25:SQ:91:ALA:HA	1.62	0.80
12:M:63:TRP:CZ3	12:M:64:LYS:HE3	2.17	0.79
19:SF:125:SER:HA	19:SF:138:ALA:HA	1.64	0.79
52:LB:95:THR:HG22	52:LB:97:ARG:H	1.47	0.79
44:SY:54:VAL:HB	44:SY:76:TYR:HB2	1.62	0.79
59:LI:36:LEU:HD11	59:LI:69:ARG:HH11	1.46	0.79
67:LR:143:HIS:HA	67:LR:146:LYS:HB3	1.62	0.79
6:G:38:PRO:HB2	11:E:558:ALA:HB2	1.63	0.79
14:S2:1260:A:H61	14:S2:1617:G:H1'	1.47	0.79
14:S2:1534:C:O2'	14:S2:1598:G:N2	2.15	0.79
48:L5:2550:G:H22	48:L5:2764:A:H62	1.28	0.79
14:S2:186:C:H2'	14:S2:187:G:H8	1.47	0.79
15:SA:80:ARG:HH22	15:SA:166:LYS:HA	1.47	0.79
36:Sg:130:LYS:HG2	36:Sg:141:THR:HA	1.65	0.79
25:SQ:16:LYS:HG2	25:SQ:82:TYR:HB2	1.63	0.79
60:LJ:175:LEU:HD12	60:LJ:176:PRO:HD2	1.63	0.79
14:S2:691:G:H3'	14:S2:692:G:H5''	1.64	0.78
14:S2:1585:U:O2'	14:S2:1587:G:N7	2.14	0.78
48:L5:751:G:N2	48:L5:912:G:H1	1.81	0.78
60:LJ:154:LYS:HD2	60:LJ:155:HIS:H	1.48	0.78
46:Sb:31:TYR:HE1	46:Sb:33:MET:HB3	1.49	0.78
10:K:264:LEU:HD12	10:K:267:LYS:HZ1	1.49	0.78
24:SP:92:SER:O	24:SP:104:GLN:NE2	2.13	0.78
25:SQ:131:LYS:HG3	25:SQ:133:GLY:H	1.48	0.78
48:L5:1265:G:N2	48:L5:2109:G:O3'	2.16	0.78
67:LR:143:HIS:O	67:LR:147:ALA:N	2.16	0.78
1:A:751:ILE:HG12	1:A:762:VAL:HG21	1.64	0.78
42:SO:56:VAL:HA	42:SO:60:MET:HE2	1.65	0.78
48:L5:1763:C:N4	48:L5:1769:G:O6	2.16	0.78
36:Sg:82:SER:OG	36:Sg:84:ASP:OD1	2.00	0.78
57:LG:116:ALA:O	57:LG:120:LYS:HG2	1.84	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Sg:106:LYS:HB2	36:Sg:126:ASP:HB3	1.64	0.77
39:SJ:55:LYS:HA	39:SJ:58:ARG:HE	1.49	0.77
48:L5:470:A:N1	55:LE:105:ARG:NH1	2.32	0.77
48:L5:752:G:O6	48:L5:911:U:O4	2.02	0.77
48:L5:3690:A:H62	48:L5:3821:G:H21	1.28	0.77
58:LH:113:GLU:OE1	58:LH:113:GLU:N	2.18	0.77
14:S2:1606:G:N2	14:S2:1633:A:OP2	2.17	0.77
48:L5:4743:G:H22	48:L5:4953:A:H2	1.32	0.77
38:SG:216:ARG:HA	38:SG:219:GLU:HG2	1.65	0.77
48:L5:1696:C:O2'	48:L5:1698:C:N4	2.16	0.77
1:A:786:LEU:HA	1:A:1037:MET:HE1	1.65	0.77
64:LO:122:ALA:HB2	68:LS:162:GLN:HB3	1.64	0.77
86:Lk:61:PRO:HD2	86:Lk:62:PRO:CD	2.15	0.77
48:L5:752:G:H1	48:L5:911:U:H3	0.82	0.77
48:L5:755:C:H2'	48:L5:756:G:H8	1.49	0.77
14:S2:1246:A:H4'	14:S2:1491:G:H4'	1.65	0.77
14:S2:1560:U:HO2'	14:S2:1583:C:HO2'	1.32	0.77
74:LY:30:MET:HG2	74:LY:101:PRO:HG2	1.67	0.77
14:S2:534:G:H2'	14:S2:535:G:H8	1.50	0.76
17:SD:29:LEU:HD12	17:SD:32:ASP:HB2	1.65	0.76
48:L5:2126:G:O6	48:L5:2243:G:N2	2.18	0.76
14:S2:1567:G:O6	27:SS:82:TRP:HE3	1.68	0.76
48:L5:1217:G:H2'	48:L5:1218:G:C8	2.20	0.76
1:A:369:LYS:NZ	1:A:670:ASN:OD1	2.18	0.76
48:L5:483:G:H1	48:L5:671:G:H1	1.34	0.76
48:L5:2656:G:N2	48:L5:2674:A:OP2	2.18	0.76
1:A:762:VAL:HG12	1:A:766:MET:HE3	1.66	0.76
14:S2:1786:U:N3	14:S2:1787:G:N7	2.33	0.76
20:SH:145:ARG:NE	43:SW:51:GLU:OE2	2.18	0.76
48:L5:1242:G:O6	48:L5:1269:G:O2'	2.04	0.76
48:L5:1761:G:H1	48:L5:1768:C:H42	1.33	0.76
67:LR:116:ASP:H	67:LR:119:MET:HE3	1.51	0.76
8:I:236:ARG:NH2	8:I:260:TYR:O	2.19	0.76
17:SD:48:ILE:HG12	17:SD:84:VAL:HG22	1.67	0.76
3:N:158:ALA:HB2	3:N:266:MET:HE1	1.68	0.76
38:SG:5:ILE:HG12	38:SG:14:LYS:HB3	1.67	0.76
2:L:200:MET:O	10:K:108:ARG:NH1	2.18	0.76
48:L5:1086:C:H2'	48:L5:1087:A:H8	1.50	0.76
14:S2:752:G:N2	14:S2:752:G:OP2	2.17	0.76
36:Sg:220:ASP:HB2	36:Sg:225:LYS:H	1.50	0.76
48:L5:4772:C:N4	48:L5:4859:G:O6	2.18	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:SS:6:PRO:HG3	27:SS:59:LEU:HD23	1.68	0.75
48:L5:1240:G:N7	48:L5:1271:G:O2'	2.18	0.75
14:S2:317:C:H2'	14:S2:318:A:C8	2.20	0.75
14:S2:321:C:O2	14:S2:330:G:N2	2.16	0.75
19:SF:110:GLN:O	19:SF:114:ASN:ND2	2.18	0.75
14:S2:1232:U:O2	14:S2:1526:G:N2	2.18	0.75
44:SY:110:ARG:HG2	44:SY:113:ARG:HH21	1.50	0.75
19:SF:127:ARG:HB3	19:SF:137:GLN:HB2	1.68	0.75
48:L5:1051:G:N1	48:L5:1064:G:N7	2.34	0.75
10:K:192:ILE:HG21	10:K:261:ILE:HG21	1.69	0.75
14:S2:877:C:H5'	14:S2:878:G:H5''	1.67	0.75
48:L5:1970:G:N2	48:L5:1971:G:N3	2.34	0.75
14:S2:1134:G:OP1	32:Sa:6:ARG:NH1	2.16	0.75
48:L5:2088:U:H4'	53:LC:305:PRO:HD2	1.69	0.75
48:L5:3623:G:O2'	48:L5:3624:G:OP1	2.05	0.75
14:S2:493:A:H1'	14:S2:574:A:H5'	1.68	0.75
29:SU:66:ARG:HE	29:SU:75:LYS:HG2	1.50	0.75
48:L5:2570:C:C4	48:L5:2571:A:H1'	2.21	0.75
48:L5:3582:C:H2'	48:L5:3583:G:H8	1.51	0.75
48:L5:3942:G:N2	48:L5:4067:U:O2	2.18	0.75
18:SE:75:LYS:O	18:SE:77:ARG:N	2.19	0.74
14:S2:165:G:OP2	14:S2:165:G:N2	2.20	0.74
56:LF:154:ILE:HG22	56:LF:187:MET:HE3	1.68	0.74
67:LR:148:ASP:O	67:LR:152:LYS:N	2.19	0.74
70:LU:28:PRO:HB2	70:LU:34:MET:HG2	1.68	0.74
14:S2:953:C:O2	42:SO:55:ARG:NH2	2.19	0.74
14:S2:1396:A:N7	14:S2:1449:G:O6	2.20	0.74
48:L5:450:G:N2	48:L5:453:G:O6	2.20	0.74
5:F:23:ARG:HH21	5:F:27:ARG:HE	1.34	0.74
24:SP:18:ARG:H	27:SS:91:LYS:HG3	1.52	0.74
31:SX:104:GLY:O	31:SX:121:LYS:NZ	2.20	0.74
3:N:36:THR:HB	10:K:338:GLN:HG3	1.70	0.74
14:S2:1629:C:O2'	27:SS:85:ASN:OD1	2.04	0.74
12:M:391:ARG:HD2	12:M:417:ILE:HG12	1.68	0.74
72:LW:68:GLN:HG2	72:LW:70:LYS:HE3	1.70	0.74
14:S2:506:G:OP1	44:SY:108:LYS:NZ	2.21	0.74
19:SF:140:ASP:OD2	33:Sc:44:ARG:NH1	2.21	0.74
24:SP:44:ARG:HH22	24:SP:47:ARG:HD2	1.52	0.74
48:L5:499:G:N1	48:L5:656:C:N3	2.30	0.74
14:S2:1587:G:N2	28:ST:74:SER:O	2.21	0.73
44:SY:129:LYS:HA	44:SY:132:LYS:HD2	1.70	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:L5:2104:G:N2	48:L5:2124:G:OP1	2.21	0.73
29:SU:40:ILE:HG23	29:SU:50:VAL:HG11	1.70	0.73
44:SY:16:ARG:NH1	44:SY:16:ARG:O	2.21	0.73
92:Lr:84:LYS:HB2	92:Lr:89:THR:HG22	1.70	0.73
58:LH:14:GLU:OE1	58:LH:14:GLU:N	2.21	0.73
12:M:63:TRP:CH2	12:M:64:LYS:HE3	2.22	0.73
20:SH:145:ARG:HB3	43:SW:51:GLU:OE2	1.88	0.73
33:Sc:60:GLU:O	33:Sc:63:ARG:NH1	2.22	0.73
14:S2:837:A:H2'	14:S2:838:G:H4'	1.71	0.73
17:SD:29:LEU:HG	17:SD:34:TYR:HB2	1.71	0.73
9:J:148:GLU:HB3	9:J:151:LEU:HD13	1.70	0.73
13:X:112:G:N2	13:X:119:C:O2	2.21	0.73
14:S2:157:U:H4'	38:SG:59:GLN:HA	1.70	0.73
40:SM:53:ALA:HA	40:SM:78:LYS:HG2	1.70	0.73
53:LC:358:ALA:HA	53:LC:361:LEU:HB3	1.70	0.73
14:S2:1743:G:N2	14:S2:1791:A:H62	1.87	0.73
48:L5:1983:G:N2	48:L5:2001:G:N7	2.35	0.73
58:LH:105:ILE:HG22	58:LH:112:VAL:HG12	1.70	0.73
26:SR:99:ASP:OD1	26:SR:100:PRO:HD2	1.89	0.73
72:LW:30:GLN:N	72:LW:30:GLN:OE1	2.21	0.73
73:LX:83:THR:HG22	73:LX:85:SER:H	1.53	0.73
74:LY:2:LYS:HD2	74:LY:7:VAL:HG23	1.70	0.73
14:S2:126:G:N2	14:S2:180:G:N3	2.36	0.72
14:S2:694:G:N7	14:S2:696:G:N2	2.37	0.72
60:LJ:57:VAL:HG23	60:LJ:59:SER:H	1.52	0.72
66:LQ:154:LYS:NZ	66:LQ:159:PRO:O	2.21	0.72
74:LY:111:LEU:HB3	74:LY:116:LYS:HE3	1.71	0.72
29:SU:56:MET:SD	29:SU:57:PRO:HD2	2.28	0.72
16:SB:66:VAL:HG22	16:SB:87:ILE:HG22	1.71	0.72
38:SG:219:GLU:HB2	38:SG:222:GLU:HB3	1.71	0.72
48:L5:1271:G:N1	48:L5:2120:G:O5'	2.19	0.72
14:S2:975:G:OP1	42:SO:98:ARG:NH1	2.22	0.72
48:L5:4763:G:H22	48:L5:4867:U:H3	1.34	0.72
70:LU:64:GLU:HB3	70:LU:71:THR:HB	1.72	0.72
26:SR:37:GLU:OE2	36:Sg:125:ARG:NH1	2.22	0.72
28:ST:24:LYS:HD2	28:ST:25:SER:H	1.54	0.72
48:L5:2766:C:O2	82:Lg:69:LYS:NZ	2.23	0.72
62:LM:70:GLN:O	62:LM:72:TYR:N	2.23	0.72
70:LU:30:GLU:N	70:LU:30:GLU:OE1	2.22	0.72
6:G:26:GLU:O	6:G:206:ARG:NH2	2.22	0.72
14:S2:126:G:O6	38:SG:196:LYS:NZ	2.23	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:SA:54:THR:HG22	15:SA:162:PRO:HG2	1.72	0.72
48:L5:2294:G:OP2	53:LC:190:ARG:NH2	2.23	0.72
62:LM:32:ASP:OD1	62:LM:33:GLN:N	2.23	0.72
63:LN:73:ARG:HB2	63:LN:89:VAL:HG23	1.70	0.72
15:SA:205:ARG:HB3	15:SA:210:ILE:HG21	1.70	0.72
40:SM:31:LEU:HD13	40:SM:33:ARG:HE	1.55	0.72
48:L5:2087:G:H21	53:LC:307:LYS:HE3	1.53	0.72
54:LD:200:MET:HE1	54:LD:241:LYS:HG3	1.72	0.72
13:X:37:G:H3'	13:X:38:G:C5'	2.20	0.72
14:S2:1244:U:H2'	14:S2:1245:G:H8	1.55	0.72
14:S2:1597:C:H2'	14:S2:1598:G:C8	2.25	0.72
18:SE:71:LYS:HD3	18:SE:74:GLY:HA2	1.72	0.72
30:SV:15:ARG:NH1	37:SC:83:LEU:O	2.23	0.72
37:SC:254:ASP:O	37:SC:257:LYS:NZ	2.22	0.72
38:SG:160:LYS:HE2	72:LW:87:LEU:HA	1.72	0.72
48:L5:974:C:H2'	48:L5:975:C:C6	2.25	0.72
17:SD:29:LEU:HD11	17:SD:58:VAL:HG12	1.70	0.72
48:L5:475:G:N2	48:L5:679:C:O2	2.17	0.72
48:L5:1267:C:N4	48:L5:2120:G:OP2	2.22	0.72
48:L5:2014:C:O5'	48:L5:2016:C:N4	2.23	0.72
48:L5:2667:C:O2'	48:L5:2668:C:O5'	2.07	0.72
49:L7:7:G:OP1	54:LD:33:ARG:NH1	2.23	0.72
17:SD:167:TYR:CE1	17:SD:192:TRP:HB2	2.25	0.71
48:L5:1757:U:O2'	48:L5:1758:G:N3	2.21	0.71
48:L5:3763:G:N2	48:L5:3764:A:N7	2.37	0.71
24:SP:22:LEU:HA	24:SP:25:LEU:HB2	1.72	0.71
31:SX:51:VAL:HA	31:SX:72:VAL:HG12	1.72	0.71
38:SG:5:ILE:HG12	38:SG:14:LYS:HE2	1.70	0.71
13:X:45:A:OP2	13:X:46:A:N6	2.22	0.71
14:S2:1623:A:N7	27:SS:132:ARG:NH1	2.38	0.71
28:ST:14:PHE:HE2	28:ST:62:ARG:HD3	1.52	0.71
48:L5:2555:G:O6	48:L5:2568:U:O4	2.07	0.71
9:J:156:ALA:HB3	9:J:164:MET:SD	2.30	0.71
14:S2:1264:C:N3	14:S2:1518:C:N4	2.36	0.71
48:L5:1178:G:N1	48:L5:1182:C:OP2	2.23	0.71
14:S2:1749:G:N2	14:S2:1786:U:O2	2.24	0.71
20:SH:31:GLU:HB3	20:SH:40:LEU:HD22	1.72	0.71
81:Lf:23:GLU:OE1	81:Lf:23:GLU:N	2.24	0.71
14:S2:1533:A:H2	14:S2:1536:G:H21	1.36	0.71
40:SM:17:ALA:HB1	40:SM:124:ILE:HD13	1.73	0.71
48:L5:2667:C:O2'	48:L5:2668:C:O4'	2.08	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:SF:136:ARG:O	19:SF:203:ASN:ND2	2.24	0.71
48:L5:4768:U:N3	48:L5:4861:G:O6	2.22	0.71
67:LR:60:ARG:HB2	67:LR:63:CYS:SG	2.31	0.71
14:S2:1542:C:H4'	28:ST:11:GLN:HB3	1.73	0.71
43:SW:106:THR:HG23	43:SW:108:ALA:H	1.56	0.71
14:S2:1447:G:OP1	29:SU:87:ARG:NH2	2.24	0.71
48:L5:977:C:H2'	48:L5:978:G:C8	2.25	0.71
14:S2:1588:A:H61	14:S2:1671:G:H1'	1.55	0.71
48:L5:3753:G:N2	48:L5:3768:U:O2	2.23	0.71
60:LJ:32:ARG:HA	60:LJ:35:ARG:HD3	1.73	0.71
12:M:122:GLN:NE2	12:M:124:CYS:SG	2.64	0.70
12:M:442:GLN:HG3	12:M:517:TYR:HB3	1.72	0.70
14:S2:745:C:H5'	20:SH:107:LYS:HB3	1.72	0.70
15:SA:35:GLU:N	15:SA:35:GLU:OE1	2.22	0.70
44:SY:113:ARG:HG2	44:SY:131:PRO:HG3	1.73	0.70
48:L5:972:C:H41	48:L5:1282:G:H21	1.39	0.70
14:S2:1569:A:OP2	28:ST:97:LYS:NZ	2.24	0.70
25:SQ:41:MET:HE2	25:SQ:42:ILE:N	2.06	0.70
14:S2:317:C:H2'	14:S2:318:A:H8	1.56	0.70
14:S2:1222:G:H5''	19:SF:78:MET:HE1	1.73	0.70
48:L5:1264:C:H2'	48:L5:1265:G:C8	2.24	0.70
14:S2:882:U:O4	14:S2:905:C:N3	2.24	0.70
14:S2:1610:G:O2'	27:SS:86:ARG:NH1	2.25	0.70
48:L5:4198:G:N2	59:LI:112:GLN:OE1	2.23	0.70
49:L7:54:A:O2'	60:LJ:13:ARG:NH1	2.20	0.70
88:Lm:79:GLU:OE2	88:Lm:81:SER:OG	2.09	0.70
14:S2:797:C:O2	20:SH:109:ARG:NH2	2.25	0.70
17:SD:214:LYS:HG3	17:SD:215:ASP:H	1.57	0.70
57:LG:58:PRO:HD2	57:LG:61:ILE:HD12	1.73	0.70
68:LS:118:ARG:O	68:LS:120:ARG:NH1	2.25	0.70
14:S2:1781:A:H61	72:LW:73:ARG:HH21	1.39	0.70
72:LW:71:ARG:HG2	72:LW:72:THR:HG23	1.73	0.70
14:S2:1647:A:N6	14:S2:1676:U:OP2	2.25	0.70
48:L5:975:C:OP1	56:LF:47:ARG:NH2	2.18	0.70
12:M:771:TYR:HB2	12:M:837:CYS:HB2	1.73	0.70
14:S2:798:A:N6	14:S2:801:U:O5'	2.24	0.70
14:S2:1347:U:H2'	14:S2:1348:G:C8	2.27	0.70
14:S2:1678:A:OP2	19:SF:63:LYS:NZ	2.25	0.70
29:SU:44:LYS:HA	29:SU:47:ASN:HB3	1.73	0.70
48:L5:696:C:H4'	48:L5:697:G:H8	1.56	0.70
48:L5:2762:A:H2'	48:L5:2763:A:C8	2.26	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:148:VAL:HG22	8:I:154:VAL:HG12	1.73	0.70
14:S2:535:G:H22	14:S2:548:C:H42	1.39	0.70
38:SG:131:ARG:HD2	72:LW:83:THR:HA	1.74	0.70
48:L5:29:G:H5'	63:LN:172:ARG:HD2	1.73	0.70
60:LJ:29:SER:OG	60:LJ:67:LYS:O	2.08	0.70
1:A:895:VAL:HG11	1:A:1021:PRO:HA	1.73	0.70
7:H:269:PHE:HE2	12:M:1040:ILE:HA	1.57	0.70
12:M:13:THR:O	12:M:15:GLN:N	2.25	0.70
14:S2:1314:U:H2'	14:S2:1315:U:H4'	1.73	0.70
14:S2:1332:A:N7	14:S2:1493:C:N3	2.40	0.70
23:SL:55:TYR:OH	23:SL:116:CYS:SG	2.49	0.70
26:SR:58:MET:O	26:SR:62:GLN:NE2	2.24	0.70
48:L5:475:G:N1	48:L5:679:C:N3	2.28	0.70
84:Li:45:ARG:NH1	84:Li:49:GLY:O	2.24	0.70
14:S2:1493:C:O2'	14:S2:1499:U:O4	2.08	0.69
22:SK:90:VAL:HG11	22:SK:94:LEU:HD23	1.73	0.69
32:Sa:7:ASN:ND2	32:Sa:10:ARG:O	2.25	0.69
36:Sg:220:ASP:HB3	36:Sg:223:GLU:HB2	1.73	0.69
46:Sb:23:ARG:HH11	46:Sb:27:SER:HB2	1.56	0.69
48:L5:1864:U:O2'	48:L5:1865:A:O5'	2.08	0.69
48:L5:2001:G:H1'	48:L5:2002:U:H5	1.57	0.69
58:LH:183:GLU:OE2	58:LH:185:GLY:N	2.24	0.69
25:SQ:78:VAL:O	25:SQ:81:ILE:HG13	1.92	0.69
36:Sg:254:PRO:HB3	36:Sg:284:PRO:HG2	1.74	0.69
48:L5:1234:G:H2'	48:L5:1235:G:C8	2.26	0.69
63:LN:64:ILE:HD11	63:LN:106:ALA:HB2	1.74	0.69
18:SE:191:ARG:HH21	18:SE:245:ARG:HD2	1.58	0.69
48:L5:386:A:OP2	74:LY:89:LYS:NZ	2.24	0.69
48:L5:1370:G:H4'	48:L5:1371:A:H5'	1.74	0.69
15:SA:80:ARG:NH1	15:SA:165:ASN:O	2.24	0.69
22:SK:25:LYS:HA	22:SK:46:MET:HE1	1.75	0.69
48:L5:346:G:O2'	48:L5:1367:C:N4	2.24	0.69
48:L5:1248:C:H2'	48:L5:1249:C:C6	2.26	0.69
67:LR:140:GLU:O	67:LR:144:LYS:N	2.24	0.69
83:Lh:100:GLU:OE1	83:Lh:100:GLU:N	2.22	0.69
13:X:75:G:O2'	13:X:123:A:N6	2.25	0.69
26:SR:25:GLY:H	26:SR:31:ASN:HB3	1.58	0.69
48:L5:387:G:O2'	48:L5:412:G:O6	2.10	0.69
12:M:757:LEU:HD21	12:M:881:TYR:HB3	1.74	0.69
48:L5:4668:C:O2'	48:L5:4670:A:OP2	2.10	0.69
14:S2:337:C:H2'	14:S2:338:G:H4'	1.75	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S2:980:A:H2'	14:S2:981:A:C8	2.28	0.69
29:SU:97:ILE:HG23	29:SU:100:GLN:HB2	1.75	0.69
51:LA:102:LEU:HB2	51:LA:107:MET:HE3	1.75	0.69
55:LE:88:VAL:HG12	55:LE:90:ALA:HB2	1.75	0.69
60:LJ:50:PHE:HD2	60:LJ:67:LYS:HD3	1.56	0.69
4:O:153:CYS:SG	4:O:154:GLY:N	2.65	0.69
10:K:77:PHE:HB2	10:K:133:ARG:HA	1.74	0.69
14:S2:1466:G:H2'	14:S2:1467:C:C6	2.28	0.69
14:S2:1562:C:OP1	28:ST:71:GLY:N	2.25	0.69
17:SD:123:LEU:O	17:SD:127:MET:HE2	1.92	0.69
24:SP:57:LEU:HD21	24:SP:88:GLU:OE2	1.93	0.69
48:L5:126:C:H42	48:L5:142:G:H1	1.38	0.69
60:LJ:35:ARG:HB3	60:LJ:123:ILE:HD13	1.75	0.69
60:LJ:43:LEU:HB2	60:LJ:117:ILE:HD11	1.75	0.69
61:LL:66:TYR:O	61:LL:68:THR:N	2.25	0.69
92:Lr:28:GLU:OE1	92:Lr:28:GLU:N	2.25	0.69
1:A:946:LYS:NZ	1:A:955:ASP:OD2	2.26	0.69
14:S2:178:C:OP2	14:S2:313:A:N6	2.26	0.69
14:S2:1260:A:N1	14:S2:1617:G:N3	2.41	0.69
40:SM:18:LEU:HD23	40:SM:124:ILE:HD11	1.75	0.69
48:L5:1999:G:H2'	48:L5:2000:A:H4'	1.75	0.69
45:SZ:83:LEU:O	45:SZ:87:ALA:N	2.20	0.68
50:L8:122:G:N1	50:L8:127:U:O4	2.19	0.68
60:LJ:88:LYS:NZ	60:LJ:92:TYR:OH	2.26	0.68
10:K:117:ASP:OD1	10:K:188:HIS:NE2	2.25	0.68
13:X:136:C:H2'	13:X:137:C:H6	1.58	0.68
14:S2:1507:G:OP2	35:Sf:94:LYS:NZ	2.25	0.68
15:SA:85:ARG:NH1	26:SR:81:ARG:O	2.26	0.68
33:Sc:31:ARG:HA	33:Sc:43:ILE:HA	1.75	0.68
48:L5:184:U:O4	48:L5:253:G:O6	2.12	0.68
48:L5:489:C:H42	48:L5:664:G:H1	1.41	0.68
48:L5:1197:C:H2'	48:L5:1198:G:C8	2.28	0.68
65:LP:116:HIS:HB3	65:LP:149:ILE:HG12	1.75	0.68
3:N:231:LYS:HD3	4:O:200:LEU:HB3	1.76	0.68
12:M:500:GLU:HA	12:M:564:GLU:HA	1.75	0.68
14:S2:1458:G:H2'	14:S2:1459:G:H8	1.58	0.68
36:Sg:25:PRO:HG2	36:Sg:26:GLN:N	2.04	0.68
48:L5:933:G:H2'	48:L5:940:C:H41	1.58	0.68
48:L5:1186:U:H2'	48:L5:1187:G:C8	2.28	0.68
52:LB:94:GLU:HG2	52:LB:158:GLN:HE21	1.58	0.68
60:LJ:13:ARG:HB3	60:LJ:136:ARG:HD3	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:LQ:172:ARG:NH1	76:La:56:VAL:O	2.26	0.68
36:Sg:146:SER:HA	36:Sg:175:LYS:HD2	1.75	0.68
48:L5:4144:G:H2'	48:L5:4145:G:H8	1.58	0.68
92:Lr:68:SER:OG	92:Lr:69:GLY:N	2.19	0.68
1:A:510:ARG:HE	40:SM:11:VAL:HG13	1.56	0.68
6:G:154:GLY:HA2	6:G:201:ARG:HE	1.58	0.68
14:S2:503:C:OP1	18:SE:62:LYS:NZ	2.22	0.68
21:SI:79:ILE:HD13	21:SI:170:LYS:NZ	2.09	0.68
24:SP:101:THR:O	27:SS:118:ARG:NH1	2.26	0.68
27:SS:82:TRP:CD1	27:SS:87:GLN:NE2	2.62	0.68
48:L5:237:G:O2'	48:L5:238:C:OP1	2.10	0.68
48:L5:418:A:OP2	50:L8:16:G:N2	2.26	0.68
48:L5:1077:C:H3'	48:L5:1078:A:H4'	1.76	0.68
48:L5:2693:A:OP2	86:Lk:33:LYS:NZ	2.27	0.68
73:LX:105:ASN:OD1	73:LX:106:LYS:N	2.27	0.68
1:A:589:LEU:HD12	1:A:632:LEU:HD21	1.76	0.68
4:O:225:ARG:HB3	7:H:29:LEU:HD11	1.75	0.68
13:X:116:C:H5''	13:X:117:C:H2'	1.73	0.68
14:S2:1745:A:N6	14:S2:1789:G:O2'	2.26	0.68
19:SF:35:LEU:HD21	19:SF:146:ARG:HD3	1.74	0.68
27:SS:103:LEU:O	27:SS:107:LEU:HD12	1.92	0.68
49:L7:59:G:H4'	54:LD:267:ASN:HD21	1.58	0.68
2:L:27:ARG:NH1	5:F:289:PHE:O	2.27	0.68
4:O:39:SER:O	7:H:107:LYS:NZ	2.27	0.68
13:X:72:U:O4	13:X:73:A:N6	2.26	0.68
36:Sg:99:ARG:HE	36:Sg:135:LEU:HA	1.58	0.68
1:A:566:GLN:HB3	1:A:674:ARG:HG2	1.74	0.68
58:LH:36:ARG:HB2	58:LH:80:MET:HE1	1.74	0.68
14:S2:1228:A:H1'	14:S2:1635:C:H4'	1.75	0.68
48:L5:1656:U:OP2	76:La:26:ARG:NH2	2.27	0.68
1:A:830:MET:HE1	1:A:839:LEU:HD11	1.74	0.68
5:F:258:THR:HA	5:F:261:ARG:HE	1.57	0.68
16:SB:93:GLY:O	16:SB:95:ASN:ND2	2.27	0.68
36:Sg:166:VAL:HG13	36:Sg:176:VAL:HG22	1.75	0.68
48:L5:1697:G:H21	48:L5:1718:C:H5''	1.59	0.68
73:LX:148:ASP:OD1	73:LX:149:VAL:N	2.27	0.68
86:Lk:40:ARG:NH1	86:Lk:41:TYR:OH	2.28	0.68
17:SD:76:ARG:O	17:SD:76:ARG:NH1	2.26	0.67
20:SH:145:ARG:CB	43:SW:51:GLU:OE2	2.41	0.67
70:LU:65:ARG:O	70:LU:65:ARG:NH1	2.24	0.67
2:L:194:GLN:HE22	10:K:241:MET:C	2.02	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:H:38:GLU:C	7:H:61:HIS:HA	2.19	0.67
36:Sg:29:ASP:HB3	36:Sg:45:LEU:HB2	1.76	0.67
48:L5:180:C:N4	48:L5:256:G:O6	2.28	0.67
48:L5:1265:G:O3'	48:L5:2110:G:N2	2.26	0.67
14:S2:189:U:H3	14:S2:210:U:H3	1.41	0.67
42:SO:27:VAL:HG23	42:SO:90:ILE:HG22	1.75	0.67
48:L5:4924:C:H3'	48:L5:4925:G:H21	1.58	0.67
50:L8:68:G:OP1	85:Lj:87:LYS:NZ	2.24	0.67
57:LG:165:GLU:OE2	63:LN:11:TRP:NE1	2.28	0.67
12:M:469:ARG:HB3	12:M:583:ARG:HH21	1.59	0.67
26:SR:21:TYR:OH	26:SR:62:GLN:OE1	2.11	0.67
58:LH:104:VAL:HG13	58:LH:113:GLU:OE2	1.94	0.67
67:LR:151:ARG:HA	67:LR:154:LEU:HB2	1.74	0.67
15:SA:123:VAL:HG12	15:SA:145:ILE:HG12	1.76	0.67
27:SS:104:ASP:HA	27:SS:107:LEU:CD1	2.25	0.67
48:L5:717:U:H3	48:L5:951:G:H1	1.40	0.67
73:LX:133:GLU:OE1	73:LX:133:GLU:N	2.28	0.67
29:SU:82:MET:SD	34:Sd:52:PHE:HA	2.35	0.67
48:L5:916:C:N3	48:L5:918:G:N1	2.40	0.67
48:L5:2550:G:H22	48:L5:2764:A:N6	1.93	0.67
48:L5:5018:G:H2'	48:L5:5019:C:C6	2.29	0.67
6:G:63:LEU:HD12	6:G:151:LEU:HD21	1.74	0.67
7:H:220:GLU:CA	7:H:223:LYS:HE2	2.10	0.67
9:J:163:GLN:NE2	9:J:164:MET:O	2.27	0.67
14:S2:495:U:O2'	14:S2:496:C:O4'	2.12	0.67
26:SR:58:MET:SD	26:SR:62:GLN:NE2	2.67	0.67
48:L5:76:A:OP2	61:LL:74:ARG:NH1	2.28	0.67
48:L5:3660:A:OP2	51:LA:156:LYS:NZ	2.27	0.67
63:LN:68:ARG:NH1	63:LN:124:ASP:O	2.27	0.67
70:LU:65:ARG:NH1	70:LU:67:LYS:O	2.26	0.67
14:S2:1531:A:O2'	14:S2:1604:G:N2	2.27	0.67
92:Lr:93:ILE:HA	92:Lr:96:MET:HE3	1.75	0.67
1:A:1128:PRO:HD2	1:A:1131:LEU:HD12	1.76	0.67
19:SF:107:ASN:HD22	19:SF:108:PRO:HD2	1.59	0.67
63:LN:60:VAL:HG23	63:LN:134:LEU:HB2	1.77	0.67
1:A:762:VAL:HG12	1:A:766:MET:CE	2.25	0.67
1:A:929:THR:HG21	1:A:979:PRO:HG2	1.77	0.67
5:F:164:ARG:HD2	12:M:20:ARG:HH12	1.60	0.67
58:LH:126:VAL:HG11	58:LH:161:ILE:HG22	1.77	0.67
90:Lo:103:VAL:HG11	90:Lo:106:PHE:C	2.20	0.67
1:A:1018:PRO:HG2	1:A:1019:ARG:HG3	1.75	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S2:24:C:OP1	39:SJ:11:LYS:NZ	2.28	0.66
14:S2:1219:C:H42	14:S2:1646:C:N4	1.93	0.66
18:SE:149:TYR:HD1	38:SG:213:LEU:HD22	1.60	0.66
48:L5:4633:A:H2	48:L5:4661:G:H21	1.41	0.66
36:Sg:42:MET:SD	36:Sg:43:TRP:N	2.69	0.66
41:SN:29:THR:HG22	41:SN:31:ASP:H	1.59	0.66
48:L5:3715:A:H2'	48:L5:3716:A:C8	2.31	0.66
48:L5:4144:G:H2'	48:L5:4145:G:C8	2.29	0.66
14:S2:1348:G:H1	14:S2:1381:G:H22	1.42	0.66
20:SH:53:VAL:HG11	20:SH:172:THR:HA	1.78	0.66
25:SQ:102:GLU:HB2	25:SQ:105:LYS:HE2	1.77	0.66
54:LD:177:THR:O	54:LD:179:ARG:N	2.27	0.66
1:A:1141:VAL:HG22	1:A:1144:ARG:HH21	1.59	0.66
2:L:4:GLU:OE2	12:M:104:ARG:NH1	2.27	0.66
14:S2:1539:U:H2'	14:S2:1540:G:C8	2.30	0.66
19:SF:43:GLU:HB3	19:SF:44:LYS:HA	1.78	0.66
36:Sg:301:GLY:HA2	36:Sg:307:VAL:HG22	1.78	0.66
48:L5:4092:G:H2'	48:L5:4093:G:C8	2.30	0.66
14:S2:1488:C:O2'	14:S2:1490:G:OP2	2.13	0.66
20:SH:94:PHE:O	20:SH:95:ILE:HD13	1.95	0.66
28:ST:116:ASP:N	28:ST:120:GLY:O	2.28	0.66
39:SJ:40:LYS:HG3	47:Se:34:ARG:HH12	1.61	0.66
48:L5:990:C:N4	48:L5:992:C:N3	2.44	0.66
48:L5:1197:C:H2'	48:L5:1198:G:H8	1.60	0.66
50:L8:96:C:H5''	83:Lh:66:LYS:HD2	1.75	0.66
14:S2:1822:A:N1	14:S2:1823:A:N6	2.44	0.66
20:SH:52:GLU:HA	20:SH:58:LYS:HA	1.76	0.66
27:SS:130:ARG:HH22	27:SS:139:THR:HG22	1.59	0.66
59:LI:82:ARG:NH2	59:LI:83:ASP:HB3	2.10	0.66
2:L:194:GLN:NE2	10:K:242:LEU:C	2.53	0.66
12:M:86:THR:HG22	12:M:139:GLN:HE22	1.60	0.66
14:S2:70:G:N2	14:S2:79:A:H62	1.92	0.66
14:S2:1114:U:H5''	16:SB:202:GLN:HE21	1.61	0.66
15:SA:52:LYS:HE3	26:SR:108:LEU:HD11	1.76	0.66
27:SS:89:ASP:O	27:SS:91:LYS:N	2.28	0.66
48:L5:957:G:O2'	48:L5:958:G:OP2	2.10	0.66
51:LA:29:LEU:O	51:LA:123:ARG:NH1	2.29	0.66
75:LZ:10:VAL:O	75:LZ:83:THR:OG1	2.13	0.66
14:S2:798:A:O2'	20:SH:106:ARG:O	2.14	0.66
17:SD:16:ILE:HG13	17:SD:17:PHE:HD1	1.61	0.66
42:SO:26:ASN:HD22	42:SO:91:THR:HG22	1.61	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:K:190:MET:N	10:K:190:MET:SD	2.69	0.66
14:S2:312:G:H5'	14:S2:313:A:H5'	1.77	0.66
18:SE:248:ILE:HA	18:SE:251:GLU:HG2	1.78	0.66
46:Sb:31:TYR:CE1	46:Sb:33:MET:HB3	2.31	0.66
48:L5:1802:A:N3	69:LT:130:ARG:NH2	2.44	0.66
69:LT:43:LYS:O	69:LT:58:HIS:ND1	2.29	0.66
3:N:57:THR:HG22	3:N:142:LEU:HD13	1.77	0.66
5:F:186:PRO:O	12:M:20:ARG:NH2	2.25	0.66
5:F:236:VAL:H	6:G:232:GLY:HA2	1.60	0.66
14:S2:1101:U:H2'	14:S2:1102:G:C8	2.31	0.66
14:S2:1217:A:H2'	14:S2:1218:C:H6	1.61	0.66
27:SS:118:ARG:HH22	27:SS:152:LYS:HD2	1.61	0.66
48:L5:2554:G:H2'	48:L5:2555:G:C8	2.31	0.66
14:S2:190:G:O2'	14:S2:209:A:N6	2.29	0.65
14:S2:338:G:H2'	14:S2:339:A:C8	2.31	0.65
14:S2:1397:U:N3	25:SQ:11:GLN:O	2.26	0.65
41:SN:66:VAL:HG13	41:SN:67:THR:HG23	1.78	0.65
48:L5:135:G:OP1	83:Lh:97:LYS:NZ	2.30	0.65
83:Lh:15:GLU:CD	83:Lh:15:GLU:H	2.03	0.65
7:H:118:ILE:O	7:H:234:ASN:ND2	2.30	0.65
14:S2:818:A:OP1	39:SJ:80:ARG:NH2	2.28	0.65
14:S2:1649:U:OP1	25:SQ:128:GLU:N	2.20	0.65
26:SR:20:TYR:HB3	26:SR:23:ARG:NH1	2.12	0.65
59:LI:96:VAL:HG12	59:LI:125:THR:HG22	1.76	0.65
14:S2:1253:A:OP2	14:S2:1526:G:N2	2.25	0.65
14:S2:1422:G:H2'	14:S2:1423:C:H3'	1.78	0.65
25:SQ:58:LEU:HD11	25:SQ:112:LEU:HD11	1.78	0.65
25:SQ:85:ARG:NH1	25:SQ:118:THR:OG1	2.30	0.65
37:SC:183:LYS:HD3	37:SC:194:ARG:HH21	1.62	0.65
38:SG:144:LEU:HB2	38:SG:147:LEU:H	1.60	0.65
48:L5:966:A:N6	48:L5:2251:A:OP2	2.30	0.65
48:L5:975:C:C4	48:L5:976:G:C8	2.84	0.65
48:L5:4094:C:N4	48:L5:4113:G:OP2	2.29	0.65
68:LS:85:ASP:HB2	68:LS:123:SER:HB2	1.77	0.65
88:Lm:97:ARG:HB2	88:Lm:120:ASN:HB3	1.78	0.65
8:I:47:MET:HE1	8:I:52:LEU:HG	1.78	0.65
14:S2:981:A:H2'	14:S2:982:G:C8	2.32	0.65
14:S2:1238:U:N3	14:S2:1520:G:N1	2.44	0.65
48:L5:2250:G:O2'	48:L5:2252:G:OP2	2.14	0.65
38:SG:137:ARG:HE	38:SG:178:ARG:HH22	1.44	0.65
39:SJ:4:ALA:N	39:SJ:5:ARG:HB2	2.10	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:L5:483:G:N2	48:L5:671:G:H22	1.92	0.65
54:LD:20:PHE:O	54:LD:22:ARG:N	2.29	0.65
1:A:1067:TYR:OH	1:A:1092:THR:OG1	2.13	0.65
14:S2:1617:G:O6	24:SP:44:ARG:NH2	2.30	0.65
42:SO:30:VAL:HG12	42:SO:94:HIS:HB2	1.78	0.65
48:L5:3592:C:O2	48:L5:3595:G:N2	2.30	0.65
71:LV:84:GLN:HA	71:LV:101:ASN:HB3	1.79	0.65
87:Ll:20:ASN:OD1	87:Ll:41:ARG:NH1	2.30	0.65
3:N:248:LEU:O	3:N:252:MET:HG2	1.97	0.65
9:J:104:ARG:NH1	9:J:106:GLU:OE2	2.30	0.65
14:S2:1065:G:OP1	42:SO:149:ARG:NH1	2.29	0.65
14:S2:1599:U:O2'	19:SF:164:ARG:O	2.15	0.65
21:SI:67:TRP:HA	21:SI:189:VAL:HG12	1.78	0.65
6:G:169:LEU:HB3	6:G:176:MET:HE1	1.77	0.65
14:S2:1501:C:H2'	14:S2:1502:C:H6	1.60	0.65
14:S2:1617:G:OP2	24:SP:47:ARG:NH2	2.29	0.65
15:SA:212:LYS:HA	15:SA:215:GLN:HE22	1.62	0.65
20:SH:15:LYS:HG3	20:SH:16:PRO:HD3	1.79	0.65
24:SP:104:GLN:HB2	27:SS:117:ILE:HD12	1.79	0.65
48:L5:2560:G:N2	48:L5:2563:A:OP2	2.29	0.65
14:S2:1452:A:H61	14:S2:1473:G:H1'	1.61	0.65
14:S2:1860:A:OP1	32:Sa:8:ASN:ND2	2.28	0.65
25:SQ:37:ARG:HB3	25:SQ:41:MET:HG2	1.79	0.65
48:L5:320:C:OP1	84:Li:84:LYS:NZ	2.29	0.65
50:L8:65:A:OP1	83:Lh:56:ARG:NH1	2.30	0.65
55:LE:68:MET:HE2	55:LE:68:MET:HA	1.78	0.65
3:N:81:PRO:HG3	3:N:113:ILE:HD12	1.79	0.65
15:SA:120:ARG:NH2	37:SC:267:GLN:HG3	2.12	0.65
22:SK:35:LEU:HD23	22:SK:37:ASP:H	1.62	0.65
48:L5:135:G:N2	83:Lh:95:LEU:O	2.30	0.65
48:L5:1185:G:H2'	48:L5:1186:U:C6	2.32	0.65
70:LU:105:ASN:OD1	70:LU:106:SER:N	2.26	0.65
74:LY:53:ASP:OD2	74:LY:110:LYS:N	2.25	0.65
10:K:52:LYS:O	10:K:140:ASN:ND2	2.30	0.64
14:S2:895:G:H2'	14:S2:896:U:H4'	1.79	0.64
19:SF:77:MET:HE3	19:SF:83:ASN:HA	1.77	0.64
32:Sa:99:PRO:O	32:Sa:102:ARG:NH1	2.30	0.64
14:S2:1322:G:H2'	14:S2:1323:U:O4'	1.97	0.64
19:SF:120:GLY:O	19:SF:146:ARG:NH2	2.30	0.64
38:SG:48:TYR:OH	38:SG:119:LYS:O	2.14	0.64
48:L5:1266:G:N2	48:L5:1268:G:O5'	2.31	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:L5:4136:C:H3'	48:L5:4137:G:H8	1.63	0.64
80:Le:113:GLU:N	80:Le:113:GLU:OE1	2.29	0.64
3:N:76:LYS:HD3	3:N:121:LYS:HB2	1.79	0.64
12:M:947:LEU:HG	12:M:948:PHE:HD1	1.61	0.64
14:S2:1398:G:C6	14:S2:1448:A:N1	2.64	0.64
30:SV:16:LYS:HG2	30:SV:23:ILE:HG22	1.80	0.64
39:SJ:38:ARG:HG2	39:SJ:39:ASN:H	1.62	0.64
42:SO:67:ASP:O	42:SO:69:SER:N	2.30	0.64
48:L5:744:G:H2'	48:L5:745:G:C8	2.32	0.64
48:L5:1529:G:HO2'	85:Lj:49:TRP:HZ2	1.46	0.64
60:LJ:32:ARG:NH1	60:LJ:35:ARG:HH21	1.94	0.64
61:LL:54:PRO:HB3	61:LL:55:ILE:HG22	1.79	0.64
77:Lb:23:LYS:HG3	77:Lb:24:PRO:HD2	1.79	0.64
12:M:507:ASP:HB3	12:M:559:VAL:HG13	1.80	0.64
13:X:104:G:H2'	13:X:105:C:C6	2.33	0.64
48:L5:4104:G:H1	48:L5:4105:G:H21	1.43	0.64
50:L8:5:U:OP2	65:LP:62:ARG:NH1	2.30	0.64
50:L8:103:A:H3'	50:L8:104:A:H5''	1.77	0.64
78:Lc:30:GLY:O	78:Lc:34:THR:HG23	1.97	0.64
1:A:1092:THR:HA	1:A:1095:MET:HG3	1.80	0.64
10:K:104:ARG:NH1	13:X:227:U:OP1	2.30	0.64
14:S2:594:A:H4'	14:S2:595:U:H5'	1.78	0.64
48:L5:3720:G:OP2	84:Li:68:ARG:NH1	2.31	0.64
52:LB:313:SER:OG	52:LB:315:ASN:OD1	2.09	0.64
55:LE:195:ILE:HG21	55:LE:288:PHE:HE2	1.62	0.64
67:LR:78:ILE:HD12	67:LR:81:ARG:HH11	1.60	0.64
10:K:117:ASP:OD2	10:K:186:SER:HB3	1.98	0.64
38:SG:32:MET:HE2	38:SG:65:GLN:HB2	1.80	0.64
48:L5:2553:G:H1	48:L5:2570:C:N4	1.96	0.64
53:LC:149:GLU:HG2	92:Lr:72:LYS:HG2	1.80	0.64
75:LZ:96:VAL:O	75:LZ:97:ASN:ND2	2.28	0.64
92:Lr:47:LYS:O	92:Lr:103:ARG:NH1	2.31	0.64
2:L:14:ASP:OD2	2:L:16:ARG:NH1	2.30	0.64
14:S2:1616:U:O2'	14:S2:1661:A:N3	2.27	0.64
14:S2:1644:C:H2'	14:S2:1645:C:C6	2.33	0.64
14:S2:1673:U:H5''	25:SQ:78:VAL:HB	1.79	0.64
28:ST:112:MET:SD	28:ST:112:MET:C	2.81	0.64
31:SX:81:ILE:HD12	31:SX:120:PHE:CD2	2.33	0.64
31:SX:139:GLU:OE1	31:SX:139:GLU:N	2.28	0.64
40:SM:33:ARG:HD3	40:SM:109:VAL:HB	1.79	0.64
48:L5:4989:U:H2'	48:L5:4990:G:C8	2.32	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:62:ARG:HG2	8:I:67:ILE:HG12	1.80	0.64
18:SE:136:ILE:HD12	18:SE:148:ARG:HD2	1.79	0.64
28:ST:18:LEU:HD13	28:ST:131:LEU:HD13	1.79	0.64
48:L5:510:U:H5'	76:La:86:THR:HG22	1.80	0.64
48:L5:1922:C:OP1	62:LM:34:ASN:ND2	2.31	0.64
14:S2:1024:A:OP2	41:SN:124:ARG:NH2	2.31	0.64
14:S2:1567:G:H1	27:SS:82:TRP:HB2	1.62	0.64
22:SK:1:MET:H2	22:SK:44:HIS:HA	1.63	0.64
28:ST:39:LEU:HB3	28:ST:43:LYS:HD2	1.80	0.64
37:SC:116:THR:OG1	37:SC:119:GLY:O	2.13	0.64
38:SG:24:LEU:O	38:SG:26:THR:N	2.31	0.64
48:L5:1242:G:O6	48:L5:1268:G:N2	2.31	0.64
1:A:719:CYS:HB3	1:A:724:PRO:HG3	1.79	0.64
14:S2:1674:G:OP1	19:SF:51:HIS:NE2	2.30	0.64
37:SC:80:GLU:H	37:SC:80:GLU:CD	2.06	0.64
42:SO:82:ALA:HA	42:SO:124:MET:HE1	1.79	0.64
48:L5:3708:G:H22	48:L5:3739:C:H42	1.43	0.64
68:LS:173:ASN:OD1	68:LS:174:THR:N	2.31	0.64
91:Lp:42:CYS:HB3	91:Lp:44:LYS:HG2	1.79	0.64
14:S2:928:G:H2'	14:S2:929:G:C8	2.34	0.63
14:S2:1680:G:H21	33:Sc:24:GLN:HE22	1.46	0.63
35:Sf:141:CYS:O	35:Sf:151:ASN:ND2	2.31	0.63
49:L7:1:G:O5'	54:LD:263:LYS:NZ	2.28	0.63
55:LE:84:LYS:HB2	55:LE:85:LYS:HB3	1.80	0.63
12:M:813:ALA:HB1	12:M:823:ILE:HD13	1.81	0.63
52:LB:80:GLU:OE2	52:LB:328:ASN:ND2	2.31	0.63
1:A:515:THR:OG1	40:SM:23:LYS:NZ	2.32	0.63
12:M:34:HIS:HB2	12:M:115:ILE:HD12	1.81	0.63
14:S2:872:A:OP1	67:LR:170:ARG:NH1	2.30	0.63
14:S2:1455:A:H61	14:S2:1471:C:H42	1.46	0.63
36:Sg:57:ARG:HH22	36:Sg:93:THR:HA	1.62	0.63
48:L5:963:G:N2	48:L5:2250:G:O2'	2.32	0.63
72:LW:91:MET:SD	72:LW:92:ALA:N	2.71	0.63
81:Lf:33:VAL:HG23	81:Lf:38:GLU:HG3	1.79	0.63
14:S2:379:C:OP2	21:SI:181:GLN:NE2	2.31	0.63
14:S2:1172:U:H4'	89:Ln:10:MET:CE	2.28	0.63
14:S2:1467:C:H2'	14:S2:1468:C:C6	2.34	0.63
42:SO:30:VAL:HG22	42:SO:47:LEU:HA	1.80	0.63
48:L5:3704:C:O2'	51:LA:239:ALA:O	2.16	0.63
86:Lk:54:GLU:H	86:Lk:54:GLU:CD	2.06	0.63
9:J:123:ARG:NH1	9:J:181:GLU:OE2	2.30	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S2:615:C:O2'	47:Se:8:ARG:NH1	2.31	0.63
14:S2:1458:G:H2'	14:S2:1459:G:C8	2.33	0.63
36:Sg:147:HIS:HE1	36:Sg:173:LEU:HB2	1.63	0.63
48:L5:2118:G:O2'	48:L5:2119:C:OP1	2.16	0.63
86:Lk:22:SER:H	86:Lk:64:LEU:HD22	1.64	0.63
14:S2:107:A:H2'	14:S2:108:G:C8	2.34	0.63
14:S2:525:A:H2'	14:S2:526:A:H8	1.64	0.63
14:S2:1231:C:OP1	27:SS:134:GLN:NE2	2.31	0.63
19:SF:85:LYS:HD2	19:SF:88:MET:HE2	1.80	0.63
36:Sg:207:CYS:SG	36:Sg:208:ALA:N	2.71	0.63
41:SN:69:ASN:HD21	41:SN:73:ARG:HD2	1.63	0.63
57:LG:260:GLU:O	57:LG:264:LYS:NZ	2.31	0.63
1:A:1203:LEU:HA	1:A:1206:MET:CE	2.19	0.63
3:N:145:ASP:O	3:N:212:GLY:N	2.31	0.63
14:S2:1273:C:H2'	14:S2:1506:A:H2	1.63	0.63
14:S2:1354:G:N2	14:S2:1357:A:OP2	2.26	0.63
15:SA:6:ASP:O	15:SA:9:GLN:NE2	2.27	0.63
25:SQ:98:LYS:HG2	25:SQ:99:TYR:CE1	2.33	0.63
48:L5:492:U:H2'	48:L5:493:G:H8	1.64	0.63
56:LF:75:ALA:HB2	69:LT:140:PHE:HE1	1.62	0.63
56:LF:116:GLN:HG2	56:LF:119:ASN:HD21	1.64	0.63
1:A:604:LEU:HG	1:A:608:LEU:HD23	1.80	0.63
14:S2:1656:G:H2'	14:S2:1657:G:H8	1.64	0.63
19:SF:171:GLU:HA	19:SF:174:ALA:HB3	1.80	0.63
22:SK:46:MET:HB3	22:SK:47:LYS:HD3	1.81	0.63
60:LJ:50:PHE:CD2	60:LJ:67:LYS:HD3	2.33	0.63
71:LV:128:LEU:HD23	71:LV:128:LEU:H	1.63	0.63
6:G:246:GLU:OE1	6:G:250:ARG:NH2	2.30	0.63
14:S2:1289:U:N3	14:S2:1290:G:O6	2.32	0.63
14:S2:1598:G:C8	45:SZ:82:SER:HA	2.34	0.63
37:SC:61:MET:N	37:SC:61:MET:HE3	2.14	0.63
38:SG:46:LYS:NZ	38:SG:118:GLU:OE1	2.32	0.63
48:L5:4132:C:H2'	48:L5:4133:G:H8	1.63	0.63
48:L5:4592:U:H2'	48:L5:4593:G:H8	1.64	0.63
60:LJ:63:ARG:CD	90:Lo:106:PHE:CG	2.70	0.63
78:Lc:59:GLU:HB2	78:Lc:63:TYR:OH	1.99	0.63
1:A:404:ARG:HD2	1:A:436:VAL:HG13	1.80	0.62
12:M:30:CYS:SG	12:M:40:GLN:NE2	2.71	0.62
14:S2:127:C:H1'	14:S2:129:C:H5'	1.81	0.62
14:S2:1396:A:H8	14:S2:1449:G:H1	1.44	0.62
28:ST:56:ARG:HH21	28:ST:100:ALA:HB2	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:L5:262:G:H2'	48:L5:263:G:C8	2.34	0.62
48:L5:1282:G:OP1	53:LC:316:LYS:NZ	2.31	0.62
48:L5:1370:G:H1	53:LC:239:LYS:NZ	1.97	0.62
48:L5:1445:U:H3	48:L5:2097:G:H22	1.47	0.62
48:L5:5023:C:H5	48:L5:5024:U:H6	1.47	0.62
86:Lk:26:LYS:HE2	86:Lk:69:LEU:HD11	1.81	0.62
1:A:362:ILE:HD11	1:A:664:THR:HA	1.81	0.62
1:A:934:ARG:HH21	14:S2:1552:G:H21	1.46	0.62
12:M:645:GLY:O	12:M:737:LYS:NZ	2.31	0.62
14:S2:1232:U:H2'	14:S2:1233:G:C8	2.34	0.62
17:SD:213:PRO:HB3	26:SR:19:LYS:HB3	1.80	0.62
25:SQ:17:LYS:HD3	25:SQ:79:ALA:HB1	1.81	0.62
25:SQ:43:GLU:HB2	28:ST:12:GLN:HE22	1.64	0.62
48:L5:1758:G:H1'	48:L5:1775:A:H2	1.64	0.62
1:A:421:ILE:HG22	1:A:451:ILE:HB	1.82	0.62
14:S2:92:A:H1'	18:SE:3:ARG:HG2	1.81	0.62
14:S2:1232:U:H2'	14:S2:1233:G:H8	1.64	0.62
23:SL:7:GLU:HG3	23:SL:11:GLN:HE21	1.64	0.62
27:SS:82:TRP:CD1	27:SS:87:GLN:HE22	2.18	0.62
48:L5:911:U:H2'	48:L5:912:G:C8	2.28	0.62
48:L5:1253:G:N2	48:L5:1257:A:O4'	2.32	0.62
14:S2:983:A:H2	42:SO:139:SER:HB2	1.64	0.62
14:S2:1515:G:O2'	24:SP:97:TYR:O	2.17	0.62
36:Sg:133:ASN:ND2	36:Sg:137:VAL:O	2.24	0.62
48:L5:466:A:H2'	48:L5:467:U:O4'	1.98	0.62
48:L5:1260:G:H2'	48:L5:1261:G:C8	2.35	0.62
48:L5:1447:C:H2'	48:L5:1448:G:H8	1.62	0.62
48:L5:2572:G:H1	48:L5:2760:G:H1	1.47	0.62
48:L5:2898:U:H2'	48:L5:2899:G:H8	1.63	0.62
48:L5:2899:G:N7	48:L5:2900:G:N2	2.42	0.62
54:LD:129:GLU:OE1	54:LD:129:GLU:N	2.31	0.62
14:S2:1219:C:H3'	14:S2:1220:A:C8	2.35	0.62
48:L5:967:C:O3'	55:LE:110:ARG:NH1	2.31	0.62
48:L5:2017:C:O2'	48:L5:2018:U:OP1	2.16	0.62
48:L5:2550:G:N2	48:L5:2764:A:H62	1.95	0.62
48:L5:4277:A:H5'	48:L5:4279:A:H1'	1.81	0.62
51:LA:42:LYS:HG2	51:LA:89:TYR:HE1	1.65	0.62
58:LH:50:LYS:HD3	58:LH:51:LYS:HG3	1.80	0.62
8:I:78:GLY:HA3	8:I:154:VAL:HG11	1.81	0.62
14:S2:1109:C:O2'	14:S2:1110:G:O4'	2.18	0.62
14:S2:1353:A:OP1	15:SA:139:TYR:OH	2.16	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:SS:109:GLU:OE1	27:SS:113:ARG:NH1	2.32	0.62
37:SC:105:GLU:N	37:SC:105:GLU:OE1	2.32	0.62
48:L5:165:A:N6	48:L5:270:U:H3	1.93	0.62
48:L5:961:G:C2	55:LE:123:ARG:HB3	2.34	0.62
53:LC:364:LYS:HA	53:LC:367:GLU:HG2	1.81	0.62
58:LH:41:ILE:HG21	58:LH:73:ILE:HD11	1.81	0.62
86:Lk:62:PRO:HG2	86:Lk:64:LEU:HG	1.81	0.62
12:M:83:PHE:HE2	12:M:114:CYS:HB3	1.64	0.62
13:X:205:A:N1	17:SD:62:LYS:NZ	2.43	0.62
14:S2:146:G:OP2	38:SG:143:LYS:NZ	2.22	0.62
14:S2:1005:G:OP1	16:SB:162:ARG:NH2	2.33	0.62
14:S2:1550:G:H3'	14:S2:1579:A:H61	1.64	0.62
20:SH:155:LYS:HE3	20:SH:188:GLU:HG2	1.81	0.62
70:LU:70:ILE:H	70:LU:70:ILE:HD12	1.64	0.62
3:N:194:VAL:HG21	3:N:262:VAL:HG11	1.82	0.62
9:J:151:LEU:O	9:J:184:LYS:NZ	2.33	0.62
16:SB:129:THR:HG23	16:SB:131:ASP:H	1.63	0.62
17:SD:77:PHE:HB2	17:SD:79:PHE:CZ	2.35	0.62
48:L5:2907:C:O2	48:L5:3584:G:N2	2.32	0.62
48:L5:4523:C:OP1	52:LB:246:ARG:NH1	2.32	0.62
53:LC:204:ARG:HG3	53:LC:205:ARG:H	1.64	0.62
74:LY:117:LYS:HG2	74:LY:118:ILE:HD13	1.80	0.62
1:A:646:ILE:HA	1:A:649:MET:HE3	1.81	0.62
4:O:57:GLY:HA3	10:K:85:MET:HE2	1.81	0.62
12:M:63:TRP:CE3	12:M:64:LYS:HB3	2.35	0.62
14:S2:1736:G:H2'	14:S2:1737:G:C8	2.35	0.62
25:SQ:97:GLN:NE2	36:Sg:58:ALA:O	2.33	0.62
27:SS:79:ILE:HG23	27:SS:83:PHE:HD2	1.65	0.62
38:SG:66:GLY:N	38:SG:100:CYS:SG	2.73	0.62
60:LJ:32:ARG:HH11	60:LJ:35:ARG:NH2	1.98	0.62
1:A:1141:VAL:HA	1:A:1144:ARG:HE	1.65	0.62
10:K:108:ARG:HH21	10:K:235:GLN:HB2	1.65	0.62
13:X:73:A:H2'	13:X:74:G:C8	2.35	0.62
14:S2:1289:U:H5'	35:Sf:97:LYS:HD3	1.81	0.62
14:S2:1869:A:H1'	16:SB:115:LYS:HG2	1.81	0.62
29:SU:59:LYS:HD3	29:SU:86:LYS:NZ	2.15	0.62
36:Sg:248:LEU:N	36:Sg:259:TRP:O	2.30	0.62
39:SJ:78:LEU:HD22	39:SJ:92:MET:HG3	1.82	0.62
48:L5:2843:A:H61	48:L5:3841:C:N4	1.93	0.62
52:LB:299:ILE:HG13	52:LB:299:ILE:O	1.99	0.62
54:LD:220:LYS:O	54:LD:224:SER:OG	2.13	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:LL:150:LEU:HD21	83:Lh:123:ALA:HB3	1.82	0.62
86:Lk:57:LYS:NZ	86:Lk:68:GLU:OE2	2.32	0.62
1:A:641:PRO:HA	1:A:644:LYS:HB2	1.82	0.61
1:A:762:VAL:O	1:A:766:MET:HG3	2.00	0.61
1:A:1221:VAL:O	1:A:1225:LYS:NZ	2.33	0.61
17:SD:210:ILE:HD11	26:SR:16:ILE:HD13	1.82	0.61
26:SR:37:GLU:N	26:SR:37:GLU:OE1	2.32	0.61
48:L5:1577:G:O4'	51:LA:181:LYS:NZ	2.33	0.61
48:L5:4740:G:H2'	48:L5:4741:G:C8	2.35	0.61
51:LA:225:ILE:HD13	51:LA:234:LYS:HA	1.82	0.61
3:N:211:THR:HG22	3:N:212:GLY:H	1.65	0.61
17:SD:100:ALA:O	17:SD:104:SER:N	2.33	0.61
38:SG:50:VAL:HG12	38:SG:113:ILE:HA	1.81	0.61
39:SJ:4:ALA:H	39:SJ:5:ARG:HB2	1.65	0.61
42:SO:26:ASN:OD1	42:SO:27:VAL:N	2.33	0.61
48:L5:151:G:OP2	63:LN:4:TYR:OH	2.15	0.61
48:L5:747:A:H62	48:L5:916:C:H42	0.67	0.61
48:L5:2087:G:H5'	66:LQ:38:ARG:HH22	1.64	0.61
48:L5:2088:U:N3	48:L5:2260:G:N7	2.48	0.61
1:A:864:SER:HB3	22:SK:36:ALA:HB2	1.82	0.61
6:G:31:ARG:HD2	6:G:35:ARG:HE	1.64	0.61
12:M:712:PRO:HG3	12:M:766:MET:HA	1.83	0.61
14:S2:70:G:N2	14:S2:80:G:O6	2.33	0.61
14:S2:1445:U:O3'	29:SU:57:PRO:HG3	2.00	0.61
25:SQ:134:GLY:HA3	25:SQ:140:ARG:HA	1.82	0.61
48:L5:1970:G:OP2	48:L5:1999:G:N1	2.26	0.61
48:L5:4284:C:OP2	90:Lo:100:LYS:NZ	2.26	0.61
91:Lp:5:THR:HG21	91:Lp:9:GLY:H	1.65	0.61
3:N:171:ASN:ND2	3:N:178:GLU:OE2	2.33	0.61
5:F:15:VAL:HG23	5:F:206:ILE:HG22	1.81	0.61
12:M:186:LYS:NZ	12:M:203:CYS:SG	2.74	0.61
12:M:297:GLU:O	12:M:333:ARG:N	2.34	0.61
14:S2:795:A:H62	20:SH:109:ARG:HH22	1.48	0.61
38:SG:77:LEU:HD22	38:SG:81:HIS:HD2	1.65	0.61
48:L5:1069:G:H2'	48:L5:1070:G:C8	2.36	0.61
48:L5:4470:G:O2'	88:Lm:100:TYR:O	2.17	0.61
57:LG:33:GLU:OE2	57:LG:35:ARG:NH1	2.33	0.61
14:S2:67:C:N4	38:SG:170:ARG:HB2	2.15	0.61
31:SX:9:THR:O	31:SX:11:ARG:N	2.34	0.61
48:L5:728:U:H5''	56:LF:76:ARG:HD2	1.82	0.61
58:LH:50:LYS:HD3	58:LH:51:LYS:HZ2	1.64	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:LJ:81:GLU:H	60:LJ:81:GLU:CD	2.09	0.61
61:LL:125:ILE:HD11	83:Lh:122:LYS:HD3	1.82	0.61
92:Lr:66:ARG:HG3	92:Lr:68:SER:HB3	1.82	0.61
32:Sa:23:CYS:HB3	32:Sa:28:ARG:H	1.66	0.61
48:L5:456:C:H2'	48:L5:457:G:C8	2.35	0.61
48:L5:2743:A:H2'	48:L5:2744:A:H8	1.65	0.61
48:L5:2768:C:H2'	48:L5:2769:G:H8	1.65	0.61
72:LW:59:HIS:HB2	72:LW:61:LYS:HG2	1.81	0.61
27:SS:120:HIS:CE1	27:SS:124:ARG:HE	2.18	0.61
45:SZ:49:LEU:HD22	45:SZ:83:LEU:HD11	1.82	0.61
45:SZ:68:ILE:HB	45:SZ:109:TYR:HB2	1.82	0.61
48:L5:5021:C:N3	48:L5:5023:C:O2'	2.33	0.61
60:LJ:13:ARG:NH2	60:LJ:155:HIS:HA	2.15	0.61
76:La:84:GLU:OE1	76:La:84:GLU:N	2.22	0.61
13:X:91:U:H3	13:X:98:C:H3'	1.66	0.61
13:X:136:C:H2'	13:X:137:C:C6	2.35	0.61
14:S2:551:U:H3'	14:S2:552:G:H8	1.66	0.61
22:SK:1:MET:H1	22:SK:47:LYS:HE2	1.66	0.61
23:SL:94:HIS:CG	23:SL:105:ARG:HH21	2.19	0.61
27:SS:104:ASP:HA	27:SS:107:LEU:HD13	1.83	0.61
35:Sf:107:LYS:HA	40:SM:60:MET:HE1	1.81	0.61
48:L5:2762:A:H2'	48:L5:2763:A:H8	1.62	0.61
57:LG:113:ARG:HA	57:LG:116:ALA:HB3	1.82	0.61
58:LH:91:LYS:HB2	58:LH:183:GLU:HB3	1.82	0.61
61:LL:164:GLU:HG3	76:La:100:ILE:HG13	1.83	0.61
86:Lk:27:LYS:HG2	86:Lk:32:VAL:HG22	1.83	0.61
1:A:432:GLU:HG3	1:A:433:ARG:HG2	1.81	0.61
26:SR:47:ARG:HH21	26:SR:51:ALA:HB2	1.65	0.61
48:L5:1770:A:H2'	48:L5:1771:U:O4'	2.00	0.61
48:L5:3753:G:H2'	48:L5:3754:A:C4	2.36	0.61
1:A:574:PHE:HD2	1:A:680:SER:HB3	1.66	0.61
8:I:121:ARG:O	8:I:122:ARG:HG3	2.01	0.61
13:X:103:U:H2'	13:X:104:G:O4'	2.01	0.61
16:SB:28:LYS:HD3	16:SB:48:LEU:HD21	1.82	0.61
48:L5:2475:A:H2'	48:L5:2476:C:C6	2.35	0.61
48:L5:3894:C:O2'	48:L5:3895:G:O4'	2.19	0.61
51:LA:139:HIS:HA	51:LA:146:THR:HG22	1.82	0.61
56:LF:98:ILE:HD12	66:LQ:4:ASP:HB3	1.83	0.61
5:F:246:SER:HB3	6:G:221:GLN:HB3	1.82	0.60
12:M:909:LEU:HB3	12:M:921:TRP:HB3	1.82	0.60
14:S2:308:G:H2'	21:SI:45:THR:HG21	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:SB:189:ILE:HB	16:SB:190:PRO:HD3	1.83	0.60
19:SF:76:MET:SD	19:SF:89:THR:HB	2.41	0.60
44:SY:19:GLN:HG2	44:SY:81:TYR:CE2	2.35	0.60
46:Sb:50:ALA:O	46:Sb:51:GLN:HG2	2.00	0.60
48:L5:1804:A:N6	48:L5:1832:G:O4'	2.34	0.60
48:L5:3596:C:H2'	48:L5:3597:A:H8	1.65	0.60
65:LP:57:CYS:SG	65:LP:58:VAL:N	2.74	0.60
67:LR:135:LYS:O	67:LR:139:MET:N	2.34	0.60
75:LZ:11:VAL:HG11	75:LZ:80:LEU:HB3	1.83	0.60
92:Lr:26:SER:OG	92:Lr:28:GLU:OE1	2.19	0.60
1:A:288:ASP:HB3	1:A:292:PRO:HD3	1.83	0.60
1:A:697:TYR:HA	1:A:700:MET:HG2	1.84	0.60
1:A:748:TYR:HA	1:A:1058:ARG:HH21	1.66	0.60
12:M:304:TRP:HE3	12:M:328:PRO:HB2	1.66	0.60
14:S2:143:U:H3	38:SG:184:VAL:HG11	1.65	0.60
14:S2:1552:G:O6	17:SD:4:GLN:NE2	2.34	0.60
18:SE:258:ALA:O	18:SE:262:SER:OG	2.14	0.60
24:SP:51:ARG:O	24:SP:54:HIS:N	2.33	0.60
37:SC:271:ASP:OD1	37:SC:272:HIS:N	2.34	0.60
48:L5:1183:C:H3'	48:L5:1185:G:N7	2.16	0.60
48:L5:2558:C:N3	48:L5:2566:C:N4	2.48	0.60
88:Lm:80:PRO:HA	88:Lm:83:ARG:HD2	1.83	0.60
3:N:127:SER:C	3:N:128:PRO:CG	2.69	0.60
6:G:215:LEU:HD22	6:G:245:LEU:HG	1.84	0.60
14:S2:1468:C:H2'	14:S2:1469:A:C8	2.37	0.60
27:SS:47:LYS:NZ	27:SS:78:LYS:HB3	2.16	0.60
38:SG:33:ALA:HB1	38:SG:51:ARG:HH21	1.65	0.60
48:L5:262:G:H2'	48:L5:263:G:H8	1.65	0.60
81:Lf:43:LEU:O	81:Lf:109:ARG:NH2	2.27	0.60
1:A:624:MET:HE1	1:A:634:VAL:H	1.66	0.60
14:S2:124:U:OP1	38:SG:201:LYS:NZ	2.29	0.60
14:S2:379:C:O2	21:SI:5:ARG:NH1	2.35	0.60
14:S2:1862:G:O6	32:Sa:34:LYS:NZ	2.32	0.60
23:SL:124:ASP:OD1	23:SL:124:ASP:N	2.30	0.60
39:SJ:50:LEU:HD21	39:SJ:54:ARG:HH21	1.66	0.60
39:SJ:93:LYS:HB2	39:SJ:96:TYR:HD2	1.65	0.60
44:SY:55:ILE:HD12	44:SY:75:ILE:HG12	1.83	0.60
48:L5:495:C:H2'	48:L5:496:G:H8	1.65	0.60
48:L5:4931:C:H2'	48:L5:4932:A:C8	2.35	0.60
67:LR:141:HIS:O	67:LR:144:LYS:HG3	2.00	0.60
83:Lh:13:LYS:HB3	83:Lh:15:GLU:OE1	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:261:GLU:OE1	8:I:287:ARG:NH1	2.34	0.60
12:M:340:LYS:HD3	12:M:342:TRP:HZ3	1.66	0.60
14:S2:317:C:OP1	38:SG:183:ARG:NH1	2.35	0.60
14:S2:795:A:H2'	14:S2:796:G:H8	1.65	0.60
14:S2:878:G:O6	14:S2:908:A:C6	2.54	0.60
16:SB:103:MET:HB3	16:SB:215:VAL:HG12	1.84	0.60
38:SG:206:ALA:HA	38:SG:209:TYR:CD2	2.36	0.60
40:SM:102:LYS:O	40:SM:104:VAL:HG12	2.00	0.60
48:L5:1378:C:H3'	48:L5:1379:C:H5'	1.83	0.60
48:L5:1530:G:H1'	85:Lj:49:TRP:HH2	1.67	0.60
48:L5:3770:U:H2'	48:L5:3771:U:C2	2.37	0.60
48:L5:4130:C:H2'	48:L5:4131:C:C6	2.37	0.60
51:LA:14:SER:OG	51:LA:15:VAL:N	2.34	0.60
8:I:236:ARG:HD3	8:I:268:ILE:HG22	1.82	0.60
14:S2:1420:G:O3'	28:ST:133:ARG:NH2	2.34	0.60
14:S2:1683:C:C2	33:Sc:24:GLN:HG3	2.37	0.60
36:Sg:163:PRO:HB2	36:Sg:179:LEU:HD13	1.82	0.60
48:L5:1082:C:O2	48:L5:1218:G:N1	2.28	0.60
48:L5:2409:C:O2'	48:L5:2524:C:O2	2.20	0.60
48:L5:3715:A:H2'	48:L5:3716:A:H8	1.65	0.60
54:LD:208:MET:HG2	54:LD:233:PRO:HG3	1.83	0.60
75:LZ:76:ASN:OD1	75:LZ:77:TYR:N	2.35	0.60
14:S2:338:G:N7	14:S2:339:A:N6	2.49	0.60
14:S2:1648:G:H5''	25:SQ:125:ARG:HH11	1.67	0.60
15:SA:180:ARG:HE	15:SA:184:ARG:NH2	1.99	0.60
17:SD:60:GLY:HA3	17:SD:65:ARG:HB3	1.83	0.60
27:SS:109:GLU:O	27:SS:113:ARG:NH1	2.33	0.60
48:L5:975:C:N3	53:LC:323:ARG:NH1	2.50	0.60
48:L5:2645:A:H62	48:L5:2684:G:H8	1.49	0.60
48:L5:4990:G:H2'	48:L5:4991:G:C8	2.36	0.60
59:LI:82:ARG:HH21	59:LI:83:ASP:HB3	1.66	0.60
65:LP:23:ARG:HE	65:LP:125:MET:HE1	1.65	0.60
68:LS:85:ASP:OD1	68:LS:90:THR:HG22	2.02	0.60
92:Lr:19:LYS:HG2	92:Lr:24:THR:HG22	1.82	0.60
1:A:727:ALA:HB1	22:SK:80:ARG:HH11	1.65	0.60
1:A:1061:VAL:HG23	1:A:1148:VAL:HG22	1.83	0.60
12:M:467:ASP:OD2	12:M:469:ARG:NH1	2.34	0.60
14:S2:127:C:N4	14:S2:180:G:O2'	2.34	0.60
17:SD:135:GLU:HB3	17:SD:187:LYS:HB2	1.83	0.60
48:L5:750:U:H3'	48:L5:751:G:C8	2.36	0.60
48:L5:930:G:H4'	48:L5:931:C:O5'	2.00	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:L5:2588:G:H1'	48:L5:2754:G:N2	2.16	0.60
48:L5:4132:C:H2'	48:L5:4133:G:C8	2.36	0.60
48:L5:4137:G:O2'	48:L5:4144:G:N1	2.29	0.60
72:LW:98:PRO:HA	72:LW:99:GLU:HB3	1.83	0.60
78:Lc:54:ALA:HA	78:Lc:57:LYS:HD2	1.83	0.60
14:S2:1533:A:N7	14:S2:1602:U:O4	2.34	0.60
14:S2:1567:G:C6	27:SS:82:TRP:HE3	2.19	0.60
15:SA:111:GLN:OE1	37:SC:89:LYS:NZ	2.33	0.60
18:SE:31:PRO:HG2	18:SE:38:LEU:HD22	1.84	0.60
19:SF:28:VAL:HG23	19:SF:109:LEU:HD23	1.83	0.60
19:SF:73:THR:HA	19:SF:76:MET:SD	2.42	0.60
30:SV:16:LYS:NZ	37:SC:257:LYS:O	2.26	0.60
48:L5:651:C:H2'	48:L5:652:G:C8	2.36	0.60
48:L5:1380:G:O2'	48:L5:1382:G:O6	2.20	0.60
48:L5:3597:A:H2'	48:L5:3598:G:C8	2.36	0.60
48:L5:3649:A:OP2	51:LA:200:ARG:NH1	2.35	0.60
48:L5:5017:A:H2'	48:L5:5018:G:H8	1.67	0.60
50:L8:94:G:C5	85:Lj:84:PRO:HG3	2.37	0.60
70:LU:47:ILE:HG22	70:LU:49:VAL:HG23	1.84	0.60
70:LU:105:ASN:HD22	70:LU:111:GLU:HB2	1.66	0.60
1:A:763:GLU:HA	1:A:766:MET:SD	2.42	0.60
12:M:491:VAL:HB	12:M:632:LEU:HD21	1.84	0.60
14:S2:570:C:O2'	44:SY:34:THR:O	2.18	0.60
14:S2:1101:U:H2'	14:S2:1102:G:H8	1.65	0.60
17:SD:177:LEU:HD11	17:SD:178:ARG:HH21	1.67	0.60
36:Sg:178:ASN:H	36:Sg:182:CYS:HA	1.67	0.60
48:L5:1281:G:OP1	55:LE:52:ARG:NH2	2.35	0.60
50:L8:122:G:C5	50:L8:123:U:H1'	2.37	0.60
60:LJ:108:GLY:HA2	60:LJ:129:ASP:HA	1.83	0.60
79:Ld:19:GLU:OE1	79:Ld:92:ARG:NH1	2.35	0.60
6:G:42:ARG:HH21	6:G:265:ARG:HH12	1.48	0.59
6:G:169:LEU:HB3	6:G:176:MET:CE	2.32	0.59
14:S2:1609:C:H5''	27:SS:131:VAL:HB	1.82	0.59
29:SU:66:ARG:HG2	29:SU:68:THR:HG22	1.83	0.59
36:Sg:130:LYS:HD2	36:Sg:141:THR:HG23	1.84	0.59
37:SC:123:ARG:NH2	37:SC:143:CYS:O	2.23	0.59
44:SY:25:ILE:HG21	44:SY:40:ILE:HD11	1.83	0.59
48:L5:1864:U:O2'	48:L5:1865:A:O4'	2.20	0.59
48:L5:3781:A:H2	48:L5:3788:U:H3	1.50	0.59
48:L5:3886:G:O2'	48:L5:3887:G:OP1	2.18	0.59
1:A:746:LEU:HD12	1:A:751:ILE:HD11	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:K:108:ARG:NH2	10:K:235:GLN:HB2	2.17	0.59
12:M:681:VAL:O	12:M:685:MET:HG3	2.02	0.59
14:S2:491:C:OP1	44:SY:101:LYS:NZ	2.31	0.59
14:S2:996:A:O2'	14:S2:997:A:H8	1.85	0.59
14:S2:1610:G:N2	27:SS:85:ASN:O	2.35	0.59
15:SA:147:LEU:O	15:SA:165:ASN:ND2	2.35	0.59
17:SD:42:THR:OG1	17:SD:45:ARG:O	2.20	0.59
18:SE:56:LEU:HD23	18:SE:57:THR:HG23	1.83	0.59
29:SU:82:MET:HA	29:SU:82:MET:HE3	1.84	0.59
48:L5:2245:C:H2'	56:LF:27:GLU:HG2	1.85	0.59
9:J:9:ILE:O	9:J:11:GLY:N	2.33	0.59
12:M:691:TRP:HA	12:M:694:LYS:HE3	1.84	0.59
14:S2:1238:U:O2'	27:SS:147:GLY:O	2.20	0.59
14:S2:1611:G:O2'	27:SS:87:GLN:O	2.18	0.59
21:SI:64:ASN:ND2	21:SI:64:ASN:O	2.34	0.59
48:L5:268:G:H2'	48:L5:269:G:H8	1.67	0.59
57:LG:258:ALA:O	57:LG:262:ALA:N	2.36	0.59
1:A:567:LEU:HD21	1:A:591:LEU:HD22	1.84	0.59
10:K:124:VAL:HB	10:K:127:GLU:HB2	1.83	0.59
14:S2:1426:U:H4'	25:SQ:2:PRO:HD2	1.84	0.59
22:SK:32:HIS:H	22:SK:41:PRO:HA	1.67	0.59
25:SQ:8:GLN:HG2	25:SQ:99:TYR:CE2	2.36	0.59
29:SU:16:ALA:C	29:SU:17:ILE:HD13	2.27	0.59
48:L5:1244:G:H1'	48:L5:1245:C:C2	2.37	0.59
48:L5:4418:U:O4	48:L5:4473:G:N2	2.35	0.59
76:La:90:ALA:HA	76:La:93:ASN:ND2	2.18	0.59
14:S2:1396:A:C8	14:S2:1449:G:N1	2.64	0.59
14:S2:1637:A:H2	19:SF:79:HIS:HB3	1.67	0.59
29:SU:33:GLU:OE2	29:SU:87:ARG:NH2	2.22	0.59
34:Sd:10:HIS:C	34:Sd:11:PRO:CG	2.71	0.59
37:SC:64:THR:HG23	37:SC:67:GLY:H	1.67	0.59
48:L5:2763:A:H2'	48:L5:2764:A:H5'	1.84	0.59
48:L5:4250:C:OP2	48:L5:4251:A:O2'	2.19	0.59
55:LE:223:ARG:HB3	55:LE:224:LYS:HA	1.84	0.59
58:LH:173:ARG:HG2	88:Lm:127:VAL:HB	1.85	0.59
59:LI:156:LYS:HD3	59:LI:165:ILE:HD11	1.84	0.59
60:LJ:63:ARG:NE	90:Lo:106:PHE:CB	2.54	0.59
78:Lc:77:ASN:OD1	78:Lc:78:ASN:N	2.35	0.59
86:Lk:58:GLN:OE1	86:Lk:58:GLN:N	2.31	0.59
1:A:749:THR:OG1	1:A:1088:GLU:OE2	2.21	0.59
7:H:174:MET:HB2	9:J:78:ILE:HD11	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:178:LEU:HD12	8:I:245:VAL:HG13	1.83	0.59
14:S2:523:A:OP1	39:SJ:127:ARG:NH1	2.35	0.59
14:S2:553:U:H2'	14:S2:554:A:C8	2.37	0.59
14:S2:555:A:H8	14:S2:556:U:H4'	1.68	0.59
14:S2:1217:A:H2'	14:S2:1218:C:C6	2.37	0.59
14:S2:1402:A:H5'	29:SU:51:LYS:HE2	1.85	0.59
21:SI:130:THR:HA	21:SI:134:GLU:HB2	1.84	0.59
27:SS:40:TYR:OH	27:SS:70:ILE:O	2.21	0.59
30:SV:78:ILE:HG23	30:SV:79:VAL:H	1.67	0.59
40:SM:117:GLU:HG2	40:SM:121:LYS:HG3	1.83	0.59
48:L5:3771:U:O2'	48:L5:3772:A:H8	1.85	0.59
53:LC:362:GLN:HA	53:LC:365:SER:HB2	1.84	0.59
67:LR:107:ARG:O	67:LR:111:GLU:HG2	2.02	0.59
8:I:92:GLN:HB2	8:I:95:ARG:HG2	1.85	0.59
14:S2:1501:C:H2'	14:S2:1502:C:C6	2.38	0.59
27:SS:43:VAL:HG13	27:SS:46:ARG:HH21	1.67	0.59
45:SZ:111:ARG:HG2	45:SZ:112:ASN:H	1.66	0.59
48:L5:696:C:H4'	48:L5:697:G:C8	2.35	0.59
48:L5:3671:C:O2'	48:L5:3672:G:OP1	2.17	0.59
48:L5:4301:C:H2'	48:L5:4303:G:C8	2.37	0.59
48:L5:4765:C:O2'	48:L5:4872:A:N6	2.35	0.59
48:L5:5026:G:H2'	48:L5:5027:C:C6	2.37	0.59
57:LG:250:ILE:HA	57:LG:253:LEU:HD23	1.83	0.59
4:O:92:LYS:HA	4:O:95:GLU:HG2	1.85	0.59
10:K:151:ILE:O	10:K:155:VAL:HG23	2.03	0.59
14:S2:77:A:H2	38:SG:179:LEU:HD21	1.68	0.59
29:SU:21:ARG:HB3	29:SU:115:THR:HG21	1.84	0.59
35:Sf:95:ARG:HE	35:Sf:96:LYS:H	1.49	0.59
36:Sg:259:TRP:HE1	36:Sg:266:ILE:HD12	1.66	0.59
38:SG:212:LEU:O	38:SG:216:ARG:N	2.32	0.59
48:L5:216:C:OP1	48:L5:219:G:O2'	2.11	0.59
48:L5:1198:G:H2'	48:L5:1199:G:C8	2.38	0.59
48:L5:3752:G:C6	48:L5:3753:G:C6	2.90	0.59
48:L5:4092:G:N1	48:L5:4112:C:O2	2.35	0.59
48:L5:5017:A:H2'	48:L5:5018:G:C8	2.37	0.59
53:LC:212:ASN:ND2	53:LC:255:SER:OG	2.30	0.59
62:LM:96:GLU:HA	62:LM:99:GLU:HB3	1.85	0.59
64:LO:130:LYS:HG3	64:LO:131:PRO:HD2	1.85	0.59
65:LP:112:LEU:HB3	65:LP:150:LEU:HD21	1.83	0.59
2:L:142:THR:HG23	2:L:152:MET:HE1	1.85	0.59
2:L:194:GLN:NE2	10:K:241:MET:C	2.61	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S2:465:A:H4'	14:S2:466:G:O5'	2.03	0.59
14:S2:538:U:H5''	14:S2:546:G:C4	2.37	0.59
14:S2:1400:U:OP2	36:Sg:100:ARG:NH2	2.35	0.59
14:S2:1589:A:N1	14:S2:1672:U:H1'	2.18	0.59
14:S2:1656:G:H2'	14:S2:1657:G:C8	2.38	0.59
18:SE:214:ASN:HB2	18:SE:244:ILE:HD11	1.84	0.59
34:Sd:47:ALA:HB1	34:Sd:52:PHE:HB2	1.83	0.59
36:Sg:30:MET:HE1	36:Sg:56:GLN:HE21	1.67	0.59
36:Sg:149:GLU:HG2	36:Sg:170:TRP:HE3	1.67	0.59
48:L5:729:G:C6	56:LF:73:ARG:HD3	2.38	0.59
48:L5:943:A:H3'	56:LF:148:LYS:HD2	1.85	0.59
4:O:121:GLN:NE2	4:O:122:VAL:O	2.36	0.59
6:G:111:ARG:NH2	6:G:119:GLU:OE1	2.36	0.59
7:H:174:MET:SD	7:H:175:GLU:N	2.75	0.59
12:M:148:VAL:O	12:M:152:HIS:ND1	2.36	0.59
12:M:506:ALA:HA	12:M:558:ALA:HA	1.85	0.59
14:S2:1421:A:P	28:ST:133:ARG:HH22	2.26	0.59
21:SI:48:VAL:HG11	21:SI:54:LYS:HE2	1.84	0.59
27:SS:46:ARG:HD3	28:ST:35:ASP:HB3	1.84	0.59
48:L5:990:C:H2'	48:L5:991:C:H5	1.68	0.59
48:L5:1296:G:N2	48:L5:1297:U:O4	2.29	0.59
48:L5:2496:C:H2'	48:L5:2497:C:H6	1.67	0.59
85:Lj:2:THR:O	85:Lj:7:SER:OG	2.20	0.59
85:Lj:27:TYR:HA	85:Lj:34:CYS:HA	1.84	0.59
9:J:45:SER:HA	9:J:51:PRO:HB3	1.85	0.58
14:S2:71:G:O2'	14:S2:73:C:N4	2.36	0.58
14:S2:744:G:H21	14:S2:795:A:N6	2.01	0.58
14:S2:878:G:C6	14:S2:908:A:N1	2.71	0.58
14:S2:1522:A:O2'	27:SS:143:GLY:O	2.19	0.58
17:SD:76:ARG:HA	22:SK:22:VAL:HG21	1.85	0.58
19:SF:134:VAL:HG12	19:SF:135:ARG:HG2	1.83	0.58
21:SI:78:ILE:HD12	21:SI:102:VAL:HG21	1.84	0.58
26:SR:33:ARG:HG3	36:Sg:150:TRP:HH2	1.68	0.58
36:Sg:33:SER:HG	36:Sg:43:TRP:CD1	2.21	0.58
38:SG:14:LYS:HG3	38:SG:124:LEU:HD11	1.85	0.58
48:L5:1759:G:H2'	48:L5:1760:G:H8	1.68	0.58
60:LJ:13:ARG:HA	60:LJ:136:ARG:HB3	1.84	0.58
60:LJ:63:ARG:N	60:LJ:66:GLU:OE1	2.29	0.58
14:S2:71:G:H3'	14:S2:72:C:H5''	1.85	0.58
14:S2:203:G:H2'	14:S2:204:G:H8	1.68	0.58
14:S2:1266:C:O2	14:S2:1516:G:N2	2.28	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:SA:184:ARG:HD2	15:SA:191:ARG:HG2	1.85	0.58
27:SS:81:ASP:OD2	27:SS:95:TYR:OH	2.20	0.58
78:Lc:14:ILE:HD11	78:Lc:105:ILE:HD11	1.84	0.58
92:Lr:2:SER:OG	92:Lr:3:ALA:N	2.33	0.58
1:A:429:ASN:ND2	1:A:739:GLN:O	2.26	0.58
1:A:846:VAL:HB	1:A:926:ALA:HB3	1.85	0.58
12:M:690:HIS:O	12:M:694:LYS:HG3	2.03	0.58
14:S2:1398:G:C6	14:S2:1448:A:C2	2.91	0.58
48:L5:2599:A:N6	48:L5:2742:A:OP2	2.36	0.58
48:L5:4539:G:N2	48:L5:4542:A:OP2	2.34	0.58
12:M:36:PRO:HG2	12:M:37:LEU:HD12	1.85	0.58
14:S2:67:C:O5'	38:Sg:170:ARG:NH1	2.35	0.58
14:S2:1396:A:N7	14:S2:1449:G:C6	2.71	0.58
14:S2:1482:C:OP1	34:Sd:54:LYS:NZ	2.36	0.58
17:SD:77:PHE:HB2	17:SD:79:PHE:CE1	2.39	0.58
20:SH:20:GLU:OE2	20:SH:48:ALA:N	2.30	0.58
27:SS:63:GLU:HA	27:SS:66:ARG:HH11	1.67	0.58
36:Sg:135:LEU:HD12	36:Sg:135:LEU:O	2.02	0.58
48:L5:2856:A:O2'	48:L5:2857:G:H8	1.87	0.58
53:LC:71:ARG:H	53:LC:71:ARG:HD3	1.68	0.58
70:LU:49:VAL:HG12	70:LU:50:ASN:OD1	2.03	0.58
6:G:31:ARG:NH1	6:G:203:GLU:OE1	2.37	0.58
10:K:11:ARG:HE	10:K:216:VAL:HG12	1.67	0.58
13:X:46:A:O2'	13:X:47:U:OP2	2.21	0.58
13:X:200:A:O2'	13:X:201:A:OP1	2.21	0.58
14:S2:65:C:OP1	38:Sg:136:LYS:NZ	2.35	0.58
14:S2:291:G:N2	14:S2:293:C:OP2	2.36	0.58
16:SB:228:LEU:O	16:SB:231:LEU:HD12	2.04	0.58
20:SH:97:GLN:OE1	20:SH:97:GLN:N	2.36	0.58
26:SR:68:GLY:HA3	26:SR:69:ILE:HD13	1.86	0.58
80:Le:122:VAL:HG23	80:Le:125:PRO:HG3	1.84	0.58
9:J:93:MET:HE2	9:J:93:MET:HA	1.86	0.58
13:X:105:C:H2'	13:X:106:C:C6	2.38	0.58
14:S2:318:A:H2'	14:S2:319:C:O4'	2.03	0.58
14:S2:1214:A:N6	14:S2:1682:C:C2	2.72	0.58
14:S2:1539:U:O2'	28:ST:48:TYR:N	2.35	0.58
15:SA:4:ALA:H	15:SA:5:LEU:HA	1.67	0.58
36:Sg:215:GLN:HA	36:Sg:231:ASP:HA	1.85	0.58
43:SW:8:ALA:HA	43:SW:74:VAL:HG11	1.85	0.58
48:L5:2117:C:H4'	48:L5:2118:G:H4'	1.85	0.58
48:L5:3655:U:OP1	51:LA:247:ARG:NH2	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:L8:123:U:O2'	50:L8:126:C:N4	2.29	0.58
13:X:199:A:N6	47:Se:49:PHE:O	2.36	0.58
14:S2:1272:C:O2'	14:S2:1274:G:N2	2.37	0.58
14:S2:1347:U:H2'	14:S2:1348:G:H8	1.68	0.58
16:SB:87:ILE:HG12	16:SB:101:HIS:HB2	1.84	0.58
25:SQ:8:GLN:HG2	25:SQ:99:TYR:CD2	2.38	0.58
38:SG:130:PRO:HD2	72:LW:85:ALA:H	1.67	0.58
48:L5:710:G:H2'	48:L5:711:A:C8	2.39	0.58
48:L5:4133:G:H2'	48:L5:4134:G:C8	2.37	0.58
1:A:756:ARG:NH2	8:I:79:GLU:OE1	2.34	0.58
14:S2:496:C:H2'	14:S2:497:C:H6	1.69	0.58
14:S2:1560:U:H3	14:S2:1575:G:H1	1.52	0.58
17:SD:15:GLY:HA3	34:Sd:50:ILE:HG13	1.86	0.58
19:SF:82:ASN:HA	19:SF:85:LYS:HE3	1.84	0.58
24:SP:96:VAL:HG11	27:SS:118:ARG:HG3	1.84	0.58
34:Sd:10:HIS:HB2	34:Sd:11:PRO:HG3	1.84	0.58
34:Sd:25:SER:O	34:Sd:27:ARG:NH1	2.37	0.58
48:L5:970:G:H22	55:LE:126:LEU:HD21	1.67	0.58
48:L5:1185:G:O2'	48:L5:1186:U:O4'	2.13	0.58
48:L5:1247:U:H2'	48:L5:1248:C:C6	2.38	0.58
48:L5:4095:G:H2'	48:L5:4096:A:C8	2.38	0.58
48:L5:4136:C:H3'	48:L5:4137:G:C8	2.39	0.58
4:O:139:MET:N	4:O:139:MET:SD	2.76	0.58
7:H:267:GLN:O	7:H:271:ARG:HG2	2.04	0.58
14:S2:1609:C:OP1	27:SS:131:VAL:N	2.37	0.58
41:SN:23:PRO:O	41:SN:25:TRP:N	2.36	0.58
48:L5:1776:A:H3'	48:L5:1777:C:H5''	1.86	0.58
48:L5:2787:A:O2'	87:Ll:45:ARG:NH2	2.31	0.58
48:L5:2897:C:H2'	48:L5:2898:U:C6	2.39	0.58
54:LD:177:THR:OG1	54:LD:178:LYS:N	2.24	0.58
71:LV:45:ILE:HG21	71:LV:53:PRO:HB3	1.85	0.58
76:La:82:VAL:HG21	76:La:101:ILE:HG12	1.85	0.58
79:Ld:46:LEU:HD21	79:Ld:72:VAL:HG21	1.85	0.58
6:G:91:ALA:HA	6:G:93:ARG:N	2.18	0.58
13:X:15:G:H1'	13:X:55:A:H61	1.69	0.58
13:X:133:A:N6	13:X:134:G:N3	2.52	0.58
14:S2:836:G:H8	14:S2:837:A:H4'	1.68	0.58
14:S2:1401:A:N3	29:SU:55:ARG:NH2	2.45	0.58
17:SD:137:VAL:HB	17:SD:185:LYS:HB2	1.86	0.58
18:SE:117:GLU:O	18:SE:118:GLU:HG3	2.04	0.58
39:SJ:177:ASN:HA	39:SJ:180:LYS:HE3	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:L5:648:G:O2'	48:L5:649:A:OP1	2.22	0.58
48:L5:1182:C:H5'	48:L5:1183:C:H1'	1.86	0.58
14:S2:17:C:O2'	14:S2:1194:A:N1	2.36	0.57
14:S2:123:G:O3'	18:SE:148:ARG:NH1	2.37	0.57
14:S2:1445:U:H4'	29:SU:57:PRO:HG3	1.86	0.57
21:SI:146:GLN:O	21:SI:150:ASP:N	2.35	0.57
48:L5:699:C:H2'	48:L5:700:G:C8	2.38	0.57
48:L5:1631:A:H2	51:LA:208:GLU:OE2	1.87	0.57
48:L5:1761:G:H22	48:L5:1768:C:H42	1.51	0.57
1:A:1032:GLN:OE1	1:A:1036:GLU:OE2	2.22	0.57
6:G:139:TYR:HB3	6:G:142:ALA:HB3	1.86	0.57
14:S2:795:A:H2'	14:S2:796:G:C8	2.39	0.57
14:S2:881:G:O6	14:S2:905:C:N4	2.37	0.57
14:S2:1679:A:H2'	19:SF:60:ARG:HD2	1.85	0.57
36:Sg:236:ILE:HG23	36:Sg:251:ALA:H	1.69	0.57
37:SC:183:LYS:HE2	37:SC:196:ILE:HD13	1.86	0.57
38:SG:139:SER:HA	38:SG:142:ARG:HB2	1.86	0.57
48:L5:750:U:H3'	48:L5:751:G:H8	1.68	0.57
59:LI:77:VAL:HG23	59:LI:85:PHE:HZ	1.69	0.57
14:S2:140:C:N4	14:S2:177:G:O2'	2.38	0.57
14:S2:1625:U:H2'	14:S2:1626:C:C6	2.39	0.57
18:SE:163:ASP:N	18:SE:163:ASP:OD1	2.37	0.57
24:SP:86:LEU:HG	24:SP:88:GLU:HG3	1.86	0.57
28:ST:120:GLY:C	28:ST:121:ARG:HD2	2.30	0.57
38:SG:222:GLU:HA	38:SG:225:GLN:NE2	2.19	0.57
44:SY:80:ASP:OD1	44:SY:81:TYR:N	2.36	0.57
91:Lp:47:MET:HE2	91:Lp:57:CYS:HB2	1.85	0.57
14:S2:613:G:N2	14:S2:626:G:OP1	2.36	0.57
15:SA:205:ARG:HB3	15:SA:210:ILE:HD13	1.86	0.57
16:SB:202:GLN:NE2	16:SB:203:SER:OG	2.37	0.57
26:SR:23:ARG:NH1	26:SR:23:ARG:HB2	2.19	0.57
38:SG:144:LEU:HD13	72:LW:105:ARG:HH22	1.68	0.57
43:SW:11:LEU:HD12	43:SW:74:VAL:HB	1.86	0.57
48:L5:201:C:O2'	48:L5:202:C:OP1	2.20	0.57
48:L5:661:C:H2'	48:L5:662:C:H6	1.69	0.57
48:L5:923:C:H2'	48:L5:924:C:C6	2.39	0.57
48:L5:2555:G:H2'	48:L5:2556:C:H6	1.68	0.57
57:LG:58:PRO:O	57:LG:60:TYR:N	2.37	0.57
12:M:186:LYS:HE2	12:M:207:LEU:HD13	1.87	0.57
14:S2:30:C:O2'	14:S2:596:U:OP1	2.14	0.57
14:S2:639:C:H2'	14:S2:640:A:H8	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S2:925:G:H1	14:S2:1017:U:H3	1.52	0.57
14:S2:1260:A:N1	14:S2:1617:G:C2	2.72	0.57
14:S2:1420:G:H2'	14:S2:1421:A:H8	1.69	0.57
38:SG:102:VAL:HG23	38:SG:106:LEU:HD21	1.85	0.57
48:L5:747:A:N6	48:L5:916:C:N4	2.18	0.57
58:LH:14:GLU:O	58:LH:52:LYS:NZ	2.27	0.57
83:Lh:96:ASN:O	83:Lh:98:HIS:N	2.38	0.57
3:N:16:ARG:HA	3:N:19:LYS:HZ3	1.69	0.57
13:X:199:A:OP2	17:SD:117:ARG:NH1	2.38	0.57
13:X:228:U:H4'	13:X:229:U:OP2	2.05	0.57
14:S2:203:G:H2'	14:S2:204:G:C8	2.39	0.57
14:S2:1834:A:H2	14:S2:1837:G:H1	1.51	0.57
40:SM:42:LEU:HD13	40:SM:68:LEU:HD12	1.87	0.57
48:L5:1697:G:N2	48:L5:1719:A:OP2	2.32	0.57
12:M:727:LYS:HG2	12:M:947:LEU:HD23	1.85	0.57
14:S2:1685:U:H2'	14:S2:1686:G:O4'	2.04	0.57
20:SH:191:GLU:HG3	20:SH:192:PHE:H	1.70	0.57
48:L5:506:C:N4	48:L5:652:G:H1	1.99	0.57
48:L5:963:G:N2	48:L5:2252:G:OP2	2.34	0.57
51:LA:77:ILE:HD11	51:LA:128:ARG:HH11	1.70	0.57
56:LF:116:GLN:HG2	56:LF:119:ASN:ND2	2.19	0.57
60:LJ:39:VAL:O	60:LJ:42:GLN:NE2	2.38	0.57
3:N:84:ASP:HB3	3:N:140:ILE:HG12	1.86	0.57
14:S2:640:A:H2'	14:S2:641:A:C8	2.40	0.57
17:SD:54:ARG:HG2	17:SD:57:ASN:HB3	1.85	0.57
19:SF:50:PRO:CD	19:SF:51:HIS:N	2.67	0.57
29:SU:56:MET:HE2	29:SU:56:MET:HA	1.87	0.57
36:Sg:172:LYS:HB2	36:Sg:191:HIS:HB3	1.86	0.57
48:L5:1529:G:O2'	85:Lj:49:TRP:HZ2	1.87	0.57
48:L5:2261:A:N7	48:L5:2263:G:O2'	2.37	0.57
53:LC:140:LYS:HE3	53:LC:245:HIS:HD2	1.68	0.57
55:LE:123:ARG:O	55:LE:124:LYS:HE2	2.05	0.57
1:A:639:ILE:HG13	1:A:644:LYS:HG3	1.87	0.57
3:N:249:GLN:OE1	4:O:207:GLN:NE2	2.38	0.57
4:O:64:VAL:HB	4:O:115:SER:HB3	1.85	0.57
14:S2:1440:C:N4	14:S2:1441:U:O4	2.38	0.57
14:S2:1534:C:HO2'	14:S2:1598:G:H21	1.51	0.57
22:SK:3:MET:HE2	22:SK:4:PRO:HD3	1.87	0.57
41:SN:67:THR:OG1	41:SN:68:GLY:N	2.38	0.57
48:L5:948:C:OP1	53:LC:336:ARG:NH2	2.38	0.57
3:N:206:LEU:HD12	3:N:247:LYS:HE3	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:X:100:G:H1	13:X:128:C:H42	1.53	0.57
14:S2:899:U:H2'	14:S2:900:C:H4'	1.86	0.57
14:S2:1215:C:OP2	14:S2:1217:A:N6	2.33	0.57
14:S2:1692:U:H2'	14:S2:1693:G:H8	1.70	0.57
38:SG:131:ARG:HH11	38:SG:131:ARG:HG3	1.69	0.57
48:L5:988:C:H42	48:L5:1065:G:H1	1.52	0.57
48:L5:1196:G:H2'	48:L5:1197:C:O4'	2.05	0.57
48:L5:2261:A:C8	48:L5:2263:G:C8	2.93	0.57
48:L5:3768:U:H2'	48:L5:3769:C:O4'	2.05	0.57
51:LA:120:PRO:HA	51:LA:162:ASN:HB3	1.87	0.57
4:O:219:HIS:CE1	10:K:303:ILE:HG22	2.40	0.56
14:S2:1675:A:H1'	19:SF:77:MET:SD	2.45	0.56
17:SD:67:ARG:NH1	17:SD:86:LEU:O	2.37	0.56
28:ST:124:THR:HG23	28:ST:127:GLY:H	1.70	0.56
38:SG:5:ILE:O	38:SG:14:LYS:N	2.29	0.56
39:SJ:124:HIS:HD2	47:Se:31:ARG:HH11	1.53	0.56
40:SM:61:TYR:O	40:SM:65:VAL:HG22	2.05	0.56
48:L5:1279:A:H3'	48:L5:1280:C:C6	2.39	0.56
48:L5:1829:G:O3'	77:Lb:68:ARG:NH1	2.38	0.56
48:L5:2261:A:OP1	92:Lr:39:ARG:NH2	2.37	0.56
48:L5:3594:A:O2'	67:LR:143:HIS:ND1	2.38	0.56
58:LH:91:LYS:HD2	58:LH:145:ILE:HG22	1.86	0.56
84:Li:20:ASN:OD1	84:Li:21:VAL:N	2.38	0.56
1:A:925:MET:HA	1:A:925:MET:HE3	1.85	0.56
3:N:227:ASP:HB2	3:N:231:LYS:HB3	1.87	0.56
14:S2:883:U:H2'	14:S2:884:C:C6	2.40	0.56
27:SS:23:ARG:HH22	45:SZ:47:LEU:HD12	1.69	0.56
48:L5:2758:G:O2'	48:L5:2760:G:N2	2.38	0.56
48:L5:3687:G:O2'	48:L5:3816:U:OP2	2.22	0.56
61:LL:126:LEU:N	61:LL:138:ASP:OD2	2.23	0.56
67:LR:139:MET:HB2	67:LR:143:HIS:HE1	1.63	0.56
69:LT:18:PRO:HB2	69:LT:21:LYS:HG3	1.87	0.56
91:Lp:49:ARG:HH21	91:Lp:52:VAL:HA	1.70	0.56
1:A:491:LEU:HB2	1:A:504:PHE:HB2	1.87	0.56
1:A:645:GLU:HG3	1:A:649:MET:HE2	1.87	0.56
1:A:766:MET:SD	1:A:1049:LEU:HD13	2.46	0.56
1:A:1156:GLN:HE22	1:A:1161:PHE:HB2	1.69	0.56
5:F:46:SER:HA	5:F:164:ARG:HH12	1.71	0.56
7:H:169:VAL:HB	7:H:177:GLU:HB3	1.86	0.56
14:S2:67:C:N4	38:SG:164:LYS:HB2	2.20	0.56
14:S2:1692:U:H2'	14:S2:1693:G:C8	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:SA:33:GLN:NE2	15:SA:154:LEU:HB2	2.20	0.56
15:SA:111:GLN:HE22	37:SC:89:LYS:HB3	1.68	0.56
17:SD:126:ILE:HG21	17:SD:134:CYS:HB3	1.87	0.56
19:SF:49:LEU:HD11	25:SQ:49:TYR:HB3	1.88	0.56
38:SG:139:SER:HA	38:SG:142:ARG:HD3	1.88	0.56
39:SJ:88:ASP:N	39:SJ:88:ASP:OD1	2.35	0.56
43:SW:76:SER:HB2	43:SW:77:PRO:HD3	1.85	0.56
44:SY:97:TYR:HE2	44:SY:99:LYS:HD3	1.70	0.56
48:L5:1399:G:H2'	48:L5:1400:G:H8	1.70	0.56
48:L5:1836:A:H2'	48:L5:1837:A:C8	2.40	0.56
48:L5:2476:C:H2'	48:L5:2477:G:C8	2.40	0.56
48:L5:2500:G:H3'	48:L5:2501:G:H5''	1.87	0.56
57:LG:255:LYS:O	57:LG:259:LYS:HB3	2.06	0.56
60:LJ:13:ARG:CB	60:LJ:136:ARG:HD3	2.35	0.56
1:A:1156:GLN:HE21	1:A:1160:GLU:HG3	1.70	0.56
7:H:163:ILE:HG12	7:H:192:VAL:HG22	1.88	0.56
10:K:36:ARG:NH2	10:K:38:SER:OG	2.38	0.56
10:K:42:ASP:N	10:K:42:ASP:OD1	2.36	0.56
14:S2:452:G:OP1	38:SG:88:ARG:NH2	2.37	0.56
14:S2:557:U:H2'	14:S2:558:G:C8	2.40	0.56
14:S2:1654:G:OP1	28:ST:90:SER:OG	2.23	0.56
14:S2:1740:C:H2'	14:S2:1741:U:C6	2.41	0.56
16:SB:231:LEU:HD12	16:SB:232:HIS:N	2.20	0.56
17:SD:227:LYS:N	36:Sg:185:LYS:O	2.33	0.56
30:SV:71:ARG:HH12	30:SV:74:LYS:HE2	1.70	0.56
48:L5:268:G:H2'	48:L5:269:G:C8	2.41	0.56
48:L5:736:C:H2'	48:L5:737:C:H4'	1.86	0.56
48:L5:1699:A:H62	48:L5:2116:G:H1	1.53	0.56
48:L5:1996:A:H2	48:L5:2018:U:H1'	1.69	0.56
48:L5:2257:G:OP2	48:L5:2258:C:H3'	2.06	0.56
48:L5:2554:G:H2'	48:L5:2555:G:H8	1.70	0.56
48:L5:2846:G:O2'	48:L5:3836:U:O4	2.18	0.56
48:L5:2887:G:H21	48:L5:5032:A:H8	1.52	0.56
60:LJ:56:THR:HB	60:LJ:57:VAL:HA	1.87	0.56
79:Ld:57:MET:HE2	79:Ld:90:ARG:HG2	1.88	0.56
84:Li:23:LYS:HD3	84:Li:24:PRO:HD2	1.88	0.56
1:A:975:HIS:ND1	1:A:978:GLY:O	2.38	0.56
1:A:983:ASP:HB3	1:A:987:ASP:H	1.70	0.56
5:F:169:ARG:HD3	5:F:171:LEU:HD23	1.88	0.56
12:M:228:HIS:ND1	12:M:335:VAL:O	2.31	0.56
14:S2:1693:G:H21	14:S2:1834:A:H8	1.52	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:SF:17:ILE:HG23	19:SF:18:LYS:H	1.71	0.56
21:SI:146:GLN:NE2	21:SI:150:ASP:OD1	2.38	0.56
29:SU:59:LYS:HD3	29:SU:86:LYS:HZ3	1.71	0.56
48:L5:2763:A:C6	48:L5:2764:A:C8	2.93	0.56
83:Lh:48:ARG:O	83:Lh:52:LYS:HG2	2.06	0.56
1:A:1156:GLN:NE2	1:A:1160:GLU:HG3	2.21	0.56
8:I:143:ALA:HB3	8:I:156:LEU:HD12	1.87	0.56
12:M:787:LEU:HB3	12:M:789:LEU:HD13	1.88	0.56
13:X:92:A:N6	13:X:130:G:O6	2.39	0.56
14:S2:319:C:H3'	14:S2:320:G:O4'	2.06	0.56
16:SB:125:VAL:HG21	16:SB:172:MET:HG3	1.85	0.56
20:SH:40:LEU:O	20:SH:40:LEU:HD23	2.06	0.56
28:ST:9:VAL:HG21	28:ST:135:ALA:HB1	1.87	0.56
38:SG:50:VAL:HG21	38:SG:111:LEU:HD21	1.88	0.56
40:SM:50:CYS:SG	40:SM:51:VAL:N	2.79	0.56
48:L5:1237:C:H5''	55:LE:59:ARG:HB2	1.86	0.56
48:L5:2104:G:N1	48:L5:2124:G:N7	2.53	0.56
48:L5:2472:G:H2'	48:L5:2500:G:N2	2.21	0.56
48:L5:2756:G:H2'	48:L5:2757:G:C8	2.40	0.56
48:L5:5002:C:H2'	48:L5:5003:G:O4'	2.06	0.56
48:L5:5045:C:O2'	48:L5:5048:C:OP2	2.23	0.56
66:LQ:88:ASP:HB3	66:LQ:109:ALA:HB2	1.87	0.56
67:LR:136:ARG:HA	67:LR:139:MET:CG	2.33	0.56
12:M:8:VAL:HA	12:M:22:VAL:HA	1.88	0.56
12:M:704:ALA:HB3	12:M:774:THR:HG21	1.88	0.56
14:S2:913:A:OP2	20:SH:99:ARG:NH2	2.34	0.56
14:S2:1513:C:OP1	34:Sd:10:HIS:ND1	2.35	0.56
14:S2:1608:U:O4	14:S2:1632:G:N2	2.39	0.56
19:SF:127:ARG:NH2	33:Sc:68:LEU:O	2.36	0.56
22:SK:26:ASP:HB3	22:SK:29:MET:HE2	1.87	0.56
36:Sg:104:HIS:NE2	36:Sg:126:ASP:OD2	2.38	0.56
42:SO:126:ILE:HG22	42:SO:127:GLY:H	1.71	0.56
48:L5:1998:G:C8	48:L5:2016:C:H1'	2.41	0.56
48:L5:2555:G:N1	48:L5:2568:U:N3	2.54	0.56
48:L5:2753:A:C2	48:L5:2754:G:H1'	2.41	0.56
61:LL:123:LYS:HB2	83:Lh:122:LYS:HB2	1.86	0.56
73:LX:119:ILE:HG12	73:LX:140:LEU:HD11	1.87	0.56
78:Lc:53:PRO:HB2	78:Lc:56:ARG:HB2	1.88	0.56
5:F:57:ASP:HB3	5:F:142:LEU:HB2	1.88	0.56
12:M:700:PHE:HD1	12:M:703:GLN:HE21	1.54	0.56
14:S2:318:A:C6	14:S2:319:C:C5	2.94	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:SR:33:ARG:HG3	36:Sg:150:TRP:CH2	2.41	0.56
33:Sc:29:GLN:HG3	33:Sc:45:ASN:HB3	1.87	0.56
48:L5:2118:G:H2'	48:L5:2119:C:O4'	2.05	0.56
48:L5:2785:A:H2	48:L5:2799:U:H3	1.52	0.56
57:LG:28:VAL:HG23	57:LG:32:PHE:HD2	1.71	0.56
60:LJ:63:ARG:HH11	90:Lo:106:PHE:HB3	1.66	0.56
66:LQ:122:THR:OG1	66:LQ:124:ASP:OD1	2.17	0.56
80:Le:43:ASN:OD1	80:Le:44:ARG:N	2.39	0.56
82:Lg:3:GLN:OE1	82:Lg:3:GLN:N	2.38	0.56
90:Lo:103:VAL:CG1	90:Lo:106:PHE:C	2.78	0.56
3:N:39:ILE:HD11	3:N:158:ALA:HB1	1.88	0.56
12:M:289:ILE:HG13	12:M:342:TRP:HE1	1.71	0.56
13:X:1:A:O2'	13:X:71:U:O5'	2.24	0.56
14:S2:70:G:H21	14:S2:79:A:N6	2.00	0.56
14:S2:1290:G:N2	14:S2:1310:U:O2	2.37	0.56
14:S2:1522:A:H8	27:SS:146:VAL:HG22	1.71	0.56
14:S2:1580:A:N7	29:SU:56:MET:HE1	2.20	0.56
14:S2:1743:G:H21	14:S2:1791:A:N6	1.98	0.56
17:SD:29:LEU:HD23	17:SD:34:TYR:HD1	1.71	0.56
21:SI:8:TRP:HZ3	21:SI:20:PRO:HB3	1.71	0.56
21:SI:146:GLN:HA	21:SI:149:TYR:HB2	1.88	0.56
22:SK:49:MET:CE	22:SK:52:LEU:HB3	2.35	0.56
48:L5:158:A:N7	48:L5:277:G:N1	2.54	0.56
48:L5:1697:G:N2	48:L5:1718:C:H5''	2.21	0.56
48:L5:2905:G:H1'	48:L5:3587:G:H22	1.70	0.56
48:L5:4675:U:O2'	48:L5:4676:G:O5'	2.24	0.56
53:LC:209:ILE:HB	53:LC:229:LEU:HD23	1.87	0.56
12:M:118:ALA:HB1	12:M:121:PHE:HB2	1.88	0.56
14:S2:148:U:H2'	14:S2:149:A:H8	1.70	0.56
14:S2:1681:U:H2'	14:S2:1682:C:C6	2.40	0.56
15:SA:164:ASN:O	15:SA:170:SER:OG	2.19	0.56
30:SV:23:ILE:HD11	37:SC:249:SER:HA	1.87	0.56
37:SC:183:LYS:HD3	37:SC:194:ARG:NH2	2.19	0.56
48:L5:308:G:OP2	48:L5:308:G:N2	2.27	0.56
48:L5:475:G:O6	48:L5:679:C:N4	2.26	0.56
48:L5:756:G:N2	48:L5:757:G:O4'	2.39	0.56
48:L5:5055:C:H2'	48:L5:5056:A:C8	2.41	0.56
59:LI:61:SER:HA	59:LI:126:VAL:HG23	1.87	0.56
61:LL:65:ARG:NH1	76:La:66:ASN:OD1	2.38	0.56
14:S2:380:G:OP1	21:SI:31:ARG:NH1	2.36	0.55
20:SH:117:PRO:HD2	20:SH:120:ARG:HD3	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:SG:130:PRO:HG2	72:LW:84:GLY:HA2	1.87	0.55
48:L5:1983:G:H1	48:L5:2011:A:H62	1.54	0.55
62:LM:31:ILE:HG13	62:LM:35:ARG:CB	2.36	0.55
1:A:1005:LEU:C	1:A:1009:ILE:HD12	2.30	0.55
6:G:102:ARG:NH1	6:G:153:ASP:OD2	2.40	0.55
14:S2:1316:C:O2'	35:Sf:96:LYS:HD2	2.07	0.55
14:S2:1478:U:H2'	14:S2:1479:G:C8	2.41	0.55
34:Sd:10:HIS:H	34:Sd:12:ARG:HH12	1.52	0.55
59:LI:76:MET:O	59:LI:77:VAL:HB	2.05	0.55
60:LJ:32:ARG:HA	60:LJ:35:ARG:CD	2.36	0.55
6:G:63:LEU:HD11	11:E:567:LEU:HD21	1.88	0.55
12:M:86:THR:O	12:M:139:GLN:NE2	2.39	0.55
12:M:839:HIS:O	12:M:843:ARG:HG2	2.06	0.55
14:S2:1256:G:H5''	34:Sd:40:ARG:HH12	1.72	0.55
14:S2:1855:G:OP1	42:SO:150:ARG:NH2	2.35	0.55
20:SH:162:GLN:NE2	20:SH:166:VAL:HG13	2.21	0.55
27:SS:120:HIS:O	27:SS:122:GLY:N	2.38	0.55
48:L5:472:C:H42	48:L5:682:G:H1	1.52	0.55
48:L5:1179:U:O2	48:L5:1181:C:H5'	2.06	0.55
48:L5:1183:C:O2	48:L5:1184:A:N6	2.38	0.55
48:L5:1218:G:C2	48:L5:1219:G:H1'	2.41	0.55
48:L5:1306:C:H2'	48:L5:1307:A:H8	1.72	0.55
48:L5:2054:G:OP1	64:LO:128:ARG:NH2	2.40	0.55
86:Lk:10:ASP:HA	86:Lk:13:LEU:HB3	1.88	0.55
1:A:464:ALA:HB1	1:A:475:ILE:HG21	1.89	0.55
8:I:87:ARG:HH21	8:I:140:LEU:HD21	1.70	0.55
12:M:64:LYS:CD	12:M:165:GLU:HB3	2.29	0.55
12:M:208:GLN:HA	12:M:211:ARG:HE	1.72	0.55
14:S2:1660:C:O2'	14:S2:1662:U:OP2	2.24	0.55
48:L5:679:C:H2'	48:L5:680:G:C8	2.42	0.55
48:L5:730:G:H22	48:L5:939:G:N2	2.05	0.55
48:L5:1069:G:H2'	48:L5:1070:G:H8	1.72	0.55
48:L5:2258:C:H41	56:LF:25:PHE:HE1	1.53	0.55
48:L5:2405:G:OP2	48:L5:2405:G:N2	2.33	0.55
81:Lf:53:ALA:O	81:Lf:55:ASN:N	2.36	0.55
1:A:374:ARG:HD3	1:A:380:VAL:HG12	1.86	0.55
8:I:172:VAL:HB	8:I:203:ILE:HB	1.89	0.55
14:S2:688:U:H4'	14:S2:689:U:O5'	2.05	0.55
17:SD:96:LEU:HD21	17:SD:131:ALA:HB2	1.87	0.55
22:SK:43:LEU:HG	22:SK:44:HIS:ND1	2.22	0.55
25:SQ:47:LEU:O	25:SQ:49:TYR:N	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Sg:5:MET:HA	36:Sg:8:ARG:HH22	1.71	0.55
36:Sg:86:THR:HG22	36:Sg:102:VAL:HG12	1.88	0.55
48:L5:408:A:O2'	48:L5:411:G:OP2	2.22	0.55
48:L5:695:G:H3'	48:L5:696:C:C6	2.42	0.55
48:L5:956:A:H3'	48:L5:957:G:C8	2.41	0.55
48:L5:1214:C:H42	56:LF:56:HIS:HB2	1.71	0.55
60:LJ:169:LYS:HG3	60:LJ:170:TYR:CE1	2.42	0.55
14:S2:980:A:H2'	14:S2:981:A:H8	1.71	0.55
14:S2:1109:C:N4	26:SR:123:THR:OG1	2.32	0.55
14:S2:1273:C:H2'	14:S2:1506:A:C2	2.41	0.55
15:SA:207:PRO:O	15:SA:211:GLU:HG2	2.06	0.55
25:SQ:45:ARG:HH22	45:SZ:102:LYS:HE2	1.70	0.55
32:Sa:73:TYR:HE2	32:Sa:83:VAL:HG21	1.71	0.55
49:L7:1:G:H4'	54:LD:265:ARG:HG3	1.89	0.55
70:LU:105:ASN:OD1	70:LU:109:SER:OG	2.18	0.55
10:K:303:ILE:HG13	10:K:304:ASP:N	2.09	0.55
14:S2:921:G:C6	43:SW:28:ARG:HD3	2.42	0.55
14:S2:1435:C:H4'	14:S2:1436:C:H5	1.72	0.55
17:SD:127:MET:HE1	17:SD:134:CYS:SG	2.46	0.55
18:SE:35:PRO:HD2	18:SE:83:PRO:HG2	1.87	0.55
24:SP:74:GLU:HG3	24:SP:76:VAL:HG23	1.89	0.55
26:SR:106:LEU:O	26:SR:110:ASP:N	2.39	0.55
27:SS:130:ARG:H	27:SS:130:ARG:HD2	1.72	0.55
37:SC:61:MET:HE3	37:SC:61:MET:H	1.71	0.55
39:SJ:58:ARG:O	39:SJ:62:THR:HG23	2.06	0.55
48:L5:734:G:H1	48:L5:929:A:H62	1.55	0.55
48:L5:3725:A:H2'	48:L5:3726:A:C8	2.42	0.55
48:L5:3782:A:O2'	48:L5:3783:A:OP1	2.24	0.55
48:L5:4131:C:OP1	48:L5:4142:C:N4	2.40	0.55
48:L5:5018:G:H2'	48:L5:5019:C:H6	1.67	0.55
50:L8:45:C:H4'	87:Ll:11:ARG:HH11	1.70	0.55
52:LB:17:LEU:O	52:LB:19:ARG:N	2.39	0.55
54:LD:177:THR:HB	54:LD:180:PHE:HD2	1.72	0.55
72:LW:79:GLN:HA	72:LW:80:ARG:HB3	1.87	0.55
1:A:441:LEU:HD12	1:A:442:ILE:HG13	1.89	0.55
1:A:683:LYS:HD2	1:A:692:LEU:HD23	1.88	0.55
12:M:158:MET:HA	12:M:158:MET:HE2	1.87	0.55
14:S2:552:G:H2'	14:S2:553:U:C6	2.42	0.55
14:S2:1285:G:N2	35:Sf:103:LEU:O	2.36	0.55
14:S2:1536:G:H2'	14:S2:1537:A:H8	1.72	0.55
14:S2:1567:G:O2'	28:ST:37:VAL:HG21	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:SA:63:ARG:HH12	30:SV:39:VAL:HG22	1.70	0.55
16:SB:138:PHE:O	16:SB:213:ARG:N	2.37	0.55
22:SK:25:LYS:HD2	22:SK:62:PHE:HZ	1.72	0.55
48:L5:2553:G:H1	48:L5:2570:C:H41	1.55	0.55
68:LS:17:LEU:H	68:LS:17:LEU:HD23	1.71	0.55
1:A:624:MET:HG2	1:A:643:LEU:HD12	1.88	0.55
1:A:898:PRO:O	1:A:902:VAL:HG22	2.06	0.55
5:F:112:ILE:HD13	5:F:238:CYS:HB3	1.88	0.55
10:K:304:ASP:OD2	10:K:306:SER:OG	2.25	0.55
14:S2:80:G:H2'	14:S2:81:U:C6	2.42	0.55
14:S2:1623:A:H5'	14:S2:1624:U:H5''	1.89	0.55
38:SG:164:LYS:HG2	38:SG:166:GLY:H	1.72	0.55
48:L5:178:C:H2'	48:L5:179:G:C8	2.42	0.55
48:L5:1692:C:H5'	66:LQ:53:MET:HE2	1.89	0.55
48:L5:2376:G:N2	48:L5:2379:A:OP2	2.37	0.55
48:L5:2743:A:H2'	48:L5:2744:A:C8	2.40	0.55
53:LC:358:ALA:O	53:LC:362:GLN:N	2.36	0.55
67:LR:132:PHE:CD2	67:LR:138:LEU:HD13	2.42	0.55
1:A:455:ALA:HB3	1:A:699:GLN:HE22	1.71	0.55
4:O:97:LEU:HB2	4:O:194:MET:SD	2.46	0.55
5:F:179:ASP:OD1	5:F:179:ASP:N	2.39	0.55
13:X:36:A:H1'	13:X:37:G:O5'	2.07	0.55
15:SA:201:LEU:HA	26:SR:85:VAL:HG11	1.89	0.55
17:SD:132:LYS:HZ3	17:SD:156:LEU:HB3	1.72	0.55
48:L5:4598:G:O2'	48:L5:4599:U:O5'	2.25	0.55
48:L5:4728:C:OP2	48:L5:4963:U:O2'	2.18	0.55
60:LJ:35:ARG:NE	60:LJ:126:TYR:OH	2.35	0.55
75:LZ:31:ASP:N	75:LZ:31:ASP:OD1	2.38	0.55
1:A:786:LEU:HA	1:A:1037:MET:CE	2.35	0.54
7:H:25:GLY:HA2	7:H:85:ARG:HB3	1.88	0.54
9:J:43:LYS:HG2	9:J:53:VAL:HG22	1.88	0.54
14:S2:1064:C:H2'	14:S2:1065:G:H8	1.72	0.54
14:S2:1275:G:O2'	14:S2:1322:G:N2	2.40	0.54
14:S2:1285:G:H5''	40:SM:35:ILE:HB	1.89	0.54
14:S2:1451:G:H1'	14:S2:1474:A:H61	1.71	0.54
37:SC:77:SER:OG	37:SC:78:LEU:N	2.40	0.54
38:SG:137:ARG:HE	38:SG:178:ARG:NH2	2.05	0.54
42:SO:42:VAL:HG13	42:SO:43:HIS:H	1.72	0.54
48:L5:1177:U:H4'	54:LD:283:LYS:HD3	1.89	0.54
48:L5:3871:G:H2'	48:L5:3872:G:C8	2.42	0.54
58:LH:128:MET:HE1	58:LH:134:CYS:HB3	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:LS:34:ALA:HB1	68:LS:39:VAL:HG23	1.89	0.54
72:LW:69:LYS:H	72:LW:70:LYS:CB	2.14	0.54
80:Le:104:SER:OG	80:Le:105:SER:N	2.21	0.54
3:N:52:LYS:HG2	11:E:569:LEU:HD12	1.89	0.54
13:X:57:U:H2'	13:X:58:G:H5''	1.88	0.54
14:S2:1298:G:H4'	24:SP:78:THR:HG22	1.88	0.54
19:SF:167:LYS:HA	45:SZ:71:ALA:HB1	1.87	0.54
21:SI:79:ILE:HD11	21:SI:105:ASP:HB2	1.89	0.54
48:L5:493:G:H2'	48:L5:494:U:C6	2.42	0.54
48:L5:751:G:H22	48:L5:912:G:H1	1.55	0.54
48:L5:969:C:H1'	48:L5:970:G:C5	2.42	0.54
48:L5:970:G:OP2	48:L5:970:G:N2	2.40	0.54
48:L5:2609:A:H5'	48:L5:2686:G:H4'	1.88	0.54
48:L5:4131:C:H2'	48:L5:4132:C:C6	2.42	0.54
53:LC:109:ARG:O	53:LC:111:TRP:N	2.40	0.54
54:LD:177:THR:HG1	54:LD:178:LYS:H	1.55	0.54
54:LD:261:VAL:HG12	54:LD:263:LYS:H	1.72	0.54
81:Lf:50:VAL:HG22	81:Lf:69:VAL:HG12	1.89	0.54
12:M:427:ILE:HD11	12:M:857:LEU:HD22	1.89	0.54
14:S2:1398:G:C2	14:S2:1448:A:H2	2.19	0.54
14:S2:1472:C:H4'	36:Sg:15:ASN:OD1	2.08	0.54
22:SK:34:GLU:O	22:SK:36:ALA:N	2.41	0.54
48:L5:1274:A:O2'	48:L5:1275:G:O5'	2.25	0.54
48:L5:1402:C:H2'	48:L5:1403:G:H8	1.72	0.54
50:L8:82:A:H62	50:L8:84:A:H5'	1.72	0.54
54:LD:184:ASP:OD2	54:LD:187:SER:OG	2.24	0.54
1:A:898:PRO:HD3	1:A:1015:VAL:HG11	1.88	0.54
2:L:21:LEU:HG	2:L:171:ASP:HB2	1.89	0.54
7:H:210:LEU:HD22	7:H:217:ILE:HG21	1.89	0.54
12:M:924:GLY:HA3	12:M:937:THR:HA	1.90	0.54
14:S2:521:A:OP1	39:SJ:45:ARG:NH1	2.39	0.54
14:S2:1540:G:OP2	28:ST:43:LYS:NZ	2.35	0.54
14:S2:1673:U:OP1	25:SQ:79:ALA:N	2.41	0.54
22:SK:64:TRP:HE3	34:Sd:22:ARG:HE	1.56	0.54
30:SV:56:CYS:SG	30:SV:59:ILE:HG22	2.48	0.54
44:SY:16:ARG:NH1	44:SY:19:GLN:OE1	2.40	0.54
48:L5:178:C:N4	48:L5:179:G:O6	2.40	0.54
48:L5:483:G:H22	48:L5:671:G:N2	1.98	0.54
48:L5:975:C:N4	48:L5:976:G:N7	2.55	0.54
48:L5:2898:U:H2'	48:L5:2899:G:C8	2.42	0.54
52:LB:291:TYR:CD1	52:LB:299:ILE:HG22	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:LJ:32:ARG:HH11	60:LJ:35:ARG:HH21	1.52	0.54
64:LO:8:VAL:O	64:LO:118:MET:HB2	2.07	0.54
68:LS:99:ASP:OD1	68:LS:100:LEU:N	2.31	0.54
75:LZ:46:ILE:HD11	75:LZ:49:TYR:CE2	2.43	0.54
1:A:513:PHE:HA	1:A:734:MET:HE1	1.89	0.54
1:A:640:LEU:HD21	1:A:1237:ILE:HD11	1.89	0.54
1:A:778:ASP:N	1:A:778:ASP:OD1	2.40	0.54
2:L:229:ARG:O	2:L:233:GLN:HG2	2.07	0.54
14:S2:107:A:H2'	14:S2:108:G:H8	1.71	0.54
14:S2:1297:U:H2'	14:S2:1298:G:H2'	1.89	0.54
25:SQ:102:GLU:OE1	25:SQ:102:GLU:N	2.40	0.54
27:SS:22:GLY:O	27:SS:57:GLY:N	2.40	0.54
29:SU:26:SER:OG	29:SU:27:ARG:N	2.41	0.54
36:Sg:8:ARG:NH2	36:Sg:311:GLN:O	2.41	0.54
48:L5:699:C:N4	48:L5:700:G:O6	2.40	0.54
48:L5:2484:G:H2'	48:L5:2485:G:C8	2.43	0.54
51:LA:97:ASN:HB3	51:LA:100:ASN:ND2	2.22	0.54
1:A:1026:LYS:O	1:A:1030:ARG:HD3	2.08	0.54
2:L:194:GLN:HE22	10:K:242:LEU:CA	2.20	0.54
12:M:423:GLU:HB3	12:M:857:LEU:HD21	1.89	0.54
12:M:637:ARG:NH1	12:M:679:GLU:OE1	2.40	0.54
14:S2:1098:C:H2'	14:S2:1099:G:C8	2.43	0.54
14:S2:1285:G:H5'	40:SM:36:ARG:HH11	1.73	0.54
36:Sg:120:ILE:HB	36:Sg:132:TRP:O	2.07	0.54
40:SM:55:ASN:ND2	40:SM:57:ASP:OD2	2.40	0.54
42:SO:85:CYS:SG	42:SO:90:ILE:HD11	2.47	0.54
48:L5:150:U:O4	57:LG:187:LYS:NZ	2.35	0.54
48:L5:4763:G:N2	48:L5:4867:U:H3	2.04	0.54
52:LB:161:ARG:HG3	52:LB:184:GLN:HA	1.89	0.54
61:LL:165:LYS:HG2	61:LL:166:ALA:H	1.72	0.54
70:LU:52:LYS:NZ	70:LU:53:ALA:O	2.40	0.54
1:A:811:TYR:CE1	1:A:1009:ILE:HG23	2.42	0.54
1:A:1090:LEU:O	1:A:1094:LEU:HG	2.07	0.54
2:L:16:ARG:HA	12:M:28:ARG:HH12	1.73	0.54
23:SL:85:THR:HG22	23:SL:112:HIS:HA	1.90	0.54
29:SU:66:ARG:NE	29:SU:75:LYS:HG2	2.22	0.54
33:Sc:10:LYS:HZ1	33:Sc:34:PHE:HB3	1.73	0.54
48:L5:1266:G:O5'	48:L5:2119:C:N4	2.41	0.54
48:L5:1271:G:H5''	48:L5:2120:G:N7	2.23	0.54
48:L5:4236:G:H2'	48:L5:4237:A:H8	1.73	0.54
48:L5:4759:G:OP2	64:LO:12:ARG:NH2	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:L5:4878:C:N4	48:L5:4879:U:O4	2.41	0.54
48:L5:4989:U:H2'	48:L5:4990:G:H8	1.71	0.54
58:LH:59:LYS:O	58:LH:59:LYS:HD3	2.07	0.54
1:A:747:THR:HG22	1:A:750:MET:HG2	1.90	0.54
12:M:561:ILE:HD12	12:M:577:TYR:HA	1.90	0.54
12:M:679:GLU:O	12:M:683:GLU:HG2	2.08	0.54
13:X:26:C:O2'	13:X:27:A:O4'	2.18	0.54
14:S2:1218:C:H2'	14:S2:1219:C:C6	2.42	0.54
14:S2:1283:C:H5'	40:SM:104:VAL:HG11	1.90	0.54
14:S2:1332:A:C8	14:S2:1493:C:N4	2.73	0.54
16:SB:146:ARG:HB3	16:SB:149:GLN:HG3	1.90	0.54
20:SH:134:VAL:O	20:SH:137:SER:OG	2.18	0.54
30:SV:59:ILE:HA	30:SV:62:MET:CE	2.32	0.54
31:SX:32:LEU:HG	31:SX:34:THR:H	1.73	0.54
53:LC:284:MET:HE3	53:LC:287:THR:HA	1.90	0.54
83:Lh:107:GLN:O	83:Lh:111:GLU:HG3	2.07	0.54
1:A:986:ASN:HB3	29:SU:116:ILE:HG12	1.88	0.54
12:M:883:ILE:HA	12:M:888:VAL:HG12	1.90	0.54
14:S2:185:G:H2'	14:S2:186:C:C6	2.43	0.54
14:S2:808:A:H2'	14:S2:809:A:C8	2.43	0.54
14:S2:1113:A:H3'	14:S2:1114:U:H5'	1.90	0.54
21:SI:133:GLU:O	21:SI:137:LEU:N	2.40	0.54
26:SR:107:LYS:HA	26:SR:110:ASP:HB2	1.90	0.54
36:Sg:88:ARG:HH11	36:Sg:97:THR:HG21	1.73	0.54
48:L5:218:A:C2	53:LC:181:LYS:HE2	2.42	0.54
48:L5:480:C:H2'	48:L5:481:G:C8	2.43	0.54
48:L5:670:G:H2'	48:L5:671:G:C8	2.43	0.54
48:L5:723:A:H2	48:L5:943:A:N1	2.05	0.54
48:L5:961:G:N3	55:LE:123:ARG:HB3	2.23	0.54
48:L5:1179:U:C2	48:L5:1181:C:H5'	2.43	0.54
48:L5:1447:C:H2'	48:L5:1448:G:C8	2.43	0.54
48:L5:1577:G:OP1	91:Lp:17:ARG:NH2	2.39	0.54
48:L5:1761:G:H1	48:L5:1768:C:N4	2.02	0.54
60:LJ:48:PRO:HB2	60:LJ:70:VAL:HG22	1.89	0.54
72:LW:112:ALA:O	72:LW:116:LYS:N	2.40	0.54
1:A:322:LEU:HD11	1:A:345:ALA:HB2	1.89	0.54
1:A:510:ARG:HH21	40:SM:11:VAL:HG13	1.73	0.54
8:I:185:HIS:ND1	8:I:197:LEU:O	2.41	0.54
9:J:164:MET:SD	9:J:172:MET:HG2	2.47	0.54
12:M:340:LYS:HD3	12:M:342:TRP:CZ3	2.43	0.54
22:SK:8:ARG:NH2	22:SK:44:HIS:HB3	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:SR:98:VAL:HG12	26:SR:115:SER:HB3	1.90	0.54
27:SS:89:ASP:HB2	27:SS:95:TYR:HB3	1.90	0.54
38:SG:147:LEU:O	72:LW:101:ARG:NH2	2.41	0.54
42:SO:14:VAL:H	42:SO:15:ILE:HA	1.72	0.54
48:L5:499:G:N2	48:L5:500:G:O4'	2.41	0.54
48:L5:962:C:H3'	48:L5:2262:C:N4	2.23	0.54
48:L5:1242:G:OP1	48:L5:1243:C:N4	2.41	0.54
48:L5:2011:A:H2'	48:L5:2012:C:O4'	2.07	0.54
48:L5:2476:C:H2'	48:L5:2477:G:H8	1.72	0.54
55:LE:135:GLN:OE1	55:LE:135:GLN:N	2.40	0.54
57:LG:110:LYS:O	57:LG:114:LEU:N	2.34	0.54
78:Lc:54:ALA:O	78:Lc:57:LYS:HG2	2.08	0.54
8:I:41:ARG:HB3	8:I:47:MET:HE2	1.90	0.53
14:S2:1348:G:H22	14:S2:1381:G:N2	2.04	0.53
17:SD:8:LYS:NZ	29:SU:59:LYS:HG2	2.22	0.53
20:SH:74:LYS:HG3	20:SH:75:ILE:HD12	1.90	0.53
21:SI:97:VAL:HG23	21:SI:98:LYS:H	1.72	0.53
21:SI:190:LEU:HD11	21:SI:194:GLU:HG2	1.90	0.53
48:L5:964:A:C2	48:L5:965:G:H2'	2.42	0.53
48:L5:2251:A:H2'	48:L5:2252:G:H5''	1.89	0.53
48:L5:5028:U:C4	48:L5:5029:G:N7	2.76	0.53
65:LP:146:ILE:HD12	65:LP:147:GLU:H	1.73	0.53
3:N:52:LYS:HZ2	3:N:57:THR:HG1	1.56	0.53
12:M:905:ASN:OD1	12:M:909:LEU:N	2.41	0.53
14:S2:496:C:H2'	14:S2:497:C:C6	2.44	0.53
18:SE:9:LEU:HD12	18:SE:28:ALA:HB3	1.90	0.53
19:SF:39:ILE:HG22	19:SF:41:VAL:HG12	1.90	0.53
25:SQ:81:ILE:HD12	25:SQ:82:TYR:N	2.22	0.53
36:Sg:69:VAL:HA	36:Sg:80:SER:HA	1.90	0.53
36:Sg:77:PHE:HB3	36:Sg:89:LEU:HD11	1.90	0.53
48:L5:1175:A:H2'	48:L5:1176:C:C6	2.43	0.53
48:L5:2524:C:O2'	48:L5:2525:A:O5'	2.23	0.53
48:L5:2708:C:O3'	48:L5:2709:G:N2	2.34	0.53
73:LX:133:GLU:H	73:LX:133:GLU:CD	2.15	0.53
78:Lc:53:PRO:HG2	78:Lc:56:ARG:CZ	2.37	0.53
86:Lk:5:ILE:HD11	86:Lk:11:PHE:HD1	1.73	0.53
87:Ll:28:ARG:HA	87:Ll:33:ASN:ND2	2.23	0.53
3:N:225:VAL:HG13	3:N:233:CYS:HB2	1.89	0.53
14:S2:145:G:H2'	14:S2:146:G:C8	2.44	0.53
14:S2:213:G:O2'	14:S2:214:U:OP1	2.21	0.53
14:S2:1369:A:H62	26:SR:2:GLY:HA3	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S2:1543:U:P	28:ST:11:GLN:HG3	2.49	0.53
15:SA:128:ARG:HH21	15:SA:153:PRO:HD3	1.74	0.53
17:SD:29:LEU:CG	17:SD:34:TYR:HB2	2.36	0.53
17:SD:53:THR:HG21	17:SD:94:ARG:HG3	1.90	0.53
48:L5:650:C:H2'	48:L5:651:C:C6	2.43	0.53
52:LB:291:TYR:O	52:LB:298:LEU:HB2	2.08	0.53
66:LQ:81:VAL:HG12	66:LQ:101:CYS:SG	2.48	0.53
81:Lf:25:THR:HG22	81:Lf:87:LYS:HG2	1.89	0.53
1:A:295:ASP:OD1	1:A:295:ASP:N	2.40	0.53
6:G:162:LEU:HD21	6:G:180:VAL:HG12	1.90	0.53
12:M:876:SER:OG	12:M:877:ASP:N	2.37	0.53
14:S2:1420:G:H2'	14:S2:1421:A:C8	2.44	0.53
22:SK:21:MET:HB3	22:SK:69:TRP:HB2	1.90	0.53
24:SP:28:MET:HG3	24:SP:32:GLN:HB3	1.90	0.53
25:SQ:58:LEU:HD22	25:SQ:108:ILE:HG13	1.89	0.53
36:Sg:199:THR:HG21	36:Sg:240:CYS:HA	1.91	0.53
40:SM:117:GLU:CG	40:SM:121:LYS:HG3	2.38	0.53
43:SW:52:ILE:HG22	43:SW:61:ILE:HD12	1.90	0.53
48:L5:1086:C:H2'	48:L5:1087:A:C8	2.39	0.53
48:L5:2003:G:N2	48:L5:2013:U:O2	2.29	0.53
48:L5:2014:C:H3'	48:L5:2016:C:H41	1.74	0.53
48:L5:3751:G:H22	48:L5:3769:C:H1'	1.73	0.53
48:L5:4589:U:H2'	48:L5:4590:C:C6	2.44	0.53
53:LC:116:ASN:HB3	53:LC:119:GLN:HG3	1.89	0.53
53:LC:357:ALA:O	53:LC:360:ALA:N	2.41	0.53
75:LZ:100:VAL:HG23	75:LZ:106:LEU:CD2	2.39	0.53
1:A:470:LEU:HD11	1:A:768:ARG:HD2	1.90	0.53
1:A:506:LEU:HD21	1:A:726:MET:HE1	1.88	0.53
5:F:33:ARG:HH21	5:F:54:GLY:HA2	1.73	0.53
7:H:90:GLU:OE1	7:H:90:GLU:N	2.41	0.53
12:M:690:HIS:ND1	12:M:791:LYS:O	2.42	0.53
12:M:767:SER:OG	12:M:768:ASN:N	2.41	0.53
14:S2:338:G:H3'	14:S2:339:A:H3'	1.90	0.53
14:S2:1540:G:H1'	28:ST:48:TYR:CE2	2.43	0.53
22:SK:80:ARG:HA	22:SK:85:LEU:HD12	1.91	0.53
33:Sc:13:ARG:NH2	33:Sc:33:GLU:OE1	2.33	0.53
36:Sg:30:MET:HE2	36:Sg:30:MET:HA	1.90	0.53
39:SJ:155:LYS:NZ	39:SJ:155:LYS:HB3	2.23	0.53
48:L5:501:C:H3'	48:L5:502:C:H5''	1.91	0.53
48:L5:4924:C:H3'	48:L5:4925:G:N2	2.22	0.53
48:L5:4965:A:H2'	48:L5:4966:A:C8	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:LA:42:LYS:HG2	51:LA:89:TYR:CE1	2.44	0.53
58:LH:50:LYS:O	58:LH:51:LYS:NZ	2.31	0.53
60:LJ:13:ARG:HH22	60:LJ:154:LYS:HD2	1.73	0.53
80:Le:95:TYR:HH	92:Lr:25:TYR:HH	1.55	0.53
6:G:122:LEU:HG	6:G:158:LEU:HD13	1.90	0.53
12:M:811:LEU:O	12:M:815:ILE:HG23	2.08	0.53
14:S2:1225:U:H2'	14:S2:1226:G:O4'	2.09	0.53
15:SA:148:CYS:HB2	15:SA:152:SER:HB2	1.91	0.53
15:SA:158:ASP:OD2	30:SV:60:ARG:NH1	2.41	0.53
48:L5:2098:A:H3'	48:L5:2099:C:C6	2.43	0.53
48:L5:4362:G:H1'	76:La:58:MET:HE2	1.90	0.53
53:LC:23:THR:OG1	53:LC:24:LEU:N	2.39	0.53
75:LZ:67:LYS:HA	75:LZ:119:GLU:OE2	2.09	0.53
2:L:206:GLU:OE2	10:K:251:SER:OG	2.23	0.53
3:N:65:GLU:HA	6:G:17:PRO:HD3	1.89	0.53
14:S2:165:G:H4'	38:SG:53:SER:HB2	1.90	0.53
14:S2:745:C:O2'	20:SH:111:LYS:HE2	2.09	0.53
14:S2:873:G:H2'	14:S2:874:G:H8	1.74	0.53
24:SP:75:VAL:O	24:SP:77:LYS:N	2.42	0.53
26:SR:98:VAL:CG1	26:SR:115:SER:HB3	2.39	0.53
48:L5:2760:G:H1'	48:L5:2761:U:H5''	1.90	0.53
48:L5:2908:G:O2'	48:L5:3583:G:N2	2.41	0.53
52:LB:45:ALA:HB3	52:LB:183:ILE:HG23	1.90	0.53
69:LT:136:ARG:O	69:LT:137:GLU:HG2	2.09	0.53
8:I:146:GLN:OE1	8:I:159:ARG:NH2	2.41	0.53
9:J:148:GLU:O	9:J:184:LYS:NZ	2.41	0.53
14:S2:215:G:N7	14:S2:312:G:N1	2.57	0.53
14:S2:1547:C:OP2	14:S2:1548:G:N2	2.42	0.53
21:SI:67:TRP:C	21:SI:67:TRP:CD1	2.87	0.53
25:SQ:81:ILE:HD12	25:SQ:82:TYR:H	1.72	0.53
27:SS:125:HIS:CE1	27:SS:131:VAL:HG21	2.44	0.53
29:SU:17:ILE:HD12	29:SU:94:PRO:HB3	1.90	0.53
48:L5:184:U:N3	48:L5:253:G:N1	2.34	0.53
48:L5:667:A:H5'	53:LC:6:PRO:HB3	1.91	0.53
48:L5:2005:G:H1'	48:L5:2006:U:H5	1.74	0.53
48:L5:2742:A:H2'	48:L5:2743:A:C8	2.44	0.53
48:L5:2843:A:N6	48:L5:3841:C:H42	1.96	0.53
48:L5:3595:G:H2'	48:L5:3596:C:C6	2.44	0.53
48:L5:3770:U:H2'	48:L5:3771:U:N1	2.23	0.53
48:L5:4592:U:H2'	48:L5:4593:G:C8	2.43	0.53
50:L8:60:G:C8	83:Lh:58:LEU:HD23	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:LE:206:VAL:CG1	55:LE:208:ILE:HG12	2.38	0.53
60:LJ:158:SER:H	60:LJ:161:GLU:CD	2.17	0.53
69:LT:139:HIS:CE1	69:LT:140:PHE:O	2.61	0.53
82:Lg:37:LYS:HD3	82:Lg:60:ARG:HH12	1.74	0.53
90:Lo:105:GLN:HG3	90:Lo:105:GLN:O	2.09	0.53
2:L:12:ARG:NH2	2:L:18:ALA:O	2.41	0.53
4:O:48:LEU:HD13	10:K:284:PHE:HD1	1.73	0.53
14:S2:980:A:O2'	14:S2:981:A:OP1	2.27	0.53
14:S2:1649:U:O4	14:S2:1674:G:H2'	2.09	0.53
16:SB:133:TYR:HD2	16:SB:217:MET:HE1	1.73	0.53
19:SF:114:ASN:HA	19:SF:117:ILE:HG22	1.91	0.53
28:ST:40:ALA:N	28:ST:96:SER:HB2	2.23	0.53
36:Sg:30:MET:HE1	36:Sg:56:GLN:NE2	2.23	0.53
48:L5:4087:G:H2'	48:L5:4088:G:C8	2.44	0.53
72:LW:81:ALA:O	72:LW:94:ARG:HD3	2.09	0.53
1:A:1029:GLU:O	1:A:1032:GLN:HG3	2.09	0.53
3:N:210:PRO:HB2	3:N:215:GLU:HG3	1.90	0.53
9:J:123:ARG:HB2	9:J:183:ARG:HH21	1.73	0.53
16:SB:30:TRP:CD2	42:SO:19:PRO:HD3	2.44	0.53
26:SR:126:MET:HB2	26:SR:128:PHE:CD1	2.44	0.53
39:SJ:114:VAL:HG13	39:SJ:119:LEU:HD12	1.91	0.53
48:L5:958:G:O2'	48:L5:959:G:OP1	2.27	0.53
48:L5:1699:A:H2'	48:L5:2093:A:H4'	1.91	0.53
58:LH:95:VAL:HG23	58:LH:177:ASP:HA	1.91	0.53
1:A:573:THR:OG1	1:A:579:CYS:SG	2.65	0.52
14:S2:1623:A:O5'	27:SS:133:GLY:HA3	2.09	0.52
15:SA:183:LEU:HD12	15:SA:186:ARG:HD2	1.91	0.52
17:SD:76:ARG:HG3	17:SD:77:PHE:CD1	2.45	0.52
31:SX:124:LYS:HA	31:SX:129:SER:HA	1.90	0.52
36:Sg:236:ILE:HG21	36:Sg:239:LEU:HB2	1.92	0.52
48:L5:71:C:H1'	61:LL:62:PRO:O	2.09	0.52
48:L5:737:C:H2'	48:L5:738:C:C6	2.43	0.52
48:L5:1072:C:H4'	48:L5:1073:G:OP1	2.08	0.52
48:L5:2316:G:N2	48:L5:2319:G:OP2	2.33	0.52
48:L5:4465:A:O2'	48:L5:4508:A:N3	2.38	0.52
1:A:636:HIS:HA	1:A:664:THR:HG21	1.91	0.52
4:O:83:LYS:HG3	4:O:84:ILE:HG13	1.91	0.52
12:M:277:ILE:HD13	12:M:296:VAL:HG11	1.91	0.52
12:M:690:HIS:CD2	12:M:694:LYS:HE2	2.44	0.52
14:S2:837:A:O2'	14:S2:839:C:OP1	2.23	0.52
14:S2:884:C:H2'	14:S2:885:U:C6	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S2:1313:A:H5''	14:S2:1314:U:H5	1.74	0.52
14:S2:1330:G:N7	14:S2:1492:U:H3'	2.24	0.52
14:S2:1395:C:H3'	14:S2:1396:A:H5''	1.92	0.52
19:SF:106:GLU:HG2	19:SF:107:ASN:H	1.72	0.52
25:SQ:102:GLU:OE1	36:Sg:57:ARG:HA	2.09	0.52
29:SU:100:GLN:N	29:SU:100:GLN:OE1	2.40	0.52
36:Sg:87:LEU:HB3	36:Sg:101:PHE:HB2	1.91	0.52
38:SG:137:ARG:O	38:SG:141:ILE:HG22	2.09	0.52
43:SW:77:PRO:HG2	43:SW:79:PHE:CE2	2.44	0.52
48:L5:693:C:O2'	48:L5:694:C:OP1	2.27	0.52
48:L5:2754:G:C2	48:L5:2755:A:C4	2.97	0.52
48:L5:4092:G:C6	48:L5:4093:G:C6	2.97	0.52
48:L5:4231:A:O2'	48:L5:4232:A:H2'	2.09	0.52
48:L5:4276:C:HO2'	48:L5:4279:A:H8	1.57	0.52
48:L5:4904:C:H2'	48:L5:4905:G:H8	1.74	0.52
55:LE:83:LYS:N	55:LE:84:LYS:HB3	2.24	0.52
68:LS:159:LEU:HD21	68:LS:172:PRO:HB2	1.91	0.52
92:Lr:28:GLU:H	92:Lr:28:GLU:CD	2.17	0.52
1:A:1211:ARG:HD2	1:A:1226:MET:HE2	1.91	0.52
7:H:180:CYS:HA	7:H:190:MET:HE1	1.90	0.52
12:M:63:TRP:CZ3	12:M:64:LYS:HB3	2.44	0.52
14:S2:67:C:P	38:SG:170:ARG:HH22	2.33	0.52
17:SD:121:GLY:O	17:SD:125:PHE:N	2.35	0.52
21:SI:191:GLU:HG3	23:SL:19:ASN:ND2	2.24	0.52
27:SS:60:THR:OG1	27:SS:63:GLU:OE1	2.28	0.52
29:SU:25:THR:HG22	29:SU:111:GLU:HG2	1.91	0.52
37:SC:188:CYS:SG	37:SC:191:VAL:HB	2.49	0.52
48:L5:2620:G:OP2	70:LU:84:LYS:NZ	2.43	0.52
48:L5:4869:C:C4	68:LS:176:PHE:CE1	2.98	0.52
13:X:105:C:H2'	13:X:106:C:H6	1.74	0.52
17:SD:199:GLY:HA2	17:SD:202:LYS:CE	2.31	0.52
18:SE:31:PRO:HB3	18:SE:43:PRO:HG3	1.92	0.52
18:SE:231:GLY:O	18:SE:233:LYS:N	2.39	0.52
19:SF:54:GLY:O	25:SQ:125:ARG:NH2	2.42	0.52
19:SF:103:LEU:HD12	45:SZ:66:LYS:HD2	1.90	0.52
26:SR:23:ARG:HB2	26:SR:23:ARG:HH11	1.75	0.52
42:SO:46:ASP:OD1	42:SO:47:LEU:N	2.42	0.52
48:L5:499:G:H2'	48:L5:499:G:N3	2.24	0.52
48:L5:1242:G:H1	48:L5:1269:G:H21	1.56	0.52
48:L5:1405:C:C2	48:L5:1412:G:N1	2.73	0.52
48:L5:1979:G:H22	48:L5:4417:U:H2'	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:L5:4091:G:C6	48:L5:4092:G:C5	2.97	0.52
50:L8:38:U:O2'	83:Lh:86:LYS:NZ	2.42	0.52
55:LE:195:ILE:HG21	55:LE:288:PHE:CE2	2.42	0.52
57:LG:83:PHE:CE2	57:LG:164:ILE:HD11	2.44	0.52
1:A:776:ARG:NH1	1:A:1043:LEU:O	2.35	0.52
14:S2:939:U:H5'	91:Lp:85:ARG:HH12	1.74	0.52
14:S2:1263:U:H2'	14:S2:1264:C:C5	2.45	0.52
14:S2:1680:G:H2'	14:S2:1681:U:C6	2.44	0.52
14:S2:1680:G:O2'	33:Sc:20:ARG:NE	2.42	0.52
15:SA:2:SER:OG	15:SA:3:GLY:N	2.39	0.52
21:SI:81:VAL:HG11	21:SI:94:LYS:HA	1.90	0.52
32:Sa:101:PHE:HA	32:Sa:105:GLY:HA3	1.91	0.52
36:Sg:33:SER:HG	36:Sg:43:TRP:CG	2.28	0.52
36:Sg:254:PRO:O	36:Sg:272:GLN:NE2	2.42	0.52
37:SC:123:ARG:HD2	37:SC:145:LYS:HA	1.92	0.52
48:L5:495:C:H2'	48:L5:496:G:C8	2.43	0.52
48:L5:693:C:H2'	48:L5:694:C:C6	2.45	0.52
48:L5:970:G:N2	55:LE:126:LEU:HD21	2.24	0.52
48:L5:1176:C:C4	48:L5:1183:C:N4	2.78	0.52
48:L5:1209:U:H5''	48:L5:1210:C:OP2	2.10	0.52
48:L5:1970:G:H2'	48:L5:1970:G:N3	2.24	0.52
66:LQ:67:ILE:HD12	66:LQ:96:PRO:HD2	1.91	0.52
87:Ll:29:MET:HE2	87:Ll:29:MET:HA	1.91	0.52
1:A:1139:ARG:HG2	1:A:1143:LYS:NZ	2.24	0.52
3:N:227:ASP:N	3:N:231:LYS:O	2.36	0.52
12:M:734:ARG:HG2	12:M:738:THR:HG21	1.89	0.52
14:S2:64:A:H2	14:S2:83:A:H62	1.57	0.52
14:S2:885:U:O2	14:S2:901:G:N2	2.42	0.52
19:SF:71:ARG:HB3	19:SF:151:ILE:HD13	1.91	0.52
27:SS:16:LEU:HD21	27:SS:100:ALA:HB2	1.91	0.52
36:Sg:25:PRO:HG2	36:Sg:26:GLN:H	1.72	0.52
48:L5:54:G:OP1	85:Lj:43:ARG:NH1	2.42	0.52
48:L5:449:C:H2'	48:L5:450:G:C8	2.44	0.52
48:L5:2493:U:H2'	48:L5:2494:G:H8	1.75	0.52
48:L5:3594:A:OP1	48:L5:3594:A:H3'	2.09	0.52
57:LG:194:VAL:O	57:LG:196:ARG:N	2.42	0.52
81:Lf:106:TYR:O	81:Lf:108:SER:N	2.42	0.52
1:A:786:LEU:HB2	1:A:1040:LEU:HD22	1.92	0.52
3:N:192:HIS:HD1	3:N:263:LYS:HE2	1.74	0.52
14:S2:536:A:H3'	14:S2:537:C:O4'	2.09	0.52
14:S2:952:G:H21	42:SO:52:THR:HG21	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S2:1266:C:H2'	14:S2:1267:C:C6	2.45	0.52
14:S2:1528:G:H2'	14:S2:1529:C:C6	2.44	0.52
14:S2:1568:C:N4	27:SS:82:TRP:CZ3	2.71	0.52
17:SD:61:GLU:OE1	17:SD:64:ARG:NH1	2.43	0.52
17:SD:201:LYS:HE2	17:SD:205:PRO:HG3	1.92	0.52
27:SS:47:LYS:HZ3	27:SS:78:LYS:HB3	1.74	0.52
35:Sf:110:GLU:HG3	40:SM:63:LYS:HG2	1.92	0.52
36:Sg:212:LYS:HA	36:Sg:235:ILE:HG13	1.90	0.52
37:SC:61:MET:H	37:SC:61:MET:CE	2.22	0.52
48:L5:1358:G:O2'	48:L5:1359:G:H5''	2.09	0.52
48:L5:2013:U:O2'	48:L5:2014:C:O4'	2.22	0.52
48:L5:3679:G:N1	51:LA:118:GLU:OE2	2.42	0.52
48:L5:4422:A:H5'	88:Lm:122:ARG:HH11	1.75	0.52
48:L5:5027:C:H2'	48:L5:5028:U:C6	2.44	0.52
2:L:194:GLN:NE2	10:K:242:LEU:O	2.42	0.52
3:N:107:GLN:HB2	4:O:89:VAL:HG12	1.91	0.52
12:M:69:TYR:HB3	12:M:72:ILE:HD12	1.92	0.52
12:M:685:MET:O	12:M:689:ASN:ND2	2.43	0.52
13:X:109:G:H2'	13:X:110:U:C6	2.45	0.52
14:S2:71:G:H1'	14:S2:79:A:C5	2.45	0.52
14:S2:84:A:N3	14:S2:150:A:O2'	2.40	0.52
14:S2:1445:U:O2'	29:SU:57:PRO:HD3	2.09	0.52
17:SD:197:LYS:HB2	17:SD:198:ILE:HD12	1.90	0.52
20:SH:61:ILE:HG22	20:SH:93:VAL:HG12	1.92	0.52
20:SH:139:ILE:HD12	20:SH:139:ILE:H	1.74	0.52
24:SP:84:ILE:HG13	24:SP:85:ILE:HG23	1.92	0.52
39:SJ:75:ASN:HA	39:SJ:78:LEU:HD11	1.90	0.52
48:L5:2251:A:N6	48:L5:2258:C:N3	2.58	0.52
48:L5:3600:C:H2'	48:L5:3601:G:C8	2.45	0.52
63:LN:184:ILE:HG23	63:LN:194:ARG:HH22	1.75	0.52
75:LZ:132:GLN:OE1	75:LZ:132:GLN:N	2.43	0.52
1:A:383:LEU:HD21	1:A:391:PRO:HB3	1.91	0.52
1:A:618:LEU:HD23	1:A:620:GLN:H	1.75	0.52
5:F:284:ARG:HE	8:I:7:LEU:HD12	1.75	0.52
14:S2:1060:A:O2'	14:S2:1062:A:N7	2.30	0.52
14:S2:1323:U:N3	14:S2:1324:G:N7	2.58	0.52
15:SA:200:ASP:N	15:SA:200:ASP:OD1	2.42	0.52
18:SE:18:TRP:HB3	18:SE:20:LEU:HG	1.90	0.52
18:SE:180:LEU:HD23	18:SE:180:LEU:H	1.75	0.52
23:SL:59:LYS:HB3	23:SL:134:LEU:HD21	1.92	0.52
37:SC:182:CYS:SG	37:SC:183:LYS:N	2.77	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:L5:230:G:OP1	74:LY:15:ARG:NH1	2.43	0.52
48:L5:651:C:H2'	48:L5:652:G:H8	1.75	0.52
48:L5:1696:C:H5'	48:L5:1718:C:H41	1.75	0.52
48:L5:4237:A:H2'	48:L5:4238:G:C8	2.45	0.52
53:LC:152:LEU:HD11	53:LC:251:ILE:HD12	1.92	0.52
60:LJ:90:ARG:HH22	60:LJ:108:GLY:C	2.17	0.52
1:A:747:THR:CG2	1:A:750:MET:HG2	2.39	0.52
1:A:819:THR:O	1:A:823:HIS:ND1	2.43	0.52
4:O:58:VAL:HG11	4:O:141:LEU:HD23	1.92	0.52
6:G:37:ARG:NH1	6:G:60:THR:OG1	2.43	0.52
8:I:85:VAL:HG22	8:I:142:SER:HB2	1.92	0.52
9:J:157:HIS:NE2	9:J:161:GLY:HA2	2.24	0.52
12:M:812:MET:HE2	12:M:812:MET:HA	1.92	0.52
14:S2:72:C:OP2	14:S2:79:A:H1'	2.09	0.52
14:S2:143:U:H5''	14:S2:144:U:H5'	1.92	0.52
14:S2:1214:A:N6	14:S2:1682:C:O2	2.43	0.52
14:S2:1332:A:N6	14:S2:1493:C:O2	2.43	0.52
16:SB:27:LYS:HA	16:SB:51:ARG:HH21	1.73	0.52
17:SD:213:PRO:HB3	26:SR:19:LYS:HD2	1.92	0.52
36:Sg:113:PHE:HD1	36:Sg:120:ILE:HG12	1.74	0.52
39:SJ:83:ARG:HE	39:SJ:150:ARG:NE	2.07	0.52
48:L5:1918:C:H3'	48:L5:1919:C:H5''	1.90	0.52
48:L5:1954:A:H2'	48:L5:1955:U:O4'	2.10	0.52
48:L5:2057:C:O2'	68:LS:118:ARG:NH1	2.42	0.52
48:L5:4122:G:N2	57:LG:43:GLN:O	2.43	0.52
48:L5:4272:A:H2'	48:L5:4273:G:H8	1.75	0.52
48:L5:4728:C:H1'	48:L5:4729:G:H3'	1.92	0.52
54:LD:178:LYS:HE2	54:LD:179:ARG:HH12	1.75	0.52
59:LI:171:TRP:O	59:LI:174:THR:OG1	2.22	0.52
60:LJ:169:LYS:HG3	60:LJ:170:TYR:CD1	2.45	0.52
66:LQ:88:ASP:C	66:LQ:88:ASP:OD1	2.53	0.52
67:LR:116:ASP:OD1	67:LR:118:HIS:N	2.42	0.52
75:LZ:36:ARG:HH21	75:LZ:98:LYS:HZ2	1.56	0.52
90:Lo:103:VAL:HG12	90:Lo:106:PHE:N	2.24	0.52
1:A:906:LEU:HD11	1:A:979:PRO:HD3	1.91	0.51
3:N:198:PHE:HD2	3:N:222:LEU:HD23	1.74	0.51
8:I:113:MET:HE2	8:I:131:MET:HE1	1.91	0.51
12:M:193:TRP:HE3	12:M:196:LEU:HD22	1.74	0.51
13:X:106:C:H2'	13:X:107:U:C6	2.45	0.51
15:SA:214:GLU:OE1	26:SR:81:ARG:NH2	2.43	0.51
22:SK:93:THR:OG1	22:SK:95:ARG:NH1	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:SP:64:LYS:HD3	24:SP:89:MET:SD	2.49	0.51
24:SP:83:MET:HE3	24:SP:84:ILE:HG22	1.93	0.51
30:SV:71:ARG:NH1	30:SV:74:LYS:HE2	2.24	0.51
42:SO:126:ILE:HG22	42:SO:127:GLY:N	2.26	0.51
46:Sb:36:LYS:HA	46:Sb:43:ILE:HG22	1.91	0.51
48:L5:1222:A:O2'	48:L5:1232:G:N2	2.42	0.51
48:L5:1733:G:H5''	48:L5:1734:G:OP2	2.10	0.51
48:L5:4120:G:H5'	82:Lg:93:ARG:HH21	1.75	0.51
55:LE:254:ASP:N	55:LE:254:ASP:OD1	2.42	0.51
75:LZ:51:ARG:HB2	75:LZ:65:ARG:HG2	1.93	0.51
1:A:355:ARG:NH2	1:A:413:VAL:HG23	2.25	0.51
14:S2:326:C:H4'	14:S2:327:G:H5'	1.91	0.51
14:S2:903:A:H61	14:S2:905:C:N4	2.08	0.51
25:SQ:25:CYS:HB2	25:SQ:95:TYR:CD2	2.45	0.51
26:SR:71:ILE:HG13	26:SR:75:GLU:HG3	1.91	0.51
32:Sa:7:ASN:OD1	32:Sa:8:ASN:N	2.43	0.51
41:SN:115:LEU:O	41:SN:119:GLU:HG3	2.10	0.51
48:L5:1090:G:OP1	69:LT:142:ARG:NH2	2.43	0.51
48:L5:2446:G:H2'	48:L5:2447:A:C8	2.46	0.51
48:L5:4686:C:H2'	48:L5:4687:U:C6	2.45	0.51
50:L8:7:U:H2'	50:L8:8:U:C6	2.45	0.51
51:LA:24:LYS:HD2	51:LA:49:ILE:HD12	1.92	0.51
63:LN:17:ASP:OD1	63:LN:18:VAL:N	2.43	0.51
12:M:436:ILE:O	12:M:525:ARG:NH2	2.44	0.51
12:M:438:PHE:HB2	12:M:443:MET:SD	2.50	0.51
12:M:819:LYS:HG3	12:M:821:MET:HG2	1.92	0.51
13:X:106:C:H3'	13:X:107:U:H5''	1.91	0.51
14:S2:432:G:H2'	14:S2:433:A:C8	2.45	0.51
15:SA:111:GLN:CD	37:SC:89:LYS:HZ1	2.18	0.51
22:SK:64:TRP:HE3	34:Sd:22:ARG:NE	2.08	0.51
26:SR:102:THR:O	26:SR:105:MET:HG3	2.11	0.51
34:Sd:53:ILE:HD12	34:Sd:55:LEU:HD21	1.92	0.51
48:L5:961:G:H2'	55:LE:123:ARG:HG2	1.92	0.51
48:L5:2502:C:H2'	48:L5:2503:C:H2'	1.92	0.51
48:L5:2555:G:H2'	48:L5:2556:C:C6	2.44	0.51
68:LS:19:THR:HG1	68:LS:22:CYS:H	1.54	0.51
2:L:154:ASP:HB3	2:L:189:LEU:HD22	1.92	0.51
8:I:226:VAL:O	8:I:231:ARG:NH1	2.43	0.51
12:M:23:ARG:NH2	13:X:231:U:O4	2.36	0.51
12:M:640:ARG:HB2	12:M:683:GLU:HG3	1.92	0.51
14:S2:126:G:OP2	38:SG:195:LYS:HG2	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S2:1656:G:O6	14:S2:1668:U:O4	2.27	0.51
15:SA:209:GLU:OE1	15:SA:209:GLU:N	2.37	0.51
32:Sa:100:ARG:O	32:Sa:101:PHE:HB2	2.10	0.51
48:L5:190:G:H2'	48:L5:191:G:H8	1.75	0.51
48:L5:287:U:O2	63:LN:93:LYS:HE3	2.11	0.51
48:L5:2550:G:C5	48:L5:2551:A:C5	2.99	0.51
48:L5:4502:C:H2'	48:L5:4503:C:C6	2.44	0.51
50:L8:83:C:N4	74:LY:50:ARG:HH22	2.07	0.51
50:L8:122:G:H22	50:L8:128:C:H41	1.59	0.51
65:LP:89:GLU:HA	65:LP:89:GLU:OE1	2.11	0.51
14:S2:527:C:H2'	14:S2:528:A:C8	2.46	0.51
14:S2:801:U:C2	14:S2:802:A:C8	2.99	0.51
14:S2:867:G:H2'	14:S2:868:G:C8	2.46	0.51
14:S2:1451:G:H1'	14:S2:1474:A:N6	2.25	0.51
24:SP:85:ILE:HG13	24:SP:87:PRO:HD3	1.91	0.51
26:SR:52:GLY:O	26:SR:55:THR:OG1	2.28	0.51
29:SU:47:ASN:HA	29:SU:48:LEU:HB2	1.92	0.51
36:Sg:158:PRO:HD3	36:Sg:200:VAL:HG11	1.93	0.51
37:SC:74:LYS:C	37:SC:75:ILE:HD13	2.36	0.51
39:SJ:163:SER:H	39:SJ:167:GLY:HA3	1.75	0.51
48:L5:261:G:H2'	48:L5:262:G:C8	2.46	0.51
48:L5:2265:U:OP1	92:Lr:37:SER:OG	2.26	0.51
50:L8:75:G:OP2	74:LY:74:TYR:OH	2.29	0.51
55:LE:150:LEU:HD13	55:LE:194:VAL:HG21	1.92	0.51
67:LR:78:ILE:HD12	67:LR:81:ARG:NH1	2.26	0.51
72:LW:68:GLN:HG3	72:LW:69:LYS:HG2	1.92	0.51
80:Le:74:PHE:HB3	80:Le:95:TYR:HA	1.93	0.51
1:A:457:VAL:HG23	1:A:458:PRO:HD2	1.92	0.51
1:A:710:ASP:OD1	1:A:711:PRO:HD2	2.10	0.51
13:X:63:U:O2'	13:X:64:U:OP1	2.24	0.51
14:S2:1218:C:H2'	14:S2:1219:C:H6	1.75	0.51
14:S2:1778:C:H2'	14:S2:1779:G:C8	2.46	0.51
15:SA:110:ASN:HB3	15:SA:113:GLN:HE22	1.76	0.51
22:SK:1:MET:N	22:SK:44:HIS:HA	2.24	0.51
36:Sg:35:SER:O	36:Sg:66:VAL:HB	2.10	0.51
38:SG:142:ARG:HH21	38:SG:149:LYS:NZ	2.08	0.51
38:SG:225:GLN:HA	38:SG:228:ILE:HG22	1.91	0.51
39:SJ:93:LYS:HB2	39:SJ:96:TYR:CD2	2.46	0.51
42:SO:43:HIS:HA	42:SO:55:ARG:HA	1.91	0.51
48:L5:482:G:H2'	48:L5:483:G:C8	2.45	0.51
48:L5:492:U:H2'	48:L5:493:G:C8	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:L5:969:C:H1'	48:L5:970:G:C4	2.44	0.51
48:L5:976:G:H2'	48:L5:977:C:C6	2.45	0.51
51:LA:245:ARG:HH11	51:LA:246:LEU:HD23	1.76	0.51
62:LM:59:ASP:OD1	62:LM:59:ASP:N	2.43	0.51
68:LS:9:GLU:HG3	68:LS:10:TYR:N	2.24	0.51
76:La:77:LYS:O	76:La:80:THR:OG1	2.26	0.51
77:Lb:72:ILE:HG23	77:Lb:73:LYS:HG3	1.93	0.51
82:Lg:14:ASN:OD1	82:Lg:19:LYS:NZ	2.43	0.51
10:K:162:ARG:N	10:K:183:VAL:O	2.42	0.51
10:K:299:GLU:HG2	10:K:300:LYS:H	1.75	0.51
13:X:8:U:H3	13:X:12:C:H5	1.58	0.51
13:X:104:G:H2'	13:X:105:C:H6	1.74	0.51
14:S2:1547:C:H5	14:S2:1586:U:H3	1.59	0.51
14:S2:1785:C:O2'	14:S2:1786:U:O4'	2.23	0.51
27:SS:116:LYS:O	27:SS:117:ILE:HG22	2.11	0.51
28:ST:107:LEU:HD11	28:ST:112:MET:SD	2.50	0.51
29:SU:16:ALA:O	29:SU:17:ILE:HD13	2.10	0.51
29:SU:49:LYS:O	29:SU:51:LYS:N	2.43	0.51
48:L5:1291:G:O4'	48:L5:4940:C:N4	2.42	0.51
48:L5:3771:U:H2'	48:L5:3772:A:H2'	1.92	0.51
48:L5:4732:A:H2'	48:L5:4733:G:H8	1.75	0.51
48:L5:4732:A:H2'	48:L5:4733:G:C8	2.45	0.51
52:LB:366:LYS:HG2	72:LW:1:MET:HE1	1.93	0.51
58:LH:14:GLU:H	58:LH:14:GLU:CD	2.17	0.51
64:LO:173:GLN:HA	64:LO:176:ARG:HB3	1.93	0.51
74:LY:51:LYS:HG3	74:LY:52:ASP:OD1	2.11	0.51
79:Ld:57:MET:HB2	79:Ld:90:ARG:NH2	2.26	0.51
1:A:335:SER:O	1:A:339:THR:HG23	2.11	0.51
2:L:52:TYR:OH	5:F:88:SER:O	2.22	0.51
5:F:126:ILE:HG22	5:F:170:VAL:HG21	1.93	0.51
7:H:206:LEU:O	7:H:210:LEU:HG	2.09	0.51
8:I:33:ILE:N	8:I:52:LEU:O	2.41	0.51
13:X:37:G:H3'	13:X:38:G:H5'	1.92	0.51
14:S2:697:G:OP2	14:S2:734:C:O2'	2.13	0.51
14:S2:1393:G:H2'	14:S2:1394:G:C8	2.45	0.51
14:S2:1549:U:OP1	34:Sd:34:TYR:OH	2.26	0.51
22:SK:4:PRO:HG2	22:SK:8:ARG:HH21	1.76	0.51
22:SK:49:MET:O	22:SK:49:MET:HE3	2.11	0.51
22:SK:63:ALA:HB1	22:SK:64:TRP:HD1	1.76	0.51
48:L5:916:C:H2'	48:L5:917:A:H5'	1.93	0.51
48:L5:4258:U:H2'	48:L5:4259:C:H6	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:LB:397:ILE:HA	52:LB:400:GLU:HB3	1.92	0.51
70:LU:35:ASP:N	70:LU:35:ASP:OD1	2.42	0.51
76:La:36:GLY:O	76:La:38:LEU:N	2.43	0.51
79:Ld:57:MET:HB2	79:Ld:90:ARG:HH21	1.75	0.51
5:F:247:LEU:HD23	5:F:252:ILE:HD11	1.92	0.51
14:S2:555:A:H3'	14:S2:556:U:H4'	1.92	0.51
14:S2:1260:A:N6	14:S2:1617:G:H1'	2.23	0.51
14:S2:1290:G:N3	35:Sf:146:LEU:HD21	2.26	0.51
14:S2:1540:G:H5'	28:ST:47:PRO:HB3	1.93	0.51
14:S2:1594:A:OP1	25:SQ:45:ARG:NH1	2.43	0.51
16:SB:144:LYS:HB2	16:SB:208:HIS:HB3	1.93	0.51
29:SU:21:ARG:O	29:SU:22:ILE:HD13	2.11	0.51
37:SC:167:ARG:HG2	37:SC:219:ILE:HD13	1.93	0.51
48:L5:32:G:OP1	63:LN:73:ARG:NH1	2.43	0.51
48:L5:74:G:H5'	61:LL:59:VAL:HG13	1.93	0.51
48:L5:137:G:H2'	48:L5:138:G:H8	1.75	0.51
48:L5:956:A:H4'	48:L5:957:G:OP2	2.11	0.51
48:L5:1604:G:H2'	48:L5:1605:G:C8	2.46	0.51
48:L5:1768:C:H4'	48:L5:1769:G:C8	2.46	0.51
48:L5:2585:A:O2'	48:L5:2586:C:OP1	2.25	0.51
48:L5:3594:A:H5''	48:L5:3595:G:OP2	2.10	0.51
48:L5:4151:C:H2'	48:L5:4152:G:H8	1.76	0.51
71:LV:82:ILE:HG22	71:LV:83:ARG:HG3	1.93	0.51
85:Lj:34:CYS:SG	85:Lj:39:TYR:N	2.84	0.51
92:Lr:85:ASN:HD22	92:Lr:85:ASN:C	2.04	0.51
1:A:857:GLY:HA3	1:A:875:VAL:HG22	1.92	0.51
9:J:62:GLN:HG3	9:J:96:LYS:HB3	1.91	0.51
12:M:294:VAL:HG12	12:M:337:ILE:HG12	1.92	0.51
12:M:456:LYS:NZ	12:M:555:ASP:OD2	2.42	0.51
14:S2:380:G:OP1	21:Sl:56:ARG:NH2	2.44	0.51
23:SL:135:SER:O	23:SL:139:ARG:NH1	2.44	0.51
32:Sa:45:VAL:HA	42:SO:113:GLN:HE22	1.75	0.51
48:L5:1412:G:H2'	48:L5:1413:C:O4'	2.11	0.51
48:L5:2571:A:H2'	48:L5:2572:G:H5'	1.93	0.51
63:LN:114:ARG:HE	63:LN:137:PRO:HG3	1.75	0.51
69:LT:4:THR:HG23	69:LT:9:ARG:HD3	1.92	0.51
70:LU:61:VAL:HG23	70:LU:73:THR:C	2.36	0.51
76:La:83:SER:OG	76:La:84:GLU:OE1	2.27	0.51
6:G:251:LEU:O	6:G:254:VAL:HG12	2.11	0.50
10:K:91:GLU:HG2	10:K:92:PRO:HD2	1.93	0.50
12:M:882:SER:HB3	12:M:889:LEU:HD12	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S2:115:U:H2'	14:S2:116:U:C6	2.46	0.50
14:S2:371:A:OP2	21:SI:10:LYS:HB2	2.10	0.50
14:S2:1144:A:H5'	14:S2:1355:C:H41	1.76	0.50
14:S2:1146:C:OP1	32:Sa:89:ARG:NH2	2.34	0.50
14:S2:1370:A:H62	26:SR:2:GLY:HA2	1.76	0.50
14:S2:1427:C:H2'	14:S2:1428:G:N7	2.26	0.50
14:S2:1594:A:C8	45:SZ:104:ARG:HD3	2.46	0.50
16:SB:139:CYS:HB3	16:SB:168:MET:SD	2.52	0.50
17:SD:28:GLU:OE1	22:SK:61:GLN:NE2	2.30	0.50
17:SD:73:VAL:O	17:SD:79:PHE:CE2	2.63	0.50
18:SE:121:TYR:HD1	18:SE:121:TYR:H	1.59	0.50
22:SK:52:LEU:HG	22:SK:55:ARG:HD3	1.93	0.50
25:SQ:67:ASP:OD1	25:SQ:68:ILE:N	2.44	0.50
28:ST:124:THR:OG1	28:ST:126:GLN:OE1	2.28	0.50
42:SO:125:LYS:O	42:SO:126:ILE:HD13	2.11	0.50
48:L5:661:C:H2'	48:L5:662:C:C6	2.47	0.50
48:L5:699:C:H2'	48:L5:700:G:H8	1.75	0.50
48:L5:749:G:H2'	48:L5:750:U:O4'	2.11	0.50
48:L5:2115:G:H3'	48:L5:2115:G:N3	2.26	0.50
48:L5:4092:G:H2'	48:L5:4093:G:H8	1.76	0.50
48:L5:4678:G:H2'	48:L5:4679:A:C8	2.46	0.50
50:L8:3:A:H4'	65:LP:61:ARG:NH1	2.26	0.50
53:LC:61:GLN:N	53:LC:61:GLN:OE1	2.44	0.50
54:LD:177:THR:C	54:LD:179:ARG:H	2.20	0.50
57:LG:242:LEU:H	57:LG:242:LEU:HD23	1.75	0.50
59:LI:112:GLN:HB2	59:LI:116:ARG:HD2	1.93	0.50
60:LJ:154:LYS:HD2	60:LJ:155:HIS:N	2.24	0.50
86:Lk:30:ASP:OD1	86:Lk:30:ASP:N	2.44	0.50
1:A:1122:ASP:N	1:A:1122:ASP:OD1	2.43	0.50
3:N:198:PHE:N	3:N:222:LEU:O	2.38	0.50
6:G:91:ALA:HA	6:G:93:ARG:H	1.75	0.50
14:S2:639:C:H2'	14:S2:640:A:C8	2.45	0.50
14:S2:748:C:OP1	14:S2:796:G:N1	2.44	0.50
14:S2:1113:A:N6	14:S2:1119:A:N1	2.58	0.50
14:S2:1309:C:C2	35:Sf:143:LYS:HE2	2.46	0.50
20:SH:37:LYS:O	20:SH:39:GLN:N	2.43	0.50
30:SV:1:MET:N	30:SV:10:ASP:OD2	2.44	0.50
31:SX:71:ARG:HG2	31:SX:82:THR:HG22	1.93	0.50
32:Sa:100:ARG:O	32:Sa:102:ARG:HG3	2.12	0.50
35:Sf:141:CYS:H	35:Sf:151:ASN:HD22	1.59	0.50
36:Sg:121:VAL:HG22	36:Sg:165:ILE:HG22	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:L5:75:G:C6	61:LL:102:ARG:HA	2.46	0.50
48:L5:1271:G:H22	48:L5:2120:G:H5''	1.74	0.50
48:L5:4087:G:H2'	48:L5:4088:G:H8	1.76	0.50
48:L5:4098:C:N4	48:L5:4107:G:H1	2.10	0.50
52:LB:107:ALA:HB2	52:LB:201:LEU:HD11	1.93	0.50
57:LG:246:SER:O	57:LG:250:ILE:HG23	2.12	0.50
60:LJ:15:LEU:H	60:LJ:15:LEU:HD12	1.77	0.50
60:LJ:112:HIS:N	60:LJ:126:TYR:O	2.37	0.50
5:F:284:ARG:NH2	8:I:8:PRO:O	2.44	0.50
6:G:216:MET:HE3	6:G:219:LEU:HD13	1.92	0.50
14:S2:982:G:H2'	14:S2:983:A:H8	1.77	0.50
14:S2:1192:U:OP2	31:SX:119:ARG:NH2	2.44	0.50
14:S2:1290:G:O6	35:Sf:143:LYS:HE3	2.11	0.50
14:S2:1539:U:H5'	28:ST:45:LEU:HD23	1.93	0.50
14:S2:1617:G:N2	14:S2:1620:A:O5'	2.40	0.50
26:SR:100:PRO:HG3	26:SR:118:GLN:H	1.76	0.50
29:SU:63:ILE:H	29:SU:63:ILE:HD12	1.77	0.50
36:Sg:191:HIS:CG	36:Sg:192:THR:H	2.30	0.50
48:L5:1444:G:N2	48:L5:2100:G:O6	2.43	0.50
48:L5:2549:A:C6	48:L5:2550:G:C6	2.99	0.50
53:LC:330:PRO:HG3	56:LF:47:ARG:NH2	2.26	0.50
3:N:201:PHE:HB2	3:N:205:LEU:HB3	1.93	0.50
9:J:137:ASP:N	9:J:140:SER:O	2.38	0.50
13:X:111:G:H2'	13:X:112:G:O4'	2.11	0.50
14:S2:1112:U:H2'	14:S2:1113:A:H4'	1.93	0.50
14:S2:1368:U:H4'	26:SR:1:MET:H2	1.77	0.50
14:S2:1420:G:OP2	28:ST:129:ARG:NH1	2.45	0.50
14:S2:1569:A:N1	14:S2:1613:G:O2'	2.37	0.50
14:S2:1672:U:H5'	25:SQ:76:GLY:HA3	1.93	0.50
16:SB:87:ILE:HG23	16:SB:101:HIS:CG	2.46	0.50
17:SD:54:ARG:HB3	17:SD:58:VAL:HG13	1.93	0.50
18:SE:167:GLY:O	18:SE:168:LYS:HG2	2.11	0.50
22:SK:49:MET:HE1	22:SK:52:LEU:HB3	1.93	0.50
28:ST:115:LYS:HA	28:ST:121:ARG:HA	1.94	0.50
36:Sg:192:THR:HB	36:Sg:215:GLN:HE22	1.77	0.50
37:SC:113:GLN:NE2	37:SC:122:THR:HG22	2.27	0.50
48:L5:918:G:H2'	48:L5:918:G:N3	2.27	0.50
48:L5:976:G:H3'	48:L5:977:C:H6	1.76	0.50
48:L5:1182:C:H5'	48:L5:1183:C:C1'	2.42	0.50
48:L5:4272:A:H2'	48:L5:4273:G:C8	2.47	0.50
60:LJ:13:ARG:NH2	60:LJ:154:LYS:HD2	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:797:GLU:O	1:A:1030:ARG:NH2	2.43	0.50
3:N:226:MET:HE1	3:N:255:ALA:HB1	1.93	0.50
5:F:177:SER:OG	5:F:178:LYS:N	2.42	0.50
10:K:116:ILE:HD11	10:K:157:LEU:HD13	1.92	0.50
14:S2:1338:G:N1	14:S2:1490:G:O6	2.45	0.50
36:Sg:84:ASP:OD1	36:Sg:84:ASP:N	2.41	0.50
36:Sg:173:LEU:HD22	36:Sg:189:ILE:HA	1.94	0.50
36:Sg:272:GLN:OE1	36:Sg:272:GLN:N	2.33	0.50
38:SG:77:LEU:HD22	38:SG:81:HIS:CD2	2.46	0.50
42:SO:17:LEU:HD22	42:SO:88:LEU:HD13	1.94	0.50
42:SO:26:ASN:ND2	42:SO:91:THR:HG22	2.25	0.50
48:L5:177:G:H2'	48:L5:178:C:C6	2.46	0.50
48:L5:201:C:HO2'	48:L5:202:C:P	2.35	0.50
48:L5:247:G:H2'	48:L5:248:C:H6	1.76	0.50
48:L5:725:G:H2'	48:L5:726:G:C8	2.46	0.50
48:L5:5027:C:C4	48:L5:5028:U:C4	3.00	0.50
60:LJ:136:ARG:HH12	60:LJ:157:ILE:N	2.09	0.50
70:LU:111:GLU:OE2	70:LU:113:ARG:HB3	2.12	0.50
85:Lj:11:ARG:HG3	85:Lj:11:ARG:HH11	1.77	0.50
2:L:194:GLN:HE22	10:K:242:LEU:C	2.18	0.50
3:N:32:PHE:HZ	3:N:196:THR:HG23	1.77	0.50
4:O:184:ALA:HB3	4:O:194:MET:H	1.77	0.50
7:H:103:ASP:N	7:H:103:ASP:OD1	2.43	0.50
8:I:171:LEU:O	8:I:238:ARG:NH1	2.44	0.50
10:K:314:GLU:O	10:K:318:GLU:N	2.45	0.50
12:M:299:LEU:O	12:M:304:TRP:NE1	2.43	0.50
12:M:891:PHE:HE1	12:M:898:LYS:HE2	1.77	0.50
13:X:47:U:H2'	13:X:48:U:C6	2.47	0.50
14:S2:1264:C:H5'	14:S2:1265:A:C8	2.46	0.50
14:S2:1419:C:H1'	14:S2:1420:G:O5'	2.12	0.50
15:SA:5:LEU:HD21	30:SV:80:SER:HB2	1.92	0.50
17:SD:201:LYS:HE3	17:SD:203:PRO:O	2.11	0.50
22:SK:1:MET:HE3	22:SK:44:HIS:NE2	2.26	0.50
28:ST:19:ALA:HA	28:ST:22:LEU:HB3	1.94	0.50
29:SU:24:LEU:HD11	29:SU:110:VAL:HG13	1.94	0.50
36:Sg:196:ASN:HB2	36:Sg:211:GLY:HA2	1.94	0.50
38:SG:54:GLY:O	38:SG:110:ASN:HB2	2.12	0.50
48:L5:1278:C:H2'	48:L5:1279:A:H4'	1.94	0.50
48:L5:2555:G:O6	48:L5:2568:U:C4	2.64	0.50
48:L5:2755:A:C2	48:L5:2756:G:C2	3.00	0.50
48:L5:4758:G:OP2	64:LO:37:ARG:NH2	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:LB:14:LEU:HA	52:LB:17:LEU:CD2	2.42	0.50
52:LB:297:LYS:HG2	52:LB:299:ILE:HG23	1.94	0.50
54:LD:54:ARG:NH2	54:LD:147:ASP:OD2	2.45	0.50
60:LJ:13:ARG:HG2	60:LJ:155:HIS:NE2	2.27	0.50
63:LN:124:ASP:OD1	63:LN:125:SER:N	2.36	0.50
68:LS:109:CYS:O	68:LS:110:TYR:HB2	2.12	0.50
74:LY:53:ASP:HB3	74:LY:109:LEU:HA	1.93	0.50
79:Ld:93:ASN:ND2	79:Ld:100:ASN:O	2.36	0.50
4:O:221:PHE:O	4:O:225:ARG:HG2	2.12	0.50
12:M:819:LYS:HE2	12:M:821:MET:HG3	1.93	0.50
13:X:105:C:C2	13:X:106:C:C5	2.99	0.50
14:S2:496:C:H5'	18:SE:29:PRO:HA	1.94	0.50
14:S2:1491:G:H2'	14:S2:1492:U:C6	2.47	0.50
14:S2:1535:U:H5'	14:S2:1536:G:C8	2.47	0.50
21:SI:193:LYS:NZ	23:SL:32:LYS:HD3	2.26	0.50
25:SQ:47:LEU:HD13	25:SQ:81:ILE:HG21	1.94	0.50
27:SS:55:ARG:HH21	45:SZ:49:LEU:HD11	1.75	0.50
31:SX:85:VAL:HG21	31:SX:91:LEU:HD13	1.93	0.50
36:Sg:61:GLY:HA3	36:Sg:90:TRP:CH2	2.46	0.50
48:L5:106:A:H1'	48:L5:336:A:C8	2.46	0.50
48:L5:1272:C:H5'	48:L5:2120:G:H8	1.76	0.50
48:L5:1367:C:O2'	48:L5:1370:G:O2'	2.27	0.50
48:L5:2768:C:H2'	48:L5:2769:G:C8	2.45	0.50
48:L5:3767:C:H2'	48:L5:3768:U:C6	2.47	0.50
48:L5:5003:G:O2'	48:L5:5004:U:O5'	2.28	0.50
63:LN:17:ASP:OD1	63:LN:17:ASP:C	2.55	0.50
78:Lc:53:PRO:O	78:Lc:55:LEU:N	2.45	0.50
1:A:1005:LEU:O	1:A:1008:LEU:N	2.45	0.50
8:I:165:LYS:HB3	8:I:218:GLY:HA3	1.93	0.50
14:S2:570:C:H4'	44:SY:36:PRO:HG3	1.92	0.50
14:S2:659:G:HO2'	14:S2:662:G:HO2'	1.56	0.50
14:S2:1218:C:H1'	14:S2:1683:C:H42	1.77	0.50
14:S2:1560:U:H2'	14:S2:1561:A:H8	1.77	0.50
17:SD:202:LYS:HA	17:SD:202:LYS:HE2	1.94	0.50
21:SI:27:TYR:HB3	21:SI:49:ARG:NH2	2.27	0.50
22:SK:35:LEU:HD22	22:SK:40:VAL:HG21	1.93	0.50
22:SK:51:SER:O	22:SK:54:SER:OG	2.28	0.50
38:SG:38:ALA:HB3	38:SG:48:TYR:HB2	1.93	0.50
39:SJ:153:SER:O	39:SJ:153:SER:OG	2.28	0.50
43:SW:23:ARG:HG3	46:Sb:2:PRO:HB2	1.93	0.50
48:L5:515:C:H2'	48:L5:516:C:O4'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:L5:2113:G:N2	48:L5:2115:G:OP2	2.45	0.50
48:L5:4770:C:O2	48:L5:4861:G:N1	2.45	0.50
70:LU:111:GLU:OE1	70:LU:113:ARG:NH2	2.45	0.50
73:LX:80:PRO:HG3	73:LX:98:PHE:HE1	1.75	0.50
1:A:812:TYR:HE2	1:A:1028:ARG:HG2	1.75	0.50
2:L:108:ALA:O	2:L:153:ARG:NH1	2.44	0.50
14:S2:1152:U:O2'	43:SW:19:LYS:NZ	2.43	0.50
14:S2:1546:G:H21	14:S2:1670:C:H1'	1.75	0.50
23:SL:49:GLU:HG3	23:SL:118:ARG:HH12	1.77	0.50
26:SR:33:ARG:O	36:Sg:125:ARG:NH1	2.44	0.50
33:Sc:37:ASP:O	33:Sc:39:SER:N	2.45	0.50
36:Sg:238:ALA:H	36:Sg:251:ALA:HB3	1.75	0.50
39:SJ:173:VAL:O	39:SJ:177:ASN:N	2.30	0.50
44:SY:110:ARG:HA	44:SY:113:ARG:HE	1.77	0.50
48:L5:725:G:H2'	48:L5:726:G:H8	1.77	0.50
48:L5:908:G:H2'	48:L5:909:A:H8	1.77	0.50
57:LG:162:ASP:HB3	57:LG:163:PRO:HD3	1.93	0.50
60:LJ:35:ARG:NH2	60:LJ:124:GLY:HA3	2.27	0.50
60:LJ:112:HIS:HD1	60:LJ:126:TYR:H	1.60	0.50
66:LQ:157:GLY:C	66:LQ:188:ASN:HD21	2.19	0.50
3:N:154:PHE:CE1	3:N:262:VAL:HG13	2.47	0.49
12:M:257:ILE:HG23	12:M:281:GLY:H	1.76	0.49
12:M:700:PHE:HB3	12:M:703:GLN:HG2	1.93	0.49
14:S2:532:C:O2'	14:S2:533:A:OP2	2.27	0.49
14:S2:689:U:H2'	14:S2:690:G:H4'	1.94	0.49
14:S2:830:A:OP2	14:S2:846:G:N2	2.45	0.49
14:S2:1228:A:H2'	14:S2:1229:G:C8	2.46	0.49
14:S2:1249:C:O3'	25:SQ:143:LYS:HD2	2.11	0.49
16:SB:38:MET:SD	16:SB:38:MET:N	2.81	0.49
23:SL:147:LYS:HE2	23:SL:150:GLY:HA3	1.93	0.49
38:SG:33:ALA:HA	38:SG:51:ARG:HE	1.76	0.49
44:SY:73:GLY:O	44:SY:74:MET:HE2	2.12	0.49
48:L5:18:C:H4'	63:LN:138:PHE:CD2	2.47	0.49
48:L5:1307:A:H2'	48:L5:1308:C:C6	2.46	0.49
48:L5:1390:G:N2	48:L5:1393:G:OP2	2.38	0.49
48:L5:1514:U:H2'	48:L5:1515:A:C8	2.47	0.49
48:L5:2754:G:C4	48:L5:2755:A:C8	3.00	0.49
48:L5:4129:G:C5	48:L5:4130:C:C4	3.00	0.49
48:L5:4129:G:C6	48:L5:4130:C:C4	3.00	0.49
48:L5:4946:C:O2'	48:L5:4947:G:OP1	2.29	0.49
53:LC:5:ARG:NH2	53:LC:24:LEU:O	2.44	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:LE:162:VAL:HG13	55:LE:177:GLY:N	2.26	0.49
56:LF:203:GLU:H	56:LF:203:GLU:CD	2.19	0.49
64:LO:9:LEU:HD23	64:LO:118:MET:HB2	1.94	0.49
72:LW:31:PHE:CD2	72:LW:37:GLU:HG3	2.46	0.49
1:A:469:ARG:HD2	1:A:773:PHE:HZ	1.77	0.49
1:A:762:VAL:O	1:A:765:MET:HG2	2.11	0.49
1:A:992:ASP:HB2	1:A:995:VAL:HG23	1.94	0.49
6:G:253:PRO:O	6:G:257:GLN:HG2	2.11	0.49
8:I:236:ARG:NH1	8:I:240:CYS:SG	2.86	0.49
14:S2:80:G:H2'	14:S2:81:U:H6	1.76	0.49
14:S2:1759:G:N7	14:S2:1761:U:N3	2.61	0.49
14:S2:1808:U:H2'	14:S2:1809:A:H8	1.77	0.49
14:S2:1849:G:O2'	14:S2:1850:A:H8	1.95	0.49
28:ST:70:ALA:HB1	28:ST:74:SER:HB3	1.93	0.49
36:Sg:79:LEU:HD12	36:Sg:113:PHE:HB2	1.94	0.49
38:SG:130:PRO:HG3	72:LW:82:ILE:HD12	1.94	0.49
40:SM:11:VAL:N	40:SM:127:TYR:CE2	2.80	0.49
46:Sb:11:SER:O	46:Sb:15:GLU:OE1	2.30	0.49
48:L5:190:G:H2'	48:L5:191:G:C8	2.47	0.49
48:L5:517:C:H41	48:L5:645:G:H21	1.60	0.49
48:L5:3596:C:H2'	48:L5:3597:A:C8	2.45	0.49
48:L5:3597:A:H2'	48:L5:3598:G:H8	1.77	0.49
48:L5:3639:U:H5	48:L5:3644:A:N7	2.09	0.49
48:L5:3770:U:OP1	48:L5:3770:U:H4'	2.09	0.49
48:L5:4424:C:H2'	48:L5:4425:G:H5'	1.93	0.49
48:L5:4535:C:H2'	48:L5:4536:G:H8	1.76	0.49
53:LC:57:LEU:HD23	53:LC:57:LEU:H	1.77	0.49
54:LD:122:GLN:HG3	54:LD:122:GLN:O	2.11	0.49
1:A:843:ARG:HG3	1:A:845:VAL:HG13	1.95	0.49
14:S2:525:A:H2'	14:S2:526:A:C8	2.45	0.49
14:S2:1220:A:H2	14:S2:1677:U:O2	1.95	0.49
16:SB:228:LEU:HD12	16:SB:231:LEU:CD1	2.33	0.49
20:SH:58:LYS:H	20:SH:90:LYS:HG2	1.77	0.49
25:SQ:39:LEU:HD23	25:SQ:52:LEU:HA	1.94	0.49
35:Sf:87:THR:HB	35:Sf:91:ASN:HD21	1.78	0.49
39:SJ:136:ARG:HB3	39:SJ:141:VAL:HG12	1.94	0.49
48:L5:319:A:H1'	48:L5:3724:A:C8	2.46	0.49
48:L5:1234:G:H2'	48:L5:1235:G:H8	1.75	0.49
48:L5:1552:G:H2'	48:L5:1574:G:N2	2.28	0.49
48:L5:2552:U:C2	48:L5:2760:G:N7	2.80	0.49
48:L5:4535:C:H2'	48:L5:4536:G:C8	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:LP:9:GLU:OE1	65:LP:9:GLU:N	2.33	0.49
65:LP:50:ASP:OD1	65:LP:55:LYS:HB3	2.13	0.49
66:LQ:81:VAL:HG23	66:LQ:138:LEU:HD23	1.95	0.49
86:Lk:49:ASP:OD2	86:Lk:52:LYS:HG2	2.12	0.49
3:N:104:VAL:HG11	4:O:96:ARG:HD2	1.94	0.49
5:F:126:ILE:HD11	5:F:133:TRP:HD1	1.76	0.49
12:M:197:LYS:HA	12:M:200:HIS:HB2	1.94	0.49
14:S2:28:U:H2'	14:S2:29:G:H8	1.77	0.49
14:S2:1395:C:OP2	25:SQ:15:ARG:NH2	2.45	0.49
14:S2:1679:A:H2'	19:SF:60:ARG:HB3	1.95	0.49
16:SB:197:ILE:O	16:SB:201:CYS:N	2.44	0.49
22:SK:80:ARG:HG3	22:SK:85:LEU:HB2	1.93	0.49
27:SS:104:ASP:HA	27:SS:107:LEU:HD12	1.93	0.49
36:Sg:15:ASN:HB3	36:Sg:37:ASP:OD2	2.12	0.49
38:SG:67:VAL:N	38:SG:100:CYS:SG	2.86	0.49
42:SO:16:SER:C	42:SO:17:LEU:HD12	2.37	0.49
46:Sb:7:LEU:H	46:Sb:7:LEU:HD12	1.77	0.49
48:L5:325:U:H2'	48:L5:326:C:C6	2.47	0.49
48:L5:700:G:H2'	48:L5:701:G:C8	2.47	0.49
48:L5:1200:G:H2'	48:L5:1201:U:C6	2.47	0.49
48:L5:2619:A:OP1	70:LU:80:LYS:NZ	2.43	0.49
48:L5:2737:C:H4'	91:Lp:52:VAL:HG21	1.94	0.49
48:L5:2755:A:C6	48:L5:2756:G:C6	3.01	0.49
48:L5:4151:C:H2'	48:L5:4152:G:C8	2.48	0.49
48:L5:4237:A:H2'	48:L5:4238:G:H8	1.77	0.49
48:L5:4862:U:H2'	48:L5:4863:C:C6	2.46	0.49
48:L5:4986:U:H5'	48:L5:5059:A:N7	2.27	0.49
48:L5:5021:C:H41	48:L5:5026:G:H21	1.59	0.49
58:LH:110:SER:O	58:LH:127:ARG:HA	2.13	0.49
60:LJ:32:ARG:CA	60:LJ:35:ARG:HD3	2.41	0.49
67:LR:136:ARG:CA	67:LR:139:MET:HG2	2.37	0.49
86:Lk:19:ASP:OD1	86:Lk:20:ALA:N	2.45	0.49
2:L:238:ALA:O	2:L:242:LEU:N	2.39	0.49
9:J:108:VAL:HG13	9:J:122:PHE:HE2	1.77	0.49
12:M:784:HIS:ND1	12:M:787:LEU:HB2	2.28	0.49
12:M:923:PRO:O	12:M:938:THR:N	2.45	0.49
14:S2:558:G:H2'	14:S2:559:G:C8	2.46	0.49
14:S2:1863:A:H8	32:Sa:79:ILE:HG21	1.77	0.49
20:SH:18:GLU:HG2	20:SH:19:PHE:H	1.77	0.49
22:SK:30:PRO:O	22:SK:41:PRO:HB3	2.11	0.49
25:SQ:62:ARG:HG2	25:SQ:108:ILE:HD12	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Sg:131:LEU:HB2	36:Sg:140:TYR:HD1	1.77	0.49
36:Sg:274:VAL:HG11	36:Sg:279:SER:OG	2.12	0.49
37:SC:196:ILE:CG2	37:SC:223:TYR:HB2	2.43	0.49
48:L5:139:G:H2'	48:L5:140:G:H8	1.76	0.49
48:L5:988:C:N4	48:L5:1065:G:H1	2.11	0.49
48:L5:1308:C:H2'	48:L5:1309:C:C6	2.47	0.49
48:L5:2413:U:H2'	48:L5:2414:G:C8	2.47	0.49
52:LB:57:VAL:CG1	52:LB:367:PHE:HB3	2.43	0.49
57:LG:111:LYS:HA	57:LG:114:LEU:HD12	1.93	0.49
1:A:991:LYS:HE3	29:SU:114:VAL:HG22	1.95	0.49
3:N:115:ASN:OD1	3:N:116:SER:N	2.45	0.49
7:H:196:ASP:HB2	10:K:16:ARG:HH12	1.77	0.49
12:M:466:LYS:O	12:M:580:THR:HG23	2.13	0.49
14:S2:69:C:H2'	14:S2:70:G:O4'	2.12	0.49
14:S2:77:A:H1'	38:SG:176:ILE:HD12	1.95	0.49
14:S2:942:G:H2'	14:S2:943:U:C6	2.47	0.49
14:S2:1233:G:H2'	14:S2:1234:C:H6	1.77	0.49
14:S2:1523:C:C5	27:SS:138:THR:HA	2.48	0.49
14:S2:1589:A:O2'	28:ST:82:ARG:NH1	2.45	0.49
14:S2:1650:A:H2'	14:S2:1651:A:O4'	2.12	0.49
17:SD:214:LYS:CG	17:SD:215:ASP:H	2.24	0.49
22:SK:26:ASP:O	22:SK:29:MET:HE2	2.12	0.49
22:SK:32:HIS:N	22:SK:41:PRO:HA	2.28	0.49
28:ST:52:TRP:CZ2	28:ST:56:ARG:HD2	2.48	0.49
29:SU:51:LYS:HG2	29:SU:52:GLY:H	1.77	0.49
29:SU:61:LEU:HB2	29:SU:82:MET:HB2	1.94	0.49
36:Sg:250:ALA:HB3	36:Sg:257:LYS:HB2	1.94	0.49
48:L5:2098:A:H3'	48:L5:2099:C:H6	1.78	0.49
48:L5:2299:G:O6	53:LC:188:ARG:HD2	2.13	0.49
51:LA:43:GLY:HA3	51:LA:63:PHE:CE1	2.47	0.49
55:LE:82:LYS:HG3	55:LE:84:LYS:HB3	1.95	0.49
60:LJ:111:GLU:OE1	60:LJ:111:GLU:N	2.45	0.49
3:N:222:LEU:HD13	3:N:237:LYS:HD3	1.95	0.49
9:J:169:TRP:HA	9:J:185:VAL:HG21	1.93	0.49
10:K:246:GLN:HA	10:K:249:ARG:HG2	1.95	0.49
12:M:70:LEU:HD23	12:M:70:LEU:H	1.77	0.49
18:SE:212:ASP:OD1	18:SE:213:ALA:N	2.43	0.49
19:SF:201:LYS:HD3	42:SO:72:TYR:CE2	2.47	0.49
22:SK:32:HIS:ND1	22:SK:33:PRO:HD2	2.27	0.49
24:SP:104:GLN:O	24:SP:105:VAL:HB	2.12	0.49
25:SQ:41:MET:HE2	25:SQ:42:ILE:H	1.73	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:SJ:152:ASP:C	39:SJ:152:ASP:OD1	2.55	0.49
48:L5:733:A:C8	48:L5:734:G:C8	3.00	0.49
48:L5:2004:U:OP2	48:L5:2005:G:N2	2.45	0.49
48:L5:4101:C:H2'	48:L5:4103:A:C6	2.48	0.49
55:LE:284:HIS:NE2	81:Lf:38:GLU:OE1	2.45	0.49
70:LU:78:PHE:HE2	70:LU:83:LEU:HD21	1.78	0.49
75:LZ:100:VAL:HG23	75:LZ:106:LEU:HD22	1.95	0.49
1:A:1084:MET:HG3	1:A:1085:SER:H	1.76	0.49
2:L:70:LEU:N	2:L:118:SER:O	2.45	0.49
9:J:130:ALA:HA	9:J:151:LEU:HD23	1.95	0.49
12:M:64:LYS:HD2	12:M:165:GLU:CB	2.31	0.49
14:S2:831:G:O6	14:S2:843:C:N4	2.43	0.49
14:S2:1673:U:H2'	14:S2:1674:G:O4'	2.13	0.49
16:SB:131:ASP:N	16:SB:131:ASP:OD1	2.45	0.49
19:SF:157:GLY:HA2	19:SF:160:GLU:HG2	1.94	0.49
22:SK:31:LYS:NZ	22:SK:39:ASN:O	2.38	0.49
22:SK:46:MET:CB	22:SK:47:LYS:HD3	2.43	0.49
23:SL:77:VAL:HA	23:SL:88:ILE:HG22	1.95	0.49
29:SU:34:LYS:HA	29:SU:37:ALA:HB3	1.94	0.49
48:L5:944:A:O2'	48:L5:945:U:OP2	2.31	0.49
48:L5:2117:C:H4'	48:L5:2118:G:C4'	2.43	0.49
48:L5:2360:U:OP1	65:LP:82:ARG:NH2	2.37	0.49
53:LC:316:LYS:HB2	53:LC:324:ILE:HD13	1.92	0.49
56:LF:188:GLU:HA	56:LF:191:ILE:HD12	1.93	0.49
1:A:1005:LEU:O	1:A:1009:ILE:HD12	2.13	0.49
5:F:251:SER:HA	5:F:254:GLU:HG2	1.93	0.49
6:G:167:LEU:HD11	6:G:255:LEU:HD23	1.95	0.49
8:I:236:ARG:HH21	8:I:264:LEU:HD22	1.78	0.49
9:J:127:ILE:HB	9:J:155:VAL:HG13	1.95	0.49
9:J:164:MET:CE	9:J:172:MET:HG2	2.43	0.49
10:K:38:SER:HB2	10:K:47:ILE:HB	1.93	0.49
12:M:841:ASN:HA	12:M:844:ASN:HD21	1.78	0.49
12:M:1022:TYR:O	12:M:1026:ARG:HG2	2.13	0.49
13:X:120:A:C2	13:X:121:C:H1'	2.48	0.49
14:S2:642:U:O4	47:Se:33:LYS:NZ	2.45	0.49
14:S2:1234:C:H4'	14:S2:1246:A:H61	1.77	0.49
14:S2:1610:G:OP2	27:SS:121:ARG:NH2	2.40	0.49
14:S2:1644:C:H2'	14:S2:1645:C:H6	1.75	0.49
16:SB:221:PRO:O	16:SB:222:LYS:HB3	2.13	0.49
18:SE:191:ARG:HE	18:SE:245:ARG:HB3	1.78	0.49
31:SX:32:LEU:HD23	31:SX:33:GLY:N	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:Sd:13:LYS:HZ2	34:Sd:14:PHE:HE2	1.57	0.49
36:Sg:44:LYS:HG2	36:Sg:56:GLN:NE2	2.28	0.49
37:SC:120:GLN:OE1	37:SC:120:GLN:N	2.29	0.49
42:SO:87:GLU:OE1	42:SO:87:GLU:N	2.46	0.49
48:L5:953:C:H2'	48:L5:954:C:C6	2.47	0.49
48:L5:963:G:H2'	48:L5:967:C:N4	2.27	0.49
48:L5:1552:G:H1'	48:L5:1575:A:H61	1.78	0.49
48:L5:3582:C:H2'	48:L5:3583:G:C8	2.39	0.49
48:L5:3859:A:H2'	48:L5:3860:A:C8	2.48	0.49
48:L5:4568:G:H2'	48:L5:4569:A:H8	1.77	0.49
48:L5:4722:A:O2'	52:LB:104:THR:HG22	2.13	0.49
48:L5:4869:C:H3'	62:LM:91:TRP:CZ3	2.47	0.49
48:L5:4908:G:H22	64:LO:107:GLY:HA3	1.78	0.49
53:LC:286:ASN:HD22	53:LC:292:ILE:HD11	1.77	0.49
57:LG:200:THR:HG22	57:LG:201:THR:HG23	1.95	0.49
73:LX:90:ILE:HD11	73:LX:150:ALA:HB2	1.94	0.49
12:M:299:LEU:HG	12:M:300:PRO:HD2	1.95	0.49
12:M:482:CYS:SG	13:X:249:U:H5'	2.53	0.49
12:M:797:SER:HB3	12:M:800:ARG:HG2	1.95	0.49
14:S2:1395:C:O2	14:S2:1474:A:N6	2.46	0.49
14:S2:1549:U:H3	14:S2:1584:G:H1	1.60	0.49
14:S2:1648:G:H22	14:S2:1674:G:P	2.36	0.49
15:SA:111:GLN:NE2	37:SC:89:LYS:HB3	2.27	0.49
19:SF:19:LEU:O	19:SF:21:GLY:N	2.45	0.49
19:SF:107:ASN:ND2	19:SF:108:PRO:HD2	2.27	0.49
19:SF:201:LYS:HD3	42:SO:72:TYR:CD2	2.48	0.49
20:SH:43:LEU:HD13	20:SH:72:PHE:CE1	2.47	0.49
26:SR:81:ARG:NE	26:SR:81:ARG:HA	2.28	0.49
38:SG:221:LYS:O	38:SG:225:GLN:HG3	2.13	0.49
48:L5:2250:G:H1	48:L5:2259:G:N2	2.10	0.49
48:L5:4947:G:N2	48:L5:4948:U:H2'	2.27	0.49
58:LH:111:LEU:HD21	58:LH:127:ARG:HH21	1.77	0.49
82:Lg:15:THR:HG22	82:Lg:17:SER:H	1.77	0.49
1:A:1040:LEU:O	1:A:1043:LEU:HB2	2.13	0.48
5:F:139:VAL:HG11	5:F:152:ILE:HD13	1.94	0.48
13:X:46:A:OP1	13:X:128:C:H5'	2.13	0.48
14:S2:1395:C:H1'	14:S2:1474:A:C6	2.48	0.48
14:S2:1452:A:P	26:SR:29:HIS:HE2	2.36	0.48
14:S2:1592:C:O2'	25:SQ:44:PRO:HA	2.13	0.48
16:SB:85:LYS:HB3	16:SB:101:HIS:HB3	1.96	0.48
18:SE:127:ARG:HH11	18:SE:142:HIS:HA	1.76	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:SP:65:LYS:HE3	24:SP:89:MET:HE1	1.93	0.48
30:SV:66:ASP:O	30:SV:70:LEU:HD12	2.13	0.48
36:Sg:191:HIS:NE2	36:Sg:217:MET:SD	2.86	0.48
48:L5:643:C:O3'	61:LL:162:LYS:NZ	2.46	0.48
48:L5:1177:U:H6	48:L5:1177:U:O5'	1.96	0.48
48:L5:1332:C:H2'	48:L5:1333:A:H8	1.77	0.48
48:L5:1405:C:H41	48:L5:1411:C:H42	1.58	0.48
48:L5:1774:C:H2'	48:L5:1775:A:O4'	2.13	0.48
48:L5:3598:G:H2'	48:L5:3599:C:C6	2.48	0.48
48:L5:3690:A:N6	48:L5:3821:G:H21	2.05	0.48
48:L5:3942:G:H2'	48:L5:3943:A:C8	2.48	0.48
54:LD:17:GLN:NE2	69:LT:22:HIS:O	2.43	0.48
81:Lf:106:TYR:HB2	81:Lf:107:PRO:HD3	1.94	0.48
3:N:168:VAL:HG12	3:N:179:VAL:HG12	1.95	0.48
12:M:539:LEU:HD12	12:M:799:ILE:HG23	1.95	0.48
14:S2:882:U:C4	14:S2:905:C:N3	2.81	0.48
14:S2:1088:U:H4'	14:S2:1089:G:OP2	2.13	0.48
14:S2:1240:A:H2'	14:S2:1267:C:O2'	2.13	0.48
14:S2:1545:A:H4'	25:SQ:74:GLY:HA2	1.94	0.48
15:SA:12:GLU:C	15:SA:14:ASP:H	2.21	0.48
27:SS:16:LEU:HD23	27:SS:33:ILE:HG21	1.96	0.48
37:SC:137:VAL:O	37:SC:162:ILE:HA	2.13	0.48
38:SG:139:SER:O	38:SG:143:LYS:N	2.46	0.48
48:L5:673:C:H2'	48:L5:674:G:C8	2.49	0.48
48:L5:1661:C:O2'	80:Le:36:ARG:NH1	2.46	0.48
48:L5:2537:C:H2'	48:L5:2538:C:C6	2.48	0.48
48:L5:2588:G:H1'	48:L5:2754:G:H22	1.78	0.48
48:L5:3734:A:H2'	48:L5:3735:A:C8	2.48	0.48
48:L5:4633:A:O2'	48:L5:4635:G:OP1	2.29	0.48
52:LB:112:ASP:N	52:LB:112:ASP:OD1	2.46	0.48
53:LC:35:ASP:OD1	53:LC:36:ILE:N	2.46	0.48
57:LG:90:GLN:O	57:LG:94:GLN:NE2	2.46	0.48
72:LW:9:SER:O	72:LW:53:VAL:HG12	2.13	0.48
1:A:283:TRP:HB3	1:A:468:GLY:HA3	1.95	0.48
2:L:44:ASN:HB3	2:L:130:ASP:HB3	1.95	0.48
9:J:105:LYS:HG3	9:J:118:ILE:HG12	1.96	0.48
12:M:904:LYS:HB2	12:M:926:LEU:HD11	1.95	0.48
14:S2:1419:C:H4'	14:S2:1420:G:OP1	2.12	0.48
14:S2:1435:C:H4'	14:S2:1436:C:C5	2.48	0.48
15:SA:37:TYR:OH	30:SV:66:ASP:OD2	2.30	0.48
17:SD:105:LEU:HD13	17:SD:122:VAL:HG21	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:SF:34:SER:O	19:SF:35:LEU:HD23	2.12	0.48
22:SK:52:LEU:HD11	22:SK:79:LEU:HD11	1.94	0.48
29:SU:98:VAL:N	29:SU:100:GLN:OE1	2.43	0.48
48:L5:1448:G:H2'	48:L5:1449:C:H6	1.77	0.48
48:L5:1940:A:H2'	48:L5:1941:A:C8	2.48	0.48
48:L5:2756:G:H2'	48:L5:2757:G:C5	2.48	0.48
48:L5:4884:C:N3	48:L5:4885:C:N4	2.61	0.48
48:L5:4986:U:OP2	52:LB:123:HIS:ND1	2.46	0.48
49:L7:120:U:O2	54:LD:258:LYS:HG3	2.14	0.48
63:LN:124:ASP:CG	63:LN:125:SER:H	2.22	0.48
64:LO:25:LYS:O	64:LO:29:LEU:HD12	2.12	0.48
75:LZ:68:ILE:HG22	75:LZ:69:LYS:O	2.14	0.48
1:A:751:ILE:HG12	1:A:762:VAL:CG2	2.38	0.48
5:F:35:VAL:HG13	8:I:5:MET:HE3	1.95	0.48
12:M:467:ASP:OD1	12:M:468:LEU:N	2.46	0.48
13:X:2:A:H61	13:X:65:U:H3	1.62	0.48
14:S2:949:G:H2'	14:S2:950:C:C6	2.48	0.48
14:S2:1232:U:O4	14:S2:1526:G:O6	2.31	0.48
15:SA:127:PRO:HG2	15:SA:148:CYS:HB3	1.95	0.48
17:SD:207:HIS:ND1	17:SD:207:HIS:O	2.47	0.48
21:SI:80:ASP:OD1	21:SI:81:VAL:N	2.46	0.48
27:SS:8:LYS:HE2	45:SZ:51:ASP:HB3	1.94	0.48
31:SX:66:ILE:HG21	47:Se:5:SER:HB2	1.95	0.48
37:SC:188:CYS:SG	37:SC:235:ASN:HB3	2.53	0.48
38:SG:191:ARG:O	38:SG:195:LYS:HG3	2.14	0.48
48:L5:698:G:H2'	48:L5:699:C:C6	2.49	0.48
48:L5:966:A:H61	48:L5:2251:A:H5''	1.77	0.48
48:L5:4133:G:H2'	48:L5:4134:G:H8	1.76	0.48
48:L5:4611:C:O2	58:LH:121:LYS:NZ	2.45	0.48
53:LC:339:THR:HG22	53:LC:342:ARG:NH2	2.28	0.48
60:LJ:136:ARG:HH12	60:LJ:156:ARG:C	2.22	0.48
60:LJ:153:ALA:HA	60:LJ:154:LYS:HA	1.42	0.48
62:LM:34:ASN:HA	62:LM:52:PHE:H	1.79	0.48
67:LR:150:ALA:O	67:LR:154:LEU:N	2.44	0.48
73:LX:110:LYS:HE2	73:LX:121:VAL:HG23	1.95	0.48
79:Ld:23:ARG:HG2	79:Ld:121:ASN:HB3	1.95	0.48
82:Lg:24:ARG:HB2	82:Lg:30:ILE:HD13	1.95	0.48
86:Lk:7:GLU:OE2	86:Lk:9:LYS:N	2.45	0.48
1:A:904:PHE:CE2	1:A:926:ALA:HB1	2.49	0.48
1:A:1157:THR:HB	1:A:1160:GLU:HG2	1.95	0.48
2:L:15:GLY:O	12:M:28:ARG:NH1	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:83:VAL:HG21	3:N:109:ILE:CD1	2.44	0.48
9:J:169:TRP:CD1	11:E:610:PHE:HE2	2.32	0.48
12:M:684:CYS:SG	12:M:685:MET:N	2.86	0.48
12:M:841:ASN:HA	12:M:844:ASN:ND2	2.27	0.48
14:S2:432:G:H2'	14:S2:433:A:H8	1.79	0.48
14:S2:1118:C:H2'	14:S2:1119:A:O4'	2.14	0.48
14:S2:1289:U:H4'	14:S2:1314:U:H3	1.78	0.48
14:S2:1394:G:C4	14:S2:1395:C:H5	2.32	0.48
14:S2:1654:G:N3	14:S2:1671:G:N2	2.61	0.48
28:ST:13:GLU:O	28:ST:17:ALA:N	2.47	0.48
33:Sc:34:PHE:HB2	33:Sc:37:ASP:O	2.14	0.48
36:Sg:121:VAL:HG23	36:Sg:156:PHE:CZ	2.48	0.48
38:SG:65:GLN:HE21	38:SG:66:GLY:H	1.60	0.48
38:SG:215:LYS:HA	38:SG:218:LYS:HZ2	1.78	0.48
44:SY:113:ARG:NH1	44:SY:114:MET:HG3	2.29	0.48
48:L5:278:G:H4'	48:L5:279:A:OP2	2.14	0.48
48:L5:1248:C:H2'	48:L5:1249:C:C5	2.49	0.48
48:L5:1378:C:H41	48:L5:1379:C:H5	1.61	0.48
48:L5:3878:G:O2'	48:L5:3879:G:C8	2.65	0.48
48:L5:3909:C:H2'	48:L5:3910:U:C6	2.47	0.48
52:LB:297:LYS:O	52:LB:298:LEU:HD13	2.14	0.48
64:LO:173:GLN:HA	64:LO:176:ARG:HE	1.78	0.48
67:LR:141:HIS:O	67:LR:145:LEU:HD12	2.13	0.48
1:A:441:LEU:HA	1:A:444:LEU:HD23	1.95	0.48
1:A:697:TYR:CE2	1:A:733:MET:HG2	2.48	0.48
9:J:23:GLY:HA3	9:J:54:SER:HB3	1.95	0.48
11:E:614:SER:OG	11:E:615:ALA:N	2.39	0.48
12:M:596:LEU:HD21	12:M:603:VAL:HG21	1.96	0.48
12:M:652:GLU:HG2	12:M:674:PRO:HG3	1.96	0.48
14:S2:1224:G:H2'	14:S2:1225:U:C6	2.48	0.48
14:S2:1420:G:OP1	28:ST:132:ASP:HB3	2.13	0.48
14:S2:1478:U:H2'	14:S2:1479:G:H8	1.79	0.48
14:S2:1597:C:H5''	45:SZ:82:SER:HB2	1.96	0.48
14:S2:1849:G:HO2'	14:S2:1850:A:H8	1.57	0.48
17:SD:214:LYS:HG3	17:SD:215:ASP:N	2.26	0.48
19:SF:169:ILE:HG23	19:SF:172:CYS:HB3	1.95	0.48
22:SK:52:LEU:HA	22:SK:55:ARG:HG2	1.94	0.48
37:SC:210:PRO:HD3	37:SC:236:PHE:CE2	2.49	0.48
48:L5:1178:G:N2	48:L5:1184:A:N1	2.62	0.48
48:L5:2874:G:C8	91:Lp:16:THR:HG22	2.49	0.48
48:L5:3592:C:O2'	48:L5:3595:G:N2	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:L5:3654:A:H2'	48:L5:3655:U:H6	1.77	0.48
48:L5:3754:A:N6	48:L5:3755:G:C2	2.82	0.48
48:L5:3846:U:H2'	48:L5:3847:A:H8	1.78	0.48
48:L5:4236:G:H2'	48:L5:4237:A:C8	2.48	0.48
79:Ld:55:LYS:HD2	79:Ld:55:LYS:C	2.39	0.48
84:Li:100:ALA:HA	84:Li:103:LYS:HG2	1.94	0.48
1:A:516:LYS:HB2	40:SM:91:LEU:HD22	1.96	0.48
1:A:801:MET:HE1	1:A:1027:LEU:HD12	1.95	0.48
1:A:839:LEU:HA	1:A:843:ARG:HG2	1.95	0.48
1:A:1005:LEU:O	1:A:1009:ILE:N	2.37	0.48
13:X:112:G:C8	13:X:114:A:H8	2.32	0.48
14:S2:395:G:N2	21:SI:14:THR:O	2.38	0.48
14:S2:537:C:O2'	14:S2:548:C:N3	2.46	0.48
14:S2:1464:C:H5'	26:SR:60:ARG:CZ	2.43	0.48
14:S2:1531:A:H2'	14:S2:1532:C:C6	2.49	0.48
20:SH:63:PHE:HA	20:SH:95:ILE:O	2.14	0.48
27:SS:40:TYR:O	27:SS:44:VAL:HG23	2.14	0.48
34:Sd:10:HIS:H	34:Sd:12:ARG:NH1	2.11	0.48
38:SG:28:TYR:CE1	38:SG:104:ALA:HA	2.49	0.48
42:SO:117:ARG:HH12	42:SO:121:ARG:HH21	1.62	0.48
48:L5:933:G:H2'	48:L5:940:C:N4	2.26	0.48
48:L5:1940:A:H2'	48:L5:1941:A:H8	1.79	0.48
48:L5:4258:U:H2'	48:L5:4259:C:C6	2.49	0.48
52:LB:200:ARG:NH1	52:LB:200:ARG:HB2	2.29	0.48
52:LB:295:ASP:OD1	52:LB:295:ASP:N	2.47	0.48
57:LG:209:SER:HA	57:LG:212:LYS:HB3	1.95	0.48
59:LI:71:CYS:SG	59:LI:154:ARG:HB3	2.54	0.48
72:LW:106:GLU:HA	72:LW:109:ILE:HD12	1.94	0.48
85:Lj:73:ARG:NH1	85:Lj:80:GLU:OE2	2.46	0.48
1:A:829:ILE:HG12	1:A:988:LEU:HD12	1.96	0.48
3:N:104:VAL:HG22	4:O:93:SER:HA	1.96	0.48
7:H:127:ASP:OD1	7:H:127:ASP:N	2.44	0.48
8:I:100:THR:HB	8:I:200:ASN:HD22	1.78	0.48
12:M:863:PHE:HB3	12:M:957:ILE:HD11	1.95	0.48
14:S2:27:A:N1	14:S2:647:U:H5	2.11	0.48
14:S2:191:A:N6	14:S2:209:A:H1'	2.28	0.48
14:S2:940:U:H3	14:S2:1002:U:H3	1.62	0.48
14:S2:1221:G:H21	14:S2:1675:A:N6	2.10	0.48
14:S2:1494:U:O2'	14:S2:1495:G:OP2	2.27	0.48
14:S2:1616:U:H2'	14:S2:1617:G:C8	2.49	0.48
18:SE:195:ILE:O	18:SE:197:ASN:N	2.45	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:SF:59:LYS:HD3	19:SF:62:ARG:HD2	1.96	0.48
22:SK:11:ILE:O	22:SK:14:LEU:HG	2.14	0.48
42:SO:130:GLU:HG3	42:SO:131:ASP:N	2.29	0.48
48:L5:1646:A:OP2	53:LC:80:ARG:NH1	2.46	0.48
55:LE:96:VAL:N	55:LE:97:GLY:HA2	2.28	0.48
62:LM:6:PHE:H	62:LM:11:ARG:NH2	2.12	0.48
66:LQ:10:ASP:OD1	66:LQ:11:ARG:N	2.44	0.48
69:LT:111:GLU:OE1	69:LT:111:GLU:N	2.43	0.48
75:LZ:22:LYS:NZ	75:LZ:132:GLN:O	2.40	0.48
3:N:116:SER:HA	4:O:200:LEU:HD21	1.96	0.48
10:K:90:PHE:HD1	10:K:95:GLN:HG3	1.79	0.48
14:S2:67:C:C4	38:SG:170:ARG:HB2	2.49	0.48
14:S2:1248:U:H5'	25:SQ:146:ARG:CZ	2.44	0.48
31:SX:32:LEU:HD23	31:SX:33:GLY:H	1.78	0.48
42:SO:54:CYS:HB2	42:SO:81:VAL:HG22	1.95	0.48
48:L5:247:G:H2'	48:L5:248:C:C6	2.49	0.48
48:L5:716:C:H2'	48:L5:717:U:C6	2.49	0.48
48:L5:729:G:C5	56:LF:73:ARG:HD3	2.48	0.48
48:L5:1176:C:H2'	48:L5:1177:U:C5	2.48	0.48
48:L5:1199:G:C6	48:L5:1200:G:C5	3.02	0.48
48:L5:1794:A:H5''	48:L5:4212:A:H61	1.79	0.48
48:L5:2261:A:O2'	48:L5:2262:C:O5'	2.32	0.48
48:L5:2584:G:H2'	48:L5:2584:G:N3	2.29	0.48
48:L5:4248:G:H5''	48:L5:4249:A:OP2	2.13	0.48
53:LC:143:ARG:HD3	53:LC:145:GLU:OE1	2.14	0.48
54:LD:31:TYR:C	54:LD:33:ARG:H	2.22	0.48
83:Lh:8:ASP:OD1	83:Lh:8:ASP:N	2.46	0.48
91:Lp:64:VAL:HG12	91:Lp:65:ALA:N	2.28	0.48
1:A:570:VAL:HG12	1:A:659:LEU:HD23	1.96	0.48
1:A:812:TYR:CZ	1:A:816:GLU:HG3	2.49	0.48
7:H:202:VAL:HG12	7:H:255:GLU:HG3	1.95	0.48
10:K:91:GLU:HB3	10:K:94:ARG:HB2	1.96	0.48
12:M:78:LEU:HA	12:M:193:TRP:CZ3	2.49	0.48
12:M:258:GLU:OE1	12:M:307:ARG:NH2	2.47	0.48
14:S2:924:G:N2	41:SN:87:ASP:OD1	2.37	0.48
14:S2:1136:U:H2'	14:S2:1137:U:C6	2.49	0.48
14:S2:1467:C:OP2	26:SR:3:ARG:NH2	2.43	0.48
14:S2:1654:G:C2	14:S2:1671:G:C2	3.02	0.48
17:SD:162:ASP:O	17:SD:164:VAL:N	2.47	0.48
18:SE:140:VAL:HG12	18:SE:146:THR:HG22	1.96	0.48
20:SH:76:GLN:NE2	20:SH:94:PHE:CD1	2.81	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:SQ:60:LYS:O	25:SQ:64:ALA:N	2.47	0.48
26:SR:30:THR:HA	26:SR:33:ARG:HE	1.79	0.48
36:Sg:18:VAL:HG22	36:Sg:301:GLY:HA3	1.96	0.48
39:SJ:111:GLN:NE2	39:SJ:127:ARG:HB2	2.28	0.48
48:L5:696:C:H5''	48:L5:697:G:H5'	1.96	0.48
48:L5:975:C:C4	48:L5:976:G:N7	2.82	0.48
48:L5:1405:C:N3	48:L5:1412:G:C2	2.82	0.48
48:L5:1774:C:N4	48:L5:1775:A:N7	2.62	0.48
48:L5:2898:U:C2	48:L5:2899:G:C8	3.02	0.48
48:L5:3690:A:H62	48:L5:3821:G:N2	2.05	0.48
48:L5:4118:U:H5	82:Lg:97:ILE:HG12	1.78	0.48
48:L5:4154:G:OP2	48:L5:4155:A:H2'	2.14	0.48
51:LA:199:VAL:HG23	51:LA:204:MET:HE2	1.96	0.48
51:LA:245:ARG:O	51:LA:247:ARG:NE	2.45	0.48
55:LE:107:VAL:O	55:LE:108:LYS:HD2	2.14	0.48
66:LQ:172:ARG:HG2	66:LQ:172:ARG:O	2.14	0.48
73:LX:76:ILE:HD11	73:LX:112:ALA:CB	2.44	0.48
82:Lg:37:LYS:HB2	82:Lg:60:ARG:HH11	1.78	0.48
1:A:826:GLN:O	1:A:830:MET:HG2	2.14	0.47
14:S2:1315:U:C4	14:S2:1316:C:H1'	2.49	0.47
15:SA:85:ARG:NH2	15:SA:205:ARG:HH11	2.12	0.47
18:SE:144:ALA:HB1	18:SE:145:ARG:HE	1.79	0.47
23:SL:79:LYS:HB2	23:SL:87:VAL:HG22	1.95	0.47
28:ST:107:LEU:HG	28:ST:112:MET:SD	2.54	0.47
29:SU:22:ILE:HG12	29:SU:91:LEU:HD13	1.95	0.47
37:SC:277:HIS:O	37:SC:279:ARG:N	2.47	0.47
41:SN:63:VAL:HG21	41:SN:71:ILE:HD11	1.97	0.47
42:SO:17:LEU:HD22	42:SO:88:LEU:CD1	2.43	0.47
48:L5:516:C:H42	48:L5:645:G:H22	1.62	0.47
48:L5:735:G:H2'	48:L5:736:C:C6	2.49	0.47
48:L5:1327:C:H2'	48:L5:1328:G:H8	1.79	0.47
48:L5:2477:G:H2'	48:L5:2478:G:C8	2.49	0.47
48:L5:3807:G:OP2	48:L5:3807:G:N2	2.37	0.47
48:L5:4417:U:OP1	48:L5:4419:C:N4	2.47	0.47
57:LG:33:GLU:HG2	57:LG:35:ARG:HD3	1.96	0.47
70:LU:61:VAL:HG23	70:LU:73:THR:O	2.14	0.47
72:LW:66:GLU:HA	72:LW:67:ILE:HA	1.68	0.47
1:A:669:VAL:H	1:A:703:ARG:HD3	1.79	0.47
1:A:812:TYR:CE2	1:A:1028:ARG:HG2	2.48	0.47
1:A:1117:CYS:SG	1:A:1118:GLN:N	2.87	0.47
4:O:151:LEU:HD21	7:H:30:PRO:HG2	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:35:VAL:HG23	5:F:53:LEU:HA	1.95	0.47
10:K:263:GLU:O	10:K:267:LYS:HG3	2.14	0.47
12:M:144:TYR:O	12:M:148:VAL:HG22	2.13	0.47
12:M:465:ARG:HD2	12:M:581:ILE:HG12	1.95	0.47
14:S2:1453:C:H6	26:SR:28:PHE:CG	2.32	0.47
14:S2:1749:G:H2'	14:S2:1750:C:N1	2.28	0.47
14:S2:1813:A:O2'	14:S2:1814:G:OP1	2.30	0.47
19:SF:191:LYS:HA	19:SF:194:ASP:HB2	1.94	0.47
34:Sd:21:CYS:SG	34:Sd:24:CYS:HB2	2.54	0.47
48:L5:1177:U:H1'	54:LD:282:GLN:HB3	1.96	0.47
48:L5:1548:G:O2'	48:L5:2810:A:N3	2.43	0.47
48:L5:1755:C:N4	48:L5:1777:C:O2'	2.48	0.47
48:L5:1778:C:H5'	54:LD:5:LYS:HD3	1.96	0.47
48:L5:2762:A:C2	48:L5:2763:A:C5	3.02	0.47
48:L5:3859:A:H2'	48:L5:3860:A:H8	1.78	0.47
48:L5:4152:G:C6	48:L5:4153:C:C4	3.02	0.47
48:L5:4909:A:OP2	52:LB:100:ARG:NH1	2.46	0.47
48:L5:4943:G:N2	81:Lf:67:THR:O	2.47	0.47
68:LS:99:ASP:OD2	68:LS:108:GLN:NE2	2.47	0.47
91:Lp:85:ARG:HG2	91:Lp:85:ARG:HH11	1.77	0.47
5:F:126:ILE:HD11	5:F:133:TRP:CD1	2.48	0.47
12:M:446:MET:HE1	12:M:543:LEU:HD22	1.96	0.47
12:M:604:VAL:HG11	12:M:618:ARG:HH21	1.78	0.47
12:M:714:GLN:NE2	12:M:733:THR:OG1	2.34	0.47
13:X:87:G:O2'	19:SF:194:ASP:HB3	2.14	0.47
14:S2:634:A:H2'	14:S2:635:G:H8	1.79	0.47
14:S2:1466:G:H2'	14:S2:1467:C:H6	1.78	0.47
16:SB:30:TRP:CE2	42:SO:19:PRO:HD3	2.49	0.47
18:SE:187:ALA:O	18:SE:245:ARG:NH2	2.47	0.47
19:SF:203:ASN:N	19:SF:203:ASN:OD1	2.46	0.47
20:SH:40:LEU:HA	20:SH:43:LEU:HG	1.95	0.47
28:ST:120:GLY:H	28:ST:121:ARG:HH11	1.63	0.47
46:Sb:10:PRO:HB2	46:Sb:15:GLU:OE2	2.14	0.47
47:Se:50:GLY:O	47:Se:53:LYS:HG2	2.14	0.47
48:L5:237:G:HO2'	48:L5:238:C:P	2.36	0.47
48:L5:271:C:H2'	48:L5:272:U:C6	2.48	0.47
48:L5:386:A:H5'	74:LY:89:LYS:HZ2	1.79	0.47
48:L5:964:A:H2'	48:L5:964:A:N3	2.29	0.47
48:L5:1778:C:H4'	54:LD:4:VAL:O	2.14	0.47
48:L5:4193:G:OP1	59:LI:116:ARG:HG3	2.14	0.47
48:L5:4455:U:O2	52:LB:252:ALA:HB3	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:L5:4992:G:H2'	48:L5:4993:U:C6	2.50	0.47
53:LC:156:ASP:OD2	53:LC:255:SER:HB2	2.14	0.47
57:LG:116:ALA:HA	57:LG:119:GLU:HG3	1.97	0.47
60:LJ:38:LYS:O	60:LJ:41:GLU:HB3	2.14	0.47
60:LJ:136:ARG:NH1	60:LJ:157:ILE:HG13	2.29	0.47
1:A:915:HIS:HD2	1:A:965:VAL:HG21	1.80	0.47
14:S2:367:U:OP1	21:SL:11:ARG:NH2	2.46	0.47
14:S2:609:U:H2'	14:S2:610:G:H8	1.79	0.47
14:S2:924:G:H21	41:SN:87:ASP:CG	2.20	0.47
14:S2:1741:U:H2'	14:S2:1742:C:O4'	2.15	0.47
15:SA:34:MET:HE1	15:SA:148:CYS:SG	2.54	0.47
17:SD:74:GLN:HA	17:SD:79:PHE:CD2	2.49	0.47
19:SF:115:ALA:HA	19:SF:180:ALA:C	2.38	0.47
24:SP:98:ASN:HB3	24:SP:99:GLY:HA3	1.96	0.47
33:Sc:20:ARG:NE	33:Sc:25:GLY:O	2.45	0.47
38:SG:76:LEU:HA	38:SG:94:ARG:HA	1.95	0.47
43:SW:104:LEU:HB3	43:SW:125:ILE:HD12	1.97	0.47
48:L5:974:C:H2'	48:L5:975:C:H6	1.79	0.47
48:L5:1931:G:H2'	48:L5:1932:A:C8	2.49	0.47
48:L5:2118:G:O2'	48:L5:2119:C:P	2.73	0.47
48:L5:2525:A:OP2	67:LR:38:ARG:NH1	2.24	0.47
48:L5:4342:U:H2'	48:L5:4343:C:H6	1.79	0.47
52:LB:257:TRP:CD1	52:LB:257:TRP:C	2.93	0.47
53:LC:361:LEU:O	53:LC:365:SER:N	2.35	0.47
67:LR:96:MET:O	67:LR:100:ARG:HG3	2.14	0.47
73:LX:37:LYS:HA	73:LX:38:LYS:HA	1.52	0.47
75:LZ:33:THR:O	75:LZ:34:SER:OG	2.27	0.47
9:J:75:VAL:HA	9:J:85:VAL:HG12	1.96	0.47
10:K:332:TRP:NE1	10:K:338:GLN:OE1	2.42	0.47
12:M:279:ILE:HG21	12:M:285:ARG:HD2	1.95	0.47
12:M:649:LEU:HB2	12:M:786:GLY:O	2.15	0.47
13:X:114:A:H3'	13:X:115:G:C5'	2.45	0.47
14:S2:352:U:H2'	14:S2:353:C:C6	2.49	0.47
14:S2:575:A:OP2	44:SY:93:ARG:NH1	2.48	0.47
14:S2:957:A:O2'	14:S2:958:G:O5'	2.33	0.47
14:S2:1103:C:H2'	14:S2:1104:G:C8	2.50	0.47
14:S2:1274:G:O4'	22:SK:47:LYS:HE3	2.15	0.47
14:S2:1294:G:H8	14:S2:1294:G:OP1	1.97	0.47
14:S2:1384:C:C2	14:S2:1385:G:C8	3.03	0.47
14:S2:1467:C:H5''	26:SR:1:MET:HG2	1.96	0.47
14:S2:1590:C:H3'	14:S2:1591:C:H6	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S2:1669:G:OP2	25:SQ:130:LYS:HE2	2.15	0.47
17:SD:24:PHE:CZ	22:SK:61:GLN:HB3	2.50	0.47
33:Sc:12:ALA:HB3	33:Sc:56:LEU:HB2	1.97	0.47
37:SC:196:ILE:HD12	37:SC:197:PRO:HD2	1.97	0.47
41:SN:63:VAL:HA	41:SN:66:VAL:HG12	1.97	0.47
48:L5:1391:A:OP1	66:LQ:181:ARG:NH2	2.47	0.47
48:L5:2106:G:C5	48:L5:2107:G:H1'	2.50	0.47
48:L5:4091:G:H3'	48:L5:4092:G:H8	1.80	0.47
50:L8:67:U:H2'	50:L8:68:G:H8	1.80	0.47
58:LH:113:GLU:HB3	58:LH:125:ARG:HD3	1.96	0.47
70:LU:45:GLU:OE1	70:LU:45:GLU:N	2.47	0.47
2:L:215:ALA:O	2:L:218:GLN:HG3	2.14	0.47
9:J:100:ARG:HB2	9:J:141:ASN:HD21	1.80	0.47
14:S2:344:U:H2'	14:S2:345:U:C6	2.50	0.47
14:S2:837:A:C2	14:S2:839:C:H5''	2.50	0.47
14:S2:1522:A:C8	27:SS:146:VAL:HG22	2.50	0.47
14:S2:1665:G:H5''	28:ST:89:PRO:HD2	1.96	0.47
30:SV:36:VAL:HG13	30:SV:37:ALA:N	2.30	0.47
36:Sg:231:ASP:N	36:Sg:231:ASP:OD1	2.43	0.47
48:L5:977:C:O2'	48:L5:978:G:H5'	2.14	0.47
48:L5:1774:C:C4	48:L5:1775:A:C8	3.02	0.47
48:L5:2255:C:OP2	56:LF:32:ARG:NH1	2.47	0.47
51:LA:97:ASN:HB3	51:LA:100:ASN:HD22	1.79	0.47
55:LE:124:LYS:HG3	55:LE:125:LEU:H	1.79	0.47
70:LU:99:TRP:HB2	70:LU:114:TYR:HB2	1.96	0.47
71:LV:111:GLU:OE1	71:LV:131:ARG:NH1	2.48	0.47
78:Lc:78:ASN:OD1	78:Lc:79:ILE:N	2.48	0.47
78:Lc:102:SER:OG	78:Lc:103:ASP:N	2.48	0.47
82:Lg:37:LYS:HB2	82:Lg:60:ARG:NH1	2.30	0.47
1:A:310:GLU:OE1	1:A:310:GLU:N	2.48	0.47
1:A:724:PRO:HB2	1:A:729:LEU:HD11	1.97	0.47
1:A:731:ARG:HD3	22:SK:87:PRO:O	2.14	0.47
1:A:754:LEU:HD22	1:A:762:VAL:HG23	1.97	0.47
4:O:223:PHE:HE1	10:K:296:PHE:HB3	1.79	0.47
6:G:102:ARG:HH21	6:G:122:LEU:HD22	1.80	0.47
7:H:215:CYS:SG	7:H:217:ILE:HG22	2.55	0.47
14:S2:17:C:H2'	14:S2:18:C:C6	2.49	0.47
14:S2:799:U:H2'	14:S2:800:U:C6	2.49	0.47
14:S2:1174:U:OP1	89:Ln:21:ARG:NH1	2.48	0.47
14:S2:1210:G:P	32:Sa:85:ARG:HH12	2.38	0.47
14:S2:1270:G:H1'	14:S2:1301:A:H62	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S2:1397:U:O4	25:SQ:12:VAL:HA	2.15	0.47
14:S2:1449:G:O2'	14:S2:1450:G:H5''	2.15	0.47
14:S2:1457:U:H5''	36:Sg:282:GLU:OE2	2.14	0.47
14:S2:1801:A:H2'	14:S2:1802:C:H6	1.79	0.47
15:SA:13:GLU:O	15:SA:17:LYS:HD2	2.14	0.47
15:SA:37:TYR:CZ	15:SA:57:LYS:HE2	2.50	0.47
16:SB:224:GLU:HB3	16:SB:227:LYS:HD3	1.97	0.47
17:SD:132:LYS:NZ	17:SD:156:LEU:HB3	2.28	0.47
17:SD:204:LEU:O	17:SD:206:ASP:N	2.47	0.47
18:SE:92:ILE:O	18:SE:94:LYS:N	2.46	0.47
28:ST:116:ASP:HB2	28:ST:120:GLY:HA3	1.96	0.47
32:Sa:75:VAL:O	32:Sa:79:ILE:HD12	2.14	0.47
38:SG:144:LEU:CD1	72:LW:105:ARG:HH22	2.28	0.47
38:SG:219:GLU:O	38:SG:223:LYS:N	2.43	0.47
39:SJ:118:GLY:O	39:SJ:120:ALA:N	2.46	0.47
48:L5:185:C:O5'	61:LL:44:ARG:NH2	2.48	0.47
48:L5:324:A:H2'	48:L5:325:U:C6	2.50	0.47
48:L5:1182:C:H3'	48:L5:1183:C:H4'	1.95	0.47
48:L5:1265:G:H3'	48:L5:1266:G:C8	2.49	0.47
48:L5:1327:C:H2'	48:L5:1328:G:C8	2.50	0.47
48:L5:1358:G:HO2'	48:L5:1359:G:H5''	1.80	0.47
48:L5:1448:G:H2'	48:L5:1449:C:C6	2.49	0.47
48:L5:1683:U:H2'	48:L5:1684:A:C8	2.50	0.47
48:L5:2596:A:O2'	82:Lg:61:PRO:HG3	2.15	0.47
48:L5:2694:A:C2	86:Lk:69:LEU:HD22	2.50	0.47
48:L5:4743:G:N2	48:L5:4953:A:H2	2.08	0.47
48:L5:4886:U:O2'	48:L5:4929:G:N2	2.47	0.47
52:LB:121:ASN:C	52:LB:123:HIS:H	2.23	0.47
53:LC:218:ILE:O	53:LC:222:ARG:HB2	2.14	0.47
57:LG:57:TRP:O	57:LG:62:ARG:NH1	2.48	0.47
59:LI:182:GLU:O	59:LI:185:VAL:HG12	2.14	0.47
73:LX:76:ILE:HD11	73:LX:112:ALA:HB3	1.96	0.47
73:LX:114:LYS:HG3	73:LX:119:ILE:O	2.15	0.47
78:Lc:66:LEU:O	78:Lc:68:LYS:NZ	2.47	0.47
88:Lm:93:LYS:HB3	88:Lm:103:LEU:O	2.15	0.47
1:A:466:TRP:CZ2	1:A:470:LEU:HD22	2.50	0.47
1:A:940:ILE:HG23	1:A:961:VAL:HG22	1.97	0.47
8:I:33:ILE:HB	8:I:52:LEU:HB3	1.97	0.47
12:M:473:LEU:HD23	12:M:473:LEU:H	1.79	0.47
14:S2:350:C:O2'	14:S2:383:G:N2	2.48	0.47
14:S2:913:A:N6	20:SH:120:ARG:HG3	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S2:1540:G:H1'	28:ST:48:TYR:HE2	1.80	0.47
15:SA:186:ARG:HG3	15:SA:188:THR:HG23	1.96	0.47
38:SG:85:ARG:O	38:SG:87:ARG:NH1	2.48	0.47
38:SG:155:GLN:NE2	38:SG:156:TYR:HB2	2.30	0.47
48:L5:668:C:OP1	92:Lr:69:GLY:HA2	2.13	0.47
48:L5:1699:A:N6	48:L5:2116:G:H1	2.12	0.47
48:L5:1998:G:H1'	48:L5:2016:C:H1'	1.97	0.47
48:L5:2573:U:O2	48:L5:2756:G:N2	2.48	0.47
48:L5:2755:A:H2'	48:L5:2756:G:C8	2.49	0.47
48:L5:3751:G:C5	48:L5:3774:G:C2	3.02	0.47
48:L5:4646:A:OP1	67:LR:62:ARG:NH2	2.48	0.47
48:L5:4989:U:O2'	48:L5:4990:G:OP1	2.33	0.47
54:LD:64:ILE:HG13	54:LD:105:LEU:HD21	1.97	0.47
55:LE:155:GLY:O	55:LE:158:ARG:HD3	2.15	0.47
79:Ld:57:MET:HG2	79:Ld:90:ARG:CG	2.45	0.47
86:Lk:61:PRO:CD	86:Lk:62:PRO:HD3	2.37	0.47
3:N:15:ARG:HA	3:N:18:LEU:HD12	1.95	0.47
8:I:157:HIS:CE1	8:I:159:ARG:HB2	2.50	0.47
12:M:86:THR:HG22	12:M:139:GLN:NE2	2.28	0.47
12:M:253:HIS:ND1	13:X:240:U:H5''	2.29	0.47
12:M:614:ASP:N	12:M:614:ASP:OD1	2.47	0.47
14:S2:59:U:H2'	14:S2:60:A:H2'	1.96	0.47
14:S2:1301:A:H3'	14:S2:1301:A:N3	2.30	0.47
14:S2:1383:A:H2'	14:S2:1384:C:H6	1.79	0.47
17:SD:81:GLU:N	17:SD:81:GLU:OE1	2.47	0.47
20:SH:169:LYS:O	20:SH:172:THR:HG22	2.15	0.47
30:SV:42:VAL:HG13	30:SV:43:THR:HG22	1.96	0.47
36:Sg:147:HIS:CE1	36:Sg:173:LEU:HB2	2.48	0.47
38:SG:7:PHE:CZ	38:SG:9:ALA:HB3	2.49	0.47
48:L5:4343:C:H2'	48:L5:4344:U:C6	2.50	0.47
52:LB:112:ASP:O	52:LB:113:GLU:HB2	2.14	0.47
54:LD:236:MET:HA	54:LD:239:MET:HG2	1.96	0.47
55:LE:106:VAL:HG22	55:LE:108:LYS:HG2	1.97	0.47
55:LE:206:VAL:HG12	55:LE:208:ILE:HG12	1.97	0.47
56:LF:39:GLN:OE1	56:LF:43:ARG:NH2	2.48	0.47
60:LJ:35:ARG:HA	60:LJ:38:LYS:NZ	2.30	0.47
65:LP:57:CYS:HB2	65:LP:72:GLN:HB2	1.97	0.47
68:LS:17:LEU:HD22	68:LS:59:GLY:N	2.30	0.47
70:LU:49:VAL:HB	70:LU:57:GLY:HA3	1.97	0.47
85:Lj:34:CYS:SG	85:Lj:38:GLY:N	2.88	0.47
1:A:329:PHE:N	1:A:476:TYR:O	2.42	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:782:HIS:O	1:A:1040:LEU:HD21	2.15	0.47
1:A:1166:ASN:OD1	1:A:1166:ASN:N	2.49	0.47
2:L:201:ASP:OD1	2:L:201:ASP:N	2.48	0.47
3:N:90:SER:OG	3:N:91:SER:N	2.48	0.47
5:F:175:GLU:OE2	12:M:401:SER:OG	2.33	0.47
5:F:280:LEU:HD23	5:F:280:LEU:H	1.80	0.47
13:X:15:G:H1'	13:X:55:A:N6	2.29	0.47
13:X:240:U:H2'	13:X:241:U:C6	2.50	0.47
14:S2:582:C:O4'	44:SY:33:ALA:HB2	2.13	0.47
14:S2:753:C:C4	14:S2:790:C:H5''	2.49	0.47
14:S2:1261:C:H1'	14:S2:1618:C:H42	1.80	0.47
14:S2:1678:A:OP2	19:SF:148:ASN:ND2	2.48	0.47
19:SF:56:TYR:HH	19:SF:66:CYS:HG	1.62	0.47
27:SS:74:PRO:HA	27:SS:79:ILE:HB	1.97	0.47
28:ST:40:ALA:HB2	28:ST:96:SER:N	2.29	0.47
48:L5:325:U:H2'	48:L5:326:C:H6	1.79	0.47
48:L5:2107:G:H3'	48:L5:2108:C:C5'	2.45	0.47
48:L5:4148:G:C2	48:L5:4149:G:C8	3.03	0.47
48:L5:4904:C:H2'	48:L5:4905:G:C8	2.50	0.47
50:L8:60:G:H8	83:Lh:58:LEU:HD23	1.79	0.47
51:LA:116:LEU:HD12	51:LA:164:ALA:HB2	1.97	0.47
52:LB:298:LEU:HA	52:LB:300:LYS:HZ3	1.79	0.47
52:LB:365:LEU:HD23	52:LB:368:ILE:HD11	1.96	0.47
54:LD:83:LEU:N	54:LD:84:PRO:HD2	2.30	0.47
60:LJ:10:ASN:HB3	60:LJ:11:PRO:HD3	1.96	0.47
67:LR:32:ILE:HD13	67:LR:44:LEU:HD21	1.97	0.47
67:LR:99:MET:HE3	67:LR:99:MET:HB3	1.83	0.47
70:LU:105:ASN:ND2	70:LU:111:GLU:HB2	2.28	0.47
72:LW:23:ARG:O	72:LW:25:ASP:N	2.47	0.47
73:LX:153:ILE:HG13	73:LX:155:ILE:HG23	1.97	0.47
75:LZ:11:VAL:HG22	75:LZ:82:PRO:HA	1.97	0.47
83:Lh:88:THR:C	83:Lh:90:ALA:H	2.23	0.47
3:N:146:GLY:HA3	3:N:211:THR:HA	1.97	0.46
5:F:119:VAL:HG13	5:F:194:VAL:HA	1.97	0.46
6:G:216:MET:HG3	6:G:219:LEU:HB2	1.97	0.46
7:H:173:ASP:OD2	9:J:124:PRO:HD2	2.14	0.46
10:K:330:VAL:N	10:K:338:GLN:O	2.28	0.46
12:M:503:VAL:O	12:M:561:ILE:HG22	2.15	0.46
12:M:842:ASN:O	12:M:845:GLN:HG3	2.14	0.46
14:S2:488:U:O2'	14:S2:489:A:OP1	2.31	0.46
14:S2:509:G:H2'	14:S2:510:G:H8	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S2:795:A:H5''	14:S2:797:C:H5	1.81	0.46
20:SH:145:ARG:HB2	43:SW:51:GLU:OE2	2.15	0.46
21:SI:67:TRP:HA	21:SI:189:VAL:CG1	2.43	0.46
23:SL:2:ALA:HA	23:SL:6:THR:HB	1.96	0.46
30:SV:41:LYS:O	30:SV:41:LYS:NZ	2.41	0.46
33:Sc:24:GLN:HG2	33:Sc:24:GLN:O	2.14	0.46
43:SW:36:ARG:O	43:SW:39:THR:OG1	2.32	0.46
48:L5:1098:G:H2'	48:L5:1099:C:C6	2.50	0.46
48:L5:1177:U:N3	48:L5:1178:G:C5	2.82	0.46
48:L5:1402:C:H2'	48:L5:1403:G:C8	2.51	0.46
48:L5:1757:U:H4'	48:L5:1758:G:H5'	1.97	0.46
48:L5:4101:C:H4'	48:L5:4102:G:C8	2.50	0.46
48:L5:4609:A:H2'	48:L5:4610:C:H6	1.79	0.46
55:LE:140:LEU:HB2	55:LE:167:GLN:NE2	2.29	0.46
56:LF:209:TRP:CD1	56:LF:210:PRO:HD2	2.51	0.46
64:LO:116:LYS:HD3	68:LS:169:THR:HG21	1.98	0.46
3:N:83:VAL:HG22	3:N:139:LEU:HB2	1.96	0.46
8:I:146:GLN:HB2	8:I:157:HIS:HD2	1.81	0.46
14:S2:71:G:H1'	14:S2:79:A:N7	2.30	0.46
14:S2:114:G:H1'	14:S2:383:G:O4'	2.15	0.46
14:S2:1240:A:N6	24:SP:98:ASN:O	2.48	0.46
14:S2:1241:A:N6	27:SS:152:LYS:O	2.39	0.46
14:S2:1280:G:H1'	14:S2:1318:G:H22	1.79	0.46
14:S2:1397:U:OP2	14:S2:1398:G:H8	1.97	0.46
14:S2:1551:U:O2'	14:S2:1557:C:N3	2.48	0.46
14:S2:1620:A:C5	14:S2:1624:U:C2	3.02	0.46
14:S2:1671:G:H5''	25:SQ:18:THR:HG21	1.97	0.46
14:S2:1745:A:H8	38:SG:65:GLN:HG3	1.79	0.46
14:S2:1752:C:O2	14:S2:1780:G:N1	2.39	0.46
15:SA:126:ASP:OD2	15:SA:129:ALA:N	2.25	0.46
17:SD:167:TYR:HE1	17:SD:192:TRP:H	1.63	0.46
18:SE:104:ASP:OD1	18:SE:108:ARG:N	2.40	0.46
24:SP:62:LYS:O	24:SP:66:GLU:HB2	2.15	0.46
26:SR:15:VAL:HG22	26:SR:19:LYS:HZ2	1.81	0.46
26:SR:36:GLU:OE1	26:SR:36:GLU:N	2.45	0.46
28:ST:28:LEU:HD13	28:ST:54:TYR:CD2	2.49	0.46
38:SG:137:ARG:HB2	38:SG:140:ARG:HB2	1.95	0.46
48:L5:1870:G:O2'	48:L5:4217:A:N3	2.42	0.46
48:L5:2553:G:C2	48:L5:2554:G:C5	3.03	0.46
48:L5:4729:G:C8	48:L5:4731:C:H3'	2.51	0.46
57:LG:205:THR:O	57:LG:207:VAL:N	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:LJ:95:ARG:NH1	60:LJ:175:LEU:HB3	2.30	0.46
62:LM:125:ASN:OD1	62:LM:126:GLU:N	2.49	0.46
68:LS:17:LEU:H	68:LS:17:LEU:CD2	2.27	0.46
69:LT:14:MET:HE3	69:LT:58:HIS:HB3	1.98	0.46
74:LY:84:ARG:HA	74:LY:84:ARG:CZ	2.45	0.46
84:Li:2:ALA:C	84:Li:3:LEU:HD12	2.40	0.46
92:Lr:125:MET:HE2	92:Lr:125:MET:HA	1.96	0.46
1:A:1197:VAL:HG23	1:A:1238:VAL:HG22	1.96	0.46
2:L:92:ASP:OD1	2:L:93:ARG:N	2.47	0.46
2:L:195:ILE:HD11	10:K:244:LYS:HG2	1.96	0.46
3:N:154:PHE:CE1	3:N:266:MET:HE3	2.50	0.46
12:M:428:LEU:HD12	12:M:433:ILE:HB	1.97	0.46
14:S2:215:G:O2'	14:S2:216:C:O4'	2.32	0.46
14:S2:1004:U:H2'	14:S2:1005:G:H8	1.80	0.46
16:SB:71:LEU:HD21	16:SB:189:ILE:HG23	1.97	0.46
19:SF:45:TYR:H	19:SF:46:ALA:HA	1.81	0.46
20:SH:58:LYS:O	20:SH:90:LYS:HD3	2.15	0.46
21:SI:76:THR:HG21	21:SI:105:ASP:O	2.14	0.46
22:SK:25:LYS:HD2	22:SK:62:PHE:CZ	2.51	0.46
23:SL:71:ARG:HB2	23:SL:130:GLU:HB2	1.97	0.46
24:SP:101:THR:HA	24:SP:102:PHE:HA	1.72	0.46
26:SR:98:VAL:HG22	26:SR:99:ASP:N	2.30	0.46
36:Sg:85:GLY:HA2	36:Sg:108:VAL:HG23	1.97	0.46
36:Sg:149:GLU:CD	36:Sg:170:TRP:H	2.21	0.46
36:Sg:253:GLY:HA2	36:Sg:285:GLN:HG3	1.97	0.46
38:SG:194:LEU:O	38:SG:198:ARG:HG3	2.16	0.46
48:L5:406:C:HO2'	48:L5:407:A:P	2.36	0.46
48:L5:654:C:H5'	53:LC:268:ARG:HG3	1.96	0.46
48:L5:756:G:H2'	48:L5:756:G:N3	2.30	0.46
48:L5:1977:A:C2	48:L5:1981:A:H2'	2.50	0.46
48:L5:2096:G:O3'	48:L5:2257:G:N2	2.49	0.46
49:L7:120:U:H3'	54:LD:262:LYS:HE2	1.98	0.46
51:LA:117:GLU:OE1	51:LA:163:ARG:N	2.46	0.46
72:LW:98:PRO:HA	72:LW:99:GLU:CB	2.45	0.46
1:A:287:VAL:HG21	1:A:478:ILE:HG12	1.97	0.46
1:A:685:ASP:CG	1:A:690:ARG:HG2	2.40	0.46
1:A:982:LEU:HD13	1:A:988:LEU:HG	1.96	0.46
2:L:182:PRO:HB3	2:L:204:LEU:HB2	1.96	0.46
5:F:59:LEU:HD22	5:F:289:PHE:HE2	1.79	0.46
12:M:371:ASP:OD1	12:M:371:ASP:N	2.49	0.46
12:M:589:PHE:CE2	12:M:592:ALA:HB2	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S2:534:G:H2'	14:S2:535:G:C8	2.40	0.46
14:S2:1404:U:N3	14:S2:1580:A:OP1	2.49	0.46
14:S2:1749:G:H2'	14:S2:1750:C:C2	2.51	0.46
18:SE:254:LYS:HD2	18:SE:254:LYS:HA	1.60	0.46
24:SP:30:TYR:CZ	24:SP:45:LEU:HG	2.50	0.46
30:SV:16:LYS:H	37:SC:259:THR:HG21	1.79	0.46
36:Sg:83:TRP:HA	36:Sg:107:ASP:OD1	2.15	0.46
36:Sg:91:ASP:N	36:Sg:96:THR:O	2.44	0.46
43:SW:30:CYS:SG	43:SW:61:ILE:HD11	2.56	0.46
48:L5:1280:C:H2'	48:L5:1281:G:H5''	1.98	0.46
48:L5:2693:A:H5'	86:Lk:26:LYS:HE3	1.96	0.46
48:L5:4576:G:H2'	48:L5:4577:U:C6	2.50	0.46
48:L5:5027:C:H2'	48:L5:5028:U:H6	1.80	0.46
49:L7:39:C:O2'	60:LJ:46:GLN:HB2	2.16	0.46
50:L8:102:G:H4'	85:Lj:21:ARG:HG2	1.97	0.46
57:LG:88:ASP:OD1	57:LG:89:ARG:N	2.49	0.46
60:LJ:144:LYS:HE2	60:LJ:146:ARG:O	2.15	0.46
61:LL:47:ALA:HB3	61:LL:48:PRO:HD3	1.98	0.46
61:LL:146:LEU:HD12	61:LL:146:LEU:O	2.16	0.46
61:LL:205:GLN:HA	61:LL:208:GLU:HB2	1.97	0.46
2:L:12:ARG:HE	2:L:18:ALA:HA	1.80	0.46
7:H:116:HIS:HB3	7:H:164:TYR:CE1	2.51	0.46
12:M:499:LEU:O	12:M:565:LEU:N	2.38	0.46
12:M:586:TYR:OH	12:M:621:LYS:HB3	2.14	0.46
12:M:708:GLN:HB3	12:M:772:PHE:HE2	1.79	0.46
12:M:832:ASP:O	12:M:835:GLU:HG3	2.15	0.46
14:S2:70:G:C2	14:S2:71:G:C4	3.03	0.46
14:S2:321:C:N4	14:S2:330:G:O6	2.38	0.46
14:S2:1229:G:H4'	14:S2:1633:A:H2	1.79	0.46
14:S2:1254:C:P	29:SU:75:LYS:HZ1	2.39	0.46
14:S2:1300:U:OP1	24:SP:59:ARG:NH2	2.49	0.46
14:S2:1566:G:OP2	28:ST:102:ARG:NH1	2.41	0.46
14:S2:1613:G:P	27:SS:88:LYS:HZ3	2.39	0.46
14:S2:1622:U:H3'	14:S2:1623:A:H4'	1.98	0.46
16:SB:136:ARG:HD3	16:SB:218:LEU:HD21	1.97	0.46
24:SP:16:THR:OG1	24:SP:21:ASP:OD1	2.33	0.46
24:SP:101:THR:OG1	24:SP:102:PHE:HB3	2.16	0.46
25:SQ:34:VAL:HG23	25:SQ:70:VAL:O	2.15	0.46
29:SU:32:LEU:HD21	29:SU:85:HIS:ND1	2.31	0.46
29:SU:63:ILE:HD13	34:Sd:52:PHE:CE2	2.50	0.46
36:Sg:57:ARG:NH2	36:Sg:92:LEU:O	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Sg:191:HIS:CD2	36:Sg:192:THR:H	2.34	0.46
36:Sg:195:LEU:HD23	36:Sg:209:SER:HB2	1.97	0.46
41:SN:130:LYS:NZ	41:SN:137:PRO:O	2.39	0.46
48:L5:969:C:H5''	48:L5:2252:G:N7	2.30	0.46
48:L5:1218:G:H2'	48:L5:1219:G:H4'	1.97	0.46
48:L5:2783:C:O2'	48:L5:2784:C:OP1	2.33	0.46
48:L5:3654:A:H2'	48:L5:3655:U:C6	2.50	0.46
53:LC:318:PRO:O	53:LC:319:LEU:HB2	2.15	0.46
80:Le:75:ARG:HB2	80:Le:95:TYR:HB3	1.98	0.46
3:N:45:ALA:HA	3:N:63:LYS:HD3	1.98	0.46
8:I:287:ARG:O	8:I:290:GLU:HG3	2.15	0.46
10:K:76:LEU:HD11	10:K:116:ILE:HB	1.98	0.46
12:M:347:VAL:HG12	12:M:369:PRO:HA	1.98	0.46
12:M:694:LYS:HA	12:M:791:LYS:HD2	1.96	0.46
14:S2:562:U:C5	39:SJ:172:ARG:HD3	2.50	0.46
14:S2:1491:G:H1'	29:SU:72:GLU:OE1	2.16	0.46
16:SB:118:GLN:HE21	16:SB:142:PHE:HB3	1.79	0.46
30:SV:41:LYS:HZ2	30:SV:41:LYS:C	2.22	0.46
31:SX:85:VAL:HG12	31:SX:122:VAL:HG11	1.98	0.46
36:Sg:36:ARG:HH12	36:Sg:67:SER:HA	1.81	0.46
39:SJ:21:GLU:O	39:SJ:23:SER:N	2.45	0.46
48:L5:2261:A:O2'	48:L5:2263:G:N7	2.33	0.46
48:L5:2496:C:C2	48:L5:2497:C:C5	3.04	0.46
48:L5:3594:A:HO2'	67:LR:143:HIS:CE1	2.33	0.46
48:L5:3683:C:OP1	51:LA:193:ARG:NH2	2.48	0.46
48:L5:4279:A:H2'	48:L5:4280:A:H2'	1.98	0.46
62:LM:31:ILE:HG13	62:LM:35:ARG:HB3	1.98	0.46
67:LR:44:LEU:HD11	67:LR:49:LEU:HD22	1.98	0.46
69:LT:149:GLU:OE1	69:LT:149:GLU:N	2.49	0.46
73:LX:81:LEU:H	73:LX:81:LEU:HD23	1.80	0.46
4:O:91:GLU:O	4:O:95:GLU:HG2	2.16	0.46
8:I:61:GLU:N	8:I:68:CYS:O	2.37	0.46
12:M:529:TYR:HB2	12:M:536:TYR:HB2	1.97	0.46
12:M:530:TYR:HD1	12:M:535:ARG:HG2	1.80	0.46
12:M:544:SER:HA	12:M:548:CYS:HB2	1.97	0.46
13:X:114:A:H3'	13:X:115:G:H5''	1.97	0.46
14:S2:152:U:H3	14:S2:166:A:N6	2.02	0.46
14:S2:1289:U:H4'	14:S2:1314:U:N3	2.31	0.46
14:S2:1539:U:O2'	28:ST:47:PRO:HA	2.16	0.46
14:S2:1614:A:H2'	14:S2:1615:U:O4'	2.16	0.46
14:S2:1617:G:H4'	34:Sd:14:PHE:CZ	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:SE:4:GLY:O	18:SE:6:LYS:NZ	2.49	0.46
20:SH:30:LEU:HD23	20:SH:30:LEU:HA	1.82	0.46
20:SH:79:LEU:HD12	20:SH:79:LEU:O	2.16	0.46
21:SI:130:THR:HB	21:SI:131:PRO:HD3	1.97	0.46
24:SP:34:MET:HA	24:SP:38:SER:HB3	1.98	0.46
27:SS:110:ASP:HA	27:SS:113:ARG:CZ	2.45	0.46
33:Sc:10:LYS:HZ1	33:Sc:34:PHE:CB	2.28	0.46
36:Sg:72:SER:HB2	36:Sg:113:PHE:HD2	1.80	0.46
45:SZ:69:THR:HG22	45:SZ:108:ILE:HA	1.96	0.46
48:L5:1281:G:N2	53:LC:320:LYS:O	2.47	0.46
48:L5:1367:C:O2'	48:L5:1369:C:OP2	2.30	0.46
48:L5:2587:C:N3	48:L5:2755:A:C2	2.84	0.46
48:L5:2753:A:C6	48:L5:2754:G:H1'	2.50	0.46
48:L5:4129:G:C6	48:L5:4152:G:C6	3.04	0.46
49:L7:16:A:H2'	49:L7:17:C:C6	2.51	0.46
63:LN:147:ASP:O	63:LN:147:ASP:OD1	2.34	0.46
73:LX:38:LYS:HE3	73:LX:39:LYS:HG2	1.98	0.46
79:Ld:57:MET:HG2	79:Ld:90:ARG:HG2	1.97	0.46
1:A:761:ARG:HG3	1:A:762:VAL:N	2.30	0.46
1:A:929:THR:HG22	1:A:981:THR:HG22	1.98	0.46
1:A:993:MET:HG3	29:SU:96:GLU:OE2	2.16	0.46
2:L:110:ILE:HA	2:L:152:MET:HG2	1.98	0.46
6:G:66:VAL:HG21	6:G:169:LEU:HG	1.96	0.46
12:M:615:GLU:HA	12:M:618:ARG:HD3	1.97	0.46
14:S2:694:G:N7	14:S2:696:G:C2	2.83	0.46
14:S2:808:A:C6	14:S2:809:A:C6	3.04	0.46
14:S2:1256:G:C8	34:Sd:40:ARG:HD3	2.51	0.46
14:S2:1273:C:H5'	14:S2:1274:G:OP1	2.16	0.46
14:S2:1515:G:H4'	24:SP:80:LEU:HD22	1.97	0.46
14:S2:1617:G:N1	14:S2:1620:A:OP2	2.49	0.46
16:SB:231:LEU:HD12	16:SB:232:HIS:H	1.81	0.46
17:SD:69:LEU:O	17:SD:73:VAL:HG23	2.16	0.46
18:SE:246:LEU:HD12	18:SE:246:LEU:H	1.80	0.46
26:SR:126:MET:HB2	26:SR:128:PHE:HD1	1.80	0.46
29:SU:62:ARG:HG2	29:SU:80:PHE:O	2.15	0.46
33:Sc:12:ALA:O	33:Sc:56:LEU:N	2.49	0.46
44:SY:78:SER:HB3	44:SY:81:TYR:HD1	1.81	0.46
48:L5:957:G:H5'	48:L5:1284:G:C2	2.51	0.46
48:L5:1307:A:H2'	48:L5:1308:C:H6	1.81	0.46
48:L5:3908:C:H2'	48:L5:3909:C:C6	2.51	0.46
48:L5:4886:U:N3	48:L5:4930:U:O2	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:LB:79:VAL:HG13	52:LB:331:VAL:HG13	1.97	0.46
52:LB:288:GLY:HA3	52:LB:330:PHE:CE1	2.51	0.46
54:LD:104:LEU:HB2	54:LD:247:ILE:HD11	1.97	0.46
56:LF:109:LEU:HD23	56:LF:109:LEU:HA	1.80	0.46
60:LJ:12:MET:HE2	60:LJ:12:MET:HA	1.98	0.46
60:LJ:178:LYS:HD2	60:LJ:178:LYS:H	1.80	0.46
67:LR:38:ARG:C	67:LR:40:GLN:H	2.22	0.46
86:Lk:55:LYS:HA	86:Lk:58:GLN:HE22	1.80	0.46
86:Lk:61:PRO:CD	86:Lk:62:PRO:CD	2.89	0.46
92:Lr:47:LYS:HD2	92:Lr:102:TYR:CE2	2.51	0.46
1:A:490:TYR:HB3	1:A:503:LEU:HD12	1.97	0.46
3:N:211:THR:H	3:N:214:GLU:CG	2.29	0.46
9:J:174:CYS:HB2	9:J:179:THR:H	1.80	0.46
10:K:76:LEU:HD23	10:K:132:ILE:HB	1.98	0.46
12:M:1043:LEU:HG	12:M:1046:LEU:HD22	1.98	0.46
14:S2:338:G:O2'	14:S2:339:A:H5'	2.16	0.46
14:S2:1216:C:H5''	14:S2:1217:A:H5'	1.97	0.46
16:SB:133:TYR:CD2	16:SB:217:MET:HE1	2.50	0.46
20:SH:93:VAL:HG21	20:SH:133:LEU:HD12	1.97	0.46
24:SP:92:SER:OG	24:SP:104:GLN:NE2	2.48	0.46
26:SR:28:PHE:HA	26:SR:55:THR:HG21	1.98	0.46
28:ST:40:ALA:H	28:ST:96:SER:HB2	1.80	0.46
32:Sa:73:TYR:CE2	32:Sa:83:VAL:HG21	2.51	0.46
48:L5:158:A:C5	48:L5:277:G:C6	3.04	0.46
48:L5:2765:U:H3'	48:L5:2767:U:C6	2.50	0.46
48:L5:3730:A:H2'	48:L5:3731:A:C8	2.51	0.46
48:L5:4066:U:H2'	48:L5:4067:U:C6	2.51	0.46
48:L5:4230:U:H4'	48:L5:4231:A:O4'	2.16	0.46
48:L5:4546:A:H3'	48:L5:4546:A:N3	2.31	0.46
48:L5:4746:U:H3	48:L5:4950:G:H1	1.64	0.46
56:LF:98:ILE:O	56:LF:98:ILE:HG13	2.16	0.46
62:LM:95:ILE:O	62:LM:96:GLU:HB3	2.16	0.46
63:LN:160:GLU:H	63:LN:160:GLU:CD	2.22	0.46
78:Lc:15:ASN:HA	78:Lc:18:LEU:HB3	1.98	0.46
1:A:594:SER:O	1:A:597:LYS:HG2	2.16	0.46
5:F:187:TYR:O	12:M:131:ARG:NH1	2.47	0.46
7:H:25:GLY:O	7:H:85:ARG:NH2	2.42	0.46
10:K:225:MET:O	10:K:258:VAL:HG21	2.16	0.46
10:K:249:ARG:O	10:K:253:ILE:HG13	2.16	0.46
11:E:608:THR:HB	11:E:609:PRO:HD3	1.98	0.46
12:M:83:PHE:CE2	12:M:114:CYS:HB3	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:M:696:ILE:HD11	12:M:810:LEU:HB3	1.98	0.46
13:X:30:U:N3	13:X:134:G:OP1	2.49	0.46
14:S2:332:G:N7	38:SG:190:ARG:NH2	2.61	0.46
14:S2:454:U:H2'	14:S2:455:A:H8	1.81	0.46
14:S2:1221:G:H5'	19:SF:152:TRP:CZ2	2.51	0.46
14:S2:1288:U:O2'	14:S2:1312:G:N2	2.49	0.46
14:S2:1520:G:OP1	27:SS:136:THR:N	2.45	0.46
14:S2:1531:A:H5''	19:SF:81:ARG:HH22	1.80	0.46
18:SE:128:LYS:HG2	18:SE:140:VAL:HG22	1.97	0.46
26:SR:5:ARG:HE	26:SR:53:TYR:HB2	1.81	0.46
28:ST:75:MET:SD	28:ST:104:LEU:HD11	2.56	0.46
28:ST:107:LEU:HD12	28:ST:107:LEU:HA	1.62	0.46
38:SG:131:ARG:HG3	38:SG:131:ARG:NH1	2.31	0.46
39:SJ:2:PRO:O	39:SJ:3:VAL:HG22	2.16	0.46
48:L5:10:A:H2'	48:L5:11:G:C8	2.51	0.46
48:L5:17:A:OP2	73:LX:60:TYR:OH	2.25	0.46
48:L5:500:G:N1	48:L5:504:G:C6	2.84	0.46
48:L5:1440:U:H1'	48:L5:1441:C:H5	1.81	0.46
48:L5:3752:G:H2'	48:L5:3753:G:C8	2.51	0.46
48:L5:4423:G:OP1	88:Lm:100:TYR:OH	2.32	0.46
55:LE:109:LEU:HG	55:LE:110:ARG:HG3	1.97	0.46
79:Ld:93:ASN:O	79:Ld:95:ASP:N	2.46	0.46
1:A:590:ASP:H	1:A:630:ARG:HB3	1.81	0.45
8:I:205:ILE:HD11	8:I:241:ILE:HD12	1.97	0.45
8:I:283:GLU:O	8:I:286:GLN:HG2	2.16	0.45
10:K:32:TYR:CE1	10:K:208:ASP:HB2	2.50	0.45
14:S2:29:G:H2'	14:S2:30:C:C6	2.51	0.45
14:S2:104:A:H62	14:S2:356:C:H5	1.62	0.45
14:S2:1447:G:H4'	29:SU:33:GLU:CD	2.40	0.45
14:S2:1461:G:H22	14:S2:1464:C:H5''	1.81	0.45
17:SD:77:PHE:CB	17:SD:79:PHE:CE1	2.99	0.45
17:SD:114:ALA:HB3	17:SD:117:ARG:HB2	1.98	0.45
19:SF:50:PRO:CD	19:SF:51:HIS:H	2.05	0.45
20:SH:144:ILE:HG12	20:SH:154:ILE:HG23	1.97	0.45
27:SS:124:ARG:HB3	27:SS:131:VAL:HG22	1.98	0.45
36:Sg:65:PHE:O	36:Sg:83:TRP:HD1	1.98	0.45
36:Sg:72:SER:OG	36:Sg:73:SER:N	2.48	0.45
38:SG:14:LYS:CG	38:SG:16:ILE:HD12	2.46	0.45
38:SG:209:TYR:O	38:SG:214:ALA:N	2.49	0.45
48:L5:1245:C:H2'	48:L5:1246:G:H5''	1.98	0.45
48:L5:1761:G:N2	48:L5:1768:C:H42	2.14	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:L5:2481:G:H2'	48:L5:2482:A:H5''	1.97	0.45
48:L5:2900:G:H2'	48:L5:3592:C:O2	2.16	0.45
48:L5:3590:G:H2'	48:L5:3591:C:H4'	1.98	0.45
48:L5:3769:C:H3'	48:L5:3770:U:C5'	2.46	0.45
48:L5:4118:U:C2	78:Lc:58:SER:HB3	2.51	0.45
48:L5:5024:U:H4'	48:L5:5026:G:H5''	1.96	0.45
50:L8:153:C:H5'	57:LG:185:LYS:NZ	2.31	0.45
57:LG:154:LEU:HD12	57:LG:219:VAL:HG22	1.98	0.45
64:LO:193:THR:HG22	64:LO:197:LYS:HE3	1.98	0.45
68:LS:9:GLU:HG2	68:LS:67:VAL:HB	1.97	0.45
68:LS:109:CYS:C	68:LS:111:ARG:H	2.24	0.45
69:LT:68:THR:HG22	69:LT:69:GLN:N	2.31	0.45
78:Lc:77:ASN:HB3	78:Lc:80:GLU:HG3	1.97	0.45
90:Lo:73:VAL:HA	90:Lo:78:ARG:HH12	1.81	0.45
92:Lr:45:HIS:CD2	92:Lr:103:ARG:HH12	2.33	0.45
3:N:38:ASN:OD1	3:N:50:LEU:HB3	2.17	0.45
4:O:62:ALA:HB2	7:H:108:ARG:NH1	2.31	0.45
8:I:257:LEU:O	8:I:261:GLU:HG2	2.16	0.45
12:M:478:ASP:OD1	12:M:478:ASP:N	2.46	0.45
12:M:493:THR:OG1	12:M:499:LEU:HD12	2.15	0.45
13:X:109:G:H2'	13:X:110:U:H6	1.82	0.45
14:S2:96:C:H1'	14:S2:474:G:H5'	1.98	0.45
14:S2:928:G:H1	14:S2:1013:U:H3	1.65	0.45
14:S2:1644:C:OP1	25:SQ:143:LYS:N	2.42	0.45
16:SB:196:ASP:O	16:SB:199:LYS:HG2	2.15	0.45
18:SE:67:GLN:HB2	18:SE:69:PHE:CE2	2.51	0.45
21:SI:149:TYR:HA	21:SI:152:ARG:HB2	1.98	0.45
25:SQ:132:PHE:HB2	29:SU:77:TRP:HB2	1.97	0.45
26:SR:18:GLU:HA	26:SR:70:SER:HB2	1.99	0.45
30:SV:35:ASN:ND2	30:SV:50:PHE:CD1	2.82	0.45
33:Sc:50:VAL:HG12	33:Sc:51:ARG:O	2.16	0.45
35:Sf:142:GLY:HA2	35:Sf:149:CYS:SG	2.56	0.45
36:Sg:230:LEU:HD11	36:Sg:264:LYS:HD3	1.98	0.45
37:SC:264:SER:O	37:SC:266:TYR:N	2.50	0.45
38:SG:137:ARG:NE	38:SG:178:ARG:HH22	2.12	0.45
39:SJ:102:ILE:HG23	39:SJ:103:GLU:OE2	2.15	0.45
48:L5:25:A:C8	48:L5:341:G:C8	3.05	0.45
48:L5:385:A:N3	48:L5:387:G:H5''	2.31	0.45
48:L5:2553:G:H2'	48:L5:2554:G:C8	2.51	0.45
48:L5:2856:A:HO2'	48:L5:2857:G:C5'	2.29	0.45
53:LC:233:SER:HA	53:LC:263:LEU:HD21	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:LG:162:ASP:HB3	57:LG:163:PRO:CD	2.46	0.45
58:LH:142:ASP:OD1	58:LH:142:ASP:N	2.48	0.45
63:LN:98:LEU:HD22	63:LN:128:LYS:HD2	1.97	0.45
73:LX:83:THR:HG22	73:LX:85:SER:N	2.24	0.45
76:La:83:SER:HB3	76:La:86:THR:HG23	1.98	0.45
1:A:459:ASN:HD21	1:A:740:LEU:H	1.63	0.45
6:G:35:ARG:NH1	6:G:37:ARG:HG3	2.31	0.45
13:X:26:C:OP1	13:X:132:A:H4'	2.16	0.45
13:X:94:G:O6	13:X:135:C:H5'	2.17	0.45
13:X:130:G:H2'	13:X:131:G:C8	2.51	0.45
14:S2:114:G:O2'	14:S2:382:C:O2'	2.24	0.45
14:S2:656:G:H21	14:S2:663:C:H5''	1.81	0.45
14:S2:1215:C:N4	14:S2:1646:C:N3	2.64	0.45
20:SH:147:LYS:O	20:SH:149:ASP:N	2.49	0.45
22:SK:42:ASN:O	22:SK:45:VAL:HG22	2.16	0.45
30:SV:43:THR:HG23	30:SV:45:ARG:HG3	1.98	0.45
33:Sc:20:ARG:NH2	33:Sc:26:GLN:HA	2.31	0.45
38:SG:46:LYS:H	38:SG:46:LYS:HG2	1.59	0.45
42:SO:56:VAL:HA	42:SO:60:MET:HE1	1.95	0.45
48:L5:4128:C:C4	48:L5:4129:G:N7	2.84	0.45
55:LE:254:ASP:HA	55:LE:257:ILE:HG22	1.98	0.45
56:LF:41:MET:HA	56:LF:41:MET:HE2	1.98	0.45
62:LM:96:GLU:HG2	62:LM:96:GLU:O	2.15	0.45
64:LO:100:ASP:C	64:LO:100:ASP:OD1	2.59	0.45
64:LO:170:LYS:HE2	64:LO:170:LYS:HB2	1.73	0.45
66:LQ:35:LEU:O	66:LQ:39:THR:HG22	2.16	0.45
66:LQ:61:LEU:HD21	66:LQ:66:MET:HB2	1.98	0.45
79:Ld:68:LEU:HD13	79:Ld:108:TYR:HB2	1.97	0.45
1:A:725:GLU:OE1	22:SK:77:GLN:NE2	2.49	0.45
5:F:280:LEU:HD11	5:F:284:ARG:HB2	1.98	0.45
12:M:189:LEU:HD11	12:M:196:LEU:HD23	1.98	0.45
12:M:764:GLN:HA	13:X:244:U:P	2.56	0.45
13:X:97:C:H2'	13:X:98:C:O4'	2.15	0.45
13:X:227:U:O2'	13:X:228:U:O4'	2.31	0.45
14:S2:520:A:O2'	14:S2:825:A:N3	2.47	0.45
14:S2:551:U:C2	14:S2:552:G:C8	3.04	0.45
14:S2:589:G:O3'	14:S2:590:A:H2'	2.16	0.45
14:S2:634:A:H2'	14:S2:635:G:C8	2.50	0.45
14:S2:883:U:H2'	14:S2:884:C:H6	1.80	0.45
14:S2:1769:C:P	14:S2:1771:G:H1	2.38	0.45
15:SA:166:LYS:HA	15:SA:166:LYS:HD3	1.68	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:SB:121:ILE:HG12	16:SB:161:VAL:HG13	1.98	0.45
17:SD:29:LEU:HD23	17:SD:34:TYR:CD1	2.49	0.45
18:SE:250:GLU:HG3	18:SE:251:GLU:OE2	2.17	0.45
48:L5:1263:A:H2'	48:L5:1264:C:C6	2.51	0.45
48:L5:1339:U:H2'	48:L5:1340:C:C6	2.52	0.45
48:L5:1761:G:O2'	48:L5:1762:C:O4'	2.23	0.45
48:L5:2118:G:HO2'	48:L5:2119:C:P	2.40	0.45
48:L5:4697:U:H4'	48:L5:4698:A:OP1	2.16	0.45
50:L8:16:G:O2'	50:L8:17:A:O5'	2.32	0.45
53:LC:140:LYS:HB3	53:LC:142:HIS:HD2	1.81	0.45
60:LJ:63:ARG:HD2	90:Lo:106:PHE:CD2	2.48	0.45
74:LY:33:PRO:HD2	74:LY:104:VAL:O	2.17	0.45
1:A:1197:VAL:O	1:A:1201:GLN:HG2	2.16	0.45
4:O:156:ALA:HA	4:O:182:THR:HA	1.98	0.45
5:F:244:LYS:HE3	6:G:93:ARG:HH12	1.82	0.45
10:K:262:THR:HA	10:K:265:ILE:HG22	1.99	0.45
13:X:9:G:H2'	13:X:58:G:C4	2.52	0.45
14:S2:14:C:OP1	37:SC:190:SER:OG	2.34	0.45
14:S2:1113:A:C3'	14:S2:1114:U:H5'	2.46	0.45
14:S2:1426:U:H5'	25:SQ:1:MET:SD	2.57	0.45
15:SA:90:PHE:HD1	15:SA:179:ALA:HB2	1.80	0.45
15:SA:156:TYR:O	30:SV:60:ARG:NH2	2.50	0.45
17:SD:163:PRO:HA	17:SD:166:TYR:CE2	2.52	0.45
27:SS:42:HIS:HD1	27:SS:45:LEU:HD12	1.81	0.45
27:SS:127:TRP:CD1	27:SS:145:THR:HG22	2.52	0.45
38:SG:16:ILE:HD11	38:SG:124:LEU:HD21	1.98	0.45
38:SG:163:ASN:OD1	38:SG:163:ASN:N	2.44	0.45
48:L5:319:A:H1'	48:L5:3724:A:H8	1.81	0.45
48:L5:1514:U:H2'	48:L5:1515:A:H8	1.81	0.45
48:L5:1539:G:H1'	51:LA:15:VAL:HG23	1.99	0.45
48:L5:2577:G:N2	48:L5:2580:A:OP2	2.40	0.45
48:L5:2578:U:O2'	75:LZ:79:HIS:ND1	2.46	0.45
48:L5:2588:G:C2	48:L5:2754:G:O6	2.68	0.45
48:L5:2763:A:N6	48:L5:2764:A:C8	2.84	0.45
48:L5:2807:G:O2'	48:L5:4642:G:OP1	2.33	0.45
48:L5:4127:G:C6	48:L5:4128:C:C4	3.05	0.45
51:LA:44:ILE:HG22	51:LA:62:VAL:HG12	1.98	0.45
64:LO:27:VAL:HG12	64:LO:98:ALA:HB1	1.98	0.45
74:LY:36:LYS:HA	74:LY:39:ARG:HB3	1.99	0.45
74:LY:82:ILE:HB	74:LY:85:VAL:HG22	1.99	0.45
86:Lk:66:VAL:HA	86:Lk:67:LYS:HA	1.70	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:589:LEU:HD23	1:A:589:LEU:HA	1.83	0.45
4:O:34:GLU:OE2	10:K:288:ILE:HD13	2.16	0.45
4:O:229:GLN:HB3	4:O:230:ARG:HH21	1.81	0.45
12:M:881:TYR:CE1	12:M:891:PHE:HB2	2.52	0.45
13:X:40:U:OP1	13:X:42:A:N6	2.48	0.45
14:S2:101:U:OP1	21:SI:19:LYS:NZ	2.43	0.45
14:S2:199:C:H3'	14:S2:200:G:H8	1.81	0.45
14:S2:373:G:OP1	23:SL:137:THR:OG1	2.21	0.45
14:S2:458:A:H2'	14:S2:459:C:H6	1.81	0.45
14:S2:794:A:H2'	14:S2:795:A:H4'	1.99	0.45
14:S2:803:C:H2'	14:S2:804:U:C6	2.51	0.45
14:S2:872:A:O2'	14:S2:873:G:H8	2.00	0.45
14:S2:1529:C:H2'	14:S2:1530:U:C6	2.52	0.45
14:S2:1535:U:H5'	14:S2:1536:G:H8	1.80	0.45
14:S2:1801:A:H2'	14:S2:1802:C:C6	2.52	0.45
15:SA:200:ASP:HA	15:SA:203:PHE:CD1	2.52	0.45
17:SD:35:SER:HB2	17:SD:51:LEU:O	2.15	0.45
21:SI:27:TYR:HB3	21:SI:49:ARG:HH22	1.81	0.45
21:SI:54:LYS:HD2	21:SI:181:GLN:HG3	1.98	0.45
23:SL:72:ILE:O	23:SL:73:LEU:HD23	2.17	0.45
23:SL:128:VAL:CG1	23:SL:140:PHE:HB3	2.47	0.45
25:SQ:31:LEU:HD13	25:SQ:33:LYS:HD3	1.99	0.45
32:Sa:90:GLU:O	32:Sa:93:LYS:HG2	2.17	0.45
36:Sg:296:GLN:HB2	36:Sg:312:VAL:H	1.80	0.45
48:L5:73:A:OP1	61:LL:106:SER:OG	2.33	0.45
48:L5:123:C:H2'	48:L5:124:C:H6	1.81	0.45
48:L5:752:G:O6	48:L5:911:U:C4	2.70	0.45
48:L5:1928:U:OP2	64:LO:49:ARG:HD2	2.15	0.45
53:LC:150:LEU:HB3	53:LC:151:PRO:HD3	1.97	0.45
60:LJ:63:ARG:CZ	90:Lo:106:PHE:O	2.65	0.45
69:LT:68:THR:CG2	69:LT:69:GLN:H	2.29	0.45
69:LT:127:GLN:OE1	69:LT:128:LEU:N	2.48	0.45
69:LT:157:GLU:OE2	69:LT:159:MET:SD	2.75	0.45
71:LV:78:PRO:HG2	71:LV:106:VAL:O	2.16	0.45
88:Lm:82:LEU:HD12	88:Lm:82:LEU:O	2.16	0.45
1:A:379:ASP:OD1	1:A:379:ASP:N	2.50	0.45
1:A:400:THR:HG21	1:A:437:TRP:CD2	2.52	0.45
1:A:472:ARG:HG3	1:A:472:ARG:O	2.16	0.45
1:A:597:LYS:HA	1:A:600:ILE:HG12	1.97	0.45
7:H:206:LEU:HB2	7:H:258:GLU:HB2	1.99	0.45
12:M:610:PHE:HD1	12:M:618:ARG:HG2	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:X:38:G:O2'	13:X:135:C:N4	2.48	0.45
14:S2:435:A:OP1	21:SI:23:LYS:NZ	2.45	0.45
14:S2:537:C:OP1	14:S2:539:C:N4	2.50	0.45
14:S2:574:A:HO2'	14:S2:575:A:H8	1.62	0.45
14:S2:957:A:H61	14:S2:967:C:N4	2.15	0.45
14:S2:1256:G:N7	34:Sd:40:ARG:HD3	2.32	0.45
27:SS:120:HIS:HB2	27:SS:123:LEU:HB3	1.98	0.45
37:SC:268:GLU:OE1	37:SC:268:GLU:N	2.50	0.45
48:L5:99:A:H2'	48:L5:100:C:O2	2.16	0.45
48:L5:1270:A:N7	48:L5:1271:G:O2'	2.49	0.45
48:L5:1633:G:H5'	48:L5:1634:A:OP1	2.16	0.45
48:L5:2463:C:H2'	48:L5:2464:G:O4'	2.17	0.45
48:L5:2720:G:H2'	48:L5:2721:U:O4'	2.16	0.45
48:L5:4342:U:H2'	48:L5:4343:C:C6	2.52	0.45
48:L5:4767:G:H21	48:L5:4769:C:H41	1.64	0.45
48:L5:5000:U:H2'	48:L5:5001:U:C6	2.52	0.45
53:LC:303:ARG:HG2	66:LQ:38:ARG:O	2.16	0.45
63:LN:33:LEU:HD12	63:LN:33:LEU:HA	1.82	0.45
80:Le:35:TRP:CH2	80:Le:55:MET:HG2	2.52	0.45
92:Lr:26:SER:OG	92:Lr:28:GLU:CD	2.59	0.45
1:A:849:ASN:ND2	1:A:851:GLU:OE1	2.50	0.45
13:X:59:C:OP1	13:X:59:C:H4'	2.17	0.45
14:S2:458:A:H2'	14:S2:459:C:C6	2.51	0.45
14:S2:833:C:O2'	14:S2:834:C:OP1	2.26	0.45
14:S2:1189:A:H2'	14:S2:1190:A:H8	1.82	0.45
18:SE:242:LYS:O	18:SE:242:LYS:HG2	2.17	0.45
25:SQ:41:MET:O	25:SQ:42:ILE:HG13	2.17	0.45
30:SV:16:LYS:HA	30:SV:23:ILE:HA	1.97	0.45
36:Sg:194:TYR:O	36:Sg:211:GLY:HA3	2.17	0.45
36:Sg:291:TRP:CH2	36:Sg:298:LEU:HD12	2.52	0.45
42:SO:12:GLU:N	42:SO:14:VAL:HA	2.32	0.45
48:L5:184:U:C4	48:L5:253:G:O6	2.69	0.45
48:L5:514:U:OP1	48:L5:515:C:H5	1.99	0.45
48:L5:3891:C:H2'	48:L5:3892:A:C8	2.50	0.45
48:L5:4992:G:H2'	48:L5:4993:U:H6	1.82	0.45
65:LP:119:VAL:HG12	65:LP:146:ILE:HD13	1.99	0.45
67:LR:136:ARG:HA	67:LR:139:MET:HE3	1.99	0.45
75:LZ:84:ARG:NH1	82:Lg:99:GLU:OE2	2.48	0.45
1:A:346:ILE:HA	1:A:356:THR:HG21	1.99	0.45
1:A:818:LEU:HD23	1:A:818:LEU:HA	1.85	0.45
1:A:1037:MET:HE1	1:A:1040:LEU:HD13	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:157:CYS:SG	2:L:224:HIS:HB2	2.57	0.45
12:M:216:GLU:HA	12:M:219:GLU:HG2	1.98	0.45
12:M:376:LYS:O	12:M:406:PRO:HD2	2.16	0.45
13:X:132:A:N1	13:X:133:A:N6	2.64	0.45
14:S2:482:G:N2	14:S2:484:A:H3'	2.32	0.45
14:S2:482:G:N2	14:S2:485:A:OP2	2.50	0.45
14:S2:869:A:N6	20:SH:114:GLN:O	2.50	0.45
14:S2:913:A:H62	20:SH:120:ARG:HG3	1.81	0.45
14:S2:1046:U:H2'	14:S2:1047:C:C6	2.52	0.45
14:S2:1567:G:C6	27:SS:82:TRP:CE3	3.03	0.45
20:SH:25:GLN:O	20:SH:29:GLU:HG3	2.16	0.45
20:SH:60:ILE:HG23	20:SH:92:VAL:HG23	1.98	0.45
29:SU:49:LYS:C	29:SU:51:LYS:H	2.24	0.45
39:SJ:65:GLU:HA	39:SJ:70:ARG:HD2	1.98	0.45
48:L5:963:G:H1'	48:L5:2250:G:O6	2.17	0.45
48:L5:2548:G:C2	48:L5:2549:A:N7	2.85	0.45
48:L5:2570:C:N3	48:L5:2571:A:H1'	2.32	0.45
48:L5:2856:A:O2'	48:L5:2857:G:O5'	2.31	0.45
48:L5:3724:A:O2'	48:L5:3725:A:C8	2.69	0.45
48:L5:3770:U:H5'	48:L5:3771:U:OP2	2.17	0.45
52:LB:144:LYS:HA	52:LB:147:GLU:OE2	2.17	0.45
53:LC:159:GLU:HA	53:LC:217:ILE:HB	1.99	0.45
54:LD:103:LEU:O	54:LD:107:ARG:HG2	2.16	0.45
74:LY:4:ASN:HB3	74:LY:7:VAL:HG22	1.99	0.45
75:LZ:58:GLY:O	75:LZ:62:ILE:HG13	2.17	0.45
1:A:828:ARG:NE	1:A:828:ARG:HA	2.32	0.45
3:N:221:THR:O	3:N:238:PRO:HD2	2.16	0.45
5:F:215:THR:HG22	5:F:216:LEU:H	1.82	0.45
6:G:255:LEU:H	6:G:255:LEU:HD12	1.82	0.45
10:K:197:ALA:HB2	10:K:209:PRO:HG3	1.99	0.45
10:K:217:MET:HE2	10:K:217:MET:HB3	1.82	0.45
12:M:676:GLU:O	12:M:680:THR:HG23	2.16	0.45
12:M:741:ASP:O	12:M:745:ASN:ND2	2.36	0.45
14:S2:64:A:H5'	38:SG:175:LYS:NZ	2.32	0.45
14:S2:692:G:H4'	14:S2:692:G:OP1	2.17	0.45
14:S2:1204:A:H2'	14:S2:1205:C:O4'	2.17	0.45
14:S2:1260:A:C2	14:S2:1620:A:C4	3.05	0.45
16:SB:134:LEU:O	16:SB:218:LEU:HB2	2.17	0.45
17:SD:77:PHE:HD2	17:SD:79:PHE:HZ	1.64	0.45
21:SI:65:PHE:CE1	21:SI:78:ILE:HD11	2.52	0.45
22:SK:16:PHE:HE1	22:SK:76:ILE:HG23	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:SQ:19:ALA:HB2	25:SQ:75:GLY:HA3	1.99	0.45
28:ST:81:GLY:O	28:ST:93:SER:N	2.48	0.45
29:SU:31:SER:O	29:SU:35:VAL:HG23	2.17	0.45
29:SU:59:LYS:HB2	29:SU:84:ILE:HG23	1.98	0.45
31:SX:56:GLY:O	47:Se:2:VAL:HG12	2.17	0.45
36:Sg:23:THR:HB	36:Sg:31:ILE:HG13	1.99	0.45
36:Sg:214:GLY:O	36:Sg:232:GLY:N	2.45	0.45
43:SW:7:LEU:HD13	43:SW:34:ILE:HG22	1.99	0.45
48:L5:474:C:H2'	48:L5:475:G:H8	1.81	0.45
48:L5:1969:C:H5''	48:L5:1999:G:N2	2.31	0.45
48:L5:2250:G:OP1	55:LE:87:LYS:HA	2.17	0.45
48:L5:2262:C:O2'	48:L5:2263:G:OP1	2.26	0.45
48:L5:2754:G:C6	48:L5:2755:A:C5	3.05	0.45
48:L5:4129:G:N1	48:L5:4152:G:C6	2.85	0.45
48:L5:4240:U:H3	48:L5:4279:A:H2	1.61	0.45
53:LC:147:VAL:HG12	53:LC:148:PRO:O	2.16	0.45
55:LE:150:LEU:HB3	55:LE:194:VAL:CG2	2.46	0.45
59:LI:42:LYS:O	59:LI:139:ARG:NH2	2.50	0.45
60:LJ:8:LYS:C	60:LJ:11:PRO:HD2	2.42	0.45
64:LO:74:ARG:NH1	64:LO:145:VAL:O	2.50	0.45
69:LT:113:ASP:N	69:LT:113:ASP:OD1	2.49	0.45
1:A:636:HIS:O	1:A:639:ILE:HG12	2.17	0.44
1:A:982:LEU:C	1:A:982:LEU:HD12	2.42	0.44
1:A:1119:SER:O	1:A:1166:ASN:ND2	2.50	0.44
3:N:66:PHE:CE2	6:G:17:PRO:HB3	2.51	0.44
5:F:228:VAL:HG22	5:F:239:MET:HE1	1.99	0.44
6:G:70:ARG:HG3	6:G:71:GLN:H	1.82	0.44
6:G:246:GLU:HB3	6:G:250:ARG:NH2	2.32	0.44
12:M:31:VAL:HG11	12:M:118:ALA:HB3	1.98	0.44
12:M:37:LEU:HD11	12:M:53:SER:HB2	1.99	0.44
12:M:786:GLY:HA3	13:X:245:U:C2	2.52	0.44
14:S2:213:G:HO2'	14:S2:214:U:P	2.38	0.44
14:S2:1033:G:N1	14:S2:1080:A:O2'	2.33	0.44
14:S2:1261:C:C2	14:S2:1262:C:C6	3.05	0.44
14:S2:1518:C:OP1	14:S2:1519:U:H5''	2.17	0.44
14:S2:1532:C:H1'	14:S2:1635:C:H2'	1.99	0.44
14:S2:1605:G:H2'	14:S2:1606:G:C4	2.52	0.44
14:S2:1668:U:C2	14:S2:1669:G:C8	3.05	0.44
15:SA:77:ILE:HA	15:SA:99:ILE:O	2.16	0.44
15:SA:183:LEU:HG	15:SA:188:THR:OG1	2.17	0.44
16:SB:134:LEU:HD21	16:SB:219:LYS:HB2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:SB:187:LYS:O	16:SB:191:ASP:HA	2.17	0.44
20:SH:22:GLY:HA2	20:SH:25:GLN:HG2	1.98	0.44
29:SU:49:LYS:O	29:SU:50:VAL:HG12	2.16	0.44
36:Sg:35:SER:OG	36:Sg:36:ARG:N	2.42	0.44
36:Sg:178:ASN:HB2	36:Sg:182:CYS:HA	1.98	0.44
38:SG:6:SER:HA	38:SG:13:GLN:HA	2.00	0.44
42:SO:12:GLU:HA	42:SO:13:GLN:HG3	1.99	0.44
48:L5:18:C:H4'	63:LN:138:PHE:CE2	2.52	0.44
48:L5:406:C:O2'	48:L5:407:A:OP1	2.25	0.44
48:L5:688:U:H2'	48:L5:689:U:C6	2.52	0.44
48:L5:744:G:H2'	48:L5:745:G:H8	1.82	0.44
48:L5:1301:C:H2'	80:Le:17:THR:HG21	1.98	0.44
48:L5:1378:C:H3'	48:L5:1379:C:C5'	2.45	0.44
48:L5:1551:C:H2'	48:L5:1552:G:O4'	2.16	0.44
48:L5:2482:A:N6	48:L5:2492:U:H3	2.15	0.44
48:L5:4249:A:H2'	48:L5:4250:C:C6	2.53	0.44
58:LH:107:GLU:CD	58:LH:108:ASN:H	2.25	0.44
60:LJ:112:HIS:CE1	60:LJ:126:TYR:H	2.35	0.44
1:A:1202:ARG:NH1	13:X:212:U:OP1	2.49	0.44
4:O:76:LEU:HA	4:O:116:ILE:O	2.17	0.44
8:I:143:ALA:HB1	8:I:157:HIS:O	2.17	0.44
14:S2:29:G:H2'	14:S2:30:C:H6	1.81	0.44
14:S2:1114:U:H5''	16:SB:202:GLN:NE2	2.28	0.44
14:S2:1251:A:N6	25:SQ:146:ARG:HH21	2.15	0.44
15:SA:4:ALA:N	15:SA:6:ASP:OD1	2.50	0.44
15:SA:11:LYS:HG3	15:SA:12:GLU:N	2.32	0.44
25:SQ:87:SER:O	25:SQ:91:ALA:N	2.51	0.44
31:SX:48:LYS:HG2	31:SX:101:LEU:HD13	1.99	0.44
33:Sc:11:LEU:HB3	33:Sc:55:VAL:HG13	1.98	0.44
37:SC:222:CYS:SG	37:SC:223:TYR:N	2.90	0.44
43:SW:106:THR:OG1	43:SW:122:GLY:O	2.27	0.44
48:L5:158:A:N6	48:L5:277:G:C4	2.86	0.44
48:L5:1373:A:O2'	53:LC:236:ASN:OD1	2.19	0.44
48:L5:1455:G:O2'	48:L5:1456:C:OP1	2.31	0.44
48:L5:1829:G:H4'	77:Lb:68:ARG:HD2	1.98	0.44
48:L5:1951:U:H2'	48:L5:1952:U:C6	2.53	0.44
48:L5:2900:G:H2'	48:L5:3592:C:C2	2.52	0.44
48:L5:3878:G:O2'	48:L5:3879:G:H8	1.99	0.44
48:L5:3936:G:H4'	48:L5:3937:G:O5'	2.16	0.44
48:L5:4086:C:H2'	48:L5:4087:G:C8	2.52	0.44
48:L5:4636:U:H2'	48:L5:4637:G:N3	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:LA:246:LEU:C	51:LA:247:ARG:HD3	2.42	0.44
52:LB:14:LEU:O	52:LB:17:LEU:HD23	2.18	0.44
54:LD:82:GLU:OE1	54:LD:82:GLU:N	2.44	0.44
56:LF:214:SER:OG	56:LF:215:SER:N	2.50	0.44
57:LG:69:ILE:HG23	57:LG:73:ARG:HE	1.82	0.44
73:LX:128:ILE:HD11	73:LX:134:LYS:HE3	2.00	0.44
91:Lp:61:MET:HE3	91:Lp:61:MET:HB3	1.79	0.44
1:A:550:ASP:OD2	1:A:554:TYR:OH	2.36	0.44
3:N:16:ARG:HG3	3:N:19:LYS:HZ3	1.83	0.44
4:O:119:VAL:HG11	10:K:85:MET:HB2	1.99	0.44
13:X:227:U:O2'	13:X:228:U:O5'	2.35	0.44
14:S2:939:U:H5'	91:Lp:85:ARG:NH1	2.32	0.44
14:S2:1016:U:O2	14:S2:1016:U:H2'	2.17	0.44
14:S2:1199:A:H2'	14:S2:1200:A:C8	2.53	0.44
14:S2:1351:G:O2'	14:S2:1378:A:N1	2.34	0.44
17:SD:59:LEU:HA	17:SD:66:ILE:HD12	1.99	0.44
18:SE:199:GLU:HB2	18:SE:207:VAL:HG23	1.99	0.44
22:SK:90:VAL:HG21	22:SK:94:LEU:HA	1.98	0.44
35:Sf:107:LYS:HG2	40:SM:60:MET:SD	2.58	0.44
37:SC:101:SER:OG	37:SC:132:ASP:OD1	2.30	0.44
38:SG:25:ARG:HH21	38:SG:26:THR:CG2	2.30	0.44
39:SJ:50:LEU:O	39:SJ:53:ILE:HG22	2.17	0.44
48:L5:425:U:OP1	65:LP:37:LYS:NZ	2.40	0.44
48:L5:691:C:H2'	48:L5:692:A:C8	2.52	0.44
48:L5:737:C:H2'	48:L5:738:C:H6	1.82	0.44
48:L5:1189:G:H2'	48:L5:1190:C:H6	1.82	0.44
48:L5:1482:G:H8	48:L5:1483:C:N4	2.16	0.44
48:L5:1832:G:O2'	48:L5:1833:U:OP2	2.34	0.44
48:L5:4231:A:OP2	90:Lo:97:LYS:HD3	2.18	0.44
59:LI:77:VAL:HA	59:LI:81:GLY:O	2.17	0.44
59:LI:193:ASP:OD2	59:LI:198:LYS:HB2	2.18	0.44
67:LR:135:LYS:HG2	67:LR:139:MET:HE2	1.99	0.44
1:A:633:GLY:O	1:A:659:LEU:HD12	2.17	0.44
2:L:70:LEU:HB3	2:L:119:GLN:HA	1.98	0.44
4:O:111:HIS:HB3	4:O:114:THR:HG21	1.98	0.44
5:F:12:VAL:HA	5:F:15:VAL:HG12	1.98	0.44
5:F:228:VAL:HG12	5:F:230:VAL:HG23	2.00	0.44
10:K:175:TYR:HD2	10:K:180:ARG:HD2	1.82	0.44
12:M:403:SER:OG	12:M:405:TYR:O	2.31	0.44
14:S2:56:G:OP1	44:SY:111:LYS:NZ	2.49	0.44
14:S2:943:U:C2	14:S2:944:A:C8	3.04	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S2:1010:G:H2'	14:S2:1011:A:C8	2.53	0.44
14:S2:1332:A:N7	14:S2:1493:C:C4	2.86	0.44
14:S2:1748:G:C6	14:S2:1787:G:C6	3.05	0.44
24:SP:37:TYR:O	24:SP:39:ALA:N	2.51	0.44
24:SP:76:VAL:HG12	24:SP:78:THR:HA	1.99	0.44
34:Sd:50:ILE:HG23	34:Sd:52:PHE:HD1	1.81	0.44
34:Sd:50:ILE:HD13	34:Sd:52:PHE:HE1	1.82	0.44
36:Sg:42:MET:HG3	36:Sg:56:GLN:HB3	2.00	0.44
42:SO:126:ILE:HG22	42:SO:129:ILE:HD11	1.99	0.44
46:Sb:30:SER:OG	46:Sb:31:TYR:N	2.50	0.44
48:L5:735:G:H2'	48:L5:736:C:C5	2.53	0.44
48:L5:909:A:H2'	48:L5:910:G:C8	2.52	0.44
48:L5:910:G:H2'	48:L5:911:U:C6	2.52	0.44
48:L5:1072:C:N3	48:L5:1239:C:N4	2.56	0.44
48:L5:1215:C:H3'	48:L5:1216:C:H5''	2.00	0.44
48:L5:1367:C:H1'	48:L5:1371:A:OP1	2.17	0.44
48:L5:2374:A:H2'	48:L5:2375:C:C6	2.52	0.44
48:L5:2462:C:O2'	48:L5:2463:C:H6	2.00	0.44
48:L5:2756:G:H2'	48:L5:2757:G:C4	2.53	0.44
48:L5:4907:A:O2'	48:L5:4908:G:O5'	2.33	0.44
68:LS:82:LEU:HA	68:LS:82:LEU:HD23	1.57	0.44
71:LV:111:GLU:OE1	71:LV:131:ARG:HD3	2.18	0.44
74:LY:91:ASN:OD1	74:LY:91:ASN:C	2.61	0.44
1:A:612:ARG:O	1:A:616:ARG:N	2.51	0.44
4:O:30:HIS:CE1	10:K:297:LYS:HB3	2.53	0.44
8:I:149:PHE:HB2	8:I:153:ALA:HB3	2.00	0.44
10:K:246:GLN:O	10:K:249:ARG:HG2	2.17	0.44
11:E:569:LEU:HA	11:E:569:LEU:HD23	1.83	0.44
12:M:119:ASN:OD1	12:M:125:CYS:HB3	2.17	0.44
13:X:10:A:C6	13:X:11:U:H1'	2.52	0.44
14:S2:443:U:H2'	14:S2:444:G:O4'	2.18	0.44
14:S2:837:A:C5	14:S2:839:C:H5	2.35	0.44
14:S2:948:C:H2'	14:S2:949:G:H8	1.82	0.44
14:S2:1368:U:H2'	14:S2:1370:A:OP2	2.17	0.44
14:S2:1516:G:H4'	24:SP:98:ASN:OD1	2.18	0.44
14:S2:1606:G:H2'	14:S2:1632:G:N2	2.33	0.44
14:S2:1808:U:H2'	14:S2:1809:A:C8	2.53	0.44
17:SD:132:LYS:HZ2	17:SD:189:MET:CE	2.31	0.44
17:SD:204:LEU:C	17:SD:206:ASP:H	2.24	0.44
18:SE:242:LYS:HZ1	18:SE:244:ILE:HB	1.82	0.44
18:SE:242:LYS:HZ1	18:SE:244:ILE:HD13	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:SI:193:LYS:HZ2	23:SL:32:LYS:HD3	1.83	0.44
25:SQ:86:GLN:HE22	25:SQ:122:ALA:HB2	1.83	0.44
28:ST:72:VAL:HG22	28:ST:104:LEU:HD12	1.99	0.44
48:L5:139:G:H2'	48:L5:140:G:C8	2.52	0.44
48:L5:990:C:N4	48:L5:1051:G:H2'	2.32	0.44
48:L5:1250:C:H3'	48:L5:1251:C:C6	2.52	0.44
48:L5:1271:G:H22	48:L5:2120:G:C5'	2.30	0.44
48:L5:1761:G:H22	48:L5:1768:C:N4	2.13	0.44
48:L5:2114:C:H4'	48:L5:2115:G:O5'	2.18	0.44
48:L5:2360:U:O2	48:L5:2360:U:H2'	2.17	0.44
48:L5:2755:A:H2'	48:L5:2756:G:N9	2.32	0.44
48:L5:2761:U:C2	48:L5:2762:A:C8	3.05	0.44
50:L8:16:G:O2'	50:L8:17:A:H8	2.00	0.44
51:LA:45:VAL:HG12	51:LA:86:GLN:O	2.18	0.44
52:LB:108:GLU:HG2	52:LB:109:HIS:ND1	2.33	0.44
52:LB:286:LYS:NZ	52:LB:302:ASN:O	2.51	0.44
54:LD:200:MET:HE3	54:LD:200:MET:HB3	1.82	0.44
62:LM:31:ILE:HG13	62:LM:35:ARG:HB2	1.98	0.44
7:H:129:PHE:CZ	7:H:157:VAL:HG11	2.53	0.44
9:J:153:VAL:HG11	9:J:183:ARG:HB3	1.99	0.44
12:M:95:ARG:HA	12:M:95:ARG:HD3	1.74	0.44
14:S2:587:A:OP2	39:SJ:172:ARG:NH2	2.51	0.44
14:S2:1251:A:H62	25:SQ:146:ARG:HH21	1.64	0.44
14:S2:1309:C:N3	35:Sf:143:LYS:HE2	2.32	0.44
14:S2:1598:G:H22	19:SF:168:THR:HG22	1.81	0.44
14:S2:1693:G:N2	14:S2:1834:A:H8	2.15	0.44
17:SD:135:GLU:O	17:SD:137:VAL:HG23	2.18	0.44
32:Sa:57:SER:OG	32:Sa:59:PHE:O	2.35	0.44
33:Sc:13:ARG:N	33:Sc:33:GLU:O	2.38	0.44
36:Sg:114:SER:OG	36:Sg:116:ASP:OD1	2.31	0.44
39:SJ:69:ARG:O	39:SJ:73:GLU:HB2	2.17	0.44
48:L5:1594:C:O2'	48:L5:1597:G:O2'	2.17	0.44
48:L5:2512:G:OP1	82:Lg:15:THR:HG21	2.17	0.44
48:L5:2587:C:H2'	48:L5:2588:G:O4'	2.17	0.44
48:L5:3771:U:O2	48:L5:3773:A:H2	2.00	0.44
49:L7:119:U:H3	54:LD:261:VAL:HG22	1.83	0.44
50:L8:131:G:OP1	73:LX:105:ASN:ND2	2.51	0.44
53:LC:124:ILE:HD11	53:LC:240:LEU:HD12	2.00	0.44
54:LD:53:VAL:O	54:LD:54:ARG:HD3	2.18	0.44
57:LG:115:LEU:O	57:LG:119:GLU:N	2.38	0.44
61:LL:28:GLN:OE1	63:LN:202:ARG:NH1	2.45	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:LM:11:ARG:NH1	62:LM:59:ASP:HA	2.33	0.44
66:LQ:19:LYS:HE3	66:LQ:19:LYS:HB3	1.73	0.44
66:LQ:65:ARG:O	66:LQ:69:LYS:HG2	2.17	0.44
66:LQ:178:ARG:N	76:La:51:GLY:HA2	2.33	0.44
67:LR:39:GLN:HA	67:LR:42:ARG:HB3	2.00	0.44
74:LY:50:ARG:HG3	74:LY:51:LYS:N	2.33	0.44
83:Lh:88:THR:O	83:Lh:90:ALA:N	2.50	0.44
2:L:173:SER:OG	2:L:174:HIS:N	2.50	0.44
9:J:9:ILE:C	9:J:11:GLY:H	2.25	0.44
14:S2:999:G:N7	32:Sa:16:GLY:HA3	2.33	0.44
14:S2:1528:G:H2'	14:S2:1529:C:H6	1.82	0.44
18:SE:129:ILE:HD12	18:SE:138:HIS:O	2.18	0.44
31:SX:46:HIS:HB3	31:SX:101:LEU:HD11	1.98	0.44
35:Sf:151:ASN:N	35:Sf:151:ASN:OD1	2.50	0.44
37:SC:84:PHE:CE2	37:SC:265:PRO:HD3	2.53	0.44
38:SG:216:ARG:O	38:SG:220:ALA:N	2.50	0.44
40:SM:48:HIS:NE2	40:SM:121:LYS:HD3	2.33	0.44
42:SO:130:GLU:HG3	42:SO:131:ASP:H	1.83	0.44
43:SW:55:ASP:OD1	43:SW:55:ASP:N	2.51	0.44
43:SW:102:ILE:HG23	43:SW:113:HIS:HB3	2.00	0.44
48:L5:451:C:O2'	48:L5:1295:C:H5''	2.18	0.44
48:L5:910:G:C2	48:L5:911:U:C4	3.06	0.44
48:L5:2089:C:O4'	48:L5:2255:C:O2'	2.36	0.44
48:L5:4320:G:N2	48:L5:4323:A:OP2	2.45	0.44
48:L5:4582:A:H2'	48:L5:4583:U:O4'	2.18	0.44
49:L7:3:C:H2'	49:L7:4:U:C6	2.52	0.44
49:L7:61:G:OP1	54:LD:271:MET:HB2	2.18	0.44
54:LD:99:TYR:HE1	54:LD:164:LYS:HG3	1.83	0.44
61:LL:25:TRP:HE3	61:LL:28:GLN:HG3	1.83	0.44
61:LL:77:SER:HB3	61:LL:80:GLU:HG2	1.99	0.44
66:LQ:76:GLU:OE1	66:LQ:76:GLU:N	2.50	0.44
68:LS:83:ARG:HG3	68:LS:127:MET:HE2	2.00	0.44
69:LT:68:THR:CG2	69:LT:69:GLN:N	2.81	0.44
73:LX:40:ILE:O	73:LX:42:THR:HG23	2.18	0.44
75:LZ:53:VAL:HG13	75:LZ:54:THR:N	2.33	0.44
91:Lp:88:GLU:H	91:Lp:88:GLU:CD	2.21	0.44
1:A:636:HIS:CE1	1:A:639:ILE:HG23	2.53	0.44
6:G:108:ARG:HD3	6:G:109:ARG:HG3	1.99	0.44
13:X:100:G:H1	13:X:128:C:N4	2.15	0.44
14:S2:84:A:H3'	14:S2:85:A:H8	1.83	0.44
14:S2:186:C:H2'	14:S2:187:G:C8	2.39	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S2:947:G:H2'	14:S2:948:C:C6	2.53	0.44
14:S2:1102:G:H22	14:S2:1130:G:N2	2.15	0.44
14:S2:1330:G:H2'	14:S2:1492:U:OP2	2.18	0.44
14:S2:1544:C:H2'	14:S2:1545:A:H5''	1.99	0.44
14:S2:1565:C:H2'	14:S2:1566:G:O4'	2.18	0.44
14:S2:1588:A:O2'	14:S2:1589:A:O5'	2.34	0.44
14:S2:1657:G:C2	14:S2:1658:G:C8	3.05	0.44
16:SB:197:ILE:HD11	16:SB:210:VAL:HG21	2.00	0.44
22:SK:76:ILE:HD11	22:SK:91:PRO:HG3	1.99	0.44
26:SR:41:ILE:HD11	26:SR:47:ARG:HB2	1.99	0.44
36:Sg:8:ARG:NH1	36:Sg:311:GLN:H	2.15	0.44
38:SG:57:ASP:HA	38:SG:106:LEU:HB2	2.00	0.44
48:L5:508:G:H5''	48:L5:509:A:OP1	2.18	0.44
48:L5:1418:C:H2'	48:L5:1419:G:C8	2.53	0.44
48:L5:2009:C:H3'	48:L5:2010:A:H4'	1.99	0.44
48:L5:2054:G:OP1	48:L5:2054:G:H4'	2.16	0.44
48:L5:4411:C:H41	48:L5:4427:C:H41	1.65	0.44
49:L7:24:C:H2'	49:L7:25:G:O4'	2.17	0.44
50:L8:94:G:N3	85:Lj:82:THR:HG23	2.33	0.44
56:LF:71:MET:HE2	56:LF:71:MET:HB2	1.82	0.44
60:LJ:9:GLU:HG3	60:LJ:13:ARG:HB2	1.99	0.44
60:LJ:63:ARG:NH2	90:Lo:106:PHE:O	2.51	0.44
63:LN:158:HIS:HB3	63:LN:161:MET:HE2	2.00	0.44
78:Lc:52:CYS:O	78:Lc:54:ALA:N	2.46	0.44
87:Ll:41:ARG:HA	87:Ll:41:ARG:HD2	1.79	0.44
1:A:645:GLU:HA	1:A:648:GLU:HG2	1.99	0.44
2:L:14:ASP:N	2:L:14:ASP:OD1	2.48	0.44
2:L:52:TYR:CG	5:F:91:PRO:HG3	2.53	0.44
6:G:185:LEU:HD13	6:G:211:LEU:HD23	2.00	0.44
9:J:114:ASP:O	9:J:116:VAL:HG23	2.17	0.44
12:M:243:TYR:CD2	12:M:295:VAL:HB	2.53	0.44
12:M:501:LEU:HB3	12:M:563:TRP:HB2	2.00	0.44
12:M:717:PHE:HB3	12:M:733:THR:HG21	2.00	0.44
12:M:815:ILE:HG13	12:M:816:SER:N	2.33	0.44
14:S2:221:A:H2'	14:S2:222:U:C6	2.53	0.44
14:S2:851:C:H5''	14:S2:852:G:H5'	1.99	0.44
14:S2:1103:C:H2'	14:S2:1104:G:H8	1.83	0.44
14:S2:1231:C:H42	14:S2:1527:C:N4	2.15	0.44
14:S2:1283:C:H5'	40:SM:104:VAL:CG1	2.48	0.44
15:SA:88:LEU:HD13	15:SA:98:PRO:HB2	1.98	0.44
17:SD:40:ARG:HG3	17:SD:49:ILE:HG13	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:SD:222:PRO:HG2	36:Sg:217:MET:HE1	1.99	0.44
18:SE:6:LYS:O	18:SE:7:LYS:HE2	2.17	0.44
19:SF:77:MET:HE3	19:SF:83:ASN:HD22	1.83	0.44
25:SQ:110:ASP:O	25:SQ:113:ILE:HG22	2.18	0.44
26:SR:85:VAL:N	26:SR:86:PRO:HD2	2.33	0.44
27:SS:34:LYS:HE3	27:SS:103:LEU:HD11	2.00	0.44
36:Sg:29:ASP:HA	36:Sg:45:LEU:HD22	2.00	0.44
48:L5:490:C:H2'	48:L5:491:G:C8	2.53	0.44
48:L5:1178:G:H2'	48:L5:1179:U:C6	2.53	0.44
48:L5:1181:C:H2'	48:L5:1182:C:H4'	1.98	0.44
48:L5:1449:C:H2'	48:L5:1450:C:H6	1.82	0.44
48:L5:2001:G:H1'	48:L5:2002:U:C5	2.45	0.44
48:L5:2503:C:H4'	48:L5:2504:G:O5'	2.17	0.44
48:L5:3770:U:N3	48:L5:3774:G:C2	2.86	0.44
48:L5:4099:C:H2'	48:L5:4100:C:H5	1.82	0.44
48:L5:4858:G:H8	48:L5:4858:G:OP2	2.01	0.44
48:L5:4968:C:C2	48:L5:4969:A:C8	3.06	0.44
48:L5:4986:U:H4'	48:L5:4987:U:C5	2.52	0.44
49:L7:3:C:H2'	49:L7:4:U:H6	1.82	0.44
50:L8:92:U:H2'	50:L8:93:C:O4'	2.18	0.44
53:LC:69:THR:O	53:LC:69:THR:HG22	2.17	0.44
53:LC:168:VAL:HG23	53:LC:177:TRP:CZ3	2.53	0.44
53:LC:218:ILE:HA	53:LC:229:LEU:HD13	1.99	0.44
54:LD:136:ASP:OD1	54:LD:136:ASP:N	2.50	0.44
57:LG:26:LYS:HG3	57:LG:28:VAL:H	1.83	0.44
58:LH:92:MET:HE1	58:LH:161:ILE:HD11	2.00	0.44
63:LN:146:PRO:C	63:LN:148:THR:H	2.26	0.44
69:LT:88:ARG:HD3	69:LT:88:ARG:HA	1.85	0.44
73:LX:100:VAL:HG11	73:LX:109:ILE:HG21	1.99	0.44
81:Lf:6:TRP:HB3	81:Lf:104:MET:CE	2.48	0.44
86:Lk:6:GLU:OE1	86:Lk:6:GLU:N	2.46	0.44
1:A:727:ALA:O	22:SK:80:ARG:NH1	2.51	0.43
12:M:346:VAL:HG21	12:M:426:THR:HG23	1.99	0.43
12:M:534:ARG:HD2	12:M:535:ARG:H	1.83	0.43
14:S2:878:G:H2'	14:S2:878:G:N3	2.33	0.43
14:S2:952:G:H2'	14:S2:953:C:O4'	2.18	0.43
14:S2:1238:U:H2'	14:S2:1239:U:O4'	2.18	0.43
14:S2:1411:G:N1	14:S2:1434:C:O2	2.37	0.43
19:SF:179:ASN:HB2	19:SF:187:SER:HB3	2.00	0.43
24:SP:84:ILE:HG23	24:SP:85:ILE:H	1.83	0.43
33:Sc:9:ILE:HG23	33:Sc:9:ILE:O	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:SC:155:ILE:HG13	37:SC:159:LYS:NZ	2.33	0.43
48:L5:453:G:H4'	48:L5:455:C:H5''	2.00	0.43
48:L5:727:C:H5''	56:LF:76:ARG:HH12	1.83	0.43
48:L5:962:C:H5'	48:L5:2262:C:C4	2.53	0.43
48:L5:1739:G:H2'	48:L5:1740:C:C6	2.53	0.43
48:L5:1864:U:O2'	48:L5:1865:A:C8	2.67	0.43
48:L5:2091:A:P	48:L5:2093:A:H2'	2.58	0.43
52:LB:144:LYS:HD3	52:LB:147:GLU:OE2	2.17	0.43
57:LG:130:THR:HG22	57:LG:131:LYS:H	1.82	0.43
57:LG:249:ARG:HG2	57:LG:253:LEU:HD21	2.00	0.43
61:LL:3:PRO:HB2	76:La:44:ASN:ND2	2.33	0.43
62:LM:69:HIS:ND1	62:LM:69:HIS:O	2.50	0.43
66:LQ:89:ASP:OD2	66:LQ:91:ARG:HB3	2.18	0.43
67:LR:104:ARG:HD2	67:LR:108:ARG:HH12	1.83	0.43
70:LU:46:ARG:O	70:LU:47:ILE:HG13	2.18	0.43
90:Lo:10:THR:OG1	90:Lo:11:PHE:N	2.51	0.43
8:I:251:LEU:HG	8:I:256:ILE:HD11	1.99	0.43
13:X:9:G:H5''	13:X:58:G:N1	2.33	0.43
14:S2:69:C:H3'	14:S2:70:G:C8	2.52	0.43
14:S2:1172:U:H4'	89:Ln:10:MET:HE3	2.00	0.43
14:S2:1612:G:O2'	27:SS:88:LYS:HD3	2.18	0.43
14:S2:1736:G:H2'	14:S2:1737:G:H8	1.79	0.43
14:S2:1737:G:H2'	14:S2:1738:C:H6	1.83	0.43
17:SD:24:PHE:CD1	22:SK:63:ALA:HB3	2.53	0.43
18:SE:47:PHE:HD2	18:SE:48:LEU:HD12	1.83	0.43
18:SE:162:ILE:HD11	18:SE:167:GLY:HA2	2.00	0.43
22:SK:80:ARG:NH1	22:SK:89:ILE:HD12	2.33	0.43
27:SS:72:GLN:O	27:SS:74:PRO:HD3	2.18	0.43
31:SX:59:ALA:HB3	31:SX:65:ALA:H	1.83	0.43
33:Sc:20:ARG:HA	33:Sc:27:CYS:O	2.18	0.43
36:Sg:104:HIS:HD2	36:Sg:106:LYS:O	2.01	0.43
39:SJ:78:LEU:HD12	39:SJ:79:ARG:N	2.34	0.43
48:L5:659:G:H2'	48:L5:660:A:C8	2.53	0.43
48:L5:961:G:N7	48:L5:969:C:H2'	2.34	0.43
48:L5:962:C:H41	48:L5:969:C:N4	2.16	0.43
48:L5:1202:C:H3'	48:L5:1203:G:H5''	2.00	0.43
48:L5:2490:C:H2'	48:L5:2491:G:H8	1.83	0.43
52:LB:37:PRO:HA	52:LB:187:GLY:O	2.18	0.43
53:LC:147:VAL:O	92:Lr:73:PRO:HG2	2.19	0.43
58:LH:4:ILE:HG13	68:LS:144:GLN:OE1	2.18	0.43
64:LO:178:ARG:O	64:LO:182:GLU:HG2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:Ld:18:ASN:OD1	79:Ld:19:GLU:N	2.51	0.43
1:A:342:ALA:HB2	1:A:453:LEU:HD11	2.00	0.43
1:A:496:SER:HB3	1:A:500:GLN:HB3	2.00	0.43
5:F:171:LEU:HD12	5:F:171:LEU:O	2.18	0.43
9:J:168:SER:O	9:J:185:VAL:HG11	2.17	0.43
12:M:701:PRO:HD2	12:M:702:HIS:H	1.82	0.43
13:X:196:U:H1'	17:SD:143:ARG:NH1	2.32	0.43
14:S2:187:G:H2'	14:S2:188:C:C6	2.53	0.43
14:S2:535:G:H2'	14:S2:535:G:N3	2.33	0.43
14:S2:655:A:H4'	14:S2:656:G:H5'	1.98	0.43
14:S2:1466:G:H3'	26:SR:3:ARG:NH2	2.33	0.43
15:SA:80:ARG:HG2	15:SA:81:ASN:N	2.33	0.43
15:SA:85:ARG:NH2	15:SA:203:PHE:O	2.44	0.43
16:SB:32:ASP:HA	16:SB:46:LYS:HA	2.00	0.43
16:SB:171:ILE:HG22	16:SB:171:ILE:O	2.18	0.43
17:SD:120:TYR:O	17:SD:123:LEU:HG	2.18	0.43
19:SF:138:ALA:HB3	19:SF:204:ARG:NH1	2.33	0.43
24:SP:64:LYS:NZ	24:SP:65:LYS:HE2	2.33	0.43
34:Sd:20:SER:OG	34:Sd:25:SER:HA	2.18	0.43
36:Sg:42:MET:SD	36:Sg:42:MET:C	3.01	0.43
38:SG:232:ARG:NH1	38:SG:232:ARG:O	2.51	0.43
44:SY:80:ASP:OD1	44:SY:80:ASP:C	2.61	0.43
48:L5:138:G:H2'	48:L5:139:G:H8	1.83	0.43
48:L5:501:C:H41	48:L5:503:C:H41	1.66	0.43
48:L5:509:A:N3	76:La:105:ARG:NH2	2.66	0.43
48:L5:751:G:H21	48:L5:912:G:H1	1.63	0.43
48:L5:987:C:H2'	48:L5:988:C:C6	2.53	0.43
48:L5:1265:G:H3'	48:L5:1266:G:H8	1.82	0.43
48:L5:1983:G:N2	48:L5:2012:C:H42	2.17	0.43
48:L5:2550:G:H3'	48:L5:2551:A:H2'	1.99	0.43
48:L5:2589:A:C8	48:L5:2753:A:C6	3.06	0.43
48:L5:2752:G:H4'	48:L5:2753:A:H5'	1.99	0.43
48:L5:3710:A:H4'	48:L5:3711:U:OP2	2.18	0.43
48:L5:4907:A:HO2'	48:L5:4908:G:P	2.42	0.43
55:LE:112:MET:O	92:Lr:87:ARG:NE	2.46	0.43
55:LE:132:PRO:HG2	55:LE:135:GLN:OE1	2.19	0.43
57:LG:90:GLN:O	57:LG:93:THR:OG1	2.35	0.43
58:LH:176:LEU:HD12	58:LH:176:LEU:O	2.17	0.43
59:LI:146:GLU:N	59:LI:146:GLU:OE1	2.51	0.43
61:LL:145:LYS:HD2	83:Lh:122:LYS:NZ	2.33	0.43
67:LR:132:PHE:CG	67:LR:138:LEU:HD13	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:LU:84:LYS:HD2	70:LU:110:TYR:CE1	2.53	0.43
72:LW:69:LYS:N	72:LW:70:LYS:HB3	2.14	0.43
79:Ld:64:ILE:HG23	79:Ld:68:LEU:HD23	2.00	0.43
1:A:354:THR:HG21	1:A:418:GLU:HB2	2.00	0.43
2:L:45:THR:HG23	2:L:128:GLN:O	2.18	0.43
10:K:2:LYS:HE2	10:K:2:LYS:HB3	1.82	0.43
10:K:105:LEU:HD12	10:K:108:ARG:HE	1.83	0.43
13:X:5:A:H2'	13:X:5:A:N3	2.33	0.43
14:S2:454:U:H2'	14:S2:455:A:C8	2.54	0.43
14:S2:1769:C:O5'	14:S2:1771:G:N1	2.51	0.43
18:SE:149:TYR:CD1	38:SG:213:LEU:HD22	2.45	0.43
24:SP:98:ASN:HB3	27:SS:118:ARG:NH2	2.33	0.43
24:SP:104:GLN:HG2	24:SP:105:VAL:HG23	1.99	0.43
36:Sg:249:CYS:HB3	36:Sg:289:LEU:HD13	2.00	0.43
44:SY:88:LYS:HG2	44:SY:99:LYS:HE2	2.00	0.43
48:L5:517:C:N4	48:L5:645:G:H21	2.16	0.43
48:L5:1080:C:O2	48:L5:1080:C:H2'	2.18	0.43
48:L5:1552:G:H1'	48:L5:1575:A:N6	2.33	0.43
48:L5:2500:G:H3'	48:L5:2501:G:C5'	2.48	0.43
59:LI:28:ASP:OD1	59:LI:28:ASP:C	2.61	0.43
60:LJ:13:ARG:HH21	60:LJ:155:HIS:HA	1.80	0.43
81:Lf:104:MET:HA	81:Lf:104:MET:HE3	1.99	0.43
83:Lh:22:ASP:C	83:Lh:22:ASP:OD1	2.61	0.43
1:A:380:VAL:HG23	1:A:395:CYS:HB2	2.01	0.43
1:A:572:PHE:HD2	1:A:678:PHE:HE1	1.66	0.43
1:A:728:ASP:CG	1:A:731:ARG:HH21	2.26	0.43
5:F:227:LEU:HD12	5:F:240:ARG:HE	1.84	0.43
6:G:187:LEU:HB2	6:G:209:ALA:HB3	2.00	0.43
10:K:121:LEU:HB3	10:K:130:TRP:HB2	2.01	0.43
12:M:864:LYS:HG2	12:M:866:LYS:HZ3	1.82	0.43
12:M:969:LEU:HD23	12:M:969:LEU:H	1.82	0.43
14:S2:150:A:N3	14:S2:150:A:H2'	2.33	0.43
14:S2:912:C:O2'	14:S2:913:A:OP1	2.33	0.43
14:S2:1221:G:H1'	14:S2:1676:U:O2	2.17	0.43
14:S2:1502:C:H2'	14:S2:1503:C:H6	1.84	0.43
14:S2:1842:C:OP2	89:Ln:2:ARG:NH2	2.37	0.43
15:SA:36:GLN:O	15:SA:53:ARG:NH1	2.52	0.43
16:SB:49:VAL:HG21	16:SB:62:LEU:HG	2.01	0.43
16:SB:82:ARG:HD2	16:SB:103:MET:HE3	2.01	0.43
18:SE:151:ASP:HB2	38:SG:212:LEU:HD12	2.00	0.43
27:SS:130:ARG:H	27:SS:130:ARG:CD	2.31	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:ST:18:LEU:HD23	28:ST:58:ALA:HB1	1.99	0.43
36:Sg:194:TYR:CZ	36:Sg:212:LYS:HB2	2.53	0.43
38:SG:33:ALA:N	38:SG:52:ILE:O	2.39	0.43
38:SG:102:VAL:HG22	38:SG:103:ASP:O	2.18	0.43
39:SJ:113:GLN:HG3	39:SJ:149:VAL:HG11	2.00	0.43
43:SW:43:LYS:HD2	43:SW:43:LYS:HA	1.70	0.43
43:SW:47:ILE:HG13	43:SW:65:LEU:HA	2.00	0.43
48:L5:209:U:N3	48:L5:233:U:C4	2.85	0.43
48:L5:218:A:H2	53:LC:181:LYS:HZ1	1.65	0.43
48:L5:1338:G:H22	76:La:25:HIS:CD2	2.36	0.43
48:L5:1998:G:H8	48:L5:2016:C:H1'	1.83	0.43
48:L5:2589:A:H2'	48:L5:2590:U:H6	1.83	0.43
48:L5:2899:G:H2'	48:L5:2900:G:O4'	2.19	0.43
48:L5:4902:G:H2'	48:L5:4903:C:C6	2.53	0.43
58:LH:49:GLY:HA3	58:LH:53:LYS:HB2	2.01	0.43
58:LH:128:MET:HE1	58:LH:134:CYS:CB	2.48	0.43
61:LL:146:LEU:HA	61:LL:147:ALA:HB3	2.00	0.43
66:LQ:49:LYS:HE3	66:LQ:49:LYS:HB3	1.81	0.43
72:LW:68:GLN:H	72:LW:70:LYS:HB3	1.83	0.43
74:LY:54:GLU:OE1	74:LY:54:GLU:N	2.52	0.43
1:A:696:GLU:O	1:A:700:MET:HG2	2.18	0.43
2:L:54:PRO:HA	2:L:119:GLN:HE21	1.84	0.43
2:L:182:PRO:HB2	2:L:204:LEU:HD22	2.00	0.43
4:O:226:GLU:O	4:O:230:ARG:HG2	2.17	0.43
10:K:241:MET:N	10:K:241:MET:SD	2.92	0.43
10:K:246:GLN:HA	10:K:249:ARG:HE	1.83	0.43
12:M:705:LEU:HD21	12:M:833:LEU:HD12	2.00	0.43
12:M:1043:LEU:HA	12:M:1046:LEU:HB2	1.99	0.43
13:X:83:U:C4	13:X:87:G:H1'	2.53	0.43
14:S2:77:A:H2'	14:S2:78:C:O4'	2.18	0.43
14:S2:624:C:N4	31:SX:63:ASN:OD1	2.51	0.43
14:S2:1252:C:N4	25:SQ:146:ARG:HG2	2.33	0.43
14:S2:1382:A:C2'	14:S2:1383:A:H5'	2.49	0.43
14:S2:1713:C:H2'	14:S2:1714:U:C6	2.53	0.43
14:S2:1777:G:C4	14:S2:1778:C:N3	2.86	0.43
20:SH:65:PRO:HG2	20:SH:68:GLN:HE22	1.84	0.43
21:SI:195:LEU:HG	21:SI:199:LEU:HD23	1.99	0.43
23:SL:13:GLN:HE22	23:SL:35:ARG:HD3	1.84	0.43
36:Sg:124:SER:O	36:Sg:151:VAL:HB	2.19	0.43
46:Sb:15:GLU:N	46:Sb:15:GLU:CD	2.77	0.43
48:L5:1726:U:H3	48:L5:1835:G:H1	1.66	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:L5:1973:G:H5''	48:L5:1983:G:OP2	2.18	0.43
48:L5:1991:C:H2'	48:L5:1992:C:C6	2.54	0.43
48:L5:2293:C:O2'	53:LC:45:ARG:NH2	2.52	0.43
48:L5:4939:G:OP1	55:LE:219:LYS:NZ	2.51	0.43
53:LC:190:ARG:HD2	53:LC:199:ARG:O	2.18	0.43
66:LQ:113:ILE:H	66:LQ:113:ILE:HG13	1.66	0.43
1:A:982:LEU:HD12	1:A:982:LEU:O	2.19	0.43
1:A:1067:TYR:HE2	1:A:1089:LEU:HD23	1.83	0.43
2:L:155:PHE:CZ	2:L:227:LEU:HB3	2.54	0.43
9:J:110:ALA:HA	9:J:147:ALA:HB1	2.01	0.43
11:E:625:GLN:HG2	11:E:626:LYS:N	2.34	0.43
14:S2:333:G:N7	38:SG:190:ARG:NH2	2.67	0.43
14:S2:559:G:O2'	14:S2:560:A:O4'	2.37	0.43
14:S2:878:G:OP1	14:S2:878:G:H3'	2.18	0.43
14:S2:1235:G:C6	14:S2:1236:G:C5	3.07	0.43
15:SA:81:ASN:O	15:SA:84:GLN:HG3	2.18	0.43
24:SP:76:VAL:HG11	24:SP:94:VAL:HG12	2.00	0.43
26:SR:68:GLY:HA3	26:SR:69:ILE:HA	1.83	0.43
29:SU:56:MET:CE	29:SU:57:PRO:HD2	2.49	0.43
39:SJ:5:ARG:HD3	39:SJ:5:ARG:HA	1.89	0.43
40:SM:16:THR:HG21	40:SM:84:LYS:HE2	2.00	0.43
48:L5:1084:C:H2'	48:L5:1085:C:C6	2.54	0.43
48:L5:1095:A:N1	48:L5:1202:C:N4	2.65	0.43
48:L5:1265:G:H22	48:L5:2109:G:H1'	1.84	0.43
48:L5:1757:U:H5'	48:L5:1758:G:OP1	2.18	0.43
48:L5:2465:U:H5''	48:L5:2466:U:OP1	2.19	0.43
48:L5:3583:G:H3'	48:L5:3584:G:H8	1.83	0.43
48:L5:3708:G:N2	48:L5:3739:C:H42	2.13	0.43
48:L5:5018:G:C2	48:L5:5019:C:C2	3.06	0.43
51:LA:119:LYS:HA	51:LA:119:LYS:HD3	1.92	0.43
56:LF:113:ARG:NH2	56:LF:208:LEU:O	2.52	0.43
61:LL:191:LEU:HD23	61:LL:191:LEU:HA	1.89	0.43
68:LS:73:LEU:HD23	68:LS:73:LEU:HA	1.86	0.43
69:LT:107:LYS:HG3	69:LT:111:GLU:OE2	2.19	0.43
72:LW:65:GLU:HB3	72:LW:68:GLN:HB2	2.01	0.43
73:LX:143:ASP:OD1	73:LX:144:TYR:HD1	2.01	0.43
79:Ld:89:SER:C	79:Ld:90:ARG:HD2	2.44	0.43
81:Lf:8:LYS:HB3	81:Lf:100:ARG:NH1	2.34	0.43
1:A:438:GLU:HA	1:A:441:LEU:HG	1.99	0.43
3:N:59:ILE:HG22	3:N:142:LEU:HD11	2.00	0.43
4:O:94:ARG:HH22	4:O:129:LEU:HD23	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:M:499:LEU:HD13	12:M:567:LYS:HD3	2.00	0.43
14:S2:380:G:P	21:SI:56:ARG:HH22	2.42	0.43
14:S2:556:U:O2'	14:S2:558:G:OP2	2.36	0.43
14:S2:1606:G:HO2'	14:S2:1607:A:H8	1.67	0.43
14:S2:1680:G:N2	33:Sc:24:GLN:HE22	2.12	0.43
15:SA:2:SER:HB2	15:SA:59:LEU:HD21	1.99	0.43
15:SA:125:THR:HG22	15:SA:175:TRP:HZ2	1.83	0.43
17:SD:16:ILE:HG13	17:SD:17:PHE:CD1	2.47	0.43
19:SF:26:ASP:N	19:SF:26:ASP:OD1	2.52	0.43
20:SH:86:LYS:C	20:SH:87:PHE:HD1	2.27	0.43
23:SL:51:ILE:HG23	23:SL:52:GLU:HG3	2.00	0.43
28:ST:107:LEU:CG	28:ST:112:MET:SD	3.06	0.43
38:SG:26:THR:OG1	38:SG:30:LYS:NZ	2.29	0.43
38:SG:206:ALA:HA	38:SG:209:TYR:CE2	2.53	0.43
42:SO:39:ASP:N	42:SO:69:SER:HB3	2.34	0.43
45:SZ:58:LEU:HA	45:SZ:62:VAL:HG23	2.00	0.43
48:L5:476:G:H2'	48:L5:477:C:H6	1.84	0.43
48:L5:924:C:H2'	48:L5:925:C:C6	2.54	0.43
48:L5:1326:A:H2'	48:L5:1327:C:C6	2.53	0.43
48:L5:1865:A:H2'	48:L5:1866:A:C8	2.54	0.43
48:L5:3755:G:N2	48:L5:3767:C:C4	2.87	0.43
50:L8:109:C:H2'	85:Lj:20:ARG:NH2	2.34	0.43
51:LA:30:ARG:HG2	51:LA:36:GLU:OE2	2.18	0.43
56:LF:166:ARG:HG3	56:LF:209:TRP:CD2	2.54	0.43
67:LR:31:GLU:OE1	67:LR:31:GLU:HA	2.19	0.43
69:LT:107:LYS:O	69:LT:111:GLU:OE2	2.37	0.43
70:LU:22:THR:O	70:LU:109:SER:HA	2.19	0.43
70:LU:73:THR:O	70:LU:73:THR:OG1	2.31	0.43
72:LW:78:PHE:HD2	72:LW:79:GLN:HB2	1.84	0.43
78:Lc:57:LYS:HA	78:Lc:60:ILE:CD1	2.49	0.43
3:N:23:ARG:H	3:N:23:ARG:HG2	1.61	0.43
4:O:40:ARG:CZ	10:K:211:GLU:HG2	2.49	0.43
12:M:604:VAL:HG21	12:M:618:ARG:HH21	1.83	0.43
13:X:36:A:O2'	13:X:37:G:OP2	2.36	0.43
14:S2:535:G:N2	14:S2:548:C:H42	2.10	0.43
14:S2:789:G:H2'	14:S2:790:C:H4'	2.01	0.43
14:S2:1443:C:H4'	25:SQ:20:THR:HG21	2.01	0.43
15:SA:123:VAL:HG12	15:SA:145:ILE:CG1	2.46	0.43
21:SI:79:ILE:HD11	21:SI:105:ASP:CB	2.49	0.43
23:SL:130:GLU:HG2	23:SL:131:CYS:N	2.32	0.43
27:SS:87:GLN:HG2	27:SS:88:LYS:HG3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:SU:16:ALA:HB3	29:SU:18:HIS:NE2	2.34	0.43
42:SO:131:ASP:OD1	42:SO:131:ASP:O	2.37	0.43
48:L5:751:G:N2	48:L5:912:G:N1	2.60	0.43
48:L5:910:G:H2'	48:L5:911:U:C5	2.53	0.43
48:L5:1100:U:O2	48:L5:1167:C:N4	2.52	0.43
48:L5:1756:U:O4	48:L5:1758:G:O2'	2.36	0.43
48:L5:2077:G:H2'	48:L5:2078:U:C6	2.54	0.43
48:L5:2415:A:C4	48:L5:2416:A:C8	3.06	0.43
48:L5:2901:G:H3'	48:L5:2901:G:OP2	2.18	0.43
48:L5:3753:G:N7	48:L5:3754:A:N6	2.66	0.43
53:LC:349:LEU:O	53:LC:353:LYS:HG2	2.19	0.43
54:LD:195:HIS:CE1	54:LD:199:ILE:HD11	2.53	0.43
64:LO:190:ASP:OD1	64:LO:191:LYS:N	2.51	0.43
65:LP:103:GLU:OE1	65:LP:103:GLU:HA	2.18	0.43
68:LS:17:LEU:HD23	68:LS:17:LEU:N	2.34	0.43
68:LS:82:LEU:CD2	68:LS:126:ILE:HD13	2.48	0.43
70:LU:116:GLN:CD	70:LU:117:ILE:H	2.27	0.43
78:Lc:55:LEU:HB2	82:Lg:93:ARG:NH1	2.34	0.43
80:Le:66:THR:HB	80:Le:69:MET:HE2	2.01	0.43
1:A:329:PHE:HB3	1:A:477:VAL:HA	2.01	0.43
1:A:1131:LEU:HD23	1:A:1131:LEU:HA	1.76	0.43
3:N:37:VAL:HG12	3:N:51:VAL:HG22	2.01	0.43
12:M:262:ARG:HD2	12:M:263:LEU:H	1.84	0.43
13:X:82:A:C8	19:SF:201:LYS:HG2	2.54	0.43
13:X:92:A:N6	13:X:130:G:N7	2.67	0.43
14:S2:70:G:OP2	14:S2:70:G:H8	2.02	0.43
14:S2:947:G:H2'	14:S2:948:C:H6	1.84	0.43
14:S2:1008:A:H1'	41:SN:101:HIS:HD1	1.84	0.43
14:S2:1668:U:H2'	14:S2:1669:G:H8	1.84	0.43
14:S2:1786:U:H2'	14:S2:1787:G:H5''	2.01	0.43
17:SD:119:CYS:HA	17:SD:122:VAL:HB	2.01	0.43
17:SD:201:LYS:HA	17:SD:201:LYS:HD2	1.87	0.43
19:SF:142:SER:HB2	33:Sc:50:VAL:HG22	2.00	0.43
23:SL:13:GLN:H	23:SL:13:GLN:HG2	1.65	0.43
24:SP:37:TYR:C	24:SP:39:ALA:H	2.25	0.43
33:Sc:13:ARG:HA	33:Sc:54:ASP:O	2.19	0.43
36:Sg:272:GLN:H	36:Sg:272:GLN:CD	2.21	0.43
38:SG:4:ASN:HB2	38:SG:110:ASN:OD1	2.19	0.43
48:L5:922:C:H4'	68:LS:74:ARG:HH12	1.84	0.43
48:L5:1332:C:H2'	48:L5:1333:A:C8	2.54	0.43
48:L5:1772:C:C4	48:L5:1773:U:C4	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:L5:3760:U:H3'	48:L5:3761:A:H8	1.84	0.43
48:L5:3770:U:C2	48:L5:3774:G:C6	3.07	0.43
48:L5:5026:G:C6	48:L5:5027:C:C4	3.06	0.43
49:L7:33:U:H2'	49:L7:34:C:H6	1.82	0.43
53:LC:38:ASN:O	53:LC:42:THR:HG23	2.19	0.43
55:LE:83:LYS:H	55:LE:84:LYS:HB3	1.84	0.43
67:LR:142:ILE:O	67:LR:146:LYS:N	2.41	0.43
75:LZ:14:LEU:HD12	75:LZ:14:LEU:HA	1.76	0.43
79:Ld:55:LYS:HD2	79:Ld:55:LYS:O	2.19	0.43
90:Lo:104:ILE:HA	90:Lo:105:GLN:HA	1.77	0.43
91:Lp:38:THR:HA	91:Lp:45:THR:HA	2.01	0.43
1:A:463:PHE:O	1:A:467:ILE:HG13	2.18	0.42
2:L:16:ARG:HA	12:M:28:ARG:NH1	2.34	0.42
5:F:16:HIS:CD2	8:I:225:PRO:HG3	2.54	0.42
7:H:198:LEU:HD22	10:K:13:PHE:CE2	2.54	0.42
13:X:12:C:H42	13:X:60:U:H5''	1.83	0.42
13:X:111:G:C2	13:X:120:A:C2	3.07	0.42
14:S2:419:G:N2	14:S2:661:U:O2	2.52	0.42
14:S2:750:C:H41	14:S2:794:A:H1'	1.84	0.42
14:S2:898:U:H2'	14:S2:899:U:H5	1.84	0.42
14:S2:985:G:H4'	42:SO:138:ASP:OD2	2.18	0.42
14:S2:1170:A:H5'	14:S2:1172:U:H1'	2.01	0.42
14:S2:1235:G:C4	14:S2:1236:G:C8	3.07	0.42
14:S2:1431:G:C2	28:ST:122:LYS:HG2	2.54	0.42
16:SB:109:LYS:O	16:SB:113:MET:HG3	2.18	0.42
18:SE:137:PRO:HB2	18:SE:150:PRO:HD2	2.01	0.42
18:SE:179:ASN:HB3	18:SE:230:LYS:O	2.18	0.42
19:SF:19:LEU:HD12	19:SF:24:SER:HB2	2.00	0.42
20:SH:25:GLN:O	20:SH:28:LEU:HG	2.19	0.42
29:SU:31:SER:O	29:SU:34:LYS:HG2	2.19	0.42
32:Sa:100:ARG:HG3	32:Sa:108:PRO:HD3	2.00	0.42
38:SG:144:LEU:HD22	72:LW:93:LYS:HE2	2.00	0.42
48:L5:383:A:HO2'	48:L5:384:A:H8	1.60	0.42
48:L5:978:G:OP1	55:LE:66:LYS:NZ	2.47	0.42
48:L5:1266:G:P	48:L5:2119:C:H41	2.42	0.42
48:L5:2637:U:H2'	48:L5:2692:G:H1	1.84	0.42
48:L5:4676:G:N2	48:L5:4711:G:H1'	2.34	0.42
48:L5:4902:G:H2'	48:L5:4903:C:H6	1.84	0.42
50:L8:2:G:H2'	50:L8:3:A:O4'	2.19	0.42
52:LB:294:LYS:HG3	52:LB:295:ASP:OD1	2.19	0.42
52:LB:359:ALA:O	52:LB:360:LEU:HG	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:LE:58:SER:OG	55:LE:59:ARG:N	2.52	0.42
57:LG:100:HIS:CE1	57:LG:103:ARG:HH21	2.37	0.42
60:LJ:129:ASP:OD1	60:LJ:129:ASP:N	2.51	0.42
68:LS:83:ARG:HE	68:LS:83:ARG:HB3	1.54	0.42
69:LT:54:HIS:CG	69:LT:55:LYS:N	2.87	0.42
76:La:102:ASP:OD1	76:La:102:ASP:C	2.62	0.42
1:A:417:LEU:HD23	1:A:417:LEU:HA	1.89	0.42
1:A:667:MET:HE2	1:A:667:MET:HB3	1.87	0.42
2:L:86:LYS:HE3	2:L:88:ARG:HD3	2.01	0.42
8:I:62:ARG:HA	8:I:66:LEU:O	2.19	0.42
9:J:153:VAL:HG21	9:J:156:ALA:HB2	2.01	0.42
10:K:212:ARG:HD3	10:K:212:ARG:HA	1.77	0.42
14:S2:1113:A:H2'	14:S2:1113:A:N3	2.33	0.42
14:S2:1348:G:C2	14:S2:1349:G:C8	3.06	0.42
14:S2:1373:C:OP1	26:SR:7:LYS:N	2.41	0.42
14:S2:1453:C:O2'	26:SR:52:GLY:HA3	2.20	0.42
14:S2:1459:G:H2'	14:S2:1460:C:O4'	2.19	0.42
14:S2:1865:C:O2	32:Sa:92:ARG:HB3	2.19	0.42
17:SD:26:THR:HA	17:SD:34:TYR:CD2	2.54	0.42
19:SF:33:ILE:HG12	19:SF:34:SER:H	1.84	0.42
27:SS:117:ILE:HG13	27:SS:118:ARG:H	1.84	0.42
29:SU:60:THR:HG23	29:SU:81:GLN:HE22	1.84	0.42
36:Sg:44:LYS:N	36:Sg:55:PRO:O	2.52	0.42
36:Sg:291:TRP:CZ2	36:Sg:298:LEU:HD12	2.54	0.42
38:SG:45:TRP:HA	38:SG:48:TYR:CE2	2.54	0.42
44:SY:20:ARG:HB3	44:SY:76:TYR:CD1	2.54	0.42
44:SY:107:ARG:HG3	44:SY:110:ARG:NH1	2.35	0.42
48:L5:383:A:O2'	48:L5:384:A:O5'	2.37	0.42
48:L5:1249:C:H2'	48:L5:1250:C:O4'	2.19	0.42
48:L5:1260:G:H2'	48:L5:1261:G:H8	1.83	0.42
48:L5:1279:A:O2'	53:LC:323:ARG:NH2	2.53	0.42
49:L7:1:G:H4'	54:LD:265:ARG:CG	2.49	0.42
51:LA:155:LYS:HB2	51:LA:155:LYS:HE3	1.69	0.42
57:LG:113:ARG:HA	57:LG:116:ALA:CB	2.48	0.42
57:LG:115:LEU:HA	57:LG:118:ALA:HB3	2.00	0.42
74:LY:69:LYS:HB2	74:LY:69:LYS:HE2	1.83	0.42
85:Lj:16:HIS:HB3	85:Lj:25:LYS:O	2.19	0.42
88:Lm:127:VAL:O	88:Lm:127:VAL:HG13	2.19	0.42
1:A:570:VAL:HG23	1:A:676:VAL:HG13	2.01	0.42
2:L:190:PRO:HG2	2:L:224:HIS:CD2	2.54	0.42
5:F:71:LEU:O	5:F:73:LYS:N	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:K:74:GLY:H	10:K:118:THR:HB	1.84	0.42
12:M:643:ARG:HH22	12:M:787:LEU:HG	1.84	0.42
14:S2:292:A:H5'	23:SL:41:GLY:H	1.83	0.42
14:S2:908:A:H8	14:S2:908:A:OP2	2.02	0.42
14:S2:970:G:H2'	14:S2:970:G:N3	2.34	0.42
14:S2:1164:G:O2'	14:S2:1165:G:H5'	2.20	0.42
14:S2:1172:U:O2	14:S2:1172:U:H2'	2.19	0.42
14:S2:1259:A:N6	14:S2:1519:U:O4'	2.52	0.42
16:SB:59:SER:O	16:SB:63:LYS:HG3	2.19	0.42
17:SD:24:PHE:CZ	22:SK:68:TYR:CD2	3.07	0.42
19:SF:53:ALA:N	25:SQ:82:TYR:OH	2.53	0.42
20:SH:157:HIS:HB3	20:SH:190:PRO:HG3	2.00	0.42
21:SI:6:ASP:HB2	21:SI:8:TRP:CD1	2.53	0.42
24:SP:81:ARG:HH21	24:SP:96:VAL:HG21	1.84	0.42
28:ST:5:THR:OG1	28:ST:6:VAL:N	2.52	0.42
30:SV:35:ASN:HD22	30:SV:35:ASN:C	2.24	0.42
33:Sc:64:GLU:HG2	33:Sc:66:ARG:HB2	2.01	0.42
34:Sd:17:GLY:HA2	34:Sd:27:ARG:HD2	2.00	0.42
39:SJ:124:HIS:CD2	47:Se:35:ARG:HD2	2.54	0.42
40:SM:117:GLU:HG2	40:SM:121:LYS:HE3	2.01	0.42
41:SN:100:LYS:HA	41:SN:100:LYS:HD2	1.95	0.42
44:SY:10:ARG:HD3	44:SY:11:LYS:HZ2	1.83	0.42
48:L5:106:A:O2'	48:L5:335:A:N3	2.48	0.42
48:L5:688:U:H2'	48:L5:689:U:H6	1.85	0.42
48:L5:1406:G:N1	48:L5:1409:C:H5	2.17	0.42
48:L5:1449:C:H2'	48:L5:1450:C:C6	2.54	0.42
48:L5:1565:A:C5	48:L5:1566:C:H1'	2.54	0.42
48:L5:1761:G:H21	48:L5:1762:C:N4	2.16	0.42
48:L5:2754:G:H2'	48:L5:2755:A:O4'	2.17	0.42
48:L5:4096:A:H2'	48:L5:4097:G:N9	2.34	0.42
50:L8:110:U:O2'	50:L8:111:U:H4'	2.19	0.42
53:LC:266:THR:OG1	53:LC:267:TRP:N	2.52	0.42
56:LF:98:ILE:O	56:LF:98:ILE:CG1	2.67	0.42
60:LJ:32:ARG:NH1	60:LJ:35:ARG:NH2	2.61	0.42
60:LJ:94:LEU:O	60:LJ:95:ARG:NH1	2.52	0.42
75:LZ:88:ASP:OD1	75:LZ:88:ASP:N	2.53	0.42
1:A:353:MET:O	1:A:353:MET:HE3	2.19	0.42
1:A:489:HIS:HD1	1:A:697:TYR:HH	1.66	0.42
1:A:668:GLY:HA2	1:A:703:ARG:CZ	2.50	0.42
4:O:181:LEU:HD12	4:O:183:PHE:CZ	2.55	0.42
5:F:203:LEU:O	5:F:226:LEU:N	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:M:509:THR:HG21	12:M:809:ARG:HH21	1.83	0.42
14:S2:643:A:H4'	14:S2:644:G:H5'	2.01	0.42
14:S2:873:G:N2	20:SH:114:GLN:OE1	2.29	0.42
14:S2:1255:G:H5'	14:S2:1256:G:H4'	2.01	0.42
14:S2:1274:G:H5''	22:SK:1:MET:HG2	2.01	0.42
14:S2:1521:C:H4'	27:SS:145:THR:OG1	2.19	0.42
14:S2:1677:U:H2'	14:S2:1678:A:N3	2.33	0.42
14:S2:1712:A:H2'	14:S2:1713:C:H6	1.84	0.42
16:SB:129:THR:HG22	16:SB:133:TYR:O	2.19	0.42
20:SH:31:GLU:HB3	20:SH:40:LEU:CD2	2.46	0.42
24:SP:43:ARG:HG2	24:SP:44:ARG:NH2	2.34	0.42
28:ST:6:VAL:HB	28:ST:132:ASP:OD1	2.19	0.42
28:ST:142:ASN:OD1	28:ST:142:ASN:N	2.52	0.42
29:SU:29:VAL:HG22	29:SU:85:HIS:HE1	1.84	0.42
30:SV:53:TYR:CE1	30:SV:72:LEU:HB3	2.54	0.42
31:SX:34:THR:O	31:SX:36:LEU:N	2.52	0.42
36:Sg:36:ARG:NH1	36:Sg:67:SER:HA	2.33	0.42
44:SY:79:LEU:C	44:SY:79:LEU:HD23	2.44	0.42
46:Sb:38:PRO:HG2	46:Sb:59:CYS:SG	2.59	0.42
48:L5:166:C:H2'	48:L5:167:C:C6	2.54	0.42
48:L5:3623:G:HO2'	48:L5:3624:G:P	2.38	0.42
51:LA:228:ASP:OD1	51:LA:228:ASP:C	2.63	0.42
56:LF:39:GLN:HE22	56:LF:43:ARG:HH21	1.67	0.42
57:LG:175:ARG:HH11	57:LG:230:TYR:HB3	1.84	0.42
64:LO:166:ILE:HG23	64:LO:169:ARG:HH21	1.85	0.42
72:LW:89:ASP:OD2	72:LW:91:MET:HG3	2.19	0.42
74:LY:108:ARG:CZ	74:LY:108:ARG:HB3	2.49	0.42
78:Lc:28:VAL:HG12	78:Lc:34:THR:HG22	2.01	0.42
78:Lc:63:TYR:HA	78:Lc:66:LEU:CD2	2.50	0.42
80:Le:9:LYS:HB2	80:Le:9:LYS:HE3	1.87	0.42
84:Li:89:GLU:OE1	84:Li:89:GLU:C	2.62	0.42
91:Lp:91:ASP:OD1	91:Lp:91:ASP:N	2.52	0.42
1:A:915:HIS:CD2	1:A:965:VAL:HG21	2.54	0.42
1:A:1022:ALA:O	1:A:1026:LYS:HG3	2.20	0.42
3:N:157:LEU:O	3:N:161:LYS:HG3	2.19	0.42
12:M:49:LYS:NZ	12:M:114:CYS:H	2.18	0.42
13:X:87:G:H5'	19:SF:185:SER:HB2	2.00	0.42
14:S2:880:G:H2'	14:S2:881:G:O4'	2.19	0.42
14:S2:1259:A:O2'	14:S2:1518:C:N4	2.52	0.42
14:S2:1566:G:O5'	28:ST:102:ARG:NH2	2.47	0.42
16:SB:190:PRO:O	16:SB:195:LYS:NZ	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:SB:224:GLU:OE1	16:SB:227:LYS:N	2.52	0.42
17:SD:52:ALA:O	17:SD:90:LYS:HA	2.20	0.42
17:SD:108:LYS:O	17:SD:113:LEU:HB2	2.19	0.42
17:SD:200:PRO:O	17:SD:201:LYS:C	2.62	0.42
20:SH:118:ARG:O	20:SH:121:THR:OG1	2.30	0.42
21:SI:37:LYS:O	21:SI:59:ARG:HA	2.19	0.42
36:Sg:105:THR:OG1	36:Sg:126:ASP:OD2	2.37	0.42
40:SM:49:LEU:HD12	40:SM:50:CYS:H	1.83	0.42
42:SO:82:ALA:HA	42:SO:124:MET:CE	2.47	0.42
46:Sb:81:ARG:HH11	46:Sb:81:ARG:HG3	1.85	0.42
48:L5:1189:G:H2'	48:L5:1190:C:C6	2.54	0.42
48:L5:2783:C:HO2'	48:L5:2784:C:P	2.42	0.42
48:L5:4128:C:C2	48:L5:4129:G:C8	3.07	0.42
48:L5:4508:A:O2'	48:L5:4509:A:O5'	2.37	0.42
48:L5:4633:A:H8	48:L5:5046:A:H61	1.66	0.42
50:L8:87:G:O2'	50:L8:88:A:P	2.78	0.42
52:LB:165:HIS:ND1	52:LB:166:THR:O	2.40	0.42
53:LC:14:LYS:HD3	53:LC:14:LYS:HA	1.80	0.42
53:LC:172:LYS:HE3	53:LC:172:LYS:HB2	1.94	0.42
58:LH:63:ASN:O	58:LH:67:LEU:HB2	2.19	0.42
72:LW:113:LYS:HE3	72:LW:113:LYS:HB3	1.91	0.42
76:La:90:ALA:HA	76:La:93:ASN:HD21	1.84	0.42
92:Lr:32:LEU:O	92:Lr:33:LYS:HB2	2.19	0.42
1:A:663:GLU:OE1	13:X:208:U:O2'	2.31	0.42
1:A:864:SER:OG	22:SK:33:PRO:HA	2.18	0.42
3:N:253:SER:HA	10:K:322:PRO:HG3	2.02	0.42
6:G:216:MET:CE	6:G:219:LEU:HD13	2.49	0.42
12:M:161:VAL:HG12	12:M:163:VAL:HG13	2.02	0.42
12:M:196:LEU:HG	12:M:199:ALA:HB3	2.02	0.42
13:X:35:G:H2'	13:X:36:A:C5	2.54	0.42
14:S2:1262:C:H3'	14:S2:1263:U:C6	2.54	0.42
14:S2:1385:G:C2	14:S2:1386:A:C8	3.08	0.42
14:S2:1396:A:H2'	14:S2:1398:G:N7	2.34	0.42
14:S2:1589:A:H2	14:S2:1671:G:N2	2.16	0.42
14:S2:1637:A:H5''	14:S2:1638:G:C2	2.54	0.42
16:SB:29:ASP:OD1	16:SB:29:ASP:N	2.50	0.42
18:SE:34:GLY:HA3	18:SE:83:PRO:HG3	2.02	0.42
19:SF:70:GLU:O	19:SF:73:THR:OG1	2.28	0.42
27:SS:5:ILE:HA	27:SS:6:PRO:HA	1.92	0.42
28:ST:42:HIS:NE2	28:ST:82:ARG:O	2.52	0.42
29:SU:39:LEU:O	29:SU:43:ALA:N	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Sa:94:ASP:OD1	32:Sa:96:THR:HG22	2.19	0.42
48:L5:7:C:H2'	48:L5:8:U:C6	2.55	0.42
48:L5:1075:G:N2	48:L5:1235:G:H22	2.17	0.42
48:L5:1309:C:H2'	48:L5:1310:C:C6	2.55	0.42
48:L5:1443:A:N7	48:L5:2101:G:N2	2.68	0.42
48:L5:1833:U:O2'	48:L5:1834:G:OP1	2.35	0.42
48:L5:2014:C:P	48:L5:2016:C:H42	2.42	0.42
48:L5:2251:A:O2'	48:L5:2253:C:O4'	2.27	0.42
48:L5:2496:C:H2'	48:L5:2497:C:C6	2.51	0.42
48:L5:2693:A:P	86:Lk:33:LYS:HZ1	2.40	0.42
48:L5:4457:U:H2'	48:L5:4458:U:C6	2.55	0.42
48:L5:4472:A:H5''	88:Lm:125:LYS:HG3	2.01	0.42
48:L5:4549:U:H2'	48:L5:4550:U:C6	2.54	0.42
48:L5:4576:G:H2'	48:L5:4577:U:H6	1.84	0.42
51:LA:196:TRP:O	51:LA:198:ARG:N	2.52	0.42
54:LD:65:ALA:HB2	54:LD:74:ILE:HD13	2.01	0.42
59:LI:183:ASP:OD1	59:LI:184:MET:N	2.52	0.42
61:LL:165:LYS:HE2	61:LL:165:LYS:HB3	1.78	0.42
68:LS:83:ARG:HA	68:LS:91:HIS:O	2.19	0.42
69:LT:51:GLY:HA3	69:LT:92:ARG:HG3	2.02	0.42
84:Li:59:GLU:OE1	84:Li:59:GLU:HA	2.20	0.42
1:A:339:THR:O	1:A:343:GLU:HG2	2.20	0.42
10:K:196:PHE:HE1	10:K:223:ILE:HB	1.84	0.42
12:M:202:LEU:O	12:M:206:ILE:HG13	2.20	0.42
14:S2:71:G:O2'	14:S2:72:C:OP1	2.31	0.42
14:S2:1109:C:O2'	14:S2:1110:G:C8	2.73	0.42
14:S2:1280:G:C4	14:S2:1318:G:N1	2.85	0.42
14:S2:1452:A:P	14:S2:1452:A:H8	2.42	0.42
14:S2:1473:G:O2'	14:S2:1474:A:H2'	2.20	0.42
28:ST:137:GLN:HG3	28:ST:138:VAL:HG13	2.01	0.42
36:Sg:122:SER:OG	36:Sg:130:LYS:O	2.23	0.42
38:SG:213:LEU:HD11	38:SG:217:MET:HE3	2.01	0.42
40:SM:124:ILE:HD12	40:SM:128:PHE:HD2	1.85	0.42
43:SW:32:LYS:O	43:SW:36:ARG:HD2	2.20	0.42
48:L5:676:C:H2'	48:L5:677:G:C8	2.55	0.42
48:L5:1240:G:C2	48:L5:1241:C:N4	2.88	0.42
48:L5:1272:C:O2'	55:LE:73:TYR:O	2.33	0.42
48:L5:3770:U:H2'	48:L5:3771:U:C1'	2.50	0.42
48:L5:4249:A:N3	60:LJ:110:GLN:HG3	2.35	0.42
48:L5:4276:C:O2'	48:L5:4279:A:H8	2.03	0.42
48:L5:5027:C:H2'	48:L5:5028:U:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:L7:23:A:O2'	49:L7:24:C:H6	2.03	0.42
50:L8:40:A:H2'	50:L8:41:A:C8	2.54	0.42
52:LB:90:VAL:HG12	52:LB:104:THR:HB	2.01	0.42
52:LB:298:LEU:HA	52:LB:300:LYS:NZ	2.34	0.42
57:LG:33:GLU:OE1	57:LG:33:GLU:N	2.52	0.42
70:LU:87:THR:O	70:LU:91:LEU:HD23	2.20	0.42
84:Li:65:LYS:HB3	84:Li:68:ARG:HB2	2.01	0.42
86:Lk:23:VAL:HG12	86:Lk:64:LEU:O	2.19	0.42
1:A:487:LEU:HD13	1:A:704:ALA:HB3	2.02	0.42
1:A:818:LEU:HD21	1:A:1002:ALA:HA	2.02	0.42
1:A:1075:LYS:HA	1:A:1075:LYS:HD2	1.80	0.42
3:N:9:GLU:HB2	3:N:10:PRO:HD3	2.01	0.42
4:O:29:ARG:NH2	4:O:49:GLN:O	2.53	0.42
4:O:153:CYS:SG	4:O:220:VAL:HG11	2.60	0.42
6:G:246:GLU:O	6:G:249:GLN:HG2	2.19	0.42
8:I:109:LEU:HD23	8:I:109:LEU:HA	1.92	0.42
14:S2:77:A:O3'	38:SG:159:ARG:NH2	2.53	0.42
14:S2:1589:A:H2	14:S2:1671:G:H21	1.68	0.42
14:S2:1620:A:N3	14:S2:1620:A:H2'	2.34	0.42
14:S2:1748:G:C6	14:S2:1749:G:C6	3.08	0.42
14:S2:1751:C:C5	14:S2:1752:C:H1'	2.55	0.42
18:SE:31:PRO:HA	18:SE:81:THR:OG1	2.19	0.42
19:SF:175:ASP:OD1	19:SF:176:GLU:N	2.53	0.42
20:SH:138:GLU:O	20:SH:140:VAL:HG13	2.20	0.42
24:SP:92:SER:HB2	24:SP:94:VAL:HG13	2.01	0.42
37:SC:166:ARG:HB2	37:SC:248:TYR:CE2	2.55	0.42
38:SG:9:ALA:HA	72:LW:78:PHE:CE2	2.55	0.42
38:SG:222:GLU:OE1	38:SG:225:GLN:NE2	2.53	0.42
41:SN:17:PRO:HB3	46:Sb:28:PRO:HG3	2.02	0.42
42:SO:83:GLN:NE2	42:SO:87:GLU:OE2	2.53	0.42
44:SY:20:ARG:NH1	44:SY:22:GLN:HE22	2.17	0.42
48:L5:500:G:C2	48:L5:655:C:C2	3.08	0.42
48:L5:1832:G:O2'	48:L5:1833:U:O4'	2.36	0.42
48:L5:1900:G:OP1	81:Lf:24:HIS:NE2	2.51	0.42
48:L5:1976:C:O2	48:L5:1985:C:N4	2.53	0.42
48:L5:2016:C:H2'	48:L5:2017:C:C6	2.54	0.42
48:L5:3583:G:H3'	48:L5:3584:G:C8	2.55	0.42
48:L5:4207:G:O6	48:L5:4222:A:N6	2.52	0.42
50:L8:67:U:H2'	50:L8:68:G:C8	2.55	0.42
52:LB:17:LEU:HA	52:LB:17:LEU:HD13	1.81	0.42
52:LB:32:PHE:HD1	52:LB:33:PRO:HD2	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:LI:19:LYS:HA	59:LI:23:CYS:SG	2.59	0.42
60:LJ:35:ARG:HA	60:LJ:38:LYS:HZ2	1.82	0.42
60:LJ:48:PRO:HB3	60:LJ:72:CYS:HB3	2.02	0.42
83:Lh:21:LEU:O	83:Lh:25:LYS:HG2	2.20	0.42
86:Lk:31:ASN:O	86:Lk:32:VAL:HB	2.19	0.42
88:Lm:92:ASP:OD1	88:Lm:92:ASP:N	2.52	0.42
1:A:920:LEU:HD22	1:A:924:ASP:OD2	2.20	0.42
1:A:1158:VAL:O	1:A:1162:VAL:HG23	2.20	0.42
2:L:217:ALA:HB1	2:L:221:ARG:HH12	1.84	0.42
4:O:188:VAL:HG12	4:O:189:GLU:HG3	2.02	0.42
5:F:164:ARG:HB2	5:F:164:ARG:CZ	2.50	0.42
8:I:40:MET:HB2	8:I:66:LEU:HD12	2.01	0.42
8:I:102:SER:OG	8:I:104:LEU:O	2.35	0.42
9:J:168:SER:OG	9:J:169:TRP:N	2.52	0.42
12:M:501:LEU:O	12:M:563:TRP:N	2.36	0.42
14:S2:71:G:H3'	14:S2:72:C:C5'	2.48	0.42
14:S2:795:A:H8	14:S2:797:C:OP2	2.03	0.42
14:S2:1122:A:N3	16:SB:146:ARG:NH2	2.67	0.42
14:S2:1171:G:N2	14:S2:1188:A:OP2	2.45	0.42
14:S2:1389:C:O2'	17:SD:162:ASP:HB3	2.19	0.42
14:S2:1536:G:H2'	14:S2:1537:A:C8	2.52	0.42
14:S2:1647:A:H5''	25:SQ:138:ARG:HH22	1.85	0.42
20:SH:66:VAL:CG2	20:SH:96:ALA:HB1	2.38	0.42
22:SK:93:THR:O	22:SK:95:ARG:NH1	2.53	0.42
27:SS:130:ARG:HD2	27:SS:130:ARG:N	2.35	0.42
39:SJ:30:LYS:HB2	47:Se:42:PHE:HE2	1.85	0.42
48:L5:980:U:H2'	48:L5:981:C:C6	2.55	0.42
48:L5:1088:C:H2'	48:L5:1089:G:H8	1.85	0.42
48:L5:1333:A:H2'	48:L5:1334:A:C8	2.54	0.42
48:L5:2122:G:H4'	48:L5:2123:C:OP1	2.20	0.42
48:L5:2826:U:O2'	48:L5:2827:U:OP1	2.33	0.42
48:L5:3586:C:H2'	48:L5:3587:G:C8	2.55	0.42
48:L5:4112:C:H3'	48:L5:4113:G:O4'	2.20	0.42
48:L5:4424:C:C2'	48:L5:4425:G:H5'	2.50	0.42
54:LD:191:ASN:OD1	54:LD:192:ALA:N	2.53	0.42
62:LM:35:ARG:HH11	62:LM:35:ARG:HG3	1.84	0.42
62:LM:110:PHE:O	62:LM:110:PHE:CD1	2.73	0.42
75:LZ:100:VAL:HG22	75:LZ:107:LYS:HA	2.00	0.42
1:A:494:GLY:O	1:A:525:LYS:NZ	2.47	0.42
1:A:632:LEU:HB3	1:A:660:PHE:HE2	1.85	0.42
2:L:233:GLN:HB3	2:L:236:ARG:HH21	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:211:THR:HG22	3:N:212:GLY:N	2.33	0.42
14:S2:201:C:H3'	14:S2:202:G:O4'	2.20	0.42
14:S2:1375:G:H2'	14:S2:1376:A:C8	2.54	0.42
14:S2:1668:U:H2'	14:S2:1669:G:C8	2.55	0.42
14:S2:1712:A:H2'	14:S2:1713:C:C6	2.54	0.42
16:SB:63:LYS:NZ	16:SB:91:VAL:HG12	2.35	0.42
17:SD:35:SER:OG	17:SD:53:THR:OG1	2.25	0.42
18:SE:214:ASN:HB3	18:SE:216:ASN:OD1	2.20	0.42
23:SL:48:LYS:O	23:SL:51:ILE:HG22	2.20	0.42
24:SP:43:ARG:HA	24:SP:46:ASN:HB3	2.02	0.42
24:SP:98:ASN:HB3	27:SS:118:ARG:HH21	1.85	0.42
27:SS:55:ARG:O	27:SS:59:LEU:HG	2.20	0.42
28:ST:112:MET:SD	28:ST:112:MET:O	2.78	0.42
30:SV:36:VAL:HG22	30:SV:37:ALA:H	1.84	0.42
36:Sg:22:ALA:HB3	36:Sg:32:LEU:HD21	2.01	0.42
36:Sg:54:ILE:HA	36:Sg:55:PRO:HA	1.81	0.42
44:SY:60:PHE:H	44:SY:71:GLY:HA2	1.85	0.42
48:L5:10:A:H2'	48:L5:11:G:H8	1.85	0.42
48:L5:178:C:H2'	48:L5:179:G:H8	1.85	0.42
48:L5:423:G:H2'	48:L5:424:U:C6	2.55	0.42
48:L5:449:C:OP1	48:L5:449:C:H4'	2.20	0.42
48:L5:486:C:O2	48:L5:486:C:H2'	2.19	0.42
48:L5:517:C:H41	48:L5:645:G:N2	2.17	0.42
48:L5:922:C:H2'	48:L5:923:C:H6	1.84	0.42
48:L5:1397:A:C8	76:La:114:LYS:HD3	2.54	0.42
48:L5:2091:A:H3'	48:L5:2093:A:N7	2.35	0.42
48:L5:3679:G:O2'	51:LA:126:LEU:HA	2.20	0.42
48:L5:3760:U:H3'	48:L5:3761:A:C8	2.55	0.42
49:L7:12:U:OP2	49:L7:67:C:O2'	2.35	0.42
50:L8:84:A:N1	74:LY:113:LYS:HE3	2.34	0.42
50:L8:144:U:H2'	50:L8:145:C:C6	2.55	0.42
52:LB:107:ALA:HB1	52:LB:201:LEU:HD21	2.02	0.42
53:LC:6:PRO:HD2	53:LC:24:LEU:HD22	2.02	0.42
53:LC:353:LYS:HD2	53:LC:353:LYS:HA	1.75	0.42
54:LD:88:VAL:HG13	54:LD:88:VAL:O	2.20	0.42
55:LE:47:ASN:ND2	55:LE:62:MET:HE1	2.35	0.42
55:LE:89:LEU:N	55:LE:90:ALA:HA	2.34	0.42
62:LM:11:ARG:HH11	62:LM:59:ASP:HA	1.85	0.42
68:LS:97:TYR:OH	68:LS:112:ASP:OD2	2.36	0.42
69:LT:17:ARG:HB2	69:LT:22:HIS:CE1	2.55	0.42
70:LU:17:GLN:HG2	70:LU:17:GLN:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
87:L1:38:ASN:O	87:L1:40:LYS:N	2.52	0.42
4:O:62:ALA:N	4:O:114:THR:OG1	2.53	0.41
7:H:129:PHE:CE2	7:H:157:VAL:HG11	2.55	0.41
9:J:187:ARG:HA	11:E:612:PHE:CE2	2.54	0.41
10:K:47:ILE:HD13	10:K:54:ARG:HH21	1.85	0.41
12:M:501:LEU:N	12:M:563:TRP:O	2.41	0.41
12:M:520:ILE:HG13	12:M:523:ARG:HH12	1.85	0.41
12:M:586:TYR:CE2	12:M:625:LEU:HG	2.54	0.41
14:S2:141:A:H4'	14:S2:142:C:O5'	2.20	0.41
14:S2:221:A:H2'	14:S2:222:U:H6	1.85	0.41
14:S2:500:A:H3'	14:S2:501:C:C6	2.55	0.41
14:S2:1558:C:H42	14:S2:1577:G:H1	1.66	0.41
14:S2:1866:A:H5'	32:Sa:95:ARG:HG3	2.02	0.41
21:SI:8:TRP:CZ3	21:SI:20:PRO:HB3	2.53	0.41
22:SK:57:TYR:O	22:SK:72:THR:OG1	2.26	0.41
26:SR:33:ARG:H	26:SR:33:ARG:HG2	1.34	0.41
29:SU:26:SER:HB3	29:SU:32:LEU:HB3	2.01	0.41
35:Sf:88:PRO:O	35:Sf:91:ASN:ND2	2.53	0.41
38:SG:137:ARG:HH21	38:SG:178:ARG:HH12	1.67	0.41
44:SY:80:ASP:HA	44:SY:83:LYS:HZ2	1.85	0.41
45:SZ:98:LYS:HB3	45:SZ:110:THR:OG1	2.20	0.41
48:L5:298:G:OP1	63:LN:179:LYS:HE3	2.19	0.41
48:L5:476:G:H2'	48:L5:477:C:C6	2.55	0.41
48:L5:721:G:H2'	48:L5:722:G:O4'	2.20	0.41
48:L5:1276:C:H5'	48:L5:1277:G:OP2	2.21	0.41
48:L5:1564:A:H2'	48:L5:1565:A:C8	2.55	0.41
48:L5:2587:C:C2	48:L5:2755:A:C2	3.08	0.41
48:L5:2893:A:H2'	48:L5:2894:G:C8	2.55	0.41
48:L5:4126:A:H2'	48:L5:4127:G:O4'	2.20	0.41
51:LA:24:LYS:HE2	51:LA:24:LYS:HB2	1.80	0.41
55:LE:190:HIS:CG	55:LE:191:GLN:N	2.88	0.41
61:LL:150:LEU:HA	61:LL:150:LEU:HD23	1.71	0.41
65:LP:26:PHE:HA	65:LP:144:CYS:SG	2.60	0.41
65:LP:90:PHE:N	65:LP:90:PHE:CD1	2.88	0.41
66:LQ:114:LEU:HD12	66:LQ:114:LEU:HA	1.90	0.41
68:LS:52:LYS:HE2	68:LS:52:LYS:HB2	1.94	0.41
72:LW:77:LYS:HA	72:LW:78:PHE:HA	1.95	0.41
74:LY:53:ASP:OD2	74:LY:109:LEU:HA	2.20	0.41
86:Lk:37:ARG:NH1	86:Lk:41:TYR:O	2.53	0.41
1:A:858:VAL:C	1:A:873:THR:HG23	2.46	0.41
1:A:1175:GLU:HG3	1:A:1180:MET:HG2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:128:PRO:N	3:N:128:PRO:HG2	2.09	0.41
5:F:256:MET:O	5:F:260:LYS:HG3	2.20	0.41
6:G:6:ARG:HH11	6:G:7:ARG:HB2	1.85	0.41
8:I:88:ILE:HD13	8:I:139:ASP:HB2	2.02	0.41
11:E:615:ALA:O	11:E:620:ILE:HG13	2.20	0.41
14:S2:122:G:H2'	14:S2:123:G:H8	1.84	0.41
14:S2:595:U:HO2'	14:S2:596:U:H6	1.67	0.41
14:S2:1472:C:H3'	14:S2:1473:G:C8	2.55	0.41
14:S2:1503:C:H2'	14:S2:1504:U:C6	2.55	0.41
25:SQ:132:PHE:HB2	29:SU:77:TRP:CD1	2.55	0.41
33:Sc:16:LYS:HE3	33:Sc:16:LYS:HB3	1.89	0.41
38:SG:229:ALA:HA	38:SG:232:ARG:HB2	2.03	0.41
48:L5:106:A:H1'	48:L5:336:A:H8	1.84	0.41
48:L5:433:A:C2	48:L5:3865:A:H4'	2.55	0.41
48:L5:487:G:H2'	48:L5:488:G:O4'	2.20	0.41
48:L5:2117:C:H1'	48:L5:2118:G:OP2	2.20	0.41
48:L5:2897:C:H2'	48:L5:2898:U:H6	1.84	0.41
48:L5:3584:G:H2'	48:L5:3585:C:C6	2.55	0.41
48:L5:3894:C:O2	52:LB:268:ARG:NH2	2.49	0.41
48:L5:4965:A:H2'	48:L5:4966:A:H8	1.84	0.41
53:LC:212:ASN:ND2	53:LC:213:GLU:OE2	2.53	0.41
55:LE:209:PRO:HB2	55:LE:211:HIS:CE1	2.55	0.41
58:LH:101:ILE:HG23	58:LH:114:ILE:HG23	2.02	0.41
60:LJ:81:GLU:CD	60:LJ:81:GLU:N	2.77	0.41
61:LL:118:LYS:HE3	61:LL:118:LYS:HB2	1.78	0.41
61:LL:130:LYS:O	61:LL:132:SER:N	2.52	0.41
67:LR:113:LYS:HE2	67:LR:113:LYS:HB2	1.78	0.41
70:LU:107:LYS:O	70:LU:108:GLU:HB3	2.20	0.41
77:Lb:52:LYS:HA	77:Lb:52:LYS:HD2	1.76	0.41
81:Lf:54:LYS:O	81:Lf:66:LYS:NZ	2.39	0.41
1:A:663:GLU:HB2	13:X:208:U:O2'	2.21	0.41
6:G:35:ARG:HH12	6:G:37:ARG:HG3	1.84	0.41
9:J:37:LEU:HD23	9:J:37:LEU:HA	1.90	0.41
13:X:128:C:H2'	13:X:129:A:H4'	2.03	0.41
14:S2:81:U:C4	14:S2:82:G:C4	3.09	0.41
14:S2:311:C:H4'	14:S2:339:A:H4'	2.02	0.41
14:S2:389:A:H2'	14:S2:390:C:C6	2.55	0.41
14:S2:560:A:H5'	39:SJ:174:LYS:HB2	2.01	0.41
14:S2:1603:G:H3'	14:S2:1603:G:OP2	2.20	0.41
14:S2:1648:G:N2	14:S2:1674:G:O5'	2.53	0.41
14:S2:1787:G:H2'	14:S2:1788:A:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:SA:198:MET:SD	26:SR:86:PRO:HA	2.61	0.41
16:SB:127:VAL:HG11	16:SB:172:MET:HB3	2.02	0.41
21:SI:110:ARG:NE	21:SI:121:LEU:O	2.53	0.41
22:SK:89:ILE:O	22:SK:91:PRO:HD3	2.20	0.41
23:SL:104:LYS:O	31:SX:11:ARG:NH2	2.53	0.41
39:SJ:40:LYS:HG3	47:Se:34:ARG:NH1	2.30	0.41
40:SM:124:ILE:HD12	40:SM:128:PHE:CD2	2.55	0.41
48:L5:72:C:N3	61:LL:60:ARG:NH2	2.68	0.41
48:L5:746:A:H61	48:L5:915:A:H3'	1.84	0.41
48:L5:961:G:C4	55:LE:123:ARG:HB3	2.56	0.41
48:L5:1084:C:H2'	48:L5:1085:C:H6	1.86	0.41
48:L5:1274:A:C4	48:L5:1275:G:C8	3.09	0.41
48:L5:1504:G:H2'	48:L5:1505:C:C6	2.54	0.41
48:L5:2050:G:H5'	64:LO:83:THR:HG23	2.02	0.41
48:L5:2637:U:H2'	48:L5:2692:G:N1	2.35	0.41
48:L5:3773:A:H5'	48:L5:3774:G:OP2	2.20	0.41
48:L5:4128:C:H2'	48:L5:4129:G:C8	2.54	0.41
54:LD:180:PHE:HB3	54:LD:195:HIS:CD2	2.55	0.41
54:LD:236:MET:H	54:LD:236:MET:HG2	1.58	0.41
55:LE:105:ARG:O	55:LE:106:VAL:HG12	2.21	0.41
56:LF:169:LEU:HD12	56:LF:169:LEU:O	2.21	0.41
58:LH:113:GLU:HA	58:LH:124:ARG:O	2.19	0.41
59:LI:3:ARG:NH2	59:LI:63:GLU:OE2	2.52	0.41
66:LQ:101:CYS:SG	66:LQ:126:LEU:HD13	2.61	0.41
70:LU:114:TYR:CD1	70:LU:114:TYR:C	2.99	0.41
72:LW:53:VAL:HG13	72:LW:54:LEU:HD12	2.02	0.41
85:Lj:19:CYS:SG	85:Lj:20:ARG:N	2.93	0.41
1:A:400:THR:HG22	1:A:436:VAL:HG12	2.02	0.41
1:A:736:LYS:HD2	1:A:736:LYS:HA	1.79	0.41
1:A:1134:GLY:HA2	1:A:1137:ARG:HD2	2.03	0.41
10:K:183:VAL:HA	10:K:184:PRO:HD3	1.94	0.41
12:M:881:TYR:OH	12:M:898:LYS:HB3	2.20	0.41
12:M:920:GLU:HB2	12:M:922:LYS:NZ	2.35	0.41
13:X:49:A:H2'	13:X:50:C:C6	2.55	0.41
14:S2:691:G:H3'	14:S2:692:G:C5'	2.40	0.41
14:S2:946:U:H2'	14:S2:947:G:H8	1.86	0.41
14:S2:982:G:H2'	14:S2:983:A:C8	2.55	0.41
14:S2:1380:C:H2'	14:S2:1381:G:O4'	2.20	0.41
14:S2:1395:C:C2	14:S2:1474:A:N6	2.88	0.41
14:S2:1399:C:H4'	36:Sg:102:VAL:HG11	2.01	0.41
14:S2:1453:C:H6	26:SR:28:PHE:CD1	2.38	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S2:1782:G:H8	14:S2:1783:C:H4'	1.84	0.41
17:SD:142:LEU:HB2	17:SD:148:LYS:HB3	2.03	0.41
18:SE:51:ARG:HH21	18:SE:110:ALA:HA	1.84	0.41
20:SH:93:VAL:HG22	20:SH:94:PHE:H	1.84	0.41
23:SL:104:LYS:HB2	23:SL:104:LYS:HE3	1.74	0.41
24:SP:98:ASN:H	24:SP:99:GLY:C	2.28	0.41
24:SP:102:PHE:CZ	27:SS:115:LYS:HE2	2.56	0.41
27:SS:30:ILE:HG22	27:SS:36:VAL:HG11	2.02	0.41
27:SS:63:GLU:OE2	27:SS:66:ARG:NH1	2.53	0.41
28:ST:23:LYS:HA	28:ST:54:TYR:CD2	2.55	0.41
36:Sg:21:ILE:HB	36:Sg:290:ALA:HB2	2.02	0.41
38:SG:14:LYS:HG2	38:SG:16:ILE:HD12	2.02	0.41
38:SG:30:LYS:O	38:SG:102:VAL:HG12	2.20	0.41
38:SG:61:PHE:HD2	38:SG:72:ARG:HD2	1.85	0.41
38:SG:148:SER:HB3	38:SG:149:LYS:HB2	2.03	0.41
42:SO:42:VAL:HG12	42:SO:56:VAL:O	2.20	0.41
44:SY:80:ASP:OD1	44:SY:81:TYR:CD1	2.74	0.41
48:L5:972:C:N4	48:L5:1282:G:H21	2.13	0.41
48:L5:1100:U:O2	48:L5:1195:G:N2	2.41	0.41
48:L5:2091:A:OP1	48:L5:2093:A:H2'	2.20	0.41
48:L5:2397:G:N3	82:Lg:4:ARG:NH2	2.68	0.41
48:L5:3755:G:H22	48:L5:3767:C:H42	1.68	0.41
52:LB:94:GLU:HG2	52:LB:94:GLU:H	1.63	0.41
52:LB:200:ARG:HB2	52:LB:200:ARG:HH11	1.85	0.41
58:LH:117:PHE:O	58:LH:120:GLU:HB2	2.20	0.41
59:LI:105:CYS:HA	59:LI:106:ALA:HA	1.76	0.41
62:LM:43:THR:O	62:LM:43:THR:OG1	2.35	0.41
66:LQ:178:ARG:H	76:La:51:GLY:HA2	1.85	0.41
69:LT:158:PHE:CD1	69:LT:158:PHE:C	2.98	0.41
70:LU:42:PHE:HA	70:LU:45:GLU:CD	2.45	0.41
77:Lb:40:LEU:HD12	77:Lb:40:LEU:HA	1.86	0.41
78:Lc:82:GLY:HA2	78:Lc:91:VAL:HG12	2.03	0.41
83:Lh:23:ASP:O	83:Lh:26:VAL:HG12	2.21	0.41
90:Lo:76:ASN:N	90:Lo:76:ASN:OD1	2.54	0.41
1:A:376:THR:HG22	1:A:377:PHE:HD2	1.86	0.41
1:A:706:ARG:O	1:A:708:GLY:N	2.52	0.41
1:A:726:MET:HA	1:A:729:LEU:HD13	2.02	0.41
6:G:120:ARG:NH1	6:G:124:LEU:HB2	2.36	0.41
7:H:221:VAL:HG12	7:H:227:LEU:HD21	2.01	0.41
8:I:278:GLU:O	8:I:282:MET:HG3	2.20	0.41
12:M:208:GLN:O	12:M:211:ARG:HG2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:M:247:ILE:HG22	12:M:262:ARG:HB3	2.01	0.41
14:S2:445:A:H2'	14:S2:446:G:O4'	2.20	0.41
14:S2:455:A:H2'	14:S2:456:C:C6	2.56	0.41
14:S2:553:U:H2'	14:S2:554:A:H8	1.81	0.41
14:S2:1516:G:H4'	24:SP:98:ASN:CG	2.45	0.41
14:S2:1564:C:P	28:ST:105:GLN:HE21	2.43	0.41
14:S2:1700:C:C2	14:S2:1834:A:N6	2.89	0.41
15:SA:176:TRP:CD1	15:SA:199:PRO:HA	2.55	0.41
20:SH:158:LEU:O	20:SH:190:PRO:HD2	2.21	0.41
24:SP:37:TYR:CZ	27:SS:90:VAL:HB	2.55	0.41
38:SG:210:ALA:O	38:SG:215:LYS:HB2	2.19	0.41
43:SW:42:MET:HA	43:SW:47:ILE:HG22	2.02	0.41
48:L5:3650:A:O2'	51:LA:182:ALA:HB2	2.21	0.41
50:L8:122:G:N7	50:L8:123:U:H1'	2.35	0.41
52:LB:144:LYS:O	52:LB:147:GLU:HG2	2.21	0.41
53:LC:141:GLY:O	53:LC:204:ARG:NH2	2.53	0.41
67:LR:137:ILE:O	67:LR:141:HIS:HB2	2.21	0.41
74:LY:52:ASP:C	74:LY:53:ASP:OD1	2.63	0.41
86:Lk:12:LEU:HD23	86:Lk:12:LEU:HA	1.92	0.41
90:Lo:3:ASN:ND2	90:Lo:95:GLY:O	2.54	0.41
91:Lp:60:CYS:HB3	91:Lp:62:LYS:HB2	2.02	0.41
1:A:567:LEU:HB3	1:A:657:LYS:HZ2	1.86	0.41
1:A:1107:GLU:CD	1:A:1131:LEU:HD21	2.44	0.41
2:L:145:VAL:HG13	2:L:150:ILE:HB	2.01	0.41
2:L:229:ARG:HG3	2:L:230:VAL:N	2.34	0.41
8:I:35:THR:HG22	8:I:52:LEU:H	1.85	0.41
12:M:231:LEU:HA	12:M:234:LEU:HD13	2.02	0.41
12:M:708:GLN:HG3	12:M:710:PRO:HD3	2.03	0.41
13:X:111:G:H8	13:X:111:G:OP2	2.03	0.41
14:S2:1114:U:O2	14:S2:1115:U:N3	2.54	0.41
14:S2:1393:G:N1	14:S2:1478:U:C4	2.89	0.41
14:S2:1459:G:P	36:Sg:280:LYS:HZ3	2.43	0.41
14:S2:1785:C:O2'	14:S2:1786:U:O5'	2.39	0.41
15:SA:144:THR:O	15:SA:158:ASP:HB2	2.21	0.41
20:SH:160:LYS:HE3	20:SH:160:LYS:HB3	1.85	0.41
23:SL:132:ARG:HB2	23:SL:133:PRO:HD2	2.03	0.41
25:SQ:40:GLU:H	25:SQ:40:GLU:HG3	1.70	0.41
29:SU:58:THR:C	29:SU:59:LYS:HD2	2.44	0.41
29:SU:82:MET:HA	29:SU:82:MET:CE	2.50	0.41
31:SX:140:ARG:NH2	31:SX:142:ARG:HH11	2.18	0.41
32:Sa:98:PRO:HA	32:Sa:99:PRO:HD3	1.96	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Sg:46:THR:OG1	36:Sg:52:TYR:O	2.37	0.41
36:Sg:101:PHE:CE1	36:Sg:136:GLY:HA3	2.56	0.41
48:L5:226:G:N7	53:LC:184:TYR:OH	2.43	0.41
48:L5:1779:U:OP1	54:LD:6:VAL:HG22	2.20	0.41
48:L5:1955:U:O5'	48:L5:1955:U:H6	2.02	0.41
48:L5:2584:G:H8	48:L5:2768:C:O2'	2.03	0.41
48:L5:4095:G:C6	48:L5:4096:A:C6	3.08	0.41
48:L5:4869:C:C4	68:LS:176:PHE:CD1	3.09	0.41
57:LG:130:THR:HG22	57:LG:131:LYS:N	2.35	0.41
57:LG:141:ASN:HA	57:LG:144:THR:HG22	2.03	0.41
57:LG:249:ARG:HG2	57:LG:253:LEU:CD2	2.50	0.41
65:LP:54:GLN:NE2	65:LP:83:TRP:CD2	2.89	0.41
65:LP:112:LEU:HD13	65:LP:150:LEU:HD21	2.01	0.41
67:LR:10:LEU:HD23	67:LR:41:ILE:HD12	2.02	0.41
70:LU:24:ASP:HB3	70:LU:69:LYS:HE3	2.02	0.41
82:Lg:20:THR:HB	82:Lg:33:LEU:O	2.20	0.41
82:Lg:76:ARG:NH2	82:Lg:84:ALA:HB2	2.35	0.41
83:Lh:23:ASP:O	83:Lh:27:GLU:HG3	2.21	0.41
87:Ll:35:ILE:H	87:Ll:35:ILE:HG12	1.72	0.41
91:Lp:51:ALA:HB3	91:Lp:54:ILE:HD12	2.01	0.41
1:A:645:GLU:HG3	1:A:649:MET:CE	2.48	0.41
1:A:651:PHE:HD1	1:A:656:VAL:HG13	1.85	0.41
1:A:843:ARG:HD2	1:A:928:ILE:HG13	2.03	0.41
1:A:876:LEU:HD11	1:A:968:LEU:HB3	2.03	0.41
3:N:130:LYS:C	3:N:131:LEU:HD22	2.45	0.41
4:O:60:GLY:N	7:H:108:ARG:HE	2.18	0.41
4:O:94:ARG:HD2	4:O:95:GLU:OE2	2.19	0.41
5:F:62:VAL:HA	5:F:136:TYR:O	2.20	0.41
10:K:108:ARG:CZ	10:K:233:THR:HB	2.51	0.41
12:M:62:ASP:HB2	12:M:164:THR:HG22	2.02	0.41
12:M:289:ILE:HG22	12:M:290:HIS:H	1.86	0.41
12:M:387:LEU:O	12:M:387:LEU:HD23	2.20	0.41
13:X:54:U:O2'	13:X:56:G:N7	2.53	0.41
13:X:121:C:H3'	13:X:122:A:H5''	2.01	0.41
14:S2:753:C:OP1	14:S2:792:C:O2'	2.23	0.41
14:S2:1120:U:N3	14:S2:1121:G:N7	2.69	0.41
14:S2:1251:A:H62	25:SQ:146:ARG:HE	1.67	0.41
14:S2:1452:A:H8	14:S2:1452:A:OP1	2.04	0.41
14:S2:1566:G:H3'	14:S2:1567:G:H5'	2.02	0.41
14:S2:1590:C:H5'	28:ST:82:ARG:HH12	1.86	0.41
14:S2:1813:A:HO2'	14:S2:1814:G:P	2.43	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:SB:117:TRP:CE2	16:SB:152:LYS:HD2	2.55	0.41
16:SB:172:MET:HA	16:SB:172:MET:HE3	2.03	0.41
17:SD:156:LEU:HD23	17:SD:157:MET:N	2.36	0.41
18:SE:188:ASN:HA	18:SE:245:ARG:HH12	1.84	0.41
18:SE:233:LYS:HG2	18:SE:234:PRO:HD2	2.03	0.41
20:SH:164:ASN:OD1	20:SH:164:ASN:N	2.52	0.41
30:SV:39:VAL:O	30:SV:47:ASN:ND2	2.54	0.41
36:Sg:44:LYS:HG3	36:Sg:55:PRO:O	2.20	0.41
38:SG:160:LYS:HA	38:SG:160:LYS:HD2	1.84	0.41
44:SY:80:ASP:HA	44:SY:83:LYS:NZ	2.36	0.41
48:L5:963:G:H1'	48:L5:2250:G:C6	2.55	0.41
48:L5:975:C:H2'	48:L5:976:G:O4'	2.20	0.41
48:L5:978:G:H2'	48:L5:979:C:O4'	2.21	0.41
48:L5:2387:A:O2'	48:L5:2388:G:OP1	2.35	0.41
48:L5:2537:C:H2'	48:L5:2538:C:H6	1.85	0.41
48:L5:2899:G:C6	48:L5:3597:A:C6	3.09	0.41
48:L5:3755:G:C2	48:L5:3766:U:N3	2.89	0.41
48:L5:3765:C:H2'	48:L5:3766:U:C6	2.56	0.41
48:L5:5019:C:C4	48:L5:5020:U:C4	3.09	0.41
53:LC:148:PRO:O	53:LC:149:GLU:C	2.64	0.41
54:LD:207:TYR:CE1	54:LD:211:LEU:HB2	2.56	0.41
56:LF:202:LYS:HE3	56:LF:202:LYS:HB3	1.82	0.41
71:LV:57:VAL:HA	71:LV:81:VAL:HG13	2.03	0.41
80:Le:95:TYR:OH	92:Lr:25:TYR:OH	2.30	0.41
81:Lf:65:ASN:HD21	81:Lf:67:THR:HG22	1.85	0.41
84:Li:54:GLU:OE2	84:Li:86:LYS:HE2	2.21	0.41
85:Lj:34:CYS:SG	85:Lj:37:CYS:HB3	2.60	0.41
88:Lm:126:LYS:HD3	88:Lm:126:LYS:HA	1.91	0.41
90:Lo:34:TYR:O	90:Lo:39:ARG:NH1	2.54	0.41
1:A:287:VAL:HG22	1:A:477:VAL:O	2.21	0.41
5:F:258:THR:O	5:F:262:VAL:HG22	2.20	0.41
7:H:36:LEU:HD23	7:H:36:LEU:H	1.85	0.41
8:I:106:SER:HB2	8:I:156:LEU:HD22	2.02	0.41
9:J:164:MET:HE1	9:J:172:MET:HG2	2.02	0.41
12:M:193:TRP:CE3	12:M:196:LEU:HD22	2.56	0.41
12:M:304:TRP:CE3	12:M:328:PRO:HB2	2.50	0.41
12:M:345:TYR:CZ	12:M:374:ILE:HG13	2.55	0.41
13:X:199:A:N1	47:Se:51:LYS:HB2	2.35	0.41
14:S2:551:U:H3'	14:S2:552:G:C8	2.52	0.41
14:S2:839:C:H5'	14:S2:840:C:OP2	2.20	0.41
14:S2:1109:C:O2'	14:S2:1110:G:H8	2.04	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S2:1394:G:C5	14:S2:1395:C:H5	2.37	0.41
15:SA:80:ARG:NH2	15:SA:166:LYS:HD3	2.35	0.41
15:SA:120:ARG:HH22	37:SC:267:GLN:CG	2.25	0.41
15:SA:200:ASP:OD2	26:SR:89:SER:HB3	2.20	0.41
16:SB:191:ASP:OD1	16:SB:191:ASP:N	2.53	0.41
23:SL:113:LEU:CD1	23:SL:117:PHE:HE1	2.34	0.41
25:SQ:10:VAL:HG21	25:SQ:95:TYR:HA	2.03	0.41
25:SQ:123:ASP:OD1	25:SQ:123:ASP:O	2.38	0.41
28:ST:77:LYS:O	28:ST:78:ILE:HB	2.20	0.41
37:SC:256:TRP:CD2	43:SW:68:ARG:HD3	2.55	0.41
38:SG:232:ARG:NH1	38:SG:235:SER:HB2	2.36	0.41
40:SM:116:LYS:O	40:SM:118:SER:N	2.54	0.41
44:SY:7:ILE:HD13	44:SY:43:LYS:HD2	2.02	0.41
44:SY:28:LEU:HD22	44:SY:68:LYS:HG2	2.02	0.41
48:L5:268:G:C2	48:L5:269:G:C5	3.09	0.41
48:L5:277:G:O2'	48:L5:278:G:OP2	2.36	0.41
48:L5:1405:C:C4	48:L5:1412:G:C6	3.08	0.41
48:L5:1552:G:H2'	48:L5:1574:G:H22	1.85	0.41
48:L5:2554:G:C2	48:L5:2555:G:C5	3.09	0.41
48:L5:2589:A:C6	48:L5:2753:A:C4	3.08	0.41
48:L5:4506:C:N3	48:L5:4510:U:H5	2.18	0.41
48:L5:4565:G:H5'	52:LB:20:LYS:HB3	2.03	0.41
49:L7:75:G:N2	49:L7:100:A:OP2	2.36	0.41
52:LB:122:TRP:CZ3	52:LB:127:LYS:HG2	2.56	0.41
54:LD:83:LEU:HD12	54:LD:83:LEU:HA	1.77	0.41
54:LD:186:GLU:OE1	54:LD:186:GLU:N	2.54	0.41
55:LE:220:LYS:HG3	55:LE:221:LYS:H	1.86	0.41
59:LI:193:ASP:OD2	59:LI:198:LYS:HE3	2.20	0.41
61:LL:46:ILE:HB	61:LL:49:ARG:HD2	2.01	0.41
67:LR:38:ARG:O	67:LR:39:GLN:HB3	2.19	0.41
69:LT:54:HIS:CG	69:LT:55:LYS:H	2.38	0.41
76:La:78:LEU:HA	76:La:81:LEU:HD22	2.03	0.41
78:Lc:34:THR:HB	78:Lc:95:ALA:HB2	2.02	0.41
1:A:286:PRO:HA	1:A:477:VAL:HG23	2.03	0.41
1:A:1113:SER:OG	1:A:1169:LEU:O	2.34	0.41
2:L:61:ARG:HG3	2:L:63:ARG:HB2	2.02	0.41
2:L:206:GLU:HG3	10:K:231:ILE:HD11	2.03	0.41
2:L:219:ALA:O	2:L:223:VAL:HG23	2.21	0.41
2:L:221:ARG:O	2:L:225:THR:HG23	2.21	0.41
6:G:171:ASP:O	9:J:57:ARG:NH2	2.54	0.41
7:H:162:LEU:HD23	7:H:162:LEU:H	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:K:108:ARG:NH2	10:K:233:THR:HB	2.36	0.41
12:M:65:VAL:O	12:M:69:TYR:HB2	2.21	0.41
12:M:78:LEU:HD11	12:M:81:ILE:HD11	2.02	0.41
12:M:282:MET:HE3	12:M:282:MET:HB3	1.95	0.41
12:M:747:ASN:OD1	12:M:747:ASN:N	2.54	0.41
12:M:847:ALA:O	12:M:851:GLN:HG2	2.21	0.41
13:X:8:U:O2'	13:X:58:G:O6	2.38	0.41
14:S2:70:G:C6	14:S2:71:G:C6	3.09	0.41
14:S2:163:U:OP1	38:SG:84:TYR:HA	2.21	0.41
14:S2:804:U:H2'	14:S2:805:U:C6	2.56	0.41
14:S2:881:G:H22	14:S2:906:U:H1'	1.85	0.41
14:S2:903:A:H3'	14:S2:903:A:N3	2.36	0.41
14:S2:957:A:H61	14:S2:967:C:H42	1.69	0.41
14:S2:1219:C:H3'	14:S2:1220:A:H8	1.82	0.41
14:S2:1236:G:C6	14:S2:1237:C:N4	2.89	0.41
14:S2:1253:A:N6	14:S2:1665:G:O2'	2.53	0.41
14:S2:1254:C:O5'	29:SU:75:LYS:NZ	2.49	0.41
14:S2:1294:G:H8	14:S2:1294:G:P	2.43	0.41
14:S2:1328:G:H2'	14:S2:1329:U:C6	2.56	0.41
14:S2:1452:A:OP2	26:SR:29:HIS:NE2	2.53	0.41
14:S2:1502:C:H2'	14:S2:1503:C:C6	2.56	0.41
14:S2:1588:A:H5''	28:ST:77:LYS:HZ3	1.86	0.41
14:S2:1590:C:OP1	28:ST:82:ARG:NH2	2.45	0.41
14:S2:1648:G:H5'	25:SQ:125:ARG:HB3	2.03	0.41
16:SB:37:ALA:HA	16:SB:42:ARG:NH1	2.36	0.41
18:SE:123:LEU:HD23	18:SE:228:ILE:HG22	2.03	0.41
18:SE:125:LYS:NZ	18:SE:225:ILE:O	2.43	0.41
19:SF:141:VAL:HA	33:Sc:47:LYS:H	1.85	0.41
19:SF:144:LEU:HG	33:Sc:49:PRO:HG2	2.02	0.41
19:SF:174:ALA:O	19:SF:178:ILE:HG12	2.20	0.41
20:SH:94:PHE:C	20:SH:95:ILE:HD13	2.45	0.41
23:SL:78:THR:HG21	23:SL:89:ARG:HG3	2.03	0.41
24:SP:31:GLU:O	24:SP:34:MET:HB2	2.21	0.41
25:SQ:24:HIS:CE1	25:SQ:69:ARG:HB2	2.56	0.41
26:SR:25:GLY:HA3	26:SR:30:THR:CG2	2.51	0.41
27:SS:120:HIS:HD1	27:SS:121:ARG:H	1.69	0.41
28:ST:24:LYS:HE3	28:ST:24:LYS:HB3	1.86	0.41
29:SU:82:MET:HE1	34:Sd:51:GLY:O	2.19	0.41
30:SV:36:VAL:HG12	30:SV:51:LYS:O	2.20	0.41
31:SX:94:ILE:HG12	31:SX:125:VAL:HG11	2.02	0.41
32:Sa:44:ILE:O	42:SO:113:GLN:NE2	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Sa:55:GLU:H	32:Sa:55:GLU:HG3	1.73	0.41
32:Sa:71:LEU:HD12	32:Sa:73:TYR:HE1	1.86	0.41
36:Sg:250:ALA:N	36:Sg:257:LYS:O	2.54	0.41
37:SC:113:GLN:HE22	37:SC:122:THR:HG22	1.86	0.41
37:SC:165:VAL:HG11	37:SC:217:ALA:HB1	2.03	0.41
38:SG:5:ILE:CG1	38:SG:14:LYS:HB3	2.43	0.41
38:SG:141:ILE:O	38:SG:144:LEU:HG	2.21	0.41
39:SJ:121:LYS:O	39:SJ:125:HIS:HB3	2.21	0.41
42:SO:41:PHE:CD2	42:SO:57:THR:HG22	2.56	0.41
44:SY:25:ILE:HD11	44:SY:44:LEU:HD11	2.03	0.41
45:SZ:111:ARG:O	45:SZ:113:THR:HG23	2.20	0.41
48:L5:204:U:H2'	48:L5:205:C:H6	1.85	0.41
48:L5:383:A:O2'	48:L5:384:A:C8	2.69	0.41
48:L5:491:G:O6	48:L5:662:C:N4	2.26	0.41
48:L5:1266:G:N2	48:L5:2109:G:C4	2.89	0.41
48:L5:1266:G:H3'	48:L5:2119:C:H42	1.86	0.41
48:L5:1405:C:C2	48:L5:1412:G:N2	2.86	0.41
48:L5:1502:G:H22	76:La:77:LYS:NZ	2.19	0.41
48:L5:1605:G:H2'	48:L5:1606:U:O4'	2.21	0.41
48:L5:2518:C:O2	48:L5:2638:G:N2	2.53	0.41
48:L5:2576:G:N7	75:LZ:17:ARG:NH1	2.68	0.41
48:L5:4472:A:H2'	48:L5:4474:C:H5''	2.03	0.41
48:L5:4623:C:O2'	48:L5:4624:A:H5'	2.21	0.41
48:L5:4728:C:H4'	48:L5:4729:G:OP1	2.21	0.41
48:L5:4771:C:C2	48:L5:4860:G:N2	2.89	0.41
48:L5:4911:G:O2'	48:L5:4912:C:O5'	2.37	0.41
48:L5:5026:G:H2'	48:L5:5027:C:H6	1.84	0.41
50:L8:16:G:HO2'	50:L8:17:A:P	2.44	0.41
51:LA:77:ILE:HD12	51:LA:128:ARG:HD2	2.02	0.41
52:LB:317:LEU:HD22	52:LB:382:MET:HG3	2.03	0.41
52:LB:369:ASP:OD1	52:LB:370:THR:N	2.54	0.41
55:LE:178:PRO:HB2	55:LE:181:LEU:HD23	2.03	0.41
55:LE:247:LYS:HB2	55:LE:247:LYS:HE2	1.91	0.41
56:LF:238:ASP:C	56:LF:238:ASP:OD1	2.64	0.41
59:LI:84:GLY:O	59:LI:140:THR:OG1	2.23	0.41
62:LM:12:VAL:O	62:LM:58:THR:OG1	2.30	0.41
62:LM:39:ASP:HB2	62:LM:47:ARG:HG2	2.02	0.41
66:LQ:109:ALA:O	66:LQ:113:ILE:HG13	2.21	0.41
67:LR:151:ARG:O	67:LR:151:ARG:HD3	2.20	0.41
68:LS:35:PRO:HD2	68:LS:39:VAL:HG21	2.03	0.41
69:LT:65:TYR:CZ	69:LT:88:ARG:HD2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:LX:59:LYS:HD3	73:LX:59:LYS:HA	1.80	0.41
75:LZ:64:LYS:O	75:LZ:67:LYS:HE3	2.21	0.41
79:Ld:32:ARG:HB3	79:Ld:48:GLU:HG2	2.03	0.41
80:Le:35:TRP:CZ2	80:Le:56:PRO:HD2	2.55	0.41
83:Lh:51:ARG:O	83:Lh:54:ILE:HG22	2.20	0.41
1:A:312:ASP:HB3	1:A:314:PHE:CD1	2.56	0.41
1:A:333:HIS:CD2	1:A:483:ARG:HG3	2.56	0.41
1:A:404:ARG:NH2	1:A:408:TYR:OH	2.54	0.41
1:A:853:HIS:CE1	1:A:907:PHE:HB2	2.56	0.41
2:L:203:ARG:NH1	10:K:231:ILE:O	2.54	0.41
7:H:64:ARG:HD2	7:H:64:ARG:HA	1.74	0.41
14:S2:24:C:O2'	14:S2:25:A:H8	2.04	0.41
14:S2:334:C:H2'	14:S2:335:G:H8	1.86	0.41
14:S2:604:A:H2'	14:S2:605:A:C8	2.55	0.41
14:S2:695:C:H5''	14:S2:696:G:C8	2.56	0.41
14:S2:948:C:H2'	14:S2:949:G:C8	2.56	0.41
14:S2:1436:C:H2'	14:S2:1437:C:H5	1.86	0.41
16:SB:27:LYS:HA	16:SB:51:ARG:NH2	2.35	0.41
19:SF:85:LYS:C	19:SF:87:LEU:H	2.28	0.41
25:SQ:43:GLU:HB2	28:ST:12:GLN:NE2	2.34	0.41
27:SS:129:LEU:HD11	27:SS:136:THR:HG21	2.03	0.41
28:ST:27:LYS:NZ	28:ST:29:LYS:HG2	2.35	0.41
28:ST:37:VAL:HG22	28:ST:38:LYS:O	2.21	0.41
37:SC:194:ARG:HG2	37:SC:225:SER:OG	2.21	0.41
40:SM:52:GLN:HE22	40:SM:66:GLU:HA	1.85	0.41
48:L5:1066:G:H2'	48:L5:1067:G:C8	2.56	0.41
48:L5:1280:C:O2'	48:L5:1281:G:H2'	2.21	0.41
48:L5:1768:C:H4'	48:L5:1769:G:H8	1.86	0.41
48:L5:1771:U:N3	48:L5:1772:C:H5	2.19	0.41
48:L5:2098:A:C5	48:L5:2099:C:C2	3.09	0.41
65:LP:92:LEU:O	65:LP:96:LYS:HG2	2.21	0.41
73:LX:131:ASP:OD1	73:LX:131:ASP:C	2.62	0.41
83:Lh:5:LYS:HG3	83:Lh:7:ARG:HG2	2.03	0.41
1:A:613:GLY:HA2	1:A:616:ARG:HB3	2.03	0.40
1:A:839:LEU:HD22	1:A:845:VAL:HG11	2.03	0.40
5:F:164:ARG:O	5:F:189:CYS:HB2	2.21	0.40
8:I:95:ARG:NH2	13:X:217:U:H1'	2.36	0.40
12:M:125:CYS:SG	12:M:149:TRP:HD1	2.44	0.40
12:M:289:ILE:HD11	12:M:399:TRP:HZ3	1.87	0.40
12:M:301:LYS:HG2	12:M:304:TRP:CZ3	2.56	0.40
14:S2:207:G:H3'	14:S2:208:G:H5''	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S2:333:G:C2	14:S2:334:C:H1'	2.55	0.40
14:S2:590:A:O2'	14:S2:591:U:O5'	2.35	0.40
14:S2:912:C:H4'	14:S2:913:A:OP2	2.22	0.40
14:S2:1008:A:H1'	41:SN:101:HIS:ND1	2.36	0.40
14:S2:1189:A:H2'	14:S2:1190:A:C8	2.55	0.40
14:S2:1215:C:H2'	14:S2:1646:C:OP2	2.21	0.40
14:S2:1310:U:C2	35:Sf:143:LYS:HD2	2.56	0.40
14:S2:1486:A:OP2	17:SD:151:LYS:NZ	2.54	0.40
14:S2:1620:A:O2'	24:SP:40:ARG:NH2	2.54	0.40
15:SA:18:PHE:CZ	15:SA:177:MET:HE3	2.56	0.40
17:SD:118:ALA:O	17:SD:122:VAL:HG23	2.21	0.40
19:SF:127:ARG:HG3	33:Sc:23:SER:HB3	2.02	0.40
22:SK:19:GLY:HA3	22:SK:71:LEU:HD23	2.02	0.40
23:SL:152:LYS:HB3	23:SL:153:LYS:H	1.68	0.40
26:SR:48:ASN:N	26:SR:48:ASN:OD1	2.53	0.40
26:SR:51:ALA:HA	26:SR:54:VAL:HB	2.02	0.40
29:SU:59:LYS:HD2	29:SU:59:LYS:N	2.36	0.40
36:Sg:178:ASN:HD21	36:Sg:185:LYS:HD2	1.85	0.40
42:SO:61:LYS:HE2	42:SO:61:LYS:HB2	1.81	0.40
46:Sb:17:ARG:O	46:Sb:17:ARG:HG2	2.20	0.40
48:L5:911:U:O5'	48:L5:911:U:H6	2.04	0.40
48:L5:972:C:C4	48:L5:973:G:C6	3.08	0.40
48:L5:3763:G:P	48:L5:3763:G:H8	2.44	0.40
48:L5:4093:G:N2	48:L5:4111:U:C2	2.89	0.40
48:L5:4761:U:O2	58:LH:44:GLU:HB2	2.21	0.40
48:L5:4986:U:OP1	48:L5:4987:U:N3	2.53	0.40
53:LC:66:SER:O	53:LC:66:SER:OG	2.33	0.40
57:LG:29:ASN:C	57:LG:31:LEU:H	2.29	0.40
57:LG:261:LEU:HD23	57:LG:264:LYS:HE2	2.03	0.40
60:LJ:13:ARG:NH2	60:LJ:154:LYS:NZ	2.69	0.40
60:LJ:78:LYS:HA	60:LJ:78:LYS:HD2	1.89	0.40
61:LL:120:TYR:HA	61:LL:155:MET:HE1	2.02	0.40
85:Lj:17:THR:O	85:Lj:27:TYR:HB3	2.20	0.40
1:A:396:LEU:HB3	1:A:398:MET:HE1	2.03	0.40
1:A:510:ARG:HE	40:SM:11:VAL:HG11	1.80	0.40
1:A:572:PHE:HD2	1:A:678:PHE:CE1	2.40	0.40
1:A:786:LEU:HB2	1:A:1040:LEU:CD2	2.51	0.40
2:L:190:PRO:HG2	2:L:224:HIS:CG	2.56	0.40
4:O:72:ASN:OD1	4:O:72:ASN:C	2.64	0.40
4:O:97:LEU:O	4:O:101:THR:HG22	2.20	0.40
4:O:141:LEU:HD13	4:O:148:MET:HE1	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:175:SER:HA	8:I:176:PRO:HD3	1.95	0.40
10:K:311:LYS:O	10:K:314:GLU:HG3	2.21	0.40
14:S2:290:U:O2'	14:S2:292:A:N7	2.52	0.40
14:S2:853:C:H6	14:S2:853:C:H2'	1.71	0.40
14:S2:1139:C:H5	14:S2:1149:A:H62	1.68	0.40
18:SE:100:ARG:O	18:SE:112:HIS:HB3	2.21	0.40
18:SE:188:ASN:HA	18:SE:245:ARG:HH22	1.87	0.40
24:SP:60:LEU:HD21	24:SP:64:LYS:HD2	2.02	0.40
27:SS:46:ARG:CZ	28:ST:36:THR:HB	2.51	0.40
36:Sg:131:LEU:HD22	36:Sg:140:TYR:CE1	2.56	0.40
36:Sg:302:TYR:CZ	36:Sg:308:ARG:NH2	2.89	0.40
37:SC:74:LYS:HB3	37:SC:269:PHE:CE2	2.56	0.40
37:SC:255:LEU:HB3	37:SC:256:TRP:H	1.76	0.40
40:SM:117:GLU:CD	40:SM:121:LYS:HG3	2.46	0.40
44:SY:25:ILE:CD1	44:SY:44:LEU:HD11	2.52	0.40
48:L5:118:C:H5'	48:L5:119:G:OP2	2.20	0.40
48:L5:1317:U:H2'	48:L5:1318:C:C6	2.57	0.40
48:L5:3662:G:H2'	48:L5:3663:G:H8	1.86	0.40
48:L5:3755:G:H22	48:L5:3767:C:N4	2.19	0.40
48:L5:5026:G:C2	48:L5:5027:C:C2	3.10	0.40
52:LB:282:LYS:HG2	52:LB:333:LEU:HD23	2.03	0.40
57:LG:63:LEU:HD13	63:LN:32:GLN:HG3	2.03	0.40
62:LM:29:ASP:OD1	62:LM:30:VAL:N	2.48	0.40
62:LM:105:THR:OG1	62:LM:108:ASP:OD2	2.32	0.40
64:LO:194:GLU:OE1	64:LO:194:GLU:C	2.64	0.40
71:LV:52:LEU:HD12	71:LV:52:LEU:HA	1.90	0.40
90:Lo:22:LYS:HB3	90:Lo:22:LYS:HE3	1.81	0.40
1:A:685:ASP:OD1	1:A:690:ARG:HG2	2.20	0.40
1:A:953:LYS:HE2	1:A:953:LYS:HB2	1.88	0.40
4:O:61:PRO:HB3	4:O:114:THR:HG21	2.02	0.40
5:F:11:LYS:HA	5:F:221:CYS:SG	2.62	0.40
5:F:166:PRO:HG2	12:M:20:ARG:HD2	2.03	0.40
12:M:423:GLU:O	12:M:427:ILE:HG13	2.21	0.40
12:M:691:TRP:O	12:M:695:LYS:HG3	2.21	0.40
12:M:803:SER:O	12:M:807:VAL:HG23	2.21	0.40
14:S2:16:G:H2'	14:S2:17:C:C6	2.56	0.40
14:S2:185:G:N2	14:S2:214:U:O2	2.54	0.40
14:S2:319:C:C5	14:S2:320:G:C5	3.08	0.40
14:S2:1135:C:H2'	14:S2:1136:U:H6	1.86	0.40
14:S2:1201:U:H2'	14:S2:1202:U:C6	2.57	0.40
14:S2:1237:C:C4	14:S2:1238:U:C4	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S2:1534:C:H4'	14:S2:1535:U:H5''	2.04	0.40
14:S2:1619:A:OP1	24:SP:47:ARG:HD3	2.21	0.40
15:SA:184:ARG:CD	15:SA:191:ARG:HG2	2.50	0.40
17:SD:70:THR:O	17:SD:74:GLN:HG2	2.22	0.40
17:SD:125:PHE:HA	17:SD:128:GLU:OE2	2.21	0.40
18:SE:68:ARG:HG2	18:SE:68:ARG:O	2.21	0.40
18:SE:237:SER:O	18:SE:237:SER:OG	2.35	0.40
19:SF:77:MET:HE3	19:SF:83:ASN:CA	2.50	0.40
19:SF:144:LEU:HB3	33:Sc:49:PRO:O	2.21	0.40
27:SS:44:VAL:HG13	27:SS:70:ILE:HG13	2.04	0.40
32:Sa:71:LEU:HD12	32:Sa:73:TYR:CE1	2.56	0.40
34:Sd:6:LEU:HA	34:Sd:7:TYR:HA	1.89	0.40
46:Sb:34:ASP:OD1	46:Sb:43:ILE:HB	2.21	0.40
48:L5:98:A:H5'	63:LN:195:ARG:HD2	2.04	0.40
48:L5:1271:G:N3	48:L5:1271:G:H2'	2.36	0.40
48:L5:1345:A:H2'	48:L5:1346:C:C6	2.57	0.40
48:L5:1399:G:C2	48:L5:1400:G:N7	2.89	0.40
48:L5:2728:U:H2'	48:L5:2729:C:C6	2.56	0.40
48:L5:3821:G:H8	48:L5:3821:G:O5'	2.03	0.40
48:L5:4490:U:O2'	48:L5:4510:U:O2	2.35	0.40
48:L5:4618:U:OP1	71:LV:51:ARG:NH1	2.54	0.40
48:L5:4733:G:H2'	48:L5:4734:C:C6	2.57	0.40
48:L5:4885:C:H6	48:L5:4885:C:H2'	1.72	0.40
50:L8:80:A:H2'	50:L8:81:C:O4'	2.21	0.40
52:LB:211:PHE:HA	52:LB:215:GLU:OE2	2.22	0.40
52:LB:280:ILE:HG13	52:LB:281:ASN:HB2	2.03	0.40
52:LB:284:ILE:HD11	52:LB:331:VAL:HG21	2.03	0.40
55:LE:100:LYS:NZ	55:LE:101:ASN:OD1	2.31	0.40
55:LE:108:LYS:HB3	55:LE:109:LEU:H	1.65	0.40
60:LJ:56:THR:HB	60:LJ:57:VAL:HG12	2.04	0.40
60:LJ:94:LEU:O	60:LJ:174:ILE:HG13	2.22	0.40
67:LR:15:LEU:HD21	67:LR:45:ILE:HD13	2.03	0.40
78:Lc:21:VAL:C	78:Lc:23:LYS:H	2.30	0.40
87:Ll:21:ARG:CZ	87:Ll:21:ARG:HB3	2.52	0.40
1:A:510:ARG:NE	1:A:510:ARG:HA	2.36	0.40
1:A:908:LEU:H	1:A:908:LEU:HD23	1.86	0.40
1:A:1091:LEU:HD12	1:A:1094:LEU:HD12	2.03	0.40
5:F:35:VAL:CG1	8:I:5:MET:HE3	2.51	0.40
5:F:247:LEU:O	5:F:251:SER:HB3	2.21	0.40
7:H:95:SER:O	7:H:97:GLY:HA3	2.22	0.40
7:H:211:LEU:HD11	7:H:231:PHE:CG	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:H:266:LYS:HE3	7:H:266:LYS:HB2	1.84	0.40
10:K:13:PHE:HA	10:K:16:ARG:HG2	2.03	0.40
12:M:164:THR:OG1	12:M:166:ASP:O	2.38	0.40
12:M:615:GLU:HA	12:M:618:ARG:HH11	1.86	0.40
12:M:736:ASN:HA	12:M:739:LEU:HD12	2.04	0.40
12:M:1029:LYS:HE2	12:M:1029:LYS:HB3	1.77	0.40
13:X:127:C:H2'	13:X:128:C:C5	2.56	0.40
14:S2:126:G:H5'	38:SG:195:LYS:NZ	2.36	0.40
14:S2:151:C:OP1	44:SY:120:THR:HA	2.21	0.40
14:S2:344:U:H2'	14:S2:345:U:H6	1.84	0.40
14:S2:1255:G:C6	14:S2:1257:G:C6	3.09	0.40
14:S2:1364:U:H5'	93:S2:1951:MG:MG	1.47	0.40
14:S2:1468:C:N4	14:S2:1469:A:N6	2.69	0.40
14:S2:1540:G:C6	14:S2:1541:G:C5	3.10	0.40
14:S2:1629:C:H4'	27:SS:83:PHE:CD1	2.57	0.40
15:SA:185:MET:O	30:SV:45:ARG:HA	2.21	0.40
16:SB:223:PHE:O	16:SB:223:PHE:CG	2.75	0.40
17:SD:46:THR:HG23	17:SD:84:VAL:HB	2.03	0.40
26:SR:31:ASN:HA	26:SR:34:VAL:HG23	2.04	0.40
29:SU:61:LEU:HD22	34:Sd:34:TYR:OH	2.22	0.40
36:Sg:215:GLN:HG2	36:Sg:231:ASP:HB3	2.02	0.40
36:Sg:244:ASN:O	36:Sg:246:TYR:N	2.55	0.40
36:Sg:272:GLN:HE21	36:Sg:302:TYR:HE2	1.69	0.40
37:SC:244:ILE:H	37:SC:244:ILE:HG12	1.70	0.40
48:L5:440:U:O2'	81:Lf:91:ASN:O	2.35	0.40
48:L5:752:G:N1	48:L5:911:U:N3	2.27	0.40
48:L5:966:A:H62	48:L5:2251:A:P	2.44	0.40
48:L5:1401:C:H2'	48:L5:1402:C:O4'	2.22	0.40
48:L5:1759:G:H5''	48:L5:1761:G:O6	2.21	0.40
48:L5:1762:C:H42	48:L5:1772:C:H41	1.69	0.40
48:L5:1864:U:O2'	48:L5:1865:A:H8	2.05	0.40
48:L5:2010:A:H5'	48:L5:2011:A:O5'	2.21	0.40
48:L5:2445:U:O2'	48:L5:2508:G:N1	2.52	0.40
48:L5:3770:U:O2	48:L5:3774:G:C6	2.75	0.40
48:L5:4989:U:O2'	48:L5:4990:G:P	2.79	0.40
48:L5:5023:C:C2	48:L5:5026:G:C6	3.09	0.40
50:L8:6:C:H2'	50:L8:7:U:H6	1.87	0.40
54:LD:51:MET:O	54:LD:147:ASP:N	2.54	0.40
55:LE:149:ILE:O	55:LE:150:LEU:HD23	2.21	0.40
57:LG:26:LYS:HE2	57:LG:28:VAL:HG13	2.03	0.40
69:LT:48:VAL:HG21	69:LT:94:GLU:HG3	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:LU:24:ASP:OD1	70:LU:24:ASP:C	2.65	0.40
87:L1:24:PRO:HG2	87:L1:27:ILE:HG12	2.02	0.40
1:A:444:LEU:O	1:A:471:LYS:NZ	2.43	0.40
1:A:1058:ARG:O	1:A:1061:VAL:HG12	2.21	0.40
1:A:1139:ARG:HG2	1:A:1143:LYS:HZ3	1.85	0.40
2:L:232:ARG:O	2:L:235:VAL:HG12	2.22	0.40
8:I:247:GLN:H	8:I:247:GLN:HG2	1.71	0.40
11:E:567:LEU:HD12	11:E:567:LEU:HA	1.93	0.40
12:M:259:ALA:HB3	12:M:279:ILE:HB	2.04	0.40
14:S2:744:G:N2	14:S2:795:A:N6	2.68	0.40
14:S2:812:A:C4	14:S2:813:A:C8	3.10	0.40
14:S2:1021:U:H4'	14:S2:1022:U:O4'	2.22	0.40
14:S2:1248:U:H5'	25:SQ:146:ARG:NH1	2.37	0.40
14:S2:1845:A:H2'	14:S2:1846:G:C8	2.57	0.40
15:SA:48:ILE:HD13	26:SR:102:THR:HG22	2.03	0.40
18:SE:184:THR:O	18:SE:224:ASN:ND2	2.55	0.40
19:SF:39:ILE:HG23	19:SF:68:ILE:HG21	2.03	0.40
19:SF:133:THR:OG1	19:SF:134:VAL:HG23	2.21	0.40
20:SH:65:PRO:O	20:SH:66:VAL:HB	2.22	0.40
27:SS:51:ASP:OD1	27:SS:52:LEU:N	2.55	0.40
32:Sa:9:GLY:O	32:Sa:34:LYS:HG3	2.21	0.40
35:Sf:123:SER:OG	35:Sf:124:ASP:N	2.55	0.40
38:SG:3:LEU:HD13	38:SG:5:ILE:HG23	2.04	0.40
40:SM:53:ALA:N	40:SM:108:CYS:SG	2.69	0.40
41:SN:4:MET:HE2	41:SN:121:ARG:HG2	2.04	0.40
48:L5:1322:A:C6	48:L5:1326:A:C8	3.10	0.40
48:L5:1772:C:H2'	48:L5:1773:U:O4'	2.21	0.40
48:L5:2480:C:H2'	48:L5:2481:G:H4'	2.04	0.40
48:L5:3770:U:C4	48:L5:3774:G:C2	3.10	0.40
48:L5:4473:G:H5''	48:L5:4474:C:H5'	2.03	0.40
48:L5:4947:G:H3'	48:L5:4948:U:H5''	2.04	0.40
53:LC:260:LEU:HD12	53:LC:260:LEU:H	1.86	0.40
54:LD:244:HIS:O	54:LD:247:ILE:HG22	2.22	0.40
62:LM:112:VAL:HG21	64:LO:201:LEU:HD12	2.02	0.40
63:LN:72:LYS:HE2	63:LN:72:LYS:HB3	1.83	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	945/1246 (76%)	874 (92%)	70 (7%)	1 (0%)	48	75
2	L	239/245 (98%)	227 (95%)	11 (5%)	1 (0%)	30	60
3	N	263/280 (94%)	251 (95%)	12 (5%)	0	100	100
4	O	206/239 (86%)	204 (99%)	2 (1%)	0	100	100
5	F	284/295 (96%)	257 (90%)	24 (8%)	3 (1%)	11	39
6	G	247/272 (91%)	238 (96%)	8 (3%)	1 (0%)	30	60
7	H	233/371 (63%)	210 (90%)	23 (10%)	0	100	100
8	I	285/297 (96%)	253 (89%)	31 (11%)	1 (0%)	30	60
9	J	182/199 (92%)	157 (86%)	25 (14%)	0	100	100
10	K	339/443 (76%)	313 (92%)	26 (8%)	0	100	100
11	E	57/274 (21%)	48 (84%)	8 (14%)	1 (2%)	6	29
12	M	975/1096 (89%)	914 (94%)	59 (6%)	2 (0%)	43	71
15	SA	220/295 (75%)	195 (89%)	24 (11%)	1 (0%)	24	55
16	SB	212/264 (80%)	192 (91%)	18 (8%)	2 (1%)	14	43
17	SD	225/243 (93%)	192 (85%)	30 (13%)	3 (1%)	9	35
18	SE	260/263 (99%)	232 (89%)	25 (10%)	3 (1%)	10	37
19	SF	189/204 (93%)	154 (82%)	32 (17%)	3 (2%)	7	31
20	SH	187/194 (96%)	152 (81%)	33 (18%)	2 (1%)	11	39
21	SI	204/208 (98%)	176 (86%)	26 (13%)	2 (1%)	12	40
22	SK	96/165 (58%)	81 (84%)	13 (14%)	2 (2%)	5	26
23	SL	151/158 (96%)	134 (89%)	16 (11%)	1 (1%)	18	49
24	SP	95/145 (66%)	70 (74%)	21 (22%)	4 (4%)	2	14
25	SQ	144/146 (99%)	124 (86%)	17 (12%)	3 (2%)	5	26
26	SR	130/135 (96%)	114 (88%)	15 (12%)	1 (1%)	16	45
27	SS	148/152 (97%)	124 (84%)	19 (13%)	5 (3%)	3	18

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
28	ST	141/145 (97%)	128 (91%)	11 (8%)	2 (1%)	9	33
29	SU	102/119 (86%)	93 (91%)	7 (7%)	2 (2%)	6	27
30	SV	81/83 (98%)	68 (84%)	11 (14%)	2 (2%)	4	23
31	SX	139/143 (97%)	122 (88%)	14 (10%)	3 (2%)	5	26
32	Sa	105/115 (91%)	85 (81%)	18 (17%)	2 (2%)	6	28
33	Sc	62/69 (90%)	49 (79%)	13 (21%)	0	100	100
34	Sd	51/56 (91%)	50 (98%)	1 (2%)	0	100	100
35	Sf	69/156 (44%)	51 (74%)	14 (20%)	4 (6%)	1	9
36	Sg	311/317 (98%)	256 (82%)	52 (17%)	3 (1%)	12	40
37	SC	220/293 (75%)	191 (87%)	26 (12%)	3 (1%)	9	33
38	SG	235/249 (94%)	204 (87%)	25 (11%)	6 (3%)	4	23
39	SJ	183/194 (94%)	163 (89%)	17 (9%)	3 (2%)	7	31
40	SM	120/132 (91%)	99 (82%)	18 (15%)	3 (2%)	4	23
41	SN	148/151 (98%)	142 (96%)	3 (2%)	3 (2%)	6	27
42	SO	138/151 (91%)	110 (80%)	23 (17%)	5 (4%)	2	17
43	SW	127/130 (98%)	117 (92%)	10 (8%)	0	100	100
44	SY	129/133 (97%)	114 (88%)	14 (11%)	1 (1%)	16	45
45	SZ	73/125 (58%)	63 (86%)	9 (12%)	1 (1%)	9	33
46	Sb	81/84 (96%)	70 (86%)	10 (12%)	1 (1%)	10	37
47	Se	56/59 (95%)	44 (79%)	12 (21%)	0	100	100
51	LA	246/257 (96%)	221 (90%)	24 (10%)	1 (0%)	30	60
52	LB	400/403 (99%)	359 (90%)	37 (9%)	4 (1%)	12	40
53	LC	365/427 (86%)	316 (87%)	47 (13%)	2 (0%)	24	55
54	LD	291/297 (98%)	270 (93%)	17 (6%)	4 (1%)	9	33
55	LE	238/288 (83%)	188 (79%)	44 (18%)	6 (2%)	4	23
56	LF	223/248 (90%)	212 (95%)	11 (5%)	0	100	100
57	LG	239/266 (90%)	213 (89%)	26 (11%)	0	100	100
58	LH	188/192 (98%)	175 (93%)	13 (7%)	0	100	100
59	LI	211/214 (99%)	202 (96%)	9 (4%)	0	100	100
60	LJ	174/178 (98%)	163 (94%)	9 (5%)	2 (1%)	11	39
61	LL	208/211 (99%)	185 (89%)	19 (9%)	4 (2%)	6	28

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
62	LM	137/215 (64%)	118 (86%)	17 (12%)	2 (2%)	8	32
63	LN	201/204 (98%)	190 (94%)	11 (6%)	0	100	100
64	LO	199/203 (98%)	191 (96%)	8 (4%)	0	100	100
65	LP	151/184 (82%)	139 (92%)	11 (7%)	1 (1%)	18	49
66	LQ	185/188 (98%)	172 (93%)	13 (7%)	0	100	100
67	LR	185/196 (94%)	180 (97%)	5 (3%)	0	100	100
68	LS	173/176 (98%)	153 (88%)	19 (11%)	1 (1%)	21	52
69	LT	157/160 (98%)	146 (93%)	8 (5%)	3 (2%)	6	28
70	LU	99/128 (77%)	91 (92%)	8 (8%)	0	100	100
71	LV	129/140 (92%)	119 (92%)	10 (8%)	0	100	100
72	LW	122/157 (78%)	104 (85%)	16 (13%)	2 (2%)	7	31
73	LX	118/156 (76%)	111 (94%)	7 (6%)	0	100	100
74	LY	132/145 (91%)	123 (93%)	8 (6%)	1 (1%)	16	45
75	LZ	133/136 (98%)	120 (90%)	13 (10%)	0	100	100
76	La	145/148 (98%)	127 (88%)	18 (12%)	0	100	100
77	Lb	73/159 (46%)	68 (93%)	4 (6%)	1 (1%)	9	33
78	Lc	96/115 (84%)	85 (88%)	9 (9%)	2 (2%)	5	26
79	Ld	105/125 (84%)	98 (93%)	7 (7%)	0	100	100
80	Le	126/135 (93%)	116 (92%)	9 (7%)	1 (1%)	16	45
81	Lf	107/110 (97%)	100 (94%)	6 (6%)	1 (1%)	14	43
82	Lg	112/117 (96%)	108 (96%)	4 (4%)	0	100	100
83	Lh	120/123 (98%)	112 (93%)	7 (6%)	1 (1%)	16	45
84	Li	100/105 (95%)	93 (93%)	7 (7%)	0	100	100
85	Lj	84/97 (87%)	76 (90%)	7 (8%)	1 (1%)	10	37
86	Lk	67/70 (96%)	58 (87%)	8 (12%)	1 (2%)	8	32
87	Ll	48/51 (94%)	45 (94%)	3 (6%)	0	100	100
88	Lm	50/128 (39%)	49 (98%)	0	1 (2%)	6	27
89	Ln	22/25 (88%)	20 (91%)	2 (9%)	0	100	100
90	Lo	103/106 (97%)	96 (93%)	6 (6%)	1 (1%)	12	40
91	Lp	89/92 (97%)	80 (90%)	8 (9%)	1 (1%)	11	39
92	Lr	123/137 (90%)	109 (89%)	13 (11%)	1 (1%)	16	45

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
All	All	15561/17945 (87%)	14006 (90%)	1424 (9%)	131 (1%)	18	45

All (131) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	1018	PRO
12	M	14	PHE
16	SB	147	ASN
18	SE	76	VAL
19	SF	15	PRO
20	SH	66	VAL
21	SI	130	THR
22	SK	3	MET
24	SP	94	VAL
25	SQ	48	GLN
27	SS	117	ILE
27	SS	121	ARG
28	ST	4	VAL
28	ST	5	THR
29	SU	50	VAL
29	SU	107	GLU
30	SV	36	VAL
30	SV	78	ILE
31	SX	10	ALA
31	SX	35	ALA
36	Sg	56	GLN
38	SG	25	ARG
38	SG	122	PRO
39	SJ	3	VAL
39	SJ	8	VAL
41	SN	24	THR
42	SO	68	GLU
61	LL	91	ALA
62	LM	71	LYS
80	Le	104	SER
83	Lh	97	LYS
91	Lp	20	ALA
5	F	177	SER
16	SB	22	VAL
19	SF	17	ILE
19	SF	20	PHE
24	SP	76	VAL

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Mol	Chain	Res	Type
24	SP	105	VAL
25	SQ	42	ILE
26	SR	119	VAL
27	SS	12	ILE
35	Sf	102	VAL
36	Sg	281	ALA
37	SC	278	THR
40	SM	41	ALA
40	SM	103	VAL
40	SM	117	GLU
52	LB	113	GLU
52	LB	291	TYR
54	LD	4	VAL
54	LD	21	ARG
55	LE	106	VAL
55	LE	226	ARG
55	LE	279	ASN
60	LJ	174	ILE
61	LL	67	HIS
68	LS	83	ARG
69	LT	81	LYS
78	Lc	54	ALA
90	Lo	99	ARG
92	Lr	68	SER
2	L	60	SER
5	F	175	GLU
6	G	92	LEU
11	E	614	SER
15	SA	31	ASP
17	SD	44	THR
17	SD	223	ILE
21	SI	143	LYS
31	SX	79	LYS
32	Sa	5	ARG
32	Sa	61	ALA
38	SG	147	LEU
38	SG	175	LYS
38	SG	212	LEU
41	SN	3	ARG
51	LA	116	LEU
53	LC	111	TRP
54	LD	178	LYS

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Mol	Chain	Res	Type
55	LE	126	LEU
60	LJ	28	GLU
65	LP	132	ALA
85	Lj	63	ARG
88	Lm	117	HIS
8	I	21	ASP
17	SD	214	LYS
22	SK	39	ASN
25	SQ	4	LYS
27	SS	16	LEU
35	Sf	100	LEU
36	Sg	246	TYR
38	SG	20	ASP
42	SO	128	ARG
42	SO	129	ILE
46	Sb	75	GLU
52	LB	5	LYS
61	LL	169	ILE
69	LT	53	PRO
69	LT	137	GLU
74	LY	53	ASP
12	M	526	ALA
18	SE	131	VAL
20	SH	100	ILE
23	SL	3	ASP
35	Sf	98	VAL
39	SJ	122	SER
42	SO	56	VAL
42	SO	140	THR
44	SY	51	THR
45	SZ	108	ILE
52	LB	159	VAL
53	LC	309	ILE
55	LE	109	LEU
61	LL	55	ILE
72	LW	73	ARG
77	Lb	21	ILE
81	Lf	83	MET
86	Lk	32	VAL
24	SP	96	VAL
54	LD	177	THR
37	SC	176	LYS

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Mol	Chain	Res	Type
35	Sf	87	THR
55	LE	131	LYS
78	Lc	52	CYS
27	SS	90	VAL
41	SN	68	GLY
5	F	248	ASP
18	SE	90	ILE
62	LM	139	SER
72	LW	100	VAL
37	SC	162	ILE

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	A	813/1062 (77%)	812 (100%)	1 (0%)	88	90
2	L	183/186 (98%)	183 (100%)	0	100	100
3	N	227/238 (95%)	227 (100%)	0	100	100
4	O	172/196 (88%)	172 (100%)	0	100	100
5	F	249/255 (98%)	249 (100%)	0	100	100
6	G	178/188 (95%)	178 (100%)	0	100	100
7	H	196/290 (68%)	196 (100%)	0	100	100
8	I	251/257 (98%)	251 (100%)	0	100	100
9	J	160/173 (92%)	159 (99%)	1 (1%)	78	81
10	K	297/384 (77%)	297 (100%)	0	100	100
11	E	54/251 (22%)	54 (100%)	0	100	100
12	M	881/973 (90%)	880 (100%)	1 (0%)	88	90
15	SA	184/243 (76%)	183 (100%)	1 (0%)	81	83
16	SB	195/231 (84%)	195 (100%)	0	100	100
17	SD	190/202 (94%)	189 (100%)	1 (0%)	81	83
18	SE	224/225 (100%)	224 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
19	SF	161/170 (95%)	161 (100%)	0	100	100
20	SH	169/174 (97%)	168 (99%)	1 (1%)	78	81
21	SI	178/180 (99%)	176 (99%)	2 (1%)	65	76
22	SK	89/136 (65%)	89 (100%)	0	100	100
23	SL	137/142 (96%)	137 (100%)	0	100	100
24	SP	87/130 (67%)	87 (100%)	0	100	100
25	SQ	121/121 (100%)	121 (100%)	0	100	100
26	SR	120/122 (98%)	119 (99%)	1 (1%)	73	79
27	SS	130/132 (98%)	130 (100%)	0	100	100
28	ST	113/115 (98%)	113 (100%)	0	100	100
29	SU	94/107 (88%)	94 (100%)	0	100	100
30	SV	67/67 (100%)	65 (97%)	2 (3%)	36	61
31	SX	113/115 (98%)	113 (100%)	0	100	100
32	Sa	90/98 (92%)	88 (98%)	2 (2%)	45	66
33	Sc	57/62 (92%)	57 (100%)	0	100	100
34	Sd	47/49 (96%)	47 (100%)	0	100	100
35	Sf	64/140 (46%)	63 (98%)	1 (2%)	55	72
36	Sg	272/275 (99%)	272 (100%)	0	100	100
37	SC	188/225 (84%)	188 (100%)	0	100	100
38	SG	207/218 (95%)	207 (100%)	0	100	100
39	SJ	161/168 (96%)	161 (100%)	0	100	100
40	SM	104/108 (96%)	104 (100%)	0	100	100
41	SN	130/131 (99%)	129 (99%)	1 (1%)	73	79
42	SO	110/119 (92%)	109 (99%)	1 (1%)	70	78
43	SW	112/113 (99%)	110 (98%)	2 (2%)	51	70
44	SY	113/115 (98%)	112 (99%)	1 (1%)	70	78
45	SZ	66/103 (64%)	66 (100%)	0	100	100
46	Sb	75/76 (99%)	75 (100%)	0	100	100
47	Se	47/48 (98%)	47 (100%)	0	100	100
51	LA	190/199 (96%)	189 (100%)	1 (0%)	81	83
52	LB	348/349 (100%)	346 (99%)	2 (1%)	78	81

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
53	LC	305/348 (88%)	305 (100%)	0	100	100
54	LD	246/250 (98%)	245 (100%)	1 (0%)	84	84
55	LE	215/252 (85%)	214 (100%)	1 (0%)	81	83
56	LF	194/215 (90%)	194 (100%)	0	100	100
57	LG	203/223 (91%)	203 (100%)	0	100	100
58	LH	169/171 (99%)	168 (99%)	1 (1%)	78	81
59	LI	180/181 (99%)	178 (99%)	2 (1%)	65	76
60	LJ	148/149 (99%)	147 (99%)	1 (1%)	76	80
61	LL	176/177 (99%)	176 (100%)	0	100	100
62	LM	118/161 (73%)	118 (100%)	0	100	100
63	LN	171/172 (99%)	170 (99%)	1 (1%)	78	81
64	LO	173/174 (99%)	173 (100%)	0	100	100
65	LP	134/163 (82%)	133 (99%)	1 (1%)	76	80
66	LQ	164/165 (99%)	164 (100%)	0	100	100
67	LR	166/175 (95%)	165 (99%)	1 (1%)	78	81
68	LS	156/157 (99%)	155 (99%)	1 (1%)	78	81
69	LT	139/140 (99%)	138 (99%)	1 (1%)	76	80
70	LU	91/115 (79%)	91 (100%)	0	100	100
71	LV	101/107 (94%)	101 (100%)	0	100	100
72	LW	103/126 (82%)	103 (100%)	0	100	100
73	LX	108/133 (81%)	108 (100%)	0	100	100
74	LY	124/135 (92%)	124 (100%)	0	100	100
75	LZ	117/118 (99%)	117 (100%)	0	100	100
76	La	120/121 (99%)	120 (100%)	0	100	100
77	Lb	63/126 (50%)	63 (100%)	0	100	100
78	Lc	83/97 (86%)	82 (99%)	1 (1%)	63	75
79	Ld	98/110 (89%)	98 (100%)	0	100	100
80	Le	114/121 (94%)	113 (99%)	1 (1%)	70	78
81	Lf	88/89 (99%)	88 (100%)	0	100	100
82	Lg	98/100 (98%)	98 (100%)	0	100	100
83	Lh	109/110 (99%)	108 (99%)	1 (1%)	70	78

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
84	Li	86/89 (97%)	86 (100%)	0	100	100
85	Lj	73/80 (91%)	73 (100%)	0	100	100
86	Lk	64/65 (98%)	64 (100%)	0	100	100
87	Ll	47/48 (98%)	47 (100%)	0	100	100
88	Lm	48/116 (41%)	48 (100%)	0	100	100
89	Ln	23/24 (96%)	23 (100%)	0	100	100
90	Lo	93/94 (99%)	93 (100%)	0	100	100
91	Lp	74/75 (99%)	73 (99%)	1 (1%)	59	73
92	Lr	109/121 (90%)	108 (99%)	1 (1%)	70	78
All	All	13505/15254 (88%)	13467 (100%)	38 (0%)	84	86

All (38) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	710	ASP
9	J	164	MET
12	M	557	TYR
15	SA	198	MET
17	SD	24	PHE
20	SH	19	PHE
21	SI	46	VAL
21	SI	81	VAL
26	SR	22	THR
30	SV	35	ASN
30	SV	50	PHE
32	Sa	86	ASN
32	Sa	100	ARG
35	Sf	130	VAL
41	SN	50	ILE
42	SO	56	VAL
43	SW	42	MET
43	SW	80	ASP
44	SY	47	MET
51	LA	109	GLU
52	LB	79	VAL
52	LB	361	GLU
54	LD	177	THR
55	LE	43	HIS
58	LH	103	VAL

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Mol	Chain	Res	Type
59	LI	60	LEU
59	LI	102	MET
60	LJ	143	ASP
63	LN	174	LEU
65	LP	149	ILE
67	LR	39	GLN
68	LS	6	THR
69	LT	139	HIS
78	Lc	63	TYR
80	Le	70	LEU
83	Lh	116	LEU
91	Lp	34	HIS
92	Lr	85	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (115) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	629	ASN
1	A	635	HIS
1	A	1156	GLN
2	L	42	GLN
2	L	119	GLN
2	L	194	GLN
5	F	44	ASN
5	F	114	ASN
5	F	196	ASN
8	I	25	HIS
10	K	58	GLN
12	M	105	ASN
12	M	112	HIS
12	M	122	GLN
12	M	145	ASN
12	M	172	GLN
12	M	442	GLN
12	M	689	ASN
12	M	714	GLN
12	M	841	ASN
12	M	958	GLN
15	SA	84	GLN
15	SA	113	GLN
16	SB	118	GLN
16	SB	124	HIS

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Mol	Chain	Res	Type
16	SB	147	ASN
16	SB	202	GLN
17	SD	159	HIS
17	SD	174	HIS
18	SE	50	ASN
18	SE	161	GLN
18	SE	197	ASN
19	SF	79	HIS
19	SF	83	ASN
19	SF	107	ASN
19	SF	186	ASN
20	SH	68	GLN
20	SH	76	GLN
21	SI	87	ASN
21	SI	99	ASN
23	SL	11	GLN
23	SL	13	GLN
23	SL	106	HIS
23	SL	141	ASN
24	SP	54	HIS
24	SP	104	GLN
25	SQ	97	GLN
27	SS	134	GLN
28	ST	63	HIS
30	SV	29	HIS
31	SX	23	HIS
32	Sa	86	ASN
34	Sd	45	GLN
35	Sf	91	ASN
36	Sg	51	ASN
36	Sg	244	ASN
36	Sg	311	GLN
37	SC	136	HIS
38	SG	225	GLN
39	SJ	124	HIS
40	SM	15	ASN
40	SM	82	ASN
42	SO	113	GLN
43	SW	70	ASN
43	SW	90	GLN
44	SY	112	ASN
45	SZ	106	GLN

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Mol	Chain	Res	Type
52	LB	158	GLN
52	LB	213	GLN
52	LB	271	GLN
53	LC	41	HIS
53	LC	119	GLN
53	LC	142	HIS
53	LC	203	GLN
53	LC	286	ASN
54	LD	175	HIS
54	LD	195	HIS
54	LD	198	HIS
54	LD	267	ASN
55	LE	136	HIS
55	LE	227	HIS
56	LF	56	HIS
56	LF	63	GLN
56	LF	119	ASN
56	LF	126	ASN
58	LH	7	ASN
58	LH	40	HIS
59	LI	130	HIS
59	LI	166	HIS
62	LM	33	GLN
63	LN	196	ASN
64	LO	143	HIS
65	LP	56	GLN
65	LP	133	HIS
66	LQ	125	GLN
67	LR	34	ASN
68	LS	91	HIS
69	LT	22	HIS
69	LT	66	ASN
69	LT	70	HIS
74	LY	56	GLN
75	LZ	97	ASN
76	La	60	HIS
76	La	62	HIS
76	La	67	GLN
77	Lb	6	ASN
77	Lb	60	ASN
78	Lc	72	HIS
81	Lf	99	HIS

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Mol	Chain	Res	Type
83	Lh	98	HIS
85	Lj	13	ASN
85	Lj	76	HIS
90	Lo	25	GLN
91	Lp	34	HIS
92	Lr	6	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
13	X	192/249 (77%)	128 (66%)	13 (6%)
14	S2	1714/1869 (91%)	623 (36%)	23 (1%)
48	L5	3640/5066 (71%)	1083 (29%)	52 (1%)
49	L7	119/121 (98%)	18 (15%)	0
50	L8	155/157 (98%)	39 (25%)	2 (1%)
All	All	5820/7462 (77%)	1891 (32%)	90 (1%)

All (1891) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
13	X	3	A
13	X	8	U
13	X	9	G
13	X	10	A
13	X	12	C
13	X	13	U
13	X	14	U
13	X	15	G
13	X	17	U
13	X	21	A
13	X	24	U
13	X	25	A
13	X	26	C
13	X	27	A
13	X	28	A
13	X	32	U
13	X	33	G
13	X	35	G
13	X	36	A
13	X	37	G
13	X	38	G

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Mol	Chain	Res	Type
13	X	39	U
13	X	40	U
13	X	41	A
13	X	43	U
13	X	46	A
13	X	47	U
13	X	52	A
13	X	53	G
13	X	54	U
13	X	55	A
13	X	57	U
13	X	58	G
13	X	59	C
13	X	60	U
13	X	61	A
13	X	64	U
13	X	65	U
13	X	66	U
13	X	67	G
13	X	68	U
13	X	69	A
13	X	70	U
13	X	71	U
13	X	72	U
13	X	73	A
13	X	75	G
13	X	77	U
13	X	78	A
13	X	81	U
13	X	82	A
13	X	83	U
13	X	84	U
13	X	85	U
13	X	86	A
13	X	87	G
13	X	88	C
13	X	89	U
13	X	92	A
13	X	93	C
13	X	94	G
13	X	95	U
13	X	96	U

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Mol	Chain	Res	Type
13	X	99	A
13	X	100	G
13	X	101	G
13	X	103	U
13	X	107	U
13	X	108	A
13	X	109	G
13	X	110	U
13	X	111	G
13	X	112	G
13	X	113	C
13	X	114	A
13	X	115	G
13	X	116	C
13	X	117	C
13	X	120	A
13	X	121	C
13	X	122	A
13	X	124	U
13	X	125	A
13	X	128	C
13	X	129	A
13	X	130	G
13	X	133	A
13	X	134	G
13	X	136	C
13	X	194	U
13	X	195	U
13	X	196	U
13	X	197	U
13	X	198	U
13	X	199	A
13	X	200	A
13	X	201	A
13	X	202	A
13	X	204	A
13	X	205	A
13	X	206	U
13	X	207	U
13	X	208	U
13	X	210	U
13	X	213	U

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Mol	Chain	Res	Type
13	X	214	U
13	X	215	U
13	X	219	U
13	X	220	U
13	X	223	U
13	X	224	U
13	X	225	U
13	X	228	U
13	X	229	U
13	X	230	U
13	X	231	U
13	X	235	C
13	X	236	U
13	X	237	C
13	X	238	U
13	X	239	U
13	X	242	U
13	X	243	U
13	X	244	U
13	X	246	U
13	X	247	U
13	X	248	U
13	X	249	U
14	S2	2	A
14	S2	3	C
14	S2	4	C
14	S2	9	U
14	S2	25	A
14	S2	31	U
14	S2	33	G
14	S2	41	G
14	S2	42	A
14	S2	44	U
14	S2	45	A
14	S2	46	A
14	S2	52	G
14	S2	56	G
14	S2	60	A
14	S2	61	A
14	S2	64	A
14	S2	67	C
14	S2	68	A

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Mol	Chain	Res	Type
14	S2	72	C
14	S2	73	C
14	S2	74	G
14	S2	76	U
14	S2	77	A
14	S2	78	C
14	S2	79	A
14	S2	83	A
14	S2	84	A
14	S2	103	A
14	S2	111	A
14	S2	113	G
14	S2	121	U
14	S2	126	G
14	S2	127	C
14	S2	140	C
14	S2	141	A
14	S2	142	C
14	S2	144	U
14	S2	148	U
14	S2	153	G
14	S2	154	U
14	S2	156	G
14	S2	159	A
14	S2	160	U
14	S2	161	U
14	S2	162	C
14	S2	163	U
14	S2	167	G
14	S2	175	A
14	S2	177	G
14	S2	180	G
14	S2	181	A
14	S2	184	G
14	S2	185	G
14	S2	190	G
14	S2	191	A
14	S2	192	C
14	S2	198	U
14	S2	201	C
14	S2	202	G
14	S2	206	G

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Mol	Chain	Res	Type
14	S2	208	G
14	S2	209	A
14	S2	210	U
14	S2	211	G
14	S2	214	U
14	S2	215	G
14	S2	216	C
14	S2	291	G
14	S2	292	A
14	S2	293	C
14	S2	295	C
14	S2	296	U
14	S2	299	A
14	S2	304	C
14	S2	305	U
14	S2	306	C
14	S2	307	G
14	S2	308	G
14	S2	309	G
14	S2	310	C
14	S2	312	G
14	S2	313	A
14	S2	314	U
14	S2	315	C
14	S2	316	G
14	S2	320	G
14	S2	323	C
14	S2	324	C
14	S2	325	C
14	S2	326	C
14	S2	328	U
14	S2	329	G
14	S2	330	G
14	S2	334	C
14	S2	338	G
14	S2	339	A
14	S2	340	C
14	S2	341	C
14	S2	343	A
14	S2	347	G
14	S2	360	A
14	S2	361	U

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Mol	Chain	Res	Type
14	S2	362	C
14	S2	364	A
14	S2	369	C
14	S2	370	G
14	S2	373	G
14	S2	385	G
14	S2	386	C
14	S2	388	U
14	S2	400	C
14	S2	401	A
14	S2	407	G
14	S2	408	A
14	S2	409	C
14	S2	413	G
14	S2	418	A
14	S2	426	A
14	S2	428	U
14	S2	429	C
14	S2	434	G
14	S2	435	A
14	S2	437	G
14	S2	438	G
14	S2	441	C
14	S2	448	A
14	S2	449	A
14	S2	450	C
14	S2	452	G
14	S2	461	U
14	S2	464	A
14	S2	465	A
14	S2	466	G
14	S2	469	A
14	S2	472	C
14	S2	473	A
14	S2	474	G
14	S2	482	G
14	S2	487	U
14	S2	488	U
14	S2	489	A
14	S2	492	C
14	S2	493	A
14	S2	496	C

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Mol	Chain	Res	Type
14	S2	502	C
14	S2	503	C
14	S2	505	G
14	S2	516	A
14	S2	517	C
14	S2	530	U
14	S2	531	A
14	S2	532	C
14	S2	533	A
14	S2	534	G
14	S2	537	C
14	S2	538	U
14	S2	539	C
14	S2	540	U
14	S2	544	G
14	S2	545	A
14	S2	547	G
14	S2	549	C
14	S2	551	U
14	S2	556	U
14	S2	557	U
14	S2	559	G
14	S2	560	A
14	S2	563	G
14	S2	566	U
14	S2	574	A
14	S2	575	A
14	S2	576	A
14	S2	578	C
14	S2	582	C
14	S2	584	G
14	S2	585	C
14	S2	587	A
14	S2	588	G
14	S2	589	G
14	S2	590	A
14	S2	591	U
14	S2	592	C
14	S2	593	C
14	S2	596	U
14	S2	604	A
14	S2	605	A

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Mol	Chain	Res	Type
14	S2	606	G
14	S2	607	U
14	S2	608	C
14	S2	621	C
14	S2	624	C
14	S2	627	U
14	S2	628	A
14	S2	629	A
14	S2	631	U
14	S2	638	C
14	S2	643	A
14	S2	644	G
14	S2	656	G
14	S2	660	C
14	S2	666	U
14	S2	668	A
14	S2	669	A
14	S2	671	A
14	S2	672	A
14	S2	686	U
14	S2	687	C
14	S2	688	U
14	S2	689	U
14	S2	690	G
14	S2	691	G
14	S2	692	G
14	S2	694	G
14	S2	696	G
14	S2	697	G
14	S2	698	G
14	S2	731	G
14	S2	733	C
14	S2	734	C
14	S2	735	C
14	S2	736	C
14	S2	738	C
14	S2	739	C
14	S2	745	C
14	S2	746	C
14	S2	747	U
14	S2	749	U
14	S2	750	C

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Mol	Chain	Res	Type
14	S2	751	G
14	S2	752	G
14	S2	753	C
14	S2	787	G
14	S2	788	G
14	S2	789	G
14	S2	790	C
14	S2	791	C
14	S2	795	A
14	S2	796	G
14	S2	797	C
14	S2	798	A
14	S2	800	U
14	S2	810	A
14	S2	811	A
14	S2	812	A
14	S2	813	A
14	S2	818	A
14	S2	821	G
14	S2	822	U
14	S2	823	U
14	S2	830	A
14	S2	834	C
14	S2	835	C
14	S2	837	A
14	S2	838	G
14	S2	839	C
14	S2	840	C
14	S2	841	G
14	S2	842	C
14	S2	843	C
14	S2	847	A
14	S2	848	U
14	S2	853	C
14	S2	864	A
14	S2	865	A
14	S2	869	A
14	S2	870	A
14	S2	873	G
14	S2	874	G
14	S2	876	C
14	S2	877	C

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Mol	Chain	Res	Type
14	S2	878	G
14	S2	879	C
14	S2	881	G
14	S2	883	U
14	S2	887	U
14	S2	888	U
14	S2	890	U
14	S2	891	G
14	S2	892	U
14	S2	893	U
14	S2	894	G
14	S2	896	U
14	S2	897	U
14	S2	899	U
14	S2	900	C
14	S2	901	G
14	S2	902	G
14	S2	903	A
14	S2	904	A
14	S2	907	G
14	S2	908	A
14	S2	911	C
14	S2	913	A
14	S2	914	U
14	S2	917	U
14	S2	919	A
14	S2	920	A
14	S2	930	C
14	S2	933	G
14	S2	934	G
14	S2	938	A
14	S2	943	U
14	S2	954	U
14	S2	956	G
14	S2	958	G
14	S2	959	G
14	S2	961	G
14	S2	965	U
14	S2	970	G
14	S2	971	G
14	S2	972	A
14	S2	973	C

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Mol	Chain	Res	Type
14	S2	979	C
14	S2	980	A
14	S2	981	A
14	S2	990	A
14	S2	992	A
14	S2	996	A
14	S2	997	A
14	S2	999	G
14	S2	1001	A
14	S2	1002	U
14	S2	1008	A
14	S2	1017	U
14	S2	1018	U
14	S2	1022	U
14	S2	1023	A
14	S2	1027	A
14	S2	1028	A
14	S2	1032	C
14	S2	1042	A
14	S2	1044	G
14	S2	1060	A
14	S2	1061	U
14	S2	1062	A
14	S2	1065	G
14	S2	1081	U
14	S2	1083	A
14	S2	1084	A
14	S2	1085	C
14	S2	1087	A
14	S2	1110	G
14	S2	1113	A
14	S2	1114	U
14	S2	1115	U
14	S2	1118	C
14	S2	1119	A
14	S2	1133	A
14	S2	1138	C
14	S2	1139	C
14	S2	1148	A
14	S2	1149	A
14	S2	1153	C
14	S2	1154	U

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Mol	Chain	Res	Type
14	S2	1155	U
14	S2	1157	G
14	S2	1170	A
14	S2	1171	G
14	S2	1172	U
14	S2	1175	G
14	S2	1181	A
14	S2	1195	A
14	S2	1198	G
14	S2	1208	A
14	S2	1211	G
14	S2	1214	A
14	S2	1215	C
14	S2	1216	C
14	S2	1217	A
14	S2	1220	A
14	S2	1221	G
14	S2	1224	G
14	S2	1231	C
14	S2	1238	U
14	S2	1240	A
14	S2	1241	A
14	S2	1242	U
14	S2	1243	U
14	S2	1251	A
14	S2	1253	A
14	S2	1256	G
14	S2	1257	G
14	S2	1258	A
14	S2	1259	A
14	S2	1262	C
14	S2	1264	C
14	S2	1265	A
14	S2	1268	C
14	S2	1269	G
14	S2	1270	G
14	S2	1271	C
14	S2	1274	G
14	S2	1275	G
14	S2	1276	A
14	S2	1280	G
14	S2	1281	G

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Mol	Chain	Res	Type
14	S2	1283	C
14	S2	1284	A
14	S2	1287	A
14	S2	1288	U
14	S2	1289	U
14	S2	1290	G
14	S2	1292	C
14	S2	1294	G
14	S2	1295	A
14	S2	1296	U
14	S2	1297	U
14	S2	1298	G
14	S2	1299	A
14	S2	1300	U
14	S2	1301	A
14	S2	1302	G
14	S2	1303	C
14	S2	1305	C
14	S2	1306	U
14	S2	1307	U
14	S2	1308	U
14	S2	1309	C
14	S2	1310	U
14	S2	1311	C
14	S2	1313	A
14	S2	1314	U
14	S2	1315	U
14	S2	1317	C
14	S2	1318	G
14	S2	1321	G
14	S2	1330	G
14	S2	1331	C
14	S2	1337	C
14	S2	1341	C
14	S2	1342	U
14	S2	1363	C
14	S2	1364	U
14	S2	1371	U
14	S2	1372	U
14	S2	1373	C
14	S2	1378	A
14	S2	1383	A

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Mol	Chain	Res	Type
14	S2	1393	G
14	S2	1396	A
14	S2	1397	U
14	S2	1398	G
14	S2	1401	A
14	S2	1403	C
14	S2	1404	U
14	S2	1407	U
14	S2	1409	A
14	S2	1410	C
14	S2	1412	C
14	S2	1413	G
14	S2	1414	A
14	S2	1415	C
14	S2	1416	C
14	S2	1418	C
14	S2	1419	C
14	S2	1420	G
14	S2	1423	C
14	S2	1424	G
14	S2	1425	G
14	S2	1427	C
14	S2	1428	G
14	S2	1431	G
14	S2	1432	U
14	S2	1434	C
14	S2	1436	C
14	S2	1437	C
14	S2	1438	A
14	S2	1448	A
14	S2	1449	G
14	S2	1454	A
14	S2	1455	A
14	S2	1456	G
14	S2	1457	U
14	S2	1458	G
14	S2	1463	U
14	S2	1464	C
14	S2	1468	C
14	S2	1471	C
14	S2	1472	C
14	S2	1473	G

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Mol	Chain	Res	Type
14	S2	1475	G
14	S2	1476	A
14	S2	1477	U
14	S2	1480	A
14	S2	1487	A
14	S2	1489	A
14	S2	1490	G
14	S2	1493	C
14	S2	1494	U
14	S2	1495	G
14	S2	1497	G
14	S2	1498	A
14	S2	1505	U
14	S2	1507	G
14	S2	1508	A
14	S2	1509	U
14	S2	1510	G
14	S2	1512	C
14	S2	1513	C
14	S2	1515	G
14	S2	1520	G
14	S2	1521	C
14	S2	1522	A
14	S2	1523	C
14	S2	1525	C
14	S2	1526	G
14	S2	1527	C
14	S2	1531	A
14	S2	1533	A
14	S2	1535	U
14	S2	1536	G
14	S2	1538	C
14	S2	1543	U
14	S2	1546	G
14	S2	1548	G
14	S2	1550	G
14	S2	1552	G
14	S2	1553	C
14	S2	1554	C
14	S2	1556	A
14	S2	1558	C
14	S2	1560	U

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Mol	Chain	Res	Type
14	S2	1567	G
14	S2	1568	C
14	S2	1569	A
14	S2	1570	G
14	S2	1573	G
14	S2	1579	A
14	S2	1580	A
14	S2	1585	U
14	S2	1586	U
14	S2	1587	G
14	S2	1588	A
14	S2	1589	A
14	S2	1597	C
14	S2	1598	G
14	S2	1599	U
14	S2	1600	G
14	S2	1602	U
14	S2	1603	G
14	S2	1621	U
14	S2	1623	A
14	S2	1626	C
14	S2	1634	A
14	S2	1636	G
14	S2	1637	A
14	S2	1638	G
14	S2	1639	G
14	S2	1640	A
14	S2	1643	U
14	S2	1644	C
14	S2	1648	G
14	S2	1653	U
14	S2	1654	G
14	S2	1655	C
14	S2	1661	A
14	S2	1662	U
14	S2	1663	A
14	S2	1665	G
14	S2	1666	C
14	S2	1673	U
14	S2	1679	A
14	S2	1680	G
14	S2	1686	G

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Mol	Chain	Res	Type
14	S2	1688	C
14	S2	1694	U
14	S2	1695	A
14	S2	1698	C
14	S2	1699	A
14	S2	1714	U
14	S2	1719	A
14	S2	1721	U
14	S2	1722	G
14	S2	1730	U
14	S2	1742	C
14	S2	1743	G
14	S2	1744	G
14	S2	1745	A
14	S2	1746	U
14	S2	1748	G
14	S2	1751	C
14	S2	1752	C
14	S2	1754	G
14	S2	1755	C
14	S2	1757	G
14	S2	1758	G
14	S2	1772	C
14	S2	1773	C
14	S2	1777	G
14	S2	1781	A
14	S2	1783	C
14	S2	1784	G
14	S2	1786	U
14	S2	1787	G
14	S2	1805	G
14	S2	1813	A
14	S2	1814	G
14	S2	1821	U
14	S2	1823	A
14	S2	1824	A
14	S2	1825	A
14	S2	1826	G
14	S2	1829	G
14	S2	1831	A
14	S2	1835	A
14	S2	1838	U

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Mol	Chain	Res	Type
14	S2	1839	U
14	S2	1843	G
14	S2	1848	U
14	S2	1849	G
14	S2	1850	A
14	S2	1851	A
14	S2	1852	C
14	S2	1856	C
14	S2	1857	G
14	S2	1858	G
14	S2	1861	G
14	S2	1862	G
14	S2	1863	A
14	S2	1865	C
14	S2	1868	U
14	S2	1869	A
48	L5	13	U
48	L5	17	A
48	L5	18	C
48	L5	19	G
48	L5	25	A
48	L5	39	A
48	L5	42	A
48	L5	47	A
48	L5	48	G
48	L5	56	A
48	L5	59	A
48	L5	62	A
48	L5	64	A
48	L5	65	A
48	L5	66	A
48	L5	72	C
48	L5	73	A
48	L5	91	G
48	L5	98	A
48	L5	104	G
48	L5	108	A
48	L5	109	G
48	L5	110	C
48	L5	117	C
48	L5	119	G
48	L5	120	A

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Mol	Chain	Res	Type
48	L5	121	A
48	L5	122	U
48	L5	130	C
48	L5	133	C
48	L5	134	G
48	L5	135	G
48	L5	136	C
48	L5	137	G
48	L5	141	C
48	L5	144	G
48	L5	145	G
48	L5	151	G
48	L5	152	U
48	L5	157	U
48	L5	159	C
48	L5	165	A
48	L5	167	C
48	L5	171	U
48	L5	172	C
48	L5	175	C
48	L5	177	G
48	L5	179	G
48	L5	180	C
48	L5	183	C
48	L5	184	U
48	L5	185	C
48	L5	187	U
48	L5	188	G
48	L5	200	U
48	L5	202	C
48	L5	203	U
48	L5	205	C
48	L5	217	C
48	L5	218	A
48	L5	219	G
48	L5	227	A
48	L5	231	U
48	L5	232	G
48	L5	234	G
48	L5	235	A
48	L5	236	G
48	L5	238	C

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Mol	Chain	Res	Type
48	L5	242	U
48	L5	245	C
48	L5	250	C
48	L5	252	C
48	L5	256	G
48	L5	258	G
48	L5	261	G
48	L5	265	C
48	L5	266	C
48	L5	267	G
48	L5	269	G
48	L5	277	G
48	L5	278	G
48	L5	280	G
48	L5	297	U
48	L5	306	A
48	L5	310	G
48	L5	315	G
48	L5	316	U
48	L5	334	A
48	L5	340	C
48	L5	341	G
48	L5	347	A
48	L5	353	A
48	L5	379	G
48	L5	382	G
48	L5	383	A
48	L5	384	A
48	L5	387	G
48	L5	390	C
48	L5	394	G
48	L5	405	U
48	L5	406	C
48	L5	407	A
48	L5	409	G
48	L5	410	A
48	L5	413	G
48	L5	414	C
48	L5	415	G
48	L5	417	G
48	L5	418	A
48	L5	419	A

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Mol	Chain	Res	Type
48	L5	425	U
48	L5	432	U
48	L5	433	A
48	L5	449	C
48	L5	450	G
48	L5	451	C
48	L5	452	A
48	L5	453	G
48	L5	454	U
48	L5	455	C
48	L5	461	G
48	L5	462	G
48	L5	465	G
48	L5	467	U
48	L5	468	U
48	L5	469	C
48	L5	485	C
48	L5	486	C
48	L5	487	G
48	L5	490	C
48	L5	495	C
48	L5	498	C
48	L5	500	G
48	L5	501	C
48	L5	502	C
48	L5	503	C
48	L5	504	G
48	L5	506	C
48	L5	509	A
48	L5	510	U
48	L5	511	C
48	L5	512	U
48	L5	513	U
48	L5	514	U
48	L5	517	C
48	L5	518	G
48	L5	643	C
48	L5	646	G
48	L5	649	A
48	L5	654	C
48	L5	656	C
48	L5	657	C

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Mol	Chain	Res	Type
48	L5	658	C
48	L5	661	C
48	L5	664	G
48	L5	665	C
48	L5	666	G
48	L5	667	A
48	L5	671	G
48	L5	684	G
48	L5	685	C
48	L5	686	A
48	L5	694	C
48	L5	696	C
48	L5	697	G
48	L5	702	U
48	L5	703	G
48	L5	704	C
48	L5	705	G
48	L5	707	C
48	L5	713	C
48	L5	718	C
48	L5	720	G
48	L5	721	G
48	L5	730	G
48	L5	737	C
48	L5	741	C
48	L5	745	G
48	L5	747	A
48	L5	749	G
48	L5	750	U
48	L5	751	G
48	L5	756	G
48	L5	907	C
48	L5	909	A
48	L5	910	G
48	L5	911	U
48	L5	915	A
48	L5	916	C
48	L5	917	A
48	L5	918	G
48	L5	919	C
48	L5	920	C
48	L5	926	G

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Mol	Chain	Res	Type
48	L5	927	G
48	L5	928	C
48	L5	930	G
48	L5	931	C
48	L5	932	A
48	L5	933	G
48	L5	934	C
48	L5	938	C
48	L5	939	G
48	L5	940	C
48	L5	945	U
48	L5	946	C
48	L5	950	G
48	L5	956	A
48	L5	957	G
48	L5	958	G
48	L5	959	G
48	L5	960	A
48	L5	961	G
48	L5	962	C
48	L5	963	G
48	L5	964	A
48	L5	965	G
48	L5	966	A
48	L5	967	C
48	L5	968	C
48	L5	969	C
48	L5	975	C
48	L5	976	G
48	L5	977	C
48	L5	978	G
48	L5	981	C
48	L5	982	U
48	L5	984	C
48	L5	985	C
48	L5	986	C
48	L5	989	U
48	L5	991	C
48	L5	992	C
48	L5	995	C
48	L5	996	G
48	L5	1049	C

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Mol	Chain	Res	Type
48	L5	1051	G
48	L5	1065	G
48	L5	1071	C
48	L5	1072	C
48	L5	1073	G
48	L5	1078	A
48	L5	1079	C
48	L5	1080	C
48	L5	1081	C
48	L5	1083	U
48	L5	1097	C
48	L5	1100	U
48	L5	1170	G
48	L5	1171	G
48	L5	1172	C
48	L5	1173	G
48	L5	1174	G
48	L5	1175	A
48	L5	1179	U
48	L5	1180	C
48	L5	1181	C
48	L5	1182	C
48	L5	1183	C
48	L5	1184	A
48	L5	1185	G
48	L5	1193	C
48	L5	1197	C
48	L5	1202	C
48	L5	1203	G
48	L5	1205	G
48	L5	1210	C
48	L5	1211	G
48	L5	1212	G
48	L5	1214	C
48	L5	1215	C
48	L5	1216	C
48	L5	1217	G
48	L5	1219	G
48	L5	1221	G
48	L5	1222	A
48	L5	1233	G
48	L5	1237	C

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Mol	Chain	Res	Type
48	L5	1238	A
48	L5	1239	C
48	L5	1243	C
48	L5	1244	G
48	L5	1245	C
48	L5	1247	U
48	L5	1252	C
48	L5	1253	G
48	L5	1254	A
48	L5	1256	G
48	L5	1257	A
48	L5	1265	G
48	L5	1267	C
48	L5	1268	G
48	L5	1269	G
48	L5	1270	A
48	L5	1271	G
48	L5	1272	C
48	L5	1273	G
48	L5	1274	A
48	L5	1275	G
48	L5	1276	C
48	L5	1277	G
48	L5	1279	A
48	L5	1280	C
48	L5	1281	G
48	L5	1285	U
48	L5	1288	G
48	L5	1289	C
48	L5	1290	G
48	L5	1293	G
48	L5	1295	C
48	L5	1296	G
48	L5	1297	U
48	L5	1298	C
48	L5	1301	C
48	L5	1322	A
48	L5	1324	A
48	L5	1326	A
48	L5	1330	A
48	L5	1337	A
48	L5	1354	A

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Mol	Chain	Res	Type
48	L5	1358	G
48	L5	1359	G
48	L5	1360	G
48	L5	1364	U
48	L5	1365	C
48	L5	1366	G
48	L5	1367	C
48	L5	1369	C
48	L5	1370	G
48	L5	1377	G
48	L5	1378	C
48	L5	1379	C
48	L5	1381	U
48	L5	1387	A
48	L5	1394	G
48	L5	1396	G
48	L5	1397	A
48	L5	1404	G
48	L5	1405	C
48	L5	1407	C
48	L5	1409	C
48	L5	1410	U
48	L5	1411	C
48	L5	1413	C
48	L5	1415	G
48	L5	1416	G
48	L5	1417	C
48	L5	1418	C
48	L5	1420	A
48	L5	1421	G
48	L5	1425	G
48	L5	1434	G
48	L5	1435	G
48	L5	1437	C
48	L5	1438	U
48	L5	1440	U
48	L5	1441	C
48	L5	1446	C
48	L5	1456	C
48	L5	1457	G
48	L5	1469	C
48	L5	1477	C

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Mol	Chain	Res	Type
48	L5	1480	C
48	L5	1481	C
48	L5	1482	G
48	L5	1483	C
48	L5	1486	C
48	L5	1497	A
48	L5	1498	G
48	L5	1501	C
48	L5	1502	G
48	L5	1503	A
48	L5	1523	A
48	L5	1530	G
48	L5	1534	A
48	L5	1547	A
48	L5	1554	A
48	L5	1564	A
48	L5	1566	C
48	L5	1578	U
48	L5	1586	G
48	L5	1591	U
48	L5	1597	G
48	L5	1612	G
48	L5	1613	A
48	L5	1614	C
48	L5	1623	A
48	L5	1624	G
48	L5	1625	G
48	L5	1626	G
48	L5	1631	A
48	L5	1633	G
48	L5	1634	A
48	L5	1638	A
48	L5	1641	G
48	L5	1642	A
48	L5	1651	G
48	L5	1654	G
48	L5	1661	C
48	L5	1676	C
48	L5	1677	U
48	L5	1681	G
48	L5	1686	C
48	L5	1691	G

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Mol	Chain	Res	Type
48	L5	1696	C
48	L5	1697	G
48	L5	1698	C
48	L5	1699	A
48	L5	1719	A
48	L5	1721	G
48	L5	1725	U
48	L5	1729	A
48	L5	1733	G
48	L5	1734	G
48	L5	1735	U
48	L5	1741	G
48	L5	1742	A
48	L5	1750	G
48	L5	1751	A
48	L5	1754	U
48	L5	1755	C
48	L5	1756	U
48	L5	1757	U
48	L5	1758	G
48	L5	1759	G
48	L5	1762	C
48	L5	1763	C
48	L5	1764	G
48	L5	1765	A
48	L5	1766	A
48	L5	1767	A
48	L5	1768	C
48	L5	1771	U
48	L5	1772	C
48	L5	1775	A
48	L5	1777	C
48	L5	1778	C
48	L5	1781	U
48	L5	1787	A
48	L5	1788	A
48	L5	1797	G
48	L5	1804	A
48	L5	1805	A
48	L5	1806	G
48	L5	1807	C
48	L5	1812	C

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Mol	Chain	Res	Type
48	L5	1820	C
48	L5	1821	G
48	L5	1822	U
48	L5	1831	C
48	L5	1832	G
48	L5	1833	U
48	L5	1834	G
48	L5	1835	G
48	L5	1836	A
48	L5	1837	A
48	L5	1840	G
48	L5	1842	G
48	L5	1844	G
48	L5	1853	G
48	L5	1854	C
48	L5	1865	A
48	L5	1867	G
48	L5	1887	U
48	L5	1891	C
48	L5	1895	A
48	L5	1908	G
48	L5	1916	U
48	L5	1917	G
48	L5	1918	C
48	L5	1919	C
48	L5	1920	G
48	L5	1923	G
48	L5	1928	U
48	L5	1929	C
48	L5	1930	A
48	L5	1934	C
48	L5	1938	G
48	L5	1946	G
48	L5	1949	G
48	L5	1953	G
48	L5	1954	A
48	L5	1956	A
48	L5	1957	U
48	L5	1958	A
48	L5	1959	G
48	L5	1961	C
48	L5	1963	G

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Mol	Chain	Res	Type
48	L5	1964	C
48	L5	1966	G
48	L5	1969	C
48	L5	1971	G
48	L5	1973	G
48	L5	1974	G
48	L5	1975	C
48	L5	1976	C
48	L5	1979	G
48	L5	1980	G
48	L5	1981	A
48	L5	1982	A
48	L5	1983	G
48	L5	1985	C
48	L5	1987	G
48	L5	1988	A
48	L5	1989	A
48	L5	1991	C
48	L5	1992	C
48	L5	1995	U
48	L5	1996	A
48	L5	1997	A
48	L5	1998	G
48	L5	1999	G
48	L5	2000	A
48	L5	2001	G
48	L5	2003	G
48	L5	2004	U
48	L5	2005	G
48	L5	2006	U
48	L5	2007	A
48	L5	2008	A
48	L5	2009	C
48	L5	2010	A
48	L5	2011	A
48	L5	2015	A
48	L5	2016	C
48	L5	2018	U
48	L5	2021	C
48	L5	2024	A
48	L5	2032	G
48	L5	2043	G

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Mol	Chain	Res	Type
48	L5	2044	G
48	L5	2046	U
48	L5	2050	G
48	L5	2052	U
48	L5	2053	G
48	L5	2054	G
48	L5	2058	G
48	L5	2060	C
48	L5	2062	G
48	L5	2066	C
48	L5	2067	A
48	L5	2068	U
48	L5	2082	C
48	L5	2083	G
48	L5	2085	C
48	L5	2087	G
48	L5	2088	U
48	L5	2089	C
48	L5	2090	G
48	L5	2091	A
48	L5	2093	A
48	L5	2094	G
48	L5	2095	U
48	L5	2097	G
48	L5	2098	A
48	L5	2102	G
48	L5	2103	A
48	L5	2105	C
48	L5	2106	G
48	L5	2107	G
48	L5	2108	C
48	L5	2109	G
48	L5	2110	G
48	L5	2111	G
48	L5	2112	G
48	L5	2113	G
48	L5	2114	C
48	L5	2115	G
48	L5	2116	G
48	L5	2117	C
48	L5	2118	G
48	L5	2119	C

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Mol	Chain	Res	Type
48	L5	2120	G
48	L5	2121	C
48	L5	2122	G
48	L5	2123	C
48	L5	2124	G
48	L5	2126	G
48	L5	2242	C
48	L5	2245	C
48	L5	2248	C
48	L5	2249	G
48	L5	2250	G
48	L5	2252	G
48	L5	2253	C
48	L5	2254	C
48	L5	2255	C
48	L5	2257	G
48	L5	2258	C
48	L5	2259	G
48	L5	2260	G
48	L5	2261	A
48	L5	2263	G
48	L5	2266	A
48	L5	2268	G
48	L5	2275	C
48	L5	2276	G
48	L5	2277	A
48	L5	2287	C
48	L5	2288	C
48	L5	2298	A
48	L5	2299	G
48	L5	2310	U
48	L5	2330	A
48	L5	2331	G
48	L5	2344	C
48	L5	2346	G
48	L5	2349	C
48	L5	2359	G
48	L5	2360	U
48	L5	2377	A
48	L5	2380	A
48	L5	2388	G
48	L5	2394	A

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Mol	Chain	Res	Type
48	L5	2395	G
48	L5	2396	U
48	L5	2410	A
48	L5	2420	C
48	L5	2423	U
48	L5	2424	U
48	L5	2435	C
48	L5	2439	C
48	L5	2446	G
48	L5	2448	G
48	L5	2463	C
48	L5	2466	U
48	L5	2469	G
48	L5	2472	G
48	L5	2473	G
48	L5	2481	G
48	L5	2482	A
48	L5	2486	C
48	L5	2487	C
48	L5	2488	U
48	L5	2489	C
48	L5	2493	U
48	L5	2494	G
48	L5	2500	G
48	L5	2501	G
48	L5	2502	C
48	L5	2503	C
48	L5	2504	G
48	L5	2509	A
48	L5	2511	A
48	L5	2525	A
48	L5	2527	A
48	L5	2535	A
48	L5	2542	G
48	L5	2544	G
48	L5	2545	G
48	L5	2547	G
48	L5	2549	A
48	L5	2551	A
48	L5	2552	U
48	L5	2553	G
48	L5	2554	G

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Mol	Chain	Res	Type
48	L5	2555	G
48	L5	2557	G
48	L5	2567	G
48	L5	2568	U
48	L5	2571	A
48	L5	2581	C
48	L5	2585	A
48	L5	2586	C
48	L5	2599	A
48	L5	2615	G
48	L5	2616	G
48	L5	2618	G
48	L5	2625	C
48	L5	2636	G
48	L5	2646	G
48	L5	2647	G
48	L5	2651	C
48	L5	2657	A
48	L5	2660	G
48	L5	2668	C
48	L5	2673	G
48	L5	2680	G
48	L5	2684	G
48	L5	2685	U
48	L5	2687	C
48	L5	2693	A
48	L5	2694	A
48	L5	2705	U
48	L5	2706	U
48	L5	2708	C
48	L5	2710	G
48	L5	2712	G
48	L5	2715	G
48	L5	2717	C
48	L5	2719	G
48	L5	2722	G
48	L5	2723	A
48	L5	2724	G
48	L5	2737	C
48	L5	2738	U
48	L5	2741	A
48	L5	2750	G

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Mol	Chain	Res	Type
48	L5	2751	G
48	L5	2752	G
48	L5	2753	A
48	L5	2754	G
48	L5	2755	A
48	L5	2758	G
48	L5	2759	U
48	L5	2761	U
48	L5	2764	A
48	L5	2765	U
48	L5	2766	C
48	L5	2767	U
48	L5	2774	G
48	L5	2781	A
48	L5	2784	C
48	L5	2785	A
48	L5	2786	U
48	L5	2792	C
48	L5	2795	C
48	L5	2812	C
48	L5	2814	G
48	L5	2820	G
48	L5	2824	U
48	L5	2825	G
48	L5	2826	U
48	L5	2827	U
48	L5	2829	G
48	L5	2836	G
48	L5	2853	G
48	L5	2855	A
48	L5	2857	G
48	L5	2858	C
48	L5	2868	A
48	L5	2872	U
48	L5	2875	G
48	L5	2900	G
48	L5	2901	G
48	L5	2902	U
48	L5	2903	C
48	L5	2904	G
48	L5	2905	G
48	L5	2907	C

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Mol	Chain	Res	Type
48	L5	3587	G
48	L5	3591	C
48	L5	3595	G
48	L5	3603	C
48	L5	3604	U
48	L5	3614	U
48	L5	3623	G
48	L5	3624	G
48	L5	3633	A
48	L5	3640	A
48	L5	3642	U
48	L5	3644	A
48	L5	3646	A
48	L5	3659	G
48	L5	3660	A
48	L5	3667	G
48	L5	3668	C
48	L5	3669	G
48	L5	3670	G
48	L5	3671	C
48	L5	3672	G
48	L5	3688	U
48	L5	3694	C
48	L5	3701	G
48	L5	3703	G
48	L5	3707	U
48	L5	3708	G
48	L5	3709	A
48	L5	3711	U
48	L5	3712	G
48	L5	3721	A
48	L5	3725	A
48	L5	3727	U
48	L5	3728	U
48	L5	3733	G
48	L5	3734	A
48	L5	3748	G
48	L5	3751	G
48	L5	3754	A
48	L5	3755	G
48	L5	3756	U
48	L5	3757	A

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Mol	Chain	Res	Type
48	L5	3758	A
48	L5	3759	C
48	L5	3760	U
48	L5	3763	G
48	L5	3764	A
48	L5	3765	C
48	L5	3766	U
48	L5	3767	C
48	L5	3768	U
48	L5	3770	U
48	L5	3774	G
48	L5	3775	G
48	L5	3781	A
48	L5	3783	A
48	L5	3784	U
48	L5	3787	C
48	L5	3788	U
48	L5	3793	A
48	L5	3805	A
48	L5	3809	G
48	L5	3812	U
48	L5	3815	A
48	L5	3816	U
48	L5	3817	G
48	L5	3819	A
48	L5	3834	A
48	L5	3836	U
48	L5	3838	U
48	L5	3849	U
48	L5	3865	A
48	L5	3875	A
48	L5	3876	C
48	L5	3877	G
48	L5	3878	G
48	L5	3879	G
48	L5	3883	G
48	L5	3887	G
48	L5	3888	A
48	L5	3895	G
48	L5	3899	A
48	L5	3903	A
48	L5	3904	A

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Mol	Chain	Res	Type
48	L5	3905	G
48	L5	3906	A
48	L5	3913	U
48	L5	3914	G
48	L5	3915	A
48	L5	3936	G
48	L5	3937	G
48	L5	3940	A
48	L5	3941	A
48	L5	3942	G
48	L5	4068	U
48	L5	4074	G
48	L5	4076	C
48	L5	4080	G
48	L5	4082	G
48	L5	4084	G
48	L5	4093	G
48	L5	4098	C
48	L5	4100	C
48	L5	4101	C
48	L5	4102	G
48	L5	4105	G
48	L5	4108	C
48	L5	4110	C
48	L5	4112	C
48	L5	4113	G
48	L5	4114	C
48	L5	4115	U
48	L5	4117	C
48	L5	4118	U
48	L5	4119	G
48	L5	4120	G
48	L5	4121	C
48	L5	4125	A
48	L5	4129	G
48	L5	4130	C
48	L5	4136	C
48	L5	4137	G
48	L5	4138	C
48	L5	4139	G
48	L5	4140	C
48	L5	4141	G

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Mol	Chain	Res	Type
48	L5	4142	C
48	L5	4149	G
48	L5	4154	G
48	L5	4155	A
48	L5	4156	C
48	L5	4160	C
48	L5	4161	U
48	L5	4166	G
48	L5	4168	A
48	L5	4181	G
48	L5	4182	G
48	L5	4189	G
48	L5	4201	A
48	L5	4207	G
48	L5	4210	A
48	L5	4220	G
48	L5	4227	U
48	L5	4232	A
48	L5	4233	G
48	L5	4248	G
48	L5	4249	A
48	L5	4252	G
48	L5	4253	A
48	L5	4254	A
48	L5	4260	C
48	L5	4266	A
48	L5	4271	A
48	L5	4275	G
48	L5	4286	C
48	L5	4289	G
48	L5	4294	U
48	L5	4300	U
48	L5	4303	G
48	L5	4304	U
48	L5	4312	C
48	L5	4313	A
48	L5	4315	A
48	L5	4316	C
48	L5	4326	G
48	L5	4327	G
48	L5	4328	G
48	L5	4335	C

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Mol	Chain	Res	Type
48	L5	4337	A
48	L5	4344	U
48	L5	4347	C
48	L5	4348	C
48	L5	4353	G
48	L5	4365	G
48	L5	4366	G
48	L5	4374	A
48	L5	4375	G
48	L5	4376	A
48	L5	4378	A
48	L5	4385	C
48	L5	4392	A
48	L5	4394	A
48	L5	4396	C
48	L5	4397	U
48	L5	4411	C
48	L5	4417	U
48	L5	4418	U
48	L5	4420	A
48	L5	4425	G
48	L5	4436	U
48	L5	4442	C
48	L5	4446	G
48	L5	4447	A
48	L5	4451	C
48	L5	4462	A
48	L5	4463	U
48	L5	4464	C
48	L5	4469	U
48	L5	4471	A
48	L5	4473	G
48	L5	4474	C
48	L5	4475	A
48	L5	4476	G
48	L5	4498	U
48	L5	4509	A
48	L5	4510	U
48	L5	4511	A
48	L5	4513	G
48	L5	4517	C
48	L5	4522	G

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Mol	Chain	Res	Type
48	L5	4526	G
48	L5	4532	G
48	L5	4543	G
48	L5	4546	A
48	L5	4547	G
48	L5	4558	C
48	L5	4565	G
48	L5	4571	G
48	L5	4573	G
48	L5	4580	C
48	L5	4587	A
48	L5	4588	A
48	L5	4598	G
48	L5	4599	U
48	L5	4607	G
48	L5	4615	G
48	L5	4633	A
48	L5	4634	U
48	L5	4635	G
48	L5	4641	G
48	L5	4645	G
48	L5	4655	U
48	L5	4668	C
48	L5	4670	A
48	L5	4676	G
48	L5	4691	C
48	L5	4692	G
48	L5	4693	C
48	L5	4694	C
48	L5	4695	U
48	L5	4697	U
48	L5	4705	A
48	L5	4706	A
48	L5	4707	U
48	L5	4728	C
48	L5	4729	G
48	L5	4730	G
48	L5	4731	C
48	L5	4732	A
48	L5	4736	C
48	L5	4737	C
48	L5	4741	G

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Mol	Chain	Res	Type
48	L5	4742	A
48	L5	4746	U
48	L5	4747	C
48	L5	4748	G
48	L5	4751	U
48	L5	4754	C
48	L5	4756	U
48	L5	4758	G
48	L5	4761	U
48	L5	4762	A
48	L5	4768	U
48	L5	4769	C
48	L5	4770	C
48	L5	4773	C
48	L5	4858	G
48	L5	4859	G
48	L5	4860	G
48	L5	4861	G
48	L5	4863	C
48	L5	4867	U
48	L5	4868	G
48	L5	4869	C
48	L5	4870	G
48	L5	4871	G
48	L5	4872	A
48	L5	4874	U
48	L5	4876	C
48	L5	4878	C
48	L5	4880	U
48	L5	4881	C
48	L5	4882	G
48	L5	4886	U
48	L5	4888	G
48	L5	4892	A
48	L5	4898	C
48	L5	4899	G
48	L5	4900	C
48	L5	4908	G
48	L5	4910	G
48	L5	4911	G
48	L5	4912	C
48	L5	4916	C

Continued on next page...

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Mol	Chain	Res	Type
48	L5	4921	C
48	L5	4923	U
48	L5	4924	C
48	L5	4925	G
48	L5	4929	G
48	L5	4934	G
48	L5	4936	A
48	L5	4937	C
48	L5	4939	G
48	L5	4944	U
48	L5	4947	G
48	L5	4948	U
48	L5	4949	G
48	L5	4954	A
48	L5	4955	C
48	L5	4956	C
48	L5	4957	U
48	L5	4958	G
48	L5	4961	G
48	L5	4962	C
48	L5	4966	A
48	L5	4974	U
48	L5	4977	A
48	L5	4983	U
48	L5	4986	U
48	L5	4987	U
48	L5	4988	C
48	L5	4989	U
48	L5	4990	G
48	L5	5004	U
48	L5	5007	G
48	L5	5009	A
48	L5	5012	A
48	L5	5015	G
48	L5	5020	U
48	L5	5022	C
48	L5	5023	C
48	L5	5024	U
48	L5	5025	C
48	L5	5026	G
48	L5	5029	G
48	L5	5030	C

Continued on next page...

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Mol	Chain	Res	Type
48	L5	5032	A
48	L5	5039	G
48	L5	5048	C
48	L5	5052	C
48	L5	5053	G
48	L5	5059	A
48	L5	5066	G
49	L7	7	G
49	L7	22	A
49	L7	24	C
49	L7	25	G
49	L7	36	C
49	L7	40	U
49	L7	54	A
49	L7	55	A
49	L7	64	G
49	L7	74	A
49	L7	90	A
49	L7	95	C
49	L7	100	A
49	L7	106	G
49	L7	110	G
49	L7	111	C
49	L7	117	G
49	L7	120	U
50	L8	2	G
50	L8	17	A
50	L8	23	C
50	L8	34	U
50	L8	35	C
50	L8	48	A
50	L8	52	A
50	L8	56	G
50	L8	59	A
50	L8	62	A
50	L8	63	U
50	L8	68	G
50	L8	71	A
50	L8	80	A
50	L8	82	A
50	L8	83	C
50	L8	84	A

Continued on next page...

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Mol	Chain	Res	Type
50	L8	86	U
50	L8	87	G
50	L8	88	A
50	L8	95	A
50	L8	103	A
50	L8	104	A
50	L8	105	C
50	L8	108	A
50	L8	109	C
50	L8	110	U
50	L8	114	G
50	L8	116	C
50	L8	118	C
50	L8	123	U
50	L8	125	C
50	L8	126	C
50	L8	127	U
50	L8	128	C
50	L8	129	C
50	L8	131	G
50	L8	150	C
50	L8	153	C

All (90) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
13	X	9	G
13	X	36	A
13	X	37	G
13	X	58	G
13	X	63	U
13	X	84	U
13	X	87	G
13	X	98	C
13	X	108	A
13	X	115	G
13	X	117	C
13	X	200	A
13	X	213	U
14	S2	24	C
14	S2	213	G
14	S2	417	C

Continued on next page...

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Mol	Chain	Res	Type
14	S2	465	A
14	S2	604	A
14	S2	606	G
14	S2	668	A
14	S2	688	U
14	S2	795	A
14	S2	833	C
14	S2	868	G
14	S2	912	C
14	S2	913	A
14	S2	980	A
14	S2	1061	U
14	S2	1137	U
14	S2	1293	A
14	S2	1419	C
14	S2	1567	G
14	S2	1664	A
14	S2	1813	A
14	S2	1823	A
14	S2	1860	A
48	L5	201	C
48	L5	406	C
48	L5	417	G
48	L5	648	G
48	L5	693	C
48	L5	930	G
48	L5	931	C
48	L5	944	A
48	L5	956	A
48	L5	958	G
48	L5	974	C
48	L5	1072	C
48	L5	1238	A
48	L5	1329	G
48	L5	1359	G
48	L5	1410	U
48	L5	1455	G
48	L5	1633	G
48	L5	1945	U
48	L5	2017	C
48	L5	2066	C
48	L5	2094	G

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Mol	Chain	Res	Type
48	L5	2114	C
48	L5	2117	C
48	L5	2118	G
48	L5	2122	G
48	L5	2387	A
48	L5	2465	U
48	L5	2585	A
48	L5	2693	A
48	L5	2773	C
48	L5	2783	C
48	L5	2826	U
48	L5	3623	G
48	L5	3671	C
48	L5	3711	U
48	L5	3765	C
48	L5	3782	A
48	L5	3808	C
48	L5	3886	G
48	L5	4097	G
48	L5	4417	U
48	L5	4598	G
48	L5	4728	C
48	L5	4729	G
48	L5	4887	G
48	L5	4907	A
48	L5	4911	G
48	L5	4946	C
48	L5	4989	U
48	L5	5003	G
48	L5	5025	C
50	L8	16	G
50	L8	87	G

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

Of 238 ligands modelled in this entry, 238 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

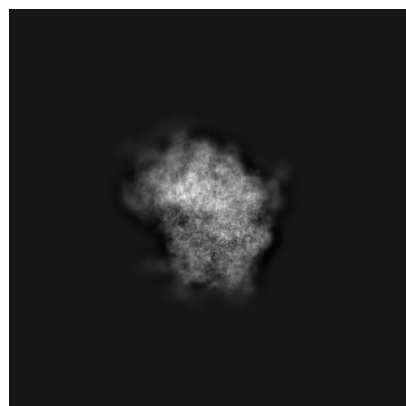
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-51132. These allow visual inspection of the internal detail of the map and identification of artifacts.

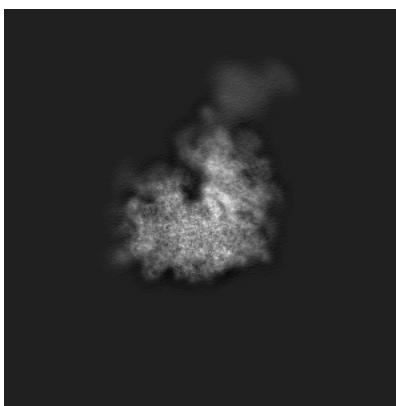
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

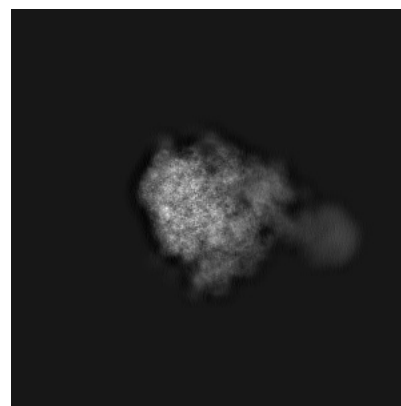
6.1.1 Primary map



X

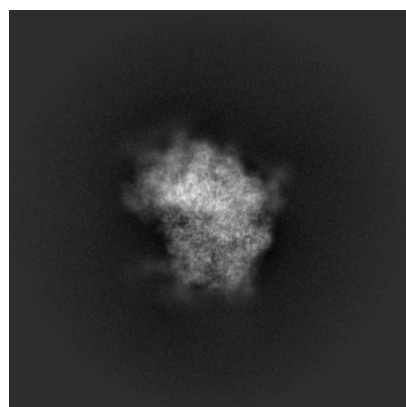


Y

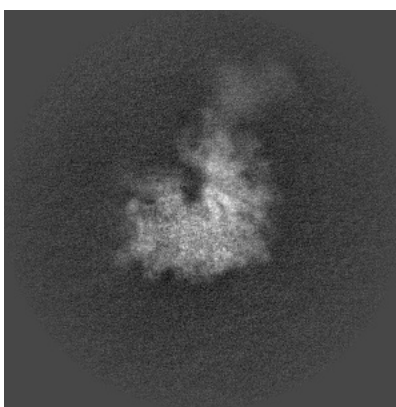


Z

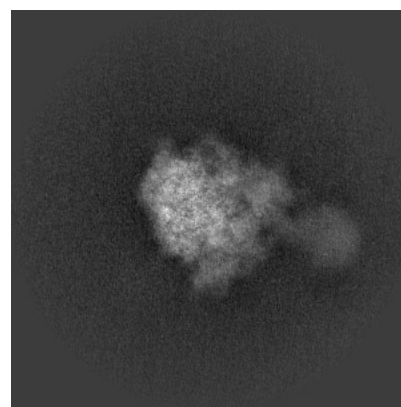
6.1.2 Raw map



X



Y

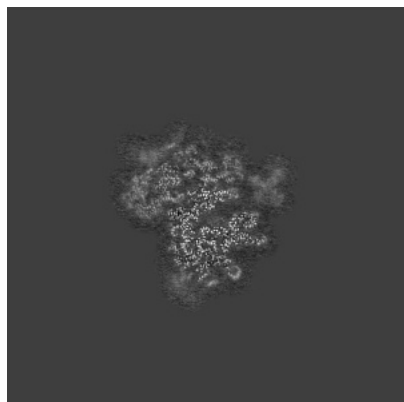


Z

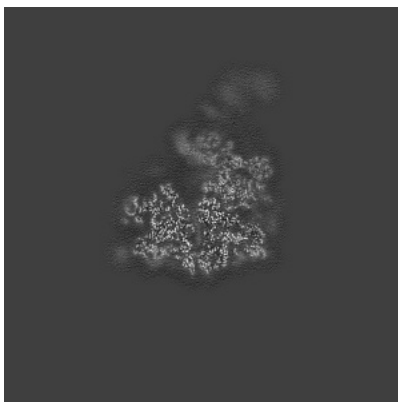
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

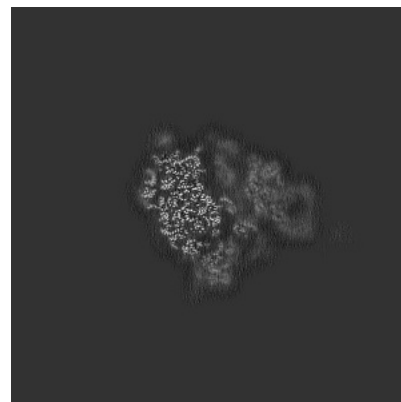
6.2.1 Primary map



X Index: 416

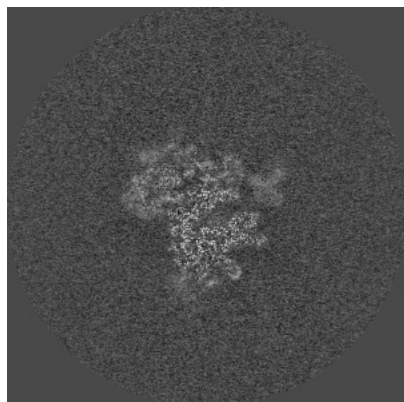


Y Index: 416

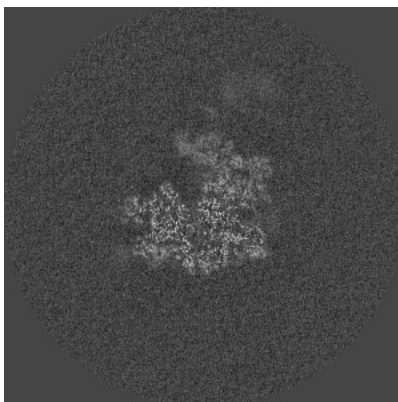


Z Index: 416

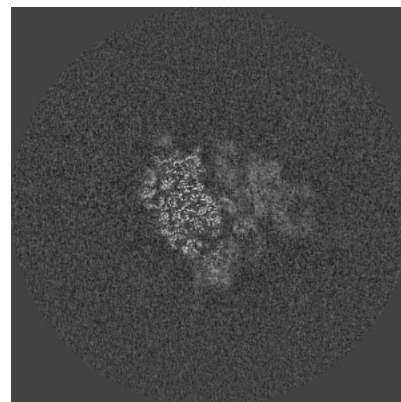
6.2.2 Raw map



X Index: 416



Y Index: 416

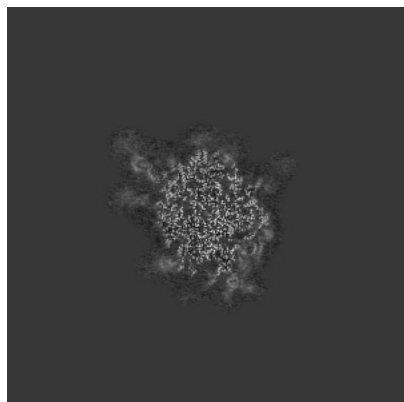


Z Index: 416

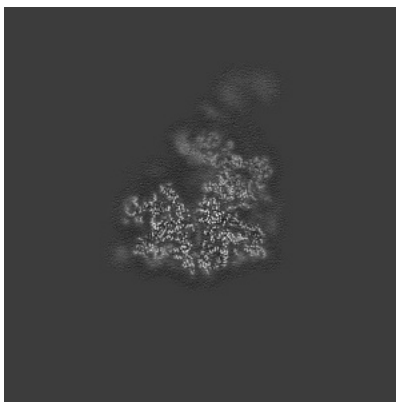
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

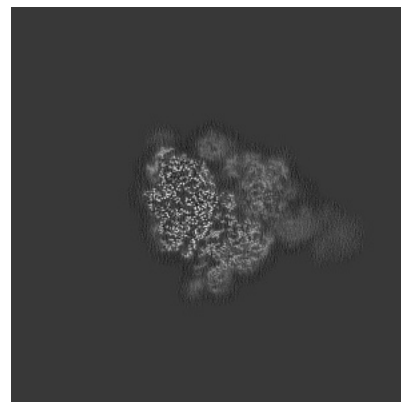
6.3.1 Primary map



X Index: 380

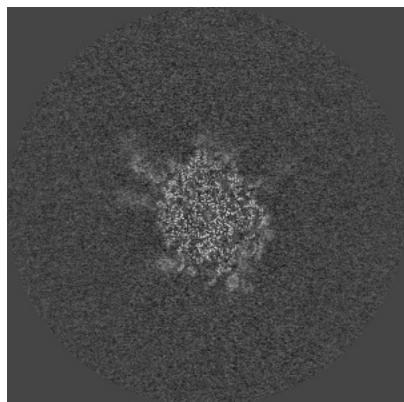


Y Index: 417

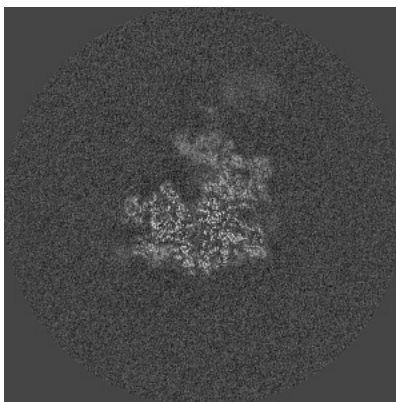


Z Index: 441

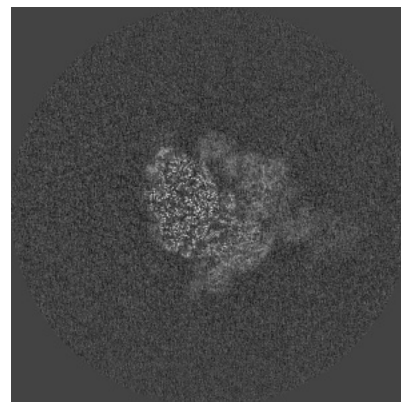
6.3.2 Raw map



X Index: 381



Y Index: 417

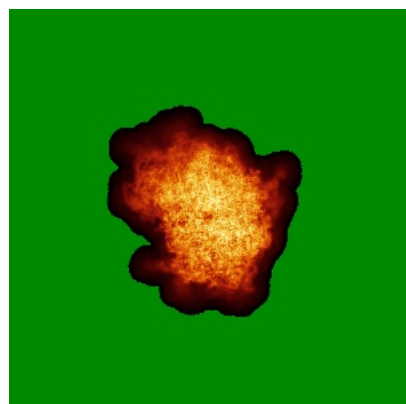


Z Index: 440

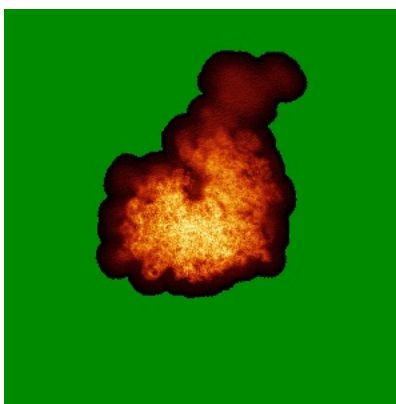
The images above show the largest variance slices of the map in three orthogonal directions.

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

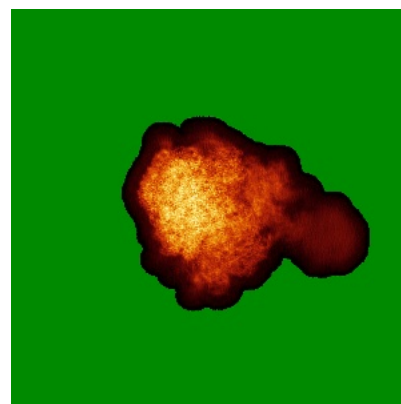
6.4.1 Primary map



X

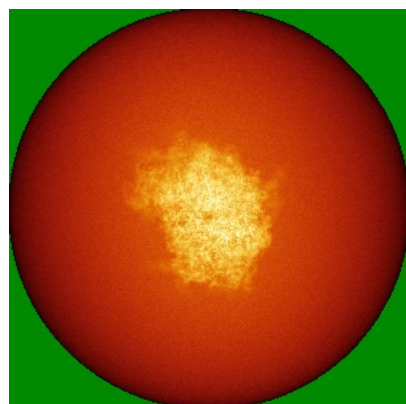


Y

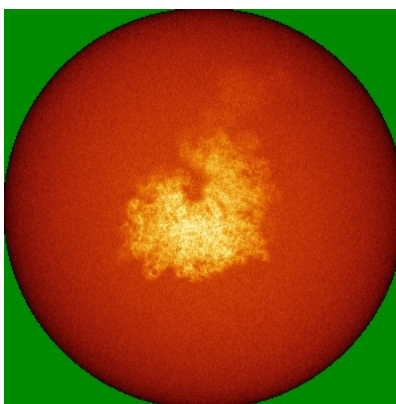


Z

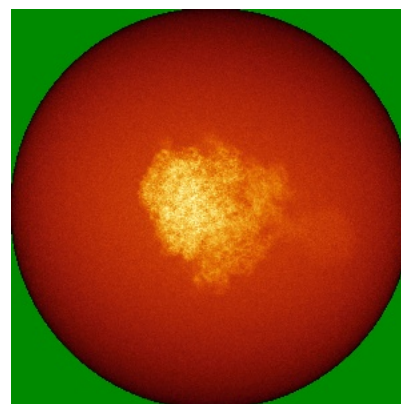
6.4.2 Raw map



X



Y



Z

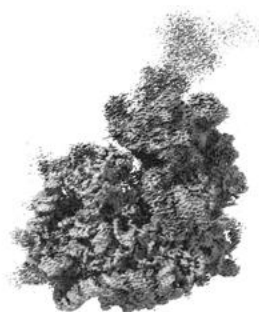
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

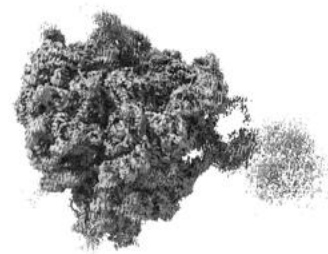
6.5.1 Primary map



X



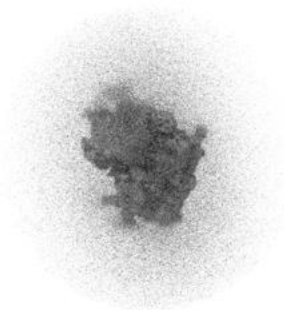
Y



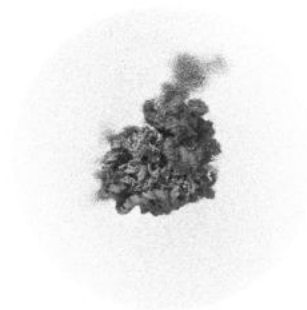
Z

The images above show the 3D surface view of the map at the recommended contour level 0.01. 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



X



Y



Z

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.

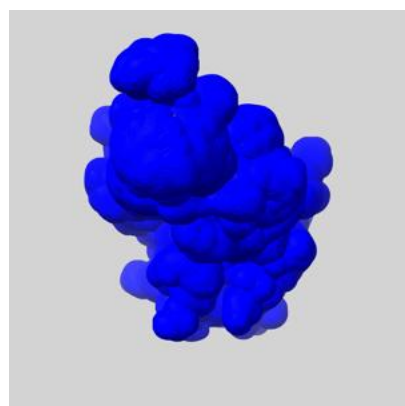
6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

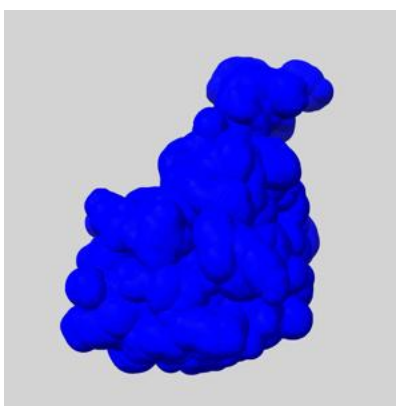
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

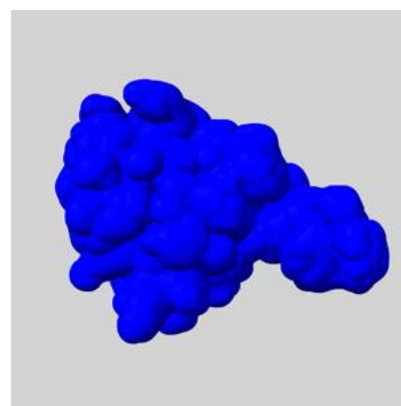
6.6.1 emd_51132_msk_1.map [i](#)



X



Y

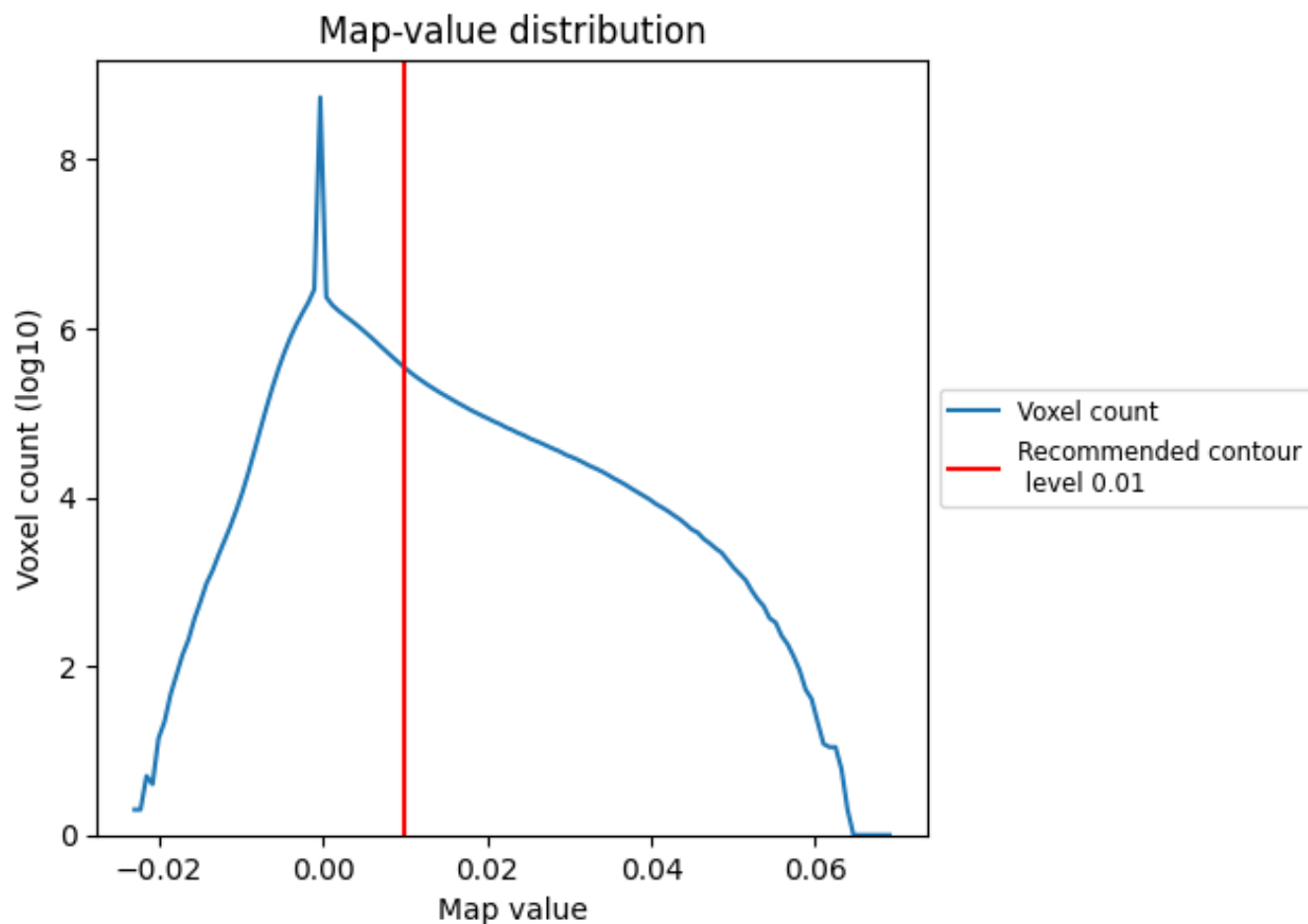


Z

7 Map analysis [i](#)

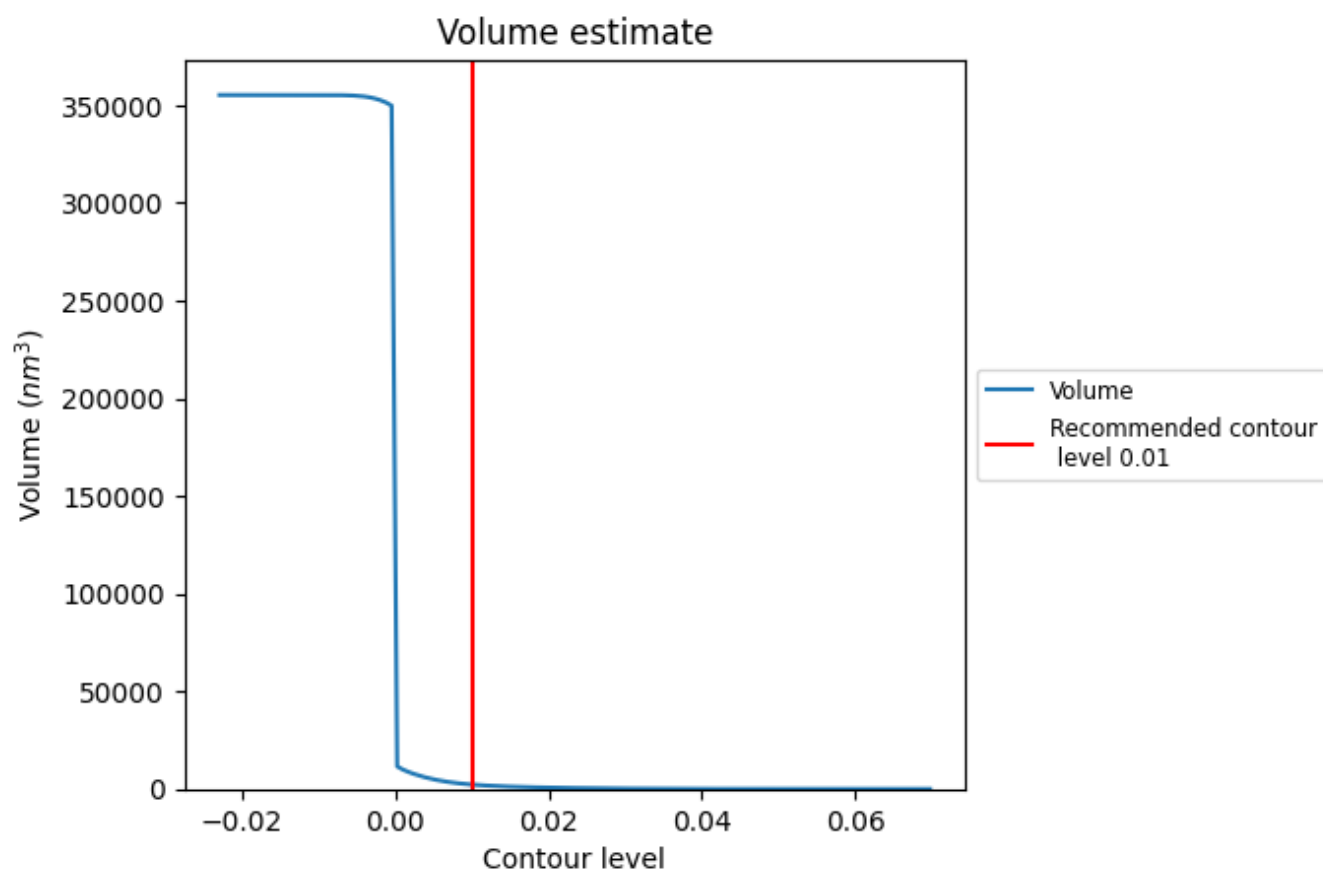
This section contains the results of statistical analysis of the map.

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.

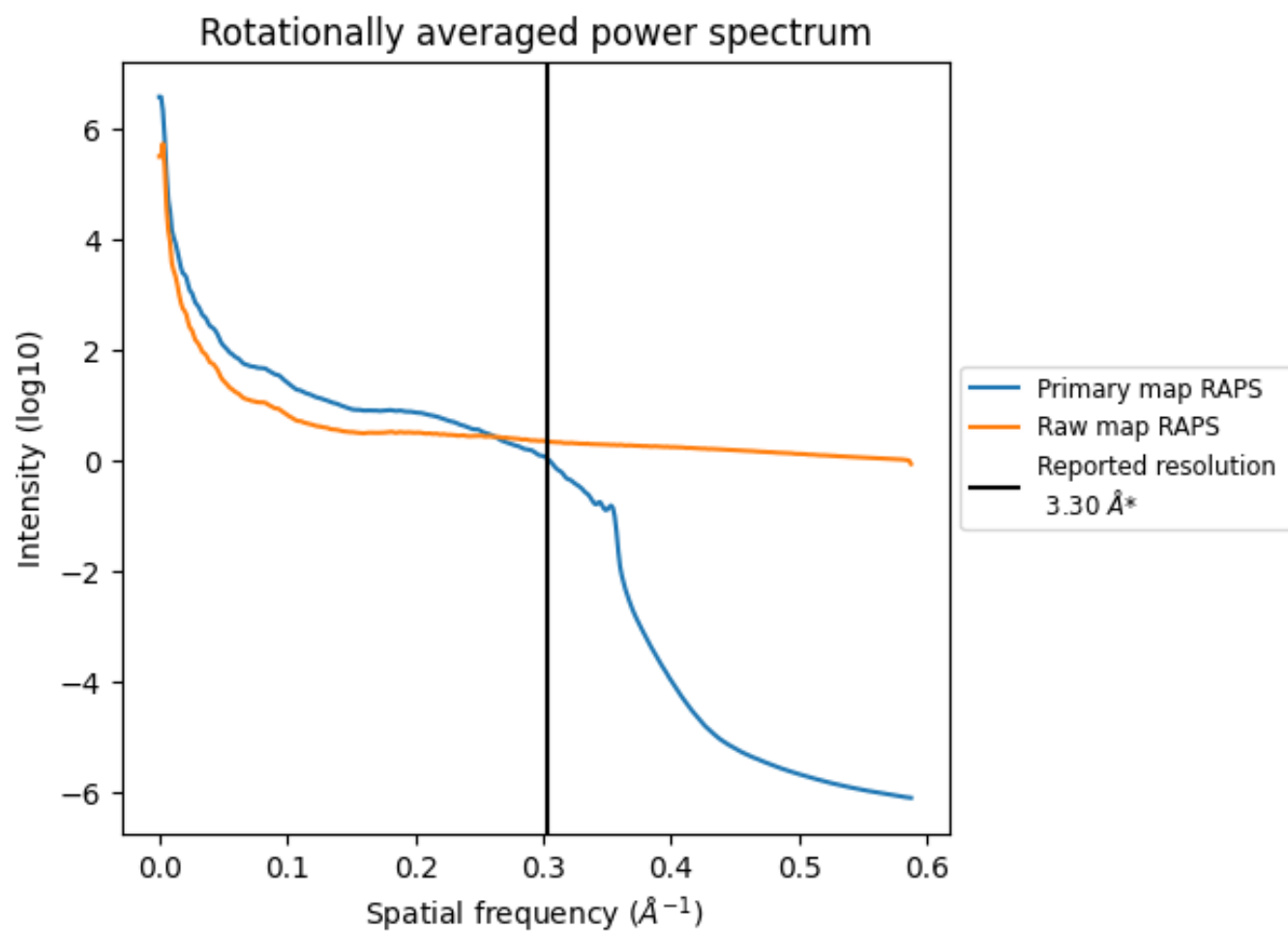
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2249 nm^3 ; this corresponds to an approximate mass of 2031 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 ⓘ

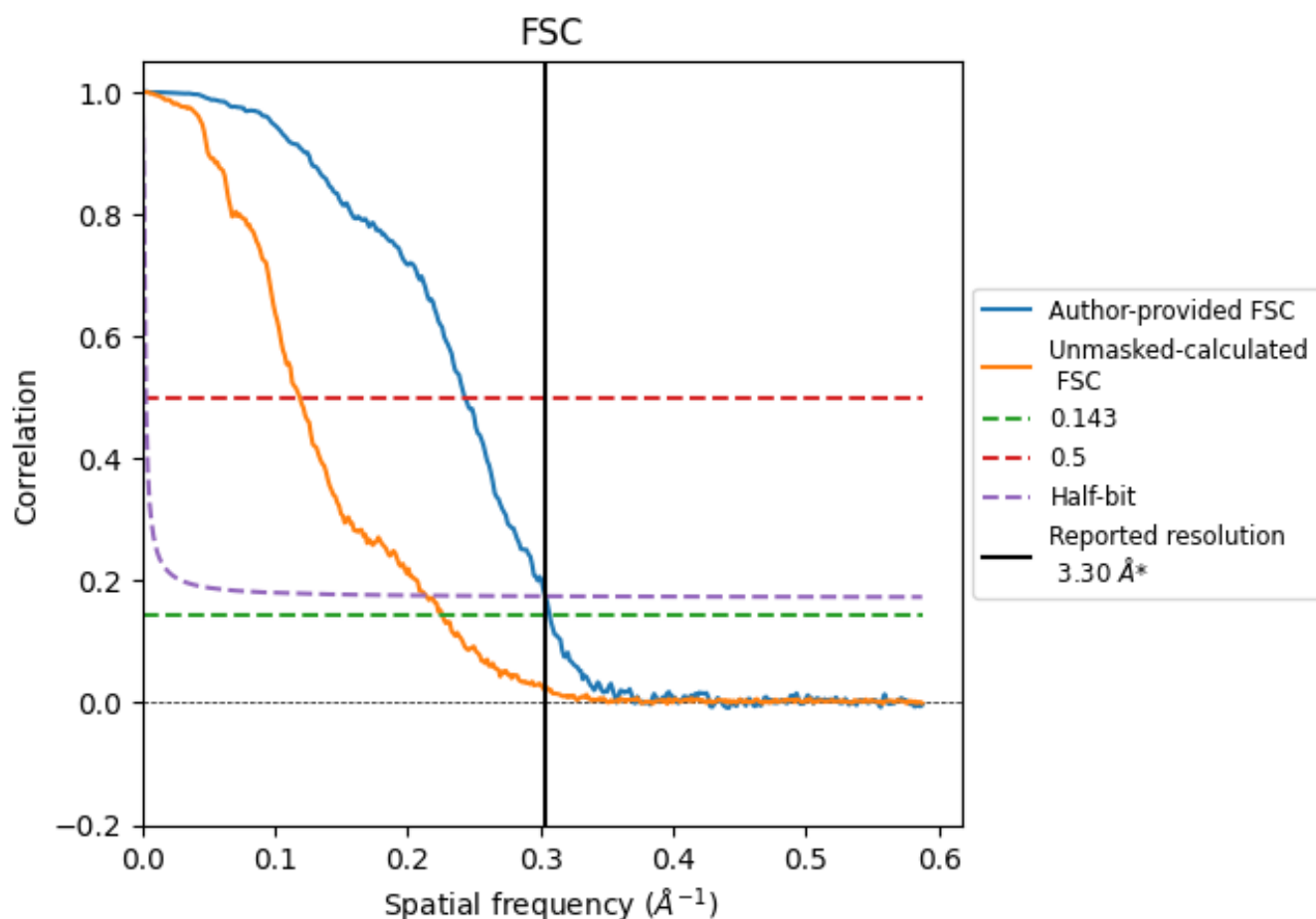


*Reported resolution corresponds to spatial frequency of 0.303 Å⁻¹

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 0.303 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

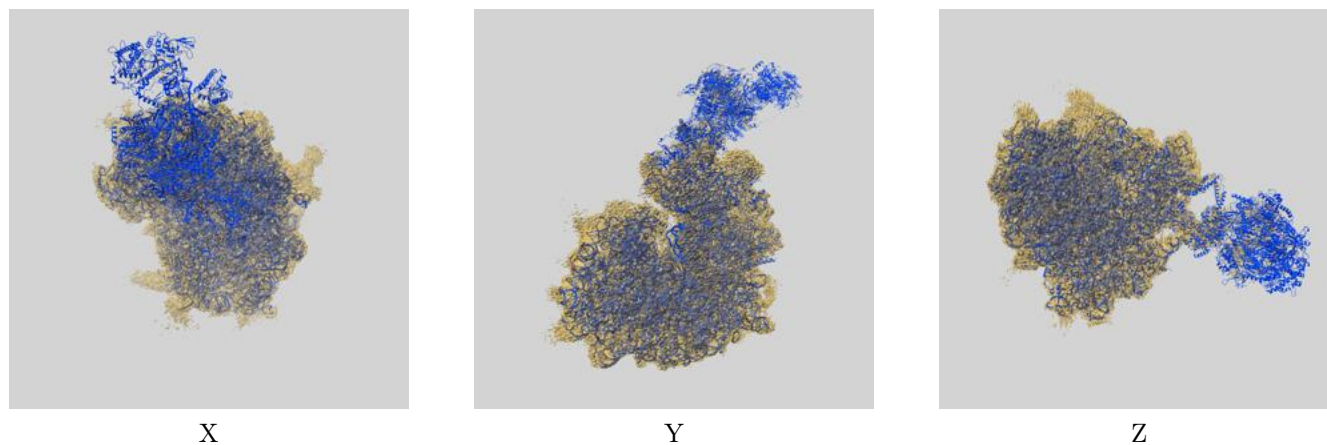
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.30	-	-
Author-provided FSC curve	3.26	4.12	3.29
Unmasked-calculated*	4.42	8.42	4.68

*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 4.42 differs from the reported value 3.3 by more than 10 %

9 Map-model fit [i](#)

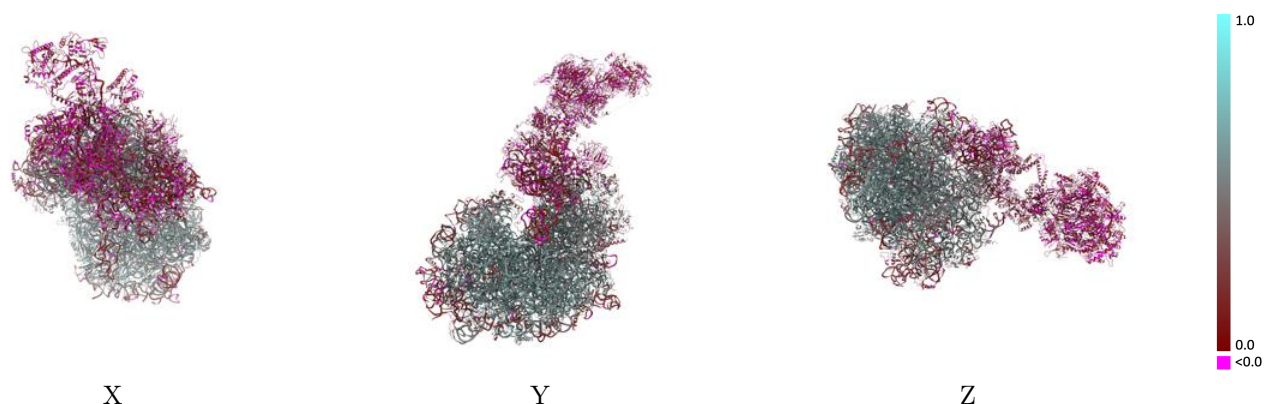
This section contains information regarding the fit between EMDB map EMD-51132 and PDB model 9G8M. Per-residue inclusion information can be found in section [3](#) on page [25](#).

9.1 Map-model overlay [i](#)



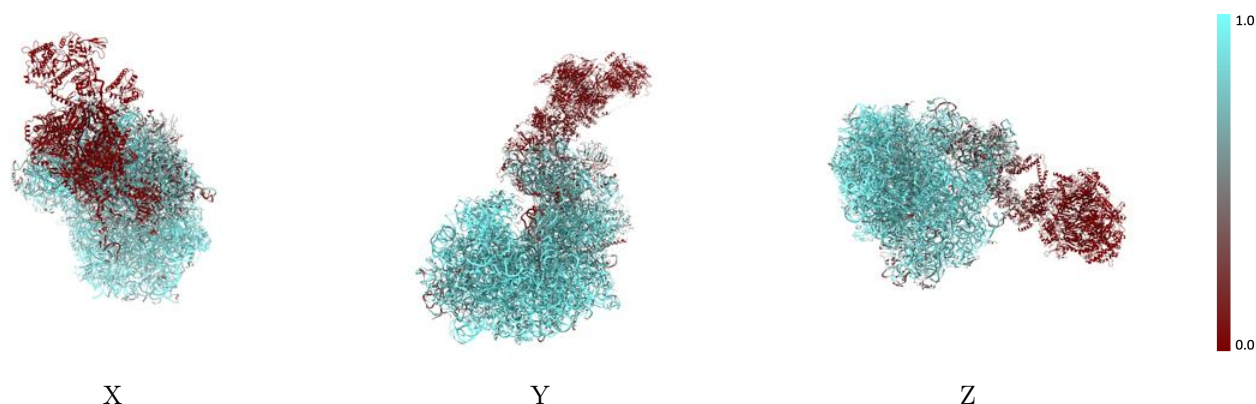
The images above show the 3D surface view of the map at the recommended contour level 0.01 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



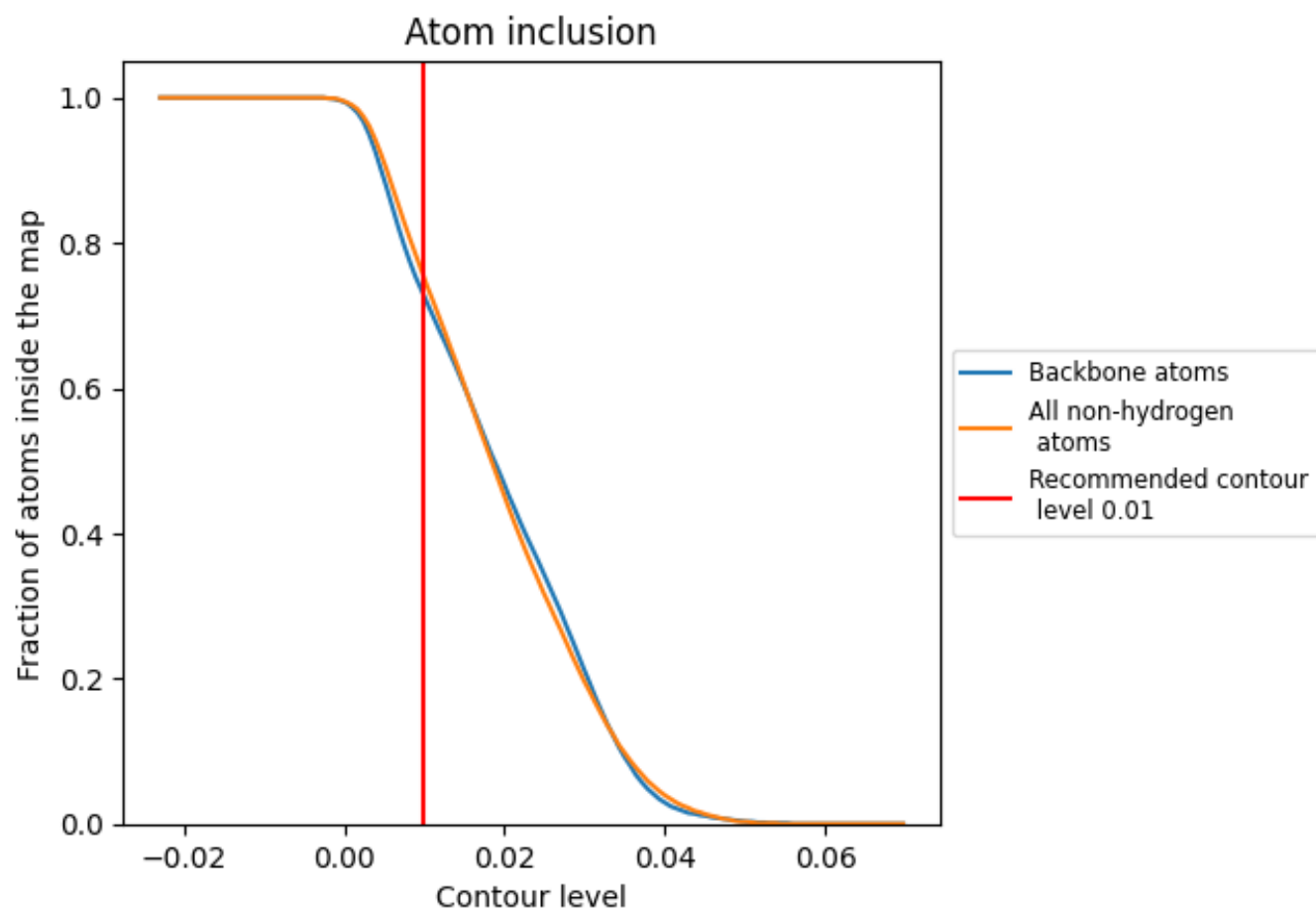
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.01).

9.4 Atom inclusion [i](#)



At the recommended contour level, 73% of all backbone atoms, 75% 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 (0.01) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7510	 0.4050
A	 0.0980	 0.1490
E	 0.0060	 0.1440
F	 0.0230	 0.1110
G	 0.0190	 0.1170
H	 0.0250	 0.1240
I	 0.0160	 0.1330
J	 0.0080	 0.0860
K	 0.0280	 0.1260
L	 0.0190	 0.1140
L5	 0.9430	 0.4950
L7	 0.9930	 0.5610
L8	 0.9720	 0.5360
LA	 0.9580	 0.5750
LB	 0.9280	 0.5520
LC	 0.9270	 0.5460
LD	 0.9160	 0.5030
LE	 0.8410	 0.4430
LF	 0.9290	 0.5550
LG	 0.8660	 0.4850
LH	 0.9320	 0.5380
LI	 0.8980	 0.5380
LJ	 0.8170	 0.4030
LL	 0.9080	 0.5290
LM	 0.9440	 0.5340
LN	 0.9680	 0.5860
LO	 0.9520	 0.5650
LP	 0.9510	 0.5670
LQ	 0.9550	 0.5700
LR	 0.8100	 0.4390
LS	 0.9620	 0.5650
LT	 0.9430	 0.5510
LU	 0.9030	 0.4580
LV	 0.9400	 0.5690
LW	 0.6880	 0.3800



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Chain	Atom inclusion	Q-score
LX	 0.9160	 0.5300
LY	 0.9370	 0.5410
LZ	 0.9420	 0.5350
La	 0.9660	 0.5740
Lb	 0.8400	 0.4950
Lc	 0.8550	 0.4550
Ld	 0.9240	 0.5330
Le	 0.9500	 0.5730
Lf	 0.9640	 0.5790
Lg	 0.9230	 0.5420
Lh	 0.9180	 0.5370
Li	 0.9110	 0.5300
Lj	 0.9600	 0.5720
Lk	 0.8670	 0.4610
Ll	 0.9410	 0.5580
Lm	 0.9250	 0.5440
Ln	 0.9280	 0.5520
Lo	 0.8960	 0.5310
Lp	 0.9170	 0.5620
Lr	 0.9530	 0.5590
M	 0.0050	 0.1180
N	 0.0150	 0.1180
O	 0.0170	 0.0910
S2	 0.8560	 0.3830
SA	 0.8160	 0.4250
SB	 0.8160	 0.4570
SC	 0.8570	 0.4820
SD	 0.4590	 0.2350
SE	 0.7990	 0.4430
SF	 0.3850	 0.1110
SG	 0.7030	 0.3060
SH	 0.7080	 0.3870
SI	 0.7660	 0.4450
SJ	 0.8250	 0.4580
SK	 0.3680	 0.1330
SL	 0.7560	 0.4790
SM	 0.0840	 0.1210
SN	 0.8530	 0.5020
SO	 0.8200	 0.4770
SP	 0.4290	 0.1480
SQ	 0.5610	 0.1250
SR	 0.5940	 0.2280

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Chain	Atom inclusion	Q-score
SS	 0.4700	 0.1180
ST	 0.5130	 0.1250
SU	 0.4620	 0.1900
SV	 0.8540	 0.4450
SW	 0.8820	 0.5120
SX	 0.8960	 0.5080
SY	 0.8220	 0.4120
SZ	 0.4240	 0.1120
Sa	 0.8490	 0.4650
Sb	 0.7570	 0.4320
Sc	 0.3780	 0.1100
Sd	 0.6390	 0.2680
Se	 0.6960	 0.3720
Sf	 0.3710	 0.1380
Sg	 0.4180	 0.1140
X	 0.4040	 0.1240