



Full wwPDB EM Validation Report ⓘ

Mar 20, 2026 – 07:08 AM UTC

PDB ID : 8IPB / pdb_00008ipb
EMDB ID : EMD-35638
Title : Wheat 80S ribosome pausing on AUG-Stop with cycloheximide
Authors : Yokoyama, T.; Tanaka, M.; Saito, H.; Nishimoto, M.; Tsuda, K.; Sotta, N.;
Shigematsu, H.; Shirouzu, M.; Iwasaki, S.; Ito, T.; Fujiwara, T.
Deposited on : 2023-03-14
Resolution : 3.40 Å(reported)

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

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

A user guide is available at

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

The types of validation reports are described at

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

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

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

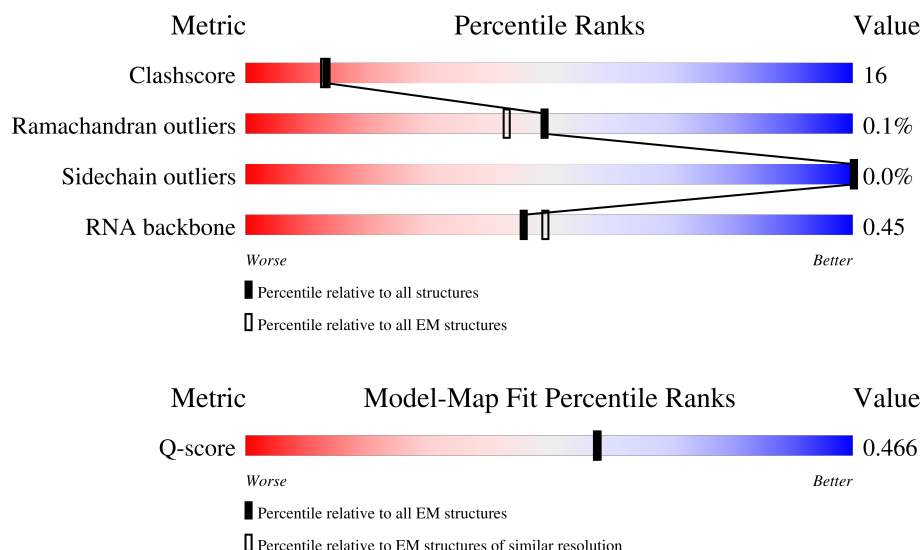
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.40 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	14717 (2.90 - 3.90)

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	aa	1810	22% 32% 47% 14% 6%
2	ba	137	66% 46% 36% 18%
3	ca	225	46% 48% 31% 21%

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Mol	Chain	Length	Quality of chain
4	da	188	
5	ga	142	
6	ha	332	
7	ia	227	
8	ja	265	
9	ka	200	
10	la	149	
11	ma	127	
12	na	151	
13	oa	152	
14	pa	151	
15	qa	143	
16	ra	155	
17	sa	154	
18	ta	108	
19	ua	86	
20	va	129	
21	wa	56	
22	xa	86	
23	ya	62	
24	za	308	
25	bb	263	
26	cb	82	
27	db	156	
28	eb	195	

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Mol	Chain	Length	Quality of chain
29	fb	274	
30	gb	250	
31	hb	192	
32	ib	159	
33	AA	258	
34	BA	164	
35	CA	137	
36	DA	261	
37	EA	180	
38	FA	189	
39	GA	140	
40	HA	204	
41	IA	145	
42	JA	187	
43	KA	301	
44	LA	213	
45	MA	170	
46	NA	152	
47	OA	162	
48	PA	157	
49	QA	147	
50	RA	112	
51	SA	123	
52	TA	133	
53	UA	93	

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Mol	Chain	Length	Quality of chain
54	VA	76	
55	WA	105	
56	XA	135	
57	YA	178	
58	ZA	130	
59	AB	112	
60	BB	124	
61	CB	244	
62	DB	389	
63	EB	404	
64	FB	206	
65	GB	92	
66	HB	217	
67	IB	25	
68	JB	129	
69	KB	208	
70	LB	219	
71	MB	112	
72	NB	69	
73	OB	60	
74	PB	119	
75	RB	3386	
76	SB	160	
77	TB	120	
78	al	7	

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Mol	Chain	Length	Quality of chain
79	cl	75	80% 36% 37% 23% .

2 Entry composition

There are 82 unique types of molecules in this entry. The entry contains 197701 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	aa	1695	Total	C	N	O	P	0	0
			36156	16155	6463	11845	1693		

There are 5 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
aa	?	-	G	deletion	GB 2123606567
aa	1399	G	C	conflict	GB 2123606567
aa	1411	C	G	conflict	GB 2123606567
aa	1441	C	G	conflict	GB 2123606567
aa	1762	C	G	conflict	GB 2123606567

- Molecule 2 is a protein called 40S ribosomal protein eS24.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	ba	113	Total	C	N	O	S	0	0
			929	593	178	156	2		

- Molecule 3 is a protein called 40S ribosomal protein eS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	ca	178	Total	C	N	O	S	0	0
			1443	891	291	257	4		

- Molecule 4 is a protein called 40S ribosomal protein eS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	da	81	Total	C	N	O	S	0	0
			703	461	117	122	3		

- Molecule 5 is a protein called 40S ribosomal protein uS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	ga	138	Total	C	N	O	S	0	0
			1070	679	207	181	3		

- Molecule 6 is a protein called RACK1.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	ha	322	Total	C	N	O	S	0	0
			2473	1555	429	478	11		

- Molecule 7 is a protein called 40S ribosomal protein uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	ia	213	Total	C	N	O	S	0	0
			1673	1061	303	300	9		

- Molecule 8 is a protein called 40S ribosomal protein eS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	ja	261	Total	C	N	O	S	0	0
			2082	1325	388	362	7		

- Molecule 9 is a protein called 40S ribosomal protein uS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	ka	193	Total	C	N	O	S	0	0
			1516	947	285	277	7		

- Molecule 10 is a protein called 40S ribosomal protein uS9.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	la	140	Total	C	N	O	S	0	0
			1119	712	215	187	5		

- Molecule 11 is a protein called 40S ribosomal protein uS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	ma	103	Total	C	N	O	S	0	0
			806	504	147	151	4		

- Molecule 12 is a protein called 40S ribosomal protein uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	na	125	Total	C	N	O	S	0	0
			941	579	185	173	4		

- Molecule 13 is a protein called 40S ribosomal protein uS13.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	oa	136	Total	C	N	O	S	0	0
			1114	695	220	193	6		

- Molecule 14 is a protein called 40S ribosomal protein uS15.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	pa	150	Total	C	N	O	S	0	0
			1195	765	224	204	2		

- Molecule 15 is a protein called 40S ribosomal protein eS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	qa	119	Total	C	N	O	S	0	0
			975	607	185	177	6		

- Molecule 16 is a protein called 40S ribosomal protein eS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	ra	135	Total	C	N	O	S	0	0
			1065	672	200	189	4		

- Molecule 17 is a protein called 40S ribosomal protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	sa	100	Total	C	N	O	S	0	0
			807	518	151	133	5		

- Molecule 18 is a protein called 40S ribosomal protein eS25.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	ta	77	Total	C	N	O	S	0	0
			618	387	116	113	2		

- Molecule 19 is a protein called 40S ribosomal protein eS28.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	ua	64	Total	C	N	O	S	0	0
			513	314	104	93	2		

- Molecule 20 is a protein called 40S ribosomal protein uS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	va	128	Total	C	N	O	S	0	0
			1039	653	199	182	5		

- Molecule 21 is a protein called 40S ribosomal protein uS14.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	wa	39	Total	C	N	O	S	0	0
			314	193	65	50	6		

- Molecule 22 is a protein called 40S ribosomal protein eS27.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	xa	70	Total	C	N	O	S	0	0
			546	342	101	96	7		

- Molecule 23 is a protein called 40S ribosomal protein eS30.

Mol	Chain	Residues	Atoms				AltConf	Trace
23	ya	39	Total	C	N	O	0	0
			322	199	74	49		

- Molecule 24 is a protein called 40S ribosomal protein uS2.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	za	202	Total	C	N	O	S	0	0
			1609	1018	291	289	11		

- Molecule 25 is a protein called 40S ribosomal protein eS1.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	bb	211	Total	C	N	O	S	0	0
			1720	1096	311	304	9		

- Molecule 26 is a protein called 40S ribosomal protein eS21.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	cb	76	Total	C	N	O	S	0	0
			596	368	111	114	3		

- Molecule 27 is a protein called 40S ribosomal protein eS26.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	db	95	Total	C	N	O	S	0	0
			771	472	168	124	7		

- Molecule 28 is a protein called 40S ribosomal protein uS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	eb	181	Total	C	N	O	S	0	0
			1493	945	298	246	4		

- Molecule 29 is a protein called 40S ribosomal protein uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	fb	214	Total	C	N	O	S	0	0
			1660	1070	294	287	9		

- Molecule 30 is a protein called 40S ribosomal protein eS6.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	gb	151	Total	C	N	O	S	0	0
			1199	749	233	209	8		

- Molecule 31 is a protein called 40S ribosomal protein eS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	hb	169	Total	C	N	O	S	0	0
			1389	889	255	243	2		

- Molecule 32 is a protein called 40S ribosomal protein uS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	ib	145	Total	C	N	O	S	0	0
			1166	745	223	192	6		

- Molecule 33 is a protein called 40S ribosomal protein eL8.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	AA	229	Total	C	N	O	S	0	0
			1847	1191	341	309	6		

- Molecule 34 is a protein called 60S ribosomal protein eL21.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	BA	156	Total	C	N	O	S	0	0
			1256	795	246	212	3		

- Molecule 35 is a protein called 60S ribosomal protein eL27.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	CA	136	Total	C	N	O	S	0	0
			1090	704	205	177	4		

- Molecule 36 is a protein called 60S ribosomal protein uL2.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	DA	251	Total	C	N	O	S	0	0
			1919	1193	395	324	7		

- Molecule 37 is a protein called 60S ribosomal protein uL5.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	EA	164	Total	C	N	O	S	0	0
			1332	841	248	235	8		

- Molecule 38 is a protein called 60S ribosomal protein uL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	FA	185	Total	C	N	O	S	0	0
			1459	925	265	263	6		

- Molecule 39 is a protein called 60S ribosomal protein uL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	GA	129	Total	C	N	O	S	0	0
			976	618	181	168	9		

- Molecule 40 is a protein called 60S ribosomal protein eL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	HA	203	Total	C	N	O	S	0	0
			1720	1078	370	269	3		

- Molecule 41 is a protein called 60S ribosomal protein uL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	IA	144	Total	C	N	O	S	0	0
			1123	720	218	181	4		

- Molecule 42 is a protein called 60S ribosomal protein eL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	JA	186	Total	C	N	O	S	0	0
			1487	938	296	248	5		

- Molecule 43 is a protein called 60S ribosomal protein uL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	KA	273	Total	C	N	O	S	0	0
			2209	1390	406	408	5		

- Molecule 44 is a protein called 60S ribosomal protein eL19.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	LA	170	Total	C	N	O	S	0	0
			1414	880	295	231	8		

- Molecule 45 is a protein called 60S ribosomal protein uL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	MA	155	Total	C	N	O	S	0	0
			1253	780	247	221	5		

- Molecule 46 is a protein called 60S ribosomal protein uL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	NA	116	Total	C	N	O	S	0	0
			935	600	165	168	2		

- Molecule 47 is a protein called 60S ribosomal protein eL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	OA	61	Total	C	N	O	S	0	0
			517	335	99	79	4		

- Molecule 48 is a protein called 60S ribosomal protein uL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	PA	130	Total	C	N	O	S	0	0
			1054	651	223	177	3		

- Molecule 49 is a protein called 60S ribosomal protein eL28.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	QA	142	Total	C	N	O	S	0	0
			1125	711	207	203	4		

- Molecule 50 is a protein called 60S ribosomal protein eL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	RA	98	Total	C	N	O	S	0	0
			757	480	131	140	6		

- Molecule 51 is a protein called 60S ribosomal protein eL31.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	SA	107	Total	C	N	O	S	0	0
			863	540	167	154	2		

- Molecule 52 is a protein called 60S ribosomal protein eL32.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	TA	126	Total	C	N	O	S	0	0
			1042	662	207	168	5		

- Molecule 53 is a protein called 60S ribosomal protein eL37.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	UA	80	Total	C	N	O	S	0	0
			656	402	144	104	6		

- Molecule 54 is a protein called 60S ribosomal protein eL39.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	VA	50	Total	C	N	O	S	0	0
			452	286	99	66	1		

- Molecule 55 is a protein called 60S ribosomal protein eL42.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	WA	98	Total	C	N	O	S	0	0
			794	498	157	134	5		

- Molecule 56 is a protein called 60S ribosomal protein eL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	XA	132	Total	C	N	O	S	0	0
			1066	684	196	181	5		

- Molecule 57 is a protein called 60S ribosomal protein eL20.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	YA	177	Total	C	N	O	S	0	0
			1496	963	275	250	8		

- Molecule 58 is a protein called 60S ribosomal protein eL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	ZA	101	Total	C	N	O	S	0	0
			814	520	144	148	2		

- Molecule 59 is a protein called 60S ribosomal protein eL36.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	AB	100	Total	C	N	O	S	0	0
			803	505	166	130	2		

- Molecule 60 is a protein called 60S ribosomal protein uL29.

Mol	Chain	Residues	Atoms				AltConf	Trace
60	BB	119	Total	C	N	O	0	0
			979	617	196	166		

- Molecule 61 is a protein called 60S ribosomal protein uL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	CB	234	Total	C	N	O	S	0	0
			1917	1230	357	325	5		

- Molecule 62 is a protein called 60S ribosomal protein uL3.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	DB	384	Total	C	N	O	S	0	0
			3099	1972	575	535	17		

- Molecule 63 is a protein called 60S ribosomal protein uL4.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	EB	399	Total	C	N	O	S	0	0
			3075	1934	590	540	11		

- Molecule 64 is a protein called 60S ribosomal protein uL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	FB	205	Total	C	N	O	S	0	0
			1641	1040	319	272	10		

- Molecule 65 is a protein called 60S ribosomal protein eL43.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	GB	91	Total	C	N	O	S	0	0
			707	442	136	123	6		

- Molecule 66 is a protein called 60S ribosomal protein uL16.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	HB	205	Total	C	N	O	S	0	0
			1635	1034	321	271	9		

- Molecule 67 is a protein called 60S ribosomal protein eL41.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	IB	25	Total	C	N	O	S	0	0
			237	145	62	27	3		

- Molecule 68 is a protein called 60S ribosomal protein eL40.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	JB	51	Total	C	N	O	S	0	0
			420	262	88	65	5		

- Molecule 69 is a protein called 60S ribosomal protein eL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	KB	205	Total	C	N	O	S	0	0
			1670	1045	334	285	6		

- Molecule 70 is a protein called 60S ribosomal protein eL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	LB	215	Total	C	N	O	S	0	0
			1703	1088	310	302	3		

- Molecule 71 is a protein called 60S ribosomal protein eL33.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	MB	110	Total	C	N	O	S	0	0
			875	551	168	152	4		

- Molecule 72 is a protein called 60S ribosomal protein eL38.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	NB	68	Total	C	N	O	S	0	0
			557	354	105	96	2		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
NB	48	PHE	HIS	conflict	UNP A0A1D5W6Q2
NB	50	ALA	THR	conflict	UNP A0A1D5W6Q2
NB	65	SER	ASN	conflict	UNP A0A1D5W6Q2

- Molecule 73 is a protein called 60S ribosomal protein eL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	OB	50	Total	C	N	O	S	0	0
			416	254	93	68	1		

- Molecule 74 is a protein called 60S ribosomal protein eL34.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	PB	108	Total	C	N	O	S	0	0
			879	555	179	144	1		

- Molecule 75 is a RNA chain called 60S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	RB	3147	Total	C	N	O	P	0	0
			67383	30051	12300	21886	3146		

- Molecule 76 is a RNA chain called 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	SB	160	Total	C	N	O	P	0	0
			3408	1522	614	1113	159		

- Molecule 77 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	TB	120	Total	C	N	O	P	0	0
			2561	1144	461	837	119		

- Molecule 78 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	al	7	Total	C	N	O	P	0	0
			147	68	29	44	6		

- Molecule 79 is a RNA chain called tRNAi.

Mol	Chain	Residues	Atoms						AltConf	Trace
79	cl	75	Total	C	N	O	P	S	0	0
			1622	730	298	518	75	1		

- Molecule 80 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
80	aa	67	Total	Mg	0
			67	67	
80	ga	1	Total	Mg	0
			1	1	
80	DA	2	Total	Mg	0
			2	2	

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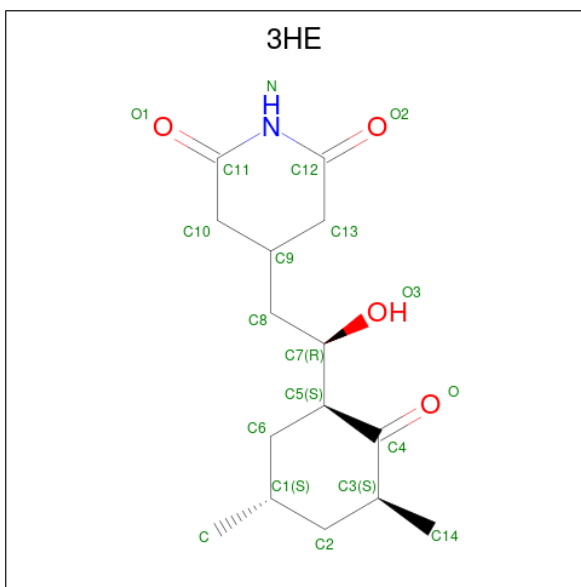
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Mol	Chain	Residues	Atoms		AltConf
80	GA	1	Total 1	Mg 1	0
80	DB	2	Total 2	Mg 2	0
80	KB	1	Total 1	Mg 1	0
80	PB	1	Total 1	Mg 1	0
80	RB	187	Total 187	Mg 187	0
80	TB	1	Total 1	Mg 1	0
80	cl	2	Total 2	Mg 2	0

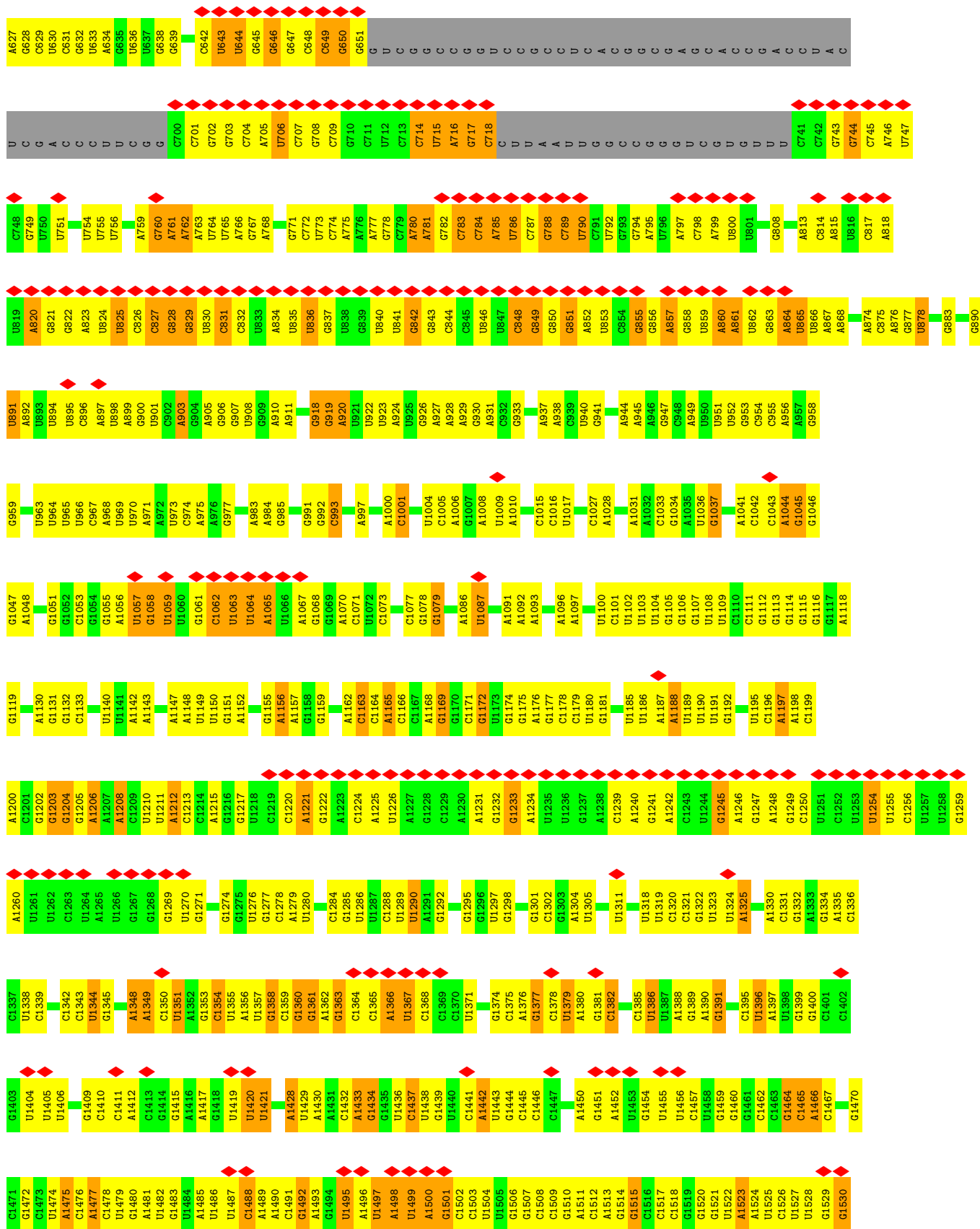
- Molecule 81 is ZINC ION (CCD ID: ZN) (formula: Zn).

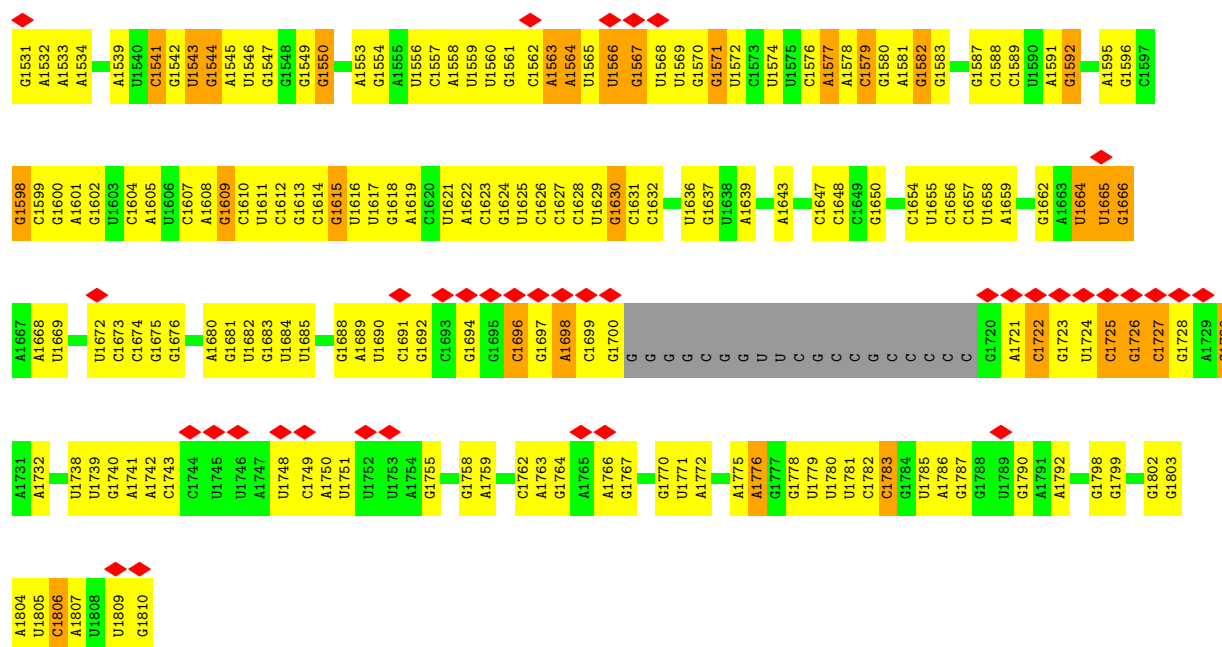
Mol	Chain	Residues	Atoms		AltConf
81	wa	1	Total 1	Zn 1	0
81	db	1	Total 1	Zn 1	0
81	WA	1	Total 1	Zn 1	0
81	GB	1	Total 1	Zn 1	0

- Molecule 82 is 4-{(2R)-2-[(1S,3S,5S)-3,5-dimethyl-2-oxocyclohexyl]-2-hydroxyethyl}piperidine-2,6-dione (CCD ID: 3HE) (formula: C₁₅H₂₃NO₄).

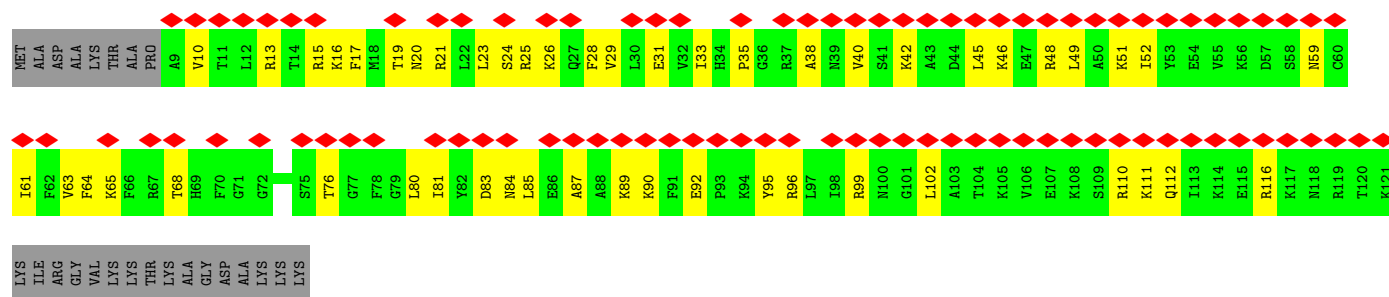


Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
82	RB	1	20	15	1	4	0

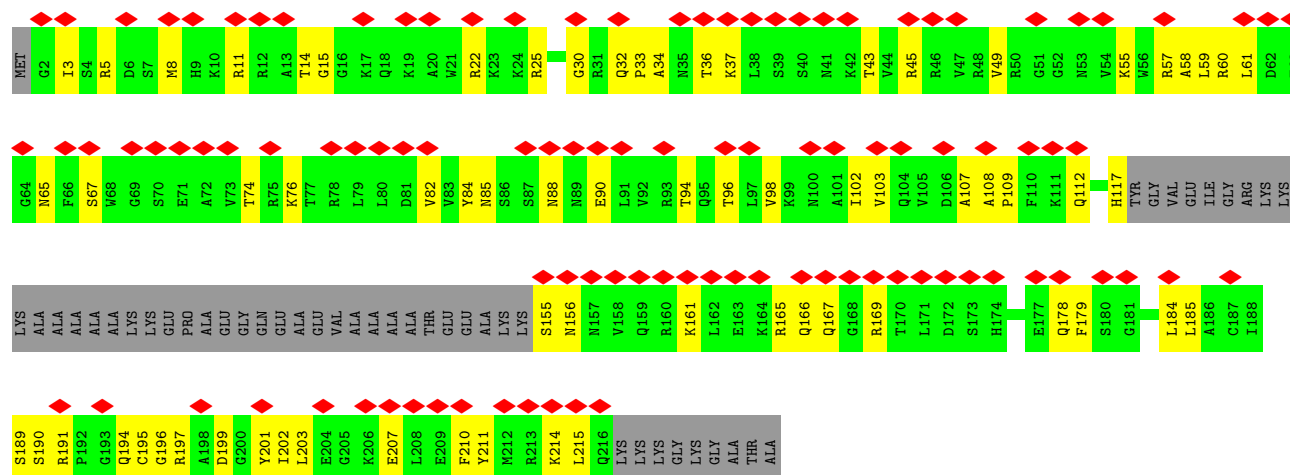


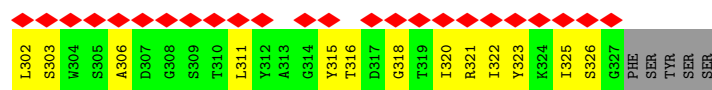


• Molecule 2: 40S ribosomal protein eS24

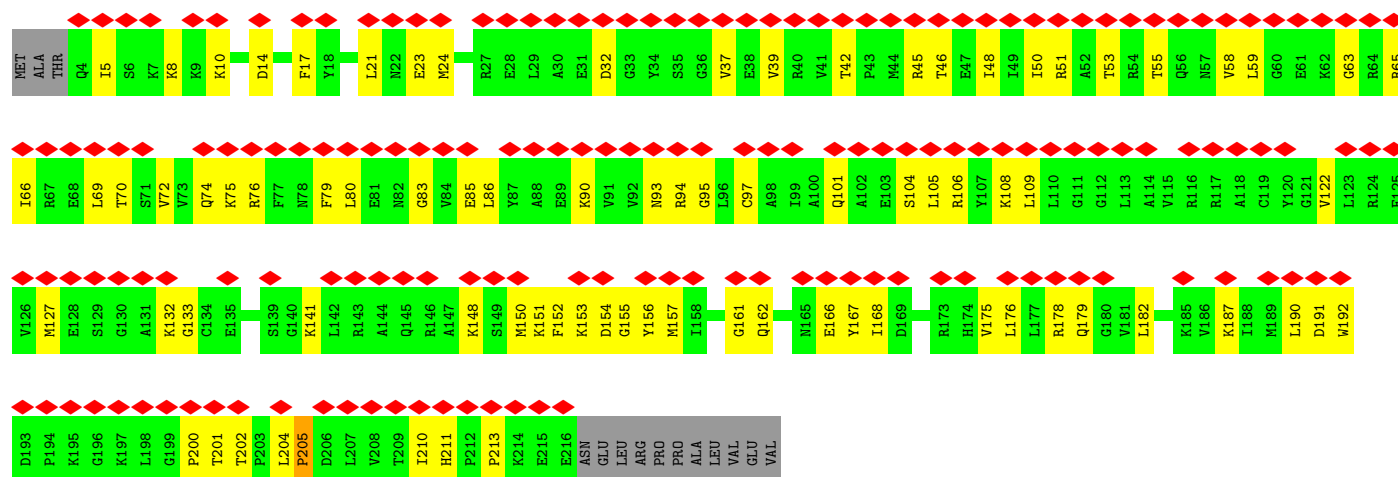
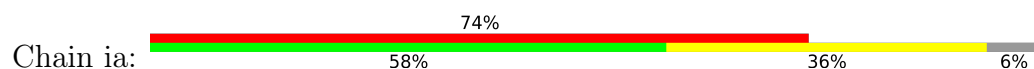


• Molecule 3: 40S ribosomal protein eS8

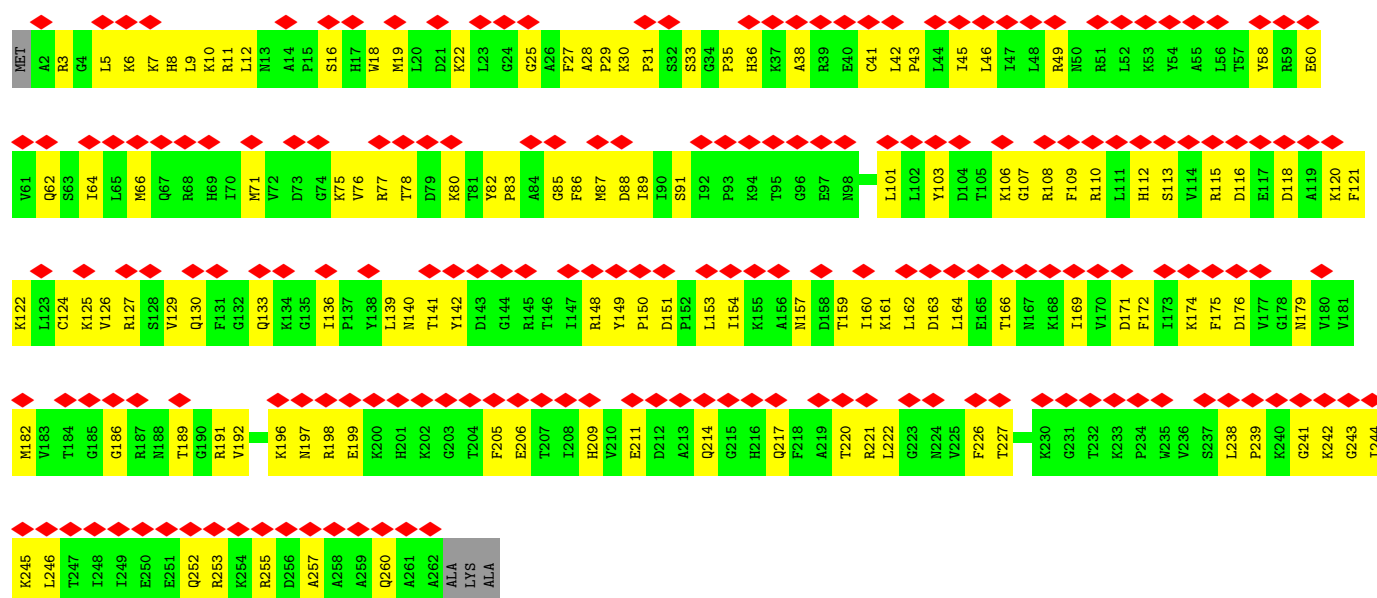




• Molecule 7: 40S ribosomal protein uS3

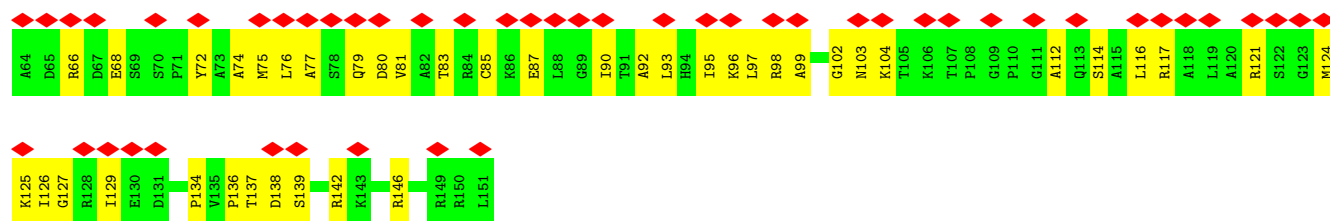


• Molecule 8: 40S ribosomal protein eS4

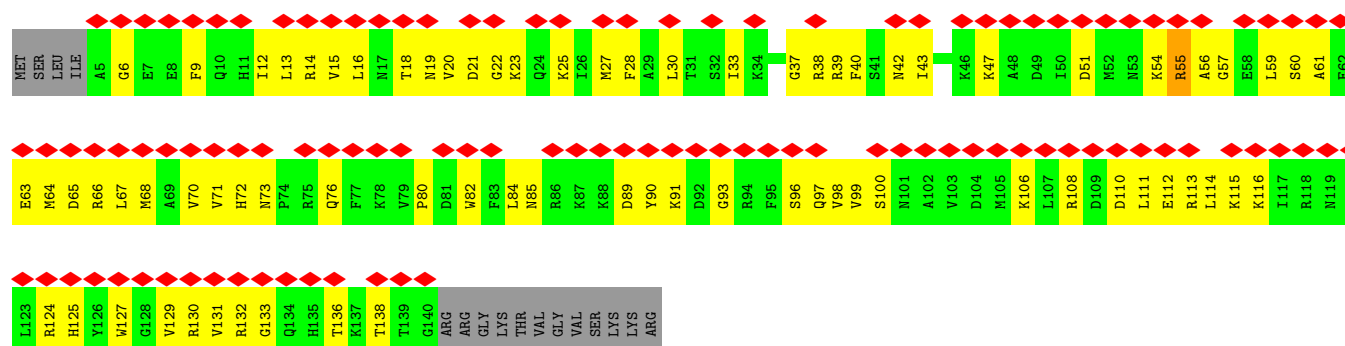
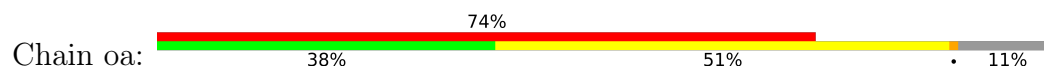


• Molecule 9: 40S ribosomal protein uS7

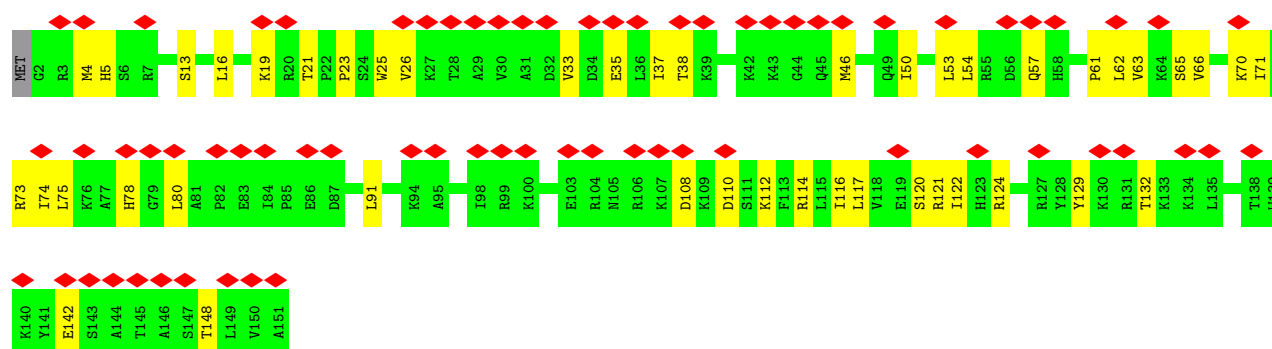




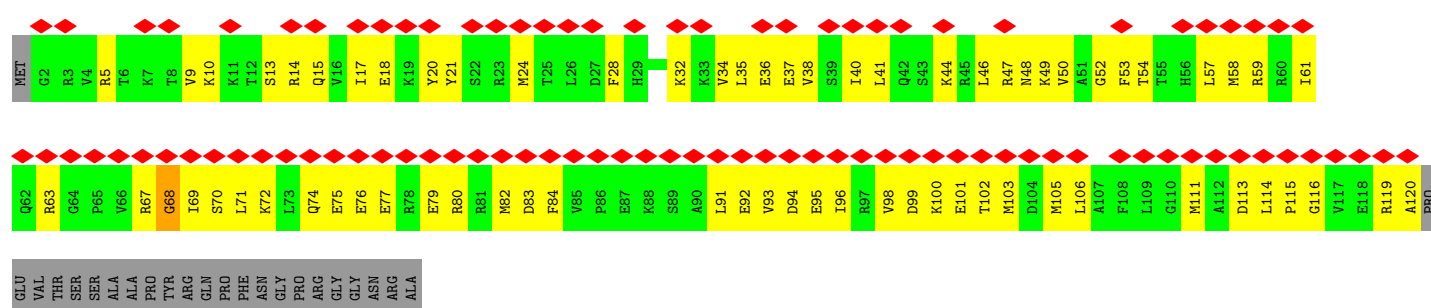
• Molecule 13: 40S ribosomal protein uS13



• Molecule 14: 40S ribosomal protein uS15



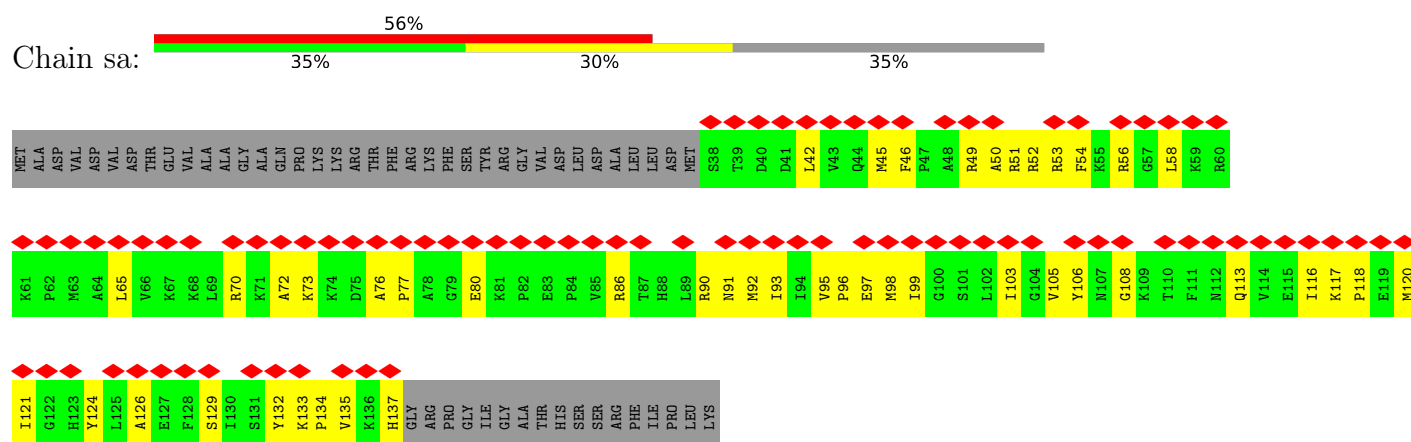
• Molecule 15: 40S ribosomal protein eS17



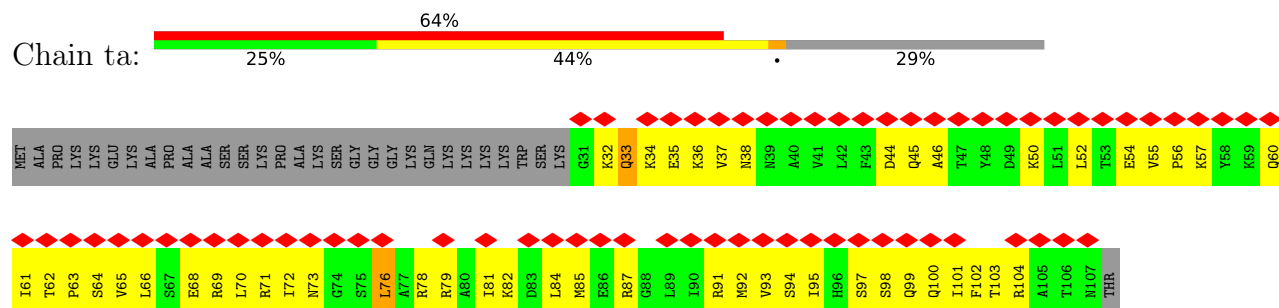
- Molecule 16: 40S ribosomal protein eS19



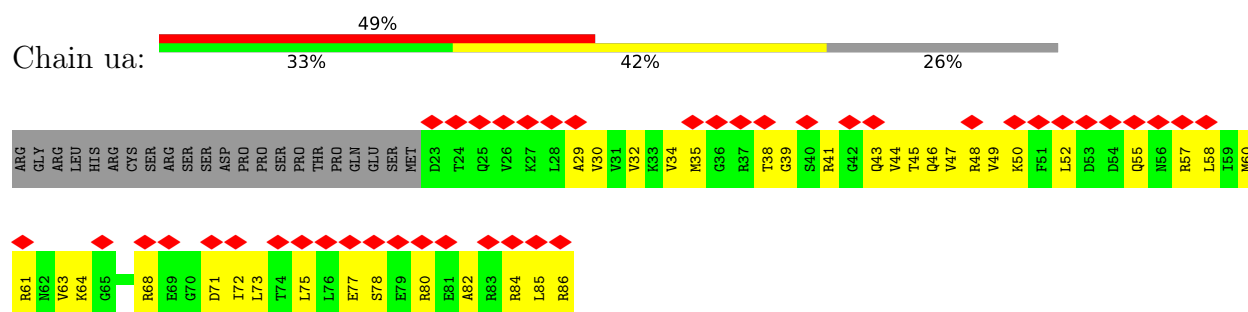
- Molecule 17: 40S ribosomal protein uS19



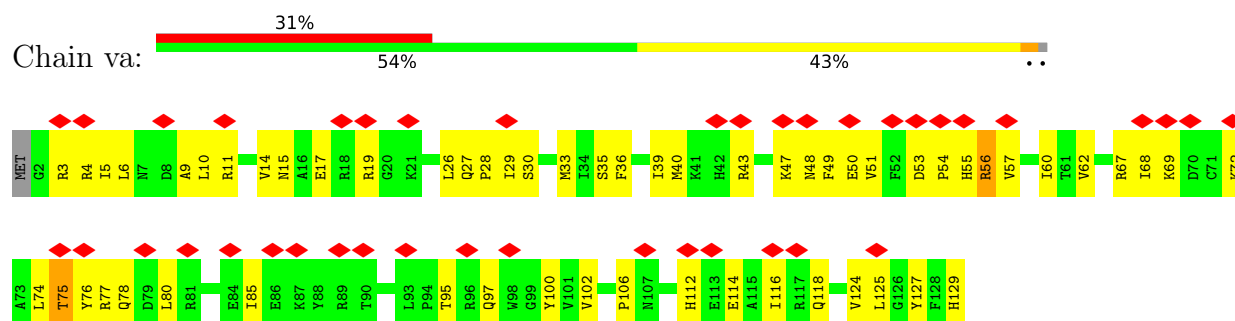
- Molecule 18: 40S ribosomal protein eS25



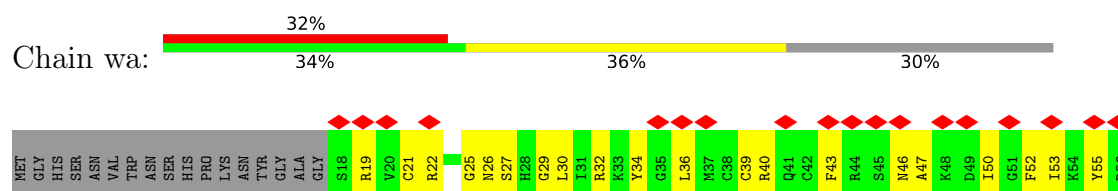
- Molecule 19: 40S ribosomal protein eS28



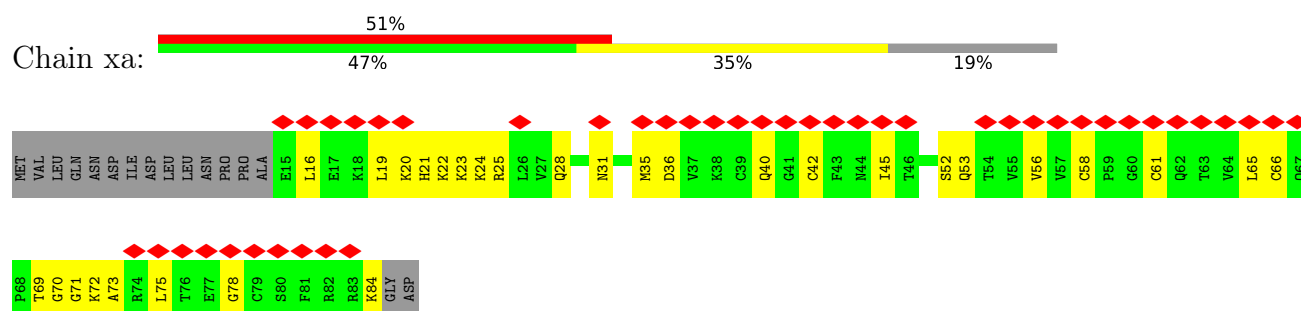
- Molecule 20: 40S ribosomal protein uS8



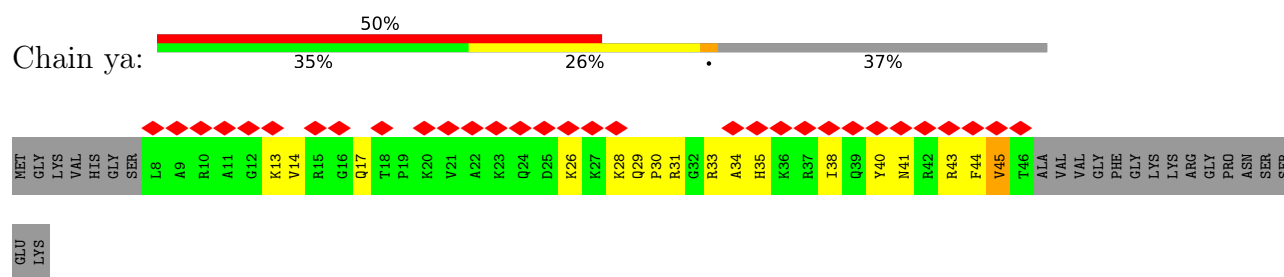
- Molecule 21: 40S ribosomal protein uS14



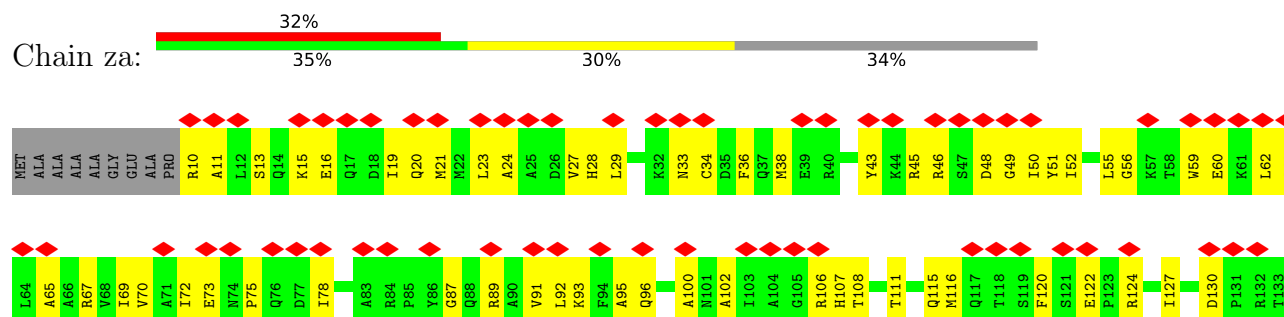
- Molecule 22: 40S ribosomal protein eS27

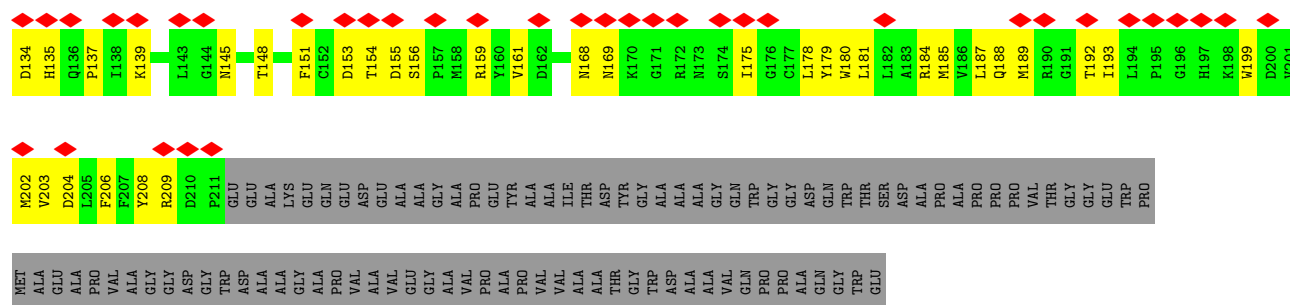


- Molecule 23: 40S ribosomal protein eS30

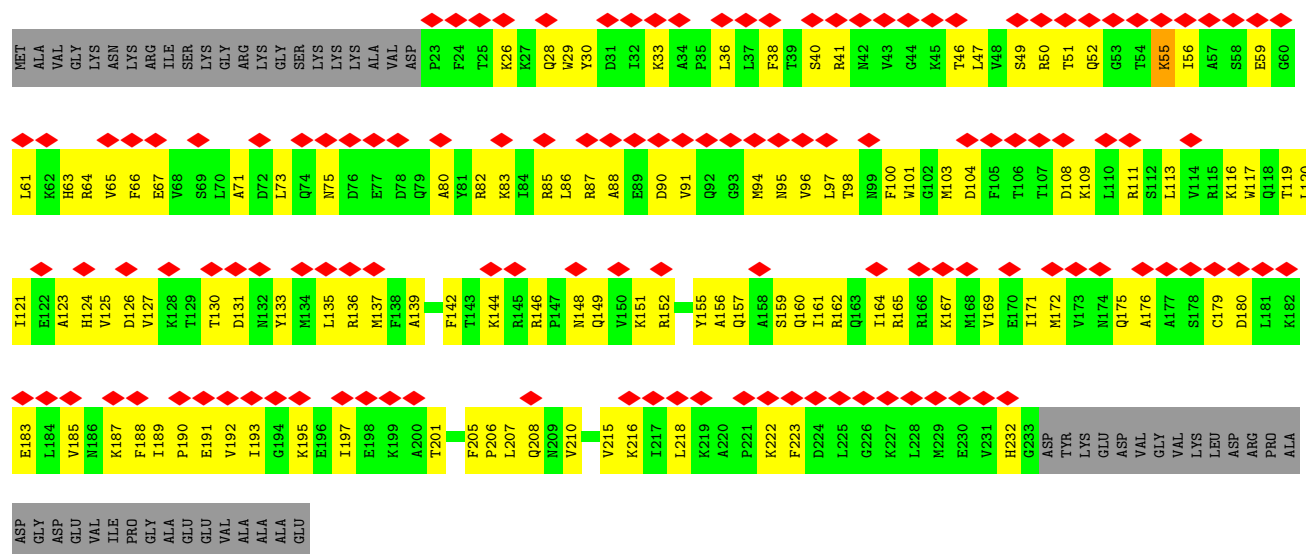


- Molecule 24: 40S ribosomal protein uS2

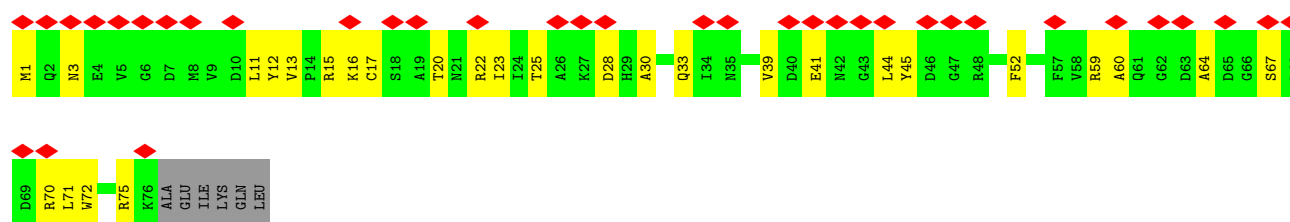
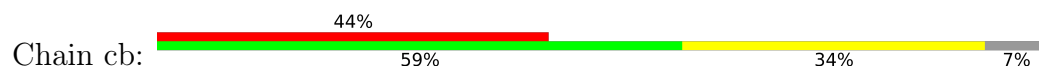




• Molecule 25: 40S ribosomal protein eS1

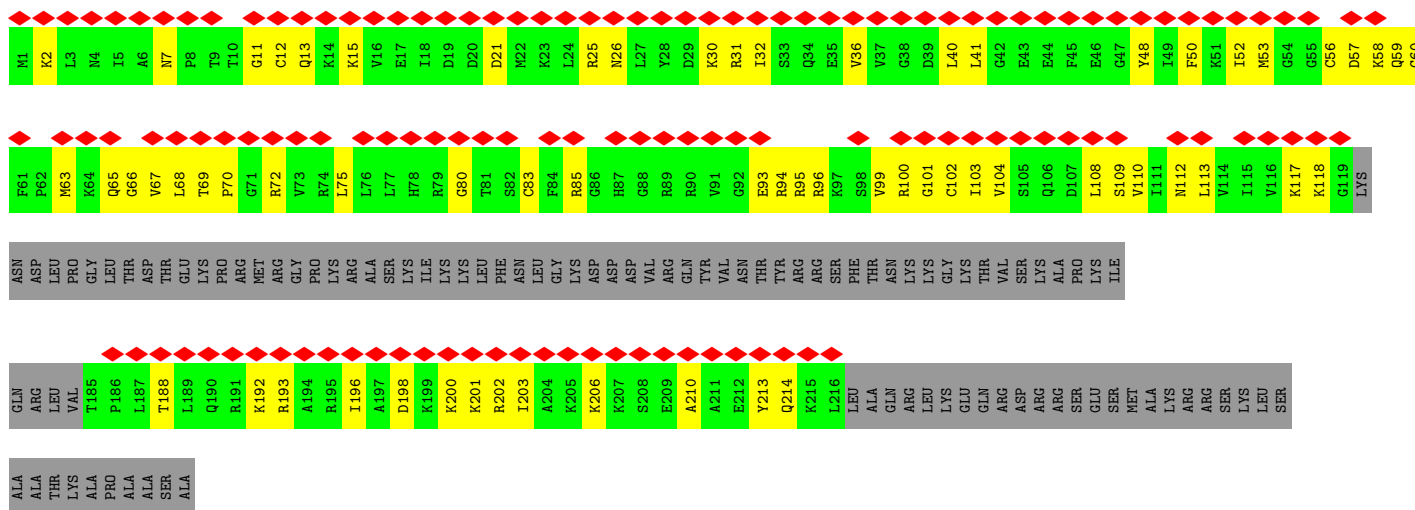


• Molecule 26: 40S ribosomal protein eS21



• Molecule 27: 40S ribosomal protein eS26

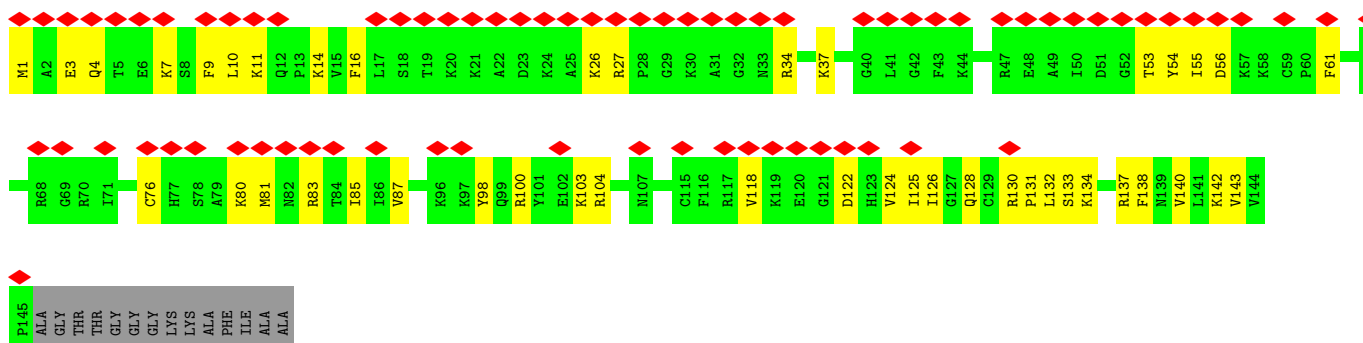




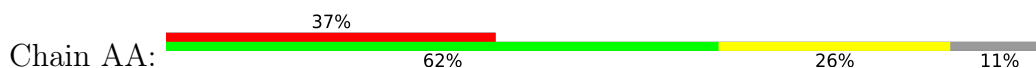
• Molecule 31: 40S ribosomal protein eS7

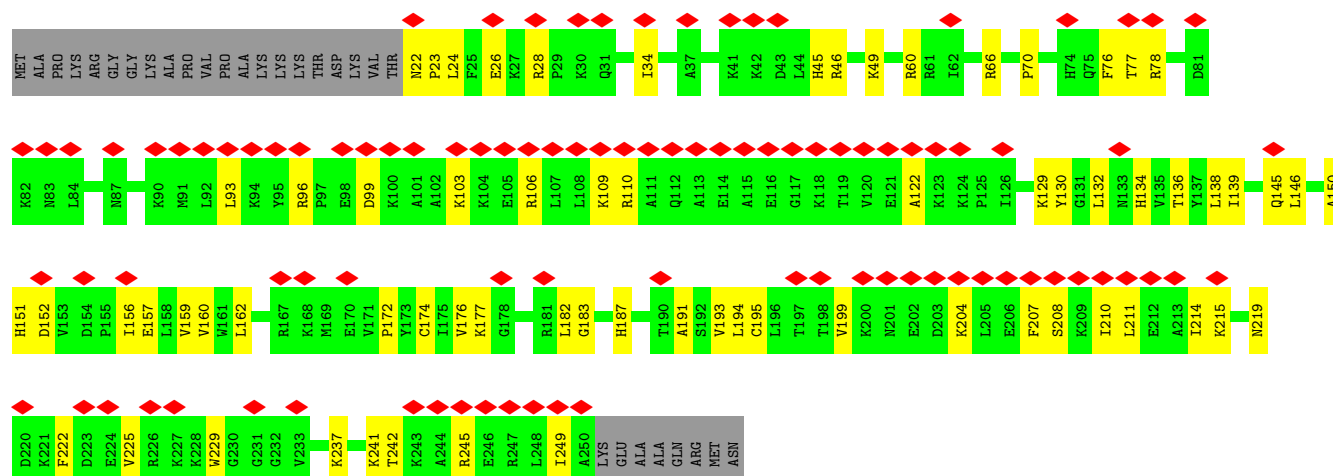


• Molecule 32: 40S ribosomal protein uS17

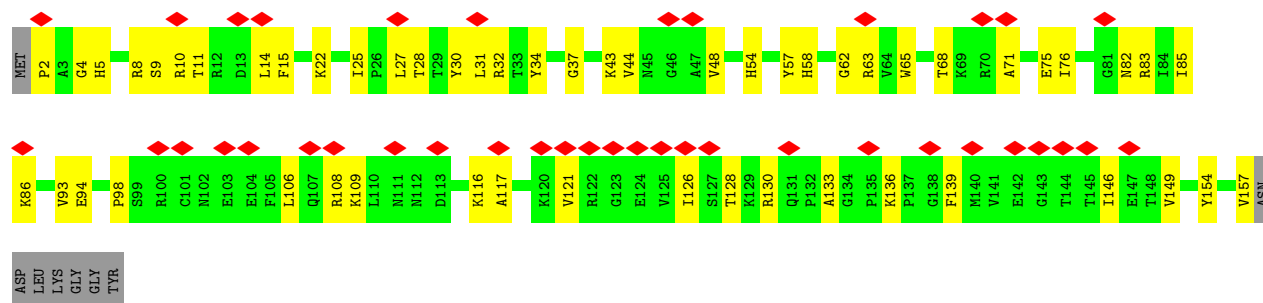


• Molecule 33: 40S ribosomal protein eL8

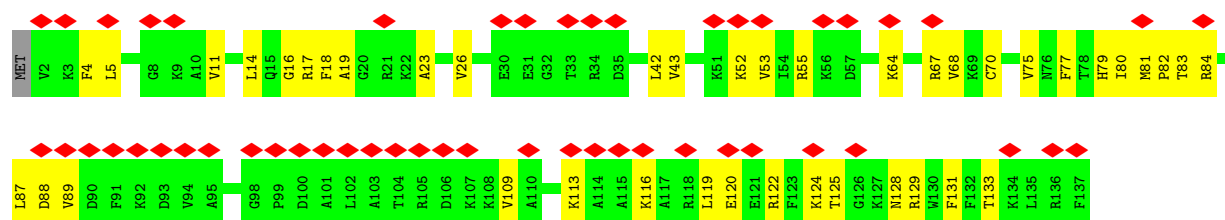




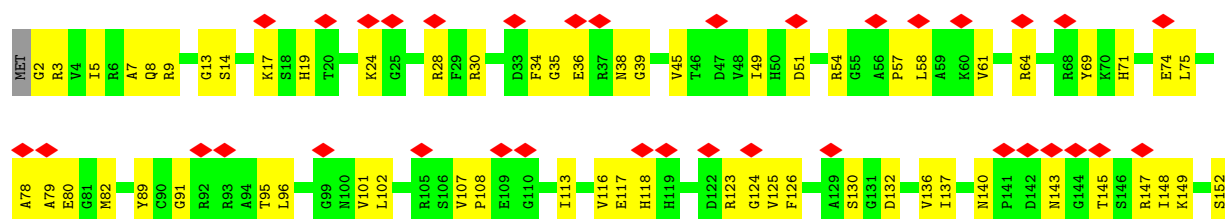
• Molecule 34: 60S ribosomal protein eL21

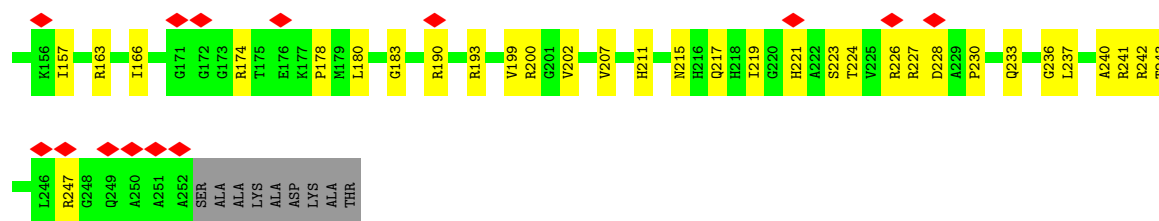


• Molecule 35: 60S ribosomal protein eL27

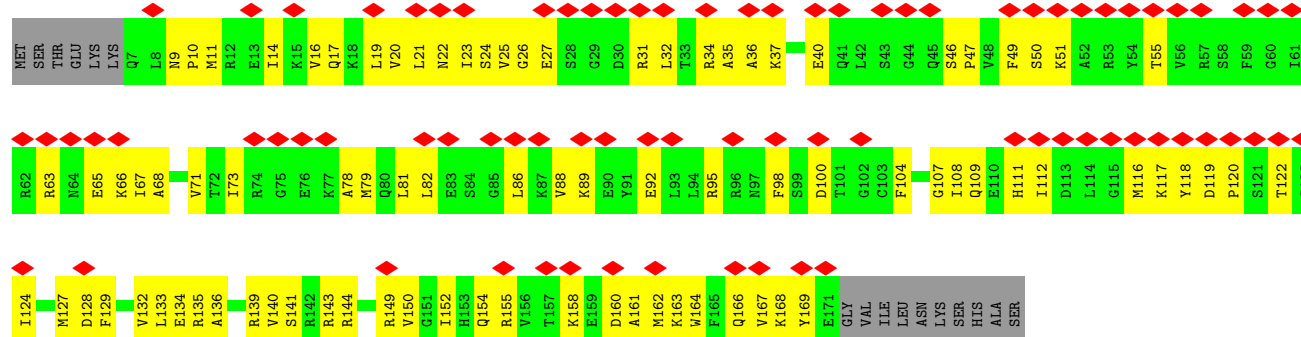


• Molecule 36: 60S ribosomal protein uL2

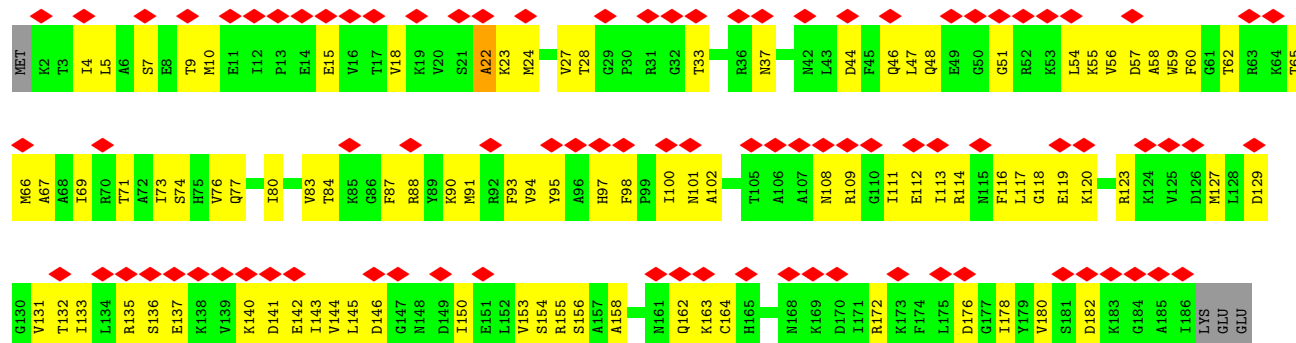




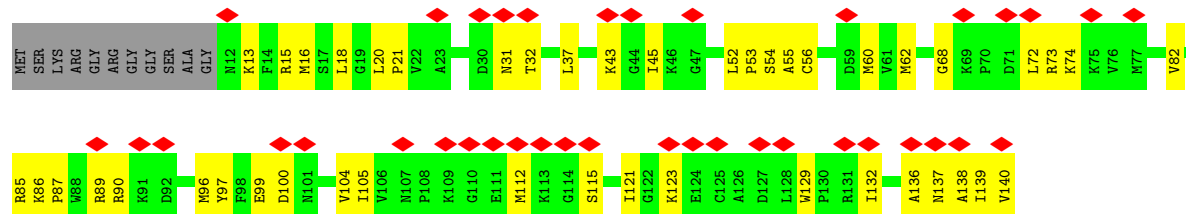
• Molecule 37: 60S ribosomal protein uL5



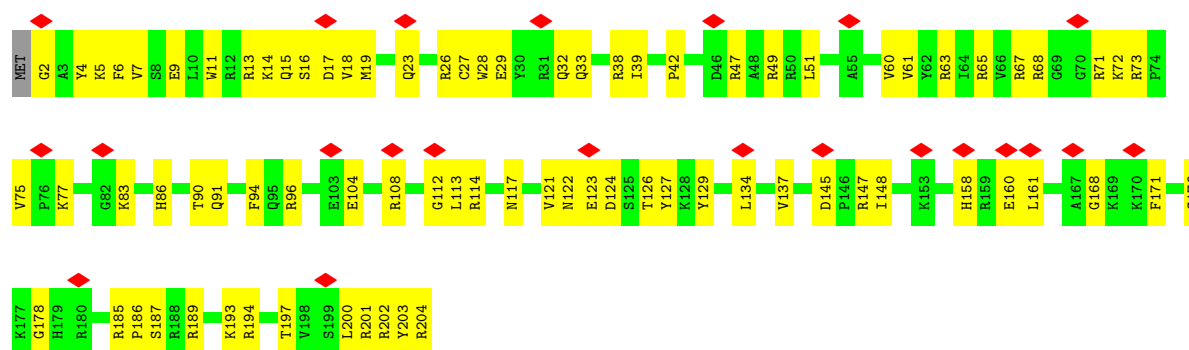
• Molecule 38: 60S ribosomal protein uL6



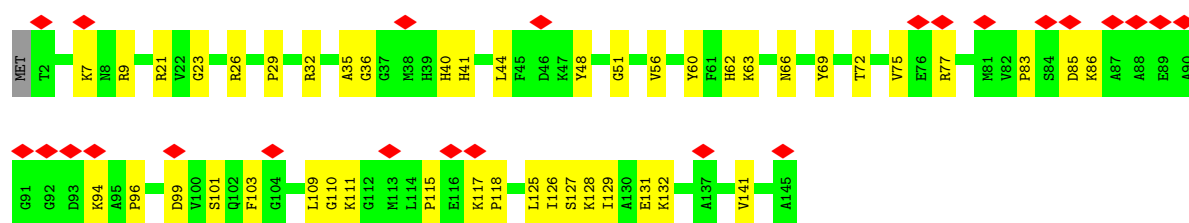
• Molecule 39: 60S ribosomal protein uL14



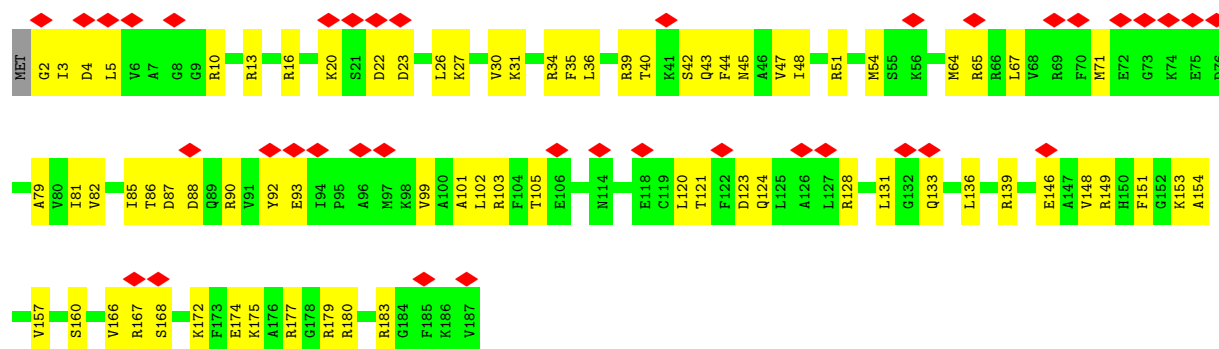
• Molecule 40: 60S ribosomal protein eL15



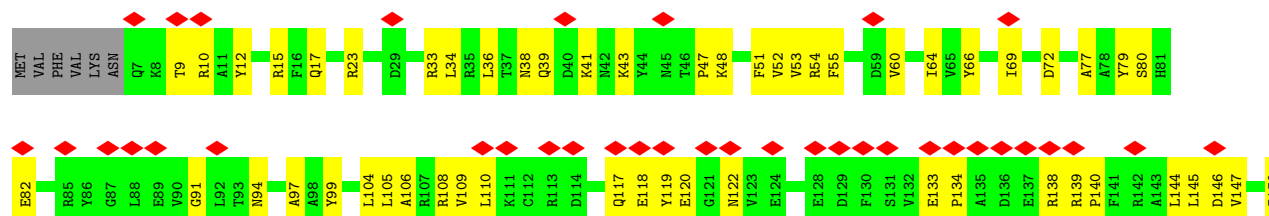
• Molecule 41: 60S ribosomal protein uL15

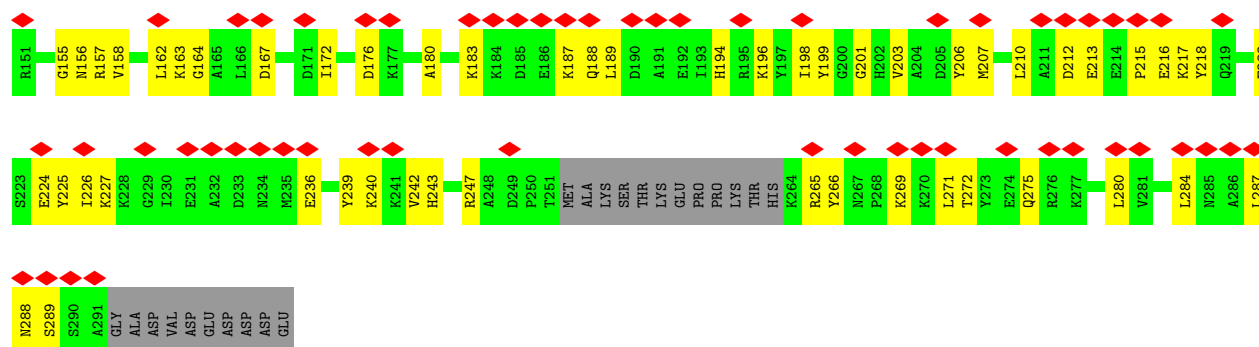


• Molecule 42: 60S ribosomal protein eL18

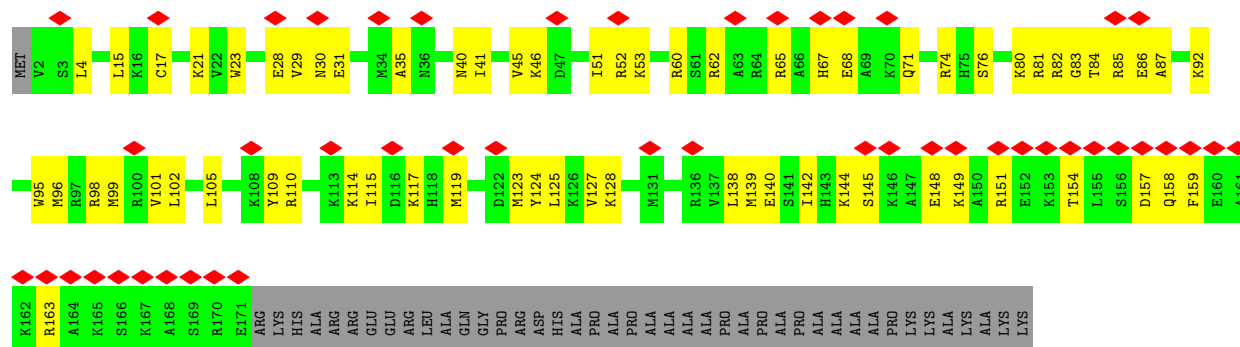


• Molecule 43: 60S ribosomal protein uL18

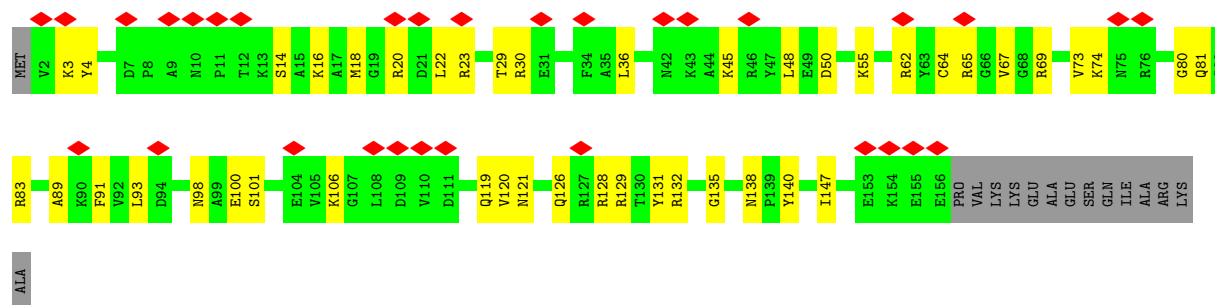




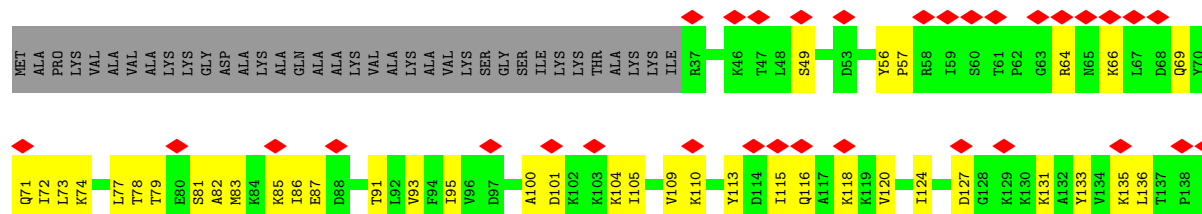
• Molecule 44: 60S ribosomal protein eL19

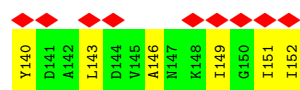


• Molecule 45: 60S ribosomal protein uL22

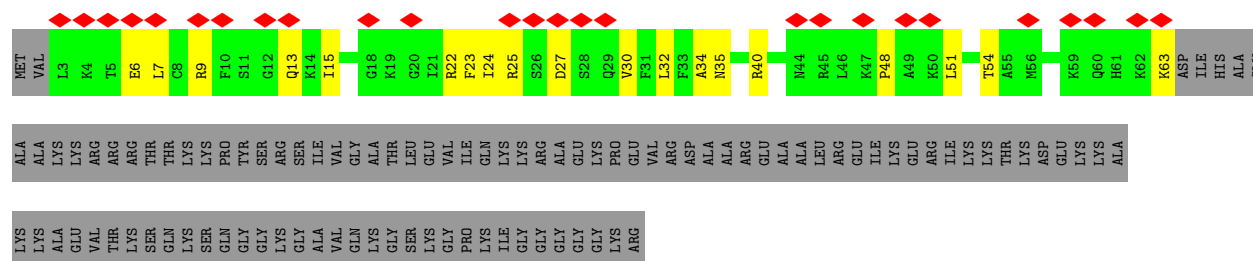


• Molecule 46: 60S ribosomal protein uL23

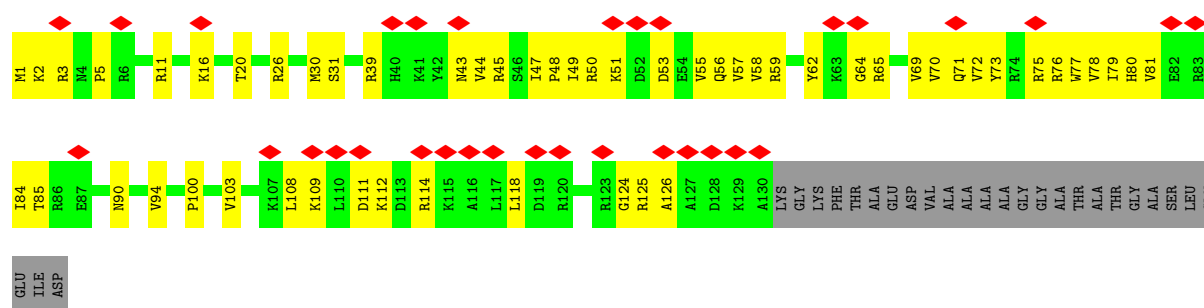




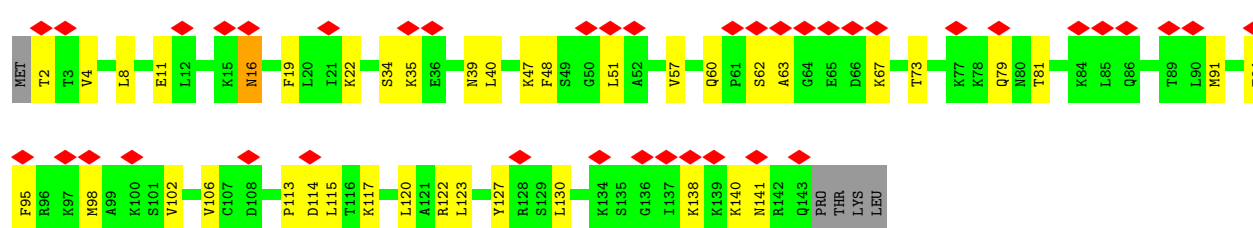
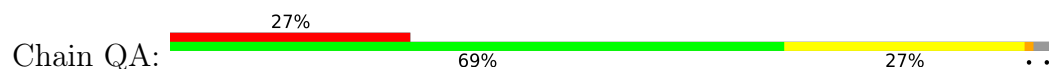
• Molecule 47: 60S ribosomal protein eL24



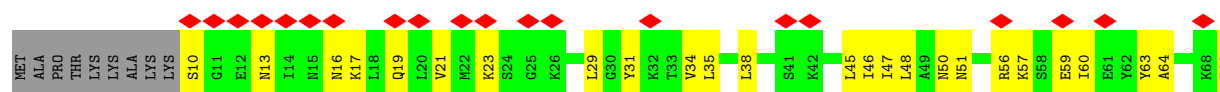
• Molecule 48: 60S ribosomal protein uL24



• Molecule 49: 60S ribosomal protein eL28

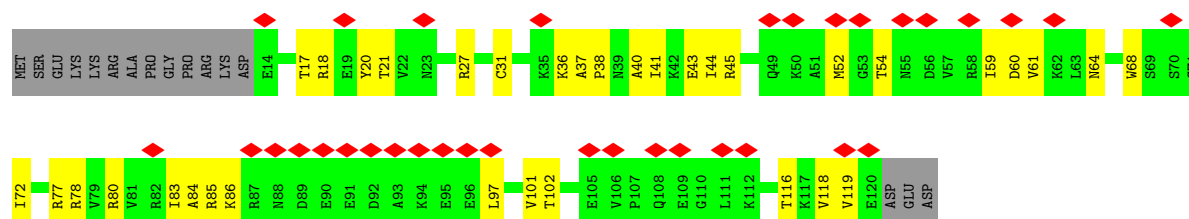


• Molecule 50: 60S ribosomal protein eL30

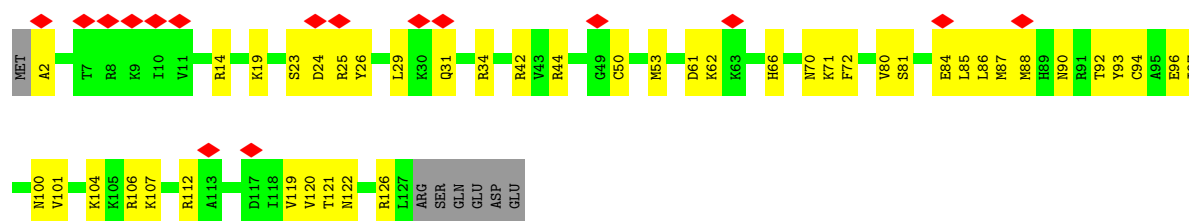




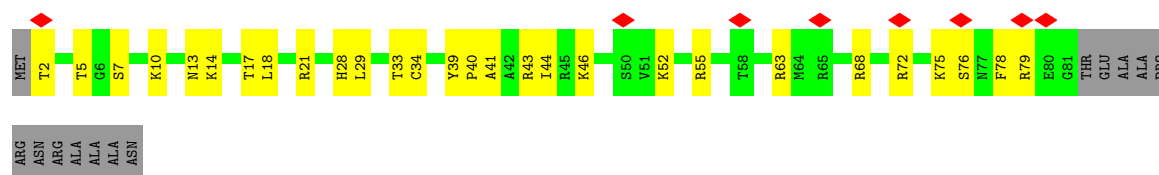
• Molecule 51: 60S ribosomal protein eL31



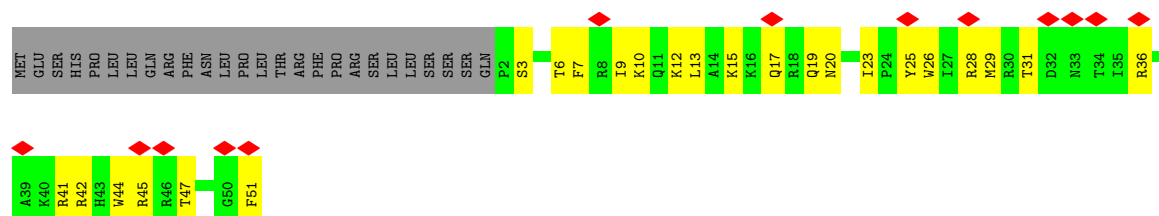
• Molecule 52: 60S ribosomal protein eL32



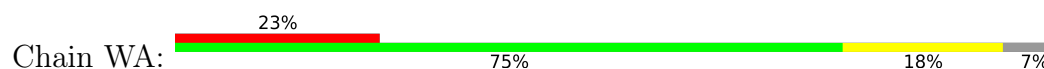
• Molecule 53: 60S ribosomal protein eL37

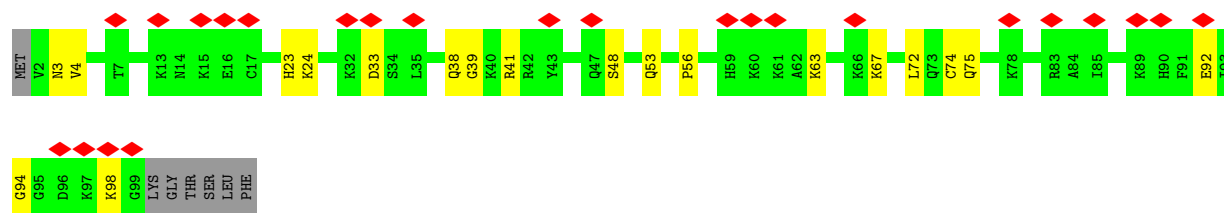


• Molecule 54: 60S ribosomal protein eL39

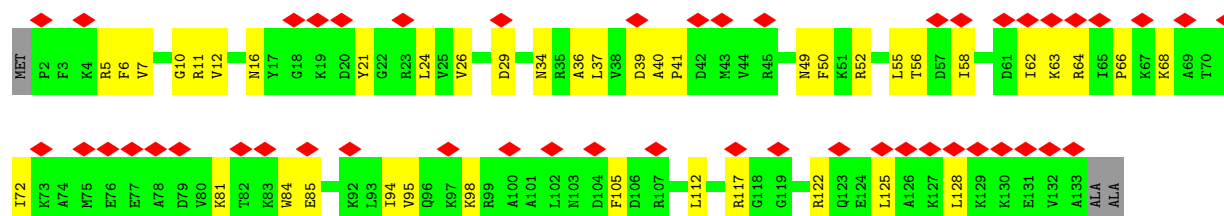
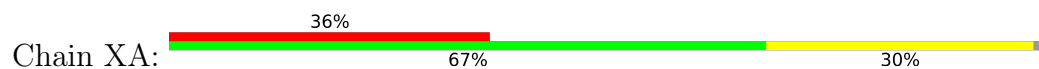


• Molecule 55: 60S ribosomal protein eL42

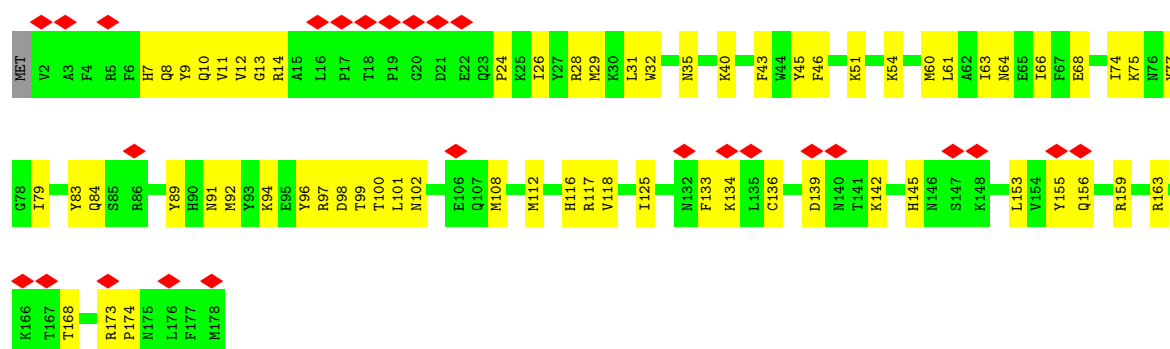




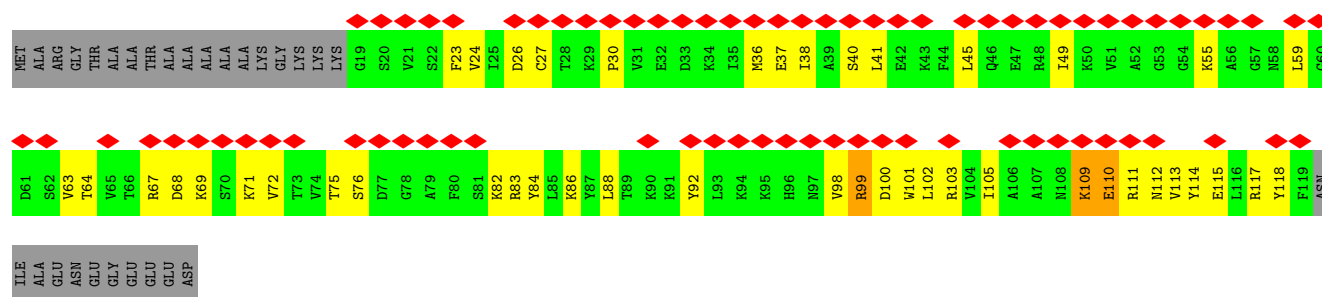
- Molecule 56: 60S ribosomal protein eL14



- Molecule 57: 60S ribosomal protein eL20

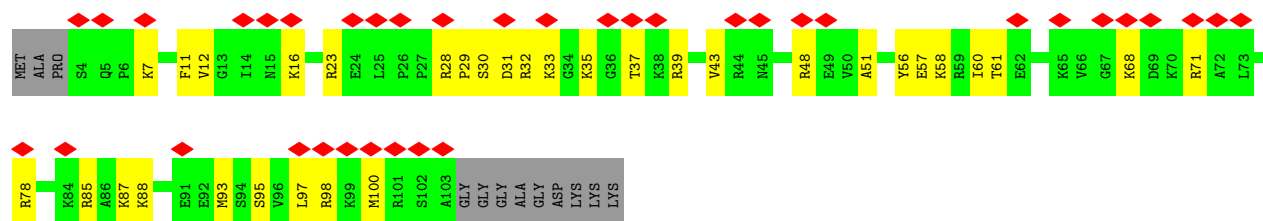


- Molecule 58: 60S ribosomal protein eL22

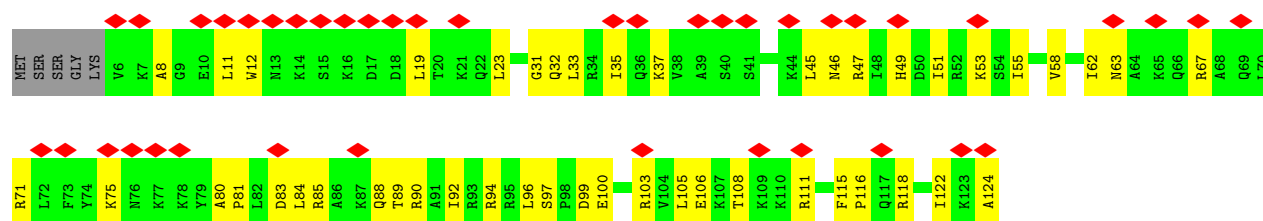


- Molecule 59: 60S ribosomal protein eL36

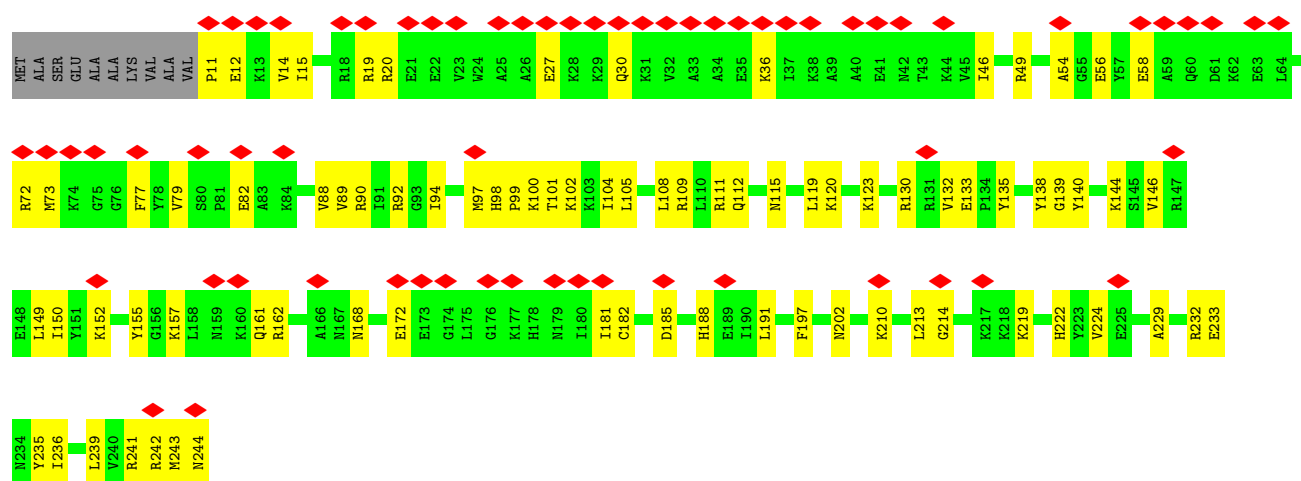




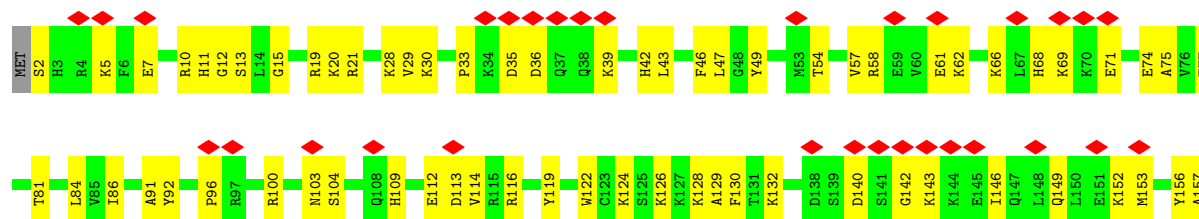
• Molecule 60: 60S ribosomal protein uL29

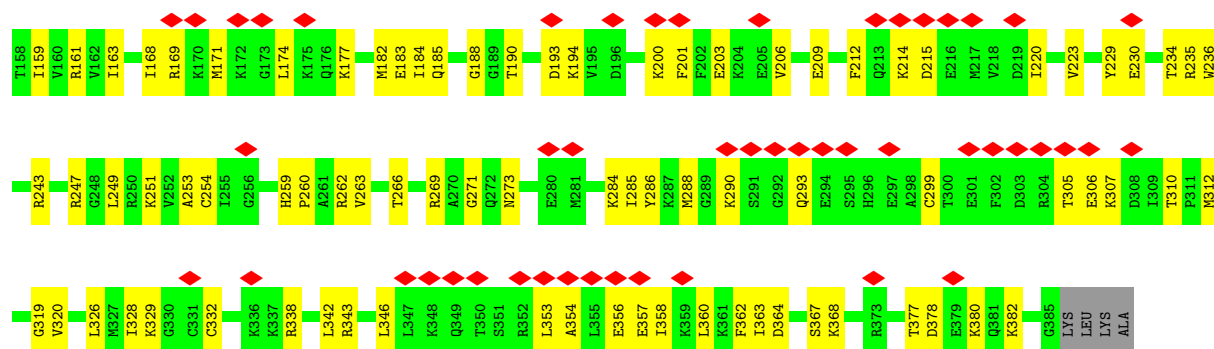


• Molecule 61: 60S ribosomal protein uL30

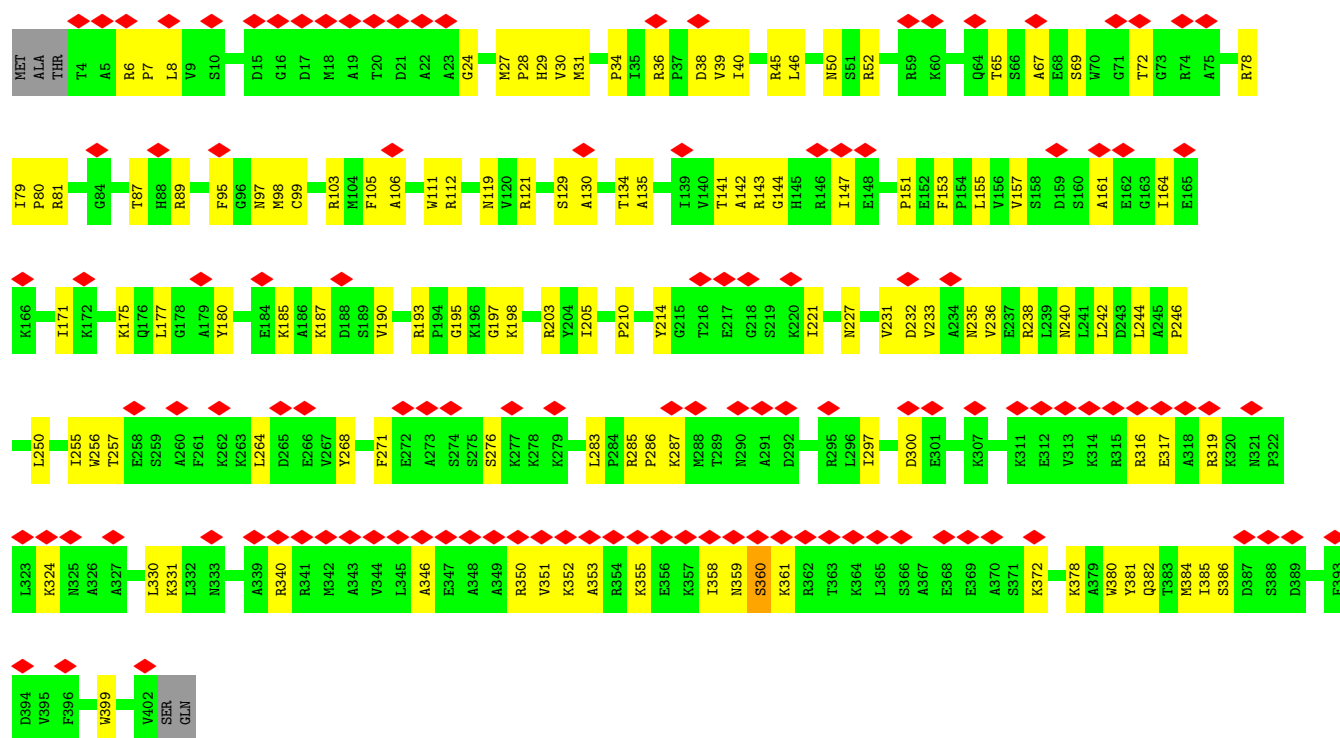


• Molecule 62: 60S ribosomal protein uL3

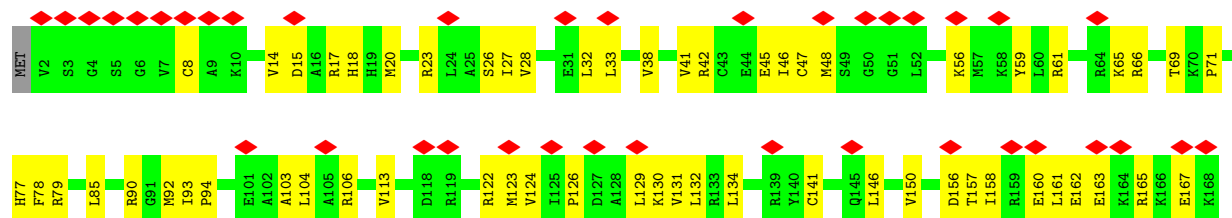




• Molecule 63: 60S ribosomal protein uL4

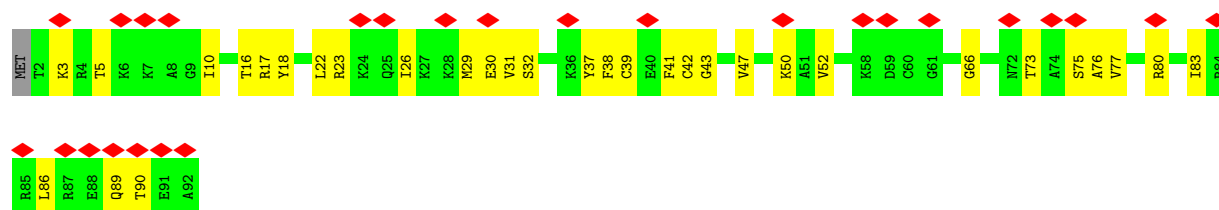


• Molecule 64: 60S ribosomal protein uL13

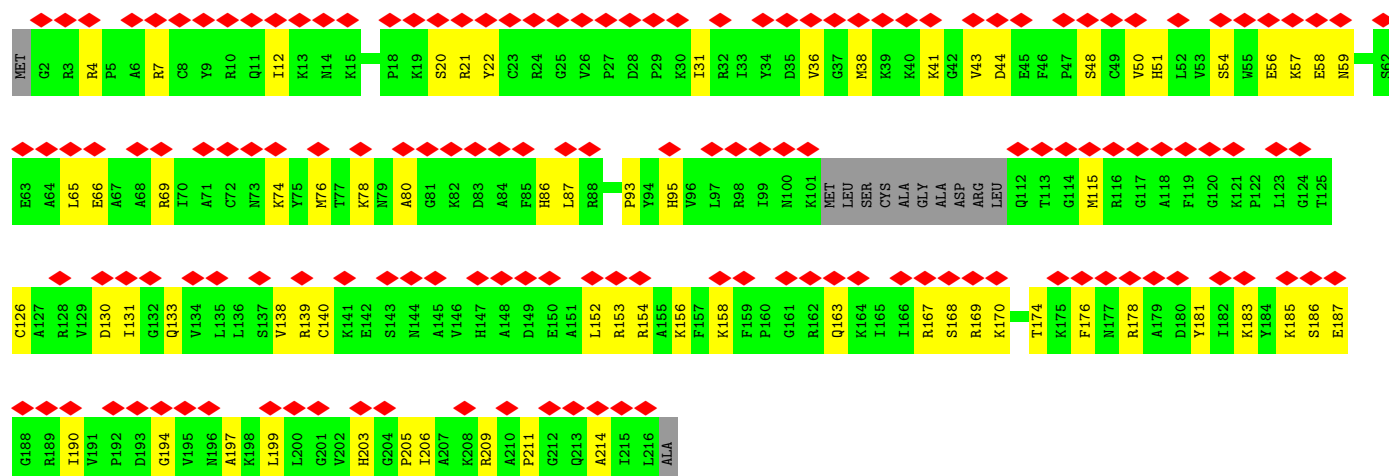




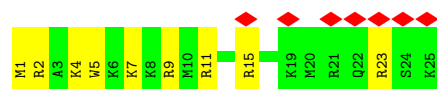
• Molecule 65: 60S ribosomal protein eL43



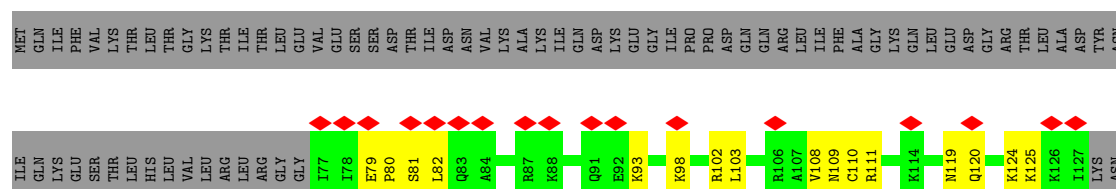
• Molecule 66: 60S ribosomal protein uL16



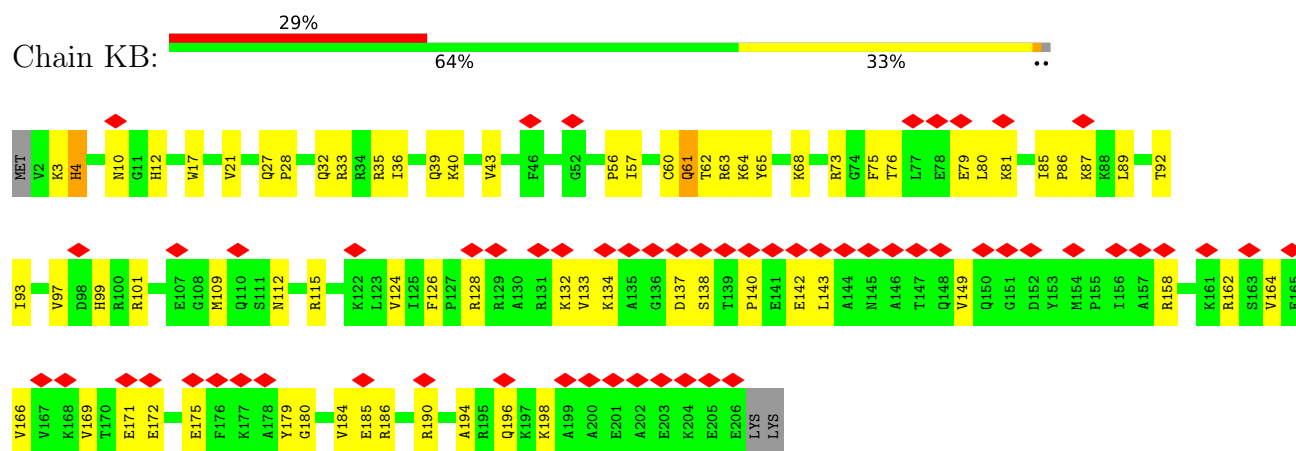
• Molecule 67: 60S ribosomal protein eL41



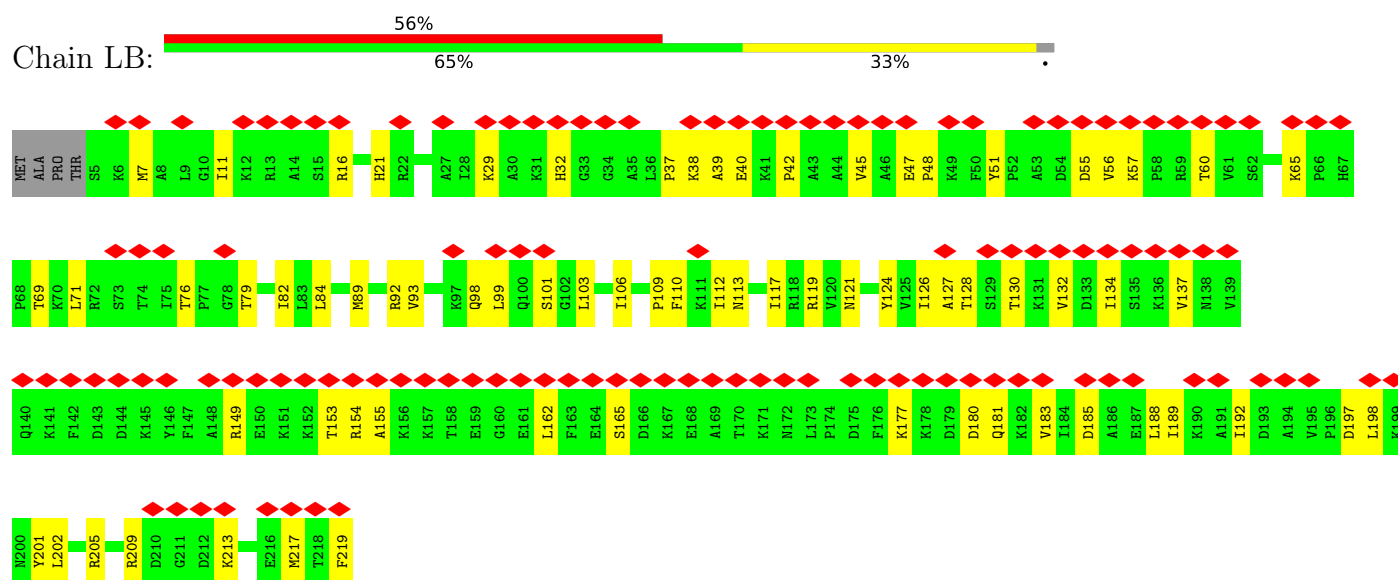
• Molecule 68: 60S ribosomal protein eL40



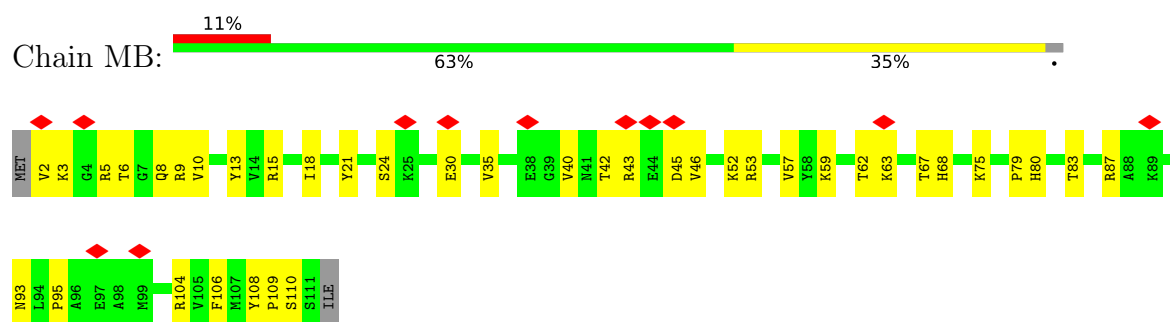
- Molecule 69: 60S ribosomal protein eL13



- Molecule 70: 60S ribosomal protein eL6

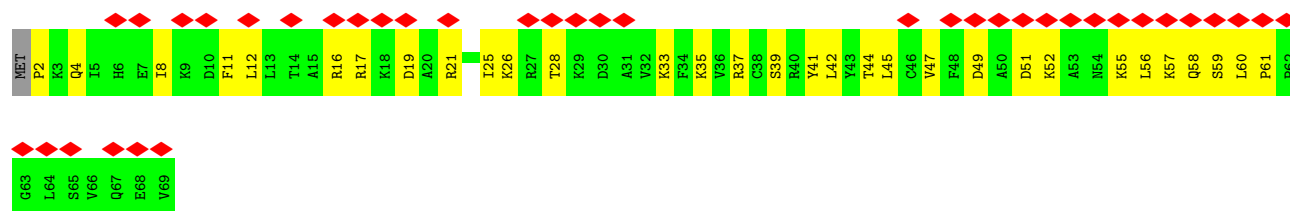


- Molecule 71: 60S ribosomal protein eL33

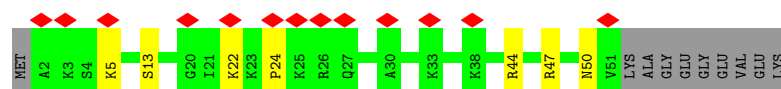
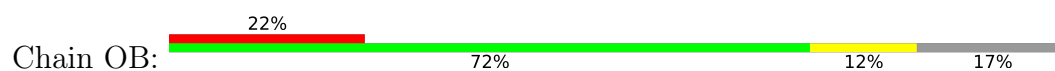


- Molecule 72: 60S ribosomal protein eL38

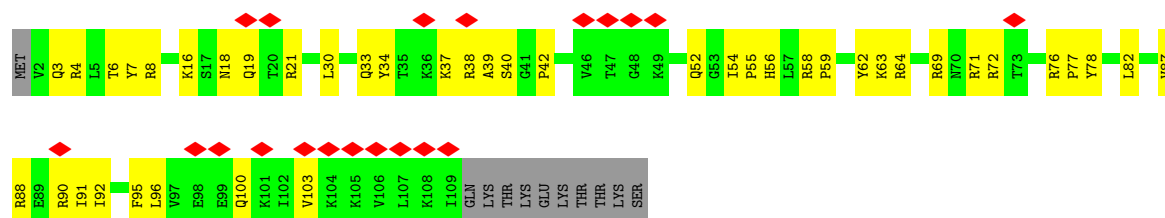




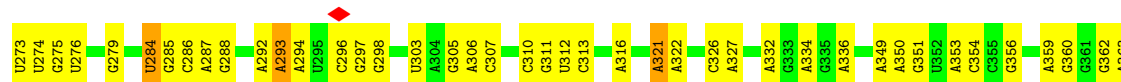
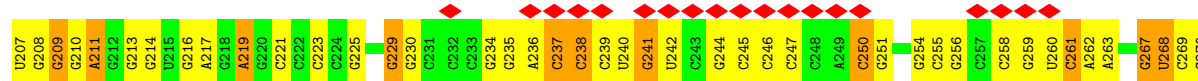
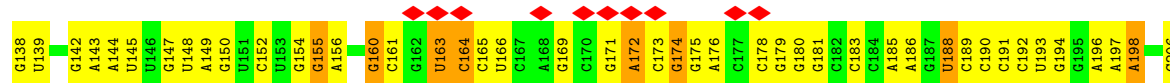
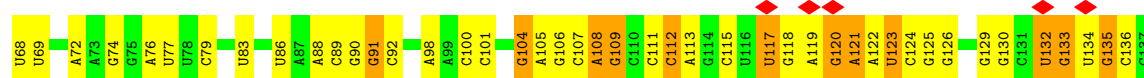
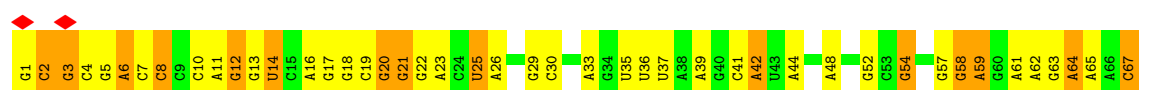
• Molecule 73: 60S ribosomal protein eL29

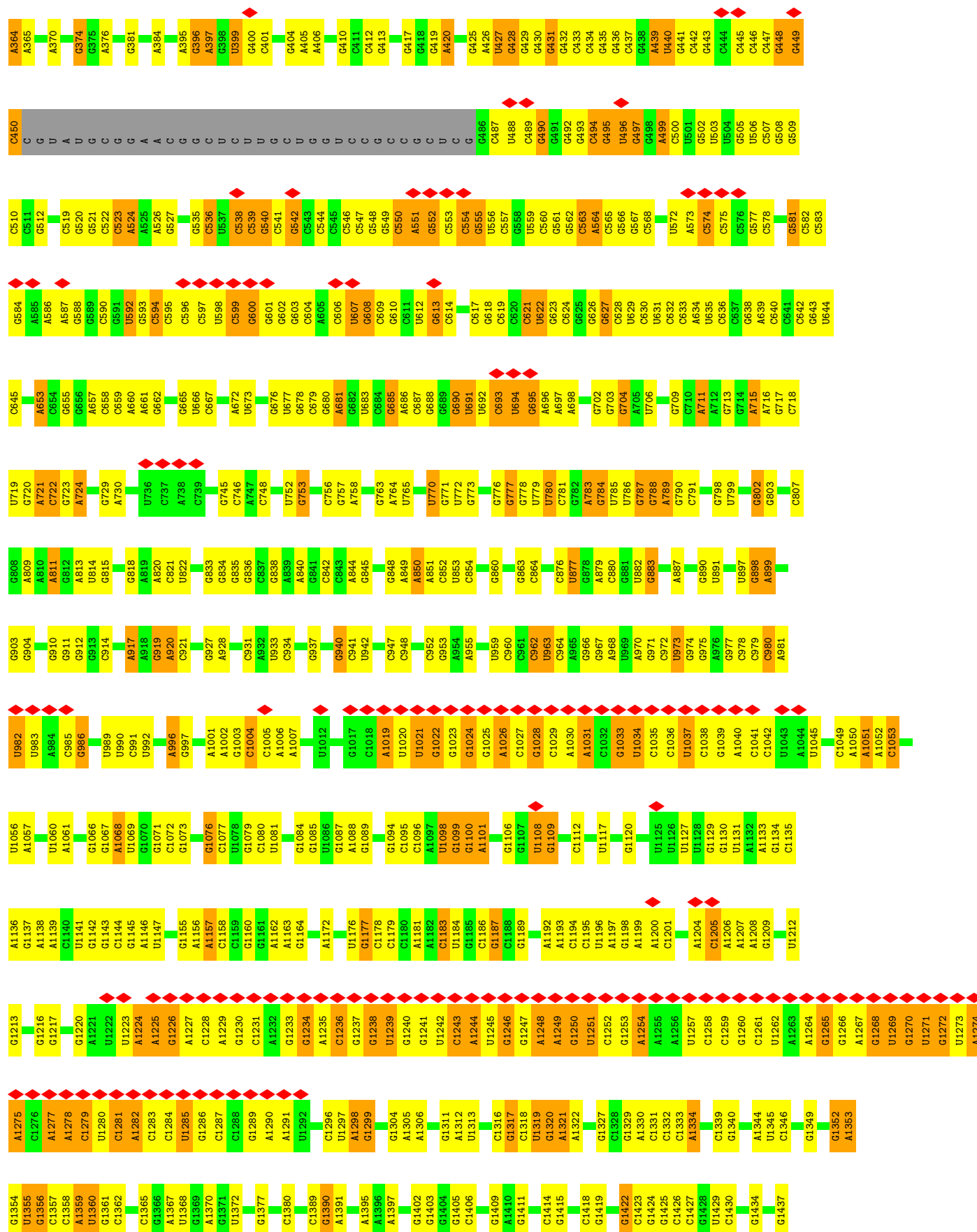


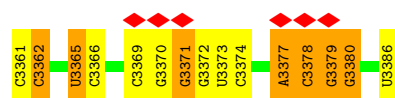
• Molecule 74: 60S ribosomal protein eL34



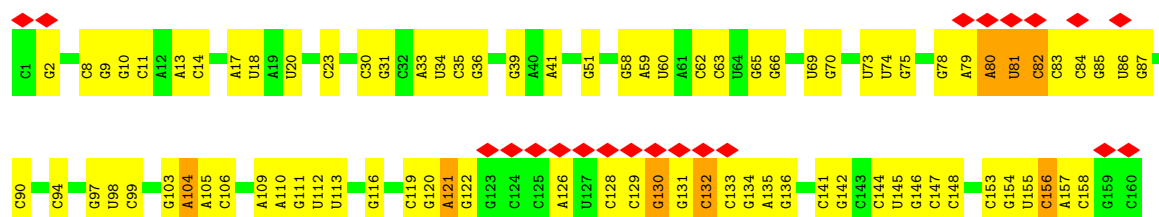
• Molecule 75: 60S ribosomal RNA



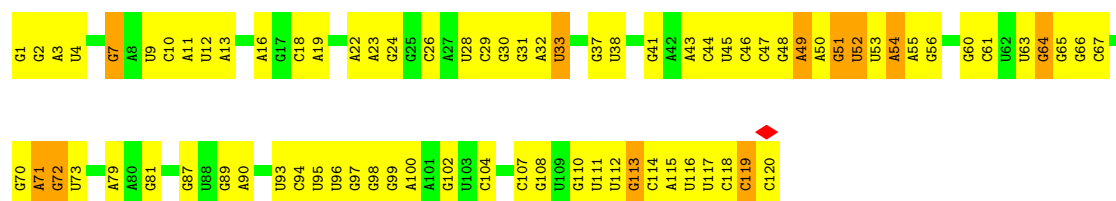




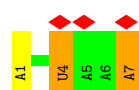
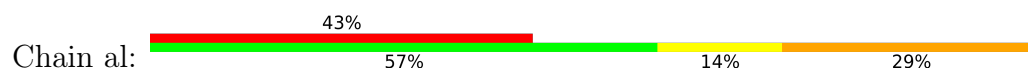
• Molecule 76: 5.8S ribosomal RNA



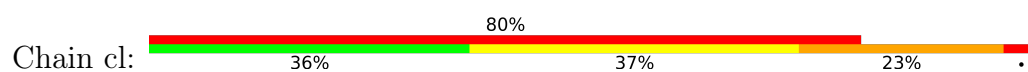
• Molecule 77: 5S ribosomal RNA



• Molecule 78: mRNA



• Molecule 79: tRNAi



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	52217	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TECNAI ARCTICA	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/\text{\AA}^2$)	40.0	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	3500	Depositor
Magnification	23500	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.189	Depositor
Minimum map value	-0.093	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.009	Depositor
Recommended contour level	0.04	Depositor
Map size (Å)	588.0, 588.0, 588.0	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.47, 1.47, 1.47	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: 1MA, 3HE, PSU, ZN, MIA, G7M, MG, 2MG, 5MC, 1MG, H2U

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	aa	0.29	0/40441	0.36	0/63026
2	ba	0.27	0/943	0.61	0/1253
3	ca	0.31	0/1464	0.55	0/1957
4	da	0.28	0/722	0.63	0/972
5	ga	0.30	0/1088	0.54	0/1448
6	ha	0.27	0/2530	0.59	0/3443
7	ia	0.31	0/1697	0.63	1/2279 (0.0%)
8	ja	0.28	0/2123	0.55	0/2853
9	ka	0.30	0/1538	0.56	0/2070
10	la	0.29	0/1138	0.61	0/1517
11	ma	0.30	0/815	0.60	0/1098
12	na	0.32	0/953	0.59	0/1278
13	oa	0.30	0/1132	0.68	1/1511 (0.1%)
14	pa	0.32	0/1219	0.52	0/1638
15	qa	0.30	0/985	0.65	0/1313
16	ra	0.31	0/1088	0.60	0/1463
17	sa	0.27	0/824	0.59	0/1102
18	ta	0.30	0/624	0.74	0/836
19	ua	0.30	0/514	0.60	0/685
20	va	0.38	0/1057	0.73	0/1421
21	wa	0.30	0/318	0.53	0/418
22	xa	0.28	0/555	0.47	0/742
23	ya	0.24	0/326	0.65	1/430 (0.2%)
24	za	0.33	0/1644	0.56	0/2226
25	bb	0.31	0/1749	0.64	0/2349
26	cb	0.33	0/605	0.60	0/814
27	db	0.31	0/784	0.48	0/1047
28	eb	0.30	0/1521	0.64	0/2035
29	fb	0.35	0/1696	0.56	0/2292
30	gb	0.25	0/1210	0.55	0/1606
31	hb	0.28	0/1415	0.59	0/1907
32	ib	0.33	0/1192	0.50	0/1597

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	AA	0.31	0/1881	0.52	0/2523
34	BA	0.37	0/1284	0.53	0/1728
35	CA	0.33	0/1111	0.55	0/1481
36	DA	0.38	0/1965	0.53	0/2644
37	EA	0.35	0/1353	0.65	0/1807
38	FA	0.32	0/1478	0.55	0/1983
39	GA	0.36	0/992	0.52	0/1333
40	HA	0.41	0/1760	0.60	0/2354
41	IA	0.39	0/1152	0.48	0/1538
42	JA	0.38	0/1511	0.60	0/2021
43	KA	0.31	0/2249	0.55	0/3020
44	LA	0.35	0/1433	0.62	0/1892
45	MA	0.39	0/1276	0.61	0/1713
46	NA	0.34	0/950	0.52	0/1275
47	OA	0.35	0/530	0.54	0/703
48	PA	0.36	0/1067	0.64	1/1425 (0.1%)
49	QA	0.32	0/1144	0.51	0/1536
50	RA	0.34	0/769	0.50	0/1035
51	SA	0.35	0/874	0.58	0/1171
52	TA	0.38	0/1061	0.52	0/1417
53	UA	0.40	0/669	0.60	0/886
54	VA	0.40	0/464	0.51	0/616
55	WA	0.32	0/807	0.47	0/1064
56	XA	0.33	0/1079	0.56	0/1440
57	YA	0.38	0/1534	0.54	0/2061
58	ZA	0.28	0/826	0.59	0/1106
59	AB	0.32	0/814	0.58	0/1077
60	BB	0.34	0/990	0.59	0/1317
61	CB	0.37	0/1952	0.59	0/2614
62	DB	0.38	0/3167	0.54	0/4238
63	EB	0.34	0/3133	0.52	0/4220
64	FB	0.36	0/1669	0.59	0/2236
65	GB	0.37	0/716	0.57	0/948
66	HB	0.29	0/1670	0.57	0/2237
67	IB	0.37	0/238	0.81	0/302
68	JB	0.31	0/426	0.55	0/564
69	KB	0.34	0/1699	0.57	0/2269
70	LB	0.30	0/1737	0.52	0/2334
71	MB	0.40	0/893	0.55	0/1198
72	NB	0.33	0/565	0.60	0/753
73	OB	0.34	0/424	0.52	0/561
74	PB	0.38	0/894	0.58	0/1197
75	RB	0.36	0/75401	0.37	0/117598

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
76	SB	0.35	0/3809	0.35	0/5936
77	TB	0.33	0/2864	0.33	0/4464
78	al	0.26	0/165	0.33	0/256
79	cl	0.21	0/1534	0.35	0/2386
All	All	0.33	0/211889	0.45	4/311103 (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
8	ja	0	1
9	ka	0	1
10	la	0	1
12	na	0	1
18	ta	0	3
20	va	0	1
31	hb	0	1
38	FA	0	1
63	EB	0	1
69	KB	0	1
All	All	0	12

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	ia	205	PRO	CA-N-CD	-7.71	101.20	112.00
48	PA	5	PRO	CA-N-CD	-6.41	103.03	112.00
23	ya	45	VAL	N-CA-C	-5.85	107.80	113.53
13	oa	55	ARG	CB-CG-CD	-5.04	99.72	111.30

There are no chirality outliers.

All (12) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
63	EB	360	SER	Peptide
38	FA	22	ALA	Peptide
69	KB	61	GLN	Peptide
31	hb	107	LYS	Peptide

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Mol	Chain	Res	Type	Group
8	ja	36	HIS	Peptide
9	ka	122	THR	Peptide
10	la	46	ARG	Peptide
12	na	137	THR	Peptide
18	ta	33	GLN	Peptide
18	ta	70	LEU	Peptide
18	ta	76	LEU	Peptide
20	va	75	THR	Peptide

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	aa	36156	0	18230	938	0
2	ba	929	0	992	49	0
3	ca	1443	0	1478	63	0
4	da	703	0	701	41	0
5	ga	1070	0	1133	44	0
6	ha	2473	0	2406	161	0
7	ia	1673	0	1756	74	0
8	ja	2082	0	2171	108	0
9	ka	1516	0	1564	82	0
10	la	1119	0	1190	62	0
11	ma	806	0	863	31	0
12	na	941	0	977	54	0
13	oa	1114	0	1140	86	0
14	pa	1195	0	1287	35	0
15	qa	975	0	1024	71	0
16	ra	1065	0	1083	61	0
17	sa	807	0	863	42	0
18	ta	618	0	654	64	0
19	ua	513	0	551	30	0
20	va	1039	0	1063	55	0
21	wa	314	0	318	20	0
22	xa	546	0	564	21	0
23	ya	322	0	354	18	0
24	za	1609	0	1615	87	0
25	bb	1720	0	1793	97	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
26	cb	596	0	583	25	0
27	db	771	0	789	26	0
28	eb	1493	0	1559	83	0
29	fb	1660	0	1743	92	0
30	gb	1199	0	1287	56	0
31	hb	1389	0	1444	70	0
32	ib	1166	0	1232	38	0
33	AA	1847	0	1999	58	0
34	BA	1256	0	1309	60	0
35	CA	1090	0	1172	40	0
36	DA	1919	0	1941	83	0
37	EA	1332	0	1368	81	0
38	FA	1459	0	1534	76	0
39	GA	976	0	1038	40	0
40	HA	1720	0	1791	83	0
41	IA	1123	0	1169	53	0
42	JA	1487	0	1588	75	0
43	KA	2209	0	2215	91	0
44	LA	1414	0	1529	54	0
45	MA	1253	0	1281	37	0
46	NA	935	0	1011	39	0
47	OA	517	0	542	18	0
48	PA	1054	0	1140	55	0
49	QA	1125	0	1183	36	0
50	RA	757	0	784	30	0
51	SA	863	0	910	29	0
52	TA	1042	0	1119	40	0
53	UA	656	0	679	28	0
54	VA	452	0	479	24	0
55	WA	794	0	849	17	0
56	XA	1066	0	1157	33	0
57	YA	1496	0	1545	60	0
58	ZA	814	0	850	44	0
59	AB	803	0	890	36	0
60	BB	979	0	1074	49	0
61	CB	1917	0	2021	66	0
62	DB	3099	0	3206	127	0
63	EB	3075	0	3196	100	0
64	FB	1641	0	1760	55	0
65	GB	707	0	742	27	0
66	HB	1635	0	1700	53	0
67	IB	237	0	289	11	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
68	JB	420	0	460	16	0
69	KB	1670	0	1759	66	0
70	LB	1703	0	1792	67	0
71	MB	875	0	896	40	0
72	NB	557	0	599	26	0
73	OB	416	0	432	7	0
74	PB	879	0	961	42	0
75	RB	67383	0	34023	1497	0
76	SB	3408	0	1732	82	0
77	TB	2561	0	1295	74	0
78	al	147	0	74	2	0
79	cl	1622	0	842	40	0
80	DA	2	0	0	0	0
80	DB	2	0	0	0	0
80	GA	1	0	0	0	0
80	KB	1	0	0	0	0
80	PB	1	0	0	0	0
80	RB	187	0	0	0	0
80	TB	1	0	0	0	0
80	aa	67	0	0	0	0
80	cl	2	0	0	0	0
80	ga	1	0	0	0	0
81	GB	1	0	0	0	0
81	WA	1	0	0	0	0
81	db	1	0	0	0	0
81	wa	1	0	0	0	0
82	RB	20	0	23	1	0
All	All	197701	0	146355	5505	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 16.

All (5505) 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)
75:RB:6:A:H2	76:SB:154:G:N1	1.34	1.25
75:RB:1755:A:H2	75:RB:1764:G:N1	1.33	1.23
75:RB:6:A:C2	76:SB:154:G:N1	2.07	1.18
75:RB:1543:A:H2	75:RB:1559:G:N1	1.39	1.18
75:RB:26:A:C2	75:RB:57:G:N1	2.12	1.17
75:RB:1543:A:C2	75:RB:1559:G:N1	2.11	1.13

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:1755:A:C2	75:RB:1764:G:N1	2.11	1.13
1:aa:68:A:N6	1:aa:84:G:H1	1.51	1.06
75:RB:26:A:H2	75:RB:57:G:N1	1.52	1.01
45:MA:48:LEU:HD22	45:MA:93:LEU:HG	1.47	0.96
4:da:21:LEU:HD22	4:da:46:MET:HE1	1.47	0.96
1:aa:1596:G:H1	1:aa:1616:U:H3	1.16	0.93
75:RB:14:U:H3	76:SB:146:G:H1	0.98	0.93
26:cb:16:LYS:HG2	26:cb:23:ILE:HG22	1.50	0.91
1:aa:127:G:OP1	30:gb:206:LYS:NZ	2.03	0.91
30:gb:70:PRO:HD3	30:gb:103:ILE:HD11	1.53	0.91
2:ba:26:LYS:HB2	2:ba:81:ILE:HB	1.54	0.90
75:RB:522:C:H3'	75:RB:523:C:H5''	1.52	0.90
1:aa:1185:U:H3	1:aa:1464:G:H1	1.06	0.90
75:RB:1892:A:H61	75:RB:2332:C:H42	1.19	0.90
1:aa:646:G:N1	1:aa:705:A:C2	2.41	0.89
40:HA:9:GLU:OE2	40:HA:13:ARG:NH1	2.05	0.89
36:DA:28:ARG:HD2	36:DA:123:ARG:HE	1.38	0.89
31:hb:76:ILE:HG13	31:hb:77:HIS:H	1.36	0.88
34:BA:57:TYR:HD1	34:BA:76:ILE:HD11	1.37	0.88
62:DB:368:LYS:HD2	75:RB:3045:A:H4'	1.56	0.88
1:aa:68:A:N1	1:aa:84:G:N2	2.22	0.88
1:aa:646:G:N1	1:aa:705:A:H2	1.71	0.88
37:EA:152:ILE:HG22	37:EA:155:ARG:HH21	1.38	0.88
1:aa:646:G:H1	1:aa:705:A:H2	0.94	0.87
1:aa:1147:A:OP1	27:db:2:THR:N	2.08	0.87
6:ha:232:LEU:HB3	6:ha:234:TRP:HE1	1.39	0.87
75:RB:3155:G:H1	75:RB:3275:U:H3	0.89	0.87
15:qa:67:ARG:HG3	15:qa:68:GLY:H	1.40	0.87
75:RB:1673:A:H2	75:RB:1689:G:H1	1.19	0.87
13:oa:27:MET:HE1	13:oa:42:ASN:HB2	1.54	0.87
24:za:122:GLU:HB2	29:fb:50:LYS:HE3	1.56	0.87
33:AA:159:VAL:HA	33:AA:162:LEU:HD23	1.57	0.86
75:RB:1567:G:N1	75:RB:1572:C:N3	2.23	0.86
9:ka:131:ARG:HE	9:ka:132:ARG:H	1.19	0.86
19:ua:30:VAL:HG13	19:ua:52:LEU:HD21	1.58	0.86
70:LB:181:GLN:HG3	75:RB:3254:A:H2	1.37	0.86
1:aa:1190:U:O4	1:aa:1204:G:N2	2.09	0.85
66:HB:130:ASP:OD1	66:HB:131:ILE:N	2.09	0.85
48:PA:30:MET:HE1	48:PA:77:TRP:HA	1.59	0.85
16:ra:119:GLU:HG2	16:ra:123:MET:HE1	1.57	0.85
20:va:50:GLU:OE2	31:hb:142:ARG:NE	2.10	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:KA:176:ASP:HB2	43:KA:189:LEU:HD11	1.58	0.85
50:RA:50:ASN:ND2	50:RA:76:GLY:O	2.10	0.84
75:RB:1567:G:N2	75:RB:1572:C:O2	2.08	0.84
69:KB:85:ILE:HD11	69:KB:93:ILE:HD11	1.59	0.84
71:MB:5:ARG:NH2	71:MB:8:GLN:O	2.10	0.84
20:va:55:HIS:O	20:va:56:ARG:HG3	1.78	0.84
1:aa:824:U:O2	1:aa:858:G:N2	2.10	0.84
57:YA:10:GLN:HG2	63:EB:384:MET:HG3	1.58	0.83
68:JB:103:LEU:HD21	68:JB:110:CYS:HA	1.60	0.83
1:aa:25:C:N4	28:eb:10:TYR:O	2.11	0.83
18:ta:82:LYS:NZ	18:ta:102:PHE:O	2.10	0.83
49:QA:122:ARG:HH11	52:TA:88:MET:HE1	1.43	0.83
6:ha:43:LEU:HB2	6:ha:69:LEU:HB2	1.60	0.83
22:xa:35:MET:HE1	22:xa:75:LEU:HD21	1.59	0.83
42:JA:81:ILE:HG21	42:JA:85:ILE:HD11	1.61	0.83
75:RB:691:U:H3	75:RB:698:A:H61	1.26	0.83
11:ma:52:LYS:NZ	11:ma:56:LEU:O	2.11	0.83
37:EA:136:ALA:O	37:EA:154:GLN:NE2	2.12	0.83
58:ZA:109:LYS:HG3	58:ZA:110:GLU:H	1.44	0.83
6:ha:21:VAL:HG13	6:ha:318:GLY:HA2	1.60	0.82
1:aa:594:C:H2'	1:aa:595:A:C8	2.15	0.82
1:aa:1500:A:N6	1:aa:1520:G:OP2	2.13	0.82
8:ja:106:LYS:HG2	8:ja:245:LYS:HE2	1.60	0.82
34:BA:8:ARG:HH11	75:RB:2753:C:H1'	1.43	0.82
41:IA:94:LYS:HG2	69:KB:166:VAL:HG12	1.62	0.82
1:aa:1106:G:N3	20:va:4:ARG:NH1	2.28	0.81
1:aa:422:G:H1'	30:gb:59:GLN:HE21	1.46	0.81
1:aa:1356:A:OP1	10:la:29:LYS:NZ	2.13	0.81
13:oa:39:ARG:NH2	16:ra:49:ILE:O	2.13	0.81
18:ta:34:LYS:HZ3	18:ta:37:VAL:HG11	1.45	0.81
62:DB:247:ARG:NH2	75:RB:2945:C:OP1	2.14	0.81
69:KB:73:ARG:NH2	75:RB:109:G:OP2	2.13	0.81
7:ia:55:THR:HG23	7:ia:90:LYS:HD3	1.62	0.81
43:KA:147:VAL:HG12	43:KA:158:VAL:HG11	1.62	0.81
75:RB:1224:A:H5''	75:RB:1225:A:H3'	1.62	0.81
29:fb:97:GLN:HG2	29:fb:106:THR:HG22	1.63	0.80
3:ca:58:ALA:HB2	3:ca:196:GLY:HA2	1.62	0.80
10:la:19:LYS:HG3	10:la:20:LYS:H	1.47	0.80
75:RB:3155:G:N2	75:RB:3275:U:O2	2.13	0.80
1:aa:68:A:H61	1:aa:84:G:H1	0.83	0.80
4:da:43:ILE:HG13	4:da:44:LYS:HG2	1.61	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:sa:106:TYR:HD2	17:sa:108:GLY:H	1.30	0.80
63:EB:78:ARG:NH1	75:RB:2811:G:OP1	2.14	0.80
41:IA:132:LYS:NZ	75:RB:722:C:O2	2.13	0.80
40:HA:108:ARG:NH2	75:RB:54:G:O2'	2.14	0.80
57:YA:7:HIS:HA	57:YA:102:ASN:HD21	1.46	0.80
72:NB:25:ILE:HD13	72:NB:57:LYS:HE2	1.64	0.80
75:RB:430:G:H1	75:RB:631:U:H3	1.26	0.80
34:BA:149:VAL:HG23	57:YA:29:MET:HE3	1.63	0.79
6:ha:13:VAL:HG12	6:ha:321:ARG:HG2	1.63	0.79
9:ka:67:ARG:NH2	9:ka:144:ASN:OD1	2.13	0.79
15:qa:36:GLU:OE2	15:qa:47:ARG:NH1	2.15	0.79
8:ja:106:LYS:HE3	8:ja:108:ARG:HH12	1.46	0.79
66:HB:183:LYS:NZ	66:HB:187:GLU:OE1	2.16	0.79
6:ha:311:LEU:HB3	6:ha:323:TYR:HB2	1.62	0.79
9:ka:13:LYS:HG3	9:ka:19:THR:HA	1.63	0.79
62:DB:30:LYS:NZ	75:RB:3135:A:OP2	2.16	0.79
66:HB:48:SER:HA	66:HB:178:ARG:HH22	1.47	0.79
2:ba:87:ALA:HA	2:ba:90:LYS:HE2	1.62	0.79
6:ha:20:VAL:HG23	6:ha:316:THR:HA	1.64	0.79
1:aa:1109:U:OP2	5:ga:4:THR:OG1	1.99	0.79
42:JA:65:ARG:NH1	75:RB:788:G:OP2	2.16	0.79
8:ja:127:ARG:N	8:ja:140:ASN:O	2.15	0.79
75:RB:1673:A:C2	75:RB:1689:G:N1	2.50	0.79
62:DB:91:ALA:HB2	62:DB:153:MET:HG3	1.65	0.79
42:JA:67:LEU:HD21	42:JA:99:VAL:HG11	1.65	0.79
43:KA:39:GLN:HE21	43:KA:43:LYS:HD2	1.48	0.78
48:PA:75:ARG:NH2	76:SB:74:U:OP1	2.16	0.78
75:RB:1543:A:N1	75:RB:1559:G:O6	2.15	0.78
75:RB:1755:A:N1	75:RB:1764:G:O6	2.17	0.78
12:na:34:PHE:HB3	12:na:41:PHE:HB2	1.65	0.78
72:NB:17:ARG:NH2	75:RB:1820:C:O2'	2.13	0.78
79:cl:18:G:N2	79:cl:58:1MA:OP2	2.16	0.78
1:aa:24:U:OP1	28:eb:12:LYS:NZ	2.16	0.78
17:sa:90:ARG:NH2	17:sa:126:ALA:O	2.16	0.78
54:VA:23:ILE:HD11	54:VA:28:ARG:HE	1.48	0.78
12:na:117:ARG:HH22	12:na:121:ARG:HD3	1.48	0.78
63:EB:210:PRO:HD2	63:EB:231:VAL:HG22	1.66	0.78
1:aa:764:U:OP1	28:eb:9:ASN:ND2	2.16	0.78
6:ha:165:TRP:O	6:ha:184:SER:OG	2.01	0.78
50:RA:51:ASN:HD21	50:RA:78:ASN:HD22	1.30	0.78
44:LA:4:LEU:HD11	44:LA:29:VAL:HG13	1.66	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:PA:57:VAL:HG12	48:PA:103:VAL:HG12	1.66	0.77
75:RB:521:G:H1	75:RB:556:U:H3	1.31	0.77
40:HA:122:ASN:OD1	40:HA:123:GLU:N	2.17	0.77
3:ca:58:ALA:HB1	3:ca:61:LEU:HD11	1.65	0.77
62:DB:360:LEU:HD13	62:DB:363:ILE:HD11	1.66	0.77
36:DA:79:ALA:H	36:DA:82:MET:HE2	1.48	0.77
1:aa:160:A:OP1	30:gb:85:ARG:NH1	2.16	0.77
1:aa:632:G:N1	1:aa:975:A:OP2	2.16	0.77
17:sa:95:VAL:HG22	17:sa:98:MET:HE3	1.66	0.77
20:va:85:ILE:HD11	20:va:116:ILE:HD11	1.66	0.77
26:cb:1:MET:HG2	29:fb:238:ASP:HB3	1.65	0.77
34:BA:128:THR:OG1	75:RB:1099:G:OP1	2.01	0.77
62:DB:364:ASP:OD2	62:DB:368:LYS:NZ	2.16	0.77
70:LB:209:ARG:NH2	75:RB:3203:G:O4'	2.17	0.77
75:RB:1543:A:H2	75:RB:1559:G:H1	0.79	0.77
29:fb:69:HIS:ND1	29:fb:249:PRO:HD3	2.00	0.77
1:aa:1479:U:OP2	9:ka:164:THR:OG1	2.01	0.77
30:gb:7:ASN:ND2	30:gb:12:CYS:SG	2.58	0.77
1:aa:1217:G:H1	1:aa:1456:U:H3	1.30	0.77
9:ka:11:ASP:OD1	9:ka:13:LYS:NZ	2.18	0.77
19:ua:38:THR:HG22	19:ua:39:GLY:H	1.49	0.77
40:HA:33:GLN:OE1	40:HA:63:ARG:NH2	2.17	0.77
41:IA:62:HIS:NE2	75:RB:69:U:OP1	2.18	0.76
52:TA:42:ARG:NH1	52:TA:50:CYS:SG	2.58	0.76
58:ZA:109:LYS:O	58:ZA:111:ARG:N	2.18	0.76
63:EB:97:ASN:HD22	63:EB:105:PHE:HB2	1.50	0.76
34:BA:48:VAL:HG21	34:BA:94:GLU:HG2	1.66	0.76
74:PB:100:GLN:HA	74:PB:103:VAL:HG12	1.67	0.76
30:gb:67:VAL:HG13	30:gb:101:GLY:HA2	1.67	0.76
36:DA:58:LEU:HD23	36:DA:75:LEU:HD21	1.67	0.76
36:DA:215:ASN:ND2	75:RB:2966:A:N7	2.34	0.76
75:RB:113:A:OP2	75:RB:152:C:N4	2.18	0.76
15:qa:83:ASP:OD1	24:za:93:LYS:NZ	2.18	0.76
1:aa:1233:G:O2'	1:aa:1259:G:N2	2.13	0.76
75:RB:6:A:H2	76:SB:154:G:C2	2.03	0.76
1:aa:15:U:O2'	1:aa:624:A:N6	2.18	0.76
1:aa:646:G:O6	1:aa:705:A:N1	2.19	0.76
13:oa:99:VAL:HG12	13:oa:100:SER:H	1.50	0.76
38:FA:111:ILE:HD12	38:FA:143:ILE:HD12	1.68	0.76
1:aa:1100:U:H2'	20:va:11:ARG:HH11	1.50	0.76
42:JA:27:LYS:NZ	75:RB:1360:U:O4	2.16	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:JA:148:VAL:HA	42:JA:151:PHE:CD2	2.21	0.76
51:SA:18:ARG:NH2	51:SA:52:MET:SD	2.59	0.76
53:UA:78:PHE:HB3	60:BB:88:GLN:HG2	1.68	0.76
59:AB:78:ARG:NH2	75:RB:2209:G:OP2	2.18	0.76
75:RB:3038:U:OP2	75:RB:3088:C:N4	2.18	0.76
7:ia:51:ARG:NH2	7:ia:97:CYS:SG	2.59	0.76
34:BA:108:ARG:HH12	34:BA:130:ARG:HH11	1.34	0.76
46:NA:115:ILE:HD12	46:NA:136:LEU:HD11	1.68	0.76
69:KB:61:GLN:HE21	75:RB:74:G:H1'	1.51	0.76
75:RB:1233:G:O6	75:RB:1285:U:O2	2.03	0.76
75:RB:1701:G:O2'	75:RB:1737:C:N4	2.19	0.76
75:RB:1892:A:H61	75:RB:2332:C:N4	1.83	0.76
38:FA:127:MET:HB3	38:FA:131:VAL:HG23	1.68	0.76
4:da:30:ALA:HA	4:da:38:PRO:HA	1.69	0.75
60:BB:71:ARG:O	60:BB:75:LYS:HB2	1.84	0.75
61:CB:101:THR:HG23	61:CB:132:VAL:HG23	1.67	0.75
13:oa:23:LYS:NZ	18:ta:35:GLU:HG2	2.01	0.75
1:aa:340:G:O6	3:ca:5:ARG:NH2	2.19	0.75
5:ga:67:LYS:HB3	5:ga:90:LEU:HD22	1.67	0.75
1:aa:333:G:H2'	1:aa:334:G:H8	1.52	0.75
75:RB:1266:G:N2	75:RB:1269:U:OP1	2.18	0.75
6:ha:299:CYS:HA	6:ha:315:TYR:HA	1.69	0.75
49:QA:40:LEU:HD12	49:QA:115:LEU:HD23	1.67	0.75
70:LB:60:THR:HG23	75:RB:613:G:H21	1.51	0.75
70:LB:103:LEU:HD22	70:LB:121:ASN:HA	1.69	0.75
75:RB:1261:C:N4	75:RB:1265:G:OP2	2.19	0.75
1:aa:573:C:H41	5:ga:66:ARG:HH21	1.34	0.75
41:IA:126:ILE:HG21	41:IA:131:GLU:HG3	1.68	0.75
75:RB:18:G:H22	76:SB:142:G:H22	1.34	0.75
1:aa:425:A:OP1	30:gb:95:ARG:NH1	2.20	0.75
62:DB:96:PRO:HB3	64:FB:158:ILE:HD11	1.68	0.75
75:RB:18:G:N2	76:SB:142:G:H22	1.85	0.75
6:ha:35:VAL:HG11	6:ha:81:LEU:HD21	1.69	0.74
7:ia:45:ARG:NH2	7:ia:85:GLU:OE2	2.19	0.74
17:sa:46:PHE:O	17:sa:51:ARG:NH1	2.20	0.74
1:aa:1366:A:OP2	1:aa:1368:C:N4	2.18	0.74
1:aa:1477:A:OP1	9:ka:160:ARG:NH2	2.21	0.74
58:ZA:24:VAL:HB	58:ZA:113:VAL:HG22	1.68	0.74
7:ia:148:LYS:NZ	7:ia:150:MET:SD	2.60	0.74
64:FB:8:CYS:SG	71:MB:15:ARG:NH2	2.61	0.74
70:LB:40:GLU:HG2	70:LB:42:PRO:HD3	1.68	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:62:A:N3	75:RB:77:U:O2'	2.21	0.74
75:RB:713:G:N3	75:RB:757:G:O2'	2.21	0.74
75:RB:730:A:N6	75:RB:745:G:O2'	2.21	0.74
21:wa:53:ILE:HD12	21:wa:55:TYR:CZ	2.23	0.74
38:FA:90:LYS:HG3	38:FA:144:VAL:HG22	1.70	0.74
57:YA:133:PHE:O	57:YA:134:LYS:HG3	1.88	0.74
75:RB:194:G:N1	75:RB:197:A:OP2	2.21	0.74
6:ha:97:LEU:HB2	6:ha:111:PHE:HB2	1.68	0.74
53:UA:43:ARG:NH2	75:RB:21:G:OP1	2.21	0.74
75:RB:2983:U:H2'	75:RB:2984:A:H8	1.52	0.74
44:LA:35:ALA:HB1	44:LA:40:ASN:HB3	1.69	0.74
1:aa:861:A:OP1	31:hb:100:ARG:NH1	2.21	0.73
37:EA:119:ASP:OD1	37:EA:120:PRO:HD3	1.86	0.73
31:hb:161:ASN:HA	31:hb:164:GLU:HG2	1.69	0.73
32:ib:34:ARG:NH2	32:ib:54:TYR:O	2.20	0.73
1:aa:499:A:N6	1:aa:502:G:OP1	2.21	0.73
39:GA:31:ASN:HD21	39:GA:115:SER:HB3	1.53	0.73
41:IA:26:ARG:NH2	75:RB:942:U:OP2	2.20	0.73
75:RB:11:A:H61	76:SB:148:C:H42	1.35	0.73
75:RB:25:U:O2	75:RB:326:C:O2'	2.06	0.73
8:ja:89:ILE:HD11	8:ja:164:LEU:HD11	1.70	0.73
28:eb:62:LEU:HA	28:eb:71:ARG:HH12	1.53	0.73
59:AB:78:ARG:HH21	75:RB:2209:G:P	2.11	0.73
63:EB:214:TYR:HB3	63:EB:221:ILE:HD11	1.70	0.73
73:OB:5:LYS:NZ	75:RB:2640:A:OP1	2.18	0.73
20:va:95:THR:HG23	20:va:97:GLN:H	1.52	0.73
57:YA:173:ARG:HE	64:FB:124:VAL:HG11	1.54	0.73
74:PB:76:ARG:NH2	75:RB:1636:C:OP2	2.21	0.73
13:oa:30:LEU:HD12	13:oa:33:ILE:HD13	1.70	0.73
18:ta:52:LEU:HD21	18:ta:78:ARG:HH21	1.54	0.73
37:EA:120:PRO:HG2	37:EA:122:THR:HG22	1.71	0.73
40:HA:83:LYS:NZ	75:RB:35:U:OP2	2.20	0.73
63:EB:353:ALA:HA	63:EB:358:ILE:HD12	1.71	0.73
1:aa:594:C:H2'	1:aa:595:A:H8	1.52	0.73
9:ka:98:LEU:HG	18:ta:61:ILE:HD12	1.71	0.73
59:AB:87:LYS:NZ	75:RB:307:C:OP1	2.17	0.73
75:RB:1543:A:H2	75:RB:1559:G:C2	2.06	0.73
75:RB:3202:C:H4'	75:RB:3203:G:H5'	1.71	0.73
1:aa:1330:A:H5''	7:ia:156:TYR:HE1	1.54	0.73
37:EA:17:GLN:NE2	37:EA:134:GLU:OE1	2.22	0.73
24:za:202:MET:HE1	24:za:204:ASP:HB2	1.70	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:UA:21:ARG:NH2	53:UA:41:ALA:O	2.22	0.72
6:ha:21:VAL:HA	6:ha:38:SER:HA	1.70	0.72
18:ta:78:ARG:HA	18:ta:81:ILE:HG12	1.71	0.72
28:eb:39:ARG:NH1	28:eb:40:CYS:SG	2.63	0.72
61:CB:210:LYS:NZ	75:RB:512:G:OP1	2.21	0.72
1:aa:1581:A:H4'	1:aa:1582:G:O5'	1.89	0.72
29:fb:194:PRO:HD3	29:fb:220:PHE:CE2	2.25	0.72
58:ZA:98:VAL:HG13	58:ZA:99:ARG:H	1.54	0.72
2:ba:112:GLN:HB2	2:ba:116:ARG:HH11	1.53	0.72
14:pa:16:LEU:HD12	14:pa:62:LEU:HD21	1.72	0.72
4:da:68:LEU:HD11	4:da:72:GLY:HA3	1.71	0.72
10:la:135:PHE:O	10:la:143:ARG:NH1	2.22	0.72
43:KA:287:LEU:HD13	66:HB:206:ILE:HG22	1.71	0.72
48:PA:71:GLN:NE2	76:SB:74:U:O4	2.21	0.72
1:aa:643:U:H6	31:hb:119:LEU:HB2	1.54	0.72
11:ma:39:ASN:ND2	11:ma:116:PRO:O	2.18	0.72
16:ra:31:TYR:HD2	16:ra:147:VAL:HG11	1.54	0.72
38:FA:55:LYS:NZ	38:FA:57:ASP:OD2	2.23	0.72
41:IA:72:THR:HB	41:IA:109:LEU:HD13	1.70	0.72
58:ZA:109:LYS:C	58:ZA:111:ARG:H	1.96	0.72
75:RB:2131:U:OP2	75:RB:2136:A:N6	2.23	0.72
4:da:61:TRP:O	4:da:63:HIS:ND1	2.23	0.72
40:HA:6:PHE:HD1	59:AB:43:VAL:HG13	1.54	0.72
55:WA:38:GLN:OE1	55:WA:41:ARG:NH2	2.23	0.72
75:RB:26:A:H2	75:RB:57:G:C2	2.08	0.72
75:RB:2100:A:H2'	75:RB:2101:A:H8	1.55	0.72
2:ba:111:LYS:HB3	2:ba:116:ARG:HH12	1.54	0.72
75:RB:1673:A:H2	75:RB:1689:G:N1	1.88	0.72
1:aa:789:C:H41	2:ba:16:LYS:H	1.36	0.72
1:aa:1241:G:H2'	1:aa:1242:A:H8	1.54	0.72
31:hb:30:LEU:O	31:hb:34:ASN:ND2	2.23	0.72
31:hb:79:ARG:HA	31:hb:82:ARG:HE	1.54	0.72
66:HB:54:SER:HA	66:HB:163:GLN:HG3	1.72	0.72
1:aa:1188:A:O2'	1:aa:1213:C:O2'	2.07	0.71
1:aa:1689:A:H1'	30:gb:66:GLY:HA2	1.71	0.71
11:ma:76:SER:O	21:wa:40:ARG:NH2	2.23	0.71
20:va:56:ARG:CZ	22:xa:28:GLN:HE21	2.02	0.71
43:KA:212:ASP:OD1	43:KA:213:GLU:N	2.23	0.71
43:KA:284:LEU:HD11	66:HB:214:ALA:HB1	1.72	0.71
62:DB:319:GLY:HA2	75:RB:3366:C:H4'	1.71	0.71
63:EB:40:ILE:HD11	63:EB:129:SER:HB2	1.71	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:1543:A:N1	75:RB:1559:G:C6	2.58	0.71
44:LA:123:MET:O	44:LA:127:VAL:HG23	1.90	0.71
50:RA:13:ASN:O	50:RA:17:LYS:NZ	2.18	0.71
75:RB:2186:U:H5'	75:RB:2187:G:H5'	1.71	0.71
16:ra:88:PHE:HA	16:ra:91:ILE:HG22	1.72	0.71
41:IA:9:ARG:NH2	75:RB:1434:G:N7	2.37	0.71
75:RB:6:A:N1	76:SB:154:G:O6	2.21	0.71
76:SB:121:A:H62	76:SB:134:G:H8	1.37	0.71
27:db:43:ASN:ND2	27:db:47:GLN:OE1	2.22	0.71
1:aa:504:C:N4	1:aa:505:U:O2	2.24	0.71
6:ha:232:LEU:HD22	6:ha:241:ARG:HE	1.53	0.71
34:BA:130:ARG:HH22	75:RB:1066:G:H21	1.37	0.71
1:aa:282:C:H4'	1:aa:283:G:C8	2.26	0.71
24:za:28:HIS:HB3	24:za:55:LEU:HD11	1.73	0.71
34:BA:62:GLY:HA3	34:BA:76:ILE:HG22	1.73	0.71
40:HA:96:ARG:NH1	40:HA:104:GLU:OE1	2.23	0.71
75:RB:18:G:H22	76:SB:142:G:H1	1.39	0.71
1:aa:616:U:OP2	5:ga:3:LYS:NZ	2.23	0.71
19:ua:75:LEU:HD21	19:ua:78:SER:HA	1.73	0.71
57:YA:163:ARG:HH12	71:MB:83:THR:HG22	1.55	0.71
1:aa:92:G:OP1	1:aa:401:A:N6	2.22	0.71
1:aa:1191:U:H2'	1:aa:1192:G:H8	1.54	0.71
7:ia:32:ASP:O	7:ia:53:THR:OG1	2.08	0.71
60:BB:124:ALA:HB2	69:KB:124:VAL:HB	1.71	0.71
66:HB:7:ARG:NH2	75:RB:2825:G:OP2	2.24	0.71
1:aa:864:A:H1'	14:pa:73:ARG:HH22	1.55	0.71
40:HA:176:GLY:O	40:HA:185:ARG:NH2	2.22	0.71
1:aa:843:G:N2	1:aa:844:C:N3	2.39	0.71
7:ia:192:TRP:NE1	7:ia:201:THR:O	2.23	0.71
63:EB:6:ARG:HD3	63:EB:29:HIS:HE2	1.56	0.71
75:RB:655:G:O2'	75:RB:1438:A:OP1	2.09	0.71
75:RB:1576:C:OP1	75:RB:2519:G:N2	2.21	0.71
7:ia:58:VAL:HG12	7:ia:66:ILE:HD11	1.71	0.70
18:ta:52:LEU:HD11	18:ta:78:ARG:HE	1.55	0.70
43:KA:239:TYR:HA	43:KA:242:VAL:HG12	1.72	0.70
20:va:80:LEU:HD21	20:va:85:ILE:HG22	1.70	0.70
29:fb:236:THR:HG22	29:fb:238:ASP:H	1.56	0.70
36:DA:2:GLY:N	75:RB:2408:C:OP1	2.25	0.70
8:ja:112:HIS:HD2	8:ja:239:PRO:HA	1.56	0.70
25:bb:137:MET:HE1	25:bb:188:PHE:HZ	1.55	0.70
51:SA:45:ARG:NH2	75:RB:1462:C:OP1	2.24	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:EB:103:ARG:NH2	75:RB:807:C:OP1	2.24	0.70
1:aa:1168:A:N3	1:aa:1621:U:O2'	2.24	0.70
8:ja:19:MET:HE1	8:ja:110:ARG:HH12	1.57	0.70
38:FA:91:MET:HE2	38:FA:178:ILE:HG22	1.72	0.70
38:FA:127:MET:SD	38:FA:156:SER:OG	2.49	0.70
42:JA:16:ARG:HH12	42:JA:20:LYS:HG2	1.56	0.70
1:aa:1684:U:OP1	3:ca:45:ARG:NH2	2.25	0.70
30:gb:32:ILE:HG23	30:gb:53:MET:HA	1.72	0.70
32:ib:128:GLN:HA	32:ib:138:PHE:HD1	1.57	0.70
61:CB:241:ARG:NH2	75:RB:559:U:OP1	2.21	0.70
62:DB:312:MET:HE2	75:RB:3316:C:H5''	1.74	0.70
1:aa:262:U:OP1	3:ca:76:LYS:NZ	2.24	0.70
3:ca:117:HIS:O	3:ca:169:ARG:NH1	2.24	0.70
11:ma:87:ARG:NH1	11:ma:89:GLU:OE1	2.25	0.70
25:bb:179:CYS:SG	25:bb:180:ASP:N	2.64	0.70
48:PA:62:TYR:HB3	48:PA:65:ARG:HD3	1.72	0.70
13:oa:124:ARG:NH2	17:sa:132:TYR:OH	2.25	0.70
36:DA:36:GLU:OE2	36:DA:163:ARG:NH1	2.22	0.70
63:EB:31:MET:HE3	63:EB:135:ALA:HB2	1.73	0.70
75:RB:305:G:O2'	75:RB:2216:A:N3	2.23	0.70
76:SB:130:G:H2'	76:SB:131:G:C8	2.27	0.70
75:RB:1198:G:H2'	75:RB:1199:A:C8	2.27	0.70
1:aa:1380:A:O2'	1:aa:1382:C:OP1	2.10	0.70
37:EA:162:MET:O	37:EA:166:GLN:HG2	1.92	0.70
75:RB:3158:G:H2'	75:RB:3159:C:O4'	1.91	0.70
1:aa:633:U:OP2	1:aa:974:C:N4	2.23	0.69
9:ka:39:MET:HA	9:ka:42:TYR:CE2	2.27	0.69
31:hb:19:PHE:HE1	31:hb:51:GLN:HE21	1.38	0.69
60:BB:122:ILE:HD11	69:KB:149:VAL:HG11	1.74	0.69
75:RB:1936:G:H21	75:RB:3349:A:H8	1.39	0.69
75:RB:2721:U:OP2	75:RB:2723:C:N4	2.25	0.69
6:ha:117:ASP:OD1	6:ha:118:VAL:N	2.25	0.69
13:oa:56:ALA:HA	13:oa:59:LEU:HD22	1.74	0.69
70:LB:153:THR:HG22	70:LB:155:ALA:H	1.57	0.69
1:aa:1185:U:O4	1:aa:1464:G:O6	2.11	0.69
2:ba:16:LYS:HB2	2:ba:29:VAL:HG12	1.75	0.69
36:DA:64:ARG:NH2	75:RB:2551:C:OP2	2.24	0.69
42:JA:79:ALA:HB3	42:JA:99:VAL:HG12	1.72	0.69
66:HB:158:LYS:NZ	75:RB:2849:C:N3	2.41	0.69
1:aa:29:U:H2'	1:aa:30:G:H8	1.58	0.69
7:ia:50:ILE:HD11	7:ia:86:LEU:HD23	1.72	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:oa:38:ARG:NH1	16:ra:57:GLU:OE2	2.25	0.69
39:GA:68:GLY:H	39:GA:73:ARG:HH21	1.41	0.69
1:aa:780:A:OP2	1:aa:794:G:N2	2.19	0.69
34:BA:8:ARG:NH1	75:RB:2753:C:H1'	2.06	0.69
45:MA:128:ARG:HB2	45:MA:140:TYR:O	1.93	0.69
60:BB:46:ASN:ND2	76:SB:78:G:O2'	2.26	0.69
75:RB:447:C:O2'	75:RB:448:G:O5'	2.10	0.69
1:aa:876:A:H2'	1:aa:877:G:C8	2.28	0.69
55:WA:24:LYS:HB2	55:WA:75:GLN:HE22	1.57	0.69
1:aa:557:G:H3'	1:aa:558:C:H2'	1.72	0.69
1:aa:856:G:H2'	1:aa:857:A:H8	1.58	0.69
1:aa:964:U:H6	14:pa:61:PRO:HB3	1.58	0.69
3:ca:8:MET:HE1	3:ca:22:ARG:HG3	1.75	0.69
9:ka:45:LEU:HD12	9:ka:46:PRO:HD2	1.75	0.69
37:EA:67:ILE:HD11	75:RB:2678:U:H5'	1.73	0.69
45:MA:23:ARG:HH12	45:MA:126:GLN:HG3	1.58	0.69
75:RB:653:A:OP2	75:RB:2865:U:O2'	2.10	0.69
1:aa:1560:U:OP2	17:sa:52:ARG:NH2	2.25	0.69
12:na:97:LEU:HD11	12:na:112:ALA:HB1	1.75	0.69
1:aa:204:U:H2'	1:aa:205:U:C6	2.28	0.69
1:aa:1532:A:H2'	1:aa:1533:A:C8	2.27	0.69
75:RB:2658:G:H2'	75:RB:2659:A:H8	1.57	0.69
1:aa:1107:G:OP2	5:ga:5:ARG:NH2	2.23	0.68
35:CA:4:PHE:HE2	35:CA:82:PRO:HG2	1.58	0.68
36:DA:19:HIS:ND1	36:DA:190:ARG:O	2.24	0.68
1:aa:1725:C:H1'	1:aa:1726:G:C8	2.28	0.68
8:ja:18:TRP:HH2	8:ja:31:PRO:HD3	1.57	0.68
13:oa:23:LYS:HZ3	18:ta:35:GLU:HG2	1.58	0.68
40:HA:4:TYR:OH	75:RB:147:G:OP2	2.10	0.68
12:na:96:LYS:NZ	25:bb:67:GLU:OE1	2.23	0.68
40:HA:68:ARG:NH1	40:HA:124:ASP:O	2.24	0.68
75:RB:406:A:N3	75:RB:659:C:O2'	2.25	0.68
77:TB:87:G:N2	77:TB:90:A:OP2	2.25	0.68
79:cl:21:A:O2'	79:cl:22:G:O4'	2.11	0.68
3:ca:94:THR:HG23	3:ca:96:THR:HG23	1.74	0.68
8:ja:252:GLN:OE1	8:ja:255:ARG:NH1	2.27	0.68
9:ka:120:ASP:OD2	19:ua:64:LYS:NZ	2.24	0.68
23:ya:43:ARG:HD2	23:ya:44:PHE:HD1	1.57	0.68
39:GA:82:VAL:HB	39:GA:121:ILE:HG13	1.75	0.68
63:EB:155:LEU:HD21	63:EB:177:LEU:HD23	1.74	0.68
75:RB:1892:A:N6	75:RB:2332:C:H42	1.89	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:ha:165:TRP:NE1	15:qa:37:GLU:OE2	2.25	0.68
10:la:61:ALA:HB1	10:la:65:ARG:HD2	1.75	0.68
34:BA:34:TYR:HE1	34:BA:93:VAL:HG23	1.59	0.68
43:KA:39:GLN:NE2	43:KA:43:LYS:HD2	2.08	0.68
75:RB:1566:C:H2'	75:RB:1567:G:H8	1.58	0.68
75:RB:2406:A:H2'	75:RB:2407:G:H8	1.58	0.68
75:RB:2659:A:H2'	75:RB:2660:G:H8	1.57	0.68
1:aa:1324:U:H3'	24:za:106:ARG:HH22	1.59	0.68
38:FA:5:LEU:HD21	38:FA:7:SER:HB2	1.74	0.68
1:aa:132:G:H22	1:aa:136:U:H4'	1.59	0.68
1:aa:500:G:H2'	1:aa:501:U:H4'	1.75	0.68
50:RA:21:VAL:HG11	50:RA:96:ILE:HD12	1.74	0.68
60:BB:99:ASP:CG	60:BB:103:ARG:HH12	2.02	0.68
1:aa:127:G:H2'	30:gb:202:ARG:HH12	1.58	0.68
12:na:95:ILE:HG21	12:na:116:LEU:HD21	1.76	0.68
38:FA:109:ARG:NH2	38:FA:129:ASP:O	2.27	0.68
72:NB:2:PRO:HA	75:RB:1745:G:H21	1.59	0.68
75:RB:711:A:O2'	75:RB:720:G:N2	2.27	0.68
1:aa:908:U:OP2	12:na:38:ASN:ND2	2.21	0.68
1:aa:1221:A:H4'	4:da:44:LYS:HE3	1.75	0.68
8:ja:101:LEU:HD11	8:ja:109:PHE:HB3	1.74	0.68
75:RB:26:A:N1	75:RB:57:G:O6	2.26	0.68
1:aa:497:U:H2'	1:aa:498:U:H2'	1.76	0.68
40:HA:114:ARG:HD2	40:HA:137:VAL:HG11	1.76	0.68
69:KB:62:THR:HG1	75:RB:101:C:HO2'	1.40	0.68
77:TB:52:U:O2'	77:TB:54:A:N7	2.27	0.68
1:aa:1386:U:OP1	10:la:18:ARG:NH2	2.23	0.67
75:RB:880:C:O2'	75:RB:883:G:O2'	2.10	0.67
29:fb:139:ILE:HG22	29:fb:143:LYS:NZ	2.08	0.67
59:AB:48:ARG:NH2	59:AB:57:GLU:OE1	2.26	0.67
1:aa:1176:A:H2'	1:aa:1177:G:H8	1.60	0.67
1:aa:1480:G:H2'	1:aa:1481:A:C8	2.29	0.67
6:ha:120:SER:HB3	6:ha:133:ALA:HB3	1.77	0.67
9:ka:92:THR:O	9:ka:96:ILE:HG12	1.95	0.67
26:cb:3:ASN:ND2	29:fb:153:TYR:OH	2.27	0.67
51:SA:27:ARG:NH1	75:RB:3311:C:OP1	2.20	0.67
62:DB:103:ASN:HB3	62:DB:149:GLN:NE2	2.08	0.67
75:RB:26:A:N1	75:RB:57:G:C6	2.62	0.67
75:RB:244:G:H2'	75:RB:245:C:C6	2.29	0.67
58:ZA:117:ARG:HH22	75:RB:1756:C:P	2.17	0.67
1:aa:1600:G:H2'	1:aa:1601:A:H8	1.59	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:ha:7:SER:O	6:ha:326:SER:OG	2.12	0.67
34:BA:86:LYS:NZ	73:OB:24:PRO:HD2	2.09	0.67
41:IA:131:GLU:OE2	69:KB:179:TYR:N	2.28	0.67
53:UA:63:ARG:O	53:UA:68:ARG:NH2	2.27	0.67
56:XA:39:ASP:OD1	56:XA:40:ALA:N	2.28	0.67
70:LB:109:PRO:HG3	70:LB:188:LEU:HD22	1.76	0.67
75:RB:18:G:H22	76:SB:142:G:N2	1.93	0.67
75:RB:1562:A:N6	75:RB:1579:C:O2'	2.28	0.67
75:RB:3222:U:O2	75:RB:3240:G:O6	2.11	0.67
12:na:136:PRO:HG2	12:na:139:SER:HB3	1.77	0.67
75:RB:236:A:H2'	75:RB:237:C:H4'	1.77	0.67
75:RB:1249:A:H5'	75:RB:1250:G:H5''	1.75	0.67
4:da:61:TRP:HZ3	7:ia:24:MET:HA	1.58	0.67
20:va:9:ALA:HA	20:va:26:LEU:HD22	1.77	0.67
28:eb:30:LEU:HA	28:eb:33:VAL:HG12	1.75	0.67
61:CB:73:MET:HE1	63:EB:372:LYS:HB3	1.77	0.67
1:aa:1046:G:H2'	1:aa:1047:G:C8	2.30	0.67
1:aa:1245:G:OP2	17:sa:86:ARG:NE	2.27	0.67
25:bb:222:LYS:HG3	25:bb:223:PHE:H	1.59	0.67
28:eb:78:LEU:HD21	28:eb:98:VAL:HG11	1.77	0.67
45:MA:65:ARG:NH2	75:RB:2981:C:OP1	2.23	0.67
75:RB:1549:A:O2'	75:RB:1550:A:OP1	2.13	0.67
75:RB:2659:A:H2'	75:RB:2660:G:C8	2.29	0.67
1:aa:1480:G:H2'	1:aa:1481:A:H8	1.60	0.67
1:aa:1570:G:O3'	16:ra:54:ARG:NH2	2.28	0.67
6:ha:250:ILE:HB	6:ha:268:GLN:HG3	1.76	0.67
43:KA:23:ARG:NH1	75:RB:2700:A:OP2	2.29	0.67
62:DB:229:TYR:O	75:RB:1882:A:O2'	2.13	0.67
75:RB:1641:G:OP1	75:RB:1816:U:O2'	2.13	0.67
1:aa:96:G:O2'	1:aa:464:A:O2'	2.08	0.66
1:aa:370:A:OP1	1:aa:764:U:O2'	2.11	0.66
1:aa:499:A:C5	1:aa:500:G:H1'	2.29	0.66
1:aa:1512:C:O2'	1:aa:1571:G:O2'	2.12	0.66
6:ha:118:VAL:HA	6:ha:134:SER:HA	1.77	0.66
8:ja:198:ARG:NH2	8:ja:206:GLU:OE2	2.27	0.66
25:bb:90:ASP:HB3	25:bb:97:LEU:HD12	1.76	0.66
29:fb:167:LYS:HD3	29:fb:178:ARG:HH22	1.60	0.66
36:DA:3:ARG:HG2	36:DA:207:VAL:HG22	1.77	0.66
36:DA:51:ASP:HB2	36:DA:58:LEU:HD22	1.77	0.66
41:IA:26:ARG:NH1	75:RB:941:C:OP2	2.28	0.66
54:VA:20:ASN:OD1	54:VA:41:ARG:NE	2.26	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:312:U:H2'	75:RB:313:C:C6	2.30	0.66
75:RB:748:C:OP2	75:RB:787:G:N2	2.22	0.66
75:RB:2103:U:HO2'	75:RB:3350:U:HO2'	1.41	0.66
1:aa:1379:U:H2'	1:aa:1380:A:C8	2.30	0.66
30:gb:117:LYS:NZ	30:gb:118:LYS:O	2.27	0.66
33:AA:174:CYS:HB3	33:AA:214:ILE:HD11	1.77	0.66
37:EA:21:LEU:HD23	37:EA:127:MET:HE1	1.77	0.66
38:FA:71:THR:HG21	75:RB:3118:A:N1	2.09	0.66
20:va:30:SER:HB2	20:va:33:MET:H	1.61	0.66
20:va:76:TYR:HE1	32:ib:100:ARG:HG2	1.60	0.66
62:DB:243:ARG:NH2	75:RB:1903:C:O2	2.27	0.66
13:oa:61:ALA:HA	13:oa:64:MET:HE2	1.78	0.66
34:BA:86:LYS:HZ2	73:OB:24:PRO:HD2	1.61	0.66
52:TA:42:ARG:NH2	75:RB:642:C:OP1	2.28	0.66
75:RB:1285:U:H2'	75:RB:1286:G:H8	1.60	0.66
75:RB:2382:C:O2'	75:RB:3294:A:N1	2.28	0.66
28:eb:33:VAL:HG23	28:eb:38:LEU:HB2	1.76	0.66
38:FA:87:PHE:CE2	38:FA:150:ILE:HB	2.31	0.66
38:FA:100:ILE:HG22	38:FA:116:PHE:HA	1.78	0.66
63:EB:106:ALA:HA	75:RB:803:G:H22	1.61	0.66
75:RB:2693:A:N7	75:RB:2755:A:N6	2.42	0.66
29:fb:77:GLN:HA	29:fb:80:GLU:OE2	1.95	0.66
56:XA:5:ARG:HD3	56:XA:55:LEU:HB3	1.77	0.66
75:RB:1192:A:N1	75:RB:1319:U:O2'	2.29	0.66
1:aa:273:C:O2'	1:aa:274:A:OP1	2.13	0.66
1:aa:323:U:H4'	1:aa:327:A:C8	2.30	0.66
1:aa:827:C:N4	1:aa:855:G:O6	2.28	0.66
1:aa:1034:G:OP2	27:db:12:LYS:NZ	2.29	0.66
3:ca:32:GLN:HG3	3:ca:33:PRO:HD2	1.77	0.66
75:RB:5:G:H1	76:SB:155:U:H3	1.43	0.66
1:aa:1042:C:O2	20:va:15:ASN:ND2	2.28	0.66
1:aa:1165:A:H2'	1:aa:1166:C:H6	1.59	0.66
24:za:180:TRP:CD2	24:za:203:VAL:HG22	2.30	0.66
37:EA:11:MET:HE1	77:TB:51:G:H21	1.61	0.66
37:EA:55:THR:HB	37:EA:63:ARG:HB2	1.78	0.66
39:GA:85:ARG:NH1	75:RB:1894:G:OP1	2.29	0.66
43:KA:272:THR:OG1	43:KA:275:GLN:OE1	2.11	0.66
16:ra:80:ARG:NH1	16:ra:81:GLN:O	2.29	0.66
16:ra:130:PRO:O	16:ra:131:LYS:HG2	1.96	0.66
33:AA:106:ARG:NH1	75:RB:120:G:OP1	2.19	0.66
46:NA:87:GLU:HG3	46:NA:143:LEU:HD21	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:EB:40:ILE:HG13	63:EB:250:LEU:HD11	1.77	0.66
1:aa:967:C:OP2	14:pa:70:LYS:NZ	2.28	0.65
13:oa:85:ASN:ND2	13:oa:97:GLN:OE1	2.28	0.65
24:za:122:GLU:OE2	29:fb:50:LYS:N	2.26	0.65
75:RB:2100:A:H2'	75:RB:2101:A:C8	2.30	0.65
1:aa:336:U:P	3:ca:57:ARG:HH22	2.18	0.65
1:aa:404:A:H5''	3:ca:25:ARG:HA	1.78	0.65
1:aa:1681:G:OP1	30:gb:96:ARG:NH2	2.29	0.65
7:ia:157:MET:HE3	7:ia:168:ILE:HD12	1.78	0.65
46:NA:77:LEU:HD12	46:NA:95:ILE:HD11	1.76	0.65
62:DB:46:PHE:HE2	62:DB:81:THR:HG22	1.62	0.65
75:RB:2275:U:OP1	75:RB:2970:G:O2'	2.15	0.65
44:LA:62:ARG:NH1	75:RB:3066:A:OP1	2.28	0.65
58:ZA:64:THR:OG1	58:ZA:75:THR:OG1	2.12	0.65
71:MB:108:TYR:HB2	71:MB:109:PRO:HD3	1.77	0.65
10:la:133:LYS:HA	10:la:140:ALA:HA	1.79	0.65
24:za:63:GLN:O	24:za:67:ARG:HG3	1.96	0.65
31:hb:84:LEU:HB3	31:hb:93:VAL:HG11	1.78	0.65
64:FB:131:VAL:HG13	64:FB:132:LEU:HG	1.79	0.65
75:RB:6:A:N1	76:SB:154:G:C6	2.64	0.65
1:aa:927:A:H2'	1:aa:928:A:C8	2.32	0.65
1:aa:1569:U:H4'	1:aa:1607:C:H4'	1.79	0.65
1:aa:1799:G:N7	12:na:146:ARG:NH1	2.44	0.65
45:MA:30:ARG:NH2	45:MA:62:ARG:HE	1.94	0.65
52:TA:24:ASP:OD2	52:TA:25:ARG:N	2.29	0.65
57:YA:61:LEU:HB3	61:CB:77:PHE:CE2	2.32	0.65
69:KB:35:ARG:O	69:KB:39:GLN:NE2	2.29	0.65
1:aa:1539:A:N7	18:ta:99:GLN:NE2	2.45	0.65
13:oa:33:ILE:HG23	13:oa:100:SER:HB3	1.77	0.65
30:gb:57:ASP:HB3	30:gb:108:LEU:HD23	1.79	0.65
43:KA:64:ILE:HG13	43:KA:109:VAL:HG21	1.78	0.65
44:LA:95:TRP:CH2	44:LA:99:MET:HE3	2.31	0.65
75:RB:1693:A:H2'	75:RB:1694:A:C8	2.32	0.65
12:na:39:ASP:OD2	12:na:40:THR:N	2.29	0.65
18:ta:65:VAL:HA	18:ta:68:GLU:HG2	1.77	0.65
20:va:72:LYS:HB2	20:va:127:TYR:CE1	2.32	0.65
63:EB:238:ARG:NH2	75:RB:693:C:OP1	2.30	0.65
48:PA:50:ARG:NH2	76:SB:83:C:O2	2.29	0.65
70:LB:209:ARG:NH1	75:RB:3201:C:O2	2.25	0.65
75:RB:3238:C:H2'	75:RB:3239:G:O4'	1.97	0.65
4:da:24:LYS:HG3	4:da:26:ASP:H	1.62	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:DA:2:GLY:HA2	36:DA:207:VAL:HG23	1.78	0.65
69:KB:194:ALA:O	69:KB:198:LYS:NZ	2.27	0.65
75:RB:1587:G:O2'	75:RB:1793:A:N6	2.29	0.65
1:aa:1301:G:N2	1:aa:1304:A:OP2	2.28	0.65
7:ia:213:PRO:HB3	15:qa:20:TYR:HE1	1.60	0.65
15:qa:105:MET:HE1	24:za:43:TYR:HB3	1.79	0.65
33:AA:151:HIS:ND1	33:AA:177:LYS:HA	2.12	0.65
54:VA:3:SER:O	75:RB:1829:G:O2'	2.15	0.65
75:RB:229:G:H2'	75:RB:230:G:H8	1.62	0.65
75:RB:1755:A:H2	75:RB:1764:G:C2	2.11	0.65
1:aa:1623:C:H2'	9:ka:56:ARG:HD2	1.78	0.64
21:wa:19:ARG:NH2	21:wa:32:ARG:HE	1.96	0.64
77:TB:71:A:H61	77:TB:104:C:H42	1.45	0.64
28:eb:173:ARG:HA	28:eb:176:ARG:HG2	1.79	0.64
41:IA:77:ARG:HB2	41:IA:77:ARG:NH2	2.13	0.64
45:MA:30:ARG:HA	45:MA:120:VAL:HG11	1.78	0.64
75:RB:1659:G:N2	75:RB:1783:G:H22	1.95	0.64
75:RB:2431:A:H2'	75:RB:2432:A:H8	1.62	0.64
16:ra:53:ALA:HB3	16:ra:56:LYS:HG2	1.78	0.64
19:ua:50:LYS:NZ	19:ua:55:GLN:HB3	2.11	0.64
75:RB:989:U:H2'	75:RB:990:U:H6	1.62	0.64
75:RB:1658:G:H2'	75:RB:1659:G:C8	2.32	0.64
6:ha:19:ASP:O	6:ha:38:SER:OG	2.14	0.64
75:RB:1251:U:O2'	75:RB:1271:U:OP1	2.16	0.64
77:TB:28:U:O2'	77:TB:54:A:N1	2.30	0.64
1:aa:476:U:H2'	1:aa:477:A:C8	2.33	0.64
7:ia:167:TYR:HE2	7:ia:204:LEU:HB2	1.61	0.64
35:CA:64:LYS:HD3	35:CA:67:ARG:HH21	1.63	0.64
42:JA:65:ARG:HE	42:JA:90:ARG:NH2	1.95	0.64
62:DB:7:GLU:HG3	75:RB:2912:U:C5	2.33	0.64
75:RB:1571:A:O2'	75:RB:1572:C:O4'	2.14	0.64
75:RB:3253:A:OP1	75:RB:3254:A:N6	2.28	0.64
1:aa:1602:G:OP2	1:aa:1604:C:N4	2.31	0.64
8:ja:103:TYR:HB2	8:ja:182:MET:HE1	1.79	0.64
31:hb:112:GLN:HG3	31:hb:114:PRO:HD3	1.79	0.64
40:HA:6:PHE:CD1	59:AB:43:VAL:HG13	2.33	0.64
75:RB:118:G:N2	75:RB:118:G:OP2	2.30	0.64
75:RB:1380:C:HO2'	75:RB:1411:G:HO2'	1.38	0.64
75:RB:2537:G:H2'	75:RB:2538:C:C2	2.32	0.64
75:RB:2680:U:H2'	75:RB:2681:C:H6	1.62	0.64
1:aa:1178:C:OP1	13:oa:130:ARG:NH2	2.30	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:bb:56:ILE:HD11	25:bb:59:GLU:HB2	1.79	0.64
30:gb:32:ILE:HB	30:gb:65:GLN:HE22	1.63	0.64
34:BA:54:HIS:CD2	75:RB:2721:U:H4'	2.32	0.64
45:MA:50:ASP:OD1	45:MA:55:LYS:HB3	1.96	0.64
48:PA:90:ASN:HA	75:RB:376:A:H1'	1.78	0.64
58:ZA:67:ARG:HG2	58:ZA:69:LYS:H	1.63	0.64
1:aa:550:U:H2'	1:aa:551:U:C6	2.33	0.64
1:aa:794:G:OP2	8:ja:108:ARG:NH1	2.31	0.64
8:ja:161:LYS:HE2	8:ja:171:ASP:HB3	1.80	0.64
15:qa:28:PHE:HE2	15:qa:32:LYS:HD2	1.63	0.64
18:ta:61:ILE:HG22	18:ta:104:ARG:HA	1.79	0.64
47:OA:9:ARG:NH2	47:OA:30:VAL:O	2.31	0.64
71:MB:62:THR:OG1	75:RB:430:G:OP1	2.15	0.64
75:RB:1024:G:H2'	75:RB:1025:G:H8	1.63	0.64
1:aa:1554:G:O2'	13:oa:110:ASP:OD2	2.15	0.64
2:ba:23:LEU:HD12	2:ba:25:ARG:HH12	1.63	0.64
38:FA:172:ARG:NH2	75:RB:2895:G:OP2	2.31	0.64
13:oa:124:ARG:HG2	13:oa:131:VAL:HA	1.79	0.64
42:JA:10:ARG:NH1	75:RB:952:C:OP1	2.31	0.64
69:KB:162:ARG:HG3	75:RB:704:G:C6	2.32	0.64
1:aa:716:A:O2'	1:aa:717:G:N2	2.31	0.63
46:NA:101:ASP:OD1	46:NA:104:LYS:HG3	1.98	0.63
75:RB:693:C:H4'	75:RB:695:G:H22	1.63	0.63
9:ka:167:GLU:HG2	18:ta:66:LEU:HA	1.81	0.63
25:bb:190:PRO:HG2	25:bb:192:VAL:HG23	1.79	0.63
30:gb:50:PHE:HB3	30:gb:113:LEU:HD23	1.81	0.63
13:oa:27:MET:HG3	13:oa:28:PHE:HD2	1.63	0.63
28:eb:89:ALA:N	28:eb:92:GLN:OE1	2.23	0.63
40:HA:145:ASP:HB3	40:HA:148:ILE:HG22	1.80	0.63
44:LA:15:LEU:O	44:LA:52:ARG:NH2	2.31	0.63
75:RB:2835:A:N6	75:RB:2847:G:O2'	2.31	0.63
1:aa:479:A:OP2	28:eb:128:ARG:NH1	2.31	0.63
6:ha:302:LEU:HD12	6:ha:311:LEU:HD11	1.80	0.63
10:la:34:LEU:HD22	10:la:72:ARG:HH12	1.63	0.63
25:bb:38:PHE:O	25:bb:41:ARG:NH1	2.25	0.63
48:PA:58:VAL:HG23	48:PA:59:ARG:HG2	1.79	0.63
64:FB:126:PRO:HA	64:FB:129:LEU:HD13	1.79	0.63
75:RB:642:C:N4	75:RB:643:G:O6	2.31	0.63
1:aa:1180:U:H2'	1:aa:1181:G:H8	1.63	0.63
1:aa:1806:C:OP2	27:db:92:ARG:NH1	2.30	0.63
24:za:145:ASN:ND2	29:fb:70:SER:O	2.29	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:1207:A:OP2	75:RB:1305:A:N6	2.30	0.63
77:TB:13:A:OP2	77:TB:66:G:N2	2.31	0.63
1:aa:824:U:H3	1:aa:858:G:H1	1.47	0.63
5:ga:86:ASN:HB2	5:ga:89:CYS:HB2	1.81	0.63
20:va:5:ILE:HG21	20:va:28:PRO:HG2	1.81	0.63
25:bb:135:LEU:HD11	25:bb:137:MET:HE2	1.80	0.63
40:HA:168:GLY:HA2	40:HA:171:PHE:CE2	2.34	0.63
43:KA:55:PHE:HD2	43:KA:60:VAL:HG22	1.64	0.63
45:MA:135:GLY:O	75:RB:1842:C:N4	2.28	0.63
56:XA:128:LEU:HD22	64:FB:185:LYS:HE3	1.80	0.63
75:RB:940:G:N2	75:RB:964:C:OP1	2.31	0.63
75:RB:1272:G:N2	75:RB:1275:A:OP1	2.31	0.63
75:RB:2422:G:H2'	75:RB:2423:A:H8	1.62	0.63
1:aa:550:U:H2'	1:aa:551:U:H6	1.63	0.63
1:aa:1485:A:OP1	16:ra:69:ARG:NH1	2.32	0.63
43:KA:9:THR:HG23	43:KA:12:TYR:H	1.64	0.63
75:RB:17:G:H2'	75:RB:18:G:C8	2.34	0.63
75:RB:550:C:H3'	75:RB:551:A:C5	2.34	0.63
75:RB:1247:G:H21	75:RB:1274:A:H2'	1.64	0.63
75:RB:1532:A:OP2	75:RB:1589:G:N2	2.29	0.63
75:RB:2658:G:H2'	75:RB:2659:A:C8	2.33	0.63
1:aa:1324:U:H3'	24:za:106:ARG:NH2	2.14	0.63
1:aa:1567:G:H5''	13:oa:133:GLY:HA3	1.80	0.63
2:ba:64:PHE:HD2	2:ba:65:LYS:HG3	1.62	0.63
6:ha:169:VAL:HA	6:ha:181:VAL:O	1.99	0.63
35:CA:88:ASP:HB2	35:CA:122:ARG:HH22	1.64	0.63
43:KA:265:ARG:HH11	77:TB:1:G:H4'	1.64	0.63
60:BB:71:ARG:HE	60:BB:84:LEU:HD12	1.64	0.63
63:EB:89:ARG:HD3	75:RB:363:A:H4'	1.81	0.63
75:RB:91:G:H5'	75:RB:92:C:H5''	1.80	0.63
31:hb:94:VAL:HG21	31:hb:130:VAL:HG13	1.81	0.63
37:EA:26:GLY:HA2	37:EA:67:ILE:HB	1.80	0.63
66:HB:65:LEU:HD21	66:HB:93:PRO:HG3	1.81	0.63
12:na:76:LEU:HA	12:na:79:GLN:HG3	1.79	0.62
29:fb:59:ARG:HH12	29:fb:256:ILE:HG21	1.63	0.62
33:AA:49:LYS:HB2	75:RB:2520:G:H5'	1.81	0.62
36:DA:14:SER:OG	75:RB:914:C:OP1	2.09	0.62
48:PA:3:ARG:NH1	75:RB:694:U:OP1	2.32	0.62
69:KB:64:LYS:HG2	69:KB:65:TYR:CE1	2.34	0.62
75:RB:955:A:H4'	75:RB:971:G:N2	2.14	0.62
75:RB:3018:G:O2'	75:RB:3027:G:O6	2.16	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:288:G:N7	30:gb:193:ARG:NH2	2.47	0.62
1:aa:598:A:OP1	28:eb:39:ARG:NH1	2.32	0.62
1:aa:1174:G:N1	1:aa:1583:G:OP2	2.27	0.62
1:aa:1395:C:H1'	15:qa:28:PHE:CE1	2.35	0.62
1:aa:1557:C:OP1	17:sa:51:ARG:NH2	2.26	0.62
3:ca:11:ARG:NH1	3:ca:15:GLY:O	2.32	0.62
43:KA:210:LEU:HD12	43:KA:222:PHE:HE2	1.63	0.62
44:LA:92:LYS:NZ	75:RB:1720:C:O2	2.24	0.62
75:RB:1361:G:H2'	75:RB:1362:C:C6	2.34	0.62
75:RB:1755:A:N1	75:RB:1764:G:C6	2.67	0.62
1:aa:1541:C:H5''	18:ta:76:LEU:HD21	1.82	0.62
4:da:32:HIS:ND1	4:da:33:PRO:O	2.33	0.62
24:za:181:LEU:O	24:za:185:MET:HG3	1.99	0.62
34:BA:57:TYR:CD1	34:BA:76:ILE:HD11	2.28	0.62
36:DA:236:GLY:H	75:RB:2176:A:HO2'	1.48	0.62
37:EA:34:ARG:HA	37:EA:37:LYS:HG2	1.82	0.62
40:HA:65:ARG:HD2	40:HA:127:TYR:CD1	2.33	0.62
75:RB:117:U:O2	75:RB:120:G:O2'	2.18	0.62
75:RB:2099:G:H2'	75:RB:2100:A:H8	1.63	0.62
50:RA:47:ILE:HD12	50:RA:94:LEU:HD23	1.80	0.62
64:FB:32:LEU:HD21	64:FB:38:VAL:HG22	1.80	0.62
75:RB:440:U:O2'	75:RB:497:G:N2	2.33	0.62
75:RB:1669:C:N3	75:RB:1772:G:N2	2.43	0.62
75:RB:2201:A:O2'	75:RB:2202:U:H2'	1.99	0.62
75:RB:3379:G:O2'	75:RB:3380:G:OP1	2.17	0.62
1:aa:140:C:H1'	1:aa:269:A:N1	2.14	0.62
1:aa:1595:A:H2'	1:aa:1596:G:H8	1.65	0.62
28:eb:127:ALA:O	28:eb:131:ILE:HG12	2.00	0.62
29:fb:194:PRO:HD3	29:fb:220:PHE:HE2	1.63	0.62
40:HA:158:HIS:HB3	40:HA:161:LEU:HB2	1.81	0.62
62:DB:92:TYR:OH	75:RB:2999:G:O2'	2.17	0.62
75:RB:2680:U:H2'	75:RB:2681:C:C6	2.34	0.62
7:ia:59:LEU:HA	7:ia:66:ILE:HG12	1.80	0.62
28:eb:121:ALA:O	28:eb:126:HIS:ND1	2.33	0.62
36:DA:211:HIS:CD2	36:DA:219:ILE:HG23	2.34	0.62
42:JA:36:LEU:O	42:JA:40:THR:HB	2.00	0.62
1:aa:864:A:N3	14:pa:73:ARG:NH2	2.47	0.62
1:aa:1224:C:H2'	1:aa:1225:A:C8	2.34	0.62
7:ia:132:LYS:HG2	7:ia:156:TYR:HB2	1.81	0.62
18:ta:46:ALA:HA	18:ta:50:LYS:HE3	1.81	0.62
24:za:151:PHE:HE1	24:za:178:LEU:HB3	1.65	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:bb:108:ASP:OD1	25:bb:109:LYS:N	2.32	0.62
41:IA:85:ASP:OD1	41:IA:86:LYS:N	2.32	0.62
57:YA:61:LEU:HB3	61:CB:77:PHE:HE2	1.65	0.62
1:aa:865:U:H2'	1:aa:866:U:C6	2.35	0.62
1:aa:875:C:O2	22:xa:53:GLN:NE2	2.32	0.62
38:FA:116:PHE:CE1	38:FA:117:LEU:HD23	2.34	0.62
45:MA:22:LEU:HD23	45:MA:91:PHE:HD1	1.63	0.62
62:DB:58:ARG:O	62:DB:71:GLU:HA	2.00	0.62
63:EB:330:LEU:HD11	70:LB:11:ILE:HG23	1.80	0.62
75:RB:381:G:N2	75:RB:384:A:OP2	2.21	0.62
1:aa:762:A:OP1	8:ja:16:SER:OG	2.15	0.62
57:YA:77:TYR:CD1	57:YA:101:LEU:HD13	2.35	0.62
75:RB:1593:C:H2'	75:RB:1594:G:H8	1.65	0.62
40:HA:17:ASP:OD1	40:HA:18:VAL:N	2.33	0.62
56:XA:52:ARG:NH2	75:RB:1186:C:O2'	2.32	0.62
67:IB:2:ARG:HH22	67:IB:9:ARG:HH11	1.47	0.62
75:RB:3053:U:O2'	75:RB:3055:G:OP1	2.18	0.62
1:aa:154:A:H2'	1:aa:155:A:O4'	2.00	0.61
1:aa:773:U:O4'	28:eb:141:GLN:NE2	2.33	0.61
21:wa:21:CYS:SG	21:wa:39:CYS:N	2.73	0.61
23:ya:13:LYS:O	23:ya:17:GLN:HG2	2.00	0.61
24:za:187:LEU:HD22	24:za:192:THR:HG21	1.82	0.61
31:hb:76:ILE:HG13	31:hb:77:HIS:N	2.12	0.61
33:AA:174:CYS:HB3	33:AA:214:ILE:CD1	2.30	0.61
34:BA:10:ARG:NH2	75:RB:2632:A:O2'	2.33	0.61
45:MA:129:ARG:NE	45:MA:131:TYR:OH	2.33	0.61
52:TA:34:ARG:NH2	75:RB:1411:G:OP1	2.28	0.61
55:WA:23:HIS:CE1	55:WA:74:CYS:HB3	2.34	0.61
62:DB:290:LYS:HB3	62:DB:293:GLN:HE22	1.65	0.61
66:HB:56:GLU:HG3	66:HB:58:GLU:OE2	2.00	0.61
72:NB:8:ILE:HG23	72:NB:56:LEU:HD12	1.82	0.61
1:aa:1621:U:H2'	1:aa:1622:A:H8	1.65	0.61
3:ca:190:SER:OG	3:ca:195:CYS:SG	2.58	0.61
16:ra:24:PRO:HB3	16:ra:75:ARG:HH12	1.65	0.61
36:DA:223:SER:HG	75:RB:2237:A:HO2'	1.46	0.61
61:CB:168:ASN:ND2	63:EB:331:LYS:O	2.33	0.61
75:RB:1450:G:O2'	75:RB:2348:G:O6	2.16	0.61
1:aa:340:G:H2'	1:aa:342:C:H5	1.66	0.61
1:aa:1172:G:H21	10:la:145:GLN:HE22	1.48	0.61
1:aa:1559:U:OP2	17:sa:52:ARG:NH1	2.33	0.61
5:ga:106:ARG:HH21	5:ga:109:HIS:CE1	2.18	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:ka:115:SER:HA	9:ka:189:LYS:HD2	1.82	0.61
29:fb:150:ARG:HB3	29:fb:232:TYR:CE1	2.35	0.61
31:hb:66:PRO:HA	31:hb:98:THR:HG22	1.82	0.61
36:DA:180:LEU:HD23	65:GB:18:TYR:CD2	2.34	0.61
66:HB:50:VAL:HB	66:HB:167:ARG:HD2	1.83	0.61
75:RB:18:G:H1	76:SB:142:G:H1	1.48	0.61
75:RB:1650:G:H2'	75:RB:1651:A:H8	1.65	0.61
25:bb:71:ALA:HB2	25:bb:80:ALA:HA	1.82	0.61
36:DA:108:PRO:HB2	65:GB:86:LEU:HD11	1.81	0.61
38:FA:22:ALA:O	38:FA:23:LYS:HG3	2.01	0.61
45:MA:64:CYS:O	45:MA:81:GLN:NE2	2.33	0.61
53:UA:5:THR:OG1	75:RB:887:A:OP1	2.10	0.61
61:CB:144:LYS:HD2	61:CB:241:ARG:NH2	2.14	0.61
75:RB:1567:G:O6	75:RB:1572:C:N4	2.31	0.61
1:aa:1493:A:OP1	21:wa:34:TYR:OH	2.10	0.61
3:ca:49:VAL:HG11	3:ca:55:LYS:HD3	1.82	0.61
16:ra:146:GLN:O	16:ra:150:THR:HG23	2.00	0.61
61:CB:56:GLU:OE2	61:CB:188:HIS:NE2	2.33	0.61
66:HB:209:ARG:NH1	77:TB:63:U:O4	2.34	0.61
69:KB:132:LYS:HB3	69:KB:134:LYS:HE3	1.82	0.61
75:RB:16:A:H61	76:SB:144:C:H42	1.48	0.61
1:aa:72:A:C6	1:aa:73:A:H1'	2.36	0.61
1:aa:308:U:H5''	32:ib:137:ARG:HG3	1.82	0.61
1:aa:409:C:O2'	30:gb:94:ARG:O	2.17	0.61
15:qa:79:GLU:O	15:qa:82:MET:HB3	2.00	0.61
46:NA:69:GLN:HA	46:NA:72:ILE:HG22	1.82	0.61
47:OA:22:ARG:HB3	47:OA:32:LEU:HD13	1.83	0.61
48:PA:1:MET:SD	48:PA:2:LYS:N	2.73	0.61
56:XA:29:ASP:HB3	56:XA:37:LEU:HD12	1.82	0.61
65:GB:41:PHE:O	75:RB:1727:A:N6	2.33	0.61
75:RB:1361:G:H2'	75:RB:1362:C:H6	1.65	0.61
1:aa:611:G:H5'	1:aa:617:G:N2	2.15	0.61
1:aa:1176:A:H2'	1:aa:1177:G:C8	2.34	0.61
4:da:22:TYR:O	4:da:32:HIS:NE2	2.34	0.61
6:ha:200:ARG:NH2	6:ha:201:CYS:SG	2.71	0.61
24:za:34:CYS:HB2	24:za:51:TYR:CE1	2.36	0.61
37:EA:23:ILE:HD11	37:EA:35:ALA:HB1	1.81	0.61
38:FA:133:ILE:HG22	38:FA:145:LEU:HG	1.81	0.61
39:GA:123:LYS:HA	39:GA:139:ILE:HD11	1.82	0.61
44:LA:92:LYS:HE2	75:RB:1659:G:H4'	1.83	0.61
44:LA:105:LEU:HD23	44:LA:138:LEU:HD23	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:DB:113:ASP:HA	62:DB:116:ARG:HD2	1.81	0.61
1:aa:1279:A:N3	7:ia:141:LYS:NZ	2.46	0.61
7:ia:10:LYS:NZ	7:ia:14:ASP:OD1	2.34	0.61
7:ia:17:PHE:O	7:ia:21:LEU:HD12	2.00	0.61
7:ia:211:HIS:O	15:qa:20:TYR:OH	2.17	0.61
42:JA:148:VAL:HA	42:JA:151:PHE:HD2	1.61	0.61
56:XA:117:ARG:HD2	64:FB:198:LEU:HD11	1.82	0.61
75:RB:981:A:O2'	75:RB:983:U:O4	2.14	0.61
75:RB:1613:C:H2'	75:RB:1614:G:H8	1.65	0.61
75:RB:2184:U:H3	75:RB:2309:A:H61	1.48	0.61
75:RB:2707:G:N2	75:RB:2741:U:O3'	2.33	0.61
75:RB:2968:A:H2'	79:cl:74:C:H5''	1.81	0.61
2:ba:42:LYS:HD2	2:ba:63:VAL:HG23	1.81	0.61
4:da:14:TYR:O	4:da:18:GLU:HG2	2.01	0.61
26:cb:30:ALA:O	26:cb:59:ARG:HD3	2.01	0.61
40:HA:4:TYR:HA	40:HA:7:VAL:HG12	1.82	0.61
68:JB:124:LYS:NZ	75:RB:2894:A:OP2	2.32	0.61
69:KB:17:TRP:NE1	75:RB:802:G:O2'	2.34	0.61
75:RB:584:G:N2	75:RB:587:A:OP2	2.34	0.61
75:RB:989:U:H2'	75:RB:990:U:C6	2.36	0.61
75:RB:1424:G:H2'	75:RB:1425:G:H8	1.66	0.61
1:aa:1330:A:H5''	7:ia:156:TYR:CE1	2.36	0.61
7:ia:21:LEU:HD21	7:ia:48:ILE:HD13	1.83	0.61
17:sa:99:ILE:HD13	17:sa:118:PRO:HA	1.82	0.61
26:cb:11:LEU:HD12	26:cb:12:TYR:HD1	1.66	0.61
35:CA:122:ARG:O	35:CA:125:THR:OG1	2.18	0.61
41:IA:99:ASP:OD1	41:IA:101:SER:OG	2.18	0.61
65:GB:17:ARG:NH2	75:RB:863:G:OP1	2.33	0.61
79:cl:3:C:H2'	79:cl:4:A:H8	1.66	0.61
1:aa:1782:C:H3'	67:IB:1:MET:HG3	1.81	0.60
1:aa:1805:U:OP2	27:db:5:ARG:NH1	2.33	0.60
3:ca:166:GLN:HA	3:ca:169:ARG:HG2	1.82	0.60
6:ha:44:LEU:HD11	6:ha:65:PRO:HB3	1.81	0.60
6:ha:62:TYR:CG	6:ha:322:ILE:HD13	2.36	0.60
22:xa:36:ASP:HB3	22:xa:45:ILE:HD11	1.81	0.60
37:EA:63:ARG:HH21	79:cl:56:C:H4'	1.64	0.60
75:RB:1068:A:N6	75:RB:1098:U:OP2	2.30	0.60
75:RB:1537:A:H2'	75:RB:1538:A:C8	2.35	0.60
77:TB:81:G:H1	77:TB:95:U:H3	1.47	0.60
3:ca:178:GLN:OE1	3:ca:185:LEU:N	2.20	0.60
6:ha:8:LEU:HG	6:ha:325:ILE:HD12	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:ha:165:TRP:HB2	6:ha:185:TRP:HB2	1.82	0.60
8:ja:192:VAL:HG22	8:ja:243:GLY:HA3	1.83	0.60
25:bb:65:VAL:HG11	25:bb:85:ARG:HH21	1.65	0.60
25:bb:146:ARG:HE	25:bb:206:PRO:HG3	1.66	0.60
32:ib:4:GLN:OE1	32:ib:10:LEU:N	2.31	0.60
36:DA:200:ARG:HD2	75:RB:2179:U:OP2	2.01	0.60
49:QA:16:ASN:C	49:QA:16:ASN:HD22	2.04	0.60
69:KB:3:LYS:HE2	69:KB:4:HIS:CE1	2.36	0.60
70:LB:189:ILE:HA	70:LB:192:ILE:HG22	1.84	0.60
1:aa:333:G:H2'	1:aa:334:G:C8	2.35	0.60
1:aa:490:G:N2	1:aa:491:G:O6	2.34	0.60
1:aa:842:G:H2'	1:aa:843:G:C8	2.36	0.60
1:aa:1147:A:H2'	1:aa:1148:A:C8	2.36	0.60
28:eb:120:MET:HE3	28:eb:160:PHE:CE1	2.36	0.60
70:LB:113:ASN:ND2	70:LB:202:LEU:O	2.17	0.60
75:RB:2423:A:H2'	75:RB:2424:C:H6	1.66	0.60
1:aa:374:A:H2'	1:aa:375:G:C8	2.37	0.60
1:aa:849:G:H2'	1:aa:850:G:C8	2.36	0.60
8:ja:19:MET:HE1	8:ja:110:ARG:NH1	2.15	0.60
43:KA:12:TYR:OH	75:RB:2685:U:OP1	2.15	0.60
44:LA:115:ILE:HG23	44:LA:119:MET:HG3	1.84	0.60
9:ka:164:THR:HG21	18:ta:100:GLN:HE22	1.65	0.60
13:oa:131:VAL:HG23	13:oa:132:ARG:HG3	1.81	0.60
25:bb:193:ILE:O	25:bb:197:ILE:HG13	2.01	0.60
36:DA:243:THR:HB	75:RB:2237:A:H5''	1.82	0.60
63:EB:198:LYS:O	63:EB:203:ARG:NH1	2.31	0.60
63:EB:358:ILE:HG22	63:EB:359:ASN:H	1.66	0.60
75:RB:2:C:H2'	75:RB:3:G:C8	2.36	0.60
1:aa:86:A:N3	1:aa:146:A:O2'	2.35	0.60
1:aa:178:A:H3'	1:aa:179:A:H4'	1.83	0.60
1:aa:400:G:N2	1:aa:403:A:OP2	2.33	0.60
1:aa:496:A:H1'	1:aa:497:U:C4	2.37	0.60
1:aa:842:G:H2'	1:aa:843:G:H8	1.66	0.60
1:aa:1541:C:N4	1:aa:1542:G:O6	2.34	0.60
1:aa:1571:G:P	16:ra:54:ARG:HH21	2.25	0.60
13:oa:18:THR:HG21	13:oa:33:ILE:HA	1.81	0.60
39:GA:43:LYS:HD2	75:RB:2928:C:H5''	1.84	0.60
63:EB:7:PRO:HG2	63:EB:27:MET:HG3	1.84	0.60
75:RB:779:U:O2	75:RB:2717:G:N2	2.35	0.60
75:RB:2423:A:H2'	75:RB:2424:C:C6	2.36	0.60
75:RB:2629:G:O6	75:RB:2644:A:N6	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:216:A:N6	1:aa:848:C:O2	2.35	0.60
13:oa:27:MET:HG3	13:oa:28:PHE:CD2	2.36	0.60
20:va:3:ARG:C	20:va:4:ARG:HD3	2.27	0.60
29:fb:79:VAL:HG21	29:fb:143:LYS:HB3	1.84	0.60
32:ib:128:GLN:HA	32:ib:138:PHE:CD1	2.37	0.60
38:FA:88:ARG:HD3	38:FA:146:ASP:HB3	1.82	0.60
43:KA:145:LEU:HD22	43:KA:162:LEU:HD22	1.84	0.60
44:LA:148:GLU:OE1	44:LA:151:ARG:NH2	2.35	0.60
63:EB:352:LYS:HA	63:EB:355:LYS:HD3	1.84	0.60
66:HB:51:HIS:CD2	66:HB:168:SER:HB2	2.37	0.60
66:HB:176:PHE:HB3	66:HB:181:TYR:HB2	1.83	0.60
75:RB:397:A:HO2'	75:RB:401:C:HO2'	1.50	0.60
75:RB:2562:G:H2'	75:RB:2563:G:C8	2.37	0.60
1:aa:1542:G:OP2	13:oa:55:ARG:NH2	2.35	0.60
13:oa:39:ARG:NH1	16:ra:51:LYS:HG3	2.16	0.60
57:YA:14:ARG:HG2	57:YA:61:LEU:HD21	1.83	0.60
63:EB:34:PRO:HB3	63:EB:286:PRO:HB3	1.83	0.60
75:RB:356:G:N2	75:RB:359:A:OP2	2.34	0.60
75:RB:606:C:H2'	75:RB:607:U:C4	2.37	0.60
75:RB:1703:C:O2	75:RB:1782:G:O2'	2.20	0.60
1:aa:1361:G:O3'	16:ra:138:SER:OG	2.19	0.60
10:la:87:ILE:O	10:la:91:ILE:HG12	2.02	0.60
18:ta:54:GLU:HA	18:ta:57:LYS:HD2	1.83	0.60
38:FA:94:VAL:HG12	68:JB:82:LEU:HD21	1.83	0.60
42:JA:123:ASP:OD1	42:JA:124:GLN:N	2.35	0.60
44:LA:80:LYS:NZ	75:RB:3061:G:OP1	2.31	0.60
57:YA:75:LYS:NZ	57:YA:99:THR:O	2.30	0.60
59:AB:12:VAL:HG11	69:KB:186:ARG:NH2	2.17	0.60
74:PB:72:ARG:NH1	75:RB:1800:G:OP1	2.35	0.60
1:aa:559:A:O2'	1:aa:560:A:O5'	2.18	0.60
1:aa:1165:A:H2'	1:aa:1166:C:C6	2.37	0.60
6:ha:261:TYR:HB3	6:ha:276:LEU:HD23	1.84	0.60
16:ra:31:TYR:CD2	16:ra:147:VAL:HG11	2.35	0.60
37:EA:140:VAL:HA	37:EA:143:ARG:NH1	2.16	0.60
45:MA:14:SER:O	45:MA:106:LYS:NZ	2.33	0.60
57:YA:12:VAL:HG23	57:YA:61:LEU:HB2	1.84	0.60
1:aa:451:U:OP1	8:ja:49:ARG:NH2	2.35	0.59
12:na:43:HIS:ND1	12:na:55:ARG:HD3	2.17	0.59
38:FA:90:LYS:HE2	38:FA:182:ASP:HB2	1.84	0.59
44:LA:67:HIS:O	44:LA:71:GLN:NE2	2.35	0.59
53:UA:52:LYS:NZ	75:RB:362:G:OP2	2.34	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:397:A:O2'	75:RB:401:C:O2'	2.20	0.59
75:RB:2094:A:H2'	75:RB:2095:C:O4'	2.02	0.59
1:aa:97:G:H1	1:aa:391:A:H61	1.49	0.59
1:aa:759:A:OP1	8:ja:186:GLY:HA3	2.02	0.59
5:ga:53:LYS:HD2	5:ga:90:LEU:HG	1.84	0.59
9:ka:14:LEU:HD23	9:ka:20:PHE:CZ	2.37	0.59
24:za:46:ARG:NH2	24:za:50:ILE:HD11	2.17	0.59
24:za:72:ILE:HG23	24:za:124:ARG:HD3	1.83	0.59
37:EA:50:SER:HB3	37:EA:68:ALA:HB3	1.84	0.59
45:MA:121:ASN:HD21	76:SB:13:A:H1'	1.67	0.59
56:XA:64:ARG:NH2	75:RB:544:C:OP1	2.34	0.59
75:RB:550:C:O2'	75:RB:551:A:O4'	2.20	0.59
75:RB:3088:C:O2'	75:RB:3090:G:OP2	2.19	0.59
9:ka:14:LEU:HD21	9:ka:105:ILE:HD11	1.82	0.59
27:db:51:ARG:O	27:db:55:GLU:HG2	2.02	0.59
38:FA:102:ALA:HB1	38:FA:111:ILE:HD11	1.83	0.59
42:JA:103:ARG:NH1	75:RB:680:G:N7	2.49	0.59
48:PA:56:GLN:HE21	48:PA:64:GLY:HA2	1.67	0.59
69:KB:138:SER:HB3	69:KB:142:GLU:OE2	2.02	0.59
75:RB:35:U:O2	75:RB:937:G:O2'	2.20	0.59
75:RB:1239:U:O2	75:RB:1249:A:O2'	2.18	0.59
75:RB:1462:C:H2'	75:RB:1463:A:H8	1.66	0.59
1:aa:1106:G:H21	20:va:4:ARG:HH12	1.50	0.59
6:ha:67:ARG:NH1	6:ha:102:LEU:O	2.35	0.59
9:ka:99:LEU:HD11	18:ta:66:LEU:HD13	1.85	0.59
16:ra:40:LYS:NZ	16:ra:67:TYR:OH	2.35	0.59
31:hb:160:ARG:HG2	31:hb:164:GLU:OE2	2.03	0.59
44:LA:117:LYS:HE3	75:RB:1716:G:H4'	1.84	0.59
51:SA:17:THR:HG23	51:SA:119:VAL:HB	1.83	0.59
55:WA:4:VAL:O	55:WA:94:GLY:N	2.27	0.59
62:DB:54:THR:HG22	62:DB:368:LYS:HE3	1.84	0.59
75:RB:104:G:O6	75:RB:105:A:N6	2.35	0.59
75:RB:1613:C:H2'	75:RB:1614:G:C8	2.37	0.59
75:RB:2200:A:H2'	75:RB:2201:A:O4'	2.02	0.59
75:RB:2628:U:O2'	75:RB:2694:A:N3	2.35	0.59
75:RB:3024:G:H2'	75:RB:3025:A:C8	2.37	0.59
1:aa:109:A:H2'	1:aa:110:G:C8	2.37	0.59
20:va:74:LEU:HD22	20:va:124:VAL:HG11	1.84	0.59
37:EA:17:GLN:HB3	37:EA:132:VAL:HG23	1.84	0.59
42:JA:39:ARG:NH1	75:RB:1352:G:OP1	2.34	0.59
60:BB:90:ARG:O	60:BB:94:ARG:HG2	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:KB:196:GLN:NE2	75:RB:2777:G:O2'	2.35	0.59
75:RB:1266:G:C6	75:RB:1268:G:H1'	2.37	0.59
75:RB:2533:G:O6	75:RB:2538:C:N4	2.36	0.59
75:RB:2621:G:H21	75:RB:2623:C:H5	1.51	0.59
1:aa:41:A:O2'	1:aa:441:A:O2'	2.14	0.59
1:aa:204:U:O2	3:ca:197:ARG:NH2	2.35	0.59
8:ja:153:LEU:O	8:ja:174:LYS:NZ	2.28	0.59
35:CA:14:LEU:HG	74:PB:88:ARG:HG3	1.84	0.59
36:DA:54:ARG:NH2	75:RB:2169:U:OP1	2.29	0.59
49:QA:16:ASN:O	49:QA:16:ASN:ND2	2.30	0.59
51:SA:64:ASN:ND2	75:RB:1462:C:O4'	2.35	0.59
54:VA:36:ARG:NH1	75:RB:400:G:OP2	2.36	0.59
62:DB:15:GLY:O	75:RB:3005:G:N2	2.34	0.59
64:FB:162:GLU:OE1	64:FB:165:ARG:NH2	2.27	0.59
66:HB:48:SER:HA	66:HB:178:ARG:NH2	2.15	0.59
75:RB:1843:A:OP2	75:RB:1845:C:N4	2.27	0.59
79:cl:24:G:H2'	79:cl:25:U:O4'	2.02	0.59
1:aa:927:A:H2'	1:aa:928:A:H8	1.67	0.59
2:ba:40:VAL:HG23	2:ba:45:LEU:HD11	1.85	0.59
6:ha:19:ASP:OD1	6:ha:39:ARG:HB3	2.03	0.59
15:qa:20:TYR:CE2	15:qa:38:VAL:HB	2.38	0.59
22:xa:56:VAL:HG13	22:xa:65:LEU:HD12	1.84	0.59
31:hb:62:VAL:HG23	31:hb:94:VAL:HG13	1.84	0.59
34:BA:82:ASN:ND2	75:RB:972:C:OP1	2.36	0.59
45:MA:29:THR:HG21	45:MA:147:ILE:HD11	1.84	0.59
63:EB:227:ASN:ND2	75:RB:207:U:O2	2.36	0.59
75:RB:240:U:HO2'	75:RB:241:G:H8	1.50	0.59
75:RB:757:G:H2'	75:RB:758:A:H8	1.68	0.59
77:TB:11:A:N1	77:TB:66:G:O2'	2.33	0.59
1:aa:149:G:N3	30:gb:13:GLN:NE2	2.48	0.59
8:ja:85:GLY:N	8:ja:88:ASP:OD2	2.17	0.59
10:la:105:GLU:O	10:la:108:LYS:HG3	2.02	0.59
12:na:45:THR:HG21	12:na:49:GLY:HA2	1.84	0.59
23:ya:33:ARG:HE	28:eb:128:ARG:HD2	1.67	0.59
37:EA:21:LEU:HD13	37:EA:73:ILE:HD13	1.83	0.59
44:LA:81:ARG:O	75:RB:1910:G:N2	2.28	0.59
58:ZA:82:LYS:HZ1	58:ZA:109:LYS:HE2	1.67	0.59
61:CB:130:ARG:NH2	77:TB:96:U:O2	2.35	0.59
75:RB:811:A:HO2'	75:RB:2405:G:HO2'	1.50	0.59
9:ka:88:ILE:O	9:ka:92:THR:HG23	2.03	0.59
37:EA:92:GLU:OE2	37:EA:95:ARG:NH2	2.34	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:GA:87:PRO:HA	39:GA:97:TYR:HB3	1.83	0.59
40:HA:193:LYS:O	40:HA:197:THR:HG23	2.03	0.59
62:DB:235:ARG:HD2	62:DB:271:GLY:H	1.68	0.59
70:LB:92:ARG:HD2	70:LB:201:TYR:CE1	2.37	0.59
75:RB:2822:C:H42	75:RB:2861:A:H61	1.50	0.59
6:ha:203:LEU:HD12	6:ha:234:TRP:CE3	2.38	0.59
7:ia:167:TYR:CE2	7:ia:204:LEU:HB2	2.37	0.59
40:HA:6:PHE:CE1	59:AB:43:VAL:HG22	2.38	0.59
47:OA:40:ARG:NH1	75:RB:3049:G:OP1	2.34	0.59
58:ZA:23:PHE:CE2	58:ZA:82:LYS:HB2	2.37	0.59
58:ZA:23:PHE:HD2	58:ZA:112:ASN:HB3	1.68	0.59
60:BB:89:THR:OG1	60:BB:92:ILE:HG12	2.03	0.59
60:BB:99:ASP:OD2	60:BB:103:ARG:NH1	2.36	0.59
62:DB:380:LYS:NZ	75:RB:3317:A:OP2	2.32	0.59
64:FB:28:VAL:HG13	64:FB:38:VAL:HG21	1.85	0.59
69:KB:80:LEU:HD11	69:KB:97:VAL:HG22	1.84	0.59
69:KB:134:LYS:N	69:KB:137:ASP:OD2	2.33	0.59
75:RB:427:U:O2'	75:RB:428:G:OP1	2.21	0.59
75:RB:2835:A:H2'	75:RB:2836:G:O4'	2.03	0.59
1:aa:1472:G:O2'	1:aa:1610:C:OP1	2.21	0.58
1:aa:1493:A:OP2	7:ia:8:LYS:NZ	2.33	0.58
46:NA:66:LYS:NZ	76:SB:99:C:OP1	2.26	0.58
50:RA:16:ASN:OD1	50:RA:17:LYS:N	2.35	0.58
1:aa:4:C:H1'	28:eb:19:ARG:HH11	1.67	0.58
1:aa:1442:A:H2'	1:aa:1443:U:O4'	2.02	0.58
2:ba:20:ASN:O	2:ba:24:SER:N	2.36	0.58
7:ia:39:VAL:HG12	7:ia:48:ILE:HG12	1.85	0.58
7:ia:109:LEU:HD21	7:ia:182:LEU:HD23	1.85	0.58
7:ia:167:TYR:HE1	7:ia:200:PRO:HG2	1.67	0.58
63:EB:45:ARG:HG3	75:RB:1429:U:H4'	1.84	0.58
64:FB:20:MET:HE3	64:FB:134:LEU:HG	1.85	0.58
75:RB:68:U:H2'	75:RB:69:U:O4'	2.03	0.58
1:aa:1600:G:H2'	1:aa:1601:A:C8	2.38	0.58
2:ba:17:PHE:HZ	2:ba:26:LYS:HE3	1.67	0.58
5:ga:51:LEU:HD11	5:ga:72:GLN:HB2	1.85	0.58
9:ka:188:LYS:O	9:ka:192:ILE:HG12	2.02	0.58
13:oa:13:LEU:HB3	13:oa:20:VAL:HG13	1.84	0.58
27:db:37:LYS:HB3	27:db:70:LYS:HZ2	1.69	0.58
62:DB:49:TYR:CD2	62:DB:171:MET:HE1	2.38	0.58
75:RB:506:U:H2'	75:RB:507:C:H6	1.68	0.58
1:aa:188:U:H3	1:aa:193:G:H1	1.51	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:203:A:H1'	1:aa:265:A:N6	2.18	0.58
1:aa:208:U:H5''	32:ib:16:PHE:CD1	2.38	0.58
5:ga:60:GLN:HB3	5:ga:61:PRO:HD3	1.84	0.58
8:ja:205:PHE:CD2	8:ja:221:ARG:HG2	2.38	0.58
10:la:47:PRO:HG2	10:la:84:ILE:HG13	1.85	0.58
38:FA:18:VAL:HG22	38:FA:27:VAL:HG22	1.86	0.58
54:VA:6:THR:OG1	76:SB:113:U:OP2	2.21	0.58
62:DB:20:LYS:HB2	75:RB:2988:A:P	2.43	0.58
63:EB:155:LEU:HD23	63:EB:255:ILE:HG12	1.85	0.58
75:RB:3117:U:H1'	75:RB:3118:A:H5''	1.84	0.58
1:aa:1055:G:OP1	22:xa:72:LYS:NZ	2.36	0.58
1:aa:1439:G:H4'	21:wa:26:ASN:HD22	1.68	0.58
6:ha:297:LEU:HB3	6:ha:315:TYR:HD2	1.68	0.58
25:bb:82:ARG:HD2	25:bb:103:MET:HE2	1.84	0.58
1:aa:1550:G:N1	1:aa:1576:C:O2	2.36	0.58
1:aa:1558:A:H2'	1:aa:1559:U:C6	2.38	0.58
8:ja:182:MET:HB3	8:ja:192:VAL:HG12	1.86	0.58
40:HA:5:LYS:HG3	59:AB:43:VAL:HG11	1.84	0.58
75:RB:2088:C:H2'	75:RB:2089:A:H8	1.66	0.58
75:RB:2362:G:H2'	75:RB:2363:G:C8	2.37	0.58
1:aa:189:U:O2	1:aa:191:U:N3	2.33	0.58
1:aa:555:G:H2'	1:aa:556:G:H8	1.67	0.58
1:aa:1162:A:O2'	1:aa:1163:C:OP1	2.21	0.58
6:ha:143:ASN:OD1	6:ha:146:GLY:N	2.37	0.58
10:la:34:LEU:HD22	10:la:72:ARG:NH1	2.18	0.58
17:sa:53:ARG:HG2	17:sa:58:LEU:HD11	1.86	0.58
18:ta:68:GLU:HA	18:ta:78:ARG:NH1	2.19	0.58
20:va:43:ARG:HD2	20:va:100:TYR:CE1	2.38	0.58
28:eb:61:LEU:O	28:eb:71:ARG:NH1	2.37	0.58
38:FA:87:PHE:HE2	38:FA:150:ILE:HB	1.67	0.58
45:MA:119:GLN:HE22	75:RB:410:G:H21	1.52	0.58
55:WA:24:LYS:HB2	55:WA:75:GLN:NE2	2.19	0.58
59:AB:85:ARG:NH2	75:RB:270:G:O2'	2.36	0.58
75:RB:11:A:N6	76:SB:148:C:H42	2.02	0.58
75:RB:1577:A:H1'	75:RB:2519:G:C4	2.39	0.58
75:RB:2366:A:N3	75:RB:2821:G:O2'	2.30	0.58
1:aa:191:U:H4'	1:aa:192:G:H21	1.68	0.58
1:aa:495:C:H42	1:aa:499:A:N6	2.02	0.58
1:aa:1140:U:OP2	5:ga:118:ARG:NH1	2.36	0.58
2:ba:17:PHE:CZ	2:ba:26:LYS:HE3	2.39	0.58
13:oa:21:ASP:OD1	13:oa:23:LYS:N	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:eb:25:ARG:O	28:eb:29:GLU:HG3	2.04	0.58
38:FA:112:GLU:OE1	38:FA:114:ARG:NH2	2.36	0.58
40:HA:147:ARG:HG2	60:BB:105:LEU:HD21	1.84	0.58
48:PA:73:TYR:OH	76:SB:75:G:OP2	2.18	0.58
64:FB:26:SER:OG	75:RB:1184:U:O4	2.21	0.58
75:RB:35:U:O2'	75:RB:811:A:N1	2.36	0.58
75:RB:1566:C:H2'	75:RB:1567:G:C8	2.37	0.58
75:RB:1633:C:O2	75:RB:1708:C:H4'	2.03	0.58
1:aa:831:C:H2'	1:aa:832:C:C6	2.39	0.58
1:aa:1738:U:H2'	1:aa:1739:U:C6	2.39	0.58
5:ga:127:VAL:HG23	5:ga:137:LYS:HE2	1.86	0.58
15:qa:92:GLU:HG3	15:qa:94:ASP:H	1.68	0.58
31:hb:77:HIS:ND1	31:hb:77:HIS:O	2.36	0.58
39:GA:121:ILE:HG23	39:GA:139:ILE:HD12	1.84	0.58
53:UA:76:SER:HB2	53:UA:79:ARG:HD3	1.86	0.58
75:RB:1567:G:C2	75:RB:1568:A:H1'	2.39	0.58
75:RB:1593:C:H2'	75:RB:1594:G:C8	2.39	0.58
1:aa:1478:C:O2	1:aa:1542:G:N2	2.36	0.58
8:ja:9:LEU:HD22	8:ja:28:ALA:HB3	1.86	0.58
33:AA:76:PHE:O	33:AA:77:THR:OG1	2.17	0.58
75:RB:2546:U:H4'	75:RB:2547:U:H2'	1.86	0.58
75:RB:2898:G:O2'	75:RB:3020:A:N1	2.35	0.58
79:cl:1:A:H2'	79:cl:2:U:C6	2.39	0.58
1:aa:184:C:H3'	1:aa:185:G:H8	1.69	0.57
15:qa:82:MET:HE1	24:za:92:LEU:HD21	1.85	0.57
33:AA:199:VAL:O	33:AA:204:LYS:NZ	2.28	0.57
40:HA:189:ARG:NH2	75:RB:30:C:OP2	2.32	0.57
53:UA:75:LYS:O	53:UA:76:SER:OG	2.19	0.57
66:HB:130:ASP:HB3	66:HB:133:GLN:HB2	1.85	0.57
69:KB:86:PRO:HG2	69:KB:89:LEU:HB3	1.85	0.57
75:RB:18:G:N2	76:SB:142:G:H1	2.02	0.57
75:RB:848:G:N2	75:RB:851:A:OP2	2.35	0.57
75:RB:1450:G:N2	75:RB:2349:A:OP2	2.35	0.57
75:RB:2503:A:H2'	75:RB:2504:U:H6	1.69	0.57
75:RB:3223:C:H2'	75:RB:3224:C:C6	2.39	0.57
1:aa:890:G:H2'	1:aa:891:U:C6	2.39	0.57
2:ba:42:LYS:O	2:ba:46:LYS:HG2	2.03	0.57
8:ja:196:LYS:HD2	8:ja:211:GLU:HB2	1.86	0.57
20:va:47:LYS:HG2	20:va:48:ASN:H	1.69	0.57
48:PA:59:ARG:NH1	75:RB:198:A:OP1	2.37	0.57
75:RB:2221:A:H2'	75:RB:2222:A:C8	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:2942:G:O2'	75:RB:2945:C:OP2	2.19	0.57
6:ha:14:MET:HE3	6:ha:320:ILE:HD11	1.86	0.57
7:ia:106:ARG:HG3	7:ia:175:VAL:HG22	1.85	0.57
8:ja:159:THR:OG1	8:ja:227:THR:OG1	2.19	0.57
10:la:142:ALA:O	10:la:143:ARG:NE	2.37	0.57
13:oa:127:TRP:CH2	17:sa:134:PRO:HB3	2.39	0.57
14:pa:19:LYS:NZ	14:pa:21:THR:OG1	2.38	0.57
29:fb:147:VAL:HG21	29:fb:229:MET:HB3	1.86	0.57
40:HA:38:ARG:NH1	76:SB:144:C:OP1	2.36	0.57
55:WA:67:LYS:HE2	75:RB:2789:A:H5''	1.87	0.57
57:YA:159:ARG:HH12	75:RB:1187:G:P	2.28	0.57
75:RB:1235:A:N6	75:RB:1280:U:OP1	2.37	0.57
75:RB:1245:U:H4'	75:RB:1246:G:H5'	1.86	0.57
75:RB:1298:A:O2'	75:RB:1299:G:O5'	2.21	0.57
75:RB:2431:A:H2'	75:RB:2432:A:C8	2.39	0.57
76:SB:103:G:OP2	76:SB:105:A:O2'	2.23	0.57
1:aa:451:U:O2'	8:ja:27:PHE:O	2.21	0.57
1:aa:1475:A:H2'	1:aa:1476:C:C6	2.39	0.57
6:ha:96:GLU:OE2	6:ha:110:ARG:NH2	2.37	0.57
8:ja:163:ASP:HB2	8:ja:166:THR:HG22	1.84	0.57
21:wa:21:CYS:HB2	21:wa:25:GLY:H	1.69	0.57
57:YA:28:ARG:NH2	63:EB:386:SER:O	2.37	0.57
61:CB:161:GLN:NE2	75:RB:1365:C:O2	2.31	0.57
62:DB:92:TYR:HB2	62:DB:159:ILE:HB	1.87	0.57
62:DB:243:ARG:HA	62:DB:249:LEU:HD21	1.86	0.57
64:FB:156:ASP:OD1	64:FB:157:THR:N	2.37	0.57
75:RB:496:U:H3'	75:RB:497:G:H5''	1.84	0.57
75:RB:1466:U:H3	75:RB:1470:A:H62	1.53	0.57
75:RB:2406:A:H2'	75:RB:2407:G:C8	2.38	0.57
15:qa:91:LEU:HD21	24:za:24:ALA:HB1	1.85	0.57
36:DA:227:ARG:HH22	75:RB:2149:G:H4'	1.69	0.57
44:LA:115:ILE:HG13	44:LA:142:ILE:HD11	1.86	0.57
63:EB:232:ASP:OD1	63:EB:233:VAL:N	2.37	0.57
75:RB:489:C:O2'	75:RB:490:G:H8	1.88	0.57
75:RB:1809:A:O2'	75:RB:1812:A:N3	2.35	0.57
75:RB:3047:U:C2	75:RB:3048:G:C8	2.92	0.57
1:aa:517:U:H2'	1:aa:518:G:C8	2.40	0.57
1:aa:1321:C:H2'	1:aa:1322:G:O4'	2.05	0.57
1:aa:1739:U:H2'	1:aa:1740:G:O4'	2.04	0.57
5:ga:104:PHE:HD1	5:ga:120:LYS:HB3	1.69	0.57
6:ha:38:SER:O	6:ha:76:VAL:HB	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:oa:40:PHE:HA	13:oa:43:ILE:HG22	1.86	0.57
18:ta:63:PRO:HB2	18:ta:66:LEU:H	1.70	0.57
25:bb:164:ILE:HD12	25:bb:207:LEU:HD11	1.86	0.57
36:DA:211:HIS:HD2	36:DA:219:ILE:HG12	1.70	0.57
37:EA:86:LEU:HD12	37:EA:169:TYR:HE2	1.70	0.57
58:ZA:27:CYS:C	58:ZA:30:PRO:HD2	2.29	0.57
58:ZA:63:VAL:HG22	58:ZA:76:SER:HB3	1.87	0.57
75:RB:2739:C:H2'	75:RB:2740:G:H8	1.70	0.57
75:RB:2962:U:O2'	75:RB:2963:G:OP1	2.22	0.57
13:oa:108:ARG:O	13:oa:112:GLU:HB2	2.05	0.57
13:oa:111:LEU:HA	13:oa:114:LEU:HD12	1.86	0.57
42:JA:151:PHE:CD1	75:RB:1112:C:H4'	2.39	0.57
61:CB:130:ARG:HH21	77:TB:97:G:H1'	1.68	0.57
63:EB:268:TYR:O	63:EB:276:SER:OG	2.22	0.57
75:RB:724:A:OP2	75:RB:786:U:O2'	2.23	0.57
75:RB:1359:A:H4'	75:RB:1360:U:O5'	2.05	0.57
1:aa:203:A:H1'	1:aa:265:A:H61	1.68	0.57
1:aa:334:G:OP2	3:ca:191:ARG:NH1	2.27	0.57
1:aa:1240:A:N6	1:aa:1241:G:O6	2.38	0.57
1:aa:1609:G:O6	16:ra:101:ARG:NH1	2.38	0.57
2:ba:25:ARG:HE	2:ba:80:LEU:HD22	1.69	0.57
8:ja:107:GLY:HA2	8:ja:189:THR:HG23	1.87	0.57
16:ra:129:ASP:HB2	16:ra:135:LEU:HD13	1.85	0.57
29:fb:237:PRO:HA	29:fb:240:TRP:CE2	2.40	0.57
48:PA:75:ARG:HG2	54:VA:31:THR:HG21	1.85	0.57
53:UA:14:LYS:NZ	54:VA:51:PHE:OXT	2.37	0.57
58:ZA:38:ILE:HD12	58:ZA:67:ARG:HD2	1.87	0.57
71:MB:67:THR:HG21	75:RB:3261:U:O4	2.05	0.57
75:RB:1100:G:H4'	75:RB:1101:A:O5'	2.04	0.57
75:RB:1243:C:N4	75:RB:1249:A:OP1	2.37	0.57
79:cl:54:A:N6	79:cl:61:C:N3	2.53	0.57
1:aa:629:C:H2'	1:aa:630:U:C6	2.40	0.57
5:ga:127:VAL:HG11	5:ga:139:LYS:HB3	1.87	0.57
6:ha:232:LEU:CB	6:ha:234:TRP:HE1	2.16	0.57
7:ia:204:LEU:HD12	7:ia:205:PRO:HD3	1.85	0.57
25:bb:123:ALA:HB2	25:bb:165:ARG:HG3	1.87	0.57
31:hb:82:ARG:HB3	31:hb:86:LYS:NZ	2.20	0.57
35:CA:122:ARG:NH1	35:CA:128:ASN:OD1	2.38	0.57
38:FA:47:LEU:HD13	38:FA:51:GLY:HA2	1.86	0.57
41:IA:60:TYR:HE1	75:RB:2774:G:C2	2.23	0.57
43:KA:122:ASN:ND2	43:KA:167:ASP:OD1	2.24	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:UA:17:THR:HG22	53:UA:18:LEU:H	1.69	0.57
67:IB:1:MET:HE2	67:IB:5:TRP:HE1	1.70	0.57
75:RB:106:G:H2'	75:RB:107:C:O4'	2.05	0.57
75:RB:3371:G:H4'	75:RB:3372:G:OP1	2.05	0.57
1:aa:789:C:H5	2:ba:17:PHE:H	1.52	0.57
1:aa:907:G:H2'	1:aa:908:U:C6	2.40	0.57
1:aa:1106:G:N2	20:va:4:ARG:HH12	2.03	0.57
3:ca:43:THR:HB	3:ca:60:ARG:HG2	1.87	0.57
22:xa:66:CYS:HB2	22:xa:73:ALA:HB1	1.86	0.57
41:IA:75:VAL:HG13	41:IA:110:GLY:HA2	1.85	0.57
75:RB:1344:A:H2'	75:RB:1345:U:C6	2.40	0.57
75:RB:1811:U:H4'	75:RB:1812:A:H5''	1.87	0.57
77:TB:73:U:O2'	77:TB:102:G:O6	2.15	0.57
1:aa:279:C:O2'	1:aa:281:U:OP2	2.19	0.56
1:aa:926:G:H2'	1:aa:927:A:C8	2.40	0.56
6:ha:203:LEU:HD12	6:ha:234:TRP:HE3	1.70	0.56
17:sa:42:LEU:HA	17:sa:45:MET:HG2	1.85	0.56
20:va:77:ARG:HE	20:va:125:LEU:HD23	1.70	0.56
38:FA:46:GLN:NE2	38:FA:48:GLN:OE1	2.33	0.56
50:RA:77:ASN:H	50:RA:80:ASP:HB2	1.70	0.56
70:LB:106:ILE:O	70:LB:117:ILE:HA	2.04	0.56
71:MB:93:ASN:O	75:RB:427:U:O2'	2.20	0.56
75:RB:154:G:N1	75:RB:263:A:OP2	2.33	0.56
75:RB:763:G:N2	75:RB:773:G:O2'	2.32	0.56
75:RB:1572:C:N4	75:RB:1573:G:O6	2.38	0.56
76:SB:130:G:H2'	76:SB:131:G:H8	1.69	0.56
1:aa:1063:U:H1'	1:aa:1067:A:H61	1.71	0.56
1:aa:1239:C:H42	1:aa:1254:U:H3	1.53	0.56
18:ta:33:GLN:HG3	18:ta:73:ASN:CB	2.35	0.56
25:bb:119:THR:HG23	25:bb:155:TYR:HA	1.87	0.56
31:hb:32:ASN:O	31:hb:34:ASN:ND2	2.38	0.56
37:EA:27:GLU:OE2	37:EA:31:ARG:NH1	2.38	0.56
38:FA:133:ILE:HD12	38:FA:143:ILE:HD11	1.87	0.56
57:YA:29:MET:HE1	57:YA:46:PHE:HB3	1.86	0.56
60:BB:63:ASN:ND2	76:SB:98:U:H5'	2.19	0.56
64:FB:173:TYR:CE2	64:FB:177:LYS:HE3	2.41	0.56
75:RB:2742:G:N2	75:RB:2745:A:OP2	2.37	0.56
75:RB:3223:C:H2'	75:RB:3224:C:H6	1.69	0.56
1:aa:351:G:H5'	32:ib:81:MET:HE1	1.87	0.56
1:aa:368:A:OP2	1:aa:381:G:N2	2.35	0.56
1:aa:464:A:H3'	1:aa:465:G:H8	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:476:U:O2'	1:aa:775:A:N3	2.37	0.56
1:aa:944:A:H2'	1:aa:945:A:C8	2.41	0.56
1:aa:1487:U:H5''	10:la:46:ARG:HH11	1.70	0.56
1:aa:1543:U:H4'	1:aa:1544:G:O5'	2.04	0.56
6:ha:80:VAL:HG13	6:ha:121:VAL:HG23	1.88	0.56
6:ha:257:SER:HB2	6:ha:262:TRP:HB2	1.86	0.56
7:ia:104:SER:O	7:ia:108:LYS:HG3	2.04	0.56
11:ma:29:ARG:NE	11:ma:98:ASP:OD1	2.38	0.56
16:ra:19:VAL:HA	16:ra:22:VAL:HG12	1.87	0.56
16:ra:40:LYS:HG3	16:ra:41:MET:H	1.70	0.56
29:fb:99:GLN:HA	29:fb:104:GLN:HA	1.85	0.56
38:FA:102:ALA:HB3	38:FA:135:ARG:HH11	1.70	0.56
39:GA:68:GLY:O	39:GA:73:ARG:NH2	2.37	0.56
42:JA:102:LEU:HD12	63:EB:287:LYS:HD3	1.87	0.56
42:JA:175:LYS:O	42:JA:180:ARG:NH1	2.38	0.56
45:MA:132:ARG:HG3	45:MA:138:ASN:OD1	2.06	0.56
57:YA:94:LYS:NZ	75:RB:1216:G:O3'	2.38	0.56
61:CB:239:LEU:HD12	61:CB:242:ARG:HE	1.69	0.56
62:DB:35:ASP:OD1	62:DB:194:LYS:NZ	2.34	0.56
63:EB:195:GLY:O	63:EB:198:LYS:HG2	2.05	0.56
65:GB:73:THR:HG22	65:GB:75:SER:H	1.70	0.56
66:HB:86:HIS:HB3	66:HB:139:ARG:HG2	1.88	0.56
74:PB:8:ARG:NH2	75:RB:1603:U:O2'	2.38	0.56
75:RB:132:U:O2	75:RB:135:G:N2	2.38	0.56
75:RB:1496:G:N2	75:RB:1496:G:OP2	2.33	0.56
75:RB:3007:A:N1	75:RB:3039:C:O2'	2.30	0.56
75:RB:3340:G:N2	75:RB:3341:C:H2'	2.20	0.56
79:cl:1:A:H2'	79:cl:2:U:H6	1.71	0.56
79:cl:21:A:HO2'	79:cl:22:G:H8	1.51	0.56
1:aa:413:C:H2'	1:aa:414:A:H8	1.71	0.56
8:ja:86:PHE:CZ	8:ja:87:MET:HE3	2.39	0.56
9:ka:87:ARG:HD3	18:ta:97:SER:HB2	1.87	0.56
12:na:121:ARG:HH12	19:ua:57:ARG:HH11	1.54	0.56
43:KA:39:GLN:OE1	43:KA:48:LYS:HG3	2.05	0.56
48:PA:47:ILE:HD12	48:PA:48:PRO:HD2	1.86	0.56
53:UA:46:LYS:HE3	75:RB:23:A:OP1	2.05	0.56
57:YA:163:ARG:NH1	71:MB:83:THR:HG22	2.21	0.56
63:EB:193:ARG:HD2	63:EB:197:GLY:HA3	1.87	0.56
74:PB:3:GLN:OE1	74:PB:30:LEU:HB2	2.04	0.56
75:RB:2765:U:H2'	75:RB:2766:A:H8	1.69	0.56
1:aa:1523:A:H4'	1:aa:1525:U:H5	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:1786:A:H2'	1:aa:1787:G:C8	2.40	0.56
2:ba:49:LEU:HD12	2:ba:52:ILE:HD11	1.86	0.56
8:ja:71:MET:HA	8:ja:76:VAL:HA	1.86	0.56
13:oa:43:ILE:HG13	13:oa:47:LYS:HE2	1.87	0.56
28:eb:66:GLU:HA	28:eb:71:ARG:HD3	1.88	0.56
28:eb:171:ALA:HB1	28:eb:175:LYS:HG3	1.87	0.56
29:fb:190:ALA:HB1	29:fb:194:PRO:HG2	1.88	0.56
34:BA:108:ARG:NH2	75:RB:1066:G:O2'	2.39	0.56
35:CA:83:THR:HG23	74:PB:95:PHE:HZ	1.71	0.56
36:DA:64:ARG:NH1	75:RB:2552:U:H5	2.03	0.56
48:PA:11:ARG:NH2	75:RB:213:G:OP1	2.36	0.56
62:DB:119:TYR:OH	62:DB:129:ALA:N	2.38	0.56
75:RB:1233:G:C5	75:RB:1234:G:H1'	2.40	0.56
75:RB:2090:G:H2'	75:RB:2091:U:C6	2.40	0.56
1:aa:126:U:H5''	8:ja:148:ARG:HH11	1.71	0.56
1:aa:900:G:H1	1:aa:922:U:H3	1.52	0.56
1:aa:926:G:H2'	1:aa:927:A:H8	1.71	0.56
1:aa:1186:U:O2	1:aa:1464:G:C2	2.58	0.56
10:la:31:GLY:HA3	10:la:70:ASP:OD2	2.05	0.56
25:bb:185:VAL:O	25:bb:189:ILE:HG12	2.05	0.56
40:HA:202:ARG:HH11	69:KB:27:GLN:HB3	1.71	0.56
48:PA:49:ILE:HD11	48:PA:79:ILE:HG21	1.85	0.56
58:ZA:105:ILE:HG21	75:RB:1755:A:H4'	1.87	0.56
75:RB:550:C:O2'	75:RB:551:A:O5'	2.24	0.56
75:RB:1380:C:O2'	75:RB:1411:G:O2'	2.18	0.56
75:RB:2535:A:H5''	75:RB:2537:G:C2	2.41	0.56
1:aa:134:G:N7	1:aa:179:A:N6	2.53	0.56
1:aa:910:A:H5''	12:na:66:ARG:HB3	1.85	0.56
1:aa:1501:G:H1'	1:aa:1502:C:H5	1.71	0.56
5:ga:54:ILE:HG13	5:ga:55:GLY:N	2.21	0.56
6:ha:46:TRP:CZ3	6:ha:65:PRO:HG3	2.41	0.56
13:oa:67:LEU:HA	13:oa:70:VAL:HG12	1.87	0.56
20:va:27:GLN:HB3	20:va:28:PRO:HD3	1.87	0.56
31:hb:69:LEU:HB2	31:hb:72:PRO:HG2	1.88	0.56
36:DA:178:PRO:HB2	36:DA:180:LEU:HD12	1.88	0.56
39:GA:121:ILE:HG21	39:GA:136:ALA:HB1	1.87	0.56
41:IA:128:LYS:HG3	75:RB:720:G:OP1	2.06	0.56
1:aa:992:G:O2'	1:aa:993:C:OP2	2.22	0.56
1:aa:1343:C:O2'	1:aa:1345:G:N7	2.39	0.56
8:ja:9:LEU:HB2	8:ja:30:LYS:HD3	1.88	0.56
24:za:184:ARG:O	24:za:188:GLN:HG3	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:eb:133:GLN:O	28:eb:135:HIS:ND1	2.34	0.56
38:FA:44:ASP:HB3	38:FA:57:ASP:HB2	1.87	0.56
40:HA:27:CYS:HB2	40:HA:122:ASN:HD21	1.71	0.56
52:TA:106:ARG:NH2	75:RB:1415:G:OP1	2.38	0.56
58:ZA:45:LEU:O	58:ZA:49:ILE:HG12	2.05	0.56
60:BB:63:ASN:ND2	76:SB:97:G:O3'	2.39	0.56
66:HB:56:GLU:OE2	77:TB:89:G:N2	2.39	0.56
74:PB:8:ARG:HB2	74:PB:34:TYR:HE2	1.69	0.56
75:RB:1144:C:O2'	75:RB:1156:A:N3	2.38	0.56
75:RB:1248:A:O2'	75:RB:1251:U:OP1	2.21	0.56
1:aa:515:A:H5'	28:eb:175:LYS:HD3	1.88	0.56
8:ja:112:HIS:CD2	8:ja:239:PRO:HA	2.40	0.56
9:ka:125:GLY:HA2	9:ka:130:VAL:HA	1.88	0.56
15:qa:14:ARG:O	15:qa:18:GLU:HG2	2.06	0.56
15:qa:76:GLU:O	15:qa:80:ARG:HG2	2.05	0.56
25:bb:146:ARG:HH21	25:bb:206:PRO:HG3	1.70	0.56
29:fb:54:LEU:HD21	29:fb:257:LEU:HD21	1.87	0.56
33:AA:245:ARG:O	33:AA:249:ILE:HG13	2.05	0.56
34:BA:83:ARG:NH2	75:RB:2725:G:H5''	2.21	0.56
34:BA:116:LYS:NZ	75:RB:1100:G:N7	2.48	0.56
41:IA:32:ARG:HG3	75:RB:37:U:H4'	1.88	0.56
49:QA:19:PHE:HE2	63:EB:141:THR:HG22	1.71	0.56
58:ZA:83:ARG:NH1	75:RB:1675:G:N7	2.54	0.56
60:BB:8:ALA:HA	60:BB:11:LEU:HB3	1.87	0.56
61:CB:152:LYS:O	63:EB:319:ARG:NH1	2.39	0.56
65:GB:18:TYR:HD1	75:RB:2125:A:H61	1.53	0.56
1:aa:198:G:H2'	1:aa:199:G:H8	1.71	0.56
7:ia:166:GLU:OE1	7:ia:202:THR:OG1	2.24	0.56
8:ja:18:TRP:CE3	8:ja:46:LEU:HD11	2.41	0.56
8:ja:139:LEU:HD23	8:ja:150:PRO:HB3	1.88	0.56
20:va:17:GLU:HG3	20:va:68:ILE:HG23	1.88	0.56
20:va:75:THR:O	20:va:76:TYR:HB3	2.06	0.56
29:fb:93:ILE:HD11	29:fb:135:ILE:HD11	1.88	0.56
39:GA:104:VAL:HB	39:GA:112:MET:HE1	1.87	0.56
40:HA:194:ARG:NH1	75:RB:79:C:OP1	2.39	0.56
50:RA:21:VAL:HG21	50:RA:104:ILE:HD12	1.86	0.56
52:TA:106:ARG:HE	52:TA:126:ARG:HH11	1.51	0.56
57:YA:156:GLN:OE1	57:YA:156:GLN:N	2.39	0.56
61:CB:105:LEU:HD21	61:CB:132:VAL:HG21	1.88	0.56
70:LB:16:ARG:NH2	75:RB:607:U:O2'	2.38	0.56
74:PB:64:ARG:NH2	75:RB:1800:G:OP2	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:185:A:N1	75:RB:209:G:O2'	2.36	0.56
75:RB:940:G:OP2	75:RB:941:C:N4	2.27	0.56
75:RB:1268:G:N2	75:RB:1281:C:H42	2.03	0.56
75:RB:1795:A:H2'	75:RB:1796:A:C8	2.41	0.56
78:al:4:U:N3	78:al:7:A:OP1	2.30	0.56
1:aa:198:G:H2'	1:aa:199:G:C8	2.40	0.55
1:aa:336:U:OP2	3:ca:55:LYS:NZ	2.27	0.55
25:bb:40:SER:HB2	25:bb:73:LEU:HA	1.88	0.55
25:bb:46:THR:OG1	25:bb:64:ARG:NH1	2.39	0.55
48:PA:69:VAL:HA	48:PA:81:VAL:HG12	1.87	0.55
58:ZA:103:ARG:NH2	75:RB:1676:A:OP1	2.20	0.55
62:DB:57:VAL:HG12	62:DB:362:PHE:HB3	1.88	0.55
62:DB:68:HIS:CD2	62:DB:69:LYS:HD3	2.41	0.55
75:RB:1344:A:H2'	75:RB:1345:U:H6	1.72	0.55
75:RB:1762:G:H2'	75:RB:1763:C:O4'	2.06	0.55
75:RB:2422:G:H2'	75:RB:2423:A:C8	2.39	0.55
77:TB:3:A:O4'	77:TB:24:G:N2	2.38	0.55
1:aa:4:C:H4'	29:fb:191:ALA:HB2	1.88	0.55
1:aa:1495:U:H5''	1:aa:1497:U:O2	2.06	0.55
6:ha:136:ASP:OD2	6:ha:138:THR:OG1	2.19	0.55
6:ha:278:SER:O	6:ha:280:HIS:N	2.39	0.55
7:ia:69:LEU:HA	7:ia:72:VAL:HG12	1.89	0.55
25:bb:52:GLN:O	25:bb:56:ILE:HG22	2.06	0.55
42:JA:34:ARG:HH11	42:JA:34:ARG:HG3	1.71	0.55
50:RA:35:LEU:HD22	50:RA:63:TYR:CE2	2.41	0.55
75:RB:716:A:H2'	75:RB:717:G:C8	2.42	0.55
79:cl:60:A:OP1	79:cl:61:C:N4	2.39	0.55
1:aa:964:U:C6	14:pa:61:PRO:HB3	2.41	0.55
1:aa:1690:U:O4	1:aa:1730:G:N2	2.40	0.55
12:na:95:ILE:HB	12:na:129:ILE:HD13	1.88	0.55
13:oa:21:ASP:OD1	13:oa:22:GLY:N	2.39	0.55
15:qa:103:MET:HE1	15:qa:119:ARG:HA	1.89	0.55
17:sa:46:PHE:HB3	17:sa:50:ALA:HB3	1.88	0.55
17:sa:65:LEU:HD22	17:sa:92:MET:HE2	1.88	0.55
21:wa:22:ARG:NH1	21:wa:36:LEU:O	2.39	0.55
24:za:34:CYS:HB2	24:za:51:TYR:HE1	1.71	0.55
33:AA:130:TYR:HE2	75:RB:145:U:C2	2.24	0.55
57:YA:8:GLN:HB2	57:YA:32:TRP:CZ3	2.41	0.55
61:CB:100:LYS:O	61:CB:104:ILE:HG12	2.07	0.55
63:EB:38:ASP:OD1	63:EB:39:VAL:N	2.38	0.55
66:HB:4:ARG:NH1	75:RB:1131:U:OP1	2.32	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:HB:48:SER:HB3	66:HB:140:CYS:O	2.06	0.55
75:RB:14:U:O4	76:SB:146:G:O6	2.24	0.55
75:RB:1237:G:N1	75:RB:1238:G:O6	2.39	0.55
75:RB:2879:U:H2'	75:RB:2880:U:C6	2.40	0.55
75:RB:2895:G:H5''	75:RB:2896:C:H5'	1.88	0.55
1:aa:29:U:H2'	1:aa:30:G:C8	2.41	0.55
1:aa:1191:U:H2'	1:aa:1192:G:C8	2.38	0.55
6:ha:65:PRO:HB2	10:la:105:GLU:HB3	1.88	0.55
6:ha:168:CYS:O	6:ha:182:SER:HA	2.06	0.55
6:ha:203:LEU:HB3	6:ha:234:TRP:CZ3	2.41	0.55
34:BA:9:SER:O	34:BA:11:THR:HG23	2.07	0.55
34:BA:65:TRP:CD1	34:BA:75:GLU:HB2	2.41	0.55
36:DA:13:GLY:O	36:DA:17:LYS:HG3	2.07	0.55
36:DA:219:ILE:HD13	36:DA:223:SER:HB3	1.89	0.55
43:KA:55:PHE:HE1	43:KA:158:VAL:HG23	1.71	0.55
43:KA:77:ALA:O	43:KA:108:ARG:NH1	2.39	0.55
63:EB:147:ILE:HG13	63:EB:147:ILE:O	2.07	0.55
68:JB:109:ASN:ND2	75:RB:1212:U:H2'	2.20	0.55
70:LB:76:THR:O	70:LB:79:THR:HG23	2.06	0.55
1:aa:856:G:H2'	1:aa:857:A:C8	2.39	0.55
1:aa:1196:C:O3'	10:la:146:LYS:NZ	2.26	0.55
1:aa:1508:C:OP2	16:ra:134:ARG:NH2	2.40	0.55
9:ka:93:MET:SD	9:ka:104:PRO:HB2	2.47	0.55
15:qa:20:TYR:HE2	15:qa:38:VAL:HB	1.72	0.55
20:va:10:LEU:O	20:va:14:VAL:HG23	2.07	0.55
24:za:70:VAL:HG21	24:za:189:MET:HB2	1.88	0.55
30:gb:210:ALA:O	30:gb:214:GLN:HG2	2.06	0.55
40:HA:13:ARG:HH21	59:AB:48:ARG:NH1	2.04	0.55
75:RB:3018:G:N2	75:RB:3028:A:OP2	2.30	0.55
1:aa:1180:U:H2'	1:aa:1181:G:C8	2.41	0.55
1:aa:1805:U:OP2	27:db:4:LYS:NZ	2.40	0.55
17:sa:117:LYS:H	17:sa:120:MET:HE2	1.70	0.55
20:va:29:ILE:HG12	20:va:57:VAL:O	2.07	0.55
25:bb:28:GLN:HE22	25:bb:50:ARG:HB2	1.71	0.55
36:DA:226:ARG:HG2	36:DA:228:ASP:H	1.71	0.55
43:KA:117:GLN:NE2	43:KA:118:GLU:HB2	2.22	0.55
45:MA:121:ASN:ND2	76:SB:13:A:H1'	2.20	0.55
48:PA:48:PRO:O	48:PA:114:ARG:NH2	2.39	0.55
53:UA:72:ARG:HD3	76:SB:94:C:H3'	1.89	0.55
63:EB:235:ASN:OD1	63:EB:236:VAL:N	2.40	0.55
69:KB:62:THR:O	69:KB:64:LYS:N	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:1026:A:H2'	75:RB:1027:C:C6	2.42	0.55
75:RB:1033:G:H2'	75:RB:1034:U:O4'	2.06	0.55
75:RB:2711:G:H8	75:RB:2748:G:H2'	1.72	0.55
75:RB:3275:U:O2'	75:RB:3276:G:OP2	2.23	0.55
76:SB:73:U:H2'	76:SB:74:U:O4'	2.06	0.55
77:TB:29:C:H2'	77:TB:30:G:H8	1.71	0.55
1:aa:1371:U:OP1	10:la:72:ARG:NH2	2.40	0.55
1:aa:1786:A:H2'	1:aa:1787:G:H8	1.72	0.55
29:fb:150:ARG:HB3	29:fb:232:TYR:CZ	2.41	0.55
30:gb:52:ILE:HA	30:gb:113:LEU:HG	1.89	0.55
31:hb:104:PRO:HG3	31:hb:113:ARG:HH12	1.72	0.55
32:ib:87:VAL:HG21	32:ib:126:ILE:HD13	1.89	0.55
38:FA:69:ILE:O	38:FA:73:ILE:HG12	2.06	0.55
69:KB:76:THR:HG22	69:KB:101:ARG:HB2	1.89	0.55
75:RB:631:U:H2'	75:RB:632:C:C6	2.41	0.55
1:aa:1245:G:H3'	1:aa:1246:A:H8	1.72	0.55
6:ha:191:VAL:HG22	6:ha:203:LEU:HD23	1.88	0.55
10:la:42:ILE:HG23	10:la:55:PHE:HE2	1.71	0.55
42:JA:16:ARG:NH1	42:JA:20:LYS:HG2	2.22	0.55
46:NA:82:ALA:O	46:NA:86:ILE:HG12	2.07	0.55
56:XA:63:LYS:HE2	75:RB:542:G:C5	2.42	0.55
59:AB:23:ARG:NE	69:KB:109:MET:SD	2.80	0.55
66:HB:44:ASP:OD1	66:HB:185:LYS:NZ	2.40	0.55
66:HB:203:HIS:O	66:HB:209:ARG:NH2	2.40	0.55
75:RB:1574:C:H2'	75:RB:1575:G:H8	1.72	0.55
75:RB:2400:C:H2'	75:RB:2401:U:H6	1.72	0.55
75:RB:2611:G:H1	75:RB:2624:A:H62	1.54	0.55
1:aa:67:G:H21	1:aa:147:C:H4'	1.72	0.55
1:aa:452:C:H2'	1:aa:453:C:H6	1.72	0.55
6:ha:54:ALA:HA	6:ha:58:SER:HA	1.89	0.55
8:ja:176:ASP:OD1	8:ja:179:ASN:ND2	2.40	0.55
19:ua:34:VAL:HG22	19:ua:47:VAL:HG12	1.88	0.55
25:bb:131:ASP:O	25:bb:133:TYR:N	2.38	0.55
29:fb:50:LYS:O	29:fb:54:LEU:HG	2.07	0.55
31:hb:31:GLU:O	31:hb:38:LYS:NZ	2.21	0.55
33:AA:49:LYS:HD2	75:RB:2520:G:H5''	1.88	0.55
33:AA:237:LYS:HB3	33:AA:241:LYS:NZ	2.22	0.55
61:CB:49:ARG:HH12	61:CB:181:ILE:HD12	1.71	0.55
62:DB:263:VAL:HG11	62:DB:269:ARG:NH1	2.22	0.55
6:ha:297:LEU:HB3	6:ha:315:TYR:CD2	2.42	0.55
8:ja:214:GLN:HE21	8:ja:244:ILE:HG21	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:ma:69:LEU:O	11:ma:89:GLU:HA	2.07	0.55
13:oa:99:VAL:CG1	13:oa:100:SER:H	2.19	0.55
18:ta:82:LYS:HZ2	18:ta:101:ILE:HG12	1.71	0.55
23:ya:41:ASN:HA	23:ya:45:VAL:HB	1.88	0.55
24:za:108:THR:O	24:za:111:THR:OG1	2.24	0.55
33:AA:24:LEU:HD11	35:CA:124:LYS:HA	1.89	0.55
39:GA:86:LYS:HE2	75:RB:1892:A:C2	2.42	0.55
43:KA:150:ILE:HD12	43:KA:156:ASN:HD21	1.71	0.55
45:MA:18:MET:HE2	45:MA:20:ARG:HD2	1.88	0.55
50:RA:34:VAL:HG23	50:RA:95:SER:HB3	1.88	0.55
69:KB:126:PHE:CD1	69:KB:143:LEU:HD22	2.42	0.55
75:RB:2791:G:O2'	75:RB:2792:U:OP2	2.22	0.55
79:cl:9:IMG:HN22	79:cl:45:G:H2'	1.71	0.55
1:aa:625:A:O2'	1:aa:1111:C:O2'	2.23	0.54
1:aa:1140:U:P	5:ga:118:ARG:HH12	2.29	0.54
1:aa:1297:U:O2'	24:za:116:MET:SD	2.62	0.54
10:la:47:PRO:HB2	10:la:50:LEU:HB2	1.87	0.54
10:la:146:LYS:HE3	10:la:148:TYR:HE1	1.71	0.54
34:BA:130:ARG:O	75:RB:1101:A:O2'	2.24	0.54
35:CA:82:PRO:HD2	50:RA:63:TYR:CE1	2.43	0.54
38:FA:119:GLU:OE1	38:FA:123:ARG:NH2	2.36	0.54
53:UA:63:ARG:NH1	76:SB:58:G:O6	2.39	0.54
56:XA:34:ASN:ND2	75:RB:1189:G:OP1	2.34	0.54
62:DB:215:ASP:OD1	62:DB:357:GLU:HA	2.07	0.54
72:NB:12:LEU:HB3	72:NB:16:ARG:NH1	2.21	0.54
1:aa:14:C:OP1	29:fb:174:SER:OG	2.26	0.54
1:aa:411:A:H2'	1:aa:412:C:C6	2.42	0.54
8:ja:116:ASP:O	8:ja:120:LYS:HG2	2.07	0.54
33:AA:146:LEU:HD12	33:AA:211:LEU:HD23	1.89	0.54
36:DA:242:ARG:HG3	36:DA:242:ARG:HH11	1.72	0.54
59:AB:12:VAL:O	69:KB:185:GLU:HG3	2.08	0.54
61:CB:140:TYR:N	61:CB:233:GLU:O	2.39	0.54
72:NB:12:LEU:HB3	72:NB:16:ARG:HH12	1.72	0.54
75:RB:2107:A:O2'	75:RB:2110:G:N7	2.40	0.54
75:RB:2612:G:H2'	75:RB:2613:C:H6	1.71	0.54
75:RB:2983:U:H2'	75:RB:2984:A:C8	2.38	0.54
1:aa:21:U:O2	28:eb:18:ARG:NH2	2.40	0.54
1:aa:301:U:O2	8:ja:33:SER:OG	2.25	0.54
1:aa:1561:G:N7	17:sa:56:ARG:NH2	2.55	0.54
8:ja:75:LYS:HD2	8:ja:77:ARG:HH11	1.71	0.54
9:ka:162:VAL:HB	18:ta:69:ARG:HH11	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:na:117:ARG:HH12	12:na:121:ARG:NH1	2.05	0.54
19:ua:30:VAL:HG12	19:ua:72:ILE:HG13	1.88	0.54
30:gb:2:LYS:HD2	30:gb:15:LYS:HD3	1.88	0.54
30:gb:58:LYS:HG3	30:gb:59:GLN:OE1	2.07	0.54
45:MA:4:TYR:OH	45:MA:18:MET:HB2	2.07	0.54
52:TA:120:VAL:HG12	52:TA:122:ASN:H	1.73	0.54
60:BB:97:SER:HB2	75:RB:134:U:H1'	1.89	0.54
62:DB:290:LYS:HB3	62:DB:293:GLN:NE2	2.21	0.54
66:HB:154:ARG:NH2	75:RB:2835:A:OP1	2.37	0.54
71:MB:43:ARG:HG3	71:MB:43:ARG:HH11	1.71	0.54
75:RB:3155:G:O6	75:RB:3275:U:O4	2.26	0.54
5:ga:131:ALA:HB1	5:ga:137:LYS:HG2	1.89	0.54
12:na:121:ARG:HH12	19:ua:57:ARG:NH1	2.05	0.54
13:oa:51:ASP:HB3	13:oa:54:LYS:HE3	1.89	0.54
34:BA:15:PHE:CE1	34:BA:44:VAL:HG21	2.42	0.54
40:HA:15:GLN:NE2	75:RB:292:A:OP2	2.35	0.54
43:KA:222:PHE:O	43:KA:226:ILE:HG12	2.08	0.54
46:NA:86:ILE:HD13	46:NA:91:THR:O	2.07	0.54
52:TA:23:SER:OG	52:TA:31:GLN:OE1	2.25	0.54
61:CB:46:ILE:HD13	61:CB:182:CYS:HB3	1.88	0.54
64:FB:59:TYR:OH	64:FB:78:PHE:O	2.18	0.54
70:LB:185:ASP:O	70:LB:189:ILE:HG12	2.07	0.54
75:RB:546:C:H2'	75:RB:547:C:H6	1.73	0.54
75:RB:2416:U:H2'	75:RB:2417:A:H8	1.72	0.54
75:RB:2538:C:H1'	75:RB:2539:C:C6	2.42	0.54
75:RB:3307:G:H2'	75:RB:3308:C:H6	1.71	0.54
1:aa:572:G:H4'	5:ga:87:ASP:HA	1.89	0.54
1:aa:1181:G:C6	1:aa:1470:G:C6	2.95	0.54
6:ha:251:ILE:HA	6:ha:266:ALA:O	2.08	0.54
30:gb:7:ASN:OD1	30:gb:11:GLY:N	2.22	0.54
40:HA:201:ARG:HH11	40:HA:201:ARG:HG3	1.72	0.54
62:DB:113:ASP:HB3	62:DB:169:ARG:HH21	1.72	0.54
66:HB:74:LYS:HG3	66:HB:78:LYS:HE2	1.90	0.54
70:LB:128:THR:HG22	70:LB:130:THR:HG23	1.89	0.54
71:MB:40:VAL:HG13	71:MB:45:ASP:HB2	1.89	0.54
75:RB:526:A:H2'	75:RB:527:G:C8	2.42	0.54
75:RB:617:C:H2'	75:RB:618:G:O4'	2.07	0.54
79:cl:18:G:O2'	79:cl:19:G:OP1	2.25	0.54
1:aa:101:A:H61	1:aa:389:A:H1'	1.73	0.54
1:aa:883:G:O2'	14:pa:108:ASP:OD2	2.26	0.54
1:aa:1202:G:OP1	1:aa:1203:G:O2'	2.13	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:ha:298:TYR:H	6:ha:316:THR:HG22	1.71	0.54
9:ka:191:GLU:OE1	9:ka:194:ARG:NH2	2.41	0.54
14:pa:50:ILE:O	14:pa:54:LEU:HG	2.08	0.54
25:bb:175:GLN:O	25:bb:187:LYS:NZ	2.40	0.54
36:DA:223:SER:OG	75:RB:2237:A:O2'	2.18	0.54
39:GA:15:ARG:HB2	75:RB:3036:A:H5''	1.88	0.54
53:UA:13:ASN:ND2	75:RB:904:G:OP1	2.31	0.54
74:PB:78:TYR:HD1	74:PB:82:LEU:HD13	1.72	0.54
75:RB:255:C:H2'	75:RB:256:G:H8	1.72	0.54
75:RB:426:A:H5'	75:RB:427:U:OP2	2.08	0.54
75:RB:2427:U:H4'	75:RB:2428:G:O5'	2.08	0.54
1:aa:476:U:H2'	1:aa:477:A:H8	1.70	0.54
1:aa:1411:C:H2'	1:aa:1412:A:H8	1.73	0.54
13:oa:15:VAL:HG22	13:oa:20:VAL:HG11	1.88	0.54
22:xa:42:CYS:HB2	22:xa:61:CYS:HB2	1.89	0.54
44:LA:109:TYR:CD1	44:LA:114:LYS:HE2	2.43	0.54
66:HB:115:MET:HE1	75:RB:1133:A:H61	1.72	0.54
70:LB:117:ILE:HG12	70:LB:181:GLN:OE1	2.07	0.54
71:MB:52:LYS:HE3	71:MB:110:SER:HA	1.90	0.54
1:aa:160:A:OP2	30:gb:85:ARG:NH2	2.41	0.54
2:ba:95:TYR:O	2:ba:99:ARG:HG3	2.07	0.54
6:ha:116:LYS:HG2	6:ha:117:ASP:H	1.71	0.54
7:ia:127:MET:HE3	7:ia:154:ASP:HB3	1.89	0.54
11:ma:26:HIS:CG	11:ma:27:ARG:H	2.26	0.54
36:DA:45:VAL:HG22	36:DA:61:VAL:HG22	1.89	0.54
36:DA:183:GLY:HA2	75:RB:899:A:H5'	1.90	0.54
44:LA:62:ARG:HA	44:LA:65:ARG:HG2	1.89	0.54
44:LA:110:ARG:NH1	75:RB:1717:G:OP1	2.40	0.54
46:NA:73:LEU:HD21	46:NA:109:VAL:HG22	1.89	0.54
55:WA:48:SER:OG	75:RB:275:G:OP2	2.26	0.54
62:DB:266:THR:HG21	75:RB:2880:U:H5'	1.90	0.54
65:GB:39:CYS:HB2	65:GB:47:VAL:HG23	1.88	0.54
75:RB:1500:C:O2'	75:RB:1599:A:N3	2.35	0.54
75:RB:1719:U:O2'	75:RB:1721:A:N7	2.39	0.54
75:RB:1895:G:O2'	75:RB:2327:U:O4	2.19	0.54
75:RB:2344:C:H2'	75:RB:2345:A:H8	1.73	0.54
75:RB:2350:A:H2'	75:RB:2351:A:C8	2.42	0.54
1:aa:1208:A:OP1	1:aa:1462:C:N4	2.40	0.54
1:aa:1430:A:OP2	7:ia:151:LYS:NZ	2.35	0.54
1:aa:1474:U:H2'	1:aa:1475:A:O4'	2.08	0.54
2:ba:89:LYS:NZ	2:ba:102:LEU:HD12	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:ha:255:CYS:SG	6:ha:264:CYS:HB3	2.48	0.54
8:ja:35:PRO:HD2	8:ja:83:PRO:HG2	1.90	0.54
32:ib:26:LYS:O	32:ib:27:ARG:HG3	2.08	0.54
37:EA:139:ARG:NH2	77:TB:44:C:OP2	2.39	0.54
38:FA:58:ALA:HB2	38:FA:69:ILE:HD11	1.90	0.54
41:IA:117:LYS:HD2	41:IA:118:PRO:HD2	1.90	0.54
43:KA:134:PRO:HG2	43:KA:139:ARG:HH21	1.73	0.54
57:YA:45:TYR:OH	77:TB:94:C:OP1	2.26	0.54
75:RB:764:A:H2'	75:RB:765:U:O4'	2.07	0.54
1:aa:851:G:C6	1:aa:852:A:C5	2.96	0.54
1:aa:1225:A:H2'	1:aa:1226:U:C6	2.43	0.54
1:aa:1233:G:N2	1:aa:1259:G:O2'	2.38	0.54
6:ha:143:ASN:HD22	6:ha:149:LYS:NZ	2.06	0.54
6:ha:276:LEU:HD13	6:ha:279:LYS:NZ	2.23	0.54
11:ma:88:PHE:HB3	21:wa:52:PHE:HB3	1.89	0.54
17:sa:52:ARG:HH21	17:sa:56:ARG:HH21	1.55	0.54
24:za:65:ALA:O	24:za:69:ILE:HG12	2.08	0.54
25:bb:160:GLN:O	25:bb:164:ILE:HG12	2.07	0.54
29:fb:88:ASP:CB	29:fb:114:VAL:HG12	2.38	0.54
32:ib:37:LYS:HG2	32:ib:61:PHE:O	2.09	0.54
40:HA:47:ARG:NE	75:RB:267:G:OP1	2.41	0.54
43:KA:43:LYS:NZ	75:RB:1081:U:O3'	2.41	0.54
58:ZA:86:LYS:HB2	58:ZA:114:TYR:CZ	2.43	0.54
70:LB:82:ILE:CD1	70:LB:92:ARG:HG2	2.38	0.54
71:MB:6:THR:HA	71:MB:9:ARG:NH1	2.23	0.54
75:RB:546:C:H2'	75:RB:547:C:C6	2.42	0.54
75:RB:780:U:HO2'	75:RB:2716:U:HO2'	1.50	0.54
75:RB:1794:A:H2'	75:RB:1795:A:C8	2.42	0.54
75:RB:2350:A:H2'	75:RB:2351:A:H8	1.73	0.54
1:aa:197:G:O2'	1:aa:198:G:O5'	2.25	0.53
1:aa:1489:A:H2'	1:aa:1490:A:C8	2.43	0.53
14:pa:53:LEU:HD12	14:pa:57:GLN:OE1	2.09	0.53
31:hb:19:PHE:O	31:hb:22:THR:HG22	2.08	0.53
39:GA:89:ARG:NH1	39:GA:90:ARG:O	2.41	0.53
45:MA:3:LYS:HD3	75:RB:396:G:C6	2.44	0.53
45:MA:69:ARG:O	75:RB:3295:C:O2'	2.23	0.53
48:PA:43:ASN:HD21	48:PA:126:ALA:HB2	1.73	0.53
61:CB:20:ARG:NE	75:RB:1353:A:H2	2.06	0.53
62:DB:13:SER:HB2	75:RB:3040:A:H4'	1.89	0.53
62:DB:130:PHE:CD1	75:RB:3145:G:H4'	2.43	0.53
75:RB:690:G:H2'	75:RB:691:U:O4'	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:1690:C:O2'	75:RB:1768:U:O2'	2.17	0.53
75:RB:2131:U:H5	75:RB:2136:A:N7	2.06	0.53
76:SB:8:C:H2'	76:SB:9:G:H8	1.74	0.53
1:aa:5:U:H2'	1:aa:6:G:H8	1.72	0.53
1:aa:204:U:H2'	1:aa:205:U:H6	1.72	0.53
1:aa:894:U:H2'	1:aa:895:U:C6	2.43	0.53
1:aa:1320:C:O2'	15:qa:10:LYS:NZ	2.41	0.53
1:aa:1549:G:OP1	16:ra:97:ARG:NH2	2.35	0.53
3:ca:102:ILE:HD11	3:ca:211:TYR:HE1	1.72	0.53
6:ha:273:ILE:HB	6:ha:283:GLN:HG2	1.91	0.53
13:oa:111:LEU:HD11	13:oa:125:HIS:CG	2.43	0.53
14:pa:5:HIS:HB3	14:pa:117:LEU:HD13	1.90	0.53
21:wa:43:PHE:O	21:wa:47:ALA:HB2	2.08	0.53
25:bb:183:GLU:O	25:bb:187:LYS:HG3	2.08	0.53
32:ib:133:SER:OG	32:ib:134:LYS:N	2.41	0.53
40:HA:187:SER:OG	75:RB:29:G:OP1	2.24	0.53
45:MA:36:LEU:HD21	45:MA:48:LEU:HD12	1.88	0.53
48:PA:72:VAL:HG23	48:PA:79:ILE:HG22	1.88	0.53
48:PA:111:ASP:HB3	48:PA:114:ARG:HG3	1.90	0.53
51:SA:64:ASN:OD1	51:SA:68:TRP:HD1	1.91	0.53
60:BB:71:ARG:NH2	76:SB:97:G:OP1	2.40	0.53
70:LB:47:GLU:N	70:LB:48:PRO:HD3	2.23	0.53
72:NB:47:VAL:HG13	72:NB:52:LYS:HE3	1.89	0.53
75:RB:3012:A:H2'	75:RB:3013:A:H8	1.72	0.53
79:cl:63:U:H2'	79:cl:64:G:C8	2.43	0.53
1:aa:891:U:C2	1:aa:892:A:C8	2.96	0.53
2:ba:85:LEU:O	2:ba:89:LYS:HG2	2.09	0.53
6:ha:168:CYS:SG	6:ha:212:ALA:HA	2.48	0.53
8:ja:151:ASP:O	8:ja:154:ILE:HG22	2.08	0.53
15:qa:67:ARG:HG3	15:qa:68:GLY:N	2.18	0.53
21:wa:21:CYS:SG	21:wa:39:CYS:HB3	2.47	0.53
24:za:27:VAL:HG11	24:za:178:LEU:HD21	1.89	0.53
28:eb:4:VAL:HG22	28:eb:5:ASN:H	1.73	0.53
31:hb:66:PRO:HD2	31:hb:69:LEU:HD21	1.90	0.53
33:AA:34:ILE:HD11	36:DA:35:GLY:HA2	1.90	0.53
34:BA:130:ARG:NH2	75:RB:1066:G:H21	2.04	0.53
39:GA:13:LYS:HA	62:DB:66:LYS:HE2	1.91	0.53
39:GA:18:LEU:HD23	39:GA:56:CYS:HB3	1.90	0.53
41:IA:96:PRO:HA	69:KB:166:VAL:HA	1.89	0.53
58:ZA:109:LYS:C	58:ZA:111:ARG:N	2.65	0.53
62:DB:109:HIS:HB2	62:DB:203:GLU:OE1	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:DB:269:ARG:NH2	75:RB:2385:C:O2'	2.41	0.53
63:EB:193:ARG:HB2	63:EB:205:ILE:HG23	1.91	0.53
1:aa:515:A:H4'	28:eb:175:LYS:HE3	1.91	0.53
1:aa:1241:G:H2'	1:aa:1242:A:C8	2.40	0.53
1:aa:1354:C:N4	1:aa:1380:A:H61	2.06	0.53
4:da:25:LYS:CB	4:da:62:GLN:HB2	2.38	0.53
16:ra:126:ILE:HG22	16:ra:136:ILE:HD12	1.91	0.53
22:xa:21:HIS:CD2	22:xa:23:LYS:H	2.26	0.53
24:za:92:LEU:O	24:za:96:GLN:HG2	2.09	0.53
25:bb:159:SER:HA	25:bb:162:ARG:HE	1.73	0.53
32:ib:4:GLN:NE2	32:ib:10:LEU:O	2.41	0.53
33:AA:151:HIS:CE1	33:AA:177:LYS:HG3	2.43	0.53
43:KA:23:ARG:HH12	75:RB:2700:A:P	2.31	0.53
46:NA:72:ILE:HG23	46:NA:73:LEU:HD12	1.91	0.53
52:TA:66:HIS:HD1	75:RB:1406:C:HO2'	1.55	0.53
64:FB:103:ALA:HA	64:FB:106:ARG:NH1	2.23	0.53
75:RB:180:G:H2'	75:RB:181:G:H8	1.73	0.53
75:RB:2694:A:H2'	75:RB:2695:G:H8	1.72	0.53
1:aa:482:A:O2'	28:eb:126:HIS:HD2	1.91	0.53
1:aa:523:C:H2'	1:aa:524:A:O4'	2.09	0.53
1:aa:896:C:H2'	1:aa:897:A:H8	1.74	0.53
1:aa:1558:A:H2'	1:aa:1559:U:H6	1.73	0.53
1:aa:1723:G:C2	1:aa:1724:U:N3	2.76	0.53
3:ca:34:ALA:HB2	3:ca:57:ARG:HD2	1.90	0.53
6:ha:212:ALA:HB3	6:ha:254:LEU:HD23	1.89	0.53
6:ha:216:SER:HB3	6:ha:220:SER:H	1.74	0.53
7:ia:210:ILE:HG13	15:qa:15:GLN:OE1	2.09	0.53
37:EA:9:ASN:OD1	37:EA:10:PRO:HD2	2.09	0.53
37:EA:49:PHE:CD1	37:EA:66:LYS:HD3	2.43	0.53
37:EA:50:SER:OG	75:RB:2678:U:O3'	2.23	0.53
41:IA:56:VAL:HG21	42:JA:180:ARG:NH1	2.24	0.53
48:PA:55:VAL:HB	48:PA:103:VAL:HB	1.89	0.53
63:EB:340:ARG:CZ	70:LB:7:MET:HG2	2.37	0.53
69:KB:172:GLU:OE1	69:KB:172:GLU:N	2.37	0.53
70:LB:71:LEU:HB2	70:LB:98:GLN:OE1	2.09	0.53
75:RB:1767:G:H2'	75:RB:1768:U:O4'	2.08	0.53
75:RB:3037:U:H2'	75:RB:3038:U:C6	2.44	0.53
1:aa:30:G:H2'	1:aa:31:C:C6	2.43	0.53
15:qa:101:GLU:CD	24:za:46:ARG:HG2	2.34	0.53
16:ra:51:LYS:O	16:ra:52:THR:HG22	2.09	0.53
18:ta:33:GLN:HG3	18:ta:73:ASN:HB3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:bb:29:TRP:HD1	25:bb:47:LEU:HB3	1.73	0.53
27:db:37:LYS:HG2	27:db:72:HIS:ND1	2.24	0.53
33:AA:156:ILE:O	33:AA:160:VAL:HG23	2.08	0.53
35:CA:79:HIS:ND1	75:RB:1633:C:O2'	2.42	0.53
38:FA:93:PHE:HB2	38:FA:141:ASP:HB3	1.91	0.53
38:FA:133:ILE:HA	38:FA:144:VAL:O	2.08	0.53
39:GA:32:THR:HG22	39:GA:72:LEU:HD11	1.91	0.53
42:JA:139:ARG:NH2	75:RB:746:C:N3	2.48	0.53
56:XA:94:ILE:HG22	56:XA:98:LYS:HE2	1.91	0.53
60:BB:71:ARG:O	60:BB:75:LYS:CB	2.54	0.53
62:DB:100:ARG:NH1	75:RB:3231:A:OP2	2.38	0.53
63:EB:227:ASN:OD1	75:RB:210:G:H2'	2.09	0.53
69:KB:171:GLU:O	69:KB:175:GLU:HG3	2.08	0.53
75:RB:441:G:H2'	75:RB:442:C:H6	1.73	0.53
75:RB:524:A:N6	75:RB:555:G:C5	2.76	0.53
75:RB:1707:C:H2'	75:RB:1708:C:C6	2.42	0.53
75:RB:1911:A:H2'	75:RB:1912:U:C6	2.43	0.53
75:RB:3339:U:H3'	75:RB:3340:G:H5''	1.89	0.53
1:aa:345:A:H2'	1:aa:346:C:C6	2.44	0.53
3:ca:207:GLU:OE1	32:ib:11:LYS:NZ	2.29	0.53
6:ha:180:ILE:HG22	6:ha:192:TRP:HB2	1.90	0.53
7:ia:53:THR:C	7:ia:90:LYS:HE3	2.34	0.53
13:oa:89:ASP:OD1	13:oa:90:TYR:N	2.41	0.53
14:pa:70:LYS:O	14:pa:74:ILE:HD12	2.09	0.53
19:ua:38:THR:HG22	19:ua:39:GLY:N	2.20	0.53
24:za:87:GLY:O	24:za:91:VAL:HG13	2.09	0.53
30:gb:188:THR:O	30:gb:192:LYS:HG2	2.09	0.53
31:hb:104:PRO:HA	31:hb:113:ARG:HH11	1.72	0.53
31:hb:144:ARG:N	31:hb:148:ALA:O	2.42	0.53
32:ib:85:ILE:HG21	32:ib:118:VAL:HG21	1.91	0.53
35:CA:5:LEU:HD13	35:CA:77:PHE:CD1	2.44	0.53
35:CA:129:ARG:O	35:CA:133:THR:HG23	2.08	0.53
43:KA:91:GLY:HA3	43:KA:225:TYR:OH	2.09	0.53
44:LA:60:ARG:NH1	75:RB:1669:C:OP1	2.41	0.53
62:DB:168:ILE:HD11	62:DB:174:LEU:HD23	1.91	0.53
70:LB:65:LYS:HE2	75:RB:587:A:OP1	2.08	0.53
75:RB:1244:A:H61	75:RB:1248:A:H2'	1.74	0.53
77:TB:79:A:H2	77:TB:97:G:H1	1.56	0.53
1:aa:129:U:OP2	1:aa:267:G:N2	2.42	0.53
1:aa:1476:C:H3'	1:aa:1581:A:H62	1.73	0.53
4:da:70:ASN:HA	4:da:73:ILE:HG12	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:ha:39:ARG:HG2	6:ha:75:PHE:CD2	2.43	0.53
6:ha:250:ILE:HB	6:ha:268:GLN:CG	2.39	0.53
7:ia:46:THR:N	7:ia:83:GLY:O	2.42	0.53
11:ma:32:LEU:HD23	11:ma:40:LEU:HD11	1.90	0.53
13:oa:55:ARG:HB2	18:ta:38:ASN:OD1	2.09	0.53
24:za:59:TRP:HA	24:za:62:LEU:HD12	1.91	0.53
34:BA:8:ARG:HG2	34:BA:11:THR:OG1	2.08	0.53
40:HA:47:ARG:NH2	40:HA:51:LEU:HD11	2.23	0.53
40:HA:71:ARG:HB2	40:HA:94:PHE:HB2	1.89	0.53
42:JA:54:MET:SD	75:RB:978:C:H5''	2.48	0.53
43:KA:288:ASN:OD1	43:KA:289:SER:N	2.41	0.53
58:ZA:23:PHE:CD2	58:ZA:112:ASN:HB3	2.44	0.53
62:DB:58:ARG:HE	62:DB:74:GLU:CD	2.17	0.53
75:RB:1019:A:H8	75:RB:1021:U:H5''	1.73	0.53
75:RB:1574:C:H2'	75:RB:1575:G:C8	2.44	0.53
75:RB:2173:G:H2'	75:RB:2174:C:C6	2.44	0.53
75:RB:3151:G:H2'	75:RB:3152:C:O4'	2.09	0.53
1:aa:34:G:O2'	1:aa:519:A:O2'	2.27	0.53
1:aa:337:A:H2'	1:aa:338:G:C8	2.44	0.53
1:aa:890:G:OP1	25:bb:216:LYS:NZ	2.36	0.53
1:aa:900:G:H2'	1:aa:901:U:C6	2.44	0.53
6:ha:200:ARG:HD2	6:ha:201:CYS:SG	2.49	0.53
9:ka:175:ASN:HD21	9:ka:182:ASN:HB2	1.74	0.53
16:ra:54:ARG:HD3	16:ra:106:CYS:SG	2.49	0.53
31:hb:63:ILE:HB	31:hb:95:PHE:CD1	2.43	0.53
33:AA:136:THR:HA	33:AA:139:ILE:HG22	1.91	0.53
34:BA:32:ARG:NH1	34:BA:98:PRO:HD2	2.23	0.53
38:FA:94:VAL:HG12	68:JB:82:LEU:CD2	2.38	0.53
39:GA:97:TYR:CE2	47:OA:23:PHE:HD2	2.27	0.53
44:LA:128:LYS:NZ	75:RB:1722:G:OP2	2.25	0.53
45:MA:65:ARG:NH1	75:RB:1449:A:OP1	2.41	0.53
48:PA:111:ASP:OD2	48:PA:112:LYS:N	2.41	0.53
69:KB:180:GLY:O	69:KB:184:VAL:HG23	2.09	0.53
75:RB:360:G:O2'	75:RB:931:C:O2'	2.21	0.53
75:RB:553:C:O2'	75:RB:554:C:O5'	2.27	0.53
75:RB:1462:C:H2'	75:RB:1463:A:C8	2.44	0.53
1:aa:906:G:H2'	1:aa:907:G:C8	2.44	0.53
1:aa:1348:A:O2'	1:aa:1349:A:OP1	2.24	0.53
1:aa:1762:C:H2'	1:aa:1763:A:C8	2.44	0.53
9:ka:46:PRO:HG2	9:ka:86:VAL:HG23	1.89	0.53
40:HA:2:GLY:O	59:AB:39:ARG:NH2	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:PA:81:VAL:HG21	48:PA:84:ILE:HD12	1.90	0.53
61:CB:108:LEU:HD22	61:CB:119:LEU:HD11	1.89	0.53
64:FB:15:ASP:HB2	64:FB:122:ARG:HB3	1.91	0.53
66:HB:12:ILE:HD13	66:HB:57:LYS:HB3	1.90	0.53
75:RB:3224:C:H2'	75:RB:3225:G:C8	2.44	0.53
75:RB:3315:G:H1	75:RB:3365:U:H3	1.57	0.53
1:aa:30:G:H2'	1:aa:31:C:H6	1.75	0.52
1:aa:452:C:H5'	8:ja:29:PRO:HA	1.90	0.52
1:aa:515:A:H5''	28:eb:174:VAL:HG12	1.91	0.52
1:aa:632:G:OP1	14:pa:124:ARG:HD2	2.08	0.52
1:aa:1681:G:H2'	1:aa:1682:U:C6	2.45	0.52
3:ca:65:ASN:O	3:ca:199:ASP:HA	2.09	0.52
4:da:68:LEU:HD12	4:da:69:THR:H	1.73	0.52
5:ga:66:ARG:HG3	5:ga:114:ILE:HG13	1.90	0.52
9:ka:115:SER:HB3	9:ka:150:LEU:HD11	1.91	0.52
16:ra:24:PRO:CB	16:ra:75:ARG:HH12	2.21	0.52
24:za:70:VAL:HG21	24:za:189:MET:CB	2.39	0.52
28:eb:66:GLU:HG3	28:eb:67:LYS:H	1.73	0.52
42:JA:43:GLN:O	42:JA:47:VAL:HG23	2.08	0.52
61:CB:101:THR:HG21	61:CB:135:TYR:CE1	2.44	0.52
71:MB:21:TYR:CD2	71:MB:30:GLU:HA	2.44	0.52
75:RB:138:G:H2'	75:RB:139:U:C6	2.44	0.52
75:RB:1003:G:H5''	77:TB:102:G:H1'	1.90	0.52
75:RB:1177:G:H2'	75:RB:1178:C:C6	2.44	0.52
75:RB:1815:G:O2'	75:RB:1816:U:OP1	2.25	0.52
79:cl:5:G:H2'	79:cl:6:A:C8	2.44	0.52
1:aa:858:G:H2'	1:aa:859:U:C6	2.44	0.52
1:aa:899:A:H5''	25:bb:55:LYS:NZ	2.24	0.52
1:aa:1156:A:OP2	1:aa:1776:A:O2'	2.22	0.52
1:aa:1385:C:O2	10:la:74:ARG:NH2	2.42	0.52
1:aa:1542:G:N7	18:ta:79:ARG:NH1	2.58	0.52
7:ia:151:LYS:HE2	7:ia:153:LYS:NZ	2.25	0.52
28:eb:119:GLY:O	28:eb:121:ALA:N	2.42	0.52
30:gb:30:LYS:H	30:gb:104:VAL:HG12	1.74	0.52
32:ib:11:LYS:HA	32:ib:55:ILE:HD13	1.92	0.52
41:IA:128:LYS:NZ	75:RB:719:U:O3'	2.42	0.52
44:LA:157:ASP:OD1	44:LA:158:GLN:N	2.42	0.52
45:MA:22:LEU:HD22	45:MA:147:ILE:HD12	1.89	0.52
50:RA:99:PRO:HG3	50:RA:105:ILE:HD13	1.91	0.52
52:TA:119:VAL:HG23	75:RB:436:G:C5	2.44	0.52
66:HB:174:THR:HB	66:HB:176:PHE:HD1	1.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:LB:103:LEU:HD11	75:RB:3258:C:C4	2.44	0.52
70:LB:134:ILE:O	70:LB:137:VAL:HG22	2.09	0.52
75:RB:180:G:H2'	75:RB:181:G:C8	2.45	0.52
1:aa:1655:U:H2'	1:aa:1656:C:C6	2.45	0.52
4:da:61:TRP:CH2	7:ia:23:GLU:HG2	2.44	0.52
5:ga:80:ILE:HD12	5:ga:119:PHE:CD2	2.44	0.52
15:qa:91:LEU:HD21	24:za:24:ALA:CB	2.40	0.52
23:ya:29:GLN:O	23:ya:31:ARG:NH1	2.41	0.52
28:eb:102:THR:HG22	28:eb:103:ALA:H	1.74	0.52
40:HA:11:TRP:HA	40:HA:19:MET:HE3	1.91	0.52
40:HA:86:HIS:ND1	75:RB:33:A:H5'	2.24	0.52
49:QA:95:PHE:HB2	49:QA:127:TYR:CE2	2.44	0.52
52:TA:19:LYS:HD2	52:TA:31:GLN:NE2	2.24	0.52
56:XA:105:PHE:HA	70:LB:201:TYR:CE2	2.44	0.52
71:MB:80:HIS:HB2	71:MB:87:ARG:HG3	1.90	0.52
75:RB:219:A:O2'	75:RB:221:C:OP2	2.27	0.52
75:RB:672:A:H2'	75:RB:673:U:C6	2.44	0.52
75:RB:1560:A:H3'	75:RB:1561:U:H5''	1.91	0.52
75:RB:3149:G:OP2	75:RB:3280:U:O2'	2.22	0.52
1:aa:507:G:H2'	1:aa:508:U:C5	2.45	0.52
1:aa:1151:G:H2'	1:aa:1152:A:C8	2.43	0.52
1:aa:1479:U:P	9:ka:164:THR:HG1	2.32	0.52
1:aa:1673:C:H2'	1:aa:1674:C:H6	1.74	0.52
4:da:7:ASN:O	4:da:11:ILE:HG12	2.09	0.52
4:da:55:VAL:HG23	4:da:68:LEU:HA	1.91	0.52
6:ha:35:VAL:HG23	6:ha:45:VAL:HG12	1.92	0.52
13:oa:99:VAL:HG12	13:oa:100:SER:N	2.22	0.52
14:pa:63:VAL:HA	14:pa:66:VAL:HG22	1.91	0.52
19:ua:77:GLU:OE1	19:ua:80:ARG:HG3	2.09	0.52
28:eb:92:GLN:HG3	28:eb:97:TYR:CD1	2.45	0.52
29:fb:71:LEU:HD11	29:fb:249:PRO:HG2	1.92	0.52
29:fb:88:ASP:HB3	29:fb:114:VAL:HG12	1.91	0.52
33:AA:174:CYS:SG	33:AA:176:VAL:HG13	2.49	0.52
34:BA:22:LYS:O	43:KA:17:GLN:NE2	2.42	0.52
34:BA:108:ARG:NH1	34:BA:130:ARG:HH11	2.04	0.52
37:EA:117:LYS:HZ1	37:EA:124:ILE:N	2.08	0.52
42:JA:4:ASP:OD1	61:CB:102:LYS:NZ	2.37	0.52
48:PA:56:GLN:NE2	48:PA:64:GLY:HA2	2.25	0.52
56:XA:63:LYS:HE2	75:RB:542:G:C4	2.45	0.52
70:LB:109:PRO:HD2	70:LB:112:ILE:HD11	1.90	0.52
75:RB:2928:C:H2'	75:RB:2929:C:O4'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:97:G:HO2'	1:aa:430:G:HO2'	1.57	0.52
1:aa:187:C:H2'	1:aa:188:U:C6	2.44	0.52
1:aa:344:U:H2'	1:aa:345:A:H8	1.73	0.52
6:ha:66:PHE:CD2	6:ha:67:ARG:HG3	2.43	0.52
19:ua:32:VAL:HG22	19:ua:48:ARG:O	2.10	0.52
58:ZA:98:VAL:HG13	58:ZA:99:ARG:N	2.23	0.52
62:DB:209:GLU:OE2	62:DB:290:LYS:HB2	2.09	0.52
62:DB:286:TYR:CZ	62:DB:329:LYS:HB2	2.45	0.52
63:EB:50:ASN:ND2	75:RB:698:A:OP1	2.43	0.52
65:GB:42:CYS:HA	75:RB:1727:A:N6	2.24	0.52
71:MB:63:LYS:HB2	71:MB:68:HIS:CE1	2.45	0.52
75:RB:25:U:C2	75:RB:26:A:C8	2.98	0.52
75:RB:672:A:H2'	75:RB:673:U:H6	1.73	0.52
75:RB:1066:G:H5''	75:RB:1067:G:H5'	1.90	0.52
75:RB:1297:U:O2'	75:RB:1298:A:H5'	2.09	0.52
75:RB:2694:A:H2'	75:RB:2695:G:C8	2.45	0.52
1:aa:590:G:H2'	1:aa:591:C:C6	2.44	0.52
1:aa:1420:U:OP2	1:aa:1421:U:H5''	2.09	0.52
3:ca:108:ALA:HB3	3:ca:109:PRO:HD3	1.92	0.52
37:EA:22:ASN:OD1	37:EA:128:ASP:HB2	2.08	0.52
40:HA:68:ARG:NH2	40:HA:123:GLU:OE2	2.41	0.52
75:RB:1155:G:OP2	75:RB:1155:G:N2	2.35	0.52
75:RB:1577:A:O2'	75:RB:2519:G:O4'	2.27	0.52
76:SB:141:C:H2'	76:SB:142:G:C8	2.45	0.52
77:TB:12:U:OP2	77:TB:67:C:O2'	2.27	0.52
1:aa:1000:A:H2'	1:aa:1001:C:O4'	2.09	0.52
1:aa:1071:C:H4'	25:bb:149:GLN:HG3	1.91	0.52
1:aa:1682:U:H2'	1:aa:1683:G:H8	1.75	0.52
6:ha:276:LEU:HD13	6:ha:279:LYS:HZ1	1.75	0.52
11:ma:28:ILE:HD13	11:ma:106:VAL:HG21	1.92	0.52
15:qa:10:LYS:O	15:qa:14:ARG:HG3	2.08	0.52
15:qa:99:ASP:CG	15:qa:100:LYS:H	2.18	0.52
22:xa:56:VAL:HG13	22:xa:65:LEU:HB2	1.91	0.52
34:BA:30:TYR:O	43:KA:41:LYS:NZ	2.34	0.52
36:DA:143:ASN:HB2	36:DA:145:THR:HG22	1.91	0.52
44:LA:23:TRP:CE3	44:LA:51:ILE:HG12	2.44	0.52
62:DB:229:TYR:CE1	62:DB:271:GLY:HA2	2.45	0.52
69:KB:32:GLN:O	69:KB:36:ILE:HG12	2.10	0.52
75:RB:287:A:H2'	75:RB:288:G:H8	1.74	0.52
75:RB:1041:C:H2'	75:RB:1042:C:C6	2.45	0.52
75:RB:1921:U:O2'	75:RB:1923:G:N7	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:cl:23:C:H2'	79:cl:24:G:C8	2.44	0.52
1:aa:714:C:O2'	1:aa:715:U:OP1	2.20	0.52
1:aa:754:U:H2'	1:aa:755:U:C6	2.44	0.52
1:aa:1510:G:C2	1:aa:1514:G:C6	2.98	0.52
9:ka:136:ASP:OD2	19:ua:61:ARG:NH2	2.42	0.52
12:na:121:ARG:NH1	19:ua:57:ARG:HD2	2.25	0.52
24:za:89:ARG:HB2	24:za:208:TYR:HA	1.91	0.52
31:hb:174:TYR:HD2	31:hb:182:VAL:HG11	1.75	0.52
40:HA:14:LYS:HE2	75:RB:267:G:H5''	1.92	0.52
42:JA:65:ARG:HE	42:JA:90:ARG:CZ	2.23	0.52
46:NA:93:VAL:HG22	46:NA:133:TYR:HD2	1.75	0.52
48:PA:73:TYR:HE2	48:PA:76:ARG:HG3	1.75	0.52
57:YA:97:ARG:HG2	57:YA:97:ARG:HH11	1.74	0.52
62:DB:263:VAL:HG11	62:DB:269:ARG:HH11	1.74	0.52
65:GB:32:SER:O	65:GB:37:TYR:OH	2.23	0.52
66:HB:115:MET:HE1	75:RB:1133:A:N6	2.25	0.52
70:LB:7:MET:O	70:LB:11:ILE:HG12	2.10	0.52
75:RB:974:G:H2'	75:RB:975:G:C8	2.45	0.52
75:RB:1133:A:N6	75:RB:1135:C:O2	2.43	0.52
75:RB:1945:A:H2'	75:RB:1946:C:C6	2.44	0.52
1:aa:139:U:O2'	1:aa:140:C:O5'	2.26	0.52
1:aa:984:A:N3	1:aa:1785:U:O2'	2.42	0.52
1:aa:1132:G:H2'	1:aa:1133:C:H6	1.75	0.52
1:aa:1339:C:H5'	11:ma:91:ARG:HH12	1.74	0.52
6:ha:44:LEU:HD13	6:ha:68:ARG:HG2	1.91	0.52
8:ja:257:ALA:HA	8:ja:260:GLN:HG3	1.90	0.52
9:ka:77:ARG:O	9:ka:81:LYS:NZ	2.43	0.52
11:ma:32:LEU:HA	11:ma:119:GLU:O	2.10	0.52
13:oa:23:LYS:HZ2	18:ta:35:GLU:HG2	1.75	0.52
25:bb:61:LEU:HD12	25:bb:64:ARG:HE	1.75	0.52
27:db:13:HIS:O	27:db:15:ARG:NH2	2.43	0.52
33:AA:66:ARG:HG3	75:RB:2511:U:H5'	1.90	0.52
37:EA:149:ARG:NH2	77:TB:16:A:OP1	2.43	0.52
44:LA:102:LEU:HD12	44:LA:138:LEU:HD22	1.92	0.52
64:FB:163:GLU:O	64:FB:167:GLU:HG3	2.09	0.52
70:LB:82:ILE:HD13	70:LB:92:ARG:HG2	1.91	0.52
71:MB:30:GLU:O	71:MB:93:ASN:ND2	2.42	0.52
72:NB:51:ASP:OD2	72:NB:52:LYS:N	2.43	0.52
75:RB:124:C:H2'	75:RB:125:G:H8	1.73	0.52
75:RB:1618:U:H2'	75:RB:1619:G:C8	2.45	0.52
75:RB:1739:G:O3'	75:RB:1740:U:H2'	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:2416:U:H2'	75:RB:2417:A:C8	2.45	0.52
1:aa:771:G:H5'	28:eb:151:ARG:HH22	1.74	0.52
1:aa:1570:G:O2'	16:ra:54:ARG:NH2	2.41	0.52
4:da:64:TYR:HB3	4:da:66:TRP:CZ3	2.45	0.52
6:ha:285:LEU:HD23	6:ha:323:TYR:CD1	2.45	0.52
7:ia:37:VAL:HG12	7:ia:50:ILE:HA	1.92	0.52
32:ib:125:ILE:HB	32:ib:142:LYS:HB3	1.91	0.52
41:IA:126:ILE:HG13	41:IA:141:VAL:HG11	1.91	0.52
56:XA:34:ASN:O	56:XA:49:ASN:ND2	2.42	0.52
75:RB:566:G:H2'	75:RB:567:G:H8	1.75	0.52
75:RB:1693:A:H2'	75:RB:1694:A:H8	1.74	0.52
75:RB:1861:A:O2'	75:RB:1862:C:OP1	2.25	0.52
76:SB:36:G:O2'	76:SB:104:A:N1	2.38	0.52
6:ha:178:PRO:HB2	6:ha:194:LEU:HD22	1.93	0.51
9:ka:51:ARG:HD3	10:la:128:ARG:HD3	1.91	0.51
12:na:98:ARG:NH1	12:na:99:ALA:O	2.43	0.51
12:na:104:LYS:HD3	12:na:142:ARG:NH1	2.24	0.51
13:oa:68:MET:HG2	13:oa:72:HIS:CE1	2.45	0.51
20:va:29:ILE:HG22	20:va:60:ILE:HG13	1.91	0.51
23:ya:33:ARG:NE	28:eb:128:ARG:HD2	2.23	0.51
28:eb:112:GLN:HE22	28:eb:128:ARG:NE	2.07	0.51
29:fb:139:ILE:HG22	29:fb:143:LYS:HZ2	1.75	0.51
31:hb:25:GLN:HA	31:hb:28:PHE:HB3	1.90	0.51
33:AA:215:LYS:HD2	33:AA:219:ASN:HB2	1.92	0.51
38:FA:93:PHE:HD1	38:FA:100:ILE:HD11	1.75	0.51
42:JA:120:LEU:HD11	42:JA:128:ARG:NH2	2.26	0.51
56:XA:95:VAL:HG23	64:FB:204:ILE:HA	1.92	0.51
56:XA:125:LEU:HD12	56:XA:128:LEU:HD11	1.92	0.51
59:AB:37:THR:HB	75:RB:262:A:OP1	2.09	0.51
60:BB:31:GLY:O	60:BB:35:ILE:HG12	2.10	0.51
60:BB:118:ARG:NH2	69:KB:137:ASP:OD1	2.42	0.51
62:DB:223:VAL:O	62:DB:338:ARG:NH1	2.36	0.51
63:EB:171:ILE:HD12	63:EB:180:TYR:HE1	1.74	0.51
75:RB:306:A:H1'	75:RB:2215:A:N3	2.25	0.51
75:RB:633:C:H2'	75:RB:634:A:C8	2.45	0.51
75:RB:3053:U:OP1	75:RB:3054:C:O2'	2.21	0.51
1:aa:109:A:H2'	1:aa:110:G:H8	1.73	0.51
1:aa:297:U:H2'	1:aa:298:C:H6	1.74	0.51
1:aa:475:A:H5''	28:eb:12:LYS:HG2	1.91	0.51
1:aa:1599:C:H2'	1:aa:1600:G:H8	1.76	0.51
13:oa:121:ARG:O	13:oa:125:HIS:ND1	2.37	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:qa:18:GLU:OE2	15:qa:69:ILE:HA	2.09	0.51
18:ta:78:ARG:HD2	18:ta:81:ILE:HD11	1.92	0.51
35:CA:55:ARG:NH1	75:RB:2558:G:OP1	2.43	0.51
37:EA:21:LEU:HD21	37:EA:81:LEU:HD21	1.91	0.51
40:HA:202:ARG:NH1	69:KB:27:GLN:OE1	2.43	0.51
43:KA:203:VAL:O	43:KA:207:MET:HG3	2.10	0.51
44:LA:30:ASN:OD1	44:LA:31:GLU:N	2.42	0.51
50:RA:31:TYR:HD2	50:RA:60:ILE:HD11	1.75	0.51
57:YA:139:ASP:HA	57:YA:142:LYS:HG2	1.92	0.51
58:ZA:68:ASP:OD1	58:ZA:71:LYS:N	2.43	0.51
70:LB:162:LEU:HA	70:LB:165:SER:OG	2.11	0.51
75:RB:267:G:H1'	75:RB:292:A:N1	2.25	0.51
75:RB:310:C:H2'	75:RB:311:G:H8	1.74	0.51
75:RB:635:U:H2'	75:RB:636:C:C6	2.45	0.51
75:RB:1547:G:N3	75:RB:2161:G:N2	2.58	0.51
75:RB:1672:G:H2'	75:RB:1673:A:C8	2.46	0.51
75:RB:2134:U:O2'	75:RB:2975:U:H5'	2.11	0.51
77:TB:89:G:H2'	77:TB:90:A:C8	2.45	0.51
1:aa:5:U:H2'	1:aa:6:G:C8	2.45	0.51
1:aa:287:C:H5'	30:gb:193:ARG:HD2	1.92	0.51
1:aa:1289:U:H4'	1:aa:1290:U:O5'	2.09	0.51
1:aa:1395:C:O2'	15:qa:52:GLY:HA3	2.10	0.51
1:aa:1439:G:H4'	21:wa:26:ASN:ND2	2.23	0.51
6:ha:68:ARG:HD3	10:la:100:GLN:NE2	2.25	0.51
24:za:185:MET:O	24:za:189:MET:HG2	2.09	0.51
31:hb:52:MET:CE	31:hb:176:ARG:HG2	2.40	0.51
42:JA:71:MET:HE1	42:JA:136:LEU:HD23	1.91	0.51
44:LA:74:ARG:NE	75:RB:1938:U:OP2	2.41	0.51
52:TA:92:THR:HG23	52:TA:93:TYR:HD1	1.75	0.51
63:EB:317:GLU:H	63:EB:317:GLU:CD	2.18	0.51
75:RB:57:G:N2	75:RB:59:A:N3	2.58	0.51
75:RB:1135:C:H2'	75:RB:1136:A:H8	1.76	0.51
75:RB:1576:C:C3'	75:RB:1577:A:H5'	2.41	0.51
1:aa:451:U:H2'	1:aa:452:C:O4'	2.10	0.51
1:aa:516:A:H2'	1:aa:517:U:O4'	2.11	0.51
1:aa:1062:C:O2'	1:aa:1063:U:OP1	2.23	0.51
1:aa:1489:A:H4'	10:la:77:GLY:HA2	1.93	0.51
1:aa:1601:A:H2'	1:aa:1602:G:H8	1.74	0.51
7:ia:178:ARG:O	7:ia:179:GLN:HG3	2.10	0.51
8:ja:160:ILE:HB	8:ja:169:ILE:HD12	1.92	0.51
16:ra:47:VAL:HG13	16:ra:48:ASP:OD2	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:bb:82:ARG:HD2	25:bb:103:MET:CE	2.40	0.51
29:fb:175:VAL:HG21	29:fb:220:PHE:HD1	1.75	0.51
30:gb:32:ILE:HB	30:gb:65:GLN:NE2	2.25	0.51
36:DA:30:ARG:HG3	36:DA:74:GLU:HG3	1.92	0.51
36:DA:69:TYR:OH	75:RB:2552:U:OP1	2.16	0.51
37:EA:158:LYS:HB3	37:EA:162:MET:HE1	1.93	0.51
39:GA:99:GLU:HG3	47:OA:23:PHE:CZ	2.45	0.51
41:IA:60:TYR:HD2	41:IA:63:LYS:HB2	1.73	0.51
43:KA:10:ARG:HG2	43:KA:10:ARG:HH11	1.74	0.51
49:QA:113:PRO:HG2	75:RB:1355:U:H5''	1.92	0.51
75:RB:552:G:C2	75:RB:553:C:C2	2.98	0.51
75:RB:1250:G:H5'	75:RB:1254:A:H61	1.75	0.51
77:TB:23:A:H2'	77:TB:24:G:C8	2.45	0.51
1:aa:197:G:O2'	1:aa:198:G:H8	1.94	0.51
1:aa:334:G:H5'	3:ca:98:VAL:HG23	1.93	0.51
1:aa:714:C:HO2'	1:aa:715:U:P	2.31	0.51
3:ca:85:ASN:HD21	3:ca:98:VAL:HG11	1.76	0.51
3:ca:210:PHE:HD2	3:ca:211:TYR:HD2	1.59	0.51
4:da:64:TYR:HB3	4:da:66:TRP:CH2	2.45	0.51
8:ja:160:ILE:HD12	8:ja:169:ILE:HD11	1.93	0.51
25:bb:28:GLN:HE22	25:bb:50:ARG:CB	2.22	0.51
25:bb:61:LEU:O	25:bb:63:HIS:N	2.43	0.51
27:db:11:ASN:ND2	27:db:11:ASN:O	2.37	0.51
28:eb:58:ALA:O	28:eb:62:LEU:HG	2.11	0.51
33:AA:22:ASN:HB2	33:AA:23:PRO:HD3	1.92	0.51
33:AA:93:LEU:O	33:AA:96:ARG:HG3	2.11	0.51
33:AA:129:LYS:HB2	33:AA:195:CYS:SG	2.51	0.51
36:DA:80:GLU:HG2	65:GB:66:GLY:HA2	1.93	0.51
38:FA:155:ARG:NH2	75:RB:3122:C:H4'	2.26	0.51
40:HA:65:ARG:HD3	40:HA:129:TYR:CE2	2.45	0.51
40:HA:71:ARG:HD3	40:HA:94:PHE:CD1	2.46	0.51
41:IA:109:LEU:HD21	75:RB:720:G:C4	2.45	0.51
43:KA:145:LEU:HD23	75:RB:2743:A:C2	2.46	0.51
43:KA:280:LEU:HD11	77:TB:63:U:H1'	1.93	0.51
75:RB:3307:G:H2'	75:RB:3308:C:C6	2.45	0.51
79:cl:3:C:H2'	79:cl:4:A:C8	2.45	0.51
1:aa:646:G:C6	1:aa:705:A:N1	2.78	0.51
1:aa:1071:C:H5''	25:bb:149:GLN:HE21	1.76	0.51
1:aa:1488:C:H4'	10:la:83:GLN:OE1	2.10	0.51
1:aa:1680:A:H2'	1:aa:1681:G:C8	2.45	0.51
12:na:43:HIS:NE2	12:na:52:THR:OG1	2.30	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:za:153:ASP:HB2	24:za:169:ASN:OD1	2.11	0.51
28:eb:134:ARG:HB3	28:eb:142:ILE:HD12	1.93	0.51
37:EA:89:LYS:HZ3	37:EA:108:ILE:HG22	1.76	0.51
40:HA:160:GLU:HG2	40:HA:161:LEU:N	2.26	0.51
41:IA:44:LEU:HD12	41:IA:48:TYR:HD1	1.74	0.51
60:BB:49:HIS:O	60:BB:53:LYS:HG3	2.10	0.51
61:CB:146:VAL:HG21	61:CB:191:LEU:HD13	1.93	0.51
63:EB:81:ARG:NH2	75:RB:1441:U:OP1	2.43	0.51
72:NB:33:LYS:NZ	72:NB:44:THR:HG21	2.26	0.51
75:RB:169:G:N2	75:RB:246:C:H1'	2.26	0.51
75:RB:178:C:C2	75:RB:235:G:N2	2.78	0.51
75:RB:448:G:O2'	75:RB:449:G:H5''	2.10	0.51
75:RB:626:G:C2'	75:RB:627:G:H5'	2.41	0.51
75:RB:2276:G:H1'	75:RB:2278:C:H42	1.75	0.51
79:cl:5:G:H2'	79:cl:6:A:H8	1.75	0.51
1:aa:17:C:O2'	1:aa:1142:A:N1	2.34	0.51
2:ba:28:PHE:HE1	2:ba:81:ILE:HG12	1.76	0.51
4:da:54:TYR:O	4:da:69:THR:OG1	2.20	0.51
5:ga:54:ILE:HG13	5:ga:55:GLY:H	1.75	0.51
6:ha:253:SER:OG	6:ha:302:LEU:HD23	2.11	0.51
9:ka:10:GLY:HA3	9:ka:21:GLU:OE2	2.11	0.51
14:pa:13:SER:O	22:xa:22:LYS:NZ	2.41	0.51
25:bb:130:THR:HB	25:bb:179:CYS:O	2.10	0.51
25:bb:157:GLN:O	25:bb:159:SER:N	2.43	0.51
26:cb:12:TYR:CG	26:cb:12:TYR:O	2.63	0.51
28:eb:115:VAL:HG12	28:eb:121:ALA:HB2	1.92	0.51
29:fb:249:PRO:HA	29:fb:252:GLU:HG2	1.92	0.51
31:hb:65:VAL:HG12	31:hb:96:VAL:O	2.10	0.51
36:DA:125:VAL:HB	75:RB:2170:G:C6	2.46	0.51
36:DA:130:SER:OG	36:DA:174:ARG:NH2	2.42	0.51
37:EA:117:LYS:HE3	37:EA:118:TYR:CE1	2.46	0.51
38:FA:101:ASN:HB2	38:FA:114:ARG:HB2	1.93	0.51
40:HA:90:THR:HG23	75:RB:2417:A:H5''	1.93	0.51
41:IA:36:GLY:HA3	41:IA:40:HIS:CE1	2.46	0.51
57:YA:8:GLN:HB2	57:YA:32:TRP:CH2	2.45	0.51
63:EB:171:ILE:HG23	63:EB:180:TYR:CE1	2.45	0.51
64:FB:61:ARG:O	64:FB:65:LYS:HE3	2.10	0.51
75:RB:487:C:H2'	75:RB:488:U:C6	2.45	0.51
75:RB:1250:G:O2'	75:RB:1251:U:O5'	2.26	0.51
75:RB:1659:G:H22	75:RB:1783:G:H1	1.58	0.51
75:RB:2911:G:O2'	75:RB:2931:A:N1	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:338:G:H2'	1:aa:339:G:H8	1.75	0.51
1:aa:1541:C:P	18:ta:76:LEU:HD21	2.51	0.51
1:aa:1637:G:OP1	27:db:4:LYS:HE3	2.11	0.51
6:ha:227:LYS:HD2	6:ha:250:ILE:CD1	2.40	0.51
7:ia:167:TYR:CE1	7:ia:200:PRO:HG2	2.46	0.51
15:qa:93:VAL:HG21	24:za:20:GLN:HB3	1.93	0.51
20:va:76:TYR:CE1	32:ib:100:ARG:HG2	2.43	0.51
23:ya:30:PRO:O	23:ya:35:HIS:HB2	2.11	0.51
38:FA:91:MET:HG2	38:FA:180:VAL:HG12	1.92	0.51
46:NA:64:ARG:NH1	76:SB:60:U:OP1	2.39	0.51
49:QA:34:SER:OG	49:QA:39:ASN:ND2	2.43	0.51
57:YA:91:ASN:HB3	63:EB:399:TRP:CH2	2.46	0.51
60:BB:58:VAL:O	60:BB:62:ILE:HG12	2.11	0.51
62:DB:259:HIS:HA	62:DB:260:PRO:C	2.36	0.51
70:LB:99:LEU:HD21	70:LB:119:ARG:HD3	1.93	0.51
72:NB:49:ASP:HB2	72:NB:52:LYS:HB3	1.93	0.51
75:RB:6:A:C2	76:SB:154:G:C6	2.93	0.51
75:RB:1041:C:H2'	75:RB:1042:C:H6	1.76	0.51
75:RB:3255:G:H5''	75:RB:3257:U:O4'	2.11	0.51
79:cl:25:U:H2'	79:cl:26:2MG:H8	1.76	0.51
1:aa:973:U:H2'	1:aa:974:C:O4'	2.10	0.51
5:ga:50:VAL:HG12	5:ga:97:ASP:H	1.75	0.51
6:ha:233:LEU:C	6:ha:234:TRP:HD1	2.18	0.51
6:ha:284:ASP:C	6:ha:285:LEU:HD12	2.35	0.51
18:ta:34:LYS:HG2	18:ta:76:LEU:HD23	1.93	0.51
20:va:80:LEU:HD21	20:va:85:ILE:CG2	2.40	0.51
25:bb:29:TRP:HA	25:bb:46:THR:O	2.11	0.51
29:fb:105:ARG:HH12	29:fb:107:ARG:HH11	1.59	0.51
30:gb:63:MET:HG3	30:gb:100:ARG:HB2	1.92	0.51
31:hb:69:LEU:HD23	31:hb:69:LEU:H	1.76	0.51
31:hb:144:ARG:HB2	31:hb:148:ALA:HB3	1.92	0.51
32:ib:56:ASP:OD1	32:ib:83:ARG:NH1	2.43	0.51
37:EA:17:GLN:HE21	37:EA:134:GLU:CD	2.15	0.51
62:DB:285:ILE:HD13	62:DB:328:ILE:HG22	1.92	0.51
71:MB:46:VAL:CG2	71:MB:79:PRO:HB3	2.41	0.51
75:RB:598:U:H5'	75:RB:599:C:N3	2.26	0.51
75:RB:631:U:H2'	75:RB:632:C:H6	1.76	0.51
75:RB:903:G:H1'	75:RB:1586:A:N6	2.26	0.51
75:RB:1506:A:C4	75:RB:1507:A:C8	2.99	0.51
75:RB:1571:A:O2'	75:RB:1572:C:O5'	2.28	0.51
75:RB:2920:U:H2'	75:RB:2921:U:C6	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:194:G:C4	1:aa:195:A:H1'	2.46	0.51
1:aa:213:U:O2	1:aa:244:C:N4	2.44	0.51
1:aa:1353:G:H21	1:aa:1385:C:H42	1.58	0.51
6:ha:110:ARG:HH21	6:ha:110:ARG:HG2	1.76	0.51
9:ka:85:ALA:O	9:ka:89:ILE:HG12	2.10	0.51
10:la:48:GLU:HB3	10:la:51:ARG:NH2	2.26	0.51
19:ua:35:MET:HE3	19:ua:48:ARG:HB2	1.92	0.51
35:CA:4:PHE:CE2	35:CA:82:PRO:HG2	2.44	0.51
36:DA:217:GLN:NE2	75:RB:2956:C:OP1	2.44	0.51
37:EA:158:LYS:O	37:EA:161:ALA:N	2.44	0.51
39:GA:13:LYS:O	75:RB:3035:G:O2'	2.28	0.51
43:KA:60:VAL:HB	43:KA:80:SER:HB3	1.92	0.51
46:NA:56:TYR:HD1	60:BB:81:PRO:HA	1.76	0.51
52:TA:44:ARG:HA	52:TA:53:MET:CE	2.40	0.51
57:YA:139:ASP:OD1	57:YA:139:ASP:N	2.42	0.51
58:ZA:86:LYS:HB2	58:ZA:114:TYR:CE2	2.46	0.51
62:DB:92:TYR:HA	62:DB:100:ARG:O	2.11	0.51
62:DB:140:ASP:O	62:DB:143:LYS:HG3	2.11	0.51
75:RB:522:C:O2'	75:RB:523:C:OP1	2.21	0.51
75:RB:692:U:O2'	75:RB:697:A:N6	2.42	0.51
75:RB:1026:A:H2'	75:RB:1027:C:H6	1.75	0.51
75:RB:3220:G:H2'	75:RB:3221:G:H8	1.76	0.51
79:cl:60:A:H5''	79:cl:61:C:C5	2.46	0.51
1:aa:201:G:H2'	1:aa:202:C:O4'	2.11	0.50
1:aa:494:G:C8	1:aa:495:C:H5	2.29	0.50
1:aa:864:A:H2'	14:pa:73:ARG:HH12	1.77	0.50
1:aa:991:G:H2'	1:aa:992:G:O4'	2.10	0.50
2:ba:25:ARG:NH2	8:ja:60:GLU:OE1	2.43	0.50
7:ia:74:GLN:NE2	7:ia:79:PHE:O	2.44	0.50
7:ia:167:TYR:O	7:ia:190:LEU:HD23	2.11	0.50
12:na:51:GLU:OE2	25:bb:64:ARG:NH2	2.43	0.50
18:ta:98:SER:HG	18:ta:100:GLN:HE21	1.58	0.50
20:va:5:ILE:HD13	20:va:28:PRO:HB2	1.93	0.50
31:hb:142:ARG:HB2	31:hb:150:VAL:CG2	2.41	0.50
37:EA:36:ALA:HB2	37:EA:49:PHE:HE2	1.75	0.50
37:EA:88:VAL:HG22	37:EA:112:ILE:HG23	1.93	0.50
43:KA:69:ILE:H	43:KA:69:ILE:HD12	1.76	0.50
43:KA:265:ARG:NH2	43:KA:269:LYS:HG3	2.26	0.50
56:XA:7:VAL:HG21	57:YA:153:LEU:HD21	1.92	0.50
58:ZA:63:VAL:HG22	58:ZA:76:SER:CB	2.41	0.50
59:AB:97:LEU:HA	59:AB:100:MET:HG3	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:DB:249:LEU:N	75:RB:1885:G:OP1	2.40	0.50
63:EB:164:ILE:HG12	63:EB:221:ILE:HG22	1.93	0.50
75:RB:174:G:H2'	75:RB:175:G:H8	1.75	0.50
75:RB:493:G:H2'	75:RB:494:C:O4'	2.11	0.50
75:RB:596:C:H2'	75:RB:597:C:C6	2.46	0.50
75:RB:2211:G:H2'	75:RB:2212:A:H8	1.76	0.50
75:RB:3095:C:N3	75:RB:3132:G:O2'	2.40	0.50
1:aa:522:A:O2'	1:aa:538:A:N6	2.44	0.50
1:aa:1172:G:H21	10:la:145:GLN:NE2	2.10	0.50
1:aa:1572:U:O2'	13:oa:82:TRP:O	2.29	0.50
1:aa:1742:A:H2'	1:aa:1743:C:C6	2.45	0.50
9:ka:56:ARG:HG2	9:ka:57:PHE:CD2	2.46	0.50
12:na:77:ALA:O	12:na:81:VAL:HG23	2.11	0.50
12:na:138:ASP:OD1	12:na:139:SER:N	2.44	0.50
14:pa:129:TYR:HA	14:pa:132:THR:HG22	1.93	0.50
37:EA:168:LYS:HD2	37:EA:169:TYR:HB2	1.92	0.50
39:GA:43:LYS:HD3	39:GA:62:MET:HE2	1.94	0.50
41:IA:56:VAL:HG21	42:JA:180:ARG:CZ	2.42	0.50
47:OA:15:ILE:HD11	47:OA:34:ALA:HA	1.93	0.50
52:TA:104:LYS:HA	52:TA:107:LYS:NZ	2.26	0.50
60:BB:51:ILE:O	60:BB:55:ILE:HG12	2.11	0.50
64:FB:160:GLU:O	64:FB:163:GLU:HG2	2.11	0.50
70:LB:93:VAL:HG21	70:LB:106:ILE:HD12	1.93	0.50
75:RB:844:A:H2'	75:RB:845:G:C8	2.46	0.50
75:RB:1019:A:C8	75:RB:1021:U:H5''	2.46	0.50
75:RB:1580:C:H2'	75:RB:1581:C:C6	2.46	0.50
75:RB:1632:G:N2	75:RB:1635:A:OP2	2.38	0.50
75:RB:2399:C:H2'	75:RB:2400:C:H6	1.76	0.50
75:RB:2771:U:H2'	75:RB:2772:U:H6	1.76	0.50
75:RB:2968:A:O2'	79:cl:74:C:OP1	2.27	0.50
75:RB:3106:C:H2'	75:RB:3107:U:C6	2.46	0.50
1:aa:864:A:O2'	1:aa:865:U:OP1	2.21	0.50
1:aa:1092:A:H2'	1:aa:1093:A:C8	2.47	0.50
6:ha:17:HIS:HB2	6:ha:318:GLY:O	2.12	0.50
12:na:31:ALA:HB3	12:na:95:ILE:HD13	1.93	0.50
17:sa:50:ALA:HA	17:sa:93:ILE:HD13	1.92	0.50
18:ta:71:ARG:HG3	18:ta:73:ASN:HD22	1.76	0.50
28:eb:14:PHE:HE1	28:eb:42:ARG:CZ	2.24	0.50
45:MA:45:LYS:HE3	45:MA:100:GLU:OE2	2.11	0.50
48:PA:1:MET:HE3	75:RB:694:U:H4'	1.92	0.50
48:PA:26:ARG:O	48:PA:30:MET:HG2	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:DB:230:GLU:HA	75:RB:1883:A:H4'	1.94	0.50
1:aa:244:C:H4'	1:aa:245:C:H5	1.76	0.50
1:aa:298:C:C2	1:aa:299:A:C8	3.00	0.50
1:aa:331:U:O4	1:aa:332:A:N6	2.44	0.50
1:aa:929:A:H2'	1:aa:930:G:C8	2.47	0.50
7:ia:17:PHE:CZ	7:ia:21:LEU:HD11	2.46	0.50
18:ta:76:LEU:HD13	18:ta:79:ARG:HH12	1.76	0.50
24:za:13:SER:OG	24:za:16:GLU:HG2	2.11	0.50
28:eb:148:PHE:HD2	28:eb:150:VAL:HG12	1.75	0.50
35:CA:89:VAL:HG13	35:CA:122:ARG:NH2	2.27	0.50
36:DA:71:HIS:ND1	75:RB:1648:C:H5''	2.26	0.50
39:GA:45:ILE:HD13	39:GA:53:PRO:HB3	1.94	0.50
41:IA:115:PRO:HD3	42:JA:92:TYR:CZ	2.46	0.50
42:JA:23:ASP:OD1	63:EB:36:ARG:NE	2.44	0.50
43:KA:79:TYR:O	43:KA:82:GLU:HG2	2.11	0.50
47:OA:25:ARG:NH2	47:OA:27:ASP:OD2	2.45	0.50
50:RA:31:TYR:CZ	50:RA:35:LEU:HD11	2.46	0.50
59:AB:28:ARG:HB2	59:AB:31:ASP:OD1	2.12	0.50
65:GB:17:ARG:O	65:GB:23:ARG:NH1	2.42	0.50
66:HB:66:GLU:O	66:HB:69:ARG:HG2	2.10	0.50
75:RB:2101:A:H2'	75:RB:2102:C:C6	2.47	0.50
75:RB:2135:U:O2'	75:RB:2973:A:O2'	2.25	0.50
75:RB:2880:U:H2'	75:RB:2881:C:C6	2.46	0.50
76:SB:155:U:H2'	76:SB:156:C:O4'	2.11	0.50
1:aa:565:G:H2'	1:aa:566:G:H8	1.77	0.50
1:aa:1723:G:C2	1:aa:1724:U:C2	2.99	0.50
6:ha:139:ILE:O	6:ha:140:LYS:HD3	2.11	0.50
9:ka:149:LEU:HD23	9:ka:185:ALA:HA	1.94	0.50
9:ka:154:ALA:N	9:ka:172:GLU:OE1	2.44	0.50
19:ua:45:THR:N	19:ua:63:VAL:O	2.44	0.50
19:ua:48:ARG:HE	19:ua:58:LEU:HD21	1.77	0.50
34:BA:8:ARG:HH21	34:BA:15:PHE:HD2	1.58	0.50
43:KA:104:LEU:HD21	43:KA:108:ARG:HH22	1.77	0.50
53:UA:17:THR:HG22	53:UA:18:LEU:N	2.26	0.50
57:YA:14:ARG:HD2	57:YA:24:PRO:HG2	1.92	0.50
60:BB:116:PRO:HG3	69:KB:128:ARG:NE	2.26	0.50
62:DB:230:GLU:OE2	62:DB:273:ASN:ND2	2.42	0.50
62:DB:253:ALA:HB3	75:RB:2877:U:O2	2.12	0.50
62:DB:254:CYS:SG	75:RB:2941:U:H1'	2.52	0.50
64:FB:94:PRO:HD3	75:RB:1179:C:H4'	1.93	0.50
75:RB:3212:G:O6	75:RB:3249:C:N4	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:95:U:O2'	8:ja:8:HIS:ND1	2.39	0.50
1:aa:345:A:H2'	1:aa:346:C:H6	1.77	0.50
1:aa:355:U:H3'	1:aa:356:G:H5'	1.94	0.50
1:aa:765:U:C2	1:aa:766:A:C8	2.99	0.50
1:aa:1668:A:H2'	1:aa:1669:U:C6	2.47	0.50
2:ba:89:LYS:HZ1	2:ba:102:LEU:HD12	1.76	0.50
2:ba:92:GLU:OE1	2:ba:96:ARG:NE	2.44	0.50
6:ha:303:SER:O	6:ha:311:LEU:HD12	2.11	0.50
19:ua:46:GLN:HE22	19:ua:85:LEU:HD23	1.76	0.50
21:wa:19:ARG:CZ	21:wa:32:ARG:HE	2.25	0.50
24:za:29:LEU:HD23	24:za:52:ILE:HG22	1.94	0.50
25:bb:65:VAL:HG11	25:bb:85:ARG:NH2	2.27	0.50
26:cb:12:TYR:N	29:fb:64:GLU:OE1	2.32	0.50
31:hb:80:LEU:HA	31:hb:83:GLU:OE1	2.12	0.50
35:CA:19:ALA:O	74:PB:77:PRO:HG2	2.12	0.50
36:DA:125:VAL:HB	75:RB:2170:G:C5	2.46	0.50
53:UA:34:CYS:N	53:UA:39:TYR:O	2.41	0.50
62:DB:30:LYS:HD2	75:RB:3134:U:OP2	2.11	0.50
70:LB:213:LYS:O	70:LB:217:MET:HG3	2.12	0.50
75:RB:172:A:H2'	75:RB:173:C:C6	2.47	0.50
75:RB:592:U:H2'	75:RB:593:G:H8	1.76	0.50
75:RB:657:A:C8	75:RB:2353:C:C4	2.98	0.50
75:RB:1655:G:H2'	75:RB:1656:C:C6	2.47	0.50
75:RB:2663:C:OP2	75:RB:2684:G:N1	2.40	0.50
75:RB:3219:C:H2'	75:RB:3220:G:H8	1.76	0.50
1:aa:774:C:H1'	28:eb:145:VAL:HG21	1.94	0.50
1:aa:1388:A:O2'	1:aa:1389:G:H5''	2.11	0.50
5:ga:54:ILE:HG21	5:ga:70:ARG:HG3	1.93	0.50
8:ja:58:TYR:CE1	8:ja:80:LYS:HE2	2.46	0.50
8:ja:191:ARG:HH21	8:ja:245:LYS:HB3	1.75	0.50
13:oa:112:GLU:OE2	13:oa:116:LYS:HE3	2.11	0.50
17:sa:96:PRO:HG3	17:sa:121:ILE:HD12	1.92	0.50
18:ta:44:ASP:HB3	18:ta:45:GLN:OE1	2.12	0.50
31:hb:44:LEU:HD22	31:hb:69:LEU:HD12	1.92	0.50
43:KA:48:LYS:HD2	43:KA:144:LEU:HD11	1.94	0.50
51:SA:52:MET:HB3	51:SA:85:ARG:HD3	1.94	0.50
51:SA:64:ASN:HD22	75:RB:1462:C:C1'	2.25	0.50
51:SA:84:ALA:HB1	51:SA:86:LYS:NZ	2.26	0.50
61:CB:239:LEU:HD11	61:CB:243:MET:HE2	1.93	0.50
66:HB:170:LYS:HA	66:HB:176:PHE:O	2.10	0.50
67:IB:1:MET:HB2	67:IB:5:TRP:NE1	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:MB:95:PRO:HG3	75:RB:428:G:O4'	2.10	0.50
74:PB:71:ARG:NH2	75:RB:1737:C:OP1	2.45	0.50
75:RB:644:U:H2'	75:RB:645:C:C6	2.47	0.50
75:RB:887:A:OP2	75:RB:2133:A:N6	2.44	0.50
75:RB:1345:U:H2'	75:RB:1346:C:H6	1.77	0.50
75:RB:1514:U:H5''	75:RB:1515:U:C5	2.46	0.50
75:RB:1648:C:C2	75:RB:1801:G:N2	2.80	0.50
77:TB:45:U:H2'	77:TB:46:C:C6	2.47	0.50
1:aa:467:U:H2'	1:aa:468:A:H8	1.77	0.50
1:aa:1041:A:H2'	1:aa:1042:C:C6	2.46	0.50
1:aa:1053:C:O3'	22:xa:71:GLY:HA3	2.12	0.50
1:aa:1498:A:H4'	1:aa:1499:U:OP1	2.12	0.50
1:aa:1500:A:H1'	1:aa:1501:G:C8	2.47	0.50
3:ca:109:PRO:HA	3:ca:112:GLN:HE21	1.77	0.50
14:pa:62:LEU:O	14:pa:65:SER:OG	2.25	0.50
31:hb:102:VAL:HG12	31:hb:117:ARG:HB3	1.92	0.50
33:AA:60:ARG:HH22	40:HA:29:GLU:CD	2.20	0.50
33:AA:134:HIS:O	33:AA:138:LEU:HG	2.11	0.50
57:YA:40:LYS:HE3	57:YA:60:MET:HG2	1.93	0.50
66:HB:183:LYS:O	66:HB:186:SER:OG	2.22	0.50
67:IB:7:LYS:O	67:IB:11:ARG:HG3	2.11	0.50
75:RB:420:A:C2	75:RB:2356:A:H4'	2.47	0.50
75:RB:953:G:N1	75:RB:1372:U:OP2	2.24	0.50
75:RB:2582:G:OP1	75:RB:2582:G:H2'	2.12	0.50
75:RB:3043:C:O2'	75:RB:3044:A:H5'	2.12	0.50
1:aa:475:A:H1'	28:eb:10:TYR:CD1	2.47	0.50
4:da:61:TRP:O	4:da:62:GLN:HG3	2.11	0.50
33:AA:110:ARG:HH11	33:AA:122:ALA:HB2	1.77	0.50
34:BA:15:PHE:CD1	34:BA:44:VAL:HG21	2.47	0.50
36:DA:117:GLU:HG2	36:DA:124:GLY:H	1.76	0.50
46:NA:78:THR:HG22	46:NA:151:ILE:HG23	1.93	0.50
53:UA:33:THR:HA	53:UA:40:PRO:HD3	1.93	0.50
55:WA:23:HIS:HA	55:WA:74:CYS:HA	1.93	0.50
57:YA:96:TYR:CE2	57:YA:108:MET:HB2	2.47	0.50
57:YA:98:ASP:OD1	57:YA:99:THR:N	2.45	0.50
68:JB:109:ASN:HD22	75:RB:1212:U:H2'	1.76	0.50
75:RB:11:A:H61	76:SB:148:C:N4	2.07	0.50
75:RB:297:G:H2'	75:RB:298:G:H8	1.77	0.50
75:RB:607:U:H4'	75:RB:608:G:OP1	2.10	0.50
75:RB:657:A:N7	75:RB:2353:C:N4	2.59	0.50
75:RB:991:C:H2'	75:RB:992:U:C6	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:2283:C:H2'	75:RB:2284:A:H8	1.77	0.50
75:RB:2697:G:N2	75:RB:2752:C:C4	2.80	0.50
75:RB:2896:C:O2'	75:RB:2898:G:OP2	2.20	0.50
1:aa:1441:C:H42	4:da:25:LYS:NZ	2.10	0.49
1:aa:1647:C:H2'	1:aa:1648:C:O4'	2.12	0.49
8:ja:136:ILE:HD12	8:ja:148:ARG:HD2	1.94	0.49
10:la:146:LYS:HE3	10:la:148:TYR:CE1	2.47	0.49
29:fb:55:VAL:HG21	29:fb:78:ILE:HG23	1.93	0.49
36:DA:57:PRO:HG2	36:DA:78:ALA:HB3	1.93	0.49
42:JA:167:ARG:HE	75:RB:86:U:P	2.34	0.49
43:KA:206:TYR:CD1	77:TB:33:U:C2	3.00	0.49
60:BB:105:LEU:HD22	75:RB:111:C:H4'	1.94	0.49
62:DB:11:HIS:NE2	75:RB:2878:C:OP1	2.45	0.49
62:DB:251:LYS:HD2	75:RB:2386:G:OP1	2.12	0.49
75:RB:7:C:H2'	75:RB:8:C:C6	2.47	0.49
75:RB:41:C:O2'	75:RB:42:A:H5'	2.11	0.49
1:aa:15:U:H2'	1:aa:16:G:O4'	2.12	0.49
1:aa:606:U:H2'	1:aa:607:U:C6	2.47	0.49
1:aa:1466:A:N3	17:sa:137:HIS:HB3	2.28	0.49
1:aa:1592:G:O2'	1:aa:1618:G:O6	2.21	0.49
1:aa:1668:A:H2'	1:aa:1669:U:H6	1.78	0.49
3:ca:36:THR:OG1	3:ca:58:ALA:O	2.24	0.49
8:ja:38:ALA:HA	8:ja:41:CYS:SG	2.52	0.49
17:sa:92:MET:HE1	17:sa:98:MET:HE1	1.94	0.49
20:va:67:ARG:HD3	29:fb:240:TRP:CE2	2.46	0.49
25:bb:33:LYS:HG3	25:bb:232:HIS:CE1	2.46	0.49
36:DA:140:ASN:ND2	36:DA:143:ASN:OD1	2.45	0.49
37:EA:135:ARG:NH2	37:EA:160:ASP:OD1	2.45	0.49
42:JA:13:ARG:NH1	75:RB:1108:U:H5''	2.27	0.49
43:KA:106:ALA:O	43:KA:110:LEU:HD23	2.12	0.49
43:KA:225:TYR:OH	77:TB:48:G:OP1	2.21	0.49
62:DB:132:LYS:HZ3	75:RB:3279:C:H4'	1.78	0.49
75:RB:58:G:H2'	76:SB:33:A:H2'	1.93	0.49
75:RB:526:A:H2'	75:RB:527:G:H8	1.77	0.49
75:RB:879:A:H4'	75:RB:1886:U:H4'	1.94	0.49
75:RB:3250:U:H2'	75:RB:3251:C:C6	2.47	0.49
76:SB:17:A:H2'	76:SB:18:U:O4'	2.12	0.49
77:TB:37:G:H2'	77:TB:38:U:C6	2.47	0.49
1:aa:760:G:H3'	1:aa:761:A:H5'	1.93	0.49
1:aa:1579:C:H5''	1:aa:1580:G:OP2	2.12	0.49
4:da:63:HIS:CD2	7:ia:76:ARG:HH21	2.30	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:ga:106:ARG:HD3	5:ga:111:VAL:HG22	1.94	0.49
13:oa:127:TRP:CZ3	17:sa:134:PRO:HB3	2.46	0.49
15:qa:115:PRO:HD2	24:za:20:GLN:NE2	2.27	0.49
17:sa:77:PRO:HB2	17:sa:80:GLU:HG3	1.94	0.49
25:bb:91:VAL:HG12	25:bb:96:VAL:HG22	1.93	0.49
29:fb:76:HIS:O	29:fb:79:VAL:HG22	2.12	0.49
30:gb:2:LYS:O	30:gb:110:VAL:HA	2.12	0.49
37:EA:23:ILE:CD1	37:EA:35:ALA:HB1	2.42	0.49
42:JA:174:GLU:O	75:RB:783:A:N6	2.44	0.49
44:LA:28:GLU:OE1	44:LA:28:GLU:N	2.46	0.49
44:LA:86:GLU:HB3	75:RB:836:G:OP1	2.11	0.49
52:TA:70:ASN:HB3	52:TA:72:PHE:HD2	1.76	0.49
62:DB:28:LYS:HE3	75:RB:2999:G:H5'	1.93	0.49
63:EB:130:ALA:O	63:EB:134:THR:HG23	2.12	0.49
66:HB:43:VAL:HG13	66:HB:194:GLY:O	2.12	0.49
75:RB:129:G:H2'	75:RB:130:G:H8	1.76	0.49
75:RB:439:A:H2'	75:RB:440:U:O4'	2.11	0.49
75:RB:850:A:H2'	75:RB:851:A:C8	2.48	0.49
75:RB:1483:G:O4'	75:RB:1486:G:N2	2.44	0.49
1:aa:210:A:H2'	1:aa:211:G:O4'	2.13	0.49
1:aa:1225:A:H2'	1:aa:1226:U:H6	1.77	0.49
1:aa:1564:A:H5''	17:sa:124:TYR:HE1	1.76	0.49
1:aa:1726:G:H2'	1:aa:1727:C:N1	2.28	0.49
3:ca:210:PHE:HD2	3:ca:211:TYR:CD2	2.30	0.49
7:ia:157:MET:HE2	7:ia:187:LYS:HE3	1.93	0.49
8:ja:31:PRO:HB3	8:ja:43:PRO:HG3	1.94	0.49
8:ja:106:LYS:HE3	8:ja:108:ARG:NH1	2.21	0.49
11:ma:52:LYS:HA	11:ma:52:LYS:HE2	1.93	0.49
11:ma:69:LEU:HD22	21:wa:34:TYR:CZ	2.48	0.49
15:qa:5:ARG:HG2	15:qa:9:VAL:HG11	1.94	0.49
37:EA:36:ALA:HB2	37:EA:49:PHE:CE2	2.47	0.49
37:EA:49:PHE:HD1	37:EA:66:LYS:HD3	1.77	0.49
39:GA:99:GLU:HG3	47:OA:23:PHE:HZ	1.77	0.49
43:KA:134:PRO:HA	43:KA:140:PRO:HD3	1.95	0.49
43:KA:150:ILE:HD11	43:KA:158:VAL:HG21	1.93	0.49
48:PA:71:GLN:HB3	48:PA:80:HIS:HB2	1.93	0.49
49:QA:102:VAL:HG21	49:QA:123:LEU:HD22	1.93	0.49
59:AB:58:LYS:O	59:AB:61:THR:OG1	2.24	0.49
75:RB:267:G:N2	75:RB:293:A:OP2	2.30	0.49
75:RB:548:G:C2	75:RB:549:G:C8	3.00	0.49
75:RB:2191:A:N6	75:RB:2263:A:N1	2.60	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:cl:59:A:H2'	79:cl:60:A:C8	2.47	0.49
1:aa:1151:G:H4'	29:fb:100:THR:HA	1.94	0.49
1:aa:1203:G:N2	21:wa:30:LEU:O	2.43	0.49
2:ba:23:LEU:CD1	2:ba:25:ARG:HH12	2.26	0.49
2:ba:31:GLU:OE1	2:ba:76:THR:HG22	2.13	0.49
6:ha:245:LEU:HD13	6:ha:274:TRP:CE2	2.48	0.49
8:ja:12:LEU:HD21	8:ja:22:LYS:HG3	1.95	0.49
18:ta:82:LYS:NZ	18:ta:101:ILE:HG12	2.28	0.49
24:za:189:MET:SD	26:cb:39:VAL:HG11	2.53	0.49
25:bb:66:PHE:HE1	25:bb:88:ALA:HB2	1.77	0.49
25:bb:149:GLN:HG2	25:bb:151:LYS:HG2	1.95	0.49
29:fb:185:GLY:N	29:fb:205:ASP:OD2	2.45	0.49
37:EA:14:ILE:HG21	37:EA:133:LEU:HD23	1.94	0.49
40:HA:114:ARG:HD2	40:HA:137:VAL:CG1	2.41	0.49
41:IA:69:TYR:CD1	69:KB:64:LYS:HG3	2.47	0.49
49:QA:4:VAL:HB	49:QA:8:LEU:HD23	1.94	0.49
49:QA:67:LYS:HD2	49:QA:130:LEU:HB3	1.92	0.49
61:CB:36:LYS:NZ	75:RB:608:G:OP1	2.43	0.49
62:DB:29:VAL:HG13	62:DB:343:ARG:HD3	1.95	0.49
62:DB:113:ASP:HB3	62:DB:169:ARG:NH2	2.27	0.49
63:EB:121:ARG:NE	75:RB:679:C:H4'	2.27	0.49
64:FB:41:VAL:HB	64:FB:113:VAL:HG12	1.93	0.49
68:JB:110:CYS:SG	68:JB:111:ARG:N	2.83	0.49
75:RB:1056:U:H2'	75:RB:1057:A:O4'	2.12	0.49
75:RB:1137:G:O2'	75:RB:2639:A:N3	2.36	0.49
75:RB:1738:A:H2'	75:RB:1739:G:O4'	2.13	0.49
75:RB:2509:C:H2'	75:RB:2510:U:C6	2.48	0.49
75:RB:3152:C:H2'	75:RB:3153:C:C6	2.47	0.49
1:aa:277:G:P	1:aa:277:G:H8	2.36	0.49
1:aa:308:U:H2'	1:aa:309:C:C6	2.47	0.49
1:aa:1131:G:H4'	67:IB:11:ARG:HH22	1.77	0.49
1:aa:1131:G:P	67:IB:15:ARG:HH21	2.35	0.49
1:aa:1465:C:OP1	13:oa:124:ARG:NH1	2.46	0.49
1:aa:1533:A:H2'	1:aa:1534:A:C8	2.46	0.49
1:aa:1601:A:H2'	1:aa:1602:G:C8	2.47	0.49
9:ka:95:ILE:CD1	9:ka:167:GLU:HG3	2.43	0.49
14:pa:33:VAL:O	14:pa:37:ILE:HG12	2.12	0.49
16:ra:69:ARG:O	16:ra:73:MET:HG3	2.13	0.49
30:gb:26:ASN:HB2	30:gb:40:LEU:HD11	1.95	0.49
37:EA:19:LEU:HD23	37:EA:78:ALA:HB1	1.95	0.49
44:LA:140:GLU:O	44:LA:144:LYS:HG2	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:PA:31:SER:HA	48:PA:48:PRO:HA	1.93	0.49
57:YA:32:TRP:CH2	57:YA:101:LEU:HG	2.47	0.49
63:EB:98:MET:HB2	75:RB:662:G:N2	2.28	0.49
69:KB:190:ARG:HB3	69:KB:190:ARG:CZ	2.41	0.49
75:RB:535:G:O2'	75:RB:536:C:O5'	2.29	0.49
75:RB:2196:U:H2'	75:RB:2197:C:C6	2.47	0.49
75:RB:2503:A:H2'	75:RB:2504:U:C6	2.46	0.49
1:aa:10:G:O2'	29:fb:97:GLN:OE1	2.27	0.49
1:aa:44:U:OP2	1:aa:441:A:N6	2.32	0.49
1:aa:279:C:H2'	1:aa:282:C:C2	2.48	0.49
1:aa:778:G:H21	1:aa:780:A:H1'	1.78	0.49
1:aa:785:A:H5''	1:aa:786:U:H5''	1.95	0.49
1:aa:1681:G:H2'	1:aa:1682:U:H6	1.77	0.49
1:aa:1750:A:H2'	1:aa:1751:U:C6	2.48	0.49
1:aa:1807:A:N6	27:db:84:VAL:HB	2.28	0.49
6:ha:89:LEU:HD12	6:ha:99:LEU:HD13	1.94	0.49
8:ja:42:LEU:HG	8:ja:109:PHE:HD1	1.77	0.49
12:na:28:PHE:HZ	27:db:58:VAL:HG11	1.76	0.49
15:qa:101:GLU:OE2	24:za:46:ARG:HA	2.12	0.49
25:bb:120:LEU:HD13	25:bb:142:PHE:CE1	2.48	0.49
26:cb:12:TYR:HB2	29:fb:68:LEU:HD12	1.95	0.49
26:cb:72:TRP:O	26:cb:75:ARG:NH2	2.46	0.49
28:eb:120:MET:HE3	28:eb:160:PHE:HE1	1.77	0.49
35:CA:109:VAL:O	35:CA:113:LYS:HG2	2.13	0.49
37:EA:100:ASP:OD1	37:EA:158:LYS:HD2	2.13	0.49
46:NA:81:SER:O	46:NA:85:LYS:HG2	2.12	0.49
48:PA:124:GLY:HA3	75:RB:183:C:O2'	2.12	0.49
51:SA:21:THR:OG1	51:SA:80:ARG:NH1	2.46	0.49
54:VA:44:TRP:HB3	75:RB:1497:U:OP1	2.12	0.49
71:MB:46:VAL:HG21	71:MB:79:PRO:HB3	1.95	0.49
75:RB:2201:A:HO2'	75:RB:2202:U:H2'	1.78	0.49
76:SB:69:U:H2'	76:SB:70:G:O4'	2.11	0.49
77:TB:107:C:H2'	77:TB:108:G:H8	1.78	0.49
1:aa:187:C:H2'	1:aa:188:U:H6	1.77	0.49
1:aa:782:G:H2'	1:aa:783:C:C6	2.47	0.49
2:ba:61:ILE:HD13	2:ba:81:ILE:HD13	1.94	0.49
3:ca:3:ILE:O	3:ca:30:GLY:N	2.41	0.49
7:ia:191:ASP:OD1	7:ia:192:TRP:N	2.46	0.49
8:ja:66:MET:SD	8:ja:78:THR:OG1	2.71	0.49
8:ja:214:GLN:NE2	8:ja:244:ILE:HG21	2.28	0.49
13:oa:57:GLY:H	13:oa:59:LEU:CD2	2.25	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:oa:136:THR:O	13:oa:136:THR:HG22	2.12	0.49
15:qa:111:MET:HB3	15:qa:114:LEU:HD21	1.94	0.49
16:ra:92:TYR:C	16:ra:108:SER:HB3	2.37	0.49
35:CA:16:GLY:C	35:CA:18:PHE:H	2.21	0.49
40:HA:16:SER:HB2	59:AB:51:ALA:O	2.13	0.49
40:HA:186:PRO:HB3	75:RB:61:A:N3	2.27	0.49
42:JA:51:ARG:HB3	42:JA:82:VAL:HG11	1.93	0.49
43:KA:210:LEU:HB3	43:KA:218:TYR:HB2	1.94	0.49
68:JB:93:LYS:HD3	68:JB:103:LEU:O	2.13	0.49
69:KB:87:LYS:NZ	75:RB:155:G:H21	2.11	0.49
70:LB:60:THR:HG22	75:RB:613:G:H5''	1.95	0.49
74:PB:58:ARG:HD3	74:PB:59:PRO:CD	2.41	0.49
74:PB:95:PHE:HD2	74:PB:96:LEU:HD12	1.78	0.49
75:RB:540:G:O2'	75:RB:541:C:H5'	2.13	0.49
75:RB:1577:A:H5''	75:RB:1579:C:H5	1.78	0.49
75:RB:1795:A:H2'	75:RB:1796:A:H8	1.78	0.49
75:RB:3080:C:O2'	75:RB:3319:U:OP1	2.24	0.49
1:aa:643:U:C6	31:hb:119:LEU:HB2	2.40	0.49
1:aa:894:U:H2'	1:aa:895:U:H6	1.76	0.49
1:aa:1015:C:H2'	1:aa:1016:C:O4'	2.13	0.49
1:aa:1187:A:H2'	1:aa:1188:A:C8	2.48	0.49
1:aa:1199:C:N4	10:la:149:ARG:O	2.43	0.49
1:aa:1489:A:N3	1:aa:1615:G:O2'	2.41	0.49
1:aa:1680:A:H2'	1:aa:1681:G:H8	1.78	0.49
25:bb:136:ARG:HH21	25:bb:218:LEU:HD11	1.78	0.49
28:eb:68:ASN:O	28:eb:72:ILE:HD12	2.13	0.49
29:fb:176:THR:OG1	29:fb:211:ARG:HB3	2.13	0.49
34:BA:83:ARG:NH2	34:BA:85:ILE:HD11	2.28	0.49
38:FA:154:SER:OG	75:RB:3106:C:O3'	2.26	0.49
53:UA:18:LEU:HD21	54:VA:51:PHE:HB2	1.95	0.49
56:XA:37:LEU:HD11	57:YA:74:ILE:HG23	1.95	0.49
61:CB:120:LYS:HG3	61:CB:197:PHE:CE1	2.48	0.49
63:EB:340:ARG:HH21	75:RB:562:G:P	2.36	0.49
74:PB:8:ARG:N	74:PB:34:TYR:OH	2.42	0.49
75:RB:1507:A:C5	75:RB:1508:C:C5	3.01	0.49
75:RB:1914:C:N4	75:RB:1931:G:O6	2.46	0.49
75:RB:2425:U:H2'	75:RB:2426:U:C6	2.47	0.49
75:RB:3210:U:H2'	75:RB:3211:G:O4'	2.12	0.49
75:RB:3339:U:H5''	75:RB:3340:G:OP2	2.13	0.49
1:aa:494:G:C8	1:aa:495:C:C5	3.01	0.49
1:aa:571:A:H1'	23:ya:14:VAL:HG23	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:1179:C:H2'	1:aa:1180:U:C6	2.48	0.49
1:aa:1231:A:O4'	1:aa:1260:A:N6	2.45	0.49
1:aa:1492:G:N1	1:aa:1530:G:O6	2.46	0.49
6:ha:69:LEU:HD23	6:ha:100:TRP:CG	2.47	0.49
6:ha:162:HIS:CE1	6:ha:190:LYS:HE2	2.48	0.49
10:la:21:THR:OG1	10:la:78:GLY:HA2	2.13	0.49
15:qa:106:LEU:HB3	15:qa:111:MET:O	2.13	0.49
16:ra:46:TRP:HZ3	16:ra:50:VAL:HG21	1.78	0.49
17:sa:99:ILE:HA	17:sa:116:ILE:HG22	1.95	0.49
28:eb:126:HIS:CE1	28:eb:130:LEU:HD11	2.48	0.49
29:fb:179:MET:HE1	29:fb:227:CYS:HB3	1.94	0.49
29:fb:198:LEU:HD13	29:fb:206:VAL:HG11	1.95	0.49
34:BA:25:ILE:HG21	34:BA:30:TYR:HE1	1.78	0.49
38:FA:27:VAL:HG12	38:FA:83:VAL:HG11	1.95	0.49
38:FA:97:HIS:HD1	38:FA:98:PHE:HD2	1.60	0.49
39:GA:129:TRP:HB3	39:GA:132:ILE:HD13	1.95	0.49
42:JA:64:MET:CE	42:JA:87:ASP:HA	2.42	0.49
42:JA:153:LYS:HG3	42:JA:160:SER:HB3	1.94	0.49
51:SA:18:ARG:NH2	51:SA:20:TYR:OH	2.41	0.49
60:BB:32:GLN:O	60:BB:35:ILE:HB	2.13	0.49
62:DB:12:GLY:HA3	62:DB:236:TRP:CE3	2.48	0.49
62:DB:132:LYS:NZ	75:RB:3279:C:H4'	2.27	0.49
66:HB:87:LEU:HA	66:HB:138:VAL:HG12	1.94	0.49
68:JB:102:ARG:HH21	75:RB:2893:A:P	2.35	0.49
75:RB:207:U:H4'	75:RB:209:G:N7	2.28	0.49
75:RB:1037:U:H2'	75:RB:1038:C:C6	2.47	0.49
1:aa:488:C:C2	1:aa:489:C:H1'	2.48	0.48
1:aa:1399:G:OP2	15:qa:59:ARG:NH2	2.39	0.48
2:ba:46:LYS:HD2	2:ba:61:ILE:HG23	1.95	0.48
4:da:41:GLN:O	4:da:45:LEU:HG	2.12	0.48
7:ia:178:ARG:HD2	7:ia:179:GLN:HG3	1.94	0.48
9:ka:104:PRO:O	9:ka:108:ILE:HG12	2.13	0.48
32:ib:126:ILE:HG22	32:ib:140:VAL:HA	1.95	0.48
34:BA:28:THR:HG23	77:TB:9:U:OP1	2.12	0.48
42:JA:86:THR:HG22	42:JA:105:THR:HG21	1.94	0.48
43:KA:34:LEU:O	43:KA:38:ASN:HB2	2.12	0.48
43:KA:104:LEU:HD21	43:KA:108:ARG:NH2	2.28	0.48
43:KA:216:GLU:HG2	43:KA:217:LYS:N	2.27	0.48
50:RA:31:TYR:CD2	50:RA:60:ILE:HD11	2.48	0.48
58:ZA:26:ASP:HB3	58:ZA:115:GLU:HA	1.95	0.48
75:RB:581:G:H2'	75:RB:582:C:H6	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:1181:A:N3	75:RB:1332:C:O2'	2.46	0.48
75:RB:1204:A:H5'	75:RB:1205:C:OP1	2.12	0.48
75:RB:1367:A:H2'	75:RB:1368:U:O4'	2.13	0.48
75:RB:1429:U:H2'	75:RB:1430:C:H6	1.78	0.48
75:RB:1573:G:H2'	75:RB:1574:C:C6	2.48	0.48
75:RB:1891:A:O2'	75:RB:3049:G:H4'	2.13	0.48
75:RB:2233:G:H2'	75:RB:2234:U:O4'	2.13	0.48
75:RB:2778:U:H2'	75:RB:2779:U:O4'	2.13	0.48
75:RB:2929:C:O2'	75:RB:2931:A:N7	2.37	0.48
75:RB:3241:U:H2'	75:RB:3242:C:C6	2.47	0.48
76:SB:157:A:H2'	76:SB:158:C:O4'	2.13	0.48
1:aa:491:G:O6	1:aa:503:U:O2	2.31	0.48
1:aa:573:C:H41	5:ga:66:ARG:NH2	2.08	0.48
1:aa:808:G:H21	20:va:106:PRO:HG3	1.78	0.48
1:aa:937:A:OP2	25:bb:155:TYR:OH	2.20	0.48
1:aa:1636:U:H5'	27:db:88:SER:HA	1.95	0.48
5:ga:124:VAL:O	5:ga:127:VAL:HG12	2.13	0.48
6:ha:230:VAL:HG12	6:ha:246:ASP:OD1	2.12	0.48
8:ja:5:LEU:HB2	8:ja:7:LYS:HE3	1.94	0.48
10:la:75:VAL:HG21	10:la:87:ILE:HD11	1.95	0.48
10:la:83:GLN:O	10:la:87:ILE:HG12	2.12	0.48
25:bb:144:LYS:HG2	25:bb:208:GLN:HB3	1.95	0.48
32:ib:3:GLU:OE1	32:ib:3:GLU:N	2.36	0.48
37:EA:89:LYS:NZ	37:EA:108:ILE:HG22	2.28	0.48
38:FA:5:LEU:HD12	38:FA:59:TRP:CH2	2.48	0.48
46:NA:72:ILE:HG13	46:NA:100:ALA:HB2	1.94	0.48
50:RA:50:ASN:OD1	50:RA:51:ASN:N	2.45	0.48
56:XA:36:ALA:HB2	56:XA:50:PHE:CE1	2.47	0.48
62:DB:380:LYS:HD3	75:RB:3316:C:OP1	2.13	0.48
70:LB:149:ARG:HG3	75:RB:3257:U:C4	2.47	0.48
74:PB:87:VAL:O	74:PB:91:ILE:HG12	2.12	0.48
75:RB:489:C:O2'	75:RB:490:G:O5'	2.29	0.48
75:RB:974:G:H2'	75:RB:975:G:H8	1.78	0.48
75:RB:1345:U:H2'	75:RB:1346:C:C6	2.47	0.48
75:RB:2581:G:H5'	75:RB:2582:G:OP2	2.12	0.48
1:aa:108:C:OP1	1:aa:387:G:O2'	2.26	0.48
1:aa:261:C:O2	3:ca:197:ARG:NH2	2.46	0.48
1:aa:487:A:N6	1:aa:507:G:O6	2.44	0.48
1:aa:1175:G:C2	1:aa:1176:A:C8	3.01	0.48
1:aa:1523:A:H1'	1:aa:1526:C:N4	2.28	0.48
1:aa:1618:G:OP1	9:ka:47:HIS:NE2	2.42	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:da:67:TYR:OH	7:ia:65:ARG:NH2	2.44	0.48
6:ha:62:TYR:CD1	6:ha:322:ILE:HG21	2.48	0.48
6:ha:193:ASN:N	6:ha:198:LYS:O	2.41	0.48
10:la:44:LEU:O	10:la:46:ARG:HG3	2.13	0.48
15:qa:105:MET:HE3	24:za:52:ILE:CD1	2.43	0.48
15:qa:106:LEU:HD12	15:qa:114:LEU:HD21	1.95	0.48
24:za:13:SER:OG	24:za:15:LYS:HB3	2.13	0.48
24:za:153:ASP:N	24:za:156:SER:OG	2.45	0.48
28:eb:87:LEU:HD11	28:eb:105:ASN:HB3	1.94	0.48
44:LA:96:MET:HE1	75:RB:1660:C:H5'	1.95	0.48
49:QA:91:MET:HB2	49:QA:98:MET:HE1	1.95	0.48
51:SA:60:ASP:OD2	51:SA:61:VAL:N	2.46	0.48
62:DB:36:ASP:HB2	62:DB:39:LYS:NZ	2.28	0.48
75:RB:2090:G:H2'	75:RB:2091:U:H6	1.77	0.48
75:RB:2142:A:H2'	75:RB:2143:A:C8	2.48	0.48
1:aa:511:U:H5'	1:aa:512:U:OP2	2.13	0.48
1:aa:570:C:N4	1:aa:580:G:O2'	2.44	0.48
1:aa:824:U:O2	1:aa:858:G:C2	2.65	0.48
1:aa:1509:C:N4	1:aa:1515:G:O6	2.47	0.48
2:ba:10:VAL:HG23	2:ba:48:ARG:HH22	1.78	0.48
2:ba:61:ILE:HD13	2:ba:81:ILE:CD1	2.44	0.48
10:la:32:ARG:HG3	10:la:33:GLY:H	1.78	0.48
25:bb:125:VAL:CG2	25:bb:137:MET:HB2	2.43	0.48
39:GA:68:GLY:H	39:GA:73:ARG:NH2	2.08	0.48
48:PA:59:ARG:NH2	75:RB:188:U:H2'	2.29	0.48
54:VA:15:LYS:O	54:VA:19:GLN:HG2	2.14	0.48
58:ZA:49:ILE:HG21	58:ZA:59:LEU:HD21	1.95	0.48
61:CB:140:TYR:CE2	61:CB:233:GLU:HB2	2.49	0.48
65:GB:3:LYS:HE2	65:GB:5:THR:O	2.13	0.48
75:RB:1650:G:H2'	75:RB:1651:A:C8	2.47	0.48
75:RB:2513:U:H2'	75:RB:2514:U:C6	2.47	0.48
75:RB:2882:C:O2'	75:RB:2883:U:H5'	2.13	0.48
76:SB:131:G:H2'	76:SB:132:C:C6	2.48	0.48
1:aa:244:C:H4'	1:aa:245:C:C5	2.48	0.48
1:aa:452:C:H2'	1:aa:453:C:C6	2.47	0.48
1:aa:930:G:H2'	1:aa:931:A:H8	1.77	0.48
1:aa:1621:U:H2'	1:aa:1622:A:C8	2.46	0.48
1:aa:1672:U:H2'	1:aa:1673:C:H6	1.78	0.48
2:ba:19:THR:HG23	2:ba:26:LYS:HD2	1.95	0.48
6:ha:227:LYS:HD2	6:ha:250:ILE:HD12	1.95	0.48
6:ha:232:LEU:HD22	6:ha:241:ARG:NE	2.25	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:na:87:GLU:HG3	12:na:87:GLU:O	2.14	0.48
13:oa:23:LYS:CG	18:ta:35:GLU:HB3	2.44	0.48
25:bb:66:PHE:CE1	25:bb:88:ALA:HB2	2.48	0.48
30:gb:57:ASP:HA	30:gb:109:SER:H	1.79	0.48
36:DA:113:ILE:HG22	36:DA:166:ILE:HD13	1.94	0.48
49:QA:122:ARG:NH1	52:TA:88:MET:HE1	2.22	0.48
60:BB:46:ASN:OD1	60:BB:47:ARG:N	2.46	0.48
62:DB:103:ASN:OD1	62:DB:104:SER:N	2.44	0.48
62:DB:230:GLU:HG2	62:DB:234:THR:OG1	2.12	0.48
74:PB:37:LYS:HB2	74:PB:58:ARG:NH2	2.29	0.48
75:RB:838:G:O2'	75:RB:860:G:N2	2.33	0.48
75:RB:1176:U:H2'	75:RB:1183:C:C6	2.48	0.48
75:RB:2744:A:H2'	75:RB:2745:A:C8	2.48	0.48
75:RB:3339:U:C3'	75:RB:3340:G:H5''	2.44	0.48
1:aa:781:A:H2'	1:aa:782:G:H8	1.79	0.48
1:aa:1351:U:C4	11:ma:64:MET:HE1	2.49	0.48
1:aa:1390:A:H2'	1:aa:1391:G:O4'	2.13	0.48
6:ha:155:ASP:O	6:ha:159:GLY:N	2.46	0.48
6:ha:190:LYS:HD2	6:ha:202:THR:HG23	1.96	0.48
6:ha:200:ARG:NH2	6:ha:239:GLY:H	2.12	0.48
10:la:110:GLU:O	10:la:114:ILE:HG12	2.13	0.48
37:EA:140:VAL:HG21	77:TB:56:G:H1'	1.96	0.48
41:IA:69:TYR:CE1	69:KB:64:LYS:HG3	2.49	0.48
52:TA:87:MET:O	52:TA:90:ASN:ND2	2.46	0.48
63:EB:79:ILE:HD11	63:EB:99:CYS:SG	2.53	0.48
69:KB:10:ASN:O	69:KB:12:HIS:ND1	2.37	0.48
70:LB:55:ASP:O	70:LB:57:LYS:NZ	2.41	0.48
74:PB:76:ARG:HG3	74:PB:77:PRO:O	2.14	0.48
75:RB:275:G:H2'	75:RB:276:U:C6	2.49	0.48
75:RB:770:U:C2	75:RB:771:G:C8	3.02	0.48
75:RB:1071:G:H2'	75:RB:1072:C:C6	2.49	0.48
75:RB:1659:G:N2	75:RB:1783:G:N2	2.61	0.48
75:RB:1681:U:H2'	75:RB:1682:C:H6	1.77	0.48
75:RB:2435:G:N2	75:RB:2503:A:C8	2.82	0.48
75:RB:2532:G:H2'	75:RB:2533:G:O4'	2.14	0.48
75:RB:3047:U:H2'	75:RB:3048:G:H8	1.78	0.48
1:aa:108:C:H2'	1:aa:109:A:H8	1.79	0.48
1:aa:559:A:H2'	1:aa:560:A:C8	2.49	0.48
1:aa:867:A:O2'	1:aa:968:A:N6	2.47	0.48
1:aa:1325:A:OP2	24:za:106:ARG:NH2	2.47	0.48
6:ha:228:ASP:HB2	6:ha:230:VAL:HG22	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:ha:311:LEU:HD23	6:ha:323:TYR:HD1	1.78	0.48
16:ra:113:SER:O	16:ra:117:LEU:HG	2.13	0.48
18:ta:91:ARG:HH11	18:ta:103:THR:HG23	1.79	0.48
25:bb:139:ALA:HB2	25:bb:172:MET:SD	2.54	0.48
28:eb:42:ARG:O	28:eb:46:ARG:HG3	2.14	0.48
28:eb:88:LEU:HD21	28:eb:101:LEU:HD23	1.96	0.48
36:DA:221:HIS:NE2	75:RB:2962:U:O2	2.33	0.48
37:EA:98:PHE:HA	37:EA:104:PHE:HB3	1.95	0.48
38:FA:28:THR:HG23	38:FA:33:THR:HG22	1.96	0.48
41:IA:60:TYR:HE2	41:IA:63:LYS:HA	1.78	0.48
57:YA:84:GLN:OE1	77:TB:93:U:H4'	2.13	0.48
70:LB:99:LEU:HD12	70:LB:101:SER:H	1.79	0.48
75:RB:163:U:C4	75:RB:164:C:H1'	2.48	0.48
75:RB:506:U:H2'	75:RB:507:C:C6	2.48	0.48
75:RB:582:C:H2'	75:RB:583:C:C6	2.49	0.48
75:RB:1060:U:H2'	75:RB:1061:A:O4'	2.13	0.48
75:RB:1281:C:H1'	75:RB:1282:A:N7	2.29	0.48
75:RB:1316:C:H2'	75:RB:1317:G:O4'	2.14	0.48
75:RB:1619:G:H2'	75:RB:1620:U:C6	2.49	0.48
75:RB:2152:A:H4'	75:RB:2153:U:O5'	2.14	0.48
75:RB:2711:G:C8	75:RB:2748:G:H2'	2.48	0.48
76:SB:30:C:H2'	76:SB:31:G:H8	1.78	0.48
1:aa:1362:A:H3'	16:ra:142:ARG:HH11	1.79	0.48
1:aa:1497:U:O2'	1:aa:1502:C:OP1	2.20	0.48
1:aa:1510:G:N1	1:aa:1514:G:O6	2.47	0.48
17:sa:103:ILE:O	17:sa:113:GLN:HA	2.13	0.48
18:ta:52:LEU:HD21	18:ta:78:ARG:NH2	2.25	0.48
20:va:100:TYR:HA	20:va:112:HIS:HE1	1.79	0.48
26:cb:1:MET:HE2	26:cb:13:VAL:HG22	1.94	0.48
31:hb:82:ARG:HB3	31:hb:86:LYS:HZ3	1.76	0.48
34:BA:146:ILE:HD12	57:YA:28:ARG:HD3	1.96	0.48
37:EA:117:LYS:NZ	37:EA:124:ILE:HG13	2.29	0.48
43:KA:120:GLU:O	43:KA:247:ARG:NH2	2.38	0.48
56:XA:95:VAL:HG11	64:FB:206:TYR:CD1	2.48	0.48
58:ZA:109:LYS:CG	58:ZA:110:GLU:H	2.22	0.48
61:CB:72:ARG:HH11	63:EB:380:TRP:NE1	2.12	0.48
62:DB:75:ALA:HB2	75:RB:3045:A:C6	2.48	0.48
75:RB:1024:G:H2'	75:RB:1025:G:C8	2.45	0.48
75:RB:1157:A:H5''	75:RB:1158:C:H5	1.78	0.48
1:aa:436:G:H2'	1:aa:437:C:C6	2.48	0.48
1:aa:452:C:P	8:ja:49:ARG:HH12	2.37	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:953:G:H2'	1:aa:954:C:C6	2.49	0.48
1:aa:1658:U:H2'	1:aa:1659:A:C8	2.48	0.48
35:CA:64:LYS:HD2	75:RB:1627:U:C5	2.49	0.48
36:DA:147:ARG:HG3	36:DA:157:ILE:HG13	1.96	0.48
42:JA:167:ARG:NE	75:RB:86:U:OP1	2.42	0.48
60:BB:90:ARG:HH21	75:RB:19:C:P	2.37	0.48
67:IB:23:ARG:NH1	75:RB:2296:A:OP1	2.46	0.48
70:LB:192:ILE:HG13	70:LB:198:LEU:HD23	1.96	0.48
71:MB:30:GLU:OE1	71:MB:30:GLU:N	2.46	0.48
75:RB:592:U:H2'	75:RB:593:G:C8	2.48	0.48
75:RB:2915:G:C2	75:RB:2916:A:N7	2.82	0.48
1:aa:214:A:H2	1:aa:215:A:H62	1.61	0.48
1:aa:781:A:H2'	1:aa:782:G:C8	2.49	0.48
1:aa:784:C:N4	1:aa:788:G:OP1	2.47	0.48
1:aa:797:A:H2'	1:aa:798:C:H6	1.79	0.48
1:aa:1356:A:H2'	1:aa:1357:U:C6	2.49	0.48
1:aa:1433:A:O2'	1:aa:1434:G:OP1	2.23	0.48
1:aa:1655:U:H2'	1:aa:1656:C:H6	1.79	0.48
1:aa:1697:G:H3'	1:aa:1698:A:C5'	2.44	0.48
1:aa:1722:C:H2'	1:aa:1723:G:C8	2.49	0.48
3:ca:84:TYR:HD2	3:ca:102:ILE:HD13	1.79	0.48
6:ha:93:TRP:HA	6:ha:117:ASP:OD1	2.14	0.48
7:ia:178:ARG:HH11	7:ia:179:GLN:HG2	1.79	0.48
12:na:127:GLY:HA2	27:db:58:VAL:HG12	1.96	0.48
20:va:51:VAL:HG12	20:va:53:ASP:OD1	2.13	0.48
24:za:89:ARG:HA	24:za:92:LEU:CD2	2.44	0.48
26:cb:11:LEU:HD12	26:cb:12:TYR:CD1	2.48	0.48
38:FA:15:GLU:N	38:FA:15:GLU:OE2	2.47	0.48
40:HA:67:ARG:HE	75:RB:1547:G:H5''	1.79	0.48
41:IA:77:ARG:HB2	41:IA:77:ARG:HH21	1.79	0.48
42:JA:5:LEU:HD13	61:CB:111:ARG:NH2	2.29	0.48
43:KA:265:ARG:HH21	43:KA:269:LYS:HG3	1.79	0.48
61:CB:98:HIS:ND1	61:CB:99:PRO:HD2	2.29	0.48
62:DB:21:ARG:NH1	75:RB:2988:A:O3'	2.47	0.48
62:DB:299:CYS:SG	62:DB:306:GLU:HA	2.54	0.48
63:EB:67:ALA:HB3	63:EB:95:PHE:CE2	2.49	0.48
63:EB:316:ARG:HB2	75:RB:1365:C:H5''	1.95	0.48
70:LB:32:HIS:CG	70:LB:37:PRO:HB3	2.49	0.48
70:LB:56:VAL:C	70:LB:57:LYS:HD3	2.39	0.48
75:RB:273:U:H2'	75:RB:274:U:C6	2.49	0.48
75:RB:844:A:H2'	75:RB:845:G:H8	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:1642:G:O2'	75:RB:1816:U:OP1	2.32	0.48
75:RB:1857:G:H1'	75:RB:3062:G:H5''	1.96	0.48
75:RB:1857:G:H2'	75:RB:1858:U:C6	2.49	0.48
75:RB:2771:U:H2'	75:RB:2772:U:C6	2.49	0.48
75:RB:2872:U:OP2	75:RB:2942:G:N1	2.42	0.48
75:RB:2881:C:C2	75:RB:2936:G:N1	2.81	0.48
75:RB:3213:C:H2'	75:RB:3214:U:O4'	2.14	0.48
76:SB:10:G:C6	76:SB:11:C:C4	3.01	0.48
1:aa:350:G:H5'	32:ib:80:LYS:HB3	1.96	0.47
1:aa:1045:G:H4'	24:za:36:PHE:CD1	2.49	0.47
1:aa:1186:U:C2	1:aa:1464:G:C2	3.02	0.47
1:aa:1356:A:C2	1:aa:1379:U:C2	3.01	0.47
1:aa:1696:C:H2'	1:aa:1697:G:C8	2.49	0.47
4:da:7:ASN:O	4:da:10:GLU:HG3	2.14	0.47
20:va:76:TYR:CE2	20:va:78:GLN:NE2	2.81	0.47
36:DA:9:ARG:HD2	75:RB:914:C:OP2	2.14	0.47
39:GA:15:ARG:NH1	39:GA:16:MET:O	2.47	0.47
40:HA:200:LEU:HB3	40:HA:204:ARG:NH2	2.29	0.47
43:KA:119:TYR:OH	43:KA:138:ARG:O	2.17	0.47
52:TA:106:ARG:HE	52:TA:126:ARG:NH1	2.12	0.47
54:VA:42:ARG:NH2	75:RB:1497:U:OP2	2.43	0.47
66:HB:153:ARG:O	66:HB:156:LYS:HG2	2.13	0.47
74:PB:55:PRO:O	74:PB:62:TYR:OH	2.31	0.47
75:RB:1565:G:H2'	75:RB:1566:C:C6	2.49	0.47
75:RB:2839:U:OP1	75:RB:2841:C:N4	2.47	0.47
1:aa:193:G:C6	1:aa:194:G:C6	3.02	0.47
1:aa:410:U:H2'	1:aa:411:A:H8	1.79	0.47
1:aa:786:U:H1'	2:ba:15:ARG:HD2	1.96	0.47
3:ca:203:LEU:CD1	3:ca:207:GLU:HG2	2.44	0.47
5:ga:50:VAL:HA	5:ga:71:VAL:HA	1.97	0.47
6:ha:133:ALA:HB1	6:ha:166:VAL:CG2	2.44	0.47
8:ja:133:GLN:O	8:ja:136:ILE:HG12	2.14	0.47
9:ka:152:THR:HA	9:ka:155:ARG:NH1	2.29	0.47
15:qa:14:ARG:O	15:qa:17:ILE:HG22	2.14	0.47
24:za:151:PHE:HE1	24:za:178:LEU:CB	2.25	0.47
24:za:180:TRP:HD1	24:za:206:PHE:CE2	2.32	0.47
30:gb:72:ARG:HA	30:gb:99:VAL:O	2.13	0.47
36:DA:118:HIS:HB2	36:DA:126:PHE:CE2	2.49	0.47
41:IA:66:ASN:HD22	69:KB:62:THR:HB	1.79	0.47
43:KA:36:LEU:O	43:KA:48:LYS:HE3	2.14	0.47
44:LA:17:CYS:HB3	44:LA:52:ARG:HE	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:LA:82:ARG:NH2	75:RB:2109:G:O2'	2.31	0.47
45:MA:128:ARG:HH21	75:RB:1509:G:P	2.38	0.47
59:AB:37:THR:HG21	75:RB:263:A:H5'	1.95	0.47
68:JB:125:LYS:NZ	75:RB:2895:G:N7	2.62	0.47
72:NB:33:LYS:HZ2	72:NB:44:THR:HG21	1.79	0.47
75:RB:3048:G:H2'	75:RB:3049:G:H8	1.80	0.47
75:RB:3206:C:N4	75:RB:3254:A:OP1	2.46	0.47
75:RB:3224:C:H2'	75:RB:3225:G:H8	1.78	0.47
75:RB:3278:G:C6	75:RB:3279:C:N4	2.82	0.47
76:SB:147:C:H2'	76:SB:148:C:C6	2.49	0.47
77:TB:3:A:H2'	77:TB:4:U:C6	2.49	0.47
79:cl:9:1MG:O2'	79:cl:11:C:N4	2.38	0.47
1:aa:717:G:H4'	1:aa:743:G:H22	1.78	0.47
15:qa:24:MET:HB3	15:qa:34:VAL:HG11	1.96	0.47
16:ra:43:LEU:HD21	16:ra:47:VAL:HG11	1.96	0.47
16:ra:62:ASP:OD2	16:ra:63:ALA:N	2.47	0.47
19:ua:50:LYS:HZ1	19:ua:55:GLN:HB3	1.77	0.47
23:ya:35:HIS:O	23:ya:38:ILE:HG22	2.14	0.47
24:za:148:THR:CG2	24:za:161:VAL:HA	2.45	0.47
27:db:93:ARG:HB3	27:db:93:ARG:NH1	2.29	0.47
28:eb:102:THR:HG22	28:eb:103:ALA:N	2.30	0.47
29:fb:131:VAL:O	29:fb:135:ILE:HG12	2.13	0.47
29:fb:167:LYS:HD3	29:fb:178:ARG:NH2	2.29	0.47
35:CA:70:CYS:SG	35:CA:119:LEU:HD12	2.54	0.47
43:KA:236:GLU:O	43:KA:240:LYS:HG2	2.14	0.47
59:AB:7:LYS:HD2	59:AB:16:LYS:O	2.14	0.47
59:AB:68:LYS:HE3	59:AB:71:ARG:HB2	1.96	0.47
62:DB:262:ARG:HB2	64:FB:69:THR:HG21	1.96	0.47
64:FB:92:MET:HG3	75:RB:1178:C:O2	2.14	0.47
75:RB:2994:G:H2'	75:RB:2995:U:C6	2.49	0.47
76:SB:8:C:H2'	76:SB:9:G:C8	2.48	0.47
78:al:1:A:N6	79:cl:37:MIA:H122	2.29	0.47
1:aa:754:U:H2'	1:aa:755:U:H6	1.80	0.47
1:aa:1345:G:H22	1:aa:1390:A:H2	1.61	0.47
5:ga:85:PRO:O	5:ga:86:ASN:ND2	2.48	0.47
6:ha:294:LYS:HZ3	15:qa:59:ARG:HH11	1.62	0.47
15:qa:35:LEU:HA	15:qa:38:VAL:HG22	1.97	0.47
17:sa:95:VAL:HG23	17:sa:97:GLU:HG3	1.96	0.47
20:va:36:PHE:HE2	20:va:102:VAL:HB	1.79	0.47
24:za:193:ILE:O	24:za:193:ILE:HG13	2.15	0.47
33:AA:172:PRO:HA	33:AA:219:ASN:OD1	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:DA:132:ASP:OD2	75:RB:2171:A:H5''	2.14	0.47
37:EA:23:ILE:HG13	37:EA:23:ILE:O	2.15	0.47
37:EA:116:MET:N	37:EA:116:MET:SD	2.88	0.47
38:FA:73:ILE:O	38:FA:77:GLN:HG2	2.14	0.47
42:JA:35:PHE:CE2	63:EB:297:ILE:HG23	2.49	0.47
59:AB:39:ARG:O	59:AB:43:VAL:HG23	2.13	0.47
64:FB:59:TYR:CE2	64:FB:150:VAL:HG11	2.49	0.47
70:LB:21:HIS:NE2	75:RB:590:C:OP2	2.40	0.47
70:LB:124:TYR:HH	75:RB:503:U:HO2'	1.60	0.47
70:LB:154:ARG:HH21	70:LB:154:ARG:HA	1.79	0.47
71:MB:43:ARG:HG3	71:MB:43:ARG:NH1	2.28	0.47
75:RB:16:A:N6	76:SB:144:C:H42	2.11	0.47
75:RB:178:C:N3	75:RB:235:G:N2	2.63	0.47
75:RB:606:C:H2'	75:RB:607:U:C5	2.49	0.47
75:RB:849:A:H2'	75:RB:850:A:O4'	2.14	0.47
75:RB:1531:G:O2'	75:RB:1585:A:N3	2.43	0.47
75:RB:3092:G:H2'	75:RB:3093:U:C6	2.50	0.47
77:TB:18:C:H2'	77:TB:19:A:C8	2.49	0.47
1:aa:416:A:H2'	1:aa:417:U:C6	2.50	0.47
1:aa:1685:U:H5''	3:ca:60:ARG:HH22	1.80	0.47
1:aa:1725:C:H1'	1:aa:1726:G:N7	2.29	0.47
6:ha:295:GLN:HB3	6:ha:298:TYR:OH	2.13	0.47
7:ia:94:ARG:O	7:ia:101:GLN:NE2	2.47	0.47
11:ma:26:HIS:CG	11:ma:27:ARG:N	2.83	0.47
13:oa:124:ARG:HD2	13:oa:129:VAL:HG23	1.96	0.47
14:pa:35:GLU:HA	14:pa:38:THR:HG22	1.95	0.47
17:sa:70:ARG:HA	17:sa:73:LYS:HE2	1.96	0.47
24:za:33:ASN:HB2	24:za:155:ASP:OD1	2.14	0.47
33:AA:211:LEU:HA	33:AA:214:ILE:HG22	1.97	0.47
38:FA:113:ILE:HB	38:FA:123:ARG:HB2	1.97	0.47
43:KA:196:LYS:HG3	43:KA:201:GLY:HA3	1.97	0.47
44:LA:128:LYS:NZ	75:RB:1721:A:OP1	2.48	0.47
45:MA:48:LEU:HD21	45:MA:89:ALA:O	2.15	0.47
48:PA:49:ILE:CD1	48:PA:79:ILE:HG21	2.44	0.47
49:QA:120:LEU:HD13	70:LB:51:TYR:CZ	2.50	0.47
50:RA:19:GLN:HE22	50:RA:23:LYS:HE2	1.80	0.47
50:RA:48:LEU:HD13	50:RA:57:LYS:HG3	1.95	0.47
53:UA:55:ARG:HD2	75:RB:351:G:N7	2.29	0.47
62:DB:377:THR:HG23	75:RB:3316:C:OP1	2.15	0.47
68:JB:79:GLU:CD	68:JB:81:SER:HG	2.21	0.47
75:RB:1672:G:H2'	75:RB:1673:A:H8	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:2886:C:H2'	75:RB:2887:A:H8	1.79	0.47
76:SB:144:C:H2'	76:SB:145:U:C6	2.50	0.47
1:aa:212:A:N7	1:aa:244:C:O2'	2.39	0.47
1:aa:334:G:H2'	1:aa:335:A:H8	1.78	0.47
1:aa:1574:U:H5''	13:oa:37:GLY:H	1.78	0.47
1:aa:1656:C:H2'	1:aa:1657:C:C6	2.50	0.47
1:aa:1682:U:H2'	1:aa:1683:G:C8	2.50	0.47
6:ha:20:VAL:CG1	6:ha:39:ARG:HE	2.27	0.47
6:ha:267:THR:C	6:ha:269:ASP:H	2.22	0.47
7:ia:93:ASN:OD1	7:ia:94:ARG:N	2.48	0.47
14:pa:63:VAL:HG21	14:pa:71:ILE:HD11	1.96	0.47
14:pa:120:SER:O	14:pa:124:ARG:HG3	2.15	0.47
18:ta:71:ARG:O	18:ta:73:ASN:N	2.47	0.47
19:ua:29:ALA:HB1	19:ua:49:VAL:HB	1.95	0.47
20:va:76:TYR:CZ	32:ib:100:ARG:CZ	2.97	0.47
24:za:193:ILE:HG21	24:za:199:TRP:CD1	2.50	0.47
35:CA:64:LYS:HD3	35:CA:67:ARG:NH2	2.27	0.47
39:GA:137:ASN:OD1	39:GA:138:ALA:N	2.47	0.47
42:JA:65:ARG:HB2	42:JA:88:ASP:OD1	2.14	0.47
52:TA:85:LEU:HD12	52:TA:86:LEU:HD12	1.97	0.47
56:XA:6:PHE:O	56:XA:11:ARG:NE	2.47	0.47
61:CB:46:ILE:HG23	61:CB:182:CYS:SG	2.55	0.47
61:CB:130:ARG:HH21	77:TB:97:G:C1'	2.27	0.47
62:DB:212:PHE:C	62:DB:288:MET:HE1	2.39	0.47
65:GB:89:GLN:HG3	65:GB:90:THR:HG23	1.97	0.47
67:IB:1:MET:HB3	67:IB:4:LYS:HB3	1.96	0.47
75:RB:11:A:H2'	75:RB:12:G:H5''	1.97	0.47
75:RB:129:G:H2'	75:RB:130:G:C8	2.49	0.47
75:RB:284:U:H2'	75:RB:285:G:C8	2.49	0.47
75:RB:2400:C:H2'	75:RB:2401:U:C6	2.50	0.47
76:SB:131:G:H2'	76:SB:132:C:H6	1.78	0.47
77:TB:23:A:H2	77:TB:118:C:H1'	1.80	0.47
77:TB:70:G:H2'	77:TB:71:A:C8	2.50	0.47
1:aa:52:U:H2'	1:aa:53:G:C8	2.49	0.47
1:aa:172:U:H2'	1:aa:173:G:O4'	2.15	0.47
1:aa:297:U:H2'	1:aa:298:C:C6	2.50	0.47
1:aa:385:C:OP1	8:ja:10:LYS:HD3	2.14	0.47
1:aa:633:U:C2	1:aa:634:A:C8	3.03	0.47
1:aa:1057:U:O2'	1:aa:1058:G:H2'	2.15	0.47
1:aa:1464:G:H2'	1:aa:1464:G:N3	2.30	0.47
1:aa:1520:G:H2'	1:aa:1521:G:H8	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:1612:C:C4	1:aa:1613:G:N7	2.82	0.47
1:aa:1725:C:H4'	1:aa:1726:G:OP1	2.11	0.47
3:ca:102:ILE:HD11	3:ca:211:TYR:CE1	2.48	0.47
6:ha:28:ILE:HD12	6:ha:306:ALA:HA	1.95	0.47
7:ia:151:LYS:HE2	7:ia:153:LYS:HZ1	1.78	0.47
8:ja:192:VAL:HG11	8:ja:238:LEU:HD11	1.96	0.47
9:ka:95:ILE:HD11	18:ta:66:LEU:HD12	1.97	0.47
13:oa:89:ASP:O	13:oa:93:GLY:HA2	2.15	0.47
14:pa:91:LEU:HB3	14:pa:122:ILE:HG12	1.96	0.47
15:qa:41:LEU:HD23	15:qa:46:LEU:HD23	1.95	0.47
17:sa:90:ARG:HD2	17:sa:106:TYR:O	2.14	0.47
18:ta:34:LYS:HD3	18:ta:76:LEU:C	2.40	0.47
22:xa:40:GLN:HG2	22:xa:78:GLY:O	2.15	0.47
23:ya:40:TYR:CD1	28:eb:34:GLY:HA3	2.50	0.47
25:bb:36:LEU:HA	25:bb:41:ARG:NH2	2.30	0.47
29:fb:126:LYS:HG2	29:fb:137:GLY:HA3	1.96	0.47
29:fb:139:ILE:HG22	29:fb:143:LYS:HZ3	1.78	0.47
29:fb:237:PRO:HA	29:fb:240:TRP:CD2	2.49	0.47
33:AA:207:PHE:O	33:AA:210:ILE:HG22	2.14	0.47
35:CA:11:VAL:CG1	35:CA:80:ILE:HB	2.44	0.47
37:EA:89:LYS:NZ	37:EA:107:GLY:O	2.36	0.47
38:FA:5:LEU:HD12	38:FA:59:TRP:CZ3	2.49	0.47
38:FA:74:SER:OG	75:RB:3109:A:OP1	2.29	0.47
43:KA:163:LYS:HE3	43:KA:167:ASP:OD2	2.13	0.47
46:NA:118:LYS:NZ	46:NA:135:LYS:HD3	2.30	0.47
49:QA:2:THR:OG1	49:QA:79:GLN:OE1	2.14	0.47
50:RA:56:ARG:HH11	50:RA:56:ARG:HG3	1.79	0.47
58:ZA:82:LYS:NZ	58:ZA:109:LYS:HE2	2.30	0.47
58:ZA:98:VAL:O	58:ZA:100:ASP:N	2.48	0.47
60:BB:19:LEU:HD23	60:BB:62:ILE:HD13	1.97	0.47
61:CB:15:ILE:O	61:CB:19:ARG:HG2	2.14	0.47
61:CB:54:ALA:O	61:CB:58:GLU:OE1	2.33	0.47
62:DB:42:HIS:ND1	62:DB:43:LEU:O	2.35	0.47
62:DB:49:TYR:CE2	62:DB:171:MET:HE1	2.49	0.47
62:DB:91:ALA:HB1	62:DB:157:ALA:HB2	1.97	0.47
72:NB:41:TYR:HA	75:RB:1611:G:OP1	2.13	0.47
74:PB:69:ARG:NH2	75:RB:1642:G:OP1	2.46	0.47
75:RB:582:C:H2'	75:RB:583:C:H6	1.78	0.47
75:RB:621:C:O2'	75:RB:622:U:OP2	2.30	0.47
75:RB:659:C:H2'	75:RB:660:A:H8	1.79	0.47
75:RB:720:G:O2'	75:RB:756:C:O2'	2.26	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:721:A:N1	75:RB:784:G:O2'	2.34	0.47
75:RB:1235:A:H4'	75:RB:1236:C:H6	1.79	0.47
75:RB:1793:A:H2'	75:RB:1794:A:C8	2.50	0.47
75:RB:1834:C:H5''	75:RB:1835:A:O5'	2.15	0.47
75:RB:2886:C:H2'	75:RB:2887:A:C8	2.50	0.47
75:RB:2891:C:H42	75:RB:2904:A:H61	1.63	0.47
75:RB:3017:A:N6	75:RB:3029:A:OP2	2.47	0.47
77:TB:37:G:H21	77:TB:43:A:H62	1.62	0.47
77:TB:70:G:H2'	77:TB:71:A:H8	1.78	0.47
79:cl:11:C:H2'	79:cl:12:G:C8	2.50	0.47
1:aa:344:U:H2'	1:aa:345:A:C8	2.50	0.47
1:aa:484:A:H2'	1:aa:485:A:C8	2.50	0.47
1:aa:571:A:N3	23:ya:14:VAL:HG21	2.30	0.47
1:aa:951:U:H2'	1:aa:952:U:C6	2.50	0.47
1:aa:1112:G:O2'	1:aa:1113:G:H5'	2.15	0.47
1:aa:1215:A:C6	1:aa:1459:G:N1	2.83	0.47
1:aa:1513:A:H2'	1:aa:1514:G:O4'	2.15	0.47
5:ga:134:LYS:HE2	5:ga:136:LYS:HE2	1.96	0.47
6:ha:34:ILE:HG23	6:ha:46:TRP:HD1	1.80	0.47
6:ha:271:ILE:HB	6:ha:285:LEU:HB2	1.96	0.47
9:ka:27:ASP:OD2	9:ka:113:ILE:HG23	2.15	0.47
12:na:45:THR:HG23	12:na:46:ASP:O	2.15	0.47
12:na:80:ASP:HA	12:na:83:THR:HG22	1.97	0.47
13:oa:98:VAL:HG21	13:oa:106:LYS:HG3	1.97	0.47
15:qa:95:GLU:OE1	15:qa:95:GLU:N	2.48	0.47
24:za:45:ARG:NH2	24:za:51:TYR:OH	2.48	0.47
25:bb:124:HIS:HA	25:bb:137:MET:O	2.15	0.47
34:BA:11:THR:HG22	34:BA:14:LEU:HD23	1.96	0.47
35:CA:64:LYS:HD2	75:RB:1627:U:H5	1.78	0.47
38:FA:108:ASN:HB3	38:FA:133:ILE:O	2.15	0.47
40:HA:49:ARG:HH12	75:RB:148:U:P	2.38	0.47
42:JA:131:LEU:HB3	42:JA:133:GLN:OE1	2.14	0.47
46:NA:115:ILE:HA	46:NA:140:TYR:CE2	2.49	0.47
53:UA:44:ILE:HD12	75:RB:22:G:H5''	1.97	0.47
73:OB:13:SER:OG	75:RB:1141:U:OP1	2.19	0.47
75:RB:790:G:H2'	75:RB:791:C:C6	2.50	0.47
75:RB:1857:G:O2'	75:RB:3062:G:OP1	2.32	0.47
75:RB:2571:G:C6	75:RB:2572:G:N7	2.83	0.47
75:RB:3187:G:H2'	75:RB:3188:C:C6	2.50	0.47
1:aa:264:G:N2	1:aa:266:C:C4	2.83	0.47
1:aa:422:G:N2	1:aa:422:G:OP2	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:1091:A:H5'	29:fb:174:SER:HB3	1.96	0.47
1:aa:1656:C:H2'	1:aa:1657:C:H6	1.79	0.47
1:aa:1682:U:C2	1:aa:1683:G:C8	3.02	0.47
6:ha:74:HIS:ND1	6:ha:75:PHE:N	2.62	0.47
8:ja:43:PRO:HB2	8:ja:45:ILE:HG22	1.96	0.47
10:la:70:ASP:HB3	10:la:72:ARG:NH1	2.30	0.47
13:oa:12:ILE:HD12	37:EA:117:LYS:HD3	1.97	0.47
24:za:180:TRP:CE2	24:za:203:VAL:HG22	2.50	0.47
25:bb:222:LYS:HG3	25:bb:223:PHE:N	2.29	0.47
29:fb:91:MET:SD	29:fb:193:VAL:HG13	2.54	0.47
32:ib:9:PHE:CE1	32:ib:11:LYS:HB3	2.49	0.47
40:HA:42:PRO:HG3	40:HA:61:VAL:HG21	1.97	0.47
41:IA:103:PHE:CE1	69:KB:162:ARG:HD3	2.50	0.47
46:NA:87:GLU:OE1	46:NA:87:GLU:N	2.42	0.47
51:SA:116:THR:O	75:RB:3373:U:O2'	2.26	0.47
53:UA:72:ARG:HG3	76:SB:94:C:P	2.55	0.47
75:RB:122:A:H5'	75:RB:123:U:OP2	2.15	0.47
75:RB:539:C:H2'	75:RB:541:C:C5	2.50	0.47
75:RB:1454:C:H5''	75:RB:1455:A:OP2	2.15	0.47
1:aa:206:U:H2'	1:aa:207:A:C8	2.49	0.47
1:aa:305:A:H2'	1:aa:306:U:C6	2.50	0.47
1:aa:409:C:H5'	30:gb:93:GLU:OE2	2.13	0.47
1:aa:466:G:OP1	28:eb:4:VAL:HG12	2.15	0.47
1:aa:606:U:H2'	1:aa:607:U:H6	1.79	0.47
1:aa:1285:G:H2'	1:aa:1286:U:C6	2.50	0.47
1:aa:1521:G:H1'	1:aa:1526:C:C2	2.50	0.47
1:aa:1621:U:OP2	9:ka:59:LYS:NZ	2.37	0.47
6:ha:209:TYR:CE1	6:ha:227:LYS:HD3	2.50	0.47
11:ma:68:VAL:HG13	11:ma:68:VAL:O	2.15	0.47
29:fb:67:TYR:HE2	29:fb:120:HIS:CD2	2.33	0.47
35:CA:75:VAL:HG21	35:CA:80:ILE:HG21	1.97	0.47
38:FA:172:ARG:NH2	75:RB:2896:C:O2	2.48	0.47
40:HA:13:ARG:HE	59:AB:48:ARG:NH1	2.13	0.47
43:KA:47:PRO:HB2	43:KA:66:TYR:HB2	1.96	0.47
43:KA:288:ASN:HA	66:HB:211:PRO:O	2.15	0.47
51:SA:40:ALA:O	51:SA:44:ILE:HG12	2.15	0.47
53:UA:44:ILE:HD11	76:SB:41:A:H2	1.79	0.47
55:WA:98:LYS:HD2	75:RB:2653:A:H4'	1.96	0.47
64:FB:200:ILE:H	64:FB:200:ILE:HD12	1.79	0.47
65:GB:38:PHE:CZ	65:GB:43:GLY:HA2	2.50	0.47
66:HB:38:MET:HG2	66:HB:38:MET:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:PB:7:TYR:HE1	74:PB:18:ASN:OD1	1.97	0.47
75:RB:297:G:H2'	75:RB:298:G:C8	2.50	0.47
75:RB:1224:A:H5'	75:RB:1226:G:O4'	2.15	0.47
75:RB:1306:A:N7	75:RB:2854:C:O2'	2.43	0.47
75:RB:1418:C:H2'	75:RB:1419:G:O4'	2.15	0.47
75:RB:1692:U:HO2'	75:RB:1747:A:H61	1.59	0.47
75:RB:2565:C:N4	75:RB:2566:U:O2	2.48	0.47
75:RB:2763:U:H2'	75:RB:2764:U:C6	2.51	0.47
75:RB:2821:G:H2'	75:RB:2822:C:C6	2.50	0.47
75:RB:3240:G:H2'	75:RB:3240:G:N3	2.30	0.47
77:TB:71:A:HO2'	77:TB:72:G:P	2.38	0.47
1:aa:983:A:H2'	1:aa:984:A:O4'	2.14	0.46
1:aa:1071:C:O2'	25:bb:148:ASN:OD1	2.33	0.46
1:aa:1192:G:O2'	1:aa:1436:U:OP1	2.27	0.46
1:aa:1292:G:OP1	1:aa:1632:C:O2'	2.33	0.46
1:aa:1673:C:C2	1:aa:1674:C:C5	3.03	0.46
3:ca:203:LEU:HD12	3:ca:207:GLU:HG2	1.97	0.46
4:da:24:LYS:NZ	4:da:63:HIS:HD2	2.13	0.46
6:ha:134:SER:O	6:ha:166:VAL:HG22	2.16	0.46
6:ha:180:ILE:CG2	6:ha:192:TRP:HB2	2.45	0.46
9:ka:34:LEU:HD13	9:ka:109:VAL:HG13	1.98	0.46
9:ka:92:THR:HG21	9:ka:169:LEU:HD22	1.96	0.46
9:ka:109:VAL:O	9:ka:113:ILE:HG12	2.15	0.46
16:ra:40:LYS:HG3	16:ra:41:MET:N	2.29	0.46
18:ta:56:PRO:HA	18:ta:62:THR:OG1	2.15	0.46
25:bb:135:LEU:CD1	25:bb:137:MET:HE2	2.45	0.46
30:gb:112:ASN:C	30:gb:113:LEU:HD12	2.40	0.46
36:DA:137:ILE:HD11	36:DA:149:LYS:HB2	1.97	0.46
37:EA:71:VAL:HG13	37:EA:73:ILE:HD11	1.97	0.46
38:FA:102:ALA:HB3	38:FA:135:ARG:NH1	2.30	0.46
42:JA:149:ARG:HH21	42:JA:149:ARG:HG3	1.81	0.46
50:RA:38:LEU:HD21	50:RA:46:ILE:HD11	1.97	0.46
57:YA:92:MET:HE1	57:YA:116:HIS:NE2	2.30	0.46
59:AB:29:PRO:O	59:AB:30:SER:OG	2.28	0.46
62:DB:2:SER:HB2	75:RB:2940:G:H8	1.80	0.46
63:EB:121:ARG:HE	75:RB:679:C:H5'	1.80	0.46
75:RB:254:G:H2'	75:RB:255:C:C6	2.50	0.46
75:RB:659:C:H2'	75:RB:660:A:C8	2.50	0.46
75:RB:1883:A:N7	75:RB:2341:A:H2	2.12	0.46
75:RB:2199:G:H1'	75:RB:2200:A:H2	1.81	0.46
75:RB:2768:A:H61	75:RB:2784:G:H1	1.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:3129:C:H2'	75:RB:3130:A:O4'	2.14	0.46
77:TB:64:G:H2'	77:TB:65:G:H8	1.80	0.46
1:aa:148:C:C2	1:aa:149:G:C8	3.03	0.46
1:aa:423:G:OP2	1:aa:423:G:H8	1.97	0.46
1:aa:549:A:N1	1:aa:597:U:O2'	2.47	0.46
1:aa:1113:G:H4'	1:aa:1114:G:H5''	1.96	0.46
1:aa:1432:C:H3'	1:aa:1433:A:H4'	1.97	0.46
3:ca:82:VAL:HG22	3:ca:103:VAL:HG12	1.97	0.46
3:ca:179:PHE:CD1	3:ca:184:LEU:HD11	2.51	0.46
4:da:52:LYS:HD3	4:da:54:TYR:CE1	2.50	0.46
7:ia:5:ILE:HD11	7:ia:10:LYS:HD3	1.96	0.46
7:ia:70:THR:OG1	7:ia:85:GLU:HA	2.15	0.46
9:ka:39:MET:HA	9:ka:42:TYR:HE2	1.76	0.46
10:la:19:LYS:HG2	10:la:82:SER:HA	1.96	0.46
25:bb:125:VAL:HG23	25:bb:137:MET:HB2	1.97	0.46
27:db:37:LYS:HB3	27:db:70:LYS:NZ	2.30	0.46
27:db:46:GLU:OE2	27:db:48:ALA:HB3	2.15	0.46
30:gb:69:THR:O	30:gb:101:GLY:HA3	2.15	0.46
34:BA:154:TYR:CD1	57:YA:89:TYR:HB2	2.50	0.46
37:EA:140:VAL:HG23	37:EA:143:ARG:HH12	1.80	0.46
38:FA:9:THR:HA	38:FA:54:LEU:O	2.16	0.46
38:FA:62:THR:O	38:FA:66:MET:HG2	2.14	0.46
38:FA:76:VAL:O	38:FA:80:ILE:HG12	2.14	0.46
38:FA:131:VAL:HG12	38:FA:153:VAL:HG22	1.97	0.46
45:MA:4:TYR:CE2	45:MA:16:LYS:HE3	2.50	0.46
50:RA:35:LEU:HD22	50:RA:63:TYR:CD2	2.50	0.46
55:WA:56:PRO:HB3	75:RB:2799:A:C8	2.49	0.46
55:WA:63:LYS:HE3	75:RB:2757:C:N3	2.30	0.46
58:ZA:103:ARG:CZ	58:ZA:105:ILE:HD11	2.44	0.46
62:DB:130:PHE:CE1	75:RB:3145:G:H4'	2.49	0.46
62:DB:161:ARG:HG2	62:DB:185:GLN:HB2	1.96	0.46
63:EB:97:ASN:ND2	63:EB:105:PHE:HB2	2.26	0.46
68:JB:108:VAL:HG21	75:RB:1212:U:C4	2.50	0.46
71:MB:53:ARG:HD2	71:MB:108:TYR:HD2	1.79	0.46
75:RB:174:G:C6	75:RB:241:G:C6	3.03	0.46
75:RB:583:C:H2'	75:RB:584:G:O4'	2.14	0.46
75:RB:2173:G:H2'	75:RB:2174:C:H6	1.80	0.46
75:RB:2399:C:H2'	75:RB:2400:C:C6	2.50	0.46
75:RB:3281:G:H2'	75:RB:3282:A:O4'	2.15	0.46
1:aa:128:G:N2	1:aa:176:A:O2'	2.49	0.46
1:aa:966:U:H2'	1:aa:967:C:H6	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:977:G:O2'	75:RB:850:A:N1	2.47	0.46
1:aa:1441:C:H2'	4:da:59:PHE:CE2	2.51	0.46
1:aa:1614:C:OP1	10:la:132:PRO:HB3	2.15	0.46
3:ca:109:PRO:O	3:ca:112:GLN:NE2	2.48	0.46
3:ca:155:SER:OG	3:ca:156:ASN:N	2.48	0.46
8:ja:62:GLN:HB2	8:ja:80:LYS:NZ	2.30	0.46
9:ka:98:LEU:O	18:ta:61:ILE:HG13	2.15	0.46
11:ma:90:MET:HE3	21:wa:52:PHE:CD1	2.49	0.46
18:ta:52:LEU:HB2	18:ta:85:MET:HE1	1.96	0.46
24:za:124:ARG:NH2	29:fb:251:GLN:HB3	2.31	0.46
25:bb:97:LEU:HA	25:bb:232:HIS:CE1	2.50	0.46
30:gb:203:ILE:O	30:gb:206:LYS:HB2	2.15	0.46
34:BA:37:GLY:HA2	34:BA:63:ARG:NH1	2.30	0.46
36:DA:80:GLU:OE1	65:GB:76:ALA:HB1	2.14	0.46
38:FA:71:THR:HG22	75:RB:3108:G:O2'	2.16	0.46
41:IA:60:TYR:CE1	75:RB:2774:G:C2	3.03	0.46
45:MA:67:VAL:HG13	45:MA:83:ARG:HG3	1.97	0.46
61:CB:90:ARG:NE	61:CB:92:ARG:O	2.49	0.46
72:NB:16:ARG:HG2	72:NB:61:PRO:HG3	1.97	0.46
72:NB:26:LYS:HG3	72:NB:28:THR:HG23	1.97	0.46
75:RB:149:A:C4	75:RB:150:G:C8	3.04	0.46
75:RB:260:U:H2'	75:RB:261:C:C6	2.51	0.46
75:RB:431:G:C6	75:RB:432:G:C6	3.03	0.46
75:RB:638:G:H2'	75:RB:639:A:O4'	2.15	0.46
75:RB:876:C:H3'	75:RB:877:U:H4'	1.97	0.46
75:RB:979:C:H2'	75:RB:980:C:O4'	2.15	0.46
75:RB:2397:A:O2'	75:RB:2398:C:O5'	2.33	0.46
75:RB:2653:A:C8	75:RB:2655:G:C8	3.03	0.46
75:RB:2962:U:HO2'	75:RB:2963:G:P	2.38	0.46
75:RB:3219:C:H2'	75:RB:3220:G:C8	2.50	0.46
79:cl:53:G:H2'	79:cl:54:A:C8	2.51	0.46
1:aa:874:A:H61	1:aa:963:U:H3	1.63	0.46
1:aa:1360:G:C6	1:aa:1374:G:C6	3.04	0.46
1:aa:1609:G:C6	16:ra:101:ARG:NH1	2.84	0.46
11:ma:45:SER:HA	11:ma:48:VAL:HG12	1.96	0.46
13:oa:112:GLU:CD	13:oa:116:LYS:HE3	2.40	0.46
14:pa:142:GLU:O	14:pa:142:GLU:HG2	2.15	0.46
16:ra:45:GLU:O	16:ra:45:GLU:HG3	2.15	0.46
25:bb:146:ARG:O	25:bb:149:GLN:HB2	2.15	0.46
29:fb:89:GLU:HG2	29:fb:200:PHE:HZ	1.79	0.46
29:fb:189:VAL:CG2	29:fb:207:PHE:HA	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:AA:96:ARG:HH21	33:AA:187:HIS:CE1	2.34	0.46
37:EA:150:VAL:HG23	37:EA:155:ARG:CG	2.45	0.46
40:HA:51:LEU:O	40:HA:117:ASN:ND2	2.49	0.46
43:KA:265:ARG:NH1	77:TB:1:G:H4'	2.28	0.46
43:KA:271:LEU:HB2	43:KA:275:GLN:HG3	1.97	0.46
44:LA:41:ILE:O	44:LA:45:VAL:HG23	2.16	0.46
46:NA:124:ILE:HD13	54:VA:7:PHE:HE1	1.80	0.46
52:TA:100:ASN:OD1	75:RB:1391:A:O2'	2.17	0.46
62:DB:112:GLU:OE2	62:DB:122:TRP:HZ2	1.99	0.46
64:FB:46:ILE:CD1	64:FB:85:LEU:HD12	2.45	0.46
64:FB:90:ARG:HG3	64:FB:104:LEU:HD21	1.97	0.46
75:RB:527:G:N2	75:RB:552:G:C2	2.83	0.46
75:RB:3152:C:H2'	75:RB:3153:C:H6	1.79	0.46
1:aa:207:A:H2'	1:aa:208:U:H6	1.80	0.46
1:aa:273:C:HO2'	1:aa:274:A:P	2.36	0.46
1:aa:421:A:H4'	1:aa:422:G:O5'	2.16	0.46
1:aa:1355:U:O3'	10:la:27:TYR:OH	2.28	0.46
1:aa:1399:G:OP1	15:qa:59:ARG:NH1	2.49	0.46
1:aa:1483:G:OP1	16:ra:57:GLU:N	2.45	0.46
1:aa:1758:G:H2'	1:aa:1759:A:O4'	2.15	0.46
4:da:45:LEU:HD12	4:da:46:MET:HG3	1.97	0.46
7:ia:59:LEU:HD12	7:ia:63:GLY:HA2	1.97	0.46
9:ka:26:SER:OG	9:ka:113:ILE:HG21	2.15	0.46
18:ta:61:ILE:HG13	18:ta:61:ILE:O	2.15	0.46
23:ya:26:LYS:NZ	23:ya:28:LYS:HA	2.30	0.46
29:fb:252:GLU:HG3	29:fb:253:PHE:CD2	2.50	0.46
32:ib:124:VAL:HG12	32:ib:143:VAL:HG22	1.97	0.46
33:AA:24:LEU:HB3	35:CA:53:VAL:HG21	1.98	0.46
33:AA:106:ARG:O	33:AA:110:ARG:HD3	2.16	0.46
39:GA:20:LEU:O	39:GA:55:ALA:N	2.41	0.46
39:GA:37:LEU:HD21	39:GA:105:ILE:HD11	1.97	0.46
41:IA:23:GLY:N	75:RB:1117:U:OP1	2.35	0.46
44:LA:145:SER:O	44:LA:149:LYS:HG2	2.16	0.46
48:PA:30:MET:SD	48:PA:100:PRO:HG2	2.55	0.46
48:PA:59:ARG:NH1	75:RB:198:A:P	2.89	0.46
51:SA:78:ARG:HH12	75:RB:3361:C:P	2.39	0.46
62:DB:119:TYR:HE1	75:RB:3282:A:OP1	1.98	0.46
63:EB:69:SER:HA	63:EB:80:PRO:HA	1.97	0.46
63:EB:72:THR:OG1	75:RB:2395:A:H5''	2.15	0.46
66:HB:20:SER:OG	66:HB:21:ARG:N	2.48	0.46
74:PB:6:THR:HG22	75:RB:1489:G:H21	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:250:C:O3'	75:RB:251:G:H8	1.98	0.46
75:RB:519:C:H2'	75:RB:520:G:H8	1.81	0.46
75:RB:608:G:H2'	75:RB:609:C:C6	2.50	0.46
75:RB:1603:U:O2'	75:RB:1604:U:H2'	2.15	0.46
75:RB:1673:A:N1	75:RB:1689:G:O6	2.48	0.46
75:RB:1691:U:H5	75:RB:1768:U:H2'	1.80	0.46
75:RB:1692:U:O2'	75:RB:1747:A:N6	2.38	0.46
75:RB:1942:A:H2'	75:RB:1943:G:C8	2.50	0.46
75:RB:2537:G:H5''	75:RB:2538:C:C5	2.51	0.46
75:RB:2764:U:H2'	75:RB:2765:U:C6	2.50	0.46
75:RB:2973:A:H2'	75:RB:2974:G:O4'	2.15	0.46
75:RB:3362:C:H2'	75:RB:3365:U:H5	1.81	0.46
76:SB:109:A:H2'	76:SB:110:A:O4'	2.15	0.46
79:cl:53:G:H2'	79:cl:54:A:H8	1.80	0.46
1:aa:413:C:H2'	1:aa:414:A:C8	2.48	0.46
1:aa:617:G:H5'	1:aa:1104:U:O2	2.16	0.46
1:aa:645:G:H1	1:aa:706:U:H3	1.64	0.46
1:aa:1171:C:H2'	1:aa:1172:G:O4'	2.16	0.46
4:da:44:LYS:HD3	4:da:47:GLN:OE1	2.16	0.46
6:ha:172:SER:OG	6:ha:179:THR:OG1	2.32	0.46
8:ja:136:ILE:HD12	8:ja:148:ARG:NH2	2.30	0.46
10:la:118:TYR:CD2	10:la:119:ASP:HB2	2.51	0.46
16:ra:129:ASP:CB	16:ra:135:LEU:HD13	2.45	0.46
25:bb:86:LEU:HD23	25:bb:100:PHE:HA	1.97	0.46
36:DA:224:THR:HG22	36:DA:237:LEU:HB2	1.95	0.46
39:GA:123:LYS:HG2	39:GA:139:ILE:HG13	1.98	0.46
46:NA:110:LYS:HA	46:NA:115:ILE:O	2.15	0.46
48:PA:16:LYS:HD3	76:SB:23:C:O3'	2.16	0.46
56:XA:122:ARG:HH22	75:RB:3202:C:P	2.39	0.46
57:YA:64:ASN:ND2	63:EB:380:TRP:HE1	2.14	0.46
57:YA:83:TYR:CD2	57:YA:118:VAL:HG11	2.50	0.46
60:BB:37:LYS:HA	60:BB:45:LEU:HD21	1.96	0.46
75:RB:64:A:C4	75:RB:109:G:N7	2.83	0.46
75:RB:502:G:H21	75:RB:3259:C:H41	1.64	0.46
75:RB:538:C:H4'	75:RB:539:C:O5'	2.15	0.46
75:RB:555:G:C6	75:RB:556:U:C4	3.04	0.46
75:RB:1135:C:H2'	75:RB:1136:A:C8	2.50	0.46
75:RB:1480:G:H2'	75:RB:1481:C:C6	2.51	0.46
75:RB:1915:G:H2'	75:RB:1916:U:O4'	2.16	0.46
75:RB:2513:U:H2'	75:RB:2514:U:H6	1.80	0.46
77:TB:72:G:H2'	77:TB:73:U:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:27:U:N3	1:aa:28:A:N7	2.63	0.46
1:aa:147:C:H2'	1:aa:148:C:H6	1.79	0.46
1:aa:1163:C:O2'	1:aa:1589:C:OP2	2.31	0.46
1:aa:1224:C:H2'	1:aa:1225:A:H8	1.79	0.46
1:aa:1396:U:OP2	15:qa:49:LYS:HE2	2.15	0.46
1:aa:1574:U:H5''	13:oa:37:GLY:N	2.29	0.46
1:aa:1592:G:H22	1:aa:1619:A:P	2.39	0.46
1:aa:1592:G:N7	10:la:20:LYS:HE2	2.31	0.46
13:oa:63:GLU:HA	13:oa:66:ARG:HD2	1.96	0.46
14:pa:112:LYS:O	14:pa:116:ILE:HG12	2.16	0.46
15:qa:96:ILE:N	15:qa:116:GLY:O	2.44	0.46
22:xa:58:CYS:SG	22:xa:65:LEU:HD21	2.55	0.46
25:bb:201:THR:HG23	25:bb:201:THR:O	2.15	0.46
29:fb:60:PHE:HZ	29:fb:249:PRO:HB3	1.80	0.46
34:BA:4:GLY:O	34:BA:5:HIS:ND1	2.49	0.46
36:DA:116:VAL:HB	36:DA:126:PHE:HB2	1.97	0.46
37:EA:163:LYS:O	37:EA:167:VAL:HG22	2.16	0.46
42:JA:166:VAL:HG12	42:JA:168:SER:H	1.80	0.46
43:KA:94:ASN:OD1	43:KA:97:ALA:N	2.36	0.46
52:TA:104:LYS:HA	52:TA:107:LYS:HZ3	1.81	0.46
61:CB:146:VAL:O	61:CB:150:ILE:HG12	2.16	0.46
63:EB:300:ASP:OD1	75:RB:1353:A:N6	2.32	0.46
70:LB:89:MET:HE1	75:RB:3262:U:O4'	2.16	0.46
75:RB:822:U:O2	75:RB:921:C:O2'	2.29	0.46
75:RB:1555:G:H1'	75:RB:1556:G:C8	2.51	0.46
75:RB:2088:C:H2'	75:RB:2089:A:C8	2.49	0.46
75:RB:3037:U:H2'	75:RB:3038:U:H6	1.79	0.46
75:RB:3312:G:H2'	75:RB:3313:G:H8	1.80	0.46
1:aa:261:C:H2'	1:aa:262:U:C6	2.51	0.46
1:aa:332:A:H2'	1:aa:333:G:O4'	2.16	0.46
1:aa:611:G:N2	1:aa:618:C:H5''	2.31	0.46
5:ga:13:LEU:HD12	32:ib:100:ARG:HD2	1.98	0.46
6:ha:180:ILE:O	6:ha:191:VAL:HA	2.15	0.46
15:qa:14:ARG:HA	15:qa:17:ILE:HG22	1.98	0.46
15:qa:28:PHE:CE2	15:qa:32:LYS:HD2	2.46	0.46
15:qa:119:ARG:HH21	15:qa:120:ALA:N	2.13	0.46
16:ra:24:PRO:CA	16:ra:75:ARG:HH12	2.28	0.46
19:ua:60:MET:HE1	19:ua:84:ARG:HA	1.97	0.46
24:za:10:ARG:NH1	24:za:11:ALA:O	2.48	0.46
27:db:79:ILE:HD13	27:db:84:VAL:HG23	1.95	0.46
28:eb:115:VAL:HG21	28:eb:131:ILE:HD11	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:HA:28:TRP:NE1	40:HA:32:GLN:HE21	2.12	0.46
40:HA:72:LYS:HZ1	75:RB:2161:G:P	2.38	0.46
41:IA:111:LYS:HD2	75:RB:721:A:C8	2.50	0.46
43:KA:225:TYR:HE2	77:TB:48:G:H5''	1.81	0.46
46:NA:93:VAL:HG22	46:NA:133:TYR:CD2	2.50	0.46
49:QA:120:LEU:HB3	70:LB:51:TYR:CD2	2.51	0.46
50:RA:29:LEU:HD23	50:RA:91:VAL:HG21	1.97	0.46
56:XA:81:LYS:O	56:XA:85:GLU:HG2	2.16	0.46
60:BB:115:PHE:HE1	69:KB:89:LEU:HB2	1.80	0.46
62:DB:61:GLU:OE2	62:DB:357:GLU:HG3	2.16	0.46
62:DB:156:TYR:CE2	75:RB:3229:G:H2'	2.51	0.46
63:EB:240:ASN:OD1	63:EB:242:LEU:HB2	2.16	0.46
65:GB:50:LYS:HB2	65:GB:50:LYS:HE3	1.63	0.46
75:RB:164:C:C2	75:RB:165:C:C5	3.04	0.46
75:RB:596:C:C2	75:RB:602:G:C2	3.04	0.46
75:RB:1673:A:H2'	75:RB:1674:A:H8	1.80	0.46
75:RB:3321:U:H4'	75:RB:3322:A:H5'	1.98	0.46
77:TB:79:A:H8	77:TB:79:A:O5'	1.98	0.46
1:aa:439:C:H5'	5:ga:47:LYS:H	1.81	0.46
1:aa:558:C:N4	1:aa:575:G:O6	2.45	0.46
1:aa:643:U:O2	1:aa:643:U:H2'	2.15	0.46
1:aa:1366:A:O3'	1:aa:1367:U:H2'	2.16	0.46
1:aa:1470:G:O3'	10:la:147:SER:OG	2.28	0.46
6:ha:183:GLY:HA2	6:ha:189:VAL:HG22	1.98	0.46
7:ia:17:PHE:CE2	7:ia:21:LEU:HD11	2.51	0.46
8:ja:82:TYR:CD2	8:ja:83:PRO:HD2	2.50	0.46
12:na:103:ASN:O	12:na:142:ARG:HD2	2.16	0.46
31:hb:160:ARG:HG3	31:hb:186:TYR:CE1	2.51	0.46
33:AA:106:ARG:HA	33:AA:109:LYS:NZ	2.30	0.46
40:HA:73:ARG:HG2	40:HA:75:VAL:HG13	1.96	0.46
46:NA:91:THR:HG22	46:NA:135:LYS:HA	1.98	0.46
48:PA:81:VAL:CG2	48:PA:84:ILE:HD12	2.46	0.46
49:QA:81:THR:HG23	63:EB:151:PRO:O	2.16	0.46
62:DB:284:LYS:NZ	62:DB:354:ALA:O	2.48	0.46
62:DB:305:THR:O	62:DB:307:LYS:HG2	2.15	0.46
65:GB:77:VAL:HA	65:GB:80:ARG:HG2	1.98	0.46
70:LB:189:ILE:O	70:LB:192:ILE:HG22	2.16	0.46
74:PB:76:ARG:NH1	75:RB:1635:A:OP1	2.49	0.46
75:RB:19:C:H2'	75:RB:20:G:C8	2.50	0.46
75:RB:608:G:H2'	75:RB:609:C:H6	1.81	0.46
75:RB:1050:A:H2'	75:RB:1053:C:C5	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:1094:G:H2'	75:RB:1095:C:H6	1.81	0.46
75:RB:1762:G:N3	75:RB:1762:G:H5'	2.30	0.46
75:RB:2711:G:H4'	75:RB:2712:A:H5''	1.98	0.46
75:RB:3012:A:H2'	75:RB:3013:A:C8	2.50	0.46
75:RB:3193:C:H4'	75:RB:3194:C:C5	2.51	0.46
1:aa:105:A:H1'	1:aa:106:A:OP2	2.16	0.46
1:aa:449:A:H1'	1:aa:529:A:H5'	1.97	0.46
1:aa:589:A:H2'	1:aa:590:G:H8	1.81	0.46
1:aa:603:A:H2'	1:aa:604:U:C6	2.50	0.46
1:aa:701:C:H2'	1:aa:702:G:H8	1.81	0.46
1:aa:856:G:H4'	1:aa:857:A:OP1	2.15	0.46
1:aa:1186:U:N3	1:aa:1187:A:N7	2.64	0.46
1:aa:1277:G:N7	1:aa:1437:C:H5'	2.31	0.46
1:aa:1432:C:O2'	1:aa:1434:G:H5'	2.16	0.46
4:da:25:LYS:HB2	4:da:62:GLN:HB2	1.96	0.46
4:da:38:PRO:HD2	4:da:41:GLN:OE1	2.16	0.46
6:ha:20:VAL:HG11	6:ha:39:ARG:HE	1.81	0.46
6:ha:297:LEU:HD22	6:ha:321:ARG:HH22	1.80	0.46
7:ia:133:GLY:HA3	7:ia:156:TYR:O	2.16	0.46
8:ja:126:VAL:HA	8:ja:141:THR:HA	1.96	0.46
9:ka:33:TYR:CE2	9:ka:139:PRO:HG2	2.51	0.46
11:ma:27:ARG:HD2	11:ma:126:ASP:O	2.15	0.46
13:oa:6:GLY:HA3	13:oa:9:PHE:HB2	1.97	0.46
14:pa:75:LEU:HD22	14:pa:80:LEU:HB2	1.97	0.46
17:sa:53:ARG:HH12	17:sa:91:ASN:C	2.23	0.46
19:ua:38:THR:CG2	19:ua:39:GLY:H	2.23	0.46
23:ya:33:ARG:HD3	28:eb:128:ARG:HD2	1.98	0.46
29:fb:251:GLN:HA	29:fb:254:THR:OG1	2.15	0.46
33:AA:132:LEU:HA	33:AA:193:VAL:HG11	1.97	0.46
34:BA:2:PRO:HD3	75:RB:2729:G:N2	2.31	0.46
34:BA:30:TYR:HD2	43:KA:38:ASN:OD1	1.99	0.46
41:IA:21:ARG:NH1	75:RB:644:U:OP1	2.48	0.46
41:IA:32:ARG:NH1	75:RB:802:G:OP1	2.49	0.46
45:MA:98:ASN:O	45:MA:101:SER:OG	2.31	0.46
49:QA:114:ASP:OD2	75:RB:1356:G:C5	2.69	0.46
57:YA:26:ILE:HD12	57:YA:61:LEU:HD11	1.97	0.46
61:CB:132:VAL:O	61:CB:132:VAL:HG22	2.16	0.46
63:EB:358:ILE:C	63:EB:360:SER:H	2.24	0.46
64:FB:33:LEU:HD21	64:FB:93:ILE:HG23	1.98	0.46
66:HB:76:MET:HE3	66:HB:80:ALA:HB3	1.98	0.46
68:JB:98:LYS:NZ	68:JB:120:GLN:HG3	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:MB:18:ILE:HD13	71:MB:35:VAL:HG22	1.98	0.46
75:RB:897:U:H4'	75:RB:898:G:O4'	2.16	0.46
75:RB:1670:G:C6	75:RB:1771:G:N1	2.84	0.46
75:RB:2686:G:H2'	75:RB:2686:G:N3	2.31	0.46
75:RB:2887:A:O2'	75:RB:2930:A:N3	2.41	0.46
75:RB:3156:C:N4	75:RB:3274:G:O6	2.47	0.46
1:aa:97:G:H1	1:aa:391:A:N6	2.13	0.45
1:aa:1132:G:C5	1:aa:1133:C:C5	3.04	0.45
6:ha:270:SER:OG	6:ha:287:PRO:HD3	2.16	0.45
8:ja:125:LYS:HG3	8:ja:142:TYR:HD1	1.80	0.45
8:ja:246:LEU:HD23	8:ja:246:LEU:H	1.80	0.45
9:ka:47:HIS:O	10:la:53:LYS:HE3	2.16	0.45
18:ta:92:MET:HG3	18:ta:104:ARG:HB3	1.98	0.45
30:gb:48:TYR:CE1	30:gb:118:LYS:HA	2.51	0.45
30:gb:58:LYS:C	30:gb:60:GLY:H	2.23	0.45
44:LA:159:PHE:O	44:LA:163:ARG:HG3	2.16	0.45
49:QA:62:SER:OG	49:QA:63:ALA:N	2.48	0.45
55:WA:38:GLN:OE1	55:WA:38:GLN:HA	2.16	0.45
58:ZA:109:LYS:HA	58:ZA:113:VAL:HB	1.98	0.45
61:CB:27:GLU:O	61:CB:30:GLN:HG3	2.16	0.45
62:DB:36:ASP:O	62:DB:188:GLY:HA2	2.16	0.45
63:EB:87:THR:HG22	75:RB:353:A:N1	2.31	0.45
70:LB:205:ARG:HG3	71:MB:10:VAL:HG11	1.98	0.45
72:NB:21:ARG:NH2	72:NB:37:ARG:HD3	2.31	0.45
75:RB:500:C:H42	75:RB:619:C:N4	2.14	0.45
75:RB:660:A:H2'	75:RB:661:A:C8	2.51	0.45
75:RB:1072:C:H2'	75:RB:1073:G:H8	1.81	0.45
75:RB:1193:A:N3	75:RB:1193:A:H2'	2.30	0.45
75:RB:1429:U:H2'	75:RB:1430:C:C6	2.51	0.45
77:TB:28:U:H2'	77:TB:29:C:H5'	1.97	0.45
77:TB:111:U:H2'	77:TB:112:U:O4'	2.16	0.45
77:TB:118:C:H2'	77:TB:119:C:O4'	2.15	0.45
1:aa:351:G:H5'	32:ib:81:MET:CE	2.45	0.45
1:aa:1445:C:H2'	1:aa:1446:C:H6	1.81	0.45
1:aa:1465:C:H5'	13:oa:129:VAL:HG11	1.98	0.45
1:aa:1600:G:C6	1:aa:1613:G:C6	3.04	0.45
1:aa:1657:C:H2'	1:aa:1658:U:C6	2.51	0.45
4:da:50:LYS:HE2	4:da:57:GLU:HG3	1.97	0.45
8:ja:112:HIS:ND1	8:ja:113:SER:O	2.49	0.45
8:ja:171:ASP:OD1	8:ja:172:PHE:N	2.50	0.45
9:ka:95:ILE:HD11	18:ta:66:LEU:HB2	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:ka:124:ILE:HD12	9:ka:124:ILE:H	1.81	0.45
12:na:27:VAL:HG12	12:na:90:ILE:HG22	1.98	0.45
12:na:57:THR:HG22	12:na:59:GLY:H	1.81	0.45
16:ra:98:ASN:HB2	16:ra:101:ARG:HB2	1.98	0.45
19:ua:68:ARG:N	19:ua:71:ASP:OD2	2.39	0.45
20:va:6:LEU:HD23	20:va:6:LEU:O	2.16	0.45
20:va:127:TYR:HE2	20:va:129:HIS:CE1	2.33	0.45
25:bb:30:TYR:CE2	25:bb:94:MET:HA	2.52	0.45
30:gb:30:LYS:HD2	30:gb:36:VAL:HG22	1.97	0.45
31:hb:63:ILE:HB	31:hb:95:PHE:HD1	1.81	0.45
37:EA:111:HIS:CE1	37:EA:117:LYS:HB2	2.50	0.45
43:KA:284:LEU:HA	43:KA:284:LEU:HD12	1.67	0.45
45:MA:30:ARG:CA	45:MA:120:VAL:HG11	2.44	0.45
46:NA:71:GLN:O	46:NA:74:LYS:NZ	2.47	0.45
56:XA:5:ARG:HD3	56:XA:55:LEU:CB	2.46	0.45
61:CB:172:GLU:OE2	61:CB:181:ILE:HG23	2.17	0.45
69:KB:33:ARG:HD3	76:SB:31:G:OP1	2.17	0.45
71:MB:13:TYR:HB3	71:MB:106:PHE:CD1	2.51	0.45
71:MB:108:TYR:O	71:MB:110:SER:N	2.49	0.45
74:PB:4:ARG:HD2	75:RB:1484:A:C2	2.51	0.45
75:RB:405:A:C2	76:SB:17:A:H1'	2.51	0.45
75:RB:502:G:H21	75:RB:3259:C:N4	2.13	0.45
75:RB:2179:U:H2'	75:RB:2180:G:O4'	2.15	0.45
75:RB:2920:U:H2'	75:RB:2921:U:C5	2.51	0.45
75:RB:3275:U:O2'	75:RB:3276:G:H8	2.00	0.45
77:TB:66:G:H2'	77:TB:67:C:O4'	2.15	0.45
1:aa:14:C:H2'	1:aa:15:U:C6	2.52	0.45
1:aa:130:A:C8	1:aa:175:A:C8	3.04	0.45
1:aa:589:A:H2'	1:aa:590:G:C8	2.52	0.45
1:aa:1062:C:HO2'	1:aa:1063:U:P	2.40	0.45
1:aa:1338:U:H2'	1:aa:1339:C:H6	1.80	0.45
1:aa:1556:U:H2'	1:aa:1557:C:C6	2.52	0.45
9:ka:55:LYS:HD2	9:ka:58:ARG:NH2	2.31	0.45
10:la:80:LYS:O	10:la:84:ILE:HG12	2.16	0.45
15:qa:74:GLN:O	15:qa:77:GLU:HG3	2.16	0.45
18:ta:33:GLN:HG3	18:ta:73:ASN:CA	2.46	0.45
28:eb:136:ILE:HD11	28:eb:158:ILE:HG22	1.98	0.45
28:eb:137:ARG:HA	28:eb:142:ILE:HA	1.99	0.45
38:FA:123:ARG:HD3	38:FA:163:LYS:O	2.15	0.45
43:KA:119:TYR:HE1	43:KA:133:GLU:O	1.99	0.45
44:LA:74:ARG:HH12	75:RB:1939:C:H5	1.65	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:MA:120:VAL:O	75:RB:410:G:O2'	2.30	0.45
48:PA:108:LEU:HD12	48:PA:109:LYS:H	1.82	0.45
57:YA:79:ILE:HG23	57:YA:125:ILE:HG23	1.98	0.45
60:BB:81:PRO:O	60:BB:85:ARG:HG3	2.15	0.45
60:BB:124:ALA:CB	69:KB:124:VAL:HB	2.43	0.45
61:CB:155:TYR:HB3	61:CB:162:ARG:HG3	1.98	0.45
68:JB:109:ASN:OD1	68:JB:119:ASN:HB3	2.16	0.45
75:RB:1765:G:H2'	75:RB:1766:U:C6	2.52	0.45
75:RB:2191:A:C5	75:RB:2192:G:C8	3.04	0.45
77:TB:51:G:H2'	77:TB:52:U:C6	2.50	0.45
1:aa:147:C:H2'	1:aa:148:C:C6	2.52	0.45
1:aa:161:G:O3'	30:gb:53:MET:HE1	2.17	0.45
1:aa:304:A:H2'	1:aa:305:A:C8	2.51	0.45
1:aa:334:G:H2'	1:aa:335:A:C8	2.52	0.45
1:aa:615:U:H5''	5:ga:3:LYS:HD3	1.98	0.45
1:aa:825:U:H2'	1:aa:826:C:O4'	2.16	0.45
1:aa:1042:C:H2'	1:aa:1043:C:O4'	2.17	0.45
1:aa:1388:A:H5'	11:ma:65:PRO:HA	1.97	0.45
1:aa:1533:A:H2'	1:aa:1534:A:H8	1.80	0.45
1:aa:1664:U:O2'	75:RB:2285:U:O2'	2.23	0.45
3:ca:37:LYS:NZ	3:ca:94:THR:O	2.42	0.45
10:la:89:GLN:HG3	10:la:122:LEU:O	2.17	0.45
13:oa:16:LEU:HD22	13:oa:99:VAL:HG11	1.99	0.45
29:fb:59:ARG:NH1	29:fb:256:ILE:HD13	2.32	0.45
29:fb:153:TYR:OH	29:fb:159:GLY:O	2.33	0.45
34:BA:109:LYS:HE2	75:RB:1067:G:C4	2.52	0.45
40:HA:201:ARG:HD2	75:RB:687:C:H5'	1.98	0.45
41:IA:126:ILE:HG22	41:IA:127:SER:O	2.16	0.45
43:KA:224:GLU:HB2	77:TB:49:A:OP1	2.17	0.45
60:BB:106:GLU:HG3	75:RB:150:G:H5''	1.98	0.45
63:EB:350:ARG:NH1	63:EB:350:ARG:HA	2.32	0.45
64:FB:77:HIS:O	64:FB:79:ARG:NH1	2.42	0.45
66:HB:176:PHE:HE2	66:HB:199:LEU:HD11	1.80	0.45
71:MB:21:TYR:HD2	71:MB:30:GLU:HA	1.81	0.45
72:NB:55:LYS:O	72:NB:58:GLN:HG2	2.15	0.45
75:RB:169:G:N1	75:RB:246:C:O2	2.50	0.45
75:RB:237:C:H5''	75:RB:238:C:C5	2.52	0.45
75:RB:2191:A:C6	75:RB:2263:A:C6	3.05	0.45
75:RB:2225:A:H2'	75:RB:2226:A:C8	2.51	0.45
75:RB:2507:U:C2	75:RB:2508:A:C8	3.04	0.45
75:RB:3079:G:H2'	75:RB:3080:C:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:3114:C:H2'	75:RB:3115:U:O4'	2.17	0.45
79:cl:56:C:H3'	79:cl:57:G:C8	2.52	0.45
1:aa:27:U:H2'	1:aa:28:A:H8	1.81	0.45
1:aa:141:G:C6	1:aa:171:G:C2	3.04	0.45
1:aa:207:A:H2'	1:aa:208:U:C6	2.51	0.45
1:aa:743:G:H8	1:aa:744:G:H2'	1.82	0.45
1:aa:1205:G:C2	1:aa:1608:A:C8	3.04	0.45
1:aa:1571:G:OP1	16:ra:96:GLN:NE2	2.47	0.45
6:ha:41:LYS:H	6:ha:41:LYS:HG3	1.58	0.45
11:ma:47:LEU:HD11	11:ma:97:ILE:HD13	1.98	0.45
15:qa:101:GLU:OE1	24:za:46:ARG:HG2	2.16	0.45
25:bb:121:ILE:HD11	25:bb:161:ILE:HD13	1.99	0.45
31:hb:76:ILE:O	31:hb:78:VAL:HG22	2.16	0.45
34:BA:94:GLU:OE2	34:BA:94:GLU:N	2.46	0.45
35:CA:83:THR:HG22	35:CA:84:ARG:N	2.31	0.45
39:GA:73:ARG:HG2	39:GA:74:LYS:HG3	1.98	0.45
40:HA:15:GLN:HE22	75:RB:292:A:P	2.37	0.45
44:LA:21:LYS:NZ	75:RB:1870:G:OP2	2.49	0.45
47:OA:6:GLU:HG2	47:OA:7:LEU:N	2.31	0.45
63:EB:346:ALA:O	63:EB:350:ARG:HG2	2.17	0.45
66:HB:205:PRO:HA	77:TB:63:U:H5''	1.98	0.45
69:KB:164:VAL:O	69:KB:164:VAL:HG23	2.17	0.45
75:RB:364:A:H2'	75:RB:365:A:O4'	2.17	0.45
75:RB:404:G:OP1	75:RB:1418:C:O2'	2.29	0.45
75:RB:798:G:H2'	75:RB:799:U:C6	2.51	0.45
75:RB:1397:A:H4'	75:RB:1423:C:H4'	1.98	0.45
75:RB:3341:C:O2'	75:RB:3342:U:H3'	2.17	0.45
76:SB:132:C:H2'	76:SB:133:C:C6	2.51	0.45
79:cl:18:G:O3'	79:cl:60:A:N6	2.48	0.45
1:aa:141:G:C2	1:aa:142:G:C6	3.04	0.45
1:aa:489:C:H2'	1:aa:490:G:H8	1.82	0.45
1:aa:1269:G:H2'	1:aa:1270:U:O4'	2.17	0.45
1:aa:1561:G:N2	1:aa:1563:A:H3'	2.32	0.45
1:aa:1700:G:N3	1:aa:1700:G:H2'	2.31	0.45
15:qa:70:SER:C	15:qa:71:LEU:HD12	2.42	0.45
22:xa:36:ASP:OD2	22:xa:84:LYS:HG2	2.17	0.45
25:bb:126:ASP:OD1	25:bb:136:ARG:HG3	2.17	0.45
28:eb:112:GLN:NE2	28:eb:128:ARG:NE	2.65	0.45
29:fb:111:PHE:CD1	29:fb:125:VAL:HG12	2.51	0.45
31:hb:80:LEU:HD22	31:hb:95:PHE:HE2	1.81	0.45
33:AA:150:ALA:HB2	33:AA:182:LEU:HD22	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:DA:211:HIS:HD2	36:DA:219:ILE:HG23	1.79	0.45
43:KA:33:ARG:NH2	43:KA:72:ASP:OD2	2.47	0.45
55:WA:39:GLY:HA3	75:RB:2762:C:O3'	2.17	0.45
62:DB:5:LYS:HD2	75:RB:2875:G:OP1	2.15	0.45
64:FB:181:LYS:HG3	64:FB:182:LEU:HD12	1.98	0.45
75:RB:192:C:H2'	75:RB:193:U:C6	2.52	0.45
75:RB:2832:C:C2	75:RB:2833:C:C5	3.05	0.45
1:aa:866:U:H2'	1:aa:867:A:O4'	2.16	0.45
1:aa:969:U:H4'	1:aa:970:U:O4'	2.17	0.45
1:aa:1276:U:O2'	1:aa:1279:A:OP2	2.25	0.45
1:aa:1279:A:O5'	1:aa:1279:A:H8	2.00	0.45
1:aa:1374:G:H2'	1:aa:1375:C:C6	2.51	0.45
2:ba:10:VAL:CG2	2:ba:48:ARG:HH22	2.29	0.45
4:da:57:GLU:OE2	4:da:59:PHE:HA	2.17	0.45
6:ha:20:VAL:O	6:ha:39:ARG:N	2.44	0.45
7:ia:42:THR:HG23	7:ia:45:ARG:HB3	1.98	0.45
10:la:19:LYS:HG3	10:la:20:LYS:N	2.24	0.45
16:ra:41:MET:N	16:ra:41:MET:SD	2.89	0.45
24:za:73:GLU:HB2	29:fb:254:THR:HG21	1.99	0.45
24:za:180:TRP:HD1	24:za:206:PHE:HE2	1.64	0.45
33:AA:208:SER:HA	33:AA:211:LEU:HD12	1.99	0.45
38:FA:98:PHE:HD1	38:FA:118:GLY:N	2.14	0.45
42:JA:151:PHE:CE1	75:RB:1112:C:H4'	2.52	0.45
42:JA:177:ARG:HA	42:JA:183:ARG:O	2.17	0.45
42:JA:180:ARG:NH2	75:RB:715:A:OP2	2.49	0.45
44:LA:46:LYS:HA	44:LA:46:LYS:HD3	1.62	0.45
57:YA:11:VAL:HG22	57:YA:63:ILE:HG13	1.98	0.45
57:YA:117:ARG:HD3	75:RB:1299:G:O2'	2.16	0.45
61:CB:12:GLU:HA	61:CB:15:ILE:HG12	1.99	0.45
66:HB:31:ILE:HG21	66:HB:65:LEU:HD11	1.98	0.45
75:RB:5:G:H2'	75:RB:6:A:H8	1.82	0.45
75:RB:1127:U:H4'	75:RB:2632:A:OP2	2.17	0.45
75:RB:1549:A:H2'	75:RB:1550:A:C8	2.52	0.45
75:RB:2996:G:H2'	75:RB:2997:U:C6	2.52	0.45
75:RB:3358:G:H2'	75:RB:3359:A:C8	2.52	0.45
76:SB:81:U:H1'	76:SB:83:C:OP2	2.17	0.45
1:aa:141:G:H2'	1:aa:142:G:C8	2.52	0.45
1:aa:1206:A:H62	1:aa:1462:C:H3'	1.82	0.45
1:aa:1338:U:H2'	1:aa:1339:C:C6	2.52	0.45
1:aa:1553:A:OP1	13:oa:131:VAL:HG22	2.17	0.45
1:aa:1665:U:O2'	1:aa:1666:G:OP1	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:1673:C:H2'	1:aa:1674:C:C6	2.52	0.45
5:ga:45:HIS:CD2	5:ga:102:ALA:HB2	2.52	0.45
8:ja:60:GLU:O	8:ja:64:ILE:HG12	2.17	0.45
9:ka:12:VAL:HG13	9:ka:44:PHE:CE1	2.52	0.45
12:na:28:PHE:HA	12:na:92:ALA:O	2.17	0.45
14:pa:46:MET:O	14:pa:50:ILE:HG12	2.16	0.45
34:BA:139:PHE:O	61:CB:79:VAL:HG22	2.17	0.45
40:HA:39:ILE:HG21	40:HA:63:ARG:NH1	2.32	0.45
40:HA:147:ARG:NH2	75:RB:112:C:OP1	2.49	0.45
42:JA:2:GLY:N	75:RB:1163:A:OP1	2.50	0.45
42:JA:3:ILE:HG12	42:JA:5:LEU:HD23	1.98	0.45
45:MA:74:LYS:HD2	75:RB:3297:A:OP1	2.17	0.45
48:PA:50:ARG:HB3	48:PA:53:ASP:OD2	2.16	0.45
54:VA:26:TRP:CD1	54:VA:26:TRP:H	2.35	0.45
55:WA:3:ASN:HA	55:WA:92:GLU:O	2.16	0.45
59:AB:32:ARG:HE	59:AB:35:LYS:HD2	1.82	0.45
61:CB:108:LEU:O	61:CB:109:ARG:HB2	2.17	0.45
62:DB:200:LYS:HA	62:DB:200:LYS:HE2	1.98	0.45
63:EB:134:THR:OG1	63:EB:256:TRP:HH2	2.00	0.45
69:KB:79:GLU:OE2	69:KB:112:ASN:HB2	2.17	0.45
75:RB:500:C:H42	75:RB:619:C:H42	1.65	0.45
75:RB:643:G:H2'	75:RB:644:U:O4'	2.16	0.45
75:RB:1549:A:HO2'	75:RB:1550:A:P	2.40	0.45
75:RB:2338:A:H5'	75:RB:3052:A:N6	2.32	0.45
75:RB:3225:G:H2'	75:RB:3226:G:C8	2.52	0.45
1:aa:7:G:H2'	1:aa:8:U:H5''	1.99	0.45
1:aa:205:U:H2'	1:aa:206:U:C6	2.52	0.45
1:aa:953:G:H2'	1:aa:954:C:H6	1.82	0.45
1:aa:1627:C:H2'	1:aa:1628:C:H6	1.82	0.45
1:aa:1631:C:C2	1:aa:1632:C:C5	3.04	0.45
6:ha:110:ARG:NH2	6:ha:110:ARG:HG2	2.32	0.45
6:ha:245:LEU:HD13	6:ha:274:TRP:NE1	2.32	0.45
8:ja:42:LEU:HD11	8:ja:109:PHE:HB2	1.98	0.45
10:la:11:GLY:HA2	10:la:102:TYR:CE2	2.51	0.45
15:qa:84:PHE:HZ	24:za:209:ARG:HD3	1.81	0.45
26:cb:20:THR:HG23	26:cb:22:ARG:HG2	1.98	0.45
28:eb:107:LEU:HD23	28:eb:110:ARG:HD2	1.99	0.45
31:hb:185:GLU:OE1	31:hb:186:TYR:N	2.50	0.45
43:KA:10:ARG:HG2	43:KA:10:ARG:NH1	2.32	0.45
43:KA:183:LYS:O	43:KA:187:LYS:N	2.45	0.45
49:QA:57:VAL:HG11	49:QA:106:VAL:HG22	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:TA:92:THR:HG23	52:TA:93:TYR:CD1	2.52	0.45
60:BB:116:PRO:O	69:KB:92:THR:HG23	2.17	0.45
62:DB:113:ASP:OD1	62:DB:114:VAL:N	2.50	0.45
62:DB:288:MET:HG2	62:DB:326:LEU:CD2	2.47	0.45
63:EB:214:TYR:HA	63:EB:257:THR:OG1	2.17	0.45
66:HB:59:ASN:HB3	66:HB:126:CYS:SG	2.56	0.45
74:PB:76:ARG:NH2	75:RB:1635:A:OP1	2.49	0.45
75:RB:171:G:C6	75:RB:244:G:C6	3.05	0.45
75:RB:720:G:HO2'	75:RB:756:C:HO2'	1.57	0.45
75:RB:876:C:H5''	75:RB:877:U:O5'	2.17	0.45
75:RB:1129:G:H2'	75:RB:1130:G:O4'	2.17	0.45
75:RB:1207:A:H2'	75:RB:1208:A:H8	1.82	0.45
75:RB:1226:G:N2	75:RB:1289:G:O2'	2.50	0.45
75:RB:2178:G:O2'	75:RB:2307:U:OP2	2.34	0.45
75:RB:2826:U:N3	75:RB:2827:G:N7	2.64	0.45
75:RB:3146:C:HO2'	75:RB:3281:G:HO2'	1.63	0.45
1:aa:32:U:O2'	1:aa:598:A:N1	2.49	0.45
1:aa:264:G:N2	1:aa:266:C:N3	2.65	0.45
1:aa:284:U:H4'	1:aa:285:G:C8	2.52	0.45
1:aa:467:U:C2	1:aa:468:A:C8	3.04	0.45
1:aa:786:U:H1'	2:ba:15:ARG:NH1	2.32	0.45
1:aa:1622:A:H2'	1:aa:1623:C:C6	2.52	0.45
6:ha:135:ARG:C	6:ha:137:ARG:H	2.25	0.45
9:ka:95:ILE:HD13	9:ka:167:GLU:HG3	1.98	0.45
10:la:44:LEU:HD22	16:ra:23:ASN:HA	1.98	0.45
13:oa:84:LEU:HD12	13:oa:96:SER:C	2.43	0.45
15:qa:37:GLU:HG2	15:qa:37:GLU:O	2.17	0.45
18:ta:52:LEU:HD12	18:ta:85:MET:HE1	1.98	0.45
24:za:34:CYS:HA	24:za:154:THR:O	2.17	0.45
25:bb:51:THR:HG23	25:bb:56:ILE:HA	1.99	0.45
29:fb:217:LEU:O	29:fb:221:VAL:HG12	2.17	0.45
33:AA:145:GLN:O	33:AA:172:PRO:HG2	2.17	0.45
34:BA:9:SER:OG	75:RB:2628:U:OP1	2.30	0.45
36:DA:34:PHE:HE1	36:DA:38:ASN:HD22	1.64	0.45
36:DA:116:VAL:O	36:DA:125:VAL:N	2.33	0.45
36:DA:202:VAL:HG23	75:RB:2178:G:OP1	2.16	0.45
37:EA:51:LYS:HA	37:EA:66:LYS:HA	1.98	0.45
38:FA:4:ILE:HD13	38:FA:60:PHE:HE1	1.82	0.45
38:FA:24:MET:HE1	38:FA:37:ASN:HB2	1.98	0.45
40:HA:114:ARG:HE	40:HA:137:VAL:HG21	1.82	0.45
48:PA:114:ARG:O	48:PA:118:LEU:HD23	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:SA:18:ARG:HG2	51:SA:118:VAL:HG22	1.99	0.45
54:VA:45:ARG:HH21	75:RB:1844:U:H5'	1.82	0.45
66:HB:38:MET:HB3	66:HB:38:MET:HE3	1.77	0.45
70:LB:117:ILE:HG13	70:LB:117:ILE:O	2.17	0.45
72:NB:35:LYS:NZ	75:RB:1748:A:OP1	2.39	0.45
75:RB:112:C:H5'	75:RB:152:C:N4	2.31	0.45
75:RB:834:G:O2'	75:RB:1860:A:N3	2.39	0.45
75:RB:959:U:H2'	75:RB:960:C:C6	2.52	0.45
75:RB:1422:G:OP1	76:SB:20:U:O2'	2.35	0.45
75:RB:2830:A:C6	75:RB:2853:G:C6	3.05	0.45
75:RB:2878:C:H2'	75:RB:2879:U:C6	2.51	0.45
1:aa:53:G:H2'	1:aa:54:C:H6	1.81	0.44
1:aa:216:A:H8	1:aa:836:U:O2	2.00	0.44
1:aa:253:C:H2'	1:aa:254:A:H8	1.81	0.44
1:aa:493:C:N4	1:aa:500:G:H22	2.15	0.44
1:aa:521:U:H2'	1:aa:522:A:O4'	2.15	0.44
1:aa:609:A:OP2	1:aa:610:A:O2'	2.33	0.44
1:aa:611:G:H21	1:aa:618:C:H5''	1.83	0.44
1:aa:1554:G:OP2	13:oa:132:ARG:NH2	2.40	0.44
1:aa:1595:A:H2'	1:aa:1596:G:C8	2.51	0.44
1:aa:1625:U:H2'	1:aa:1626:C:C6	2.52	0.44
3:ca:22:ARG:HE	3:ca:25:ARG:HD3	1.82	0.44
6:ha:130:ILE:HG23	6:ha:142:TRP:HB2	1.98	0.44
9:ka:111:ALA:HB2	9:ka:177:ALA:HB2	1.99	0.44
12:na:31:ALA:HB2	12:na:93:LEU:HD21	1.99	0.44
12:na:126:ILE:O	27:db:57:CYS:HA	2.17	0.44
16:ra:46:TRP:HZ2	16:ra:115:ASN:OD1	2.00	0.44
32:ib:131:PRO:HA	32:ib:137:ARG:HD2	1.99	0.44
33:AA:157:GLU:CD	40:HA:26:ARG:HH22	2.25	0.44
36:DA:241:ARG:NH1	75:RB:2149:G:OP1	2.49	0.44
39:GA:21:PRO:HA	39:GA:54:SER:HA	1.99	0.44
41:IA:51:GLY:O	42:JA:174:GLU:HA	2.17	0.44
43:KA:150:ILE:HD12	43:KA:156:ASN:ND2	2.31	0.44
52:TA:70:ASN:O	52:TA:71:LYS:HB2	2.18	0.44
52:TA:106:ARG:NE	52:TA:126:ARG:HH11	2.14	0.44
56:XA:68:LYS:O	56:XA:72:ILE:HG12	2.17	0.44
69:KB:60:CYS:HB2	69:KB:65:TYR:O	2.17	0.44
69:KB:134:LYS:HB3	75:RB:166:U:OP1	2.17	0.44
75:RB:174:G:H2'	75:RB:175:G:C8	2.51	0.44
75:RB:229:G:H2'	75:RB:230:G:C8	2.48	0.44
75:RB:374:G:O2'	75:RB:399:U:O4	2.30	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:574:C:OP2	75:RB:612:U:N3	2.50	0.44
75:RB:776:G:H2'	75:RB:777:G:O4'	2.17	0.44
75:RB:982:U:H4'	75:RB:983:U:C6	2.52	0.44
75:RB:1601:G:H4'	75:RB:1831:A:H4'	1.99	0.44
75:RB:1669:C:C4	75:RB:1772:G:N2	2.85	0.44
75:RB:1707:C:H2'	75:RB:1708:C:H6	1.81	0.44
75:RB:2869:A:H5'	75:RB:2869:A:N3	2.32	0.44
75:RB:2986:U:H2'	75:RB:2987:G:O4'	2.17	0.44
77:TB:7:G:C2	77:TB:113:G:C5	3.05	0.44
1:aa:4:C:H1'	28:eb:19:ARG:NH1	2.32	0.44
1:aa:786:U:O2'	2:ba:13:ARG:HD2	2.17	0.44
1:aa:841:U:H3'	1:aa:842:G:H5''	1.99	0.44
1:aa:896:C:H2'	1:aa:897:A:C8	2.53	0.44
1:aa:1211:U:H3	1:aa:1462:C:H5	1.63	0.44
1:aa:1409:G:H2'	1:aa:1410:C:C6	2.53	0.44
1:aa:1517:C:H2'	1:aa:1518:C:C6	2.53	0.44
3:ca:191:ARG:HB2	3:ca:194:GLN:HB2	1.99	0.44
6:ha:198:LYS:HG3	6:ha:199:LEU:N	2.32	0.44
6:ha:294:LYS:NZ	15:qa:63:ARG:HH22	2.15	0.44
10:la:14:GLN:HA	10:la:26:ALA:O	2.17	0.44
10:la:120:ARG:O	10:la:124:VAL:HG22	2.17	0.44
13:oa:84:LEU:HD12	13:oa:97:GLN:N	2.32	0.44
24:za:107:HIS:HD1	24:za:137:PRO:HD3	1.83	0.44
28:eb:112:GLN:HG3	28:eb:146:PRO:HB3	1.99	0.44
29:fb:109:LYS:HE2	29:fb:111:PHE:CE1	2.53	0.44
37:EA:40:GLU:OE1	37:EA:46:SER:HA	2.17	0.44
38:FA:95:TYR:HA	38:FA:176:ASP:OD1	2.18	0.44
41:IA:7:LYS:HE3	75:RB:1377:G:OP2	2.17	0.44
41:IA:66:ASN:ND2	69:KB:62:THR:HB	2.30	0.44
43:KA:52:VAL:HG22	43:KA:146:ASP:HB3	1.99	0.44
57:YA:7:HIS:HB2	57:YA:9:TYR:CE1	2.53	0.44
75:RB:83:U:O2'	75:RB:100:C:N4	2.50	0.44
75:RB:104:G:C6	75:RB:105:A:N6	2.86	0.44
75:RB:1224:A:H5'	75:RB:1226:G:H5'	2.00	0.44
75:RB:1659:G:H2'	75:RB:1660:C:H6	1.82	0.44
75:RB:2674:G:O2'	75:RB:2675:A:N7	2.49	0.44
75:RB:3074:G:O2'	75:RB:3075:U:OP1	2.25	0.44
75:RB:3099:A:H2'	75:RB:3100:U:O4'	2.17	0.44
75:RB:3240:G:H3'	75:RB:3241:U:H6	1.82	0.44
1:aa:191:U:O4	3:ca:156:ASN:ND2	2.46	0.44
1:aa:703:G:H2'	1:aa:704:C:O4'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:788:G:H4'	1:aa:789:C:H5''	1.98	0.44
1:aa:1064:U:H2'	1:aa:1065:A:C2	2.52	0.44
1:aa:1298:G:O2'	1:aa:1325:A:N1	2.30	0.44
1:aa:1336:C:O2'	7:ia:162:GLN:HB3	2.17	0.44
1:aa:1366:A:H5'	1:aa:1367:U:C5	2.52	0.44
1:aa:1486:U:H4'	16:ra:24:PRO:HB2	1.98	0.44
1:aa:1805:U:H5'	27:db:79:ILE:HD11	1.98	0.44
2:ba:33:ILE:HG22	2:ba:35:PRO:HD3	1.99	0.44
5:ga:47:LYS:O	5:ga:74:VAL:HG12	2.18	0.44
6:ha:75:PHE:O	6:ha:92:SER:OG	2.27	0.44
8:ja:136:ILE:O	8:ja:136:ILE:HG13	2.17	0.44
12:na:34:PHE:HE1	12:na:98:ARG:NH1	2.15	0.44
14:pa:74:ILE:HG23	14:pa:78:HIS:CE1	2.52	0.44
24:za:130:ASP:O	24:za:134:ASP:HB2	2.17	0.44
25:bb:33:LYS:HD2	25:bb:95:ASN:HD21	1.82	0.44
31:hb:76:ILE:HD12	31:hb:80:LEU:HB2	1.99	0.44
32:ib:130:ARG:O	32:ib:132:LEU:HD12	2.17	0.44
33:AA:26:GLU:HG3	33:AA:28:ARG:HE	1.82	0.44
33:AA:176:VAL:CG2	33:AA:182:LEU:HD11	2.48	0.44
33:AA:222:PHE:HA	33:AA:225:VAL:HG22	1.98	0.44
36:DA:5:ILE:HG22	36:DA:7:ALA:H	1.82	0.44
38:FA:62:THR:HG23	38:FA:65:THR:H	1.83	0.44
39:GA:43:LYS:HG3	39:GA:60:MET:HE3	2.00	0.44
40:HA:47:ARG:O	40:HA:51:LEU:HD13	2.16	0.44
40:HA:112:GLY:C	40:HA:113:LEU:HD12	2.42	0.44
42:JA:82:VAL:O	42:JA:82:VAL:HG13	2.17	0.44
42:JA:179:ARG:HG3	42:JA:179:ARG:HH21	1.83	0.44
43:KA:194:HIS:O	43:KA:198:ILE:HG12	2.17	0.44
51:SA:85:ARG:HD2	51:SA:97:LEU:HD13	2.00	0.44
59:AB:57:GLU:HB3	59:AB:93:MET:HE3	2.00	0.44
65:GB:26:ILE:HG12	65:GB:30:GLU:HG2	1.99	0.44
70:LB:38:LYS:HG3	70:LB:39:ALA:O	2.17	0.44
75:RB:179:G:C4	75:RB:234:G:N2	2.85	0.44
75:RB:503:U:H1'	75:RB:3259:C:N4	2.32	0.44
75:RB:678:G:H2'	75:RB:679:C:O4'	2.16	0.44
75:RB:1138:A:C2	75:RB:1139:A:C8	3.05	0.44
75:RB:1177:G:H2'	75:RB:1178:C:H6	1.81	0.44
75:RB:1687:C:H2'	75:RB:1688:U:C6	2.51	0.44
75:RB:2199:G:H21	75:RB:2200:A:H61	1.66	0.44
75:RB:2612:G:H2'	75:RB:2613:C:C6	2.51	0.44
75:RB:3303:A:C2	75:RB:3377:A:H4'	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:352:U:H4'	3:ca:14:THR:HG22	2.00	0.44
1:aa:506:G:H2'	1:aa:507:G:C8	2.52	0.44
1:aa:546:U:H5	1:aa:548:C:H5'	1.83	0.44
1:aa:930:G:H2'	1:aa:931:A:C8	2.53	0.44
1:aa:1186:U:C2	1:aa:1464:G:N1	2.85	0.44
1:aa:1456:U:H2'	1:aa:1457:C:H6	1.81	0.44
1:aa:1650:G:C5'	67:IB:2:ARG:HH21	2.30	0.44
6:ha:139:ILE:HD12	6:ha:169:VAL:HG11	1.99	0.44
8:ja:197:ASN:OD1	8:ja:198:ARG:N	2.51	0.44
9:ka:139:PRO:O	9:ka:142:ARG:HB3	2.18	0.44
13:oa:9:PHE:HA	13:oa:57:GLY:O	2.18	0.44
15:qa:50:VAL:O	15:qa:54:THR:HG23	2.17	0.44
18:ta:32:LYS:HB2	18:ta:36:LYS:HD2	1.99	0.44
20:va:85:ILE:HD11	20:va:116:ILE:CD1	2.43	0.44
25:bb:207:LEU:O	25:bb:210:VAL:HG23	2.18	0.44
28:eb:160:PHE:HD2	28:eb:167:GLY:HA3	1.82	0.44
29:fb:151:ARG:HB3	29:fb:161:PRO:HB2	1.98	0.44
36:DA:116:VAL:HG12	36:DA:117:GLU:O	2.18	0.44
47:OA:24:ILE:CD1	47:OA:30:VAL:HG12	2.46	0.44
52:TA:97:ILE:HG22	52:TA:101:VAL:HG21	1.99	0.44
74:PB:40:SER:O	74:PB:56:HIS:ND1	2.48	0.44
75:RB:174:G:C4	75:RB:175:G:C8	3.06	0.44
75:RB:240:U:O2'	75:RB:241:G:H8	2.00	0.44
75:RB:919:G:H5'	75:RB:920:A:OP1	2.17	0.44
75:RB:1227:A:OP2	75:RB:1289:G:N2	2.38	0.44
75:RB:1592:U:H1'	75:RB:1593:C:C6	2.52	0.44
75:RB:1765:G:H2'	75:RB:1766:U:H6	1.82	0.44
1:aa:763:A:C5	1:aa:764:U:C6	3.06	0.44
1:aa:1130:A:O3'	67:IB:15:ARG:NH2	2.43	0.44
1:aa:1181:G:O6	13:oa:138:THR:HG21	2.18	0.44
6:ha:17:HIS:CG	6:ha:38:SER:HB2	2.52	0.44
30:gb:80:GLY:HA2	30:gb:85:ARG:HG3	2.00	0.44
34:BA:8:ARG:NH2	34:BA:15:PHE:HD2	2.14	0.44
35:CA:120:GLU:O	35:CA:124:LYS:HG2	2.18	0.44
36:DA:95:THR:N	75:RB:2546:U:O4	2.37	0.44
36:DA:230:PRO:HB3	75:RB:2417:A:N1	2.33	0.44
38:FA:10:MET:HG2	38:FA:54:LEU:HB3	1.99	0.44
40:HA:27:CYS:HB2	40:HA:122:ASN:ND2	2.32	0.44
42:JA:121:THR:OG1	42:JA:123:ASP:OD1	2.35	0.44
43:KA:266:TYR:CD1	77:TB:22:A:C5	3.06	0.44
47:OA:13:GLN:HE21	47:OA:34:ALA:HB3	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:FB:161:LEU:HD22	75:RB:3230:A:C8	2.53	0.44
69:KB:64:LYS:HG2	69:KB:65:TYR:CD1	2.53	0.44
75:RB:185:A:N3	75:RB:206:C:O2'	2.42	0.44
75:RB:1003:G:H2'	75:RB:1004:C:C6	2.53	0.44
75:RB:1622:G:N3	75:RB:1640:A:H2	2.16	0.44
75:RB:1875:A:H3'	75:RB:1876:U:H5'	2.00	0.44
75:RB:3066:A:H2'	75:RB:3067:A:H8	1.82	0.44
1:aa:98:C:H2'	1:aa:99:U:H6	1.83	0.44
1:aa:108:C:H2'	1:aa:109:A:C8	2.52	0.44
1:aa:215:A:H2'	1:aa:215:A:N3	2.32	0.44
1:aa:859:U:O2'	1:aa:860:A:H5'	2.17	0.44
1:aa:1400:G:P	6:ha:294:LYS:HG2	2.57	0.44
1:aa:1614:C:H2'	1:aa:1615:G:C8	2.53	0.44
1:aa:1727:C:H2'	1:aa:1728:G:C8	2.52	0.44
5:ga:56:ILE:HD11	5:ga:114:ILE:HG23	2.00	0.44
6:ha:140:LYS:NZ	6:ha:151:THR:HG23	2.33	0.44
8:ja:160:ILE:HG22	8:ja:172:PHE:HB3	2.00	0.44
10:la:108:LYS:HD2	10:la:108:LYS:C	2.43	0.44
13:oa:73:ASN:HB3	13:oa:76:GLN:OE1	2.18	0.44
13:oa:91:LYS:N	13:oa:91:LYS:HD2	2.32	0.44
15:qa:57:LEU:HD23	15:qa:57:LEU:HA	1.74	0.44
20:va:36:PHE:CE1	20:va:40:MET:HE3	2.53	0.44
25:bb:127:VAL:HG11	25:bb:176:ALA:HB1	2.00	0.44
28:eb:114:LEU:HG	28:eb:150:VAL:HG21	2.00	0.44
37:EA:37:LYS:HE2	37:EA:120:PRO:CB	2.48	0.44
40:HA:91:GLN:HG2	75:RB:2597:C:OP1	2.18	0.44
47:OA:63:LYS:NZ	75:RB:3356:G:OP2	2.44	0.44
51:SA:64:ASN:OD1	51:SA:68:TRP:CD1	2.70	0.44
52:TA:94:CYS:SG	52:TA:121:THR:HG23	2.57	0.44
56:XA:62:ILE:HD12	56:XA:66:PRO:HG2	1.98	0.44
60:BB:8:ALA:O	60:BB:12:TRP:CE3	2.71	0.44
61:CB:139:GLY:N	61:CB:236:ILE:HG13	2.33	0.44
73:OB:47:ARG:HA	73:OB:50:ASN:OD1	2.18	0.44
74:PB:7:TYR:HE2	75:RB:1852:C:H1'	1.83	0.44
74:PB:38:ARG:HE	74:PB:39:ALA:H	1.66	0.44
75:RB:17:G:C2	75:RB:18:G:C5	3.05	0.44
75:RB:160:G:H2'	75:RB:161:C:C6	2.53	0.44
75:RB:821:C:O2'	75:RB:2132:A:N1	2.46	0.44
75:RB:933:U:O4	75:RB:934:C:N4	2.50	0.44
75:RB:2272:A:N7	75:RB:2281:G:C8	2.85	0.44
75:RB:2826:U:C4	75:RB:2827:G:N7	2.85	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:SB:65:G:H2'	76:SB:66:G:H8	1.82	0.44
76:SB:121:A:H2'	76:SB:121:A:N3	2.33	0.44
76:SB:135:A:H2'	76:SB:136:G:O4'	2.18	0.44
1:aa:117:U:H2'	1:aa:118:U:C6	2.52	0.44
1:aa:283:G:O6	1:aa:285:G:O2'	2.36	0.44
1:aa:1070:A:H4'	25:bb:205:PHE:CE1	2.53	0.44
1:aa:1132:G:H2'	1:aa:1133:C:C6	2.52	0.44
1:aa:1355:U:H5''	10:la:27:TYR:CD1	2.53	0.44
1:aa:1616:U:C2	1:aa:1617:U:C5	3.05	0.44
1:aa:1672:U:H2'	1:aa:1673:C:C6	2.52	0.44
8:ja:175:PHE:HD1	8:ja:227:THR:HG23	1.83	0.44
9:ka:46:PRO:HB3	9:ka:65:ILE:HG22	1.99	0.44
16:ra:92:TYR:O	16:ra:108:SER:HB3	2.17	0.44
17:sa:46:PHE:CD2	17:sa:54:PHE:HE2	2.36	0.44
19:ua:82:ALA:HB1	19:ua:86:ARG:HD2	1.99	0.44
25:bb:156:ALA:HB3	25:bb:161:ILE:HD11	1.99	0.44
28:eb:98:VAL:O	28:eb:101:LEU:HG	2.18	0.44
31:hb:83:GLU:OE2	31:hb:83:GLU:N	2.46	0.44
33:AA:193:VAL:O	33:AA:194:LEU:HD12	2.18	0.44
37:EA:24:SER:HB2	75:RB:2672:C:H41	1.82	0.44
40:HA:178:GLY:HA3	75:RB:67:C:O3'	2.18	0.44
59:AB:71:ARG:NE	75:RB:2212:A:OP2	2.49	0.44
63:EB:324:LYS:HA	70:LB:7:MET:HE1	2.00	0.44
64:FB:48:MET:HE3	64:FB:141:CYS:SG	2.58	0.44
70:LB:45:VAL:HG12	70:LB:47:GLU:H	1.83	0.44
71:MB:67:THR:HG22	75:RB:3263:C:C2	2.53	0.44
75:RB:17:G:H2'	75:RB:18:G:H8	1.83	0.44
75:RB:1677:G:H2'	75:RB:1678:U:C6	2.52	0.44
75:RB:2196:U:H2'	75:RB:2197:C:H6	1.83	0.44
75:RB:2249:A:H4'	75:RB:2250:C:H5''	1.99	0.44
75:RB:2402:G:H4'	75:RB:2403:U:OP2	2.18	0.44
79:cl:9:1MG:H5'	79:cl:46:G7M:N3	2.32	0.44
1:aa:647:G:H2'	1:aa:648:C:C6	2.52	0.44
1:aa:814:C:H2'	1:aa:815:A:H8	1.82	0.44
1:aa:1056:A:C2	1:aa:1073:C:C2	3.06	0.44
1:aa:1520:G:H2'	1:aa:1521:G:C8	2.52	0.44
3:ca:45:ARG:NH2	3:ca:59:LEU:HD11	2.33	0.44
3:ca:165:ARG:C	3:ca:167:GLN:H	2.26	0.44
6:ha:31:SER:HB2	6:ha:32:PRO:HD3	2.00	0.44
8:ja:191:ARG:NH2	8:ja:245:LYS:HB3	2.33	0.44
11:ma:106:VAL:O	11:ma:110:THR:HG22	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:qa:113:ASP:O	15:qa:114:LEU:HD22	2.18	0.44
18:ta:55:VAL:N	18:ta:56:PRO:HD2	2.33	0.44
29:fb:153:TYR:CD1	29:fb:157:LYS:HG2	2.52	0.44
31:hb:118:THR:O	31:hb:119:LEU:C	2.61	0.44
42:JA:172:LYS:NZ	75:RB:88:A:N7	2.65	0.44
44:LA:119:MET:HE3	44:LA:119:MET:HB2	1.90	0.44
44:LA:125:LEU:HD23	44:LA:125:LEU:HA	1.83	0.44
45:MA:83:ARG:NH2	75:RB:1451:U:OP1	2.51	0.44
48:PA:20:THR:O	48:PA:20:THR:HG22	2.17	0.44
53:UA:39:TYR:CD1	53:UA:40:PRO:HA	2.53	0.44
54:VA:10:LYS:HD3	75:RB:1829:G:OP1	2.18	0.44
58:ZA:98:VAL:HG11	58:ZA:102:LEU:HD21	2.00	0.44
62:DB:149:GLN:HE22	62:DB:152:LYS:HD2	1.83	0.44
66:HB:20:SER:C	66:HB:22:TYR:H	2.25	0.44
68:JB:111:ARG:NE	75:RB:3117:U:OP2	2.45	0.44
70:LB:180:ASP:O	70:LB:183:VAL:HG22	2.17	0.44
73:OB:44:ARG:NH2	75:RB:778:G:OP1	2.47	0.44
74:PB:82:LEU:HD21	74:PB:90:ARG:HE	1.83	0.44
75:RB:779:U:H5'	75:RB:780:U:OP2	2.18	0.44
75:RB:1617:A:H2'	75:RB:1618:U:O4'	2.18	0.44
75:RB:2582:G:N2	76:SB:155:U:OP2	2.38	0.44
75:RB:2632:A:N6	75:RB:2639:A:OP2	2.38	0.44
75:RB:2791:G:H5'	82:RB:5188:3HE:H2	1.99	0.44
75:RB:3048:G:O2'	75:RB:3049:G:H5'	2.18	0.44
75:RB:3215:A:H3'	75:RB:3216:A:H8	1.83	0.44
75:RB:3240:G:H5'	75:RB:3241:U:OP2	2.18	0.44
1:aa:125:A:H2'	1:aa:126:U:O4'	2.18	0.44
1:aa:650:G:N2	1:aa:702:G:C5	2.86	0.44
1:aa:851:G:C5	1:aa:852:A:C8	3.06	0.44
1:aa:1377:G:H8	1:aa:1377:G:OP2	2.01	0.44
1:aa:1576:C:H4'	1:aa:1577:A:O5'	2.18	0.44
1:aa:1782:C:H2'	1:aa:1783:C:C6	2.53	0.44
2:ba:16:LYS:HD2	2:ba:29:VAL:HG11	2.00	0.44
3:ca:57:ARG:HA	3:ca:57:ARG:HD3	1.75	0.44
14:pa:4:MET:HE3	14:pa:121:ARG:HG2	1.98	0.44
19:ua:50:LYS:HZ3	19:ua:55:GLN:HB3	1.81	0.44
23:ya:43:ARG:HD2	23:ya:44:PHE:CD1	2.46	0.44
29:fb:130:GLU:HB3	29:fb:133:THR:HG22	2.00	0.44
35:CA:87:LEU:HD21	35:CA:131:PHE:CD1	2.53	0.44
37:EA:32:LEU:HA	37:EA:35:ALA:HB3	1.99	0.44
43:KA:10:ARG:HD2	77:TB:66:G:OP1	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:LA:23:TRP:HB2	44:LA:53:LYS:HG3	2.00	0.44
52:TA:97:ILE:CG2	52:TA:101:VAL:HG21	2.48	0.44
56:XA:12:VAL:HG12	56:XA:58:ILE:O	2.18	0.44
60:BB:49:HIS:NE2	60:BB:53:LYS:HD3	2.33	0.44
62:DB:214:LYS:O	62:DB:215:ASP:HB2	2.17	0.44
71:MB:75:LYS:NZ	75:RB:568:C:OP1	2.47	0.44
75:RB:258:C:C4	75:RB:259:G:N2	2.86	0.44
75:RB:1320:G:H2'	75:RB:1320:G:N3	2.32	0.44
75:RB:1614:G:H2'	75:RB:1615:G:H8	1.83	0.44
75:RB:1634:G:H1'	75:RB:1707:C:O2'	2.18	0.44
75:RB:1752:C:H2'	75:RB:1753:A:C8	2.52	0.44
75:RB:2571:G:C5	75:RB:2572:G:C8	3.06	0.44
75:RB:2608:U:H2'	75:RB:2609:U:C6	2.53	0.44
75:RB:2958:G:H2'	75:RB:2959:U:C6	2.53	0.44
75:RB:3184:C:O2	75:RB:3184:C:H2'	2.17	0.44
1:aa:1017:U:H4'	36:DA:247:ARG:HB3	2.00	0.43
1:aa:1351:U:C5	11:ma:64:MET:HE1	2.53	0.43
1:aa:1566:U:H5'	1:aa:1567:G:H4'	1.99	0.43
9:ka:39:MET:HA	9:ka:42:TYR:CD2	2.53	0.43
12:na:95:ILE:HG12	12:na:126:ILE:HG23	1.99	0.43
13:oa:14:ARG:HD3	13:oa:19:ASN:OD1	2.17	0.43
18:ta:68:GLU:HA	18:ta:78:ARG:HH12	1.79	0.43
24:za:21:MET:HE2	24:za:203:VAL:HG11	2.00	0.43
24:za:122:GLU:CD	29:fb:50:LYS:HG2	2.43	0.43
24:za:124:ARG:CZ	29:fb:251:GLN:HB3	2.47	0.43
25:bb:36:LEU:HD23	25:bb:41:ARG:HH21	1.81	0.43
33:AA:237:LYS:NZ	75:RB:2585:G:OP1	2.49	0.43
34:BA:157:VAL:HG11	66:HB:169:ARG:HG3	2.00	0.43
37:EA:65:GLU:HG3	37:EA:67:ILE:HG23	1.99	0.43
40:HA:147:ARG:CG	60:BB:105:LEU:HD21	2.48	0.43
42:JA:92:TYR:HB2	42:JA:93:GLU:OE2	2.18	0.43
43:KA:64:ILE:HG12	43:KA:105:LEU:HD21	1.99	0.43
45:MA:128:ARG:HH22	75:RB:1510:G:H4'	1.83	0.43
48:PA:125:ARG:HH22	75:RB:186:A:P	2.41	0.43
57:YA:54:LYS:NZ	77:TB:99:G:OP2	2.51	0.43
58:ZA:98:VAL:CG1	58:ZA:99:ARG:H	2.28	0.43
63:EB:67:ALA:HB3	63:EB:95:PHE:HE2	1.82	0.43
63:EB:350:ARG:NH2	63:EB:361:LYS:HG3	2.33	0.43
75:RB:111:C:O2'	75:RB:112:C:H5''	2.18	0.43
75:RB:798:G:H2'	75:RB:799:U:H6	1.83	0.43
75:RB:1001:A:H2'	75:RB:1002:A:O4'	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:1127:U:O2'	75:RB:2632:A:OP1	2.36	0.43
75:RB:1321:A:O2'	75:RB:1322:A:H3'	2.17	0.43
75:RB:2148:U:H2'	75:RB:2149:G:H8	1.83	0.43
75:RB:2894:A:H2'	75:RB:2896:C:H5''	1.99	0.43
1:aa:152:G:H1'	30:gb:56:CYS:SG	2.58	0.43
1:aa:273:C:H42	1:aa:289:G:H1	1.65	0.43
1:aa:499:A:N6	1:aa:500:G:H21	2.16	0.43
1:aa:590:G:H2'	1:aa:591:C:H6	1.82	0.43
1:aa:1036:U:H4'	1:aa:1037:G:OP2	2.18	0.43
1:aa:1564:A:H1'	1:aa:1568:U:OP2	2.18	0.43
3:ca:189:SER:HB3	3:ca:201:TYR:CE2	2.53	0.43
5:ga:51:LEU:O	5:ga:95:GLU:HG2	2.19	0.43
6:ha:254:LEU:HD12	6:ha:263:LEU:HD11	2.00	0.43
8:ja:11:ARG:HD3	8:ja:25:GLY:O	2.18	0.43
8:ja:19:MET:HE2	8:ja:108:ARG:HE	1.82	0.43
13:oa:25:LYS:NZ	13:oa:55:ARG:HE	2.16	0.43
20:va:10:LEU:HD21	20:va:36:PHE:CE1	2.54	0.43
24:za:135:HIS:O	24:za:139:LYS:HG3	2.19	0.43
25:bb:157:GLN:C	25:bb:159:SER:H	2.26	0.43
28:eb:22:GLU:OE1	29:fb:192:ARG:HD3	2.19	0.43
31:hb:119:LEU:HD11	31:hb:123:HIS:NE2	2.33	0.43
32:ib:1:MET:HE2	32:ib:1:MET:HB3	1.91	0.43
33:AA:183:GLY:HA2	33:AA:191:ALA:HB2	1.98	0.43
35:CA:68:VAL:O	35:CA:116:LYS:HD2	2.18	0.43
36:DA:152:SER:OG	75:RB:2151:G:N7	2.46	0.43
36:DA:199:VAL:HG21	75:RB:917:A:N7	2.33	0.43
49:QA:16:ASN:C	49:QA:16:ASN:ND2	2.70	0.43
57:YA:31:LEU:HD11	57:YA:43:PHE:HB2	2.01	0.43
60:BB:23:LEU:HD13	60:BB:58:VAL:HG13	2.00	0.43
62:DB:378:ASP:O	62:DB:382:LYS:HG2	2.19	0.43
63:EB:175:LYS:HE3	63:EB:180:TYR:CD2	2.53	0.43
66:HB:50:VAL:HG13	66:HB:152:LEU:HD11	2.00	0.43
71:MB:52:LYS:HA	71:MB:109:PRO:HD2	2.00	0.43
74:PB:52:GLN:HB2	75:RB:1636:C:OP1	2.17	0.43
75:RB:211:A:N6	75:RB:225:G:H2'	2.33	0.43
75:RB:273:U:H2'	75:RB:274:U:H6	1.83	0.43
75:RB:502:G:H2'	75:RB:503:U:C6	2.53	0.43
75:RB:560:C:H2'	75:RB:561:G:O4'	2.18	0.43
75:RB:1076:G:H2'	75:RB:1077:C:C6	2.53	0.43
75:RB:1500:C:C2	75:RB:1523:G:N2	2.86	0.43
75:RB:2922:C:H2'	75:RB:2923:A:O4'	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:3060:U:H2'	75:RB:3061:G:H8	1.83	0.43
1:aa:1627:C:C2	19:ua:41:ARG:HG3	2.54	0.43
6:ha:123:PHE:CE1	6:ha:130:ILE:HD12	2.53	0.43
8:ja:86:PHE:CE2	8:ja:87:MET:HE3	2.53	0.43
11:ma:30:ILE:CG2	11:ma:97:ILE:HB	2.48	0.43
13:oa:25:LYS:HZ2	18:ta:34:LYS:NZ	2.16	0.43
15:qa:105:MET:HE3	24:za:52:ILE:HD12	2.00	0.43
25:bb:33:LYS:O	25:bb:232:HIS:NE2	2.28	0.43
25:bb:109:LYS:O	25:bb:113:LEU:HD23	2.18	0.43
25:bb:125:VAL:CG1	25:bb:169:VAL:HG13	2.48	0.43
33:AA:28:ARG:NH2	35:CA:52:LYS:HD2	2.32	0.43
34:BA:28:THR:HG22	43:KA:69:ILE:HG23	2.01	0.43
35:CA:11:VAL:HG11	35:CA:80:ILE:HB	2.00	0.43
37:EA:25:VAL:O	37:EA:27:GLU:HG3	2.17	0.43
37:EA:133:LEU:HD21	37:EA:164:TRP:CE3	2.53	0.43
38:FA:127:MET:HG3	38:FA:133:ILE:HG23	2.00	0.43
39:GA:121:ILE:HG23	39:GA:139:ILE:CD1	2.48	0.43
43:KA:155:GLY:HA2	43:KA:180:ALA:HB2	2.00	0.43
43:KA:162:LEU:HD11	43:KA:172:ILE:HG21	2.00	0.43
52:TA:101:VAL:O	52:TA:126:ARG:NH1	2.51	0.43
52:TA:122:ASN:HD21	75:RB:1414:C:H4'	1.83	0.43
59:AB:56:TYR:O	59:AB:60:ILE:HG12	2.17	0.43
59:AB:95:SER:HA	59:AB:98:ARG:HG2	1.99	0.43
61:CB:88:VAL:HG12	61:CB:138:TYR:CB	2.48	0.43
62:DB:163:ILE:HD13	62:DB:183:GLU:HG2	2.00	0.43
63:EB:161:ALA:O	63:EB:164:ILE:HG12	2.19	0.43
63:EB:271:PHE:HB3	63:EB:285:ARG:NH2	2.33	0.43
64:FB:172:SER:HB2	75:RB:3171:C:H42	1.83	0.43
69:KB:27:GLN:HB3	69:KB:28:PRO:HD3	1.99	0.43
70:LB:103:LEU:HD12	70:LB:119:ARG:HD2	1.99	0.43
75:RB:1207:A:H2'	75:RB:1208:A:C8	2.53	0.43
75:RB:1514:U:H3'	75:RB:1515:U:C6	2.53	0.43
75:RB:1556:G:O2'	75:RB:1558:A:N6	2.50	0.43
75:RB:2259:U:H2'	75:RB:2260:C:C6	2.53	0.43
75:RB:2765:U:H2'	75:RB:2766:A:C8	2.50	0.43
75:RB:3103:U:H2'	75:RB:3104:G:C8	2.54	0.43
1:aa:5:U:O2'	1:aa:557:G:H4'	2.18	0.43
1:aa:743:G:H2'	1:aa:744:G:C4	2.53	0.43
1:aa:755:U:H2'	1:aa:756:U:C6	2.53	0.43
1:aa:760:G:C6	1:aa:799:A:C6	3.07	0.43
1:aa:822:G:C2	1:aa:823:A:C8	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:1051:G:C6	1:aa:1078:G:N1	2.86	0.43
1:aa:1178:C:H2'	1:aa:1179:C:C6	2.53	0.43
1:aa:1323:U:H2'	1:aa:1324:U:O4'	2.19	0.43
1:aa:1443:U:H2'	1:aa:1444:G:C8	2.53	0.43
1:aa:1550:G:N2	1:aa:1577:A:OP2	2.49	0.43
1:aa:1675:G:H2'	1:aa:1676:G:H8	1.83	0.43
1:aa:1780:U:H2'	1:aa:1781:U:C6	2.54	0.43
2:ba:83:ASP:OD1	2:ba:84:ASN:N	2.51	0.43
3:ca:88:ASN:ND2	3:ca:90:GLU:HB2	2.33	0.43
3:ca:211:TYR:O	3:ca:215:LEU:HG	2.18	0.43
4:da:65:TYR:OH	7:ia:76:ARG:HG2	2.18	0.43
8:ja:196:LYS:NZ	8:ja:217:GLN:OE1	2.29	0.43
9:ka:138:SER:HA	19:ua:73:LEU:HD21	2.00	0.43
14:pa:16:LEU:CD1	14:pa:62:LEU:HD21	2.46	0.43
18:ta:69:ARG:HA	18:ta:72:ILE:HA	1.99	0.43
20:va:35:SER:O	20:va:39:ILE:HG12	2.19	0.43
26:cb:12:TYR:HB3	29:fb:64:GLU:HG3	2.00	0.43
31:hb:30:LEU:HD11	31:hb:41:LEU:HD22	2.00	0.43
31:hb:49:ALA:HA	31:hb:62:VAL:O	2.19	0.43
35:CA:17:ARG:HD2	35:CA:17:ARG:O	2.18	0.43
36:DA:193:ARG:NH2	75:RB:2167:G:OP2	2.41	0.43
36:DA:211:HIS:CD2	36:DA:219:ILE:HG12	2.53	0.43
37:EA:14:ILE:HD13	37:EA:135:ARG:HG3	2.00	0.43
41:IA:129:ILE:HD11	75:RB:722:C:C4	2.53	0.43
42:JA:26:LEU:O	42:JA:30:VAL:HG23	2.18	0.43
42:JA:120:LEU:HD21	42:JA:128:ARG:HH22	1.83	0.43
44:LA:83:GLY:N	75:RB:1860:A:OP1	2.46	0.43
53:UA:2:THR:O	53:UA:7:SER:HB2	2.19	0.43
55:WA:33:ASP:OD1	75:RB:2763:U:O2'	2.36	0.43
58:ZA:117:ARG:NH2	75:RB:1756:C:OP1	2.51	0.43
59:AB:30:SER:HA	59:AB:33:LYS:HB2	2.00	0.43
62:DB:19:ARG:CG	62:DB:235:ARG:HH21	2.32	0.43
62:DB:177:LYS:HG3	75:RB:3301:A:H5''	2.00	0.43
74:PB:42:PRO:HG3	74:PB:54:ILE:HG21	1.99	0.43
75:RB:143:A:H2'	75:RB:144:A:O4'	2.18	0.43
75:RB:269:C:C4	75:RB:270:G:C5	3.07	0.43
75:RB:676:G:H2'	75:RB:677:U:C6	2.54	0.43
75:RB:903:G:H1'	75:RB:1586:A:H62	1.82	0.43
75:RB:1624:G:C6	75:RB:1815:G:N1	2.87	0.43
75:RB:1771:G:C6	75:RB:1772:G:C2	3.06	0.43
75:RB:3320:G:N2	75:RB:3356:G:O2'	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:3379:G:H2'	75:RB:3380:G:H8	1.82	0.43
77:TB:116:U:H2'	77:TB:117:U:O4'	2.18	0.43
1:aa:438:G:OP1	5:ga:75:LYS:HA	2.18	0.43
1:aa:1411:C:H2'	1:aa:1412:A:C8	2.52	0.43
1:aa:1415:G:N2	1:aa:1417:A:H3'	2.33	0.43
1:aa:1482:U:H2'	1:aa:1483:G:H8	1.83	0.43
6:ha:22:THR:OG1	6:ha:77:GLN:O	2.22	0.43
8:ja:136:ILE:HD12	8:ja:148:ARG:HH21	1.83	0.43
9:ka:52:TYR:C	9:ka:54:ALA:H	2.26	0.43
10:la:43:GLU:HA	10:la:55:PHE:HZ	1.83	0.43
15:qa:61:ILE:HD11	15:qa:69:ILE:HD11	2.00	0.43
19:ua:48:ARG:NE	19:ua:58:LEU:HD21	2.32	0.43
24:za:72:ILE:HG13	24:za:78:ILE:HD11	2.01	0.43
25:bb:197:ILE:HB	25:bb:210:VAL:HG11	2.00	0.43
28:eb:135:HIS:HD2	28:eb:166:PHE:HD2	1.67	0.43
33:AA:70:PRO:HA	33:AA:229:TRP:CE3	2.54	0.43
33:AA:136:THR:O	33:AA:139:ILE:HG22	2.19	0.43
33:AA:151:HIS:NE2	33:AA:152:ASP:HB3	2.33	0.43
35:CA:55:ARG:HH11	75:RB:2558:G:P	2.41	0.43
41:IA:35:ALA:O	41:IA:41:HIS:ND1	2.49	0.43
42:JA:4:ASP:CG	61:CB:102:LYS:HZ1	2.25	0.43
46:NA:110:LYS:HE2	46:NA:116:GLN:HB2	2.00	0.43
49:QA:51:LEU:HD13	63:EB:142:ALA:HB2	2.01	0.43
50:RA:64:ALA:HA	50:RA:69:ILE:HG22	1.99	0.43
70:LB:177:LYS:NZ	75:RB:3255:G:N7	2.50	0.43
74:PB:21:ARG:HD2	75:RB:1740:U:O4'	2.19	0.43
74:PB:88:ARG:O	74:PB:92:ILE:HG13	2.18	0.43
75:RB:1:G:O5'	75:RB:2:C:O4'	2.28	0.43
75:RB:268:U:O2'	75:RB:316:A:H1'	2.18	0.43
75:RB:433:C:H2'	75:RB:434:C:C6	2.53	0.43
75:RB:523:C:OP1	75:RB:523:C:H6	2.00	0.43
75:RB:659:C:C2	75:RB:1444:G:N2	2.85	0.43
75:RB:688:G:C6	75:RB:702:G:N1	2.87	0.43
75:RB:2127:U:O4	75:RB:2141:A:H2	2.02	0.43
75:RB:2302:A:N3	75:RB:2958:G:O2'	2.41	0.43
75:RB:2540:C:C2	75:RB:2541:C:C5	3.07	0.43
75:RB:3163:C:H2'	75:RB:3164:C:C6	2.52	0.43
77:TB:31:G:O2'	77:TB:32:A:H5'	2.18	0.43
1:aa:263:C:O2'	1:aa:264:G:OP1	2.35	0.43
1:aa:498:U:O2'	1:aa:499:A:O4'	2.37	0.43
1:aa:518:G:N3	1:aa:519:A:C8	2.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:da:65:TYR:CE2	7:ia:24:MET:HG3	2.53	0.43
7:ia:150:MET:HB3	7:ia:152:PHE:CZ	2.54	0.43
7:ia:154:ASP:OD1	7:ia:155:GLY:N	2.52	0.43
14:pa:23:PRO:HG2	14:pa:26:VAL:HG23	2.00	0.43
15:qa:93:VAL:CG2	24:za:20:GLN:HB3	2.48	0.43
24:za:38:MET:HE3	24:za:153:ASP:O	2.18	0.43
24:za:151:PHE:CE1	24:za:178:LEU:HB3	2.50	0.43
29:fb:150:ARG:HG3	29:fb:165:PRO:HG3	2.01	0.43
31:hb:47:ASN:OD1	31:hb:66:PRO:HG3	2.19	0.43
31:hb:80:LEU:HA	31:hb:83:GLU:CD	2.43	0.43
31:hb:142:ARG:C	31:hb:143:TYR:HD2	2.26	0.43
38:FA:10:MET:HE1	38:FA:76:VAL:HG21	2.01	0.43
40:HA:51:LEU:HD23	40:HA:117:ASN:HB3	2.01	0.43
40:HA:121:VAL:HG22	40:HA:129:TYR:O	2.18	0.43
42:JA:146:GLU:HB2	75:RB:790:G:OP1	2.19	0.43
43:KA:51:PHE:CE1	43:KA:105:LEU:HD23	2.54	0.43
43:KA:199:TYR:HE1	43:KA:243:HIS:CE1	2.37	0.43
46:NA:77:LEU:HD23	46:NA:79:THR:H	1.83	0.43
49:QA:94:GLU:O	49:QA:98:MET:HG2	2.17	0.43
56:XA:10:GLY:O	56:XA:26:VAL:HG13	2.19	0.43
61:CB:49:ARG:HD2	61:CB:185:ASP:OD1	2.19	0.43
62:DB:33:PRO:HA	62:DB:346:LEU:HD13	2.00	0.43
63:EB:119:ASN:HA	75:RB:685:G:OP1	2.18	0.43
69:KB:40:LYS:HA	69:KB:43:VAL:HG22	2.01	0.43
70:LB:127:ALA:O	70:LB:219:PHE:HB3	2.19	0.43
71:MB:9:ARG:HA	71:MB:9:ARG:HD3	1.87	0.43
75:RB:948:C:O2'	75:RB:1409:G:H1'	2.18	0.43
75:RB:1697:G:H2'	75:RB:1698:C:C6	2.54	0.43
75:RB:2615:G:C8	75:RB:2862:U:H5''	2.53	0.43
79:cl:61:C:H2'	79:cl:62:C:C6	2.54	0.43
1:aa:87:A:H2'	1:aa:88:C:H6	1.82	0.43
1:aa:319:A:N1	1:aa:353:G:O2'	2.47	0.43
1:aa:535:C:O2'	2:ba:68:THR:O	2.22	0.43
1:aa:556:G:H2'	1:aa:557:G:C8	2.54	0.43
6:ha:44:LEU:CD1	6:ha:68:ARG:HG2	2.48	0.43
8:ja:85:GLY:O	8:ja:101:LEU:HD23	2.18	0.43
9:ka:124:ILE:HD11	19:ua:44:VAL:HG21	2.01	0.43
13:oa:59:LEU:HD12	13:oa:63:GLU:OE2	2.17	0.43
13:oa:108:ARG:O	13:oa:112:GLU:CB	2.66	0.43
15:qa:71:LEU:O	15:qa:75:GLU:HG2	2.18	0.43
26:cb:23:ILE:HG23	29:fb:235:LEU:HD13	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:cb:70:ARG:HG3	26:cb:71:LEU:HD22	2.00	0.43
28:eb:145:VAL:O	28:eb:145:VAL:HG23	2.18	0.43
29:fb:46:VAL:HG13	29:fb:46:VAL:O	2.18	0.43
29:fb:54:LEU:HD22	29:fb:256:ILE:HD11	2.01	0.43
36:DA:24:LYS:HG3	36:DA:49:ILE:HD12	2.01	0.43
37:EA:150:VAL:HG23	37:EA:155:ARG:HG2	2.01	0.43
40:HA:202:ARG:NH2	40:HA:203:TYR:OH	2.52	0.43
41:IA:29:PRO:HB2	75:RB:967:G:H5'	1.99	0.43
41:IA:75:VAL:HG13	41:IA:109:LEU:O	2.19	0.43
43:KA:54:ARG:NH1	43:KA:147:VAL:O	2.52	0.43
47:OA:40:ARG:NH1	75:RB:3049:G:P	2.92	0.43
47:OA:51:LEU:HD23	75:RB:2105:G:C8	2.53	0.43
49:QA:47:LYS:HE2	49:QA:48:PHE:CZ	2.53	0.43
50:RA:47:ILE:HB	50:RA:94:LEU:HB3	2.00	0.43
61:CB:133:GLU:O	61:CB:229:ALA:HB1	2.18	0.43
62:DB:312:MET:HB2	62:DB:367:SER:HB3	1.99	0.43
65:GB:29:MET:HA	65:GB:32:SER:OG	2.18	0.43
69:KB:68:LYS:HE3	69:KB:158:ARG:CZ	2.49	0.43
71:MB:13:TYR:CE2	71:MB:104:ARG:HG2	2.54	0.43
74:PB:63:LYS:HD2	75:RB:1614:G:OP1	2.18	0.43
75:RB:117:U:H2'	75:RB:118:G:O4'	2.19	0.43
75:RB:175:G:H2'	75:RB:176:A:O4'	2.19	0.43
75:RB:1278:A:H2'	75:RB:1279:C:C6	2.53	0.43
75:RB:1670:G:C4	75:RB:1771:G:N2	2.87	0.43
75:RB:1685:U:H2'	75:RB:1686:U:C6	2.54	0.43
75:RB:1699:C:H2'	75:RB:1700:U:C6	2.54	0.43
75:RB:2206:A:H2'	75:RB:2207:A:C8	2.53	0.43
75:RB:2360:A:H2'	75:RB:2361:A:C8	2.54	0.43
75:RB:2859:U:C2	75:RB:2860:G:C8	3.07	0.43
77:TB:54:A:H2'	77:TB:55:A:H8	1.83	0.43
1:aa:703:G:H5''	1:aa:744:G:H22	1.84	0.43
1:aa:1004:U:H2'	1:aa:1005:C:O4'	2.19	0.43
1:aa:1108:U:H2'	1:aa:1109:U:C6	2.53	0.43
1:aa:1220:C:O2'	1:aa:1450:A:N1	2.42	0.43
1:aa:1549:G:H2'	1:aa:1550:G:C4	2.54	0.43
1:aa:1619:A:O2'	9:ka:70:ASN:HB3	2.18	0.43
6:ha:298:TYR:H	6:ha:316:THR:CG2	2.31	0.43
8:ja:242:LYS:O	8:ja:244:ILE:HD12	2.18	0.43
11:ma:90:MET:HE3	21:wa:52:PHE:CE1	2.54	0.43
12:na:40:THR:HG21	12:na:74:ALA:HB2	2.00	0.43
13:oa:15:VAL:HG22	13:oa:20:VAL:CG1	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:qa:21:TYR:CE1	15:qa:58:MET:HE1	2.54	0.43
16:ra:25:HIS:O	16:ra:29:LYS:HD3	2.19	0.43
18:ta:64:SER:N	18:ta:103:THR:OG1	2.52	0.43
18:ta:94:SER:O	18:ta:101:ILE:HA	2.19	0.43
19:ua:43:GLN:NE2	19:ua:44:VAL:HG23	2.34	0.43
22:xa:16:LEU:O	22:xa:19:LEU:HG	2.18	0.43
25:bb:61:LEU:HG	25:bb:64:ARG:HH21	1.82	0.43
25:bb:191:GLU:O	25:bb:195:LYS:HG2	2.19	0.43
28:eb:138:VAL:HG22	28:eb:158:ILE:HD12	2.01	0.43
31:hb:52:MET:HE3	31:hb:176:ARG:HG2	2.01	0.43
33:AA:46:ARG:NH2	75:RB:2583:G:O2'	2.52	0.43
35:CA:81:MET:HE1	74:PB:95:PHE:CG	2.54	0.43
42:JA:51:ARG:HA	42:JA:54:MET:HG2	2.00	0.43
46:NA:79:THR:HG21	75:RB:1523:G:H5''	2.01	0.43
49:QA:60:GLN:OE1	49:QA:122:ARG:NH2	2.34	0.43
57:YA:13:GLY:HA2	57:YA:61:LEU:HG	2.00	0.43
65:GB:18:TYR:O	65:GB:22:LEU:HD12	2.19	0.43
72:NB:42:LEU:HD22	75:RB:1610:A:H5''	2.00	0.43
75:RB:564:A:H2'	75:RB:565:C:H6	1.84	0.43
75:RB:626:G:H2'	75:RB:627:G:H5'	1.99	0.43
75:RB:890:G:H2'	75:RB:891:U:C6	2.54	0.43
75:RB:1268:G:H22	75:RB:1281:C:H42	1.65	0.43
75:RB:1424:G:H2'	75:RB:1425:G:C8	2.52	0.43
75:RB:1532:A:P	75:RB:1589:G:H22	2.41	0.43
75:RB:1587:G:C2	75:RB:1588:G:C8	3.05	0.43
75:RB:1801:G:C2	75:RB:1802:A:N7	2.86	0.43
75:RB:2758:G:C4	75:RB:2792:U:H5	2.35	0.43
1:aa:180:A:C8	1:aa:181:C:C6	3.07	0.43
1:aa:334:G:O2'	3:ca:33:PRO:HB3	2.19	0.43
1:aa:631:C:H2'	1:aa:632:G:O4'	2.18	0.43
1:aa:1339:C:H5'	11:ma:91:ARG:NH1	2.33	0.43
1:aa:1366:A:H5'	1:aa:1367:U:C6	2.54	0.43
1:aa:1798:G:N7	12:na:146:ARG:NH1	2.64	0.43
3:ca:107:ALA:HB2	3:ca:184:LEU:CD1	2.48	0.43
14:pa:110:ASP:O	14:pa:114:ARG:HG2	2.19	0.43
24:za:153:ASP:OD2	24:za:168:ASN:HA	2.19	0.43
25:bb:165:ARG:O	25:bb:169:VAL:HG23	2.19	0.43
26:cb:41:GLU:O	26:cb:44:LEU:HD23	2.19	0.43
39:GA:96:MET:HG2	47:OA:22:ARG:HG3	2.01	0.43
53:UA:17:THR:OG1	53:UA:29:LEU:HD11	2.19	0.43
70:LB:69:THR:HB	75:RB:505:G:O2'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:MB:59:LYS:NZ	75:RB:3163:C:OP2	2.48	0.43
75:RB:125:G:H2'	75:RB:126:G:H8	1.84	0.43
75:RB:163:U:N3	75:RB:164:C:H1'	2.34	0.43
75:RB:1244:A:N6	75:RB:1248:A:H5''	2.33	0.43
75:RB:2599:G:H2'	75:RB:2600:G:H8	1.84	0.43
75:RB:2838:G:O6	75:RB:2841:C:H2'	2.18	0.43
75:RB:3111:C:H1'	75:RB:3113:C:H41	1.84	0.43
79:cl:67:U:H2'	79:cl:68:C:C6	2.53	0.43
1:aa:304:A:O2'	1:aa:305:A:H5'	2.19	0.43
1:aa:493:C:H41	1:aa:500:G:H22	1.67	0.43
1:aa:865:U:H2'	1:aa:866:U:H6	1.84	0.43
1:aa:897:A:H2'	1:aa:898:U:C6	2.54	0.43
1:aa:1156:A:H2'	1:aa:1157:A:H8	1.84	0.43
1:aa:1212:A:H4'	1:aa:1274:G:P	2.59	0.43
1:aa:1277:G:H4'	1:aa:1278:C:H5''	2.00	0.43
1:aa:1465:C:H4'	17:sa:135:VAL:HG11	2.00	0.43
1:aa:1544:G:C6	1:aa:1546:U:C2	3.07	0.43
4:da:61:TRP:C	4:da:62:GLN:HG3	2.43	0.43
5:ga:127:VAL:HG11	5:ga:132:LEU:HD21	2.01	0.43
6:ha:140:LYS:HZ2	6:ha:151:THR:HG23	1.84	0.43
6:ha:179:THR:HB	6:ha:192:TRP:O	2.19	0.43
6:ha:230:VAL:O	6:ha:230:VAL:HG23	2.19	0.43
8:ja:161:LYS:C	8:ja:162:LEU:HD12	2.44	0.43
9:ka:152:THR:HG22	9:ka:155:ARG:HH12	1.83	0.43
10:la:34:LEU:O	10:la:70:ASP:HA	2.19	0.43
10:la:75:VAL:HG21	10:la:87:ILE:CD1	2.49	0.43
14:pa:25:TRP:CD1	14:pa:25:TRP:H	2.36	0.43
25:bb:86:LEU:HB3	25:bb:98:THR:CG2	2.49	0.43
26:cb:17:CYS:SG	26:cb:20:THR:HG22	2.59	0.43
29:fb:136:ARG:O	29:fb:140:ILE:HG12	2.19	0.43
31:hb:52:MET:HE2	31:hb:52:MET:HB2	1.88	0.43
31:hb:142:ARG:HB2	31:hb:150:VAL:HG22	1.99	0.43
42:JA:44:PHE:O	42:JA:48:ILE:HG12	2.18	0.43
47:OA:24:ILE:HD12	47:OA:30:VAL:HG12	2.00	0.43
51:SA:27:ARG:HB3	51:SA:43:GLU:HG2	2.00	0.43
51:SA:37:ALA:HB3	51:SA:38:PRO:HD3	2.01	0.43
53:UA:18:LEU:HD13	54:VA:12:LYS:NZ	2.34	0.43
56:XA:24:LEU:HD21	56:XA:84:TRP:NE1	2.34	0.43
61:CB:149:LEU:HD23	61:CB:244:ASN:ND2	2.34	0.43
62:DB:286:TYR:OH	62:DB:329:LYS:HD2	2.19	0.43
63:EB:36:ARG:O	63:EB:40:ILE:HG12	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:206:C:H2'	75:RB:207:U:O4'	2.18	0.43
75:RB:535:G:O2'	75:RB:536:C:H6	2.02	0.43
75:RB:962:C:H5'	75:RB:963:U:OP1	2.19	0.43
75:RB:1619:G:H2'	75:RB:1620:U:H6	1.83	0.43
75:RB:1673:A:N1	75:RB:1689:G:C6	2.87	0.43
75:RB:2657:U:H2'	75:RB:2658:G:H8	1.84	0.43
75:RB:3126:A:N3	75:RB:3127:U:H5'	2.34	0.43
75:RB:3377:A:H2'	75:RB:3378:C:O4'	2.19	0.43
79:cl:25:U:H2'	79:cl:26:2MG:C8	2.54	0.43
1:aa:113:A:O2'	1:aa:114:U:H5'	2.18	0.42
1:aa:260:A:C6	1:aa:261:C:C4	3.06	0.42
1:aa:462:G:OP1	2:ba:110:ARG:NH2	2.52	0.42
1:aa:918:G:H3'	1:aa:919:G:H5'	2.01	0.42
1:aa:1162:A:HO2'	1:aa:1163:C:P	2.42	0.42
1:aa:1353:G:HO2'	1:aa:1354:C:P	2.42	0.42
9:ka:51:ARG:CD	10:la:128:ARG:HD3	2.49	0.42
17:sa:90:ARG:HB3	17:sa:126:ALA:HB2	2.01	0.42
25:bb:83:LYS:HD3	25:bb:104:ASP:HB3	2.00	0.42
29:fb:211:ARG:HG3	29:fb:212:GLY:N	2.34	0.42
33:AA:242:THR:O	33:AA:245:ARG:N	2.51	0.42
34:BA:133:ALA:HB3	61:CB:123:LYS:HB2	2.02	0.42
45:MA:73:VAL:HG13	45:MA:80:GLY:HA2	2.01	0.42
46:NA:64:ARG:HH22	76:SB:60:U:P	2.41	0.42
48:PA:85:THR:HG23	48:PA:94:VAL:C	2.44	0.42
51:SA:84:ALA:HB1	51:SA:86:LYS:HZ2	1.84	0.42
52:TA:81:SER:O	52:TA:84:GLU:HG2	2.19	0.42
57:YA:14:ARG:HB3	57:YA:26:ILE:HD13	2.01	0.42
60:BB:108:THR:HG23	60:BB:111:ARG:HH21	1.83	0.42
64:FB:198:LEU:O	64:FB:198:LEU:HD23	2.18	0.42
72:NB:11:PHE:CD2	72:NB:45:LEU:HG	2.54	0.42
73:OB:22:LYS:HG2	75:RB:1109:G:OP2	2.19	0.42
74:PB:6:THR:HG22	75:RB:1489:G:N2	2.35	0.42
75:RB:214:G:C2	75:RB:223:C:C2	3.07	0.42
75:RB:499:A:H2'	75:RB:500:C:O4'	2.19	0.42
75:RB:665:G:H4'	75:RB:666:U:C6	2.54	0.42
75:RB:813:A:H2'	75:RB:814:U:C6	2.54	0.42
75:RB:967:G:H2'	75:RB:968:A:C8	2.54	0.42
75:RB:1426:C:C2	75:RB:1427:C:C5	3.07	0.42
75:RB:1545:G:HO2'	75:RB:1546:G:P	2.41	0.42
75:RB:1699:C:H2'	75:RB:1700:U:H6	1.83	0.42
75:RB:1815:G:HO2'	75:RB:1816:U:P	2.42	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:3160:C:C2	75:RB:3271:G:N2	2.87	0.42
75:RB:3371:G:O3'	75:RB:3372:G:H8	2.02	0.42
1:aa:44:U:P	1:aa:45:U:H5	2.41	0.42
1:aa:159:U:O3'	30:gb:83:CYS:HA	2.20	0.42
1:aa:536:U:O2'	2:ba:38:ALA:O	2.32	0.42
1:aa:1178:C:C2	1:aa:1179:C:C5	3.07	0.42
1:aa:1246:A:H5''	1:aa:1247:G:OP1	2.19	0.42
1:aa:1331:C:C2	1:aa:1332:G:C8	3.07	0.42
1:aa:1523:A:H4'	1:aa:1525:U:C5	2.51	0.42
1:aa:1799:G:N7	12:na:146:ARG:NH2	2.67	0.42
2:ba:25:ARG:NE	2:ba:80:LEU:HD22	2.33	0.42
6:ha:247:ALA:HB3	6:ha:251:ILE:HD11	2.01	0.42
8:ja:115:ARG:HD3	8:ja:118:ASP:OD1	2.19	0.42
9:ka:191:GLU:CD	9:ka:194:ARG:HH22	2.28	0.42
12:na:85:CYS:SG	12:na:90:ILE:HG13	2.59	0.42
22:xa:52:SER:O	22:xa:53:GLN:HB2	2.17	0.42
25:bb:87:ARG:HD2	25:bb:101:TRP:CD2	2.54	0.42
25:bb:116:LYS:HB3	25:bb:117:TRP:CD1	2.54	0.42
25:bb:136:ARG:HB2	25:bb:218:LEU:HD21	2.00	0.42
26:cb:12:TYR:HB3	29:fb:64:GLU:CG	2.48	0.42
31:hb:114:PRO:O	31:hb:116:THR:O	2.38	0.42
32:ib:81:MET:HE2	32:ib:81:MET:HB3	1.89	0.42
33:AA:70:PRO:HG3	40:HA:18:VAL:HA	2.01	0.42
34:BA:44:VAL:HG22	34:BA:58:HIS:ND1	2.34	0.42
44:LA:85:ARG:HH11	44:LA:85:ARG:HG3	1.84	0.42
54:VA:26:TRP:HH2	76:SB:51:G:C5	2.36	0.42
56:XA:85:GLU:OE1	56:XA:94:ILE:HG13	2.18	0.42
57:YA:74:ILE:HD12	57:YA:97:ARG:HH22	1.83	0.42
57:YA:174:PRO:HG3	64:FB:132:LEU:HD11	2.01	0.42
58:ZA:101:TRP:HB3	58:ZA:118:TYR:CE1	2.54	0.42
64:FB:48:MET:HE1	64:FB:146:LEU:HD22	2.01	0.42
66:HB:38:MET:HG3	66:HB:41:LYS:HG2	2.01	0.42
70:LB:40:GLU:OE1	70:LB:40:GLU:N	2.52	0.42
70:LB:60:THR:HG21	75:RB:613:G:H2'	2.02	0.42
70:LB:197:ASP:OD1	70:LB:197:ASP:O	2.36	0.42
75:RB:563:C:HO2'	75:RB:564:A:P	2.41	0.42
75:RB:602:G:H2'	75:RB:603:G:H8	1.83	0.42
75:RB:1141:U:H2'	75:RB:1142:G:C8	2.54	0.42
75:RB:1281:C:H1'	75:RB:1282:A:C8	2.53	0.42
75:RB:1296:C:H2'	75:RB:1297:U:C6	2.54	0.42
75:RB:1628:G:C4	75:RB:1642:G:N7	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:3316:C:H2'	75:RB:3317:A:O4'	2.19	0.42
77:TB:51:G:H8	77:TB:51:G:O5'	2.03	0.42
1:aa:50:C:H2'	1:aa:428:C:H41	1.85	0.42
1:aa:96:G:OP1	8:ja:6:LYS:NZ	2.43	0.42
1:aa:1460:G:H5''	17:sa:90:ARG:NH1	2.34	0.42
1:aa:1599:C:H2'	1:aa:1600:G:C8	2.54	0.42
1:aa:1616:U:H2'	1:aa:1617:U:C6	2.54	0.42
4:da:22:TYR:HE1	7:ia:75:LYS:HB3	1.84	0.42
5:ga:104:PHE:CD2	5:ga:111:VAL:HB	2.53	0.42
6:ha:17:HIS:ND1	6:ha:38:SER:HB2	2.34	0.42
7:ia:45:ARG:NH1	7:ia:46:THR:O	2.52	0.42
15:qa:98:VAL:HB	15:qa:102:THR:HB	2.01	0.42
17:sa:72:ALA:O	17:sa:76:ALA:HB2	2.19	0.42
24:za:46:ARG:HH21	24:za:50:ILE:HD11	1.83	0.42
25:bb:26:LYS:NZ	25:bb:49:SER:OG	2.52	0.42
25:bb:167:LYS:O	25:bb:171:ILE:HG12	2.20	0.42
28:eb:51:LEU:HD12	28:eb:54:ILE:HD11	2.01	0.42
32:ib:98:TYR:O	32:ib:100:ARG:HG3	2.19	0.42
37:EA:37:LYS:HE2	37:EA:120:PRO:HB2	2.01	0.42
40:HA:23:GLN:O	40:HA:122:ASN:ND2	2.53	0.42
41:IA:29:PRO:HB2	75:RB:967:G:C5'	2.50	0.42
46:NA:105:ILE:HG21	46:NA:120:VAL:HG21	2.02	0.42
48:PA:50:ARG:HG3	48:PA:51:LYS:H	1.85	0.42
58:ZA:84:TYR:O	58:ZA:88:LEU:HG	2.20	0.42
75:RB:124:C:H2'	75:RB:125:G:C8	2.52	0.42
75:RB:752:U:H2'	75:RB:753:G:O4'	2.19	0.42
75:RB:1892:A:N3	75:RB:1892:A:H2'	2.34	0.42
75:RB:2124:G:N2	75:RB:2126:C:H5''	2.34	0.42
75:RB:2832:C:H2'	75:RB:2833:C:H6	1.84	0.42
75:RB:2975:U:O2'	75:RB:2976:U:H5'	2.20	0.42
75:RB:3126:A:C2	75:RB:3127:U:H5'	2.54	0.42
77:TB:3:A:H2'	77:TB:4:U:H6	1.84	0.42
1:aa:500:G:N2	1:aa:502:G:OP1	2.52	0.42
1:aa:829:G:H1	1:aa:853:U:H3	1.67	0.42
1:aa:1197:A:H5'	11:ma:82:THR:OG1	2.19	0.42
6:ha:206:HIS:ND1	6:ha:232:LEU:HD12	2.34	0.42
6:ha:311:LEU:HD23	6:ha:323:TYR:CD1	2.54	0.42
9:ka:91:HIS:O	9:ka:94:GLU:HG2	2.20	0.42
20:va:48:ASN:N	20:va:48:ASN:OD1	2.52	0.42
20:va:97:GLN:NE2	29:fb:154:TRP:O	2.50	0.42
24:za:159:ARG:NH1	26:cb:60:ALA:O	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:eb:115:VAL:HG13	28:eb:120:MET:HG3	2.01	0.42
33:AA:45:HIS:ND1	33:AA:45:HIS:O	2.52	0.42
41:IA:109:LEU:HD23	75:RB:711:A:C6	2.54	0.42
42:JA:31:LYS:NZ	49:QA:11:GLU:OE2	2.40	0.42
44:LA:74:ARG:C	44:LA:76:SER:H	2.26	0.42
46:NA:113:TYR:CE1	46:NA:149:ILE:HG21	2.54	0.42
47:OA:35:ASN:OD1	47:OA:35:ASN:N	2.51	0.42
54:VA:20:ASN:ND2	54:VA:42:ARG:O	2.53	0.42
61:CB:94:ILE:HA	61:CB:97:MET:HE2	2.02	0.42
61:CB:112:GLN:HB3	61:CB:115:ASN:OD1	2.19	0.42
62:DB:61:GLU:HG3	62:DB:61:GLU:O	2.19	0.42
65:GB:26:ILE:O	65:GB:30:GLU:HG2	2.20	0.42
75:RB:305:G:H2'	75:RB:306:A:C8	2.54	0.42
75:RB:441:G:C6	75:RB:497:G:C2	3.08	0.42
75:RB:450:C:H42	75:RB:487:C:N4	2.18	0.42
75:RB:509:G:H2'	75:RB:510:C:C6	2.55	0.42
75:RB:1031:A:N6	75:RB:1033:G:N3	2.67	0.42
75:RB:1051:A:N3	75:RB:2630:U:O2'	2.52	0.42
75:RB:1329:G:H2'	75:RB:1330:A:O4'	2.20	0.42
75:RB:1731:A:H2'	75:RB:1732:G:C8	2.54	0.42
75:RB:2287:U:C2	75:RB:2290:U:H5	2.37	0.42
75:RB:2660:G:H2'	75:RB:2661:C:C6	2.55	0.42
76:SB:79:A:H3'	76:SB:80:A:H5''	2.02	0.42
76:SB:80:A:N7	76:SB:82:C:N4	2.67	0.42
1:aa:717:G:H2'	1:aa:718:C:C5	2.54	0.42
1:aa:966:U:H2'	1:aa:967:C:C6	2.54	0.42
1:aa:1108:U:H2'	1:aa:1109:U:H6	1.84	0.42
1:aa:1561:G:O6	17:sa:49:ARG:NH1	2.38	0.42
6:ha:37:SER:HB3	6:ha:79:VAL:HG13	2.01	0.42
6:ha:181:VAL:HG21	6:ha:222:CYS:SG	2.59	0.42
9:ka:108:ILE:O	9:ka:112:ILE:HG12	2.19	0.42
18:ta:84:LEU:O	18:ta:87:ARG:HG3	2.20	0.42
22:xa:25:ARG:HH22	22:xa:31:ASN:ND2	2.18	0.42
26:cb:15:ARG:NH1	29:fb:69:HIS:HA	2.35	0.42
31:hb:52:MET:HE1	31:hb:176:ARG:HG2	2.01	0.42
36:DA:5:ILE:HB	36:DA:8:GLN:HG3	2.00	0.42
36:DA:107:VAL:HG12	36:DA:136:VAL:HG11	2.01	0.42
36:DA:136:VAL:HA	36:DA:148:ILE:HG22	2.02	0.42
36:DA:233:GLN:NE2	75:RB:2604:G:OP1	2.53	0.42
37:EA:47:PRO:HB3	37:EA:71:VAL:HB	2.01	0.42
51:SA:59:ILE:HG12	51:SA:101:VAL:CG1	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:YA:163:ARG:HA	57:YA:163:ARG:HD2	1.93	0.42
60:BB:32:GLN:HG3	60:BB:33:LEU:HD12	2.01	0.42
61:CB:92:ARG:NH2	75:RB:1160:G:OP1	2.46	0.42
65:GB:10:ILE:HG21	65:GB:31:VAL:HG13	2.01	0.42
68:JB:80:PRO:HD2	68:JB:81:SER:H	1.85	0.42
70:LB:110:PHE:CZ	75:RB:3253:A:H2'	2.54	0.42
75:RB:286:C:H2'	75:RB:287:A:C8	2.54	0.42
75:RB:996:A:O2'	75:RB:997:G:H5'	2.20	0.42
75:RB:1614:G:H2'	75:RB:1615:G:C8	2.54	0.42
75:RB:2154:G:H2'	75:RB:2155:G:H8	1.85	0.42
75:RB:2178:G:H2'	75:RB:2179:U:C6	2.53	0.42
75:RB:2805:A:N6	79:cl:76:A:OP1	2.51	0.42
1:aa:27:U:C2	1:aa:28:A:C8	3.07	0.42
1:aa:375:G:H2'	1:aa:376:G:O4'	2.20	0.42
1:aa:397:C:H2'	1:aa:398:C:H6	1.85	0.42
1:aa:1509:C:H2'	1:aa:1510:G:C8	2.55	0.42
2:ba:48:ARG:O	2:ba:51:LYS:HG3	2.20	0.42
8:ja:86:PHE:HE1	8:ja:182:MET:SD	2.43	0.42
15:qa:44:LYS:O	15:qa:48:ASN:ND2	2.52	0.42
23:ya:30:PRO:HB2	23:ya:34:ALA:HB3	2.00	0.42
24:za:56:GLY:O	24:za:60:GLU:HG2	2.19	0.42
25:bb:38:PHE:CG	25:bb:73:LEU:HD23	2.54	0.42
29:fb:172:CYS:SG	29:fb:222:LYS:HE3	2.59	0.42
33:AA:106:ARG:HA	33:AA:109:LYS:HZ2	1.85	0.42
35:CA:26:VAL:HB	35:CA:42:LEU:HD22	2.02	0.42
35:CA:81:MET:HE1	74:PB:95:PHE:CD2	2.54	0.42
42:JA:88:ASP:OD2	42:JA:90:ARG:NH2	2.52	0.42
44:LA:96:MET:HE1	75:RB:1660:C:C5'	2.49	0.42
44:LA:98:ARG:HA	44:LA:101:VAL:HG22	2.02	0.42
54:VA:41:ARG:NH1	75:RB:1520:A:OP1	2.49	0.42
55:WA:53:GLN:HB3	75:RB:2414:U:H4'	2.01	0.42
60:BB:80:ALA:HA	60:BB:81:PRO:HD3	1.93	0.42
61:CB:119:LEU:HA	61:CB:119:LEU:HD23	1.76	0.42
63:EB:351:VAL:O	63:EB:355:LYS:HG3	2.19	0.42
64:FB:18:HIS:ND1	64:FB:47:CYS:SG	2.92	0.42
72:NB:21:ARG:HH21	72:NB:37:ARG:HD3	1.85	0.42
75:RB:135:G:H2'	75:RB:136:C:C6	2.54	0.42
75:RB:286:C:H2'	75:RB:287:A:H8	1.84	0.42
75:RB:1209:G:C6	75:RB:1304:G:N2	2.88	0.42
75:RB:1223:U:O2'	75:RB:1290:A:N1	2.53	0.42
75:RB:1425:G:C4	75:RB:1426:C:C5	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:2511:U:O2'	75:RB:2512:A:H8	2.03	0.42
75:RB:2615:G:O2'	75:RB:2862:U:OP1	2.15	0.42
75:RB:2847:G:H5''	75:RB:2848:A:OP1	2.20	0.42
76:SB:119:C:H2'	76:SB:120:G:O4'	2.19	0.42
79:cl:11:C:H2'	79:cl:12:G:H8	1.82	0.42
1:aa:186:A:N7	1:aa:195:A:H2	2.17	0.42
1:aa:205:U:H2'	1:aa:206:U:H6	1.85	0.42
1:aa:644:U:H4'	1:aa:645:G:OP1	2.19	0.42
1:aa:794:G:C5	8:ja:19:MET:SD	3.13	0.42
1:aa:820:A:O2'	1:aa:822:G:OP2	2.37	0.42
1:aa:856:G:HO2'	1:aa:857:A:C5'	2.32	0.42
1:aa:863:G:O3'	31:hb:114:PRO:HB3	2.20	0.42
1:aa:924:A:H1'	12:na:50:ARG:HD2	2.01	0.42
1:aa:1044:A:H5''	20:va:19:ARG:CZ	2.49	0.42
7:ia:59:LEU:HD13	7:ia:66:ILE:CG1	2.49	0.42
8:ja:71:MET:HE3	8:ja:91:SER:HB2	2.02	0.42
8:ja:253:ARG:HD2	8:ja:253:ARG:HA	1.75	0.42
14:pa:148:THR:HG23	50:RA:86:GLY:HA2	2.00	0.42
21:wa:26:ASN:OD1	21:wa:27:SER:N	2.49	0.42
24:za:69:ILE:CD1	24:za:127:ILE:HD11	2.49	0.42
25:bb:137:MET:HB3	25:bb:172:MET:CE	2.50	0.42
29:fb:51:LEU:HD11	29:fb:71:LEU:HD13	2.02	0.42
35:CA:23:ALA:HB1	35:CA:43:VAL:HG22	2.02	0.42
40:HA:72:LYS:NZ	75:RB:2160:C:O3'	2.52	0.42
41:IA:125:LEU:HD21	59:AB:11:PHE:CD2	2.55	0.42
43:KA:53:VAL:HG13	43:KA:158:VAL:HG22	2.01	0.42
44:LA:98:ARG:O	44:LA:102:LEU:HD23	2.19	0.42
57:YA:168:THR:O	64:FB:126:PRO:HD2	2.20	0.42
57:YA:174:PRO:HB3	75:RB:3195:A:N7	2.34	0.42
59:AB:61:THR:HG22	59:AB:97:LEU:HD21	2.02	0.42
60:BB:96:LEU:HB3	60:BB:100:GLU:HB2	2.01	0.42
62:DB:62:LYS:H	62:DB:68:HIS:CD2	2.38	0.42
62:DB:77:THR:HG21	62:DB:332:CYS:HB2	2.01	0.42
63:EB:143:ARG:NH2	63:EB:246:PRO:HB2	2.35	0.42
63:EB:350:ARG:HA	63:EB:350:ARG:CZ	2.50	0.42
64:FB:14:VAL:HA	64:FB:123:MET:O	2.19	0.42
64:FB:27:ILE:HD11	75:RB:1184:U:H5	1.83	0.42
64:FB:47:CYS:SG	64:FB:130:LYS:HD3	2.60	0.42
69:KB:133:VAL:HG13	69:KB:137:ASP:HB2	2.01	0.42
75:RB:287:A:H2'	75:RB:288:G:C8	2.54	0.42
75:RB:603:G:H2'	75:RB:604:C:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:661:A:H2'	75:RB:662:G:H8	1.85	0.42
75:RB:853:U:H2'	75:RB:854:C:C6	2.54	0.42
75:RB:1022:G:OP1	75:RB:1022:G:H3'	2.19	0.42
75:RB:1389:C:H2'	75:RB:1390:G:O4'	2.19	0.42
75:RB:1580:C:H2'	75:RB:1581:C:H6	1.85	0.42
75:RB:1727:A:H3'	75:RB:1728:G:H5'	2.02	0.42
75:RB:1731:A:H2'	75:RB:1732:G:H8	1.84	0.42
75:RB:2298:G:OP2	75:RB:2298:G:N2	2.49	0.42
75:RB:2767:G:H2'	75:RB:2768:A:C8	2.55	0.42
75:RB:3131:A:C4	75:RB:3132:G:C8	3.08	0.42
75:RB:3312:G:H2'	75:RB:3313:G:C8	2.54	0.42
77:TB:112:U:H2'	77:TB:113:G:H8	1.84	0.42
1:aa:144:U:H2'	1:aa:145:A:C8	2.55	0.42
1:aa:615:U:OP1	5:ga:17:ARG:HD2	2.20	0.42
1:aa:923:U:H2'	1:aa:924:A:C8	2.54	0.42
1:aa:1130:A:O2'	1:aa:1786:A:OP1	2.28	0.42
1:aa:1335:A:H61	7:ia:161:GLY:HA3	1.85	0.42
1:aa:1762:C:H2'	1:aa:1763:A:H8	1.85	0.42
6:ha:117:ASP:O	6:ha:134:SER:OG	2.24	0.42
6:ha:130:ILE:CG2	6:ha:142:TRP:HB2	2.50	0.42
6:ha:138:THR:HB	6:ha:140:LYS:HZ1	1.85	0.42
7:ia:109:LEU:HD23	7:ia:175:VAL:HG21	2.02	0.42
13:oa:21:ASP:OD1	13:oa:21:ASP:C	2.63	0.42
13:oa:114:LEU:HB3	13:oa:122:GLY:HA3	2.02	0.42
14:pa:75:LEU:HD23	14:pa:75:LEU:HA	1.68	0.42
17:sa:105:VAL:CG2	17:sa:129:SER:HB2	2.50	0.42
20:va:50:GLU:OE1	31:hb:140:ARG:HB3	2.19	0.42
25:bb:188:PHE:CE1	25:bb:215:VAL:HG21	2.55	0.42
26:cb:25:THR:OG1	26:cb:28:ASP:OD2	2.33	0.42
28:eb:28:ALA:O	28:eb:31:LYS:HB3	2.20	0.42
31:hb:98:THR:HG23	31:hb:98:THR:O	2.19	0.42
31:hb:156:ASP:CG	31:hb:157:PRO:HD2	2.45	0.42
32:ib:3:GLU:HG3	32:ib:53:THR:O	2.20	0.42
33:AA:109:LYS:HE2	33:AA:110:ARG:NH2	2.34	0.42
37:EA:20:VAL:HG11	75:RB:2679:C:O2'	2.20	0.42
38:FA:44:ASP:O	38:FA:56:VAL:HA	2.19	0.42
39:GA:52:LEU:HD21	75:RB:1897:A:O2'	2.20	0.42
39:GA:123:LYS:HE2	39:GA:140:VAL:HA	2.00	0.42
44:LA:68:GLU:HA	44:LA:71:GLN:NE2	2.34	0.42
46:NA:146:ALA:HA	46:NA:149:ILE:HG12	2.01	0.42
48:PA:39:ARG:HG3	48:PA:44:VAL:O	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:UA:28:HIS:HD2	75:RB:818:G:H5'	1.84	0.42
58:ZA:41:LEU:HD23	58:ZA:72:VAL:HG21	2.01	0.42
58:ZA:55:LYS:HD2	58:ZA:55:LYS:HA	1.78	0.42
63:EB:157:VAL:HG11	63:EB:177:LEU:HD21	2.02	0.42
64:FB:23:ARG:NH1	75:RB:1322:A:N7	2.67	0.42
70:LB:181:GLN:HG3	75:RB:3254:A:C2	2.29	0.42
74:PB:58:ARG:HD2	75:RB:1589:G:OP1	2.19	0.42
75:RB:577:G:H2'	75:RB:578:C:C6	2.55	0.42
75:RB:1108:U:H4'	75:RB:1109:G:C8	2.54	0.42
75:RB:1545:G:H2'	75:RB:1546:G:H8	1.85	0.42
75:RB:1697:G:H2'	75:RB:1698:C:H6	1.85	0.42
75:RB:2881:C:C2	75:RB:2882:C:C5	3.07	0.42
75:RB:3348:G:H2'	75:RB:3349:A:H2	1.85	0.42
1:aa:52:U:H2'	1:aa:53:G:H8	1.85	0.42
1:aa:126:U:H5'	8:ja:148:ARG:HE	1.84	0.42
1:aa:319:A:C2	1:aa:357:A:C5	3.08	0.42
1:aa:492:G:H1	1:aa:503:U:H1'	1.85	0.42
1:aa:518:G:O2'	1:aa:519:A:H8	2.03	0.42
1:aa:629:C:H6	1:aa:629:C:O5'	2.02	0.42
1:aa:877:G:H2'	1:aa:878:U:O4'	2.20	0.42
1:aa:1187:A:H4'	17:sa:133:LYS:CE	2.50	0.42
1:aa:1284:C:H2'	1:aa:1285:G:H8	1.84	0.42
1:aa:1289:U:C2	1:aa:1290:U:H5	2.38	0.42
1:aa:1366:A:H4'	1:aa:1367:U:H2'	2.02	0.42
1:aa:1417:A:P	10:la:120:ARG:HH22	2.43	0.42
1:aa:1428:A:H2'	1:aa:1429:U:H6	1.84	0.42
1:aa:1618:G:N7	10:la:20:LYS:NZ	2.67	0.42
3:ca:67:SER:HA	3:ca:74:THR:HA	2.01	0.42
6:ha:98:ARG:NH2	6:ha:110:ARG:HD2	2.34	0.42
6:ha:174:ASN:HD21	6:ha:177:ALA:HB3	1.84	0.42
8:ja:220:THR:HG22	8:ja:221:ARG:O	2.18	0.42
9:ka:108:ILE:CD1	9:ka:173:LEU:HD13	2.50	0.42
13:oa:111:LEU:O	13:oa:115:LYS:HG2	2.19	0.42
16:ra:41:MET:HG3	16:ra:119:GLU:HG3	2.01	0.42
31:hb:65:VAL:O	31:hb:97:ALA:HA	2.20	0.42
31:hb:100:ARG:O	31:hb:117:ARG:HG3	2.20	0.42
34:BA:117:ALA:O	34:BA:121:VAL:HG23	2.20	0.42
36:DA:28:ARG:NE	36:DA:123:ARG:HH21	2.18	0.42
41:IA:51:GLY:HA2	42:JA:177:ARG:H	1.85	0.42
43:KA:224:GLU:OE1	43:KA:227:LYS:HE3	2.20	0.42
46:NA:57:PRO:O	60:BB:81:PRO:HB3	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:NA:83:MET:HE1	46:NA:152:ILE:HB	2.01	0.42
46:NA:127:ASP:OD2	46:NA:127:ASP:C	2.63	0.42
49:QA:140:LYS:HB3	75:RB:440:U:OP2	2.19	0.42
51:SA:77:ARG:HH22	75:RB:3056:C:P	2.43	0.42
61:CB:232:ARG:O	61:CB:235:TYR:N	2.44	0.42
63:EB:147:ILE:HD12	63:EB:153:PHE:CE2	2.54	0.42
70:LB:29:LYS:NZ	75:RB:607:U:O4	2.52	0.42
71:MB:24:SER:HB3	75:RB:1334:A:OP1	2.20	0.42
75:RB:666:U:H2'	75:RB:667:C:C6	2.54	0.42
75:RB:680:G:O2'	75:RB:789:A:N1	2.38	0.42
75:RB:771:G:C6	75:RB:772:U:C5	3.08	0.42
75:RB:933:U:C4	75:RB:934:C:N4	2.87	0.42
75:RB:1028:G:H1'	75:RB:1033:G:H1	1.85	0.42
75:RB:1235:A:H5''	75:RB:1236:C:H5'	2.00	0.42
75:RB:1317:G:H2'	75:RB:1318:C:C6	2.54	0.42
75:RB:1648:C:H2'	75:RB:1649:G:H8	1.84	0.42
75:RB:1659:G:H2'	75:RB:1660:C:C6	2.54	0.42
75:RB:1942:A:H2'	75:RB:1943:G:H8	1.83	0.42
75:RB:2211:G:H2'	75:RB:2212:A:C8	2.54	0.42
75:RB:2597:C:H2'	75:RB:2598:A:H8	1.83	0.42
1:aa:30:G:C6	1:aa:601:G:C6	3.08	0.42
1:aa:130:A:N6	1:aa:267:G:H2'	2.35	0.42
1:aa:283:G:N7	1:aa:285:G:H1'	2.35	0.42
1:aa:308:U:H2'	1:aa:309:C:H6	1.84	0.42
1:aa:374:A:H2'	1:aa:375:G:H8	1.81	0.42
1:aa:464:A:H5'	1:aa:465:G:OP2	2.20	0.42
1:aa:490:G:N1	1:aa:506:G:O6	2.53	0.42
1:aa:559:A:H4'	28:eb:23:LYS:HD3	2.02	0.42
1:aa:625:A:HO2'	1:aa:1111:C:HO2'	1.57	0.42
1:aa:830:U:C5	1:aa:831:C:N4	2.88	0.42
1:aa:1271:G:HO2'	1:aa:1454:G:HO2'	1.66	0.42
1:aa:1334:G:H2'	1:aa:1335:A:O4'	2.20	0.42
1:aa:1541:C:H4'	1:aa:1547:G:C6	2.55	0.42
1:aa:1587:G:H2'	1:aa:1588:C:C6	2.54	0.42
2:ba:42:LYS:HA	2:ba:45:LEU:HD13	2.02	0.42
6:ha:131:VAL:HG12	6:ha:169:VAL:HG21	2.02	0.42
8:ja:199:GLU:OE2	8:ja:209:HIS:NE2	2.45	0.42
9:ka:170:ALA:O	9:ka:174:ILE:HG12	2.19	0.42
9:ka:187:LYS:O	9:ka:191:GLU:HG2	2.19	0.42
15:qa:15:GLN:O	15:qa:18:GLU:HB2	2.20	0.42
15:qa:40:ILE:O	15:qa:40:ILE:HG13	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:qa:72:LYS:HE2	15:qa:72:LYS:HA	2.01	0.42
22:xa:20:LYS:HE2	22:xa:24:LYS:O	2.19	0.42
24:za:95:ALA:HB2	24:za:102:ALA:HB2	2.02	0.42
26:cb:33:GLN:HA	26:cb:52:PHE:O	2.20	0.42
29:fb:193:VAL:O	29:fb:197:VAL:HG23	2.20	0.42
31:hb:77:HIS:O	31:hb:77:HIS:CG	2.73	0.42
34:BA:62:GLY:CA	34:BA:76:ILE:HG22	2.48	0.42
35:CA:113:LYS:HE2	75:RB:1626:U:H5'	2.01	0.42
36:DA:117:GLU:OE2	36:DA:163:ARG:NH2	2.49	0.42
38:FA:120:LYS:N	75:RB:3030:C:O2	2.53	0.42
38:FA:137:GLU:OE1	38:FA:137:GLU:N	2.52	0.42
40:HA:60:VAL:CG2	40:HA:134:LEU:HB2	2.50	0.42
43:KA:99:TYR:CE1	43:KA:164:GLY:HA2	2.54	0.42
52:TA:14:ARG:NH2	75:RB:425:G:OP1	2.53	0.42
63:EB:8:LEU:HD12	63:EB:24:GLY:C	2.45	0.42
71:MB:30:GLU:C	71:MB:93:ASN:HD22	2.27	0.42
71:MB:42:THR:HG22	71:MB:43:ARG:H	1.85	0.42
75:RB:89:C:H2'	75:RB:90:G:H5'	2.02	0.42
75:RB:567:G:H2'	75:RB:568:C:C6	2.55	0.42
75:RB:593:G:H2'	75:RB:594:C:C6	2.55	0.42
75:RB:967:G:H2'	75:RB:968:A:H8	1.85	0.42
75:RB:1306:A:N1	75:RB:2829:C:O2'	2.42	0.42
75:RB:1330:A:H2'	75:RB:1331:C:O4'	2.19	0.42
75:RB:1339:C:H2'	75:RB:1340:G:H8	1.85	0.42
75:RB:1501:A:H2'	75:RB:1502:U:C6	2.54	0.42
75:RB:1569:U:C6	75:RB:1571:A:H5''	2.55	0.42
75:RB:1892:A:C2	75:RB:1893:G:C5	3.07	0.42
75:RB:2658:G:C6	75:RB:2707:G:O6	2.72	0.42
75:RB:2673:A:H4'	75:RB:2674:G:O5'	2.19	0.42
75:RB:3060:U:H2'	75:RB:3061:G:C8	2.55	0.42
75:RB:3142:G:C2	75:RB:3143:A:C5	3.08	0.42
77:TB:112:U:O2'	77:TB:113:G:H5'	2.20	0.42
1:aa:12:U:H2'	1:aa:13:C:C6	2.55	0.41
1:aa:411:A:H2'	1:aa:412:C:H6	1.83	0.41
1:aa:453:C:OP2	8:ja:58:TYR:OH	2.32	0.41
1:aa:559:A:N3	1:aa:594:C:O2'	2.48	0.41
1:aa:1078:G:H2'	1:aa:1079:G:H5''	2.02	0.41
1:aa:1388:A:HO2'	1:aa:1389:G:H5''	1.84	0.41
1:aa:1399:G:H2'	1:aa:1400:G:H8	1.85	0.41
1:aa:1629:U:H2'	1:aa:1630:G:O4'	2.20	0.41
8:ja:58:TYR:CZ	8:ja:80:LYS:HE2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:ja:157:ASN:OD1	8:ja:222:LEU:HD21	2.19	0.41
9:ka:92:THR:O	9:ka:95:ILE:HG22	2.19	0.41
12:na:102:GLY:H	12:na:134:PRO:HB2	1.85	0.41
24:za:48:ASP:OD1	24:za:49:GLY:N	2.53	0.41
28:eb:26:LEU:O	28:eb:30:LEU:HD23	2.20	0.41
28:eb:119:GLY:C	28:eb:120:MET:HG2	2.45	0.41
38:FA:10:MET:HE1	38:FA:76:VAL:CG2	2.50	0.41
40:HA:201:ARG:HG3	40:HA:201:ARG:NH1	2.35	0.41
51:SA:31:CYS:HB2	51:SA:36:LYS:HG2	2.02	0.41
52:TA:80:VAL:HG13	52:TA:112:ARG:HG2	2.01	0.41
61:CB:213:LEU:HD12	75:RB:512:G:OP1	2.20	0.41
61:CB:213:LEU:HD23	61:CB:214:GLY:N	2.35	0.41
62:DB:43:LEU:HD12	62:DB:184:ILE:CG2	2.50	0.41
62:DB:288:MET:HG2	62:DB:326:LEU:HD23	2.02	0.41
63:EB:30:VAL:HG23	63:EB:283:LEU:HD11	2.02	0.41
63:EB:65:THR:OG1	75:RB:362:G:OP1	2.36	0.41
66:HB:95:HIS:HB3	66:HB:126:CYS:O	2.20	0.41
75:RB:121:A:N7	75:RB:145:U:N3	2.68	0.41
75:RB:132:U:O2'	75:RB:133:G:O5'	2.37	0.41
75:RB:572:U:OP2	75:RB:613:G:O2'	2.36	0.41
75:RB:1684:U:H5''	75:RB:1685:U:H5'	2.02	0.41
75:RB:2101:A:H2'	75:RB:2102:C:H6	1.85	0.41
75:RB:2203:G:H2'	75:RB:2204:U:O4'	2.19	0.41
75:RB:2424:C:C4	75:RB:2425:U:C4	3.08	0.41
75:RB:2878:C:H2'	75:RB:2879:U:H6	1.84	0.41
1:aa:53:G:H2'	1:aa:54:C:C6	2.55	0.41
1:aa:406:C:OP1	8:ja:3:ARG:NH2	2.54	0.41
1:aa:450:A:C6	1:aa:451:U:C4	3.08	0.41
1:aa:636:U:OP1	32:ib:103:LYS:HE3	2.19	0.41
1:aa:1092:A:H5'	1:aa:1302:C:C5	2.55	0.41
1:aa:1455:U:H2'	1:aa:1456:U:C6	2.54	0.41
1:aa:1655:U:C2	1:aa:1764:G:N2	2.88	0.41
3:ca:102:ILE:HG12	3:ca:211:TYR:HD1	1.85	0.41
6:ha:31:SER:O	6:ha:33:PHE:N	2.44	0.41
10:la:32:ARG:HG3	10:la:33:GLY:N	2.34	0.41
16:ra:44:PRO:HB2	16:ra:46:TRP:CD1	2.54	0.41
16:ra:73:MET:HE3	16:ra:88:PHE:CD2	2.55	0.41
18:ta:93:VAL:HG22	18:ta:95:ILE:HG23	2.02	0.41
20:va:67:ARG:HG3	29:fb:240:TRP:NE1	2.35	0.41
24:za:19:ILE:O	24:za:23:LEU:HD23	2.19	0.41
24:za:175:ILE:O	24:za:179:TYR:HD1	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:fb:109:LYS:HE2	29:fb:111:PHE:CZ	2.55	0.41
30:gb:198:ASP:HA	30:gb:201:LYS:HE2	2.02	0.41
31:hb:61:VAL:CG1	31:hb:93:VAL:HG12	2.51	0.41
36:DA:96:LEU:HD23	65:GB:83:ILE:HG23	2.02	0.41
37:EA:22:ASN:HD22	75:RB:2679:C:H1'	1.85	0.41
37:EA:81:LEU:HD23	37:EA:129:PHE:HE2	1.85	0.41
38:FA:132:THR:OG1	38:FA:146:ASP:OD1	2.33	0.41
42:JA:81:ILE:HG23	42:JA:81:ILE:O	2.20	0.41
43:KA:15:ARG:HH12	75:RB:1007:A:H1'	1.85	0.41
44:LA:139:MET:O	44:LA:142:ILE:HG22	2.20	0.41
54:VA:25:TYR:CD2	54:VA:29:MET:HE1	2.56	0.41
60:BB:63:ASN:HD22	76:SB:98:U:H5'	1.84	0.41
61:CB:222:HIS:CE1	61:CB:224:VAL:HG23	2.55	0.41
62:DB:46:PHE:HE1	62:DB:206:VAL:HG13	1.85	0.41
63:EB:111:TRP:CZ3	69:KB:21:VAL:HG21	2.55	0.41
75:RB:123:U:H2'	75:RB:124:C:H6	1.85	0.41
75:RB:542:G:H3'	75:RB:542:G:N3	2.35	0.41
75:RB:556:U:H2'	75:RB:557:C:C6	2.55	0.41
75:RB:1286:G:C2	75:RB:1287:C:C6	3.08	0.41
75:RB:1677:G:H1	75:RB:1685:U:H3	1.69	0.41
77:TB:60:G:H2'	77:TB:61:C:H6	1.86	0.41
1:aa:206:U:H2'	1:aa:207:A:H8	1.85	0.41
1:aa:279:C:C4	1:aa:285:G:C2	3.08	0.41
1:aa:605:A:OP2	5:ga:107:LYS:HD2	2.19	0.41
1:aa:827:C:H5'	1:aa:828:G:OP2	2.21	0.41
1:aa:1348:A:H2'	1:aa:1349:A:C8	2.55	0.41
1:aa:1363:G:OP2	1:aa:1363:G:H8	2.03	0.41
1:aa:1483:G:C6	1:aa:1539:A:N1	2.89	0.41
1:aa:1748:U:H2'	1:aa:1749:C:C6	2.55	0.41
2:ba:59:ASN:HD21	2:ba:102:LEU:HD21	1.85	0.41
8:ja:241:GLY:O	8:ja:243:GLY:N	2.43	0.41
20:va:100:TYR:HA	20:va:112:HIS:CE1	2.55	0.41
26:cb:44:LEU:O	26:cb:45:TYR:HB2	2.21	0.41
29:fb:216:THR:HG23	29:fb:216:THR:O	2.20	0.41
31:hb:44:LEU:HD13	31:hb:73:PHE:HE2	1.85	0.41
36:DA:101:VAL:C	36:DA:102:LEU:HD12	2.45	0.41
41:IA:83:PRO:HD2	41:IA:86:LYS:HE2	2.02	0.41
45:MA:138:ASN:HB3	75:RB:2350:A:H5'	2.01	0.41
51:SA:60:ASP:HB2	51:SA:102:THR:HG22	2.02	0.41
57:YA:136:CYS:SG	57:YA:145:HIS:HE1	2.43	0.41
60:BB:71:ARG:HE	60:BB:84:LEU:CD1	2.31	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:CB:89:VAL:HA	61:CB:115:ASN:O	2.20	0.41
61:CB:219:LYS:HE3	75:RB:1172:A:H4'	2.02	0.41
63:EB:52:ARG:HD3	75:RB:336:A:C5	2.56	0.41
69:KB:3:LYS:HG3	75:RB:968:A:H5'	2.02	0.41
71:MB:2:VAL:HA	75:RB:3168:A:OP1	2.20	0.41
71:MB:3:LYS:NZ	75:RB:3202:C:OP1	2.47	0.41
75:RB:63:G:H21	75:RB:322:A:N6	2.17	0.41
75:RB:973:U:H2'	75:RB:974:G:C8	2.55	0.41
75:RB:1002:A:O2'	75:RB:1003:G:H5'	2.20	0.41
75:RB:1233:G:C6	75:RB:1285:U:O2	2.73	0.41
75:RB:1448:U:H5''	75:RB:1449:A:OP2	2.21	0.41
75:RB:2287:U:C2	75:RB:2290:U:C5	3.09	0.41
76:SB:126:A:C8	76:SB:130:G:N1	2.88	0.41
1:aa:210:A:C6	1:aa:256:G:C6	3.09	0.41
1:aa:410:U:H2'	1:aa:411:A:C8	2.56	0.41
1:aa:610:A:H4'	1:aa:611:G:H3'	2.02	0.41
1:aa:829:G:C6	1:aa:830:U:C4	3.08	0.41
1:aa:1006:A:H8	1:aa:1006:A:O5'	2.03	0.41
1:aa:1732:A:O2'	30:gb:67:VAL:HG23	2.20	0.41
5:ga:109:HIS:HD2	5:ga:110:ALA:H	1.67	0.41
6:ha:20:VAL:HA	6:ha:318:GLY:H	1.85	0.41
6:ha:322:ILE:O	6:ha:322:ILE:HG13	2.20	0.41
6:ha:322:ILE:O	6:ha:323:TYR:HD2	2.04	0.41
9:ka:98:LEU:O	9:ka:98:LEU:HD23	2.19	0.41
11:ma:26:HIS:NE2	11:ma:125:SER:O	2.53	0.41
18:ta:92:MET:HG3	18:ta:104:ARG:CB	2.51	0.41
25:bb:40:SER:OG	25:bb:75:ASN:OD1	2.38	0.41
34:BA:108:ARG:NH1	34:BA:130:ARG:HD3	2.35	0.41
38:FA:80:ILE:O	38:FA:84:THR:HG23	2.20	0.41
42:JA:154:ALA:O	42:JA:157:VAL:HG22	2.21	0.41
47:OA:48:PRO:O	47:OA:54:THR:OG1	2.25	0.41
49:QA:22:LYS:NZ	75:RB:1427:C:OP1	2.52	0.41
50:RA:45:LEU:HD13	50:RA:104:ILE:HG22	2.01	0.41
51:SA:41:ILE:HG21	75:RB:1462:C:H5''	2.02	0.41
52:TA:61:ASP:OD1	52:TA:62:LYS:N	2.52	0.41
53:UA:10:LYS:NZ	75:RB:822:U:OP1	2.51	0.41
54:VA:51:PHE:CD1	54:VA:51:PHE:C	2.99	0.41
56:XA:40:ALA:HB1	56:XA:41:PRO:HD2	2.03	0.41
57:YA:35:ASN:C	57:YA:35:ASN:OD1	2.63	0.41
60:BB:67:ARG:HE	76:SB:97:G:H5'	1.85	0.41
61:CB:11:PRO:N	61:CB:14:VAL:HG22	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:DB:156:TYR:CE2	75:RB:3229:G:H8	2.37	0.41
63:EB:171:ILE:O	63:EB:175:LYS:HG2	2.21	0.41
66:HB:22:TYR:CE2	75:RB:1052:A:H2'	2.55	0.41
69:KB:56:PRO:HB3	69:KB:75:PHE:CD2	2.55	0.41
72:NB:2:PRO:HG2	75:RB:1611:G:O5'	2.20	0.41
74:PB:69:ARG:NH1	75:RB:1642:G:OP1	2.48	0.41
75:RB:16:A:H61	76:SB:144:C:N4	2.15	0.41
75:RB:108:A:C4	75:RB:321:A:N6	2.88	0.41
75:RB:239:C:O2'	75:RB:240:U:H5'	2.21	0.41
75:RB:581:G:H2'	75:RB:582:C:C6	2.55	0.41
75:RB:635:U:C4	75:RB:636:C:N4	2.88	0.41
75:RB:1088:A:H2'	75:RB:1089:G:O4'	2.21	0.41
75:RB:1596:G:N2	75:RB:1607:C:C2	2.87	0.41
75:RB:1755:A:H2	75:RB:1764:G:H1	0.54	0.41
75:RB:1948:G:C6	75:RB:2089:A:C6	3.08	0.41
1:aa:392:G:C6	1:aa:414:A:C6	3.08	0.41
1:aa:629:C:H2'	1:aa:630:U:H6	1.85	0.41
1:aa:1344:U:H5'	1:aa:1344:U:O2	2.21	0.41
1:aa:1506:G:H2'	1:aa:1507:G:C8	2.55	0.41
1:aa:1509:C:H41	16:ra:114:ARG:NH2	2.18	0.41
1:aa:1662:G:C6	1:aa:1755:G:C6	3.09	0.41
6:ha:256:PHE:HA	6:ha:262:TRP:O	2.20	0.41
8:ja:80:LYS:HB2	8:ja:80:LYS:HE3	1.93	0.41
8:ja:149:TYR:HB3	30:gb:213:TYR:CD1	2.55	0.41
12:na:75:MET:O	12:na:79:GLN:HG3	2.20	0.41
13:oa:65:ASP:HA	13:oa:68:MET:HE3	2.03	0.41
17:sa:70:ARG:HA	17:sa:73:LYS:CE	2.50	0.41
18:ta:33:GLN:HG3	18:ta:73:ASN:HA	2.02	0.41
20:va:49:PHE:HB3	20:va:62:VAL:HA	2.02	0.41
28:eb:148:PHE:CD2	28:eb:150:VAL:HG12	2.55	0.41
33:AA:99:ASP:O	33:AA:103:LYS:HB2	2.20	0.41
37:EA:22:ASN:ND2	75:RB:2679:C:H1'	2.36	0.41
48:PA:50:ARG:HH11	48:PA:51:LYS:H	1.68	0.41
49:QA:40:LEU:HD23	49:QA:122:ARG:HD3	2.01	0.41
51:SA:52:MET:O	51:SA:54:THR:HG23	2.20	0.41
61:CB:88:VAL:HG12	61:CB:138:TYR:HB2	2.03	0.41
61:CB:157:LYS:NZ	61:CB:202:ASN:OD1	2.52	0.41
62:DB:310:THR:HG21	62:DB:320:VAL:HG23	2.03	0.41
63:EB:378:LYS:O	63:EB:382:GLN:HG2	2.20	0.41
72:NB:12:LEU:HD23	72:NB:12:LEU:HA	1.82	0.41
75:RB:142:G:H4'	76:SB:147:C:OP1	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:241:G:H2'	75:RB:242:U:C6	2.55	0.41
75:RB:284:U:H2'	75:RB:285:G:H8	1.85	0.41
75:RB:559:U:H2'	75:RB:560:C:C6	2.56	0.41
75:RB:1677:G:H2'	75:RB:1678:U:H6	1.84	0.41
75:RB:2246:G:N2	75:RB:2257:U:C2	2.88	0.41
75:RB:2558:G:H2'	75:RB:2559:C:H6	1.85	0.41
75:RB:2707:G:C6	75:RB:2708:U:C4	3.09	0.41
75:RB:2764:U:H2'	75:RB:2765:U:H6	1.86	0.41
77:TB:114:C:H2'	77:TB:115:A:C8	2.55	0.41
1:aa:259:A:H2'	1:aa:260:A:O4'	2.20	0.41
1:aa:546:U:C5	1:aa:548:C:H5'	2.55	0.41
1:aa:786:U:H1'	2:ba:15:ARG:HH11	1.84	0.41
1:aa:849:G:H2'	1:aa:850:G:H8	1.83	0.41
1:aa:905:A:H2'	1:aa:906:G:H8	1.84	0.41
1:aa:1284:C:H2'	1:aa:1285:G:C8	2.55	0.41
1:aa:1444:G:C6	1:aa:1445:C:C4	3.09	0.41
1:aa:1798:G:C8	12:na:146:ARG:NH1	2.88	0.41
3:ca:189:SER:HB3	3:ca:201:TYR:HE2	1.84	0.41
6:ha:198:LYS:HG3	6:ha:199:LEU:H	1.84	0.41
6:ha:233:LEU:C	6:ha:234:TRP:CD1	2.98	0.41
6:ha:245:LEU:HD22	6:ha:274:TRP:CD2	2.56	0.41
9:ka:92:THR:HA	9:ka:95:ILE:HG22	2.01	0.41
12:na:34:PHE:CE1	12:na:98:ARG:NH1	2.88	0.41
12:na:62:VAL:HG21	12:na:68:GLU:HA	2.02	0.41
12:na:124:MET:SD	12:na:125:LYS:N	2.90	0.41
15:qa:119:ARG:HA	15:qa:119:ARG:HD2	1.79	0.41
20:va:69:LYS:HE3	29:fb:234:PHE:CE1	2.55	0.41
34:BA:106:LEU:O	34:BA:109:LYS:HB3	2.21	0.41
35:CA:67:ARG:NH1	75:RB:1627:U:H5''	2.36	0.41
36:DA:58:LEU:CD2	36:DA:75:LEU:HD21	2.44	0.41
42:JA:42:SER:OG	42:JA:45:ASN:OD1	2.36	0.41
42:JA:136:LEU:HA	42:JA:136:LEU:HD12	1.73	0.41
46:NA:113:TYR:O	46:NA:115:ILE:HG23	2.21	0.41
48:PA:73:TYR:OH	48:PA:76:ARG:NH1	2.53	0.41
49:QA:138:LYS:HE2	75:RB:489:C:P	2.60	0.41
57:YA:66:ILE:HG12	63:EB:384:MET:HG2	2.03	0.41
62:DB:128:LYS:HD3	75:RB:3281:G:H5''	2.03	0.41
63:EB:187:LYS:O	63:EB:190:VAL:HG12	2.19	0.41
65:GB:16:THR:HG22	75:RB:1923:G:C8	2.56	0.41
69:KB:169:VAL:HG23	69:KB:169:VAL:O	2.21	0.41
75:RB:52:G:H4'	75:RB:815:G:H4'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:121:A:C2	75:RB:148:U:C2	3.08	0.41
75:RB:599:C:H5''	75:RB:600:G:OP2	2.20	0.41
75:RB:679:C:O2'	75:RB:683:U:OP1	2.30	0.41
75:RB:1228:C:H2'	75:RB:1229:A:C8	2.56	0.41
75:RB:1464:A:H2'	75:RB:1465:A:H8	1.86	0.41
75:RB:2622:C:HO2'	75:RB:2624:A:H2	1.68	0.41
75:RB:2863:C:O2	75:RB:2864:C:N4	2.51	0.41
75:RB:2941:U:O2'	75:RB:2944:G:N7	2.48	0.41
77:TB:37:G:H21	77:TB:43:A:N6	2.18	0.41
1:aa:503:U:C2	1:aa:504:C:C5	3.08	0.41
1:aa:521:U:H3	1:aa:539:A:H61	1.69	0.41
1:aa:591:C:H2'	1:aa:592:U:C6	2.56	0.41
1:aa:1027:C:H4'	1:aa:1130:A:H61	1.86	0.41
1:aa:1210:U:H6	1:aa:1210:U:O5'	2.03	0.41
1:aa:1750:A:O2'	1:aa:1751:U:H5'	2.20	0.41
2:ba:17:PHE:CD2	2:ba:28:PHE:HB3	2.56	0.41
7:ia:74:GLN:HE22	7:ia:80:LEU:C	2.28	0.41
8:ja:122:LYS:NZ	8:ja:124:CYS:HB3	2.36	0.41
13:oa:9:PHE:CE1	18:ta:38:ASN:HB2	2.55	0.41
13:oa:55:ARG:HA	13:oa:55:ARG:HD3	1.66	0.41
20:va:47:LYS:HG2	20:va:48:ASN:OD1	2.20	0.41
20:va:77:ARG:HE	20:va:125:LEU:CD2	2.33	0.41
29:fb:120:HIS:HB3	29:fb:146:ILE:CG2	2.51	0.41
30:gb:196:ILE:O	30:gb:200:LYS:HD3	2.21	0.41
33:AA:34:ILE:HD13	36:DA:39:GLY:HA3	2.02	0.41
34:BA:28:THR:O	34:BA:32:ARG:HG3	2.20	0.41
34:BA:126:ILE:HD12	34:BA:126:ILE:HA	1.86	0.41
36:DA:180:LEU:HD23	65:GB:18:TYR:HD2	1.82	0.41
37:EA:109:GLN:O	37:EA:112:ILE:HG22	2.21	0.41
38:FA:140:LYS:HG3	38:FA:141:ASP:CG	2.46	0.41
39:GA:85:ARG:NH2	39:GA:100:ASP:HA	2.35	0.41
40:HA:204:ARG:NH1	63:EB:112:ARG:O	2.54	0.41
42:JA:81:ILE:HG21	42:JA:85:ILE:CD1	2.41	0.41
44:LA:151:ARG:HA	44:LA:154:THR:HG22	2.02	0.41
48:PA:72:VAL:HG13	48:PA:72:VAL:O	2.21	0.41
49:QA:40:LEU:CD1	49:QA:115:LEU:HD23	2.43	0.41
49:QA:57:VAL:HG12	49:QA:73:THR:HG22	2.02	0.41
56:XA:112:LEU:HD23	56:XA:112:LEU:HA	1.87	0.41
59:AB:88:LYS:HE2	59:AB:88:LYS:HB2	1.90	0.41
62:DB:7:GLU:HG3	75:RB:2912:U:H5	1.80	0.41
62:DB:353:LEU:HA	62:DB:356:GLU:OE1	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:EB:381:TYR:CE1	63:EB:385:ILE:HD13	2.56	0.41
66:HB:36:VAL:HB	66:HB:87:LEU:HD23	2.02	0.41
69:KB:134:LYS:HA	69:KB:134:LYS:HD3	1.96	0.41
70:LB:132:VAL:HG23	70:LB:134:ILE:HG23	2.02	0.41
75:RB:535:G:HO2'	75:RB:536:C:C5'	2.32	0.41
75:RB:1906:A:H2	75:RB:2326:C:O2	2.04	0.41
75:RB:2099:G:H2'	75:RB:2100:A:C8	2.50	0.41
75:RB:2247:U:H2'	75:RB:2254:G:N2	2.36	0.41
75:RB:2732:U:H2'	75:RB:2733:A:C8	2.56	0.41
75:RB:2839:U:H5	75:RB:2840:U:H5	1.67	0.41
75:RB:3073:A:N6	75:RB:3076:G:C8	2.88	0.41
75:RB:3264:C:O2'	75:RB:3265:C:OP2	2.35	0.41
76:SB:39:G:O2'	76:SB:105:A:N1	2.46	0.41
1:aa:184:C:C2	1:aa:198:G:C2	3.09	0.41
1:aa:636:U:O2'	1:aa:1108:U:OP1	2.38	0.41
1:aa:767:G:N2	1:aa:768:A:N7	2.68	0.41
1:aa:782:G:H1	1:aa:790:U:H3	1.68	0.41
1:aa:1087:U:OP1	24:za:159:ARG:NH2	2.54	0.41
1:aa:1132:G:C6	1:aa:1133:C:C4	3.09	0.41
1:aa:1345:G:OP1	6:ha:71:GLY:HA2	2.21	0.41
1:aa:1531:G:O6	16:ra:83:ILE:HG12	2.21	0.41
2:ba:21:ARG:H	2:ba:21:ARG:HD3	1.86	0.41
6:ha:216:SER:HB2	6:ha:221:LEU:HG	2.02	0.41
6:ha:256:PHE:CE1	6:ha:263:LEU:HD13	2.56	0.41
7:ia:95:GLY:HA2	7:ia:101:GLN:NE2	2.36	0.41
8:ja:129:VAL:O	8:ja:130:GLN:HG3	2.21	0.41
12:na:32:HIS:HB2	12:na:43:HIS:HB3	2.02	0.41
13:oa:113:ARG:HA	13:oa:116:LYS:HD2	2.01	0.41
16:ra:43:LEU:HD23	16:ra:44:PRO:O	2.20	0.41
17:sa:99:ILE:HD11	17:sa:121:ILE:HD11	2.02	0.41
18:ta:57:LYS:HA	18:ta:60:GLN:HA	2.02	0.41
22:xa:25:ARG:NH2	22:xa:31:ASN:HD21	2.19	0.41
22:xa:69:THR:HG22	22:xa:70:GLY:N	2.36	0.41
23:ya:43:ARG:CD	23:ya:44:PHE:HD1	2.26	0.41
34:BA:27:LEU:O	34:BA:31:LEU:HG	2.20	0.41
37:EA:16:VAL:HB	37:EA:79:MET:HE2	2.01	0.41
40:HA:77:LYS:HE2	75:RB:912:G:OP2	2.21	0.41
43:KA:139:ARG:HG3	75:RB:1084:G:OP1	2.20	0.41
48:PA:59:ARG:HH12	75:RB:198:A:P	2.44	0.41
49:QA:35:LYS:HB3	52:TA:85:LEU:HD22	2.02	0.41
50:RA:31:TYR:HA	50:RA:34:VAL:HG12	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:YA:51:LYS:HA	57:YA:51:LYS:HD3	1.84	0.41
57:YA:112:MET:HE3	57:YA:118:VAL:HG21	2.01	0.41
59:AB:48:ARG:HH22	59:AB:57:GLU:CD	2.27	0.41
62:DB:96:PRO:HB3	64:FB:158:ILE:CD1	2.46	0.41
62:DB:126:LYS:N	75:RB:3282:A:OP2	2.36	0.41
64:FB:66:ARG:NH2	64:FB:71:PRO:HG3	2.36	0.41
71:MB:57:VAL:HG13	71:MB:57:VAL:O	2.20	0.41
75:RB:5:G:H2'	75:RB:6:A:C8	2.56	0.41
75:RB:35:U:H2'	75:RB:36:U:H5'	2.03	0.41
75:RB:255:C:H2'	75:RB:256:G:C8	2.54	0.41
75:RB:1147:U:O4	75:RB:1370:A:C2	2.74	0.41
75:RB:1270:G:H5'	75:RB:1271:U:OP2	2.20	0.41
75:RB:2097:C:H2'	75:RB:2098:A:H8	1.86	0.41
75:RB:2569:C:O2'	75:RB:2570:C:O5'	2.39	0.41
75:RB:2831:G:C2	75:RB:2832:C:C6	3.09	0.41
75:RB:2873:C:H2'	75:RB:2874:G:O4'	2.21	0.41
75:RB:3319:U:H2'	75:RB:3320:G:O4'	2.20	0.41
1:aa:147:C:C2	1:aa:148:C:C5	3.09	0.41
1:aa:507:G:H2'	1:aa:508:U:C6	2.55	0.41
1:aa:618:C:H2'	1:aa:619:A:O4'	2.21	0.41
1:aa:903:A:C2	1:aa:920:A:C5	3.09	0.41
1:aa:985:G:H4'	1:aa:1786:A:H4'	2.03	0.41
1:aa:1441:C:H2'	4:da:59:PHE:CD2	2.56	0.41
1:aa:1444:G:H2'	1:aa:1445:C:C6	2.56	0.41
3:ca:117:HIS:HA	3:ca:165:ARG:NH1	2.36	0.41
5:ga:28:LYS:O	5:ga:32:LEU:HB2	2.20	0.41
7:ia:55:THR:HG23	7:ia:90:LYS:CD	2.43	0.41
9:ka:96:ILE:HB	9:ka:104:PRO:HB3	2.03	0.41
10:la:122:LEU:HB2	10:la:123:LEU:HD12	2.02	0.41
11:ma:121:GLU:O	11:ma:123:THR:HG23	2.20	0.41
13:oa:67:LEU:O	13:oa:71:VAL:HG22	2.21	0.41
15:qa:71:LEU:HB2	15:qa:74:GLN:HG2	2.03	0.41
16:ra:112:VAL:O	16:ra:116:ILE:HG12	2.21	0.41
23:ya:33:ARG:CZ	23:ya:33:ARG:HB3	2.51	0.41
25:bb:146:ARG:NE	25:bb:206:PRO:HG3	2.35	0.41
27:db:21:ILE:HD12	27:db:72:HIS:CG	2.56	0.41
27:db:42:ARG:HA	27:db:42:ARG:HD2	1.72	0.41
28:eb:135:HIS:HD2	28:eb:166:PHE:CD2	2.38	0.41
29:fb:49:THR:HG22	29:fb:51:LEU:H	1.85	0.41
30:gb:21:ASP:O	30:gb:25:ARG:HG2	2.21	0.41
30:gb:31:ARG:HG2	30:gb:103:ILE:HG22	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:hb:33:GLY:O	31:hb:38:LYS:HE2	2.21	0.41
33:AA:76:PHE:C	33:AA:78:ARG:H	2.29	0.41
34:BA:43:LYS:HD2	75:RB:996:A:H5''	2.02	0.41
37:EA:19:LEU:HD11	37:EA:82:LEU:HD13	2.03	0.41
37:EA:128:ASP:OD1	75:RB:2671:A:H8	2.04	0.41
37:EA:158:LYS:HB3	37:EA:158:LYS:HE2	1.77	0.41
38:FA:158:ALA:O	38:FA:162:GLN:HG3	2.20	0.41
39:GA:132:ILE:H	39:GA:132:ILE:HD12	1.86	0.41
40:HA:38:ARG:NH2	76:SB:145:U:OP1	2.51	0.41
42:JA:81:ILE:O	42:JA:101:ALA:HA	2.21	0.41
43:KA:157:ARG:HD3	77:TB:47:C:OP2	2.21	0.41
43:KA:188:GLN:HG3	43:KA:189:LEU:N	2.36	0.41
43:KA:215:PRO:HD2	43:KA:216:GLU:OE1	2.19	0.41
44:LA:124:TYR:OH	75:RB:1719:U:OP2	2.35	0.41
49:QA:141:ASN:O	52:TA:2:ALA:HB3	2.21	0.41
51:SA:68:TRP:HH2	51:SA:72:ILE:HD12	1.86	0.41
52:TA:44:ARG:HA	52:TA:53:MET:HE3	2.02	0.41
52:TA:96:GLU:HG2	52:TA:121:THR:OG1	2.21	0.41
54:VA:6:THR:HG23	54:VA:9:ILE:H	1.86	0.41
55:WA:23:HIS:HB3	55:WA:72:LEU:HB3	2.03	0.41
57:YA:68:GLU:HG3	57:YA:100:THR:HB	2.03	0.41
57:YA:116:HIS:HE1	75:RB:1216:G:N3	2.18	0.41
58:ZA:37:GLU:O	58:ZA:40:SER:OG	2.19	0.41
60:BB:85:ARG:NH2	75:RB:17:G:OP1	2.39	0.41
62:DB:142:GLY:O	62:DB:146:ILE:HG12	2.21	0.41
62:DB:220:ILE:HG22	62:DB:342:LEU:HD23	2.02	0.41
62:DB:286:TYR:CD1	62:DB:358:ILE:HG13	2.56	0.41
63:EB:46:LEU:HD23	63:EB:46:LEU:HA	1.87	0.41
64:FB:23:ARG:O	64:FB:27:ILE:HG12	2.20	0.41
65:GB:52:VAL:O	65:GB:52:VAL:HG13	2.20	0.41
66:HB:190:ILE:HD11	66:HB:197:ALA:HB1	2.02	0.41
69:KB:99:HIS:CD2	75:RB:155:G:C8	3.09	0.41
71:MB:13:TYR:CD2	71:MB:104:ARG:HB3	2.55	0.41
75:RB:245:C:H2'	75:RB:246:C:O4'	2.21	0.41
75:RB:258:C:H2'	75:RB:259:G:C4	2.56	0.41
75:RB:269:C:H2'	75:RB:270:G:O4'	2.21	0.41
75:RB:293:A:H2'	75:RB:294:A:O4'	2.20	0.41
75:RB:535:G:HO2'	75:RB:536:C:P	2.43	0.41
75:RB:622:U:H4'	75:RB:623:G:C4	2.56	0.41
75:RB:842:C:O2'	75:RB:1722:G:OP1	2.32	0.41
75:RB:848:G:O2'	75:RB:850:A:N7	2.42	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:1019:A:H8	75:RB:1021:U:OP1	2.03	0.41
75:RB:1034:U:H2'	75:RB:1035:C:C5	2.56	0.41
75:RB:1273:U:O4'	75:RB:1277:A:N6	2.54	0.41
75:RB:1547:G:O2'	75:RB:2161:G:N3	2.45	0.41
75:RB:1702:C:C5	75:RB:1738:A:C2	3.09	0.41
75:RB:1761:C:O2'	75:RB:1762:G:OP1	2.37	0.41
75:RB:2529:C:H2'	75:RB:2530:G:C8	2.56	0.41
75:RB:2720:U:H2'	75:RB:2721:U:C6	2.56	0.41
75:RB:2880:U:H2'	75:RB:2881:C:H6	1.86	0.41
75:RB:3006:U:O2'	75:RB:3007:A:H2'	2.20	0.41
75:RB:3135:A:H2'	75:RB:3136:G:O4'	2.20	0.41
75:RB:3304:U:H3	75:RB:3377:A:H62	1.67	0.41
77:TB:107:C:C2	77:TB:108:G:C8	3.09	0.41
79:cl:18:G:N2	79:cl:55:PSU:O4	2.51	0.41
1:aa:72:A:C5	1:aa:73:A:H1'	2.56	0.41
1:aa:144:U:H5	1:aa:165:U:C4	2.38	0.41
1:aa:274:A:H2'	1:aa:275:C:O4'	2.21	0.41
1:aa:277:G:H8	1:aa:277:G:OP1	2.03	0.41
1:aa:416:A:H2'	1:aa:417:U:H6	1.86	0.41
1:aa:717:G:H8	1:aa:718:C:C5	2.38	0.41
1:aa:808:G:N2	20:va:106:PRO:HG3	2.36	0.41
1:aa:941:G:OP1	1:aa:1079:G:N2	2.34	0.41
1:aa:1114:G:C2	1:aa:1115:G:C8	3.09	0.41
1:aa:1168:A:H2'	1:aa:1169:G:O4'	2.20	0.41
1:aa:1178:C:H2'	1:aa:1179:C:H6	1.85	0.41
1:aa:1353:G:O2'	1:aa:1354:C:OP1	2.37	0.41
1:aa:1563:A:H5''	1:aa:1564:A:OP2	2.21	0.41
1:aa:1610:C:H2'	1:aa:1611:U:C6	2.57	0.41
1:aa:1616:U:H2'	1:aa:1617:U:H6	1.86	0.41
3:ca:37:LYS:NZ	3:ca:94:THR:OG1	2.54	0.41
3:ca:67:SER:O	3:ca:202:ILE:HG12	2.21	0.41
4:da:57:GLU:HG3	4:da:66:TRP:NE1	2.36	0.41
6:ha:62:TYR:CD1	6:ha:322:ILE:HD13	2.56	0.41
9:ka:146:ALA:O	9:ka:150:LEU:HD13	2.21	0.41
11:ma:102:SER:O	11:ma:106:VAL:HG23	2.21	0.41
12:na:57:THR:HB	12:na:60:MET:HG3	2.02	0.41
12:na:75:MET:HE2	12:na:114:SER:HB2	2.02	0.41
13:oa:13:LEU:HB3	13:oa:20:VAL:CG1	2.48	0.41
15:qa:106:LEU:O	15:qa:111:MET:N	2.37	0.41
24:za:89:ARG:NH1	24:za:209:ARG:HB3	2.36	0.41
25:bb:61:LEU:C	25:bb:63:HIS:H	2.29	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:bb:111:ARG:HB3	27:db:68:TYR:HB2	2.03	0.41
28:eb:87:LEU:HG	28:eb:101:LEU:HD22	2.03	0.41
29:fb:178:ARG:O	29:fb:208:THR:HA	2.20	0.41
30:gb:40:LEU:HD12	30:gb:41:LEU:N	2.36	0.41
30:gb:68:LEU:HG	30:gb:102:CYS:SG	2.61	0.41
37:EA:144:ARG:NH1	75:RB:2661:C:OP2	2.54	0.41
40:HA:5:LYS:HD2	40:HA:5:LYS:HA	1.78	0.41
42:JA:22:ASP:HA	42:JA:27:LYS:HE3	2.02	0.41
46:NA:69:GLN:HA	46:NA:72:ILE:CG2	2.51	0.41
48:PA:59:ARG:HA	48:PA:59:ARG:HD3	1.83	0.41
50:RA:87:LYS:HB3	50:RA:89:TYR:CZ	2.56	0.41
51:SA:20:TYR:CD1	51:SA:83:ILE:HD12	2.56	0.41
57:YA:155:TYR:HH	75:RB:1320:G:HO2'	1.33	0.41
62:DB:19:ARG:HG3	62:DB:235:ARG:HH21	1.86	0.41
62:DB:47:LEU:HB2	62:DB:84:LEU:HD21	2.04	0.41
62:DB:253:ALA:HB1	75:RB:2944:G:N3	2.35	0.41
64:FB:59:TYR:CD2	64:FB:150:VAL:HG11	2.55	0.41
64:FB:175:ARG:NH1	75:RB:3171:C:H41	2.19	0.41
64:FB:184:VAL:HG12	64:FB:188:LYS:NZ	2.36	0.41
74:PB:21:ARG:NH2	74:PB:33:GLN:HG3	2.35	0.41
75:RB:412:C:H2'	75:RB:413:G:C8	2.55	0.41
75:RB:428:G:H2'	75:RB:429:G:C8	2.56	0.41
75:RB:494:C:H5'	75:RB:495:G:P	2.61	0.41
75:RB:970:A:C4	75:RB:971:G:C8	3.09	0.41
75:RB:997:G:C5	75:RB:2634:A:C2	3.09	0.41
75:RB:1592:U:C2	75:RB:1593:C:C5	3.09	0.41
75:RB:1879:A:C4	75:RB:1880:A:C8	3.08	0.41
75:RB:1932:A:H2'	75:RB:1933:U:C6	2.56	0.41
75:RB:2315:C:O2'	75:RB:2316:G:H5'	2.21	0.41
75:RB:3220:G:H2'	75:RB:3221:G:C8	2.56	0.41
75:RB:3330:G:H21	75:RB:3349:A:H2	1.67	0.41
77:TB:30:G:C4	77:TB:48:G:N2	2.89	0.41
79:cl:56:C:H3'	79:cl:57:G:H8	1.86	0.41
1:aa:597:U:H4'	1:aa:599:G:H4'	2.03	0.40
1:aa:1028:A:OP1	1:aa:1131:G:N2	2.50	0.40
1:aa:1212:A:H5''	1:aa:1213:C:OP2	2.21	0.40
1:aa:1490:A:H2'	1:aa:1491:C:C6	2.56	0.40
1:aa:1598:G:OP1	16:ra:95:ARG:HD2	2.20	0.40
3:ca:161:LYS:HB3	3:ca:161:LYS:HE2	1.73	0.40
5:ga:109:HIS:CD2	5:ga:110:ALA:N	2.89	0.40
6:ha:32:PRO:HB3	6:ha:48:LEU:HB3	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:ka:175:ASN:ND2	9:ka:182:ASN:HB2	2.34	0.40
10:la:58:ILE:HD12	10:la:58:ILE:H	1.85	0.40
13:oa:60:SER:O	13:oa:63:GLU:HG3	2.20	0.40
13:oa:130:ARG:HG3	13:oa:130:ARG:HH11	1.86	0.40
15:qa:13:SER:CB	15:qa:53:PHE:HD2	2.33	0.40
21:wa:46:ASN:O	21:wa:50:ILE:HG13	2.21	0.40
25:bb:117:TRP:CE2	25:bb:152:ARG:NH1	2.89	0.40
26:cb:64:ALA:O	26:cb:67:SER:OG	2.28	0.40
28:eb:131:ILE:HD13	28:eb:136:ILE:HG21	2.03	0.40
28:eb:171:ALA:O	28:eb:176:ARG:NH2	2.55	0.40
44:LA:84:THR:O	44:LA:87:ALA:N	2.51	0.40
46:NA:79:THR:CG2	75:RB:1523:G:H5''	2.51	0.40
60:BB:83:ASP:OD1	60:BB:83:ASP:N	2.52	0.40
69:KB:140:PRO:HA	69:KB:143:LEU:HB2	2.04	0.40
75:RB:105:A:C6	75:RB:106:G:N2	2.89	0.40
75:RB:106:G:H4'	75:RB:322:A:O2'	2.22	0.40
75:RB:433:C:H2'	75:RB:434:C:H6	1.87	0.40
75:RB:574:C:H6	75:RB:574:C:H2'	1.74	0.40
75:RB:729:G:N1	75:RB:746:C:OP2	2.38	0.40
75:RB:985:C:H2'	75:RB:986:G:O4'	2.21	0.40
75:RB:1228:C:C2	75:RB:1229:A:C8	3.09	0.40
75:RB:1229:A:C4	75:RB:1230:G:C8	3.10	0.40
75:RB:2430:G:H1	75:RB:2507:U:H3	1.68	0.40
1:aa:31:C:O2'	1:aa:551:U:OP1	2.39	0.40
1:aa:43:A:C2	1:aa:382:A:C5	3.09	0.40
1:aa:536:U:OP1	28:eb:134:ARG:NH2	2.54	0.40
1:aa:832:C:O2	1:aa:850:G:N2	2.53	0.40
1:aa:1482:U:H2'	1:aa:1483:G:C8	2.56	0.40
1:aa:1560:U:H2'	1:aa:1561:G:C8	2.56	0.40
1:aa:1578:A:C6	1:aa:1579:C:C2	3.10	0.40
6:ha:133:ALA:HB1	6:ha:166:VAL:HG23	2.03	0.40
7:ia:105:LEU:HB2	7:ia:122:VAL:HG21	2.02	0.40
8:ja:154:ILE:HD13	8:ja:172:PHE:HB2	2.03	0.40
9:ka:14:LEU:HD21	9:ka:105:ILE:CD1	2.50	0.40
9:ka:98:LEU:HD22	18:ta:63:PRO:HD3	2.02	0.40
12:na:72:TYR:O	12:na:75:MET:HB2	2.21	0.40
13:oa:14:ARG:HG3	13:oa:14:ARG:O	2.22	0.40
18:ta:71:ARG:C	18:ta:73:ASN:N	2.79	0.40
31:hb:76:ILE:O	31:hb:78:VAL:N	2.54	0.40
32:ib:76:CYS:HB3	32:ib:122:ASP:H	1.87	0.40
38:FA:55:LYS:HZ3	38:FA:57:ASP:CG	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:IA:51:GLY:HA2	42:JA:177:ARG:N	2.36	0.40
42:JA:64:MET:HE1	42:JA:87:ASP:HA	2.02	0.40
44:LA:96:MET:HE3	44:LA:96:MET:HB2	1.93	0.40
48:PA:45:ARG:HH21	75:RB:186:A:P	2.44	0.40
49:QA:117:LYS:HB2	49:QA:117:LYS:HE3	1.83	0.40
50:RA:10:SER:HB2	50:RA:13:ASN:CB	2.51	0.40
63:EB:144:GLY:O	63:EB:185:LYS:NZ	2.54	0.40
66:HB:31:ILE:HB	66:HB:66:GLU:HB3	2.02	0.40
72:NB:56:LEU:HA	72:NB:59:SER:OG	2.20	0.40
72:NB:60:LEU:HD23	72:NB:60:LEU:HA	1.82	0.40
75:RB:658:C:H2'	75:RB:659:C:H6	1.86	0.40
75:RB:681:A:N1	75:RB:709:G:O2'	2.41	0.40
75:RB:772:U:C4	75:RB:773:G:C6	3.10	0.40
75:RB:1243:C:N4	75:RB:1248:A:H3'	2.36	0.40
75:RB:1627:U:O2'	75:RB:1628:G:C8	2.73	0.40
75:RB:1644:A:H2'	75:RB:1645:G:C8	2.56	0.40
75:RB:1819:A:H2'	75:RB:1820:C:O4'	2.21	0.40
75:RB:1891:A:C6	75:RB:2334:G:C6	3.09	0.40
75:RB:2088:C:H6	75:RB:2088:C:O5'	2.03	0.40
75:RB:2603:G:N3	75:RB:2603:G:H2'	2.36	0.40
75:RB:2644:A:H2'	75:RB:2645:G:O4'	2.20	0.40
75:RB:2938:A:H8	75:RB:2938:A:OP2	2.03	0.40
77:TB:79:A:C2	77:TB:98:G:C6	3.10	0.40
1:aa:98:C:H2'	1:aa:99:U:C6	2.56	0.40
1:aa:311:G:H5''	32:ib:104:ARG:NH1	2.36	0.40
1:aa:421:A:O4'	1:aa:422:G:C2	2.75	0.40
1:aa:515:A:H5''	28:eb:174:VAL:CG1	2.51	0.40
1:aa:649:C:O2	1:aa:703:G:C2	2.75	0.40
1:aa:824:U:N3	1:aa:858:G:N1	2.55	0.40
1:aa:1149:U:H2'	1:aa:1150:U:C6	2.57	0.40
1:aa:1358:G:C2	1:aa:1376:A:C2	3.09	0.40
1:aa:1674:C:C2	1:aa:1675:G:C8	3.10	0.40
2:ba:21:ARG:HA	2:ba:24:SER:HA	2.02	0.40
6:ha:116:LYS:CG	6:ha:117:ASP:H	2.35	0.40
8:ja:125:LYS:HD2	8:ja:226:PHE:HD1	1.86	0.40
16:ra:22:VAL:HG11	16:ra:27:PHE:HB2	2.03	0.40
21:wa:29:GLY:O	21:wa:40:ARG:N	2.53	0.40
23:ya:33:ARG:CD	28:eb:128:ARG:HD2	2.51	0.40
24:za:89:ARG:HA	24:za:92:LEU:HD23	2.03	0.40
24:za:115:GLN:HA	24:za:120:PHE:CZ	2.57	0.40
27:db:88:SER:O	27:db:92:ARG:HB2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:fb:182:ALA:HB3	29:fb:205:ASP:HB3	2.03	0.40
30:gb:67:VAL:O	30:gb:102:CYS:N	2.41	0.40
30:gb:69:THR:HA	30:gb:70:PRO:HD2	1.88	0.40
30:gb:75:LEU:O	30:gb:96:ARG:HA	2.22	0.40
34:BA:68:THR:OG1	34:BA:71:ALA:HB3	2.21	0.40
38:FA:116:PHE:CE2	38:FA:164:CYS:HB3	2.56	0.40
40:HA:68:ARG:HG3	40:HA:126:THR:O	2.21	0.40
41:IA:77:ARG:NH1	75:RB:788:G:N7	2.70	0.40
42:JA:4:ASP:CG	61:CB:102:LYS:NZ	2.79	0.40
48:PA:76:ARG:O	48:PA:78:VAL:HG13	2.21	0.40
49:QA:60:GLN:OE1	49:QA:60:GLN:HA	2.20	0.40
54:VA:13:LEU:O	54:VA:17:GLN:HG2	2.21	0.40
58:ZA:103:ARG:NH2	58:ZA:105:ILE:HD11	2.37	0.40
62:DB:47:LEU:HD21	62:DB:182:MET:SD	2.61	0.40
62:DB:124:LYS:HE2	62:DB:124:LYS:HA	2.04	0.40
62:DB:190:THR:OG1	62:DB:193:ASP:OD2	2.27	0.40
64:FB:17:ARG:HG3	64:FB:45:GLU:HB3	2.02	0.40
64:FB:56:LYS:HB2	64:FB:56:LYS:HE3	1.90	0.40
65:GB:23:ARG:HA	65:GB:26:ILE:HG22	2.02	0.40
69:KB:57:ILE:HG13	69:KB:115:ARG:HD2	2.04	0.40
69:KB:81:LYS:HE2	75:RB:256:G:OP1	2.21	0.40
75:RB:190:C:H2'	75:RB:191:C:C6	2.56	0.40
75:RB:194:G:N2	75:RB:196:A:H3'	2.37	0.40
75:RB:268:U:C2	75:RB:269:C:C6	3.09	0.40
75:RB:763:G:O2'	75:RB:764:A:OP2	2.36	0.40
75:RB:1650:G:C4	75:RB:1651:A:C8	3.10	0.40
75:RB:2097:C:H2'	75:RB:2098:A:C8	2.57	0.40
75:RB:2777:G:H2'	75:RB:2778:U:C6	2.56	0.40
75:RB:2991:A:H2'	75:RB:2992:C:O4'	2.21	0.40
75:RB:3103:U:H2'	75:RB:3104:G:H8	1.86	0.40
76:SB:13:A:C4	76:SB:14:C:C5	3.09	0.40
77:TB:32:A:O2'	77:TB:41:G:N7	2.45	0.40
1:aa:127:G:H2'	30:gb:202:ARG:NH1	2.31	0.40
1:aa:954:C:H2'	1:aa:955:C:C6	2.57	0.40
1:aa:958:G:H2'	1:aa:959:G:C8	2.57	0.40
1:aa:1443:U:H5'	7:ia:176:LEU:HD11	2.04	0.40
1:aa:1511:A:H2'	1:aa:1512:C:O4'	2.21	0.40
1:aa:1775:A:C8	1:aa:1778:G:N2	2.89	0.40
3:ca:214:LYS:NZ	32:ib:7:LYS:HA	2.37	0.40
6:ha:98:ARG:HD2	6:ha:100:TRP:CZ2	2.56	0.40
9:ka:148:TYR:O	9:ka:152:THR:HG23	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:oa:80:PRO:HB2	13:oa:82:TRP:CD1	2.56	0.40
16:ra:55:PHE:CD1	16:ra:106:CYS:HB3	2.57	0.40
24:za:75:PRO:O	24:za:100:ALA:HA	2.22	0.40
28:eb:112:GLN:HE21	28:eb:146:PRO:HB3	1.85	0.40
31:hb:72:PRO:O	31:hb:75:LYS:HB3	2.21	0.40
32:ib:14:LYS:O	32:ib:14:LYS:HG3	2.21	0.40
34:BA:136:LYS:N	61:CB:82:GLU:OE2	2.44	0.40
36:DA:89:TYR:CD2	75:RB:2546:U:C4	3.10	0.40
37:EA:141:SER:HB2	37:EA:150:VAL:HG13	2.03	0.40
38:FA:67:ALA:O	38:FA:71:THR:HG23	2.22	0.40
39:GA:37:LEU:CD2	39:GA:105:ILE:HD11	2.51	0.40
42:JA:71:MET:CE	42:JA:136:LEU:HD23	2.52	0.40
43:KA:210:LEU:HD12	43:KA:222:PHE:CE2	2.50	0.40
48:PA:70:VAL:HG12	48:PA:80:HIS:O	2.22	0.40
52:TA:24:ASP:OD2	52:TA:25:ARG:HG3	2.21	0.40
52:TA:26:TYR:HB2	52:TA:29:LEU:HD13	2.03	0.40
54:VA:47:THR:HG21	75:RB:354:C:OP1	2.22	0.40
56:XA:12:VAL:HG13	56:XA:56:THR:OG1	2.21	0.40
62:DB:10:ARG:NH1	62:DB:266:THR:OG1	2.54	0.40
62:DB:86:ILE:HG13	62:DB:201:PHE:CD2	2.56	0.40
62:DB:253:ALA:HB1	75:RB:2944:G:C2	2.56	0.40
63:EB:244:LEU:HA	63:EB:244:LEU:HD23	1.78	0.40
64:FB:42:ARG:HH12	75:RB:3174:G:P	2.44	0.40
64:FB:85:LEU:C	64:FB:85:LEU:HD23	2.47	0.40
69:KB:87:LYS:HZ3	75:RB:155:G:H21	1.68	0.40
70:LB:60:THR:CG2	75:RB:613:G:H5''	2.51	0.40
70:LB:84:LEU:HD21	70:LB:126:ILE:CD1	2.51	0.40
70:LB:209:ARG:HH21	75:RB:3203:G:C1'	2.34	0.40
74:PB:16:LYS:O	74:PB:19:GLN:HG2	2.22	0.40
75:RB:676:G:O2'	75:RB:677:U:H5'	2.20	0.40
75:RB:785:U:H6	75:RB:785:U:O5'	2.05	0.40
75:RB:1028:G:O2'	75:RB:1033:G:N2	2.55	0.40
75:RB:1080:C:C4	75:RB:1081:U:C4	3.09	0.40
75:RB:1485:A:H4'	75:RB:1486:G:OP2	2.20	0.40
75:RB:1549:A:O2'	75:RB:1550:A:P	2.79	0.40
75:RB:1628:G:H5''	75:RB:1629:A:H5''	2.02	0.40
75:RB:1859:G:C2	75:RB:1861:A:H3'	2.56	0.40
75:RB:1896:A:O2'	75:RB:1902:G:N7	2.51	0.40
75:RB:2207:A:H2'	75:RB:2208:A:O4'	2.21	0.40
75:RB:2218:U:H2'	75:RB:2219:U:C6	2.55	0.40
75:RB:2879:U:H2'	75:RB:2880:U:H6	1.84	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:TB:45:U:H2'	77:TB:46:C:H6	1.86	0.40
1:aa:1058:G:C4	1:aa:1059:U:C5	3.10	0.40
1:aa:1342:C:O2'	1:aa:1343:C:H5'	2.21	0.40
1:aa:1654:C:H2'	1:aa:1655:U:C6	2.57	0.40
6:ha:226:GLY:HA2	6:ha:251:ILE:O	2.22	0.40
8:ja:118:ASP:HA	8:ja:121:PHE:HE1	1.86	0.40
12:na:34:PHE:CD2	12:na:41:PHE:HD1	2.39	0.40
16:ra:75:ARG:O	16:ra:78:TYR:HB3	2.21	0.40
17:sa:99:ILE:HA	17:sa:116:ILE:CG2	2.51	0.40
20:va:114:GLU:O	20:va:118:GLN:HG3	2.21	0.40
29:fb:90:VAL:HB	29:fb:112:VAL:HG12	2.02	0.40
31:hb:158:LYS:HE2	31:hb:158:LYS:HA	2.04	0.40
35:CA:88:ASP:HB2	35:CA:122:ARG:NH2	2.32	0.40
36:DA:36:GLU:O	36:DA:91:GLY:HA2	2.22	0.40
36:DA:240:ALA:O	75:RB:2195:C:O2'	2.39	0.40
37:EA:140:VAL:CG1	37:EA:150:VAL:HG12	2.51	0.40
38:FA:136:SER:OG	38:FA:142:GLU:HB2	2.21	0.40
40:HA:148:ILE:HG13	40:HA:148:ILE:O	2.20	0.40
46:NA:49:SER:HB3	75:RB:12:G:O2'	2.22	0.40
46:NA:131:LYS:NZ	75:RB:1525:U:OP2	2.52	0.40
48:PA:44:VAL:HA	48:PA:125:ARG:HD3	2.04	0.40
50:RA:59:GLU:OE2	74:PB:92:ILE:HD13	2.21	0.40
56:XA:16:ASN:HA	56:XA:21:TYR:CE2	2.56	0.40
58:ZA:36:MET:HE3	58:ZA:92:TYR:CE2	2.57	0.40
58:ZA:36:MET:HE3	58:ZA:92:TYR:HE2	1.87	0.40
58:ZA:59:LEU:HD22	58:ZA:63:VAL:O	2.22	0.40
59:AB:88:LYS:HE3	75:RB:297:G:H5''	2.03	0.40
63:EB:28:PRO:HG2	63:EB:264:LEU:HD23	2.03	0.40
66:HB:95:HIS:HD2	66:HB:126:CYS:SG	2.45	0.40
72:NB:4:GLN:OE1	75:RB:1744:C:O2'	2.20	0.40
72:NB:19:ASP:OD2	72:NB:39:SER:HB2	2.22	0.40
75:RB:489:C:HO2'	75:RB:490:G:P	2.45	0.40
75:RB:1144:C:H2'	75:RB:1145:G:O4'	2.22	0.40
75:RB:1858:U:H2'	75:RB:1859:G:O4'	2.22	0.40
75:RB:2299:C:H4'	75:RB:2300:G:O5'	2.22	0.40
75:RB:2629:G:C6	75:RB:2644:A:C6	3.09	0.40
75:RB:2657:U:H2'	75:RB:2658:G:C8	2.57	0.40
75:RB:2674:G:H2'	75:RB:2674:G:N3	2.36	0.40
75:RB:3000:C:H2'	75:RB:3001:G:O4'	2.21	0.40
75:RB:3051:C:O2'	75:RB:3081:G:N1	2.42	0.40
75:RB:3205:G:O2'	75:RB:3208:A:N3	2.46	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:3221:G:H2'	75:RB:3222:U:C6	2.56	0.40
77:TB:51:G:HO2'	77:TB:52:U:P	2.44	0.40
79:cl:25:U:C2	79:cl:26:2MG:C8	3.09	0.40
79:cl:37:MIA:H3'	79:cl:38:A:H8	1.85	0.40
79:cl:48:5MC:C4	79:cl:59:A:C8	3.10	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	ba	111/137 (81%)	102 (92%)	9 (8%)	0	100	100
3	ca	174/225 (77%)	163 (94%)	11 (6%)	0	100	100
4	da	79/188 (42%)	68 (86%)	11 (14%)	0	100	100
5	ga	136/142 (96%)	129 (95%)	7 (5%)	0	100	100
6	ha	320/332 (96%)	280 (88%)	40 (12%)	0	100	100
7	ia	211/227 (93%)	198 (94%)	13 (6%)	0	100	100
8	ja	259/265 (98%)	242 (93%)	17 (7%)	0	100	100
9	ka	191/200 (96%)	175 (92%)	16 (8%)	0	100	100
10	la	138/149 (93%)	121 (88%)	17 (12%)	0	100	100
11	ma	101/127 (80%)	94 (93%)	7 (7%)	0	100	100
12	na	123/151 (82%)	112 (91%)	11 (9%)	0	100	100
13	oa	134/152 (88%)	120 (90%)	14 (10%)	0	100	100
14	pa	148/151 (98%)	142 (96%)	6 (4%)	0	100	100
15	qa	117/143 (82%)	105 (90%)	11 (9%)	1 (1%)	14	42
16	ra	133/155 (86%)	126 (95%)	7 (5%)	0	100	100
17	sa	98/154 (64%)	88 (90%)	10 (10%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
18	ta	75/108 (69%)	52 (69%)	23 (31%)	0	100	100
19	ua	62/86 (72%)	61 (98%)	1 (2%)	0	100	100
20	va	126/129 (98%)	112 (89%)	12 (10%)	2 (2%)	7	29
21	wa	37/56 (66%)	36 (97%)	1 (3%)	0	100	100
22	xa	68/86 (79%)	63 (93%)	5 (7%)	0	100	100
23	ya	37/62 (60%)	32 (86%)	5 (14%)	0	100	100
24	za	200/308 (65%)	186 (93%)	14 (7%)	0	100	100
25	bb	209/263 (80%)	180 (86%)	28 (13%)	1 (0%)	24	54
26	cb	74/82 (90%)	65 (88%)	9 (12%)	0	100	100
27	db	93/156 (60%)	92 (99%)	1 (1%)	0	100	100
28	eb	179/195 (92%)	164 (92%)	15 (8%)	0	100	100
29	fb	212/274 (77%)	197 (93%)	15 (7%)	0	100	100
30	gb	147/250 (59%)	131 (89%)	16 (11%)	0	100	100
31	hb	167/192 (87%)	143 (86%)	22 (13%)	2 (1%)	10	35
32	ib	143/159 (90%)	135 (94%)	8 (6%)	0	100	100
33	AA	227/258 (88%)	215 (95%)	12 (5%)	0	100	100
34	BA	154/164 (94%)	146 (95%)	8 (5%)	0	100	100
35	CA	134/137 (98%)	122 (91%)	12 (9%)	0	100	100
36	DA	249/261 (95%)	236 (95%)	13 (5%)	0	100	100
37	EA	162/180 (90%)	148 (91%)	14 (9%)	0	100	100
38	FA	183/189 (97%)	170 (93%)	13 (7%)	0	100	100
39	GA	127/140 (91%)	126 (99%)	1 (1%)	0	100	100
40	HA	201/204 (98%)	187 (93%)	14 (7%)	0	100	100
41	IA	142/145 (98%)	134 (94%)	8 (6%)	0	100	100
42	JA	184/187 (98%)	175 (95%)	9 (5%)	0	100	100
43	KA	269/301 (89%)	252 (94%)	17 (6%)	0	100	100
44	LA	168/213 (79%)	162 (96%)	6 (4%)	0	100	100
45	MA	153/170 (90%)	149 (97%)	4 (3%)	0	100	100
46	NA	114/152 (75%)	108 (95%)	6 (5%)	0	100	100
47	OA	59/162 (36%)	56 (95%)	3 (5%)	0	100	100
48	PA	128/157 (82%)	121 (94%)	7 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
49	QA	140/147 (95%)	129 (92%)	11 (8%)	0	100	100
50	RA	96/112 (86%)	92 (96%)	4 (4%)	0	100	100
51	SA	105/123 (85%)	101 (96%)	4 (4%)	0	100	100
52	TA	124/133 (93%)	121 (98%)	3 (2%)	0	100	100
53	UA	78/93 (84%)	73 (94%)	5 (6%)	0	100	100
54	VA	48/76 (63%)	47 (98%)	1 (2%)	0	100	100
55	WA	96/105 (91%)	92 (96%)	4 (4%)	0	100	100
56	XA	130/135 (96%)	123 (95%)	7 (5%)	0	100	100
57	YA	175/178 (98%)	164 (94%)	11 (6%)	0	100	100
58	ZA	99/130 (76%)	83 (84%)	13 (13%)	3 (3%)	3	18
59	AB	98/112 (88%)	94 (96%)	4 (4%)	0	100	100
60	BB	117/124 (94%)	106 (91%)	11 (9%)	0	100	100
61	CB	232/244 (95%)	216 (93%)	16 (7%)	0	100	100
62	DB	382/389 (98%)	363 (95%)	19 (5%)	0	100	100
63	EB	397/404 (98%)	370 (93%)	27 (7%)	0	100	100
64	FB	203/206 (98%)	196 (97%)	7 (3%)	0	100	100
65	GB	89/92 (97%)	83 (93%)	6 (7%)	0	100	100
66	HB	201/217 (93%)	187 (93%)	14 (7%)	0	100	100
67	IB	23/25 (92%)	22 (96%)	1 (4%)	0	100	100
68	JB	49/129 (38%)	47 (96%)	2 (4%)	0	100	100
69	KB	203/208 (98%)	190 (94%)	11 (5%)	2 (1%)	12	40
70	LB	213/219 (97%)	192 (90%)	21 (10%)	0	100	100
71	MB	108/112 (96%)	104 (96%)	4 (4%)	0	100	100
72	NB	66/69 (96%)	58 (88%)	8 (12%)	0	100	100
73	OB	48/60 (80%)	43 (90%)	5 (10%)	0	100	100
74	PB	106/119 (89%)	101 (95%)	5 (5%)	0	100	100
All	All	10582/12285 (86%)	9818 (93%)	753 (7%)	11 (0%)	49	78

All (11) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
58	ZA	99	ARG
58	ZA	110	GLU

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Mol	Chain	Res	Type
69	KB	63	ARG
58	ZA	109	LYS
20	va	54	PRO
20	va	56	ARG
25	bb	55	LYS
31	hb	66	PRO
31	hb	77	HIS
69	KB	4	HIS
15	qa	68	GLY

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	
2	ba	99/116 (85%)	99 (100%)	0	100	100
3	ca	153/181 (84%)	153 (100%)	0	100	100
4	da	77/143 (54%)	77 (100%)	0	100	100
5	ga	109/113 (96%)	109 (100%)	0	100	100
6	ha	274/281 (98%)	274 (100%)	0	100	100
7	ia	180/192 (94%)	180 (100%)	0	100	100
8	ja	222/224 (99%)	222 (100%)	0	100	100
9	ka	163/169 (96%)	163 (100%)	0	100	100
10	la	113/120 (94%)	113 (100%)	0	100	100
11	ma	97/115 (84%)	97 (100%)	0	100	100
12	na	98/121 (81%)	98 (100%)	0	100	100
13	oa	119/133 (90%)	119 (100%)	0	100	100
14	pa	129/130 (99%)	129 (100%)	0	100	100
15	qa	108/126 (86%)	108 (100%)	0	100	100
16	ra	112/124 (90%)	112 (100%)	0	100	100
17	sa	87/130 (67%)	87 (100%)	0	100	100
18	ta	69/92 (75%)	69 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
19	ua	57/78 (73%)	57 (100%)	0	100	100
20	va	110/111 (99%)	110 (100%)	0	100	100
21	wa	34/47 (72%)	34 (100%)	0	100	100
22	xa	64/78 (82%)	64 (100%)	0	100	100
23	ya	32/49 (65%)	32 (100%)	0	100	100
24	za	172/233 (74%)	172 (100%)	0	100	100
25	bb	189/228 (83%)	189 (100%)	0	100	100
26	cb	63/68 (93%)	63 (100%)	0	100	100
27	db	82/113 (73%)	81 (99%)	1 (1%)	63	72
28	eb	154/162 (95%)	154 (100%)	0	100	100
29	fb	181/219 (83%)	181 (100%)	0	100	100
30	gb	130/215 (60%)	130 (100%)	0	100	100
31	hb	151/171 (88%)	151 (100%)	0	100	100
32	ib	126/132 (96%)	126 (100%)	0	100	100
33	AA	200/222 (90%)	200 (100%)	0	100	100
34	BA	135/141 (96%)	135 (100%)	0	100	100
35	CA	113/114 (99%)	113 (100%)	0	100	100
36	DA	193/199 (97%)	193 (100%)	0	100	100
37	EA	142/156 (91%)	142 (100%)	0	100	100
38	FA	159/163 (98%)	159 (100%)	0	100	100
39	GA	103/109 (94%)	103 (100%)	0	100	100
40	HA	177/178 (99%)	177 (100%)	0	100	100
41	IA	113/114 (99%)	113 (100%)	0	100	100
42	JA	156/157 (99%)	156 (100%)	0	100	100
43	KA	227/252 (90%)	227 (100%)	0	100	100
44	LA	150/176 (85%)	150 (100%)	0	100	100
45	MA	132/144 (92%)	132 (100%)	0	100	100
46	NA	104/128 (81%)	104 (100%)	0	100	100
47	OA	55/133 (41%)	55 (100%)	0	100	100
48	PA	115/130 (88%)	115 (100%)	0	100	100
49	QA	127/132 (96%)	126 (99%)	1 (1%)	73	77

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
50	RA	86/98 (88%)	86 (100%)	0	100	100
51	SA	94/108 (87%)	94 (100%)	0	100	100
52	TA	114/121 (94%)	114 (100%)	0	100	100
53	UA	69/77 (90%)	69 (100%)	0	100	100
54	VA	47/73 (64%)	47 (100%)	0	100	100
55	WA	87/93 (94%)	87 (100%)	0	100	100
56	XA	114/115 (99%)	114 (100%)	0	100	100
57	YA	162/163 (99%)	162 (100%)	0	100	100
58	ZA	89/106 (84%)	89 (100%)	0	100	100
59	AB	86/92 (94%)	86 (100%)	0	100	100
60	BB	105/109 (96%)	105 (100%)	0	100	100
61	CB	199/205 (97%)	199 (100%)	0	100	100
62	DB	332/336 (99%)	332 (100%)	0	100	100
63	EB	317/321 (99%)	317 (100%)	0	100	100
64	FB	172/173 (99%)	172 (100%)	0	100	100
65	GB	72/73 (99%)	72 (100%)	0	100	100
66	HB	170/178 (96%)	170 (100%)	0	100	100
67	IB	24/24 (100%)	24 (100%)	0	100	100
68	JB	46/115 (40%)	46 (100%)	0	100	100
69	KB	175/178 (98%)	175 (100%)	0	100	100
70	LB	182/185 (98%)	182 (100%)	0	100	100
71	MB	91/93 (98%)	91 (100%)	0	100	100
72	NB	62/63 (98%)	62 (100%)	0	100	100
73	OB	44/51 (86%)	44 (100%)	0	100	100
74	PB	96/107 (90%)	96 (100%)	0	100	100
All	All	9190/10319 (89%)	9188 (100%)	2 (0%)	100	100

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

Mol	Chain	Res	Type
27	db	11	ASN
49	QA	16	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (93) such sidechains are listed below:

Mol	Chain	Res	Type
2	ba	27	GLN
3	ca	100	ASN
3	ca	112	GLN
4	da	63	HIS
5	ga	86	ASN
5	ga	109	HIS
6	ha	280	HIS
7	ia	74	GLN
8	ja	36	HIS
8	ja	67	GLN
8	ja	214	GLN
9	ka	61	GLN
9	ka	199	ASN
12	na	94	HIS
13	oa	10	GLN
13	oa	119	ASN
14	pa	45	GLN
14	pa	58	HIS
15	qa	42	GLN
15	qa	48	ASN
16	ra	104	HIS
18	ta	100	GLN
19	ua	46	GLN
20	va	7	ASN
20	va	129	HIS
22	xa	31	ASN
22	xa	62	GLN
22	xa	67	GLN
23	ya	39	GLN
24	za	117	GLN
24	za	136	GLN
25	bb	28	GLN
25	bb	52	GLN
25	bb	74	GLN
25	bb	124	HIS
26	cb	2	GLN
28	eb	112	GLN
28	eb	126	HIS
28	eb	141	GLN
29	fb	120	HIS
29	fb	219	ASN

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Mol	Chain	Res	Type
29	fb	251	GLN
30	gb	112	ASN
32	ib	111	HIS
34	BA	90	HIS
34	BA	111	ASN
34	BA	131	GLN
36	DA	140	ASN
36	DA	233	GLN
37	EA	17	GLN
37	EA	45	GLN
37	EA	111	HIS
40	HA	32	GLN
41	IA	40	HIS
42	JA	11	ASN
42	JA	58	ASN
42	JA	134	ASN
43	KA	81	HIS
44	LA	71	GLN
45	MA	75	ASN
47	OA	13	GLN
48	PA	43	ASN
50	RA	19	GLN
50	RA	78	ASN
51	SA	64	ASN
54	VA	19	GLN
57	YA	59	GLN
57	YA	102	ASN
57	YA	146	ASN
57	YA	175	ASN
58	ZA	46	GLN
60	BB	22	GLN
60	BB	32	GLN
60	BB	63	ASN
60	BB	76	ASN
62	DB	149	GLN
62	DB	317	HIS
63	EB	97	ASN
64	FB	36	GLN
64	FB	73	HIS
64	FB	145	GLN
64	FB	197	GLN
66	HB	73	ASN

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Mol	Chain	Res	Type
66	HB	79	ASN
66	HB	95	HIS
68	JB	83	GLN
69	KB	4	HIS
69	KB	61	GLN
69	KB	99	HIS
70	LB	32	HIS
73	OB	12	GLN
74	PB	75	ASN
74	PB	100	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	aa	1690/1810 (93%)	468 (27%)	0
75	RB	3143/3386 (92%)	720 (22%)	39 (1%)
76	SB	159/160 (99%)	27 (16%)	0
77	TB	119/120 (99%)	17 (14%)	2 (1%)
78	al	6/7 (85%)	2 (33%)	0
79	cl	74/75 (98%)	22 (29%)	0
All	All	5191/5558 (93%)	1256 (24%)	41 (0%)

All (1256) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	aa	17	C
1	aa	25	C
1	aa	26	A
1	aa	27	U
1	aa	34	G
1	aa	40	A
1	aa	42	G
1	aa	43	A
1	aa	45	U
1	aa	46	A
1	aa	47	A
1	aa	50	C
1	aa	59	G
1	aa	62	A
1	aa	63	G
1	aa	66	U

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Mol	Chain	Res	Type
1	aa	67	G
1	aa	68	A
1	aa	72	A
1	aa	73	A
1	aa	76	U
1	aa	77	G
1	aa	78	A
1	aa	79	A
1	aa	80	C
1	aa	81	U
1	aa	82	G
1	aa	105	A
1	aa	106	A
1	aa	115	A
1	aa	116	G
1	aa	117	U
1	aa	123	U
1	aa	128	G
1	aa	130	A
1	aa	131	C
1	aa	132	G
1	aa	134	G
1	aa	135	C
1	aa	136	U
1	aa	137	A
1	aa	138	C
1	aa	139	U
1	aa	140	C
1	aa	141	G
1	aa	142	G
1	aa	143	A
1	aa	144	U
1	aa	154	A
1	aa	155	A
1	aa	156	U
1	aa	158	C
1	aa	164	C
1	aa	174	C
1	aa	175	A
1	aa	176	A
1	aa	177	C
1	aa	179	A

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Mol	Chain	Res	Type
1	aa	189	U
1	aa	190	C
1	aa	191	U
1	aa	192	G
1	aa	193	G
1	aa	195	A
1	aa	196	G
1	aa	198	G
1	aa	199	G
1	aa	200	C
1	aa	201	G
1	aa	212	A
1	aa	244	C
1	aa	245	C
1	aa	246	G
1	aa	252	U
1	aa	253	C
1	aa	260	A
1	aa	263	C
1	aa	264	G
1	aa	265	A
1	aa	268	G
1	aa	273	C
1	aa	274	A
1	aa	275	C
1	aa	276	G
1	aa	277	G
1	aa	280	U
1	aa	281	U
1	aa	282	C
1	aa	283	G
1	aa	284	U
1	aa	285	G
1	aa	287	C
1	aa	288	G
1	aa	291	G
1	aa	303	A
1	aa	305	A
1	aa	308	U
1	aa	318	C
1	aa	320	A
1	aa	324	U

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Mol	Chain	Res	Type
1	aa	325	C
1	aa	326	G
1	aa	337	A
1	aa	341	G
1	aa	342	C
1	aa	354	G
1	aa	355	U
1	aa	356	G
1	aa	363	G
1	aa	365	C
1	aa	384	U
1	aa	385	C
1	aa	394	G
1	aa	403	A
1	aa	404	A
1	aa	406	C
1	aa	408	G
1	aa	420	A
1	aa	421	A
1	aa	422	G
1	aa	427	G
1	aa	428	C
1	aa	429	A
1	aa	430	G
1	aa	438	G
1	aa	441	A
1	aa	443	U
1	aa	448	C
1	aa	449	A
1	aa	451	U
1	aa	458	A
1	aa	463	G
1	aa	472	A
1	aa	481	A
1	aa	485	A
1	aa	486	U
1	aa	487	A
1	aa	488	C
1	aa	489	C
1	aa	490	G
1	aa	492	G
1	aa	494	G

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Mol	Chain	Res	Type
1	aa	495	C
1	aa	497	U
1	aa	498	U
1	aa	499	A
1	aa	500	G
1	aa	501	U
1	aa	502	G
1	aa	503	U
1	aa	505	U
1	aa	506	G
1	aa	508	U
1	aa	509	A
1	aa	510	A
1	aa	511	U
1	aa	512	U
1	aa	514	G
1	aa	515	A
1	aa	518	G
1	aa	519	A
1	aa	523	C
1	aa	524	A
1	aa	531	A
1	aa	538	A
1	aa	544	G
1	aa	545	A
1	aa	546	U
1	aa	555	G
1	aa	559	A
1	aa	560	A
1	aa	561	G
1	aa	562	U
1	aa	563	C
1	aa	569	C
1	aa	572	G
1	aa	582	U
1	aa	583	A
1	aa	595	A
1	aa	598	A
1	aa	599	G
1	aa	615	U
1	aa	623	A
1	aa	624	A

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Mol	Chain	Res	Type
1	aa	626	A
1	aa	627	A
1	aa	628	G
1	aa	638	G
1	aa	639	G
1	aa	642	C
1	aa	643	U
1	aa	644	U
1	aa	646	G
1	aa	649	C
1	aa	650	G
1	aa	651	G
1	aa	706	U
1	aa	707	C
1	aa	708	G
1	aa	709	C
1	aa	714	C
1	aa	715	U
1	aa	716	A
1	aa	717	G
1	aa	718	C
1	aa	744	G
1	aa	745	C
1	aa	746	A
1	aa	747	U
1	aa	749	G
1	aa	751	U
1	aa	760	G
1	aa	761	A
1	aa	762	A
1	aa	772	C
1	aa	777	A
1	aa	780	A
1	aa	781	A
1	aa	783	C
1	aa	784	C
1	aa	785	A
1	aa	786	U
1	aa	787	C
1	aa	788	G
1	aa	789	C
1	aa	790	U

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Mol	Chain	Res	Type
1	aa	792	U
1	aa	795	A
1	aa	800	U
1	aa	813	A
1	aa	817	C
1	aa	818	A
1	aa	820	A
1	aa	821	G
1	aa	825	U
1	aa	827	C
1	aa	828	G
1	aa	829	G
1	aa	831	C
1	aa	834	A
1	aa	835	U
1	aa	836	U
1	aa	837	G
1	aa	840	U
1	aa	842	G
1	aa	846	U
1	aa	848	C
1	aa	849	G
1	aa	851	G
1	aa	855	G
1	aa	857	A
1	aa	860	A
1	aa	861	A
1	aa	862	U
1	aa	864	A
1	aa	865	U
1	aa	868	A
1	aa	878	U
1	aa	891	U
1	aa	903	A
1	aa	911	A
1	aa	918	G
1	aa	919	G
1	aa	920	A
1	aa	933	G
1	aa	938	A
1	aa	940	U
1	aa	947	G

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Mol	Chain	Res	Type
1	aa	949	A
1	aa	956	A
1	aa	965	U
1	aa	971	A
1	aa	993	C
1	aa	997	A
1	aa	1001	C
1	aa	1008	A
1	aa	1009	U
1	aa	1010	A
1	aa	1031	A
1	aa	1033	C
1	aa	1037	G
1	aa	1044	A
1	aa	1045	G
1	aa	1048	A
1	aa	1057	U
1	aa	1058	G
1	aa	1059	U
1	aa	1061	G
1	aa	1062	C
1	aa	1063	U
1	aa	1064	U
1	aa	1065	A
1	aa	1068	G
1	aa	1077	C
1	aa	1079	G
1	aa	1086	A
1	aa	1087	U
1	aa	1096	A
1	aa	1097	A
1	aa	1101	C
1	aa	1102	U
1	aa	1103	U
1	aa	1105	G
1	aa	1116	G
1	aa	1118	A
1	aa	1119	G
1	aa	1143	A
1	aa	1155	G
1	aa	1156	A
1	aa	1159	G

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Mol	Chain	Res	Type
1	aa	1163	C
1	aa	1164	C
1	aa	1165	A
1	aa	1169	G
1	aa	1172	G
1	aa	1188	A
1	aa	1189	U
1	aa	1195	U
1	aa	1197	A
1	aa	1198	A
1	aa	1200	A
1	aa	1203	G
1	aa	1204	G
1	aa	1206	A
1	aa	1208	A
1	aa	1212	A
1	aa	1221	A
1	aa	1222	G
1	aa	1232	G
1	aa	1233	G
1	aa	1234	A
1	aa	1245	G
1	aa	1248	A
1	aa	1249	G
1	aa	1250	C
1	aa	1254	U
1	aa	1255	U
1	aa	1256	C
1	aa	1280	U
1	aa	1288	C
1	aa	1290	U
1	aa	1295	G
1	aa	1305	U
1	aa	1311	U
1	aa	1318	U
1	aa	1319	U
1	aa	1325	A
1	aa	1344	U
1	aa	1348	A
1	aa	1349	A
1	aa	1350	C
1	aa	1351	U

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Mol	Chain	Res	Type
1	aa	1354	C
1	aa	1358	G
1	aa	1359	C
1	aa	1360	G
1	aa	1361	G
1	aa	1363	G
1	aa	1364	C
1	aa	1365	C
1	aa	1366	A
1	aa	1367	U
1	aa	1377	G
1	aa	1378	C
1	aa	1379	U
1	aa	1381	G
1	aa	1382	C
1	aa	1386	U
1	aa	1391	G
1	aa	1396	U
1	aa	1397	A
1	aa	1404	U
1	aa	1405	U
1	aa	1406	U
1	aa	1419	U
1	aa	1420	U
1	aa	1421	U
1	aa	1428	A
1	aa	1433	A
1	aa	1434	G
1	aa	1437	C
1	aa	1438	U
1	aa	1442	A
1	aa	1451	G
1	aa	1452	A
1	aa	1464	G
1	aa	1465	C
1	aa	1466	A
1	aa	1467	C
1	aa	1475	A
1	aa	1477	A
1	aa	1488	C
1	aa	1492	G
1	aa	1495	U

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Mol	Chain	Res	Type
1	aa	1496	A
1	aa	1497	U
1	aa	1498	A
1	aa	1499	U
1	aa	1500	A
1	aa	1501	G
1	aa	1503	C
1	aa	1504	U
1	aa	1515	G
1	aa	1522	U
1	aa	1523	A
1	aa	1524	A
1	aa	1527	U
1	aa	1528	U
1	aa	1529	G
1	aa	1530	G
1	aa	1541	C
1	aa	1543	U
1	aa	1544	G
1	aa	1545	A
1	aa	1550	G
1	aa	1562	C
1	aa	1563	A
1	aa	1564	A
1	aa	1565	U
1	aa	1566	U
1	aa	1567	G
1	aa	1571	G
1	aa	1577	A
1	aa	1579	C
1	aa	1582	G
1	aa	1591	A
1	aa	1592	G
1	aa	1598	G
1	aa	1605	A
1	aa	1609	G
1	aa	1615	G
1	aa	1624	G
1	aa	1630	G
1	aa	1639	A
1	aa	1643	A
1	aa	1664	U

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Mol	Chain	Res	Type
1	aa	1665	U
1	aa	1666	G
1	aa	1688	G
1	aa	1691	C
1	aa	1692	G
1	aa	1694	G
1	aa	1696	C
1	aa	1698	A
1	aa	1699	C
1	aa	1721	A
1	aa	1722	C
1	aa	1725	C
1	aa	1726	G
1	aa	1727	C
1	aa	1730	G
1	aa	1741	A
1	aa	1766	A
1	aa	1767	G
1	aa	1770	G
1	aa	1771	U
1	aa	1772	A
1	aa	1776	A
1	aa	1779	U
1	aa	1783	C
1	aa	1790	G
1	aa	1792	A
1	aa	1802	G
1	aa	1803	G
1	aa	1804	A
1	aa	1806	C
1	aa	1809	U
1	aa	1810	G
75	RB	2	C
75	RB	3	G
75	RB	4	C
75	RB	6	A
75	RB	8	C
75	RB	10	C
75	RB	12	G
75	RB	13	G
75	RB	14	U
75	RB	20	G

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Mol	Chain	Res	Type
75	RB	21	G
75	RB	25	U
75	RB	39	A
75	RB	42	A
75	RB	44	A
75	RB	48	A
75	RB	54	G
75	RB	58	G
75	RB	59	A
75	RB	64	A
75	RB	65	A
75	RB	67	C
75	RB	72	A
75	RB	76	A
75	RB	91	G
75	RB	98	A
75	RB	104	G
75	RB	108	A
75	RB	109	G
75	RB	112	C
75	RB	115	C
75	RB	117	U
75	RB	119	A
75	RB	120	G
75	RB	121	A
75	RB	123	U
75	RB	132	U
75	RB	133	G
75	RB	135	G
75	RB	155	G
75	RB	156	A
75	RB	160	G
75	RB	163	U
75	RB	164	C
75	RB	172	A
75	RB	174	G
75	RB	188	U
75	RB	189	C
75	RB	198	A
75	RB	208	G
75	RB	209	G
75	RB	211	A

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Mol	Chain	Res	Type
75	RB	216	G
75	RB	217	A
75	RB	219	A
75	RB	229	G
75	RB	237	C
75	RB	238	C
75	RB	241	G
75	RB	247	C
75	RB	250	C
75	RB	261	C
75	RB	267	G
75	RB	268	U
75	RB	279	G
75	RB	284	U
75	RB	293	A
75	RB	296	C
75	RB	303	U
75	RB	321	A
75	RB	327	A
75	RB	332	A
75	RB	334	A
75	RB	349	A
75	RB	350	A
75	RB	364	A
75	RB	370	A
75	RB	374	G
75	RB	395	A
75	RB	396	G
75	RB	397	A
75	RB	399	U
75	RB	417	G
75	RB	419	G
75	RB	420	A
75	RB	427	U
75	RB	428	G
75	RB	431	G
75	RB	435	G
75	RB	437	C
75	RB	439	A
75	RB	440	U
75	RB	443	G
75	RB	445	C

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Mol	Chain	Res	Type
75	RB	446	C
75	RB	448	G
75	RB	449	G
75	RB	450	C
75	RB	490	G
75	RB	492	G
75	RB	494	C
75	RB	495	G
75	RB	496	U
75	RB	497	G
75	RB	499	A
75	RB	508	G
75	RB	523	C
75	RB	524	A
75	RB	536	C
75	RB	538	C
75	RB	539	C
75	RB	540	G
75	RB	542	G
75	RB	551	A
75	RB	552	G
75	RB	554	C
75	RB	555	G
75	RB	564	A
75	RB	573	A
75	RB	574	C
75	RB	575	C
75	RB	581	G
75	RB	586	A
75	RB	588	G
75	RB	592	U
75	RB	594	C
75	RB	595	C
75	RB	599	C
75	RB	600	G
75	RB	601	G
75	RB	607	U
75	RB	608	G
75	RB	610	G
75	RB	613	G
75	RB	614	C
75	RB	622	U

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Mol	Chain	Res	Type
75	RB	624	C
75	RB	627	G
75	RB	628	C
75	RB	629	U
75	RB	630	C
75	RB	640	C
75	RB	653	A
75	RB	681	A
75	RB	685	G
75	RB	686	A
75	RB	691	U
75	RB	693	C
75	RB	694	U
75	RB	695	G
75	RB	696	A
75	RB	704	G
75	RB	706	U
75	RB	711	A
75	RB	715	A
75	RB	718	C
75	RB	721	A
75	RB	722	C
75	RB	723	G
75	RB	724	A
75	RB	753	G
75	RB	770	U
75	RB	777	G
75	RB	780	U
75	RB	781	C
75	RB	783	A
75	RB	784	G
75	RB	787	G
75	RB	788	G
75	RB	789	A
75	RB	802	G
75	RB	809	A
75	RB	811	A
75	RB	820	A
75	RB	833	G
75	RB	835	G
75	RB	840	A
75	RB	850	A

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Mol	Chain	Res	Type
75	RB	852	C
75	RB	864	C
75	RB	877	U
75	RB	882	U
75	RB	883	G
75	RB	898	G
75	RB	899	A
75	RB	910	G
75	RB	911	G
75	RB	917	A
75	RB	919	G
75	RB	920	A
75	RB	927	G
75	RB	928	A
75	RB	940	G
75	RB	947	C
75	RB	962	C
75	RB	963	U
75	RB	966	G
75	RB	973	U
75	RB	977	G
75	RB	980	C
75	RB	982	U
75	RB	986	G
75	RB	996	A
75	RB	1004	C
75	RB	1005	C
75	RB	1006	A
75	RB	1019	A
75	RB	1020	U
75	RB	1021	U
75	RB	1022	G
75	RB	1023	G
75	RB	1024	G
75	RB	1026	A
75	RB	1028	G
75	RB	1029	C
75	RB	1030	A
75	RB	1031	A
75	RB	1033	G
75	RB	1034	U
75	RB	1036	C

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Mol	Chain	Res	Type
75	RB	1037	U
75	RB	1039	G
75	RB	1040	A
75	RB	1045	U
75	RB	1049	C
75	RB	1051	A
75	RB	1053	C
75	RB	1068	A
75	RB	1069	U
75	RB	1076	G
75	RB	1079	G
75	RB	1085	G
75	RB	1087	G
75	RB	1096	C
75	RB	1098	U
75	RB	1099	G
75	RB	1100	G
75	RB	1101	A
75	RB	1106	G
75	RB	1108	U
75	RB	1109	G
75	RB	1120	G
75	RB	1134	G
75	RB	1143	G
75	RB	1146	A
75	RB	1157	A
75	RB	1162	A
75	RB	1164	G
75	RB	1177	G
75	RB	1183	C
75	RB	1187	G
75	RB	1194	C
75	RB	1195	C
75	RB	1196	U
75	RB	1197	A
75	RB	1200	A
75	RB	1201	C
75	RB	1205	C
75	RB	1206	A
75	RB	1213	G
75	RB	1217	G
75	RB	1220	G

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Mol	Chain	Res	Type
75	RB	1224	A
75	RB	1225	A
75	RB	1226	G
75	RB	1231	C
75	RB	1234	G
75	RB	1236	C
75	RB	1238	G
75	RB	1239	U
75	RB	1240	G
75	RB	1241	G
75	RB	1242	U
75	RB	1243	C
75	RB	1244	A
75	RB	1246	G
75	RB	1248	A
75	RB	1249	A
75	RB	1250	G
75	RB	1251	U
75	RB	1252	C
75	RB	1253	G
75	RB	1254	A
75	RB	1257	U
75	RB	1258	C
75	RB	1259	C
75	RB	1260	G
75	RB	1262	U
75	RB	1264	A
75	RB	1265	G
75	RB	1267	A
75	RB	1268	G
75	RB	1269	U
75	RB	1270	G
75	RB	1271	U
75	RB	1272	G
75	RB	1274	A
75	RB	1275	A
75	RB	1277	A
75	RB	1278	A
75	RB	1279	C
75	RB	1281	C
75	RB	1282	A
75	RB	1283	C

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Mol	Chain	Res	Type
75	RB	1284	C
75	RB	1285	U
75	RB	1291	A
75	RB	1298	A
75	RB	1299	G
75	RB	1311	G
75	RB	1312	A
75	RB	1313	U
75	RB	1317	G
75	RB	1319	U
75	RB	1320	G
75	RB	1321	A
75	RB	1327	G
75	RB	1333	C
75	RB	1334	A
75	RB	1349	G
75	RB	1352	G
75	RB	1353	A
75	RB	1354	G
75	RB	1355	U
75	RB	1356	G
75	RB	1357	C
75	RB	1358	C
75	RB	1359	A
75	RB	1360	U
75	RB	1390	G
75	RB	1395	A
75	RB	1402	G
75	RB	1403	G
75	RB	1405	G
75	RB	1422	G
75	RB	1437	G
75	RB	1439	U
75	RB	1440	C
75	RB	1446	G
75	RB	1449	A
75	RB	1453	G
75	RB	1455	A
75	RB	1458	U
75	RB	1459	A
75	RB	1484	A
75	RB	1485	A

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Mol	Chain	Res	Type
75	RB	1486	G
75	RB	1487	A
75	RB	1505	G
75	RB	1511	C
75	RB	1515	U
75	RB	1530	C
75	RB	1536	U
75	RB	1543	A
75	RB	1546	G
75	RB	1549	A
75	RB	1550	A
75	RB	1552	C
75	RB	1555	G
75	RB	1557	C
75	RB	1559	G
75	RB	1561	U
75	RB	1563	G
75	RB	1564	C
75	RB	1568	A
75	RB	1569	U
75	RB	1571	A
75	RB	1572	C
75	RB	1577	A
75	RB	1578	U
75	RB	1579	C
75	RB	1584	A
75	RB	1585	A
75	RB	1586	A
75	RB	1587	G
75	RB	1590	A
75	RB	1593	C
75	RB	1597	U
75	RB	1602	A
75	RB	1603	U
75	RB	1604	U
75	RB	1605	U
75	RB	1626	U
75	RB	1627	U
75	RB	1631	G
75	RB	1636	C
75	RB	1639	U
75	RB	1640	A

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Mol	Chain	Res	Type
75	RB	1642	G
75	RB	1644	A
75	RB	1654	C
75	RB	1712	A
75	RB	1715	C
75	RB	1716	G
75	RB	1718	U
75	RB	1720	C
75	RB	1722	G
75	RB	1723	C
75	RB	1728	G
75	RB	1734	G
75	RB	1748	A
75	RB	1749	G
75	RB	1756	C
75	RB	1759	C
75	RB	1760	G
75	RB	1761	C
75	RB	1762	G
75	RB	1774	G
75	RB	1776	G
75	RB	1792	G
75	RB	1793	A
75	RB	1807	C
75	RB	1809	A
75	RB	1811	U
75	RB	1812	A
75	RB	1813	C
75	RB	1814	C
75	RB	1816	U
75	RB	1817	U
75	RB	1825	G
75	RB	1838	A
75	RB	1843	A
75	RB	1845	C
75	RB	1846	A
75	RB	1847	G
75	RB	1851	U
75	RB	1862	C
75	RB	1863	A
75	RB	1874	A
75	RB	1875	A

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Mol	Chain	Res	Type
75	RB	1876	U
75	RB	1889	G
75	RB	1891	A
75	RB	1902	G
75	RB	1903	C
75	RB	1904	A
75	RB	1939	C
75	RB	2096	U
75	RB	2101	A
75	RB	2105	G
75	RB	2107	A
75	RB	2115	G
75	RB	2116	G
75	RB	2120	A
75	RB	2125	A
75	RB	2134	U
75	RB	2136	A
75	RB	2139	A
75	RB	2152	A
75	RB	2153	U
75	RB	2160	C
75	RB	2161	G
75	RB	2163	G
75	RB	2180	G
75	RB	2181	A
75	RB	2199	G
75	RB	2200	A
75	RB	2203	G
75	RB	2206	A
75	RB	2216	A
75	RB	2218	U
75	RB	2225	A
75	RB	2232	G
75	RB	2237	A
75	RB	2238	C
75	RB	2242	G
75	RB	2243	G
75	RB	2249	A
75	RB	2252	A
75	RB	2263	A
75	RB	2265	G
75	RB	2266	G

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Mol	Chain	Res	Type
75	RB	2269	G
75	RB	2272	A
75	RB	2274	A
75	RB	2275	U
75	RB	2277	C
75	RB	2278	C
75	RB	2279	U
75	RB	2281	G
75	RB	2300	G
75	RB	2301	C
75	RB	2303	U
75	RB	2306	A
75	RB	2307	U
75	RB	2308	G
75	RB	2327	U
75	RB	2329	U
75	RB	2365	A
75	RB	2366	A
75	RB	2367	C
75	RB	2368	G
75	RB	2390	A
75	RB	2395	A
75	RB	2396	G
75	RB	2397	A
75	RB	2398	C
75	RB	2404	U
75	RB	2405	G
75	RB	2427	U
75	RB	2428	G
75	RB	2431	A
75	RB	2435	G
75	RB	2436	A
75	RB	2505	U
75	RB	2506	U
75	RB	2507	U
75	RB	2511	U
75	RB	2512	A
75	RB	2519	G
75	RB	2520	G
75	RB	2522	U
75	RB	2529	C
75	RB	2532	G

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Mol	Chain	Res	Type
75	RB	2533	G
75	RB	2534	C
75	RB	2535	A
75	RB	2536	U
75	RB	2537	G
75	RB	2538	C
75	RB	2540	C
75	RB	2545	U
75	RB	2547	U
75	RB	2548	U
75	RB	2549	G
75	RB	2552	U
75	RB	2555	A
75	RB	2566	U
75	RB	2567	U
75	RB	2568	A
75	RB	2569	C
75	RB	2570	C
75	RB	2578	U
75	RB	2582	G
75	RB	2590	A
75	RB	2591	C
75	RB	2603	G
75	RB	2604	G
75	RB	2611	G
75	RB	2616	G
75	RB	2618	G
75	RB	2623	C
75	RB	2632	A
75	RB	2633	A
75	RB	2635	A
75	RB	2648	G
75	RB	2649	U
75	RB	2653	A
75	RB	2654	A
75	RB	2669	G
75	RB	2671	A
75	RB	2674	G
75	RB	2676	A
75	RB	2677	A
75	RB	2686	G
75	RB	2688	A

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Mol	Chain	Res	Type
75	RB	2691	A
75	RB	2693	A
75	RB	2724	A
75	RB	2725	G
75	RB	2726	U
75	RB	2734	C
75	RB	2746	G
75	RB	2749	U
75	RB	2750	G
75	RB	2759	A
75	RB	2769	U
75	RB	2774	G
75	RB	2775	G
75	RB	2780	U
75	RB	2793	G
75	RB	2794	U
75	RB	2796	A
75	RB	2797	G
75	RB	2798	A
75	RB	2799	A
75	RB	2801	A
75	RB	2807	C
75	RB	2811	G
75	RB	2813	G
75	RB	2814	A
75	RB	2815	U
75	RB	2818	C
75	RB	2835	A
75	RB	2839	U
75	RB	2840	U
75	RB	2841	C
75	RB	2842	A
75	RB	2844	A
75	RB	2856	U
75	RB	2857	U
75	RB	2868	G
75	RB	2869	A
75	RB	2872	U
75	RB	2873	C
75	RB	2884	A
75	RB	2886	C
75	RB	2896	C

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Mol	Chain	Res	Type
75	RB	2908	A
75	RB	2920	U
75	RB	2925	C
75	RB	2930	A
75	RB	2932	U
75	RB	2933	A
75	RB	2935	G
75	RB	2938	A
75	RB	2939	C
75	RB	2944	G
75	RB	2951	U
75	RB	2952	U
75	RB	2963	G
75	RB	2968	A
75	RB	2980	C
75	RB	2987	G
75	RB	2989	U
75	RB	2993	A
75	RB	2994	G
75	RB	2997	U
75	RB	2999	G
75	RB	3007	A
75	RB	3017	A
75	RB	3026	G
75	RB	3043	C
75	RB	3045	A
75	RB	3051	C
75	RB	3053	U
75	RB	3054	C
75	RB	3055	G
75	RB	3070	G
75	RB	3074	G
75	RB	3075	U
75	RB	3082	A
75	RB	3088	C
75	RB	3090	G
75	RB	3095	C
75	RB	3096	C
75	RB	3097	G
75	RB	3100	U
75	RB	3111	C
75	RB	3118	A

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Mol	Chain	Res	Type
75	RB	3121	U
75	RB	3126	A
75	RB	3127	U
75	RB	3137	C
75	RB	3138	A
75	RB	3139	U
75	RB	3140	G
75	RB	3147	C
75	RB	3149	G
75	RB	3150	C
75	RB	3157	C
75	RB	3158	G
75	RB	3159	C
75	RB	3161	C
75	RB	3168	A
75	RB	3172	A
75	RB	3176	U
75	RB	3178	G
75	RB	3184	C
75	RB	3185	U
75	RB	3186	U
75	RB	3187	G
75	RB	3189	G
75	RB	3190	C
75	RB	3193	C
75	RB	3194	C
75	RB	3195	A
75	RB	3202	C
75	RB	3203	G
75	RB	3204	U
75	RB	3205	G
75	RB	3207	C
75	RB	3209	U
75	RB	3211	G
75	RB	3215	A
75	RB	3216	A
75	RB	3230	A
75	RB	3231	A
75	RB	3232	G
75	RB	3233	U
75	RB	3234	G
75	RB	3239	G

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Mol	Chain	Res	Type
75	RB	3240	G
75	RB	3241	U
75	RB	3256	C
75	RB	3257	U
75	RB	3258	C
75	RB	3265	C
75	RB	3268	C
75	RB	3272	C
75	RB	3273	G
75	RB	3274	G
75	RB	3275	U
75	RB	3276	G
75	RB	3282	A
75	RB	3285	C
75	RB	3290	G
75	RB	3291	C
75	RB	3296	G
75	RB	3303	A
75	RB	3304	U
75	RB	3305	A
75	RB	3306	C
75	RB	3307	G
75	RB	3329	A
75	RB	3332	G
75	RB	3339	U
75	RB	3340	G
75	RB	3355	U
75	RB	3356	G
75	RB	3362	C
75	RB	3365	U
75	RB	3370	G
75	RB	3371	G
75	RB	3374	C
75	RB	3377	A
75	RB	3378	C
75	RB	3379	G
75	RB	3380	G
75	RB	3386	U
76	SB	2	G
76	SB	34	U
76	SB	35	C
76	SB	59	A

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Mol	Chain	Res	Type
76	SB	62	C
76	SB	63	C
76	SB	80	A
76	SB	81	U
76	SB	82	C
76	SB	84	C
76	SB	85	G
76	SB	86	U
76	SB	87	G
76	SB	90	C
76	SB	104	A
76	SB	106	C
76	SB	111	G
76	SB	112	U
76	SB	116	G
76	SB	121	A
76	SB	122	G
76	SB	128	C
76	SB	129	C
76	SB	130	G
76	SB	132	C
76	SB	153	C
76	SB	156	C
77	TB	2	G
77	TB	7	G
77	TB	10	C
77	TB	26	C
77	TB	33	U
77	TB	49	A
77	TB	50	A
77	TB	52	U
77	TB	53	U
77	TB	54	A
77	TB	64	G
77	TB	72	G
77	TB	100	A
77	TB	110	G
77	TB	113	G
77	TB	119	C
77	TB	120	C
78	al	4	U
78	al	7	A

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Mol	Chain	Res	Type
79	cl	5	G
79	cl	9	1MG
79	cl	10	2MG
79	cl	15	G
79	cl	16	C
79	cl	18	G
79	cl	19	G
79	cl	20	A
79	cl	22	G
79	cl	42	A
79	cl	45	G
79	cl	46	G7M
79	cl	47	H2U
79	cl	48	5MC
79	cl	49	5MC
79	cl	56	C
79	cl	59	A
79	cl	61	C
79	cl	72	U
79	cl	74	C
79	cl	75	C
79	cl	76	A

All (41) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
75	RB	12	G
75	RB	427	U
75	RB	449	G
75	RB	538	C
75	RB	550	C
75	RB	563	C
75	RB	607	U
75	RB	621	C
75	RB	690	G
75	RB	703	G
75	RB	919	G
75	RB	962	C
75	RB	1100	G
75	RB	1194	C
75	RB	1200	A
75	RB	1238	G

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Mol	Chain	Res	Type
75	RB	1250	G
75	RB	1311	G
75	RB	1359	A
75	RB	1545	G
75	RB	1549	A
75	RB	1759	C
75	RB	1815	G
75	RB	1861	A
75	RB	2100	A
75	RB	2152	A
75	RB	2299	C
75	RB	2536	U
75	RB	2569	C
75	RB	2840	U
75	RB	2962	U
75	RB	2993	A
75	RB	3117	U
75	RB	3188	C
75	RB	3194	C
75	RB	3256	C
75	RB	3369	C
75	RB	3370	G
75	RB	3379	G
77	TB	51	G
77	TB	71	A

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

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
79	5MC	cl	48	79	19,22,23	4.10	9 (47%)	26,32,35	1.05	2 (7%)
79	PSU	cl	28	79	18,21,22	1.16	2 (11%)	21,30,33	1.97	5 (23%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
79	5MC	cl	49	79	19,22,23	4.10	9 (47%)	26,32,35	1.31	4 (15%)
79	1MA	cl	58	79	21,25,26	2.88	5 (23%)	30,37,40	2.41	8 (26%)
79	G7M	cl	46	79	23,26,27	2.86	8 (34%)	34,39,42	1.80	9 (26%)
79	MIA	cl	37	79	28,31,32	2.50	6 (21%)	38,44,47	5.13	17 (44%)
79	PSU	cl	55	79	18,21,22	1.16	1 (5%)	21,30,33	1.67	4 (19%)
79	2MG	cl	26	79	23,26,27	2.97	9 (39%)	33,38,41	2.22	10 (30%)
79	H2U	cl	47	79	18,21,22	3.12	5 (27%)	19,30,33	1.42	4 (21%)
79	1MG	cl	9	79	23,26,27	2.95	8 (34%)	33,39,42	1.84	8 (24%)
79	2MG	cl	10	79	23,26,27	2.97	8 (34%)	33,38,41	2.21	10 (30%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
79	5MC	cl	48	79	-	1/7/25/26	0/2/2/2
79	PSU	cl	28	79	-	0/7/25/26	0/2/2/2
79	5MC	cl	49	79	-	4/7/25/26	0/2/2/2
79	1MA	cl	58	79	-	1/7/25/26	0/3/3/3
79	G7M	cl	46	79	-	3/7/25/26	0/3/3/3
79	MIA	cl	37	79	-	4/15/33/34	0/3/3/3
79	PSU	cl	55	79	-	1/7/25/26	0/2/2/2
79	2MG	cl	26	79	-	0/9/27/28	0/3/3/3
79	H2U	cl	47	79	-	3/7/38/39	0/2/2/2
79	1MG	cl	9	79	-	2/7/25/26	0/3/3/3
79	2MG	cl	10	79	-	2/9/27/28	0/3/3/3

All (70) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
79	cl	48	5MC	C6-C5	9.63	1.50	1.34
79	cl	49	5MC	C6-C5	9.46	1.50	1.34
79	cl	47	H2U	C2-N1	9.40	1.48	1.35
79	cl	58	1MA	C2-N3	9.01	1.47	1.30
79	cl	37	MIA	C6-N6	8.36	1.47	1.34
79	cl	9	1MG	C2-N3	8.17	1.46	1.33
79	cl	49	5MC	C4-N3	7.95	1.46	1.34
79	cl	48	5MC	C4-N3	7.83	1.46	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
79	cl	10	2MG	C2-N3	7.70	1.46	1.32
79	cl	26	2MG	C2-N3	7.57	1.46	1.32
79	cl	37	MIA	C2-S10	7.22	1.81	1.75
79	cl	10	2MG	C4-N3	6.86	1.49	1.34
79	cl	49	5MC	C2-N3	6.79	1.49	1.36
79	cl	46	G7M	C4-N3	6.77	1.49	1.34
79	cl	58	1MA	C4-N3	6.76	1.49	1.35
79	cl	26	2MG	C4-N3	6.75	1.49	1.34
79	cl	48	5MC	C2-N3	6.69	1.49	1.36
79	cl	47	H2U	C2-N3	6.68	1.49	1.38
79	cl	46	G7M	C2-N2	6.66	1.49	1.34
79	cl	9	1MG	C4-N3	6.61	1.49	1.34
79	cl	48	5MC	C5-C4	6.59	1.49	1.44
79	cl	49	5MC	C5-C4	6.43	1.49	1.44
79	cl	9	1MG	C2-N2	6.28	1.45	1.34
79	cl	26	2MG	C2-N2	6.13	1.46	1.33
79	cl	10	2MG	C2-N2	6.08	1.46	1.33
79	cl	46	G7M	C2-N3	5.81	1.47	1.33
79	cl	26	2MG	C2-N1	5.24	1.45	1.36
79	cl	48	5MC	C6-N1	5.24	1.46	1.38
79	cl	49	5MC	C6-N1	5.23	1.46	1.38
79	cl	10	2MG	C2-N1	5.21	1.45	1.36
79	cl	47	H2U	C4-N3	5.08	1.46	1.37
79	cl	49	5MC	C2-N1	4.67	1.49	1.40
79	cl	48	5MC	C2-N1	4.38	1.49	1.40
79	cl	49	5MC	C4-N4	4.31	1.45	1.34
79	cl	46	G7M	C5-N7	-4.28	1.34	1.39
79	cl	48	5MC	C4-N4	4.23	1.44	1.34
79	cl	9	1MG	C2-N1	4.15	1.44	1.37
79	cl	58	1MA	C5-C6	4.09	1.54	1.43
79	cl	58	1MA	C2-N1	4.06	1.44	1.35
79	cl	55	PSU	C6-C5	3.87	1.39	1.35
79	cl	46	G7M	C5-C6	3.87	1.54	1.43
79	cl	37	MIA	C5-C4	-3.73	1.32	1.39
79	cl	28	PSU	C6-C5	3.65	1.39	1.35
79	cl	9	1MG	C5-N7	-3.15	1.32	1.39
79	cl	46	G7M	C2-N1	3.12	1.45	1.37
79	cl	9	1MG	C5-C6	3.02	1.53	1.45
79	cl	37	MIA	C8-N9	-2.96	1.32	1.37
79	cl	26	2MG	C5-N7	-2.92	1.33	1.39
79	cl	46	G7M	C6-N1	2.87	1.44	1.38
79	cl	58	1MA	C5-N7	-2.83	1.33	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
79	cl	10	2MG	C5-N7	-2.82	1.33	1.39
79	cl	10	2MG	C5-C6	2.71	1.54	1.44
79	cl	26	2MG	C5-C6	2.54	1.53	1.44
79	cl	37	MIA	C2-N3	2.53	1.37	1.34
79	cl	37	MIA	C5-N7	-2.52	1.34	1.39
79	cl	46	G7M	O6-C6	-2.48	1.18	1.23
79	cl	26	2MG	C6-N1	2.43	1.43	1.38
79	cl	10	2MG	C6-N1	2.38	1.43	1.38
79	cl	49	5MC	CM5-C5	2.36	1.56	1.50
79	cl	26	2MG	O6-C6	-2.34	1.19	1.23
79	cl	48	5MC	CM5-C5	2.32	1.56	1.50
79	cl	47	H2U	O4-C4	-2.32	1.18	1.23
79	cl	48	5MC	O2-C2	-2.30	1.19	1.23
79	cl	47	H2U	O2-C2	-2.30	1.19	1.23
79	cl	49	5MC	O2-C2	-2.15	1.19	1.23
79	cl	10	2MG	O6-C6	-2.12	1.19	1.23
79	cl	9	1MG	O6-C6	-2.12	1.18	1.23
79	cl	26	2MG	C4-N9	-2.07	1.32	1.38
79	cl	28	PSU	C4-C5	-2.06	1.38	1.44
79	cl	9	1MG	C4-N9	-2.01	1.32	1.38

All (81) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
79	cl	37	MIA	N6-C6-N1	18.67	143.35	118.33
79	cl	37	MIA	C5-C6-N6	-14.01	94.99	122.03
79	cl	37	MIA	C1'-N9-C8	-11.38	101.84	127.09
79	cl	37	MIA	C4-N9-C1'	9.30	148.39	126.63
79	cl	37	MIA	C11-S10-C2	7.57	107.93	102.25
79	cl	37	MIA	C5-C4-N3	-6.71	120.11	127.18
79	cl	10	2MG	C2-N3-C4	6.63	120.29	112.00
79	cl	26	2MG	C2-N3-C4	6.37	119.97	112.00
79	cl	58	1MA	C1'-N9-C4	-6.06	108.58	126.49
79	cl	58	1MA	C1'-N9-C8	5.72	143.00	126.73
79	cl	58	1MA	C5-C4-N3	-5.49	119.19	127.27
79	cl	10	2MG	C5-C4-N3	-5.39	119.82	128.39
79	cl	37	MIA	N9-C8-N7	-5.25	106.49	113.94
79	cl	9	1MG	C5-C4-N3	-5.16	120.17	128.39
79	cl	58	1MA	N1-C2-N3	-5.16	119.86	126.00
79	cl	26	2MG	C5-C4-N3	-5.05	120.36	128.39
79	cl	28	PSU	C4-N3-C2	-5.03	119.44	126.37
79	cl	28	PSU	N1-C2-N3	4.80	120.23	115.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
79	cl	37	MIA	N3-C4-N9	4.52	132.73	126.99
79	cl	55	PSU	C4-N3-C2	-4.45	120.24	126.37
79	cl	46	G7M	C2-N3-C4	4.36	119.82	112.30
79	cl	58	1MA	C2-N3-C4	4.25	120.87	112.53
79	cl	26	2MG	C2-N1-C6	-4.17	119.51	124.55
79	cl	46	G7M	C5-C4-N3	-4.10	120.40	128.15
79	cl	26	2MG	N1-C2-N2	4.07	120.72	116.56
79	cl	55	PSU	N1-C2-N3	3.95	119.34	115.17
79	cl	10	2MG	C2-N1-C6	-3.92	119.81	124.55
79	cl	37	MIA	C4-N9-C8	3.84	109.77	105.74
79	cl	46	G7M	C5-C6-N1	3.83	119.75	111.84
79	cl	10	2MG	N9-C4-N3	3.57	133.10	125.95
79	cl	10	2MG	N1-C2-N2	3.51	120.14	116.56
79	cl	37	MIA	N3-C2-N1	-3.51	120.60	127.00
79	cl	9	1MG	C1'-N9-C8	-3.46	116.89	126.73
79	cl	46	G7M	O6-C6-C5	-3.40	120.42	128.01
79	cl	9	1MG	C2-N3-C4	3.37	119.56	111.98
79	cl	10	2MG	N9-C8-N7	-3.36	107.17	113.40
79	cl	9	1MG	N9-C4-N3	3.36	132.66	125.95
79	cl	9	1MG	N9-C8-N7	-3.33	107.23	113.40
79	cl	46	G7M	N9-C4-N3	3.29	132.54	125.95
79	cl	37	MIA	C5-N7-C8	3.28	108.61	103.45
79	cl	26	2MG	N9-C8-N7	-3.23	107.42	113.40
79	cl	47	H2U	C5-C4-N3	3.16	120.05	116.69
79	cl	49	5MC	C1'-N1-C6	-3.16	115.95	121.15
79	cl	26	2MG	N9-C4-N3	3.11	132.17	125.95
79	cl	37	MIA	C12-C13-C14	-3.09	121.46	127.01
79	cl	46	G7M	C2-N1-C6	-2.98	119.70	125.11
79	cl	47	H2U	C5-C6-N1	2.93	120.40	111.52
79	cl	58	1MA	N9-C4-N3	2.92	133.54	126.90
79	cl	37	MIA	C4-C5-C6	2.92	119.20	116.78
79	cl	58	1MA	N9-C8-N7	-2.91	108.01	113.40
79	cl	37	MIA	C2-N3-C4	2.87	119.80	112.29
79	cl	49	5MC	C1'-N1-C2	2.82	124.68	118.44
79	cl	46	G7M	CN7-N7-C5	2.81	130.31	126.80
79	cl	48	5MC	C5-C6-N1	-2.73	120.35	123.31
79	cl	37	MIA	S10-C2-N3	2.70	125.35	116.04
79	cl	26	2MG	C5-C6-N1	2.67	120.05	113.25
79	cl	47	H2U	N3-C2-N1	2.66	119.32	116.65
79	cl	9	1MG	C5-C6-N1	2.59	119.81	115.02
79	cl	9	1MG	C1'-N9-C4	2.58	134.10	126.49
79	cl	10	2MG	C5-C6-N1	2.55	119.74	113.25

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
79	cl	47	H2U	O2-C2-N1	-2.53	120.06	123.10
79	cl	28	PSU	O2-C2-N1	-2.52	120.19	122.79
79	cl	26	2MG	O6-C6-C5	-2.50	119.94	126.53
79	cl	10	2MG	C8-N7-C5	2.42	108.58	104.26
79	cl	49	5MC	O2-C2-N3	-2.39	118.56	122.33
79	cl	9	1MG	C8-N7-C5	2.37	108.49	104.26
79	cl	37	MIA	C4-C5-N7	-2.29	107.97	110.58
79	cl	10	2MG	O6-C6-C5	-2.25	120.59	126.53
79	cl	28	PSU	C6-C5-C4	2.22	119.67	118.17
79	cl	55	PSU	O2-C2-N1	-2.22	120.50	122.79
79	cl	28	PSU	C6-N1-C2	-2.22	120.63	122.69
79	cl	46	G7M	CN7-N7-C8	-2.21	121.44	124.79
79	cl	26	2MG	C8-N7-C5	2.20	108.19	104.26
79	cl	37	MIA	C16-C14-C15	2.19	119.63	114.59
79	cl	10	2MG	N1-C2-N3	-2.17	120.02	123.68
79	cl	49	5MC	C5-C4-N3	-2.16	119.54	121.75
79	cl	58	1MA	C8-N7-C5	2.15	108.10	104.26
79	cl	26	2MG	N1-C2-N3	-2.12	120.11	123.68
79	cl	48	5MC	CM5-C5-C6	-2.11	119.99	122.85
79	cl	55	PSU	C6-N1-C2	-2.10	120.74	122.69
79	cl	46	G7M	N9-C8-N7	-2.03	107.56	112.48

There are no chirality outliers.

All (21) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
79	cl	10	2MG	O4'-C4'-C5'-O5'
79	cl	37	MIA	C5-C6-N6-C12
79	cl	46	G7M	O4'-C4'-C5'-O5'
79	cl	49	5MC	O4'-C4'-C5'-O5'
79	cl	49	5MC	C3'-C4'-C5'-O5'
79	cl	9	1MG	O4'-C4'-C5'-O5'
79	cl	9	1MG	C3'-C4'-C5'-O5'
79	cl	46	G7M	C3'-C4'-C5'-O5'
79	cl	47	H2U	O4'-C4'-C5'-O5'
79	cl	47	H2U	C3'-C4'-C5'-O5'
79	cl	37	MIA	C3'-C4'-C5'-O5'
79	cl	47	H2U	C4'-C5'-O5'-P
79	cl	10	2MG	C3'-C4'-C5'-O5'
79	cl	37	MIA	O4'-C4'-C5'-O5'
79	cl	37	MIA	N1-C6-N6-C12
79	cl	46	G7M	C4'-C5'-O5'-P

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Mol	Chain	Res	Type	Atoms
79	cl	58	1MA	O4'-C4'-C5'-O5'
79	cl	55	PSU	O4'-C1'-C5-C4
79	cl	49	5MC	C2'-C1'-N1-C6
79	cl	48	5MC	C4'-C5'-O5'-P
79	cl	49	5MC	C2'-C1'-N1-C2

There are no ring outliers.

7 monomers are involved in 11 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
79	cl	48	5MC	1	0
79	cl	58	1MA	1	0
79	cl	46	G7M	1	0
79	cl	37	MIA	2	0
79	cl	55	PSU	1	0
79	cl	26	2MG	3	0
79	cl	9	1MG	3	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 270 ligands modelled in this entry, 269 are monoatomic - leaving 1 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
82	3HE	RB	5188	-	21,21,21	1.55	6 (28%)	23,30,30	2.53	11 (47%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns.

'-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
82	3HE	RB	5188	-	-	5/8/36/36	0/2/2/2

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
82	RB	5188	3HE	O2-C12	-2.65	1.18	1.23
82	RB	5188	3HE	C8-C9	-2.56	1.48	1.53
82	RB	5188	3HE	O1-C11	-2.52	1.18	1.23
82	RB	5188	3HE	O-C4	-2.35	1.17	1.21
82	RB	5188	3HE	C11-N	2.09	1.41	1.37
82	RB	5188	3HE	C12-N	2.01	1.40	1.37

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
82	RB	5188	3HE	C11-N-C12	-6.47	118.08	125.87
82	RB	5188	3HE	C14-C3-C4	-4.53	107.41	112.48
82	RB	5188	3HE	C10-C11-N	-3.82	111.28	115.92
82	RB	5188	3HE	C13-C12-N	-3.70	111.43	115.92
82	RB	5188	3HE	C9-C8-C7	-3.25	108.69	116.64
82	RB	5188	3HE	O1-C11-N	2.67	124.41	120.30
82	RB	5188	3HE	C6-C1-C2	2.66	113.91	110.02
82	RB	5188	3HE	C-C1-C2	-2.59	106.87	111.17
82	RB	5188	3HE	O2-C12-N	2.56	124.24	120.30
82	RB	5188	3HE	O-C4-C3	2.06	125.11	122.11
82	RB	5188	3HE	C6-C5-C4	2.06	111.69	108.29

There are no chirality outliers.

All (5) torsion outliers are listed below:

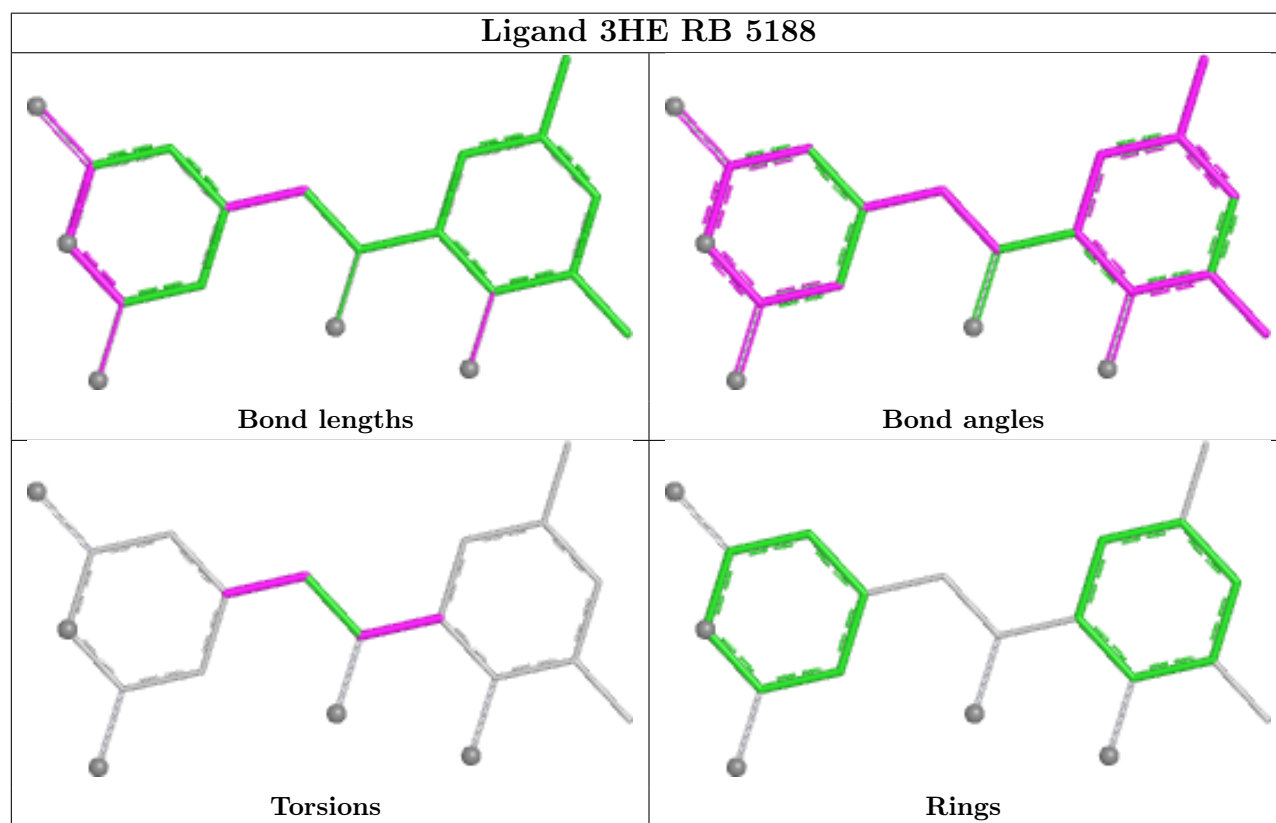
Mol	Chain	Res	Type	Atoms
82	RB	5188	3HE	C4-C5-C7-C8
82	RB	5188	3HE	C4-C5-C7-O3
82	RB	5188	3HE	C6-C5-C7-C8
82	RB	5188	3HE	C6-C5-C7-O3
82	RB	5188	3HE	C7-C8-C9-C10

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
82	RB	5188	3HE	1	0

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



5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

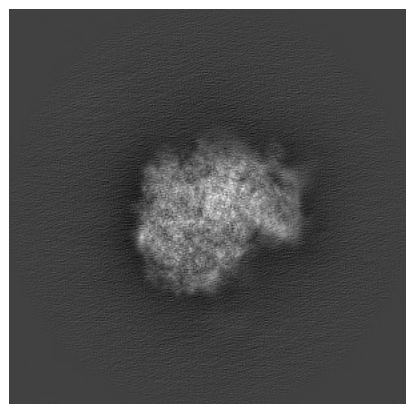
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-35638. These allow visual inspection of the internal detail of the map and identification of artifacts.

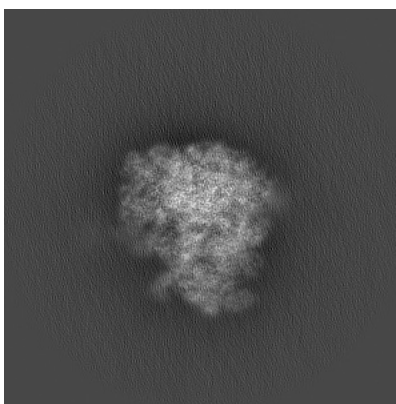
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

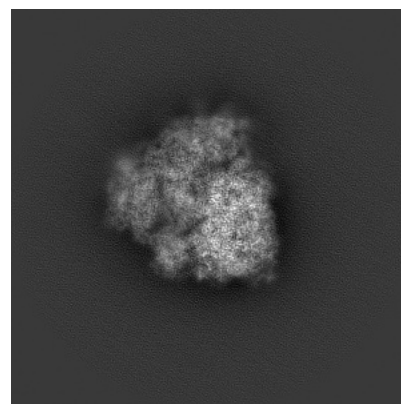
6.1.1 Primary map



X

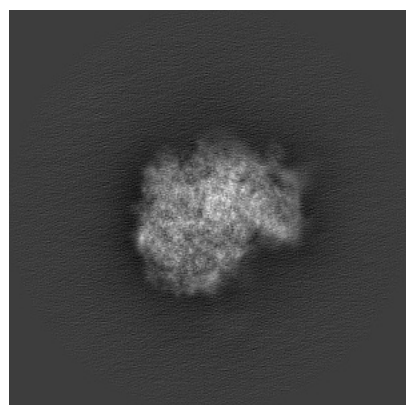


Y

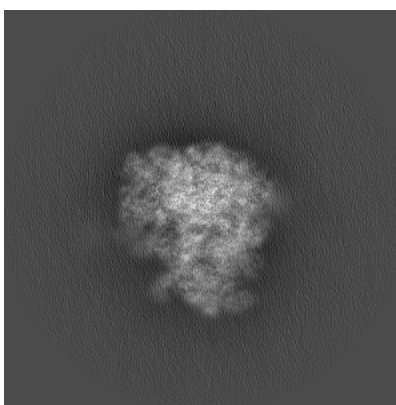


Z

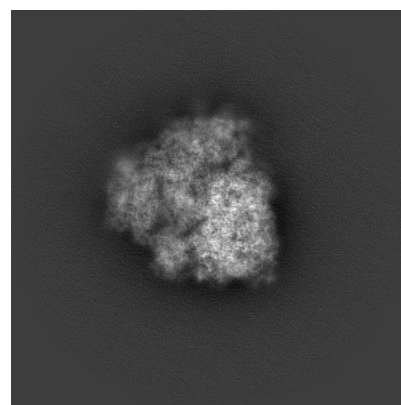
6.1.2 Raw map



X



Y

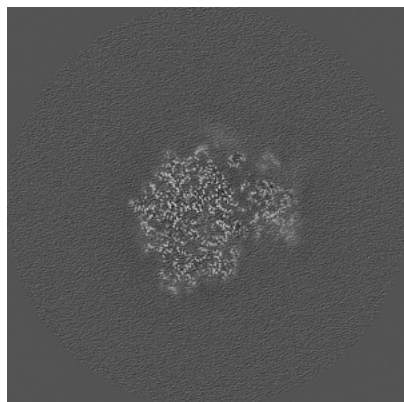


Z

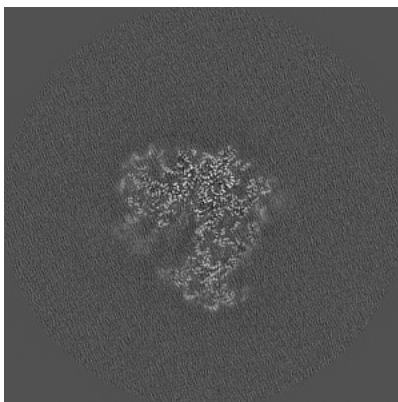
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

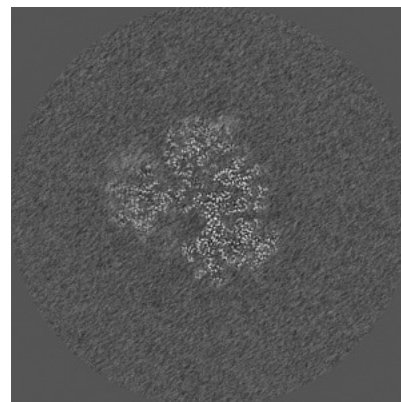
6.2.1 Primary map



X Index: 200

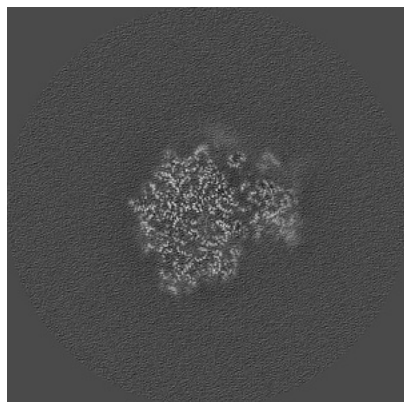


Y Index: 200

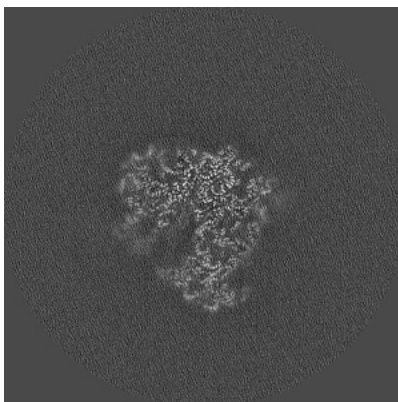


Z Index: 200

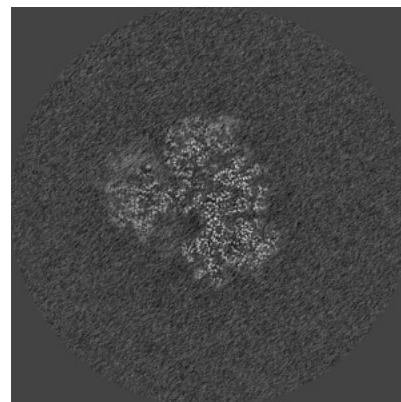
6.2.2 Raw map



X Index: 200



Y Index: 200

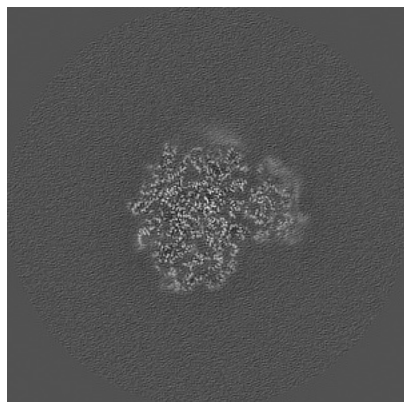


Z Index: 200

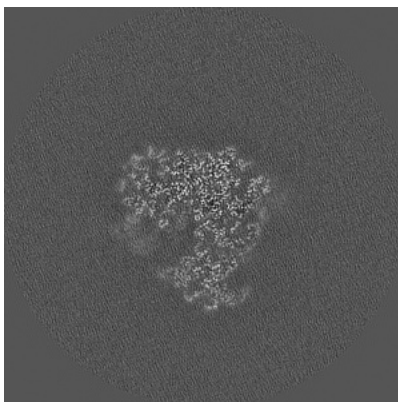
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

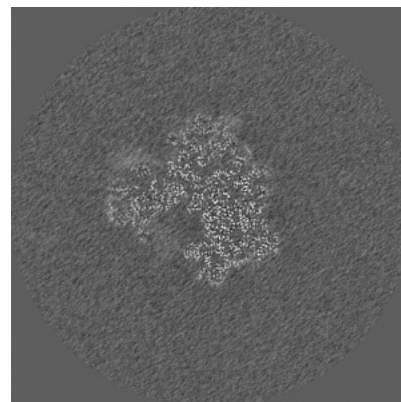
6.3.1 Primary map



X Index: 206

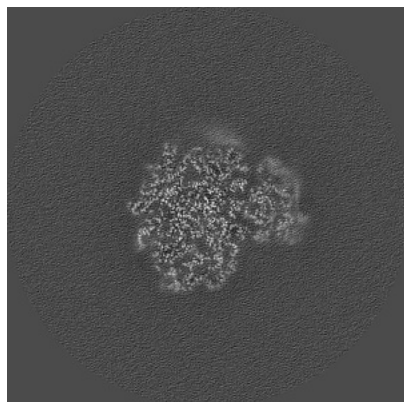


Y Index: 201

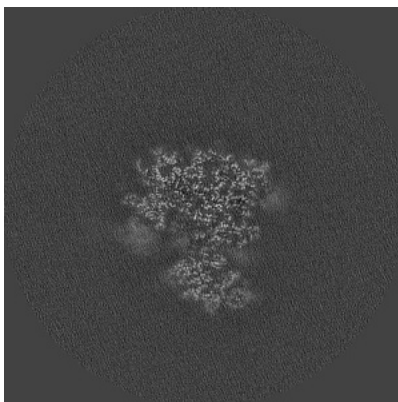


Z Index: 203

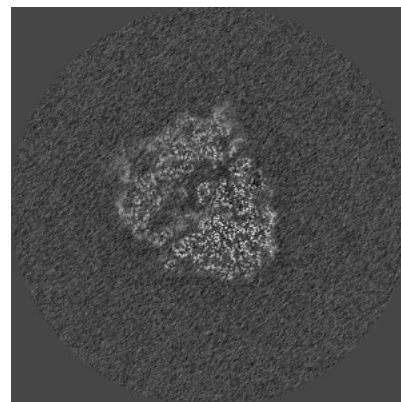
6.3.2 Raw map



X Index: 206



Y Index: 209

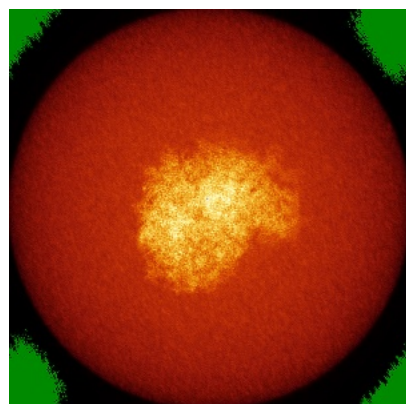


Z Index: 187

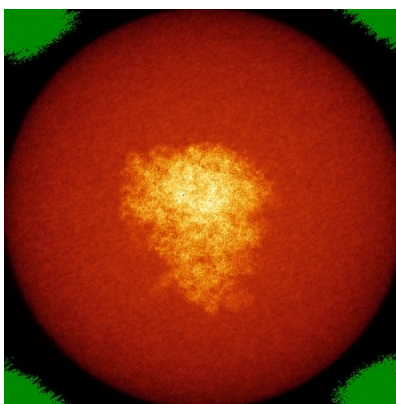
The images above show the largest variance slices of the map in three orthogonal directions.

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

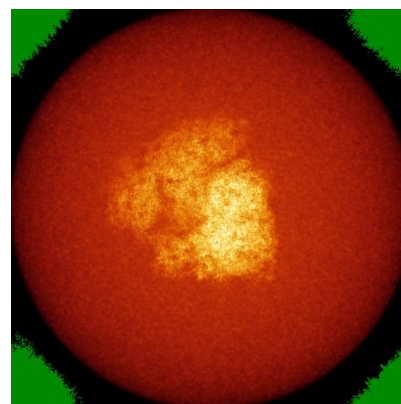
6.4.1 Primary map



X

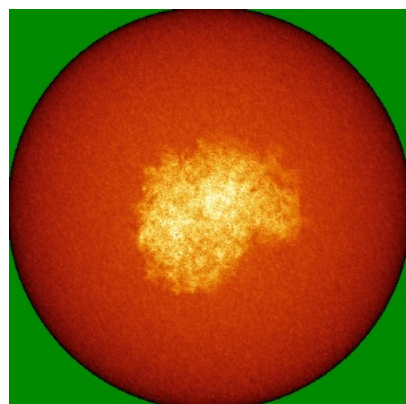


Y

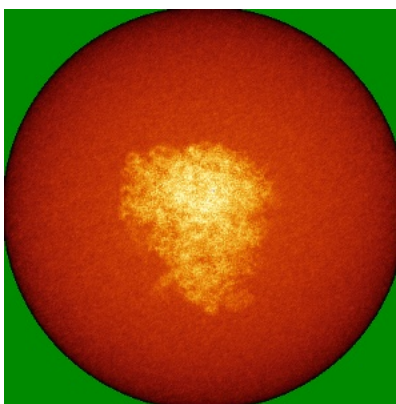


Z

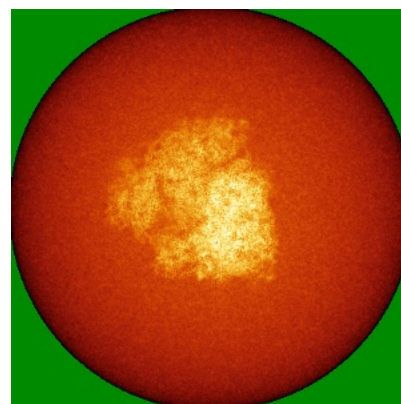
6.4.2 Raw map



X



Y

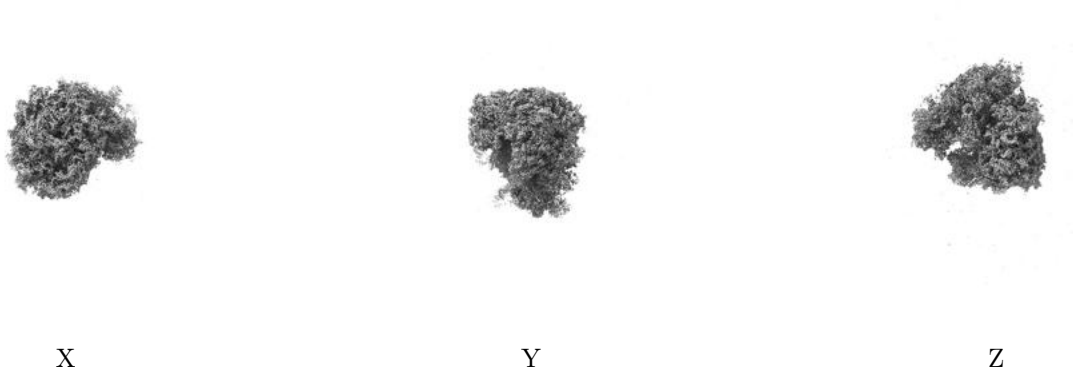


Z

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

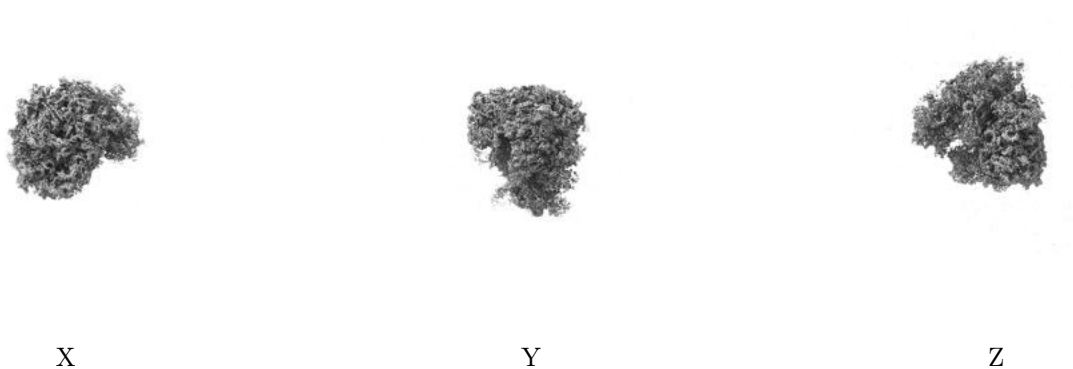
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.04. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

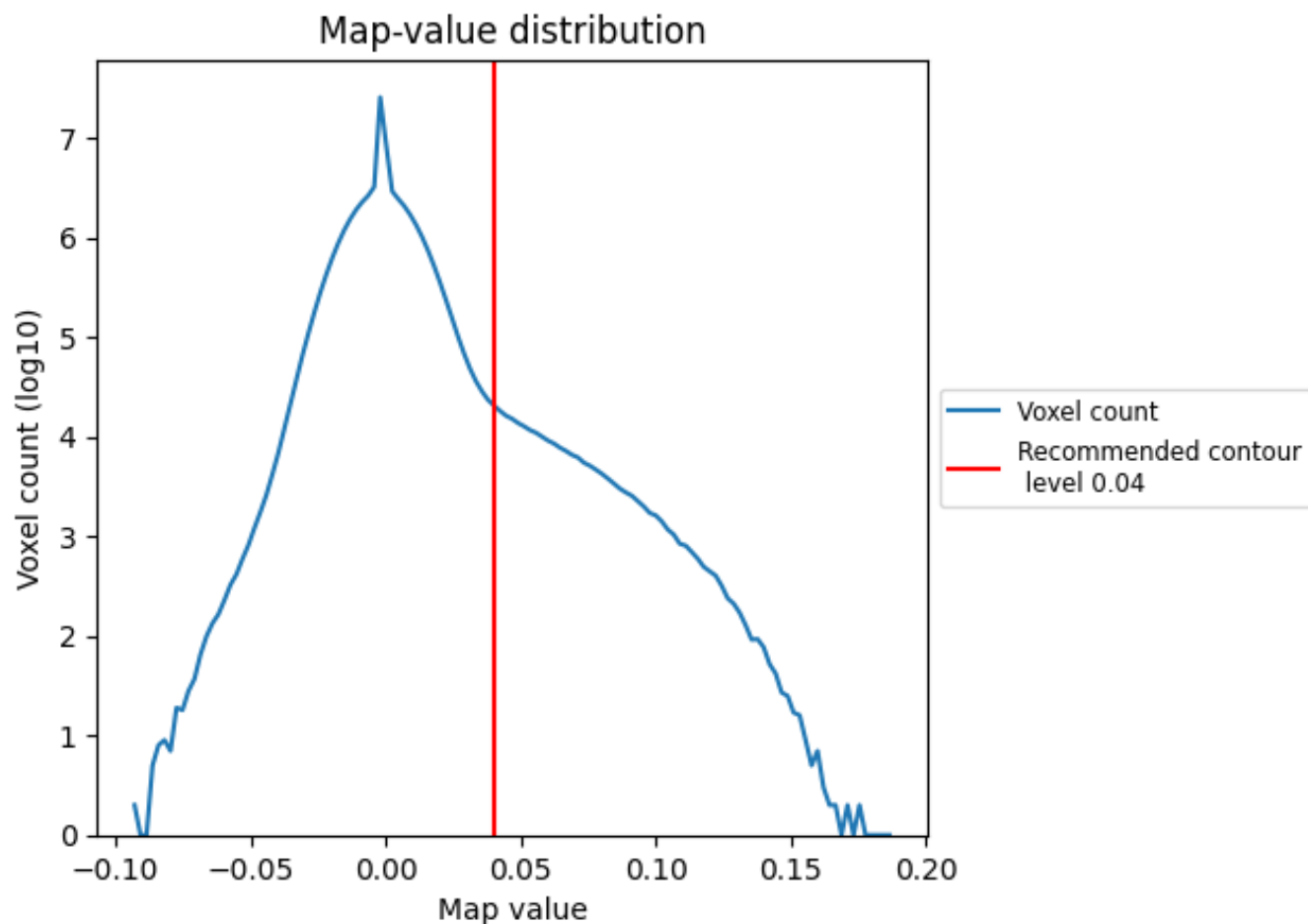
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

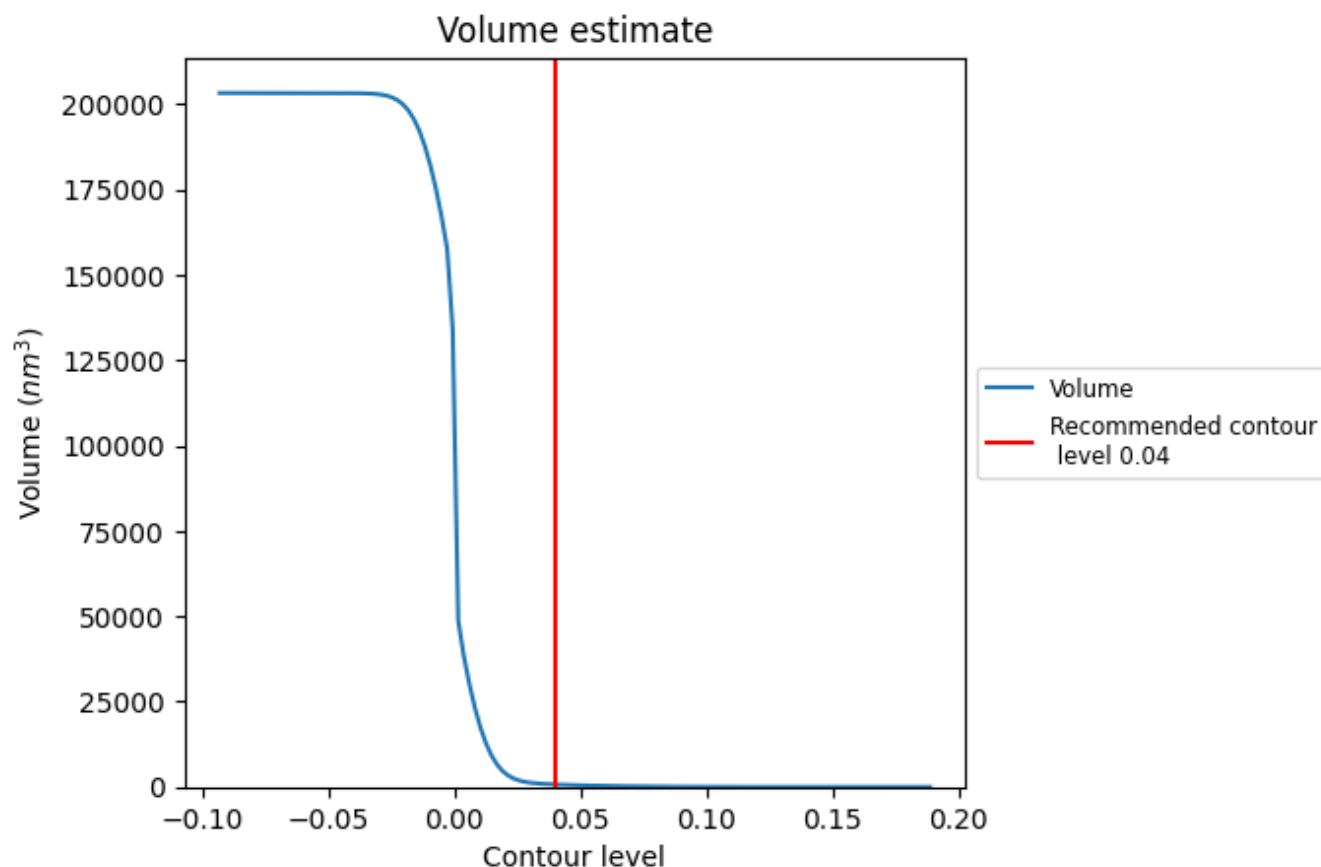
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

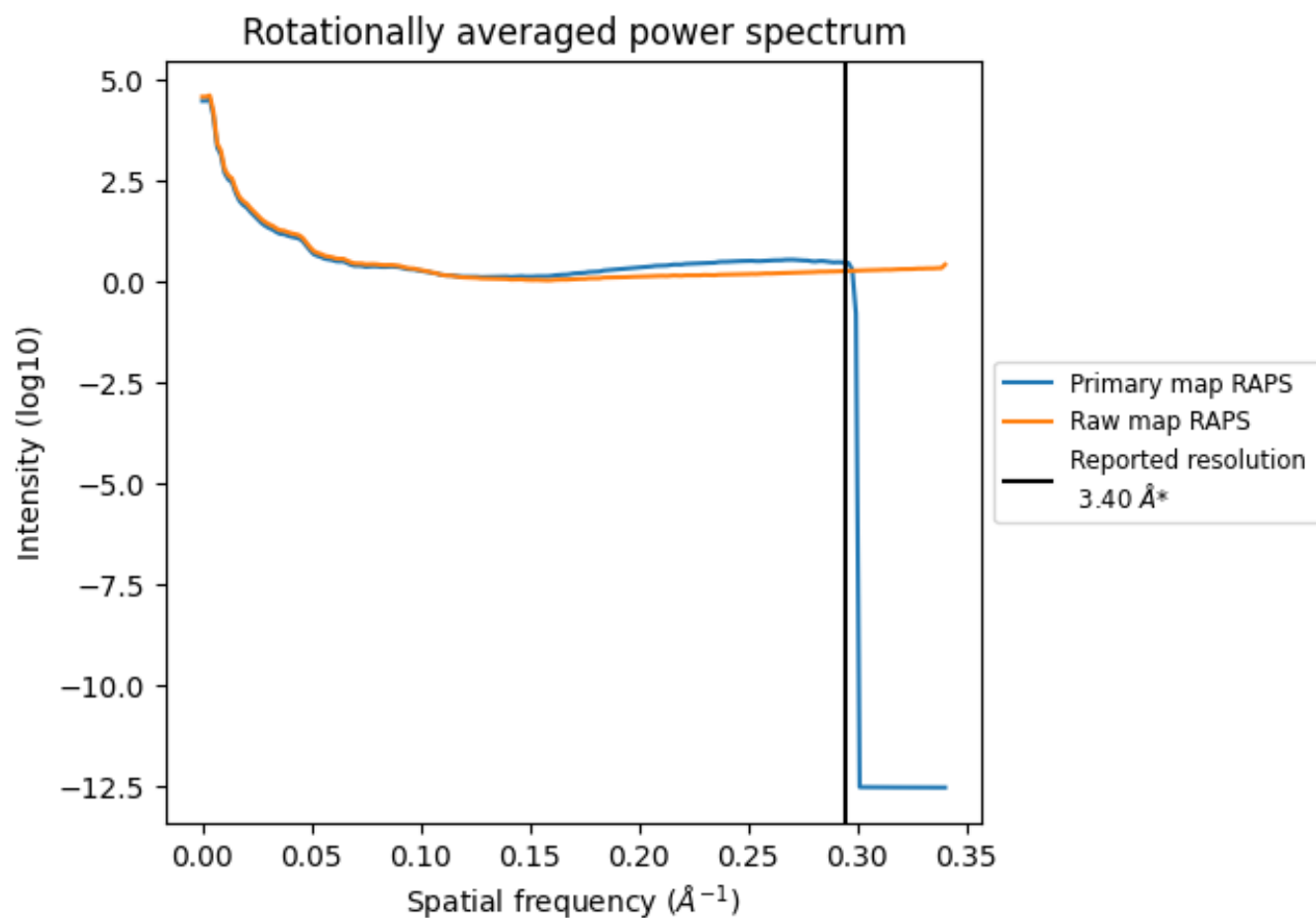
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 729 nm^3 ; this corresponds to an approximate mass of 659 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 ⓘ

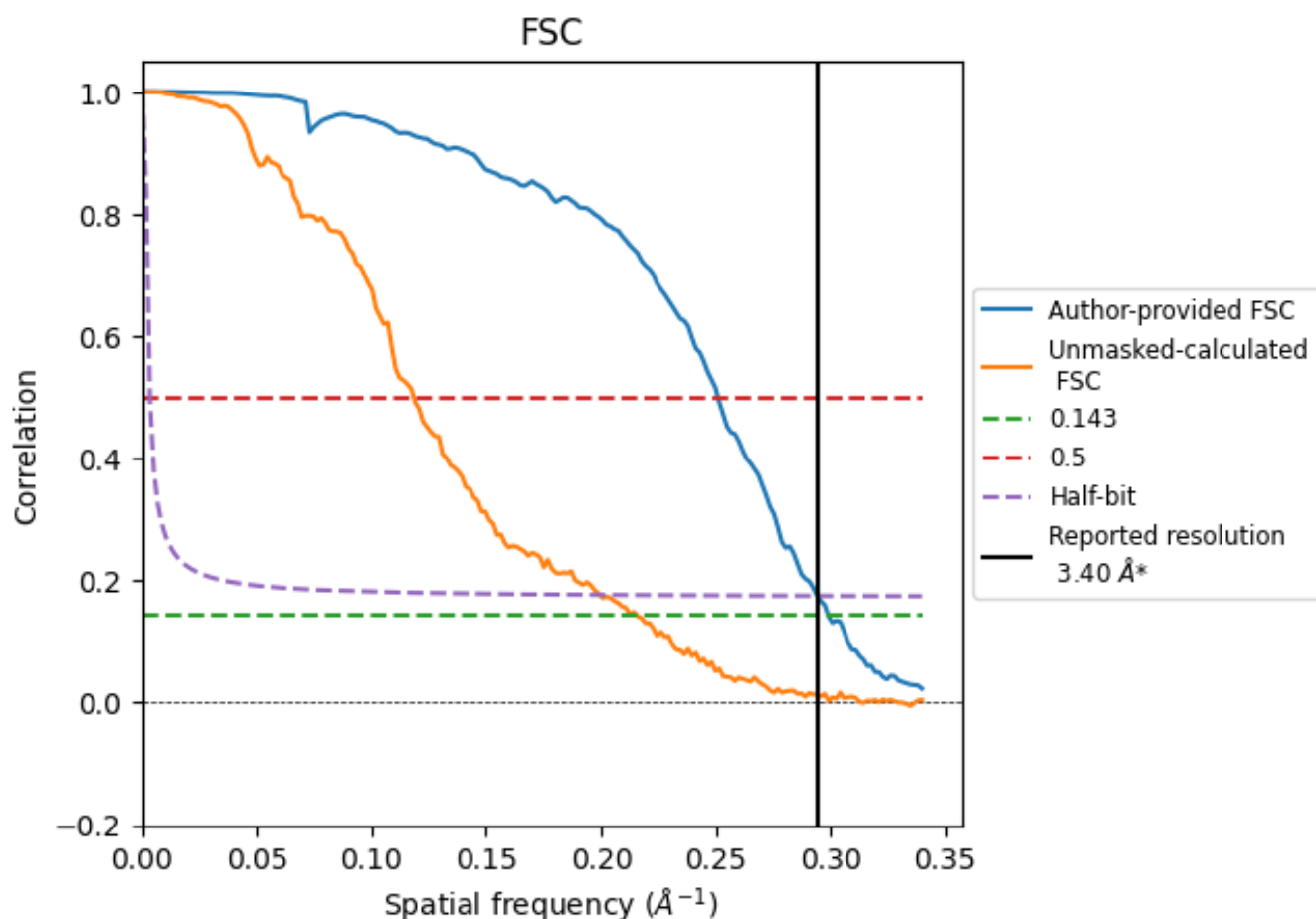


*Reported resolution corresponds to spatial frequency of 0.294 $\text{\AA}^{-1}$

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.294 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

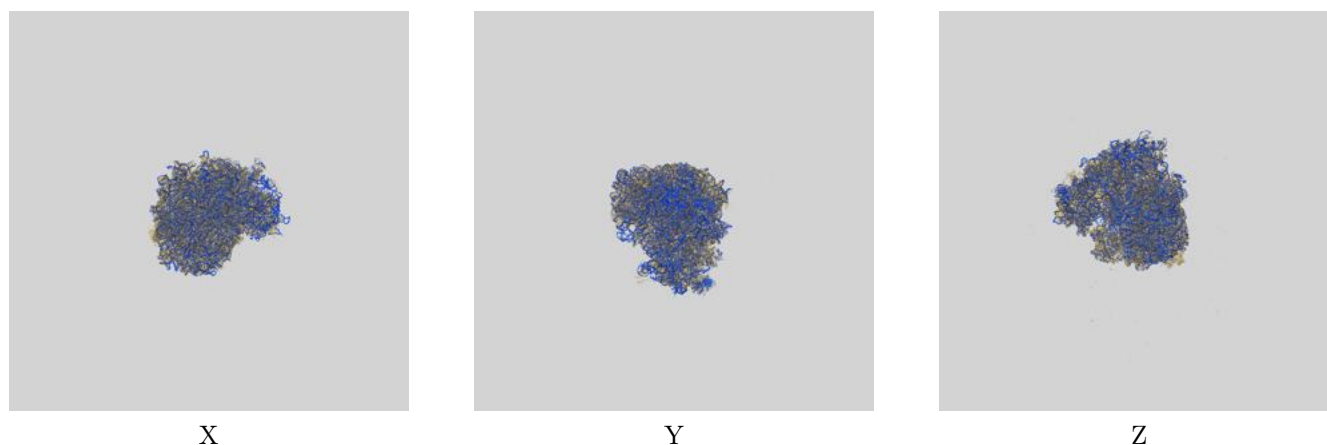
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.40	-	-
Author-provided FSC curve	3.34	3.98	3.40
Unmasked-calculated*	4.64	8.45	5.01

*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 4.64 differs from the reported value 3.4 by more than 10 %

9 Map-model fit [i](#)

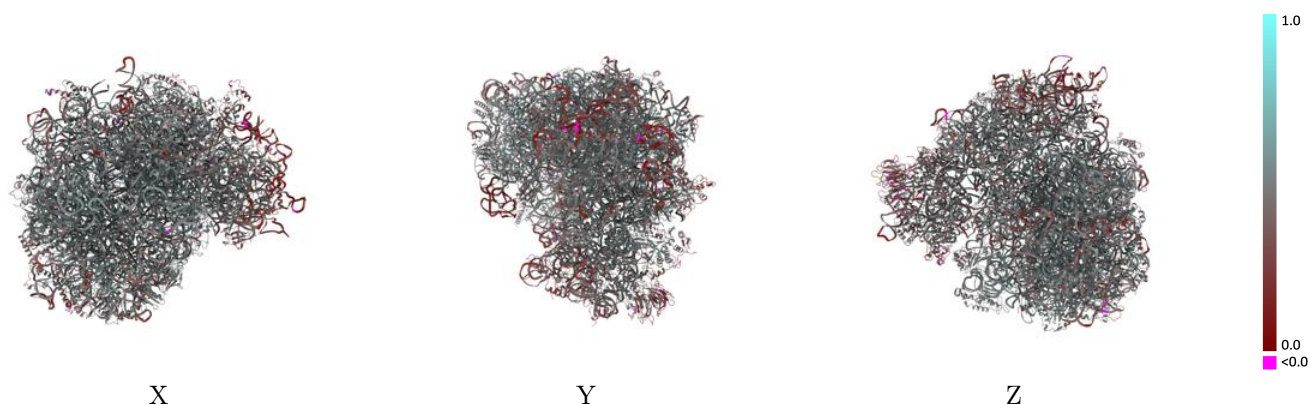
This section contains information regarding the fit between EMDB map EMD-35638 and PDB model 8IPB. Per-residue inclusion information can be found in section [3](#) on page [21](#).

9.1 Map-model overlay [i](#)



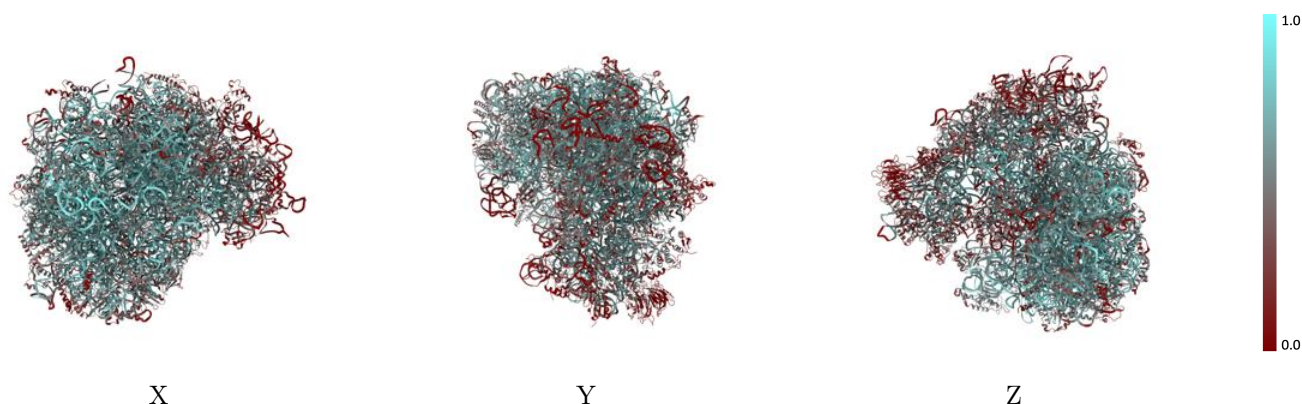
The images above show the 3D surface view of the map at the recommended contour level 0.04 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



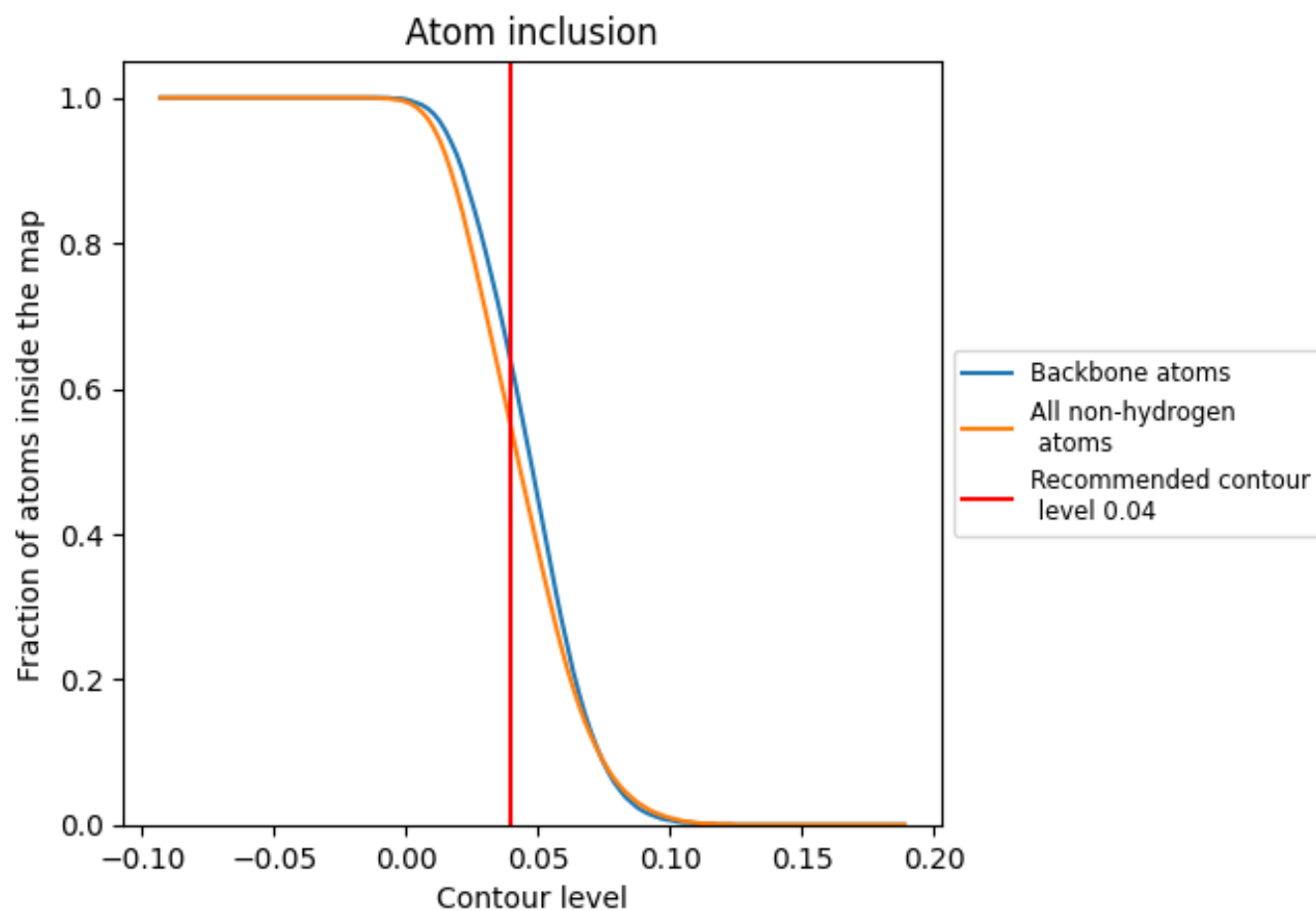
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.04).

9.4 Atom inclusion [i](#)



At the recommended contour level, 63% of all backbone atoms, 54% 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 (0.04) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.5440	 0.4660
AA	 0.4220	 0.4670
AB	 0.4720	 0.4580
BA	 0.5290	 0.5050
BB	 0.4710	 0.4670
CA	 0.4310	 0.4580
CB	 0.5290	 0.5020
DA	 0.5710	 0.5320
DB	 0.5550	 0.5190
EA	 0.4150	 0.4470
EB	 0.4960	 0.4860
FA	 0.4230	 0.4880
FB	 0.5250	 0.5070
GA	 0.5050	 0.5180
GB	 0.5020	 0.5200
HA	 0.6200	 0.5340
HB	 0.2780	 0.4480
IA	 0.5980	 0.5320
IB	 0.5270	 0.4980
JA	 0.5440	 0.5070
JB	 0.4580	 0.5070
KA	 0.4900	 0.4790
KB	 0.5060	 0.5020
LA	 0.5100	 0.4890
LB	 0.3520	 0.4190
MA	 0.5530	 0.5100
MB	 0.5970	 0.5340
NA	 0.4870	 0.4970
NB	 0.3680	 0.4350
OA	 0.4310	 0.5180
OB	 0.5470	 0.5240
PA	 0.5280	 0.4970
PB	 0.5680	 0.5280
QA	 0.4970	 0.4940
RA	 0.4400	 0.4850



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Chain	Atom inclusion	Q-score
RB	 0.6830	 0.4830
SA	 0.4860	 0.5040
SB	 0.6860	 0.4700
TA	 0.5820	 0.5270
TB	 0.7480	 0.4930
UA	 0.6290	 0.5290
VA	 0.5630	 0.5220
WA	 0.4740	 0.5140
XA	 0.4700	 0.4790
YA	 0.5610	 0.5180
ZA	 0.2540	 0.4030
aa	 0.5570	 0.4370
al	 0.4900	 0.4670
ba	 0.2310	 0.3880
bb	 0.3450	 0.4600
ca	 0.3860	 0.4780
cb	 0.4250	 0.4640
cl	 0.1840	 0.3560
da	 0.1540	 0.3150
db	 0.4440	 0.5020
eb	 0.3270	 0.4420
fb	 0.4600	 0.4950
ga	 0.3550	 0.4900
gb	 0.1730	 0.3790
ha	 0.1310	 0.3050
hb	 0.2370	 0.3970
ia	 0.2540	 0.4090
ib	 0.3790	 0.4790
ja	 0.2890	 0.4590
ka	 0.3080	 0.4270
la	 0.3380	 0.4460
ma	 0.2400	 0.4040
na	 0.3910	 0.4750
oa	 0.2340	 0.3890
pa	 0.4270	 0.4940
qa	 0.2350	 0.4030
ra	 0.3530	 0.4310
sa	 0.1990	 0.3940
ta	 0.1410	 0.2260
ua	 0.3100	 0.4480
va	 0.4990	 0.4650
wa	 0.4150	 0.4850

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Chain	Atom inclusion	Q-score
xa	 0.3480	 0.4510
ya	 0.2570	 0.4460
za	 0.4040	 0.4540