



Full wwPDB EM Validation Report ⓘ

Mar 25, 2026 – 09:41 AM UTC

PDB ID : 8IPA / pdb_00008ipa
EMDB ID : EMD-35637
Title : Wheat 80S ribosome stalled on AUG-Stop boron dependently 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

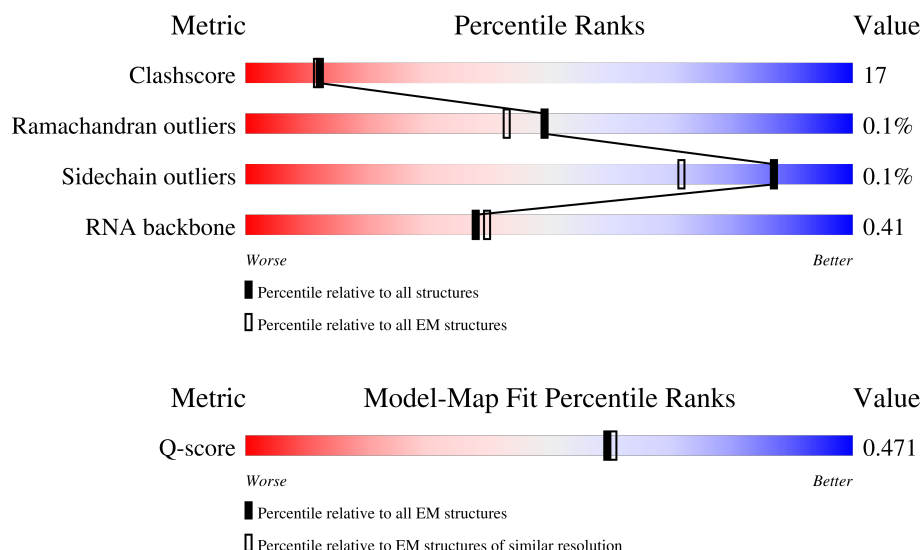
1 Overall quality at a glance i

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	
2	ba	137	
3	ca	225	

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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	bl	437	80% 64% 36%
80	cl	75	61% 24% 41% 33% .

2 Entry composition

There are 83 unique types of molecules in this entry. The entry contains 201166 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 protein called eukaryotic release factor 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	bl	437	Total	C	N	O	S	0	0
			3446	2168	589	675	14		

- Molecule 80 is a RNA chain called tRNAi.

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

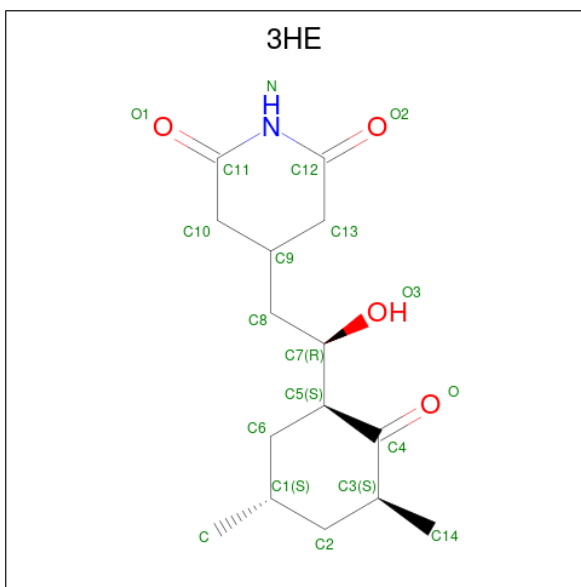
- Molecule 81 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
81	aa	73	Total 73	Mg 73	0
81	BA	1	Total 1	Mg 1	0
81	DA	2	Total 2	Mg 2	0
81	GA	1	Total 1	Mg 1	0
81	HA	1	Total 1	Mg 1	0
81	IA	1	Total 1	Mg 1	0
81	JA	1	Total 1	Mg 1	0
81	DB	2	Total 2	Mg 2	0
81	KB	1	Total 1	Mg 1	0
81	OB	1	Total 1	Mg 1	0
81	PB	1	Total 1	Mg 1	0
81	RB	196	Total 196	Mg 196	0
81	TB	1	Total 1	Mg 1	0
81	cl	2	Total 2	Mg 2	0

- Molecule 82 is ZINC ION (CCD ID: ZN) (formula: Zn).

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

- Molecule 83 is 4-{(2R)-2-[(1S,3S,5S)-3,5-dimethyl-2-oxocyclohexyl]-2-hydroxyethyl}piperidine-2,6-dione (CCD ID: 3HE) (formula: C₁₅H₂₃NO₄).

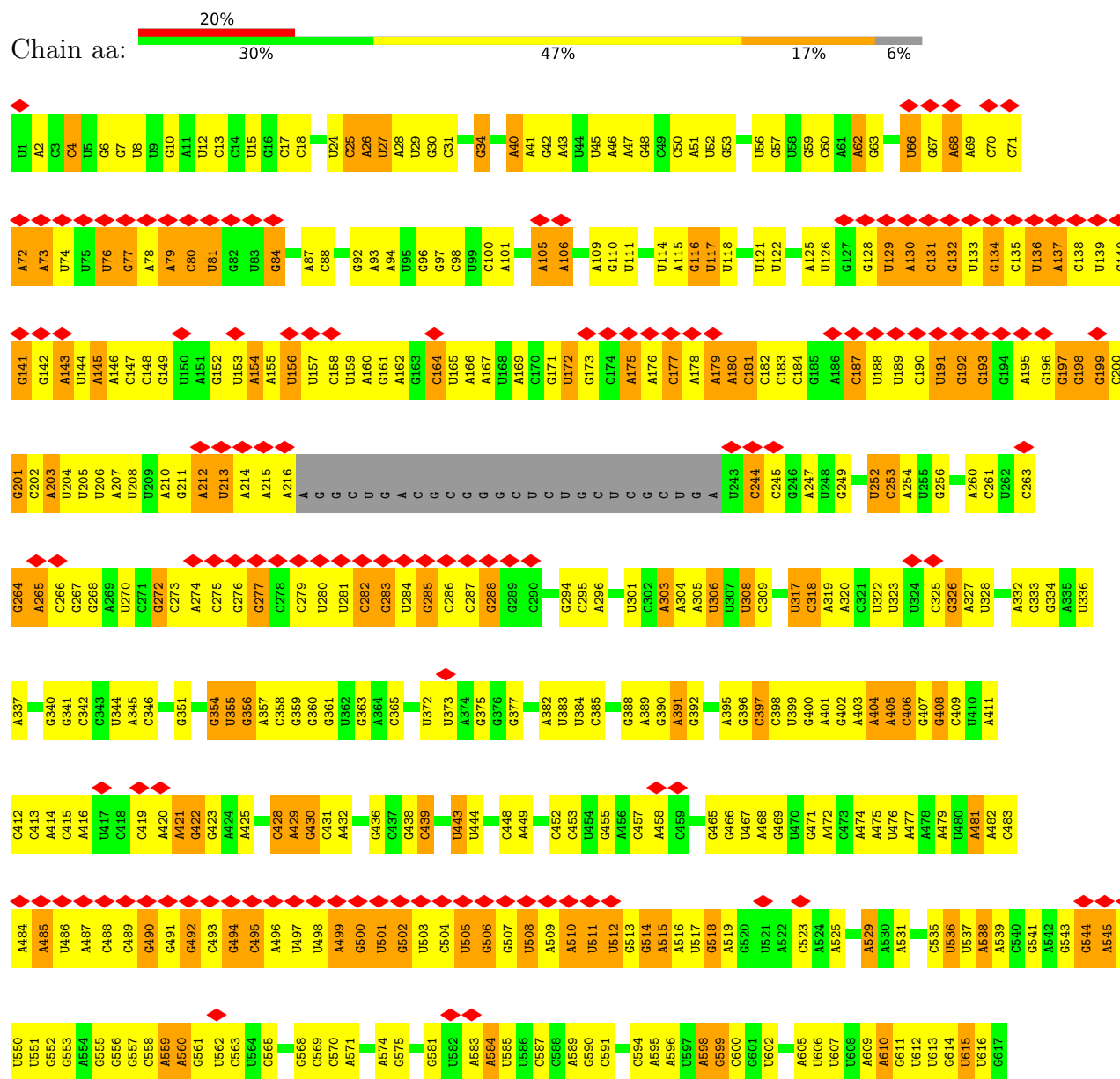


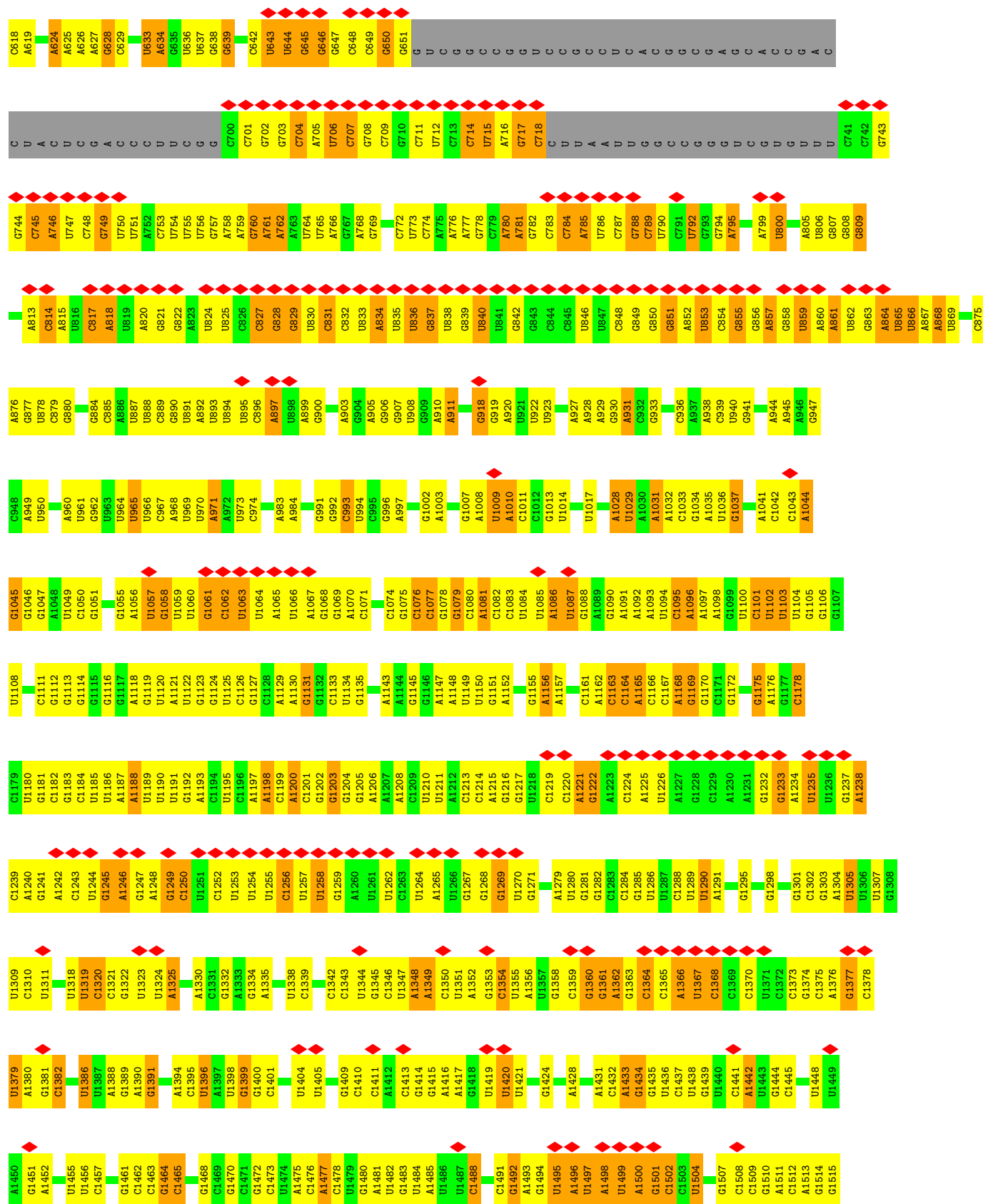
Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
83	RB	1	20	15	1	4	0

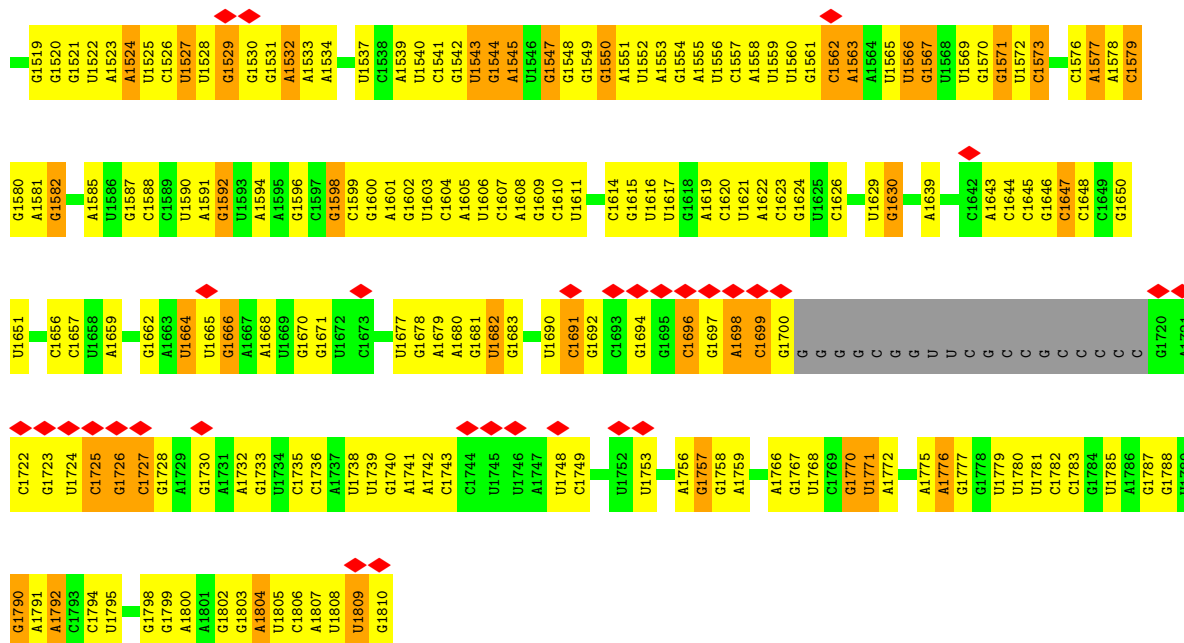
3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

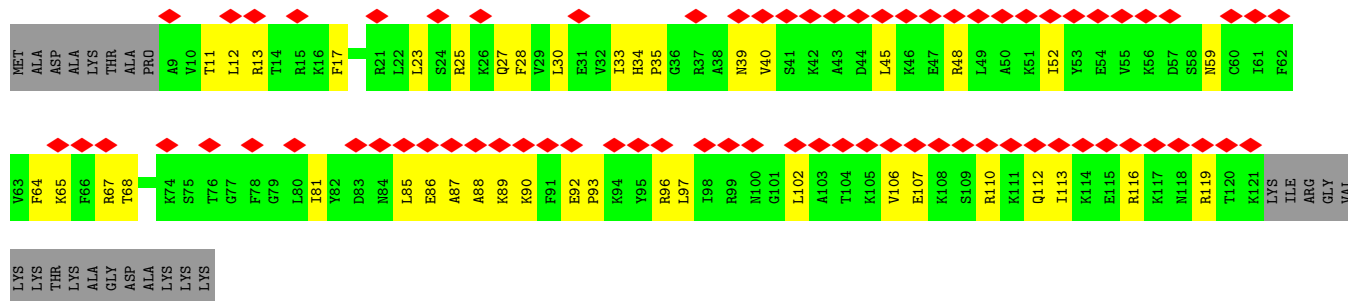
• Molecule 1: 18S ribosomal RNA



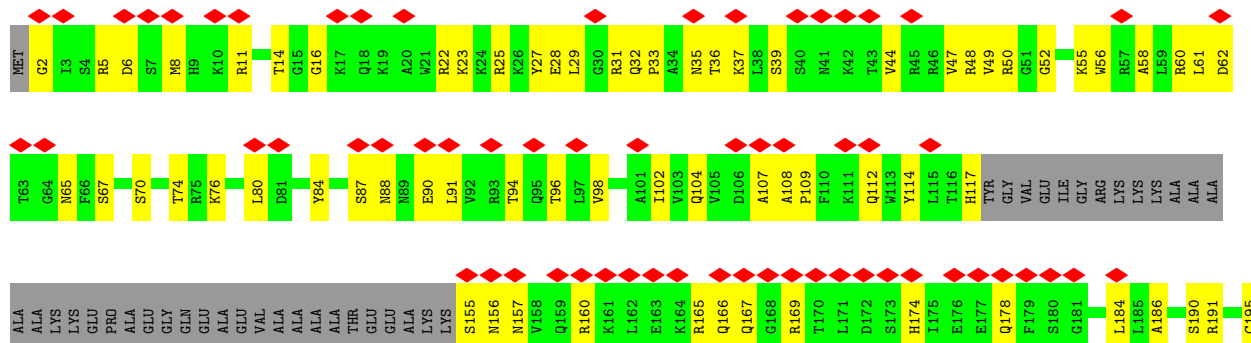
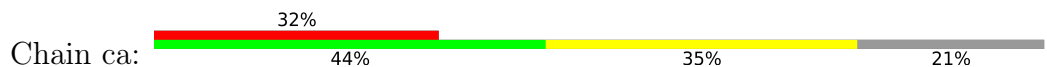


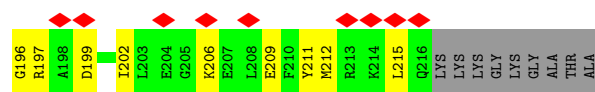


• Molecule 2: 40S ribosomal protein eS24

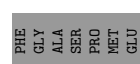
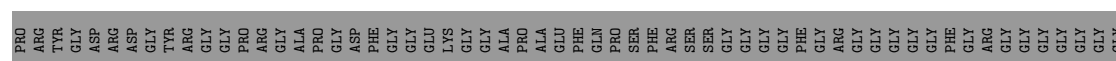
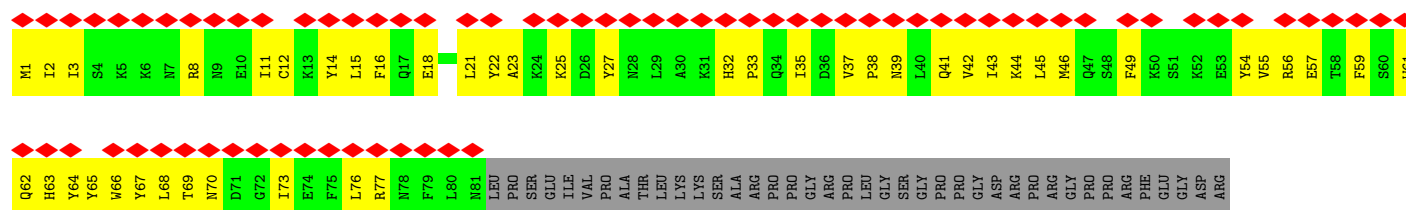


• Molecule 3: 40S ribosomal protein eS8

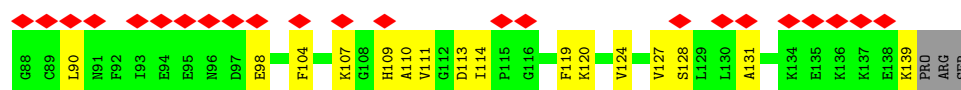
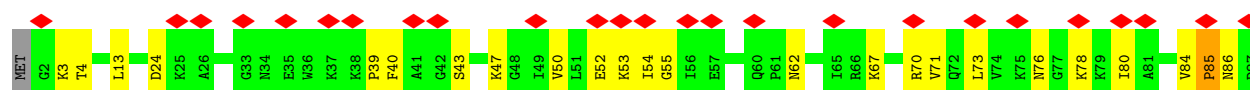




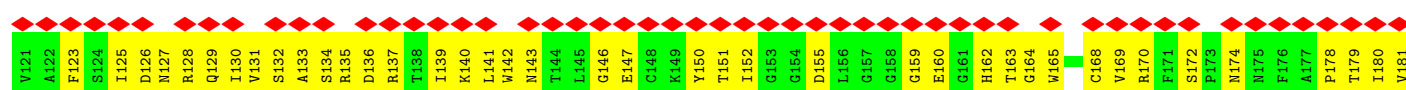
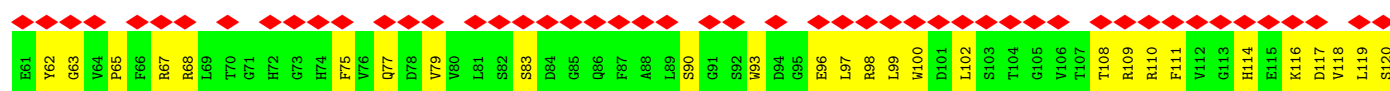
• Molecule 4: 40S ribosomal protein eS10

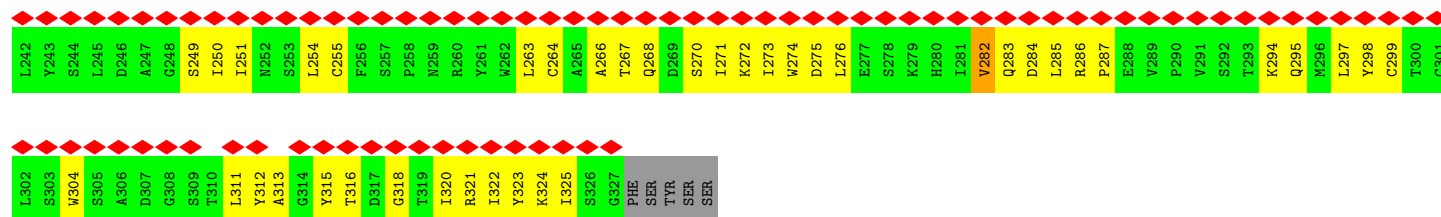


• Molecule 5: 40S ribosomal protein uS12

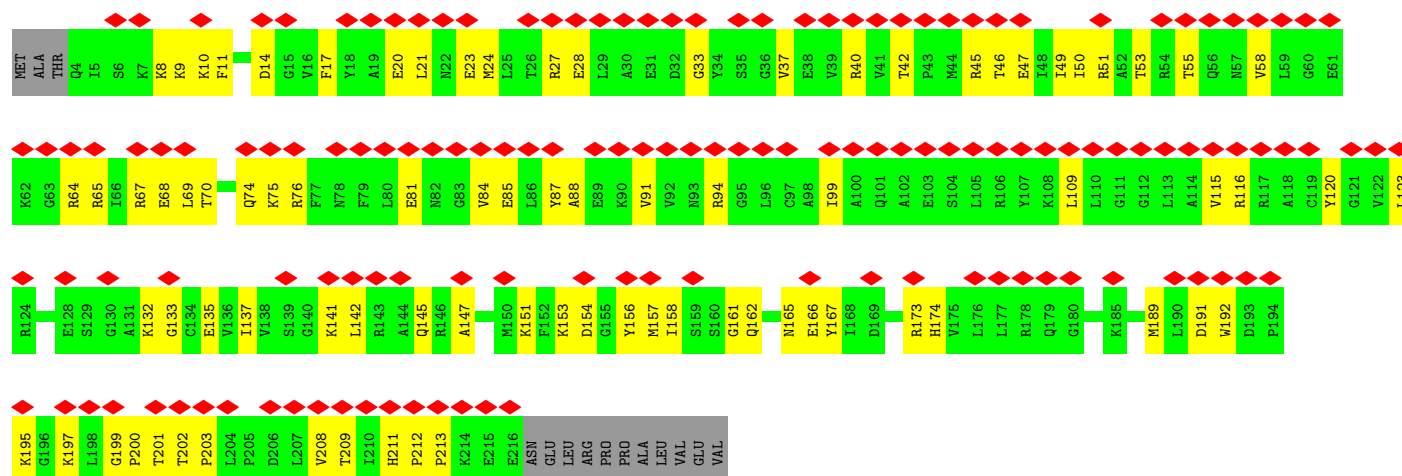


• Molecule 6: RACK1

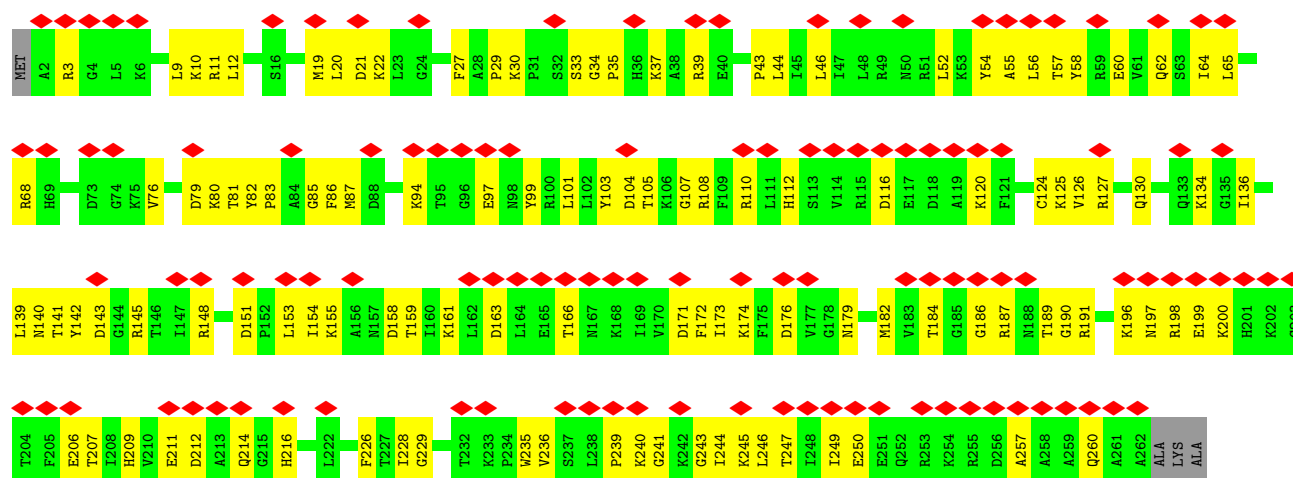
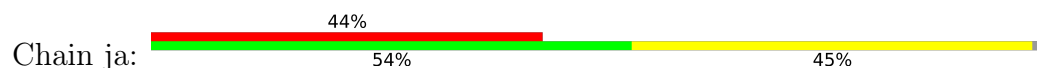




• Molecule 7: 40S ribosomal protein uS3



• Molecule 8: 40S ribosomal protein eS4



• Molecule 9: 40S ribosomal protein uS7





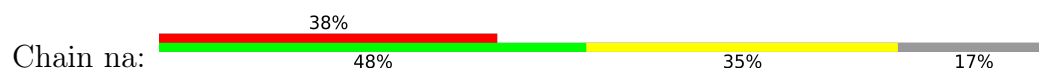
• Molecule 10: 40S ribosomal protein uS9

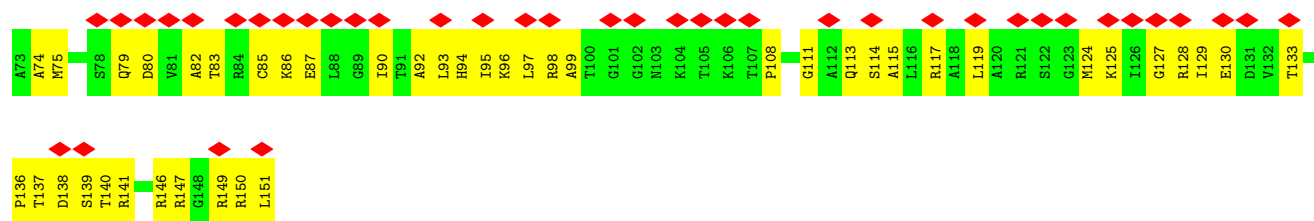


• Molecule 11: 40S ribosomal protein uS10

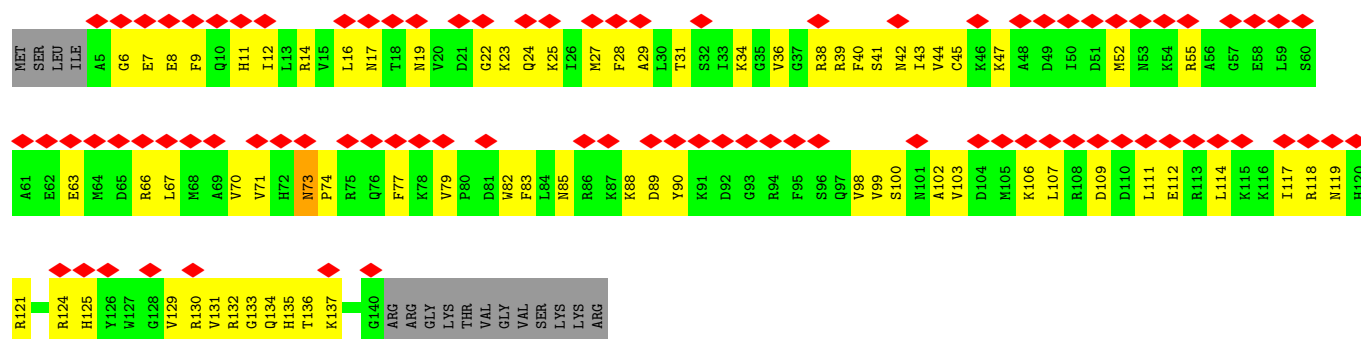
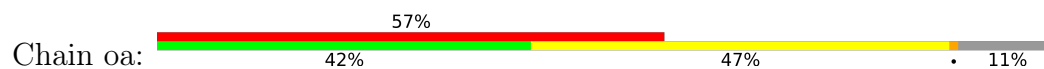


• Molecule 12: 40S ribosomal protein uS11

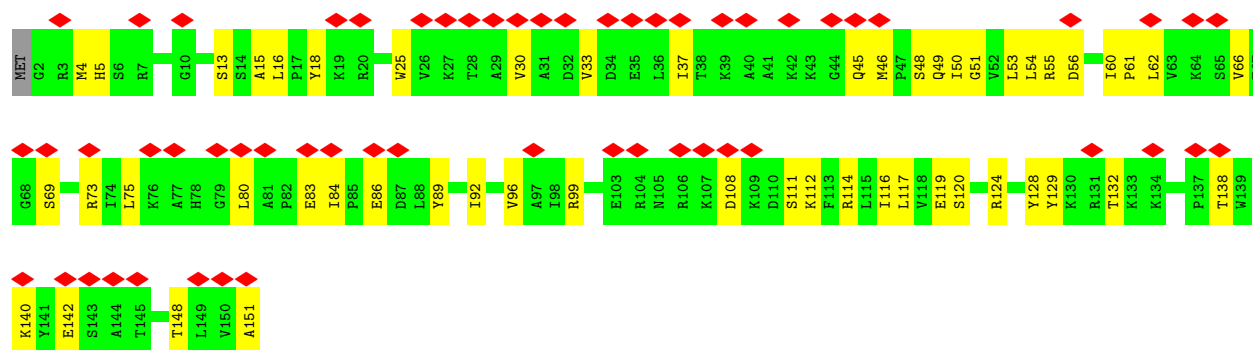
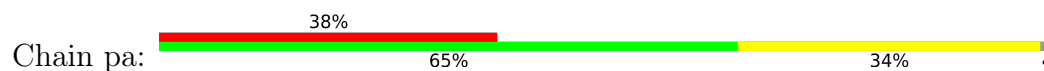




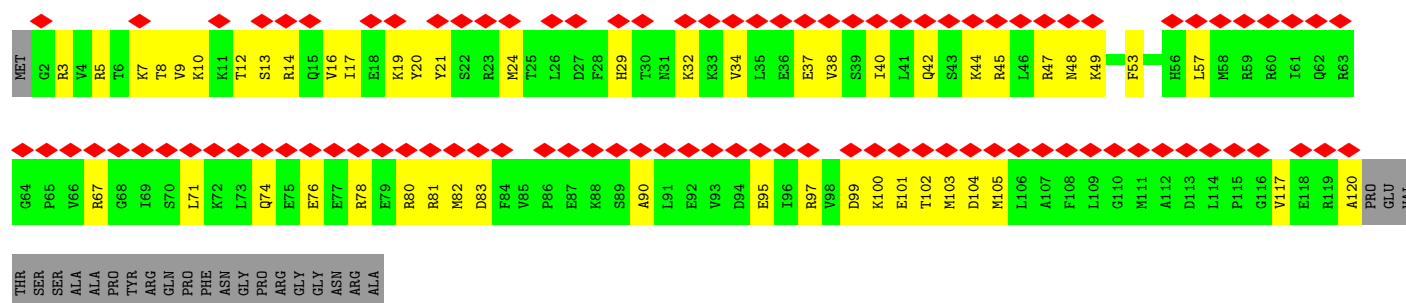
• Molecule 13: 40S ribosomal protein uS13



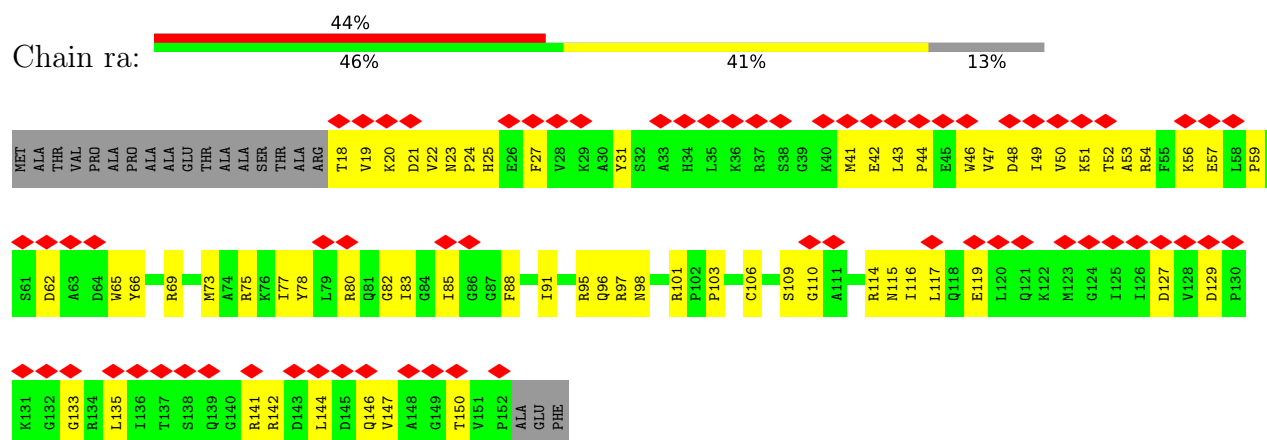
• Molecule 14: 40S ribosomal protein uS15



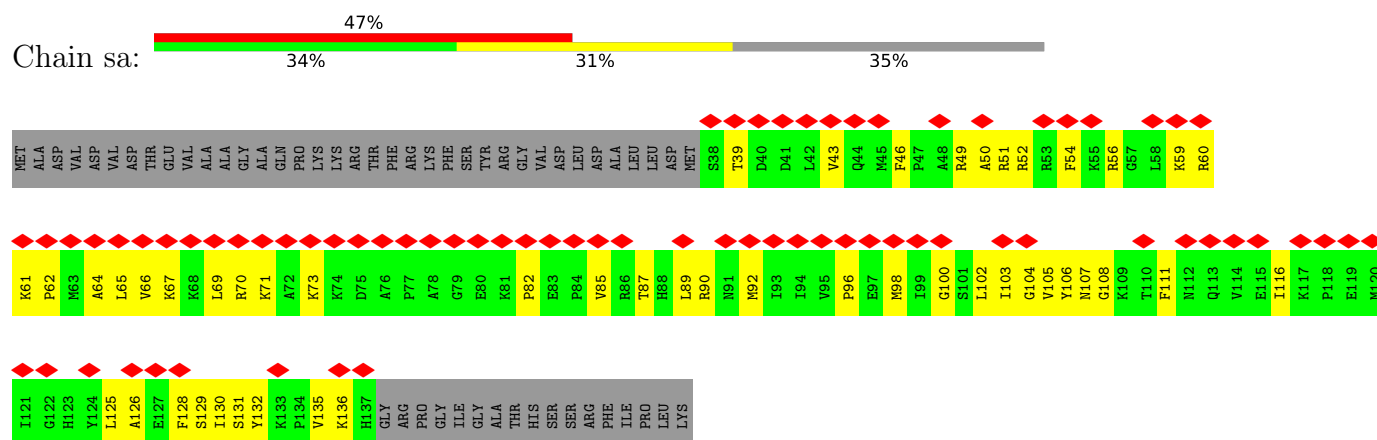
• Molecule 15: 40S ribosomal protein eS17



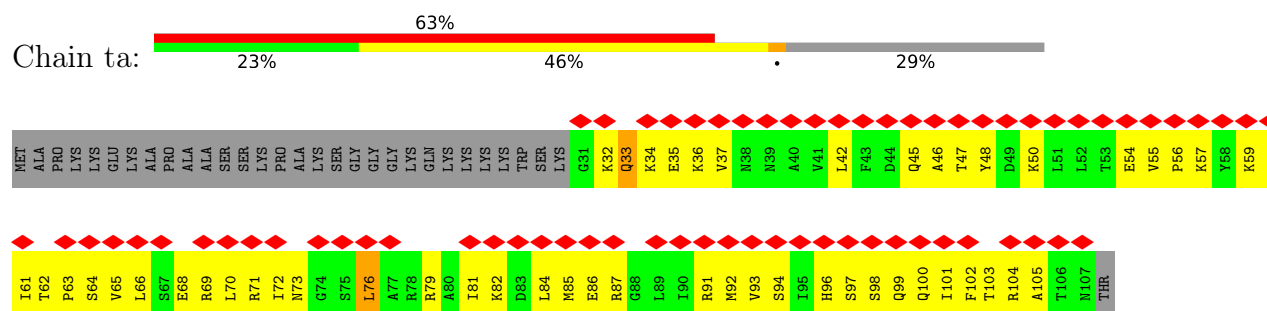
- Molecule 16: 40S ribosomal protein eS19



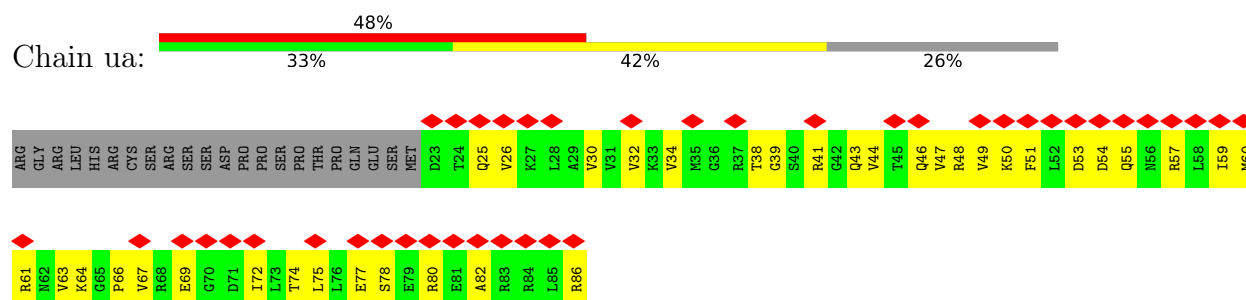
- Molecule 17: 40S ribosomal protein uS19



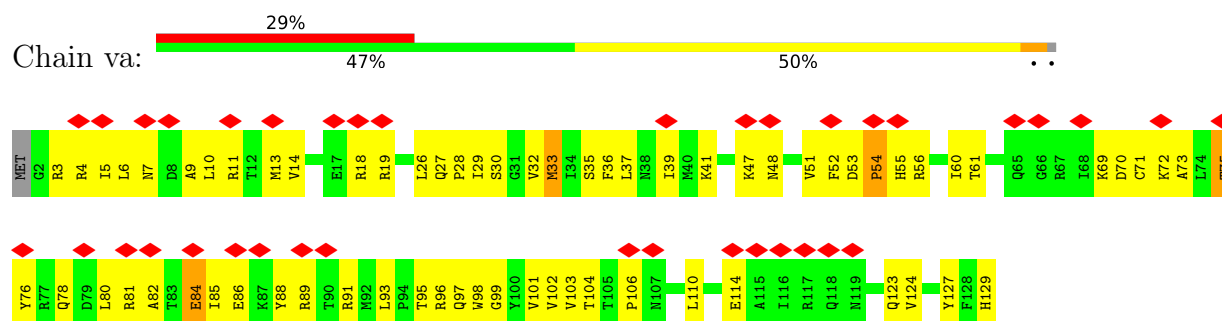
- Molecule 18: 40S ribosomal protein eS25



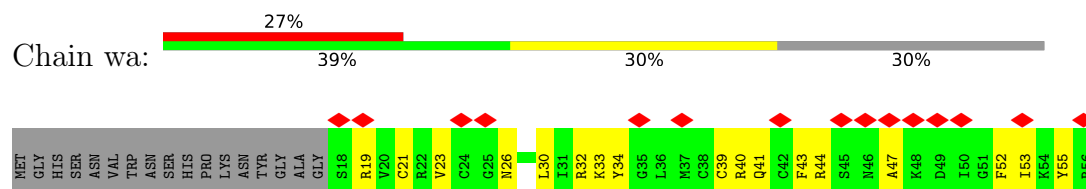
- Molecule 19: 40S ribosomal protein eS28



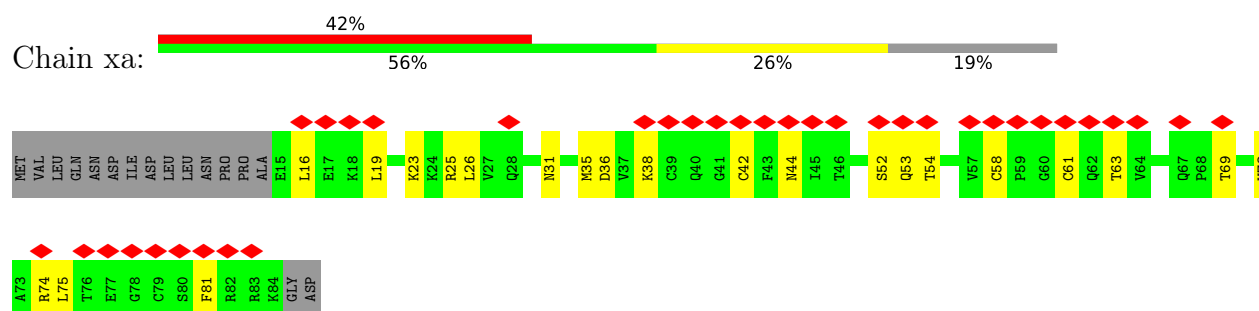
• Molecule 20: 40S ribosomal protein uS8



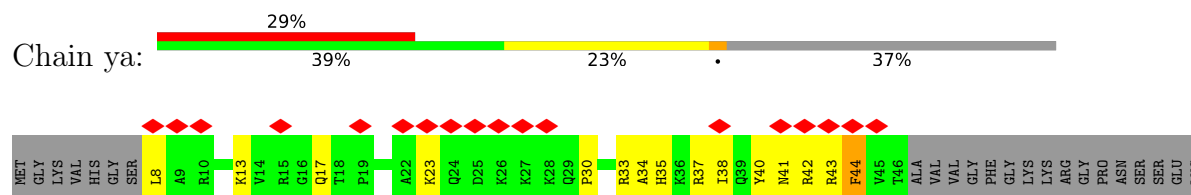
• Molecule 21: 40S ribosomal protein uS14



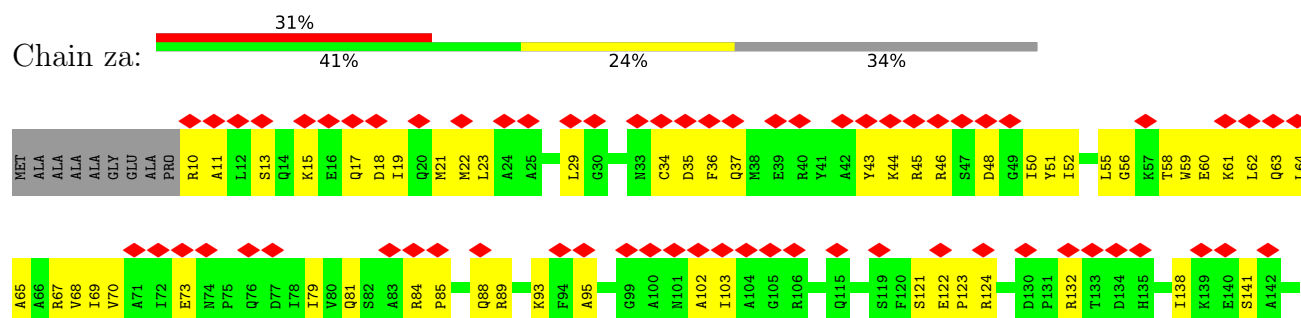
• Molecule 22: 40S ribosomal protein eS27

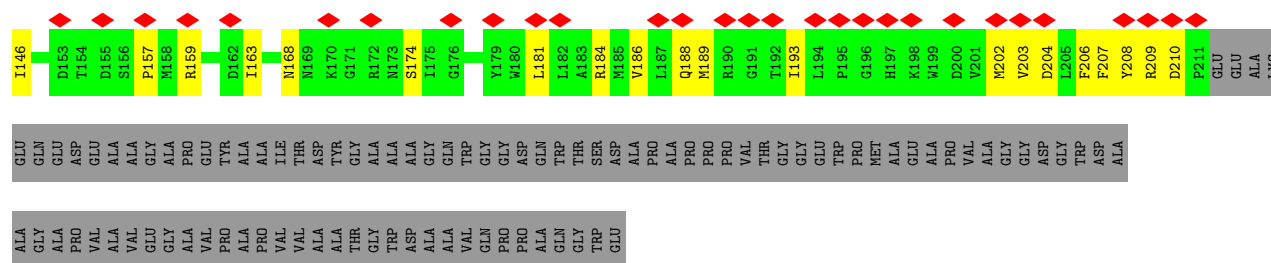


• Molecule 23: 40S ribosomal protein eS30

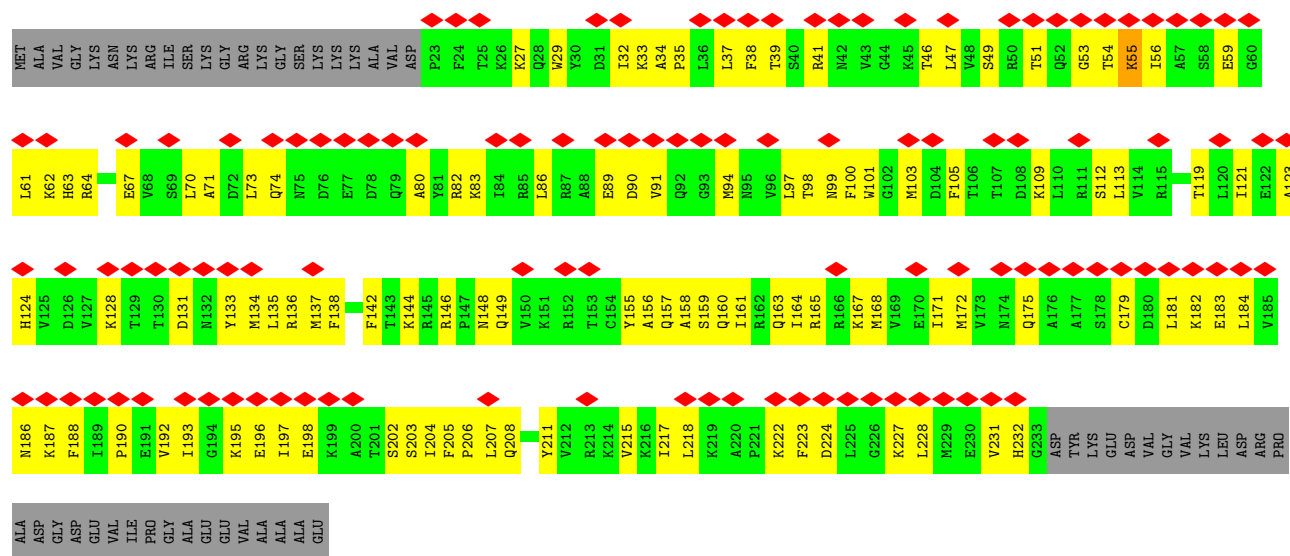


• Molecule 24: 40S ribosomal protein uS2

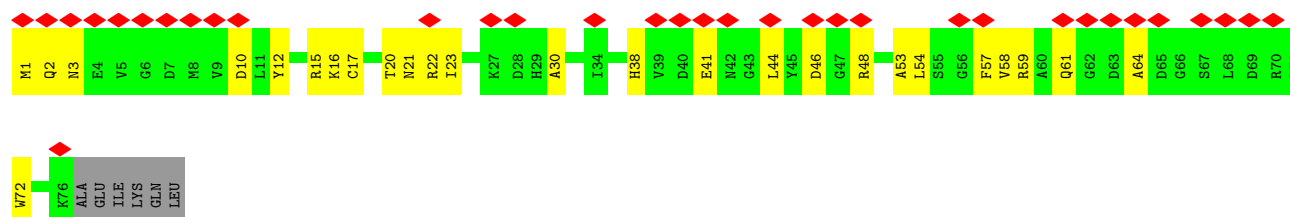
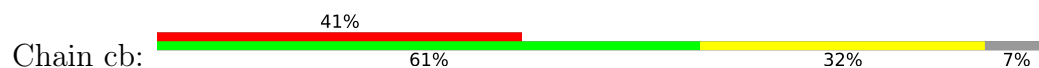




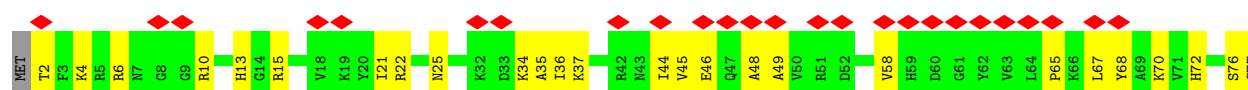
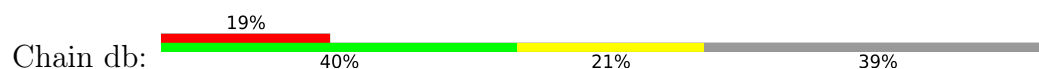
• Molecule 25: 40S ribosomal protein eS1

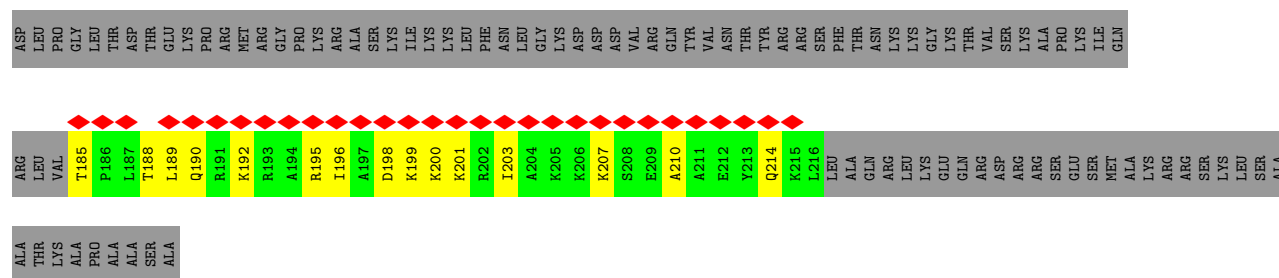


• Molecule 26: 40S ribosomal protein eS21



• Molecule 27: 40S ribosomal protein eS26

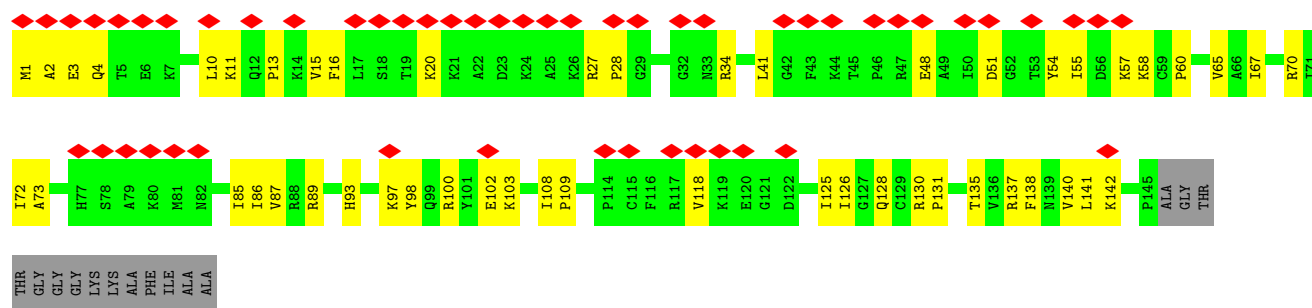




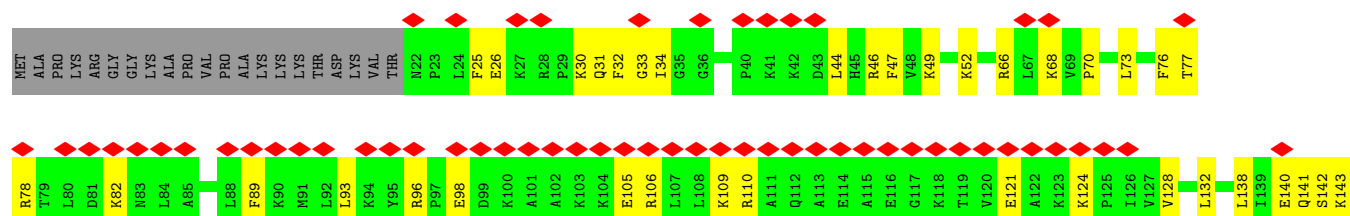
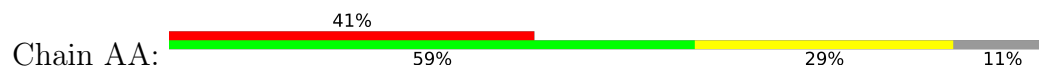
• Molecule 31: 40S ribosomal protein eS7

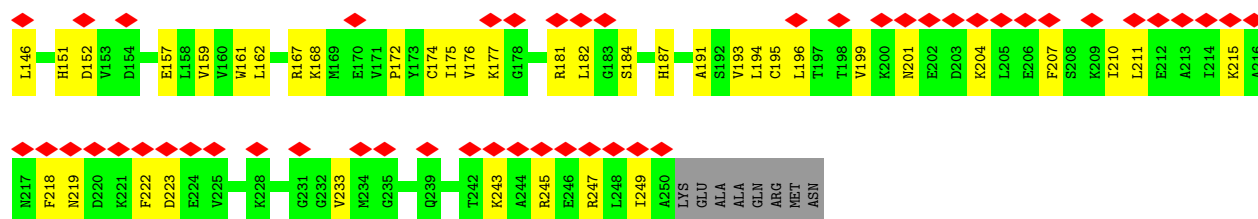


• Molecule 32: 40S ribosomal protein uS17

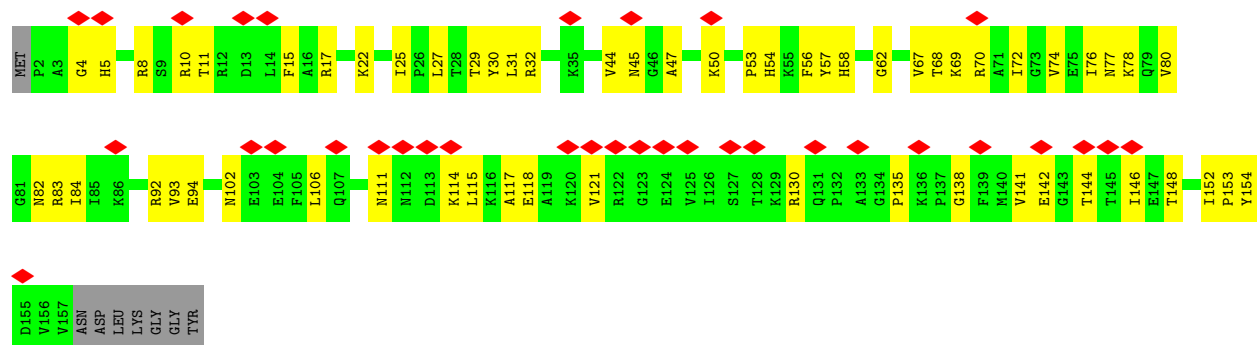


• Molecule 33: 40S ribosomal protein eL8

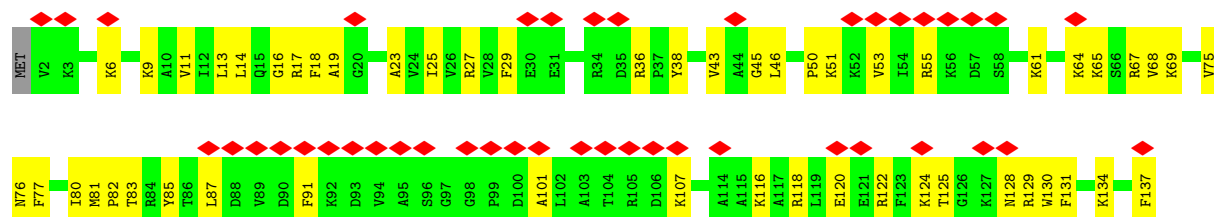




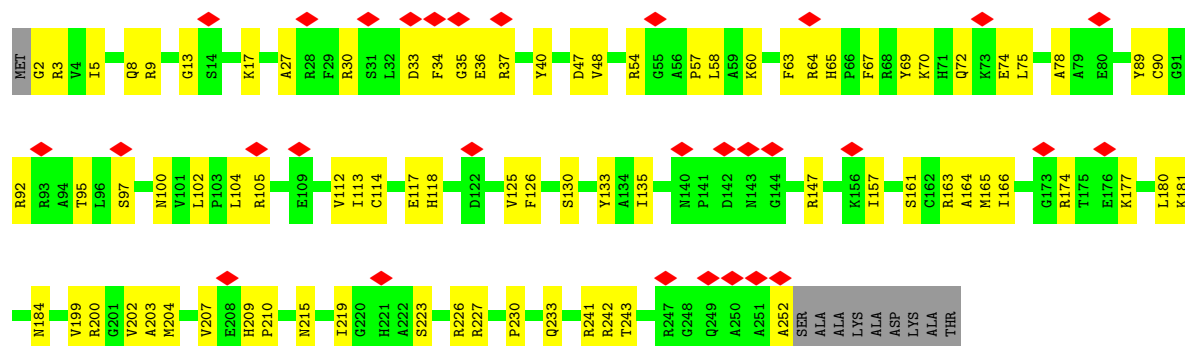
• Molecule 34: 60S ribosomal protein eL21



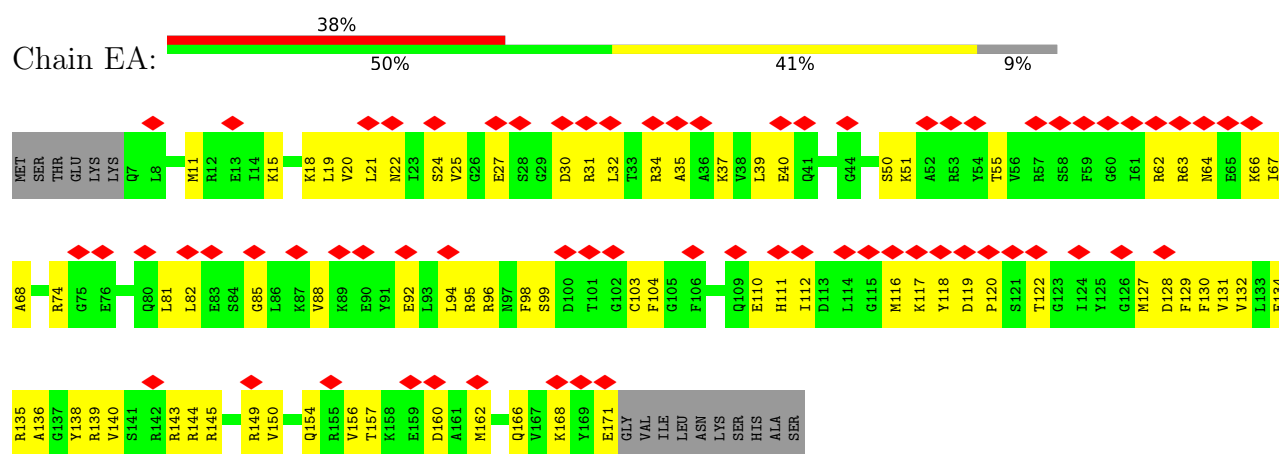
• Molecule 35: 60S ribosomal protein eL27



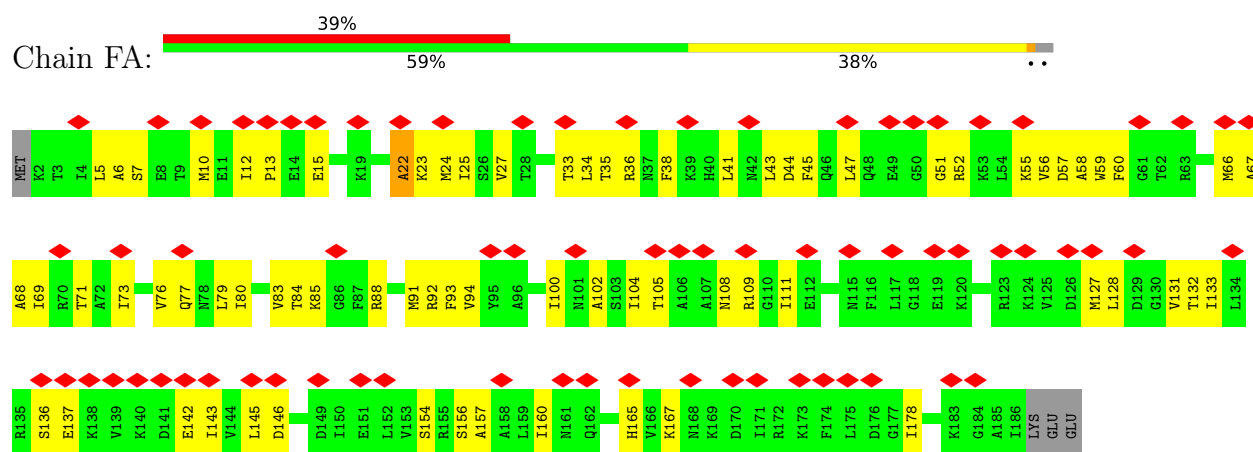
• Molecule 36: 60S ribosomal protein uL2



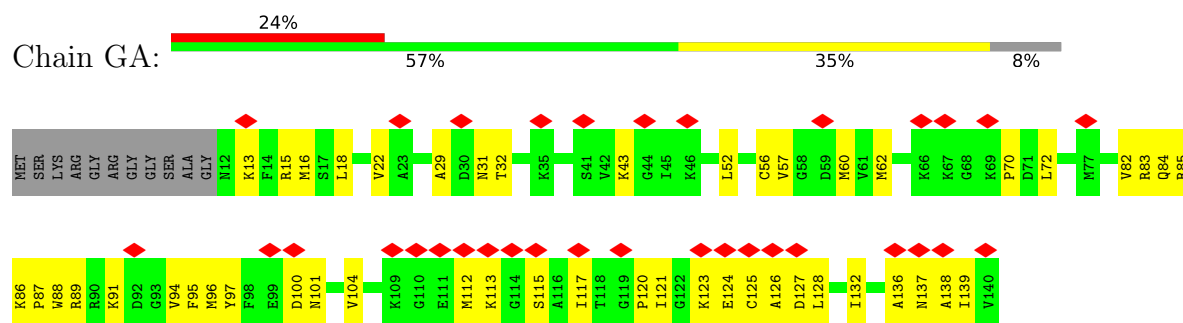
• Molecule 37: 60S ribosomal protein uL5



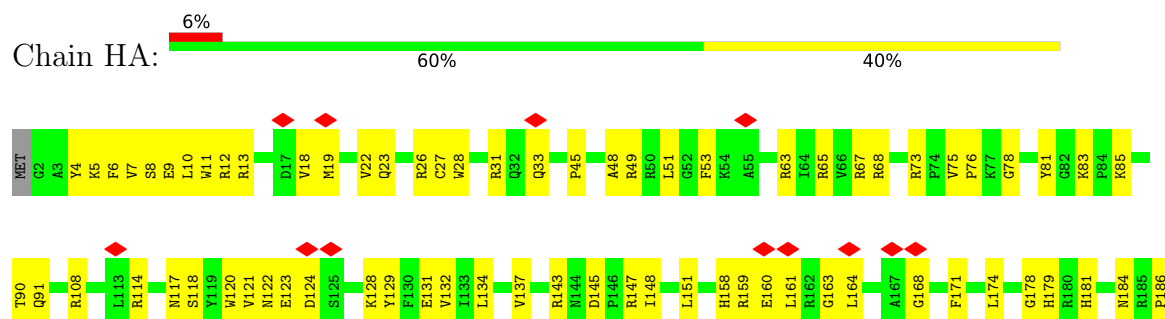
• Molecule 38: 60S ribosomal protein uL6

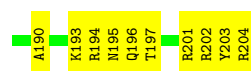


• Molecule 39: 60S ribosomal protein uL14

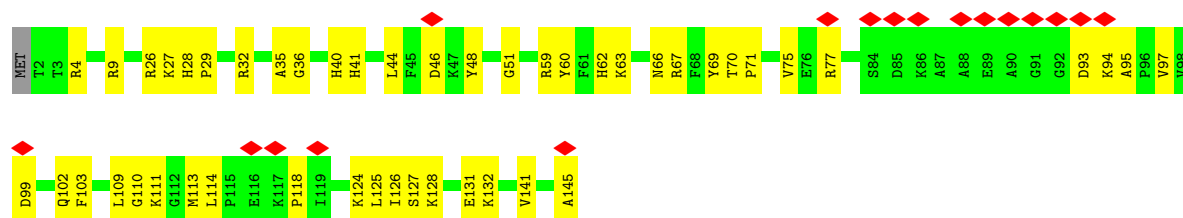


• Molecule 40: 60S ribosomal protein eL15

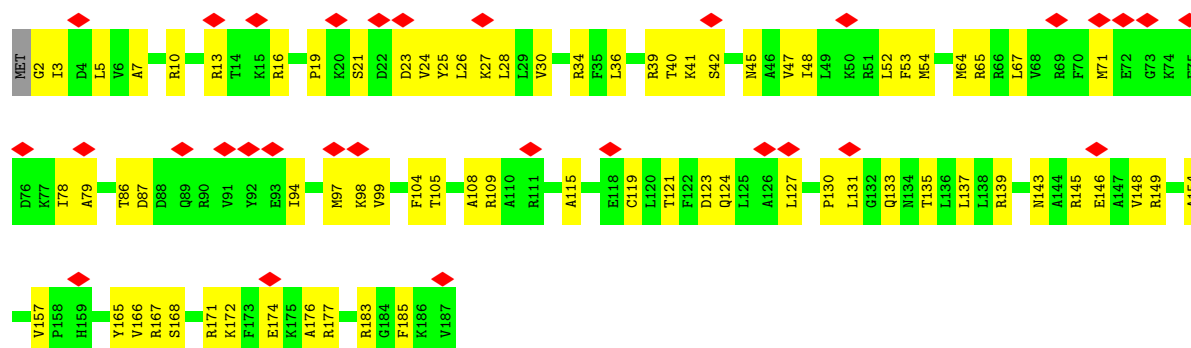




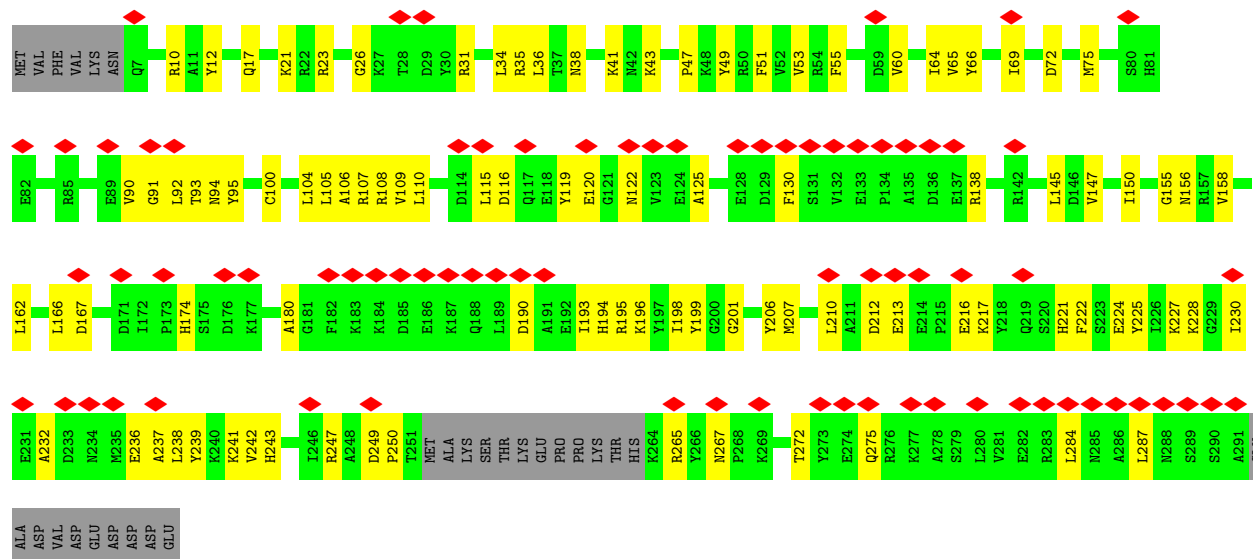
- Molecule 41: 60S ribosomal protein uL15

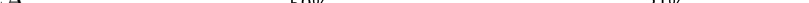


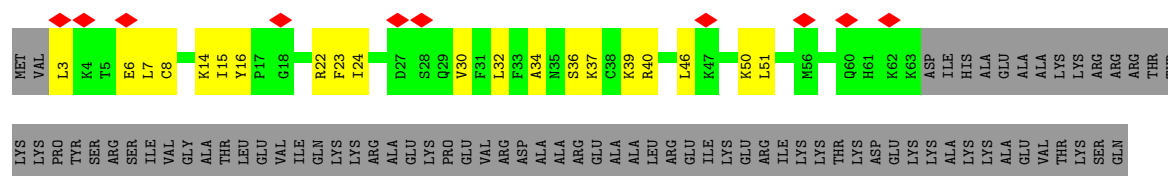
- Molecule 42: 60S ribosomal protein eL18



- Molecule 43: 60S ribosomal protein uL18



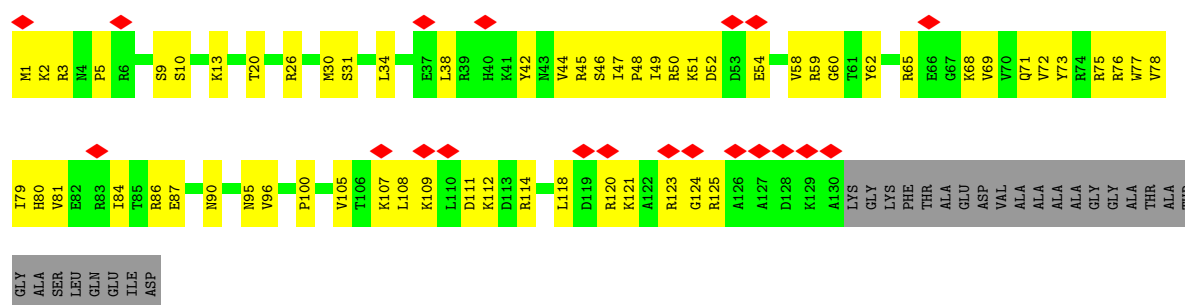
- Chain LA: 



LYS
SER
GLN
GLY
GLY
LYS
GLY
GLY
VAL
GLN
LYS
GLY
SER
LYS
LYS
GLY
PRO
LYS
ILE
GLY
GLY
GLY
GLY
LYS
ARG

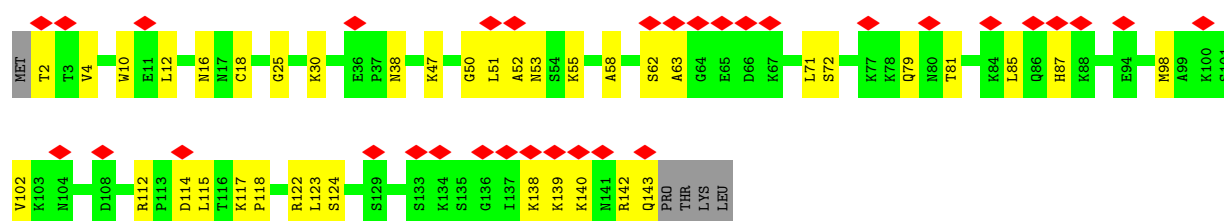
• Molecule 48: 60S ribosomal protein uL24

Chain PA: 13% 44% 39% 17%



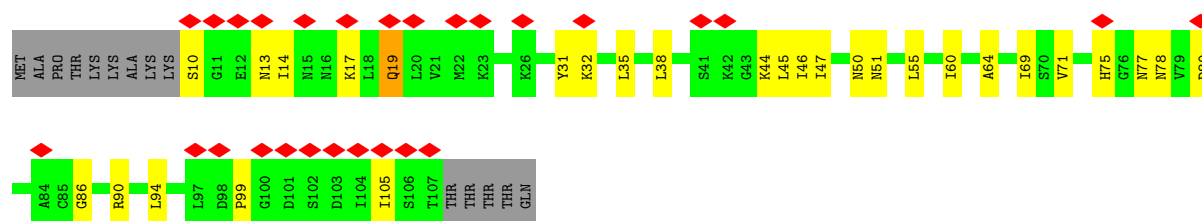
• Molecule 49: 60S ribosomal protein eL28

Chain QA: 22% 70% 27%



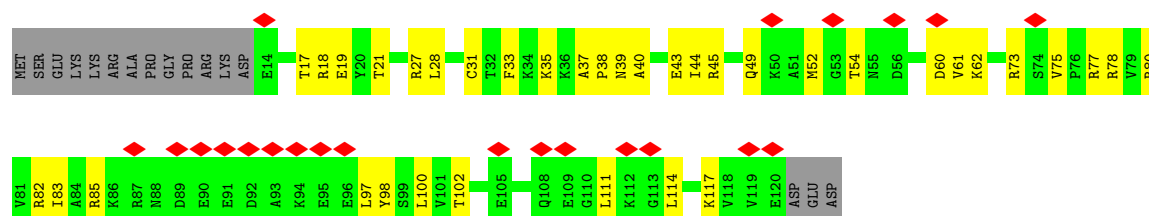
• Molecule 50: 60S ribosomal protein eL30

Chain RA: 24% 62% 25% 12%

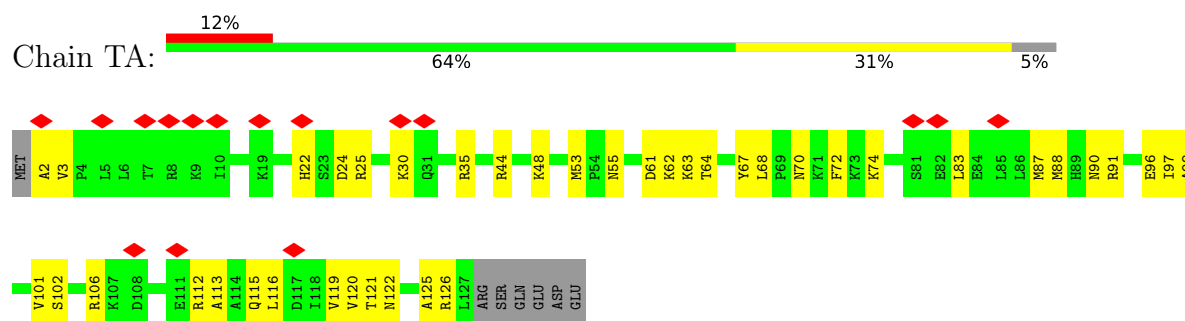


• Molecule 51: 60S ribosomal protein eL31

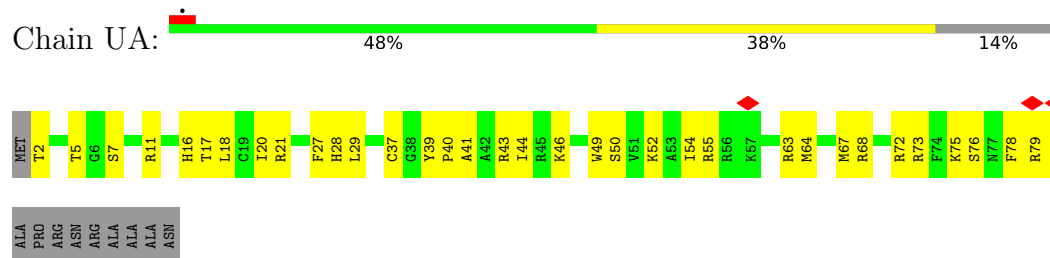
Chain SA: 18% 57% 30% 13%



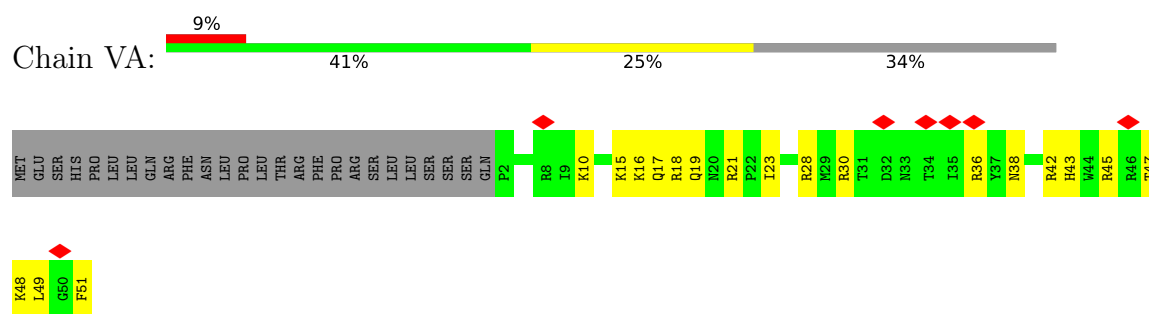
• Molecule 52: 60S ribosomal protein eL32



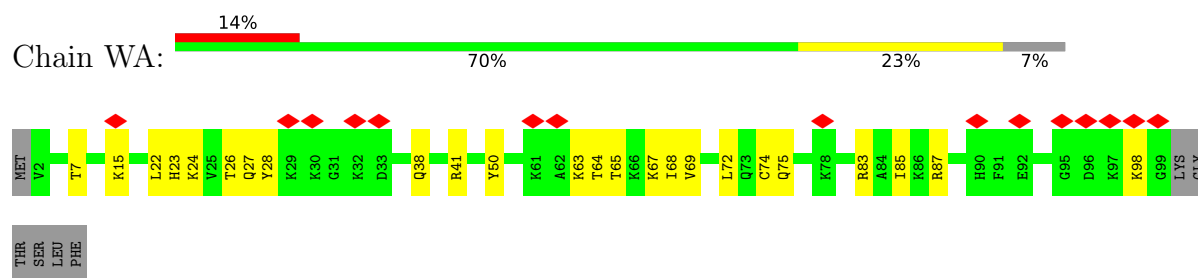
• Molecule 53: 60S ribosomal protein eL37



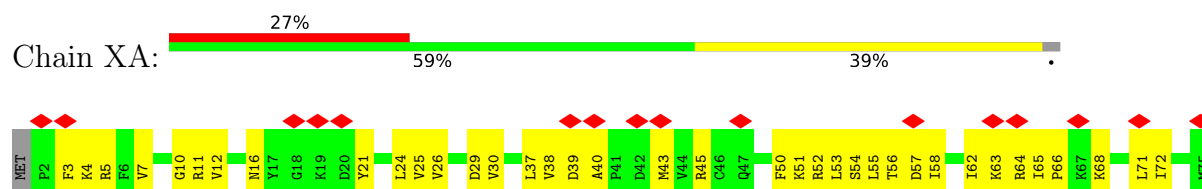
• Molecule 54: 60S ribosomal protein eL39

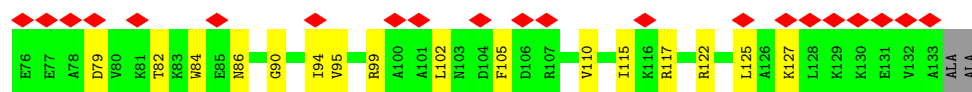


• Molecule 55: 60S ribosomal protein eL42

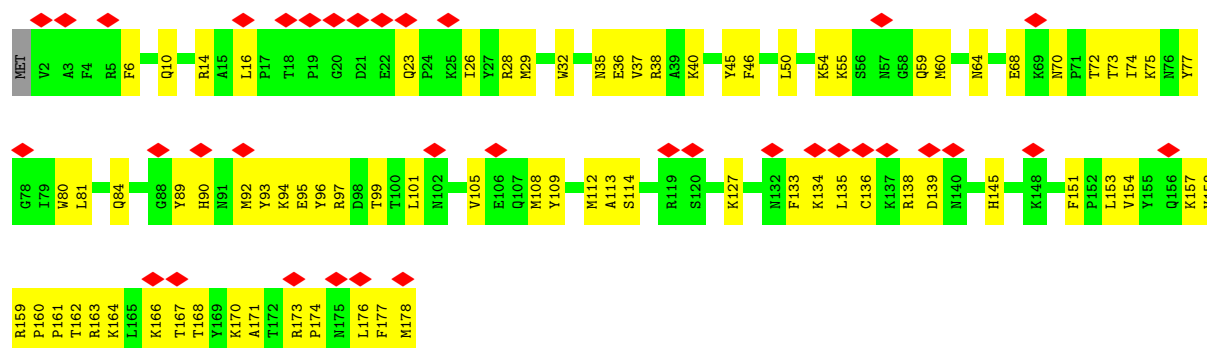


• Molecule 56: 60S ribosomal protein eL14

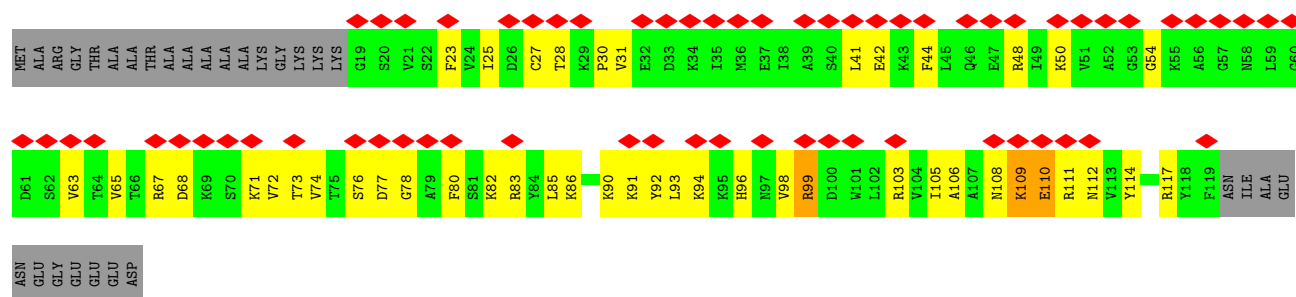




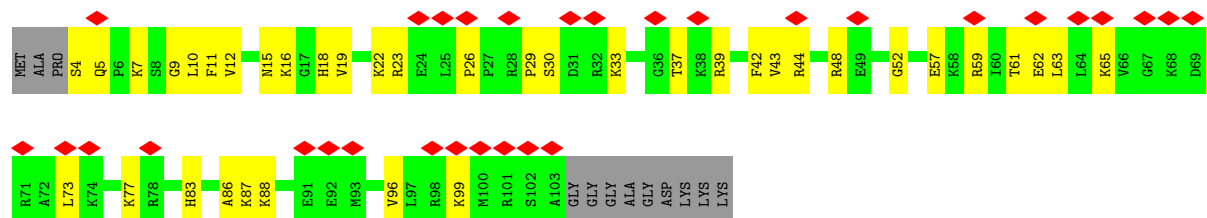
• Molecule 57: 60S ribosomal protein eL20



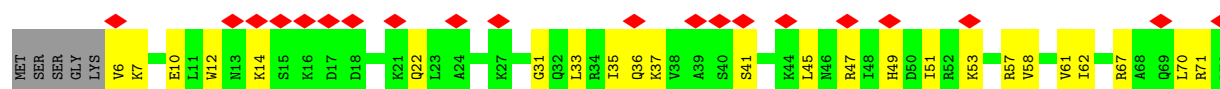
• Molecule 58: 60S ribosomal protein eL22



• Molecule 59: 60S ribosomal protein eL36

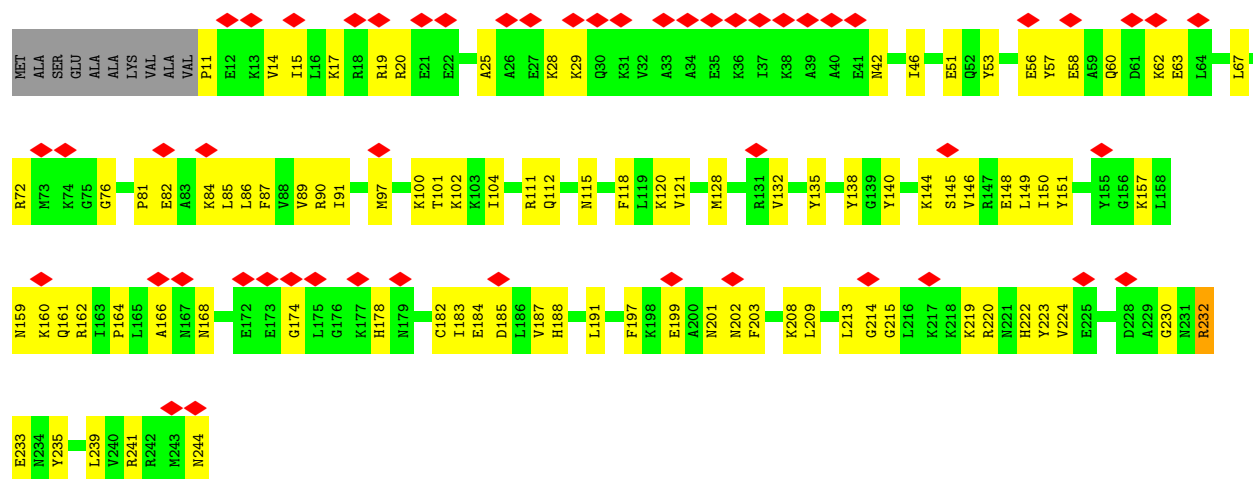


• Molecule 60: 60S ribosomal protein uL29

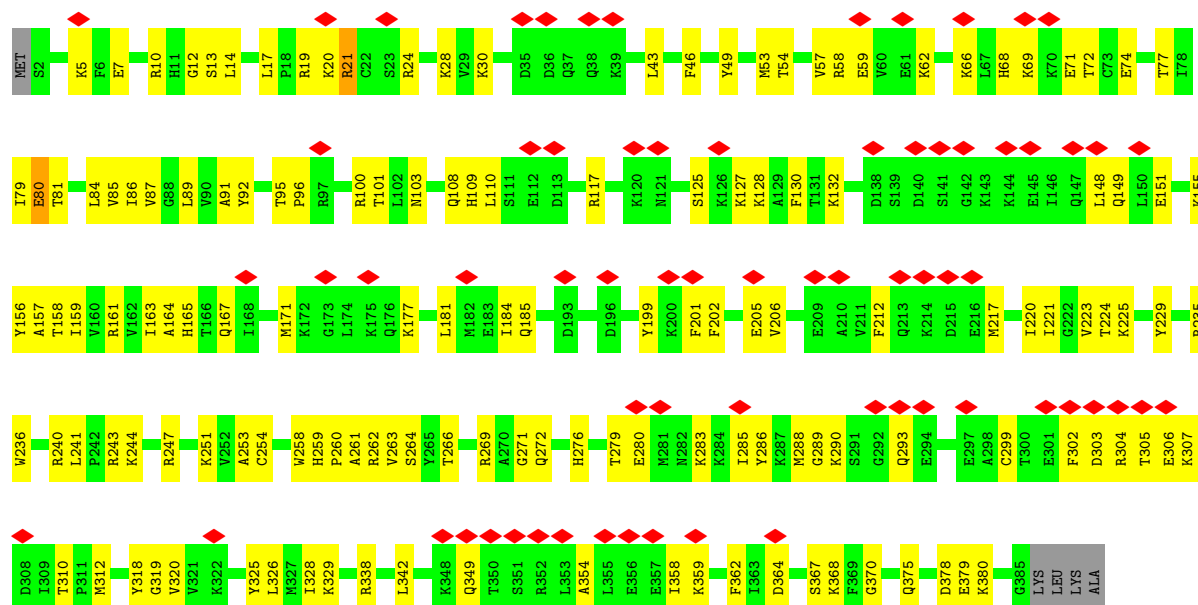




• Molecule 61: 60S ribosomal protein uL30

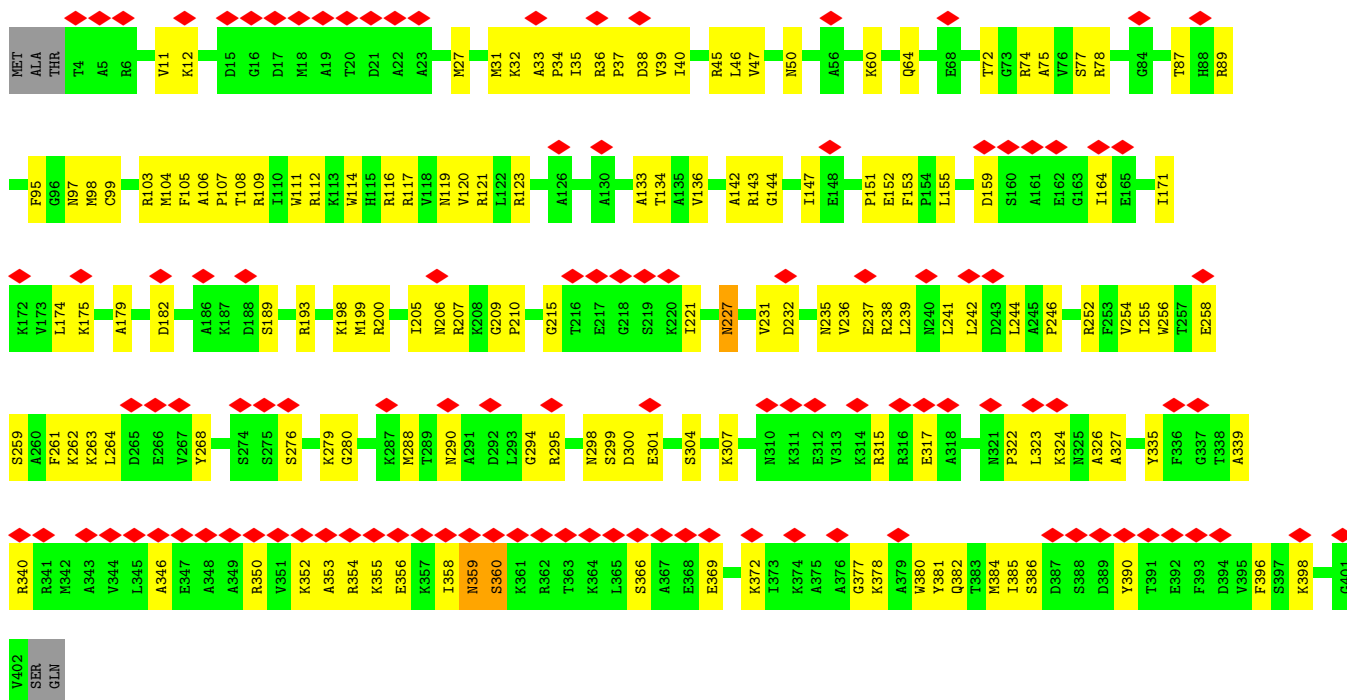


• Molecule 62: 60S ribosomal protein uL3

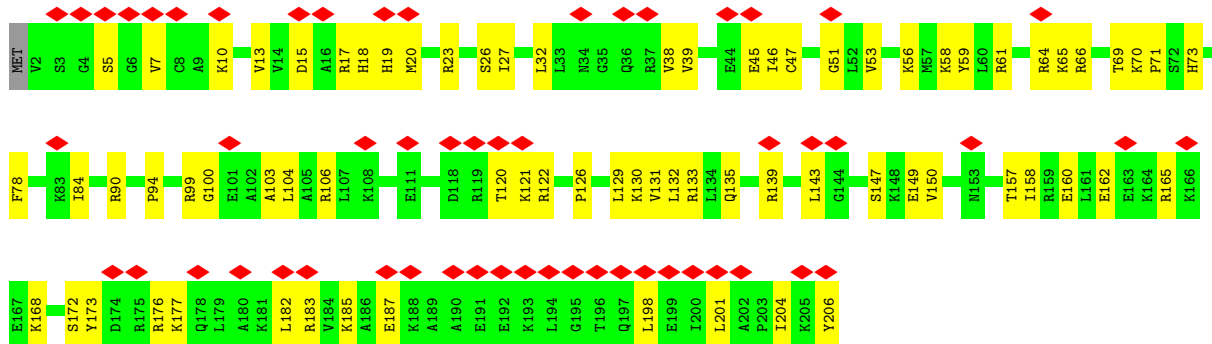


• Molecule 63: 60S ribosomal protein uL4

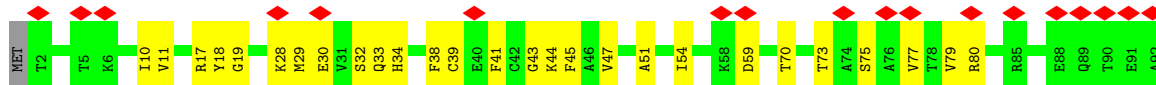




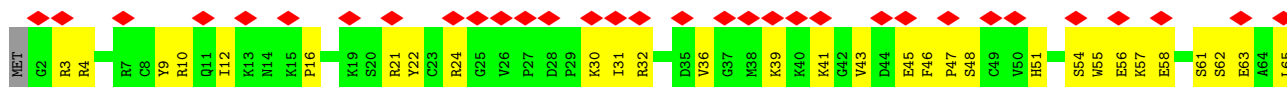
• Molecule 64: 60S ribosomal protein uL13

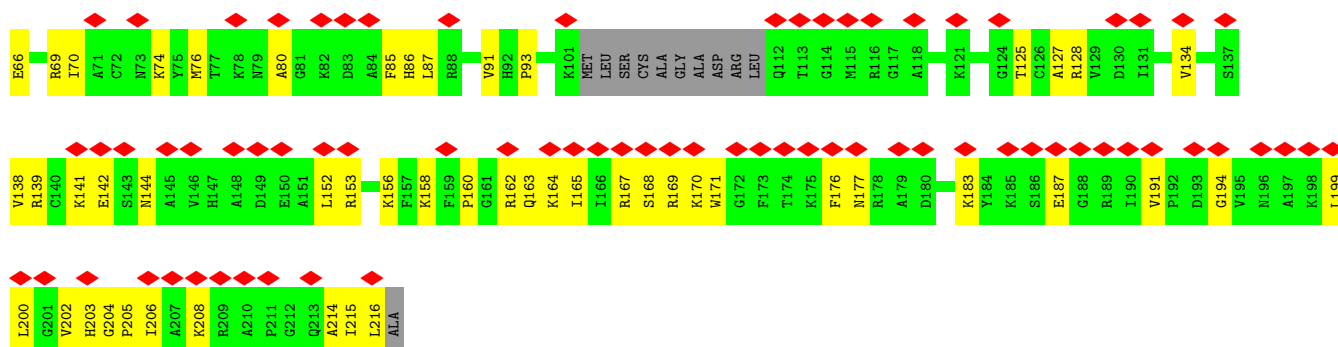


• Molecule 65: 60S ribosomal protein eL43



• Molecule 66: 60S ribosomal protein uL16

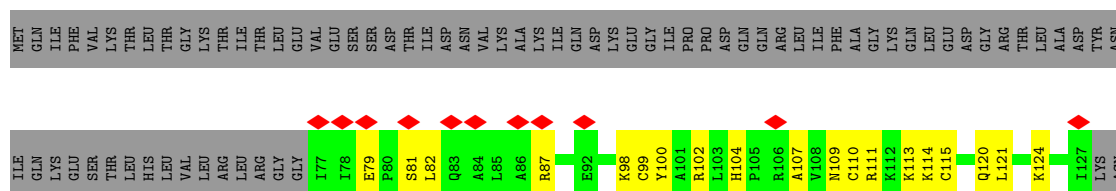




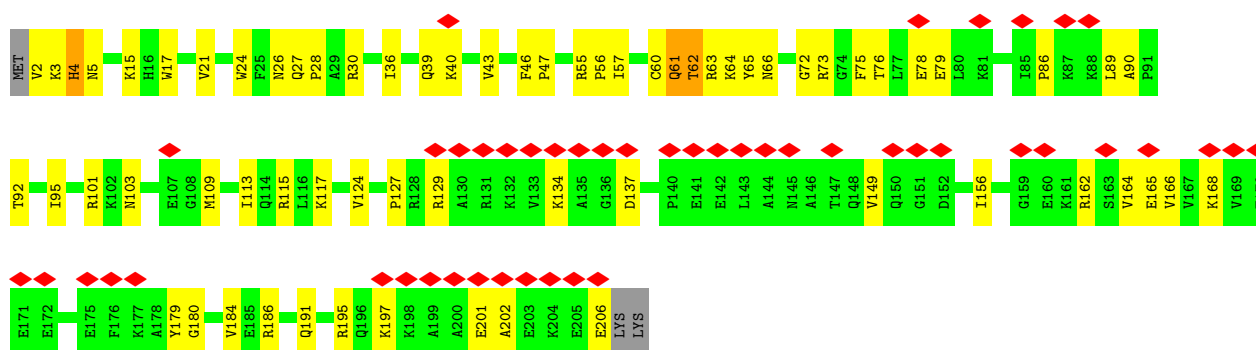
• Molecule 67: 60S ribosomal protein eL41



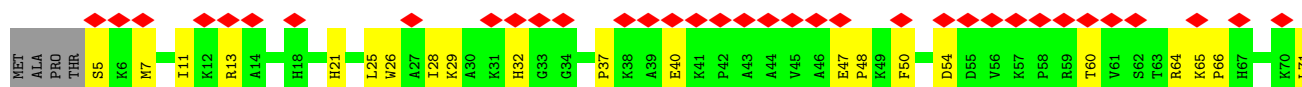
• Molecule 68: 60S ribosomal protein eL40

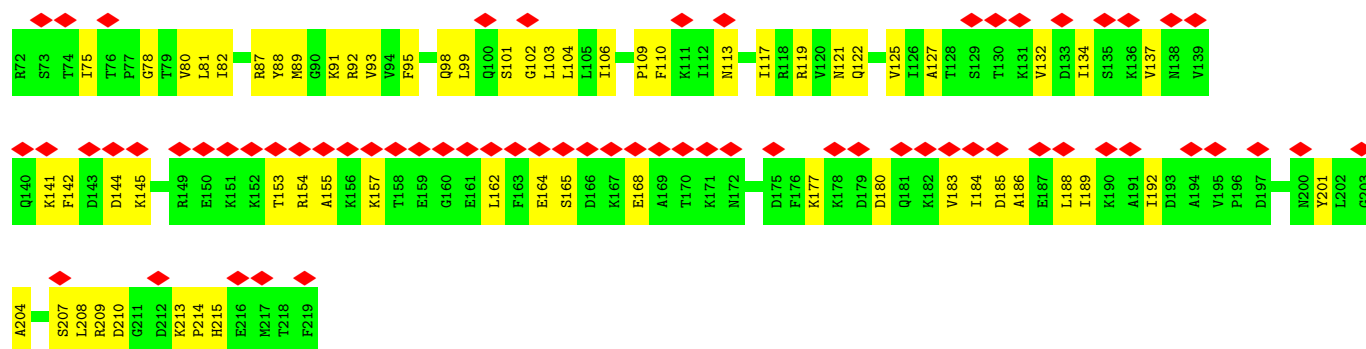


• Molecule 69: 60S ribosomal protein eL13

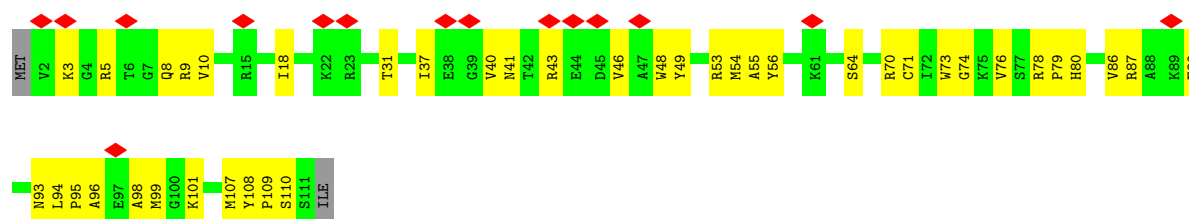


• Molecule 70: 60S ribosomal protein eL6

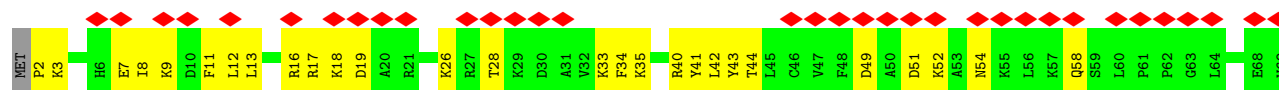




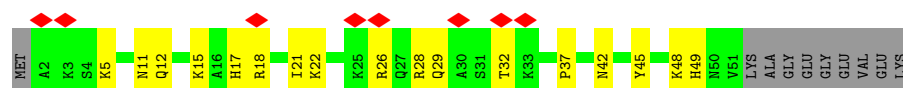
• Molecule 71: 60S ribosomal protein eL33



• Molecule 72: 60S ribosomal protein eL38



• Molecule 73: 60S ribosomal protein eL29



• Molecule 74: 60S ribosomal protein eL34

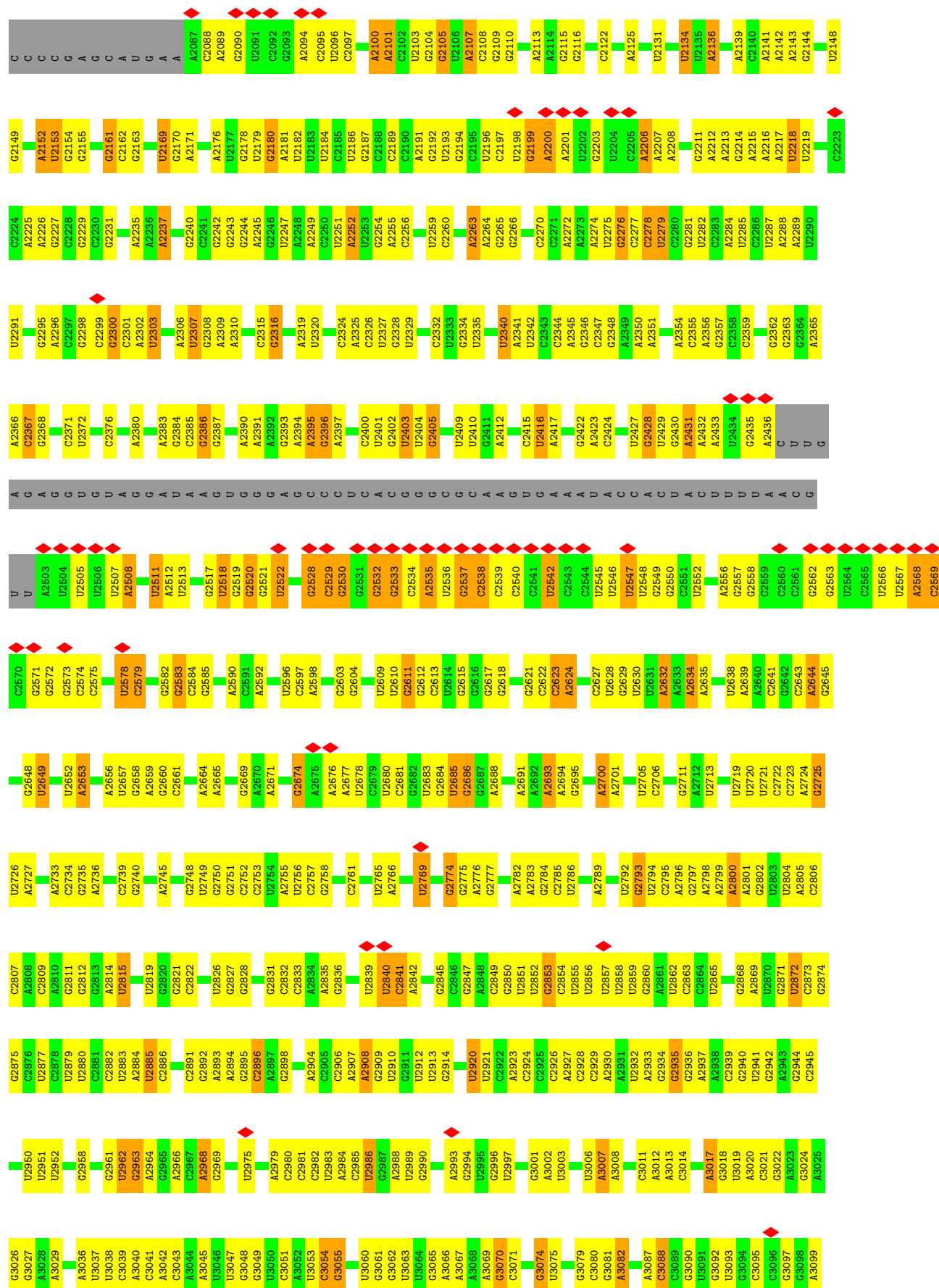


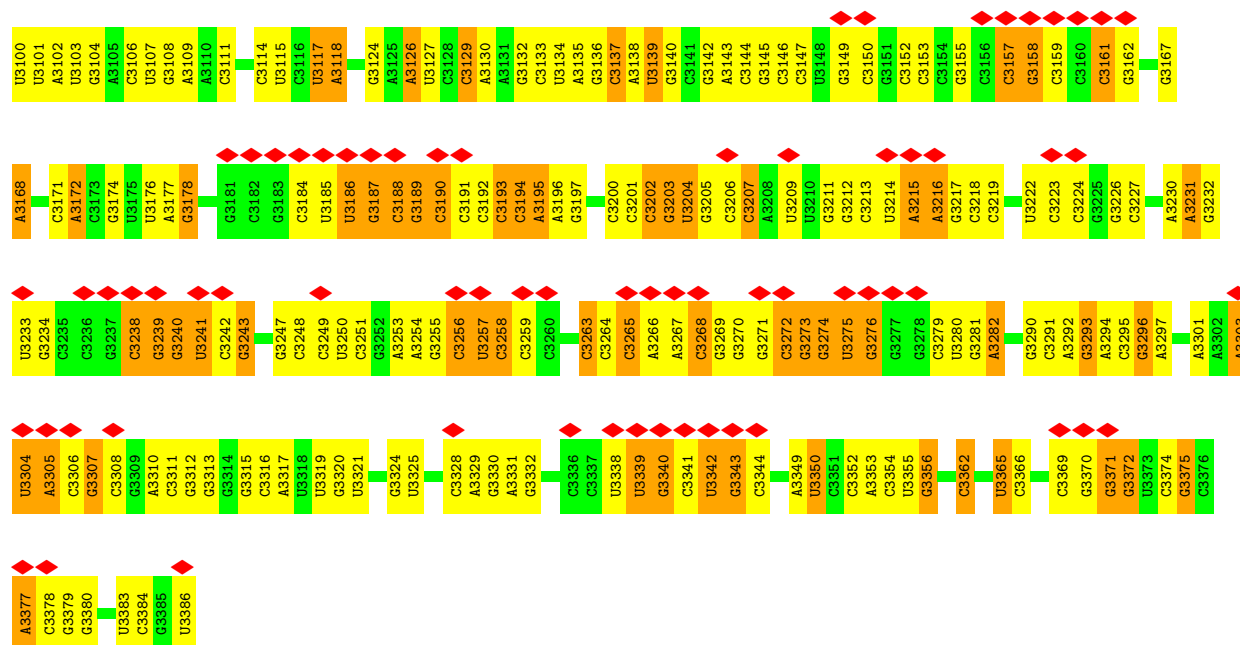
• Molecule 75: 60S ribosomal RNA



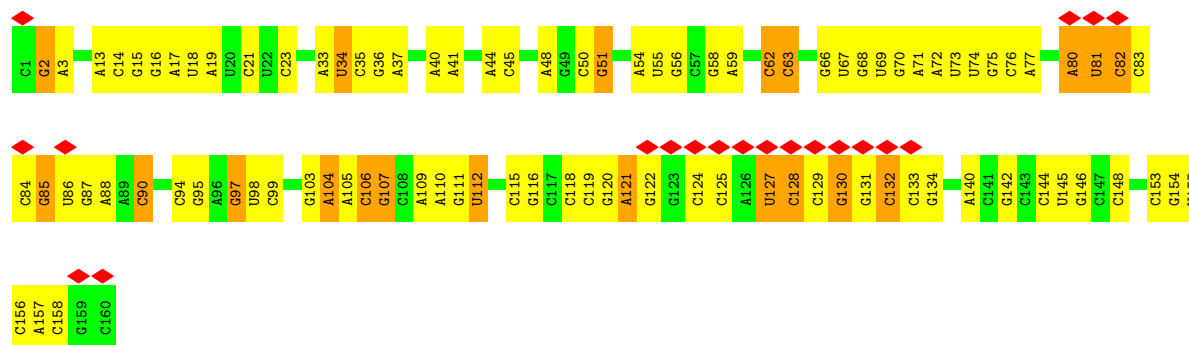


A	G	A1863	C1775 G1776	G1701	G1821 G1622	G1555 A1482 A1483 A1484	C1482	C1318 U1319 G1483 G1320	G1250 U1251	A1181 A1182 A1183	G1100 A1101	G1022 G1023
G	G	C1868	C1761	C1707	U1626 G1627	C1556 A1485	A1486	U1319 A1321	U1251	A1182 U1184	G1106	G1024
G	G	G1869	G1782	C1708	U1627 G1628	C1557 A1486	A1487	A1321 A1322	U1252	U1185	G1105	G1025
C	U	G1870	G1783	U1709	A1629	C1558 A1560	G1488	A1322	A1254	C1186	G1107	A1026
C	C	A1874	G1792	G1710	C1632	A1561	G1489	G1325	A1255	C1187	U1108	C1027
C	C	A1875	C1793	G1711	G1633	U1561	A1490	C1326	A1256	U1109	U1110	G1028
C	C	U1876	A1794	A1714	C1633	A1562	G1491	C1327	U1257	C1111	C1112	G1029
C	C	G1877	A1795	C1715	G1634	G1563	A1492	C1328	U1258	U1113	A1030	A1031
C	C	G1878	A1796	G1716	A1635	G1564	A1493	C1329	C1259	C1114	U1117	G1032
C	C	A1882	U1797	G1717	C1636	G1565	A1496	A1330	U1259	U1118	G1120	C1033
C	C	G1889	G1800	U1718	U1639	C1566	U1497	C1331	C1260	U1119	U1120	U1034
C	C	C1890	C1801	U1719	A1640	G1567	U1498	C1332	G1261	U1121	G1121	C1035
U	G	A1891	A1802	A1721	G1641	C1568	C1499	C1333	U1262	U1122	U1123	U1036
C	A	A1892	G1803	G1722	G1642	U1568	A1501	C1334	U1263	U1124	U1125	C1038
C	C	G1893	G1804	C1723	A1643	U1569	U1502	A1334	A1208	U1126	G1129	C1041
C	C	G1894	A1844	G1726	A1644	C1570	U1503	C1337	G1209	U1127	U1130	U1043
C	C	G1895	U1811	G1727	G1645	A1571	G1505	C1338	U1210	U1128	U1131	U1044
C	C	A1812	A1812	A1727	C1646	C1572	A1506	C1339	A1204	U1129	U1132	U1045
C	C	C1813	G1728	G1729	G1649	G1573	A1507	G1340	C1205	U1133	U1133	C1049
C	C	G1901	C1814	G1730	U1730	C1574	G1508	A1344	A1206	U1134	C1135	A1051
C	C	G1902	G1815	U1731	A1653	G1575	G1509	U1345	U1207	U1135	U1136	G1053
C	C	C1903	U1816	G1732	C1654	C1576	G1510	C1346	G1208	U1137	U1137	U1054
C	C	A1906	U1817	G1733	C1655	A1577	A1512	C1347	A1225	U1138	U1138	U1055
C	C	U1909	G1737	U1739	C1656	U1578	U1514	C1348	G1226	U1139	U1139	U1060
A	A	G1910	U1738	G1739	G1659	U1579	U1515	C1349	A1227	U1140	U1140	A1061
C	C	A1911	U1740	U1740	C1660	A1584	G1516	C1350	C1228	U1141	U1141	G1066
C	C	U1912	G1745	G1745	C1661	A1585	G1517	C1351	C1229	U1142	U1142	G1067
A	A	G1915	C1832	C1746	G1670	A1586	A1518	C1352	A1275	G1143	A1157	A1068
C	C	U1916	G1747	A1747	G1671	G1587	G1587	U1360	C1276	C1144	C1158	U1069
C	A	C1834	A1748	C1749	A1673	G1588	G1522	C1364	U1277	G1145	C1159	G1070
C	C	U1836	U1836	G1749	C1673	G1589	G1523	C1365	A1278	U1146	U1147	C1071
C	C	C1922	A1837	U1750	A1676	A1590	U1525	C1366	C1279	G1160	A1162	C1072
A	A	G1923	C1838	C1755	G1677	A1591	A1526	C1367	U1280	U1161	U1161	G1073
C	C	A1926	C1839	C1756	U1678	U1592	A1527	U1368	C1281	U1171	U1171	U1077

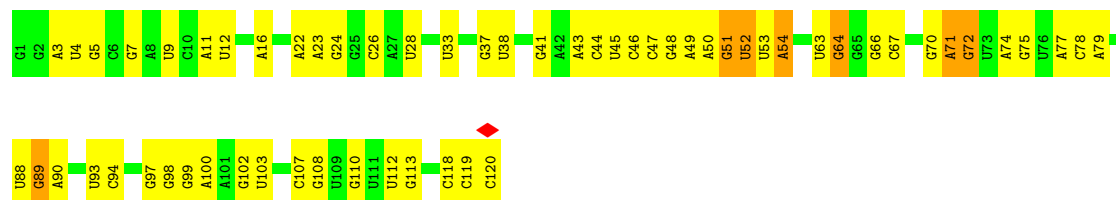




• Molecule 76: 5.8S ribosomal RNA

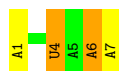


• Molecule 77: 5S ribosomal RNA

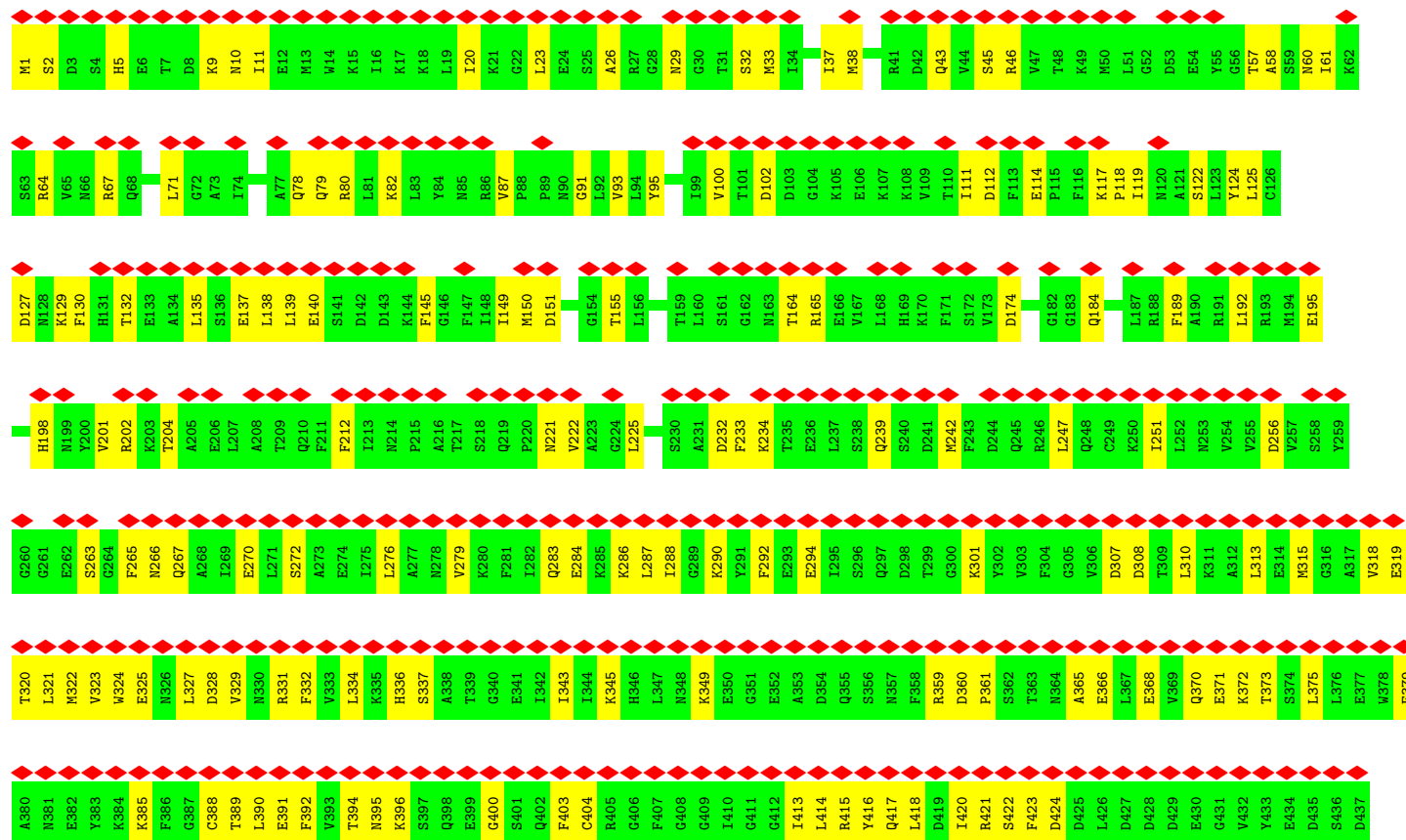
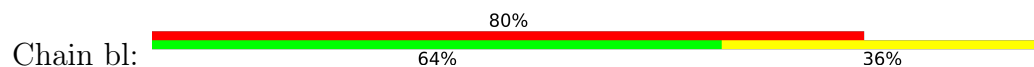


• Molecule 78: mRNA

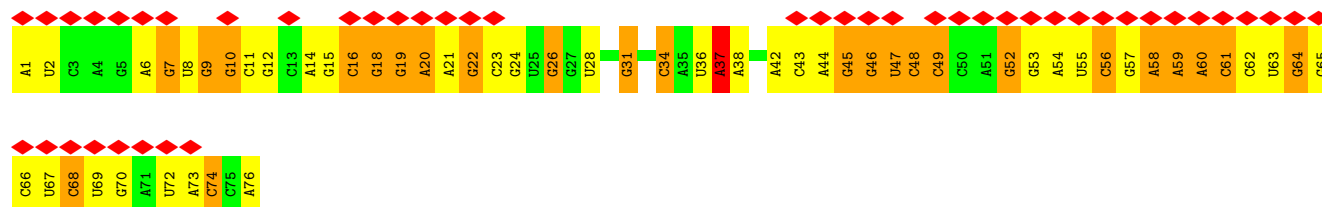
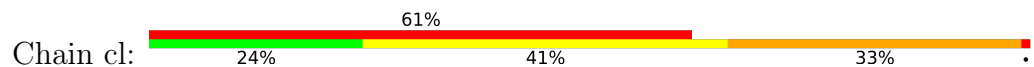




• Molecule 79: eukaryotic release factor 1



• Molecule 80: tRNAi



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	69380	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	0.209	Depositor
Minimum map value	-0.127	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: ZN, 2MG, G7M, 1MA, MIA, MG, PSU, 1MG, H2U, 3HE, 5MC

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	0.39	0/40441	0.44	0/63026
2	ba	0.33	0/943	0.68	0/1253
3	ca	0.40	0/1464	0.62	0/1957
4	da	0.38	0/722	0.70	0/972
5	ga	0.41	0/1088	0.64	0/1448
6	ha	0.36	0/2530	0.69	2/3443 (0.1%)
7	ia	0.37	0/1697	0.64	0/2279
8	ja	0.38	0/2123	0.63	0/2853
9	ka	0.39	0/1538	0.68	0/2070
10	la	0.38	0/1138	0.67	0/1517
11	ma	0.36	0/815	0.61	0/1098
12	na	0.38	0/953	0.66	0/1278
13	oa	0.35	0/1132	0.68	0/1511
14	pa	0.40	0/1219	0.65	0/1638
15	qa	0.35	0/985	0.73	0/1313
16	ra	0.39	0/1088	0.64	0/1463
17	sa	0.34	0/824	0.66	0/1102
18	ta	0.36	0/624	0.83	0/836
19	ua	0.36	0/514	0.60	0/685
20	va	0.49	0/1057	0.77	1/1421 (0.1%)
21	wa	0.42	0/318	0.68	0/418
22	xa	0.33	0/555	0.52	0/742
23	ya	0.34	0/326	0.62	0/430
24	za	0.37	0/1644	0.61	0/2226
25	bb	0.39	0/1749	0.69	0/2349
26	cb	0.41	0/605	0.69	0/814
27	db	0.42	0/784	0.62	0/1047
28	eb	0.41	0/1521	0.70	0/2035
29	fb	0.43	0/1696	0.64	0/2292
30	gb	0.35	0/1210	0.67	0/1606
31	hb	0.35	0/1415	0.66	0/1907
32	ib	0.44	0/1192	0.57	0/1597

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	AA	0.39	0/1881	0.62	0/2523
34	BA	0.46	0/1284	0.57	0/1728
35	CA	0.43	0/1111	0.66	0/1481
36	DA	0.51	0/1965	0.60	0/2644
37	EA	0.43	0/1353	0.74	0/1807
38	FA	0.43	0/1478	0.64	0/1983
39	GA	0.50	0/992	0.62	0/1333
40	HA	0.56	0/1760	0.68	0/2354
41	IA	0.50	0/1152	0.58	0/1538
42	JA	0.48	0/1511	0.66	0/2021
43	KA	0.41	0/2249	0.60	0/3020
44	LA	0.46	0/1433	0.66	0/1892
45	MA	0.47	0/1276	0.61	0/1713
46	NA	0.43	0/950	0.58	0/1275
47	OA	0.52	0/530	0.68	0/703
48	PA	0.47	0/1067	0.73	1/1425 (0.1%)
49	QA	0.43	0/1144	0.58	0/1536
50	RA	0.45	0/769	0.60	0/1035
51	SA	0.47	0/874	0.65	0/1171
52	TA	0.50	0/1061	0.63	0/1417
53	UA	0.55	0/669	0.74	0/886
54	VA	0.49	0/464	0.64	0/616
55	WA	0.44	0/807	0.57	0/1064
56	XA	0.42	0/1079	0.59	0/1440
57	YA	0.51	0/1534	0.65	0/2061
58	ZA	0.36	0/826	0.71	0/1106
59	AB	0.39	0/814	0.63	0/1077
60	BB	0.42	0/990	0.69	0/1317
61	CB	0.48	0/1952	0.66	0/2614
62	DB	0.49	0/3167	0.64	1/4238 (0.0%)
63	EB	0.45	0/3133	0.62	0/4220
64	FB	0.47	0/1669	0.65	0/2236
65	GB	0.48	0/716	0.67	0/948
66	HB	0.38	0/1670	0.59	0/2237
67	IB	0.51	0/238	0.89	0/302
68	JB	0.39	0/426	0.56	0/564
69	KB	0.44	0/1699	0.65	0/2269
70	LB	0.39	0/1737	0.61	0/2334
71	MB	0.53	0/893	0.66	0/1198
72	NB	0.38	0/565	0.62	0/753
73	OB	0.46	0/424	0.63	0/561
74	PB	0.55	0/894	0.65	0/1197
75	RB	0.48	0/75401	0.44	0/117598

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
76	SB	0.47	0/3809	0.42	0/5936
77	TB	0.43	0/2864	0.39	0/4464
78	al	0.44	0/165	0.49	0/256
79	bl	0.32	0/3503	0.60	0/4711
80	cl	0.32	0/1534	0.44	0/2386
All	All	0.44	0/215392	0.53	5/315814 (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
5	ga	0	1
6	ha	0	3
10	la	0	1
12	na	0	1
15	qa	0	1
18	ta	0	3
20	va	0	3
23	ya	0	1
25	bb	0	1
28	eb	0	1
31	hb	0	1
37	EA	0	2
38	FA	0	1
58	ZA	0	1
61	CB	0	1
62	DB	0	1
63	EB	0	1
69	KB	0	1
79	bl	0	2
All	All	0	27

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	PA	5	PRO	CA-N-CD	-7.36	101.69	112.00
6	ha	32	PRO	CA-N-CD	-6.79	102.49	112.00
20	va	33	MET	CB-CG-SD	-6.00	94.70	112.70
62	DB	21	ARG	CA-CB-CG	5.22	124.55	114.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	ha	282	VAL	N-CA-C	-5.08	108.89	113.71

There are no chirality outliers.

All (27) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
61	CB	232	ARG	Peptide
62	DB	80	GLU	Peptide
37	EA	110	GLU	Peptide
37	EA	116	MET	Peptide
63	EB	360	SER	Peptide
38	FA	22	ALA	Peptide
69	KB	61	GLN	Peptide
58	ZA	108	ASN	Peptide
25	bb	54	THR	Peptide
79	bl	232	ASP	Peptide
79	bl	360	ASP	Peptide
28	eb	4	VAL	Peptide
5	ga	85	PRO	Peptide
6	ha	205	GLY	Peptide
6	ha	227	LYS	Peptide
6	ha	48	LEU	Peptide
31	hb	107	LYS	Peptide
10	la	46	ARG	Peptide
12	na	137	THR	Peptide
15	qa	67	ARG	Peptide
18	ta	33	GLN	Peptide
18	ta	70	LEU	Peptide
18	ta	76	LEU	Peptide
20	va	5	ILE	Peptide
20	va	75	THR	Peptide
20	va	84	GLU	Peptide
23	ya	44	PHE	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	1044	0
2	ba	929	0	992	39	0
3	ca	1443	0	1478	68	0
4	da	703	0	701	54	0
5	ga	1070	0	1133	35	0
6	ha	2473	0	2406	153	0
7	ia	1673	0	1756	77	0
8	ja	2082	0	2171	102	0
9	ka	1516	0	1564	111	0
10	la	1119	0	1190	72	0
11	ma	806	0	863	44	0
12	na	941	0	977	48	0
13	oa	1114	0	1140	80	0
14	pa	1195	0	1287	45	0
15	qa	975	0	1024	52	0
16	ra	1065	0	1083	64	0
17	sa	807	0	863	45	0
18	ta	618	0	654	66	0
19	ua	513	0	551	34	0
20	va	1039	0	1063	67	0
21	wa	314	0	318	19	0
22	xa	546	0	564	17	0
23	ya	322	0	354	15	0
24	za	1609	0	1615	66	0
25	bb	1720	0	1793	105	0
26	cb	596	0	583	27	0
27	db	771	0	789	36	0
28	eb	1493	0	1559	81	0
29	fb	1660	0	1743	87	0
30	gb	1199	0	1287	65	0
31	hb	1389	0	1444	89	0
32	ib	1166	0	1232	40	0
33	AA	1847	0	1999	74	0
34	BA	1256	0	1309	58	0
35	CA	1090	0	1172	46	0
36	DA	1919	0	1941	69	0
37	EA	1332	0	1368	69	0
38	FA	1459	0	1534	62	0
39	GA	976	0	1038	45	0
40	HA	1720	0	1791	82	0
41	IA	1123	0	1169	52	0
42	JA	1487	0	1588	62	0
43	KA	2209	0	2215	75	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
44	LA	1414	0	1529	37	0
45	MA	1253	0	1281	46	0
46	NA	935	0	1011	28	0
47	OA	517	0	542	18	0
48	PA	1054	0	1140	67	0
49	QA	1125	0	1183	33	0
50	RA	757	0	784	23	0
51	SA	863	0	910	28	0
52	TA	1042	0	1119	37	0
53	UA	656	0	679	35	0
54	VA	452	0	479	24	0
55	WA	794	0	849	21	0
56	XA	1066	0	1157	48	0
57	YA	1496	0	1545	85	0
58	ZA	814	0	850	42	0
59	AB	803	0	890	43	0
60	BB	979	0	1074	57	0
61	CB	1917	0	2021	79	0
62	DB	3099	0	3206	128	0
63	EB	3075	0	3196	129	0
64	FB	1641	0	1760	70	0
65	GB	707	0	742	19	0
66	HB	1635	0	1700	60	0
67	IB	237	0	289	16	0
68	JB	420	0	460	16	0
69	KB	1670	0	1759	63	0
70	LB	1703	0	1792	72	0
71	MB	875	0	896	44	0
72	NB	557	0	599	26	0
73	OB	416	0	432	17	0
74	PB	879	0	961	34	0
75	RB	67383	0	34022	1594	0
76	SB	3408	0	1732	91	0
77	TB	2561	0	1295	58	0
78	al	147	0	74	3	0
79	bl	3446	0	3415	124	0
80	cl	1622	0	842	40	0
81	BA	1	0	0	0	0
81	DA	2	0	0	0	0
81	DB	2	0	0	0	0
81	GA	1	0	0	0	0
81	HA	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
81	IA	1	0	0	0	0
81	JA	1	0	0	0	0
81	KB	1	0	0	0	0
81	OB	1	0	0	0	0
81	PB	1	0	0	0	0
81	RB	196	0	0	0	0
81	TB	1	0	0	0	0
81	aa	73	0	0	0	0
81	cl	2	0	0	0	0
82	GB	1	0	0	0	0
82	WA	1	0	0	0	0
82	db	1	0	0	0	0
82	wa	1	0	0	0	0
83	RB	20	0	23	1	0
All	All	201166	0	149769	5921	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 17.

All (5921) 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)
1:aa:646:G:N1	1:aa:705:A:H2	1.31	1.26
75:RB:1755:A:C2	75:RB:1764:G:N1	2.12	1.17
75:RB:6:A:C2	76:SB:154:G:N1	2.12	1.17
75:RB:1755:A:H2	75:RB:1764:G:N1	1.44	1.15
1:aa:646:G:N1	1:aa:705:A:C2	2.08	1.14
75:RB:6:A:H2	76:SB:154:G:N1	1.43	1.12
1:aa:68:A:N6	1:aa:84:G:H1	1.54	1.04
1:aa:649:C:O2	1:aa:703:G:N2	1.91	1.03
8:ja:196:LYS:HE2	8:ja:211:GLU:HG2	1.36	1.03
31:hb:73:PHE:O	31:hb:77:HIS:HB2	1.57	1.03
75:RB:26:A:C2	75:RB:57:G:N1	2.26	1.02
62:DB:103:ASN:ND2	62:DB:149:GLN:OE1	1.92	1.01
64:FB:53:VAL:HG22	64:FB:139:ARG:HH12	1.21	1.01
41:IA:77:ARG:NH1	75:RB:788:G:N7	2.10	0.99
48:PA:73:TYR:HE2	48:PA:76:ARG:HD3	1.28	0.99
1:aa:1044:A:H5''	20:va:19:ARG:HH22	1.25	0.98
35:CA:91:PHE:HB2	35:CA:118:ARG:HH22	1.27	0.96
63:EB:290:ASN:HB3	63:EB:295:ARG:HH21	1.28	0.96
75:RB:2611:G:H1	75:RB:2624:A:H62	1.03	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:oa:25:LYS:HD3	13:oa:55:ARG:HE	1.32	0.94
7:ia:40:ARG:HH12	11:ma:116:PRO:HA	1.33	0.94
66:HB:191:VAL:HG23	66:HB:200:LEU:HD11	1.50	0.93
75:RB:1669:C:N3	75:RB:1772:G:N2	2.16	0.93
75:RB:1673:A:H2	75:RB:1689:G:N1	1.66	0.92
75:RB:1673:A:C2	75:RB:1689:G:N1	2.36	0.92
75:RB:26:A:H2	75:RB:57:G:H1	1.05	0.92
1:aa:68:A:H61	1:aa:84:G:H1	0.91	0.90
2:ba:112:GLN:HB2	2:ba:116:ARG:HE	1.35	0.90
1:aa:701:C:H2'	1:aa:702:G:H8	1.37	0.90
31:hb:52:MET:HE2	31:hb:176:ARG:HD3	1.52	0.89
48:PA:73:TYR:CE2	48:PA:76:ARG:HD3	2.05	0.89
37:EA:136:ALA:O	37:EA:154:GLN:NE2	2.06	0.89
61:CB:46:ILE:HD12	61:CB:182:CYS:HB3	1.52	0.89
9:ka:118:ARG:HG3	9:ka:142:ARG:HH12	1.37	0.89
1:aa:1217:G:H1	1:aa:1456:U:H3	1.20	0.89
1:aa:68:A:N1	1:aa:84:G:N2	2.21	0.88
11:ma:40:LEU:HD21	11:ma:95:ARG:HG3	1.55	0.88
37:EA:111:HIS:CE1	37:EA:117:LYS:HG2	2.07	0.88
1:aa:1623:C:H2'	9:ka:56:ARG:HD2	1.54	0.88
75:RB:1755:A:H2	75:RB:1764:G:H1	0.89	0.88
62:DB:217:MET:HE3	62:DB:354:ALA:HA	1.54	0.88
39:GA:104:VAL:HB	39:GA:112:MET:HE1	1.57	0.87
58:ZA:109:LYS:O	58:ZA:111:ARG:N	2.07	0.87
48:PA:80:HIS:HB3	48:PA:95:ASN:HD22	1.37	0.87
1:aa:1539:A:N7	18:ta:99:GLN:NE2	2.22	0.87
34:BA:57:TYR:HD1	34:BA:76:ILE:HD11	1.37	0.87
48:PA:30:MET:HE1	48:PA:77:TRP:HA	1.53	0.87
48:PA:54:GLU:HB2	48:PA:107:LYS:HB3	1.55	0.87
52:TA:106:ARG:NH2	75:RB:1415:G:OP1	2.08	0.87
9:ka:98:LEU:HD12	18:ta:61:ILE:HD12	1.55	0.86
66:HB:3:ARG:NH2	75:RB:2851:U:OP2	2.08	0.86
75:RB:1233:G:O6	75:RB:1285:U:O2	1.92	0.86
75:RB:381:G:N2	75:RB:384:A:OP2	2.07	0.86
26:cb:15:ARG:NH1	29:fb:68:LEU:O	2.08	0.86
63:EB:340:ARG:NH1	70:LB:7:MET:SD	2.48	0.86
1:aa:494:G:O6	1:aa:500:G:N2	2.08	0.86
43:KA:23:ARG:NH1	75:RB:2700:A:OP2	2.08	0.86
76:SB:121:A:H62	76:SB:134:G:H8	1.23	0.86
11:ma:87:ARG:NH1	11:ma:89:GLU:OE1	2.08	0.85
25:bb:144:LYS:HG3	25:bb:208:GLN:HB3	1.59	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:923:U:OP1	12:na:98:ARG:NH1	2.08	0.85
54:VA:28:ARG:HH11	54:VA:36:ARG:HH21	1.20	0.85
1:aa:24:U:OP1	28:eb:12:LYS:NZ	2.10	0.85
2:ba:59:ASN:HD21	2:ba:102:LEU:HD21	1.42	0.85
1:aa:1356:A:OP1	10:la:29:LYS:NZ	2.09	0.84
1:aa:1200:A:OP2	1:aa:1470:G:N2	2.10	0.84
2:ba:93:PRO:HD2	2:ba:96:ARG:HH21	1.40	0.84
11:ma:39:ASN:ND2	11:ma:116:PRO:O	2.10	0.84
11:ma:86:ASP:OD2	21:wa:44:ARG:NH1	2.09	0.84
43:KA:284:LEU:HD11	66:HB:214:ALA:HB1	1.59	0.84
29:fb:162:HIS:CD2	29:fb:163:THR:HG23	2.11	0.84
75:RB:1306:A:N6	75:RB:2854:C:O2	2.10	0.84
75:RB:1673:A:H2	75:RB:1689:G:H1	0.86	0.84
1:aa:839:G:H21	1:aa:840:U:H5'	1.42	0.84
9:ka:17:ARG:HH11	9:ka:18:TRP:HE1	1.22	0.84
1:aa:1100:U:H2'	20:va:11:ARG:HH11	1.43	0.84
75:RB:2143:A:N6	75:RB:2180:G:O2'	2.07	0.84
44:LA:114:LYS:O	44:LA:146:LYS:NZ	2.10	0.84
19:ua:38:THR:HG22	19:ua:39:GLY:H	1.44	0.83
4:da:25:LYS:NZ	4:da:64:TYR:OH	2.11	0.83
1:aa:1186:U:O2	1:aa:1464:G:C2	2.32	0.83
18:ta:64:SER:HB3	18:ta:82:LYS:HZ3	1.43	0.83
69:KB:30:ARG:HH22	75:RB:324:U:H5''	1.43	0.83
1:aa:782:G:H1	1:aa:790:U:H3	1.26	0.82
6:ha:13:VAL:HG22	6:ha:321:ARG:HG2	1.60	0.82
75:RB:2178:G:O2'	75:RB:2307:U:OP2	1.97	0.82
79:bl:359:ARG:HG2	79:bl:361:PRO:HD3	1.60	0.82
1:aa:178:A:H3'	1:aa:179:A:H4'	1.61	0.82
49:QA:142:ARG:NH1	75:RB:439:A:OP1	2.12	0.82
69:KB:73:ARG:NH2	75:RB:109:G:OP2	2.12	0.82
75:RB:1757:G:N1	75:RB:1762:G:O6	2.11	0.82
9:ka:67:ARG:NH2	9:ka:144:ASN:OD1	2.13	0.82
10:la:19:LYS:HG3	10:la:20:LYS:H	1.45	0.82
42:JA:78:ILE:HG13	42:JA:98:LYS:HG3	1.60	0.81
61:CB:145:SER:HB2	61:CB:241:ARG:HH12	1.45	0.81
75:RB:6:A:N1	76:SB:154:G:O6	2.12	0.81
1:aa:875:C:O2	22:xa:53:GLN:NE2	2.13	0.81
1:aa:1480:G:H2'	1:aa:1481:A:H8	1.44	0.81
6:ha:282:VAL:HG23	6:ha:283:GLN:HG3	1.61	0.81
28:eb:62:LEU:HA	28:eb:71:ARG:HH12	1.42	0.81
60:BB:81:PRO:HD2	60:BB:84:LEU:HD12	1.62	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:438:G:N2	75:RB:620:C:O2	2.11	0.81
75:RB:522:C:H3'	75:RB:523:C:H5''	1.62	0.81
1:aa:633:U:OP2	1:aa:974:C:N4	2.13	0.81
75:RB:3155:G:H1	75:RB:3275:U:H3	1.27	0.81
26:cb:16:LYS:HG2	26:cb:23:ILE:HG22	1.62	0.81
3:ca:58:ALA:HB1	3:ca:61:LEU:HD11	1.63	0.81
5:ga:127:VAL:HG11	5:ga:139:LYS:HB3	1.63	0.81
6:ha:226:GLY:H	6:ha:251:ILE:HB	1.45	0.81
34:BA:62:GLY:HA3	34:BA:76:ILE:HG22	1.61	0.81
75:RB:693:C:H4'	75:RB:695:G:H22	1.44	0.81
75:RB:2898:G:O2'	75:RB:3020:A:N1	2.14	0.81
75:RB:1509:G:N2	75:RB:1515:U:O2	2.11	0.81
14:pa:45:GLN:HE21	14:pa:49:GLN:HB3	1.44	0.80
59:AB:4:SER:OG	59:AB:5:GLN:OE1	1.99	0.80
79:bl:315:MET:HG3	79:bl:418:LEU:HG	1.63	0.80
62:DB:224:THR:O	62:DB:338:ARG:NH1	2.14	0.80
1:aa:1055:G:OP1	22:xa:72:LYS:NZ	2.13	0.80
15:qa:78:ARG:HH22	24:za:209:ARG:NH1	1.79	0.80
75:RB:1567:G:N1	75:RB:1572:C:N3	2.28	0.80
1:aa:764:U:OP1	28:eb:9:ASN:ND2	2.14	0.80
41:IA:132:LYS:NZ	75:RB:722:C:O2	2.13	0.80
1:aa:1235:U:H3	1:aa:1258:U:H3	1.29	0.80
31:hb:76:ILE:HG13	31:hb:77:HIS:H	1.44	0.80
6:ha:21:VAL:HG13	6:ha:318:GLY:HA2	1.63	0.80
9:ka:89:ILE:O	9:ka:93:MET:HB2	1.79	0.80
1:aa:598:A:OP1	28:eb:39:ARG:NH1	2.15	0.80
6:ha:267:THR:HG21	6:ha:272:LYS:HE2	1.64	0.80
54:VA:17:GLN:NE2	75:RB:1497:U:OP2	2.14	0.80
57:YA:92:MET:SD	75:RB:1217:G:O2'	2.39	0.80
79:bl:394:THR:OG1	79:bl:396:LYS:NZ	2.15	0.80
40:HA:33:GLN:OE1	40:HA:63:ARG:NH2	2.14	0.80
79:bl:202:ARG:HH22	79:bl:242:MET:HB2	1.43	0.79
1:aa:146:A:H62	1:aa:164:C:N4	1.80	0.79
1:aa:323:U:H4'	1:aa:327:A:C8	2.18	0.79
8:ja:68:ARG:HH11	8:ja:76:VAL:HG11	1.46	0.79
48:PA:75:ARG:NH1	76:SB:74:U:OP1	2.14	0.79
1:aa:900:G:H1	1:aa:922:U:H3	1.31	0.79
1:aa:1509:C:OP2	16:ra:114:ARG:NH2	2.16	0.79
58:ZA:109:LYS:HG3	58:ZA:110:GLU:H	1.47	0.79
64:FB:59:TYR:OH	64:FB:78:PHE:O	1.99	0.79
75:RB:522:C:H3'	75:RB:523:C:C5'	2.13	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:na:75:MET:HE2	12:na:114:SER:HB2	1.63	0.79
62:DB:101:THR:HG21	75:RB:3142:G:H21	1.47	0.79
1:aa:646:G:O6	1:aa:705:A:N1	2.16	0.79
53:UA:18:LEU:HD21	54:VA:51:PHE:HB2	1.64	0.79
57:YA:29:MET:HE1	57:YA:46:PHE:HD1	1.47	0.79
61:CB:90:ARG:NH2	61:CB:97:MET:SD	2.55	0.79
1:aa:1532:A:H2'	1:aa:1533:A:C8	2.19	0.78
75:RB:880:C:O2	75:RB:885:A:N6	2.15	0.78
67:IB:7:LYS:HE3	67:IB:11:ARG:HH21	1.47	0.78
13:oa:63:GLU:HG2	13:oa:66:ARG:HH21	1.49	0.78
16:ra:62:ASP:HB3	16:ra:65:TRP:HB3	1.66	0.78
1:aa:703:G:H5''	1:aa:744:G:H1	1.46	0.78
3:ca:117:HIS:O	3:ca:169:ARG:NH1	2.16	0.78
14:pa:16:LEU:HD12	14:pa:62:LEU:HD11	1.65	0.78
75:RB:26:A:H2	75:RB:57:G:N1	1.71	0.78
75:RB:1562:A:N6	75:RB:1579:C:O2'	2.17	0.78
75:RB:1567:G:O6	75:RB:1572:C:N4	2.16	0.78
18:ta:91:ARG:NH1	18:ta:103:THR:HG23	1.99	0.78
64:FB:58:LYS:NZ	75:RB:1317:G:OP2	2.16	0.78
34:BA:68:THR:HG21	75:RB:2734:C:H4'	1.66	0.78
79:bl:379:PHE:HB3	79:bl:390:LEU:HD11	1.64	0.78
1:aa:485:A:N6	1:aa:511:U:O4	2.15	0.78
37:EA:119:ASP:OD1	37:EA:120:PRO:HD3	1.84	0.78
75:RB:500:C:H42	75:RB:619:C:H42	1.32	0.78
28:eb:150:VAL:HG11	28:eb:158:ILE:HD11	1.66	0.77
62:DB:167:GLN:NE2	62:DB:205:GLU:OE2	2.16	0.77
34:BA:57:TYR:CD1	34:BA:76:ILE:HD11	2.19	0.77
17:sa:46:PHE:O	17:sa:51:ARG:NH1	2.18	0.77
47:OA:50:LYS:HE3	75:RB:2105:G:H5''	1.64	0.77
1:aa:146:A:N6	1:aa:164:C:N4	2.33	0.77
71:MB:5:ARG:NH2	71:MB:8:GLN:O	2.16	0.77
79:bl:315:MET:HE1	79:bl:423:PHE:HE1	1.49	0.77
7:ia:51:ARG:HE	7:ia:91:VAL:HG12	1.49	0.77
67:IB:18:ARG:O	67:IB:22:GLN:NE2	2.18	0.77
76:SB:41:A:N6	76:SB:103:G:O2'	2.16	0.77
43:KA:12:TYR:OH	75:RB:2685:U:OP1	2.03	0.77
52:TA:120:VAL:HG12	52:TA:122:ASN:H	1.47	0.77
1:aa:1399:G:N2	1:aa:1411:C:O2	2.16	0.77
6:ha:311:LEU:HB3	6:ha:323:TYR:HB2	1.67	0.77
1:aa:132:G:N2	1:aa:137:A:OP1	2.18	0.76
1:aa:504:C:N4	1:aa:505:U:O2	2.18	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:711:C:H41	1:aa:746:A:H5'	1.50	0.76
57:YA:10:GLN:HG2	63:EB:384:MET:HG3	1.68	0.76
1:aa:1298:G:O2'	1:aa:1325:A:N1	2.18	0.76
1:aa:212:A:N7	1:aa:244:C:O2'	2.15	0.76
1:aa:649:C:C2	1:aa:703:G:N2	2.48	0.76
15:qa:44:LYS:O	15:qa:48:ASN:ND2	2.18	0.76
1:aa:1185:U:O4	1:aa:1464:G:O6	2.04	0.76
9:ka:124:ILE:HD12	9:ka:133:GLN:HB3	1.66	0.76
29:fb:97:GLN:HG2	29:fb:106:THR:HG22	1.68	0.76
39:GA:57:VAL:HG23	39:GA:84:GLN:HG2	1.68	0.76
75:RB:2624:A:O2'	75:RB:2795:C:OP2	2.03	0.76
1:aa:397:C:OP2	3:ca:2:GLY:N	2.18	0.76
79:bl:174:ASP:OD2	80:cl:73:A:N6	2.18	0.76
18:ta:61:ILE:HG22	18:ta:104:ARG:HG2	1.67	0.76
62:DB:247:ARG:NH2	75:RB:2945:C:OP1	2.19	0.76
64:FB:64:ARG:NH2	75:RB:1311:G:OP2	2.19	0.76
75:RB:3202:C:H4'	75:RB:3203:G:H5'	1.68	0.76
9:ka:93:MET:CE	9:ka:104:PRO:HB2	2.16	0.76
25:bb:146:ARG:HE	25:bb:206:PRO:HG3	1.49	0.76
40:HA:6:PHE:HD1	59:AB:43:VAL:HG13	1.49	0.76
1:aa:643:U:H3	31:hb:104:PRO:HD3	1.51	0.76
51:SA:17:THR:HG21	51:SA:82:ARG:HH21	1.49	0.76
25:bb:135:LEU:HD11	25:bb:137:MET:HE2	1.68	0.76
68:JB:114:LYS:NZ	75:RB:3103:U:OP1	2.18	0.76
29:fb:194:PRO:HD3	29:fb:220:PHE:CE2	2.21	0.75
75:RB:1755:A:H2	75:RB:1764:G:C2	2.04	0.75
7:ia:135:GLU:HB2	7:ia:157:MET:HE1	1.68	0.75
75:RB:25:U:O2	75:RB:326:C:O2'	2.04	0.75
75:RB:2879:U:H2'	75:RB:2880:U:C6	2.20	0.75
14:pa:48:SER:OG	14:pa:86:GLU:OE1	2.04	0.75
42:JA:36:LEU:O	42:JA:40:THR:HB	1.86	0.75
7:ia:33:GLY:HA3	7:ia:53:THR:HG22	1.69	0.75
17:sa:60:ARG:NH1	17:sa:64:ALA:HB2	2.02	0.75
43:KA:265:ARG:NH1	43:KA:267:ASN:O	2.19	0.75
64:FB:147:SER:HA	64:FB:150:VAL:HG12	1.68	0.75
1:aa:1095:C:OP1	27:db:6:ARG:NH1	2.20	0.75
62:DB:128:LYS:NZ	75:RB:3281:G:OP1	2.16	0.75
75:RB:1236:C:C4	75:RB:1265:G:C2	2.75	0.75
1:aa:506:G:H2'	1:aa:507:G:C8	2.20	0.75
38:FA:10:MET:HE3	38:FA:12:ILE:HD11	1.68	0.75
75:RB:229:G:H2'	75:RB:230:G:H8	1.52	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:HA:108:ARG:NH2	75:RB:54:G:O2'	2.19	0.75
44:LA:103:ARG:NH1	75:RB:1720:C:OP2	2.19	0.75
75:RB:3155:G:N2	75:RB:3275:U:O2	2.18	0.75
14:pa:13:SER:OG	22:xa:23:LYS:NZ	2.14	0.75
4:da:22:TYR:O	4:da:32:HIS:NE2	2.16	0.74
6:ha:50:ASN:OD1	6:ha:62:TYR:OH	2.01	0.74
30:gb:67:VAL:HG11	30:gb:75:LEU:HD11	1.68	0.74
43:KA:147:VAL:HG12	43:KA:158:VAL:HG21	1.69	0.74
63:EB:261:PHE:HA	63:EB:264:LEU:HD23	1.69	0.74
77:TB:79:A:H2	77:TB:97:G:H1	1.35	0.74
38:FA:92:ARG:HE	68:JB:82:LEU:HD13	1.52	0.74
41:IA:67:ARG:NH2	75:RB:70:A:OP2	2.20	0.74
67:IB:15:ARG:HG2	67:IB:18:ARG:HH21	1.51	0.74
1:aa:1224:C:H2'	1:aa:1225:A:H8	1.51	0.74
7:ia:158:ILE:HG22	7:ia:189:MET:HE1	1.70	0.74
1:aa:500:G:H2'	1:aa:501:U:H4'	1.69	0.74
53:UA:43:ARG:NH2	75:RB:21:G:OP1	2.20	0.74
75:RB:1237:G:N1	75:RB:1238:G:O6	2.21	0.74
13:oa:98:VAL:HG23	13:oa:103:VAL:HG22	1.69	0.74
6:ha:67:ARG:NH1	6:ha:102:LEU:O	2.20	0.74
75:RB:2835:A:N6	75:RB:2847:G:O2'	2.20	0.74
1:aa:1282:G:H1	1:aa:1436:U:H3	1.34	0.74
9:ka:45:LEU:HD12	9:ka:46:PRO:HD2	1.70	0.74
1:aa:203:A:H1'	1:aa:265:A:H61	1.51	0.74
5:ga:67:LYS:HB3	5:ga:90:LEU:HD22	1.69	0.74
6:ha:96:GLU:OE2	6:ha:110:ARG:NH1	2.20	0.74
12:na:93:LEU:HD23	12:na:119:LEU:HD21	1.70	0.74
57:YA:173:ARG:NH1	75:RB:3174:G:N7	2.36	0.74
75:RB:6:A:H2	76:SB:154:G:H1	0.80	0.74
75:RB:1690:C:HO2'	75:RB:1768:U:HO2'	1.32	0.74
75:RB:3162:G:H1	75:RB:3268:C:H42	1.34	0.74
7:ia:213:PRO:HD3	15:qa:19:LYS:HE3	1.70	0.73
20:va:55:HIS:O	20:va:56:ARG:HD2	1.87	0.73
37:EA:140:VAL:HA	37:EA:143:ARG:NH1	2.03	0.73
75:RB:1622:G:H1	75:RB:1816:U:H3	1.35	0.73
75:RB:6:A:N1	76:SB:154:G:C6	2.57	0.73
6:ha:168:CYS:SG	6:ha:170:ARG:NH1	2.62	0.73
14:pa:55:ARG:NH2	22:xa:53:GLN:OE1	2.20	0.73
24:za:202:MET:HE1	24:za:204:ASP:HB2	1.68	0.73
35:CA:134:LYS:NZ	75:RB:1803:G:OP1	2.14	0.73
64:FB:65:LYS:HE2	75:RB:1311:G:H5'	1.71	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:bl:263:SER:O	79:bl:267:GLN:NE2	2.22	0.73
1:aa:1247:G:H2'	17:sa:60:ARG:HH21	1.54	0.73
1:aa:1805:U:H5'	27:db:79:ILE:HD11	1.69	0.73
6:ha:249:SER:OG	6:ha:267:THR:O	2.07	0.73
40:HA:5:LYS:HG3	59:AB:43:VAL:HG11	1.70	0.73
1:aa:1484:U:OP1	16:ra:56:LYS:NZ	2.21	0.73
14:pa:99:ARG:NH2	14:pa:119:GLU:OE2	2.21	0.73
31:hb:69:LEU:HB2	31:hb:72:PRO:HG2	1.71	0.73
35:CA:81:MET:HE1	74:PB:96:LEU:HD11	1.71	0.73
75:RB:2107:A:O2'	75:RB:2110:G:N7	2.21	0.73
42:JA:21:SER:O	42:JA:27:LYS:NZ	2.21	0.73
48:PA:50:ARG:HB2	48:PA:114:ARG:HH12	1.51	0.73
75:RB:981:A:O2'	75:RB:983:U:O4	2.05	0.73
1:aa:149:G:N3	30:gb:13:GLN:NE2	2.36	0.73
1:aa:864:A:C6	14:pa:73:ARG:HD2	2.24	0.73
1:aa:1221:A:H4'	4:da:44:LYS:HZ1	1.53	0.73
2:ba:34:HIS:CE1	2:ba:39:ASN:HA	2.24	0.73
19:ua:61:ARG:NH1	19:ua:80:ARG:O	2.22	0.73
56:XA:122:ARG:NH2	75:RB:3202:C:OP2	2.21	0.73
75:RB:1577:A:H5''	75:RB:1579:C:H5	1.54	0.73
75:RB:3265:C:H3'	75:RB:3266:A:H8	1.54	0.73
34:BA:130:ARG:HH22	75:RB:1066:G:H21	1.37	0.73
43:KA:287:LEU:HD13	66:HB:206:ILE:HG22	1.69	0.73
68:JB:98:LYS:NZ	75:RB:2832:C:OP1	2.20	0.73
75:RB:1549:A:O2'	75:RB:1550:A:OP1	2.07	0.73
1:aa:1028:A:OP1	1:aa:1131:G:N2	2.21	0.72
2:ba:23:LEU:HD11	8:ja:64:ILE:HG12	1.71	0.72
59:AB:29:PRO:HD2	75:RB:155:G:H5''	1.70	0.72
62:DB:269:ARG:NH2	75:RB:2385:C:O2'	2.21	0.72
64:FB:70:LYS:NZ	75:RB:2986:U:OP1	2.18	0.72
74:PB:37:LYS:NZ	75:RB:1588:G:OP1	2.21	0.72
1:aa:510:A:O2'	1:aa:544:G:OP1	2.07	0.72
1:aa:851:G:H3'	1:aa:852:A:H8	1.54	0.72
1:aa:1571:G:OP1	16:ra:96:GLN:NE2	2.20	0.72
24:za:122:GLU:HB2	29:fb:50:LYS:HE3	1.70	0.72
40:HA:143:ARG:HB3	60:BB:100:GLU:OE2	1.88	0.72
64:FB:90:ARG:HG3	64:FB:104:LEU:HD11	1.70	0.72
40:HA:27:CYS:SG	40:HA:31:ARG:NH2	2.62	0.72
43:KA:190:ASP:HB2	43:KA:193:ILE:HG22	1.70	0.72
3:ca:117:HIS:HB3	3:ca:169:ARG:HH12	1.53	0.72
37:EA:50:SER:HB3	37:EA:68:ALA:HB3	1.71	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:CB:58:GLU:OE1	61:CB:62:LYS:NZ	2.23	0.72
61:CB:162:ARG:NH2	75:RB:1367:A:OP1	2.22	0.72
1:aa:1480:G:H2'	1:aa:1481:A:C8	2.24	0.72
48:PA:59:ARG:NH1	75:RB:198:A:OP2	2.22	0.72
38:FA:127:MET:HB3	38:FA:131:VAL:HG23	1.72	0.72
47:OA:40:ARG:NH1	75:RB:3049:G:OP2	2.22	0.72
49:QA:47:LYS:O	49:QA:112:ARG:NH2	2.23	0.72
66:HB:12:ILE:HD13	66:HB:57:LYS:HG2	1.70	0.72
67:IB:23:ARG:NH1	75:RB:2296:A:OP1	2.22	0.72
13:oa:73:ASN:ND2	13:oa:73:ASN:O	2.22	0.72
75:RB:219:A:O2'	75:RB:221:C:OP2	2.06	0.72
1:aa:1298:G:H1	1:aa:1307:U:H3	1.36	0.72
20:va:18:ARG:O	26:cb:22:ARG:NH2	2.23	0.72
22:xa:42:CYS:HB2	22:xa:61:CYS:HB2	1.72	0.72
53:UA:55:ARG:NH2	75:RB:345:G:O6	2.23	0.72
8:ja:197:ASN:OD1	8:ja:198:ARG:N	2.22	0.72
8:ja:198:ARG:NH2	8:ja:206:GLU:OE2	2.23	0.72
9:ka:120:ASP:OD2	9:ka:121:ALA:N	2.22	0.72
64:FB:26:SER:OG	75:RB:1184:U:O4	2.07	0.72
75:RB:2100:A:H2'	75:RB:2101:A:H8	1.55	0.72
1:aa:160:A:OP1	30:gb:85:ARG:NH1	2.23	0.72
1:aa:910:A:H5''	12:na:66:ARG:HB3	1.70	0.72
1:aa:1510:G:N7	16:ra:114:ARG:NH1	2.37	0.72
28:eb:77:ALA:O	28:eb:81:ARG:HG3	1.90	0.72
36:DA:36:GLU:OE2	36:DA:163:ARG:NH1	2.22	0.72
40:HA:147:ARG:NH2	75:RB:112:C:OP1	2.21	0.72
59:AB:70:LYS:NZ	75:RB:2214:G:N7	2.30	0.72
66:HB:153:ARG:HG2	66:HB:156:LYS:HE3	1.71	0.72
12:na:33:ILE:HD12	12:na:95:ILE:HG23	1.72	0.71
36:DA:57:PRO:HG2	36:DA:78:ALA:HB3	1.71	0.71
37:EA:15:LYS:NZ	37:EA:134:GLU:OE2	2.22	0.71
43:KA:196:LYS:HG3	43:KA:201:GLY:HA3	1.72	0.71
75:RB:1281:C:HO2'	75:RB:1282:A:H8	1.37	0.71
42:JA:10:ARG:NH2	75:RB:1345:U:O2	2.23	0.71
75:RB:26:A:N1	75:RB:57:G:C6	2.58	0.71
62:DB:307:LYS:NZ	62:DB:375:GLN:OE1	2.22	0.71
79:bl:370:GLN:HG2	79:bl:371:GLU:HG3	1.72	0.71
7:ia:132:LYS:HG2	7:ia:156:TYR:HB2	1.71	0.71
45:MA:65:ARG:NH2	75:RB:2981:C:OP1	2.23	0.71
75:RB:1795:A:H2'	75:RB:1796:A:H8	1.55	0.71
10:la:64:SER:HA	10:la:67:LYS:HD3	1.73	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:3158:G:H2'	75:RB:3159:C:O4'	1.90	0.71
75:RB:3339:U:H3'	75:RB:3340:G:H5''	1.73	0.71
6:ha:20:VAL:HG23	6:ha:316:THR:HA	1.72	0.71
12:na:117:ARG:HH21	27:db:49:ALA:HB2	1.55	0.71
34:BA:146:ILE:HD12	57:YA:28:ARG:HD3	1.70	0.71
39:GA:16:MET:HE1	39:GA:124:GLU:HG3	1.72	0.71
75:RB:3012:A:H2'	75:RB:3013:A:H8	1.56	0.71
62:DB:368:LYS:HD2	75:RB:3045:A:H4'	1.72	0.71
75:RB:27:C:O2'	75:RB:60:G:N3	2.23	0.71
80:cl:19:G:H5''	80:cl:20:A:C5	2.26	0.71
1:aa:1399:G:N1	1:aa:1411:C:N3	2.31	0.71
25:bb:53:GLY:HA3	75:RB:2433:A:H4'	1.71	0.71
63:EB:315:ARG:NH2	75:RB:1364:C:OP1	2.24	0.71
71:MB:95:PRO:O	71:MB:98:ALA:HB3	1.90	0.71
75:RB:62:A:N3	75:RB:77:U:O2'	2.22	0.71
25:bb:137:MET:HE1	25:bb:188:PHE:HZ	1.56	0.71
5:ga:39:PRO:O	5:ga:76:ASN:ND2	2.23	0.70
6:ha:21:VAL:HA	6:ha:38:SER:HA	1.73	0.70
12:na:129:ILE:HG21	27:db:44:ILE:HD13	1.72	0.70
34:BA:8:ARG:HH11	75:RB:2753:C:H1'	1.55	0.70
63:EB:210:PRO:HD2	63:EB:231:VAL:HG22	1.71	0.70
75:RB:11:A:H61	76:SB:148:C:H42	1.39	0.70
8:ja:35:PRO:HD2	8:ja:83:PRO:HG2	1.73	0.70
41:IA:9:ARG:NH2	75:RB:1434:G:N7	2.39	0.70
66:HB:76:MET:HE2	66:HB:85:PHE:HB3	1.73	0.70
75:RB:40:G:N2	75:RB:2800:A:N7	2.39	0.70
1:aa:92:G:OP1	1:aa:401:A:N6	2.22	0.70
1:aa:495:C:H2'	1:aa:496:A:O4'	1.90	0.70
1:aa:876:A:H2'	1:aa:877:G:C8	2.27	0.70
35:CA:17:ARG:H	74:PB:76:ARG:HG2	1.55	0.70
56:XA:79:ASP:OD1	56:XA:82:THR:OG1	2.07	0.70
61:CB:17:LYS:NZ	75:RB:1354:G:O3'	2.24	0.70
75:RB:52:G:H4'	75:RB:815:G:H4'	1.73	0.70
1:aa:889:C:OP1	25:bb:136:ARG:NH1	2.24	0.70
8:ja:11:ARG:HD3	8:ja:21:ASP:O	1.92	0.70
36:DA:54:ARG:NH2	75:RB:2169:U:OP1	2.20	0.70
54:VA:16:LYS:HB3	54:VA:42:ARG:HH12	1.57	0.70
75:RB:2721:U:OP2	75:RB:2723:C:N4	2.24	0.70
1:aa:422:G:H1'	30:gb:59:GLN:HE21	1.56	0.70
1:aa:1157:A:O2'	27:db:85:ARG:NH1	2.24	0.70
9:ka:93:MET:HE2	9:ka:104:PRO:HB2	1.71	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:WA:64:THR:HG23	55:WA:65:THR:HG23	1.73	0.70
75:RB:2879:U:H2'	75:RB:2880:U:H6	1.55	0.70
1:aa:1057:U:O2'	1:aa:1058:G:O5'	2.09	0.70
6:ha:120:SER:HB3	6:ha:133:ALA:HB3	1.74	0.70
33:AA:66:ARG:NE	75:RB:2511:U:OP1	2.24	0.70
64:FB:94:PRO:HD3	75:RB:1179:C:H4'	1.72	0.70
1:aa:824:U:O2	1:aa:858:G:N2	2.25	0.70
1:aa:1478:C:O2	1:aa:1542:G:N2	2.25	0.70
4:da:11:ILE:HD12	4:da:45:LEU:HD21	1.74	0.70
43:KA:207:MET:HB2	43:KA:232:ALA:HB2	1.74	0.70
13:oa:99:VAL:HG12	13:oa:100:SER:H	1.56	0.70
64:FB:15:ASP:HB2	64:FB:122:ARG:HB3	1.74	0.70
75:RB:26:A:N1	75:RB:57:G:O6	2.25	0.70
75:RB:653:A:OP2	75:RB:2865:U:O2'	2.09	0.70
75:RB:1632:G:N2	75:RB:1635:A:OP2	2.23	0.70
75:RB:2756:U:H5''	75:RB:2757:C:H5'	1.72	0.70
75:RB:2942:G:O2'	75:RB:2945:C:OP2	2.09	0.70
77:TB:12:U:OP2	77:TB:67:C:O2'	2.08	0.70
12:na:74:ALA:HB1	12:na:115:ALA:HB2	1.74	0.70
43:KA:212:ASP:OD1	43:KA:213:GLU:N	2.25	0.70
4:da:37:VAL:HG21	4:da:42:VAL:HG23	1.73	0.70
28:eb:33:VAL:HG21	28:eb:41:LYS:HG2	1.74	0.70
58:ZA:83:ARG:NH1	75:RB:1686:U:O4	2.25	0.70
70:LB:208:LEU:HD11	70:LB:214:PRO:HG3	1.74	0.70
75:RB:185:A:N3	75:RB:206:C:O2'	2.23	0.70
18:ta:94:SER:HB3	18:ta:102:PHE:HD2	1.57	0.69
33:AA:26:GLU:OE2	35:CA:129:ARG:NH1	2.25	0.69
62:DB:21:ARG:NH1	62:DB:272:GLN:OE1	2.25	0.69
1:aa:1241:G:H2'	1:aa:1242:A:H8	1.56	0.69
7:ia:45:ARG:NH1	7:ia:85:GLU:OE1	2.25	0.69
39:GA:31:ASN:HD21	39:GA:115:SER:HB3	1.56	0.69
53:UA:52:LYS:NZ	75:RB:362:G:OP2	2.24	0.69
79:bl:359:ARG:HG3	79:bl:366:GLU:HG2	1.72	0.69
1:aa:25:C:N4	28:eb:10:TYR:O	2.25	0.69
24:za:85:PRO:HA	24:za:88:GLN:HE22	1.56	0.69
75:RB:17:G:H2'	75:RB:18:G:C8	2.26	0.69
1:aa:1092:A:H2'	1:aa:1093:A:C8	2.27	0.69
36:DA:147:ARG:HG2	36:DA:157:ILE:HG22	1.73	0.69
61:CB:63:GLU:O	61:CB:67:LEU:HD12	1.93	0.69
75:RB:563:C:H2'	75:RB:564:A:H8	1.56	0.69
75:RB:1673:A:N1	75:RB:1689:G:O6	2.25	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:xa:69:THR:HG21	22:xa:74:ARG:HD2	1.73	0.69
30:gb:52:ILE:HA	30:gb:113:LEU:HG	1.74	0.69
75:RB:720:G:O2'	75:RB:756:C:O2'	2.10	0.69
77:TB:22:A:H2'	77:TB:23:A:C8	2.26	0.69
1:aa:1106:G:O4'	20:va:7:ASN:ND2	2.25	0.69
3:ca:84:TYR:HB2	3:ca:215:LEU:HD21	1.75	0.69
9:ka:14:LEU:HD23	9:ka:20:PHE:CZ	2.28	0.69
45:MA:65:ARG:HD2	75:RB:1449:A:H5''	1.74	0.69
47:OA:6:GLU:HB2	47:OA:15:ILE:HB	1.74	0.69
79:bl:150:MET:HG2	79:bl:155:THR:HG22	1.75	0.69
1:aa:494:G:N7	1:aa:495:C:N4	2.41	0.69
1:aa:1185:U:H3	1:aa:1464:G:H1	0.75	0.69
1:aa:12:U:HO2'	1:aa:1303:G:HO2'	1.39	0.69
1:aa:755:U:H2'	1:aa:756:U:C6	2.26	0.69
1:aa:1044:A:OP1	20:va:19:ARG:NH2	2.26	0.69
1:aa:1386:U:OP1	10:la:18:ARG:NH2	2.25	0.69
1:aa:1580:G:H1'	9:ka:160:ARG:HH12	1.58	0.69
3:ca:109:PRO:O	3:ca:112:GLN:NE2	2.26	0.69
31:hb:60:ALA:HA	31:hb:91:LYS:HB2	1.73	0.69
34:BA:8:ARG:NH1	75:RB:2753:C:H1'	2.08	0.69
34:BA:50:LYS:NZ	75:RB:2748:G:OP1	2.23	0.69
43:KA:239:TYR:HA	43:KA:242:VAL:HG12	1.74	0.69
71:MB:55:ALA:HB1	71:MB:71:CYS:SG	2.33	0.69
75:RB:903:G:H1'	75:RB:1586:A:N6	2.08	0.69
75:RB:1051:A:N3	75:RB:2630:U:O2'	2.26	0.69
1:aa:927:A:H2'	1:aa:928:A:H8	1.58	0.69
6:ha:266:ALA:HA	6:ha:271:ILE:HG22	1.75	0.69
41:IA:46:ASP:OD1	42:JA:177:ARG:NH1	2.18	0.69
45:MA:47:TYR:OH	45:MA:76:ARG:NH2	2.25	0.69
48:PA:47:ILE:HD12	48:PA:118:LEU:HD21	1.75	0.69
62:DB:229:TYR:O	75:RB:1882:A:O2'	2.10	0.69
68:JB:100:TYR:O	75:RB:2892:G:O2'	2.11	0.69
75:RB:3188:C:H2'	75:RB:3189:G:H8	1.56	0.69
44:LA:124:TYR:OH	75:RB:1719:U:OP2	2.09	0.69
61:CB:151:TYR:OH	61:CB:184:GLU:OE2	2.08	0.69
1:aa:704:C:OP1	1:aa:743:G:O2'	2.09	0.68
25:bb:124:HIS:HA	25:bb:137:MET:O	1.93	0.68
75:RB:265:G:OP2	75:RB:316:A:N6	2.26	0.68
75:RB:1041:C:H2'	75:RB:1042:C:C6	2.28	0.68
75:RB:1223:U:O2'	75:RB:1290:A:N1	2.26	0.68
75:RB:2298:G:OP2	75:RB:2298:G:N2	2.23	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:SB:130:G:H2'	76:SB:131:G:C8	2.29	0.68
75:RB:2572:G:C2	75:RB:2573:G:N7	2.61	0.68
5:ga:73:LEU:HD11	5:ga:80:ILE:HD13	1.76	0.68
29:fb:79:VAL:HG21	29:fb:143:LYS:HB3	1.75	0.68
62:DB:266:THR:HG21	75:RB:2880:U:H5'	1.74	0.68
75:RB:6:A:H2	76:SB:154:G:C2	2.11	0.68
13:oa:14:ARG:NH1	13:oa:19:ASN:OD1	2.27	0.68
24:za:10:ARG:NH1	24:za:11:ALA:O	2.26	0.68
39:GA:15:ARG:HB2	75:RB:3036:A:H5''	1.76	0.68
41:IA:26:ARG:NH2	75:RB:942:U:OP2	2.25	0.68
60:BB:118:ARG:NH2	69:KB:137:ASP:OD1	2.26	0.68
74:PB:13:TYR:OH	75:RB:1850:C:O2	2.10	0.68
1:aa:499:A:N6	1:aa:502:G:OP1	2.25	0.68
1:aa:1147:A:OP1	27:db:2:THR:N	2.27	0.68
9:ka:13:LYS:HG3	9:ka:19:THR:HA	1.75	0.68
13:oa:124:ARG:NH2	17:sa:132:TYR:OH	2.26	0.68
63:EB:358:ILE:HG22	63:EB:359:ASN:H	1.59	0.68
75:RB:811:A:HO2'	75:RB:2405:G:HO2'	1.38	0.68
80:cl:21:A:O2'	80:cl:22:G:O4'	2.11	0.68
6:ha:109:ARG:HE	6:ha:110:ARG:H	1.42	0.68
25:bb:39:THR:O	25:bb:41:ARG:NH1	2.26	0.68
30:gb:31:ARG:HG2	30:gb:103:ILE:HG22	1.76	0.68
30:gb:80:GLY:HA2	30:gb:85:ARG:HG3	1.75	0.68
31:hb:30:LEU:O	31:hb:34:ASN:ND2	2.25	0.68
40:HA:6:PHE:CD1	59:AB:43:VAL:HG13	2.28	0.68
75:RB:397:A:HO2'	75:RB:401:C:HO2'	1.41	0.68
75:RB:1236:C:OP2	75:RB:1250:G:N1	2.25	0.68
1:aa:1060:U:O2'	1:aa:1062:C:OP2	2.12	0.68
1:aa:1602:G:OP2	1:aa:1604:C:N4	2.26	0.68
2:ba:25:ARG:NH2	8:ja:60:GLU:OE1	2.27	0.68
11:ma:64:MET:HB3	11:ma:94:LYS:HB3	1.76	0.68
17:sa:103:ILE:HD12	17:sa:116:ILE:HD11	1.75	0.68
75:RB:2968:A:H2'	80:cl:74:C:H5''	1.76	0.68
1:aa:72:A:H61	1:aa:79:A:H61	1.42	0.68
24:za:89:ARG:HD3	24:za:208:TYR:HA	1.76	0.68
80:cl:53:G:H2'	80:cl:54:A:C8	2.29	0.68
1:aa:646:G:C6	1:aa:705:A:N1	2.62	0.68
1:aa:1044:A:H5''	20:va:19:ARG:NH2	2.04	0.68
16:ra:53:ALA:HB3	16:ra:56:LYS:HG2	1.76	0.68
37:EA:92:GLU:OE2	37:EA:95:ARG:NH2	2.26	0.68
38:FA:22:ALA:O	38:FA:23:LYS:HG3	1.93	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:TA:24:ASP:OD2	52:TA:25:ARG:N	2.27	0.68
62:DB:10:ARG:HH11	62:DB:10:ARG:HG3	1.58	0.68
75:RB:1622:G:O2'	75:RB:1640:A:N1	2.23	0.68
1:aa:1343:C:O2'	1:aa:1345:G:N7	2.25	0.68
1:aa:1541:C:H4'	1:aa:1547:G:C6	2.29	0.68
6:ha:271:ILE:HG13	6:ha:285:LEU:HB2	1.74	0.68
35:CA:64:LYS:HD3	35:CA:67:ARG:HH21	1.59	0.68
40:HA:114:ARG:HD2	40:HA:137:VAL:HG11	1.74	0.68
58:ZA:90:LYS:HB3	58:ZA:99:ARG:HH12	1.58	0.68
59:AB:48:ARG:NH2	59:AB:52:GLY:O	2.25	0.68
1:aa:1799:G:N7	12:na:146:ARG:NH1	2.43	0.67
2:ba:33:ILE:HG22	2:ba:35:PRO:HD3	1.75	0.67
33:AA:207:PHE:O	33:AA:210:ILE:HG22	1.94	0.67
66:HB:80:ALA:HB1	66:HB:144:ASN:HD21	1.59	0.67
75:RB:2200:A:H3'	75:RB:2201:A:H8	1.58	0.67
1:aa:646:G:C2	1:aa:705:A:H2	2.11	0.67
18:ta:46:ALA:HA	18:ta:50:LYS:HE2	1.75	0.67
75:RB:117:U:O2	75:RB:120:G:O2'	2.10	0.67
75:RB:834:G:O2'	75:RB:1860:A:N3	2.26	0.67
1:aa:649:C:O2	1:aa:703:G:C2	2.47	0.67
15:qa:97:ARG:HH21	15:qa:120:ALA:HA	1.59	0.67
18:ta:33:GLN:HG3	18:ta:73:ASN:HB3	1.77	0.67
38:FA:102:ALA:HB1	38:FA:111:ILE:HD11	1.74	0.67
76:SB:36:G:O2'	76:SB:104:A:N1	2.26	0.67
1:aa:1184:C:H41	13:oa:137:LYS:HE2	1.58	0.67
33:AA:201:ASN:HA	33:AA:204:LYS:HD3	1.76	0.67
40:HA:68:ARG:NH1	40:HA:124:ASP:O	2.27	0.67
6:ha:117:ASP:OD1	6:ha:118:VAL:N	2.27	0.67
62:DB:54:THR:HG22	62:DB:368:LYS:HE3	1.75	0.67
62:DB:161:ARG:HG2	62:DB:185:GLN:HA	1.75	0.67
63:EB:72:THR:OG1	75:RB:2395:A:H5''	1.95	0.67
75:RB:633:C:H2'	75:RB:634:A:H8	1.58	0.67
1:aa:518:G:HO2'	1:aa:519:A:H8	1.42	0.67
8:ja:12:LEU:HD21	8:ja:22:LYS:HG3	1.77	0.67
10:la:135:PHE:O	10:la:143:ARG:NH1	2.25	0.67
14:pa:45:GLN:HE21	14:pa:49:GLN:CB	2.08	0.67
30:gb:196:ILE:HD13	30:gb:199:LYS:HZ3	1.59	0.67
31:hb:66:PRO:HA	31:hb:98:THR:HG22	1.76	0.67
50:RA:46:ILE:HB	50:RA:71:VAL:HG22	1.76	0.67
79:bl:315:MET:HE1	79:bl:423:PHE:CE1	2.29	0.67
2:ba:87:ALA:HA	2:ba:90:LYS:HE2	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:UA:76:SER:HB2	53:UA:79:ARG:HD3	1.75	0.67
75:RB:2254:G:O2'	75:RB:2256:C:N4	2.27	0.67
75:RB:3066:A:H2'	75:RB:3067:A:H8	1.59	0.67
79:bl:37:ILE:HG23	79:bl:93:VAL:HG12	1.75	0.67
6:ha:192:TRP:CD1	6:ha:199:LEU:HB3	2.30	0.67
23:ya:43:ARG:HD2	23:ya:44:PHE:HD1	1.58	0.67
37:EA:149:ARG:NH2	77:TB:16:A:OP1	2.28	0.67
73:OB:29:GLN:HG3	75:RB:750:G:H21	1.60	0.67
75:RB:3053:U:O2'	75:RB:3055:G:OP1	2.12	0.67
6:ha:137:ARG:NH1	6:ha:163:THR:HA	2.10	0.67
10:la:142:ALA:O	10:la:143:ARG:NE	2.24	0.67
11:ma:57:LYS:HB2	11:ma:100:VAL:HB	1.76	0.67
43:KA:43:LYS:NZ	75:RB:1081:U:O3'	2.26	0.67
7:ia:213:PRO:CD	15:qa:19:LYS:HE3	2.25	0.67
16:ra:82:GLY:HA2	16:ra:133:GLY:HA3	1.76	0.67
36:DA:177:LYS:NZ	65:GB:33:GLN:OE1	2.25	0.67
72:NB:7:GLU:HG3	72:NB:9:LYS:HE3	1.77	0.67
28:eb:126:HIS:CE1	28:eb:130:LEU:HD12	2.29	0.66
33:AA:25:PHE:HE2	35:CA:53:VAL:HG12	1.60	0.66
42:JA:67:LEU:HG	42:JA:97:MET:HE1	1.78	0.66
75:RB:1755:A:N1	75:RB:1764:G:O6	2.28	0.66
1:aa:409:C:O2'	30:gb:94:ARG:O	2.13	0.66
1:aa:1356:A:OP1	10:la:72:ARG:NH2	2.27	0.66
4:da:61:TRP:CH2	7:ia:23:GLU:HB3	2.30	0.66
53:UA:21:ARG:NH2	53:UA:41:ALA:O	2.28	0.66
75:RB:1641:G:OP1	75:RB:1816:U:O2'	2.14	0.66
1:aa:98:C:O2	1:aa:429:A:O2'	2.12	0.66
1:aa:1420:U:OP2	15:qa:3:ARG:NH2	2.27	0.66
7:ia:195:LYS:HB3	7:ia:197:LYS:HE2	1.76	0.66
37:EA:25:VAL:HG13	37:EA:27:GLU:H	1.59	0.66
62:DB:235:ARG:NH2	62:DB:269:ARG:O	2.26	0.66
70:LB:210:ASP:HB2	75:RB:3167:G:N7	2.10	0.66
75:RB:1198:G:H2'	75:RB:1199:A:C8	2.29	0.66
1:aa:156:U:H3'	2:ba:119:ARG:HH21	1.61	0.66
3:ca:94:THR:HG23	3:ca:96:THR:HG23	1.77	0.66
29:fb:119:GLY:O	29:fb:149:VAL:N	2.28	0.66
33:AA:157:GLU:HG2	40:HA:19:MET:HE1	1.78	0.66
33:AA:176:VAL:HG11	33:AA:182:LEU:HD11	1.77	0.66
42:JA:45:ASN:ND2	42:JA:130:PRO:O	2.27	0.66
48:PA:46:SER:O	48:PA:121:LYS:NZ	2.24	0.66
60:BB:31:GLY:O	60:BB:35:ILE:HG12	1.94	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:12:U:O2'	1:aa:1303:G:O2'	2.10	0.66
1:aa:477:A:OP2	28:eb:42:ARG:NH2	2.28	0.66
1:aa:1725:C:H4'	1:aa:1726:G:OP1	1.95	0.66
9:ka:118:ARG:HG3	9:ka:142:ARG:NH1	2.10	0.66
75:RB:1793:A:H2'	75:RB:1794:A:C8	2.31	0.66
20:va:72:LYS:HB2	20:va:127:TYR:CE1	2.31	0.66
43:KA:210:LEU:HD12	43:KA:222:PHE:HE2	1.61	0.66
58:ZA:90:LYS:HE3	58:ZA:99:ARG:HH12	1.61	0.66
1:aa:333:G:H2'	1:aa:334:G:H8	1.60	0.66
1:aa:1247:G:N3	17:sa:60:ARG:NH2	2.43	0.66
18:ta:65:VAL:HA	18:ta:68:GLU:HG2	1.78	0.66
25:bb:70:LEU:HD22	25:bb:82:ARG:HG2	1.78	0.66
31:hb:101:ILE:HD11	31:hb:122:VAL:HG11	1.76	0.66
60:BB:73:PHE:O	60:BB:76:ASN:ND2	2.29	0.66
63:EB:258:GLU:HG2	63:EB:262:LYS:HE2	1.78	0.66
75:RB:2513:U:O2'	75:RB:2592:A:N6	2.29	0.66
1:aa:1102:U:H1'	29:fb:178:ARG:HD2	1.78	0.66
36:DA:89:TYR:N	36:DA:100:ASN:OD1	2.21	0.66
51:SA:27:ARG:NH1	75:RB:3311:C:OP1	2.24	0.66
62:DB:364:ASP:OD2	62:DB:368:LYS:NZ	2.25	0.66
1:aa:784:C:N4	1:aa:788:G:OP1	2.28	0.66
4:da:3:ILE:HG21	4:da:8:ARG:HE	1.60	0.66
49:QA:71:LEU:HD22	49:QA:102:VAL:HG22	1.78	0.66
69:KB:17:TRP:NE1	75:RB:802:G:O2'	2.28	0.66
75:RB:621:C:O2'	75:RB:622:U:OP2	2.14	0.66
75:RB:1024:G:H2'	75:RB:1025:G:C8	2.31	0.66
1:aa:126:U:H5'	8:ja:148:ARG:HE	1.61	0.66
1:aa:619:A:O2'	1:aa:625:A:N1	2.27	0.66
14:pa:56:ASP:OD2	22:xa:54:THR:OG1	2.12	0.66
16:ra:19:VAL:HG11	16:ra:78:TYR:CZ	2.30	0.66
27:db:88:SER:O	27:db:92:ARG:HB2	1.95	0.66
61:CB:101:THR:HG23	61:CB:132:VAL:HG12	1.78	0.66
72:NB:2:PRO:HA	75:RB:1745:G:H21	1.61	0.66
75:RB:1700:U:H3	75:RB:1739:G:H1	1.41	0.66
79:bl:318:VAL:HA	79:bl:414:LEU:HA	1.77	0.66
20:va:69:LYS:HE2	29:fb:234:PHE:CD1	2.31	0.65
24:za:46:ARG:HH21	24:za:50:ILE:HD11	1.60	0.65
37:EA:88:VAL:HG22	37:EA:112:ILE:HG23	1.77	0.65
43:KA:91:GLY:O	43:KA:94:ASN:ND2	2.29	0.65
75:RB:2144:G:O2'	75:RB:2182:U:OP1	2.13	0.65
6:ha:216:SER:HB3	6:ha:220:SER:H	1.61	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:MA:29:THR:HG21	45:MA:147:ILE:HD11	1.78	0.65
64:FB:53:VAL:HG22	64:FB:139:ARG:NH1	2.05	0.65
75:RB:2658:G:H2'	75:RB:2659:A:H8	1.60	0.65
1:aa:1165:A:H2'	1:aa:1166:C:H6	1.60	0.65
1:aa:1567:G:H5''	13:oa:133:GLY:HA3	1.77	0.65
20:va:95:THR:HG23	20:va:97:GLN:H	1.60	0.65
36:DA:2:GLY:HA2	36:DA:207:VAL:HG23	1.79	0.65
75:RB:346:A:N3	75:RB:350:A:O2'	2.29	0.65
1:aa:481:A:N6	1:aa:544:G:O6	2.29	0.65
1:aa:1523:A:H4'	1:aa:1525:U:H5	1.60	0.65
11:ma:88:PHE:HB3	21:wa:52:PHE:HB3	1.78	0.65
30:gb:67:VAL:O	30:gb:102:CYS:N	2.29	0.65
38:FA:91:MET:HE1	38:FA:157:ALA:HA	1.77	0.65
61:CB:232:ARG:O	61:CB:235:TYR:N	2.29	0.65
1:aa:206:U:H2'	1:aa:207:A:C8	2.32	0.65
1:aa:1282:G:O6	1:aa:1436:U:O4	2.14	0.65
1:aa:1510:G:N2	1:aa:1513:A:OP2	2.30	0.65
12:na:62:VAL:HG12	12:na:64:ALA:H	1.61	0.65
33:AA:151:HIS:ND1	33:AA:177:LYS:HA	2.12	0.65
63:EB:112:ARG:NH1	75:RB:1432:G:OP2	2.30	0.65
66:HB:158:LYS:NZ	75:RB:2849:C:N3	2.45	0.65
75:RB:405:A:C2	76:SB:17:A:H1'	2.31	0.65
6:ha:203:LEU:HD13	6:ha:234:TRP:CE3	2.31	0.65
18:ta:69:ARG:HA	18:ta:72:ILE:HA	1.77	0.65
24:za:84:ARG:O	24:za:88:GLN:NE2	2.30	0.65
33:AA:47:PHE:O	75:RB:2520:G:O2'	2.08	0.65
39:GA:88:TRP:CZ2	39:GA:96:MET:HE2	2.32	0.65
40:HA:10:LEU:HG	40:HA:19:MET:HE2	1.78	0.65
41:IA:29:PRO:HB2	75:RB:967:G:H5'	1.78	0.65
41:IA:62:HIS:NE2	75:RB:69:U:OP1	2.25	0.65
53:UA:5:THR:OG1	75:RB:887:A:OP1	2.10	0.65
62:DB:262:ARG:HB2	64:FB:69:THR:HG21	1.78	0.65
70:LB:189:ILE:HA	70:LB:192:ILE:HG22	1.78	0.65
75:RB:581:G:H2'	75:RB:582:C:H6	1.61	0.65
79:bl:23:LEU:HD11	79:bl:111:ILE:HD11	1.78	0.65
1:aa:1550:G:N2	1:aa:1577:A:OP2	2.29	0.65
17:sa:90:ARG:HB3	17:sa:126:ALA:HB2	1.79	0.65
18:ta:64:SER:HB3	18:ta:82:LYS:NZ	2.12	0.65
38:FA:25:ILE:HD11	38:FA:45:PHE:CE2	2.32	0.65
40:HA:202:ARG:NH1	69:KB:27:GLN:OE1	2.29	0.65
49:QA:122:ARG:HH11	52:TA:88:MET:HE1	1.61	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:DB:312:MET:HE2	75:RB:3316:C:H5'	1.78	0.65
1:aa:1362:A:H2'	1:aa:1363:G:C8	2.32	0.65
1:aa:1690:U:O4	1:aa:1730:G:N2	2.30	0.65
2:ba:64:PHE:HD2	2:ba:65:LYS:HG2	1.60	0.65
6:ha:126:ASP:HB3	6:ha:128:ARG:HD3	1.78	0.65
75:RB:1207:A:N3	75:RB:2852:U:O2'	2.28	0.65
75:RB:1795:A:H2'	75:RB:1796:A:C8	2.31	0.65
31:hb:31:GLU:O	31:hb:38:LYS:NZ	2.24	0.65
56:XA:82:THR:O	56:XA:86:ASN:ND2	2.30	0.65
74:PB:20:THR:HB	74:PB:32:TYR:CD2	2.31	0.65
75:RB:1242:U:O4	75:RB:1267:A:O2'	2.15	0.65
75:RB:3212:G:H2'	75:RB:3213:C:C6	2.32	0.65
79:bl:100:VAL:HG13	79:bl:102:ASP:H	1.62	0.65
10:la:15:CYS:SG	10:la:93:LYS:HG2	2.37	0.65
49:QA:79:GLN:HA	49:QA:85:LEU:HD13	1.79	0.65
52:TA:44:ARG:HA	52:TA:53:MET:HE3	1.79	0.65
55:WA:24:LYS:HB2	55:WA:75:GLN:NE2	2.12	0.65
75:RB:2300:G:O2'	75:RB:2303:U:OP2	2.14	0.65
1:aa:397:C:H2'	1:aa:398:C:C6	2.32	0.64
1:aa:1529:G:H21	10:la:76:ARG:HE	1.45	0.64
1:aa:1585:A:HO2'	80:cl:31:G:HO2'	1.41	0.64
32:ib:27:ARG:HD3	32:ib:28:PRO:HD3	1.77	0.64
38:FA:84:THR:HG23	38:FA:85:LYS:HG3	1.79	0.64
45:MA:10:ASN:O	45:MA:10:ASN:ND2	2.30	0.64
56:XA:64:ARG:HD2	56:XA:65:ILE:HG12	1.79	0.64
62:DB:243:ARG:NH2	75:RB:1903:C:O2	2.30	0.64
74:PB:71:ARG:NH2	75:RB:1737:C:OP1	2.30	0.64
75:RB:546:C:H2'	75:RB:547:C:H6	1.62	0.64
1:aa:396:G:OP1	1:aa:1739:U:O2'	2.14	0.64
1:aa:1185:U:O2	1:aa:1464:G:N2	2.23	0.64
24:za:63:GLN:O	24:za:67:ARG:HG3	1.97	0.64
34:BA:82:ASN:ND2	75:RB:972:C:OP1	2.30	0.64
45:MA:30:ARG:NH2	45:MA:62:ARG:HE	1.95	0.64
45:MA:61:ARG:NH1	45:MA:76:ARG:O	2.29	0.64
57:YA:14:ARG:HB3	57:YA:26:ILE:HD13	1.79	0.64
58:ZA:92:TYR:CE1	58:ZA:96:HIS:CE1	2.85	0.64
75:RB:1035:C:H2'	75:RB:1036:C:H6	1.62	0.64
75:RB:3103:U:H2'	75:RB:3104:G:H8	1.62	0.64
1:aa:493:C:O2	1:aa:494:G:N2	2.30	0.64
5:ga:54:ILE:HG13	5:ga:55:GLY:H	1.61	0.64
28:eb:39:ARG:NH1	28:eb:40:CYS:SG	2.70	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:DA:37:ARG:O	36:DA:92:ARG:HD2	1.97	0.64
40:HA:196:GLN:OE1	69:KB:15:LYS:NZ	2.31	0.64
56:XA:99:ARG:HA	56:XA:102:LEU:HD13	1.78	0.64
66:HB:170:LYS:HA	66:HB:177:ASN:HA	1.79	0.64
1:aa:1085:U:H4'	24:za:159:ARG:HH12	1.63	0.64
1:aa:1202:G:OP1	1:aa:1203:G:O2'	2.13	0.64
9:ka:11:ASP:OD1	9:ka:13:LYS:NZ	2.31	0.64
23:ya:13:LYS:O	23:ya:17:GLN:HG2	1.98	0.64
25:bb:222:LYS:HG3	25:bb:223:PHE:H	1.62	0.64
39:GA:18:LEU:HD23	39:GA:56:CYS:HB3	1.79	0.64
57:YA:29:MET:HE1	57:YA:46:PHE:CD1	2.29	0.64
57:YA:158:VAL:HG21	57:YA:176:LEU:HD11	1.79	0.64
80:cl:61:C:H2'	80:cl:62:C:C6	2.31	0.64
1:aa:70:C:H2'	1:aa:71:C:H6	1.62	0.64
1:aa:148:C:H42	1:aa:162:A:H61	1.45	0.64
1:aa:927:A:H2'	1:aa:928:A:C8	2.33	0.64
1:aa:1557:C:OP1	17:sa:51:ARG:NH2	2.23	0.64
17:sa:106:TYR:HD2	17:sa:108:GLY:H	1.44	0.64
37:EA:140:VAL:HG23	37:EA:143:ARG:HH12	1.62	0.64
38:FA:109:ARG:NH1	38:FA:131:VAL:O	2.31	0.64
52:TA:112:ARG:HD2	52:TA:115:GLN:HE21	1.60	0.64
69:KB:62:THR:HG1	75:RB:101:C:HO2'	1.40	0.64
74:PB:37:LYS:HB2	74:PB:58:ARG:HH21	1.63	0.64
75:RB:563:C:H2'	75:RB:564:A:C8	2.31	0.64
75:RB:730:A:N6	75:RB:745:G:O2'	2.31	0.64
79:bl:337:SER:HB3	79:bl:368:GLU:HB2	1.78	0.64
1:aa:1103:U:OP1	29:fb:169:THR:OG1	2.16	0.64
1:aa:1520:G:H2'	1:aa:1521:G:C8	2.33	0.64
15:qa:83:ASP:OD1	24:za:93:LYS:NZ	2.29	0.64
40:HA:203:TYR:HE1	63:EB:50:ASN:OD1	1.80	0.64
45:MA:135:GLY:O	75:RB:1842:C:N4	2.24	0.64
56:XA:122:ARG:HH21	75:RB:3201:C:H5''	1.62	0.64
64:FB:162:GLU:OE1	64:FB:165:ARG:NH2	2.27	0.64
1:aa:1543:U:H4'	1:aa:1544:G:O5'	1.98	0.64
5:ga:54:ILE:HG13	5:ga:55:GLY:N	2.13	0.64
19:ua:43:GLN:HG2	19:ua:44:VAL:HG23	1.78	0.64
32:ib:4:GLN:NE2	32:ib:10:LEU:O	2.31	0.64
1:aa:404:A:H5''	3:ca:25:ARG:HA	1.79	0.64
1:aa:1367:U:O2'	1:aa:1368:C:O2	2.16	0.64
1:aa:1604:C:O2'	1:aa:1606:U:OP2	2.12	0.64
4:da:23:ALA:HB3	4:da:64:TYR:HB2	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:na:95:ILE:HB	12:na:129:ILE:HD13	1.78	0.64
18:ta:34:LYS:HG2	18:ta:76:LEU:HD23	1.79	0.64
19:ua:26:VAL:HG11	19:ua:74:THR:HG23	1.78	0.64
8:ja:104:ASP:OD1	8:ja:110:ARG:NH2	2.31	0.64
29:fb:163:THR:HG22	29:fb:205:ASP:O	1.97	0.64
44:LA:115:ILE:HG23	44:LA:119:MET:HG3	1.79	0.64
48:PA:50:ARG:HB2	48:PA:114:ARG:NH1	2.13	0.64
69:KB:86:PRO:HG2	69:KB:89:LEU:HB3	1.80	0.64
79:bl:1:MET:SD	79:bl:2:SER:N	2.71	0.64
1:aa:34:G:O2'	1:aa:519:A:O2'	2.16	0.64
1:aa:499:A:C5	1:aa:500:G:H1'	2.33	0.64
1:aa:536:U:H1'	2:ba:68:THR:HG21	1.78	0.64
26:cb:1:MET:HE3	29:fb:239:PHE:HE1	1.63	0.64
36:DA:112:VAL:HG21	65:GB:79:VAL:HG13	1.78	0.64
39:GA:101:ASN:ND2	75:RB:1894:G:OP1	2.26	0.64
68:JB:109:ASN:ND2	75:RB:1212:U:H2'	2.11	0.64
75:RB:581:G:H2'	75:RB:582:C:C6	2.32	0.64
11:ma:64:MET:HG3	11:ma:65:PRO:HD3	1.78	0.63
14:pa:5:HIS:HB3	14:pa:117:LEU:HD13	1.78	0.63
34:BA:114:LYS:NZ	34:BA:118:GLU:OE2	2.31	0.63
44:LA:105:LEU:HD23	44:LA:138:LEU:HD23	1.80	0.63
59:AB:10:LEU:HD23	59:AB:12:VAL:H	1.63	0.63
75:RB:1271:U:N3	75:RB:1278:A:N7	2.46	0.63
1:aa:1191:U:H2'	1:aa:1192:G:H8	1.63	0.63
1:aa:1221:A:H4'	4:da:44:LYS:NZ	2.13	0.63
15:qa:24:MET:HG2	15:qa:34:VAL:HG11	1.80	0.63
31:hb:80:LEU:HD11	31:hb:95:PHE:HE1	1.64	0.63
34:BA:148:THR:OG1	57:YA:28:ARG:NH2	2.31	0.63
63:EB:104:MET:HE3	63:EB:108:THR:H	1.62	0.63
66:HB:10:ARG:NH2	66:HB:56:GLU:OE1	2.31	0.63
75:RB:535:G:O2'	75:RB:536:C:O5'	2.14	0.63
79:bl:370:GLN:HG2	79:bl:371:GLU:H	1.63	0.63
15:qa:47:ARG:NH2	15:qa:48:ASN:OD1	2.30	0.63
25:bb:175:GLN:NE2	25:bb:196:GLU:OE1	2.27	0.63
46:NA:123:LEU:HD22	75:RB:1525:U:H3'	1.79	0.63
55:WA:24:LYS:HB2	55:WA:75:GLN:HE22	1.62	0.63
6:ha:77:GLN:HG2	6:ha:119:LEU:HA	1.79	0.63
19:ua:46:GLN:HE22	19:ua:60:MET:HE2	1.63	0.63
41:IA:59:ARG:NH2	55:WA:38:GLN:OE1	2.26	0.63
62:DB:24:ARG:NH1	62:DB:28:LYS:HD2	2.14	0.63
75:RB:1306:A:N7	75:RB:2854:C:O2'	2.30	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:3206:C:N4	75:RB:3254:A:OP1	2.31	0.63
77:TB:28:U:H3	77:TB:51:G:H1	1.46	0.63
1:aa:188:U:H3	1:aa:193:G:H1	1.46	0.63
1:aa:214:A:H62	1:aa:834:A:H5'	1.62	0.63
1:aa:1380:A:O2'	1:aa:1382:C:OP1	2.16	0.63
4:da:25:LYS:HB2	4:da:62:GLN:HB2	1.80	0.63
9:ka:140:LEU:HD23	9:ka:144:ASN:HD21	1.64	0.63
41:IA:35:ALA:HB1	75:RB:39:A:H5''	1.80	0.63
51:SA:111:LEU:HA	51:SA:114:LEU:HD12	1.79	0.63
75:RB:118:G:OP2	75:RB:118:G:N2	2.25	0.63
75:RB:2537:G:H2'	75:RB:2538:C:C2	2.33	0.63
1:aa:136:U:N3	1:aa:177:C:O2'	2.29	0.63
1:aa:1592:G:N2	1:aa:1619:A:OP2	2.26	0.63
26:cb:57:PHE:O	26:cb:61:GLN:HG2	1.98	0.63
28:eb:137:ARG:HA	28:eb:142:ILE:HA	1.81	0.63
34:BA:56:PHE:CZ	34:BA:78:LYS:HG3	2.34	0.63
42:JA:39:ARG:NH1	75:RB:1352:G:OP1	2.31	0.63
75:RB:502:G:H21	75:RB:3259:C:H41	1.45	0.63
75:RB:3103:U:H2'	75:RB:3104:G:C8	2.32	0.63
1:aa:15:U:O2'	1:aa:624:A:N6	2.31	0.63
1:aa:136:U:H3	1:aa:177:C:HO2'	1.46	0.63
6:ha:11:ALA:HB3	6:ha:322:ILE:HG13	1.81	0.63
35:CA:69:LYS:HD2	75:RB:1628:G:OP2	1.98	0.63
35:CA:91:PHE:HB2	35:CA:118:ARG:NH2	2.08	0.63
56:XA:12:VAL:HG12	56:XA:26:VAL:HG22	1.81	0.63
62:DB:49:TYR:CE2	62:DB:171:MET:HE1	2.34	0.63
64:FB:172:SER:HB3	75:RB:3171:C:H42	1.64	0.63
69:KB:46:PHE:HD2	69:KB:47:PRO:HA	1.64	0.63
74:PB:69:ARG:NH2	75:RB:1642:G:OP1	2.28	0.63
1:aa:154:A:H2'	1:aa:155:A:O4'	1.99	0.63
1:aa:849:G:H2'	1:aa:850:G:C8	2.33	0.63
1:aa:964:U:H6	14:pa:61:PRO:HB3	1.64	0.63
1:aa:1795:U:OP2	12:na:147:ARG:NH2	2.30	0.63
3:ca:35:ASN:O	3:ca:37:LYS:HD2	1.99	0.63
13:oa:25:LYS:HD3	13:oa:55:ARG:NE	2.11	0.63
15:qa:78:ARG:HH22	24:za:209:ARG:HH11	1.46	0.63
25:bb:33:LYS:HG3	25:bb:232:HIS:HE2	1.63	0.63
29:fb:105:ARG:HH12	29:fb:107:ARG:HG3	1.64	0.63
29:fb:139:ILE:HG22	29:fb:143:LYS:NZ	2.13	0.63
45:MA:83:ARG:NH2	75:RB:1451:U:OP1	2.23	0.63
75:RB:1250:G:H4'	75:RB:1268:G:H2'	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:2891:C:H42	75:RB:2904:A:H61	1.45	0.63
1:aa:517:U:H2'	1:aa:518:G:C8	2.34	0.63
1:aa:918:G:H5''	75:RB:2200:A:H1'	1.80	0.63
1:aa:1520:G:H2'	1:aa:1521:G:H8	1.63	0.63
8:ja:176:ASP:OD1	8:ja:179:ASN:ND2	2.32	0.63
28:eb:64:LEU:HD23	28:eb:68:ASN:ND2	2.14	0.63
63:EB:381:TYR:HD1	63:EB:384:MET:HE2	1.63	0.63
75:RB:985:C:H2'	75:RB:986:G:C8	2.34	0.63
79:bl:319:GLU:HG3	79:bl:415:ARG:HB3	1.81	0.63
1:aa:1120:U:H5'	67:IB:10:MET:HE3	1.81	0.62
1:aa:1163:C:H42	1:aa:1168:A:N6	1.97	0.62
1:aa:1320:C:OP1	15:qa:7:LYS:N	2.31	0.62
19:ua:82:ALA:HA	19:ua:86:ARG:HD2	1.80	0.62
23:ya:40:TYR:OH	28:eb:35:GLU:OE2	2.15	0.62
28:eb:87:LEU:HD21	28:eb:101:LEU:HD22	1.79	0.62
52:TA:35:ARG:NH1	52:TA:53:MET:SD	2.72	0.62
58:ZA:98:VAL:HG13	58:ZA:99:ARG:H	1.63	0.62
60:BB:71:ARG:O	60:BB:75:LYS:CB	2.46	0.62
70:LB:109:PRO:HG3	70:LB:188:LEU:HD23	1.81	0.62
75:RB:880:C:O2'	75:RB:883:G:O2'	2.14	0.62
1:aa:146:A:N6	1:aa:164:C:H42	1.97	0.62
1:aa:1241:G:N1	1:aa:1253:U:O4	2.32	0.62
69:KB:3:LYS:HE2	69:KB:4:HIS:CE1	2.34	0.62
1:aa:744:G:O2'	1:aa:745:C:OP2	2.17	0.62
1:aa:758:A:OP1	8:ja:187:ARG:NH2	2.32	0.62
1:aa:969:U:OP1	14:pa:128:TYR:OH	2.16	0.62
42:JA:65:ARG:NH1	75:RB:788:G:OP2	2.33	0.62
50:RA:31:TYR:HD1	50:RA:60:ILE:HD11	1.64	0.62
75:RB:1248:A:O2'	75:RB:1251:U:OP1	2.17	0.62
75:RB:1895:G:N1	75:RB:2328:G:OP2	2.27	0.62
79:bl:29:ASN:OD1	79:bl:32:SER:OG	2.13	0.62
1:aa:389:A:H5''	3:ca:22:ARG:HG2	1.81	0.62
1:aa:808:G:H21	20:va:106:PRO:HG3	1.64	0.62
1:aa:851:G:H3'	1:aa:852:A:C8	2.33	0.62
1:aa:1559:U:O4	17:sa:49:ARG:NH2	2.32	0.62
6:ha:19:ASP:OD1	6:ha:39:ARG:HB3	1.98	0.62
6:ha:160:GLU:HG2	6:ha:199:LEU:HD21	1.81	0.62
25:bb:175:GLN:O	25:bb:187:LYS:NZ	2.32	0.62
38:FA:71:THR:HG21	75:RB:3118:A:N1	2.13	0.62
45:MA:4:TYR:OH	75:RB:387:A:OP1	2.17	0.62
62:DB:158:THR:HG23	62:DB:159:ILE:HG12	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:129:U:OP2	1:aa:267:G:N2	2.29	0.62
1:aa:206:U:H2'	1:aa:207:A:H8	1.64	0.62
1:aa:453:C:OP2	8:ja:58:TYR:OH	2.13	0.62
4:da:15:LEU:HD11	4:da:21:LEU:HD22	1.81	0.62
9:ka:70:ASN:HA	9:ka:73:MET:HE3	1.81	0.62
17:sa:104:GLY:O	17:sa:111:PHE:HD2	1.82	0.62
46:NA:56:TYR:HB3	60:BB:79:TYR:HB3	1.81	0.62
58:ZA:109:LYS:C	58:ZA:111:ARG:H	2.04	0.62
62:DB:303:ASP:OD1	62:DB:304:ARG:N	2.33	0.62
69:KB:57:ILE:HG12	69:KB:156:ILE:HG23	1.80	0.62
70:LB:60:THR:HG21	75:RB:613:G:H2'	1.82	0.62
75:RB:1891:A:O2'	75:RB:3049:G:H4'	1.99	0.62
75:RB:2657:U:H2'	75:RB:2658:G:H8	1.64	0.62
1:aa:794:G:C6	8:ja:19:MET:HE3	2.35	0.62
1:aa:1492:G:O6	1:aa:1528:U:O4	2.18	0.62
14:pa:30:VAL:HA	14:pa:33:VAL:HG12	1.81	0.62
31:hb:19:PHE:CE1	31:hb:51:GLN:HB3	2.34	0.62
46:NA:60:SER:HB3	60:BB:70:LEU:HD11	1.80	0.62
75:RB:1026:A:H2'	75:RB:1027:C:C6	2.35	0.62
1:aa:129:U:O3'	1:aa:134:G:N2	2.30	0.62
5:ga:124:VAL:O	5:ga:127:VAL:HG12	2.00	0.62
9:ka:141:ARG:HE	19:ua:64:LYS:HZ2	1.48	0.62
31:hb:82:ARG:HG2	31:hb:82:ARG:HH11	1.65	0.62
51:SA:19:GLU:HB2	51:SA:117:LYS:HG2	1.82	0.62
51:SA:85:ARG:HD2	51:SA:97:LEU:HD13	1.82	0.62
62:DB:17:LEU:HD21	62:DB:236:TRP:HH2	1.65	0.62
71:MB:108:TYR:HB2	71:MB:109:PRO:HD3	1.80	0.62
73:OB:5:LYS:NZ	75:RB:2641:C:OP1	2.31	0.62
75:RB:2191:A:C6	75:RB:2192:G:C8	2.87	0.62
2:ba:110:ARG:HA	2:ba:113:ILE:HB	1.82	0.62
6:ha:165:TRP:CZ2	15:qa:37:GLU:HG2	2.35	0.62
30:gb:79:ARG:HD3	30:gb:91:VAL:HA	1.80	0.62
34:BA:22:LYS:O	43:KA:17:GLN:NE2	2.33	0.62
35:CA:87:LEU:HD21	35:CA:131:PHE:CD1	2.35	0.62
75:RB:19:C:H2'	75:RB:20:G:C8	2.34	0.62
75:RB:1567:G:C2	75:RB:1568:A:H1'	2.35	0.62
1:aa:344:U:O4	1:aa:345:A:N6	2.33	0.62
1:aa:1362:A:H2'	1:aa:1363:G:H8	1.63	0.62
9:ka:17:ARG:NH1	9:ka:18:TRP:HE1	1.94	0.62
24:za:73:GLU:HB2	29:fb:254:THR:HG21	1.82	0.62
29:fb:88:ASP:HA	29:fb:114:VAL:HG12	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:ib:11:LYS:HA	32:ib:55:ILE:HD13	1.82	0.62
37:EA:67:ILE:HD11	75:RB:2678:U:H5'	1.82	0.62
70:LB:99:LEU:HD12	70:LB:101:SER:H	1.64	0.62
72:NB:35:LYS:HG2	72:NB:44:THR:HG23	1.82	0.62
75:RB:1576:C:OP1	75:RB:2519:G:N2	2.33	0.62
75:RB:1578:U:H4'	75:RB:1579:C:OP2	2.00	0.62
75:RB:3275:U:O2'	75:RB:3276:G:OP2	2.16	0.62
1:aa:1032:A:OP1	1:aa:1799:G:O2'	2.17	0.62
1:aa:1131:G:OP2	67:IB:18:ARG:NH2	2.33	0.62
1:aa:1614:C:H2'	1:aa:1615:G:C8	2.35	0.62
2:ba:13:ARG:HH21	2:ba:33:ILE:HD12	1.64	0.62
8:ja:247:THR:HG23	8:ja:250:GLU:H	1.64	0.62
13:oa:39:ARG:HE	13:oa:83:PHE:HE1	1.47	0.62
16:ra:51:LYS:O	16:ra:52:THR:HG22	2.00	0.62
25:bb:144:LYS:HB2	25:bb:206:PRO:HB2	1.80	0.62
66:HB:205:PRO:HG2	66:HB:208:LYS:HG2	1.82	0.62
75:RB:606:C:H2'	75:RB:607:U:C5	2.35	0.62
13:oa:39:ARG:NH1	16:ra:51:LYS:HG3	2.15	0.61
25:bb:39:THR:HB	25:bb:74:GLN:HA	1.80	0.61
71:MB:108:TYR:O	71:MB:110:SER:N	2.33	0.61
75:RB:267:G:N2	75:RB:293:A:OP2	2.22	0.61
1:aa:1537:U:OP1	18:ta:97:SER:OG	2.15	0.61
1:aa:1807:A:H5''	27:db:95:ARG:HH21	1.65	0.61
5:ga:80:ILE:HD12	5:ga:119:PHE:CD2	2.34	0.61
12:na:40:THR:HG21	12:na:111:GLY:HA3	1.81	0.61
24:za:43:TYR:CD2	24:za:44:LYS:HG3	2.35	0.61
29:fb:226:ASP:HA	29:fb:229:MET:HE3	1.82	0.61
34:BA:8:ARG:HH21	34:BA:15:PHE:HD2	1.46	0.61
58:ZA:94:LYS:HB2	58:ZA:99:ARG:HD2	1.81	0.61
75:RB:985:C:H2'	75:RB:986:G:H8	1.64	0.61
75:RB:1236:C:C4	75:RB:1265:G:N2	2.68	0.61
75:RB:2410:U:O2'	75:RB:2962:U:O4	2.18	0.61
1:aa:929:A:H2'	1:aa:930:G:C8	2.34	0.61
1:aa:1163:C:N4	1:aa:1168:A:H61	1.98	0.61
10:la:61:ALA:HB1	10:la:65:ARG:HD2	1.82	0.61
29:fb:150:ARG:HB3	29:fb:232:TYR:CZ	2.34	0.61
32:ib:128:GLN:HA	32:ib:138:PHE:HD1	1.66	0.61
40:HA:23:GLN:HE21	40:HA:122:ASN:CG	2.08	0.61
42:JA:146:GLU:N	75:RB:790:G:OP1	2.20	0.61
57:YA:93:TYR:HB3	57:YA:138:ARG:HH21	1.64	0.61
70:LB:209:ARG:NH2	75:RB:3203:G:O4'	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:687:C:H42	75:RB:702:G:N2	1.98	0.61
75:RB:1249:A:H5'	75:RB:1250:G:H5''	1.80	0.61
8:ja:112:HIS:CD2	8:ja:239:PRO:HA	2.36	0.61
28:eb:107:LEU:HD23	28:eb:110:ARG:HD2	1.82	0.61
37:EA:19:LEU:HD21	37:EA:81:LEU:HD22	1.80	0.61
44:LA:10:LEU:HD22	44:LA:38:ARG:HG2	1.81	0.61
1:aa:1319:U:OP1	1:aa:1332:G:N2	2.20	0.61
1:aa:1373:C:H2'	1:aa:1374:G:C8	2.35	0.61
16:ra:146:GLN:O	16:ra:150:THR:HG23	2.01	0.61
34:BA:93:VAL:HG21	43:KA:41:LYS:HE3	1.82	0.61
70:LB:177:LYS:NZ	75:RB:3255:G:N7	2.48	0.61
75:RB:1231:C:H2'	75:RB:1232:A:H8	1.64	0.61
4:da:32:HIS:ND1	4:da:33:PRO:O	2.33	0.61
6:ha:139:ILE:O	6:ha:140:LYS:HD3	2.01	0.61
6:ha:143:ASN:ND2	6:ha:147:GLU:HB2	2.15	0.61
9:ka:95:ILE:HD12	18:ta:66:LEU:HD12	1.82	0.61
25:bb:121:ILE:HD13	25:bb:164:ILE:HD11	1.80	0.61
30:gb:50:PHE:HB3	30:gb:113:LEU:HD23	1.81	0.61
36:DA:130:SER:OG	36:DA:174:ARG:NH2	2.34	0.61
40:HA:81:TYR:OH	75:RB:911:G:H2'	2.00	0.61
49:QA:55:LYS:O	49:QA:112:ARG:NH1	2.32	0.61
63:EB:227:ASN:ND2	75:RB:210:G:H2'	2.15	0.61
73:OB:18:ARG:NH1	75:RB:972:C:O2'	2.33	0.61
75:RB:550:C:O2'	75:RB:551:A:O4'	2.18	0.61
75:RB:1034:U:H2'	75:RB:1035:C:C5	2.35	0.61
75:RB:2821:G:H2'	75:RB:2822:C:H6	1.66	0.61
1:aa:476:U:H2'	1:aa:477:A:C8	2.36	0.61
1:aa:928:A:H2'	1:aa:929:A:C8	2.36	0.61
10:la:46:ARG:O	10:la:46:ARG:HG2	2.01	0.61
25:bb:27:LYS:NZ	25:bb:49:SER:OG	2.19	0.61
44:LA:21:LYS:NZ	75:RB:1870:G:OP2	2.34	0.61
63:EB:37:PRO:HA	63:EB:40:ILE:HG22	1.82	0.61
75:RB:142:G:H2'	75:RB:143:A:H8	1.66	0.61
75:RB:194:G:N1	75:RB:197:A:OP2	2.32	0.61
1:aa:714:C:O2'	1:aa:715:U:OP1	2.17	0.61
1:aa:753:C:N3	1:aa:809:G:N2	2.48	0.61
1:aa:1608:A:H5''	16:ra:101:ARG:HH22	1.65	0.61
8:ja:241:GLY:O	8:ja:243:GLY:N	2.29	0.61
30:gb:57:ASP:HA	30:gb:109:SER:H	1.66	0.61
57:YA:84:GLN:CD	57:YA:89:TYR:HE1	2.09	0.61
75:RB:396:G:O2'	75:RB:397:A:OP1	2.14	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:2657:U:H2'	75:RB:2658:G:C8	2.36	0.61
1:aa:789:C:HO2'	1:aa:790:U:H6	1.48	0.61
2:ba:112:GLN:HB3	2:ba:116:ARG:HH21	1.66	0.61
6:ha:275:ASP:OD1	6:ha:276:LEU:N	2.34	0.61
15:qa:90:ALA:N	24:za:204:ASP:OD1	2.33	0.61
25:bb:190:PRO:HG2	25:bb:192:VAL:HG23	1.83	0.61
37:EA:82:LEU:HD12	37:EA:131:VAL:HG11	1.82	0.61
40:HA:201:ARG:HH11	40:HA:201:ARG:HG3	1.66	0.61
42:JA:30:VAL:O	42:JA:34:ARG:HG2	2.01	0.61
42:JA:172:LYS:NZ	75:RB:88:A:N7	2.48	0.61
45:MA:121:ASN:HD21	76:SB:13:A:H1'	1.65	0.61
63:EB:97:ASN:HD22	63:EB:105:PHE:HB2	1.64	0.61
63:EB:112:ARG:HH22	75:RB:1431:G:H5''	1.66	0.61
70:LB:141:LYS:NZ	70:LB:180:ASP:OD2	2.28	0.61
1:aa:1798:G:N7	12:na:146:ARG:NH1	2.49	0.61
5:ga:54:ILE:HG21	5:ga:70:ARG:HG3	1.83	0.61
36:DA:64:ARG:NH2	75:RB:2552:U:OP2	2.31	0.61
36:DA:200:ARG:HD2	75:RB:2179:U:OP2	2.01	0.61
38:FA:43:LEU:O	75:RB:3177:A:O2'	2.18	0.61
57:YA:93:TYR:OH	57:YA:95:GLU:OE2	2.15	0.61
75:RB:608:G:H2'	75:RB:609:C:H6	1.64	0.61
6:ha:14:MET:HG3	6:ha:320:ILE:HB	1.83	0.60
34:BA:15:PHE:CD1	34:BA:44:VAL:HG21	2.36	0.60
38:FA:92:ARG:HG2	38:FA:142:GLU:HG2	1.83	0.60
46:NA:78:THR:HG22	46:NA:151:ILE:HG23	1.83	0.60
75:RB:397:A:O2'	75:RB:401:C:O2'	2.17	0.60
75:RB:1945:A:H2'	75:RB:1946:C:C6	2.34	0.60
1:aa:191:U:O4	3:ca:156:ASN:ND2	2.33	0.60
1:aa:824:U:O2	1:aa:858:G:C2	2.54	0.60
9:ka:87:ARG:HD2	18:ta:97:SER:CB	2.31	0.60
18:ta:56:PRO:HB2	18:ta:105:ALA:HB2	1.83	0.60
35:CA:64:LYS:HD3	35:CA:67:ARG:NH2	2.16	0.60
42:JA:139:ARG:NH2	75:RB:746:C:N3	2.44	0.60
52:TA:101:VAL:O	52:TA:126:ARG:NH1	2.34	0.60
76:SB:71:A:N1	76:SB:82:C:O2'	2.35	0.60
1:aa:594:C:H2'	1:aa:595:A:H8	1.66	0.60
16:ra:88:PHE:HD1	16:ra:91:ILE:HD11	1.66	0.60
30:gb:188:THR:O	30:gb:192:LYS:HG2	2.01	0.60
32:ib:85:ILE:HG21	32:ib:118:VAL:HG11	1.83	0.60
37:EA:135:ARG:HD2	37:EA:154:GLN:HG3	1.84	0.60
53:UA:46:LYS:HD2	53:UA:54:ILE:HG23	1.81	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:JB:124:LYS:NZ	75:RB:2894:A:OP2	2.34	0.60
75:RB:1500:C:H2'	75:RB:1501:A:H8	1.67	0.60
75:RB:1755:A:N1	75:RB:1764:G:C6	2.69	0.60
1:aa:432:A:O2'	1:aa:443:U:O2'	2.19	0.60
1:aa:575:G:N2	1:aa:602:U:OP1	2.35	0.60
1:aa:754:U:C2	1:aa:808:G:N1	2.69	0.60
1:aa:1348:A:O2'	1:aa:1349:A:OP1	2.17	0.60
57:YA:81:LEU:HD11	57:YA:92:MET:HB2	1.83	0.60
70:LB:21:HIS:NE2	75:RB:590:C:OP2	2.34	0.60
75:RB:3021:C:H2'	75:RB:3022:G:O4'	2.01	0.60
1:aa:152:G:O2'	30:gb:57:ASP:O	2.18	0.60
20:va:9:ALA:HA	20:va:26:LEU:HD22	1.83	0.60
24:za:184:ARG:O	24:za:188:GLN:HG3	2.01	0.60
37:EA:19:LEU:HA	37:EA:131:VAL:HG12	1.83	0.60
40:HA:6:PHE:CE1	59:AB:43:VAL:HG22	2.37	0.60
48:PA:58:VAL:HG23	48:PA:59:ARG:HG2	1.82	0.60
52:TA:91:ARG:NH1	70:LB:54:ASP:OD2	2.34	0.60
56:XA:21:TYR:CD1	57:YA:161:PRO:HB3	2.37	0.60
58:ZA:117:ARG:HH11	75:RB:1756:C:P	2.24	0.60
73:OB:18:ARG:NH2	75:RB:954:A:OP1	2.34	0.60
75:RB:1231:C:H2'	75:RB:1232:A:C8	2.35	0.60
1:aa:1444:G:H2'	1:aa:1445:C:C6	2.37	0.60
15:qa:32:LYS:HB3	15:qa:47:ARG:NH1	2.17	0.60
30:gb:51:LYS:O	30:gb:113:LEU:HA	2.01	0.60
44:LA:81:ARG:O	75:RB:1910:G:N2	2.25	0.60
49:QA:51:LEU:HD13	63:EB:142:ALA:HB2	1.84	0.60
59:AB:4:SER:HG	59:AB:5:GLN:H	1.50	0.60
69:KB:109:MET:O	69:KB:113:ILE:HG12	2.02	0.60
75:RB:737:C:H2'	75:RB:738:A:C8	2.35	0.60
1:aa:277:G:P	1:aa:277:G:H8	2.24	0.60
6:ha:183:GLY:HA2	6:ha:189:VAL:HG22	1.82	0.60
16:ra:129:ASP:HA	16:ra:135:LEU:HD22	1.84	0.60
28:eb:137:ARG:HH12	28:eb:162:LEU:HG	1.66	0.60
47:OA:46:LEU:HD13	47:OA:51:LEU:HD21	1.83	0.60
75:RB:1767:G:H2'	75:RB:1768:U:O4'	2.02	0.60
1:aa:890:G:H2'	1:aa:891:U:C6	2.36	0.60
6:ha:129:GLN:HB3	6:ha:141:LEU:HD11	1.84	0.60
7:ia:191:ASP:O	7:ia:199:GLY:HA3	2.00	0.60
9:ka:112:ILE:HD12	9:ka:147:ILE:HD13	1.83	0.60
11:ma:76:SER:O	21:wa:40:ARG:NH2	2.35	0.60
15:qa:103:MET:HE2	15:qa:117:VAL:HG12	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:va:29:ILE:HG22	20:va:60:ILE:HG13	1.82	0.60
39:GA:121:ILE:HD11	39:GA:126:ALA:HB2	1.82	0.60
40:HA:67:ARG:HE	75:RB:1547:G:H5''	1.66	0.60
41:IA:128:LYS:HG2	69:KB:179:TYR:CE2	2.37	0.60
42:JA:64:MET:HG2	42:JA:87:ASP:HA	1.83	0.60
53:UA:17:THR:HG22	53:UA:29:LEU:HD21	1.83	0.60
55:WA:63:LYS:HE3	75:RB:2757:C:N3	2.16	0.60
66:HB:47:PRO:HB3	66:HB:171:TRP:CH2	2.37	0.60
75:RB:1272:G:N2	75:RB:1275:A:OP2	2.35	0.60
75:RB:2199:G:O2'	75:RB:2201:A:N6	2.27	0.60
76:SB:106:C:H4'	76:SB:107:G:H5''	1.83	0.60
25:bb:100:PHE:HD1	25:bb:181:LEU:HD23	1.66	0.60
59:AB:30:SER:HA	59:AB:33:LYS:HB2	1.83	0.60
62:DB:10:ARG:NH1	75:RB:2879:U:H5''	2.17	0.60
75:RB:14:U:H3	76:SB:146:G:H1	1.50	0.60
1:aa:507:G:O2'	1:aa:508:U:OP1	2.20	0.60
1:aa:788:G:H4'	1:aa:789:C:H5''	1.83	0.60
1:aa:818:A:N6	1:aa:864:A:OP2	2.34	0.60
1:aa:1804:A:OP2	27:db:4:LYS:NZ	2.27	0.60
6:ha:114:HIS:CE1	6:ha:132:SER:HG	2.17	0.60
20:va:41:LYS:NZ	31:hb:143:TYR:HB3	2.17	0.60
31:hb:78:VAL:HA	31:hb:81:VAL:HG12	1.83	0.60
40:HA:168:GLY:HA2	40:HA:171:PHE:CE2	2.37	0.60
41:IA:111:LYS:HD2	75:RB:721:A:C8	2.36	0.60
43:KA:224:GLU:HB2	77:TB:49:A:OP1	2.01	0.60
70:LB:103:LEU:HD22	70:LB:121:ASN:HA	1.84	0.60
75:RB:440:U:O2'	75:RB:497:G:N2	2.35	0.60
75:RB:3250:U:H2'	75:RB:3251:C:C6	2.37	0.60
78:al:4:U:H4'	79:bl:57:THR:HG23	1.83	0.60
1:aa:906:G:H2'	1:aa:907:G:C8	2.37	0.59
1:aa:907:G:H2'	1:aa:908:U:C6	2.37	0.59
16:ra:31:TYR:CD2	16:ra:147:VAL:HG11	2.37	0.59
20:va:80:LEU:HD12	20:va:84:GLU:HG2	1.84	0.59
43:KA:23:ARG:HH12	75:RB:2700:A:P	2.25	0.59
58:ZA:94:LYS:HD3	58:ZA:99:ARG:HD3	1.84	0.59
1:aa:964:U:C6	14:pa:61:PRO:HB3	2.37	0.59
1:aa:996:G:N1	1:aa:1017:U:OP2	2.32	0.59
1:aa:1063:U:H1'	1:aa:1067:A:H61	1.67	0.59
26:cb:59:ARG:HA	26:cb:64:ALA:HB2	1.84	0.59
29:fb:86:LEU:HD21	29:fb:114:VAL:HB	1.84	0.59
44:LA:67:HIS:O	44:LA:70:LYS:N	2.32	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:TA:70:ASN:HB3	52:TA:72:PHE:HD2	1.68	0.59
61:CB:146:VAL:O	61:CB:150:ILE:HG13	2.02	0.59
63:EB:78:ARG:NH1	75:RB:2811:G:OP1	2.31	0.59
71:MB:3:LYS:NZ	75:RB:3218:C:O2'	2.35	0.59
75:RB:863:G:O2'	75:RB:898:G:H4'	2.02	0.59
75:RB:2259:U:H2'	75:RB:2260:C:C6	2.37	0.59
1:aa:1552:U:OP1	13:oa:134:GLN:NE2	2.34	0.59
3:ca:22:ARG:HD2	3:ca:25:ARG:NE	2.18	0.59
31:hb:101:ILE:HG13	31:hb:122:VAL:HG21	1.84	0.59
31:hb:136:ILE:HG22	31:hb:138:GLY:H	1.67	0.59
54:VA:47:THR:HG21	75:RB:354:C:OP1	2.03	0.59
63:EB:327:ALA:HB2	70:LB:13:ARG:HH22	1.67	0.59
75:RB:1417:G:H2'	75:RB:1418:C:C6	2.37	0.59
79:bl:20:ILE:HG23	79:bl:132:THR:HG21	1.84	0.59
5:ga:13:LEU:HB3	32:ib:98:TYR:CE2	2.38	0.59
6:ha:205:GLY:HA3	6:ha:234:TRP:HH2	1.68	0.59
20:va:47:LYS:HG2	20:va:48:ASN:H	1.66	0.59
32:ib:3:GLU:OE1	32:ib:3:GLU:N	2.35	0.59
40:HA:4:TYR:O	40:HA:8:SER:OG	2.20	0.59
43:KA:31:ARG:O	43:KA:35:ARG:HG3	2.02	0.59
52:TA:74:LYS:NZ	52:TA:96:GLU:OE2	2.31	0.59
57:YA:96:TYR:HE2	57:YA:108:MET:HB2	1.66	0.59
62:DB:285:ILE:HD13	62:DB:328:ILE:HG22	1.84	0.59
1:aa:706:U:H2'	1:aa:707:C:H5	1.68	0.59
1:aa:759:A:OP1	8:ja:186:GLY:HA3	2.02	0.59
1:aa:1560:U:H2'	1:aa:1561:G:C8	2.38	0.59
2:ba:28:PHE:HE1	2:ba:81:ILE:HG12	1.66	0.59
6:ha:264:CYS:HA	6:ha:272:LYS:O	2.02	0.59
9:ka:108:ILE:O	9:ka:112:ILE:HG12	2.01	0.59
13:oa:11:HIS:CD2	37:EA:118:TYR:HB2	2.38	0.59
20:va:10:LEU:O	20:va:14:VAL:HG23	2.02	0.59
43:KA:225:TYR:OH	77:TB:48:G:OP1	2.15	0.59
57:YA:81:LEU:HD22	57:YA:108:MET:SD	2.42	0.59
60:BB:7:LYS:O	60:BB:10:GLU:HG2	2.03	0.59
62:DB:310:THR:HG21	62:DB:320:VAL:HG23	1.84	0.59
63:EB:31:MET:HE1	63:EB:256:TRP:CZ2	2.38	0.59
71:MB:46:VAL:HG21	71:MB:79:PRO:HB3	1.85	0.59
75:RB:683:U:O2'	75:RB:791:C:O2	2.19	0.59
75:RB:1024:G:H2'	75:RB:1025:G:H8	1.68	0.59
75:RB:2751:G:O2'	75:RB:2752:C:OP1	2.21	0.59
79:bl:336:HIS:NE2	79:bl:366:GLU:O	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:ha:68:ARG:HD3	10:la:100:GLN:HE21	1.66	0.59
41:IA:103:PHE:CE1	69:KB:162:ARG:HD3	2.37	0.59
45:MA:22:LEU:HD22	45:MA:91:PHE:HD1	1.66	0.59
49:QA:16:ASN:HD22	75:RB:1427:C:H1'	1.67	0.59
54:VA:15:LYS:HA	54:VA:18:ARG:HG2	1.85	0.59
75:RB:2367:C:N4	75:RB:2819:U:O2'	2.36	0.59
75:RB:3002:A:H2'	75:RB:3003:U:O4'	2.02	0.59
1:aa:899:A:H5''	25:bb:55:LYS:NZ	2.18	0.59
1:aa:1165:A:H2'	1:aa:1166:C:C6	2.38	0.59
1:aa:1247:G:H2'	17:sa:60:ARG:HE	1.68	0.59
1:aa:1247:G:H2'	17:sa:60:ARG:NH2	2.17	0.59
33:AA:82:LYS:NZ	76:SB:158:C:OP2	2.36	0.59
38:FA:127:MET:HE1	38:FA:160:ILE:HD11	1.83	0.59
48:PA:108:LEU:HD21	48:PA:118:LEU:HD11	1.85	0.59
61:CB:150:ILE:HG22	61:CB:183:ILE:HD11	1.85	0.59
70:LB:153:THR:HG22	70:LB:155:ALA:H	1.67	0.59
75:RB:27:C:O3'	75:RB:60:G:N2	2.34	0.59
75:RB:1247:G:H21	75:RB:1274:A:H2'	1.66	0.59
80:cl:52:G:H2'	80:cl:53:G:C8	2.38	0.59
1:aa:411:A:O2'	1:aa:1679:A:N3	2.29	0.59
1:aa:1163:C:N3	1:aa:1167:C:N4	2.51	0.59
6:ha:44:LEU:HD21	6:ha:65:PRO:HB3	1.85	0.59
9:ka:92:THR:O	9:ka:96:ILE:HG12	2.01	0.59
43:KA:55:PHE:HD2	43:KA:60:VAL:HG22	1.67	0.59
45:MA:54:HIS:ND1	45:MA:54:HIS:O	2.35	0.59
46:NA:116:GLN:HE21	46:NA:137:THR:HG21	1.67	0.59
47:OA:50:LYS:HE3	75:RB:2105:G:C5'	2.32	0.59
75:RB:1258:C:N4	75:RB:1267:A:OP1	2.35	0.59
75:RB:1731:A:H2'	75:RB:1732:G:C8	2.37	0.59
1:aa:568:G:N2	1:aa:581:G:OP1	2.34	0.59
3:ca:58:ALA:HB1	3:ca:61:LEU:CD1	2.33	0.59
7:ia:133:GLY:HA3	7:ia:156:TYR:O	2.03	0.59
10:la:16:PHE:O	10:la:93:LYS:HD2	2.02	0.59
16:ra:31:TYR:HD2	16:ra:147:VAL:HG11	1.67	0.59
35:CA:51:LYS:HB2	35:CA:65:LYS:HB3	1.85	0.59
36:DA:242:ARG:HG3	36:DA:242:ARG:HH11	1.68	0.59
43:KA:104:LEU:HD21	43:KA:108:ARG:HH22	1.67	0.59
48:PA:125:ARG:HH22	75:RB:186:A:P	2.24	0.59
75:RB:420:A:C2	75:RB:2356:A:H4'	2.38	0.59
12:na:92:ALA:HA	12:na:125:LYS:O	2.03	0.59
13:oa:28:PHE:HE1	13:oa:38:ARG:HE	1.50	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:eb:61:LEU:O	28:eb:71:ARG:NH1	2.36	0.59
43:KA:156:ASN:HB3	43:KA:158:VAL:HG12	1.84	0.59
48:PA:84:ILE:HG23	48:PA:84:ILE:O	2.03	0.59
49:QA:72:SER:HA	49:QA:87:HIS:O	2.03	0.59
49:QA:122:ARG:NH1	52:TA:88:MET:HE1	2.17	0.59
64:FB:149:GLU:OE2	75:RB:3099:A:O2'	2.21	0.59
75:RB:2422:G:H2'	75:RB:2423:A:C8	2.38	0.59
1:aa:507:G:H2'	1:aa:508:U:C6	2.38	0.58
3:ca:174:HIS:ND1	3:ca:212:MET:HE1	2.17	0.58
6:ha:169:VAL:O	6:ha:170:ARG:HD2	2.02	0.58
6:ha:190:LYS:HG3	6:ha:202:THR:HA	1.84	0.58
9:ka:131:ARG:HE	9:ka:132:ARG:H	1.49	0.58
25:bb:136:ARG:HH21	25:bb:218:LEU:HD21	1.68	0.58
33:AA:49:LYS:HD2	75:RB:2520:G:H5'	1.85	0.58
37:EA:157:THR:N	37:EA:160:ASP:OD1	2.36	0.58
51:SA:27:ARG:HH22	75:RB:3311:C:P	2.26	0.58
57:YA:160:PRO:HG3	57:YA:166:LYS:HB2	1.85	0.58
62:DB:261:ALA:O	75:RB:2387:G:N2	2.28	0.58
75:RB:2906:C:H2'	75:RB:2907:A:O4'	2.03	0.58
75:RB:3088:C:O2'	75:RB:3090:G:OP2	2.20	0.58
79:bl:29:ASN:O	79:bl:32:SER:OG	2.21	0.58
1:aa:98:C:H1'	1:aa:430:G:H5'	1.84	0.58
1:aa:1570:G:C2	1:aa:1571:G:C8	2.90	0.58
1:aa:1696:C:H2'	1:aa:1697:G:C8	2.38	0.58
6:ha:205:GLY:HA3	6:ha:234:TRP:CH2	2.38	0.58
7:ia:46:THR:O	7:ia:84:VAL:HA	2.03	0.58
9:ka:39:MET:HA	9:ka:42:TYR:HE2	1.68	0.58
13:oa:124:ARG:HG2	13:oa:131:VAL:HA	1.85	0.58
33:AA:98:GLU:OE1	33:AA:106:ARG:NH1	2.35	0.58
37:EA:62:ARG:HG2	37:EA:63:ARG:H	1.69	0.58
48:PA:86:ARG:HH22	75:RB:392:C:H5'	1.67	0.58
58:ZA:86:LYS:HB2	58:ZA:114:TYR:CZ	2.38	0.58
66:HB:54:SER:HA	66:HB:163:GLN:HG3	1.85	0.58
75:RB:2568:A:O2'	75:RB:2569:C:O5'	2.21	0.58
1:aa:889:C:H5''	25:bb:136:ARG:NH1	2.18	0.58
15:qa:101:GLU:OE1	24:za:46:ARG:HG2	2.03	0.58
36:DA:223:SER:HG	75:RB:2237:A:HO2'	1.48	0.58
41:IA:36:GLY:HA3	41:IA:40:HIS:CE1	2.39	0.58
48:PA:30:MET:SD	48:PA:100:PRO:HG2	2.42	0.58
48:PA:73:TYR:OH	76:SB:75:G:OP2	2.16	0.58
58:ZA:90:LYS:HB3	58:ZA:99:ARG:NH1	2.16	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:EB:235:ASN:OD1	63:EB:237:GLU:N	2.34	0.58
63:EB:369:GLU:HG3	63:EB:372:LYS:NZ	2.18	0.58
64:FB:10:LYS:HE2	75:RB:3168:A:N7	2.18	0.58
75:RB:115:C:C2	75:RB:263:A:C6	2.91	0.58
75:RB:608:G:H2'	75:RB:609:C:C6	2.38	0.58
1:aa:336:U:H5''	3:ca:31:ARG:NH1	2.18	0.58
6:ha:56:GLN:HB2	6:ha:59:SER:HB2	1.85	0.58
10:la:42:ILE:HG13	10:la:55:PHE:HE2	1.69	0.58
21:wa:21:CYS:SG	21:wa:39:CYS:N	2.76	0.58
21:wa:43:PHE:O	21:wa:47:ALA:HB2	2.03	0.58
42:JA:127:LEU:HD11	63:EB:295:ARG:HH12	1.67	0.58
44:LA:30:ASN:O	44:LA:34:MET:HG3	2.04	0.58
46:NA:150:GLY:O	46:NA:151:ILE:HD13	2.04	0.58
54:VA:16:LYS:HB3	54:VA:42:ARG:NH1	2.17	0.58
75:RB:1156:A:H2'	75:RB:1157:A:C8	2.38	0.58
75:RB:1619:G:H2'	75:RB:1620:U:C6	2.38	0.58
75:RB:3241:U:H2'	75:RB:3242:C:C6	2.39	0.58
1:aa:282:C:H4'	1:aa:283:G:C8	2.38	0.58
25:bb:167:LYS:O	25:bb:171:ILE:HG13	2.03	0.58
41:IA:69:TYR:CE2	69:KB:64:LYS:HG3	2.38	0.58
66:HB:39:LYS:NZ	75:RB:1014:G:OP1	2.36	0.58
75:RB:1019:A:H8	75:RB:1021:U:H5''	1.68	0.58
75:RB:1041:C:H2'	75:RB:1042:C:H6	1.68	0.58
79:bl:225:LEU:HB2	79:bl:251:ILE:HD13	1.85	0.58
1:aa:4:C:H4'	29:fb:191:ALA:HB2	1.86	0.58
1:aa:467:U:H2'	1:aa:468:A:H8	1.67	0.58
1:aa:863:G:O2'	31:hb:112:GLN:NE2	2.35	0.58
1:aa:1601:A:H2'	1:aa:1602:G:C8	2.39	0.58
9:ka:12:VAL:HG13	9:ka:44:PHE:CE2	2.39	0.58
25:bb:160:GLN:O	25:bb:164:ILE:HG12	2.04	0.58
26:cb:2:GLN:HG3	26:cb:3:ASN:O	2.03	0.58
31:hb:65:VAL:O	31:hb:97:ALA:HA	2.03	0.58
35:CA:11:VAL:HG22	35:CA:82:PRO:HA	1.85	0.58
48:PA:69:VAL:HA	48:PA:81:VAL:HG12	1.85	0.58
62:DB:13:SER:HB2	75:RB:3040:A:H4'	1.86	0.58
75:RB:333:G:H2'	75:RB:334:A:H8	1.69	0.58
75:RB:809:A:N3	75:RB:2809:C:O2'	2.32	0.58
75:RB:2859:U:C2	75:RB:2860:G:C8	2.91	0.58
1:aa:141:G:H2'	1:aa:142:G:C8	2.39	0.58
15:qa:76:GLU:O	15:qa:80:ARG:HG2	2.03	0.58
41:IA:60:TYR:HD2	41:IA:63:LYS:HB2	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:KA:34:LEU:O	43:KA:38:ASN:HB2	2.03	0.58
46:NA:85:LYS:NZ	75:RB:1526:A:N1	2.51	0.58
55:WA:98:LYS:HD2	75:RB:2653:A:H4'	1.84	0.58
71:MB:80:HIS:HB2	71:MB:87:ARG:HG3	1.84	0.58
71:MB:95:PRO:HG3	75:RB:428:G:O4'	2.04	0.58
75:RB:1066:G:H5''	75:RB:1067:G:H5'	1.85	0.58
75:RB:2422:G:H2'	75:RB:2423:A:H8	1.69	0.58
1:aa:1267:G:H2'	1:aa:1268:G:O4'	2.04	0.58
37:EA:24:SER:HA	37:EA:68:ALA:HA	1.86	0.58
55:WA:67:LYS:HE2	75:RB:2789:A:H5''	1.84	0.58
57:YA:10:GLN:NE2	57:YA:64:ASN:OD1	2.37	0.58
61:CB:161:GLN:NE2	75:RB:1365:C:O2	2.36	0.58
1:aa:160:A:OP2	30:gb:85:ARG:NH2	2.36	0.58
1:aa:1742:A:H2'	1:aa:1743:C:C6	2.39	0.58
1:aa:1742:A:H2'	1:aa:1743:C:H6	1.68	0.58
4:da:59:PHE:HE1	4:da:64:TYR:CZ	2.22	0.58
6:ha:162:HIS:ND1	6:ha:186:ASP:OD2	2.23	0.58
6:ha:164:GLY:N	6:ha:186:ASP:HB3	2.18	0.58
28:eb:119:GLY:O	28:eb:121:ALA:N	2.37	0.58
40:HA:147:ARG:HH21	75:RB:112:C:P	2.26	0.58
43:KA:106:ALA:O	43:KA:110:LEU:HD23	2.02	0.58
56:XA:25:VAL:HB	56:XA:38:VAL:HB	1.85	0.58
75:RB:2840:U:H3'	75:RB:2841:C:C5	2.38	0.58
1:aa:1386:U:O2'	1:aa:1524:A:N1	2.34	0.58
1:aa:1521:G:H1'	1:aa:1526:C:C2	2.39	0.58
6:ha:10:TYR:OH	6:ha:286:ARG:N	2.37	0.58
8:ja:60:GLU:O	8:ja:64:ILE:HG13	2.04	0.58
8:ja:191:ARG:HH21	8:ja:245:LYS:HB3	1.69	0.58
11:ma:90:MET:HG3	21:wa:52:PHE:CD1	2.39	0.58
25:bb:136:ARG:HD2	25:bb:138:PHE:CZ	2.39	0.58
30:gb:3:LEU:HD13	30:gb:111:ILE:HG23	1.85	0.58
39:GA:85:ARG:NH2	39:GA:100:ASP:HA	2.19	0.58
40:HA:5:LYS:HE3	40:HA:9:GLU:OE1	2.02	0.58
41:IA:145:ALA:HB2	59:AB:11:PHE:HB2	1.85	0.58
69:KB:57:ILE:HG13	69:KB:115:ARG:HD2	1.86	0.58
70:LB:80:VAL:HG11	70:LB:201:TYR:HE2	1.69	0.58
75:RB:3:G:H3'	75:RB:4:C:H5''	1.86	0.58
75:RB:1794:A:H2'	75:RB:1795:A:C8	2.39	0.58
75:RB:2423:A:H2'	75:RB:2424:C:H6	1.69	0.58
75:RB:2431:A:H2'	75:RB:2432:A:H8	1.68	0.58
75:RB:2528:G:H2'	75:RB:2529:C:C6	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:1041:A:H2'	1:aa:1042:C:C6	2.38	0.57
9:ka:51:ARG:HD3	10:la:128:ARG:HD3	1.85	0.57
29:fb:130:GLU:HG3	29:fb:132:ALA:H	1.69	0.57
31:hb:76:ILE:O	31:hb:78:VAL:N	2.37	0.57
36:DA:203:ALA:O	75:RB:917:A:O2'	2.21	0.57
56:XA:5:ARG:NH2	56:XA:57:ASP:OD2	2.35	0.57
57:YA:163:ARG:HG3	71:MB:41:ASN:O	2.04	0.57
62:DB:5:LYS:HD2	75:RB:2875:G:OP1	2.03	0.57
64:FB:18:HIS:ND1	64:FB:47:CYS:SG	2.77	0.57
75:RB:981:A:O3'	75:RB:983:U:N3	2.37	0.57
75:RB:2648:G:O2'	75:RB:2793:G:O6	2.17	0.57
77:TB:11:A:N1	77:TB:66:G:O2'	2.36	0.57
1:aa:308:U:H2'	1:aa:309:C:C6	2.39	0.57
1:aa:637:U:O2'	20:va:4:ARG:NH1	2.37	0.57
5:ga:52:GLU:CD	5:ga:70:ARG:HH21	2.11	0.57
5:ga:62:ASN:HD22	5:ga:113:ASP:HB3	1.67	0.57
6:ha:50:ASN:N	6:ha:51:PRO:HD3	2.18	0.57
10:la:43:GLU:HA	10:la:55:PHE:HZ	1.69	0.57
11:ma:54:LYS:HE3	11:ma:109:ILE:HG12	1.85	0.57
15:qa:71:LEU:HB2	15:qa:74:GLN:NE2	2.19	0.57
30:gb:210:ALA:O	30:gb:214:GLN:HG2	2.03	0.57
37:EA:34:ARG:HB3	37:EA:122:THR:HG23	1.85	0.57
46:NA:124:ILE:O	54:VA:10:LYS:NZ	2.34	0.57
61:CB:89:VAL:HA	61:CB:115:ASN:O	2.04	0.57
67:IB:8:LYS:HE3	67:IB:12:ARG:HH21	1.68	0.57
69:KB:79:GLU:OE2	69:KB:103:ASN:ND2	2.37	0.57
75:RB:520:G:H2'	75:RB:521:G:H8	1.70	0.57
75:RB:2968:A:C6	79:bl:189:PHE:HE1	2.22	0.57
76:SB:81:U:H4'	76:SB:82:C:H5'	1.86	0.57
79:bl:325:GLU:HG2	79:bl:394:THR:HG22	1.85	0.57
1:aa:941:G:N7	27:db:15:ARG:NH1	2.51	0.57
1:aa:1481:A:H2'	1:aa:1482:U:C6	2.39	0.57
1:aa:1799:G:N7	12:na:146:ARG:NH2	2.52	0.57
29:fb:167:LYS:HD3	29:fb:178:ARG:NH2	2.18	0.57
38:FA:80:ILE:O	38:FA:84:THR:HG22	2.04	0.57
75:RB:528:C:N4	75:RB:529:C:H41	2.02	0.57
75:RB:3162:G:H1	75:RB:3268:C:N4	2.01	0.57
77:TB:3:A:O4'	77:TB:24:G:N2	2.36	0.57
79:bl:5:HIS:O	79:bl:9:LYS:N	2.38	0.57
1:aa:1488:C:H4'	10:la:83:GLN:OE1	2.05	0.57
6:ha:133:ALA:HB2	6:ha:169:VAL:HG13	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:va:30:SER:OG	20:va:33:MET:N	2.28	0.57
20:va:48:ASN:ND2	31:hb:142:ARG:HH11	2.02	0.57
53:UA:39:TYR:CD1	53:UA:40:PRO:HA	2.39	0.57
75:RB:2914:G:C6	75:RB:2927:A:N1	2.71	0.57
1:aa:51:A:OP2	1:aa:428:C:N4	2.33	0.57
6:ha:99:LEU:HB2	6:ha:111:PHE:HE1	1.70	0.57
25:bb:61:LEU:HG	25:bb:64:ARG:HH21	1.68	0.57
25:bb:159:SER:O	25:bb:163:GLN:HG3	2.04	0.57
31:hb:122:VAL:O	31:hb:126:ILE:HG12	2.04	0.57
32:ib:126:ILE:HG22	32:ib:140:VAL:HA	1.86	0.57
42:JA:86:THR:HG22	42:JA:105:THR:HG21	1.87	0.57
79:bl:221:ASN:OD1	79:bl:222:VAL:HG13	2.05	0.57
1:aa:425:A:OP1	30:gb:95:ARG:NH1	2.37	0.57
1:aa:1395:C:H2'	1:aa:1396:U:H4'	1.84	0.57
8:ja:214:GLN:HE22	8:ja:216:HIS:CE1	2.21	0.57
35:CA:46:LEU:HD22	35:CA:68:VAL:CG1	2.35	0.57
38:FA:165:HIS:HB3	38:FA:167:LYS:HE3	1.87	0.57
63:EB:159:ASP:OD1	63:EB:259:SER:N	2.35	0.57
75:RB:1035:C:H2'	75:RB:1036:C:C6	2.39	0.57
75:RB:1316:C:H2'	75:RB:1317:G:O4'	2.04	0.57
1:aa:1075:G:H2'	1:aa:1076:C:H6	1.70	0.57
1:aa:1187:A:H2'	1:aa:1188:A:C8	2.40	0.57
1:aa:1529:G:N2	10:la:76:ARG:HE	2.02	0.57
18:ta:64:SER:OG	18:ta:101:ILE:HG23	2.04	0.57
18:ta:96:HIS:CG	18:ta:97:SER:H	2.22	0.57
28:eb:66:GLU:HA	28:eb:71:ARG:HD3	1.87	0.57
29:fb:105:ARG:HH11	29:fb:105:ARG:HG3	1.69	0.57
48:PA:50:ARG:HG3	48:PA:51:LYS:H	1.69	0.57
48:PA:71:GLN:NE2	76:SB:74:U:H3	2.03	0.57
59:AB:57:GLU:O	59:AB:61:THR:HG23	2.04	0.57
69:KB:26:ASN:O	69:KB:30:ARG:HG3	2.05	0.57
72:NB:3:LYS:O	72:NB:43:TYR:HA	2.04	0.57
1:aa:813:A:C6	1:aa:814:C:C4	2.93	0.57
6:ha:20:VAL:CG1	6:ha:39:ARG:HE	2.18	0.57
9:ka:90:LYS:HD2	10:la:49:MET:HE1	1.86	0.57
10:la:83:GLN:O	10:la:87:ILE:HG12	2.04	0.57
10:la:131:GLU:OE2	10:la:140:ALA:HB1	2.05	0.57
18:ta:54:GLU:HA	18:ta:57:LYS:HD2	1.85	0.57
25:bb:157:GLN:O	25:bb:159:SER:N	2.38	0.57
29:fb:163:THR:HG21	29:fb:182:ALA:H	1.70	0.57
41:IA:94:LYS:HG2	69:KB:166:VAL:HG12	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:RA:90:ARG:NH2	75:RB:1726:G:OP1	2.38	0.57
75:RB:1261:C:N4	75:RB:1265:G:OP2	2.38	0.57
75:RB:1678:U:H1'	75:RB:3065:G:N7	2.19	0.57
1:aa:4:C:H1'	28:eb:19:ARG:HH11	1.70	0.57
1:aa:550:U:H2'	1:aa:551:U:C6	2.40	0.57
1:aa:1433:A:O2'	1:aa:1434:G:OP1	2.19	0.57
1:aa:1570:G:N1	1:aa:1571:G:N7	2.53	0.57
1:aa:1621:U:H2'	1:aa:1622:A:H8	1.69	0.57
58:ZA:27:CYS:C	58:ZA:30:PRO:HD2	2.30	0.57
62:DB:128:LYS:HD2	75:RB:3281:G:H5''	1.86	0.57
75:RB:941:C:OP1	75:RB:965:A:O2'	2.23	0.57
75:RB:1450:G:O2'	75:RB:2348:G:O6	2.23	0.57
75:RB:3193:C:H4'	75:RB:3194:C:C5	2.40	0.57
79:bl:80:ARG:HH11	79:bl:80:ARG:HG3	1.69	0.57
1:aa:1758:G:H2'	1:aa:1759:A:O4'	2.05	0.57
7:ia:10:LYS:NZ	7:ia:14:ASP:OD1	2.30	0.57
25:bb:90:ASP:OD2	25:bb:91:VAL:N	2.38	0.57
25:bb:179:CYS:SG	25:bb:183:GLU:HG2	2.44	0.57
25:bb:184:LEU:HG	25:bb:188:PHE:CE2	2.40	0.57
33:AA:30:LYS:HE2	33:AA:32:PHE:HE1	1.68	0.57
36:DA:70:LYS:HE3	75:RB:1577:A:C2	2.40	0.57
45:MA:29:THR:HG21	45:MA:147:ILE:CD1	2.35	0.57
59:AB:73:LEU:HD21	59:AB:83:HIS:CE1	2.40	0.57
60:BB:71:ARG:O	60:BB:75:LYS:HB3	2.04	0.57
62:DB:57:VAL:HG22	62:DB:362:PHE:HB3	1.87	0.57
75:RB:446:C:N3	75:RB:492:G:N1	2.53	0.57
75:RB:2191:A:C6	75:RB:2263:A:C6	2.93	0.57
79:bl:310:LEU:HA	79:bl:313:LEU:HD23	1.86	0.57
80:cl:54:A:H61	80:cl:61:C:N4	2.03	0.57
1:aa:864:A:O2'	1:aa:865:U:OP1	2.16	0.56
1:aa:1215:A:H2'	1:aa:1216:G:O4'	2.04	0.56
1:aa:1289:U:H4'	1:aa:1290:U:O5'	2.04	0.56
1:aa:1464:G:N2	1:aa:1465:C:O2	2.38	0.56
7:ia:37:VAL:HG12	7:ia:50:ILE:HA	1.87	0.56
7:ia:162:GLN:OE1	7:ia:165:ASN:ND2	2.38	0.56
9:ka:33:TYR:CE1	9:ka:139:PRO:HG2	2.39	0.56
10:la:47:PRO:HG2	10:la:84:ILE:HG13	1.87	0.56
38:FA:60:PHE:HZ	57:YA:151:PHE:CD2	2.23	0.56
40:HA:158:HIS:HB3	40:HA:161:LEU:HB2	1.87	0.56
48:PA:49:ILE:HD11	48:PA:79:ILE:HG21	1.87	0.56
58:ZA:48:ARG:HH11	58:ZA:91:LYS:HE2	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:AB:88:LYS:NZ	75:RB:294:A:H4'	2.20	0.56
60:BB:90:ARG:O	60:BB:94:ARG:HG2	2.05	0.56
64:FB:13:VAL:HA	64:FB:39:VAL:O	2.05	0.56
64:FB:94:PRO:O	64:FB:100:GLY:HA3	2.05	0.56
69:KB:197:LYS:O	69:KB:201:GLU:HG2	2.06	0.56
70:LB:82:ILE:HD13	70:LB:92:ARG:HG2	1.87	0.56
71:MB:53:ARG:NH2	71:MB:108:TYR:HD2	2.03	0.56
74:PB:38:ARG:NH1	75:RB:1781:C:O3'	2.38	0.56
75:RB:539:C:H2'	75:RB:541:C:C5	2.40	0.56
1:aa:852:A:H2'	1:aa:853:U:C6	2.40	0.56
1:aa:971:A:OP2	14:pa:124:ARG:NH2	2.37	0.56
1:aa:1168:A:N3	1:aa:1621:U:O2'	2.33	0.56
1:aa:1346:C:H2'	1:aa:1347:U:C6	2.40	0.56
22:xa:16:LEU:HA	22:xa:19:LEU:HD13	1.87	0.56
31:hb:30:LEU:HD11	31:hb:41:LEU:HD12	1.86	0.56
33:AA:174:CYS:HA	33:AA:218:PHE:HD2	1.70	0.56
34:BA:154:TYR:CE1	57:YA:89:TYR:HB2	2.40	0.56
41:IA:32:ARG:HG3	75:RB:37:U:H4'	1.86	0.56
63:EB:116:ARG:NH2	75:RB:795:C:OP1	2.37	0.56
75:RB:499:A:H2'	75:RB:500:C:O4'	2.05	0.56
75:RB:3212:G:O6	75:RB:3249:C:N4	2.38	0.56
79:bl:321:LEU:HD22	79:bl:390:LEU:HG	1.87	0.56
80:cl:11:C:N4	80:cl:12:G:O6	2.38	0.56
1:aa:336:U:O4	3:ca:191:ARG:NH2	2.38	0.56
1:aa:646:G:C6	1:aa:705:A:C2	2.92	0.56
6:ha:250:ILE:HG22	6:ha:268:GLN:HB2	1.87	0.56
8:ja:143:ASP:HB3	8:ja:145:ARG:HG2	1.86	0.56
10:la:47:PRO:HB2	10:la:50:LEU:HB2	1.88	0.56
12:na:83:THR:O	12:na:87:GLU:HG2	2.05	0.56
14:pa:37:ILE:HD11	14:pa:54:LEU:HD11	1.86	0.56
33:AA:34:ILE:HD11	36:DA:35:GLY:HA2	1.87	0.56
39:GA:82:VAL:HG12	39:GA:125:CYS:SG	2.45	0.56
39:GA:87:PRO:HA	39:GA:97:TYR:HB3	1.86	0.56
41:IA:35:ALA:O	41:IA:41:HIS:ND1	2.31	0.56
42:JA:131:LEU:HB2	42:JA:133:GLN:OE1	2.05	0.56
45:MA:30:ARG:NH1	45:MA:31:GLU:OE1	2.38	0.56
45:MA:43:LYS:HZ1	45:MA:46:ARG:HH11	1.51	0.56
57:YA:97:ARG:HG2	57:YA:97:ARG:HH11	1.69	0.56
61:CB:97:MET:HB2	61:CB:102:LYS:HE3	1.85	0.56
61:CB:100:LYS:NZ	75:RB:1061:A:OP1	2.38	0.56
70:LB:110:PHE:CE1	75:RB:3253:A:H2'	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:11:A:N6	76:SB:148:C:H42	2.03	0.56
75:RB:2196:U:H2'	75:RB:2197:C:C6	2.40	0.56
1:aa:605:A:H2'	1:aa:606:U:O4'	2.05	0.56
1:aa:1129:A:H2'	1:aa:1130:A:C8	2.40	0.56
1:aa:1738:U:H2'	1:aa:1739:U:C6	2.40	0.56
6:ha:135:ARG:C	6:ha:137:ARG:H	2.13	0.56
13:oa:102:ALA:O	13:oa:106:LYS:HG2	2.06	0.56
15:qa:32:LYS:HB3	15:qa:47:ARG:HH12	1.71	0.56
35:CA:38:TYR:HB3	75:RB:1709:U:H5''	1.87	0.56
65:GB:28:LYS:HG3	65:GB:29:MET:HG3	1.86	0.56
72:NB:51:ASP:OD1	72:NB:52:LYS:N	2.39	0.56
74:PB:72:ARG:NH1	75:RB:1800:G:OP1	2.38	0.56
75:RB:1457:A:OP1	75:RB:3074:G:N2	2.24	0.56
1:aa:322:U:H4'	3:ca:11:ARG:HH21	1.70	0.56
1:aa:1175:G:C2	1:aa:1176:A:C8	2.93	0.56
43:KA:272:THR:OG1	43:KA:275:GLN:OE1	2.15	0.56
45:MA:65:ARG:NH2	75:RB:2981:C:H5''	2.21	0.56
75:RB:955:A:H4'	75:RB:971:G:N2	2.21	0.56
75:RB:1483:G:O4'	75:RB:1486:G:N2	2.38	0.56
75:RB:2852:U:H2'	75:RB:2853:G:O4'	2.06	0.56
75:RB:3143:A:H2'	75:RB:3144:C:O4'	2.05	0.56
1:aa:867:A:O2'	1:aa:968:A:N6	2.39	0.56
1:aa:1239:C:N4	1:aa:1249:G:O6	2.37	0.56
1:aa:1338:U:H2'	1:aa:1339:C:C6	2.40	0.56
1:aa:1398:U:N3	1:aa:1399:G:N7	2.53	0.56
1:aa:1585:A:O2'	80:cl:31:G:O2'	2.15	0.56
6:ha:135:ARG:HD2	6:ha:165:TRP:CE2	2.41	0.56
7:ia:50:ILE:O	7:ia:88:ALA:HA	2.05	0.56
19:ua:75:LEU:HD21	19:ua:78:SER:HA	1.87	0.56
27:db:44:ILE:HG13	27:db:45:VAL:HG13	1.88	0.56
34:BA:15:PHE:CE1	34:BA:44:VAL:HG21	2.40	0.56
48:PA:81:VAL:O	48:PA:84:ILE:HG22	2.05	0.56
56:XA:12:VAL:O	56:XA:56:THR:OG1	2.22	0.56
57:YA:133:PHE:O	57:YA:134:LYS:HG2	2.06	0.56
58:ZA:83:ARG:HH12	75:RB:1687:C:N4	2.04	0.56
66:HB:152:LEU:HB3	66:HB:165:ILE:HD12	1.87	0.56
70:LB:154:ARG:O	70:LB:157:LYS:NZ	2.35	0.56
75:RB:1247:G:N2	75:RB:1274:A:H2'	2.21	0.56
1:aa:807:G:C2	1:aa:808:G:N7	2.73	0.56
14:pa:83:GLU:OE1	14:pa:84:ILE:HG13	2.06	0.56
28:eb:126:HIS:HE1	28:eb:130:LEU:HD12	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:fb:179:MET:HE3	29:fb:206:VAL:HG21	1.87	0.56
35:CA:68:VAL:O	35:CA:116:LYS:HD2	2.05	0.56
37:EA:51:LYS:HA	37:EA:66:LYS:HA	1.86	0.56
41:IA:60:TYR:HE2	41:IA:63:LYS:HA	1.71	0.56
62:DB:220:ILE:HG22	62:DB:342:LEU:HD13	1.86	0.56
66:HB:41:LYS:HD2	66:HB:45:GLU:OE1	2.06	0.56
70:LB:7:MET:O	70:LB:11:ILE:HD12	2.05	0.56
75:RB:838:G:O2'	75:RB:839:A:OP2	2.23	0.56
77:TB:79:A:H2	77:TB:97:G:N1	2.01	0.56
1:aa:109:A:H2'	1:aa:110:G:C8	2.41	0.56
1:aa:288:G:O6	30:gb:190:GLN:HG3	2.06	0.56
1:aa:1507:G:OP2	16:ra:85:ILE:N	2.28	0.56
1:aa:1664:U:O2'	75:RB:2285:U:O2'	2.23	0.56
7:ia:211:HIS:O	15:qa:20:TYR:OH	2.19	0.56
9:ka:141:ARG:HE	19:ua:64:LYS:NZ	2.03	0.56
17:sa:60:ARG:HH12	17:sa:64:ALA:HB2	1.69	0.56
50:RA:51:ASN:OD1	50:RA:77:ASN:HB2	2.06	0.56
52:TA:119:VAL:HG23	75:RB:436:G:C5	2.41	0.56
75:RB:665:G:H4'	75:RB:666:U:C6	2.40	0.56
75:RB:694:U:OP1	75:RB:695:G:N2	2.39	0.56
75:RB:3006:U:O2	75:RB:3132:G:O6	2.23	0.56
1:aa:1690:U:O2'	1:aa:1691:C:O5'	2.22	0.56
11:ma:34:SER:HB3	11:ma:118:VAL:HA	1.88	0.56
28:eb:177:LYS:HA	28:eb:180:LYS:HG2	1.87	0.56
37:EA:138:TYR:HD1	37:EA:150:VAL:HG11	1.71	0.56
51:SA:60:ASP:HB2	51:SA:102:THR:HG22	1.88	0.56
63:EB:295:ARG:O	63:EB:299:SER:HB3	2.04	0.56
75:RB:7:C:H2'	75:RB:8:C:C6	2.40	0.56
75:RB:1026:A:H2'	75:RB:1027:C:H6	1.70	0.56
75:RB:3330:G:N2	75:RB:3350:U:O4	2.39	0.56
1:aa:519:A:N6	1:aa:541:G:O2'	2.38	0.56
1:aa:831:C:O2'	1:aa:832:C:O4'	2.15	0.56
1:aa:1600:G:H2'	1:aa:1601:A:H8	1.71	0.56
4:da:16:PHE:HB2	4:da:76:LEU:HD21	1.88	0.56
11:ma:30:ILE:CG2	11:ma:97:ILE:HB	2.35	0.56
34:BA:74:VAL:HG12	34:BA:76:ILE:HG23	1.88	0.56
43:KA:92:LEU:HD12	43:KA:93:THR:HG23	1.87	0.56
54:VA:28:ARG:NH1	54:VA:36:ARG:HH21	1.98	0.56
61:CB:15:ILE:O	61:CB:19:ARG:HG2	2.05	0.56
75:RB:1687:C:H2'	75:RB:1688:U:H6	1.70	0.56
1:aa:514:G:H5'	28:eb:178:ASN:HD21	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:1599:C:H2'	1:aa:1600:G:H8	1.70	0.55
4:da:35:ILE:HD11	4:da:42:VAL:HG21	1.87	0.55
9:ka:39:MET:HA	9:ka:42:TYR:CE2	2.41	0.55
13:oa:121:ARG:HG2	13:oa:125:HIS:HE1	1.71	0.55
14:pa:33:VAL:O	14:pa:37:ILE:HG12	2.06	0.55
24:za:141:SER:HB2	24:za:146:ILE:HB	1.87	0.55
28:eb:33:VAL:HG13	28:eb:38:LEU:HB2	1.87	0.55
35:CA:16:GLY:C	35:CA:18:PHE:H	2.14	0.55
55:WA:26:THR:HG22	55:WA:27:GLN:H	1.71	0.55
62:DB:289:GLY:HA3	62:DB:325:TYR:CE1	2.41	0.55
75:RB:1936:G:H21	75:RB:3349:A:H8	1.53	0.55
75:RB:2882:C:O2'	75:RB:2883:U:H5'	2.07	0.55
75:RB:3307:G:H2'	75:RB:3308:C:C6	2.42	0.55
1:aa:153:U:H5'	30:gb:58:LYS:HA	1.89	0.55
1:aa:1353:G:O2'	1:aa:1354:C:OP1	2.24	0.55
1:aa:1542:G:N7	18:ta:79:ARG:NH1	2.54	0.55
2:ba:11:THR:HG22	2:ba:12:LEU:H	1.70	0.55
3:ca:39:SER:O	3:ca:62:ASP:HB3	2.06	0.55
6:ha:30:ASN:HB3	6:ha:33:PHE:CD2	2.42	0.55
9:ka:87:ARG:HD2	18:ta:97:SER:HB2	1.88	0.55
28:eb:130:LEU:O	28:eb:135:HIS:HB2	2.06	0.55
45:MA:64:CYS:O	45:MA:81:GLN:NE2	2.39	0.55
63:EB:358:ILE:O	63:EB:360:SER:N	2.37	0.55
74:PB:37:LYS:HB2	74:PB:58:ARG:NH2	2.21	0.55
75:RB:23:A:H8	75:RB:23:A:O5'	1.89	0.55
75:RB:2113:A:O5'	75:RB:2113:A:H8	1.89	0.55
75:RB:2988:A:O2'	75:RB:3296:G:N7	2.38	0.55
75:RB:3304:U:H1'	75:RB:3305:A:H5'	1.87	0.55
76:SB:110:A:O2'	76:SB:112:U:OP2	2.18	0.55
1:aa:525:A:N3	2:ba:39:ASN:ND2	2.53	0.55
1:aa:855:G:H5'	44:LA:165:LYS:HD3	1.88	0.55
28:eb:127:ALA:O	28:eb:131:ILE:HG13	2.07	0.55
37:EA:139:ARG:NH1	77:TB:28:U:OP1	2.37	0.55
44:LA:28:GLU:O	44:LA:32:ILE:HG13	2.06	0.55
46:NA:69:GLN:HA	46:NA:72:ILE:HG22	1.88	0.55
62:DB:319:GLY:HA2	75:RB:3366:C:H4'	1.89	0.55
66:HB:24:ARG:NH2	75:RB:2645:G:OP1	2.38	0.55
75:RB:1546:G:O2'	75:RB:2162:C:O2'	2.24	0.55
75:RB:2131:U:H5	75:RB:2136:A:N7	2.03	0.55
75:RB:2612:G:H2'	75:RB:2613:C:H6	1.71	0.55
79:bl:395:ASN:ND2	79:bl:404:CYS:SG	2.73	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:455:G:C2	1:aa:457:C:H1'	2.41	0.55
1:aa:1036:U:H4'	1:aa:1037:G:OP2	2.07	0.55
1:aa:1611:U:OP2	10:la:138:ARG:NH2	2.38	0.55
6:ha:20:VAL:HA	6:ha:318:GLY:H	1.71	0.55
7:ia:99:ILE:HG23	7:ia:173:ARG:NH2	2.22	0.55
9:ka:98:LEU:O	18:ta:61:ILE:HG13	2.07	0.55
10:la:31:GLY:HA3	10:la:70:ASP:OD1	2.06	0.55
19:ua:48:ARG:HG2	19:ua:48:ARG:HH11	1.72	0.55
22:xa:35:MET:HE1	22:xa:75:LEU:HD21	1.88	0.55
36:DA:69:TYR:OH	75:RB:2552:U:OP1	2.18	0.55
60:BB:41:SER:HA	60:BB:45:LEU:HG	1.89	0.55
75:RB:118:G:O6	75:RB:147:G:N1	2.34	0.55
75:RB:1100:G:H4'	75:RB:1101:A:O5'	2.07	0.55
1:aa:97:G:H1	1:aa:391:A:H61	1.54	0.55
1:aa:1531:G:N3	1:aa:1531:G:H2'	2.21	0.55
1:aa:1670:G:H2'	1:aa:1671:G:H8	1.72	0.55
3:ca:70:SER:HB3	32:ib:20:LYS:HE3	1.88	0.55
6:ha:155:ASP:O	6:ha:159:GLY:N	2.39	0.55
6:ha:172:SER:HB2	6:ha:179:THR:H	1.70	0.55
9:ka:98:LEU:HD23	18:ta:63:PRO:HG3	1.89	0.55
18:ta:56:PRO:HA	18:ta:62:THR:OG1	2.06	0.55
23:ya:34:ALA:O	23:ya:38:ILE:HG13	2.06	0.55
34:BA:30:TYR:OH	34:BA:94:GLU:OE2	2.22	0.55
47:OA:15:ILE:HD11	47:OA:34:ALA:HA	1.87	0.55
63:EB:358:ILE:C	63:EB:360:SER:H	2.15	0.55
72:NB:33:LYS:NZ	75:RB:1745:G:H5''	2.22	0.55
75:RB:156:A:N6	75:RB:262:A:O2'	2.35	0.55
75:RB:1257:U:O2'	75:RB:1258:C:H5''	2.06	0.55
77:TB:107:C:C2	77:TB:108:G:C8	2.95	0.55
1:aa:452:C:H5'	8:ja:29:PRO:HA	1.88	0.55
1:aa:905:A:H2'	1:aa:906:G:H8	1.72	0.55
1:aa:1152:A:O2'	1:aa:1644:C:OP2	2.23	0.55
1:aa:1184:C:N4	13:oa:137:LYS:HE2	2.21	0.55
3:ca:108:ALA:HB3	3:ca:109:PRO:HD3	1.88	0.55
17:sa:92:MET:HE1	17:sa:98:MET:HE1	1.87	0.55
19:ua:34:VAL:HG22	19:ua:47:VAL:HG12	1.89	0.55
25:bb:193:ILE:O	25:bb:197:ILE:HG12	2.06	0.55
34:BA:68:THR:HG22	34:BA:69:LYS:H	1.72	0.55
36:DA:65:HIS:HE1	36:DA:67:PHE:CE2	2.24	0.55
57:YA:127:LYS:HD2	63:EB:390:TYR:HE2	1.71	0.55
64:FB:99:ARG:HD2	71:MB:99:MET:HE3	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:1549:A:HO2'	75:RB:1550:A:P	2.27	0.55
75:RB:1659:G:N2	75:RB:1783:G:H22	2.04	0.55
75:RB:2611:G:H1	75:RB:2624:A:N6	1.88	0.55
75:RB:2783:A:C5	75:RB:2784:G:C8	2.94	0.55
1:aa:66:U:H1'	1:aa:80:C:C5	2.42	0.55
1:aa:1576:C:H4'	1:aa:1577:A:O5'	2.06	0.55
1:aa:1602:G:H5'	21:wa:33:LYS:HD3	1.89	0.55
2:ba:17:PHE:HD2	2:ba:28:PHE:HB3	1.72	0.55
4:da:3:ILE:HG21	4:da:8:ARG:NE	2.22	0.55
12:na:75:MET:O	12:na:79:GLN:HG3	2.07	0.55
17:sa:107:ASN:HB2	17:sa:131:SER:HA	1.89	0.55
43:KA:53:VAL:HG21	43:KA:158:VAL:HG23	1.88	0.55
55:WA:23:HIS:HA	55:WA:74:CYS:HA	1.89	0.55
55:WA:38:GLN:HA	55:WA:41:ARG:HE	1.71	0.55
56:XA:117:ARG:NH2	64:FB:187:GLU:OE1	2.40	0.55
75:RB:1731:A:H2'	75:RB:1732:G:H8	1.69	0.55
1:aa:467:U:H2'	1:aa:468:A:C8	2.42	0.55
1:aa:1284:C:H2'	1:aa:1285:G:H8	1.72	0.55
30:gb:62:PRO:HG2	30:gb:83:CYS:SG	2.47	0.55
34:BA:44:VAL:HG22	34:BA:58:HIS:ND1	2.22	0.55
34:BA:154:TYR:CD1	57:YA:89:TYR:HB2	2.41	0.55
36:DA:9:ARG:HD2	75:RB:914:C:OP2	2.07	0.55
39:GA:137:ASN:OD1	39:GA:138:ALA:N	2.38	0.55
46:NA:95:ILE:HD12	46:NA:125:ARG:HH12	1.72	0.55
75:RB:1177:G:H1'	75:RB:1184:U:H3	1.70	0.55
75:RB:1402:G:O2'	75:RB:1403:G:H5'	2.07	0.55
75:RB:2094:A:H2'	75:RB:2095:C:O4'	2.07	0.55
80:cl:56:C:H5'	80:cl:57:G:OP2	2.07	0.55
1:aa:72:A:C5	1:aa:73:A:H1'	2.41	0.55
1:aa:865:U:O4'	31:hb:115:ARG:HG2	2.07	0.55
1:aa:905:A:H2'	1:aa:906:G:C8	2.42	0.55
1:aa:1305:U:P	29:fb:107:ARG:HH21	2.30	0.55
3:ca:49:VAL:HG11	3:ca:55:LYS:HD3	1.88	0.55
11:ma:26:HIS:CE1	11:ma:124:ILE:HG23	2.42	0.55
14:pa:129:TYR:HA	14:pa:132:THR:HG22	1.88	0.55
16:ra:19:VAL:HG11	16:ra:78:TYR:CE2	2.42	0.55
25:bb:33:LYS:HG3	25:bb:232:HIS:NE2	2.21	0.55
30:gb:198:ASP:HA	30:gb:201:LYS:HG2	1.89	0.55
31:hb:82:ARG:HB3	31:hb:86:LYS:NZ	2.22	0.55
32:ib:109:PRO:HG2	32:ib:135:THR:HB	1.89	0.55
37:EA:162:MET:O	37:EA:166:GLN:HG2	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:PA:71:GLN:HE22	76:SB:74:U:H3	1.55	0.55
51:SA:28:LEU:HD11	51:SA:40:ALA:HB2	1.88	0.55
56:XA:16:ASN:ND2	56:XA:54:SER:OG	2.39	0.55
70:LB:65:LYS:HE2	75:RB:587:A:OP1	2.07	0.55
75:RB:617:C:H2'	75:RB:618:G:O4'	2.06	0.55
75:RB:763:G:O2'	75:RB:764:A:OP2	2.23	0.55
1:aa:1399:G:H2'	1:aa:1400:G:H8	1.71	0.55
20:va:70:ASP:OD1	20:va:71:CYS:N	2.40	0.55
25:bb:202:SER:HA	25:bb:205:PHE:O	2.07	0.55
29:fb:59:ARG:HD3	29:fb:253:PHE:CE1	2.42	0.55
32:ib:4:GLN:OE1	32:ib:10:LEU:N	2.30	0.55
33:AA:96:ARG:NH2	33:AA:184:SER:O	2.40	0.55
40:HA:145:ASP:HB3	40:HA:148:ILE:HG22	1.89	0.55
44:LA:92:LYS:NZ	75:RB:859:G:OP1	2.37	0.55
57:YA:127:LYS:HD2	63:EB:390:TYR:CE2	2.42	0.55
58:ZA:65:VAL:HA	58:ZA:73:THR:O	2.07	0.55
68:JB:100:TYR:OH	75:RB:2845:G:OP1	2.17	0.55
75:RB:26:A:H2	75:RB:57:G:C2	2.24	0.55
75:RB:1613:C:H2'	75:RB:1614:G:H8	1.72	0.55
75:RB:1906:A:H2	75:RB:2326:C:O2	1.90	0.55
25:bb:182:LYS:HD3	25:bb:231:VAL:HG23	1.89	0.54
57:YA:154:VAL:HG12	57:YA:178:MET:HE1	1.89	0.54
61:CB:222:HIS:NE2	61:CB:230:GLY:HA3	2.21	0.54
72:NB:42:LEU:N	75:RB:1611:G:OP1	2.40	0.54
75:RB:169:G:N1	75:RB:246:C:O2	2.40	0.54
75:RB:885:A:OP1	75:RB:1843:A:N6	2.35	0.54
75:RB:1207:A:N6	75:RB:1304:G:H2'	2.22	0.54
75:RB:1652:G:N2	75:RB:1797:U:O4	2.40	0.54
75:RB:1911:A:H2'	75:RB:1912:U:C6	2.42	0.54
79:bl:319:GLU:N	79:bl:413:ILE:O	2.40	0.54
1:aa:1068:G:H4'	22:xa:74:ARG:NH2	2.22	0.54
1:aa:1651:U:O2	1:aa:1790:G:N2	2.36	0.54
6:ha:83:SER:H	6:ha:127:ASN:ND2	2.06	0.54
15:qa:17:ILE:HG22	15:qa:24:MET:HE1	1.88	0.54
20:va:89:ARG:HH11	20:va:96:ARG:NH2	2.05	0.54
26:cb:16:LYS:HD3	26:cb:21:ASN:OD1	2.07	0.54
31:hb:174:TYR:CE2	31:hb:180:LYS:HB2	2.42	0.54
33:AA:167:ARG:HG2	33:AA:222:PHE:CD1	2.42	0.54
37:EA:144:ARG:NH1	75:RB:2661:C:OP2	2.40	0.54
39:GA:13:LYS:HA	62:DB:66:LYS:HE2	1.88	0.54
41:IA:60:TYR:CE2	41:IA:63:LYS:HA	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:KA:120:GLU:O	43:KA:247:ARG:NH2	2.21	0.54
43:KA:206:TYR:CD1	77:TB:33:U:C2	2.95	0.54
50:RA:10:SER:O	50:RA:14:ILE:HG12	2.07	0.54
60:BB:77:LYS:HG3	75:RB:133:G:C2	2.42	0.54
75:RB:244:G:H2'	75:RB:245:C:C6	2.42	0.54
75:RB:2431:A:H2'	75:RB:2432:A:C8	2.41	0.54
1:aa:1647:C:H2'	1:aa:1648:C:O4'	2.07	0.54
9:ka:120:ASP:CB	9:ka:137:ILE:HD11	2.37	0.54
34:BA:146:ILE:HG22	57:YA:26:ILE:HG21	1.88	0.54
58:ZA:27:CYS:O	58:ZA:30:PRO:HD2	2.07	0.54
62:DB:130:PHE:CE1	75:RB:3145:G:H4'	2.41	0.54
63:EB:232:ASP:OD1	63:EB:252:ARG:NH2	2.38	0.54
70:LB:60:THR:HG22	75:RB:613:G:H5''	1.90	0.54
70:LB:117:ILE:HG21	70:LB:142:PHE:CE2	2.41	0.54
75:RB:633:C:H2'	75:RB:634:A:C8	2.39	0.54
75:RB:3017:A:N6	75:RB:3029:A:OP2	2.40	0.54
1:aa:609:A:OP2	1:aa:610:A:O2'	2.22	0.54
1:aa:1388:A:N3	11:ma:63:ARG:HD2	2.23	0.54
1:aa:1472:G:O2'	1:aa:1610:C:OP1	2.26	0.54
12:na:138:ASP:OD1	12:na:139:SER:N	2.40	0.54
17:sa:46:PHE:HZ	17:sa:96:PRO:HD3	1.72	0.54
19:ua:25:GLN:NE2	19:ua:26:VAL:O	2.40	0.54
29:fb:237:PRO:HA	29:fb:240:TRP:CE2	2.42	0.54
41:IA:95:ALA:HB2	41:IA:118:PRO:HB2	1.89	0.54
58:ZA:42:GLU:HB2	58:ZA:67:ARG:HD2	1.88	0.54
68:JB:99:CYS:HB3	68:JB:115:CYS:HB3	1.89	0.54
75:RB:1232:A:H2	75:RB:1233:G:O6	1.91	0.54
75:RB:2944:G:OP1	75:RB:2979:A:N6	2.35	0.54
76:SB:80:A:N7	76:SB:82:C:N4	2.56	0.54
80:cl:67:U:H2'	80:cl:68:C:C6	2.43	0.54
1:aa:308:U:O2'	32:ib:70:ARG:HD2	2.07	0.54
1:aa:706:U:H2'	1:aa:707:C:C5	2.42	0.54
29:fb:168:VAL:HG13	29:fb:227:CYS:SG	2.48	0.54
33:AA:182:LEU:HB3	33:AA:191:ALA:HB3	1.88	0.54
36:DA:230:PRO:HD2	36:DA:233:GLN:OE1	2.07	0.54
36:DA:241:ARG:HD3	75:RB:2149:G:OP1	2.08	0.54
61:CB:146:VAL:HG21	61:CB:191:LEU:HD13	1.88	0.54
80:cl:1:A:H2'	80:cl:2:U:C6	2.42	0.54
1:aa:256:G:H5''	8:ja:134:LYS:HA	1.89	0.54
1:aa:305:A:H2'	1:aa:306:U:C6	2.42	0.54
1:aa:611:G:H21	1:aa:618:C:H5''	1.71	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:1191:U:H2'	1:aa:1192:G:C8	2.43	0.54
1:aa:1587:G:H2'	1:aa:1588:C:C6	2.43	0.54
6:ha:11:ALA:HB2	6:ha:324:LYS:HB2	1.88	0.54
21:wa:40:ARG:HG3	21:wa:41:GLN:OE1	2.08	0.54
25:bb:131:ASP:O	25:bb:133:TYR:N	2.40	0.54
33:AA:245:ARG:O	33:AA:249:ILE:HG13	2.07	0.54
34:BA:17:ARG:NH2	34:BA:47:ALA:HB3	2.22	0.54
34:BA:25:ILE:HG21	34:BA:30:TYR:HE1	1.73	0.54
60:BB:106:GLU:HA	60:BB:109:LYS:HG2	1.89	0.54
63:EB:87:THR:HG22	75:RB:353:A:N1	2.23	0.54
75:RB:1158:C:O2'	75:RB:1201:C:O2	2.26	0.54
75:RB:3223:C:H2'	75:RB:3224:C:H6	1.73	0.54
1:aa:1444:G:H2'	1:aa:1445:C:H6	1.72	0.54
1:aa:1481:A:H2'	1:aa:1482:U:H6	1.73	0.54
17:sa:65:LEU:HD23	17:sa:92:MET:HE2	1.90	0.54
20:va:3:ARG:C	20:va:4:ARG:HD2	2.32	0.54
20:va:103:VAL:HG12	20:va:124:VAL:HG12	1.88	0.54
21:wa:30:LEU:HA	21:wa:39:CYS:HA	1.89	0.54
21:wa:53:ILE:HD12	21:wa:55:TYR:CZ	2.43	0.54
31:hb:63:ILE:HB	31:hb:95:PHE:HD2	1.73	0.54
34:BA:44:VAL:HG12	34:BA:53:PRO:HG2	1.88	0.54
37:EA:11:MET:CE	77:TB:51:G:H21	2.20	0.54
54:VA:23:ILE:HG23	54:VA:38:ASN:HB2	1.89	0.54
56:XA:105:PHE:HD1	70:LB:201:TYR:CD1	2.26	0.54
57:YA:167:THR:O	57:YA:170:LYS:NZ	2.41	0.54
75:RB:1617:A:H2'	75:RB:1618:U:O4'	2.07	0.54
75:RB:1654:C:O2'	75:RB:1793:A:OP1	2.16	0.54
75:RB:2423:A:H2'	75:RB:2424:C:C6	2.43	0.54
75:RB:3013:A:H2'	75:RB:3014:C:H6	1.72	0.54
79:bl:334:LEU:HB2	79:bl:343:ILE:HB	1.90	0.54
1:aa:476:U:H2'	1:aa:477:A:H8	1.71	0.54
1:aa:1562:C:O2'	1:aa:1563:A:O5'	2.23	0.54
18:ta:34:LYS:HD3	18:ta:76:LEU:C	2.33	0.54
31:hb:80:LEU:HD11	31:hb:95:PHE:CE1	2.43	0.54
37:EA:82:LEU:CD1	37:EA:131:VAL:HG11	2.38	0.54
41:IA:4:ARG:NH2	75:RB:1429:U:OP2	2.41	0.54
45:MA:63:TYR:OH	75:RB:410:G:OP1	2.22	0.54
45:MA:127:ARG:HA	45:MA:141:MET:HG2	1.88	0.54
52:TA:102:SER:HB2	75:RB:1394:C:O2'	2.08	0.54
63:EB:300:ASP:O	63:EB:304:SER:OG	2.23	0.54
72:NB:54:ASN:O	72:NB:58:GLN:HG2	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:613:G:H2'	75:RB:613:G:N3	2.23	0.54
75:RB:1857:G:O2'	75:RB:3062:G:OP1	2.25	0.54
75:RB:2683:U:H2'	75:RB:2684:G:O4'	2.07	0.54
75:RB:2962:U:O2'	75:RB:2963:G:OP1	2.24	0.54
75:RB:3106:C:H2'	75:RB:3107:U:C6	2.42	0.54
75:RB:3307:G:H2'	75:RB:3308:C:H6	1.72	0.54
1:aa:87:A:H2'	1:aa:88:C:H6	1.72	0.54
1:aa:930:G:H2'	1:aa:931:A:H8	1.72	0.54
1:aa:1028:A:O2'	1:aa:1029:U:OP2	2.25	0.54
1:aa:1664:U:HO2'	75:RB:2285:U:HO2'	1.55	0.54
6:ha:192:TRP:HA	6:ha:199:LEU:HA	1.90	0.54
8:ja:9:LEU:HB2	8:ja:30:LYS:HD3	1.90	0.54
29:fb:126:LYS:HG2	29:fb:137:GLY:HA3	1.90	0.54
34:BA:135:PRO:HA	61:CB:82:GLU:OE2	2.07	0.54
42:JA:19:PRO:HG2	42:JA:27:LYS:HZ2	1.73	0.54
51:SA:60:ASP:OD2	51:SA:62:LYS:HE2	2.08	0.54
51:SA:61:VAL:HG23	51:SA:62:LYS:HD3	1.89	0.54
62:DB:199:TYR:HA	62:DB:202:PHE:CD1	2.42	0.54
64:FB:84:ILE:HG21	64:FB:143:LEU:HD11	1.90	0.54
75:RB:1569:U:C5	75:RB:1571:A:H2'	2.43	0.54
79:bl:385:LYS:HA	79:bl:388:CYS:SG	2.48	0.54
1:aa:7:G:H2'	1:aa:8:U:H5''	1.90	0.54
8:ja:116:ASP:O	8:ja:120:LYS:HG2	2.08	0.54
10:la:36:LYS:O	10:la:73:ILE:HG22	2.07	0.54
25:bb:86:LEU:HB3	25:bb:98:THR:CG2	2.37	0.54
31:hb:23:VAL:HG21	31:hb:49:ALA:HB3	1.90	0.54
33:AA:52:LYS:HE2	75:RB:1559:G:H5''	1.89	0.54
34:BA:92:ARG:NE	75:RB:2733:A:OP1	2.28	0.54
36:DA:226:ARG:HG2	36:DA:227:ARG:N	2.22	0.54
37:EA:111:HIS:CE1	37:EA:117:LYS:HA	2.43	0.54
50:RA:31:TYR:O	50:RA:35:LEU:HD23	2.08	0.54
53:UA:49:TRP:O	75:RB:932:A:O2'	2.17	0.54
54:VA:15:LYS:O	54:VA:19:GLN:HG3	2.08	0.54
61:CB:97:MET:HB2	61:CB:102:LYS:CE	2.37	0.54
62:DB:10:ARG:HG3	62:DB:10:ARG:NH1	2.23	0.54
70:LB:134:ILE:O	70:LB:137:VAL:HG22	2.07	0.54
75:RB:1224:A:H5''	75:RB:1225:A:H3'	1.89	0.54
75:RB:1317:G:H2'	75:RB:1318:C:C6	2.43	0.54
79:bl:307:ASP:OD1	79:bl:308:ASP:N	2.41	0.54
1:aa:142:G:O2'	1:aa:143:A:O5'	2.25	0.53
1:aa:468:A:C2	1:aa:469:G:C8	2.96	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:1237:G:H2'	1:aa:1238:A:O4'	2.09	0.53
1:aa:1475:A:H2'	1:aa:1476:C:C6	2.42	0.53
1:aa:1531:G:O6	16:ra:83:ILE:HG12	2.07	0.53
10:la:47:PRO:HG2	10:la:84:ILE:CG1	2.39	0.53
13:oa:11:HIS:HD2	37:EA:118:TYR:HB2	1.72	0.53
16:ra:73:MET:HE2	16:ra:117:LEU:HD21	1.89	0.53
25:bb:171:ILE:O	25:bb:175:GLN:HG2	2.08	0.53
27:db:13:HIS:O	27:db:15:ARG:NH2	2.41	0.53
28:eb:43:GLU:OE1	28:eb:46:ARG:NH2	2.41	0.53
33:AA:167:ARG:NH1	33:AA:223:ASP:OD2	2.34	0.53
33:AA:175:ILE:H	33:AA:218:PHE:HE2	1.55	0.53
63:EB:147:ILE:HG13	63:EB:147:ILE:O	2.08	0.53
63:EB:354:ARG:HH12	75:RB:518:G:H5''	1.72	0.53
75:RB:543:C:H2'	75:RB:544:C:C6	2.42	0.53
75:RB:687:C:H42	75:RB:702:G:H22	1.56	0.53
75:RB:1719:U:O2'	75:RB:1721:A:N7	2.35	0.53
75:RB:2815:U:H6	75:RB:2815:U:H5'	1.73	0.53
75:RB:3218:C:H2'	75:RB:3219:C:C6	2.43	0.53
77:TB:49:A:H8	77:TB:49:A:OP2	1.91	0.53
1:aa:332:A:H2'	1:aa:333:G:O4'	2.07	0.53
1:aa:518:G:O2'	1:aa:519:A:H5''	2.09	0.53
1:aa:615:U:H5	32:ib:97:LYS:HZ3	1.57	0.53
1:aa:1304:A:OP1	29:fb:109:LYS:NZ	2.33	0.53
27:db:25:ASN:HB3	27:db:77:CYS:SG	2.48	0.53
31:hb:134:ALA:HB1	31:hb:155:LEU:HD12	1.89	0.53
38:FA:15:GLU:N	38:FA:15:GLU:OE2	2.41	0.53
42:JA:3:ILE:HG21	75:RB:1368:U:H5''	1.91	0.53
43:KA:100:CYS:HG	43:KA:243:HIS:CD2	2.26	0.53
48:PA:47:ILE:HG13	48:PA:48:PRO:HD2	1.89	0.53
52:TA:3:VAL:HG13	52:TA:91:ARG:HE	1.73	0.53
74:PB:108:LYS:HD2	74:PB:108:LYS:O	2.08	0.53
75:RB:68:U:O2'	75:RB:100:C:O2'	2.17	0.53
75:RB:1525:U:H4'	75:RB:1526:A:OP2	2.07	0.53
75:RB:2629:G:O6	75:RB:2644:A:N6	2.41	0.53
75:RB:3117:U:H1'	75:RB:3118:A:H5''	1.91	0.53
75:RB:3240:G:H3'	75:RB:3241:U:H6	1.72	0.53
75:RB:3271:G:O2'	75:RB:3272:C:H5'	2.08	0.53
1:aa:1321:C:H2'	1:aa:1322:G:O4'	2.08	0.53
1:aa:1604:C:O2	21:wa:32:ARG:NH2	2.37	0.53
1:aa:1698:A:H5''	1:aa:1699:C:H5'	1.91	0.53
3:ca:76:LYS:O	3:ca:109:PRO:HG2	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:da:70:ASN:HA	4:da:73:ILE:HG12	1.90	0.53
6:ha:97:LEU:HD11	6:ha:132:SER:HB3	1.89	0.53
11:ma:64:MET:HG3	11:ma:65:PRO:CD	2.37	0.53
12:na:113:GLN:HG3	27:db:45:VAL:HG12	1.91	0.53
18:ta:33:GLN:HG3	18:ta:73:ASN:CB	2.38	0.53
23:ya:43:ARG:CD	23:ya:44:PHE:HD1	2.21	0.53
24:za:48:ASP:HB3	24:za:50:ILE:HG12	1.90	0.53
33:AA:109:LYS:HE2	33:AA:110:ARG:NH2	2.24	0.53
39:GA:15:ARG:NH1	39:GA:16:MET:O	2.42	0.53
56:XA:62:ILE:HD12	56:XA:66:PRO:HG2	1.89	0.53
57:YA:36:GLU:OE1	61:CB:235:TYR:OH	2.15	0.53
75:RB:1135:C:H2'	75:RB:1136:A:H8	1.73	0.53
75:RB:2894:A:H2'	75:RB:2896:C:H5''	1.89	0.53
1:aa:884:G:H2'	1:aa:885:C:C6	2.43	0.53
3:ca:48:ARG:NH1	3:ca:52:GLY:HA2	2.24	0.53
20:va:36:PHE:HE2	20:va:102:VAL:HB	1.74	0.53
30:gb:24:LEU:HD13	30:gb:28:TYR:CE1	2.44	0.53
37:EA:25:VAL:HG22	37:EA:27:GLU:HG3	1.89	0.53
40:HA:13:ARG:HH22	59:AB:44:ARG:HG3	1.74	0.53
40:HA:123:GLU:OE1	40:HA:128:LYS:NZ	2.41	0.53
58:ZA:65:VAL:HG22	58:ZA:74:VAL:HG22	1.90	0.53
61:CB:53:TYR:HE2	61:CB:185:ASP:HA	1.73	0.53
61:CB:182:CYS:SG	61:CB:185:ASP:N	2.76	0.53
62:DB:85:VAL:HG22	62:DB:205:GLU:HG2	1.90	0.53
62:DB:254:CYS:SG	75:RB:2940:G:N2	2.81	0.53
65:GB:41:PHE:O	75:RB:1727:A:N6	2.39	0.53
71:MB:78:ARG:HG3	71:MB:87:ARG:HD2	1.91	0.53
75:RB:1676:A:H2'	75:RB:1677:G:H8	1.73	0.53
77:TB:70:G:H2'	77:TB:71:A:C8	2.43	0.53
1:aa:1224:C:H2'	1:aa:1225:A:C8	2.39	0.53
1:aa:1500:A:H1'	1:aa:1501:G:C8	2.44	0.53
6:ha:46:TRP:CD1	6:ha:63:GLY:HA3	2.44	0.53
6:ha:225:GLY:HA3	6:ha:251:ILE:HG21	1.90	0.53
48:PA:50:ARG:HG3	48:PA:51:LYS:N	2.23	0.53
57:YA:168:THR:HB	64:FB:5:SER:HB3	1.90	0.53
60:BB:12:TRP:HH2	76:SB:66:G:H5'	1.73	0.53
62:DB:221:ILE:HG23	62:DB:279:THR:HG22	1.91	0.53
70:LB:87:ARG:NH1	75:RB:3206:C:N3	2.55	0.53
75:RB:17:G:H2'	75:RB:18:G:H8	1.73	0.53
75:RB:2270:C:H5'	75:RB:2310:A:H4'	1.91	0.53
75:RB:2282:U:H5''	79:bl:256:ASP:HB3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:2862:U:C4	75:RB:2863:C:N3	2.76	0.53
79:bl:324:TRP:CD1	79:bl:325:GLU:H	2.26	0.53
1:aa:204:U:O2	3:ca:197:ARG:NH2	2.34	0.53
1:aa:612:U:H5'	1:aa:614:G:N7	2.23	0.53
1:aa:636:U:OP1	32:ib:103:LYS:HE3	2.08	0.53
8:ja:105:THR:HB	8:ja:245:LYS:HE3	1.91	0.53
34:BA:92:ARG:HB3	34:BA:94:GLU:OE1	2.09	0.53
46:NA:60:SER:OG	60:BB:81:PRO:HG2	2.09	0.53
53:UA:20:ILE:HD11	53:UA:39:TYR:OH	2.09	0.53
58:ZA:86:LYS:HE2	58:ZA:90:LYS:HD2	1.89	0.53
62:DB:280:GLU:HG2	62:DB:283:LYS:HE2	1.89	0.53
71:MB:55:ALA:HB2	71:MB:73:TRP:CZ3	2.44	0.53
75:RB:554:C:O2'	75:RB:555:G:OP2	2.27	0.53
75:RB:909:A:N1	75:RB:922:U:O2'	2.35	0.53
75:RB:1258:C:H2'	75:RB:1259:C:O4'	2.09	0.53
75:RB:2739:C:H2'	75:RB:2740:G:H8	1.73	0.53
1:aa:594:C:H2'	1:aa:595:A:C8	2.44	0.53
1:aa:760:G:H5'	1:aa:761:A:OP2	2.08	0.53
1:aa:944:A:H2'	1:aa:945:A:C8	2.44	0.53
7:ia:137:ILE:HG13	7:ia:151:LYS:HG2	1.91	0.53
15:qa:78:ARG:NH2	15:qa:81:ARG:HG3	2.24	0.53
16:ra:18:THR:N	16:ra:21:ASP:OD2	2.41	0.53
18:ta:34:LYS:HD2	18:ta:37:VAL:HB	1.90	0.53
33:AA:174:CYS:HA	33:AA:218:PHE:CD2	2.43	0.53
46:NA:110:LYS:NZ	46:NA:116:GLN:HB3	2.24	0.53
57:YA:74:ILE:HD12	57:YA:97:ARG:NH2	2.23	0.53
70:LB:213:LYS:HB3	70:LB:215:HIS:CE1	2.43	0.53
75:RB:185:A:OP2	75:RB:209:G:N2	2.39	0.53
75:RB:877:U:OP2	75:RB:1903:C:O2'	2.21	0.53
75:RB:1266:G:C6	75:RB:1268:G:H1'	2.44	0.53
75:RB:3013:A:H2'	75:RB:3014:C:C6	2.44	0.53
1:aa:390:G:OP2	3:ca:25:ARG:NH2	2.33	0.53
1:aa:633:U:C2	1:aa:634:A:C8	2.97	0.53
1:aa:1125:U:H2'	1:aa:1126:C:C6	2.44	0.53
3:ca:102:ILE:HD11	3:ca:211:TYR:CE1	2.42	0.53
8:ja:199:GLU:OE2	8:ja:209:HIS:NE2	2.42	0.53
11:ma:28:ILE:CG2	11:ma:99:LEU:HB2	2.39	0.53
16:ra:77:ILE:HD13	16:ra:83:ILE:HD12	1.91	0.53
24:za:67:ARG:HH11	26:cb:72:TRP:HZ2	1.55	0.53
40:HA:45:PRO:O	40:HA:49:ARG:HG2	2.08	0.53
48:PA:71:GLN:NE2	76:SB:74:U:O4	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:ZA:98:VAL:HG13	58:ZA:99:ARG:N	2.24	0.53
61:CB:11:PRO:HB2	61:CB:14:VAL:HG12	1.89	0.53
62:DB:286:TYR:CD1	62:DB:358:ILE:HG13	2.43	0.53
63:EB:200:ARG:NH2	75:RB:338:C:OP2	2.36	0.53
75:RB:642:C:N4	75:RB:643:G:O6	2.41	0.53
75:RB:1177:G:H2'	75:RB:1178:C:C6	2.44	0.53
75:RB:1181:A:N3	75:RB:1332:C:O2'	2.40	0.53
75:RB:1317:G:H2'	75:RB:1318:C:H6	1.74	0.53
75:RB:1470:A:H1'	75:RB:1472:C:OP2	2.09	0.53
75:RB:1516:G:C5	75:RB:1518:A:C5	2.97	0.53
75:RB:1684:U:H5''	75:RB:1685:U:H5'	1.89	0.53
75:RB:3012:A:H2'	75:RB:3013:A:C8	2.39	0.53
76:SB:124:C:H2'	76:SB:125:C:C6	2.44	0.53
1:aa:344:U:N3	1:aa:345:A:N7	2.56	0.53
1:aa:479:A:OP2	28:eb:128:ARG:NH1	2.42	0.53
6:ha:75:PHE:O	6:ha:93:TRP:N	2.29	0.53
6:ha:97:LEU:HD11	6:ha:132:SER:CB	2.39	0.53
6:ha:298:TYR:O	6:ha:316:THR:OG1	2.18	0.53
9:ka:141:ARG:NE	19:ua:64:LYS:HZ2	2.07	0.53
9:ka:161:ASN:OD1	18:ta:69:ARG:NH2	2.41	0.53
13:oa:99:VAL:CG1	13:oa:100:SER:H	2.22	0.53
23:ya:33:ARG:HD3	28:eb:128:ARG:HD2	1.91	0.53
24:za:13:SER:O	24:za:17:GLN:NE2	2.42	0.53
29:fb:185:GLY:N	29:fb:205:ASP:OD2	2.41	0.53
31:hb:105:PRO:HB3	31:hb:111:VAL:HG22	1.90	0.53
42:JA:13:ARG:NH1	75:RB:1108:U:H5''	2.23	0.53
42:JA:127:LEU:HD11	63:EB:295:ARG:NH1	2.24	0.53
43:KA:236:GLU:HG2	43:KA:237:ALA:N	2.22	0.53
45:MA:102:ASN:OD1	75:RB:386:G:N2	2.42	0.53
59:AB:23:ARG:NH2	69:KB:78:GLU:OE1	2.42	0.53
61:CB:144:LYS:HE3	61:CB:241:ARG:HE	1.73	0.53
75:RB:693:C:H4'	75:RB:694:U:OP1	2.09	0.53
75:RB:707:G:N2	75:RB:791:C:O3'	2.42	0.53
75:RB:1207:A:H61	75:RB:1304:G:H2'	1.74	0.53
75:RB:2658:G:H2'	75:RB:2659:A:C8	2.42	0.53
79:bl:308:ASP:OD2	79:bl:423:PHE:HB3	2.09	0.53
1:aa:829:G:H2'	1:aa:830:U:C6	2.44	0.53
1:aa:893:U:H2'	1:aa:894:U:C6	2.44	0.53
6:ha:79:VAL:HG12	6:ha:90:SER:HB2	1.89	0.53
8:ja:52:LEU:HD13	8:ja:54:TYR:HE1	1.74	0.53
8:ja:79:ASP:OD1	8:ja:82:TYR:N	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:gb:112:ASN:C	30:gb:113:LEU:HD12	2.34	0.53
35:CA:23:ALA:HB1	35:CA:43:VAL:HG22	1.90	0.53
37:EA:30:ASP:O	37:EA:34:ARG:HG3	2.09	0.53
48:PA:62:TYR:CE1	48:PA:96:VAL:HG21	2.44	0.53
51:SA:28:LEU:HD12	51:SA:75:VAL:HG21	1.91	0.53
53:UA:50:SER:O	53:UA:54:ILE:HG13	2.09	0.53
56:XA:95:VAL:HG13	64:FB:204:ILE:HA	1.90	0.53
60:BB:6:VAL:HG11	60:BB:22:GLN:HE22	1.73	0.53
61:CB:20:ARG:NH1	75:RB:1353:A:N3	2.57	0.53
61:CB:120:LYS:HG3	61:CB:197:PHE:CE1	2.44	0.53
66:HB:93:PRO:HB2	66:HB:125:THR:HG22	1.91	0.53
75:RB:956:G:C8	75:RB:1120:G:C8	2.97	0.53
75:RB:1111:U:H2'	75:RB:1112:C:C6	2.44	0.53
75:RB:1673:A:N1	75:RB:1689:G:C6	2.76	0.53
1:aa:288:G:C6	30:gb:190:GLN:HG3	2.44	0.52
1:aa:301:U:O2'	8:ja:33:SER:HA	2.10	0.52
1:aa:1596:G:H1	1:aa:1616:U:H3	1.57	0.52
6:ha:313:ALA:HB3	6:ha:323:TYR:HE2	1.74	0.52
25:bb:32:ILE:HD11	25:bb:46:THR:HB	1.89	0.52
35:CA:122:ARG:NH1	35:CA:128:ASN:OD1	2.42	0.52
39:GA:13:LYS:HD2	39:GA:128:LEU:HD22	1.91	0.52
75:RB:178:C:C2	75:RB:235:G:N2	2.77	0.52
75:RB:1194:C:O2'	75:RB:1195:C:OP2	2.23	0.52
75:RB:1399:C:H2'	75:RB:1400:C:H6	1.74	0.52
75:RB:1561:U:O2'	75:RB:1562:A:O4'	2.21	0.52
75:RB:3353:A:H2'	75:RB:3354:C:C6	2.44	0.52
80:cl:63:U:H2'	80:cl:64:G:H8	1.72	0.52
1:aa:1681:G:OP1	30:gb:96:ARG:NH2	2.40	0.52
6:ha:39:ARG:O	6:ha:75:PHE:HA	2.09	0.52
9:ka:141:ARG:HA	9:ka:144:ASN:HD22	1.74	0.52
18:ta:47:THR:HG21	18:ta:81:ILE:HD13	1.91	0.52
31:hb:160:ARG:O	31:hb:164:GLU:HG3	2.08	0.52
35:CA:14:LEU:HG	74:PB:88:ARG:HG3	1.91	0.52
75:RB:553:C:O2'	75:RB:554:C:O5'	2.25	0.52
75:RB:2206:A:N3	75:RB:2598:A:O2'	2.39	0.52
77:TB:89:G:H2'	77:TB:90:A:H8	1.74	0.52
79:bl:320:THR:HG23	79:bl:389:THR:HG22	1.91	0.52
1:aa:212:A:H5'	32:ib:27:ARG:NH2	2.23	0.52
1:aa:216:A:N1	1:aa:848:C:H1'	2.23	0.52
2:ba:17:PHE:CD2	2:ba:28:PHE:HB3	2.43	0.52
3:ca:107:ALA:HB2	3:ca:184:LEU:HG	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:ha:203:LEU:CD1	6:ha:234:TRP:CE3	2.92	0.52
7:ia:116:ARG:HG2	7:ia:120:TYR:HE1	1.74	0.52
19:ua:38:THR:HG22	19:ua:39:GLY:N	2.19	0.52
20:va:27:GLN:HB3	20:va:28:PRO:HD3	1.90	0.52
28:eb:115:VAL:HG13	28:eb:120:MET:HG3	1.91	0.52
40:HA:75:VAL:HB	40:HA:76:PRO:HD3	1.90	0.52
41:IA:26:ARG:NH1	75:RB:941:C:OP2	2.43	0.52
63:EB:340:ARG:NH2	75:RB:562:G:OP1	2.43	0.52
63:EB:346:ALA:O	63:EB:350:ARG:HG2	2.09	0.52
64:FB:51:GLY:HA3	64:FB:139:ARG:CZ	2.39	0.52
73:OB:45:TYR:CD2	75:RB:1079:G:C4	2.98	0.52
75:RB:682:G:C6	75:RB:709:G:C2	2.97	0.52
75:RB:3215:A:H3'	75:RB:3216:A:H8	1.73	0.52
75:RB:3339:U:H3'	75:RB:3340:G:C5'	2.37	0.52
79:bl:114:GLU:HG2	79:bl:114:GLU:O	2.09	0.52
1:aa:161:G:H2'	1:aa:162:A:H8	1.74	0.52
1:aa:865:U:H2'	1:aa:866:U:C6	2.44	0.52
1:aa:1199:C:N4	10:la:149:ARG:O	2.25	0.52
18:ta:45:GLN:HA	18:ta:48:TYR:HB2	1.91	0.52
20:va:93:LEU:HD12	20:va:99:GLY:HA3	1.90	0.52
36:DA:89:TYR:OH	75:RB:2547:U:O2	2.24	0.52
43:KA:122:ASN:ND2	43:KA:167:ASP:OD1	2.22	0.52
43:KA:147:VAL:HB	43:KA:150:ILE:HG12	1.90	0.52
49:QA:139:LYS:HG3	75:RB:441:G:H5''	1.92	0.52
52:TA:44:ARG:HA	52:TA:53:MET:CE	2.39	0.52
55:WA:26:THR:HG22	55:WA:27:GLN:N	2.23	0.52
62:DB:370:GLY:HA2	75:RB:3082:A:H4'	1.90	0.52
75:RB:94:A:C5	75:RB:95:G:H1'	2.44	0.52
75:RB:1129:G:C6	75:RB:1136:A:C6	2.98	0.52
75:RB:1417:G:H2'	75:RB:1418:C:H6	1.75	0.52
75:RB:3269:G:H2'	75:RB:3270:G:H8	1.74	0.52
76:SB:130:G:H2'	76:SB:131:G:H8	1.74	0.52
1:aa:385:C:OP1	8:ja:10:LYS:HD3	2.09	0.52
1:aa:1149:U:H2'	1:aa:1150:U:C6	2.44	0.52
1:aa:1570:G:C6	1:aa:1571:G:N7	2.78	0.52
1:aa:1650:G:H5''	67:IB:2:ARG:HH21	1.73	0.52
6:ha:130:ILE:O	6:ha:141:LEU:HA	2.10	0.52
6:ha:169:VAL:HA	6:ha:181:VAL:O	2.09	0.52
6:ha:203:LEU:HD12	6:ha:203:LEU:O	2.10	0.52
8:ja:257:ALA:HA	8:ja:260:GLN:HG3	1.92	0.52
9:ka:14:LEU:HD21	9:ka:105:ILE:HD11	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:fb:150:ARG:HG2	29:fb:231:THR:HG23	1.92	0.52
40:HA:8:SER:O	40:HA:12:ARG:HG3	2.10	0.52
51:SA:21:THR:OG1	51:SA:80:ARG:NH1	2.36	0.52
62:DB:108:GLN:OE1	62:DB:109:HIS:ND1	2.42	0.52
62:DB:288:MET:HG3	62:DB:326:LEU:HD23	1.90	0.52
64:FB:32:LEU:HD21	64:FB:38:VAL:HG12	1.91	0.52
65:GB:17:ARG:NH2	75:RB:863:G:OP1	2.37	0.52
71:MB:90:PHE:CD1	71:MB:94:LEU:HD11	2.45	0.52
75:RB:1034:U:H2'	75:RB:1035:C:H5	1.73	0.52
75:RB:1399:C:H2'	75:RB:1400:C:C6	2.45	0.52
75:RB:1500:C:H2'	75:RB:1501:A:C8	2.45	0.52
75:RB:2622:C:O2'	75:RB:2624:A:H2	1.92	0.52
75:RB:2996:G:H2'	75:RB:2997:U:H6	1.74	0.52
75:RB:3162:G:H22	75:RB:3268:C:H42	1.58	0.52
77:TB:23:A:H2'	77:TB:24:G:C8	2.45	0.52
1:aa:264:G:N2	1:aa:266:C:N3	2.58	0.52
1:aa:403:A:H4'	8:ja:3:ARG:HB3	1.92	0.52
1:aa:1095:C:P	27:db:6:ARG:NH1	2.83	0.52
6:ha:234:TRP:HE1	6:ha:241:ARG:HD2	1.74	0.52
6:ha:270:SER:HA	6:ha:287:PRO:HD3	1.90	0.52
12:na:85:CYS:SG	12:na:90:ILE:HD11	2.49	0.52
20:va:76:TYR:HE1	32:ib:100:ARG:HG2	1.74	0.52
25:bb:86:LEU:HD23	25:bb:100:PHE:HA	1.92	0.52
31:hb:169:THR:O	31:hb:173:VAL:HG23	2.10	0.52
48:PA:1:MET:SD	48:PA:2:LYS:N	2.83	0.52
50:RA:31:TYR:CD1	50:RA:60:ILE:HD11	2.44	0.52
63:EB:109:ARG:HD2	63:EB:111:TRP:CH2	2.45	0.52
64:FB:172:SER:HB3	75:RB:3171:C:N4	2.25	0.52
70:LB:209:ARG:NH2	75:RB:3201:C:N3	2.55	0.52
72:NB:40:ARG:NH1	72:NB:41:TYR:OH	2.43	0.52
75:RB:1088:A:H2'	75:RB:1089:G:O4'	2.09	0.52
75:RB:1659:G:H22	75:RB:1783:G:H1	1.58	0.52
75:RB:2535:A:C8	75:RB:2537:G:H1'	2.45	0.52
75:RB:2656:A:H2'	75:RB:2657:U:O4'	2.10	0.52
75:RB:2872:U:O2	79:bl:184:GLN:HG2	2.09	0.52
77:TB:75:G:O2'	77:TB:99:G:O6	2.23	0.52
1:aa:701:C:H2'	1:aa:702:G:C8	2.29	0.52
1:aa:824:U:C2	1:aa:858:G:N1	2.78	0.52
1:aa:1078:G:H2'	1:aa:1079:G:H5''	1.91	0.52
8:ja:86:PHE:CZ	8:ja:87:MET:HE3	2.45	0.52
13:oa:70:VAL:HG12	13:oa:77:PHE:CZ	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:pa:45:GLN:HE22	14:pa:53:LEU:HD11	1.75	0.52
26:cb:15:ARG:HH12	29:fb:69:HIS:HA	1.75	0.52
36:DA:5:ILE:CD1	36:DA:210:PRO:HD3	2.40	0.52
38:FA:76:VAL:O	38:FA:80:ILE:HG12	2.08	0.52
38:FA:94:VAL:HG12	68:JB:82:LEU:HG	1.91	0.52
57:YA:114:SER:HB2	75:RB:1325:G:N2	2.25	0.52
58:ZA:80:PHE:HE2	58:ZA:85:LEU:HD21	1.74	0.52
61:CB:85:LEU:HD21	61:CB:118:PHE:CD1	2.45	0.52
75:RB:445:C:H1'	75:RB:493:G:H22	1.74	0.52
75:RB:496:U:H3'	75:RB:497:G:H5''	1.92	0.52
75:RB:1072:C:H2'	75:RB:1073:G:H8	1.74	0.52
75:RB:2259:U:H2'	75:RB:2260:C:H6	1.74	0.52
6:ha:184:SER:OG	6:ha:185:TRP:N	2.41	0.52
20:va:75:THR:O	20:va:76:TYR:HB3	2.10	0.52
21:wa:21:CYS:SG	21:wa:39:CYS:HB3	2.49	0.52
25:bb:109:LYS:O	25:bb:113:LEU:HD23	2.09	0.52
33:AA:167:ARG:HH11	33:AA:223:ASP:CG	2.17	0.52
35:CA:19:ALA:O	74:PB:77:PRO:HG2	2.10	0.52
35:CA:83:THR:HG22	35:CA:85:TYR:H	1.75	0.52
38:FA:68:ALA:O	38:FA:71:THR:OG1	2.26	0.52
40:HA:114:ARG:NH1	40:HA:151:LEU:O	2.39	0.52
49:QA:38:ASN:HA	49:QA:58:ALA:HB2	1.90	0.52
57:YA:174:PRO:HB3	75:RB:3195:A:C8	2.45	0.52
74:PB:58:ARG:HD3	74:PB:59:PRO:CD	2.39	0.52
75:RB:2719:U:H2'	75:RB:2720:U:C6	2.45	0.52
75:RB:2719:U:H2'	75:RB:2720:U:H6	1.75	0.52
79:bl:165:ARG:HB2	79:bl:265:PHE:HE2	1.75	0.52
79:bl:395:ASN:ND2	79:bl:400:GLY:O	2.43	0.52
1:aa:141:G:C2	1:aa:142:G:C6	2.97	0.52
1:aa:1221:A:N6	4:da:27:TYR:HE2	2.08	0.52
1:aa:1335:A:H61	7:ia:161:GLY:HA3	1.75	0.52
1:aa:1493:A:OP1	21:wa:34:TYR:OH	2.19	0.52
5:ga:50:VAL:HG22	5:ga:71:VAL:HG12	1.92	0.52
6:ha:231:THR:HG21	6:ha:263:LEU:HD21	1.92	0.52
7:ia:11:PHE:HE2	11:ma:92:VAL:HG13	1.75	0.52
25:bb:109:LYS:NZ	25:bb:113:LEU:HD21	2.25	0.52
25:bb:144:LYS:HE3	25:bb:206:PRO:HB3	1.92	0.52
31:hb:76:ILE:HG13	31:hb:77:HIS:N	2.20	0.52
33:AA:76:PHE:C	33:AA:78:ARG:H	2.18	0.52
36:DA:97:SER:OG	36:DA:100:ASN:ND2	2.42	0.52
36:DA:105:ARG:NH2	36:DA:161:SER:OG	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:TA:83:LEU:HD21	52:TA:113:ALA:HB2	1.91	0.52
61:CB:97:MET:HG2	61:CB:135:TYR:CE1	2.45	0.52
62:DB:91:ALA:HB1	62:DB:157:ALA:HB2	1.90	0.52
62:DB:229:TYR:CE1	62:DB:271:GLY:HA2	2.45	0.52
63:EB:104:MET:CE	63:EB:108:THR:H	2.23	0.52
63:EB:155:LEU:HD23	63:EB:255:ILE:HD12	1.92	0.52
63:EB:199:MET:HE2	75:RB:339:G:C6	2.44	0.52
63:EB:294:GLY:O	63:EB:298:ASN:HB2	2.10	0.52
70:LB:71:LEU:HD11	70:LB:75:ILE:HG21	1.92	0.52
75:RB:449:G:O2'	75:RB:450:C:H6	1.93	0.52
75:RB:1506:A:C4	75:RB:1507:A:C8	2.98	0.52
75:RB:1945:A:H2'	75:RB:1946:C:H6	1.73	0.52
76:SB:128:C:OP1	76:SB:130:G:H1'	2.10	0.52
1:aa:334:G:H5'	3:ca:98:VAL:HG23	1.92	0.52
1:aa:643:U:N3	31:hb:104:PRO:HD3	2.24	0.52
1:aa:1046:G:H2'	1:aa:1047:G:C8	2.45	0.52
1:aa:1295:G:OP2	1:aa:1295:G:N2	2.37	0.52
1:aa:1388:A:H5''	11:ma:66:THR:HG23	1.91	0.52
1:aa:1529:G:H21	10:la:76:ARG:NE	2.07	0.52
1:aa:1598:G:OP1	16:ra:95:ARG:HD2	2.11	0.52
1:aa:1650:G:C5'	67:IB:2:ARG:HH21	2.22	0.52
4:da:38:PRO:HD2	4:da:41:GLN:OE1	2.10	0.52
11:ma:80:GLU:OE1	11:ma:81:GLY:N	2.43	0.52
17:sa:87:THR:HG22	17:sa:89:LEU:H	1.74	0.52
25:bb:224:ASP:HB3	25:bb:227:LYS:HG3	1.91	0.52
29:fb:150:ARG:HB3	29:fb:232:TYR:CE1	2.44	0.52
32:ib:34:ARG:NH2	32:ib:54:TYR:O	2.34	0.52
45:MA:4:TYR:CE2	45:MA:16:LYS:HE3	2.45	0.52
50:RA:47:ILE:HD12	50:RA:94:LEU:HD23	1.92	0.52
52:TA:68:LEU:H	52:TA:68:LEU:HD12	1.74	0.52
60:BB:47:ARG:O	60:BB:51:ILE:HG12	2.09	0.52
73:OB:32:THR:OG1	75:RB:752:U:OP1	2.24	0.52
75:RB:18:G:H1	76:SB:142:G:H1	1.57	0.52
75:RB:538:C:H4'	75:RB:539:C:O5'	2.08	0.52
75:RB:1268:G:N2	75:RB:1281:C:H42	2.08	0.52
75:RB:1545:G:H2'	75:RB:1546:G:H8	1.75	0.52
75:RB:3038:U:OP2	75:RB:3088:C:N4	2.43	0.52
75:RB:3341:C:O2'	75:RB:3342:U:H3'	2.10	0.52
1:aa:130:A:P	1:aa:134:G:H22	2.33	0.51
1:aa:1355:U:H2'	1:aa:1356:A:C8	2.45	0.51
1:aa:1496:A:H4'	1:aa:1497:U:H3'	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:ga:104:PHE:HD1	5:ga:120:LYS:HB3	1.74	0.51
7:ia:70:THR:O	7:ia:74:GLN:HG2	2.09	0.51
12:na:28:PHE:HZ	27:db:58:VAL:HG21	1.74	0.51
13:oa:89:ASP:OD1	13:oa:90:TYR:N	2.42	0.51
16:ra:97:ARG:HA	16:ra:103:PRO:HB3	1.92	0.51
18:ta:94:SER:O	18:ta:101:ILE:HA	2.10	0.51
31:hb:44:LEU:HD22	31:hb:69:LEU:HD13	1.91	0.51
37:EA:94:LEU:C	37:EA:96:ARG:H	2.17	0.51
38:FA:13:PRO:O	38:FA:52:ARG:NH2	2.43	0.51
53:UA:75:LYS:O	53:UA:76:SER:OG	2.22	0.51
62:DB:305:THR:O	62:DB:307:LYS:HG2	2.10	0.51
66:HB:202:VAL:HG13	66:HB:203:HIS:CE1	2.45	0.51
69:KB:55:ARG:NH1	69:KB:73:ARG:HA	2.25	0.51
75:RB:37:U:H2'	75:RB:38:A:O4'	2.10	0.51
75:RB:287:A:H2'	75:RB:288:G:H8	1.75	0.51
75:RB:1528:G:H5'	75:RB:1826:G:OP2	2.10	0.51
79:bl:118:PRO:O	79:bl:164:THR:HG21	2.10	0.51
1:aa:1309:U:H5''	1:aa:1310:C:C5	2.45	0.51
4:da:12:CYS:HB3	4:da:76:LEU:HD11	1.91	0.51
25:bb:101:TRP:CE3	25:bb:217:ILE:HG21	2.46	0.51
28:eb:59:ARG:HD3	29:fb:183:PRO:HG3	1.92	0.51
29:fb:213:SER:O	29:fb:216:THR:HG22	2.10	0.51
32:ib:1:MET:HG2	32:ib:2:ALA:H	1.74	0.51
35:CA:67:ARG:NH1	75:RB:1627:U:H5''	2.25	0.51
38:FA:91:MET:HG2	38:FA:178:ILE:HG22	1.92	0.51
39:GA:123:LYS:HA	39:GA:139:ILE:HD11	1.92	0.51
41:IA:93:ASP:OD2	69:KB:168:LYS:NZ	2.43	0.51
42:JA:123:ASP:OD1	42:JA:124:GLN:N	2.42	0.51
43:KA:150:ILE:HD12	43:KA:156:ASN:ND2	2.25	0.51
53:UA:78:PHE:HE2	76:SB:34:U:H5'	1.75	0.51
63:EB:121:ARG:NE	75:RB:679:C:H4'	2.25	0.51
63:EB:268:TYR:O	63:EB:276:SER:OG	2.25	0.51
63:EB:352:LYS:HA	63:EB:355:LYS:HD3	1.92	0.51
70:LB:81:LEU:HD23	70:LB:125:VAL:HB	1.93	0.51
70:LB:93:VAL:HG21	70:LB:106:ILE:HD12	1.92	0.51
75:RB:41:C:O2'	75:RB:42:A:H5'	2.11	0.51
75:RB:764:A:H2'	75:RB:765:U:O4'	2.10	0.51
75:RB:2935:G:N2	75:RB:2936:G:C4	2.79	0.51
1:aa:743:G:H2'	1:aa:744:G:C4	2.45	0.51
1:aa:1541:C:H5''	18:ta:76:LEU:CD2	2.40	0.51
1:aa:1610:C:H2'	1:aa:1611:U:C6	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:1787:G:N2	1:aa:1795:U:O2	2.43	0.51
3:ca:186:ALA:HB2	3:ca:202:ILE:HD13	1.90	0.51
6:ha:19:ASP:O	6:ha:38:SER:OG	2.27	0.51
6:ha:203:LEU:HD13	6:ha:234:TRP:HE3	1.75	0.51
9:ka:24:GLN:O	9:ka:24:GLN:HG2	2.09	0.51
19:ua:63:VAL:HG11	19:ua:67:VAL:HG11	1.91	0.51
26:cb:1:MET:HE3	29:fb:239:PHE:CE1	2.45	0.51
31:hb:61:VAL:HG22	31:hb:92:ASP:O	2.10	0.51
33:AA:146:LEU:O	33:AA:195:CYS:HA	2.11	0.51
33:AA:176:VAL:HG22	33:AA:177:LYS:H	1.76	0.51
49:QA:38:ASN:ND2	49:QA:50:GLY:O	2.42	0.51
52:TA:97:ILE:CG2	52:TA:101:VAL:HG21	2.40	0.51
63:EB:106:ALA:HA	75:RB:803:G:H22	1.75	0.51
70:LB:47:GLU:N	70:LB:48:PRO:HD3	2.25	0.51
75:RB:333:G:H2'	75:RB:334:A:C8	2.45	0.51
75:RB:953:G:N1	75:RB:1372:U:OP2	2.28	0.51
75:RB:1129:G:O6	75:RB:1136:A:N6	2.43	0.51
75:RB:1555:G:H1'	75:RB:1556:G:N7	2.26	0.51
75:RB:2735:G:O6	75:RB:2736:A:N6	2.44	0.51
1:aa:253:C:H2'	1:aa:254:A:H8	1.75	0.51
1:aa:879:C:H5''	25:bb:157:GLN:OE1	2.10	0.51
6:ha:30:ASN:HB3	6:ha:33:PHE:HD2	1.76	0.51
23:ya:30:PRO:O	23:ya:35:HIS:HB2	2.10	0.51
24:za:43:TYR:HD2	24:za:44:LYS:HG3	1.75	0.51
25:bb:99:ASN:OD1	25:bb:100:PHE:N	2.44	0.51
29:fb:139:ILE:HG22	29:fb:143:LYS:HZ2	1.76	0.51
30:gb:7:ASN:ND2	30:gb:12:CYS:SG	2.84	0.51
40:HA:51:LEU:HB3	40:HA:117:ASN:HD22	1.75	0.51
44:LA:74:ARG:NE	75:RB:1938:U:OP2	2.41	0.51
55:WA:28:TYR:HB3	55:WA:69:VAL:HB	1.91	0.51
57:YA:81:LEU:CD1	57:YA:92:MET:HB2	2.40	0.51
75:RB:1268:G:H22	75:RB:1281:C:H42	1.59	0.51
1:aa:516:A:P	28:eb:175:LYS:HG2	2.50	0.51
1:aa:1163:C:N4	1:aa:1168:A:N6	2.57	0.51
1:aa:1338:U:H2'	1:aa:1339:C:H6	1.76	0.51
4:da:22:TYR:CE1	7:ia:75:LYS:HE2	2.45	0.51
4:da:56:ARG:CG	4:da:67:TYR:HB2	2.39	0.51
6:ha:98:ARG:HD2	6:ha:100:TRP:CZ2	2.45	0.51
9:ka:51:ARG:CD	10:la:128:ARG:HD3	2.41	0.51
26:cb:20:THR:HG22	26:cb:22:ARG:HG3	1.92	0.51
28:eb:92:GLN:O	28:eb:92:GLN:HG2	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:hb:59:LYS:HG3	31:hb:91:LYS:HB3	1.92	0.51
37:EA:98:PHE:HA	37:EA:104:PHE:HB3	1.93	0.51
40:HA:201:ARG:HA	69:KB:24:TRP:CD1	2.46	0.51
53:UA:52:LYS:O	53:UA:55:ARG:HG2	2.10	0.51
66:HB:21:ARG:NH2	66:HB:22:TYR:OH	2.42	0.51
66:HB:51:HIS:HB3	66:HB:134:VAL:HG13	1.93	0.51
71:MB:9:ARG:HH21	71:MB:9:ARG:HG2	1.75	0.51
75:RB:38:A:H61	75:RB:41:C:H3'	1.76	0.51
75:RB:1207:A:N7	75:RB:1304:G:N2	2.58	0.51
75:RB:2100:A:H2'	75:RB:2101:A:C8	2.41	0.51
75:RB:2191:A:N6	75:RB:2263:A:C6	2.78	0.51
1:aa:197:G:O2'	1:aa:198:G:H8	1.94	0.51
1:aa:595:A:H2'	1:aa:596:A:C8	2.45	0.51
1:aa:1031:A:N3	1:aa:1800:A:O2'	2.42	0.51
1:aa:1219:C:O2'	1:aa:1220:C:H5'	2.10	0.51
1:aa:1225:A:H2'	1:aa:1226:U:H6	1.75	0.51
1:aa:1388:A:O2'	1:aa:1389:G:H5''	2.11	0.51
1:aa:1757:G:O2'	75:RB:2296:A:O2'	2.25	0.51
7:ia:42:THR:OG1	7:ia:45:ARG:HB3	2.11	0.51
8:ja:37:LYS:N	8:ja:37:LYS:HD3	2.26	0.51
24:za:45:ARG:HB2	24:za:51:TYR:CE2	2.45	0.51
25:bb:109:LYS:O	25:bb:112:SER:OG	2.27	0.51
29:fb:198:LEU:HD23	29:fb:228:LEU:HD21	1.93	0.51
38:FA:133:ILE:HD11	38:FA:143:ILE:HD12	1.93	0.51
40:HA:85:LYS:HB3	75:RB:43:U:H5''	1.91	0.51
42:JA:21:SER:OG	75:RB:677:U:OP1	2.19	0.51
43:KA:47:PRO:HB2	43:KA:66:TYR:HB2	1.92	0.51
49:QA:138:LYS:HG3	49:QA:139:LYS:HD2	1.92	0.51
61:CB:164:PRO:O	61:CB:166:ALA:N	2.43	0.51
62:DB:87:VAL:HB	62:DB:110:LEU:HD21	1.92	0.51
63:EB:112:ARG:HD3	63:EB:114:TRP:CH2	2.46	0.51
63:EB:227:ASN:HD21	75:RB:210:G:H2'	1.75	0.51
70:LB:103:LEU:HD12	70:LB:119:ARG:HD2	1.91	0.51
75:RB:1236:C:O2	75:RB:1236:C:H2'	2.10	0.51
75:RB:1269:U:N3	75:RB:1270:G:N7	2.58	0.51
75:RB:2191:A:C5	75:RB:2192:G:C8	2.98	0.51
75:RB:2251:U:C2	75:RB:2252:A:C8	2.98	0.51
80:cl:36:U:H2'	80:cl:37:MIA:O4'	2.10	0.51
1:aa:518:G:O2'	1:aa:519:A:H8	1.94	0.51
1:aa:1087:U:O2'	1:aa:1088:G:H5'	2.10	0.51
4:da:55:VAL:HG12	4:da:68:LEU:HA	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:ha:20:VAL:CG2	6:ha:316:THR:HA	2.38	0.51
9:ka:140:LEU:HD23	9:ka:144:ASN:ND2	2.24	0.51
12:na:98:ARG:HG2	12:na:99:ALA:O	2.11	0.51
20:va:98:TRP:CZ2	29:fb:234:PHE:HE2	2.28	0.51
24:za:132:ARG:HH21	24:za:157:PRO:HD3	1.76	0.51
25:bb:51:THR:HG23	25:bb:56:ILE:HA	1.93	0.51
25:bb:109:LYS:HZ3	25:bb:113:LEU:HD21	1.76	0.51
28:eb:101:LEU:HD13	28:eb:106:PHE:HE2	1.74	0.51
33:AA:46:ARG:NH2	75:RB:2583:G:O2'	2.44	0.51
34:BA:27:LEU:HG	34:BA:31:LEU:HD23	1.93	0.51
36:DA:13:GLY:O	36:DA:17:LYS:HG3	2.11	0.51
36:DA:202:VAL:HG23	75:RB:2178:G:OP1	2.11	0.51
38:FA:25:ILE:HD12	38:FA:38:PHE:CD1	2.45	0.51
48:PA:71:GLN:HB3	48:PA:80:HIS:HB2	1.92	0.51
51:SA:18:ARG:CZ	75:RB:3375:G:H4'	2.41	0.51
61:CB:157:LYS:NZ	75:RB:1105:G:OP1	2.33	0.51
66:HB:51:HIS:HD2	66:HB:168:SER:HB2	1.76	0.51
70:LB:154:ARG:HH21	70:LB:154:ARG:HA	1.74	0.51
74:PB:6:THR:HG22	75:RB:1489:G:H21	1.76	0.51
75:RB:607:U:H4'	75:RB:608:G:OP1	2.07	0.51
75:RB:1183:C:C2	75:RB:1185:G:C8	2.98	0.51
75:RB:2284:A:H2'	75:RB:2285:U:C6	2.46	0.51
75:RB:3343:G:H2'	75:RB:3344:C:C6	2.46	0.51
76:SB:132:C:H2'	76:SB:133:C:C6	2.46	0.51
77:TB:71:A:O2'	77:TB:72:G:OP1	2.26	0.51
79:bl:329:VAL:HG13	79:bl:375:LEU:HD23	1.92	0.51
1:aa:1121:A:H2'	1:aa:1122:U:O4'	2.11	0.51
3:ca:117:HIS:CB	3:ca:169:ARG:HH12	2.19	0.51
7:ia:208:VAL:HG21	15:qa:12:THR:HG21	1.92	0.51
15:qa:34:VAL:O	15:qa:38:VAL:HG22	2.10	0.51
34:BA:135:PRO:HG2	61:CB:84:LYS:HG3	1.92	0.51
36:DA:34:PHE:N	75:RB:2522:U:OP2	2.44	0.51
36:DA:60:LYS:HD2	36:DA:75:LEU:HD13	1.93	0.51
44:LA:57:ILE:O	44:LA:57:ILE:HG13	2.11	0.51
74:PB:4:ARG:HD2	75:RB:1484:A:H2	1.76	0.51
75:RB:430:G:N2	75:RB:631:U:O2	2.37	0.51
75:RB:432:G:H2'	75:RB:433:C:O4'	2.10	0.51
75:RB:777:G:OP1	75:RB:1079:G:N1	2.43	0.51
75:RB:1019:A:N3	75:RB:1040:A:N6	2.58	0.51
75:RB:2402:G:H3'	75:RB:2403:U:H4'	1.91	0.51
79:bl:67:ARG:O	79:bl:71:LEU:HD13	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:205:U:H2'	1:aa:206:U:H6	1.75	0.51
1:aa:1495:U:H5''	1:aa:1497:U:O2	2.11	0.51
15:qa:8:THR:O	15:qa:12:THR:HG23	2.10	0.51
16:ra:46:TRP:HZ3	16:ra:50:VAL:HG21	1.76	0.51
17:sa:39:THR:O	17:sa:43:VAL:HG13	2.11	0.51
24:za:22:MET:HE2	24:za:55:LEU:HD22	1.92	0.51
25:bb:157:GLN:C	25:bb:159:SER:H	2.19	0.51
29:fb:59:ARG:HD3	29:fb:253:PHE:CD1	2.46	0.51
29:fb:194:PRO:HD3	29:fb:220:PHE:HE2	1.73	0.51
31:hb:77:HIS:ND1	31:hb:77:HIS:O	2.43	0.51
33:AA:172:PRO:HA	33:AA:219:ASN:OD1	2.11	0.51
40:HA:65:ARG:HD3	40:HA:129:TYR:CE1	2.46	0.51
61:CB:215:GLY:HA2	75:RB:1171:U:H5'	1.92	0.51
63:EB:171:ILE:O	63:EB:175:LYS:HG2	2.11	0.51
74:PB:44:CYS:HB2	74:PB:51:ILE:HD11	1.93	0.51
75:RB:352:U:H2'	75:RB:353:A:C8	2.46	0.51
75:RB:356:G:N2	75:RB:359:A:OP2	2.44	0.51
75:RB:3007:A:N1	75:RB:3039:C:O2'	2.32	0.51
79:bl:33:MET:HB3	79:bl:127:ASP:O	2.11	0.51
79:bl:151:ASP:OD1	79:bl:151:ASP:N	2.44	0.51
79:bl:370:GLN:HG2	79:bl:371:GLU:N	2.26	0.51
1:aa:80:C:H1'	1:aa:81:U:OP2	2.11	0.51
1:aa:887:U:H2'	1:aa:888:U:C6	2.46	0.51
1:aa:1279:A:O5'	1:aa:1279:A:H8	1.94	0.51
2:ba:23:LEU:CD1	8:ja:64:ILE:HG12	2.40	0.51
4:da:16:PHE:HB2	4:da:76:LEU:CD2	2.41	0.51
9:ka:73:MET:HG3	9:ka:73:MET:O	2.11	0.51
12:na:43:HIS:CD2	12:na:52:THR:HG23	2.46	0.51
28:eb:112:GLN:HE21	28:eb:146:PRO:HB3	1.75	0.51
29:fb:176:THR:OG1	29:fb:211:ARG:HB3	2.11	0.51
33:AA:93:LEU:O	33:AA:96:ARG:HG3	2.10	0.51
49:QA:16:ASN:ND2	75:RB:1427:C:H1'	2.26	0.51
56:XA:50:PHE:HD1	56:XA:53:LEU:HD12	1.75	0.51
60:BB:6:VAL:HG11	60:BB:22:GLN:NE2	2.25	0.51
66:HB:3:ARG:HH22	75:RB:2851:U:P	2.30	0.51
74:PB:58:ARG:O	74:PB:61:GLU:HG2	2.10	0.51
75:RB:251:G:H2'	75:RB:252:A:H8	1.76	0.51
75:RB:3292:A:O2'	75:RB:3297:A:N1	2.37	0.51
75:RB:3304:U:C6	75:RB:3305:A:H2'	2.46	0.51
75:RB:3371:G:H4'	75:RB:3372:G:OP1	2.11	0.51
79:bl:79:GLN:HA	79:bl:82:LYS:HZ3	1.77	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:cl:56:C:H3'	80:cl:57:G:C8	2.46	0.51
1:aa:944:A:OP1	14:pa:114:ARG:NH2	2.36	0.50
1:aa:1601:A:H2'	1:aa:1602:G:H8	1.76	0.50
4:da:14:TYR:OH	7:ia:75:LYS:HE3	2.10	0.50
5:ga:40:PHE:HB3	5:ga:43:SER:HB3	1.93	0.50
7:ia:40:ARG:NH1	11:ma:116:PRO:HA	2.15	0.50
16:ra:88:PHE:CD1	16:ra:91:ILE:HD11	2.45	0.50
18:ta:64:SER:N	18:ta:103:THR:OG1	2.44	0.50
20:va:6:LEU:HD22	20:va:32:VAL:HG11	1.93	0.50
23:ya:44:PHE:HE2	28:eb:31:LYS:HZ3	1.58	0.50
40:HA:23:GLN:NE2	40:HA:121:VAL:O	2.44	0.50
40:HA:160:GLU:HG2	40:HA:161:LEU:HD22	1.92	0.50
41:IA:128:LYS:HG3	75:RB:720:G:OP1	2.10	0.50
56:XA:110:VAL:HG13	64:FB:201:LEU:HD21	1.92	0.50
57:YA:10:GLN:HA	57:YA:29:MET:O	2.11	0.50
63:EB:35:ILE:HG23	63:EB:133:ALA:HB2	1.93	0.50
72:NB:26:LYS:HE2	75:RB:1748:A:H4'	1.93	0.50
75:RB:1476:G:H2'	75:RB:1477:A:H8	1.77	0.50
75:RB:1802:A:C6	75:RB:1803:G:C6	2.99	0.50
75:RB:3047:U:C2	75:RB:3048:G:C8	2.99	0.50
1:aa:333:G:H2'	1:aa:334:G:C8	2.44	0.50
1:aa:1285:G:H2'	1:aa:1286:U:C6	2.46	0.50
1:aa:1375:C:H2'	1:aa:1376:A:C8	2.46	0.50
1:aa:1436:U:O2'	1:aa:1439:G:OP1	2.29	0.50
7:ia:20:GLU:OE2	7:ia:76:ARG:NH2	2.44	0.50
9:ka:95:ILE:HA	9:ka:98:LEU:HB3	1.93	0.50
9:ka:139:PRO:O	9:ka:142:ARG:HB3	2.11	0.50
13:oa:25:LYS:CD	13:oa:55:ARG:HE	2.15	0.50
25:bb:187:LYS:O	25:bb:190:PRO:HD2	2.11	0.50
35:CA:6:LYS:HE2	35:CA:9:LYS:HE3	1.93	0.50
36:DA:204:MET:HG2	75:RB:917:A:C2	2.46	0.50
47:OA:40:ARG:NH2	75:RB:3081:G:OP2	2.44	0.50
59:AB:26:PRO:HG2	69:KB:78:GLU:OE2	2.10	0.50
63:EB:237:GLU:OE1	63:EB:263:LYS:NZ	2.24	0.50
63:EB:366:SER:HB2	63:EB:369:GLU:OE1	2.11	0.50
63:EB:377:GLY:HA3	75:RB:523:C:O2'	2.10	0.50
66:HB:86:HIS:HB3	66:HB:139:ARG:HG2	1.92	0.50
69:KB:180:GLY:O	69:KB:184:VAL:HG23	2.11	0.50
71:MB:64:SER:HB2	71:MB:70:ARG:HH22	1.75	0.50
75:RB:1281:C:O2'	75:RB:1282:A:H8	1.94	0.50
75:RB:2276:G:H1'	75:RB:2278:C:N4	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:2621:G:H21	75:RB:2623:C:H5	1.59	0.50
77:TB:37:G:H21	77:TB:43:A:N6	2.10	0.50
1:aa:555:G:H2'	1:aa:556:G:H8	1.75	0.50
1:aa:1465:C:OP1	13:oa:124:ARG:NH1	2.44	0.50
1:aa:1587:G:H2'	1:aa:1588:C:H6	1.76	0.50
1:aa:1623:C:OP1	9:ka:56:ARG:NH2	2.44	0.50
8:ja:103:TYR:HB2	8:ja:182:MET:HE2	1.93	0.50
10:la:11:GLY:HA2	10:la:102:TYR:CE2	2.47	0.50
14:pa:148:THR:HG23	50:RA:86:GLY:HA2	1.92	0.50
29:fb:79:VAL:CG2	29:fb:143:LYS:HB3	2.41	0.50
29:fb:92:LYS:HD3	29:fb:217:LEU:HD13	1.94	0.50
33:AA:168:LYS:HZ2	59:AB:42:PHE:HE2	1.60	0.50
34:BA:10:ARG:NH2	75:RB:2638:U:OP2	2.44	0.50
41:IA:113:MET:O	41:IA:114:LEU:HD12	2.11	0.50
62:DB:286:TYR:CE1	62:DB:358:ILE:HG13	2.46	0.50
68:JB:79:GLU:OE2	68:JB:81:SER:OG	2.22	0.50
71:MB:64:SER:HB3	71:MB:70:ARG:HH12	1.76	0.50
71:MB:96:ALA:O	71:MB:99:MET:HG2	2.11	0.50
75:RB:58:G:H2'	76:SB:33:A:H2'	1.94	0.50
75:RB:115:C:O2	75:RB:263:A:N6	2.45	0.50
75:RB:427:U:O2'	75:RB:428:G:OP1	2.29	0.50
75:RB:446:C:N4	75:RB:492:G:O6	2.44	0.50
75:RB:2961:G:N2	75:RB:2964:A:OP2	2.38	0.50
79:bl:150:MET:SD	79:bl:233:PHE:HB3	2.52	0.50
1:aa:506:G:H4'	23:ya:41:ASN:HB2	1.93	0.50
1:aa:1183:G:C6	1:aa:1468:G:C6	2.99	0.50
2:ba:110:ARG:H	2:ba:110:ARG:HD3	1.76	0.50
4:da:32:HIS:HB2	4:da:39:ASN:ND2	2.26	0.50
26:cb:12:TYR:CG	26:cb:12:TYR:O	2.64	0.50
33:AA:46:ARG:NH2	75:RB:2585:G:OP1	2.39	0.50
35:CA:46:LEU:HD22	35:CA:68:VAL:HG11	1.94	0.50
40:HA:121:VAL:HG11	40:HA:131:GLU:CD	2.36	0.50
45:MA:109:ASP:HB3	45:MA:112:ALA:HB3	1.93	0.50
49:QA:4:VAL:HG11	63:EB:35:ILE:HD13	1.93	0.50
55:WA:72:LEU:HD11	55:WA:83:ARG:NH2	2.27	0.50
57:YA:77:TYR:CD1	57:YA:101:LEU:HD13	2.47	0.50
59:AB:33:LYS:HG2	75:RB:314:C:C2	2.46	0.50
75:RB:559:U:H2'	75:RB:560:C:C6	2.46	0.50
75:RB:1392:U:O2'	75:RB:1421:A:N1	2.42	0.50
76:SB:73:U:H2'	76:SB:74:U:O4'	2.11	0.50
1:aa:419:C:O2'	1:aa:422:G:O6	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:1379:U:H2'	1:aa:1380:A:C8	2.47	0.50
1:aa:1621:U:H5	9:ka:59:LYS:NZ	2.10	0.50
2:ba:86:GLU:OE1	2:ba:89:LYS:HE2	2.11	0.50
5:ga:54:ILE:HD13	5:ga:70:ARG:HG3	1.94	0.50
8:ja:200:LYS:HA	8:ja:206:GLU:HG3	1.94	0.50
10:la:115:PHE:HB3	10:la:123:LEU:HD11	1.93	0.50
11:ma:30:ILE:HD11	11:ma:120:VAL:CG1	2.42	0.50
18:ta:63:PRO:HB2	18:ta:66:LEU:H	1.77	0.50
20:va:35:SER:O	20:va:39:ILE:HG12	2.12	0.50
25:bb:183:GLU:OE1	25:bb:187:LYS:HE3	2.11	0.50
28:eb:20:PRO:O	28:eb:25:ARG:NH2	2.45	0.50
36:DA:70:LYS:HE3	75:RB:1577:A:H2	1.76	0.50
45:MA:31:GLU:OE2	45:MA:60:PHE:HA	2.12	0.50
50:RA:75:HIS:ND1	50:RA:75:HIS:O	2.41	0.50
52:TA:30:LYS:HE3	52:TA:30:LYS:HA	1.92	0.50
53:UA:2:THR:O	53:UA:7:SER:HB2	2.11	0.50
66:HB:167:ARG:NH2	66:HB:169:ARG:HA	2.26	0.50
75:RB:702:G:O2'	75:RB:703:G:H5'	2.12	0.50
75:RB:2206:A:H2'	75:RB:2207:A:C8	2.47	0.50
79:bl:149:ILE:HD11	79:bl:265:PHE:HD1	1.76	0.50
1:aa:70:C:H2'	1:aa:71:C:C6	2.45	0.50
2:ba:87:ALA:HA	2:ba:90:LYS:HG2	1.93	0.50
4:da:61:TRP:HZ3	7:ia:24:MET:HA	1.75	0.50
11:ma:39:ASN:HD21	11:ma:116:PRO:C	2.20	0.50
18:ta:42:LEU:HA	18:ta:46:ALA:HB3	1.93	0.50
25:bb:146:ARG:NE	25:bb:206:PRO:HG3	2.23	0.50
28:eb:4:VAL:HG22	28:eb:5:ASN:H	1.77	0.50
30:gb:196:ILE:HA	30:gb:199:LYS:HZ3	1.77	0.50
36:DA:5:ILE:HD13	36:DA:210:PRO:HD3	1.92	0.50
40:HA:202:ARG:HH11	69:KB:27:GLN:HB3	1.76	0.50
43:KA:115:LEU:HD13	43:KA:138:ARG:HD2	1.94	0.50
63:EB:317:GLU:OE1	63:EB:317:GLU:N	2.44	0.50
63:EB:356:GLU:OE2	63:EB:358:ILE:HD11	2.11	0.50
65:GB:32:SER:HB2	65:GB:70:THR:HG22	1.92	0.50
70:LB:92:ARG:O	70:LB:113:ASN:ND2	2.44	0.50
75:RB:431:G:C6	75:RB:432:G:C6	3.00	0.50
75:RB:446:C:H2'	75:RB:447:C:C6	2.47	0.50
75:RB:2346:G:H2'	75:RB:2347:C:O4'	2.12	0.50
79:bl:145:PHE:HZ	79:bl:279:VAL:HG11	1.76	0.50
79:bl:272:SER:O	79:bl:276:LEU:HG	2.11	0.50
1:aa:491:G:N2	1:aa:492:G:C4	2.80	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:558:C:N4	1:aa:575:G:O6	2.45	0.50
1:aa:1771:U:OP2	78:al:1:A:O2'	2.30	0.50
3:ca:6:ASP:OD2	3:ca:8:MET:HB2	2.12	0.50
9:ka:118:ARG:HG2	19:ua:74:THR:HG21	1.94	0.50
12:na:97:LEU:HD12	12:na:98:ARG:H	1.75	0.50
13:oa:45:CYS:HB3	13:oa:52:MET:HE1	1.94	0.50
17:sa:61:LYS:HB2	17:sa:62:PRO:HD3	1.92	0.50
19:ua:38:THR:CG2	19:ua:39:GLY:H	2.18	0.50
35:CA:137:PHE:O	75:RB:2550:G:O2'	2.28	0.50
41:IA:75:VAL:HG13	41:IA:110:GLY:HA2	1.92	0.50
43:KA:224:GLU:HA	43:KA:227:LYS:HG2	1.94	0.50
51:SA:52:MET:O	51:SA:54:THR:N	2.44	0.50
53:UA:63:ARG:O	53:UA:68:ARG:NH2	2.37	0.50
53:UA:73:ARG:NH2	60:BB:88:GLN:O	2.44	0.50
56:XA:3:PHE:CE1	57:YA:178:MET:HG3	2.46	0.50
57:YA:32:TRP:CH2	57:YA:101:LEU:HG	2.46	0.50
60:BB:124:ALA:HB2	69:KB:124:VAL:HB	1.92	0.50
63:EB:206:ASN:ND2	63:EB:207:ARG:O	2.45	0.50
65:GB:44:LYS:NZ	65:GB:59:ASP:OD1	2.45	0.50
75:RB:108:A:H4'	75:RB:109:G:OP1	2.12	0.50
75:RB:181:G:H2'	75:RB:182:C:C6	2.47	0.50
75:RB:713:G:N3	75:RB:757:G:O2'	2.43	0.50
75:RB:1944:G:H2'	75:RB:1945:A:H8	1.76	0.50
75:RB:3269:G:H2'	75:RB:3270:G:C8	2.47	0.50
1:aa:334:G:H5'	3:ca:98:VAL:CG2	2.41	0.50
1:aa:1409:G:H2'	1:aa:1410:C:C6	2.47	0.50
1:aa:1462:C:OP1	1:aa:1463:C:O2'	2.23	0.50
9:ka:20:PHE:HB3	9:ka:42:TYR:HE1	1.76	0.50
9:ka:140:LEU:HD22	19:ua:66:PRO:HG2	1.94	0.50
9:ka:167:GLU:OE1	18:ta:65:VAL:HG12	2.12	0.50
10:la:42:ILE:HG13	10:la:55:PHE:CE2	2.47	0.50
33:AA:193:VAL:O	33:AA:194:LEU:HD12	2.12	0.50
37:EA:20:VAL:HG12	37:EA:130:PHE:O	2.12	0.50
56:XA:125:LEU:HD11	64:FB:182:LEU:CD1	2.42	0.50
57:YA:16:LEU:HD23	57:YA:59:GLN:HB2	1.93	0.50
63:EB:95:PHE:O	63:EB:103:ARG:NH2	2.45	0.50
75:RB:446:C:C4	75:RB:492:G:N1	2.80	0.50
75:RB:713:G:H1'	75:RB:757:G:H1'	1.93	0.50
75:RB:2395:A:O2'	75:RB:2396:G:OP2	2.29	0.50
75:RB:3341:C:HO2'	75:RB:3342:U:H3'	1.76	0.50
76:SB:144:C:H2'	76:SB:145:U:C6	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:bl:310:LEU:HD11	79:bl:379:PHE:HZ	1.76	0.50
1:aa:31:C:O2'	1:aa:551:U:OP1	2.30	0.50
1:aa:1151:G:H2'	1:aa:1152:A:C8	2.47	0.50
1:aa:1541:C:H4'	1:aa:1547:G:O6	2.12	0.50
13:oa:11:HIS:O	13:oa:23:LYS:NZ	2.43	0.50
13:oa:31:THR:HA	13:oa:36:VAL:O	2.11	0.50
16:ra:85:ILE:HD11	16:ra:114:ARG:HD2	1.92	0.50
17:sa:105:VAL:CG2	17:sa:129:SER:HB2	2.41	0.50
24:za:64:LEU:HD13	26:cb:72:TRP:CD1	2.47	0.50
28:eb:161:SER:OG	28:eb:162:LEU:N	2.45	0.50
28:eb:161:SER:HB3	28:eb:164:SER:H	1.77	0.50
29:fb:175:VAL:HG21	29:fb:220:PHE:HD1	1.75	0.50
30:gb:117:LYS:HA	30:gb:117:LYS:HE2	1.93	0.50
33:AA:46:ARG:NH1	75:RB:2584:C:O3'	2.39	0.50
33:AA:76:PHE:O	33:AA:77:THR:OG1	2.19	0.50
33:AA:89:PHE:CZ	33:AA:176:VAL:HG21	2.47	0.50
39:GA:22:VAL:HG22	39:GA:52:LEU:HD22	1.94	0.50
59:AB:9:GLY:CA	59:AB:19:VAL:HG13	2.42	0.50
67:IB:1:MET:HB3	67:IB:4:LYS:HB3	1.93	0.50
68:JB:102:ARG:HH21	75:RB:2893:A:P	2.35	0.50
70:LB:95:PHE:CE1	70:LB:104:LEU:HG	2.47	0.50
75:RB:297:G:H2'	75:RB:298:G:H8	1.77	0.50
75:RB:673:U:H1'	75:RB:1113:C:H4'	1.94	0.50
75:RB:1019:A:C8	75:RB:1021:U:H5''	2.46	0.50
75:RB:1266:G:N2	75:RB:1269:U:OP1	2.45	0.50
75:RB:2611:G:N2	75:RB:2624:A:N7	2.39	0.50
75:RB:3343:G:H2'	75:RB:3344:C:H6	1.77	0.50
1:aa:303:A:H2'	1:aa:304:A:O4'	2.12	0.49
1:aa:1075:G:H2'	1:aa:1076:C:C6	2.47	0.49
1:aa:1233:G:O2'	1:aa:1259:G:N2	2.37	0.49
1:aa:1301:G:N2	1:aa:1304:A:OP2	2.44	0.49
1:aa:1496:A:H5'	1:aa:1497:U:C6	2.47	0.49
1:aa:1566:U:H5'	1:aa:1567:G:H4'	1.94	0.49
3:ca:117:HIS:HB3	3:ca:169:ARG:NH1	2.23	0.49
8:ja:19:MET:SD	8:ja:108:ARG:HD2	2.52	0.49
11:ma:30:ILE:HG22	11:ma:97:ILE:HB	1.93	0.49
13:oa:22:GLY:C	13:oa:23:LYS:HD3	2.37	0.49
29:fb:162:HIS:HD2	29:fb:163:THR:HG23	1.73	0.49
41:IA:48:TYR:CD2	69:KB:5:ASN:HB2	2.47	0.49
42:JA:47:VAL:HG11	42:JA:137:LEU:HD21	1.93	0.49
46:NA:110:LYS:HZ3	46:NA:116:GLN:HB3	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:UA:28:HIS:HD2	75:RB:818:G:H5'	1.77	0.49
63:EB:97:ASN:OD1	63:EB:98:MET:N	2.44	0.49
75:RB:258:C:H2'	75:RB:259:G:C4	2.46	0.49
75:RB:281:G:O6	75:RB:302:G:H8	1.94	0.49
75:RB:495:G:H2'	75:RB:496:U:O4'	2.12	0.49
75:RB:606:C:H2'	75:RB:607:U:C4	2.46	0.49
75:RB:2996:G:H2'	75:RB:2997:U:C6	2.46	0.49
79:bl:43:GLN:HG2	79:bl:45:SER:H	1.77	0.49
80:cl:43:C:H2'	80:cl:44:A:C8	2.47	0.49
1:aa:610:A:H1'	1:aa:613:U:OP1	2.12	0.49
1:aa:1621:U:H5	9:ka:59:LYS:HZ2	1.57	0.49
1:aa:1670:G:H2'	1:aa:1671:G:C8	2.47	0.49
4:da:64:TYR:HB3	4:da:66:TRP:CZ2	2.46	0.49
6:ha:312:TYR:HD1	6:ha:322:ILE:HG22	1.77	0.49
7:ia:74:GLN:OE1	7:ia:84:VAL:HG12	2.12	0.49
9:ka:30:LEU:HD11	9:ka:142:ARG:HD2	1.92	0.49
9:ka:67:ARG:NH1	9:ka:143:VAL:HG12	2.27	0.49
9:ka:120:ASP:HB3	9:ka:137:ILE:HD11	1.95	0.49
11:ma:69:LEU:O	11:ma:89:GLU:HA	2.12	0.49
17:sa:82:PRO:HG3	17:sa:100:GLY:O	2.12	0.49
17:sa:105:VAL:HG23	17:sa:129:SER:HB2	1.95	0.49
25:bb:38:PHE:CD2	25:bb:73:LEU:HD23	2.46	0.49
28:eb:115:VAL:HG12	28:eb:121:ALA:HB2	1.94	0.49
32:ib:128:GLN:HA	32:ib:138:PHE:CD1	2.45	0.49
37:EA:138:TYR:CD1	37:EA:150:VAL:HG11	2.47	0.49
38:FA:5:LEU:HD12	38:FA:59:TRP:CH2	2.47	0.49
45:MA:22:LEU:HD22	45:MA:91:PHE:CD1	2.46	0.49
56:XA:11:ARG:CD	56:XA:55:LEU:HD12	2.42	0.49
75:RB:1244:A:H61	75:RB:1248:A:H2'	1.77	0.49
75:RB:1514:U:H3'	75:RB:1515:U:C6	2.47	0.49
75:RB:1567:G:N2	75:RB:1572:C:O2	2.32	0.49
75:RB:2218:U:H2'	75:RB:2219:U:C6	2.46	0.49
75:RB:2225:A:H2'	75:RB:2226:A:H8	1.76	0.49
75:RB:2328:G:N2	75:RB:2332:C:O2'	2.46	0.49
75:RB:2821:G:H2'	75:RB:2822:C:C6	2.45	0.49
75:RB:2962:U:HO2'	75:RB:2963:G:P	2.34	0.49
75:RB:3011:C:H2'	75:RB:3012:A:C8	2.47	0.49
75:RB:3226:G:H2'	75:RB:3227:C:C6	2.47	0.49
1:aa:1092:A:H5'	1:aa:1302:C:H5	1.78	0.49
1:aa:1504:U:O2'	1:aa:1527:U:O2'	2.26	0.49
6:ha:196:ASN:O	6:ha:198:LYS:N	2.44	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:ja:107:GLY:HA2	8:ja:189:THR:HG23	1.92	0.49
12:na:125:LYS:HB3	27:db:58:VAL:HG12	1.94	0.49
13:oa:39:ARG:NH2	16:ra:49:ILE:O	2.46	0.49
17:sa:65:LEU:O	17:sa:69:LEU:HD23	2.13	0.49
29:fb:153:TYR:OH	29:fb:159:GLY:O	2.18	0.49
31:hb:104:PRO:HA	31:hb:113:ARG:NH1	2.28	0.49
31:hb:160:ARG:HG3	31:hb:186:TYR:CE1	2.47	0.49
33:AA:199:VAL:O	33:AA:204:LYS:NZ	2.44	0.49
42:JA:121:THR:OG1	42:JA:123:ASP:OD1	2.29	0.49
43:KA:51:PHE:CE1	43:KA:105:LEU:HD23	2.47	0.49
48:PA:31:SER:HA	48:PA:48:PRO:HA	1.95	0.49
48:PA:38:LEU:HD11	48:PA:42:TYR:HE1	1.77	0.49
52:TA:112:ARG:HH11	52:TA:115:GLN:NE2	2.10	0.49
65:GB:29:MET:O	65:GB:33:GLN:HG2	2.12	0.49
66:HB:66:GLU:O	66:HB:69:ARG:HG2	2.12	0.49
67:IB:8:LYS:HE3	67:IB:12:ARG:NH2	2.27	0.49
69:KB:60:CYS:HB2	69:KB:65:TYR:O	2.12	0.49
70:LB:26:TRP:HH2	75:RB:590:C:C2	2.31	0.49
71:MB:53:ARG:HG3	71:MB:74:GLY:O	2.12	0.49
75:RB:446:C:H2'	75:RB:447:C:H6	1.76	0.49
75:RB:946:U:N3	75:RB:1434:G:OP1	2.25	0.49
75:RB:1477:A:H2'	75:RB:1478:A:O4'	2.12	0.49
75:RB:1761:C:O2'	75:RB:1762:G:OP1	2.26	0.49
75:RB:3066:A:H2'	75:RB:3067:A:C8	2.42	0.49
75:RB:3092:G:H2'	75:RB:3093:U:C6	2.48	0.49
75:RB:3114:C:H2'	75:RB:3115:U:O4'	2.13	0.49
1:aa:408:G:OP1	30:gb:90:ARG:NH1	2.44	0.49
1:aa:896:C:H2'	1:aa:897:A:C8	2.47	0.49
1:aa:1264:U:O4	1:aa:1265:A:N6	2.45	0.49
1:aa:1284:C:H2'	1:aa:1285:G:C8	2.47	0.49
4:da:37:VAL:HG11	4:da:42:VAL:HG21	1.94	0.49
8:ja:43:PRO:HD2	8:ja:46:LEU:HD12	1.95	0.49
8:ja:191:ARG:NH2	8:ja:245:LYS:HB3	2.27	0.49
8:ja:212:ASP:OD2	8:ja:244:ILE:HA	2.13	0.49
10:la:15:CYS:HB3	10:la:94:SER:OG	2.12	0.49
40:HA:75:VAL:HG23	40:HA:78:GLY:H	1.76	0.49
43:KA:53:VAL:CG2	43:KA:158:VAL:HG23	2.41	0.49
61:CB:213:LEU:HD23	61:CB:214:GLY:N	2.27	0.49
62:DB:85:VAL:HG12	62:DB:87:VAL:HG13	1.94	0.49
66:HB:205:PRO:HG2	66:HB:208:LYS:CG	2.41	0.49
69:KB:62:THR:O	69:KB:64:LYS:N	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:PB:76:ARG:HD3	75:RB:1635:A:OP1	2.12	0.49
75:RB:1226:G:N2	75:RB:1289:G:O2'	2.44	0.49
75:RB:1233:G:C5	75:RB:1234:G:HI'	2.47	0.49
75:RB:2937:A:N6	75:RB:2940:G:C5	2.80	0.49
75:RB:3060:U:N3	75:RB:3061:G:N7	2.60	0.49
79:bl:321:LEU:O	79:bl:322:MET:HE2	2.12	0.49
1:aa:1164:C:H42	1:aa:1289:U:P	2.36	0.49
1:aa:1569:U:H4'	1:aa:1607:C:H4'	1.94	0.49
1:aa:1592:G:N7	10:la:20:LYS:HE2	2.28	0.49
6:ha:250:ILE:HG13	6:ha:251:ILE:N	2.28	0.49
8:ja:37:LYS:C	8:ja:39:ARG:H	2.20	0.49
10:la:89:GLN:HE22	10:la:125:ALA:HB2	1.77	0.49
14:pa:25:TRP:CD1	14:pa:25:TRP:H	2.30	0.49
18:ta:61:ILE:HG13	18:ta:61:ILE:O	2.12	0.49
29:fb:179:MET:HE1	29:fb:198:LEU:HD11	1.95	0.49
30:gb:31:ARG:H	30:gb:34:GLN:CD	2.20	0.49
31:hb:156:ASP:OD2	31:hb:157:PRO:HD2	2.11	0.49
32:ib:48:GLU:HA	32:ib:51:ASP:OD2	2.12	0.49
42:JA:166:VAL:HG12	42:JA:168:SER:H	1.77	0.49
60:BB:71:ARG:O	60:BB:75:LYS:HB2	2.11	0.49
66:HB:91:VAL:HG22	66:HB:127:ALA:HB1	1.93	0.49
72:NB:8:ILE:H	72:NB:8:ILE:HD12	1.77	0.49
75:RB:416:A:H2'	75:RB:417:G:H8	1.77	0.49
75:RB:985:C:O2'	75:RB:986:G:OP1	2.27	0.49
78:al:6:A:H2'	79:bl:61:ILE:HG23	1.95	0.49
79:bl:288:ILE:HD11	79:bl:403:PHE:HB2	1.94	0.49
1:aa:482:A:O2'	28:eb:126:HIS:HD2	1.95	0.49
1:aa:559:A:O2'	1:aa:560:A:O5'	2.22	0.49
1:aa:1119:G:O2'	1:aa:1135:G:O6	2.30	0.49
1:aa:1330:A:H5''	7:ia:156:TYR:CE1	2.48	0.49
8:ja:105:THR:HG21	8:ja:244:ILE:C	2.38	0.49
13:oa:12:ILE:HD12	37:EA:117:LYS:NZ	2.27	0.49
18:ta:98:SER:OG	18:ta:100:GLN:NE2	2.36	0.49
19:ua:51:PHE:CD2	19:ua:57:ARG:HD3	2.47	0.49
25:bb:163:GLN:O	25:bb:167:LYS:HG2	2.12	0.49
28:eb:87:LEU:O	28:eb:88:LEU:HD23	2.13	0.49
31:hb:104:PRO:HA	31:hb:113:ARG:HH11	1.77	0.49
31:hb:141:VAL:HG12	31:hb:143:TYR:HE2	1.77	0.49
37:EA:103:CYS:HB3	37:EA:132:VAL:HG23	1.94	0.49
48:PA:10:SER:OG	48:PA:13:LYS:HB2	2.12	0.49
59:AB:62:GLU:HA	59:AB:65:LYS:HG2	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:DB:253:ALA:HB3	75:RB:2877:U:H1'	1.95	0.49
64:FB:126:PRO:HA	64:FB:129:LEU:HD13	1.94	0.49
75:RB:506:U:H2'	75:RB:507:C:H6	1.78	0.49
75:RB:890:G:H2'	75:RB:891:U:C6	2.48	0.49
75:RB:1320:G:H2'	75:RB:1320:G:N3	2.28	0.49
1:aa:180:A:C8	1:aa:181:C:C6	3.00	0.49
1:aa:1069:G:O6	1:aa:1070:A:N6	2.45	0.49
1:aa:1523:A:O2'	1:aa:1525:U:OP2	2.25	0.49
8:ja:246:LEU:HD23	8:ja:246:LEU:H	1.78	0.49
13:oa:27:MET:HE2	13:oa:52:MET:SD	2.53	0.49
17:sa:46:PHE:HD2	17:sa:54:PHE:HE1	1.58	0.49
30:gb:203:ILE:HD11	30:gb:207:LYS:NZ	2.27	0.49
35:CA:87:LEU:HD13	35:CA:128:ASN:OD1	2.13	0.49
40:HA:90:THR:CG2	75:RB:2417:A:H5''	2.42	0.49
44:LA:110:ARG:NH2	75:RB:1718:U:OP1	2.40	0.49
60:BB:33:LEU:HD21	60:BB:47:ARG:HB3	1.95	0.49
62:DB:59:GLU:HB3	62:DB:359:LYS:HE3	1.95	0.49
63:EB:174:LEU:HD22	63:EB:179:ALA:HB3	1.94	0.49
75:RB:263:A:O5'	75:RB:264:C:H5	1.96	0.49
75:RB:556:U:H2'	75:RB:557:C:C6	2.48	0.49
75:RB:1556:G:O2'	75:RB:1558:A:N6	2.43	0.49
75:RB:2342:U:O2'	75:RB:3294:A:N3	2.45	0.49
1:aa:159:U:O2'	30:gb:62:PRO:HG3	2.13	0.49
1:aa:337:A:H62	3:ca:27:TYR:HB2	1.77	0.49
1:aa:375:G:O5'	1:aa:375:G:H8	1.96	0.49
1:aa:1498:A:H4'	1:aa:1499:U:OP1	2.12	0.49
5:ga:85:PRO:O	5:ga:86:ASN:OD1	2.31	0.49
6:ha:165:TRP:O	6:ha:184:SER:OG	2.28	0.49
8:ja:249:ILE:H	8:ja:249:ILE:HD12	1.77	0.49
12:na:82:ALA:HA	12:na:124:MET:HE1	1.95	0.49
16:ra:27:PHE:HE2	16:ra:75:ARG:HB3	1.77	0.49
17:sa:85:VAL:N	17:sa:102:LEU:O	2.43	0.49
24:za:61:LYS:HE3	24:za:64:LEU:HD23	1.95	0.49
36:DA:133:TYR:HE1	36:DA:135:ILE:HD11	1.78	0.49
39:GA:89:ARG:HG3	39:GA:95:PHE:CE1	2.47	0.49
43:KA:69:ILE:H	43:KA:69:ILE:HD12	1.78	0.49
47:OA:37:LYS:HD2	75:RB:3319:U:OP1	2.12	0.49
48:PA:90:ASN:HA	75:RB:376:A:H1'	1.94	0.49
64:FB:23:ARG:NH1	64:FB:133:ARG:HH21	2.11	0.49
75:RB:1344:A:H2'	75:RB:1345:U:C6	2.48	0.49
75:RB:1465:A:H2'	75:RB:1466:U:C6	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:2179:U:H2'	75:RB:2180:G:O4'	2.13	0.49
75:RB:2225:A:C4	75:RB:2226:A:C8	3.01	0.49
75:RB:2562:G:N2	75:RB:2563:G:C4	2.81	0.49
75:RB:3019:U:OP2	75:RB:3027:G:N1	2.31	0.49
79:bl:38:MET:HE1	79:bl:87:VAL:HB	1.94	0.49
79:bl:111:ILE:O	79:bl:111:ILE:HG13	2.12	0.49
79:bl:318:VAL:HA	79:bl:414:LEU:HD12	1.94	0.49
1:aa:404:A:H4'	1:aa:405:A:H5'	1.95	0.49
1:aa:538:A:H2'	1:aa:539:A:H8	1.76	0.49
1:aa:717:G:H2'	1:aa:718:C:C5	2.48	0.49
1:aa:839:G:N2	1:aa:840:U:H5'	2.18	0.49
1:aa:908:U:O2'	1:aa:910:A:N7	2.35	0.49
1:aa:1239:C:H2'	1:aa:1240:A:C8	2.48	0.49
2:ba:40:VAL:HG21	2:ba:45:LEU:HD21	1.95	0.49
4:da:1:MET:HE2	4:da:3:ILE:HB	1.95	0.49
4:da:22:TYR:CE1	7:ia:75:LYS:HB3	2.47	0.49
8:ja:105:THR:HB	8:ja:245:LYS:HB2	1.94	0.49
10:la:120:ARG:O	10:la:124:VAL:HG12	2.13	0.49
16:ra:42:GLU:OE1	16:ra:44:PRO:HD3	2.12	0.49
24:za:19:ILE:O	24:za:23:LEU:HD23	2.12	0.49
28:eb:90:GLU:C	28:eb:92:GLN:H	2.19	0.49
35:CA:50:PRO:HD3	35:CA:68:VAL:HG22	1.94	0.49
36:DA:3:ARG:HG2	36:DA:207:VAL:HG22	1.94	0.49
36:DA:58:LEU:HD23	36:DA:75:LEU:HD11	1.94	0.49
37:EA:99:SER:N	37:EA:103:CYS:O	2.36	0.49
37:EA:117:LYS:HD3	37:EA:118:TYR:CD1	2.47	0.49
42:JA:40:THR:HG22	42:JA:131:LEU:HD23	1.95	0.49
48:PA:87:GLU:OE1	48:PA:87:GLU:N	2.45	0.49
50:RA:32:LYS:HD2	75:RB:1711:G:O6	2.12	0.49
56:XA:37:LEU:HD23	56:XA:45:ARG:HD2	1.95	0.49
62:DB:62:LYS:H	62:DB:68:HIS:CD2	2.31	0.49
64:FB:131:VAL:HG13	64:FB:132:LEU:HG	1.94	0.49
64:FB:173:TYR:CE2	64:FB:177:LYS:HE3	2.48	0.49
68:JB:110:CYS:SG	68:JB:111:ARG:N	2.85	0.49
70:LB:103:LEU:HD11	75:RB:3258:C:C4	2.47	0.49
75:RB:17:G:C2	75:RB:18:G:C5	3.01	0.49
75:RB:196:A:N7	75:RB:217:A:N6	2.60	0.49
75:RB:1160:G:O2'	75:RB:1172:A:N3	2.37	0.49
75:RB:1793:A:H2'	75:RB:1794:A:H8	1.77	0.49
80:cl:69:U:H2'	80:cl:70:G:H8	1.78	0.49
1:aa:285:G:H2'	1:aa:286:C:C5	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:483:C:P	23:ya:37:ARG:HH22	2.35	0.49
1:aa:889:C:H2'	1:aa:890:G:H8	1.78	0.49
1:aa:1389:G:P	11:ma:95:ARG:HH22	2.36	0.49
4:da:25:LYS:CB	4:da:62:GLN:HB2	2.43	0.49
9:ka:123:ARG:HG3	19:ua:41:ARG:HH22	1.78	0.49
11:ma:68:VAL:HG13	11:ma:68:VAL:O	2.13	0.49
13:oa:99:VAL:HG12	13:oa:100:SER:N	2.22	0.49
37:EA:99:SER:HB3	37:EA:103:CYS:SG	2.53	0.49
41:IA:66:ASN:ND2	69:KB:62:THR:HB	2.27	0.49
41:IA:145:ALA:OXT	59:AB:18:HIS:HB2	2.12	0.49
46:NA:76:PRO:HA	46:NA:94:PHE:HA	1.95	0.49
51:SA:45:ARG:NH2	75:RB:1462:C:OP1	2.41	0.49
57:YA:139:ASP:OD1	57:YA:139:ASP:N	2.46	0.49
59:AB:4:SER:O	59:AB:22:LYS:HG2	2.12	0.49
69:KB:202:ALA:O	69:KB:206:GLU:HB3	2.13	0.49
72:NB:17:ARG:HG2	72:NB:18:LYS:N	2.27	0.49
75:RB:241:G:H2'	75:RB:242:U:C6	2.48	0.49
75:RB:321:A:N6	75:RB:322:A:N1	2.61	0.49
75:RB:665:G:H4'	75:RB:666:U:H6	1.78	0.49
75:RB:3352:C:N4	75:RB:3353:A:H62	2.11	0.49
1:aa:152:G:H1'	30:gb:56:CYS:SG	2.53	0.48
1:aa:411:A:H2'	1:aa:412:C:H6	1.78	0.48
1:aa:755:U:C2	1:aa:807:G:N2	2.81	0.48
1:aa:773:U:C5	1:aa:774:C:H5	2.30	0.48
1:aa:1257:U:H2'	1:aa:1258:U:H6	1.78	0.48
1:aa:1558:A:C2	1:aa:1570:G:C2	3.01	0.48
3:ca:88:ASN:HB3	3:ca:91:LEU:HG	1.94	0.48
24:za:18:ASP:OD1	24:za:59:TRP:CD1	2.66	0.48
29:fb:114:VAL:HG22	29:fb:142:ALA:HB1	1.95	0.48
34:BA:54:HIS:CD2	75:RB:2721:U:H4'	2.48	0.48
41:IA:60:TYR:HE1	75:RB:2774:G:C2	2.30	0.48
43:KA:249:ASP:N	43:KA:250:PRO:HD3	2.28	0.48
44:LA:62:ARG:HD2	75:RB:3063:U:OP2	2.13	0.48
44:LA:74:ARG:HH12	75:RB:1939:C:H5	1.59	0.48
46:NA:68:ASP:OD1	46:NA:69:GLN:N	2.40	0.48
46:NA:86:ILE:HD12	46:NA:92:LEU:HD13	1.95	0.48
56:XA:125:LEU:HD11	64:FB:182:LEU:HD13	1.95	0.48
75:RB:199:G:H5''	75:RB:218:G:H2'	1.94	0.48
75:RB:433:C:H2'	75:RB:434:C:C6	2.47	0.48
75:RB:496:U:O2'	75:RB:497:G:OP1	2.31	0.48
75:RB:1225:A:H3'	75:RB:1226:G:H5'	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:1528:G:H2'	75:RB:1528:G:N3	2.28	0.48
75:RB:2186:U:H5'	75:RB:2187:G:H5'	1.95	0.48
80:cl:66:C:H2'	80:cl:67:U:C6	2.48	0.48
1:aa:125:A:H2'	1:aa:126:U:O4'	2.13	0.48
1:aa:399:U:H2'	1:aa:400:G:O4'	2.14	0.48
1:aa:643:U:HO2'	1:aa:645:G:H8	1.59	0.48
1:aa:889:C:H2'	1:aa:890:G:C8	2.48	0.48
1:aa:1013:G:H2'	1:aa:1014:U:C6	2.48	0.48
1:aa:1668:A:H5'	39:GA:70:PRO:HG3	1.94	0.48
1:aa:1723:G:O5'	1:aa:1723:G:H8	1.96	0.48
3:ca:32:GLN:NE2	3:ca:33:PRO:HD2	2.28	0.48
8:ja:112:HIS:HD2	8:ja:239:PRO:HA	1.75	0.48
9:ka:72:LEU:HD23	9:ka:85:ALA:HA	1.96	0.48
11:ma:58:VAL:HG23	11:ma:99:LEU:HD23	1.95	0.48
18:ta:85:MET:HE3	18:ta:91:ARG:HE	1.77	0.48
22:xa:25:ARG:NH2	22:xa:31:ASN:OD1	2.40	0.48
38:FA:132:THR:OG1	38:FA:146:ASP:OD2	2.29	0.48
42:JA:36:LEU:O	42:JA:40:THR:CB	2.57	0.48
51:SA:31:CYS:SG	51:SA:39:ASN:ND2	2.87	0.48
62:DB:96:PRO:HB3	64:FB:158:ILE:HD11	1.95	0.48
63:EB:38:ASP:OD2	63:EB:39:VAL:N	2.45	0.48
63:EB:120:VAL:HG23	63:EB:123:ARG:HH22	1.78	0.48
66:HB:183:LYS:HG3	66:HB:187:GLU:OE1	2.12	0.48
72:NB:19:ASP:OD2	75:RB:1821:G:H5''	2.13	0.48
75:RB:89:C:N4	75:RB:90:G:O6	2.46	0.48
75:RB:236:A:H2'	75:RB:237:C:H4'	1.95	0.48
75:RB:1672:G:H2'	75:RB:1673:A:C8	2.48	0.48
1:aa:475:A:O2'	28:eb:11:GLY:O	2.24	0.48
1:aa:503:U:O4	1:aa:505:U:N3	2.47	0.48
1:aa:543:G:O2'	1:aa:544:G:OP2	2.24	0.48
1:aa:807:G:C6	1:aa:808:G:N7	2.82	0.48
1:aa:1080:C:H2'	1:aa:1081:A:O4'	2.14	0.48
6:ha:299:CYS:HA	6:ha:315:TYR:HA	1.94	0.48
10:la:19:LYS:HG3	10:la:20:LYS:N	2.22	0.48
14:pa:69:SER:HA	14:pa:73:ARG:NH2	2.28	0.48
17:sa:46:PHE:CD2	17:sa:54:PHE:HE1	2.30	0.48
18:ta:55:VAL:N	18:ta:56:PRO:HD2	2.28	0.48
27:db:79:ILE:HD13	27:db:84:VAL:HG23	1.94	0.48
28:eb:135:HIS:HA	28:eb:164:SER:OG	2.14	0.48
41:IA:124:LYS:O	41:IA:125:LEU:HD12	2.13	0.48
52:TA:61:ASP:OD1	52:TA:62:LYS:N	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:YA:177:PHE:HB3	75:RB:3178:G:C2	2.48	0.48
60:BB:81:PRO:HB2	60:BB:83:ASP:OD1	2.13	0.48
60:BB:82:LEU:HD12	60:BB:85:ARG:HD3	1.95	0.48
61:CB:168:ASN:OD1	61:CB:182:CYS:HA	2.12	0.48
62:DB:286:TYR:CZ	62:DB:329:LYS:HB2	2.48	0.48
65:GB:39:CYS:HB2	65:GB:47:VAL:HG23	1.94	0.48
66:HB:36:VAL:HG22	66:HB:87:LEU:HB3	1.95	0.48
71:MB:37:ILE:HG21	71:MB:49:TYR:CE2	2.48	0.48
75:RB:229:G:H2'	75:RB:230:G:C8	2.39	0.48
75:RB:449:G:O2'	75:RB:450:C:O5'	2.28	0.48
75:RB:827:C:O2'	75:RB:1537:A:N3	2.30	0.48
75:RB:1019:A:O2'	75:RB:1021:U:OP1	2.27	0.48
75:RB:1762:G:H2'	75:RB:1763:C:O4'	2.13	0.48
75:RB:3011:C:H2'	75:RB:3012:A:H8	1.79	0.48
1:aa:216:A:H5''	1:aa:836:U:O2	2.13	0.48
1:aa:1247:G:C2'	17:sa:60:ARG:HE	2.26	0.48
1:aa:1249:G:O2'	1:aa:1250:C:OP2	2.32	0.48
1:aa:1396:U:H5''	15:qa:3:ARG:HD3	1.94	0.48
1:aa:1396:U:OP2	15:qa:49:LYS:HE2	2.14	0.48
2:ba:112:GLN:CD	2:ba:116:ARG:HB2	2.38	0.48
6:ha:312:TYR:CD1	6:ha:322:ILE:HG22	2.48	0.48
9:ka:83:ILE:HD11	10:la:50:LEU:HD11	1.94	0.48
9:ka:180:SER:O	9:ka:186:ILE:HG21	2.14	0.48
35:CA:55:ARG:HH11	75:RB:2558:G:P	2.35	0.48
37:EA:32:LEU:HD12	37:EA:35:ALA:HB3	1.94	0.48
40:HA:193:LYS:O	40:HA:197:THR:HG23	2.13	0.48
57:YA:23:GLN:HG2	57:YA:23:GLN:O	2.13	0.48
58:ZA:44:PHE:CE1	58:ZA:48:ARG:HG3	2.49	0.48
59:AB:7:LYS:HD2	59:AB:16:LYS:O	2.12	0.48
62:DB:378:ASP:OD1	62:DB:379:GLU:N	2.46	0.48
66:HB:4:ARG:NH1	66:HB:9:TYR:OH	2.43	0.48
72:NB:11:PHE:CZ	72:NB:34:PHE:HB3	2.49	0.48
75:RB:67:C:N4	75:RB:75:G:H22	2.12	0.48
75:RB:406:A:N6	76:SB:15:G:H1'	2.28	0.48
75:RB:550:C:O2'	75:RB:551:A:O5'	2.31	0.48
75:RB:1628:G:H5''	75:RB:1629:A:H5''	1.95	0.48
75:RB:2872:U:C2	79:bl:184:GLN:HG2	2.48	0.48
75:RB:2968:A:C6	79:bl:189:PHE:CE1	3.01	0.48
75:RB:3273:G:H5'	75:RB:3274:G:OP2	2.13	0.48
1:aa:110:G:H2'	1:aa:111:U:O4'	2.14	0.48
1:aa:340:G:O6	3:ca:5:ARG:NH2	2.40	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:409:C:H5'	30:gb:93:GLU:OE2	2.13	0.48
1:aa:492:G:OP2	1:aa:492:G:H8	1.97	0.48
1:aa:852:A:H2'	1:aa:853:U:H6	1.78	0.48
8:ja:161:LYS:HE2	8:ja:171:ASP:HB3	1.94	0.48
13:oa:121:ARG:HG2	13:oa:125:HIS:CE1	2.49	0.48
16:ra:54:ARG:NH2	16:ra:106:CYS:SG	2.83	0.48
28:eb:68:ASN:O	28:eb:72:ILE:HD12	2.13	0.48
40:HA:132:VAL:HG12	40:HA:134:LEU:HD12	1.96	0.48
43:KA:190:ASP:HB2	43:KA:193:ILE:CG2	2.41	0.48
45:MA:40:SER:HA	45:MA:114:TYR:HB2	1.95	0.48
48:PA:111:ASP:OD2	76:SB:85:G:N1	2.45	0.48
50:RA:13:ASN:O	50:RA:17:LYS:HG3	2.13	0.48
50:RA:99:PRO:HG3	50:RA:105:ILE:HD13	1.95	0.48
57:YA:93:TYR:CZ	57:YA:95:GLU:OE2	2.66	0.48
63:EB:60:LYS:HG3	63:EB:64:GLN:HG2	1.94	0.48
63:EB:235:ASN:OD1	63:EB:236:VAL:N	2.46	0.48
75:RB:983:U:C5	75:RB:984:A:C8	3.01	0.48
79:bl:323:VAL:HG13	79:bl:327:LEU:HD11	1.96	0.48
1:aa:72:A:N6	1:aa:79:A:H61	2.09	0.48
1:aa:360:G:C6	1:aa:361:G:N7	2.82	0.48
1:aa:1008:A:H1'	1:aa:1010:A:N7	2.28	0.48
8:ja:62:GLN:HB2	8:ja:80:LYS:NZ	2.29	0.48
20:va:82:ALA:HA	20:va:85:ILE:HG12	1.96	0.48
30:gb:30:LYS:H	30:gb:104:VAL:HG12	1.77	0.48
31:hb:76:ILE:O	31:hb:78:VAL:HG22	2.14	0.48
36:DA:47:ASP:OD1	36:DA:48:VAL:N	2.47	0.48
42:JA:185:PHE:CD2	75:RB:2727:A:H4'	2.49	0.48
50:RA:77:ASN:H	50:RA:80:ASP:HB2	1.79	0.48
57:YA:170:LYS:HE2	75:RB:3195:A:C2	2.48	0.48
63:EB:99:CYS:HA	75:RB:1441:U:H1'	1.94	0.48
72:NB:2:PRO:CA	75:RB:1745:G:H21	2.27	0.48
75:RB:834:G:H2'	75:RB:835:G:O4'	2.14	0.48
75:RB:919:G:H5'	75:RB:920:A:OP1	2.13	0.48
75:RB:1514:U:H3'	75:RB:1515:U:H6	1.77	0.48
75:RB:1641:G:OP2	75:RB:1817:U:O2'	2.21	0.48
75:RB:1826:G:N2	76:SB:115:C:OP1	2.37	0.48
75:RB:3133:C:N4	75:RB:3134:U:O4	2.47	0.48
1:aa:510:A:H1'	1:aa:545:A:N6	2.29	0.48
1:aa:590:G:H2'	1:aa:591:C:C6	2.49	0.48
1:aa:610:A:H4'	1:aa:611:G:H3'	1.95	0.48
1:aa:1464:G:C2	1:aa:1465:C:N3	2.81	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:1738:U:H2'	1:aa:1739:U:H6	1.78	0.48
1:aa:1788:G:N2	1:aa:1794:C:C2	2.81	0.48
7:ia:209:THR:HB	15:qa:40:ILE:HG22	1.95	0.48
10:la:19:LYS:O	10:la:20:LYS:C	2.55	0.48
13:oa:14:ARG:NH2	13:oa:17:ASN:OD1	2.46	0.48
15:qa:29:HIS:HA	15:qa:32:LYS:HE2	1.95	0.48
25:bb:103:MET:HG2	25:bb:215:VAL:HB	1.96	0.48
26:cb:15:ARG:NH1	29:fb:69:HIS:HA	2.28	0.48
26:cb:30:ALA:O	26:cb:59:ARG:HD3	2.14	0.48
30:gb:195:ARG:C	30:gb:199:LYS:HZ2	2.21	0.48
31:hb:27:PHE:CZ	31:hb:41:LEU:HD22	2.48	0.48
33:AA:132:LEU:HD11	33:AA:162:LEU:HD11	1.95	0.48
35:CA:11:VAL:CG1	35:CA:80:ILE:HB	2.43	0.48
44:LA:151:ARG:HA	44:LA:154:THR:HG22	1.94	0.48
48:PA:26:ARG:HG2	48:PA:77:TRP:CZ3	2.48	0.48
54:VA:21:ARG:NH1	76:SB:51:G:OP2	2.46	0.48
54:VA:30:ARG:HG2	76:SB:75:G:C8	2.49	0.48
57:YA:75:LYS:NZ	57:YA:99:THR:O	2.46	0.48
62:DB:264:SER:OG	62:DB:266:THR:HG22	2.14	0.48
70:LB:121:ASN:OD1	70:LB:122:GLN:N	2.47	0.48
75:RB:162:G:N2	75:RB:163:U:O4	2.46	0.48
75:RB:512:G:H2'	75:RB:513:C:H6	1.79	0.48
75:RB:876:C:H5''	75:RB:877:U:O5'	2.14	0.48
75:RB:991:C:H2'	75:RB:992:U:C6	2.49	0.48
75:RB:1634:G:H1'	75:RB:1707:C:O2'	2.13	0.48
1:aa:911:A:OP1	12:na:65:ASP:HB2	2.13	0.48
1:aa:966:U:H2'	1:aa:967:C:H6	1.78	0.48
1:aa:1045:G:H4'	24:za:36:PHE:CD1	2.48	0.48
1:aa:1257:U:H2'	1:aa:1258:U:C6	2.48	0.48
6:ha:165:TRP:HZ2	15:qa:37:GLU:HG2	1.78	0.48
7:ia:17:PHE:CZ	7:ia:21:LEU:HD11	2.49	0.48
7:ia:123:LEU:HD21	7:ia:153:LYS:O	2.14	0.48
14:pa:37:ILE:CD1	14:pa:54:LEU:HD11	2.44	0.48
24:za:81:GLN:HG2	24:za:103:ILE:HB	1.96	0.48
25:bb:181:LEU:HA	25:bb:184:LEU:HB3	1.96	0.48
30:gb:83:CYS:SG	30:gb:99:VAL:HG12	2.53	0.48
31:hb:44:LEU:HD22	31:hb:69:LEU:CD1	2.44	0.48
33:AA:176:VAL:CG1	33:AA:182:LEU:HD11	2.43	0.48
36:DA:63:PHE:HZ	36:DA:90:CYS:HG	1.58	0.48
39:GA:16:MET:HB3	39:GA:16:MET:HE2	1.65	0.48
42:JA:2:GLY:O	61:CB:112:GLN:HG3	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:AB:73:LEU:HD21	59:AB:83:HIS:HE1	1.78	0.48
60:BB:57:ARG:O	60:BB:61:VAL:HG23	2.14	0.48
62:DB:199:TYR:HA	62:DB:202:PHE:HD1	1.79	0.48
63:EB:32:LYS:O	63:EB:32:LYS:HG2	2.14	0.48
64:FB:120:THR:O	75:RB:3171:C:H4'	2.13	0.48
75:RB:1853:C:N4	75:RB:1854:A:N6	2.61	0.48
1:aa:212:A:C2	1:aa:213:U:H5	2.31	0.48
1:aa:606:U:H2'	1:aa:607:U:C6	2.48	0.48
1:aa:648:C:H2'	1:aa:649:C:O4'	2.14	0.48
1:aa:1214:C:H2'	1:aa:1215:A:C8	2.49	0.48
8:ja:139:LEU:C	8:ja:140:ASN:HD22	2.21	0.48
9:ka:92:THR:HG21	9:ka:169:LEU:HD22	1.96	0.48
9:ka:154:ALA:N	9:ka:172:GLU:OE1	2.47	0.48
10:la:35:ILE:HG21	10:la:63:ARG:HH12	1.78	0.48
12:na:127:GLY:HA2	27:db:58:VAL:HG22	1.96	0.48
13:oa:98:VAL:HG11	13:oa:106:LYS:HG3	1.95	0.48
16:ra:69:ARG:HG3	16:ra:116:ILE:HG13	1.96	0.48
24:za:45:ARG:HB2	24:za:51:TYR:HE2	1.78	0.48
24:za:59:TRP:HA	24:za:62:LEU:HD12	1.95	0.48
25:bb:61:LEU:HD12	25:bb:64:ARG:HE	1.78	0.48
37:EA:18:LYS:HD3	37:EA:74:ARG:NH2	2.29	0.48
37:EA:168:LYS:C	37:EA:171:GLU:H	2.21	0.48
41:IA:75:VAL:HB	41:IA:114:LEU:HD11	1.94	0.48
43:KA:107:ARG:NH2	43:KA:119:TYR:O	2.46	0.48
48:PA:50:ARG:HH11	76:SB:71:A:P	2.37	0.48
51:SA:33:PHE:C	51:SA:35:LYS:H	2.22	0.48
54:VA:42:ARG:HH11	54:VA:49:LEU:HD21	1.78	0.48
60:BB:113:VAL:HG13	75:RB:168:A:OP1	2.14	0.48
62:DB:262:ARG:NH2	75:RB:2359:C:O3'	2.47	0.48
66:HB:51:HIS:CD2	66:HB:168:SER:HB2	2.48	0.48
75:RB:690:G:H2'	75:RB:691:U:O4'	2.14	0.48
75:RB:1577:A:H5''	75:RB:1579:C:C5	2.40	0.48
75:RB:1669:C:C4	75:RB:1772:G:N2	2.80	0.48
75:RB:1717:G:H4'	75:RB:1730:U:H4'	1.95	0.48
76:SB:48:A:O2'	76:SB:50:C:OP2	2.14	0.48
1:aa:788:G:H4'	1:aa:789:C:C5'	2.43	0.48
1:aa:893:U:H2'	1:aa:894:U:H6	1.77	0.48
1:aa:994:U:H1'	12:na:140:THR:HB	1.95	0.48
1:aa:1104:U:OP1	20:va:127:TYR:OH	2.32	0.48
1:aa:1221:A:H5'	1:aa:1221:A:N3	2.29	0.48
1:aa:1334:G:H2'	1:aa:1335:A:O4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:1398:U:C2	1:aa:1399:G:C8	3.02	0.48
3:ca:165:ARG:C	3:ca:167:GLN:H	2.21	0.48
4:da:37:VAL:HG11	4:da:42:VAL:CG2	2.44	0.48
5:ga:47:LYS:HG2	5:ga:98:GLU:OE2	2.14	0.48
12:na:129:ILE:HG22	27:db:65:PRO:HG2	1.96	0.48
16:ra:78:TYR:CE1	16:ra:141:ARG:HD3	2.49	0.48
34:BA:117:ALA:O	34:BA:121:VAL:HG23	2.13	0.48
36:DA:102:LEU:HD13	36:DA:166:ILE:CD1	2.44	0.48
38:FA:127:MET:SD	38:FA:156:SER:HB2	2.54	0.48
39:GA:43:LYS:NZ	39:GA:60:MET:HE3	2.28	0.48
40:HA:186:PRO:HB3	75:RB:61:A:N3	2.29	0.48
41:IA:66:ASN:HD22	69:KB:62:THR:HB	1.79	0.48
45:MA:3:LYS:HD3	75:RB:396:G:C5	2.49	0.48
45:MA:4:TYR:OH	45:MA:18:MET:HB2	2.14	0.48
50:RA:38:LEU:HD21	50:RA:46:ILE:HD11	1.95	0.48
57:YA:40:LYS:HB3	57:YA:60:MET:HE1	1.95	0.48
62:DB:86:ILE:HD13	62:DB:164:ALA:HB2	1.96	0.48
62:DB:108:GLN:OE1	62:DB:109:HIS:CE1	2.67	0.48
69:KB:76:THR:HB	69:KB:79:GLU:OE1	2.13	0.48
75:RB:125:G:H2'	75:RB:126:G:C8	2.48	0.48
75:RB:626:G:O2'	75:RB:627:G:H5'	2.13	0.48
75:RB:1251:U:O2'	75:RB:1271:U:OP1	2.32	0.48
75:RB:1571:A:O2'	75:RB:1572:C:O5'	2.29	0.48
75:RB:1727:A:H3'	75:RB:1728:G:H5'	1.95	0.48
1:aa:1441:C:N4	4:da:25:LYS:HE3	2.29	0.47
9:ka:56:ARG:HG2	9:ka:57:PHE:CD2	2.49	0.47
12:na:83:THR:O	12:na:86:LYS:HG3	2.13	0.47
14:pa:140:LYS:HD3	14:pa:142:GLU:OE2	2.14	0.47
20:va:110:LEU:HD13	20:va:114:GLU:HG2	1.95	0.47
25:bb:164:ILE:HG22	25:bb:204:ILE:HG21	1.96	0.47
31:hb:49:ALA:HA	31:hb:62:VAL:O	2.14	0.47
36:DA:27:ALA:HB2	36:DA:58:LEU:HD21	1.95	0.47
38:FA:100:ILE:HD11	38:FA:178:ILE:HD11	1.96	0.47
45:MA:121:ASN:ND2	76:SB:13:A:H1'	2.28	0.47
57:YA:37:VAL:HG11	61:CB:233:GLU:H	1.78	0.47
62:DB:100:ARG:NH1	75:RB:3231:A:OP2	2.46	0.47
65:GB:30:GLU:O	65:GB:34:HIS:ND1	2.47	0.47
65:GB:38:PHE:HD1	65:GB:45:PHE:CE2	2.32	0.47
73:OB:11:ASN:O	73:OB:15:LYS:HG3	2.14	0.47
75:RB:877:U:N3	75:RB:2975:U:OP1	2.43	0.47
75:RB:991:C:C2	75:RB:992:U:C5	3.01	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:1250:G:N2	75:RB:1268:G:O6	2.47	0.47
75:RB:1834:C:H5''	75:RB:1835:A:O5'	2.14	0.47
75:RB:2207:A:H2	75:RB:2423:A:H1'	1.78	0.47
75:RB:2982:C:H2'	75:RB:2983:U:C6	2.49	0.47
1:aa:161:G:O3'	30:gb:53:MET:HE1	2.14	0.47
1:aa:765:U:N3	1:aa:766:A:N7	2.62	0.47
1:aa:877:G:H2'	1:aa:878:U:O4'	2.14	0.47
1:aa:1111:C:H2'	1:aa:1112:G:H8	1.79	0.47
6:ha:284:ASP:C	6:ha:285:LEU:HD12	2.39	0.47
15:qa:21:TYR:CD1	15:qa:71:LEU:HD23	2.49	0.47
24:za:65:ALA:O	24:za:69:ILE:HG12	2.14	0.47
25:bb:101:TRP:CZ3	25:bb:217:ILE:HD13	2.49	0.47
25:bb:112:SER:HB3	27:db:68:TYR:CZ	2.48	0.47
32:ib:13:PRO:C	32:ib:15:VAL:H	2.23	0.47
33:AA:161:TRP:CZ3	40:HA:6:PHE:HD2	2.32	0.47
49:QA:143:GLN:HB2	75:RB:439:A:O2'	2.14	0.47
62:DB:10:ARG:HE	62:DB:14:LEU:HG	1.78	0.47
62:DB:148:LEU:O	62:DB:151:GLU:HG3	2.14	0.47
66:HB:48:SER:HB2	66:HB:142:GLU:HG3	1.96	0.47
66:HB:55:TRP:CD2	66:HB:164:LYS:NZ	2.82	0.47
69:KB:36:ILE:HG22	69:KB:40:LYS:HE3	1.94	0.47
69:KB:56:PRO:HG2	69:KB:72:GLY:HA3	1.95	0.47
70:LB:32:HIS:CG	70:LB:37:PRO:HB3	2.49	0.47
71:MB:9:ARG:NH2	75:RB:3207:C:H1'	2.29	0.47
75:RB:1875:A:H3'	75:RB:1876:U:H5'	1.95	0.47
75:RB:2627:C:H2'	75:RB:2628:U:C6	2.50	0.47
75:RB:3265:C:OP2	75:RB:3265:C:H4'	2.14	0.47
76:SB:128:C:P	76:SB:130:G:H1'	2.54	0.47
77:TB:88:U:H2'	77:TB:89:G:C8	2.49	0.47
1:aa:215:A:H2'	1:aa:215:A:N3	2.29	0.47
1:aa:761:A:O2'	1:aa:762:A:OP1	2.30	0.47
1:aa:928:A:H2'	1:aa:929:A:H8	1.79	0.47
1:aa:992:G:O2'	1:aa:993:C:P	2.72	0.47
1:aa:1791:A:H2'	1:aa:1792:A:O4'	2.14	0.47
9:ka:167:GLU:OE1	18:ta:66:LEU:HA	2.14	0.47
28:eb:23:LYS:HA	28:eb:23:LYS:HD2	1.71	0.47
34:BA:68:THR:HG22	34:BA:69:LYS:N	2.30	0.47
34:BA:77:ASN:HB3	34:BA:84:ILE:CG2	2.45	0.47
43:KA:49:TYR:CE1	43:KA:75:MET:HE1	2.49	0.47
43:KA:104:LEU:HD21	43:KA:108:ARG:NH2	2.29	0.47
54:VA:45:ARG:NH1	75:RB:1844:U:H5'	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:XA:51:LYS:HZ1	57:YA:157:LYS:HD2	1.80	0.47
60:BB:90:ARG:HD3	76:SB:36:G:C5	2.48	0.47
62:DB:89:LEU:HD12	62:DB:161:ARG:O	2.14	0.47
66:HB:58:GLU:CD	66:HB:160:PRO:HG2	2.38	0.47
75:RB:8:C:H2'	75:RB:9:C:O4'	2.14	0.47
75:RB:18:G:H22	76:SB:142:G:N2	2.12	0.47
75:RB:439:A:H2'	75:RB:440:U:O4'	2.13	0.47
75:RB:795:C:H2'	75:RB:796:C:C6	2.50	0.47
75:RB:1471:A:O2'	75:RB:1472:C:H5'	2.14	0.47
1:aa:807:G:N1	1:aa:808:G:N7	2.62	0.47
1:aa:858:G:H2'	1:aa:859:U:C6	2.49	0.47
1:aa:1271:G:H1	1:aa:1448:U:H3	1.62	0.47
1:aa:1697:G:H3'	1:aa:1698:A:H5'	1.95	0.47
5:ga:104:PHE:CE2	5:ga:111:VAL:HB	2.49	0.47
9:ka:124:ILE:HD11	9:ka:135:VAL:CG1	2.45	0.47
16:ra:88:PHE:HA	16:ra:91:ILE:HG12	1.96	0.47
31:hb:63:ILE:HB	31:hb:95:PHE:CD2	2.50	0.47
34:BA:111:ASN:O	34:BA:115:LEU:HD13	2.15	0.47
34:BA:142:GLU:O	34:BA:144:THR:HG23	2.14	0.47
38:FA:128:LEU:H	38:FA:128:LEU:HD12	1.80	0.47
40:HA:91:GLN:HB2	55:WA:50:TYR:OH	2.15	0.47
54:VA:30:ARG:HH21	76:SB:90:C:H42	1.61	0.47
56:XA:40:ALA:HB3	56:XA:43:MET:HB3	1.96	0.47
62:DB:177:LYS:HG3	75:RB:3301:A:H5''	1.97	0.47
63:EB:112:ARG:HD3	63:EB:114:TRP:CZ2	2.49	0.47
69:KB:191:GLN:HB2	69:KB:195:ARG:HE	1.79	0.47
75:RB:4:C:H2'	75:RB:5:G:C8	2.50	0.47
75:RB:1567:G:C6	75:RB:1568:A:C4	3.02	0.47
75:RB:2371:C:H2'	75:RB:2372:U:C6	2.49	0.47
75:RB:3223:C:H2'	75:RB:3224:C:C6	2.49	0.47
75:RB:3312:G:H2'	75:RB:3313:G:H8	1.79	0.47
79:bl:319:GLU:O	79:bl:389:THR:HB	2.14	0.47
1:aa:116:G:N7	32:ib:131:PRO:HD2	2.30	0.47
1:aa:711:C:H2'	1:aa:712:U:C5	2.50	0.47
1:aa:800:U:H3'	1:aa:800:U:OP2	2.14	0.47
1:aa:1133:C:C4	1:aa:1134:U:C5	3.02	0.47
1:aa:1600:G:H2'	1:aa:1601:A:C8	2.49	0.47
3:ca:36:THR:O	3:ca:96:THR:HA	2.13	0.47
4:da:62:GLN:NE2	4:da:63:HIS:CE1	2.83	0.47
8:ja:11:ARG:HH21	8:ja:20:LEU:HD13	1.80	0.47
25:bb:29:TRP:CZ3	25:bb:47:LEU:HD23	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:bb:71:ALA:HB2	25:bb:80:ALA:HA	1.96	0.47
29:fb:167:LYS:HD3	29:fb:178:ARG:HH21	1.77	0.47
33:AA:151:HIS:CE1	33:AA:177:LYS:HG3	2.50	0.47
35:CA:120:GLU:O	35:CA:124:LYS:HG2	2.15	0.47
45:MA:51:VAL:HG22	45:MA:56:GLN:O	2.14	0.47
53:UA:39:TYR:CG	53:UA:40:PRO:HA	2.50	0.47
57:YA:74:ILE:HD12	57:YA:97:ARG:HH22	1.79	0.47
59:AB:88:LYS:NZ	75:RB:294:A:O2'	2.38	0.47
62:DB:155:LYS:NZ	62:DB:156:TYR:CE1	2.81	0.47
70:LB:92:ARG:HH21	70:LB:204:ALA:HB3	1.79	0.47
74:PB:5:LEU:HB3	74:PB:32:TYR:CE1	2.50	0.47
75:RB:524:A:H2'	75:RB:525:A:C8	2.50	0.47
75:RB:1500:C:C2	75:RB:1523:G:N2	2.82	0.47
75:RB:3215:A:H3'	75:RB:3216:A:C8	2.50	0.47
75:RB:3218:C:H2'	75:RB:3219:C:H6	1.80	0.47
76:SB:97:G:C6	76:SB:98:U:C4	3.03	0.47
79:bl:328:ASP:HB2	79:bl:349:LYS:NZ	2.29	0.47
1:aa:29:U:O2'	1:aa:30:G:H5'	2.14	0.47
1:aa:705:A:H2'	1:aa:706:U:O4'	2.15	0.47
1:aa:808:G:H3'	1:aa:809:G:C8	2.50	0.47
1:aa:1071:C:H4'	25:bb:149:GLN:HG3	1.95	0.47
6:ha:97:LEU:HB2	6:ha:111:PHE:HB2	1.95	0.47
7:ia:53:THR:HG1	7:ia:94:ARG:HE	1.60	0.47
8:ja:240:LYS:HG3	8:ja:241:GLY:N	2.29	0.47
9:ka:9:GLY:H	9:ka:39:MET:HE3	1.80	0.47
9:ka:46:PRO:HB3	9:ka:65:ILE:HG22	1.96	0.47
9:ka:67:ARG:HH12	9:ka:143:VAL:HG12	1.80	0.47
13:oa:40:PHE:HA	13:oa:43:ILE:HG22	1.97	0.47
20:va:76:TYR:CE1	32:ib:100:ARG:HG2	2.50	0.47
34:BA:8:ARG:HG2	34:BA:11:THR:OG1	2.15	0.47
35:CA:13:LEU:HD12	35:CA:13:LEU:H	1.79	0.47
38:FA:88:ARG:HA	38:FA:145:LEU:O	2.14	0.47
39:GA:121:ILE:HD13	39:GA:136:ALA:HB2	1.96	0.47
40:HA:18:VAL:O	40:HA:22:VAL:HG12	2.14	0.47
40:HA:90:THR:HG23	75:RB:2417:A:H5''	1.96	0.47
42:JA:87:ASP:HB3	42:JA:108:ALA:HA	1.97	0.47
42:JA:149:ARG:HH21	42:JA:149:ARG:HG3	1.79	0.47
48:PA:49:ILE:CD1	48:PA:79:ILE:HG21	2.45	0.47
53:UA:28:HIS:CD2	75:RB:818:G:H5'	2.49	0.47
57:YA:32:TRP:CD2	57:YA:105:VAL:HG21	2.48	0.47
61:CB:150:ILE:HD12	61:CB:187:VAL:HG22	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:EB:215:GLY:HA2	63:EB:236:VAL:HG12	1.96	0.47
64:FB:17:ARG:HA	64:FB:45:GLU:HB2	1.96	0.47
74:PB:97:VAL:O	74:PB:101:LYS:HG2	2.15	0.47
75:RB:115:C:C4	75:RB:263:A:N7	2.83	0.47
75:RB:351:G:O2'	75:RB:362:G:O6	2.29	0.47
75:RB:2134:U:O2'	75:RB:2975:U:H5'	2.14	0.47
75:RB:2302:A:H2	75:RB:2958:G:N3	2.11	0.47
75:RB:2705:U:H2'	75:RB:2706:C:C6	2.50	0.47
1:aa:161:G:OP2	1:aa:161:G:N2	2.46	0.47
1:aa:749:G:C6	1:aa:750:U:C4	3.03	0.47
1:aa:755:U:C2	1:aa:807:G:C2	3.02	0.47
1:aa:761:A:H2'	1:aa:762:A:H8	1.79	0.47
1:aa:778:G:N2	1:aa:780:A:H1'	2.29	0.47
1:aa:1268:G:C6	1:aa:1269:G:N7	2.82	0.47
1:aa:1396:U:P	15:qa:49:LYS:HE2	2.55	0.47
1:aa:1475:A:OP1	16:ra:97:ARG:NH1	2.46	0.47
1:aa:1557:C:OP1	13:oa:88:LYS:NZ	2.35	0.47
1:aa:1557:C:H5''	17:sa:51:ARG:HH21	1.80	0.47
1:aa:1572:U:H2'	1:aa:1573:C:C6	2.50	0.47
1:aa:1587:G:H1'	10:la:145:GLN:HG3	1.96	0.47
3:ca:190:SER:OG	3:ca:195:CYS:SG	2.73	0.47
9:ka:148:TYR:O	9:ka:152:THR:HG23	2.14	0.47
20:va:97:GLN:HB2	20:va:98:TRP:CE3	2.49	0.47
24:za:15:LYS:O	24:za:19:ILE:HG12	2.15	0.47
24:za:21:MET:HE1	24:za:203:VAL:HG11	1.96	0.47
27:db:36:ILE:H	27:db:36:ILE:HD12	1.80	0.47
29:fb:137:GLY:O	29:fb:141:LEU:HD23	2.15	0.47
36:DA:125:VAL:HG23	36:DA:126:PHE:CD2	2.50	0.47
40:HA:4:TYR:HA	40:HA:7:VAL:HG22	1.96	0.47
45:MA:66:GLY:HA3	75:RB:1451:U:H5''	1.97	0.47
56:XA:90:GLY:O	56:XA:94:ILE:HG12	2.15	0.47
57:YA:28:ARG:NH2	63:EB:386:SER:O	2.47	0.47
57:YA:68:GLU:OE2	57:YA:75:LYS:HE3	2.15	0.47
62:DB:101:THR:OG1	75:RB:3143:A:O4'	2.31	0.47
62:DB:253:ALA:HB1	75:RB:2944:G:C2	2.50	0.47
66:HB:176:PHE:CZ	66:HB:199:LEU:HG	2.49	0.47
71:MB:9:ARG:HH22	75:RB:3207:C:H1'	1.79	0.47
74:PB:88:ARG:O	74:PB:92:ILE:HG13	2.14	0.47
74:PB:99:GLU:OE1	74:PB:99:GLU:HA	2.15	0.47
75:RB:293:A:H2'	75:RB:294:A:O4'	2.15	0.47
75:RB:908:U:O2'	75:RB:913:G:H4'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:1537:A:H2'	75:RB:1538:A:C8	2.49	0.47
75:RB:1815:G:O2'	75:RB:1816:U:OP1	2.29	0.47
75:RB:1909:G:H8	75:RB:1909:G:O5'	1.97	0.47
75:RB:2226:A:C5	75:RB:2227:G:C8	3.03	0.47
75:RB:2686:G:H2'	75:RB:2686:G:N3	2.29	0.47
75:RB:2783:A:C6	75:RB:2784:G:C8	3.03	0.47
75:RB:2934:G:C6	75:RB:2935:G:C8	3.03	0.47
75:RB:3101:U:OP2	75:RB:3124:G:N1	2.34	0.47
1:aa:205:U:H2'	1:aa:206:U:C6	2.50	0.47
1:aa:476:U:H5''	28:eb:13:THR:HG23	1.96	0.47
1:aa:1280:U:OP1	7:ia:147:ALA:N	2.42	0.47
1:aa:1455:U:H2'	1:aa:1456:U:H6	1.79	0.47
1:aa:1521:G:H1'	1:aa:1526:C:O2	2.13	0.47
1:aa:1697:G:H3'	1:aa:1698:A:C5'	2.44	0.47
4:da:49:PHE:HD1	4:da:54:TYR:HD1	1.63	0.47
7:ia:65:ARG:O	7:ia:69:LEU:HD23	2.14	0.47
10:la:110:GLU:HA	10:la:113:GLU:HG2	1.96	0.47
11:ma:28:ILE:HG23	11:ma:99:LEU:HB2	1.96	0.47
13:oa:39:ARG:NE	13:oa:83:PHE:HE1	2.12	0.47
13:oa:136:THR:O	13:oa:136:THR:HG22	2.15	0.47
31:hb:20:GLU:HA	31:hb:23:VAL:HG22	1.96	0.47
37:EA:62:ARG:HG2	37:EA:63:ARG:N	2.29	0.47
38:FA:154:SER:OG	75:RB:3106:C:O3'	2.30	0.47
60:BB:88:GLN:O	60:BB:89:THR:HG23	2.15	0.47
64:FB:103:ALA:HA	64:FB:106:ARG:NH1	2.30	0.47
66:HB:43:VAL:HG13	66:HB:194:GLY:O	2.15	0.47
69:KB:164:VAL:O	69:KB:164:VAL:HG23	2.14	0.47
75:RB:1655:G:H2'	75:RB:1656:C:C6	2.49	0.47
75:RB:2101:A:O2'	75:RB:3331:A:O2'	2.28	0.47
75:RB:3240:G:H2'	75:RB:3240:G:N3	2.30	0.47
76:SB:62:C:H4'	76:SB:63:C:O5'	2.14	0.47
77:TB:79:A:H8	77:TB:79:A:O5'	1.98	0.47
1:aa:270:U:H5	30:gb:195:ARG:NH2	2.13	0.47
1:aa:644:U:H4'	1:aa:645:G:OP1	2.15	0.47
1:aa:768:A:C8	1:aa:795:A:N6	2.83	0.47
1:aa:1086:A:N6	1:aa:1096:A:N7	2.63	0.47
1:aa:1180:U:P	13:oa:135:HIS:CD2	3.08	0.47
6:ha:39:ARG:HD3	6:ha:75:PHE:CE2	2.50	0.47
6:ha:116:LYS:HG2	6:ha:117:ASP:H	1.79	0.47
7:ia:47:GLU:OE2	7:ia:87:TYR:N	2.48	0.47
8:ja:127:ARG:N	8:ja:140:ASN:O	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:ja:199:GLU:OE2	8:ja:207:THR:OG1	2.33	0.47
13:oa:43:ILE:HD11	13:oa:47:LYS:HE2	1.96	0.47
13:oa:124:ARG:HG3	13:oa:131:VAL:HG22	1.97	0.47
14:pa:75:LEU:HD23	14:pa:75:LEU:HA	1.78	0.47
28:eb:137:ARG:NH1	28:eb:162:LEU:HG	2.30	0.47
28:eb:148:PHE:HD2	28:eb:150:VAL:HG22	1.78	0.47
29:fb:130:GLU:HB3	29:fb:133:THR:HG22	1.97	0.47
33:AA:168:LYS:NZ	59:AB:42:PHE:CE2	2.82	0.47
36:DA:40:TYR:HA	36:DA:90:CYS:O	2.14	0.47
52:TA:68:LEU:HD11	52:TA:74:LYS:HB3	1.97	0.47
60:BB:58:VAL:O	60:BB:62:ILE:HG13	2.15	0.47
75:RB:527:G:N2	75:RB:552:G:C2	2.83	0.47
75:RB:690:G:HO2'	75:RB:691:U:P	2.38	0.47
75:RB:974:G:H2'	75:RB:975:G:C8	2.50	0.47
75:RB:2573:G:H2'	75:RB:2574:C:O4'	2.15	0.47
1:aa:355:U:H3'	1:aa:356:G:H5'	1.97	0.47
1:aa:484:A:C2	1:aa:513:G:C2	3.03	0.47
1:aa:757:G:C6	1:aa:805:A:C6	3.03	0.47
1:aa:768:A:H2'	1:aa:769:G:H8	1.80	0.47
9:ka:20:PHE:CD2	9:ka:42:TYR:HD1	2.32	0.47
9:ka:118:ARG:HG3	9:ka:142:ARG:HH22	1.80	0.47
13:oa:12:ILE:HD12	37:EA:117:LYS:CE	2.45	0.47
18:ta:32:LYS:HB2	18:ta:36:LYS:HE3	1.96	0.47
18:ta:98:SER:OG	18:ta:100:GLN:HB2	2.15	0.47
19:ua:30:VAL:HG12	19:ua:72:ILE:HG13	1.97	0.47
30:gb:196:ILE:HD13	30:gb:199:LYS:NZ	2.30	0.47
35:CA:76:ASN:OD1	35:CA:77:PHE:N	2.48	0.47
38:FA:44:ASP:HB3	38:FA:57:ASP:HB2	1.96	0.47
39:GA:121:ILE:CD1	39:GA:126:ALA:HB2	2.45	0.47
42:JA:5:LEU:HD23	61:CB:111:ARG:NH2	2.30	0.47
44:LA:69:ALA:O	44:LA:74:ARG:HB2	2.15	0.47
57:YA:84:GLN:OE1	77:TB:93:U:H4'	2.15	0.47
57:YA:159:ARG:HH12	75:RB:1187:G:P	2.37	0.47
62:DB:46:PHE:CE1	62:DB:84:LEU:HG	2.50	0.47
62:DB:201:PHE:CE2	62:DB:206:VAL:HB	2.50	0.47
64:FB:198:LEU:O	64:FB:198:LEU:HD23	2.14	0.47
70:LB:204:ALA:HB2	75:RB:3204:U:O2	2.15	0.47
74:PB:58:ARG:HD3	74:PB:59:PRO:HD2	1.97	0.47
75:RB:245:C:H2'	75:RB:246:C:O4'	2.15	0.47
75:RB:447:C:O2'	75:RB:448:G:O5'	2.28	0.47
75:RB:1037:U:H2'	75:RB:1038:C:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:1801:G:H2'	75:RB:1802:A:H8	1.80	0.47
75:RB:2189:C:N4	75:RB:2235:A:C8	2.83	0.47
75:RB:2402:G:H4'	75:RB:2403:U:OP2	2.14	0.47
80:cl:16:C:H5''	80:cl:60:A:H2	1.79	0.47
1:aa:52:U:H2'	1:aa:53:G:C8	2.50	0.46
1:aa:92:G:H2'	1:aa:93:A:O4'	2.15	0.46
1:aa:650:G:C2	1:aa:702:G:C6	3.04	0.46
1:aa:717:G:H4'	1:aa:743:G:H22	1.80	0.46
1:aa:758:A:OP2	8:ja:187:ARG:NH1	2.28	0.46
1:aa:1225:A:H2'	1:aa:1226:U:C6	2.49	0.46
1:aa:1699:C:H2'	1:aa:1700:G:H8	1.80	0.46
8:ja:125:LYS:HA	8:ja:159:THR:HA	1.97	0.46
16:ra:66:TYR:HE2	16:ra:119:GLU:OE2	1.98	0.46
17:sa:135:VAL:O	17:sa:136:LYS:HD3	2.15	0.46
20:va:81:ARG:HB2	20:va:84:GLU:OE2	2.15	0.46
29:fb:95:PRO:HB3	29:fb:108:PHE:CE1	2.50	0.46
31:hb:34:ASN:O	31:hb:38:LYS:HG3	2.15	0.46
32:ib:72:ILE:HG21	32:ib:89:ARG:HD2	1.97	0.46
35:CA:91:PHE:C	35:CA:118:ARG:HH12	2.23	0.46
46:NA:112:MET:C	46:NA:114:ASP:H	2.23	0.46
48:PA:34:LEU:HD23	48:PA:105:VAL:HB	1.96	0.46
48:PA:59:ARG:HH12	75:RB:198:A:P	2.38	0.46
58:ZA:50:LYS:HB3	58:ZA:54:GLY:HA2	1.98	0.46
58:ZA:82:LYS:NZ	58:ZA:109:LYS:HB2	2.30	0.46
59:AB:59:ARG:O	59:AB:63:LEU:HD23	2.15	0.46
60:BB:96:LEU:HD22	60:BB:100:GLU:OE2	2.14	0.46
63:EB:27:MET:HE3	63:EB:31:MET:HB3	1.95	0.46
63:EB:121:ARG:NH1	63:EB:280:GLY:O	2.48	0.46
70:LB:5:SER:N	75:RB:563:C:OP1	2.49	0.46
73:OB:17:HIS:NE2	73:OB:21:ILE:HD11	2.30	0.46
75:RB:239:C:O2'	75:RB:240:U:H5'	2.15	0.46
75:RB:706:U:N3	75:RB:707:G:N7	2.63	0.46
75:RB:955:A:N3	75:RB:1117:U:O2'	2.46	0.46
75:RB:1359:A:H4'	75:RB:1360:U:O5'	2.14	0.46
75:RB:1731:A:O2'	75:RB:1732:G:H5'	2.15	0.46
75:RB:2573:G:H2'	75:RB:2574:C:H6	1.80	0.46
75:RB:3069:A:H2'	75:RB:3070:G:O4'	2.14	0.46
1:aa:157:U:O4'	2:ba:119:ARG:HG2	2.15	0.46
1:aa:1091:A:H5'	29:fb:174:SER:HB3	1.97	0.46
1:aa:1127:G:N2	1:aa:1130:A:OP2	2.42	0.46
1:aa:1185:U:N3	1:aa:1464:G:N1	2.26	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:1214:C:H2'	1:aa:1215:A:H8	1.79	0.46
5:ga:73:LEU:HD13	5:ga:78:LYS:HB2	1.97	0.46
6:ha:123:PHE:HE1	6:ha:130:ILE:HD12	1.81	0.46
14:pa:45:GLN:HE22	14:pa:53:LEU:CD1	2.28	0.46
20:va:76:TYR:CE2	20:va:78:GLN:CD	2.94	0.46
25:bb:103:MET:HE1	25:bb:188:PHE:CG	2.51	0.46
30:gb:32:ILE:HD12	30:gb:54:GLY:H	1.80	0.46
31:hb:19:PHE:CZ	31:hb:51:GLN:HB3	2.51	0.46
34:BA:29:THR:HA	34:BA:32:ARG:HH21	1.79	0.46
35:CA:23:ALA:HA	35:CA:45:GLY:HA2	1.98	0.46
37:EA:31:ARG:HG2	37:EA:34:ARG:HH21	1.80	0.46
38:FA:7:SER:OG	38:FA:55:LYS:HE2	2.16	0.46
39:GA:86:LYS:HE2	75:RB:1892:A:C2	2.50	0.46
40:HA:201:ARG:HG3	40:HA:201:ARG:NH1	2.29	0.46
47:OA:14:LYS:NZ	47:OA:16:TYR:CZ	2.83	0.46
52:TA:97:ILE:HG21	52:TA:106:ARG:HG2	1.96	0.46
58:ZA:44:PHE:CE2	58:ZA:92:TYR:HB2	2.51	0.46
75:RB:196:A:C5	75:RB:217:A:C6	3.03	0.46
75:RB:206:C:H2'	75:RB:207:U:O4'	2.15	0.46
75:RB:430:G:C6	75:RB:431:G:C5	3.03	0.46
75:RB:539:C:C2	75:RB:541:C:C4	3.03	0.46
75:RB:938:U:O4	75:RB:939:A:N6	2.47	0.46
75:RB:2288:A:N3	75:RB:2926:C:O2'	2.40	0.46
75:RB:3018:G:O2'	75:RB:3027:G:O6	2.32	0.46
75:RB:3303:A:H1'	75:RB:3377:A:O2'	2.15	0.46
1:aa:69:A:C6	1:aa:84:G:C2	3.03	0.46
1:aa:122:U:H1'	8:ja:33:SER:O	2.16	0.46
1:aa:131:C:H2'	1:aa:132:G:H3'	1.97	0.46
1:aa:146:A:N6	1:aa:164:C:C4	2.83	0.46
1:aa:611:G:N2	1:aa:618:C:H5''	2.29	0.46
1:aa:714:C:HO2'	1:aa:715:U:P	2.39	0.46
1:aa:1150:U:H2'	1:aa:1151:G:O4'	2.15	0.46
1:aa:1291:A:N1	1:aa:1332:G:O2'	2.32	0.46
1:aa:1508:C:H3'	16:ra:114:ARG:NH2	2.30	0.46
3:ca:155:SER:OG	3:ca:156:ASN:N	2.49	0.46
8:ja:163:ASP:HB3	8:ja:166:THR:HG22	1.98	0.46
9:ka:36:VAL:HG11	9:ka:109:VAL:HG21	1.97	0.46
15:qa:99:ASP:CG	15:qa:100:LYS:H	2.23	0.46
16:ra:127:ASP:O	16:ra:135:LEU:HD23	2.16	0.46
18:ta:71:ARG:NE	18:ta:73:ASN:HD22	2.13	0.46
30:gb:30:LYS:O	30:gb:104:VAL:HG12	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:UA:7:SER:OG	75:RB:821:C:O2'	2.13	0.46
54:VA:48:LYS:NZ	75:RB:1839:C:OP1	2.39	0.46
57:YA:46:PHE:O	57:YA:50:LEU:HB2	2.16	0.46
58:ZA:63:VAL:HG22	58:ZA:76:SER:HA	1.97	0.46
61:CB:178:HIS:CE1	61:CB:199:GLU:HG3	2.50	0.46
62:DB:20:LYS:HG3	62:DB:21:ARG:O	2.14	0.46
66:HB:167:ARG:HH21	66:HB:169:ARG:HA	1.79	0.46
75:RB:267:G:H1'	75:RB:292:A:N1	2.31	0.46
75:RB:524:A:N6	75:RB:555:G:C5	2.83	0.46
75:RB:1224:A:H5'	75:RB:1226:G:O4'	2.14	0.46
75:RB:1397:A:C4	75:RB:1398:A:C8	3.03	0.46
75:RB:1426:C:H2'	75:RB:1427:C:C6	2.50	0.46
75:RB:1501:A:H2'	75:RB:1502:U:C6	2.50	0.46
75:RB:2693:A:N7	75:RB:2755:A:N6	2.63	0.46
75:RB:3136:G:H5''	75:RB:3137:C:OP1	2.16	0.46
75:RB:3201:C:O2'	75:RB:3203:G:OP1	2.28	0.46
76:SB:109:A:O2'	76:SB:112:U:O4	2.24	0.46
79:bl:135:LEU:O	79:bl:139:LEU:HD23	2.16	0.46
79:bl:150:MET:CE	79:bl:233:PHE:HB3	2.46	0.46
1:aa:571:A:N6	1:aa:584:A:H61	2.12	0.46
1:aa:781:A:N6	1:aa:792:U:C4	2.83	0.46
1:aa:894:U:H2'	1:aa:895:U:C6	2.51	0.46
1:aa:1496:A:O4'	1:aa:1501:G:N2	2.49	0.46
1:aa:1644:C:O2	1:aa:1775:A:N6	2.49	0.46
1:aa:1770:G:H1'	1:aa:1791:A:H2	1.79	0.46
6:ha:118:VAL:HA	6:ha:134:SER:HA	1.96	0.46
9:ka:108:ILE:HD13	9:ka:173:LEU:HD13	1.98	0.46
9:ka:122:THR:CG2	19:ua:64:LYS:HD3	2.45	0.46
10:la:110:GLU:O	10:la:114:ILE:HG12	2.16	0.46
12:na:94:HIS:CE1	12:na:128:ARG:HG3	2.50	0.46
13:oa:124:ARG:HD2	13:oa:130:ARG:O	2.15	0.46
15:qa:12:THR:O	15:qa:16:VAL:HG12	2.15	0.46
18:ta:91:ARG:HH11	18:ta:103:THR:HG23	1.77	0.46
20:va:86:GLU:OE2	20:va:89:ARG:NE	2.48	0.46
25:bb:35:PRO:HA	25:bb:232:HIS:CD2	2.51	0.46
25:bb:37:LEU:HB3	25:bb:182:LYS:NZ	2.29	0.46
36:DA:230:PRO:HB3	75:RB:2417:A:N1	2.31	0.46
45:MA:104:GLU:OE2	45:MA:110:VAL:HB	2.15	0.46
63:EB:326:ALA:HB2	70:LB:7:MET:HG3	1.97	0.46
64:FB:58:LYS:HA	64:FB:61:ARG:HE	1.81	0.46
66:HB:31:ILE:HD12	66:HB:66:GLU:HA	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:4:C:H2'	75:RB:5:G:H8	1.79	0.46
75:RB:5:G:H1	76:SB:155:U:H3	1.64	0.46
75:RB:254:G:H2'	75:RB:255:C:C6	2.50	0.46
75:RB:626:G:C2'	75:RB:627:G:H5'	2.46	0.46
75:RB:873:A:O2'	75:RB:874:U:OP2	2.29	0.46
80:cl:37:MIA:H131	80:cl:38:A:C2	2.50	0.46
1:aa:97:G:H2'	1:aa:98:C:C6	2.51	0.46
1:aa:399:U:O4'	30:gb:92:GLY:HA3	2.15	0.46
1:aa:411:A:H2'	1:aa:412:C:C6	2.51	0.46
1:aa:1193:A:N3	1:aa:1198:A:O2'	2.38	0.46
1:aa:1242:A:C5	1:aa:1243:C:C4	3.04	0.46
1:aa:1603:U:H5	1:aa:1604:C:C4	2.33	0.46
1:aa:1798:G:C5	12:na:146:ARG:NH1	2.84	0.46
7:ia:203:PRO:HG2	15:qa:42:GLN:NE2	2.30	0.46
12:na:85:CYS:HB3	12:na:90:ILE:HG13	1.98	0.46
13:oa:124:ARG:HH11	13:oa:129:VAL:CG2	2.28	0.46
14:pa:138:THR:HG22	14:pa:138:THR:O	2.15	0.46
15:qa:13:SER:O	15:qa:17:ILE:HG23	2.15	0.46
17:sa:67:LYS:O	17:sa:71:LYS:HG2	2.16	0.46
20:va:80:LEU:CD1	20:va:84:GLU:HG2	2.45	0.46
25:bb:144:LYS:HB2	25:bb:206:PRO:CB	2.46	0.46
31:hb:50:ILE:HG21	31:hb:176:ARG:NH2	2.31	0.46
33:AA:68:LYS:HE3	75:RB:2429:U:O3'	2.15	0.46
34:BA:83:ARG:HH22	75:RB:2725:G:C5'	2.29	0.46
36:DA:180:LEU:HD22	65:GB:18:TYR:HB3	1.96	0.46
40:HA:6:PHE:HE1	59:AB:43:VAL:HG22	1.80	0.46
57:YA:35:ASN:ND2	61:CB:223:TYR:OH	2.48	0.46
61:CB:85:LEU:HD21	61:CB:118:PHE:HD1	1.79	0.46
62:DB:253:ALA:HB3	75:RB:2877:U:O2	2.15	0.46
70:LB:164:GLU:O	70:LB:168:GLU:HG3	2.16	0.46
75:RB:659:C:H2'	75:RB:660:A:H8	1.80	0.46
75:RB:1113:C:H2'	75:RB:1114:A:O4'	2.14	0.46
75:RB:1457:A:H5''	75:RB:3074:G:H1	1.81	0.46
75:RB:2644:A:H2'	75:RB:2645:G:O4'	2.15	0.46
75:RB:2705:U:H2'	75:RB:2706:C:H6	1.81	0.46
75:RB:2805:A:H4'	75:RB:2806:C:H5''	1.96	0.46
79:bl:334:LEU:HD11	79:bl:345:LYS:HD3	1.96	0.46
1:aa:538:A:H2'	1:aa:539:A:C8	2.51	0.46
1:aa:744:G:HO2'	1:aa:745:C:P	2.36	0.46
1:aa:1092:A:C6	1:aa:1093:A:C6	3.04	0.46
1:aa:1101:C:OP1	20:va:11:ARG:NH1	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:1540:U:O4	1:aa:1541:C:N4	2.49	0.46
1:aa:1605:A:H2'	1:aa:1605:A:N3	2.31	0.46
3:ca:90:GLU:O	3:ca:94:THR:HG22	2.15	0.46
4:da:43:ILE:HA	4:da:66:TRP:CH2	2.51	0.46
9:ka:120:ASP:HB2	9:ka:137:ILE:HD11	1.98	0.46
17:sa:69:LEU:O	17:sa:73:LYS:HG2	2.16	0.46
24:za:204:ASP:HA	24:za:207:PHE:CD2	2.51	0.46
28:eb:137:ARG:NE	28:eb:159:ASP:OD1	2.45	0.46
36:DA:125:VAL:HB	75:RB:2170:G:C6	2.50	0.46
36:DA:199:VAL:HG21	75:RB:917:A:N7	2.31	0.46
40:HA:11:TRP:HA	40:HA:19:MET:HE3	1.98	0.46
40:HA:48:ALA:HB1	40:HA:53:PHE:CB	2.46	0.46
42:JA:24:VAL:HG23	42:JA:25:TYR:CD2	2.50	0.46
43:KA:145:LEU:HD12	43:KA:162:LEU:HD13	1.98	0.46
46:NA:77:LEU:HD13	46:NA:131:LYS:HE2	1.96	0.46
52:TA:87:MET:HG2	52:TA:116:LEU:HD22	1.97	0.46
61:CB:144:LYS:O	61:CB:148:GLU:HG3	2.15	0.46
63:EB:89:ARG:HD3	75:RB:363:A:H4'	1.98	0.46
63:EB:238:ARG:NH2	75:RB:693:C:OP1	2.49	0.46
64:FB:56:LYS:NZ	64:FB:149:GLU:OE2	2.35	0.46
71:MB:54:MET:CE	71:MB:76:VAL:HG23	2.46	0.46
75:RB:88:A:H2'	75:RB:89:C:O4'	2.16	0.46
75:RB:138:G:H2'	75:RB:139:U:C6	2.51	0.46
75:RB:638:G:H2'	75:RB:639:A:O4'	2.15	0.46
75:RB:1239:U:O2	75:RB:1249:A:O2'	2.25	0.46
75:RB:1911:A:H2'	75:RB:1912:U:H6	1.79	0.46
75:RB:2334:G:H2'	75:RB:2335:U:O4'	2.15	0.46
1:aa:167:A:C8	1:aa:169:A:N7	2.84	0.46
1:aa:318:C:C2	1:aa:359:G:C2	3.04	0.46
1:aa:1049:U:C2	1:aa:1050:C:C5	3.04	0.46
1:aa:1380:A:H2'	1:aa:1382:C:H5''	1.98	0.46
1:aa:1389:G:OP1	11:ma:95:ARG:NH2	2.48	0.46
1:aa:1629:U:C4	1:aa:1630:G:N7	2.84	0.46
1:aa:1680:A:H2'	1:aa:1681:G:C8	2.50	0.46
6:ha:8:LEU:HG	6:ha:325:ILE:HD12	1.97	0.46
8:ja:79:ASP:OD1	8:ja:81:THR:N	2.46	0.46
9:ka:37:THR:OG1	9:ka:38:SER:N	2.49	0.46
36:DA:95:THR:HG1	75:RB:2546:U:H3	1.64	0.46
37:EA:139:ARG:NH2	77:TB:44:C:OP2	2.45	0.46
43:KA:36:LEU:HD23	75:RB:2745:A:H1'	1.96	0.46
46:NA:69:GLN:O	46:NA:72:ILE:HG22	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:TA:74:LYS:NZ	75:RB:1413:C:O2'	2.38	0.46
53:UA:78:PHE:CE2	76:SB:34:U:H5'	2.50	0.46
61:CB:97:MET:HE3	61:CB:102:LYS:HE2	1.97	0.46
61:CB:140:TYR:CE2	61:CB:233:GLU:HG2	2.51	0.46
63:EB:239:LEU:HD22	63:EB:244:LEU:HD21	1.98	0.46
66:HB:162:ARG:NE	75:RB:1209:G:OP2	2.49	0.46
66:HB:204:GLY:O	77:TB:63:U:H3'	2.16	0.46
71:MB:31:THR:HA	71:MB:93:ASN:OD1	2.16	0.46
71:MB:107:MET:O	71:MB:110:SER:HB2	2.16	0.46
74:PB:69:ARG:HA	74:PB:72:ARG:NH2	2.31	0.46
75:RB:543:C:H2'	75:RB:544:C:H6	1.81	0.46
75:RB:693:C:C4'	75:RB:695:G:H22	2.23	0.46
75:RB:1236:C:N4	75:RB:1265:G:N2	2.63	0.46
75:RB:2191:A:C6	75:RB:2263:A:C5	3.04	0.46
75:RB:2240:G:N3	75:RB:2264:A:H2	2.14	0.46
75:RB:2574:C:H2'	75:RB:2575:C:H6	1.81	0.46
75:RB:2578:U:H2'	75:RB:2579:C:C6	2.51	0.46
75:RB:2873:C:H2'	75:RB:2874:G:O4'	2.16	0.46
1:aa:794:G:C5	8:ja:19:MET:HE3	2.50	0.46
1:aa:907:G:H8	1:aa:907:G:O5'	1.99	0.46
1:aa:911:A:P	12:na:65:ASP:HB2	2.56	0.46
1:aa:1464:G:H2'	1:aa:1464:G:N3	2.30	0.46
5:ga:84:VAL:HG11	5:ga:90:LEU:HA	1.98	0.46
9:ka:143:VAL:O	9:ka:147:ILE:HG12	2.16	0.46
13:oa:55:ARG:NH1	18:ta:34:LYS:HG3	2.31	0.46
16:ra:24:PRO:O	16:ra:75:ARG:NH1	2.48	0.46
31:hb:181:ASP:OD2	31:hb:181:ASP:N	2.48	0.46
37:EA:25:VAL:HG13	37:EA:27:GLU:N	2.28	0.46
40:HA:22:VAL:O	40:HA:26:ARG:HG3	2.16	0.46
41:IA:99:ASP:OD2	41:IA:102:GLN:HG2	2.15	0.46
42:JA:167:ARG:HE	75:RB:86:U:P	2.39	0.46
45:MA:117:HIS:O	45:MA:149:LEU:HA	2.16	0.46
58:ZA:23:PHE:CD1	58:ZA:112:ASN:HB3	2.51	0.46
61:CB:220:ARG:NH2	75:RB:1173:C:H5''	2.30	0.46
63:EB:279:LYS:HG2	63:EB:280:GLY:N	2.29	0.46
63:EB:335:TYR:CE2	63:EB:339:ALA:HB2	2.51	0.46
64:FB:183:ARG:O	64:FB:187:GLU:HG2	2.15	0.46
71:MB:18:ILE:HD13	71:MB:94:LEU:HD23	1.96	0.46
74:PB:58:ARG:HD2	75:RB:1589:G:OP1	2.15	0.46
75:RB:305:G:H2'	75:RB:306:A:C8	2.50	0.46
75:RB:562:G:C6	75:RB:563:C:C4	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:974:G:H2'	75:RB:975:G:H8	1.81	0.46
75:RB:1649:G:C4	75:RB:1800:G:N2	2.84	0.46
75:RB:1757:G:H8	75:RB:1757:G:O5'	1.99	0.46
75:RB:2122:C:C2	75:RB:2319:A:C2	3.04	0.46
77:TB:28:U:O2'	77:TB:54:A:N1	2.48	0.46
79:bl:137:GLU:O	79:bl:140:GLU:HG3	2.15	0.46
80:cl:18:G:H2'	80:cl:57:G:N2	2.30	0.46
1:aa:152:G:OP1	30:gb:2:LYS:NZ	2.47	0.46
1:aa:403:A:OP1	3:ca:50:ARG:NH1	2.41	0.46
1:aa:650:G:N2	1:aa:702:G:C5	2.84	0.46
1:aa:1077:C:H5'	1:aa:1078:G:OP2	2.16	0.46
1:aa:1185:U:C4	1:aa:1464:G:O6	2.68	0.46
3:ca:166:GLN:HA	3:ca:169:ARG:HG2	1.97	0.46
4:da:56:ARG:HG2	4:da:67:TYR:HB2	1.97	0.46
6:ha:179:THR:HB	6:ha:192:TRP:O	2.16	0.46
14:pa:69:SER:HA	14:pa:73:ARG:HH21	1.81	0.46
25:bb:146:ARG:O	25:bb:149:GLN:HB2	2.16	0.46
39:GA:97:TYR:CE2	47:OA:23:PHE:HD2	2.33	0.46
43:KA:130:PHE:O	43:KA:166:LEU:HD23	2.16	0.46
43:KA:216:GLU:HG2	43:KA:217:LYS:N	2.31	0.46
49:QA:138:LYS:HG3	49:QA:139:LYS:CD	2.46	0.46
61:CB:25:ALA:HA	61:CB:28:LYS:HG2	1.98	0.46
62:DB:117:ARG:O	62:DB:117:ARG:HD3	2.15	0.46
62:DB:128:LYS:NZ	75:RB:3280:U:H5'	2.31	0.46
66:HB:141:LYS:O	66:HB:144:ASN:N	2.42	0.46
71:MB:56:TYR:O	71:MB:71:CYS:HA	2.16	0.46
75:RB:82:C:H2'	75:RB:83:U:O4'	2.16	0.46
75:RB:113:A:OP2	75:RB:152:C:N4	2.49	0.46
75:RB:125:G:H2'	75:RB:126:G:H8	1.80	0.46
75:RB:258:C:H2'	75:RB:259:G:N3	2.31	0.46
75:RB:329:G:H2'	75:RB:330:C:C6	2.51	0.46
75:RB:703:G:O2'	75:RB:704:G:OP2	2.24	0.46
75:RB:2088:C:H6	75:RB:2088:C:O5'	1.98	0.46
75:RB:2148:U:H2'	75:RB:2149:G:H8	1.81	0.46
75:RB:2517:G:N2	75:RB:2518:U:O2	2.49	0.46
75:RB:3217:G:H2'	75:RB:3218:C:H6	1.81	0.46
75:RB:3324:G:H2'	75:RB:3325:U:C6	2.51	0.46
75:RB:3362:C:H2'	75:RB:3365:U:H5	1.81	0.46
77:TB:51:G:O2'	77:TB:52:U:OP1	2.28	0.46
80:cl:18:G:O2'	80:cl:19:G:OP1	2.30	0.46
1:aa:94:A:C6	1:aa:403:A:C6	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:400:G:N7	3:ca:48:ARG:NH2	2.64	0.46
1:aa:613:U:C4	5:ga:24:ASP:HB2	2.52	0.46
1:aa:781:A:H2'	1:aa:782:G:H8	1.81	0.46
1:aa:1043:C:O2'	20:va:19:ARG:NH1	2.49	0.46
1:aa:1494:G:O2'	1:aa:1502:C:O2	2.30	0.46
1:aa:1577:A:H5''	1:aa:1578:A:OP2	2.16	0.46
1:aa:1775:A:H5'	1:aa:1777:G:N7	2.31	0.46
1:aa:1782:C:H3'	67:IB:1:MET:HG3	1.98	0.46
5:ga:53:LYS:HE2	23:ya:8:LEU:HD13	1.98	0.46
6:ha:45:VAL:O	6:ha:65:PRO:HA	2.16	0.46
8:ja:58:TYR:CZ	8:ja:80:LYS:HE2	2.51	0.46
9:ka:35:ALA:HB1	9:ka:41:HIS:HB3	1.98	0.46
24:za:21:MET:HE2	24:za:203:VAL:HG21	1.98	0.46
27:db:37:LYS:HG2	27:db:72:HIS:ND1	2.31	0.46
28:eb:84:ARG:O	28:eb:151:ARG:HB3	2.15	0.46
28:eb:87:LEU:CD2	28:eb:101:LEU:HD22	2.44	0.46
29:fb:193:VAL:HB	29:fb:220:PHE:CE2	2.51	0.46
30:gb:64:LYS:NZ	30:gb:77:LEU:HD11	2.31	0.46
30:gb:69:THR:O	30:gb:71:GLY:N	2.44	0.46
33:AA:46:ARG:HH22	75:RB:2585:G:P	2.38	0.46
33:AA:168:LYS:NZ	59:AB:42:PHE:HE2	2.14	0.46
37:EA:37:LYS:HA	37:EA:37:LYS:HD2	1.71	0.46
39:GA:43:LYS:HZ3	39:GA:60:MET:HE3	1.79	0.46
41:IA:69:TYR:CE1	41:IA:71:PRO:HD3	2.51	0.46
48:PA:20:THR:O	48:PA:20:THR:HG22	2.16	0.46
51:SA:73:ARG:NH2	75:RB:3075:U:H4'	2.30	0.46
58:ZA:109:LYS:HG3	58:ZA:110:GLU:N	2.25	0.46
65:GB:38:PHE:CZ	65:GB:43:GLY:HA2	2.51	0.46
75:RB:287:A:H2'	75:RB:288:G:C8	2.51	0.46
75:RB:951:C:H2'	75:RB:952:C:C6	2.51	0.46
75:RB:2191:A:N6	75:RB:2263:A:N1	2.64	0.46
75:RB:3070:G:H2'	75:RB:3071:C:O4'	2.16	0.46
77:TB:23:A:N3	77:TB:118:C:O2'	2.47	0.46
1:aa:191:U:H5''	1:aa:192:G:OP1	2.16	0.45
1:aa:326:G:N2	1:aa:328:U:C4	2.85	0.45
1:aa:1008:A:H4'	1:aa:1009:U:H5''	1.98	0.45
1:aa:1439:G:H4'	21:wa:26:ASN:ND2	2.31	0.45
6:ha:137:ARG:HH11	6:ha:163:THR:HA	1.79	0.45
13:oa:7:GLU:HG2	13:oa:8:GLU:N	2.31	0.45
17:sa:82:PRO:O	17:sa:102:LEU:HD12	2.16	0.45
29:fb:216:THR:HG23	29:fb:216:THR:O	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:hb:113:ARG:O	31:hb:113:ARG:HG3	2.15	0.45
36:DA:5:ILE:O	36:DA:8:GLN:N	2.45	0.45
37:EA:98:PHE:CD1	37:EA:104:PHE:HB3	2.51	0.45
42:JA:171:ARG:HH21	75:RB:88:A:P	2.39	0.45
45:MA:103:ALA:CB	45:MA:113:LEU:HD11	2.46	0.45
52:TA:48:LYS:NZ	75:RB:1150:G:OP1	2.41	0.45
52:TA:61:ASP:HB3	52:TA:64:THR:OG1	2.16	0.45
56:XA:68:LYS:O	56:XA:72:ILE:HG12	2.16	0.45
57:YA:6:PHE:CZ	57:YA:109:TYR:HD2	2.34	0.45
61:CB:144:LYS:HE2	61:CB:241:ARG:HH21	1.81	0.45
70:LB:82:ILE:CD1	70:LB:92:ARG:HG2	2.46	0.45
70:LB:154:ARG:HA	70:LB:154:ARG:NH2	2.31	0.45
70:LB:209:ARG:NH1	75:RB:3201:C:N3	2.62	0.45
74:PB:102:ILE:O	74:PB:106:VAL:HG23	2.16	0.45
75:RB:57:G:N3	75:RB:59:A:O2'	2.46	0.45
75:RB:251:G:H2'	75:RB:252:A:C8	2.51	0.45
75:RB:427:U:H2'	75:RB:428:G:H8	1.80	0.45
75:RB:1229:A:H2'	75:RB:1230:G:O4'	2.16	0.45
75:RB:1426:C:H2'	75:RB:1427:C:H6	1.81	0.45
75:RB:1509:G:C2	75:RB:1513:C:N4	2.84	0.45
75:RB:2632:A:N6	75:RB:2639:A:OP2	2.47	0.45
79:bl:150:MET:HE1	79:bl:233:PHE:HB3	1.97	0.45
79:bl:323:VAL:O	79:bl:392:PHE:HA	2.15	0.45
1:aa:1092:A:H2'	1:aa:1093:A:H8	1.81	0.45
1:aa:1178:C:OP1	13:oa:130:ARG:NH1	2.40	0.45
1:aa:1181:G:H2'	1:aa:1182:C:H6	1.81	0.45
1:aa:1435:G:P	79:bl:64:ARG:HH12	2.39	0.45
1:aa:1488:C:N4	1:aa:1533:A:OP2	2.49	0.45
2:ba:87:ALA:CA	2:ba:90:LYS:HE2	2.45	0.45
2:ba:106:VAL:HG12	2:ba:107:GLU:N	2.30	0.45
8:ja:126:VAL:HA	8:ja:141:THR:HA	1.98	0.45
15:qa:10:LYS:O	15:qa:14:ARG:HG3	2.17	0.45
19:ua:48:ARG:HG2	19:ua:48:ARG:NH1	2.31	0.45
33:AA:141:GLN:O	33:AA:142:SER:OG	2.27	0.45
39:GA:43:LYS:HG3	39:GA:60:MET:HE3	1.98	0.45
53:UA:27:PHE:HE1	53:UA:39:TYR:HD2	1.64	0.45
57:YA:160:PRO:CG	57:YA:166:LYS:HB2	2.45	0.45
61:CB:28:LYS:HG3	61:CB:29:LYS:N	2.32	0.45
63:EB:104:MET:HE3	63:EB:107:PRO:HA	1.99	0.45
71:MB:37:ILE:HG21	71:MB:49:TYR:HE2	1.80	0.45
75:RB:1111:U:H2'	75:RB:1112:C:H6	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:1229:A:C4	75:RB:1230:G:C8	3.04	0.45
75:RB:1345:U:H2'	75:RB:1346:C:C6	2.51	0.45
75:RB:1601:G:H4'	75:RB:1831:A:H4'	1.98	0.45
75:RB:2278:C:H2'	75:RB:2279:U:C5	2.52	0.45
75:RB:2350:A:H2'	75:RB:2351:A:H8	1.82	0.45
75:RB:2401:U:C4	75:RB:2402:G:N7	2.84	0.45
75:RB:2895:G:H5''	75:RB:2896:C:H5'	1.98	0.45
75:RB:3157:C:O2'	75:RB:3158:G:H5'	2.16	0.45
75:RB:3315:G:H1	75:RB:3365:U:H3	1.64	0.45
77:TB:77:A:H2'	77:TB:78:C:O4'	2.15	0.45
1:aa:247:A:OP1	8:ja:155:LYS:NZ	2.49	0.45
1:aa:327:A:C2	1:aa:328:U:C4	3.04	0.45
1:aa:518:G:O6	28:eb:173:ARG:NH2	2.36	0.45
1:aa:829:G:H2'	1:aa:830:U:H6	1.80	0.45
1:aa:1181:G:C6	1:aa:1470:G:C6	3.05	0.45
1:aa:1364:C:OP2	1:aa:1364:C:H6	2.00	0.45
1:aa:1511:A:C6	13:oa:82:TRP:CD1	3.04	0.45
1:aa:1512:C:H5''	16:ra:109:SER:HB2	1.96	0.45
6:ha:68:ARG:HD3	10:la:100:GLN:NE2	2.31	0.45
6:ha:249:SER:OG	6:ha:267:THR:OG1	2.24	0.45
8:ja:62:GLN:HB2	8:ja:80:LYS:HZ2	1.82	0.45
12:na:136:PRO:HG2	12:na:139:SER:HB3	1.98	0.45
13:oa:121:ARG:O	13:oa:125:HIS:ND1	2.49	0.45
16:ra:49:ILE:HG13	16:ra:50:VAL:HG13	1.97	0.45
29:fb:105:ARG:HG3	29:fb:105:ARG:NH1	2.31	0.45
40:HA:120:TRP:NE1	40:HA:123:GLU:OE1	2.49	0.45
40:HA:159:ARG:NH2	40:HA:164:LEU:O	2.45	0.45
45:MA:30:ARG:C	45:MA:30:ARG:HD3	2.42	0.45
54:VA:28:ARG:HH11	54:VA:36:ARG:NH2	2.01	0.45
61:CB:118:PHE:O	61:CB:201:ASN:ND2	2.42	0.45
63:EB:353:ALA:HB1	63:EB:360:SER:HB3	1.98	0.45
68:JB:104:HIS:CD2	68:JB:107:ALA:HB2	2.51	0.45
69:KB:134:LYS:HB3	75:RB:166:U:OP1	2.16	0.45
71:MB:94:LEU:HD12	71:MB:94:LEU:N	2.31	0.45
75:RB:520:G:C2	75:RB:521:G:C5	3.05	0.45
75:RB:693:C:H4'	75:RB:695:G:N2	2.23	0.45
75:RB:999:U:H2'	75:RB:1000:A:H8	1.81	0.45
75:RB:1476:G:H2'	75:RB:1477:A:C8	2.52	0.45
75:RB:1603:U:O2'	75:RB:1604:U:H2'	2.16	0.45
75:RB:2562:G:C2	75:RB:2563:G:C5	3.04	0.45
77:TB:22:A:C6	77:TB:23:A:C6	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:bl:331:ARG:O	79:bl:373:THR:OG1	2.18	0.45
79:bl:359:ARG:CG	79:bl:361:PRO:HD3	2.39	0.45
79:bl:417:GLN:O	79:bl:418:LEU:HD22	2.16	0.45
1:aa:105:A:H1'	1:aa:106:A:OP2	2.16	0.45
1:aa:359:G:C6	1:aa:360:G:C5	3.04	0.45
1:aa:785:A:N6	1:aa:788:G:OP2	2.49	0.45
1:aa:1279:A:C6	1:aa:1444:G:C5	3.04	0.45
1:aa:1532:A:H2'	1:aa:1533:A:H8	1.77	0.45
4:da:61:TRP:C	4:da:62:GLN:HG3	2.41	0.45
6:ha:169:VAL:C	6:ha:170:ARG:HD2	2.40	0.45
9:ka:46:PRO:O	9:ka:66:GLU:HG3	2.16	0.45
9:ka:121:ALA:HA	9:ka:134:ALA:HA	1.99	0.45
10:la:126:ASP:OD1	10:la:127:PRO:HD2	2.16	0.45
25:bb:136:ARG:NH2	25:bb:218:LEU:HD21	2.32	0.45
29:fb:83:CYS:SG	29:fb:86:LEU:HD12	2.56	0.45
29:fb:109:LYS:HB3	29:fb:127:CYS:SG	2.57	0.45
30:gb:80:GLY:CA	30:gb:85:ARG:HG3	2.44	0.45
33:AA:105:GLU:O	33:AA:109:LYS:HG2	2.16	0.45
34:BA:8:ARG:NH2	34:BA:15:PHE:HD2	2.14	0.45
36:DA:33:ASP:O	36:DA:37:ARG:HG3	2.17	0.45
38:FA:71:THR:HG22	75:RB:3108:G:O2'	2.17	0.45
41:IA:69:TYR:HD2	69:KB:64:LYS:HA	1.81	0.45
46:NA:37:ARG:HH12	46:NA:42:PHE:HD2	1.64	0.45
51:SA:27:ARG:NH2	75:RB:3310:A:O3'	2.40	0.45
57:YA:16:LEU:CD2	57:YA:59:GLN:HB2	2.47	0.45
61:CB:104:ILE:HG23	61:CB:128:MET:HG2	1.98	0.45
61:CB:160:LYS:HB2	61:CB:160:LYS:HE2	1.71	0.45
64:FB:157:THR:HA	64:FB:160:GLU:OE1	2.17	0.45
71:MB:43:ARG:O	71:MB:46:VAL:HG22	2.16	0.45
73:OB:12:GLN:NE2	75:RB:956:G:OP1	2.49	0.45
75:RB:409:U:H2'	75:RB:410:G:H8	1.82	0.45
75:RB:512:G:H2'	75:RB:513:C:C6	2.52	0.45
75:RB:1226:G:H1'	75:RB:1289:G:N2	2.31	0.45
75:RB:1290:A:N3	75:RB:1291:A:H1'	2.31	0.45
75:RB:1832:C:O2'	75:RB:1838:A:N1	2.41	0.45
75:RB:3383:U:H2'	75:RB:3384:C:C6	2.52	0.45
79:bl:212:PHE:HB2	79:bl:247:LEU:HD21	1.99	0.45
1:aa:864:A:C5	14:pa:73:ARG:HD2	2.50	0.45
1:aa:930:G:H2'	1:aa:931:A:C8	2.51	0.45
1:aa:1041:A:H2'	1:aa:1042:C:H6	1.79	0.45
1:aa:1646:G:H2'	1:aa:1647:C:O4'	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:1666:G:H1	1:aa:1753:U:H3	1.64	0.45
2:ba:93:PRO:CD	2:ba:96:ARG:HH21	2.22	0.45
3:ca:27:TYR:CD1	3:ca:28:GLU:HG2	2.51	0.45
7:ia:64:ARG:O	7:ia:67:ARG:HB2	2.15	0.45
7:ia:153:LYS:O	7:ia:154:ASP:OD2	2.35	0.45
15:qa:5:ARG:HG2	15:qa:9:VAL:HG11	1.98	0.45
20:va:89:ARG:O	20:va:93:LEU:HB2	2.17	0.45
24:za:45:ARG:HG2	24:za:46:ARG:O	2.16	0.45
25:bb:128:LYS:HE2	25:bb:134:MET:HE2	1.98	0.45
25:bb:195:LYS:HA	25:bb:198:GLU:OE1	2.17	0.45
28:eb:58:ALA:O	28:eb:62:LEU:HG	2.17	0.45
31:hb:52:MET:SD	31:hb:173:VAL:HG22	2.57	0.45
36:DA:5:ILE:HD13	36:DA:209:HIS:HA	1.97	0.45
44:LA:13:SER:CB	44:LA:38:ARG:HH22	2.30	0.45
49:QA:18:CYS:SG	63:EB:144:GLY:HA2	2.56	0.45
55:WA:63:LYS:HG2	75:RB:2792:U:OP2	2.16	0.45
58:ZA:44:PHE:CD2	58:ZA:92:TYR:HB2	2.50	0.45
59:AB:88:LYS:HZ2	75:RB:294:A:H4'	1.82	0.45
60:BB:10:GLU:O	60:BB:14:LYS:HG3	2.16	0.45
60:BB:71:ARG:HG2	60:BB:71:ARG:HH11	1.82	0.45
61:CB:56:GLU:O	61:CB:60:GLN:HG2	2.17	0.45
75:RB:149:A:C4	75:RB:150:G:C8	3.05	0.45
75:RB:159:G:H1	75:RB:259:G:H21	1.64	0.45
75:RB:520:G:N3	75:RB:521:G:C8	2.84	0.45
75:RB:546:C:H2'	75:RB:547:C:C6	2.48	0.45
75:RB:962:C:H5'	75:RB:963:U:OP1	2.17	0.45
75:RB:1244:A:C2	75:RB:1247:G:H3'	2.52	0.45
75:RB:3212:G:H2'	75:RB:3213:C:H6	1.80	0.45
76:SB:98:U:H2'	76:SB:99:C:O4'	2.17	0.45
79:bl:117:LYS:HG3	79:bl:138:LEU:HD11	1.99	0.45
1:aa:30:G:H2'	1:aa:31:C:C6	2.52	0.45
1:aa:43:A:O2'	1:aa:100:C:OP1	2.31	0.45
1:aa:87:A:H2'	1:aa:88:C:C6	2.50	0.45
1:aa:214:A:N6	1:aa:834:A:O4'	2.49	0.45
1:aa:351:G:N2	3:ca:14:THR:O	2.49	0.45
1:aa:500:G:N2	1:aa:502:G:OP1	2.49	0.45
1:aa:1187:A:H3'	1:aa:1187:A:N3	2.31	0.45
1:aa:1247:G:H2'	17:sa:60:ARG:NE	2.30	0.45
1:aa:1252:C:C2	1:aa:1253:U:H5	2.35	0.45
1:aa:1610:C:P	10:la:138:ARG:HH22	2.40	0.45
1:aa:1644:C:H4'	1:aa:1645:C:H5''	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:ha:255:CYS:SG	6:ha:304:TRP:HD1	2.39	0.45
6:ha:271:ILE:HD11	6:ha:285:LEU:HD22	1.98	0.45
14:pa:46:MET:O	14:pa:50:ILE:HG13	2.16	0.45
15:qa:32:LYS:HD2	15:qa:47:ARG:HH12	1.82	0.45
31:hb:73:PHE:O	31:hb:77:HIS:CB	2.47	0.45
38:FA:38:PHE:HD2	38:FA:41:LEU:HD11	1.81	0.45
43:KA:284:LEU:HA	43:KA:284:LEU:HD12	1.49	0.45
45:MA:24:VAL:HG21	45:MA:88:SER:HA	1.99	0.45
46:NA:93:VAL:HG22	46:NA:133:TYR:CD1	2.51	0.45
48:PA:50:ARG:NH1	76:SB:71:A:OP2	2.48	0.45
49:QA:115:LEU:HA	49:QA:118:PRO:HD2	1.99	0.45
52:TA:97:ILE:HG22	52:TA:101:VAL:HG21	1.98	0.45
56:XA:29:ASP:OD1	56:XA:30:VAL:N	2.50	0.45
56:XA:63:LYS:HB3	75:RB:542:G:C6	2.51	0.45
57:YA:40:LYS:HE3	61:CB:233:GLU:OE1	2.16	0.45
62:DB:367:SER:OG	75:RB:3317:A:H5'	2.16	0.45
63:EB:37:PRO:O	63:EB:40:ILE:HG22	2.17	0.45
70:LB:29:LYS:NZ	75:RB:607:U:H3	2.14	0.45
71:MB:48:TRP:HE3	71:MB:49:TYR:CD1	2.35	0.45
75:RB:306:A:H1'	75:RB:2215:A:N3	2.31	0.45
75:RB:2211:G:H2'	75:RB:2212:A:H8	1.80	0.45
75:RB:2254:G:H21	75:RB:2255:A:N6	2.14	0.45
75:RB:2652:U:H1'	75:RB:2653:A:C2	2.52	0.45
79:bl:279:VAL:O	79:bl:283:GLN:HG2	2.17	0.45
1:aa:400:G:H22	1:aa:403:A:H5'	1.82	0.45
1:aa:595:A:OP1	28:eb:26:LEU:HD21	2.17	0.45
1:aa:806:U:H2'	1:aa:807:G:C8	2.51	0.45
1:aa:892:A:H1'	12:na:136:PRO:HB3	1.98	0.45
1:aa:1007:G:O6	1:aa:1008:A:N6	2.50	0.45
1:aa:1346:C:H2'	1:aa:1347:U:H6	1.79	0.45
6:ha:143:ASN:OD1	6:ha:147:GLU:N	2.49	0.45
8:ja:179:ASN:HB2	8:ja:229:GLY:O	2.17	0.45
13:oa:107:LEU:O	13:oa:111:LEU:HD23	2.17	0.45
25:bb:135:LEU:HD13	25:bb:215:VAL:HG13	1.98	0.45
25:bb:144:LYS:HE3	25:bb:206:PRO:CB	2.47	0.45
38:FA:25:ILE:HD11	38:FA:45:PHE:HE2	1.79	0.45
39:GA:85:ARG:NH1	75:RB:1894:G:OP1	2.50	0.45
40:HA:28:TRP:CD1	75:RB:2512:A:H5''	2.52	0.45
45:MA:50:ASP:OD2	45:MA:55:LYS:HB2	2.17	0.45
48:PA:50:ARG:NH1	76:SB:71:A:H2'	2.32	0.45
56:XA:24:LEU:HD11	56:XA:84:TRP:CD1	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:YA:54:LYS:NZ	77:TB:99:G:OP2	2.46	0.45
57:YA:94:LYS:HE3	57:YA:112:MET:HE1	1.97	0.45
58:ZA:106:ALA:HB1	58:ZA:109:LYS:HB3	1.97	0.45
61:CB:159:ASN:C	61:CB:161:GLN:H	2.24	0.45
62:DB:19:ARG:NH2	75:RB:3041:C:OP1	2.31	0.45
62:DB:130:PHE:HE1	75:RB:3145:G:H4'	1.81	0.45
63:EB:164:ILE:HG12	63:EB:221:ILE:HG22	1.97	0.45
64:FB:182:LEU:HA	64:FB:185:LYS:HG2	1.98	0.45
65:GB:10:ILE:HD13	75:RB:840:A:O2'	2.16	0.45
70:LB:180:ASP:O	70:LB:183:VAL:HG22	2.16	0.45
75:RB:26:A:H2	75:RB:57:G:N2	2.15	0.45
75:RB:170:C:H2'	75:RB:171:G:O4'	2.17	0.45
75:RB:242:U:H2'	75:RB:243:C:C6	2.51	0.45
75:RB:532:G:N1	75:RB:547:C:C4	2.85	0.45
75:RB:1814:C:H2'	75:RB:1815:G:O4'	2.16	0.45
75:RB:2141:A:H2'	75:RB:2142:A:O4'	2.17	0.45
75:RB:3190:C:H2'	75:RB:3191:C:O4'	2.17	0.45
75:RB:3238:C:H2'	75:RB:3239:G:O4'	2.16	0.45
75:RB:3274:G:H2'	75:RB:3274:G:N3	2.32	0.45
75:RB:3340:G:H2'	75:RB:3341:C:C6	2.51	0.45
77:TB:4:U:H2'	77:TB:5:G:C8	2.51	0.45
79:bl:26:ALA:O	79:bl:129:LYS:HG2	2.17	0.45
1:aa:304:A:H2'	1:aa:305:A:C8	2.52	0.45
1:aa:753:C:C4	1:aa:754:U:C4	3.05	0.45
1:aa:1161:C:N4	1:aa:1626:C:N3	2.65	0.45
4:da:57:GLU:HG2	4:da:66:TRP:CD1	2.52	0.45
4:da:61:TRP:O	4:da:62:GLN:HG3	2.17	0.45
5:ga:4:THR:O	5:ga:13:LEU:HD11	2.16	0.45
6:ha:168:CYS:SG	6:ha:213:VAL:HB	2.57	0.45
6:ha:297:LEU:HB3	6:ha:315:TYR:HD2	1.82	0.45
9:ka:123:ARG:HG3	19:ua:41:ARG:NH2	2.32	0.45
13:oa:73:ASN:ND2	13:oa:77:PHE:HE2	2.15	0.45
18:ta:86:GLU:OE2	18:ta:93:VAL:HB	2.17	0.45
24:za:70:VAL:HG11	24:za:189:MET:HB2	1.98	0.45
35:CA:11:VAL:HG21	35:CA:25:ILE:HD11	1.98	0.45
37:EA:55:THR:HB	37:EA:63:ARG:HB2	1.98	0.45
38:FA:33:THR:O	38:FA:34:LEU:HD23	2.17	0.45
39:GA:91:LYS:O	62:DB:72:THR:HA	2.17	0.45
43:KA:64:ILE:HG13	43:KA:109:VAL:HG21	1.98	0.45
48:PA:3:ARG:HA	48:PA:3:ARG:HD2	1.73	0.45
51:SA:77:ARG:C	51:SA:78:ARG:HD2	2.41	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:YA:32:TRP:CE2	57:YA:105:VAL:HG21	2.52	0.45
60:BB:109:LYS:O	60:BB:113:VAL:HG23	2.16	0.45
63:EB:45:ARG:NH1	63:EB:46:LEU:HD21	2.32	0.45
64:FB:176:ARG:NH2	75:RB:3172:A:OP2	2.48	0.45
65:GB:51:ALA:HB3	65:GB:54:ILE:HD12	1.99	0.45
69:KB:57:ILE:HG12	69:KB:156:ILE:CG2	2.46	0.45
69:KB:127:PRO:HB2	69:KB:129:ARG:O	2.17	0.45
72:NB:13:LEU:HA	72:NB:16:ARG:HG2	1.98	0.45
75:RB:159:G:H1	75:RB:259:G:N2	2.14	0.45
75:RB:535:G:C6	75:RB:536:C:C4	3.05	0.45
75:RB:553:C:N3	75:RB:554:C:N4	2.64	0.45
75:RB:553:C:N3	75:RB:554:C:C4	2.85	0.45
75:RB:644:U:H2'	75:RB:645:C:C6	2.51	0.45
75:RB:1071:G:H2'	75:RB:1072:C:C6	2.52	0.45
75:RB:1250:G:C4'	75:RB:1268:G:H2'	2.46	0.45
75:RB:1364:C:O2'	75:RB:1365:C:H5'	2.16	0.45
76:SB:44:A:H2'	76:SB:45:C:C6	2.51	0.45
80:cl:23:C:H2'	80:cl:24:G:C8	2.52	0.45
1:aa:40:A:H61	1:aa:471:G:H1'	1.82	0.45
1:aa:345:A:H2'	1:aa:346:C:C6	2.52	0.45
1:aa:768:A:H2'	1:aa:769:G:C8	2.52	0.45
5:ga:128:SER:HB2	5:ga:131:ALA:CB	2.47	0.45
7:ia:28:GLU:HG2	7:ia:69:LEU:HD11	1.98	0.45
8:ja:10:LYS:HA	8:ja:27:PHE:HA	1.99	0.45
9:ka:151:THR:HG22	9:ka:155:ARG:HH22	1.82	0.45
11:ma:32:LEU:HA	11:ma:119:GLU:O	2.17	0.45
12:na:108:PRO:HG2	27:db:67:LEU:HD21	1.98	0.45
22:xa:38:LYS:HG3	22:xa:44:ASN:O	2.17	0.45
26:cb:38:HIS:HD1	26:cb:48:ARG:C	2.25	0.45
37:EA:134:GLU:HB2	37:EA:138:TYR:CD2	2.52	0.45
42:JA:71:MET:SD	42:JA:79:ALA:HB2	2.56	0.45
44:LA:83:GLY:HA2	75:RB:1860:A:C8	2.50	0.45
45:MA:22:LEU:HD13	45:MA:147:ILE:HD12	1.98	0.45
50:RA:45:LEU:HD23	50:RA:46:ILE:N	2.32	0.45
62:DB:299:CYS:SG	62:DB:306:GLU:HA	2.57	0.45
63:EB:322:PRO:C	63:EB:323:LEU:HD22	2.42	0.45
64:FB:133:ARG:NH2	75:RB:1322:A:OP1	2.49	0.45
71:MB:56:TYR:OH	71:MB:101:LYS:HD2	2.17	0.45
75:RB:57:G:H2'	75:RB:58:G:O4'	2.17	0.45
75:RB:260:U:H2'	75:RB:261:C:H6	1.82	0.45
75:RB:360:G:HO2'	75:RB:931:C:HO2'	1.65	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:416:A:H2'	75:RB:417:G:C8	2.52	0.45
75:RB:684:C:O2'	75:RB:792:A:H4'	2.16	0.45
75:RB:880:C:HO2'	75:RB:883:G:HO2'	1.58	0.45
75:RB:1330:A:H2'	75:RB:1331:C:O4'	2.17	0.45
75:RB:1579:C:OP2	75:RB:1579:C:H2'	2.17	0.45
75:RB:2211:G:H2'	75:RB:2212:A:C8	2.52	0.45
75:RB:2225:A:H2'	75:RB:2226:A:C8	2.52	0.45
75:RB:2562:G:H1'	75:RB:2571:G:N2	2.31	0.45
77:TB:102:G:H2'	77:TB:103:U:H6	1.82	0.45
1:aa:93:A:OP2	1:aa:402:G:N1	2.49	0.45
1:aa:129:U:H5''	1:aa:175:A:O2'	2.17	0.45
1:aa:1094:U:H2'	1:aa:1095:C:H6	1.82	0.45
1:aa:1156:A:OP2	1:aa:1776:A:O2'	2.29	0.45
1:aa:1400:G:H2'	1:aa:1401:C:C6	2.52	0.45
6:ha:227:LYS:HA	6:ha:250:ILE:HD12	1.98	0.45
13:oa:34:LYS:HB3	13:oa:100:SER:HA	2.00	0.45
14:pa:75:LEU:HD22	14:pa:80:LEU:HB2	1.99	0.45
18:ta:59:LYS:C	18:ta:61:ILE:H	2.25	0.45
20:va:10:LEU:HD12	20:va:73:ALA:HB2	1.98	0.45
30:gb:57:ASP:OD2	30:gb:100:ARG:HD3	2.17	0.45
36:DA:243:THR:HB	75:RB:2237:A:H5''	1.99	0.45
42:JA:104:PHE:HB3	42:JA:109:ARG:HB2	1.98	0.45
45:MA:140:TYR:CE1	75:RB:2348:G:H4'	2.52	0.45
49:QA:2:THR:N	49:QA:79:GLN:HB3	2.32	0.45
56:XA:122:ARG:NH2	75:RB:3201:C:OP1	2.49	0.45
59:AB:77:LYS:HA	59:AB:86:ALA:HB2	1.99	0.45
60:BB:71:ARG:HG3	60:BB:84:LEU:HD22	1.99	0.45
68:JB:113:LYS:O	75:RB:1303:C:H4'	2.17	0.45
75:RB:183:C:H2'	75:RB:184:C:O4'	2.17	0.45
75:RB:185:A:N1	75:RB:209:G:O2'	2.48	0.45
75:RB:260:U:H2'	75:RB:261:C:O4'	2.17	0.45
75:RB:676:G:H2'	75:RB:677:U:C6	2.52	0.45
75:RB:676:G:H2'	75:RB:677:U:H6	1.82	0.45
75:RB:1126:U:O4	75:RB:1139:A:N6	2.50	0.45
75:RB:1367:A:H2'	75:RB:1368:U:O4'	2.16	0.45
75:RB:1459:A:H4'	75:RB:1460:U:O5'	2.17	0.45
75:RB:1572:C:H2'	75:RB:1573:G:C8	2.52	0.45
75:RB:2393:G:H5''	75:RB:2394:A:OP2	2.17	0.45
75:RB:2721:U:C5	75:RB:2722:C:H5	2.35	0.45
1:aa:493:C:N3	1:aa:494:G:N1	2.65	0.44
1:aa:761:A:HO2'	1:aa:762:A:P	2.40	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:ca:44:VAL:HG12	3:ca:56:TRP:HE3	1.82	0.44
9:ka:89:ILE:O	9:ka:93:MET:CB	2.58	0.44
9:ka:93:MET:HE3	9:ka:104:PRO:HB2	1.99	0.44
10:la:43:GLU:HA	10:la:55:PHE:CZ	2.50	0.44
11:ma:26:HIS:CG	11:ma:27:ARG:H	2.36	0.44
31:hb:77:HIS:O	31:hb:77:HIS:CG	2.69	0.44
33:AA:233:VAL:HG23	33:AA:233:VAL:O	2.17	0.44
37:EA:37:LYS:NZ	37:EA:40:GLU:OE1	2.35	0.44
41:IA:51:GLY:O	42:JA:174:GLU:HA	2.17	0.44
43:KA:95:TYR:N	77:TB:47:C:OP1	2.44	0.44
52:TA:87:MET:O	52:TA:90:ASN:ND2	2.47	0.44
53:UA:37:CYS:C	53:UA:39:TYR:H	2.26	0.44
61:CB:91:ILE:O	61:CB:219:LYS:HD3	2.17	0.44
61:CB:209:LEU:O	75:RB:1337:C:O2'	2.32	0.44
62:DB:165:HIS:HB3	62:DB:181:LEU:HD13	1.99	0.44
75:RB:535:G:HO2'	75:RB:536:C:P	2.39	0.44
75:RB:997:G:C5	75:RB:2634:A:C2	3.05	0.44
75:RB:1185:G:H2'	75:RB:1186:C:C6	2.52	0.44
75:RB:2664:A:H2'	75:RB:2665:A:O4'	2.16	0.44
79:bl:124:TYR:C	79:bl:125:LEU:HD12	2.41	0.44
79:bl:332:PHE:CE2	79:bl:372:LYS:HB3	2.52	0.44
79:bl:389:THR:HG22	79:bl:389:THR:O	2.17	0.44
1:aa:639:G:C2	1:aa:868:A:C8	3.05	0.44
1:aa:1002:G:C6	1:aa:1003:A:C5	3.06	0.44
3:ca:29:LEU:HD23	3:ca:29:LEU:H	1.81	0.44
3:ca:65:ASN:HB3	3:ca:199:ASP:OD1	2.18	0.44
4:da:1:MET:O	4:da:2:ILE:HD13	2.18	0.44
6:ha:225:GLY:N	6:ha:254:LEU:HD11	2.33	0.44
8:ja:65:LEU:HD13	8:ja:79:ASP:O	2.17	0.44
9:ka:33:TYR:CE1	9:ka:140:LEU:HB2	2.52	0.44
14:pa:86:GLU:O	14:pa:89:TYR:HB3	2.18	0.44
14:pa:108:ASP:OD2	14:pa:111:SER:HB2	2.17	0.44
16:ra:144:LEU:HA	16:ra:147:VAL:HG12	2.00	0.44
17:sa:126:ALA:C	17:sa:128:PHE:H	2.25	0.44
20:va:52:PHE:CE1	22:xa:26:LEU:HD21	2.52	0.44
25:bb:164:ILE:HD13	25:bb:164:ILE:HG21	1.70	0.44
31:hb:114:PRO:O	31:hb:116:THR:N	2.51	0.44
33:AA:138:LEU:HD12	33:AA:195:CYS:SG	2.57	0.44
34:BA:17:ARG:NE	34:BA:45:ASN:OD1	2.50	0.44
40:HA:178:GLY:HA3	75:RB:67:C:O3'	2.17	0.44
41:IA:131:GLU:OE2	69:KB:179:TYR:N	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:LA:115:ILE:HD11	44:LA:142:ILE:HG23	1.99	0.44
46:NA:100:ALA:O	46:NA:130:LYS:NZ	2.50	0.44
48:PA:62:TYR:HB3	48:PA:65:ARG:HD3	1.99	0.44
48:PA:73:TYR:HE2	48:PA:76:ARG:HH11	1.65	0.44
49:QA:38:ASN:OD1	49:QA:38:ASN:N	2.48	0.44
53:UA:44:ILE:HD12	75:RB:22:G:H5'	1.98	0.44
53:UA:80:GLU:OE1	53:UA:80:GLU:N	2.51	0.44
59:AB:87:LYS:HG3	59:AB:88:LYS:N	2.31	0.44
60:BB:12:TRP:CD1	60:BB:61:VAL:HG13	2.53	0.44
63:EB:238:ARG:HD2	75:RB:698:A:H2	1.81	0.44
75:RB:281:G:OP2	75:RB:283:A:O2'	2.29	0.44
75:RB:1028:G:H1'	75:RB:1033:G:H1	1.82	0.44
75:RB:1269:U:C2	75:RB:1270:G:C8	3.05	0.44
75:RB:1286:G:C6	75:RB:1287:C:C5	3.05	0.44
75:RB:2184:U:H3	75:RB:2309:A:H61	1.65	0.44
75:RB:3135:A:H2'	75:RB:3136:G:O4'	2.18	0.44
75:RB:3341:C:H1'	75:RB:3342:U:C5	2.53	0.44
76:SB:130:G:C6	76:SB:131:G:C6	3.05	0.44
77:TB:3:A:H2'	77:TB:4:U:C6	2.52	0.44
79:bl:78:GLN:OE1	79:bl:82:LYS:NZ	2.50	0.44
1:aa:198:G:H2'	1:aa:199:G:C8	2.52	0.44
1:aa:496:A:H8	1:aa:496:A:OP2	2.00	0.44
1:aa:754:U:C2	1:aa:755:U:C5	3.05	0.44
1:aa:876:A:C6	1:aa:962:G:C6	3.05	0.44
1:aa:939:C:C4	27:db:95:ARG:NH1	2.85	0.44
1:aa:1122:U:H2'	1:aa:1123:G:H8	1.81	0.44
1:aa:1239:C:H2'	1:aa:1240:A:H8	1.81	0.44
1:aa:1301:G:O2'	1:aa:1303:G:N7	2.35	0.44
1:aa:1374:G:H2'	1:aa:1375:C:C6	2.52	0.44
6:ha:125:ILE:HD12	6:ha:125:ILE:H	1.83	0.44
9:ka:34:LEU:HD13	9:ka:109:VAL:HG13	1.98	0.44
13:oa:6:GLY:HA3	13:oa:9:PHE:HB2	1.98	0.44
15:qa:78:ARG:NH1	15:qa:81:ARG:HE	2.15	0.44
16:ra:18:THR:OG1	16:ra:19:VAL:N	2.51	0.44
24:za:29:LEU:HD23	24:za:52:ILE:HG22	1.98	0.44
25:bb:137:MET:HB3	25:bb:172:MET:CE	2.47	0.44
29:fb:45:TRP:C	29:fb:45:TRP:CD1	2.96	0.44
31:hb:82:ARG:HG2	31:hb:82:ARG:NH1	2.32	0.44
33:AA:128:VAL:HG23	33:AA:196:LEU:HD22	1.99	0.44
36:DA:30:ARG:NH1	36:DA:72:GLN:OE1	2.51	0.44
40:HA:75:VAL:HB	40:HA:76:PRO:CD	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:KA:23:ARG:O	43:KA:26:GLY:N	2.44	0.44
50:RA:44:LYS:HE3	50:RA:44:LYS:HB3	1.88	0.44
56:XA:12:VAL:HG22	56:XA:58:ILE:O	2.16	0.44
61:CB:72:ARG:HE	63:EB:380:TRP:CD1	2.36	0.44
62:DB:19:ARG:HB3	62:DB:276:HIS:CE1	2.53	0.44
62:DB:30:LYS:HD2	75:RB:3134:U:OP2	2.17	0.44
64:FB:27:ILE:HD11	75:RB:1184:U:H5	1.83	0.44
75:RB:352:U:H2'	75:RB:353:A:H8	1.81	0.44
75:RB:1670:G:C6	75:RB:1771:G:N1	2.85	0.44
75:RB:2427:U:H4'	75:RB:2428:G:O5'	2.18	0.44
75:RB:2928:C:H2'	75:RB:2929:C:O4'	2.18	0.44
75:RB:3184:C:O2	75:RB:3184:C:H2'	2.16	0.44
75:RB:3192:C:H2'	75:RB:3193:C:H5''	1.99	0.44
1:aa:26:A:O2'	1:aa:27:U:O5'	2.33	0.44
1:aa:405:A:O2'	1:aa:406:C:H4'	2.18	0.44
1:aa:1662:G:O2'	1:aa:1756:A:N6	2.50	0.44
6:ha:99:LEU:O	6:ha:108:THR:OG1	2.33	0.44
6:ha:263:LEU:HB3	6:ha:274:TRP:HD1	1.81	0.44
16:ra:80:ARG:HB3	16:ra:83:ILE:HD11	1.98	0.44
28:eb:102:THR:HG22	28:eb:103:ALA:N	2.32	0.44
28:eb:119:GLY:C	28:eb:120:MET:HG2	2.42	0.44
30:gb:67:VAL:HG23	30:gb:101:GLY:HA2	2.00	0.44
36:DA:102:LEU:HD13	36:DA:166:ILE:HD13	1.99	0.44
36:DA:133:TYR:CE1	36:DA:135:ILE:HD11	2.52	0.44
42:JA:26:LEU:O	42:JA:30:VAL:HG23	2.18	0.44
44:LA:119:MET:HE3	44:LA:119:MET:HB2	1.85	0.44
50:RA:64:ALA:HA	50:RA:69:ILE:HG22	2.00	0.44
62:DB:235:ARG:NH1	62:DB:271:GLY:C	2.76	0.44
62:DB:263:VAL:HG11	62:DB:269:ARG:HH11	1.82	0.44
63:EB:134:THR:C	63:EB:136:VAL:H	2.25	0.44
64:FB:20:MET:HE3	64:FB:130:LYS:HA	2.00	0.44
72:NB:2:PRO:HD3	75:RB:1746:G:H4'	1.99	0.44
75:RB:567:G:H2'	75:RB:568:C:C6	2.53	0.44
75:RB:1339:C:C2	75:RB:1340:G:C8	3.06	0.44
75:RB:1418:C:C4	75:RB:1419:G:C5	3.05	0.44
75:RB:1614:G:H2'	75:RB:1615:G:H8	1.82	0.44
75:RB:2206:A:H2'	75:RB:2207:A:H8	1.82	0.44
75:RB:2256:C:O5'	75:RB:2256:C:H6	2.00	0.44
75:RB:2629:G:C6	75:RB:2644:A:C6	3.06	0.44
75:RB:3152:C:H2'	75:RB:3153:C:H6	1.83	0.44
1:aa:201:G:C6	1:aa:267:G:C2	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:277:G:H8	1:aa:277:G:OP1	2.01	0.44
1:aa:507:G:O2'	1:aa:508:U:P	2.76	0.44
1:aa:859:U:O2'	1:aa:860:A:H5'	2.18	0.44
1:aa:863:G:H4'	31:hb:114:PRO:HG2	1.99	0.44
1:aa:1071:C:H5''	25:bb:149:GLN:HE21	1.83	0.44
1:aa:1124:G:H2'	1:aa:1125:U:C6	2.53	0.44
1:aa:1799:G:N7	12:na:146:ARG:CZ	2.81	0.44
2:ba:25:ARG:NH1	2:ba:27:GLN:OE1	2.51	0.44
2:ba:30:LEU:HD23	2:ba:30:LEU:H	1.81	0.44
3:ca:23:LYS:O	3:ca:25:ARG:HD2	2.18	0.44
4:da:32:HIS:HB2	4:da:39:ASN:HD21	1.82	0.44
6:ha:180:ILE:O	6:ha:191:VAL:HA	2.17	0.44
8:ja:97:GLU:OE2	8:ja:99:TYR:OH	2.12	0.44
20:va:51:VAL:HG12	20:va:53:ASP:OD1	2.17	0.44
36:DA:114:CYS:SG	36:DA:165:MET:HB3	2.57	0.44
37:EA:111:HIS:ND1	37:EA:117:LYS:HG2	2.30	0.44
37:EA:154:GLN:O	37:EA:154:GLN:HG2	2.18	0.44
38:FA:5:LEU:HD21	38:FA:7:SER:HB2	1.98	0.44
38:FA:10:MET:HE3	38:FA:12:ILE:CD1	2.43	0.44
41:IA:60:TYR:CE1	75:RB:2774:G:C2	3.06	0.44
53:UA:44:ILE:HD11	76:SB:41:A:H2	1.82	0.44
55:WA:68:ILE:HB	55:WA:85:ILE:HG12	1.99	0.44
60:BB:81:PRO:O	60:BB:85:ARG:HG3	2.18	0.44
61:CB:25:ALA:O	61:CB:29:LYS:HG2	2.17	0.44
62:DB:57:VAL:HA	62:DB:72:THR:O	2.17	0.44
75:RB:313:C:N4	75:RB:314:C:H41	2.15	0.44
75:RB:447:C:O2'	75:RB:448:G:C8	2.71	0.44
75:RB:1195:C:H3'	75:RB:1196:U:C5'	2.48	0.44
75:RB:1235:A:H4'	75:RB:1236:C:C6	2.51	0.44
75:RB:1285:U:H2'	75:RB:1286:G:H8	1.83	0.44
75:RB:1588:G:H1'	75:RB:1795:A:N1	2.31	0.44
75:RB:1594:G:H5'	75:RB:1693:A:H1'	1.98	0.44
75:RB:1681:U:H2'	75:RB:1682:C:H6	1.83	0.44
75:RB:2096:U:H2'	75:RB:2097:C:H6	1.83	0.44
75:RB:2189:C:C4	75:RB:2235:A:C5	3.05	0.44
75:RB:2739:C:H2'	75:RB:2740:G:C8	2.53	0.44
75:RB:2812:G:N2	75:RB:2815:U:O2	2.46	0.44
75:RB:2984:A:H2'	75:RB:2985:C:O4'	2.17	0.44
75:RB:3330:G:O2'	75:RB:3349:A:N6	2.50	0.44
77:TB:37:G:N2	77:TB:41:G:C4	2.85	0.44
77:TB:70:G:H2'	77:TB:71:A:H8	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:TB:98:G:H2'	77:TB:99:G:O4'	2.18	0.44
1:aa:333:G:N3	1:aa:334:G:C8	2.86	0.44
1:aa:511:U:H5'	1:aa:512:U:OP2	2.18	0.44
1:aa:824:U:N3	1:aa:858:G:N1	2.66	0.44
1:aa:853:U:H2'	1:aa:854:C:O4'	2.18	0.44
1:aa:964:U:H5'	14:pa:15:ALA:O	2.18	0.44
1:aa:1289:U:C2	1:aa:1290:U:H5	2.35	0.44
1:aa:1508:C:H3'	16:ra:114:ARG:HH21	1.83	0.44
1:aa:1748:U:H2'	1:aa:1749:C:C6	2.53	0.44
7:ia:166:GLU:OE1	7:ia:202:THR:OG1	2.36	0.44
8:ja:125:LYS:HG3	8:ja:142:TYR:HD1	1.83	0.44
9:ka:48:SER:HA	10:la:85:TYR:OH	2.17	0.44
9:ka:150:LEU:HD23	9:ka:185:ALA:CB	2.48	0.44
10:la:26:ALA:HB2	10:la:73:ILE:HD12	1.99	0.44
10:la:34:LEU:O	10:la:70:ASP:HA	2.18	0.44
12:na:99:ALA:H	12:na:133:THR:HB	1.81	0.44
13:oa:16:LEU:HD21	13:oa:99:VAL:CG1	2.48	0.44
13:oa:85:ASN:OD1	13:oa:98:VAL:HG22	2.17	0.44
25:bb:183:GLU:HA	25:bb:186:ASN:OD1	2.18	0.44
29:fb:255:ASP:OD1	29:fb:256:ILE:N	2.51	0.44
31:hb:160:ARG:HG3	31:hb:186:TYR:CZ	2.52	0.44
33:AA:141:GLN:NE2	33:AA:143:LYS:HE3	2.33	0.44
38:FA:58:ALA:HB2	38:FA:69:ILE:HD11	1.99	0.44
38:FA:79:LEU:O	38:FA:83:VAL:HG12	2.18	0.44
49:QA:124:SER:HB3	70:LB:50:PHE:CE1	2.53	0.44
51:SA:98:TYR:HE2	51:SA:100:LEU:HB2	1.81	0.44
56:XA:95:VAL:HG11	64:FB:206:TYR:CD1	2.53	0.44
61:CB:157:LYS:NZ	61:CB:202:ASN:OD1	2.51	0.44
62:DB:58:ARG:O	62:DB:71:GLU:HA	2.18	0.44
62:DB:380:LYS:NZ	75:RB:3317:A:OP2	2.43	0.44
75:RB:21:G:C6	76:SB:36:G:C2	3.05	0.44
75:RB:441:G:H2'	75:RB:442:C:C6	2.53	0.44
75:RB:763:G:C2	75:RB:773:G:N3	2.86	0.44
75:RB:955:A:C2	75:RB:1117:U:H4'	2.52	0.44
75:RB:1287:C:H2'	75:RB:1288:C:H6	1.83	0.44
75:RB:1514:U:H5''	75:RB:1515:U:C5	2.52	0.44
75:RB:1618:U:H5'	76:SB:127:U:C2	2.52	0.44
75:RB:2345:A:C6	75:RB:2346:G:C5	3.06	0.44
75:RB:2674:G:H2'	75:RB:2674:G:N3	2.32	0.44
75:RB:3161:C:O2	75:RB:3161:C:H2'	2.18	0.44
75:RB:3339:U:C3'	75:RB:3340:G:H5''	2.45	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:TB:37:G:N2	77:TB:41:G:O4'	2.50	0.44
79:bl:334:LEU:HD13	79:bl:343:ILE:HG22	1.99	0.44
1:aa:439:C:H5'	5:ga:47:LYS:HB2	1.99	0.44
1:aa:745:C:OP1	1:aa:745:C:H2'	2.18	0.44
1:aa:1185:U:H2'	1:aa:1186:U:C6	2.53	0.44
1:aa:1416:A:H2'	1:aa:1417:A:O4'	2.18	0.44
1:aa:1616:U:C2	1:aa:1617:U:C5	3.06	0.44
1:aa:1723:G:H2'	1:aa:1724:U:C6	2.53	0.44
1:aa:1735:C:H2'	1:aa:1736:C:C6	2.53	0.44
4:da:73:ILE:O	4:da:77:ARG:HB2	2.17	0.44
5:ga:109:HIS:HD2	5:ga:110:ALA:H	1.66	0.44
11:ma:40:LEU:HD23	11:ma:40:LEU:C	2.43	0.44
16:ra:129:ASP:OD1	16:ra:135:LEU:HD22	2.17	0.44
20:va:37:LEU:HD23	20:va:37:LEU:HA	1.78	0.44
24:za:85:PRO:HA	24:za:88:GLN:NE2	2.27	0.44
25:bb:142:PHE:O	25:bb:207:LEU:HA	2.18	0.44
29:fb:110:ALA:O	29:fb:125:VAL:HA	2.17	0.44
30:gb:48:TYR:HA	30:gb:117:LYS:O	2.17	0.44
30:gb:84:PHE:CZ	30:gb:95:ARG:HG3	2.53	0.44
32:ib:93:HIS:HB3	32:ib:102:GLU:HG3	2.00	0.44
42:JA:39:ARG:O	63:EB:307:LYS:HG2	2.18	0.44
42:JA:99:VAL:HG13	42:JA:104:PHE:HZ	1.83	0.44
43:KA:65:VAL:CG2	43:KA:72:ASP:HB3	2.47	0.44
45:MA:69:ARG:O	75:RB:3295:C:O2'	2.30	0.44
56:XA:115:ILE:HG23	75:RB:3202:C:H5''	2.00	0.44
62:DB:125:SER:O	62:DB:127:LYS:HD2	2.17	0.44
63:EB:241:LEU:HD12	63:EB:241:LEU:HA	1.80	0.44
65:GB:73:THR:HG22	65:GB:75:SER:H	1.83	0.44
71:MB:76:VAL:HG13	71:MB:86:VAL:HB	1.99	0.44
75:RB:494:C:H5'	75:RB:495:G:OP2	2.18	0.44
75:RB:878:G:C2	75:RB:879:A:C8	3.06	0.44
75:RB:1613:C:H2'	75:RB:1614:G:C8	2.52	0.44
75:RB:3292:A:H2'	75:RB:3293:G:O4'	2.18	0.44
79:bl:247:LEU:O	79:bl:251:ILE:HG12	2.18	0.44
79:bl:421:ARG:HD3	79:bl:422:SER:N	2.32	0.44
1:aa:317:U:C5	1:aa:1123:G:C2	3.06	0.44
1:aa:1221:A:H4'	1:aa:1222:G:OP2	2.17	0.44
1:aa:1399:G:H2'	1:aa:1400:G:C8	2.51	0.44
3:ca:80:LEU:HB2	3:ca:104:GLN:O	2.17	0.44
4:da:23:ALA:HB3	4:da:64:TYR:CB	2.47	0.44
5:ga:52:GLU:HG3	5:ga:54:ILE:HG22	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:ha:99:LEU:HB2	6:ha:111:PHE:CE1	2.50	0.44
7:ia:58:VAL:O	7:ia:65:ARG:HB3	2.18	0.44
9:ka:99:LEU:O	18:ta:59:LYS:HD3	2.17	0.44
13:oa:24:GLN:HB2	13:oa:29:ALA:HB2	2.00	0.44
16:ra:98:ASN:HB2	16:ra:101:ARG:HB2	1.99	0.44
19:ua:77:GLU:OE1	19:ua:77:GLU:N	2.51	0.44
20:va:13:MET:SD	20:va:26:LEU:HD21	2.58	0.44
26:cb:12:TYR:O	26:cb:12:TYR:CD2	2.70	0.44
28:eb:20:PRO:HB2	28:eb:21:TYR:CD2	2.52	0.44
39:GA:57:VAL:CG2	39:GA:84:GLN:HG2	2.44	0.44
42:JA:109:ARG:NH1	42:JA:119:CYS:SG	2.90	0.44
45:MA:65:ARG:NH1	75:RB:1449:A:OP1	2.50	0.44
57:YA:171:ALA:HB1	64:FB:121:LYS:HE3	1.99	0.44
59:AB:29:PRO:O	59:AB:30:SER:OG	2.29	0.44
71:MB:40:VAL:HG11	71:MB:46:VAL:HG12	2.00	0.44
75:RB:690:G:O2'	75:RB:691:U:OP1	2.33	0.44
75:RB:797:U:H6	75:RB:797:U:O5'	2.01	0.44
75:RB:1566:C:H2'	75:RB:1567:G:C8	2.52	0.44
75:RB:1755:A:H2'	75:RB:1756:C:O4'	2.18	0.44
75:RB:2573:G:C5	75:RB:2574:C:C5	3.05	0.44
75:RB:2596:U:H2'	75:RB:2597:C:C6	2.53	0.44
75:RB:2821:G:C4	75:RB:2822:C:C5	3.06	0.44
75:RB:3200:C:H2'	75:RB:3201:C:C6	2.53	0.44
77:TB:4:U:H2'	77:TB:5:G:H8	1.82	0.44
79:bl:10:ASN:OD1	79:bl:11:ILE:N	2.50	0.44
79:bl:266:ASN:O	79:bl:270:GLU:HG3	2.16	0.44
1:aa:171:G:C6	1:aa:172:U:C5	3.05	0.44
1:aa:337:A:N6	3:ca:27:TYR:HB2	2.33	0.44
1:aa:778:G:H21	1:aa:780:A:H1'	1.83	0.44
1:aa:992:G:O2'	1:aa:993:C:OP2	2.36	0.44
1:aa:1147:A:H2'	1:aa:1148:A:C8	2.52	0.44
1:aa:1281:G:O2'	7:ia:174:HIS:ND1	2.48	0.44
1:aa:1768:U:O2'	75:RB:2255:A:N1	2.40	0.44
4:da:59:PHE:CZ	4:da:62:GLN:HA	2.53	0.44
10:la:119:ASP:OD1	10:la:120:ARG:N	2.49	0.44
18:ta:34:LYS:NZ	18:ta:37:VAL:HG11	2.33	0.44
22:xa:36:ASP:O	22:xa:81:PHE:HA	2.17	0.44
26:cb:46:ASP:O	26:cb:48:ARG:N	2.45	0.44
29:fb:253:PHE:O	29:fb:256:ILE:HG12	2.18	0.44
30:gb:36:VAL:O	30:gb:50:PHE:N	2.49	0.44
30:gb:75:LEU:O	30:gb:96:ARG:HA	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:gb:200:LYS:O	30:gb:203:ILE:HG22	2.18	0.44
31:hb:52:MET:HE2	31:hb:176:ARG:CD	2.37	0.44
32:ib:98:TYR:O	32:ib:100:ARG:HG3	2.18	0.44
33:AA:159:VAL:HA	33:AA:162:LEU:HD13	2.00	0.44
37:EA:85:GLY:O	37:EA:88:VAL:HB	2.18	0.44
39:GA:32:THR:HG22	39:GA:72:LEU:HD11	2.00	0.44
42:JA:71:MET:SD	42:JA:97:MET:HE3	2.58	0.44
43:KA:207:MET:CB	43:KA:232:ALA:HB2	2.44	0.44
61:CB:42:ASN:O	61:CB:46:ILE:HG12	2.18	0.44
62:DB:49:TYR:CD2	62:DB:171:MET:HE1	2.53	0.44
63:EB:143:ARG:HH21	63:EB:246:PRO:HD2	1.83	0.44
70:LB:89:MET:H	70:LB:89:MET:HG2	1.63	0.44
70:LB:207:SER:OG	71:MB:10:VAL:HA	2.18	0.44
73:OB:37:PRO:HG3	75:RB:779:U:H1'	2.00	0.44
75:RB:81:C:C2	75:RB:103:G:C2	3.06	0.44
75:RB:430:G:H1	75:RB:631:U:H3	1.66	0.44
75:RB:803:G:C2	75:RB:936:A:N6	2.86	0.44
75:RB:1172:A:H2'	75:RB:1173:C:C6	2.52	0.44
75:RB:1614:G:H2'	75:RB:1615:G:C8	2.52	0.44
75:RB:1936:G:H2'	75:RB:1937:C:C6	2.53	0.44
75:RB:2400:C:C2	75:RB:2401:U:C5	3.06	0.44
75:RB:3339:U:H5''	75:RB:3340:G:OP2	2.18	0.44
76:SB:18:U:C2	76:SB:19:A:C8	3.06	0.44
1:aa:1075:G:H4'	22:xa:19:LEU:HD23	2.00	0.43
1:aa:1082:C:H2'	1:aa:1083:C:C6	2.53	0.43
1:aa:1180:U:H2'	1:aa:1181:G:H8	1.83	0.43
1:aa:1244:U:H2'	1:aa:1245:G:H5''	1.99	0.43
1:aa:1432:C:O2'	1:aa:1434:G:H5'	2.18	0.43
6:ha:27:PRO:HG2	6:ha:30:ASN:HB2	1.99	0.43
7:ia:167:TYR:HB3	7:ia:189:MET:SD	2.58	0.43
15:qa:5:ARG:HH21	15:qa:53:PHE:HD1	1.66	0.43
24:za:93:LYS:HB2	24:za:206:PHE:CE1	2.53	0.43
24:za:188:GLN:HG2	24:za:193:ILE:HD11	1.99	0.43
29:fb:217:LEU:O	29:fb:221:VAL:HG12	2.17	0.43
31:hb:116:THR:O	31:hb:117:ARG:C	2.61	0.43
32:ib:86:ILE:HD13	32:ib:109:PRO:HA	1.99	0.43
33:AA:177:LYS:HE3	33:AA:177:LYS:HB2	1.80	0.43
36:DA:104:LEU:HD21	36:DA:113:ILE:HD13	1.99	0.43
42:JA:135:THR:HG22	75:RB:732:G:H4'	1.99	0.43
44:LA:95:TRP:HE3	44:LA:98:ARG:HH21	1.66	0.43
48:PA:60:GLY:C	48:PA:62:TYR:H	2.24	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:SA:18:ARG:NH1	75:RB:3375:G:H4'	2.33	0.43
51:SA:40:ALA:O	51:SA:44:ILE:HG12	2.18	0.43
56:XA:127:LYS:HE2	56:XA:127:LYS:HA	1.99	0.43
61:CB:159:ASN:O	61:CB:160:LYS:HB2	2.18	0.43
62:DB:7:GLU:HG3	75:RB:2912:U:C5	2.53	0.43
63:EB:182:ASP:OD2	63:EB:209:GLY:HA2	2.18	0.43
63:EB:193:ARG:O	63:EB:198:LYS:HB3	2.18	0.43
70:LB:32:HIS:ND1	70:LB:37:PRO:HB3	2.33	0.43
75:RB:93:G:H2'	75:RB:94:A:C8	2.53	0.43
75:RB:448:G:C6	75:RB:490:G:N1	2.86	0.43
75:RB:506:U:H2'	75:RB:507:C:C6	2.53	0.43
75:RB:863:G:H3'	75:RB:863:G:N3	2.33	0.43
75:RB:1486:G:C8	75:RB:1488:G:C8	3.06	0.43
75:RB:1618:U:H5'	76:SB:127:U:O2	2.18	0.43
75:RB:2927:A:H2'	75:RB:2928:C:C6	2.53	0.43
76:SB:13:A:C6	76:SB:14:C:C4	3.06	0.43
80:cl:66:C:H2'	80:cl:67:U:H6	1.82	0.43
1:aa:1057:U:O2'	1:aa:1058:G:H2'	2.18	0.43
3:ca:156:ASN:HB2	3:ca:160:ARG:HH12	1.82	0.43
7:ia:212:PRO:HA	15:qa:19:LYS:HE3	1.99	0.43
8:ja:37:LYS:O	8:ja:39:ARG:N	2.50	0.43
14:pa:18:TYR:CE1	20:va:55:HIS:CD2	3.06	0.43
18:ta:71:ARG:O	18:ta:73:ASN:N	2.51	0.43
28:eb:145:VAL:HG12	28:eb:147:SER:H	1.83	0.43
31:hb:144:ARG:HG3	31:hb:148:ALA:HB3	1.99	0.43
38:FA:137:GLU:OE1	38:FA:137:GLU:N	2.51	0.43
44:LA:41:ILE:O	44:LA:45:VAL:HG23	2.18	0.43
48:PA:123:ARG:HD2	48:PA:124:GLY:N	2.33	0.43
51:SA:52:MET:HE3	51:SA:83:ILE:HB	2.00	0.43
53:UA:64:MET:HE3	53:UA:67:MET:HB2	1.99	0.43
57:YA:45:TYR:OH	77:TB:94:C:OP1	2.28	0.43
57:YA:174:PRO:HG3	64:FB:132:LEU:HD11	2.00	0.43
61:CB:239:LEU:C	61:CB:239:LEU:HD23	2.43	0.43
63:EB:238:ARG:HG3	63:EB:238:ARG:O	2.18	0.43
69:KB:62:THR:OG1	75:RB:101:C:O2'	2.15	0.43
75:RB:441:G:C5	75:RB:497:G:N2	2.86	0.43
75:RB:448:G:O2'	75:RB:449:G:H5''	2.18	0.43
75:RB:520:G:C4	75:RB:521:G:C8	3.07	0.43
75:RB:716:A:H8	75:RB:716:A:O5'	2.01	0.43
75:RB:733:C:H2'	75:RB:734:C:H6	1.83	0.43
75:RB:1123:A:C2	75:RB:1142:G:C2	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:1545:G:O2'	75:RB:1546:G:OP1	2.35	0.43
75:RB:1576:C:C3'	75:RB:1577:A:H5'	2.48	0.43
75:RB:1578:U:H3'	75:RB:1579:C:H5'	1.99	0.43
75:RB:1594:G:C6	75:RB:1609:G:N1	2.86	0.43
75:RB:2612:G:H2'	75:RB:2613:C:C6	2.52	0.43
75:RB:3042:A:N1	75:RB:3092:G:C6	2.86	0.43
75:RB:3139:U:H5''	75:RB:3140:G:H5'	2.00	0.43
79:bl:58:ALA:C	79:bl:60:ASN:H	2.26	0.43
79:bl:294:GLU:HA	79:bl:294:GLU:OE2	2.18	0.43
1:aa:295:C:H2'	1:aa:296:A:C8	2.54	0.43
1:aa:745:C:H1'	1:aa:746:A:H5''	1.99	0.43
1:aa:896:C:H2'	1:aa:897:A:H8	1.83	0.43
1:aa:1400:G:P	6:ha:294:LYS:HG2	2.57	0.43
1:aa:1804:A:C2	27:db:76:SER:HA	2.53	0.43
3:ca:114:TYR:OH	3:ca:169:ARG:HD2	2.18	0.43
6:ha:139:ILE:HB	6:ha:152:ILE:HD11	2.00	0.43
6:ha:170:ARG:C	6:ha:180:ILE:HD12	2.44	0.43
31:hb:51:GLN:HA	31:hb:61:VAL:HG12	2.00	0.43
31:hb:141:VAL:HG12	31:hb:143:TYR:CE2	2.52	0.43
33:AA:68:LYS:HE2	75:RB:2429:U:H4'	2.00	0.43
37:EA:21:LEU:HB3	37:EA:39:LEU:CD2	2.48	0.43
37:EA:25:VAL:HG12	37:EA:67:ILE:O	2.19	0.43
38:FA:108:ASN:HB3	38:FA:133:ILE:O	2.19	0.43
40:HA:147:ARG:HG2	60:BB:105:LEU:HD21	2.00	0.43
40:HA:179:HIS:C	40:HA:181:HIS:H	2.26	0.43
43:KA:21:LYS:HE2	77:TB:9:U:O4	2.18	0.43
43:KA:194:HIS:CE1	43:KA:198:ILE:HD11	2.53	0.43
43:KA:217:LYS:O	43:KA:221:HIS:CB	2.66	0.43
52:TA:96:GLU:HG2	52:TA:121:THR:OG1	2.18	0.43
57:YA:162:THR:HG23	57:YA:164:LYS:H	1.83	0.43
62:DB:223:VAL:HA	62:DB:276:HIS:O	2.18	0.43
63:EB:112:ARG:NH2	75:RB:1431:G:H5''	2.32	0.43
63:EB:119:ASN:HA	75:RB:685:G:OP1	2.17	0.43
63:EB:152:GLU:HG2	63:EB:153:PHE:N	2.33	0.43
64:FB:120:THR:C	75:RB:3171:C:H4'	2.43	0.43
65:GB:19:GLY:HA2	75:RB:2181:A:H2	1.84	0.43
72:NB:26:LYS:HE3	72:NB:28:THR:HG22	1.99	0.43
75:RB:29:G:H2'	75:RB:30:C:H6	1.83	0.43
75:RB:629:U:H3'	75:RB:630:C:H5'	1.99	0.43
75:RB:729:G:OP2	75:RB:729:G:H8	2.02	0.43
75:RB:2203:G:N2	75:RB:2229:G:H1'	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:2546:U:H4'	75:RB:2547:U:H2'	1.99	0.43
75:RB:2659:A:C4	75:RB:2660:G:C8	3.06	0.43
75:RB:2680:U:H2'	75:RB:2681:C:H6	1.82	0.43
75:RB:2804:U:O2'	75:RB:2805:A:H5''	2.18	0.43
75:RB:2850:G:H2'	75:RB:2851:U:O4'	2.18	0.43
75:RB:3188:C:C2	75:RB:3189:G:C8	3.06	0.43
77:TB:22:A:H2'	77:TB:23:A:H8	1.77	0.43
77:TB:79:A:H2	77:TB:97:G:C6	2.37	0.43
1:aa:201:G:H2'	1:aa:202:C:O4'	2.17	0.43
1:aa:372:U:H2'	1:aa:373:U:O4'	2.17	0.43
1:aa:866:U:H2'	1:aa:867:A:O4'	2.19	0.43
1:aa:1366:A:P	1:aa:1368:C:H42	2.42	0.43
6:ha:48:LEU:HB3	6:ha:50:ASN:H	1.83	0.43
10:la:44:LEU:HD22	16:ra:23:ASN:HA	2.00	0.43
15:qa:57:LEU:HD23	15:qa:57:LEU:HA	1.86	0.43
28:eb:64:LEU:HD23	28:eb:68:ASN:HD22	1.81	0.43
29:fb:119:GLY:HA2	29:fb:149:VAL:HB	1.99	0.43
36:DA:157:ILE:HG13	36:DA:157:ILE:O	2.18	0.43
39:GA:139:ILE:HD12	39:GA:139:ILE:HA	1.81	0.43
40:HA:68:ARG:NH2	75:RB:290:C:OP2	2.51	0.43
40:HA:204:ARG:NH1	63:EB:112:ARG:O	2.48	0.43
54:VA:15:LYS:HE2	54:VA:19:GLN:HE21	1.84	0.43
62:DB:92:TYR:CE2	62:DB:101:THR:HG22	2.52	0.43
66:HB:202:VAL:O	77:TB:63:U:H2'	2.18	0.43
69:KB:101:ARG:HG2	75:RB:75:G:C8	2.53	0.43
70:LB:75:ILE:HD13	70:LB:127:ALA:HB2	2.00	0.43
75:RB:163:U:H5'	75:RB:164:C:OP2	2.18	0.43
75:RB:364:A:H2'	75:RB:365:A:O4'	2.18	0.43
75:RB:395:A:O2'	75:RB:398:G:OP2	2.35	0.43
75:RB:438:G:C2	75:RB:499:A:N7	2.87	0.43
75:RB:1328:C:N4	75:RB:1329:G:O6	2.51	0.43
75:RB:1496:G:OP2	75:RB:1496:G:N2	2.50	0.43
75:RB:1738:A:H2'	75:RB:1739:G:O4'	2.18	0.43
75:RB:2340:U:H2'	75:RB:2341:A:O4'	2.19	0.43
75:RB:2765:U:H2'	75:RB:2766:A:H8	1.81	0.43
79:bl:322:MET:HE1	79:bl:391:GLU:HB3	2.01	0.43
80:cl:20:A:H5''	80:cl:59:A:H62	1.83	0.43
1:aa:345:A:H1'	3:ca:87:SER:O	2.19	0.43
1:aa:966:U:H2'	1:aa:967:C:C6	2.54	0.43
1:aa:1205:G:C2	1:aa:1608:A:C8	3.05	0.43
1:aa:1547:G:C6	13:oa:28:PHE:CD2	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:da:22:TYR:HE1	7:ia:75:LYS:HE2	1.81	0.43
13:oa:74:PRO:O	13:oa:79:VAL:HG12	2.18	0.43
15:qa:101:GLU:HA	15:qa:104:ASP:OD2	2.18	0.43
24:za:67:ARG:NH1	26:cb:72:TRP:HZ2	2.16	0.43
25:bb:34:ALA:HB1	25:bb:35:PRO:HD2	2.00	0.43
25:bb:67:GLU:OE2	25:bb:83:LYS:HG2	2.18	0.43
29:fb:198:LEU:HD13	29:fb:206:VAL:HG11	1.99	0.43
31:hb:87:LYS:HD2	31:hb:87:LYS:HA	1.80	0.43
33:AA:161:TRP:CZ3	40:HA:6:PHE:CD2	3.07	0.43
34:BA:67:VAL:HG23	34:BA:72:ILE:HD13	2.00	0.43
36:DA:207:VAL:HG11	75:RB:919:G:C6	2.54	0.43
40:HA:19:MET:HA	40:HA:22:VAL:HG12	1.99	0.43
49:QA:53:ASN:HD22	49:QA:112:ARG:NH1	2.16	0.43
55:WA:15:LYS:HE3	75:RB:2769:U:OP2	2.18	0.43
61:CB:51:GLU:HG3	63:EB:335:TYR:HE1	1.81	0.43
62:DB:69:LYS:HB2	62:DB:69:LYS:HE2	1.82	0.43
62:DB:155:LYS:NZ	62:DB:156:TYR:HE1	2.16	0.43
62:DB:240:ARG:HG2	62:DB:241:LEU:N	2.34	0.43
75:RB:271:G:H2'	75:RB:272:G:H8	1.83	0.43
75:RB:302:G:OP2	75:RB:302:G:H3'	2.17	0.43
75:RB:448:G:C6	75:RB:490:G:C6	3.07	0.43
75:RB:505:G:C6	75:RB:506:U:C4	3.07	0.43
75:RB:1659:G:N2	75:RB:1783:G:N2	2.67	0.43
75:RB:2207:A:H2'	75:RB:2208:A:O4'	2.19	0.43
75:RB:2371:C:H2'	75:RB:2372:U:H6	1.83	0.43
75:RB:3080:C:H2'	75:RB:3081:G:O4'	2.19	0.43
75:RB:3186:U:O2	75:RB:3187:G:N1	2.51	0.43
76:SB:67:U:H2'	76:SB:68:G:H8	1.84	0.43
76:SB:72:A:C6	76:SB:73:U:C5	3.06	0.43
79:bl:334:LEU:HD13	79:bl:343:ILE:CG2	2.48	0.43
80:cl:9:1MG:HN22	80:cl:45:G:H2'	1.84	0.43
1:aa:145:A:C5	1:aa:166:A:N6	2.87	0.43
1:aa:319:A:C2	1:aa:357:A:C5	3.06	0.43
1:aa:1210:U:O5'	1:aa:1210:U:H6	2.01	0.43
1:aa:1321:C:OP1	15:qa:14:ARG:NH2	2.51	0.43
8:ja:85:GLY:O	8:ja:101:LEU:HD23	2.19	0.43
8:ja:158:ASP:OD2	8:ja:174:LYS:HA	2.19	0.43
9:ka:151:THR:HG22	9:ka:155:ARG:NH2	2.34	0.43
13:oa:23:LYS:HG2	18:ta:35:GLU:HB3	1.98	0.43
16:ra:41:MET:HG2	16:ra:42:GLU:O	2.18	0.43
37:EA:127:MET:SD	37:EA:129:PHE:HE1	2.41	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:FA:91:MET:SD	38:FA:143:ILE:HD11	2.58	0.43
40:HA:19:MET:O	40:HA:23:GLN:HB2	2.18	0.43
41:IA:44:LEU:HD23	69:KB:2:VAL:HG23	2.01	0.43
41:IA:75:VAL:HG13	41:IA:109:LEU:O	2.18	0.43
48:PA:34:LEU:HD12	48:PA:44:VAL:HG23	2.00	0.43
49:QA:10:TRP:HB2	49:QA:52:ALA:HB1	2.01	0.43
54:VA:15:LYS:HE2	54:VA:19:GLN:NE2	2.34	0.43
55:WA:65:THR:O	55:WA:87:ARG:NH2	2.46	0.43
57:YA:38:ARG:HG2	61:CB:224:VAL:HA	2.00	0.43
59:AB:37:THR:HG21	75:RB:263:A:H5'	2.00	0.43
69:KB:39:GLN:O	69:KB:43:VAL:HG23	2.17	0.43
75:RB:25:U:H3'	75:RB:26:A:H8	1.84	0.43
75:RB:217:A:H2'	75:RB:217:A:N3	2.33	0.43
75:RB:903:G:H5'	75:RB:1850:C:H5'	2.01	0.43
75:RB:1002:A:O2'	75:RB:1003:G:H5'	2.18	0.43
75:RB:1144:C:H2'	75:RB:1145:G:O4'	2.19	0.43
75:RB:1397:A:C5	75:RB:1398:A:C5	3.06	0.43
75:RB:1447:G:H2'	75:RB:1448:U:O4'	2.18	0.43
75:RB:1523:G:O2'	75:RB:1600:A:N1	2.50	0.43
75:RB:1813:C:O2'	75:RB:1814:C:OP2	2.34	0.43
75:RB:1916:U:H2'	75:RB:1926:A:N6	2.34	0.43
75:RB:3222:U:O2	75:RB:3240:G:O6	2.36	0.43
75:RB:3275:U:HO2'	75:RB:3276:G:P	2.35	0.43
77:TB:107:C:H2'	77:TB:108:G:H8	1.84	0.43
77:TB:112:U:H2'	77:TB:113:G:H8	1.82	0.43
79:bl:284:GLU:HA	79:bl:287:LEU:HD12	1.99	0.43
1:aa:431:C:C2	1:aa:432:A:C8	3.07	0.43
1:aa:717:G:H8	1:aa:718:C:H5	1.67	0.43
7:ia:65:ARG:HA	7:ia:68:GLU:OE1	2.18	0.43
7:ia:192:TRP:NE1	7:ia:201:THR:O	2.52	0.43
8:ja:124:CYS:SG	8:ja:125:LYS:N	2.91	0.43
8:ja:151:ASP:O	8:ja:154:ILE:HG22	2.18	0.43
10:la:89:GLN:HA	10:la:122:LEU:O	2.19	0.43
13:oa:23:LYS:O	13:oa:55:ARG:NH1	2.52	0.43
14:pa:4:MET:HE1	14:pa:124:ARG:NE	2.34	0.43
17:sa:65:LEU:HD12	17:sa:65:LEU:HA	1.72	0.43
20:va:52:PHE:HE2	20:va:61:THR:OG1	2.02	0.43
29:fb:247:LYS:NZ	29:fb:251:GLN:HG2	2.34	0.43
31:hb:154:TYR:HD2	31:hb:187:PRO:HD3	1.83	0.43
32:ib:58:LYS:O	32:ib:65:VAL:HG21	2.18	0.43
33:AA:157:GLU:CD	40:HA:26:ARG:HH22	2.27	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:70:ARG:HD3	34:BA:70:ARG:HA	1.81	0.43
34:BA:138:GLY:N	61:CB:81:PRO:HB3	2.33	0.43
36:DA:181:LYS:HB2	36:DA:184:ASN:OD1	2.18	0.43
38:FA:45:PHE:CD1	38:FA:56:VAL:HG12	2.53	0.43
39:GA:95:PHE:CE2	75:RB:3047:U:H1'	2.53	0.43
48:PA:118:LEU:HD23	48:PA:118:LEU:HA	1.81	0.43
61:CB:86:LEU:HG	61:CB:121:VAL:HG22	2.01	0.43
62:DB:79:ILE:HG22	62:DB:81:THR:OG1	2.19	0.43
63:EB:155:LEU:HD23	63:EB:255:ILE:CD1	2.48	0.43
66:HB:31:ILE:C	66:HB:32:ARG:HD2	2.43	0.43
69:KB:27:GLN:HB3	69:KB:28:PRO:HD3	1.99	0.43
70:LB:25:LEU:HD11	75:RB:608:G:O6	2.18	0.43
73:OB:26:ARG:NH2	75:RB:1069:U:O2'	2.51	0.43
74:PB:95:PHE:HD2	74:PB:96:LEU:HD12	1.84	0.43
75:RB:26:A:H2	75:RB:57:G:H22	1.66	0.43
75:RB:85:G:N2	75:RB:98:A:OP2	2.43	0.43
75:RB:256:G:C6	75:RB:257:C:N4	2.86	0.43
75:RB:651:A:OP2	75:RB:653:A:N6	2.47	0.43
75:RB:3129:C:H2'	75:RB:3130:A:O4'	2.19	0.43
76:SB:54:A:C5	76:SB:55:U:C5	3.07	0.43
76:SB:144:C:C2	76:SB:145:U:C5	3.07	0.43
77:TB:51:G:HO2'	77:TB:52:U:P	2.41	0.43
77:TB:89:G:H2'	77:TB:90:A:C8	2.54	0.43
79:bl:423:PHE:O	79:bl:424:ASP:C	2.61	0.43
80:cl:16:C:H5''	80:cl:60:A:C2	2.54	0.43
1:aa:12:U:H2'	1:aa:13:C:C6	2.54	0.43
1:aa:146:A:C8	1:aa:147:C:C5	3.07	0.43
1:aa:265:A:H3'	1:aa:265:A:OP2	2.19	0.43
1:aa:358:C:H5''	3:ca:16:GLY:HA3	2.01	0.43
1:aa:1092:A:C6	1:aa:1093:A:N6	2.87	0.43
1:aa:1238:A:H3'	1:aa:1249:G:C8	2.54	0.43
1:aa:1366:A:O3'	1:aa:1367:U:H6	2.02	0.43
1:aa:1495:U:H4'	7:ia:9:LYS:NZ	2.34	0.43
2:ba:13:ARG:NH2	2:ba:33:ILE:HD12	2.30	0.43
6:ha:131:VAL:HG12	6:ha:169:VAL:HG21	2.00	0.43
6:ha:143:ASN:N	6:ha:147:GLU:O	2.47	0.43
6:ha:232:LEU:HB3	6:ha:234:TRP:NE1	2.34	0.43
10:la:45:ILE:HG22	10:la:51:ARG:HG3	2.00	0.43
10:la:133:LYS:HG3	10:la:139:GLY:H	1.82	0.43
10:la:133:LYS:HG2	10:la:139:GLY:O	2.19	0.43
13:oa:45:CYS:CB	13:oa:52:MET:HE1	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:ra:48:ASP:OD1	16:ra:49:ILE:HG23	2.19	0.43
28:eb:137:ARG:HH12	28:eb:162:LEU:CG	2.29	0.43
33:AA:215:LYS:HE2	33:AA:215:LYS:HB2	1.86	0.43
34:BA:8:ARG:NH1	75:RB:2753:C:O2	2.49	0.43
36:DA:117:GLU:OE2	36:DA:163:ARG:NH2	2.49	0.43
38:FA:25:ILE:HD12	38:FA:38:PHE:CE1	2.54	0.43
42:JA:54:MET:SD	75:RB:978:C:H5'	2.59	0.43
44:LA:17:CYS:SG	44:LA:21:LYS:HB2	2.59	0.43
57:YA:114:SER:HB2	75:RB:1325:G:H21	1.82	0.43
62:DB:17:LEU:HD21	62:DB:236:TRP:CH2	2.51	0.43
63:EB:117:ARG:NH2	75:RB:793:C:H5'	2.34	0.43
75:RB:45:U:H2'	75:RB:46:A:O4'	2.19	0.43
75:RB:139:U:H2'	75:RB:140:C:C6	2.54	0.43
75:RB:339:G:H4'	75:RB:340:A:H5'	2.00	0.43
75:RB:430:G:C6	75:RB:431:G:N7	2.87	0.43
75:RB:712:A:C6	75:RB:720:G:C2	3.07	0.43
75:RB:1077:C:H2'	75:RB:1078:U:C6	2.54	0.43
75:RB:1482:C:H2'	75:RB:1483:G:H5'	2.00	0.43
75:RB:1501:A:H2'	75:RB:1502:U:H6	1.84	0.43
75:RB:1803:G:O2'	75:RB:1804:G:H5'	2.19	0.43
75:RB:2758:G:C4	75:RB:2792:U:H5	2.36	0.43
75:RB:2765:U:H2'	75:RB:2766:A:C8	2.53	0.43
75:RB:2776:A:C5	75:RB:2777:G:N7	2.86	0.43
75:RB:3217:G:H2'	75:RB:3218:C:C6	2.53	0.43
76:SB:40:A:OP2	76:SB:103:G:N1	2.52	0.43
1:aa:17:C:H2'	1:aa:18:C:H6	1.84	0.43
1:aa:161:G:H4'	30:gb:53:MET:SD	2.58	0.43
1:aa:413:C:C2	1:aa:414:A:C8	3.07	0.43
1:aa:817:C:C4	31:hb:112:GLN:NE2	2.87	0.43
1:aa:1069:G:H1'	25:bb:203:SER:O	2.18	0.43
1:aa:1071:C:O2'	25:bb:148:ASN:OD1	2.35	0.43
1:aa:1346:C:H4'	6:ha:110:ARG:HH12	1.84	0.43
1:aa:1548:G:C5	1:aa:1549:G:C5	3.06	0.43
1:aa:1581:A:H4'	1:aa:1582:G:O5'	2.18	0.43
1:aa:1682:U:C2	1:aa:1683:G:C8	3.07	0.43
7:ia:55:THR:HA	7:ia:58:VAL:HG12	2.00	0.43
12:na:96:LYS:HE2	12:na:130:GLU:OE2	2.19	0.43
16:ra:41:MET:N	16:ra:41:MET:SD	2.91	0.43
16:ra:110:GLY:O	16:ra:114:ARG:HG3	2.18	0.43
17:sa:52:ARG:O	17:sa:56:ARG:HG2	2.19	0.43
20:va:127:TYR:HE2	20:va:129:HIS:CD2	2.37	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:wa:19:ARG:HH21	21:wa:32:ARG:CD	2.32	0.43
24:za:15:LYS:HE2	24:za:59:TRP:CE3	2.53	0.43
25:bb:105:PHE:HZ	25:bb:211:TYR:CD2	2.36	0.43
27:db:46:GLU:OE2	27:db:48:ALA:HB3	2.19	0.43
32:ib:60:PRO:HA	32:ib:65:VAL:HG23	2.00	0.43
33:AA:121:GLU:O	33:AA:121:GLU:HG2	2.19	0.43
42:JA:79:ALA:HB3	42:JA:99:VAL:HG23	2.01	0.43
44:LA:78:TYR:HE2	75:RB:1912:U:H1'	1.83	0.43
50:RA:78:ASN:ND2	50:RA:90:ARG:HD2	2.34	0.43
60:BB:37:LYS:HG3	60:BB:45:LEU:CD2	2.49	0.43
60:BB:89:THR:OG1	60:BB:92:ILE:HG12	2.19	0.43
60:BB:122:ILE:HD11	69:KB:149:VAL:HG11	2.00	0.43
61:CB:57:TYR:OH	61:CB:188:HIS:HA	2.19	0.43
61:CB:149:LEU:HD23	61:CB:244:ASN:ND2	2.34	0.43
69:KB:61:GLN:NE2	75:RB:74:G:H1'	2.33	0.43
70:LB:180:ASP:O	70:LB:184:ILE:HD12	2.19	0.43
73:OB:49:HIS:O	75:RB:1077:C:H4'	2.19	0.43
75:RB:278:U:O2	75:RB:284:U:N3	2.51	0.43
75:RB:421:A:H2'	75:RB:422:G:O4'	2.18	0.43
75:RB:1622:G:N2	75:RB:1816:U:O2	2.48	0.43
75:RB:2324:C:H2'	75:RB:2325:A:C8	2.54	0.43
75:RB:2573:G:C6	75:RB:2574:C:C4	3.06	0.43
75:RB:2885:U:C6	75:RB:2908:A:N6	2.87	0.43
75:RB:3079:G:H2'	75:RB:3080:C:O4'	2.19	0.43
75:RB:3152:C:H2'	75:RB:3153:C:C6	2.54	0.43
75:RB:3256:C:HO2'	75:RB:3257:U:P	2.42	0.43
1:aa:28:A:H2'	1:aa:29:U:C6	2.54	0.43
1:aa:211:G:O6	1:aa:252:U:H4'	2.19	0.43
1:aa:249:G:C2	32:ib:41:LEU:HG	2.54	0.43
1:aa:254:A:O2'	8:ja:130:GLN:OE1	2.37	0.43
1:aa:283:G:H8	1:aa:283:G:O5'	2.02	0.43
1:aa:354:G:H2'	1:aa:354:G:N3	2.34	0.43
1:aa:496:A:O2'	1:aa:497:U:O5'	2.35	0.43
1:aa:605:A:OP2	5:ga:107:LYS:HE3	2.19	0.43
1:aa:1477:A:C2	1:aa:1548:G:H4'	2.53	0.43
1:aa:1805:U:O4	27:db:34:LYS:NZ	2.31	0.43
4:da:14:TYR:O	4:da:18:GLU:HG2	2.19	0.43
8:ja:124:CYS:HA	8:ja:226:PHE:HZ	1.84	0.43
10:la:122:LEU:HB2	10:la:123:LEU:HD12	2.01	0.43
14:pa:60:ILE:HG23	14:pa:66:VAL:HG21	2.01	0.43
26:cb:53:ALA:C	26:cb:54:LEU:HD22	2.44	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:db:35:ALA:O	27:db:37:LYS:HG3	2.18	0.43
28:eb:54:ILE:HG13	28:eb:55:ARG:N	2.33	0.43
38:FA:91:MET:CG	38:FA:178:ILE:HG22	2.49	0.43
40:HA:118:SER:HB2	40:HA:132:VAL:HG22	2.00	0.43
43:KA:224:GLU:OE2	43:KA:228:LYS:NZ	2.52	0.43
48:PA:44:VAL:HA	48:PA:125:ARG:HD3	2.01	0.43
48:PA:76:ARG:O	48:PA:78:VAL:HG13	2.19	0.43
48:PA:111:ASP:OD1	48:PA:112:LYS:N	2.51	0.43
50:RA:50:ASN:OD1	50:RA:77:ASN:HA	2.19	0.43
58:ZA:25:ILE:HB	58:ZA:72:VAL:HB	1.99	0.43
60:BB:49:HIS:CE1	60:BB:53:LYS:NZ	2.87	0.43
66:HB:203:HIS:HA	77:TB:64:G:OP1	2.19	0.43
71:MB:90:PHE:CG	71:MB:94:LEU:HD11	2.54	0.43
75:RB:377:C:H2'	75:RB:378:U:H6	1.83	0.43
75:RB:524:A:H2'	75:RB:525:A:H8	1.83	0.43
75:RB:815:G:C2	75:RB:932:A:C2	3.07	0.43
75:RB:2225:A:O2'	75:RB:2422:G:H5'	2.19	0.43
75:RB:2530:G:C6	75:RB:2542:U:N3	2.87	0.43
75:RB:2909:G:C6	75:RB:2910:U:C4	3.06	0.43
75:RB:3255:G:H4'	75:RB:3256:C:H5'	2.01	0.43
76:SB:15:G:O2'	76:SB:16:G:O4'	2.27	0.43
77:TB:45:U:H2'	77:TB:46:C:C6	2.53	0.43
1:aa:789:C:O2'	1:aa:790:U:H6	2.01	0.42
1:aa:827:C:H5'	1:aa:828:G:OP2	2.18	0.42
1:aa:1067:A:H2'	1:aa:1068:G:O4'	2.19	0.42
1:aa:1090:G:H2'	1:aa:1092:A:OP2	2.19	0.42
1:aa:1167:C:H4'	19:ua:41:ARG:HE	1.84	0.42
1:aa:1434:G:N1	1:aa:1435:G:C5	2.86	0.42
1:aa:1463:C:H4'	13:oa:135:HIS:ND1	2.34	0.42
1:aa:1553:A:C8	13:oa:132:ARG:NH2	2.87	0.42
1:aa:1690:U:HO2'	1:aa:1691:C:C5'	2.32	0.42
2:ba:12:LEU:C	2:ba:13:ARG:HD3	2.43	0.42
6:ha:170:ARG:O	6:ha:180:ILE:HD12	2.19	0.42
6:ha:316:THR:HG22	6:ha:316:THR:O	2.18	0.42
7:ia:157:MET:HB2	7:ia:157:MET:HE3	1.81	0.42
8:ja:86:PHE:CD2	8:ja:184:THR:HG21	2.53	0.42
13:oa:67:LEU:O	13:oa:71:VAL:HG12	2.19	0.42
16:ra:43:LEU:HD23	16:ra:44:PRO:O	2.19	0.42
22:xa:52:SER:O	22:xa:53:GLN:HB2	2.19	0.42
24:za:124:ARG:HD2	29:fb:250:TYR:HB3	2.00	0.42
31:hb:81:VAL:HG23	31:hb:93:VAL:CG1	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:hb:113:ARG:O	31:hb:114:PRO:C	2.61	0.42
33:AA:76:PHE:C	33:AA:78:ARG:N	2.77	0.42
34:BA:30:TYR:CD2	43:KA:38:ASN:ND2	2.87	0.42
35:CA:101:ALA:HA	35:CA:107:LYS:HE2	2.02	0.42
36:DA:113:ILE:HD12	36:DA:164:ALA:CB	2.48	0.42
36:DA:242:ARG:HG3	36:DA:242:ARG:NH1	2.33	0.42
38:FA:47:LEU:HD13	38:FA:51:GLY:HA2	2.01	0.42
42:JA:41:LYS:HA	42:JA:41:LYS:HD3	1.86	0.42
43:KA:110:LEU:HB3	43:KA:116:ASP:HB3	2.01	0.42
48:PA:45:ARG:NH2	75:RB:187:G:OP2	2.52	0.42
51:SA:73:ARG:HH22	75:RB:3075:U:H4'	1.84	0.42
52:TA:98:ALA:O	52:TA:101:VAL:HG22	2.18	0.42
56:XA:39:ASP:OD2	56:XA:71:LEU:HD23	2.19	0.42
57:YA:32:TRP:CZ2	57:YA:101:LEU:HG	2.54	0.42
62:DB:132:LYS:NZ	75:RB:3279:C:H4'	2.34	0.42
64:FB:66:ARG:NH2	64:FB:71:PRO:HG3	2.34	0.42
65:GB:11:VAL:O	65:GB:11:VAL:HG22	2.19	0.42
70:LB:209:ARG:NH1	75:RB:3167:G:C6	2.87	0.42
73:OB:45:TYR:CD2	75:RB:1079:G:C5	3.07	0.42
75:RB:18:G:N2	76:SB:142:G:H22	2.17	0.42
75:RB:522:C:C3'	75:RB:523:C:H5''	2.42	0.42
75:RB:523:C:H3'	75:RB:524:A:H4'	2.01	0.42
75:RB:1418:C:H2'	75:RB:1419:G:O4'	2.19	0.42
75:RB:1782:G:H2'	75:RB:1783:G:C8	2.54	0.42
75:RB:2533:G:O6	75:RB:2538:C:N4	2.52	0.42
75:RB:3037:U:H2'	75:RB:3038:U:C6	2.54	0.42
75:RB:3281:G:H2'	75:RB:3282:A:O4'	2.19	0.42
79:bl:149:ILE:HD11	79:bl:265:PHE:HA	2.00	0.42
1:aa:15:U:O5'	1:aa:15:U:H6	2.02	0.42
1:aa:182:C:H2'	1:aa:183:C:C6	2.53	0.42
1:aa:421:A:H4'	1:aa:422:G:O5'	2.19	0.42
1:aa:513:G:H2'	1:aa:514:G:C8	2.54	0.42
1:aa:616:U:OP2	5:ga:3:LYS:NZ	2.52	0.42
1:aa:636:U:O2'	1:aa:1108:U:OP1	2.32	0.42
1:aa:829:G:H1	1:aa:853:U:H3	1.67	0.42
1:aa:973:U:H2'	1:aa:974:C:O4'	2.19	0.42
1:aa:1092:A:H5'	1:aa:1302:C:C5	2.54	0.42
1:aa:1238:A:OP2	1:aa:1249:G:O2'	2.36	0.42
1:aa:1599:C:H2'	1:aa:1600:G:C8	2.53	0.42
1:aa:1619:A:OP1	9:ka:82:LYS:NZ	2.45	0.42
3:ca:109:PRO:HA	3:ca:112:GLN:HE21	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:ha:111:PHE:CD2	6:ha:146:GLY:HA2	2.54	0.42
6:ha:130:ILE:CG2	6:ha:142:TRP:HB2	2.49	0.42
7:ia:213:PRO:HD2	15:qa:19:LYS:HE3	2.00	0.42
8:ja:136:ILE:HD12	8:ja:148:ARG:HH21	1.84	0.42
9:ka:92:THR:HG21	9:ka:169:LEU:CD2	2.49	0.42
16:ra:24:PRO:HB3	16:ra:75:ARG:HH12	1.85	0.42
20:va:80:LEU:HD22	20:va:124:VAL:CG1	2.48	0.42
30:gb:57:ASP:HB3	30:gb:108:LEU:HD23	2.01	0.42
31:hb:46:ILE:HD12	31:hb:63:ILE:HD12	2.01	0.42
31:hb:152:LYS:HA	31:hb:183:VAL:O	2.19	0.42
38:FA:36:ARG:HD2	38:FA:38:PHE:CE1	2.54	0.42
41:IA:27:LYS:HD3	41:IA:27:LYS:HA	1.79	0.42
54:VA:49:LEU:HD13	54:VA:51:PHE:CZ	2.53	0.42
57:YA:6:PHE:CZ	57:YA:109:TYR:CD2	3.07	0.42
57:YA:70:ASN:OD1	57:YA:72:THR:OG1	2.31	0.42
58:ZA:68:ASP:OD1	58:ZA:71:LYS:HB3	2.20	0.42
62:DB:92:TYR:HB2	62:DB:159:ILE:HB	2.01	0.42
62:DB:254:CYS:SG	75:RB:2941:U:H1'	2.59	0.42
64:FB:58:LYS:HG3	64:FB:61:ARG:HH11	1.83	0.42
70:LB:78:GLY:O	70:LB:132:VAL:HG22	2.19	0.42
75:RB:372:A:N3	75:RB:374:G:H5''	2.35	0.42
75:RB:819:A:C8	75:RB:908:U:O4	2.72	0.42
75:RB:1042:C:H2'	75:RB:1043:U:H6	1.83	0.42
75:RB:1237:G:N2	75:RB:1260:G:C8	2.87	0.42
75:RB:2628:U:O2'	75:RB:2694:A:N3	2.43	0.42
75:RB:2659:A:H2'	75:RB:2660:G:H8	1.84	0.42
75:RB:2694:A:H2'	75:RB:2695:G:C8	2.54	0.42
75:RB:2720:U:H2'	75:RB:2721:U:C6	2.53	0.42
75:RB:3048:G:H2'	75:RB:3049:G:H8	1.84	0.42
76:SB:13:A:C5	76:SB:14:C:C5	3.08	0.42
79:bl:91:GLY:HA3	79:bl:119:ILE:HG12	2.01	0.42
79:bl:325:GLU:CG	79:bl:394:THR:HG22	2.49	0.42
80:cl:67:U:H2'	80:cl:68:C:H6	1.81	0.42
1:aa:97:G:H2'	1:aa:98:C:H6	1.84	0.42
1:aa:517:U:H4'	28:eb:133:GLN:HB3	2.01	0.42
1:aa:813:A:C5	1:aa:814:C:C5	3.07	0.42
1:aa:891:U:C2	1:aa:892:A:C8	3.07	0.42
1:aa:1011:C:O2'	12:na:150:ARG:O	2.31	0.42
1:aa:1252:C:H2'	1:aa:1253:U:C5	2.54	0.42
1:aa:1335:A:N6	7:ia:161:GLY:HA3	2.34	0.42
1:aa:1348:A:HO2'	1:aa:1349:A:P	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:1656:C:H2'	1:aa:1657:C:H6	1.84	0.42
1:aa:1680:A:H2'	1:aa:1681:G:H8	1.85	0.42
1:aa:1727:C:H2'	1:aa:1728:G:O4'	2.19	0.42
10:la:52:LEU:O	10:la:56:GLU:HG2	2.19	0.42
20:va:54:PRO:O	20:va:55:HIS:CG	2.73	0.42
21:wa:21:CYS:HB3	21:wa:23:VAL:H	1.84	0.42
28:eb:31:LYS:O	28:eb:35:GLU:HG2	2.19	0.42
28:eb:130:LEU:HD22	28:eb:136:ILE:HD11	2.01	0.42
28:eb:132:ARG:HE	28:eb:132:ARG:HB3	1.71	0.42
31:hb:81:VAL:HG23	31:hb:93:VAL:HG13	2.00	0.42
31:hb:105:PRO:HB3	31:hb:111:VAL:CG2	2.49	0.42
32:ib:125:ILE:HB	32:ib:142:LYS:HB2	2.01	0.42
33:AA:243:LYS:O	33:AA:247:ARG:NE	2.51	0.42
37:EA:145:ARG:NH1	77:TB:5:G:OP1	2.35	0.42
41:IA:126:ILE:HG22	41:IA:127:SER:N	2.33	0.42
43:KA:155:GLY:HA2	43:KA:180:ALA:HA	2.01	0.42
46:NA:79:THR:HG22	46:NA:80:GLU:N	2.34	0.42
48:PA:108:LEU:HD12	48:PA:109:LYS:N	2.34	0.42
48:PA:120:ARG:HD3	75:RB:182:C:O2'	2.19	0.42
53:UA:11:ARG:HB3	75:RB:820:A:H2	1.83	0.42
57:YA:113:ALA:O	75:RB:1325:G:H1'	2.19	0.42
57:YA:153:LEU:HD23	57:YA:153:LEU:HA	1.82	0.42
58:ZA:41:LEU:HD23	58:ZA:72:VAL:HG21	2.01	0.42
62:DB:244:LYS:HE3	75:RB:877:U:OP1	2.19	0.42
70:LB:64:ARG:O	70:LB:66:PRO:HD3	2.19	0.42
75:RB:506:U:O4	75:RB:571:G:O6	2.37	0.42
75:RB:659:C:H2'	75:RB:660:A:C8	2.54	0.42
75:RB:770:U:C2	75:RB:771:G:C8	3.07	0.42
75:RB:1292:U:H2'	75:RB:1293:C:H6	1.83	0.42
75:RB:1614:G:C2	75:RB:1615:G:C4	3.08	0.42
75:RB:2785:C:H2'	75:RB:2786:U:C6	2.54	0.42
79:bl:396:LYS:HB2	79:bl:396:LYS:HE2	1.69	0.42
1:aa:121:U:H2'	1:aa:122:U:H6	1.85	0.42
1:aa:647:G:H2'	1:aa:648:C:C6	2.54	0.42
1:aa:861:A:H61	31:hb:116:THR:HB	1.83	0.42
1:aa:864:A:HO2'	1:aa:865:U:P	2.40	0.42
1:aa:1355:U:H2'	1:aa:1356:A:H8	1.83	0.42
1:aa:1533:A:H2'	1:aa:1534:A:H8	1.84	0.42
1:aa:1619:A:N1	1:aa:1620:C:C4	2.87	0.42
9:ka:98:LEU:CD2	18:ta:63:PRO:HG3	2.49	0.42
16:ra:19:VAL:HG13	16:ra:20:LYS:N	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:ta:81:ILE:O	18:ta:84:LEU:HB3	2.19	0.42
20:va:3:ARG:O	20:va:4:ARG:NH2	2.42	0.42
25:bb:164:ILE:O	25:bb:168:MET:HG3	2.19	0.42
28:eb:40:CYS:SG	28:eb:42:ARG:HB3	2.60	0.42
31:hb:126:ILE:O	31:hb:130:VAL:HG23	2.19	0.42
33:AA:70:PRO:HD2	33:AA:73:LEU:HD12	2.02	0.42
39:GA:13:LYS:HA	62:DB:66:LYS:CE	2.50	0.42
39:GA:88:TRP:HZ2	39:GA:96:MET:HE2	1.83	0.42
44:LA:146:LYS:HD3	44:LA:146:LYS:HA	1.87	0.42
46:NA:113:TYR:CE1	46:NA:149:ILE:HG21	2.54	0.42
56:XA:95:VAL:HG11	64:FB:206:TYR:HD1	1.84	0.42
58:ZA:83:ARG:HH12	75:RB:1687:C:H41	1.67	0.42
58:ZA:103:ARG:CZ	58:ZA:105:ILE:HD11	2.50	0.42
62:DB:12:GLY:HA3	62:DB:236:TRP:CE3	2.54	0.42
63:EB:252:ARG:O	63:EB:254:VAL:HG23	2.20	0.42
64:FB:65:LYS:CE	75:RB:1311:G:H5'	2.47	0.42
66:HB:215:ILE:HG22	66:HB:216:LEU:O	2.19	0.42
73:OB:42:ASN:C	73:OB:42:ASN:HD22	2.27	0.42
74:PB:87:VAL:O	74:PB:91:ILE:HG12	2.19	0.42
75:RB:18:G:N2	76:SB:142:G:N2	2.66	0.42
75:RB:307:C:C2	75:RB:308:U:C5	3.07	0.42
75:RB:979:C:H2'	75:RB:980:C:O4'	2.20	0.42
75:RB:1592:U:C2	75:RB:1611:G:N2	2.87	0.42
75:RB:2247:U:O3'	79:bl:46:ARG:NH1	2.52	0.42
75:RB:2263:A:C6	75:RB:2264:A:C6	3.07	0.42
75:RB:2287:U:O2'	75:RB:2289:A:N7	2.38	0.42
75:RB:2356:A:H2'	75:RB:2357:G:O4'	2.19	0.42
75:RB:2386:G:O2'	75:RB:2387:G:OP2	2.30	0.42
75:RB:3213:C:H2'	75:RB:3214:U:O4'	2.18	0.42
79:bl:37:ILE:O	79:bl:122:SER:HA	2.19	0.42
79:bl:301:LYS:HB2	79:bl:413:ILE:HG23	2.00	0.42
80:cl:16:C:H4'	80:cl:18:G:OP2	2.19	0.42
1:aa:29:U:H2'	1:aa:30:G:H8	1.83	0.42
1:aa:146:A:N6	1:aa:165:U:N3	2.67	0.42
1:aa:599:G:C6	1:aa:600:C:N4	2.87	0.42
1:aa:645:G:H2'	1:aa:645:G:N3	2.35	0.42
1:aa:755:U:O2	1:aa:807:G:C2	2.73	0.42
1:aa:760:G:C6	1:aa:799:A:C6	3.07	0.42
1:aa:829:G:N2	1:aa:854:C:H1'	2.34	0.42
1:aa:1067:A:C4	1:aa:1068:G:C8	3.07	0.42
1:aa:1123:G:C6	1:aa:1124:G:C5	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:1164:C:N4	1:aa:1289:U:H5'	2.34	0.42
1:aa:1270:U:H2'	1:aa:1271:G:H8	1.84	0.42
1:aa:1435:G:P	79:bl:64:ARG:NH1	2.92	0.42
1:aa:1439:G:C2	21:wa:41:GLN:HB3	2.55	0.42
3:ca:84:TYR:HB3	3:ca:102:ILE:HD13	2.01	0.42
9:ka:23:VAL:HG23	9:ka:106:GLN:OE1	2.19	0.42
9:ka:111:ALA:HB2	9:ka:177:ALA:HB2	2.02	0.42
11:ma:26:HIS:ND1	11:ma:27:ARG:N	2.66	0.42
13:oa:16:LEU:HD21	13:oa:99:VAL:HG13	2.02	0.42
13:oa:44:VAL:HG13	13:oa:70:VAL:HG21	2.02	0.42
13:oa:114:LEU:HG	13:oa:119:ASN:OD1	2.19	0.42
15:qa:101:GLU:OE2	24:za:46:ARG:HA	2.20	0.42
20:va:36:PHE:CD2	20:va:102:VAL:HG11	2.55	0.42
24:za:68:VAL:HG21	24:za:163:ILE:CD1	2.49	0.42
25:bb:119:THR:HG23	25:bb:155:TYR:HA	2.01	0.42
28:eb:133:GLN:O	28:eb:135:HIS:ND1	2.51	0.42
44:LA:87:ALA:HB2	75:RB:835:G:H4'	2.02	0.42
49:QA:117:LYS:HB3	49:QA:118:PRO:HD3	2.01	0.42
51:SA:37:ALA:HB3	51:SA:38:PRO:HD3	2.02	0.42
54:VA:23:ILE:HD11	54:VA:28:ARG:NE	2.35	0.42
54:VA:23:ILE:HD11	54:VA:28:ARG:HE	1.84	0.42
60:BB:33:LEU:HA	60:BB:36:GLN:HG2	2.02	0.42
60:BB:37:LYS:HA	60:BB:45:LEU:HD21	2.00	0.42
69:KB:56:PRO:HB3	69:KB:75:PHE:HD2	1.85	0.42
70:LB:26:TRP:C	70:LB:28:ILE:H	2.27	0.42
75:RB:142:G:H2'	75:RB:143:A:C8	2.51	0.42
75:RB:328:G:C2	75:RB:329:G:C8	3.08	0.42
75:RB:441:G:H2'	75:RB:442:C:H6	1.85	0.42
75:RB:687:C:N4	75:RB:702:G:H22	2.17	0.42
75:RB:1175:G:C2	75:RB:1176:U:C4	3.07	0.42
75:RB:2089:A:N6	75:RB:2090:G:O6	2.53	0.42
75:RB:2907:A:H5'	75:RB:2908:A:P	2.59	0.42
75:RB:2914:G:C6	75:RB:2927:A:C6	3.07	0.42
75:RB:3060:U:C2	75:RB:3061:G:N7	2.87	0.42
1:aa:643:U:H1'	31:hb:119:LEU:HD22	2.00	0.42
1:aa:1066:U:C2	1:aa:1067:A:C2	3.08	0.42
1:aa:1213:C:C4	1:aa:1461:G:N2	2.88	0.42
1:aa:1616:U:H2'	1:aa:1617:U:H6	1.84	0.42
1:aa:1677:U:H2'	1:aa:1678:G:O4'	2.20	0.42
1:aa:1681:G:H2'	1:aa:1682:U:C6	2.55	0.42
6:ha:130:ILE:HG22	6:ha:142:TRP:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:ha:284:ASP:OD2	6:ha:285:LEU:N	2.52	0.42
8:ja:44:LEU:HG	8:ja:82:TYR:HB3	2.00	0.42
11:ma:33:SER:OG	11:ma:94:LYS:HA	2.20	0.42
13:oa:117:ILE:O	13:oa:118:ARG:HB2	2.18	0.42
18:ta:92:MET:HE2	18:ta:104:ARG:HG3	2.02	0.42
25:bb:33:LYS:HG3	25:bb:232:HIS:CE1	2.54	0.42
28:eb:129:VAL:O	28:eb:132:ARG:N	2.52	0.42
33:AA:31:GLN:O	33:AA:33:GLY:N	2.49	0.42
33:AA:96:ARG:HH21	33:AA:187:HIS:CE1	2.38	0.42
33:AA:132:LEU:HA	33:AA:193:VAL:HG11	2.00	0.42
33:AA:207:PHE:CE1	33:AA:211:LEU:HD11	2.54	0.42
39:GA:32:THR:HG21	39:GA:113:LYS:HD3	2.02	0.42
39:GA:83:ARG:NH1	39:GA:120:PRO:O	2.44	0.42
43:KA:237:ALA:HB1	43:KA:241:LYS:NZ	2.35	0.42
52:TA:55:ASN:O	75:RB:1408:C:H1'	2.19	0.42
60:BB:97:SER:HB2	75:RB:134:U:H1'	2.00	0.42
62:DB:80:GLU:OE1	62:DB:318:TYR:OH	2.22	0.42
64:FB:5:SER:HB2	64:FB:7:VAL:HG13	2.01	0.42
70:LB:81:LEU:HD23	70:LB:125:VAL:CB	2.49	0.42
71:MB:18:ILE:HD13	71:MB:94:LEU:CD2	2.50	0.42
75:RB:578:C:H2'	75:RB:579:G:C8	2.54	0.42
75:RB:694:U:O2	75:RB:694:U:H2'	2.18	0.42
75:RB:1505:G:H2'	75:RB:1506:A:O4'	2.19	0.42
75:RB:1541:G:H2'	75:RB:1542:A:O4'	2.19	0.42
75:RB:2154:G:H2'	75:RB:2155:G:H8	1.85	0.42
75:RB:2244:G:C2	75:RB:2245:A:C4	3.08	0.42
76:SB:155:U:H2'	76:SB:156:C:O4'	2.19	0.42
79:bl:192:LEU:O	79:bl:195:GLU:HG2	2.19	0.42
79:bl:286:LYS:O	79:bl:290:LYS:HG2	2.19	0.42
1:aa:60:C:C2	1:aa:62:A:H5''	2.54	0.42
1:aa:76:U:H5'	1:aa:77:G:N2	2.34	0.42
1:aa:216:A:N6	1:aa:848:C:O2	2.53	0.42
1:aa:535:C:H1'	2:ba:67:ARG:HH22	1.85	0.42
1:aa:1008:A:C5	1:aa:1010:A:N6	2.87	0.42
1:aa:1057:U:H1'	1:aa:1058:G:OP1	2.20	0.42
1:aa:1252:C:H2'	1:aa:1253:U:C6	2.55	0.42
1:aa:1541:C:N4	1:aa:1542:G:C6	2.88	0.42
1:aa:1553:A:O2'	1:aa:1554:G:H5'	2.19	0.42
6:ha:146:GLY:C	6:ha:147:GLU:HG3	2.43	0.42
6:ha:264:CYS:HB2	6:ha:273:ILE:HG12	2.01	0.42
6:ha:294:LYS:HA	6:ha:294:LYS:HE2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:ja:55:ALA:C	8:ja:56:LEU:HD22	2.44	0.42
9:ka:93:MET:HE1	9:ka:108:ILE:HG12	2.01	0.42
10:la:46:ARG:NH1	16:ra:25:HIS:NE2	2.68	0.42
12:na:94:HIS:ND1	12:na:128:ARG:HG3	2.35	0.42
12:na:149:ARG:HH22	12:na:151:LEU:HD13	1.84	0.42
15:qa:34:VAL:O	15:qa:37:GLU:HG3	2.20	0.42
18:ta:65:VAL:HA	18:ta:68:GLU:CG	2.49	0.42
19:ua:32:VAL:O	19:ua:69:GLU:HG3	2.18	0.42
20:va:104:THR:HG22	20:va:123:GLN:O	2.20	0.42
29:fb:193:VAL:HB	29:fb:220:PHE:HE2	1.85	0.42
34:BA:80:VAL:HG21	75:RB:2725:G:C2	2.55	0.42
34:BA:102:ASN:O	34:BA:106:LEU:HG	2.19	0.42
38:FA:73:ILE:O	38:FA:77:GLN:HG2	2.19	0.42
38:FA:136:SER:CB	38:FA:142:GLU:HB2	2.50	0.42
40:HA:108:ARG:HH22	75:RB:54:G:HO2'	1.57	0.42
43:KA:230:ILE:HG23	43:KA:230:ILE:O	2.20	0.42
47:OA:24:ILE:CD1	47:OA:30:VAL:HG22	2.49	0.42
49:QA:81:THR:HA	63:EB:152:GLU:HA	2.01	0.42
57:YA:84:GLN:NE2	57:YA:89:TYR:HE1	2.18	0.42
58:ZA:28:THR:HA	58:ZA:31:VAL:HG22	2.02	0.42
60:BB:79:TYR:OH	75:RB:127:G:OP1	2.38	0.42
62:DB:20:LYS:HB2	75:RB:2988:A:P	2.58	0.42
62:DB:251:LYS:HE2	62:DB:251:LYS:HB3	1.81	0.42
63:EB:12:LYS:HD2	63:EB:151:PRO:CG	2.50	0.42
63:EB:74:ARG:HE	63:EB:74:ARG:HB3	1.57	0.42
68:JB:120:GLN:O	68:JB:121:LEU:HD23	2.20	0.42
69:KB:5:ASN:C	69:KB:5:ASN:OD1	2.61	0.42
73:OB:28:ARG:HG3	75:RB:1069:U:C6	2.55	0.42
75:RB:40:G:N2	75:RB:2800:A:H62	2.18	0.42
75:RB:68:U:H2'	75:RB:69:U:O4'	2.19	0.42
75:RB:299:G:N1	75:RB:313:C:O2	2.52	0.42
75:RB:411:C:H2'	75:RB:412:C:H6	1.85	0.42
75:RB:499:A:H5'	75:RB:499:A:N3	2.35	0.42
75:RB:1080:C:C4	75:RB:1081:U:C4	3.08	0.42
75:RB:1175:G:C2	75:RB:1332:C:N3	2.88	0.42
75:RB:1195:C:H3'	75:RB:1196:U:H5'	2.01	0.42
75:RB:1628:G:C4	75:RB:1642:G:C8	3.07	0.42
75:RB:1756:C:H2'	75:RB:1757:G:O4'	2.20	0.42
75:RB:2315:C:C2'	75:RB:2316:G:H5'	2.49	0.42
75:RB:2983:U:H2'	75:RB:2984:A:H8	1.84	0.42
75:RB:3238:C:O2'	75:RB:3239:G:OP1	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:SB:13:A:C4	76:SB:14:C:C5	3.08	0.42
79:bl:165:ARG:HB2	79:bl:265:PHE:CE2	2.54	0.42
1:aa:817:C:N3	31:hb:112:GLN:NE2	2.67	0.42
1:aa:1233:G:C4	1:aa:1259:G:C2	3.07	0.42
6:ha:140:LYS:NZ	6:ha:151:THR:HG23	2.35	0.42
7:ia:11:PHE:CE2	11:ma:92:VAL:HG13	2.53	0.42
7:ia:64:ARG:HG3	7:ia:65:ARG:N	2.33	0.42
7:ia:141:LYS:HG2	7:ia:145:GLN:O	2.19	0.42
9:ka:155:ARG:CZ	9:ka:155:ARG:HB2	2.49	0.42
12:na:119:LEU:O	12:na:119:LEU:HD23	2.20	0.42
20:va:88:TYR:O	20:va:91:ARG:N	2.52	0.42
24:za:70:VAL:HG12	24:za:186:VAL:HG13	2.01	0.42
27:db:37:LYS:HB3	27:db:70:LYS:NZ	2.34	0.42
29:fb:91:MET:HE3	29:fb:113:VAL:HG23	2.02	0.42
30:gb:104:VAL:HG23	30:gb:108:LEU:CD1	2.50	0.42
30:gb:185:THR:O	30:gb:189:LEU:HG	2.19	0.42
31:hb:58:ARG:HD3	31:hb:58:ARG:N	2.33	0.42
33:AA:181:ARG:NH1	76:SB:157:A:O2'	2.52	0.42
38:FA:178:ILE:HG23	38:FA:178:ILE:HD12	1.68	0.42
40:HA:5:LYS:HA	40:HA:5:LYS:HD2	1.81	0.42
40:HA:83:LYS:O	40:HA:85:LYS:N	2.52	0.42
41:IA:124:LYS:HE2	41:IA:145:ALA:HA	2.02	0.42
42:JA:94:ILE:HD11	42:JA:115:ALA:HB2	2.01	0.42
43:KA:125:ALA:HB3	43:KA:199:TYR:CZ	2.55	0.42
43:KA:195:ARG:NH1	43:KA:199:TYR:HD2	2.17	0.42
61:CB:51:GLU:HG3	63:EB:335:TYR:CE1	2.54	0.42
63:EB:75:ALA:HA	75:RB:2395:A:OP1	2.19	0.42
66:HB:55:TRP:CG	66:HB:164:LYS:NZ	2.88	0.42
66:HB:70:ILE:O	66:HB:74:LYS:HG2	2.19	0.42
67:IB:2:ARG:HD2	67:IB:2:ARG:HA	1.87	0.42
70:LB:26:TRP:CD1	75:RB:591:G:C5	3.08	0.42
70:LB:145:LYS:HD3	70:LB:145:LYS:HA	1.78	0.42
75:RB:7:C:H2'	75:RB:8:C:H6	1.85	0.42
75:RB:39:A:N7	75:RB:940:G:C5	2.87	0.42
75:RB:46:A:OP2	75:RB:47:A:O2'	2.28	0.42
75:RB:275:G:H2'	75:RB:276:U:C6	2.55	0.42
75:RB:321:A:C6	75:RB:322:A:N1	2.88	0.42
75:RB:1198:G:C6	75:RB:1199:A:N6	2.88	0.42
75:RB:1670:G:C6	75:RB:1671:G:N7	2.87	0.42
75:RB:1765:G:H2'	75:RB:1766:U:C6	2.54	0.42
75:RB:2152:A:H4'	75:RB:2153:U:O5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:2430:G:C6	75:RB:2508:A:C6	3.07	0.42
75:RB:2532:G:H2'	75:RB:2533:G:O4'	2.20	0.42
75:RB:3101:U:H2'	75:RB:3102:A:H8	1.85	0.42
79:bl:288:ILE:HD11	79:bl:292:PHE:HE2	1.84	0.42
79:bl:323:VAL:HG12	79:bl:324:TRP:O	2.20	0.42
80:cl:19:G:C6	80:cl:57:G:N2	2.88	0.42
80:cl:23:C:N4	80:cl:24:G:O6	2.53	0.42
1:aa:40:A:H2'	1:aa:41:A:O4'	2.20	0.42
1:aa:337:A:OP1	3:ca:49:VAL:HB	2.20	0.42
1:aa:594:C:OP1	23:ya:42:ARG:NH2	2.52	0.42
1:aa:824:U:H2'	1:aa:858:G:H22	1.85	0.42
1:aa:856:G:H4'	1:aa:857:A:OP1	2.20	0.42
6:ha:34:ILE:O	6:ha:34:ILE:HG13	2.20	0.42
6:ha:150:TYR:CG	6:ha:151:THR:N	2.88	0.42
7:ia:158:ILE:H	7:ia:189:MET:CE	2.33	0.42
8:ja:52:LEU:HD13	8:ja:54:TYR:CE1	2.53	0.42
10:la:28:CYS:HA	10:la:70:ASP:O	2.20	0.42
31:hb:77:HIS:CE1	31:hb:133:PRO:HD3	2.54	0.42
39:GA:43:LYS:HD3	75:RB:2928:C:H5''	2.02	0.42
39:GA:127:ASP:OD1	39:GA:128:LEU:N	2.53	0.42
48:PA:52:ASP:O	48:PA:52:ASP:OD2	2.38	0.42
55:WA:67:LYS:HG3	55:WA:87:ARG:HG2	2.02	0.42
57:YA:55:LYS:HD2	77:TB:97:G:OP1	2.20	0.42
57:YA:136:CYS:SG	57:YA:145:HIS:HE1	2.43	0.42
63:EB:47:VAL:HG12	63:EB:242:LEU:HD21	2.01	0.42
63:EB:301:GLU:OE2	63:EB:301:GLU:N	2.42	0.42
63:EB:378:LYS:O	63:EB:382:GLN:HG2	2.20	0.42
68:JB:87:ARG:HH21	68:JB:87:ARG:HG3	1.85	0.42
71:MB:96:ALA:HB3	75:RB:635:U:O2	2.20	0.42
72:NB:7:GLU:OE1	72:NB:7:GLU:N	2.53	0.42
73:OB:48:LYS:NZ	75:RB:777:G:OP1	2.53	0.42
74:PB:38:ARG:HA	74:PB:38:ARG:HD3	1.78	0.42
75:RB:11:A:H2'	75:RB:12:G:H5''	2.02	0.42
75:RB:27:C:H4'	75:RB:60:G:C2	2.55	0.42
75:RB:29:G:H2'	75:RB:30:C:C6	2.55	0.42
75:RB:753:G:C2	75:RB:754:G:C8	3.08	0.42
75:RB:1017:G:H2'	75:RB:1018:C:C6	2.54	0.42
75:RB:1226:G:O2'	75:RB:1289:G:N1	2.30	0.42
75:RB:1238:G:N1	75:RB:1259:C:O2	2.53	0.42
75:RB:1424:G:H2'	75:RB:1425:G:H8	1.85	0.42
75:RB:1547:G:N3	75:RB:2161:G:N2	2.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:1619:G:H2'	75:RB:1620:U:H6	1.84	0.42
75:RB:2832:C:C2	75:RB:2833:C:C5	3.07	0.42
75:RB:2909:G:N1	75:RB:3126:A:C8	2.88	0.42
76:SB:23:C:O5'	76:SB:23:C:H6	2.03	0.42
76:SB:72:A:C5	76:SB:73:U:C5	3.08	0.42
76:SB:118:C:H2'	76:SB:119:C:H6	1.85	0.42
79:bl:315:MET:HE2	79:bl:418:LEU:HB3	2.01	0.42
80:cl:6:A:H2'	80:cl:7:G:H8	1.85	0.42
80:cl:19:G:OP2	80:cl:20:A:H5'	2.20	0.42
1:aa:94:A:C6	1:aa:402:G:C6	3.08	0.42
1:aa:1082:C:H2'	1:aa:1083:C:H6	1.85	0.42
1:aa:1233:G:N2	1:aa:1259:G:O2'	2.45	0.42
1:aa:1360:G:C6	1:aa:1361:G:N7	2.88	0.42
1:aa:1732:A:H4'	30:gb:67:VAL:HG12	2.02	0.42
2:ba:85:LEU:HD12	2:ba:88:ALA:HB3	2.01	0.42
2:ba:92:GLU:HG2	2:ba:97:LEU:HG	2.00	0.42
3:ca:47:VAL:HG12	3:ca:55:LYS:O	2.19	0.42
6:ha:168:CYS:SG	6:ha:170:ARG:HD3	2.59	0.42
7:ia:74:GLN:NE2	7:ia:81:GLU:HA	2.35	0.42
10:la:75:VAL:HB	10:la:87:ILE:HD11	2.01	0.42
10:la:88:ARG:HH22	10:la:121:THR:HG23	1.85	0.42
13:oa:124:ARG:HH11	13:oa:129:VAL:HG21	1.84	0.42
19:ua:49:VAL:HG22	19:ua:59:ILE:O	2.20	0.42
21:wa:53:ILE:HD12	21:wa:55:TYR:OH	2.20	0.42
24:za:36:PHE:CE1	24:za:37:GLN:HG2	2.55	0.42
25:bb:59:GLU:OE1	25:bb:62:LYS:HD3	2.19	0.42
25:bb:113:LEU:HA	25:bb:113:LEU:HD13	1.88	0.42
28:eb:25:ARG:NH1	28:eb:29:GLU:OE2	2.52	0.42
37:EA:135:ARG:HB3	37:EA:154:GLN:HE21	1.85	0.42
39:GA:96:MET:HG3	47:OA:22:ARG:HG3	2.02	0.42
41:IA:32:ARG:HA	75:RB:801:G:OP1	2.20	0.42
43:KA:150:ILE:HD12	43:KA:156:ASN:HD21	1.85	0.42
47:OA:7:LEU:HD12	47:OA:7:LEU:HA	1.88	0.42
48:PA:9:SER:N	75:RB:334:A:OP1	2.39	0.42
49:QA:98:MET:SD	49:QA:123:LEU:HD11	2.60	0.42
51:SA:45:ARG:O	51:SA:49:GLN:HG3	2.20	0.42
53:UA:80:GLU:O	53:UA:80:GLU:HG2	2.20	0.42
62:DB:53:MET:HG2	62:DB:77:THR:OG1	2.20	0.42
63:EB:11:VAL:HG21	63:EB:258:GLU:OE2	2.19	0.42
65:GB:77:VAL:O	65:GB:80:ARG:HG2	2.20	0.42
72:NB:11:PHE:C	72:NB:11:PHE:CD2	2.97	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:521:G:C2'	75:RB:522:C:H5'	2.49	0.42
75:RB:852:C:H2'	75:RB:853:U:H6	1.84	0.42
75:RB:1262:U:H2'	75:RB:1264:A:H5''	2.02	0.42
75:RB:1292:U:H2'	75:RB:1293:C:C6	2.55	0.42
75:RB:1837:A:H4'	75:RB:1845:C:OP1	2.20	0.42
75:RB:2131:U:C5	75:RB:2136:A:N7	2.86	0.42
75:RB:2362:G:H2'	75:RB:2363:G:C8	2.55	0.42
75:RB:2643:C:N4	75:RB:2644:A:H62	2.17	0.42
75:RB:2858:U:O5'	75:RB:2858:U:H6	2.03	0.42
75:RB:3040:A:O2'	75:RB:3041:C:H5'	2.20	0.42
75:RB:3099:A:H2'	75:RB:3100:U:O4'	2.19	0.42
75:RB:3338:U:H3'	75:RB:3339:U:C5'	2.50	0.42
80:cl:19:G:H4'	80:cl:20:A:C4	2.55	0.42
1:aa:377:G:H5'	32:ib:97:LYS:HG3	2.02	0.41
1:aa:585:U:O2	1:aa:585:U:H3'	2.19	0.41
1:aa:1186:U:C2	1:aa:1464:G:C2	3.06	0.41
1:aa:1512:C:H6	1:aa:1512:C:O5'	2.02	0.41
1:aa:1554:G:H2'	1:aa:1555:A:C8	2.55	0.41
9:ka:18:TRP:HZ2	9:ka:94:GLU:OE1	2.03	0.41
9:ka:125:GLY:HA3	9:ka:130:VAL:HA	2.01	0.41
11:ma:61:PRO:HA	11:ma:97:ILE:HG13	2.02	0.41
20:va:80:LEU:HD11	20:va:84:GLU:O	2.20	0.41
25:bb:61:LEU:HG	25:bb:64:ARG:NH2	2.34	0.41
25:bb:156:ALA:HB3	25:bb:161:ILE:HD11	2.02	0.41
26:cb:41:GLU:O	26:cb:44:LEU:HD23	2.19	0.41
29:fb:59:ARG:NH1	29:fb:256:ILE:HD13	2.35	0.41
30:gb:67:VAL:O	30:gb:67:VAL:HG23	2.20	0.41
34:BA:152:ILE:HD12	34:BA:152:ILE:H	1.84	0.41
40:HA:73:ARG:HG2	40:HA:75:VAL:HG13	2.02	0.41
44:LA:157:ASP:OD1	44:LA:158:GLN:N	2.53	0.41
46:NA:64:ARG:HE	46:NA:64:ARG:HB2	1.62	0.41
46:NA:80:GLU:HA	46:NA:83:MET:HB2	2.02	0.41
57:YA:80:TRP:CZ2	57:YA:93:TYR:HE1	2.38	0.41
58:ZA:93:LEU:HD23	58:ZA:93:LEU:HA	1.83	0.41
60:BB:110:LYS:NZ	75:RB:151:U:OP1	2.33	0.41
61:CB:213:LEU:HD12	75:RB:512:G:OP1	2.20	0.41
64:FB:51:GLY:HA3	64:FB:139:ARG:NE	2.35	0.41
66:HB:30:LYS:HG2	66:HB:63:GLU:HA	2.01	0.41
67:IB:20:MET:HE3	67:IB:20:MET:HB3	1.88	0.41
69:KB:90:ALA:HB1	69:KB:95:ILE:HB	2.02	0.41
70:LB:98:GLN:NE2	70:LB:102:GLY:HA2	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:MB:56:TYR:HH	71:MB:101:LYS:HD2	1.84	0.41
75:RB:271:G:H2'	75:RB:272:G:C8	2.55	0.41
75:RB:490:G:C5	75:RB:491:G:N7	2.88	0.41
75:RB:761:C:H1'	75:RB:777:G:N2	2.35	0.41
75:RB:1123:A:H2'	75:RB:1124:U:H6	1.85	0.41
75:RB:1147:U:H6	75:RB:1147:U:H2'	1.66	0.41
75:RB:1273:U:H5	75:RB:1276:C:H5'	1.84	0.41
75:RB:1484:A:N3	75:RB:1484:A:H2'	2.34	0.41
75:RB:1618:U:H2'	75:RB:1619:G:C8	2.55	0.41
75:RB:1882:A:N6	75:RB:2342:U:O4'	2.52	0.41
75:RB:2383:A:H2'	75:RB:2384:G:O4'	2.20	0.41
75:RB:2831:G:C4	75:RB:2832:C:C5	3.08	0.41
75:RB:2835:A:H2'	75:RB:2836:G:O4'	2.19	0.41
75:RB:2840:U:H3'	75:RB:2841:C:H5	1.81	0.41
75:RB:3053:U:OP1	75:RB:3054:C:O2'	2.37	0.41
75:RB:3240:G:H5'	75:RB:3241:U:OP2	2.20	0.41
75:RB:3279:C:O2'	75:RB:3280:U:O5'	2.33	0.41
75:RB:3280:U:H4'	75:RB:3281:G:H5'	2.02	0.41
79:bl:202:ARG:HH12	79:bl:242:MET:CB	2.33	0.41
80:cl:61:C:H2'	80:cl:62:C:H6	1.83	0.41
1:aa:56:U:H4'	1:aa:57:G:O5'	2.20	0.41
1:aa:142:G:C6	1:aa:143:A:C6	3.08	0.41
1:aa:149:G:C2	1:aa:162:A:C6	3.08	0.41
1:aa:172:U:H2'	1:aa:173:G:O4'	2.19	0.41
1:aa:1051:G:C6	1:aa:1078:G:N1	2.88	0.41
1:aa:1067:A:H3'	1:aa:1068:G:H8	1.85	0.41
1:aa:1070:A:N3	25:bb:146:ARG:NH1	2.68	0.41
1:aa:1086:A:C6	1:aa:1088:G:C6	3.08	0.41
1:aa:1169:G:O2'	1:aa:1170:G:H5'	2.20	0.41
1:aa:1330:A:H5''	7:ia:156:TYR:CZ	2.55	0.41
1:aa:1353:G:O2'	1:aa:1354:C:P	2.78	0.41
1:aa:1377:G:H8	1:aa:1377:G:OP2	2.02	0.41
5:ga:128:SER:HB2	5:ga:131:ALA:HB2	2.02	0.41
8:ja:104:ASP:OD2	8:ja:104:ASP:C	2.63	0.41
13:oa:114:LEU:HD21	13:oa:121:ARG:HD2	2.02	0.41
20:va:80:LEU:HD13	20:va:88:TYR:CE2	2.56	0.41
24:za:79:ILE:HG13	24:za:123:PRO:HB3	2.02	0.41
25:bb:218:LEU:HD23	25:bb:218:LEU:HA	1.89	0.41
29:fb:99:GLN:HA	29:fb:104:GLN:HA	2.02	0.41
31:hb:127:LEU:O	31:hb:131:VAL:HG22	2.20	0.41
33:AA:193:VAL:C	33:AA:194:LEU:HD12	2.46	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:FA:27:VAL:HG12	38:FA:83:VAL:HG11	2.02	0.41
42:JA:23:ASP:OD1	63:EB:36:ARG:NE	2.53	0.41
43:KA:10:ARG:NH2	77:TB:66:G:OP1	2.53	0.41
51:SA:39:ASN:O	51:SA:43:GLU:HG2	2.19	0.41
52:TA:22:HIS:HD2	52:TA:25:ARG:HH11	1.68	0.41
53:UA:72:ARG:HG3	76:SB:94:C:P	2.60	0.41
56:XA:52:ARG:HG2	57:YA:159:ARG:NH2	2.34	0.41
61:CB:87:PHE:O	61:CB:138:TYR:HA	2.18	0.41
63:EB:324:LYS:HA	70:LB:7:MET:CE	2.50	0.41
63:EB:398:LYS:HE2	63:EB:398:LYS:HA	2.02	0.41
66:HB:87:LEU:HD13	66:HB:138:VAL:HG22	2.02	0.41
75:RB:535:G:C5	75:RB:536:C:C4	3.08	0.41
75:RB:554:C:HO2'	75:RB:555:G:P	2.44	0.41
75:RB:1555:G:H2'	75:RB:1555:G:N3	2.35	0.41
75:RB:1614:G:C4	75:RB:1615:G:C8	3.08	0.41
75:RB:1891:A:C6	75:RB:2328:G:C8	3.08	0.41
75:RB:2907:A:H5'	75:RB:2908:A:OP2	2.20	0.41
75:RB:3239:G:H2'	75:RB:3240:G:O4'	2.20	0.41
75:RB:3263:C:O2'	75:RB:3264:C:H5'	2.21	0.41
1:aa:187:C:H2'	1:aa:188:U:H6	1.85	0.41
1:aa:333:G:C4	1:aa:334:G:C8	3.08	0.41
1:aa:395:A:O2'	1:aa:1740:G:H4'	2.20	0.41
1:aa:415:C:H2'	1:aa:416:A:O4'	2.20	0.41
1:aa:615:U:H5'	5:ga:13:LEU:HD23	2.01	0.41
1:aa:1345:G:C2	1:aa:1346:C:C6	3.09	0.41
1:aa:1509:C:C5	16:ra:114:ARG:NH1	2.88	0.41
3:ca:67:SER:HA	3:ca:74:THR:HA	2.02	0.41
6:ha:65:PRO:HD2	10:la:106:ALA:HB2	2.02	0.41
7:ia:167:TYR:HE2	7:ia:200:PRO:HG2	1.86	0.41
9:ka:125:GLY:CA	9:ka:130:VAL:HA	2.51	0.41
9:ka:142:ARG:NH2	19:ua:74:THR:HB	2.34	0.41
11:ma:26:HIS:CG	11:ma:27:ARG:N	2.89	0.41
14:pa:92:ILE:O	14:pa:96:VAL:HG23	2.21	0.41
15:qa:95:GLU:OE2	15:qa:97:ARG:HB2	2.21	0.41
16:ra:43:LEU:HD21	16:ra:47:VAL:HG11	2.02	0.41
18:ta:33:GLN:HG3	18:ta:73:ASN:CA	2.50	0.41
23:ya:43:ARG:HD3	23:ya:44:PHE:HB3	2.03	0.41
24:za:95:ALA:HB2	24:za:102:ALA:HB2	2.02	0.41
24:za:208:TYR:HE2	24:za:210:ASP:HB3	1.83	0.41
38:FA:36:ARG:HD2	38:FA:38:PHE:CZ	2.55	0.41
41:IA:97:VAL:HG12	69:KB:165:GLU:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:QA:12:LEU:HD23	49:QA:12:LEU:HA	1.75	0.41
60:BB:67:ARG:HG2	60:BB:67:ARG:HH11	1.84	0.41
60:BB:101:LYS:HB3	60:BB:101:LYS:HE3	1.84	0.41
61:CB:208:LYS:HB3	75:RB:1338:C:H5'	2.01	0.41
62:DB:95:THR:HB	62:DB:96:PRO:HD2	2.01	0.41
69:KB:66:ASN:OD1	69:KB:66:ASN:N	2.54	0.41
70:LB:185:ASP:OD2	70:LB:186:ALA:N	2.54	0.41
75:RB:410:G:H2'	75:RB:411:C:C6	2.56	0.41
75:RB:573:A:H2'	75:RB:573:A:N3	2.35	0.41
75:RB:1397:A:H4'	75:RB:1423:C:H4'	2.03	0.41
75:RB:1483:G:N2	75:RB:1868:C:H5	2.18	0.41
75:RB:1699:C:H2'	75:RB:1700:U:O4'	2.20	0.41
75:RB:1915:G:O5'	75:RB:1915:G:H8	2.02	0.41
75:RB:2109:G:H8	75:RB:2109:G:O5'	2.03	0.41
75:RB:2142:A:H2'	75:RB:2143:A:C8	2.54	0.41
75:RB:2198:U:O2	75:RB:2231:G:N2	2.53	0.41
75:RB:2247:U:H2'	75:RB:2254:G:N2	2.35	0.41
75:RB:3040:A:H2'	75:RB:3041:C:C6	2.55	0.41
75:RB:3270:G:H2'	75:RB:3271:G:H8	1.86	0.41
1:aa:1101:C:O2'	1:aa:1102:U:OP2	2.31	0.41
1:aa:1323:U:H2'	1:aa:1324:U:O4'	2.20	0.41
1:aa:1559:U:OP2	17:sa:52:ARG:NH1	2.53	0.41
6:ha:203:LEU:HD12	6:ha:234:TRP:CZ3	2.55	0.41
6:ha:227:LYS:HA	6:ha:227:LYS:HD2	1.79	0.41
7:ia:116:ARG:O	7:ia:120:TYR:HD1	2.03	0.41
9:ka:20:PHE:HB3	9:ka:42:TYR:CE1	2.53	0.41
9:ka:118:ARG:CG	9:ka:142:ARG:HH12	2.20	0.41
13:oa:89:ASP:O	13:oa:90:TYR:HD2	2.03	0.41
17:sa:66:VAL:O	17:sa:70:ARG:HG3	2.20	0.41
19:ua:43:GLN:OE1	19:ua:43:GLN:N	2.53	0.41
20:va:80:LEU:HD23	20:va:103:VAL:HG11	2.03	0.41
29:fb:95:PRO:HB3	29:fb:108:PHE:CD1	2.55	0.41
29:fb:116:ASP:OD1	29:fb:120:HIS:HB2	2.20	0.41
30:gb:104:VAL:HG23	30:gb:108:LEU:HD12	2.01	0.41
32:ib:131:PRO:HA	32:ib:137:ARG:HG3	2.01	0.41
33:AA:151:HIS:CD2	33:AA:152:ASP:HB3	2.55	0.41
39:GA:43:LYS:CE	39:GA:62:MET:HE2	2.50	0.41
40:HA:148:ILE:HG13	40:HA:148:ILE:O	2.20	0.41
45:MA:70:THR:N	45:MA:80:GLY:O	2.38	0.41
46:NA:79:THR:HG21	75:RB:1523:G:H4'	2.02	0.41
50:RA:50:ASN:OD1	50:RA:51:ASN:N	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:UA:63:ARG:NH1	76:SB:58:G:O6	2.53	0.41
57:YA:73:THR:O	57:YA:75:LYS:NZ	2.54	0.41
59:AB:7:LYS:HA	59:AB:15:ASN:OD1	2.20	0.41
62:DB:225:LYS:HG3	75:RB:3043:C:OP1	2.20	0.41
66:HB:56:GLU:OE2	77:TB:89:G:N2	2.54	0.41
70:LB:40:GLU:OE1	70:LB:40:GLU:N	2.53	0.41
72:NB:12:LEU:HA	72:NB:12:LEU:HD23	1.81	0.41
75:RB:89:C:C4	75:RB:90:G:N7	2.88	0.41
75:RB:441:G:C6	75:RB:497:G:C2	3.07	0.41
75:RB:559:U:H2'	75:RB:560:C:H6	1.85	0.41
75:RB:715:A:N7	75:RB:2785:C:H4'	2.35	0.41
75:RB:722:C:H5	75:RB:755:C:O3'	2.04	0.41
75:RB:763:G:HO2'	75:RB:764:A:P	2.40	0.41
75:RB:2100:A:C4	75:RB:2101:A:C8	3.08	0.41
75:RB:3161:C:C2	75:RB:3162:G:C8	3.09	0.41
75:RB:3222:U:H2'	75:RB:3223:C:C6	2.55	0.41
76:SB:130:G:N1	76:SB:131:G:C6	2.88	0.41
1:aa:861:A:N6	31:hb:117:ARG:H	2.19	0.41
1:aa:1303:G:H2'	1:aa:1304:A:C8	2.55	0.41
1:aa:1346:C:C2	1:aa:1347:U:C5	3.09	0.41
1:aa:1435:G:OP2	79:bl:64:ARG:NH1	2.53	0.41
1:aa:1472:G:H2'	1:aa:1473:C:H6	1.86	0.41
1:aa:1551:A:H1'	1:aa:1577:A:C2	2.55	0.41
1:aa:1644:C:N3	1:aa:1775:A:N1	2.69	0.41
5:ga:62:ASN:HD22	5:ga:113:ASP:CB	2.33	0.41
9:ka:171:ASP:O	9:ka:174:ILE:HG22	2.20	0.41
12:na:61:LYS:HE3	12:na:80:ASP:OD2	2.21	0.41
18:ta:65:VAL:CA	18:ta:68:GLU:HG2	2.49	0.41
20:va:33:MET:HB3	20:va:33:MET:HE3	1.59	0.41
20:va:98:TRP:HZ2	29:fb:234:PHE:HE2	1.67	0.41
23:ya:33:ARG:HB3	23:ya:33:ARG:CZ	2.49	0.41
24:za:21:MET:CE	24:za:203:VAL:HG21	2.51	0.41
25:bb:97:LEU:HA	25:bb:232:HIS:CE1	2.56	0.41
28:eb:44:LEU:CD2	28:eb:48:GLN:HE22	2.33	0.41
32:ib:72:ILE:HG22	32:ib:73:ALA:N	2.35	0.41
33:AA:157:GLU:OE1	40:HA:26:ARG:NH2	2.53	0.41
34:BA:4:GLY:C	34:BA:5:HIS:HD1	2.28	0.41
35:CA:116:LYS:HD3	75:RB:1626:U:O2	2.20	0.41
37:EA:22:ASN:HB3	37:EA:128:ASP:HB2	2.02	0.41
38:FA:24:MET:HE3	38:FA:35:THR:CG2	2.51	0.41
40:HA:19:MET:O	40:HA:23:GLN:CB	2.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:HA:195:ASN:HB3	75:RB:98:A:OP1	2.20	0.41
42:JA:7:ALA:O	42:JA:10:ARG:HG2	2.20	0.41
42:JA:16:ARG:HD2	42:JA:53:PHE:O	2.20	0.41
42:JA:42:SER:OG	42:JA:45:ASN:HB2	2.20	0.41
42:JA:143:ASN:OD1	75:RB:748:C:H5''	2.20	0.41
55:WA:83:ARG:NH1	75:RB:2713:U:H4'	2.35	0.41
58:ZA:77:ASP:OD2	58:ZA:78:GLY:N	2.52	0.41
59:AB:12:VAL:HG11	69:KB:186:ARG:CZ	2.50	0.41
63:EB:111:TRP:CZ3	69:KB:21:VAL:HG21	2.55	0.41
64:FB:135:GLN:NE2	75:RB:1320:G:C8	2.88	0.41
70:LB:162:LEU:HA	70:LB:165:SER:OG	2.20	0.41
71:MB:46:VAL:CG2	71:MB:79:PRO:HB3	2.49	0.41
75:RB:1017:G:H2'	75:RB:1018:C:O4'	2.21	0.41
75:RB:1193:A:N3	75:RB:1193:A:H2'	2.34	0.41
75:RB:1236:C:O2	75:RB:1237:G:C8	2.73	0.41
75:RB:1516:G:C6	75:RB:1518:A:C4	3.09	0.41
75:RB:2354:A:C4	75:RB:2355:C:C5	3.08	0.41
75:RB:2871:G:C6	75:RB:2942:G:C8	3.09	0.41
75:RB:2923:A:O2'	75:RB:2924:C:H5'	2.20	0.41
1:aa:62:A:H1'	1:aa:272:G:H1'	2.02	0.41
1:aa:69:A:C4	1:aa:84:G:N2	2.88	0.41
1:aa:130:A:N6	1:aa:267:G:H2'	2.36	0.41
1:aa:515:A:P	28:eb:178:ASN:HD22	2.43	0.41
1:aa:556:G:C6	1:aa:557:G:C6	3.08	0.41
1:aa:643:U:C5	31:hb:119:LEU:HD13	2.55	0.41
1:aa:836:U:C6	1:aa:837:G:H5'	2.55	0.41
1:aa:1013:G:H2'	1:aa:1014:U:H6	1.86	0.41
1:aa:1074:C:P	24:za:45:ARG:HH12	2.44	0.41
1:aa:1176:A:H1'	1:aa:1579:C:H4'	2.01	0.41
1:aa:1390:A:H2'	1:aa:1391:G:O4'	2.20	0.41
1:aa:1533:A:H2'	1:aa:1534:A:C8	2.55	0.41
3:ca:58:ALA:HB2	3:ca:196:GLY:HA2	2.02	0.41
5:ga:76:ASN:OD1	5:ga:78:LYS:HG2	2.20	0.41
6:ha:35:VAL:HG22	6:ha:45:VAL:HG12	2.02	0.41
6:ha:116:LYS:CG	6:ha:117:ASP:H	2.34	0.41
7:ia:64:ARG:O	7:ia:68:GLU:OE1	2.39	0.41
10:la:18:ARG:H	10:la:89:GLN:CD	2.28	0.41
14:pa:120:SER:O	14:pa:124:ARG:HG3	2.20	0.41
14:pa:151:ALA:O	50:RA:19:GLN:HG3	2.21	0.41
17:sa:46:PHE:HB3	17:sa:50:ALA:HB3	2.01	0.41
24:za:84:ARG:HD3	24:za:85:PRO:CD	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:za:138:ILE:O	24:za:141:SER:OG	2.34	0.41
24:za:168:ASN:O	24:za:174:SER:HB3	2.21	0.41
25:bb:89:GLU:OE1	25:bb:228:LEU:HD12	2.20	0.41
25:bb:121:ILE:HD13	25:bb:164:ILE:CD1	2.47	0.41
25:bb:217:ILE:HG23	25:bb:217:ILE:O	2.21	0.41
26:cb:17:CYS:SG	26:cb:58:VAL:HG21	2.60	0.41
34:BA:141:VAL:O	61:CB:76:GLY:HA3	2.20	0.41
36:DA:30:ARG:HG3	36:DA:74:GLU:HG3	2.02	0.41
36:DA:215:ASN:ND2	75:RB:2966:A:N7	2.69	0.41
38:FA:67:ALA:O	75:RB:3109:A:O2'	2.35	0.41
39:GA:29:ALA:O	39:GA:117:ILE:HG23	2.21	0.41
41:IA:70:THR:HG23	41:IA:70:THR:O	2.20	0.41
50:RA:55:LEU:HD11	74:PB:93:ARG:HA	2.02	0.41
55:WA:7:THR:HG22	55:WA:22:LEU:HD11	2.02	0.41
56:XA:7:VAL:HG11	56:XA:50:PHE:CZ	2.55	0.41
58:ZA:82:LYS:HG2	58:ZA:114:TYR:CE2	2.55	0.41
61:CB:144:LYS:HB3	61:CB:241:ARG:NH2	2.35	0.41
61:CB:174:GLY:HA3	61:CB:203:PHE:CE1	2.56	0.41
63:EB:381:TYR:O	63:EB:385:ILE:HG12	2.20	0.41
69:KB:113:ILE:O	69:KB:117:LYS:HG2	2.21	0.41
71:MB:95:PRO:O	71:MB:98:ALA:CB	2.65	0.41
72:NB:33:LYS:HZ1	75:RB:1745:G:H5''	1.84	0.41
74:PB:38:ARG:HH12	75:RB:1782:G:H5'	1.86	0.41
75:RB:200:G:C6	75:RB:201:G:C5	3.09	0.41
75:RB:948:C:H2'	75:RB:949:C:C6	2.55	0.41
75:RB:954:A:C2'	75:RB:955:A:H5'	2.51	0.41
75:RB:965:A:N6	75:RB:2401:U:O2	2.46	0.41
75:RB:1087:G:C6	75:RB:1088:A:C6	3.08	0.41
75:RB:2284:A:C6	75:RB:2295:G:C6	3.08	0.41
75:RB:2615:G:O2'	75:RB:2862:U:OP1	2.17	0.41
75:RB:2854:C:H2'	75:RB:2855:U:C6	2.55	0.41
75:RB:2920:U:H2'	75:RB:2921:U:C6	2.55	0.41
75:RB:3146:C:H2'	75:RB:3147:C:O4'	2.21	0.41
79:bl:336:HIS:HE1	79:bl:365:ALA:HB1	1.86	0.41
80:cl:63:U:H2'	80:cl:64:G:C8	2.53	0.41
1:aa:154:A:N6	1:aa:422:G:N7	2.69	0.41
1:aa:187:C:N4	3:ca:157:ASN:OD1	2.53	0.41
1:aa:208:U:H5''	32:ib:16:PHE:CG	2.55	0.41
1:aa:301:U:O2	8:ja:33:SER:HB2	2.21	0.41
1:aa:344:U:C2	1:aa:345:A:N7	2.89	0.41
1:aa:492:G:H1	1:aa:503:U:H1'	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:789:C:C2	1:aa:790:U:C6	3.08	0.41
1:aa:814:C:C4	1:aa:815:A:N7	2.89	0.41
1:aa:992:G:N7	36:DA:252:ALA:HA	2.36	0.41
1:aa:1302:C:O2	29:fb:219:ASN:ND2	2.49	0.41
1:aa:1342:C:H2'	1:aa:1343:C:C6	2.56	0.41
1:aa:1483:G:OP1	16:ra:57:GLU:N	2.48	0.41
1:aa:1785:U:OP2	67:IB:7:LYS:HE2	2.21	0.41
2:ba:48:ARG:O	2:ba:52:ILE:HG12	2.21	0.41
7:ia:37:VAL:HA	7:ia:49:ILE:O	2.21	0.41
7:ia:158:ILE:H	7:ia:189:MET:HE1	1.86	0.41
8:ja:161:LYS:HD3	8:ja:235:TRP:HE3	1.86	0.41
10:la:41:PRO:HD2	10:la:44:LEU:HD12	2.03	0.41
17:sa:69:LEU:HD13	17:sa:69:LEU:HA	1.95	0.41
20:va:51:VAL:HG22	20:va:60:ILE:HG12	2.01	0.41
21:wa:33:LYS:NZ	21:wa:34:TYR:CE2	2.88	0.41
24:za:62:LEU:HD13	24:za:181:LEU:HD23	2.03	0.41
28:eb:121:ALA:O	28:eb:126:HIS:ND1	2.54	0.41
32:ib:67:ILE:HG13	32:ib:141:LEU:HD21	2.03	0.41
36:DA:202:VAL:CG2	75:RB:2178:G:H5''	2.50	0.41
37:EA:63:ARG:NH2	37:EA:64:ASN:OD1	2.54	0.41
38:FA:41:LEU:HA	38:FA:41:LEU:HD23	1.80	0.41
41:IA:28:HIS:CD2	41:IA:32:ARG:HD3	2.56	0.41
41:IA:131:GLU:HG2	41:IA:141:VAL:HG21	2.01	0.41
42:JA:165:TYR:CE1	75:RB:672:A:H4'	2.56	0.41
43:KA:162:LEU:HD21	43:KA:174:HIS:HB2	2.03	0.41
49:QA:114:ASP:OD2	75:RB:1356:G:C5	2.73	0.41
52:TA:2:ALA:HB1	75:RB:436:G:O6	2.21	0.41
56:XA:24:LEU:HD11	56:XA:84:TRP:NE1	2.34	0.41
57:YA:29:MET:CE	57:YA:46:PHE:HD1	2.27	0.41
59:AB:37:THR:HB	75:RB:262:A:OP1	2.20	0.41
60:BB:12:TRP:HD1	60:BB:61:VAL:HG13	1.86	0.41
63:EB:121:ARG:HE	75:RB:679:C:H5'	1.86	0.41
64:FB:17:ARG:HG2	64:FB:18:HIS:CD2	2.56	0.41
70:LB:92:ARG:HH11	70:LB:92:ARG:HD3	1.76	0.41
71:MB:93:ASN:O	75:RB:427:U:O2'	2.33	0.41
72:NB:17:ARG:HG2	72:NB:18:LYS:H	1.86	0.41
75:RB:828:U:H5''	75:RB:1793:A:C5	2.56	0.41
75:RB:951:C:H2'	75:RB:952:C:H6	1.85	0.41
75:RB:1014:G:N2	75:RB:1045:U:O2	2.53	0.41
75:RB:1238:G:H2'	75:RB:1239:U:C6	2.56	0.41
75:RB:1659:G:N2	75:RB:1783:G:H1	2.17	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:1694:A:H2'	75:RB:1695:C:O4'	2.20	0.41
75:RB:1722:G:C2	75:RB:1723:C:C2	3.08	0.41
75:RB:2556:A:H2'	75:RB:2557:G:O4'	2.20	0.41
75:RB:2574:C:H2'	75:RB:2575:C:C6	2.54	0.41
75:RB:3239:G:C4	75:RB:3240:G:C8	3.08	0.41
75:RB:3247:G:O2'	75:RB:3248:C:H5'	2.20	0.41
76:SB:119:C:H2'	76:SB:120:G:O4'	2.20	0.41
1:aa:122:U:O2	8:ja:34:GLY:HA2	2.21	0.41
1:aa:449:A:H1'	1:aa:529:A:H5'	2.03	0.41
1:aa:899:A:H5''	25:bb:55:LYS:HZ1	1.84	0.41
1:aa:1112:G:O2'	1:aa:1113:G:H5'	2.20	0.41
1:aa:1542:G:OP2	13:oa:55:ARG:NH2	2.54	0.41
1:aa:1545:A:C2	1:aa:1580:G:C2	3.09	0.41
1:aa:1603:U:H5	1:aa:1604:C:C5	2.39	0.41
1:aa:1616:U:H2'	1:aa:1617:U:C6	2.56	0.41
1:aa:1739:U:H2'	1:aa:1740:G:O4'	2.21	0.41
7:ia:167:TYR:CE2	7:ia:200:PRO:HG2	2.56	0.41
8:ja:158:ASP:CG	8:ja:174:LYS:HA	2.45	0.41
11:ma:28:ILE:HD12	11:ma:124:ILE:HA	2.02	0.41
13:oa:23:LYS:HD3	13:oa:23:LYS:N	2.36	0.41
14:pa:114:ARG:HA	14:pa:114:ARG:HD3	1.81	0.41
16:ra:66:TYR:OH	16:ra:115:ASN:ND2	2.53	0.41
17:sa:59:LYS:HB3	17:sa:60:ARG:H	1.59	0.41
17:sa:130:ILE:O	17:sa:130:ILE:HG13	2.20	0.41
18:ta:84:LEU:O	18:ta:87:ARG:HG3	2.20	0.41
18:ta:92:MET:HG2	18:ta:104:ARG:CB	2.51	0.41
19:ua:53:ASP:OD2	19:ua:54:ASP:N	2.53	0.41
20:va:93:LEU:HD21	20:va:101:VAL:HG23	2.03	0.41
35:CA:85:TYR:CD2	35:CA:130:TRP:CD2	3.09	0.41
39:GA:94:VAL:HG11	47:OA:22:ARG:HH11	1.85	0.41
42:JA:176:ALA:O	42:JA:183:ARG:HB2	2.21	0.41
44:LA:24:LEU:HD23	44:LA:50:ILE:HG12	2.02	0.41
45:MA:74:LYS:HD2	75:RB:3297:A:OP1	2.20	0.41
48:PA:72:VAL:HA	48:PA:79:ILE:HG22	2.02	0.41
49:QA:62:SER:OG	49:QA:63:ALA:N	2.54	0.41
52:TA:63:LYS:O	52:TA:67:TYR:HE2	2.03	0.41
57:YA:89:TYR:C	57:YA:90:HIS:ND1	2.78	0.41
60:BB:77:LYS:HD3	60:BB:77:LYS:HA	1.80	0.41
60:BB:90:ARG:HD2	76:SB:37:A:OP2	2.20	0.41
62:DB:163:ILE:HG22	62:DB:181:LEU:HD11	2.02	0.41
62:DB:253:ALA:HB1	75:RB:2944:G:N3	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:EB:353:ALA:HA	63:EB:358:ILE:HD12	2.03	0.41
66:HB:46:PHE:HD2	66:HB:139:ARG:NH1	2.18	0.41
67:IB:15:ARG:HG2	67:IB:18:ARG:NH2	2.29	0.41
75:RB:1234:G:C6	75:RB:1235:A:C6	3.09	0.41
75:RB:1670:G:C4	75:RB:1771:G:N2	2.89	0.41
75:RB:2200:A:H3'	75:RB:2201:A:C8	2.47	0.41
75:RB:2344:C:N3	75:RB:2345:A:N7	2.68	0.41
75:RB:2507:U:H2'	75:RB:2508:A:C8	2.55	0.41
75:RB:2648:G:H5''	75:RB:2649:U:O4'	2.21	0.41
76:SB:131:G:H2'	76:SB:132:C:C6	2.56	0.41
77:TB:71:A:HO2'	77:TB:72:G:P	2.42	0.41
79:bl:234:LYS:HE3	79:bl:256:ASP:OD1	2.21	0.41
1:aa:48:G:C6	1:aa:436:G:C2	3.08	0.41
1:aa:116:G:C8	32:ib:130:ARG:HB2	2.55	0.41
1:aa:213:U:C2	1:aa:244:C:N3	2.89	0.41
1:aa:279:C:H2'	1:aa:282:C:O2	2.20	0.41
1:aa:382:A:H2'	1:aa:383:U:O4'	2.21	0.41
1:aa:390:G:H2'	1:aa:391:A:C8	2.56	0.41
1:aa:401:A:H2'	1:aa:402:G:O4'	2.21	0.41
1:aa:574:A:H61	5:ga:114:ILE:HD11	1.86	0.41
1:aa:589:A:N6	1:aa:590:G:O6	2.53	0.41
1:aa:880:G:OP1	25:bb:158:ALA:HB3	2.20	0.41
1:aa:941:G:OP1	1:aa:1079:G:N2	2.39	0.41
1:aa:960:A:H2'	1:aa:961:U:O4'	2.21	0.41
1:aa:1084:U:H6	1:aa:1084:U:O5'	2.04	0.41
1:aa:1242:A:C8	1:aa:1243:C:C5	3.09	0.41
1:aa:1244:U:C4	1:aa:1246:A:OP2	2.74	0.41
1:aa:1284:C:C2	1:aa:1285:G:C8	3.09	0.41
1:aa:1441:C:H5''	1:aa:1442:A:O5'	2.21	0.41
1:aa:1456:U:H2'	1:aa:1457:C:H6	1.84	0.41
1:aa:1594:A:H5''	10:la:142:ALA:HB2	2.03	0.41
3:ca:60:ARG:C	3:ca:61:LEU:HD12	2.46	0.41
4:da:45:LEU:HD13	4:da:49:PHE:HE2	1.86	0.41
6:ha:56:GLN:HB2	6:ha:59:SER:CB	2.50	0.41
6:ha:272:LYS:HD3	6:ha:274:TRP:CH2	2.56	0.41
8:ja:57:THR:OG1	8:ja:60:GLU:HG3	2.21	0.41
8:ja:151:ASP:O	8:ja:153:LEU:N	2.53	0.41
8:ja:154:ILE:HD13	8:ja:172:PHE:HB2	2.03	0.41
9:ka:103:ASN:HB2	9:ka:106:GLN:HG2	2.02	0.41
10:la:35:ILE:HG23	10:la:35:ILE:O	2.20	0.41
11:ma:63:ARG:HG2	11:ma:95:ARG:HH11	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:oa:27:MET:HE1	13:oa:42:ASN:OD1	2.20	0.41
13:oa:36:VAL:HG12	13:oa:41:SER:HB2	2.02	0.41
13:oa:39:ARG:NH1	16:ra:59:PRO:HD3	2.36	0.41
14:pa:112:LYS:O	14:pa:116:ILE:HG13	2.20	0.41
17:sa:105:VAL:HG11	17:sa:125:LEU:HG	2.02	0.41
18:ta:94:SER:HB3	18:ta:102:PHE:CD2	2.46	0.41
20:va:29:ILE:CG2	20:va:60:ILE:HG13	2.50	0.41
24:za:34:CYS:SG	24:za:35:ASP:N	2.94	0.41
24:za:56:GLY:O	24:za:60:GLU:HG2	2.21	0.41
24:za:79:ILE:HD11	24:za:121:SER:HB2	2.02	0.41
25:bb:62:LYS:HE3	25:bb:63:HIS:CE1	2.56	0.41
25:bb:94:MET:HG3	25:bb:94:MET:O	2.19	0.41
25:bb:160:GLN:OE1	25:bb:205:PHE:CE2	2.73	0.41
27:db:21:ILE:HD11	27:db:35:ALA:CB	2.51	0.41
31:hb:160:ARG:HG2	31:hb:164:GLU:CG	2.51	0.41
31:hb:163:THR:HA	31:hb:166:LYS:HZ2	1.86	0.41
32:ib:128:GLN:HB2	32:ib:138:PHE:HE1	1.86	0.41
34:BA:70:ARG:O	34:BA:92:ARG:HG2	2.21	0.41
35:CA:36:ARG:NH1	75:RB:1633:C:OP2	2.53	0.41
37:EA:94:LEU:C	37:EA:96:ARG:N	2.77	0.41
38:FA:6:ALA:CB	38:FA:66:MET:HG2	2.50	0.41
38:FA:104:ILE:HG22	38:FA:105:THR:H	1.86	0.41
39:GA:132:ILE:H	39:GA:132:ILE:HD12	1.86	0.41
42:JA:78:ILE:HG13	42:JA:98:LYS:CG	2.42	0.41
42:JA:154:ALA:HB3	42:JA:157:VAL:HG13	2.03	0.41
43:KA:90:VAL:HG11	43:KA:230:ILE:HG21	2.02	0.41
43:KA:230:ILE:HD11	43:KA:238:LEU:HD22	2.02	0.41
44:LA:114:LYS:O	44:LA:115:ILE:HD13	2.21	0.41
45:MA:98:ASN:O	45:MA:101:SER:OG	2.31	0.41
47:OA:3:LEU:HA	62:DB:302:PHE:CE2	2.56	0.41
47:OA:36:SER:OG	75:RB:3081:G:OP1	2.30	0.41
48:PA:65:ARG:HE	48:PA:65:ARG:HB3	1.72	0.41
52:TA:106:ARG:NH1	52:TA:125:ALA:HB3	2.36	0.41
54:VA:43:HIS:CE1	54:VA:45:ARG:HB3	2.56	0.41
56:XA:102:LEU:HD11	64:FB:204:ILE:HG21	2.03	0.41
56:XA:110:VAL:HG13	64:FB:201:LEU:CD2	2.51	0.41
59:AB:39:ARG:O	59:AB:43:VAL:HG23	2.21	0.41
60:BB:105:LEU:HD23	60:BB:105:LEU:HA	1.77	0.41
61:CB:157:LYS:HZ3	75:RB:1105:G:P	2.43	0.41
62:DB:212:PHE:CZ	62:DB:342:LEU:HB3	2.56	0.41
62:DB:290:LYS:HD2	62:DB:293:GLN:OE1	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:EB:189:SER:OG	63:EB:207:ARG:HG2	2.21	0.41
66:HB:47:PRO:HB3	66:HB:171:TRP:CZ3	2.55	0.41
66:HB:61:SER:OG	66:HB:63:GLU:OE1	2.36	0.41
70:LB:101:SER:HB2	70:LB:144:ASP:OD1	2.21	0.41
71:MB:53:ARG:NH2	71:MB:108:TYR:CD2	2.87	0.41
72:NB:42:LEU:HD22	75:RB:1610:A:H5''	2.02	0.41
72:NB:49:ASP:HB2	72:NB:52:LYS:HE2	2.02	0.41
75:RB:47:A:H5'	75:RB:49:U:H1'	2.02	0.41
75:RB:96:C:N3	75:RB:97:G:C5	2.88	0.41
75:RB:99:A:H2'	75:RB:100:C:O2	2.21	0.41
75:RB:282:A:N6	75:RB:2782:A:O4'	2.54	0.41
75:RB:539:C:O2	75:RB:541:C:N4	2.53	0.41
75:RB:612:U:H5''	75:RB:613:G:OP1	2.21	0.41
75:RB:666:U:H2'	75:RB:667:C:C6	2.56	0.41
75:RB:753:G:N3	75:RB:754:G:C8	2.89	0.41
75:RB:1185:G:C2	75:RB:1329:G:C2	3.09	0.41
75:RB:1232:A:C2	75:RB:1233:G:O6	2.71	0.41
75:RB:1357:C:H4'	75:RB:1358:C:OP1	2.21	0.41
75:RB:1877:G:C2	75:RB:1878:G:C8	3.09	0.41
75:RB:2143:A:C2	75:RB:2181:A:O4'	2.74	0.41
75:RB:2189:C:N4	75:RB:2235:A:N7	2.69	0.41
75:RB:2307:U:H6	75:RB:2307:U:H5'	1.86	0.41
75:RB:2409:U:C2	75:RB:2802:G:N2	2.89	0.41
75:RB:2573:G:H2'	75:RB:2574:C:C6	2.55	0.41
75:RB:2609:U:H2'	75:RB:2610:U:O4'	2.21	0.41
75:RB:2761:C:C2	83:RB:5197:3HE:H9	2.56	0.41
75:RB:3162:G:N2	75:RB:3268:C:H42	2.18	0.41
75:RB:3303:A:H1'	75:RB:3377:A:H1'	2.01	0.41
76:SB:2:G:C6	76:SB:3:A:N7	2.89	0.41
76:SB:76:C:H2'	76:SB:77:A:C8	2.55	0.41
80:cl:69:U:H2'	80:cl:70:G:C8	2.55	0.41
1:aa:10:G:H21	29:fb:98:LYS:HA	1.86	0.41
1:aa:117:U:H2'	1:aa:118:U:C6	2.55	0.41
1:aa:146:A:N6	1:aa:165:U:C2	2.89	0.41
1:aa:202:C:C2	1:aa:203:A:C8	3.09	0.41
1:aa:490:G:H2'	1:aa:491:G:H8	1.86	0.41
1:aa:759:A:H2'	1:aa:760:G:O4'	2.21	0.41
1:aa:1095:C:C5'	27:db:6:ARG:HH12	2.34	0.41
1:aa:1413:C:C4	1:aa:1414:G:C5	3.09	0.41
1:aa:1545:A:H1'	1:aa:1548:G:O6	2.20	0.41
1:aa:1800:A:P	27:db:10:ARG:HH22	2.44	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:1808:U:H4'	1:aa:1809:U:O5'	2.19	0.41
3:ca:206:LYS:O	3:ca:209:GLU:HG3	2.21	0.41
4:da:46:MET:HE1	4:da:55:VAL:HG11	2.03	0.41
4:da:68:LEU:HD12	4:da:69:THR:H	1.86	0.41
6:ha:174:ASN:O	6:ha:178:PRO:HG3	2.21	0.41
7:ia:135:GLU:CB	7:ia:157:MET:HE1	2.44	0.41
8:ja:124:CYS:SG	8:ja:143:ASP:HB2	2.61	0.41
9:ka:116:GLY:O	9:ka:189:LYS:HE3	2.20	0.41
10:la:47:PRO:HD2	10:la:84:ILE:HD11	2.03	0.41
10:la:93:LYS:HA	10:la:96:VAL:HG22	2.03	0.41
13:oa:43:ILE:CD1	16:ra:49:ILE:HG22	2.51	0.41
18:ta:56:PRO:O	18:ta:60:GLN:N	2.49	0.41
18:ta:63:PRO:HB3	18:ta:102:PHE:HD1	1.86	0.41
20:va:95:THR:HG23	20:va:97:GLN:N	2.30	0.41
26:cb:1:MET:HG3	29:fb:238:ASP:HB2	2.03	0.41
28:eb:43:GLU:OE2	28:eb:46:ARG:NH1	2.54	0.41
29:fb:69:HIS:CD2	29:fb:248:ALA:HA	2.55	0.41
31:hb:32:ASN:OD1	31:hb:32:ASN:N	2.54	0.41
33:AA:44:LEU:HD22	46:NA:38:THR:O	2.21	0.41
35:CA:13:LEU:HD23	35:CA:75:VAL:HG21	2.03	0.41
35:CA:85:TYR:HD2	35:CA:130:TRP:CE3	2.39	0.41
37:EA:63:ARG:HG2	37:EA:64:ASN:OD1	2.21	0.41
37:EA:111:HIS:HE1	37:EA:117:LYS:HA	1.84	0.41
42:JA:42:SER:HB3	42:JA:131:LEU:HD23	2.02	0.41
44:LA:15:LEU:HD12	44:LA:22:VAL:HG22	2.03	0.41
47:OA:39:LYS:HE2	47:OA:39:LYS:HB3	1.96	0.41
48:PA:62:TYR:HB3	48:PA:84:ILE:HD11	2.02	0.41
59:AB:23:ARG:CZ	69:KB:109:MET:HE1	2.51	0.41
59:AB:96:VAL:HA	59:AB:99:LYS:HG2	2.01	0.41
60:BB:75:LYS:C	60:BB:77:LYS:H	2.29	0.41
63:EB:198:LYS:HD2	76:SB:21:C:OP1	2.20	0.41
64:FB:168:LYS:HB2	64:FB:168:LYS:HE2	1.94	0.41
66:HB:153:ARG:O	66:HB:156:LYS:HG2	2.21	0.41
74:PB:78:TYR:CE2	75:RB:1802:A:H4'	2.56	0.41
75:RB:209:G:H4'	75:RB:210:G:OP2	2.21	0.41
75:RB:277:U:C2	75:RB:285:G:N1	2.89	0.41
75:RB:532:G:C2	75:RB:547:C:C2	3.09	0.41
75:RB:715:A:C8	75:RB:2785:C:H4'	2.55	0.41
75:RB:838:G:HO2'	75:RB:839:A:P	2.41	0.41
75:RB:2214:G:N2	75:RB:2217:A:OP2	2.41	0.41
1:aa:411:A:H1'	1:aa:1679:A:C2	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:430:G:C2	1:aa:431:C:C5	3.08	0.40
1:aa:559:A:H4'	1:aa:560:A:OP1	2.21	0.40
1:aa:773:U:H2'	1:aa:774:C:H6	1.86	0.40
1:aa:1363:G:OP1	16:ra:142:ARG:NE	2.54	0.40
1:aa:1455:U:H2'	1:aa:1456:U:C6	2.55	0.40
1:aa:1732:A:H2'	1:aa:1733:G:O4'	2.21	0.40
4:da:61:TRP:CZ2	7:ia:27:ARG:CZ	3.04	0.40
6:ha:136:ASP:O	6:ha:137:ARG:HG2	2.21	0.40
6:ha:295:GLN:OE1	6:ha:298:TYR:OH	2.25	0.40
8:ja:105:THR:HA	8:ja:190:GLY:HA3	2.03	0.40
8:ja:173:ILE:O	8:ja:173:ILE:HG13	2.21	0.40
8:ja:228:ILE:HG21	8:ja:236:VAL:HG12	2.02	0.40
11:ma:34:SER:OG	11:ma:40:LEU:HB2	2.21	0.40
12:na:141:ARG:HD3	27:db:22:ARG:NH1	2.36	0.40
13:oa:109:ASP:O	13:oa:112:GLU:HG3	2.21	0.40
16:ra:19:VAL:O	16:ra:22:VAL:HG12	2.21	0.40
25:bb:37:LEU:HD12	25:bb:38:PHE:CD1	2.56	0.40
28:eb:95:LEU:O	28:eb:95:LEU:HG	2.22	0.40
30:gb:23:LYS:HD3	30:gb:41:LEU:O	2.21	0.40
34:BA:22:LYS:C	43:KA:17:GLN:HE22	2.29	0.40
38:FA:44:ASP:O	38:FA:56:VAL:HA	2.21	0.40
40:HA:163:GLY:C	40:HA:164:LEU:HD22	2.45	0.40
43:KA:230:ILE:CD1	43:KA:238:LEU:HD22	2.50	0.40
56:XA:4:LYS:NZ	75:RB:3178:G:O6	2.46	0.40
64:FB:19:HIS:O	64:FB:46:ILE:HG23	2.20	0.40
64:FB:51:GLY:HA3	64:FB:139:ARG:NH1	2.36	0.40
64:FB:61:ARG:O	64:FB:65:LYS:HE3	2.21	0.40
69:KB:30:ARG:NH2	75:RB:324:U:OP1	2.54	0.40
72:NB:49:ASP:HB2	72:NB:52:LYS:HB3	2.03	0.40
73:OB:22:LYS:NZ	75:RB:1108:U:O2'	2.36	0.40
75:RB:1185:G:N2	75:RB:1186:C:C2	2.89	0.40
75:RB:1832:C:C2	75:RB:1833:U:C5	3.09	0.40
75:RB:1921:U:O2'	75:RB:1923:G:N7	2.50	0.40
75:RB:2950:U:H2'	75:RB:2951:U:H2'	2.03	0.40
75:RB:3047:U:H2'	75:RB:3048:G:H8	1.87	0.40
75:RB:3340:G:N2	75:RB:3341:C:H2'	2.35	0.40
76:SB:69:U:H2'	76:SB:70:G:O4'	2.20	0.40
77:TB:47:C:O2'	77:TB:48:G:H5'	2.21	0.40
1:aa:147:C:C2	1:aa:164:C:N4	2.89	0.40
1:aa:157:U:P	2:ba:119:ARG:HE	2.44	0.40
1:aa:214:A:H62	1:aa:834:A:C5'	2.31	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:aa:261:C:H5''	3:ca:76:LYS:HE3	2.03	0.40
1:aa:294:G:H2'	1:aa:295:C:C6	2.56	0.40
1:aa:590:G:OP1	23:ya:23:LYS:NZ	2.37	0.40
1:aa:969:U:H4'	1:aa:970:U:O4'	2.21	0.40
1:aa:1010:A:H2'	1:aa:1011:C:C6	2.56	0.40
1:aa:1060:U:H3'	1:aa:1061:G:H4'	2.03	0.40
1:aa:1243:C:H2'	1:aa:1244:U:C6	2.56	0.40
3:ca:178:GLN:HG2	3:ca:184:LEU:HA	2.03	0.40
4:da:70:ASN:O	4:da:73:ILE:HG12	2.20	0.40
6:ha:304:TRP:CZ2	6:ha:311:LEU:HD12	2.55	0.40
8:ja:94:LYS:HA	8:ja:94:LYS:HD3	1.83	0.40
15:qa:45:ARG:HA	15:qa:48:ASN:HD22	1.86	0.40
24:za:181:LEU:O	24:za:184:ARG:HG2	2.21	0.40
25:bb:123:ALA:HB2	25:bb:165:ARG:HG3	2.02	0.40
28:eb:119:GLY:O	28:eb:120:MET:HG2	2.22	0.40
29:fb:109:LYS:HA	29:fb:127:CYS:HA	2.03	0.40
32:ib:87:VAL:HG22	32:ib:108:ILE:O	2.21	0.40
36:DA:219:ILE:HD13	36:DA:223:SER:HB3	2.04	0.40
40:HA:190:ALA:HB2	75:RB:28:C:OP1	2.22	0.40
40:HA:194:ARG:NH1	75:RB:79:C:OP1	2.54	0.40
42:JA:28:LEU:HB2	63:EB:288:MET:HE1	2.02	0.40
43:KA:125:ALA:HB3	43:KA:199:TYR:CE2	2.55	0.40
44:LA:10:LEU:HD21	75:RB:1599:A:H4'	2.03	0.40
45:MA:73:VAL:HG22	45:MA:73:VAL:O	2.21	0.40
49:QA:140:LYS:HB2	75:RB:440:U:OP2	2.21	0.40
56:XA:10:GLY:O	56:XA:26:VAL:HG13	2.20	0.40
56:XA:45:ARG:NH1	56:XA:65:ILE:HB	2.36	0.40
57:YA:168:THR:O	64:FB:126:PRO:HD2	2.21	0.40
58:ZA:98:VAL:CG1	58:ZA:99:ARG:H	2.33	0.40
60:BB:49:HIS:CE1	60:BB:53:LYS:HE2	2.56	0.40
60:BB:83:ASP:OD1	60:BB:83:ASP:N	2.44	0.40
62:DB:259:HIS:HA	62:DB:260:PRO:C	2.45	0.40
62:DB:349:GLN:HB3	62:DB:354:ALA:HB1	2.03	0.40
63:EB:238:ARG:HD2	75:RB:698:A:C2	2.56	0.40
66:HB:47:PRO:HG2	66:HB:142:GLU:OE1	2.21	0.40
66:HB:202:VAL:O	66:HB:202:VAL:HG22	2.21	0.40
75:RB:19:C:O2	76:SB:142:G:N2	2.54	0.40
75:RB:39:A:C5	75:RB:940:G:C6	3.09	0.40
75:RB:426:A:H8	75:RB:426:A:H5''	1.86	0.40
75:RB:729:G:N1	75:RB:746:C:OP2	2.34	0.40
75:RB:1025:G:C6	75:RB:1026:A:C6	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:RB:1027:C:H3'	75:RB:1028:G:H5''	2.04	0.40
75:RB:1452:A:H2'	75:RB:1453:G:O4'	2.20	0.40
75:RB:1501:A:C6	75:RB:1522:G:N1	2.89	0.40
75:RB:1772:G:H2'	75:RB:1773:U:O4'	2.21	0.40
75:RB:2193:U:H2'	75:RB:2194:G:O4'	2.21	0.40
75:RB:2213:A:H2'	75:RB:2214:G:O4'	2.22	0.40
75:RB:2380:A:N6	75:RB:2990:G:C2	2.89	0.40
75:RB:2415:C:H2'	75:RB:2416:U:C6	2.55	0.40
75:RB:2827:G:C4	75:RB:2828:G:C8	3.09	0.40
75:RB:3271:G:H2'	75:RB:3272:C:C6	2.57	0.40
75:RB:3320:G:N2	75:RB:3356:G:H1'	2.36	0.40
79:bl:198:HIS:O	79:bl:202:ARG:HG2	2.21	0.40
79:bl:416:TYR:O	79:bl:420:ILE:HD11	2.21	0.40
1:aa:412:C:N3	1:aa:413:C:C5	2.89	0.40
1:aa:467:U:C2	1:aa:468:A:C8	3.09	0.40
1:aa:628:G:H2'	1:aa:629:C:C6	2.56	0.40
1:aa:764:U:H5''	28:eb:9:ASN:OD1	2.21	0.40
1:aa:828:G:N3	1:aa:828:G:H2'	2.35	0.40
1:aa:1195:U:O2	80:cl:34:C:H5'	2.21	0.40
1:aa:1256:C:H2'	1:aa:1257:U:O4'	2.21	0.40
1:aa:1480:G:C2	1:aa:1481:A:C5	3.09	0.40
1:aa:1551:A:C5	1:aa:1552:U:C4	3.09	0.40
1:aa:1780:U:H2'	1:aa:1781:U:C6	2.57	0.40
2:ba:11:THR:HG22	2:ba:12:LEU:N	2.33	0.40
4:da:65:TYR:CE2	7:ia:24:MET:HG3	2.55	0.40
6:ha:42:SER:C	6:ha:43:LEU:HD12	2.47	0.40
6:ha:198:LYS:HG3	6:ha:199:LEU:H	1.86	0.40
6:ha:230:VAL:HG23	6:ha:230:VAL:O	2.22	0.40
7:ia:109:LEU:HD11	7:ia:115:VAL:HG22	2.04	0.40
8:ja:212:ASP:O	8:ja:214:GLN:N	2.55	0.40
9:ka:38:SER:O	9:ka:40:LYS:N	2.55	0.40
9:ka:135:VAL:HG21	19:ua:64:LYS:HB2	2.03	0.40
10:la:26:ALA:HA	10:la:73:ILE:HA	2.03	0.40
15:qa:82:MET:SD	24:za:89:ARG:HD2	2.62	0.40
15:qa:102:THR:HG23	15:qa:105:MET:HE2	2.02	0.40
18:ta:91:ARG:CZ	18:ta:91:ARG:HB3	2.52	0.40
19:ua:50:LYS:HZ1	19:ua:55:GLN:HB3	1.85	0.40
26:cb:1:MET:HE2	26:cb:10:ASP:HB2	2.03	0.40
35:CA:27:ARG:NH1	35:CA:29:PHE:CE1	2.90	0.40
35:CA:61:LYS:HA	35:CA:64:LYS:HB3	2.02	0.40
35:CA:122:ARG:O	35:CA:125:THR:OG1	2.26	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:HA:174:LEU:HD21	40:HA:184:ASN:O	2.20	0.40
42:JA:145:ARG:HB3	42:JA:148:VAL:HG23	2.03	0.40
44:LA:85:ARG:HH11	44:LA:85:ARG:HG3	1.86	0.40
44:LA:95:TRP:O	44:LA:99:MET:HG2	2.21	0.40
48:PA:59:ARG:NH1	75:RB:198:A:P	2.93	0.40
48:PA:120:ARG:O	48:PA:123:ARG:HG3	2.21	0.40
56:XA:12:VAL:HG23	56:XA:56:THR:OG1	2.21	0.40
56:XA:16:ASN:HA	56:XA:21:TYR:CD1	2.56	0.40
62:DB:24:ARG:HE	62:DB:24:ARG:HB2	1.43	0.40
62:DB:43:LEU:HD12	62:DB:184:ILE:CG2	2.52	0.40
62:DB:258:TRP:HD1	62:DB:258:TRP:O	2.04	0.40
62:DB:359:LYS:O	62:DB:359:LYS:HD2	2.21	0.40
64:FB:150:VAL:HG22	64:FB:150:VAL:O	2.22	0.40
66:HB:62:SER:HA	66:HB:65:LEU:HG	2.03	0.40
75:RB:19:C:C2	76:SB:142:G:N2	2.90	0.40
75:RB:163:U:H3'	75:RB:164:C:O4'	2.21	0.40
75:RB:266:A:N1	75:RB:293:A:H8	2.19	0.40
75:RB:678:G:H2'	75:RB:679:C:O4'	2.21	0.40
75:RB:1260:G:H2'	75:RB:1261:C:O4'	2.22	0.40
75:RB:1513:C:O2	75:RB:1515:U:H1'	2.22	0.40
75:RB:1555:G:H1'	75:RB:1556:G:C8	2.56	0.40
75:RB:1679:U:H4'	75:RB:1681:U:O4	2.22	0.40
75:RB:2693:A:H2'	75:RB:2694:A:C8	2.56	0.40
75:RB:3242:C:H2'	75:RB:3243:G:O4'	2.20	0.40
79:bl:95:TYR:HB3	79:bl:130:PHE:CE1	2.56	0.40
1:aa:495:C:H42	1:aa:499:A:N6	2.18	0.40
1:aa:711:C:N4	1:aa:746:A:H5'	2.28	0.40
1:aa:794:G:C6	8:ja:19:MET:CE	3.04	0.40
1:aa:983:A:H2'	1:aa:984:A:O4'	2.21	0.40
1:aa:1044:A:O2'	1:aa:1045:G:OP2	2.32	0.40
1:aa:1200:A:H4'	1:aa:1201:C:H5''	2.03	0.40
1:aa:1541:C:OP1	18:ta:76:LEU:HD21	2.21	0.40
6:ha:126:ASP:O	6:ha:128:ARG:HD2	2.21	0.40
7:ia:8:LYS:HG2	11:ma:69:LEU:HD11	2.02	0.40
7:ia:142:LEU:H	7:ia:142:LEU:HD23	1.86	0.40
8:ja:86:PHE:CE1	8:ja:87:MET:HG3	2.56	0.40
9:ka:99:LEU:HD11	18:ta:66:LEU:HD13	2.02	0.40
11:ma:40:LEU:HD21	11:ma:95:ARG:CG	2.39	0.40
24:za:22:MET:HE1	24:za:58:THR:HG21	2.03	0.40
26:cb:12:TYR:OH	29:fb:148:PRO:HG3	2.21	0.40
27:db:45:VAL:HB	27:db:49:ALA:HB3	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:fb:189:VAL:O	29:fb:189:VAL:HG13	2.22	0.40
32:ib:57:LYS:HG3	32:ib:58:LYS:HG3	2.03	0.40
33:AA:124:LYS:HA	75:RB:119:A:N3	2.37	0.40
33:AA:176:VAL:HG22	33:AA:177:LYS:N	2.35	0.40
37:EA:156:VAL:HG23	37:EA:160:ASP:HB2	2.01	0.40
38:FA:104:ILE:HG21	38:FA:108:ASN:HA	2.03	0.40
40:HA:121:VAL:HG22	40:HA:129:TYR:O	2.20	0.40
45:MA:30:ARG:NH2	45:MA:62:ARG:NE	2.68	0.40
48:PA:26:ARG:O	48:PA:30:MET:HG2	2.20	0.40
48:PA:44:VAL:HG21	48:PA:118:LEU:HD22	2.03	0.40
60:BB:116:PRO:O	69:KB:92:THR:HG23	2.21	0.40
62:DB:58:ARG:HE	62:DB:74:GLU:CD	2.27	0.40
63:EB:33:ALA:HB1	63:EB:34:PRO:HD2	2.03	0.40
63:EB:77:SER:HA	75:RB:1439:U:C5	2.57	0.40
63:EB:193:ARG:HB2	63:EB:205:ILE:HG23	2.03	0.40
66:HB:16:PRO:HG3	66:HB:128:ARG:CZ	2.51	0.40
69:KB:56:PRO:CA	69:KB:75:PHE:HE2	2.33	0.40
75:RB:135:G:OP2	75:RB:135:G:H8	2.03	0.40
75:RB:240:U:O2'	75:RB:241:G:H8	2.04	0.40
75:RB:377:C:H2'	75:RB:378:U:C6	2.56	0.40
75:RB:379:U:H2'	75:RB:380:U:C6	2.57	0.40
75:RB:443:G:C6	75:RB:495:G:C6	3.08	0.40
75:RB:523:C:H6	75:RB:523:C:OP1	2.04	0.40
75:RB:953:G:C2	75:RB:1374:G:O6	2.74	0.40
75:RB:989:U:H2'	75:RB:990:U:H6	1.86	0.40
75:RB:1177:G:C4	75:RB:1178:C:C5	3.10	0.40
75:RB:1228:C:C2	75:RB:1229:A:C8	3.10	0.40
75:RB:1492:A:N6	75:RB:1850:C:H42	2.19	0.40
75:RB:1594:G:H2'	75:RB:1595:G:C8	2.57	0.40
75:RB:3071:C:H6	75:RB:3071:C:O5'	2.04	0.40
79:bl:80:ARG:NH2	79:bl:112:ASP:OD2	2.54	0.40
79:bl:117:LYS:O	79:bl:138:LEU:HD21	2.21	0.40
1:aa:129:U:H1'	1:aa:134:G:N2	2.37	0.40
1:aa:210:A:C6	1:aa:256:G:C6	3.09	0.40
1:aa:516:A:O2'	28:eb:135:HIS:HE1	2.05	0.40
1:aa:965:U:O2'	14:pa:51:GLY:HA3	2.22	0.40
1:aa:1415:G:N2	1:aa:1417:A:H3'	2.36	0.40
1:aa:1464:G:C2	1:aa:1465:C:C2	3.10	0.40
1:aa:1485:A:C2	1:aa:1537:U:C2	3.10	0.40
1:aa:1611:U:OP2	10:la:138:ARG:NE	2.53	0.40
1:aa:1804:A:C2	27:db:79:ILE:HB	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:ha:143:ASN:HD21	6:ha:147:GLU:HB2	1.86	0.40
6:ha:228:ASP:HB2	6:ha:230:VAL:HG22	2.04	0.40
8:ja:136:ILE:O	8:ja:136:ILE:HG13	2.21	0.40
9:ka:85:ALA:O	9:ka:89:ILE:HG12	2.21	0.40
19:ua:57:ARG:HH22	19:ua:78:SER:HB2	1.87	0.40
22:xa:58:CYS:SG	22:xa:63:THR:N	2.93	0.40
26:cb:53:ALA:HB2	29:fb:245:PHE:CE1	2.56	0.40
29:fb:77:GLN:HG2	29:fb:80:GLU:OE1	2.21	0.40
31:hb:33:GLY:O	31:hb:38:LYS:HE2	2.22	0.40
33:AA:140:GLU:OE2	59:AB:39:ARG:HG3	2.21	0.40
34:BA:153:PRO:HB2	63:EB:396:PHE:CD2	2.56	0.40
35:CA:75:VAL:HG11	35:CA:80:ILE:HG23	2.03	0.40
36:DA:118:HIS:HB2	36:DA:126:PHE:HE2	1.86	0.40
37:EA:37:LYS:HB3	37:EA:37:LYS:HE3	1.81	0.40
38:FA:93:PHE:HD1	38:FA:100:ILE:HD11	1.86	0.40
42:JA:48:ILE:O	42:JA:52:LEU:HD23	2.22	0.40
47:OA:8:CYS:HA	47:OA:32:LEU:O	2.22	0.40
48:PA:68:LYS:HB3	48:PA:68:LYS:HE3	1.82	0.40
49:QA:25:GLY:O	49:QA:30:LYS:HB2	2.21	0.40
53:UA:16:HIS:ND1	75:RB:357:C:O2'	2.43	0.40
56:XA:12:VAL:CG2	56:XA:58:ILE:HB	2.52	0.40
57:YA:133:PHE:C	57:YA:135:LEU:H	2.29	0.40
61:CB:53:TYR:CE2	61:CB:185:ASP:HA	2.56	0.40
62:DB:263:VAL:HG11	62:DB:269:ARG:NH1	2.36	0.40
63:EB:120:VAL:HG23	63:EB:123:ARG:NH2	2.36	0.40
64:FB:73:HIS:CD2	64:FB:73:HIS:O	2.75	0.40
70:LB:88:TYR:O	70:LB:91:LYS:HB2	2.20	0.40
75:RB:31:U:H6	75:RB:31:U:O5'	2.05	0.40
75:RB:75:G:H4'	75:RB:76:A:OP1	2.22	0.40
75:RB:285:G:H2'	75:RB:286:C:O4'	2.21	0.40
75:RB:520:G:O2'	75:RB:521:G:H5'	2.21	0.40
75:RB:524:A:N6	75:RB:555:G:C4	2.89	0.40
75:RB:1244:A:N1	75:RB:1248:A:C8	2.89	0.40
75:RB:1755:A:H2	75:RB:1764:G:N2	2.18	0.40
75:RB:1801:G:C2	75:RB:1802:A:N7	2.89	0.40
75:RB:1850:C:H6	75:RB:1850:C:O5'	2.03	0.40
75:RB:2103:U:O2'	75:RB:2104:G:H5'	2.21	0.40
79:bl:201:VAL:HA	79:bl:204:THR:HG22	2.03	0.40
79:bl:202:ARG:HH12	79:bl:242:MET:HG2	1.86	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	ba	111/137 (81%)	100 (90%)	11 (10%)	0	100	100
3	ca	174/225 (77%)	158 (91%)	16 (9%)	0	100	100
4	da	79/188 (42%)	69 (87%)	10 (13%)	0	100	100
5	ga	136/142 (96%)	127 (93%)	9 (7%)	0	100	100
6	ha	320/332 (96%)	270 (84%)	50 (16%)	0	100	100
7	ia	211/227 (93%)	196 (93%)	15 (7%)	0	100	100
8	ja	259/265 (98%)	239 (92%)	20 (8%)	0	100	100
9	ka	191/200 (96%)	177 (93%)	14 (7%)	0	100	100
10	la	138/149 (93%)	122 (88%)	16 (12%)	0	100	100
11	ma	101/127 (80%)	89 (88%)	12 (12%)	0	100	100
12	na	123/151 (82%)	114 (93%)	9 (7%)	0	100	100
13	oa	134/152 (88%)	118 (88%)	16 (12%)	0	100	100
14	pa	148/151 (98%)	137 (93%)	11 (7%)	0	100	100
15	qa	117/143 (82%)	110 (94%)	7 (6%)	0	100	100
16	ra	133/155 (86%)	123 (92%)	10 (8%)	0	100	100
17	sa	98/154 (64%)	88 (90%)	10 (10%)	0	100	100
18	ta	75/108 (69%)	52 (69%)	23 (31%)	0	100	100
19	ua	62/86 (72%)	59 (95%)	3 (5%)	0	100	100
20	va	126/129 (98%)	107 (85%)	18 (14%)	1 (1%)	16	44
21	wa	37/56 (66%)	35 (95%)	2 (5%)	0	100	100
22	xa	68/86 (79%)	65 (96%)	3 (4%)	0	100	100
23	ya	37/62 (60%)	31 (84%)	6 (16%)	0	100	100
24	za	200/308 (65%)	181 (90%)	19 (10%)	0	100	100
25	bb	209/263 (80%)	175 (84%)	33 (16%)	1 (0%)	24	54
26	cb	74/82 (90%)	67 (90%)	7 (10%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
27	db	93/156 (60%)	88 (95%)	5 (5%)	0	100	100
28	eb	179/195 (92%)	160 (89%)	19 (11%)	0	100	100
29	fb	212/274 (77%)	194 (92%)	18 (8%)	0	100	100
30	gb	147/250 (59%)	133 (90%)	14 (10%)	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%)	208 (92%)	19 (8%)	0	100	100
34	BA	154/164 (94%)	143 (93%)	11 (7%)	0	100	100
35	CA	134/137 (98%)	122 (91%)	12 (9%)	0	100	100
36	DA	249/261 (95%)	226 (91%)	23 (9%)	0	100	100
37	EA	162/180 (90%)	141 (87%)	21 (13%)	0	100	100
38	FA	183/189 (97%)	168 (92%)	15 (8%)	0	100	100
39	GA	127/140 (91%)	114 (90%)	13 (10%)	0	100	100
40	HA	201/204 (98%)	180 (90%)	21 (10%)	0	100	100
41	IA	142/145 (98%)	131 (92%)	11 (8%)	0	100	100
42	JA	184/187 (98%)	172 (94%)	12 (6%)	0	100	100
43	KA	269/301 (89%)	251 (93%)	18 (7%)	0	100	100
44	LA	168/213 (79%)	161 (96%)	7 (4%)	0	100	100
45	MA	153/170 (90%)	147 (96%)	6 (4%)	0	100	100
46	NA	114/152 (75%)	105 (92%)	9 (8%)	0	100	100
47	OA	59/162 (36%)	55 (93%)	4 (7%)	0	100	100
48	PA	128/157 (82%)	117 (91%)	11 (9%)	0	100	100
49	QA	140/147 (95%)	130 (93%)	10 (7%)	0	100	100
50	RA	96/112 (86%)	93 (97%)	3 (3%)	0	100	100
51	SA	105/123 (85%)	97 (92%)	8 (8%)	0	100	100
52	TA	124/133 (93%)	116 (94%)	8 (6%)	0	100	100
53	UA	78/93 (84%)	70 (90%)	8 (10%)	0	100	100
54	VA	48/76 (63%)	46 (96%)	2 (4%)	0	100	100
55	WA	96/105 (91%)	86 (90%)	10 (10%)	0	100	100
56	XA	130/135 (96%)	122 (94%)	8 (6%)	0	100	100
57	YA	175/178 (98%)	163 (93%)	12 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
58	ZA	99/130 (76%)	81 (82%)	15 (15%)	3 (3%)	3	18
59	AB	98/112 (88%)	94 (96%)	4 (4%)	0	100	100
60	BB	117/124 (94%)	105 (90%)	12 (10%)	0	100	100
61	CB	232/244 (95%)	217 (94%)	15 (6%)	0	100	100
62	DB	382/389 (98%)	360 (94%)	22 (6%)	0	100	100
63	EB	397/404 (98%)	355 (89%)	41 (10%)	1 (0%)	36	65
64	FB	203/206 (98%)	193 (95%)	10 (5%)	0	100	100
65	GB	89/92 (97%)	83 (93%)	6 (7%)	0	100	100
66	HB	201/217 (93%)	186 (92%)	15 (8%)	0	100	100
67	IB	23/25 (92%)	23 (100%)	0	0	100	100
68	JB	49/129 (38%)	44 (90%)	5 (10%)	0	100	100
69	KB	203/208 (98%)	187 (92%)	13 (6%)	3 (2%)	8	30
70	LB	213/219 (97%)	191 (90%)	22 (10%)	0	100	100
71	MB	108/112 (96%)	101 (94%)	7 (6%)	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%)	97 (92%)	9 (8%)	0	100	100
79	bl	435/437 (100%)	382 (88%)	53 (12%)	0	100	100
All	All	11017/12722 (87%)	10026 (91%)	980 (9%)	11 (0%)	49	78

All (11) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
31	hb	77	HIS
58	ZA	110	GLU
69	KB	63	ARG
20	va	54	PRO
25	bb	55	LYS
31	hb	66	PRO
58	ZA	109	LYS
63	EB	359	ASN
69	KB	4	HIS
58	ZA	99	ARG
69	KB	62	THR

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%)	118 (99%)	1 (1%)	73	77
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
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%)	82 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
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%)	131 (99%)	1 (1%)	73	77
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%)	127 (100%)	0	100	100
50	RA	86/98 (88%)	85 (99%)	1 (1%)	63	72
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

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
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%)	316 (100%)	1 (0%)	86	84
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
79	bl	378/378 (100%)	377 (100%)	1 (0%)	86	84
All	All	9568/10697 (89%)	9563 (100%)	5 (0%)	87	89

All (5) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
13	oa	73	ASN
45	MA	10	ASN
50	RA	19	GLN
63	EB	227	ASN
79	bl	239	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (108) such sidechains are listed below:

Mol	Chain	Res	Type
2	ba	34	HIS
2	ba	59	ASN
3	ca	32	GLN
3	ca	112	GLN

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Mol	Chain	Res	Type
4	da	39	ASN
5	ga	19	ASN
5	ga	109	HIS
6	ha	30	ASN
6	ha	127	ASN
6	ha	252	ASN
7	ia	57	ASN
8	ja	112	HIS
8	ja	179	ASN
8	ja	214	GLN
8	ja	252	GLN
9	ka	91	HIS
10	la	100	GLN
12	na	79	GLN
12	na	94	HIS
13	oa	135	HIS
14	pa	45	GLN
14	pa	57	GLN
18	ta	96	HIS
20	va	27	GLN
20	va	48	ASN
20	va	55	HIS
23	ya	39	GLN
24	za	14	GLN
24	za	17	GLN
25	bb	52	GLN
25	bb	157	GLN
25	bb	160	GLN
25	bb	209	ASN
26	cb	35	ASN
27	db	17	HIS
27	db	54	GLN
28	eb	105	ASN
28	eb	112	GLN
28	eb	126	HIS
28	eb	135	HIS
29	fb	97	GLN
29	fb	162	HIS
30	gb	59	GLN
30	gb	112	ASN
31	hb	112	GLN
32	ib	77	HIS

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Mol	Chain	Res	Type
32	ib	139	ASN
33	AA	145	GLN
36	DA	249	GLN
37	EA	109	GLN
37	EA	111	HIS
37	EA	154	GLN
38	FA	165	HIS
40	HA	23	GLN
41	IA	19	HIS
41	IA	40	HIS
41	IA	74	ASN
42	JA	124	GLN
42	JA	161	HIS
43	KA	81	HIS
43	KA	156	ASN
43	KA	219	GLN
44	LA	27	ASN
44	LA	118	HIS
45	MA	121	ASN
46	NA	89	ASN
46	NA	116	GLN
47	OA	13	GLN
47	OA	61	HIS
48	PA	71	GLN
48	PA	95	ASN
49	QA	44	HIS
51	SA	39	ASN
51	SA	66	HIS
52	TA	115	GLN
54	VA	19	GLN
54	VA	20	ASN
55	WA	27	GLN
55	WA	47	GLN
55	WA	75	GLN
57	YA	35	ASN
58	ZA	96	HIS
60	BB	22	GLN
60	BB	36	GLN
60	BB	49	HIS
60	BB	76	ASN
61	CB	178	HIS
61	CB	188	HIS

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Mol	Chain	Res	Type
61	CB	196	HIS
62	DB	8	HIS
62	DB	103	ASN
62	DB	149	GLN
62	DB	180	HIS
62	DB	185	GLN
62	DB	246	HIS
62	DB	317	HIS
63	EB	53	GLN
64	FB	135	GLN
64	FB	138	HIS
64	FB	197	GLN
66	HB	144	ASN
67	IB	22	GLN
68	JB	90	ASN
69	KB	4	HIS
69	KB	18	GLN
69	KB	189	GLN
79	bl	131	HIS
79	bl	355	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	aa	1690/1810 (93%)	513 (30%)	0
75	RB	3143/3386 (92%)	732 (23%)	50 (1%)
76	SB	159/160 (99%)	36 (22%)	0
77	TB	119/120 (99%)	16 (13%)	2 (1%)
78	al	6/7 (85%)	3 (50%)	0
80	cl	74/75 (98%)	32 (43%)	0
All	All	5191/5558 (93%)	1332 (25%)	52 (1%)

All (1332) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	aa	2	A
1	aa	4	C
1	aa	6	G
1	aa	25	C
1	aa	26	A
1	aa	27	U

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Mol	Chain	Res	Type
1	aa	34	G
1	aa	40	A
1	aa	42	G
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
1	aa	67	G
1	aa	68	A
1	aa	72	A
1	aa	73	A
1	aa	74	U
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	84	G
1	aa	96	G
1	aa	101	A
1	aa	105	A
1	aa	106	A
1	aa	114	U
1	aa	115	A
1	aa	116	G
1	aa	117	U
1	aa	128	G
1	aa	129	U
1	aa	130	A
1	aa	131	C
1	aa	132	G
1	aa	133	U
1	aa	134	G
1	aa	135	C
1	aa	136	U
1	aa	137	A
1	aa	138	C

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Mol	Chain	Res	Type
1	aa	139	U
1	aa	140	C
1	aa	141	G
1	aa	143	A
1	aa	144	U
1	aa	145	A
1	aa	154	A
1	aa	156	U
1	aa	158	C
1	aa	164	C
1	aa	172	U
1	aa	175	A
1	aa	176	A
1	aa	177	C
1	aa	179	A
1	aa	180	A
1	aa	181	C
1	aa	184	C
1	aa	187	C
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	197	G
1	aa	198	G
1	aa	199	G
1	aa	200	C
1	aa	201	G
1	aa	203	A
1	aa	212	A
1	aa	213	U
1	aa	244	C
1	aa	245	C
1	aa	252	U
1	aa	253	C
1	aa	260	A
1	aa	263	C
1	aa	264	G
1	aa	265	A

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Mol	Chain	Res	Type
1	aa	268	G
1	aa	272	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	303	A
1	aa	306	U
1	aa	308	U
1	aa	317	U
1	aa	318	C
1	aa	320	A
1	aa	325	C
1	aa	326	G
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	388	G
1	aa	391	A
1	aa	392	G
1	aa	397	C
1	aa	404	A
1	aa	405	A
1	aa	406	C
1	aa	407	G
1	aa	408	G
1	aa	420	A
1	aa	421	A

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Mol	Chain	Res	Type
1	aa	422	G
1	aa	423	G
1	aa	428	C
1	aa	429	A
1	aa	430	G
1	aa	438	G
1	aa	439	C
1	aa	443	U
1	aa	444	U
1	aa	448	C
1	aa	458	A
1	aa	465	G
1	aa	466	G
1	aa	472	A
1	aa	474	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
1	aa	495	C
1	aa	498	U
1	aa	499	A
1	aa	500	G
1	aa	501	U
1	aa	502	G
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	523	C
1	aa	529	A

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Mol	Chain	Res	Type
1	aa	531	A
1	aa	536	U
1	aa	537	U
1	aa	538	A
1	aa	544	G
1	aa	545	A
1	aa	546	U
1	aa	552	G
1	aa	553	G
1	aa	559	A
1	aa	560	A
1	aa	561	G
1	aa	562	U
1	aa	563	C
1	aa	565	G
1	aa	569	C
1	aa	570	C
1	aa	583	A
1	aa	584	A
1	aa	587	C
1	aa	598	A
1	aa	599	G
1	aa	610	A
1	aa	615	U
1	aa	624	A
1	aa	626	A
1	aa	627	A
1	aa	628	G
1	aa	633	U
1	aa	634	A
1	aa	638	G
1	aa	639	G
1	aa	642	C
1	aa	643	U
1	aa	644	U
1	aa	645	G
1	aa	646	G
1	aa	650	G
1	aa	651	G
1	aa	704	C
1	aa	706	U
1	aa	707	C

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Mol	Chain	Res	Type
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	745	C
1	aa	746	A
1	aa	747	U
1	aa	748	C
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	776	A
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	792	U
1	aa	795	A
1	aa	800	U
1	aa	809	G
1	aa	814	C
1	aa	817	C
1	aa	818	A
1	aa	820	A
1	aa	821	G
1	aa	822	G
1	aa	825	U
1	aa	827	C
1	aa	828	G
1	aa	829	G

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Mol	Chain	Res	Type
1	aa	831	C
1	aa	833	U
1	aa	834	A
1	aa	835	U
1	aa	836	U
1	aa	837	G
1	aa	838	U
1	aa	840	U
1	aa	842	G
1	aa	846	U
1	aa	851	G
1	aa	853	U
1	aa	855	G
1	aa	857	A
1	aa	859	U
1	aa	861	A
1	aa	862	U
1	aa	864	A
1	aa	865	U
1	aa	866	U
1	aa	868	A
1	aa	869	U
1	aa	897	A
1	aa	903	A
1	aa	911	A
1	aa	918	G
1	aa	919	G
1	aa	920	A
1	aa	931	A
1	aa	933	G
1	aa	936	C
1	aa	938	A
1	aa	940	U
1	aa	947	G
1	aa	949	A
1	aa	950	U
1	aa	965	U
1	aa	971	A
1	aa	991	G
1	aa	993	C
1	aa	997	A
1	aa	1009	U

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Mol	Chain	Res	Type
1	aa	1010	A
1	aa	1028	A
1	aa	1029	U
1	aa	1031	A
1	aa	1033	C
1	aa	1034	G
1	aa	1035	A
1	aa	1037	G
1	aa	1044	A
1	aa	1045	G
1	aa	1056	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	1076	C
1	aa	1077	C
1	aa	1079	G
1	aa	1081	A
1	aa	1086	A
1	aa	1087	U
1	aa	1095	C
1	aa	1096	A
1	aa	1097	A
1	aa	1098	A
1	aa	1101	C
1	aa	1102	U
1	aa	1103	U
1	aa	1105	G
1	aa	1114	G
1	aa	1116	G
1	aa	1118	A
1	aa	1131	G
1	aa	1143	A
1	aa	1145	G
1	aa	1155	G
1	aa	1156	A
1	aa	1162	A

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Mol	Chain	Res	Type
1	aa	1163	C
1	aa	1164	C
1	aa	1165	A
1	aa	1168	A
1	aa	1169	G
1	aa	1172	G
1	aa	1175	G
1	aa	1178	C
1	aa	1188	A
1	aa	1189	U
1	aa	1190	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	1211	U
1	aa	1221	A
1	aa	1222	G
1	aa	1232	G
1	aa	1233	G
1	aa	1234	A
1	aa	1235	U
1	aa	1238	A
1	aa	1245	G
1	aa	1246	A
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	1258	U
1	aa	1262	U
1	aa	1269	G
1	aa	1288	C
1	aa	1290	U
1	aa	1305	U
1	aa	1311	U
1	aa	1318	U

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Mol	Chain	Res	Type
1	aa	1319	U
1	aa	1320	C
1	aa	1325	A
1	aa	1344	U
1	aa	1348	A
1	aa	1349	A
1	aa	1350	C
1	aa	1351	U
1	aa	1352	A
1	aa	1354	C
1	aa	1358	G
1	aa	1359	C
1	aa	1360	G
1	aa	1361	G
1	aa	1362	A
1	aa	1364	C
1	aa	1365	C
1	aa	1366	A
1	aa	1367	U
1	aa	1368	C
1	aa	1370	C
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	1394	A
1	aa	1396	U
1	aa	1399	G
1	aa	1404	U
1	aa	1405	U
1	aa	1419	U
1	aa	1420	U
1	aa	1421	U
1	aa	1424	G
1	aa	1428	A
1	aa	1431	A
1	aa	1433	A
1	aa	1434	G
1	aa	1437	C

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Mol	Chain	Res	Type
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	1477	A
1	aa	1488	C
1	aa	1491	C
1	aa	1492	G
1	aa	1495	U
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	1502	C
1	aa	1504	U
1	aa	1514	G
1	aa	1515	G
1	aa	1519	G
1	aa	1522	U
1	aa	1524	A
1	aa	1527	U
1	aa	1529	G
1	aa	1530	G
1	aa	1532	A
1	aa	1543	U
1	aa	1544	G
1	aa	1545	A
1	aa	1547	G
1	aa	1550	G
1	aa	1556	U
1	aa	1562	C
1	aa	1563	A
1	aa	1565	U
1	aa	1566	U
1	aa	1567	G
1	aa	1571	G
1	aa	1573	C
1	aa	1577	A

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Mol	Chain	Res	Type
1	aa	1579	C
1	aa	1582	G
1	aa	1590	U
1	aa	1591	A
1	aa	1592	G
1	aa	1598	G
1	aa	1609	G
1	aa	1624	G
1	aa	1630	G
1	aa	1639	A
1	aa	1643	A
1	aa	1647	C
1	aa	1659	A
1	aa	1664	U
1	aa	1665	U
1	aa	1666	G
1	aa	1682	U
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	1722	C
1	aa	1725	C
1	aa	1726	G
1	aa	1727	C
1	aa	1741	A
1	aa	1757	G
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

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Mol	Chain	Res	Type
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	10	C
75	RB	12	G
75	RB	13	G
75	RB	21	G
75	RB	25	U
75	RB	39	A
75	RB	42	A
75	RB	43	U
75	RB	44	A
75	RB	48	A
75	RB	49	U
75	RB	54	G
75	RB	58	G
75	RB	59	A
75	RB	64	A
75	RB	65	A
75	RB	73	A
75	RB	89	C
75	RB	91	G
75	RB	98	A
75	RB	104	G
75	RB	108	A
75	RB	109	G
75	RB	113	A
75	RB	115	C
75	RB	117	U
75	RB	119	A
75	RB	120	G
75	RB	121	A
75	RB	133	G
75	RB	134	U
75	RB	135	G
75	RB	141	C
75	RB	155	G
75	RB	156	A

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Mol	Chain	Res	Type
75	RB	160	G
75	RB	163	U
75	RB	164	C
75	RB	171	G
75	RB	174	G
75	RB	188	U
75	RB	198	A
75	RB	199	G
75	RB	204	G
75	RB	208	G
75	RB	209	G
75	RB	216	G
75	RB	217	A
75	RB	219	A
75	RB	222	C
75	RB	229	G
75	RB	237	C
75	RB	238	C
75	RB	241	G
75	RB	245	C
75	RB	247	C
75	RB	250	C
75	RB	267	G
75	RB	268	U
75	RB	279	G
75	RB	282	A
75	RB	284	U
75	RB	293	A
75	RB	296	C
75	RB	321	A
75	RB	327	A
75	RB	332	A
75	RB	347	A
75	RB	349	A
75	RB	350	A
75	RB	360	G
75	RB	370	A
75	RB	372	A
75	RB	373	A
75	RB	374	G
75	RB	396	G
75	RB	397	A

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Mol	Chain	Res	Type
75	RB	399	U
75	RB	400	G
75	RB	402	U
75	RB	419	G
75	RB	424	G
75	RB	426	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	442	C
75	RB	443	G
75	RB	444	C
75	RB	446	C
75	RB	448	G
75	RB	449	G
75	RB	450	C
75	RB	488	U
75	RB	490	G
75	RB	492	G
75	RB	493	G
75	RB	494	C
75	RB	495	G
75	RB	497	G
75	RB	499	A
75	RB	508	G
75	RB	523	C
75	RB	524	A
75	RB	526	A
75	RB	529	C
75	RB	536	C
75	RB	538	C
75	RB	539	C
75	RB	540	G
75	RB	541	C
75	RB	551	A
75	RB	552	G
75	RB	554	C
75	RB	555	G

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Mol	Chain	Res	Type
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	587	A
75	RB	588	G
75	RB	591	G
75	RB	593	G
75	RB	594	C
75	RB	595	C
75	RB	597	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
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	648	G
75	RB	653	A
75	RB	680	G
75	RB	681	A
75	RB	685	G
75	RB	686	A
75	RB	691	U
75	RB	694	U
75	RB	695	G
75	RB	704	G
75	RB	706	U
75	RB	711	A
75	RB	714	G
75	RB	718	C

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Mol	Chain	Res	Type
75	RB	721	A
75	RB	722	C
75	RB	723	G
75	RB	724	A
75	RB	729	G
75	RB	740	G
75	RB	770	U
75	RB	777	G
75	RB	780	U
75	RB	783	A
75	RB	784	G
75	RB	787	G
75	RB	788	G
75	RB	789	A
75	RB	809	A
75	RB	812	G
75	RB	820	A
75	RB	833	G
75	RB	835	G
75	RB	850	A
75	RB	852	C
75	RB	864	C
75	RB	867	G
75	RB	877	U
75	RB	882	U
75	RB	883	G
75	RB	897	U
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	940	G
75	RB	944	G
75	RB	947	C
75	RB	962	C
75	RB	963	U
75	RB	965	A
75	RB	966	G

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Mol	Chain	Res	Type
75	RB	968	A
75	RB	977	G
75	RB	982	U
75	RB	986	G
75	RB	996	A
75	RB	998	G
75	RB	1004	C
75	RB	1006	A
75	RB	1019	A
75	RB	1020	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	1033	G
75	RB	1034	U
75	RB	1035	C
75	RB	1036	C
75	RB	1037	U
75	RB	1039	G
75	RB	1040	A
75	RB	1049	C
75	RB	1051	A
75	RB	1053	C
75	RB	1054	U
75	RB	1055	U
75	RB	1060	U
75	RB	1068	A
75	RB	1069	U
75	RB	1079	G
75	RB	1085	G
75	RB	1087	G
75	RB	1096	C
75	RB	1099	G
75	RB	1100	G
75	RB	1101	A
75	RB	1106	G
75	RB	1108	U
75	RB	1109	G

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Mol	Chain	Res	Type
75	RB	1120	G
75	RB	1134	G
75	RB	1143	G
75	RB	1146	A
75	RB	1153	A
75	RB	1156	A
75	RB	1157	A
75	RB	1162	A
75	RB	1177	G
75	RB	1184	U
75	RB	1187	G
75	RB	1194	C
75	RB	1195	C
75	RB	1196	U
75	RB	1197	A
75	RB	1201	C
75	RB	1203	C
75	RB	1205	C
75	RB	1206	A
75	RB	1217	G
75	RB	1220	G
75	RB	1224	A
75	RB	1225	A
75	RB	1226	G
75	RB	1227	A
75	RB	1231	C
75	RB	1234	G
75	RB	1235	A
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

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Mol	Chain	Res	Type
75	RB	1253	G
75	RB	1254	A
75	RB	1258	C
75	RB	1262	U
75	RB	1264	A
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	1281	C
75	RB	1283	C
75	RB	1284	C
75	RB	1286	G
75	RB	1290	A
75	RB	1291	A
75	RB	1299	G
75	RB	1309	U
75	RB	1311	G
75	RB	1312	A
75	RB	1313	U
75	RB	1317	G
75	RB	1320	G
75	RB	1321	A
75	RB	1327	G
75	RB	1330	A
75	RB	1333	C
75	RB	1334	A
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

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Mol	Chain	Res	Type
75	RB	1393	G
75	RB	1395	A
75	RB	1402	G
75	RB	1405	G
75	RB	1422	G
75	RB	1424	G
75	RB	1432	G
75	RB	1437	G
75	RB	1439	U
75	RB	1440	C
75	RB	1449	A
75	RB	1453	G
75	RB	1455	A
75	RB	1484	A
75	RB	1485	A
75	RB	1486	G
75	RB	1487	A
75	RB	1491	G
75	RB	1498	U
75	RB	1505	G
75	RB	1511	C
75	RB	1526	A
75	RB	1531	G
75	RB	1536	U
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	1567	G
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

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Mol	Chain	Res	Type
75	RB	1584	A
75	RB	1585	A
75	RB	1586	A
75	RB	1590	A
75	RB	1593	C
75	RB	1602	A
75	RB	1603	U
75	RB	1604	U
75	RB	1605	U
75	RB	1617	A
75	RB	1626	U
75	RB	1627	U
75	RB	1636	C
75	RB	1639	U
75	RB	1640	A
75	RB	1642	G
75	RB	1644	A
75	RB	1645	G
75	RB	1654	C
75	RB	1689	G
75	RB	1702	C
75	RB	1714	A
75	RB	1715	C
75	RB	1716	G
75	RB	1718	U
75	RB	1722	G
75	RB	1723	C
75	RB	1728	G
75	RB	1740	U
75	RB	1748	A
75	RB	1749	G
75	RB	1750	A
75	RB	1756	C
75	RB	1759	C
75	RB	1760	G
75	RB	1761	C
75	RB	1762	G
75	RB	1769	C
75	RB	1771	G
75	RB	1774	G
75	RB	1776	G
75	RB	1792	G

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Mol	Chain	Res	Type
75	RB	1793	A
75	RB	1811	U
75	RB	1812	A
75	RB	1813	C
75	RB	1814	C
75	RB	1815	G
75	RB	1816	U
75	RB	1817	U
75	RB	1838	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	1870	G
75	RB	1874	A
75	RB	1875	A
75	RB	1876	U
75	RB	1882	A
75	RB	1889	G
75	RB	1900	C
75	RB	1902	G
75	RB	1903	C
75	RB	1911	A
75	RB	1922	C
75	RB	1926	A
75	RB	1931	G
75	RB	1939	C
75	RB	2101	A
75	RB	2105	G
75	RB	2107	A
75	RB	2108	C
75	RB	2115	G
75	RB	2116	G
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	2161	G

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Mol	Chain	Res	Type
75	RB	2163	G
75	RB	2169	U
75	RB	2171	A
75	RB	2176	A
75	RB	2180	G
75	RB	2199	G
75	RB	2200	A
75	RB	2206	A
75	RB	2216	A
75	RB	2218	U
75	RB	2237	A
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
75	RB	2272	A
75	RB	2274	A
75	RB	2275	U
75	RB	2276	G
75	RB	2277	C
75	RB	2278	C
75	RB	2279	U
75	RB	2281	G
75	RB	2291	U
75	RB	2299	C
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	2316	G
75	RB	2320	U
75	RB	2327	U
75	RB	2329	U
75	RB	2340	U
75	RB	2365	A
75	RB	2366	A
75	RB	2367	C

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Mol	Chain	Res	Type
75	RB	2368	G
75	RB	2376	C
75	RB	2386	G
75	RB	2390	A
75	RB	2391	A
75	RB	2395	A
75	RB	2396	G
75	RB	2397	A
75	RB	2403	U
75	RB	2404	U
75	RB	2405	G
75	RB	2412	A
75	RB	2416	U
75	RB	2428	G
75	RB	2431	A
75	RB	2435	G
75	RB	2436	A
75	RB	2505	U
75	RB	2508	A
75	RB	2511	U
75	RB	2518	U
75	RB	2520	G
75	RB	2521	G
75	RB	2522	U
75	RB	2528	G
75	RB	2529	C
75	RB	2530	G
75	RB	2532	G
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	2539	C
75	RB	2540	C
75	RB	2542	U
75	RB	2545	U
75	RB	2547	U
75	RB	2548	U
75	RB	2549	G
75	RB	2566	U

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Mol	Chain	Res	Type
75	RB	2567	U
75	RB	2568	A
75	RB	2569	C
75	RB	2578	U
75	RB	2579	C
75	RB	2582	G
75	RB	2583	G
75	RB	2590	A
75	RB	2603	G
75	RB	2604	G
75	RB	2611	G
75	RB	2618	G
75	RB	2623	C
75	RB	2624	A
75	RB	2632	A
75	RB	2634	A
75	RB	2635	A
75	RB	2644	A
75	RB	2649	U
75	RB	2653	A
75	RB	2669	G
75	RB	2671	A
75	RB	2674	G
75	RB	2676	A
75	RB	2677	A
75	RB	2685	U
75	RB	2686	G
75	RB	2688	A
75	RB	2691	A
75	RB	2693	A
75	RB	2700	A
75	RB	2701	A
75	RB	2711	G
75	RB	2724	A
75	RB	2725	G
75	RB	2726	U
75	RB	2749	U
75	RB	2750	G
75	RB	2769	U
75	RB	2774	G
75	RB	2775	G
75	RB	2793	G

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Mol	Chain	Res	Type
75	RB	2794	U
75	RB	2796	A
75	RB	2797	G
75	RB	2798	A
75	RB	2799	A
75	RB	2800	A
75	RB	2801	A
75	RB	2807	C
75	RB	2814	A
75	RB	2815	U
75	RB	2826	U
75	RB	2839	U
75	RB	2840	U
75	RB	2841	C
75	RB	2842	A
75	RB	2853	G
75	RB	2856	U
75	RB	2857	U
75	RB	2868	G
75	RB	2869	A
75	RB	2872	U
75	RB	2884	A
75	RB	2885	U
75	RB	2886	C
75	RB	2896	C
75	RB	2908	A
75	RB	2913	U
75	RB	2920	U
75	RB	2930	A
75	RB	2932	U
75	RB	2933	A
75	RB	2935	G
75	RB	2939	C
75	RB	2952	U
75	RB	2963	G
75	RB	2968	A
75	RB	2969	G
75	RB	2980	C
75	RB	2986	U
75	RB	2989	U
75	RB	2993	A
75	RB	2994	G

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Mol	Chain	Res	Type
75	RB	3001	G
75	RB	3007	A
75	RB	3008	A
75	RB	3017	A
75	RB	3024	G
75	RB	3026	G
75	RB	3051	C
75	RB	3054	C
75	RB	3055	G
75	RB	3070	G
75	RB	3074	G
75	RB	3082	A
75	RB	3087	A
75	RB	3088	C
75	RB	3095	C
75	RB	3097	G
75	RB	3111	C
75	RB	3118	A
75	RB	3126	A
75	RB	3127	U
75	RB	3129	C
75	RB	3137	C
75	RB	3138	A
75	RB	3139	U
75	RB	3149	G
75	RB	3150	C
75	RB	3157	C
75	RB	3158	G
75	RB	3161	C
75	RB	3168	A
75	RB	3172	A
75	RB	3176	U
75	RB	3178	G
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	3196	A

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Mol	Chain	Res	Type
75	RB	3197	G
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
75	RB	3240	G
75	RB	3241	U
75	RB	3243	G
75	RB	3256	C
75	RB	3257	U
75	RB	3258	C
75	RB	3263	C
75	RB	3265	C
75	RB	3267	A
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	3290	G
75	RB	3291	C
75	RB	3293	G
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	3321	U

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Mol	Chain	Res	Type
75	RB	3329	A
75	RB	3332	G
75	RB	3339	U
75	RB	3340	G
75	RB	3342	U
75	RB	3343	G
75	RB	3350	U
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	3372	G
75	RB	3374	C
75	RB	3375	G
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	51	G
76	SB	56	G
76	SB	59	A
76	SB	62	C
76	SB	63	C
76	SB	80	A
76	SB	81	U
76	SB	82	C
76	SB	83	C
76	SB	84	C
76	SB	85	G
76	SB	86	U
76	SB	87	G
76	SB	88	A
76	SB	90	C
76	SB	95	G
76	SB	97	G
76	SB	104	A

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Mol	Chain	Res	Type
76	SB	105	A
76	SB	106	C
76	SB	107	G
76	SB	111	G
76	SB	112	U
76	SB	116	G
76	SB	121	A
76	SB	122	G
76	SB	127	U
76	SB	128	C
76	SB	129	C
76	SB	130	G
76	SB	132	C
76	SB	140	A
76	SB	153	C
77	TB	7	G
77	TB	26	C
77	TB	38	U
77	TB	50	A
77	TB	51	G
77	TB	52	U
77	TB	53	U
77	TB	54	A
77	TB	64	G
77	TB	72	G
77	TB	74	A
77	TB	89	G
77	TB	100	A
77	TB	110	G
77	TB	119	C
77	TB	120	C
78	al	4	U
78	al	6	A
78	al	7	A
80	cl	7	G
80	cl	8	U
80	cl	10	2MG
80	cl	14	A
80	cl	15	G
80	cl	16	C
80	cl	18	G
80	cl	19	G

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Mol	Chain	Res	Type
80	cl	20	A
80	cl	22	G
80	cl	26	2MG
80	cl	31	G
80	cl	34	C
80	cl	37	MIA
80	cl	42	A
80	cl	45	G
80	cl	46	G7M
80	cl	47	H2U
80	cl	48	5MC
80	cl	49	5MC
80	cl	52	G
80	cl	56	C
80	cl	58	1MA
80	cl	59	A
80	cl	60	A
80	cl	61	C
80	cl	64	G
80	cl	65	G
80	cl	68	C
80	cl	72	U
80	cl	74	C
80	cl	76	A

All (52) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
75	RB	12	G
75	RB	427	U
75	RB	439	A
75	RB	449	G
75	RB	494	C
75	RB	522	C
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	693	C
75	RB	703	G

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Mol	Chain	Res	Type
75	RB	919	G
75	RB	962	C
75	RB	985	C
75	RB	997	G
75	RB	1068	A
75	RB	1100	G
75	RB	1194	C
75	RB	1200	A
75	RB	1238	G
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	2535	A
75	RB	2536	U
75	RB	2617	G
75	RB	2815	U
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	3238	C
75	RB	3256	C
75	RB	3305	A
75	RB	3328	C
75	RB	3369	C
75	RB	3370	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
80	H2U	cl	47	80	18,21,22	3.13	5 (27%)	19,30,33	1.47	4 (21%)
80	2MG	cl	10	80	23,26,27	2.98	9 (39%)	33,38,41	2.29	9 (27%)
80	MIA	cl	37	80,81	28,31,32	2.45	5 (17%)	38,44,47	4.81	16 (42%)
80	PSU	cl	28	80	18,21,22	1.11	2 (11%)	21,30,33	1.99	4 (19%)
80	G7M	cl	46	80	23,26,27	2.85	9 (39%)	34,39,42	1.78	9 (26%)
80	1MA	cl	58	80	21,25,26	2.83	5 (23%)	30,37,40	2.31	8 (26%)
80	5MC	cl	48	80	19,22,23	3.91	9 (47%)	26,32,35	1.18	2 (7%)
80	5MC	cl	49	80	19,22,23	3.88	9 (47%)	26,32,35	1.41	3 (11%)
80	2MG	cl	26	80	23,26,27	2.85	9 (39%)	33,38,41	2.09	10 (30%)
80	1MG	cl	9	80	23,26,27	2.91	7 (30%)	33,39,42	1.87	9 (27%)
80	PSU	cl	55	80	18,21,22	1.14	2 (11%)	21,30,33	1.87	4 (19%)

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
80	H2U	cl	47	80	-	3/7/38/39	0/2/2/2
80	2MG	cl	10	80	-	2/9/27/28	0/3/3/3
80	MIA	cl	37	80,81	-	5/15/33/34	0/3/3/3
80	PSU	cl	28	80	-	0/7/25/26	0/2/2/2
80	G7M	cl	46	80	-	3/7/25/26	0/3/3/3
80	1MA	cl	58	80	-	3/7/25/26	0/3/3/3
80	5MC	cl	48	80	-	1/7/25/26	0/2/2/2
80	5MC	cl	49	80	-	4/7/25/26	0/2/2/2
80	2MG	cl	26	80	-	2/9/27/28	0/3/3/3
80	1MG	cl	9	80	-	0/7/25/26	0/3/3/3
80	PSU	cl	55	80	-	3/7/25/26	0/2/2/2

All (71) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
80	cl	47	H2U	C2-N1	9.81	1.49	1.35
80	cl	48	5MC	C6-C5	9.36	1.49	1.34
80	cl	49	5MC	C6-C5	9.21	1.49	1.34
80	cl	58	1MA	C2-N3	9.09	1.47	1.30
80	cl	37	MIA	C6-N6	8.19	1.47	1.34
80	cl	9	1MG	C2-N3	8.10	1.46	1.33
80	cl	49	5MC	C4-N3	7.81	1.46	1.34
80	cl	48	5MC	C4-N3	7.59	1.46	1.34
80	cl	10	2MG	C2-N3	7.55	1.46	1.32
80	cl	26	2MG	C2-N3	7.24	1.45	1.32
80	cl	37	MIA	C2-S10	6.83	1.81	1.75
80	cl	10	2MG	C4-N3	6.78	1.49	1.34
80	cl	49	5MC	C2-N3	6.69	1.49	1.36
80	cl	46	G7M	C2-N2	6.57	1.49	1.34
80	cl	46	G7M	C4-N3	6.54	1.49	1.34
80	cl	9	1MG	C4-N3	6.48	1.49	1.34
80	cl	26	2MG	C4-N3	6.44	1.49	1.34
80	cl	58	1MA	C4-N3	6.42	1.48	1.35
80	cl	48	5MC	C2-N3	6.40	1.49	1.36
80	cl	9	1MG	C2-N2	6.35	1.45	1.34
80	cl	47	H2U	C2-N3	6.29	1.48	1.38
80	cl	10	2MG	C2-N2	6.15	1.46	1.33
80	cl	26	2MG	C2-N2	5.95	1.45	1.33
80	cl	48	5MC	C5-C4	5.51	1.48	1.44
80	cl	46	G7M	C2-N3	5.49	1.46	1.33
80	cl	10	2MG	C2-N1	5.29	1.45	1.36
80	cl	48	5MC	C6-N1	5.12	1.46	1.38
80	cl	49	5MC	C6-N1	5.10	1.46	1.38
80	cl	26	2MG	C2-N1	5.09	1.44	1.36
80	cl	47	H2U	C4-N3	4.84	1.45	1.37
80	cl	49	5MC	C5-C4	4.60	1.47	1.44
80	cl	49	5MC	C2-N1	4.54	1.49	1.40
80	cl	46	G7M	C5-N7	-4.52	1.34	1.39
80	cl	48	5MC	C2-N1	4.38	1.49	1.40
80	cl	58	1MA	C2-N1	4.05	1.44	1.35
80	cl	48	5MC	C4-N4	4.04	1.44	1.34
80	cl	49	5MC	C4-N4	4.04	1.44	1.34
80	cl	37	MIA	C5-C4	-3.76	1.32	1.39
80	cl	58	1MA	C5-C6	3.71	1.53	1.43
80	cl	46	G7M	C5-C6	3.71	1.53	1.43
80	cl	55	PSU	C6-C5	3.63	1.39	1.35
80	cl	9	1MG	C2-N1	3.62	1.43	1.37
80	cl	37	MIA	C8-N9	-3.35	1.31	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
80	cl	9	1MG	C5-N7	-3.18	1.32	1.39
80	cl	46	G7M	C2-N1	3.06	1.45	1.37
80	cl	28	PSU	C6-C5	3.03	1.38	1.35
80	cl	10	2MG	C5-N7	-3.03	1.33	1.39
80	cl	46	G7M	C6-N1	3.00	1.44	1.38
80	cl	26	2MG	C5-N7	-2.91	1.33	1.39
80	cl	9	1MG	C5-C6	2.91	1.52	1.45
80	cl	58	1MA	C5-N7	-2.85	1.33	1.39
80	cl	37	MIA	C5-N7	-2.74	1.34	1.39
80	cl	46	G7M	O6-C6	-2.65	1.18	1.23
80	cl	49	5MC	O2-C2	-2.52	1.19	1.23
80	cl	10	2MG	C6-N1	2.50	1.43	1.38
80	cl	47	H2U	O2-C2	-2.48	1.18	1.23
80	cl	9	1MG	O6-C6	-2.46	1.18	1.23
80	cl	10	2MG	C5-C6	2.46	1.53	1.44
80	cl	28	PSU	C4-C5	-2.44	1.37	1.44
80	cl	48	5MC	O2-C2	-2.42	1.19	1.23
80	cl	26	2MG	C5-C6	2.38	1.53	1.44
80	cl	46	G7M	C8-N7	2.36	1.37	1.33
80	cl	47	H2U	O4-C4	-2.27	1.18	1.23
80	cl	26	2MG	C6-N1	2.27	1.43	1.38
80	cl	10	2MG	O6-C6	-2.24	1.19	1.23
80	cl	26	2MG	O6-C6	-2.23	1.19	1.23
80	cl	48	5MC	CM5-C5	2.20	1.56	1.50
80	cl	49	5MC	CM5-C5	2.20	1.56	1.50
80	cl	55	PSU	C4-C5	-2.12	1.38	1.44
80	cl	26	2MG	C4-N9	-2.04	1.32	1.38
80	cl	10	2MG	C4-N9	-2.01	1.32	1.38

All (78) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
80	cl	37	MIA	N6-C6-N1	16.80	140.85	118.33
80	cl	37	MIA	C5-C6-N6	-12.50	97.90	122.03
80	cl	37	MIA	C1'-N9-C8	-11.42	101.75	127.09
80	cl	37	MIA	C4-N9-C1'	9.70	149.32	126.63
80	cl	37	MIA	C11-S10-C2	7.18	107.64	102.25
80	cl	37	MIA	C5-C4-N3	-6.58	120.25	127.18
80	cl	10	2MG	C2-N3-C4	6.47	120.09	112.00
80	cl	58	1MA	C1'-N9-C4	-6.03	108.68	126.49
80	cl	26	2MG	C2-N3-C4	5.90	119.38	112.00
80	cl	58	1MA	C1'-N9-C8	5.67	142.84	126.73

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
80	cl	9	1MG	C5-C4-N3	-5.50	119.64	128.39
80	cl	10	2MG	C5-C4-N3	-5.42	119.76	128.39
80	cl	58	1MA	C5-C4-N3	-5.27	119.51	127.27
80	cl	28	PSU	C4-N3-C2	-4.93	119.58	126.37
80	cl	28	PSU	N1-C2-N3	4.83	120.27	115.17
80	cl	26	2MG	C5-C4-N3	-4.80	120.75	128.39
80	cl	37	MIA	N9-C8-N7	-4.78	107.16	113.94
80	cl	55	PSU	C4-N3-C2	-4.77	119.80	126.37
80	cl	46	G7M	C2-N3-C4	4.50	120.04	112.30
80	cl	55	PSU	N1-C2-N3	4.50	119.91	115.17
80	cl	10	2MG	C2-N1-C6	-4.44	119.18	124.55
80	cl	58	1MA	N1-C2-N3	-4.35	120.83	126.00
80	cl	10	2MG	N1-C2-N2	4.04	120.68	116.56
80	cl	46	G7M	C5-C6-N1	4.00	120.12	111.84
80	cl	26	2MG	C2-N1-C6	-3.97	119.75	124.55
80	cl	58	1MA	C2-N3-C4	3.74	119.87	112.53
80	cl	46	G7M	O6-C6-C5	-3.74	119.66	128.01
80	cl	37	MIA	N3-C4-N9	3.69	131.68	126.99
80	cl	10	2MG	N9-C4-N3	3.69	133.32	125.95
80	cl	46	G7M	C5-C4-N3	-3.68	121.19	128.15
80	cl	26	2MG	N1-C2-N2	3.62	120.25	116.56
80	cl	48	5MC	C5-C6-N1	-3.58	119.43	123.31
80	cl	37	MIA	N3-C2-N1	-3.52	120.58	127.00
80	cl	9	1MG	C1'-N9-C8	-3.51	116.77	126.73
80	cl	9	1MG	C2-N3-C4	3.50	119.84	111.98
80	cl	9	1MG	N9-C4-N3	3.47	132.88	125.95
80	cl	49	5MC	C1'-N1-C6	-3.41	115.53	121.15
80	cl	10	2MG	N9-C8-N7	-3.36	107.18	113.40
80	cl	47	H2U	N3-C2-N1	3.27	119.93	116.65
80	cl	37	MIA	C5-N7-C8	3.25	108.56	103.45
80	cl	49	5MC	C1'-N1-C2	3.23	125.57	118.44
80	cl	26	2MG	N9-C8-N7	-3.22	107.43	113.40
80	cl	26	2MG	N9-C4-N3	3.22	132.38	125.95
80	cl	47	H2U	C5-C4-N3	3.17	120.06	116.69
80	cl	28	PSU	O2-C2-N1	-3.11	119.58	122.79
80	cl	58	1MA	N9-C8-N7	-3.05	107.75	113.40
80	cl	37	MIA	C4-N9-C8	3.02	108.91	105.74
80	cl	9	1MG	N9-C8-N7	-3.01	107.82	113.40
80	cl	46	G7M	C2-N1-C6	-3.00	119.67	125.11
80	cl	37	MIA	C2-N3-C4	2.92	119.93	112.29
80	cl	10	2MG	O6-C6-C5	-2.89	118.89	126.53
80	cl	37	MIA	C4-C5-N7	-2.87	107.31	110.58

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
80	cl	47	H2U	C5-C6-N1	2.86	120.16	111.52
80	cl	9	1MG	C5-C6-N1	2.85	120.28	115.02
80	cl	9	1MG	C1'-N9-C4	2.82	134.82	126.49
80	cl	58	1MA	N9-C4-N3	2.79	133.25	126.90
80	cl	55	PSU	O2-C2-N1	-2.76	119.94	122.79
80	cl	37	MIA	S10-C2-N3	2.72	125.43	116.04
80	cl	26	2MG	O6-C6-C5	-2.67	119.49	126.53
80	cl	10	2MG	C5-C6-N1	2.64	119.97	113.25
80	cl	28	PSU	C6-N1-C2	-2.63	120.25	122.69
80	cl	46	G7M	N9-C4-N3	2.63	131.21	125.95
80	cl	37	MIA	C4-C5-C6	2.59	118.93	116.78
80	cl	49	5MC	O2-C2-N3	-2.56	118.30	122.33
80	cl	26	2MG	C5-C6-N1	2.43	119.45	113.25
80	cl	47	H2U	O2-C2-N1	-2.43	120.19	123.10
80	cl	46	G7M	N9-C8-N7	-2.40	106.66	112.48
80	cl	55	PSU	C6-N1-C2	-2.36	120.50	122.69
80	cl	48	5MC	C5-C4-N4	-2.27	118.20	121.39
80	cl	10	2MG	C8-N7-C5	2.26	108.30	104.26
80	cl	58	1MA	C8-N7-C5	2.19	108.16	104.26
80	cl	26	2MG	CM2-N2-C2	-2.14	119.05	123.65
80	cl	46	G7M	CN7-N7-C5	2.13	129.46	126.80
80	cl	46	G7M	N2-C2-N1	2.11	121.22	116.76
80	cl	9	1MG	C8-N7-C5	2.09	107.98	104.26
80	cl	37	MIA	C5-C4-N9	2.07	108.06	105.81
80	cl	26	2MG	C8-N7-C5	2.01	107.84	104.26
80	cl	9	1MG	C2-N1-C6	-2.00	119.31	120.99

There are no chirality outliers.

All (26) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
80	cl	10	2MG	O4'-C4'-C5'-O5'
80	cl	37	MIA	O4'-C4'-C5'-O5'
80	cl	46	G7M	O4'-C4'-C5'-O5'
80	cl	49	5MC	O4'-C4'-C5'-O5'
80	cl	26	2MG	O4'-C4'-C5'-O5'
80	cl	37	MIA	C3'-C4'-C5'-O5'
80	cl	46	G7M	C3'-C4'-C5'-O5'
80	cl	47	H2U	O4'-C4'-C5'-O5'
80	cl	49	5MC	C3'-C4'-C5'-O5'
80	cl	58	1MA	O4'-C4'-C5'-O5'
80	cl	47	H2U	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
80	cl	10	2MG	C3'-C4'-C5'-O5'
80	cl	26	2MG	C3'-C4'-C5'-O5'
80	cl	58	1MA	C3'-C4'-C5'-O5'
80	cl	46	G7M	C4'-C5'-O5'-P
80	cl	37	MIA	C5-C6-N6-C12
80	cl	47	H2U	C4'-C5'-O5'-P
80	cl	37	MIA	N1-C6-N6-C12
80	cl	55	PSU	C3'-C4'-C5'-O5'
80	cl	48	5MC	C4'-C5'-O5'-P
80	cl	49	5MC	C2'-C1'-N1-C6
80	cl	55	PSU	O4'-C1'-C5-C6
80	cl	49	5MC	C2'-C1'-N1-C2
80	cl	37	MIA	C13-C12-N6-C6
80	cl	55	PSU	O4'-C4'-C5'-O5'
80	cl	58	1MA	C2'-C1'-N9-C8

There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
80	cl	37	MIA	2	0
80	cl	9	1MG	1	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 289 ligands modelled in this entry, 288 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	$\# Z > 2$
83	3HE	RB	5197	-	21,21,21	1.51	4 (19%)	23,30,30	2.48	12 (52%)

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
83	3HE	RB	5197	-	-	3/8/36/36	0/2/2/2

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
83	RB	5197	3HE	C8-C9	-2.99	1.48	1.53
83	RB	5197	3HE	O1-C11	-2.86	1.17	1.23
83	RB	5197	3HE	O2-C12	-2.67	1.18	1.23
83	RB	5197	3HE	O-C4	-2.37	1.17	1.21

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
83	RB	5197	3HE	C11-N-C12	-5.88	118.79	125.87
83	RB	5197	3HE	C13-C12-N	-4.46	110.51	115.92
83	RB	5197	3HE	C14-C3-C4	-3.80	108.23	112.48
83	RB	5197	3HE	C9-C8-C7	-3.54	107.99	116.64
83	RB	5197	3HE	C10-C11-N	-3.18	112.06	115.92
83	RB	5197	3HE	C6-C1-C2	2.72	114.00	110.02
83	RB	5197	3HE	C9-C13-C12	-2.54	110.18	114.46
83	RB	5197	3HE	C-C1-C2	-2.42	107.15	111.17
83	RB	5197	3HE	C6-C5-C4	2.41	112.27	108.29
83	RB	5197	3HE	O2-C12-N	2.27	123.79	120.30
83	RB	5197	3HE	O1-C11-N	2.13	123.58	120.30
83	RB	5197	3HE	O-C4-C3	2.04	125.09	122.11

There are no chirality outliers.

All (3) torsion outliers are listed below:

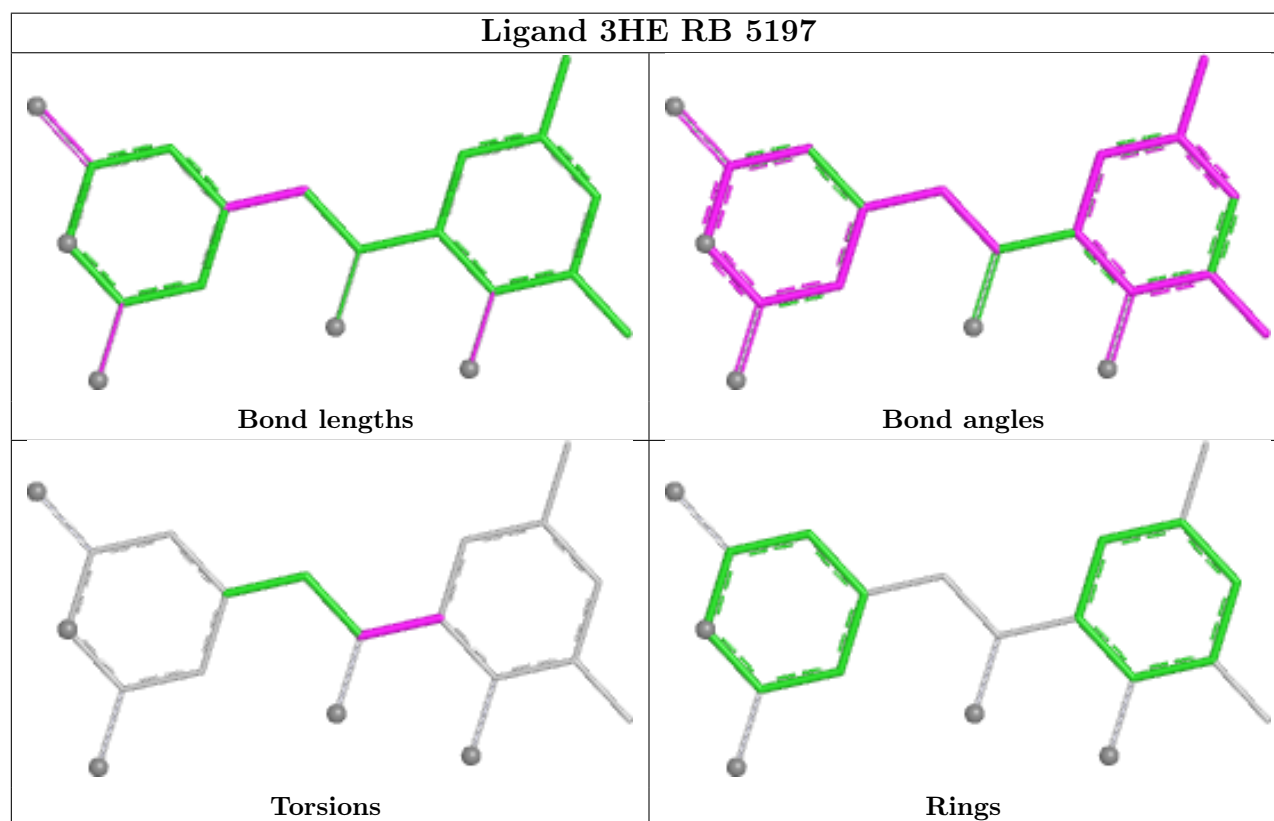
Mol	Chain	Res	Type	Atoms
83	RB	5197	3HE	C6-C5-C7-C8
83	RB	5197	3HE	C4-C5-C7-O3
83	RB	5197	3HE	C6-C5-C7-O3

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
83	RB	5197	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.

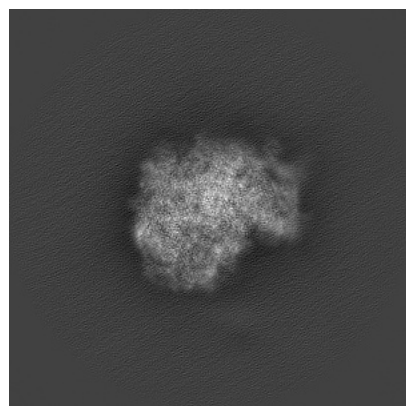
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-35637. These allow visual inspection of the internal detail of the map and identification of artifacts.

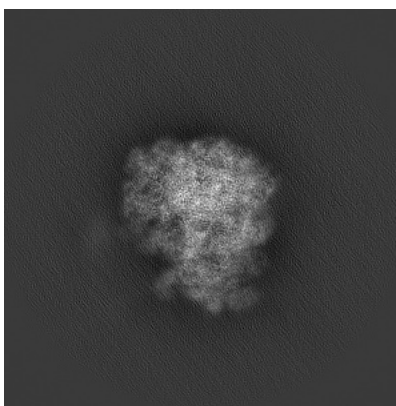
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

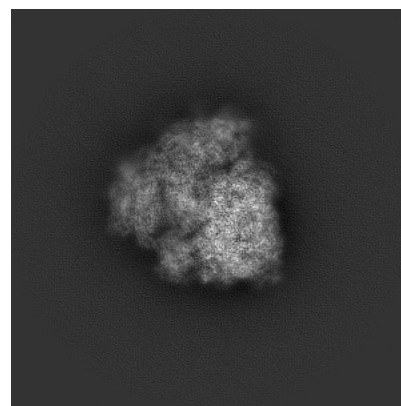
6.1.1 Primary map



X

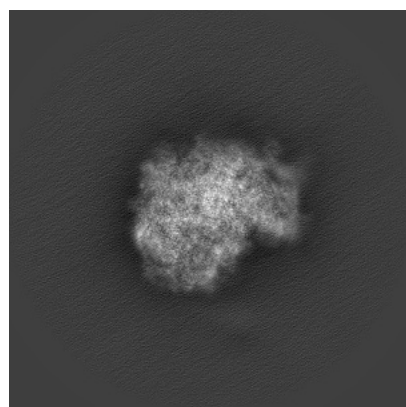


Y

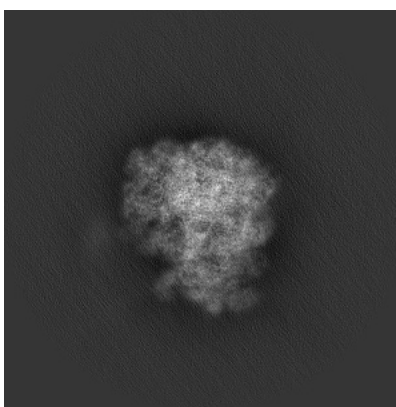


Z

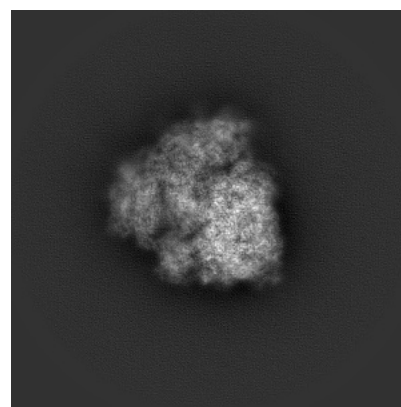
6.1.2 Raw map



X



Y

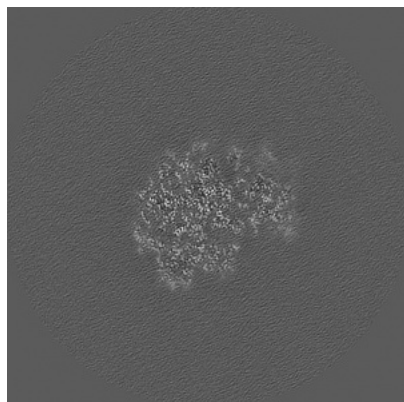


Z

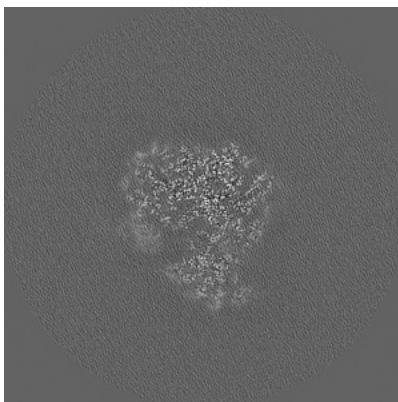
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

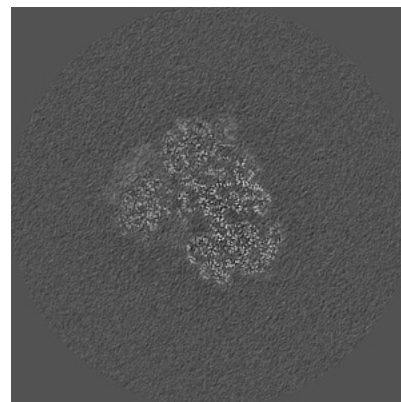
6.2.1 Primary map



X Index: 200

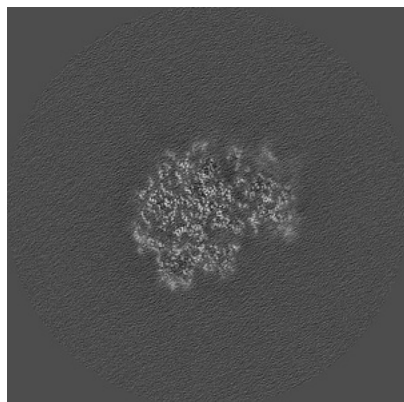


Y Index: 200

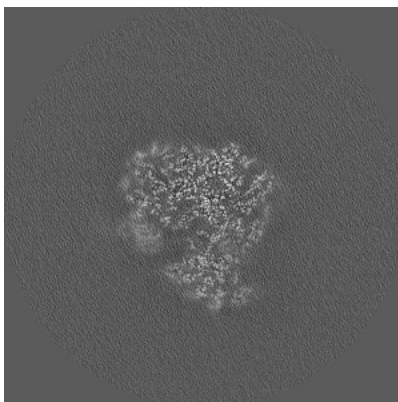


Z Index: 200

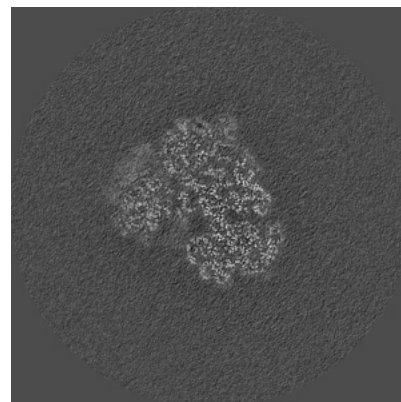
6.2.2 Raw map



X Index: 200



Y Index: 200

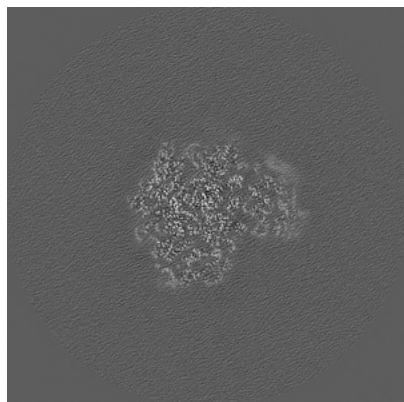


Z Index: 200

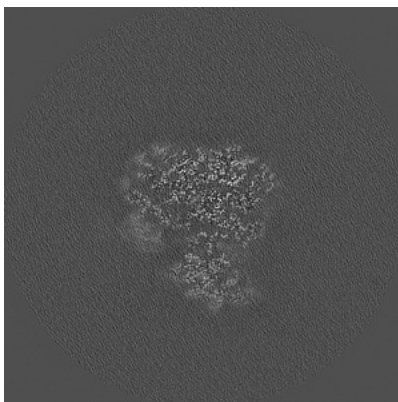
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

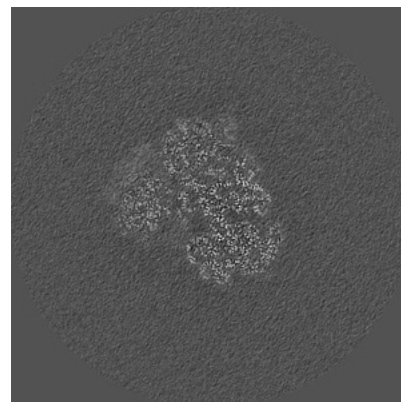
6.3.1 Primary map



X Index: 209

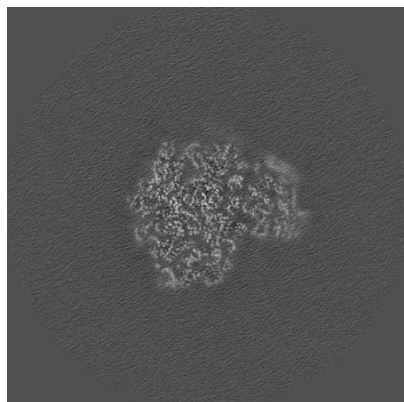


Y Index: 202

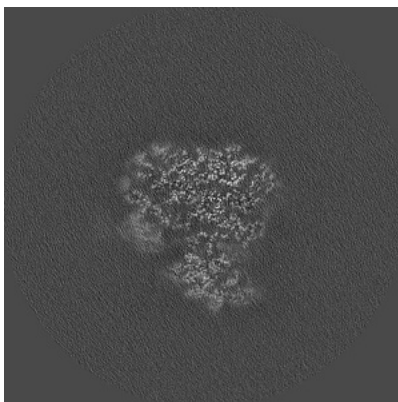


Z Index: 200

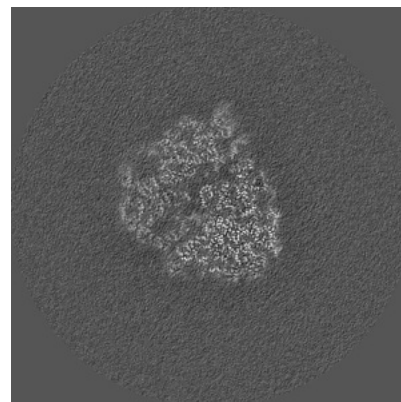
6.3.2 Raw map



X Index: 209



Y Index: 202

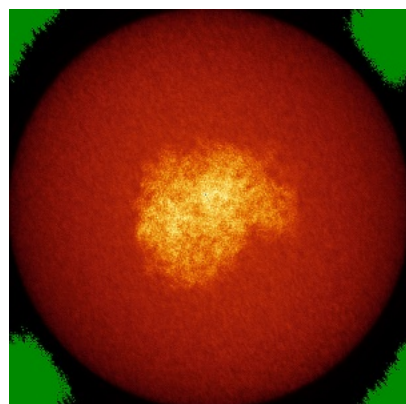


Z Index: 191

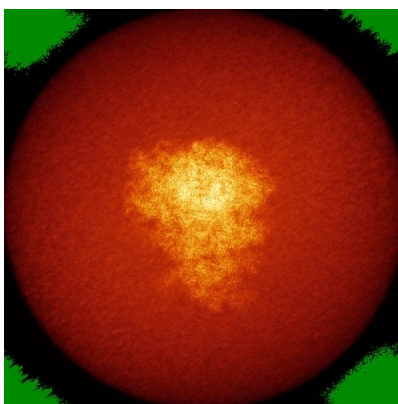
The images above show the largest variance slices of the map in three orthogonal directions.

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

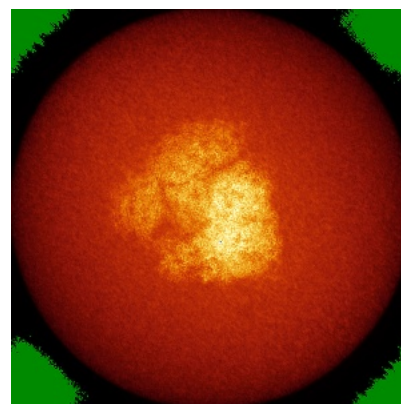
6.4.1 Primary map



X

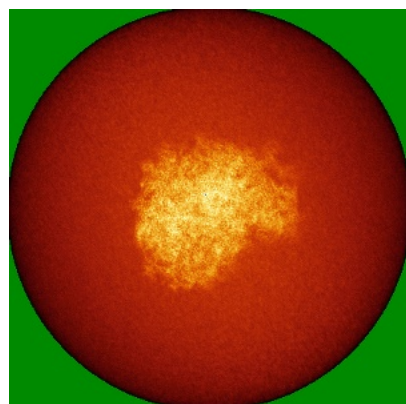


Y

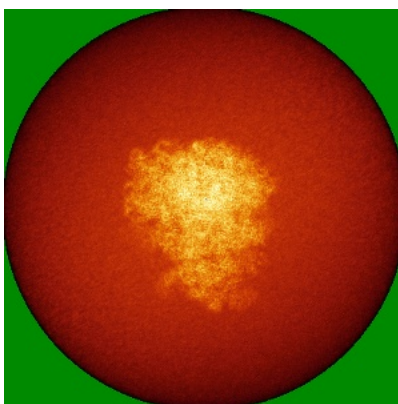


Z

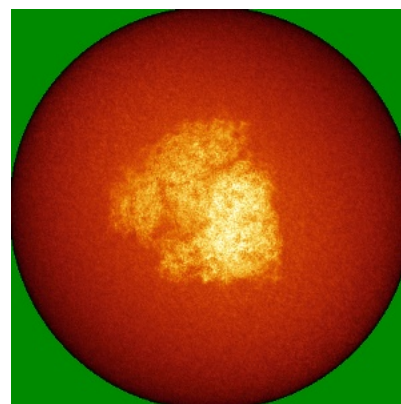
6.4.2 Raw map



X



Y

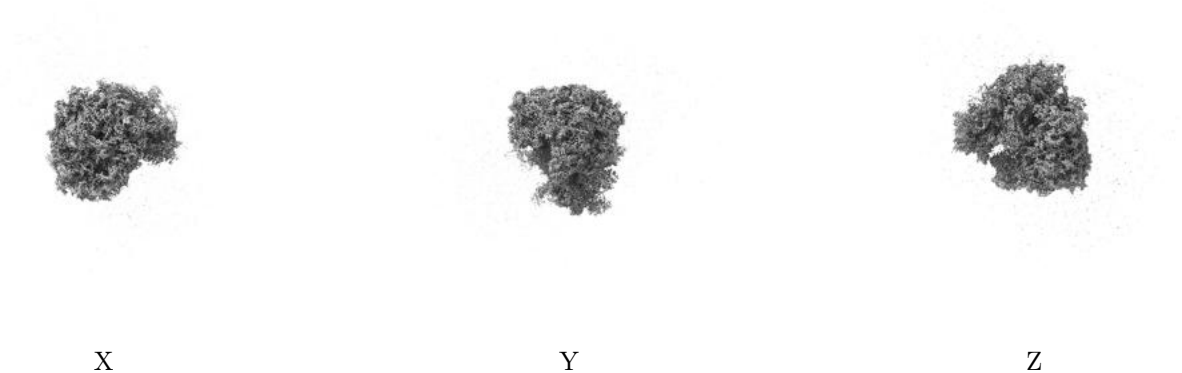


Z

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.

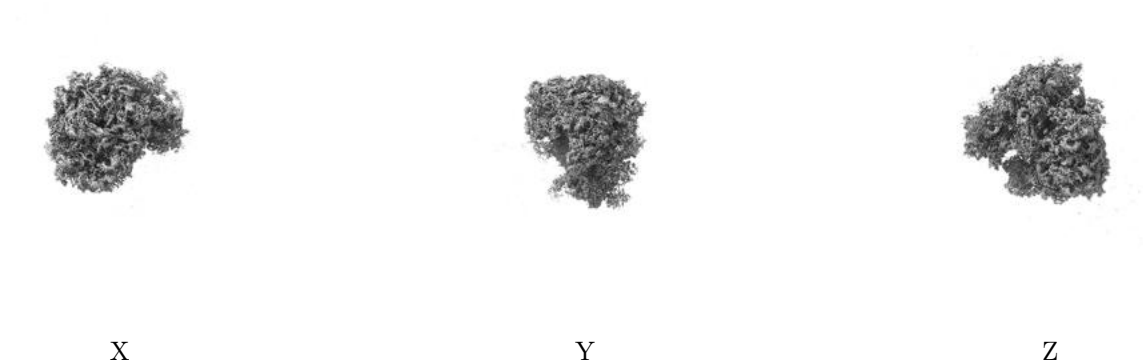
6.5 Orthogonal surface views [i](#)

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.

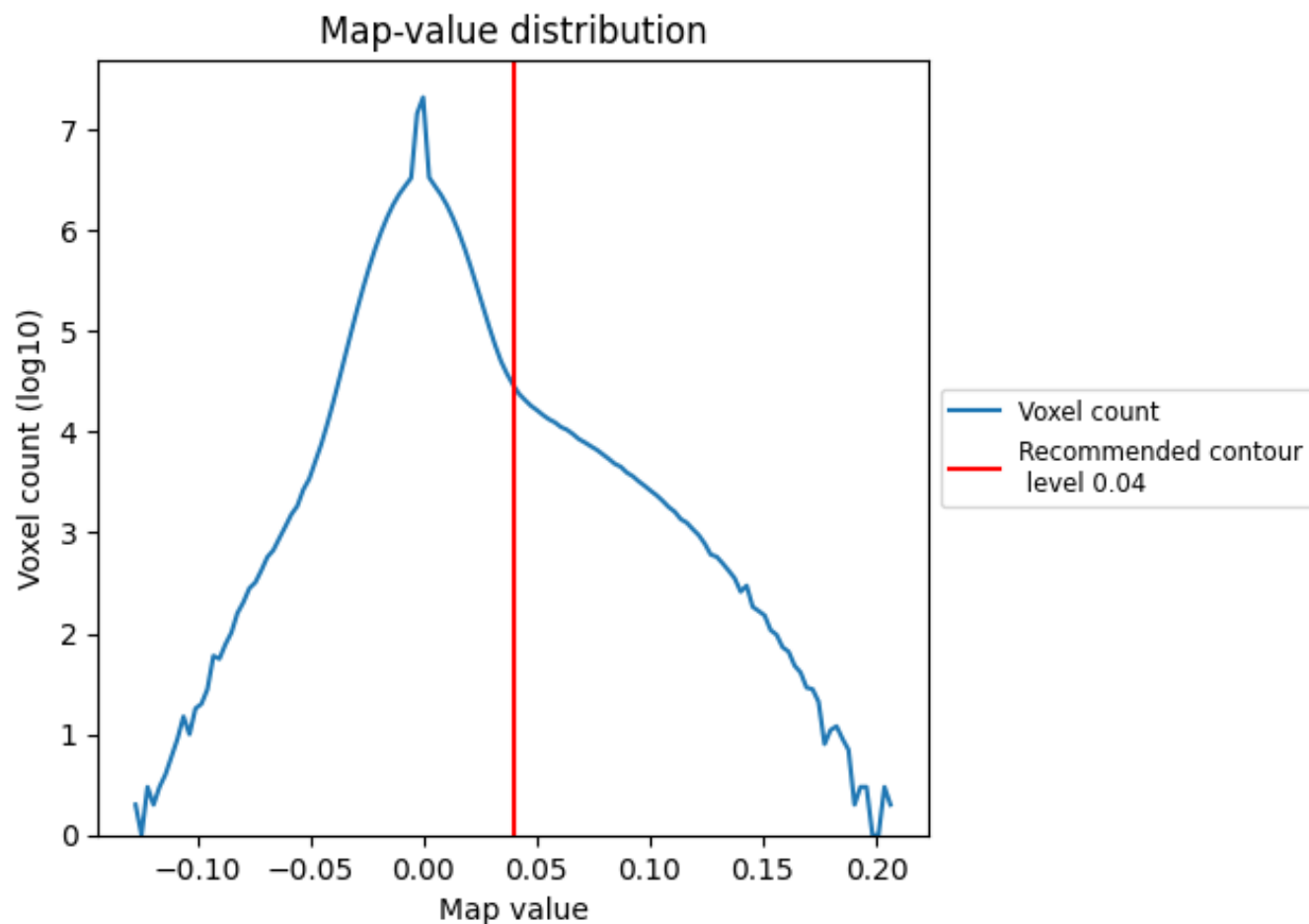
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

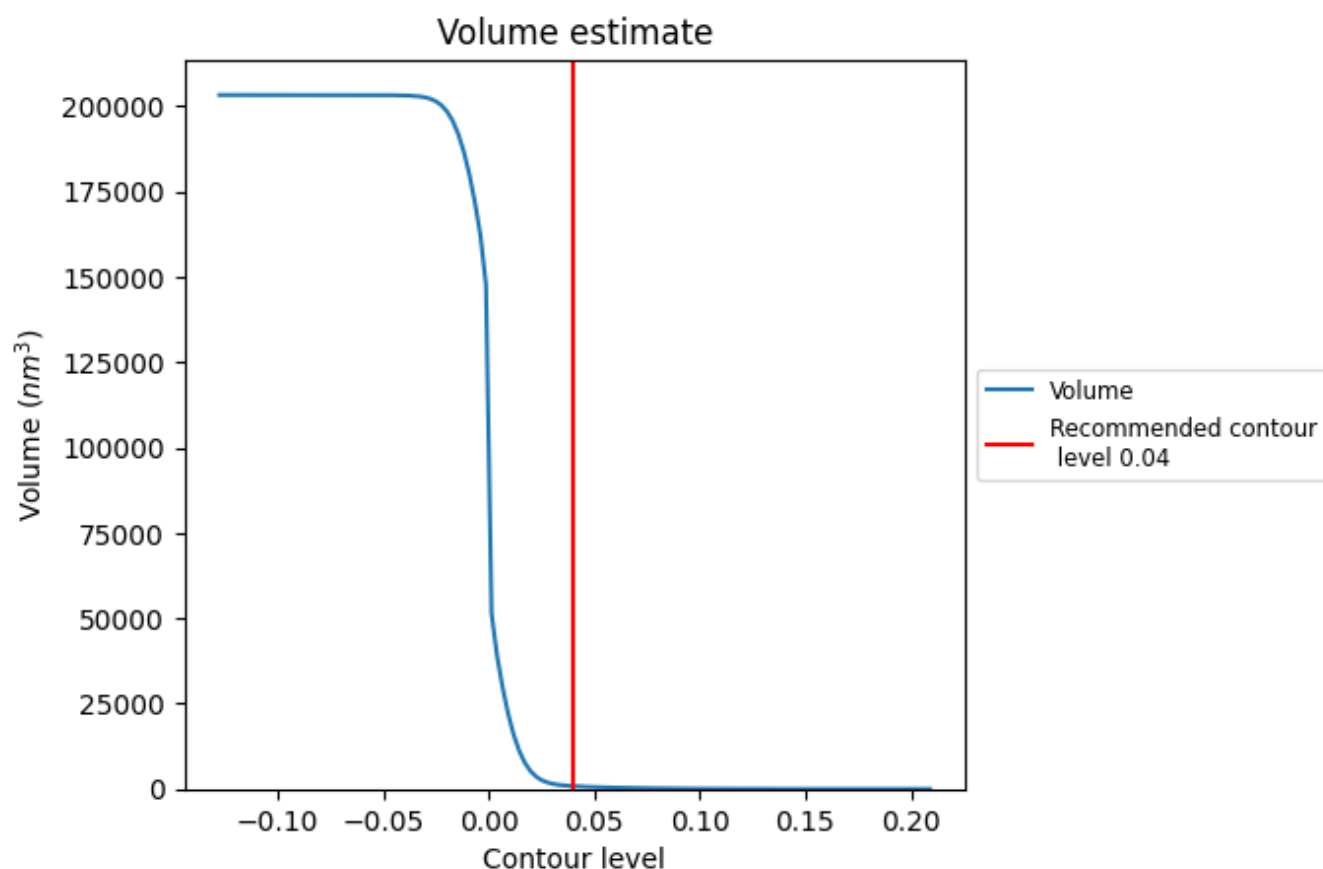
This section contains the results of statistical analysis of the map.

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.

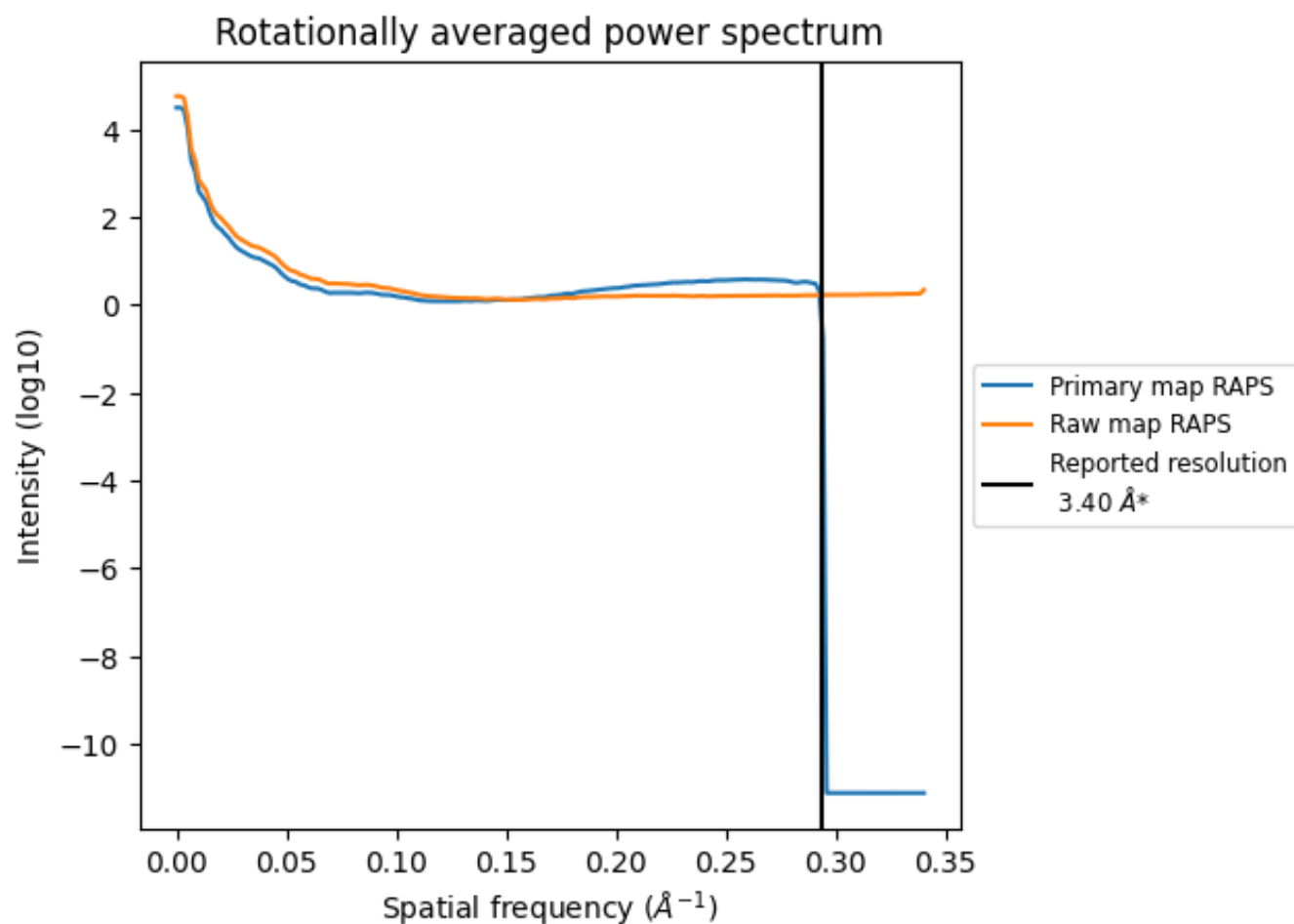
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 824 nm^3 ; this corresponds to an approximate mass of 745 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 ⓘ

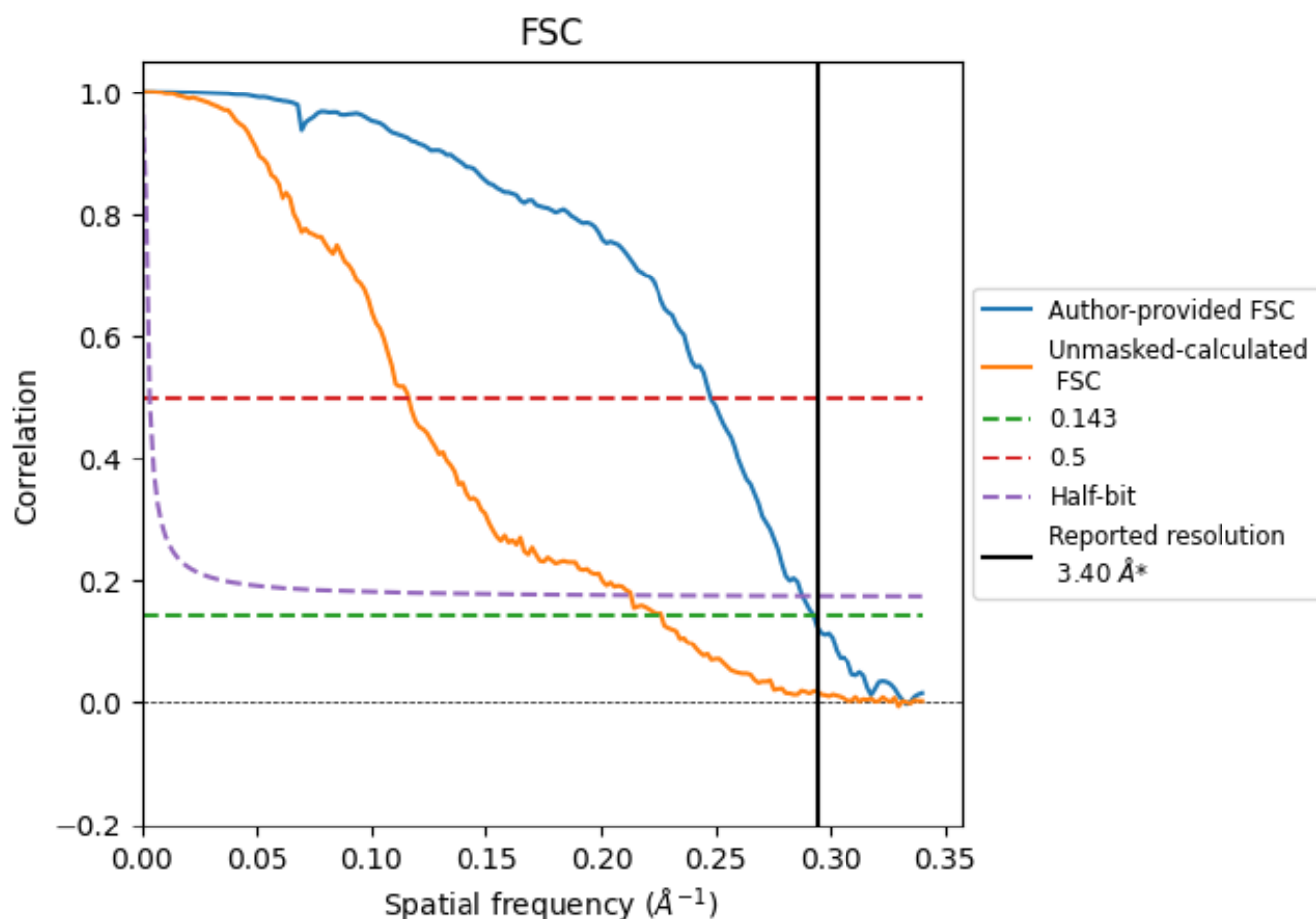


*Reported resolution corresponds to spatial frequency of 0.294 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



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

8.2 Resolution estimates [i](#)

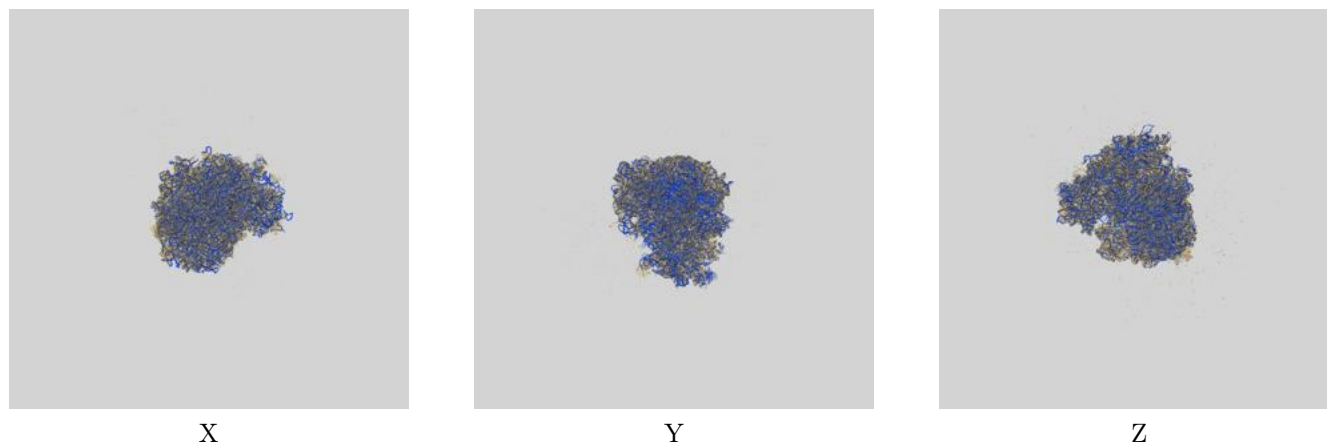
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.40	-	-
Author-provided FSC curve	3.42	4.03	3.47
Unmasked-calculated*	4.42	8.62	4.70

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.42 differs from the reported value 3.4 by more than 10 %

9 Map-model fit [i](#)

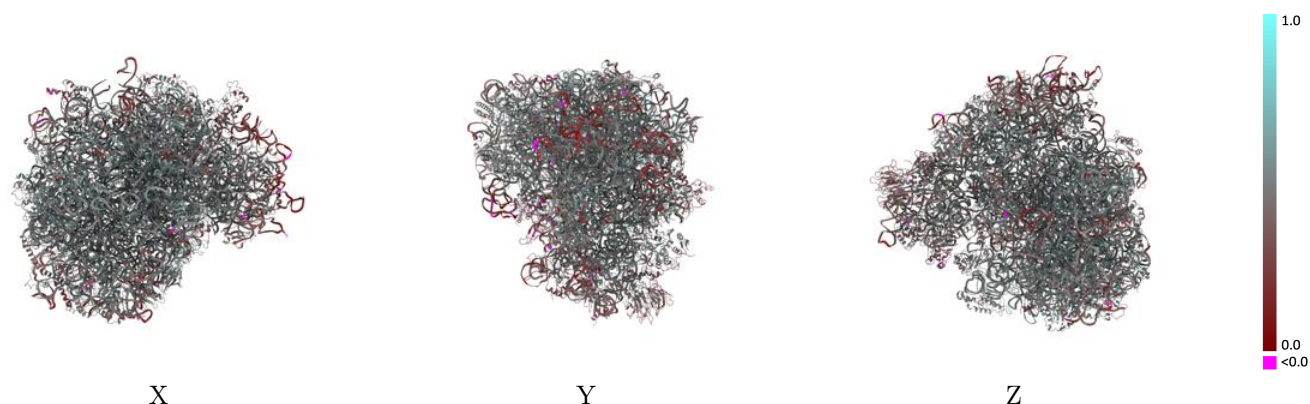
This section contains information regarding the fit between EMDB map EMD-35637 and PDB model 8IPA. Per-residue inclusion information can be found in section [3](#) on page [21](#).

9.1 Map-model overlay [i](#)



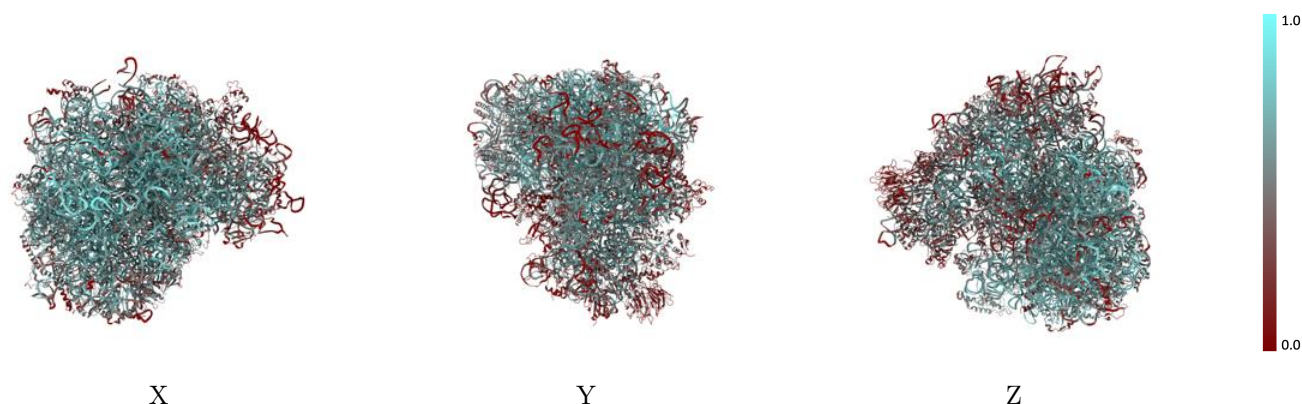
The images above show the 3D surface view of the map at the recommended contour level 0.04 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



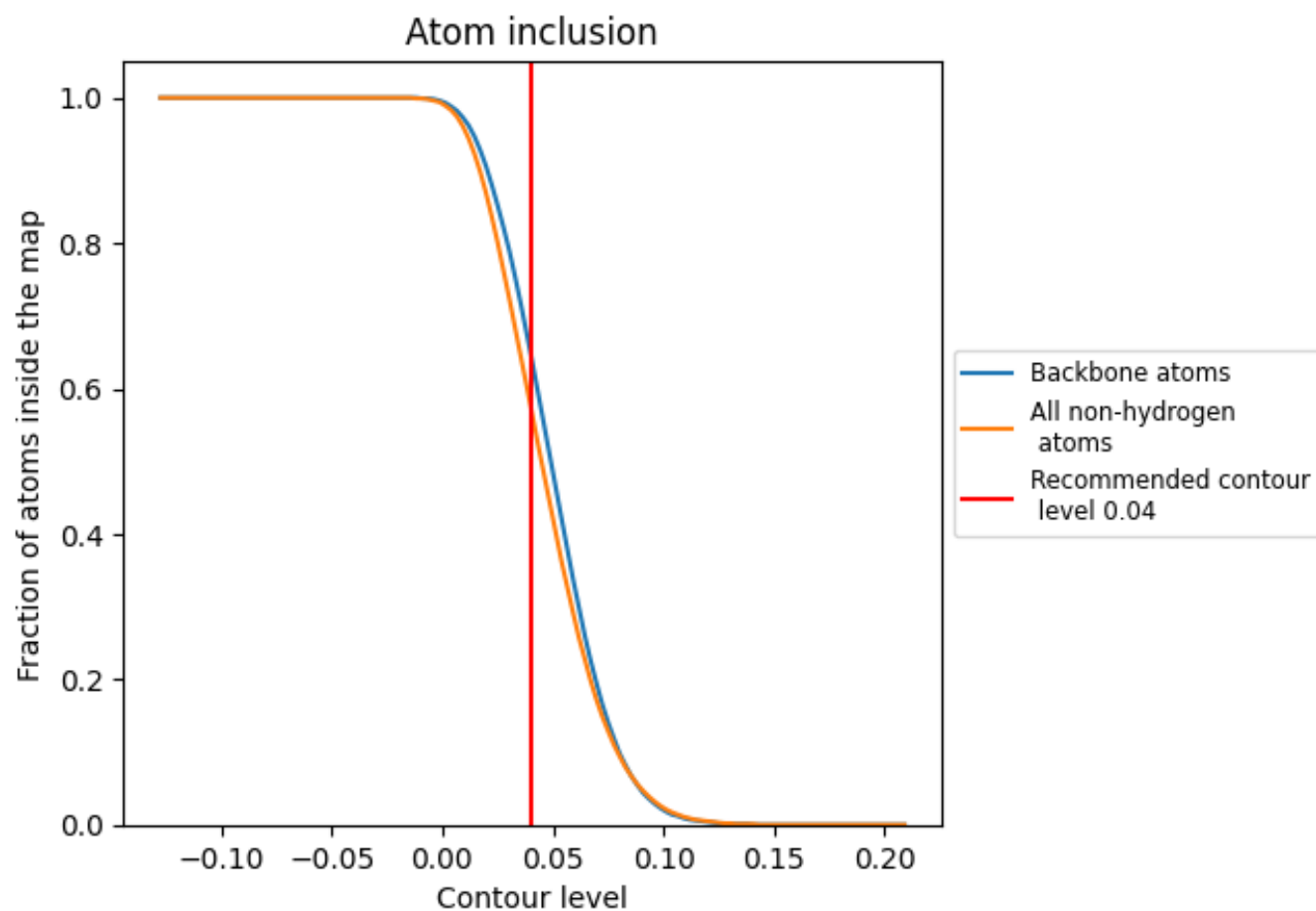
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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



At the recommended contour level, 65% of all backbone atoms, 57% 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	 0.5750	 0.4710
AA	 0.4140	 0.4570
AB	 0.5010	 0.4880
BA	 0.5640	 0.5190
BB	 0.5040	 0.4720
CA	 0.5090	 0.4840
CB	 0.5660	 0.5000
DA	 0.6490	 0.5440
DB	 0.5990	 0.5180
EA	 0.4550	 0.4590
EB	 0.5390	 0.4930
FA	 0.4530	 0.4830
FB	 0.5480	 0.5030
GA	 0.5680	 0.5150
GB	 0.5680	 0.5250
HA	 0.6800	 0.5300
HB	 0.4220	 0.4860
IA	 0.6470	 0.5290
IB	 0.5830	 0.4960
JA	 0.5980	 0.5160
JB	 0.5570	 0.5120
KA	 0.5350	 0.4790
KB	 0.5510	 0.4960
LA	 0.5710	 0.5050
LB	 0.4120	 0.4390
MA	 0.5980	 0.5220
MB	 0.6180	 0.5270
NA	 0.5540	 0.5030
NB	 0.4310	 0.4510
OA	 0.5810	 0.5080
OB	 0.5980	 0.5100
PA	 0.6070	 0.5070
PB	 0.6290	 0.5240
QA	 0.5400	 0.5040
RA	 0.5410	 0.4870



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Chain	Atom inclusion	Q-score
RB	 0.7020	 0.4810
SA	 0.5680	 0.4990
SB	 0.6960	 0.4770
TA	 0.6190	 0.5300
TB	 0.7440	 0.4940
UA	 0.6900	 0.5310
VA	 0.6350	 0.5170
WA	 0.5640	 0.5200
XA	 0.4960	 0.4820
YA	 0.5740	 0.5160
ZA	 0.3300	 0.4190
aa	 0.5870	 0.4460
al	 0.6730	 0.5060
ba	 0.3190	 0.4460
bb	 0.3790	 0.4540
bl	 0.1900	 0.3730
ca	 0.4630	 0.4950
cb	 0.4390	 0.4580
cl	 0.3390	 0.3980
da	 0.1980	 0.3420
db	 0.5200	 0.4980
eb	 0.4460	 0.4650
fb	 0.4980	 0.4930
ga	 0.4970	 0.5080
gb	 0.2340	 0.3960
ha	 0.1510	 0.3490
hb	 0.3010	 0.4100
ia	 0.3040	 0.4330
ib	 0.4910	 0.5040
ja	 0.4350	 0.4710
ka	 0.3310	 0.4340
la	 0.3670	 0.4560
ma	 0.3150	 0.4050
na	 0.4320	 0.4840
oa	 0.3340	 0.4350
pa	 0.4750	 0.4980
qa	 0.2310	 0.3970
ra	 0.4080	 0.4530
sa	 0.2800	 0.4180
ta	 0.1740	 0.2500
ua	 0.3040	 0.4330
va	 0.5170	 0.4760

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Chain	Atom inclusion	Q-score
wa	 0.5120	 0.4890
xa	 0.4050	 0.4720
ya	 0.4140	 0.4730
za	 0.4070	 0.4610