



Full wwPDB EM Validation Report ⓘ

Dec 2, 2025 – 11:40 AM EST

PDB ID : 8TPU / pdb_00008tpu
EMDB ID : EMD-41485
Title : Subtomogram averaged consensus structure of the malarial 80S ribosome in Plasmodium falciparum-infected human erythrocytes
Authors : Anton, L.; Cheng, W.; Zhu, X.; Ho, C.M.
Deposited on : 2023-08-05
Resolution : 4.10 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:

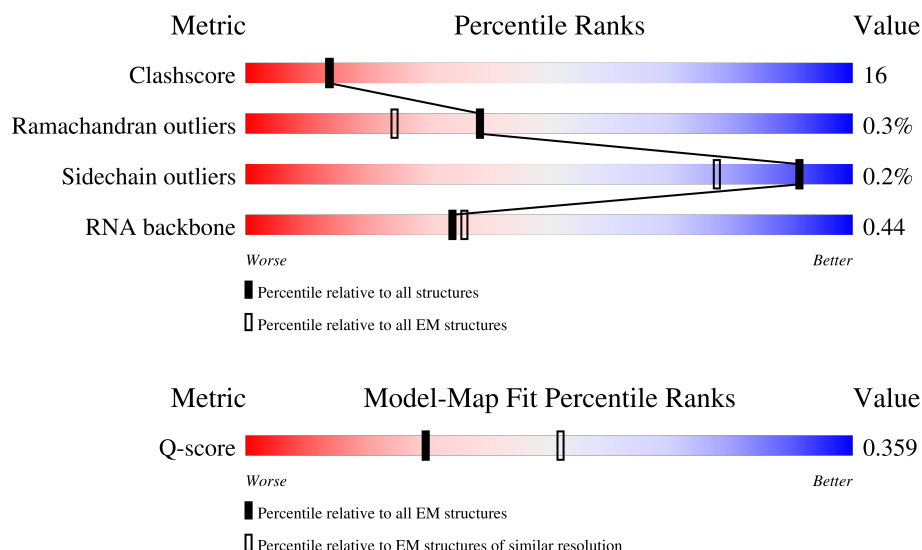
EMDB validation analysis : 0.0.1.dev129
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.46

1 Overall quality at a glance

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

The reported resolution of this entry is 4.10 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.



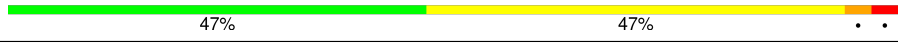
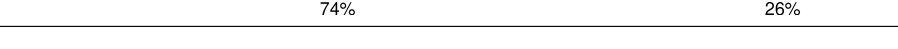
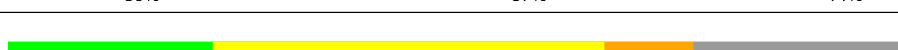
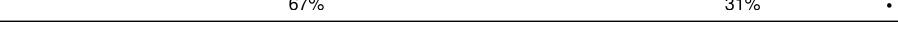
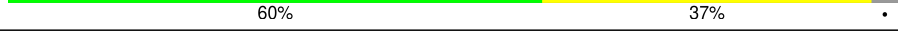
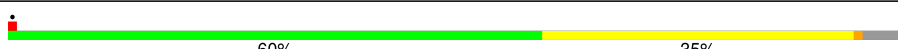
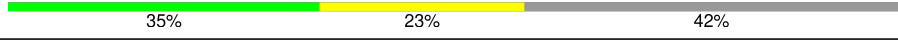
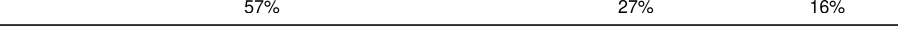
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
RNA backbone	6643	2191	-
Q-score	-	25397	6458 (3.60 - 4.60)

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	S1	133	
2	S2	105	
3	S3	107	

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Mol	Chain	Length	Quality of chain
4	S4	82	
5	S5	58	
6	S6	43	
7	S7	74	
8	SA	2087	
9	SB	262	
10	SC	263	
11	SD	221	
12	SE	189	
13	SF	261	
14	SG	272	
15	SH	306	
16	SI	195	
17	SJ	194	
18	SK	130	
19	SL	218	
20	SM	144	
21	SN	118	
22	SO	137	
23	SP	151	
24	SQ	145	
25	SR	141	
26	SS	156	
27	ST	54	
28	SU	151	

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Mol	Chain	Length	Quality of chain
29	SV	161	
30	SW	137	
31	SX	145	
32	SY	170	
33	SZ	82	
34	AA	3788	
35	AC	159	
36	AB	119	
37	AL	215	
38	A1	146	
39	A2	126	
40	A4	67	
41	A6	107	
42	A7	120	
43	AN	165	
44	A8	130	
45	A9	139	
46	Aa	149	
47	Ab	112	
48	Ad	87	
49	Ae	51	
50	Af	128	
51	AP	203	
52	Ah	95	
53	Ai	103	

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Mol	Chain	Length	Quality of chain
54	AI	221	
55	AJ	283	
56	Ac	92	
57	AK	202	
58	AM	139	
59	AS	187	
60	AO	148	
61	AQ	219	
62	AR	294	
63	AW	173	
64	AY	190	
65	AT	182	
66	AZ	126	
67	A3	124	
68	A5	257	
69	AD	260	
70	AE	386	
71	AF	411	
72	AG	173	
73	AU	184	
74	AH	190	
75	AV	162	
76	Ag	39	
77	AX	139	
78	A0	162	

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Mol	Chain	Length	Quality of chain
79	S8	323	24% 59% 39%

2 Entry composition

There are 79 unique types of molecules in this entry. The entry contains 195395 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	S1	120	Total	C	N	O	S	0	0
			985	632	189	162	2		

- Molecule 2 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms				AltConf	Trace
2	S2	41	Total	C	N	O	0	0
			320	208	56	56		

- Molecule 3 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	S3	95	Total	C	N	O	S	0	0
			781	478	169	128	6		

- Molecule 4 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	S4	76	Total	C	N	O	S	0	0
			586	368	102	107	9		

- Molecule 5 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms				AltConf	Trace
5	S5	58	Total	C	N	O	0	0
			458	285	93	80		

- Molecule 6 is a protein called Small ribosomal subunit protein eS30.

Mol	Chain	Residues	Atoms				AltConf	Trace
6	S6	43	Total	C	N	O	0	0
			346	213	75	58		

- Molecule 7 is a RNA chain called 60S ribosomal protein L24, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	S7	74	Total	C	N	O	P	0	0
			1571	702	275	521	73		

- Molecule 8 is a RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	SA	1608	Total	C	N	O	P	0	0
			34208	15346	6106	11170	1586		

- Molecule 9 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	SB	210	Total	C	N	O	S	0	0
			1713	1097	301	303	12		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
10	SC	195	Total	C	N	O	S	0	0
			1538	990	266	273	9		

- Molecule 11 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	SD	157	Total	C	N	O	S	0	0
			1228	782	225	214	7		

- Molecule 12 is a protein called 40S ribosomal protein S9, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	SE	185	Total	C	N	O	S	0	0
			1514	962	290	260	2		

- Molecule 13 is a protein called 40S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	SF	257	Total	C	N	O	S	0	0
			2061	1320	377	356	8		

- Molecule 14 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	SG	224	Total	C	N	O	S	0	0
			1757	1132	307	309	9		

- Molecule 15 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	SH	204	Total	C	N	O	S	0	0
			1651	1046	316	283	6		

- Molecule 16 is a protein called 40S ribosomal protein S5, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	SI	180	Total	C	N	O	S	0	0
			1424	893	263	258	10		

- Molecule 17 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	SJ	188	Total	C	N	O	S	0	0
			1528	982	264	278	4		

- Molecule 18 is a protein called 40S ribosomal protein S15A, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	SK	129	Total	C	N	O	S	0	0
			1037	665	189	178	5		

- Molecule 19 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	SL	171	Total	C	N	O	S	0	0
			1383	872	264	243	4		

- Molecule 20 is a protein called 40S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	SM	138	Total	C	N	O	S	0	0
			1098	704	200	193	1		

- Molecule 21 is a protein called 40S ribosomal protein S20e, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	SN	98	Total	C	N	O	S	0	0
			772	484	135	148	5		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
22	SO	79	Total	C	N	O	S	0	0
			686	450	116	118	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
23	SP	127	Total	C	N	O	S	0	0
			954	591	184	176	3		

- Molecule 24 is a protein called 40S ribosomal protein S23, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	SQ	144	Total	C	N	O	S	0	0
			1129	712	222	193	2		

- Molecule 25 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	SR	98	Total	C	N	O	S	0	0
			746	474	123	145	4		

- Molecule 26 is a protein called 40S ribosomal protein S18, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	SS	128	Total	C	N	O	S	0	0
			1046	657	205	180	4		

- Molecule 27 is a protein called 40S ribosomal protein S29, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	ST	48	Total	C	N	O	S	0	0
			405	252	85	64	4		

- Molecule 28 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	SU	149	Total	C	N	O	S	0	0
			1202	769	220	210	3		

- Molecule 29 is a protein called 40S ribosomal protein S11, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	SV	146	Total	C	N	O	S	0	0
			1206	772	227	200	7		

- Molecule 30 is a protein called 40S ribosomal protein S17, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	SW	95	Total	C	N	O	S	0	0
			785	498	149	135	3		

- Molecule 31 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	SX	96	Total	C	N	O	S	0	0
			776	497	137	138	4		

- Molecule 32 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	SY	154	Total	C	N	O	S	0	0
			1266	811	239	214	2		

- Molecule 33 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	SZ	72	Total	C	N	O	S	0	0
			557	346	102	105	4		

- Molecule 34 is a RNA chain called 28S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	AA	3193	Total	C	N	O	P	0	0
			67884	30446	12054	22223	3161		

- Molecule 35 is a RNA chain called 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	AC	151	Total	C	N	O	P	0	0
			3215	1444	589	1034	148		

- Molecule 36 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	AB	118	Total	C	N	O	P	0	0
			2522	1128	461	816	117		

- Molecule 37 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	AL	211	Total	C	N	O	S	0	0
			1761	1119	349	290	3		

- Molecule 38 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	A1	140	Total	C	N	O	S	0	0
			1134	736	204	191	3		

- Molecule 39 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	A2	104	Total	C	N	O	S	0	0
			828	529	150	146	3		

- Molecule 40 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	A4	66	Total	C	N	O	S	0	0
			555	347	116	90	2		

- Molecule 41 is a protein called 60S ribosomal protein L30e, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	A6	97	Total	C	N	O	S	0	0
			732	458	131	136	7		

- Molecule 42 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	A7	96	Total	C	N	O	S	0	0
			793	508	151	129	5		

- Molecule 43 is a protein called 60S ribosomal protein L14, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	AN	147	Total	C	N	O	S	0	0
			1210	787	212	205	6		

- Molecule 44 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	A8	124	Total	C	N	O	S	0	0
			1029	655	205	162	7		

- Molecule 45 is a protein called 60S ribosomal protein L35ae, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	A9	102	Total	C	N	O	S	0	0
			840	541	162	134	3		

- Molecule 46 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	Aa	105	Total	C	N	O	S	0	0
			854	528	183	137	6		

- Molecule 47 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	Ab	95	Total	C	N	O	S	0	0
			756	477	150	129			

- Molecule 48 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	Ad	72	Total	C	N	O	S	0	0
			603	395	107	99	2		

- Molecule 49 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	Ae	43	Total	C	N	O	S	0	0
			388	243	92	52	1		

- Molecule 50 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	Af	51	Total	C	N	O	S	0	0
			413	255	87	66	5		

- Molecule 51 is a protein called Ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	AP	202	Total	C	N	O	S	0	0
			1682	1064	349	265	4		

- Molecule 52 is a protein called Large ribosomal subunit protein eL43.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	Ah	84	Total	C	N	O	S	0	0
			653	414	126	106	7		

- Molecule 53 is a protein called Large ribosomal subunit protein eL42.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	Ai	94	Total	C	N	O	S	0	0
			769	484	150	126	9		

- Molecule 54 is a protein called 60S ribosomal protein L6, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	AI	207	Total	C	N	O	S	0	0
			1685	1096	298	286	5		

- Molecule 55 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	AJ	222	Total	C	N	O	S	0	0
			1813	1174	323	309	7		

- Molecule 56 is a protein called Ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	Ac	89	Total	C	N	O	S	0	0
			709	441	150	113	5		

- Molecule 57 is a protein called 60S ribosomal protein L13, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	AK	201	Total	C	N	O	S	0	0
			1659	1064	311	276	8		

- Molecule 58 is a protein called 60S ribosomal protein L23, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	AM	132	Total	C	N	O	S	0	0
			996	631	179	178	8		

- Molecule 59 is a protein called 60S ribosomal protein L18-2, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	AS	186	Total	C	N	O	S	0	0
			1503	958	299	241	5		

- Molecule 60 is a protein called 60S ribosomal protein L27a, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	AO	147	Total	C	N	O	S	0	0
			1172	747	232	189	4		

- Molecule 61 is a protein called 60S ribosomal protein L10, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	AQ	189	Total	C	N	O	S	0	0
			1544	984	291	261	8		

- Molecule 62 is a protein called 60S ribosomal protein L5, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	AR	252	Total	C	N	O	S	0	0
			2049	1301	385	357	6		

- Molecule 63 is a protein called 60S ribosomal protein L17, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	AW	170	Total	C	N	O	S	0	0
			1319	824	266	222	7		

- Molecule 64 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	AY	101	Total	C	N	O	S	0	0
			796	502	144	144	6		

- Molecule 65 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	AT	181	Total	C	N	O	S	0	0
			1509	952	309	244	4		

- Molecule 66 is a protein called 60S ribosomal protein L26, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	AZ	121	Total	C	N	O	S	0	0
			1000	626	206	165	3		

- Molecule 67 is a protein called 60S ribosomal protein L35, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	A3	119	Total	C	N	O	S	0	0
			994	635	194	163	2		

- Molecule 68 is a protein called 60S ribosomal protein L7, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	A5	223	Total	C	N	O	S	0	0
			1879	1211	357	306	5		

- Molecule 69 is a protein called 60S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	AD	247	Total	C	N	O	S	0	0
			1866	1166	374	317	9		

- Molecule 70 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	AE	380	Total	C	N	O	S	0	0
			3061	1948	575	521	17		

- Molecule 71 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	AF	390	Total	C	N	O	S	0	0
			3094	1962	594	527	11		

- Molecule 72 is a protein called 60S ribosomal protein L11a, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	AG	124	Total	C	N	O	S	0	0
			1010	636	197	171	6		

- Molecule 73 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	AU	180	Total	C	N	O	S	0	0
			1497	946	289	255	7		

- Molecule 74 is a protein called 60S ribosomal protein L6, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	AH	185	Total	C	N	O	S	0	0
			1475	950	264	255	6		

- Molecule 75 is a protein called 60S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	AV	155	Total	C	N	O	S	0	0
			1275	814	241	214	6		

- Molecule 76 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	Ag	37	Total	C	N	O	S	0	0
			343	210	86	45	2		

- Molecule 77 is a protein called 60S ribosomal protein L22, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	AX	97	Total	C	N	O	S	0	0
			824	548	135	139	2		

- Molecule 78 is a protein called 60S ribosomal protein L24, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	A0	62	Total	C	N	O	S	0	0
			521	336	97	87	1		

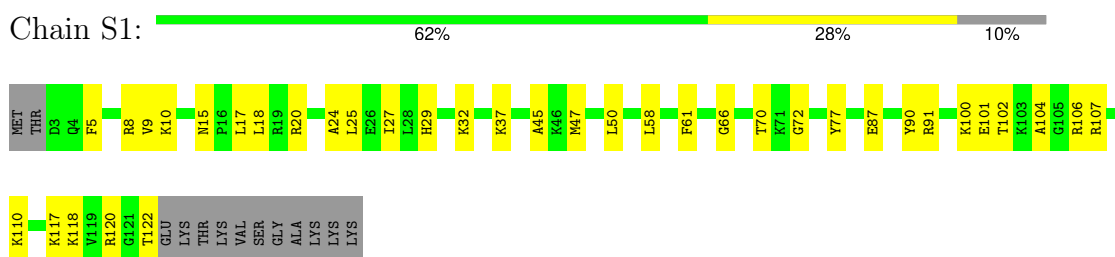
- Molecule 79 is a protein called Receptor for activated c kinase.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	S8	317	Total	C	N	O	S	0	0
			2464	1557	419	478	10		

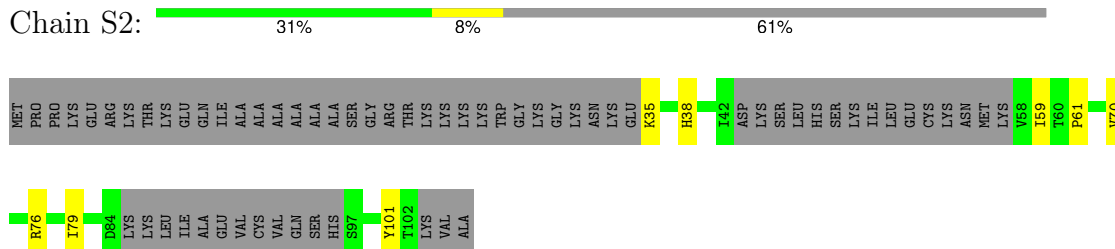
3 Residue-property plots

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

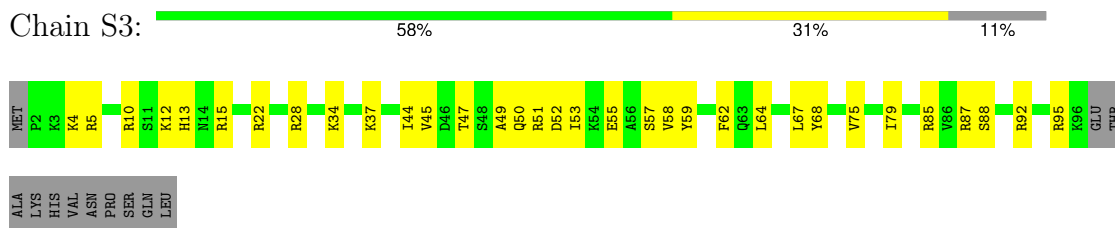
• Molecule 1: 40S ribosomal protein S24



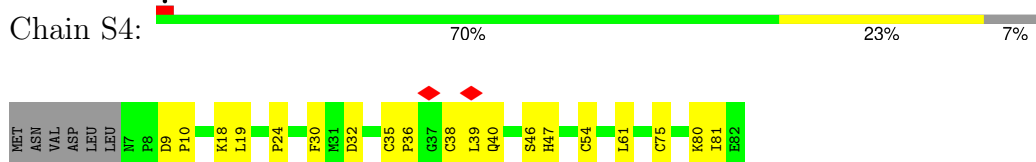
• Molecule 2: 40S ribosomal protein S25



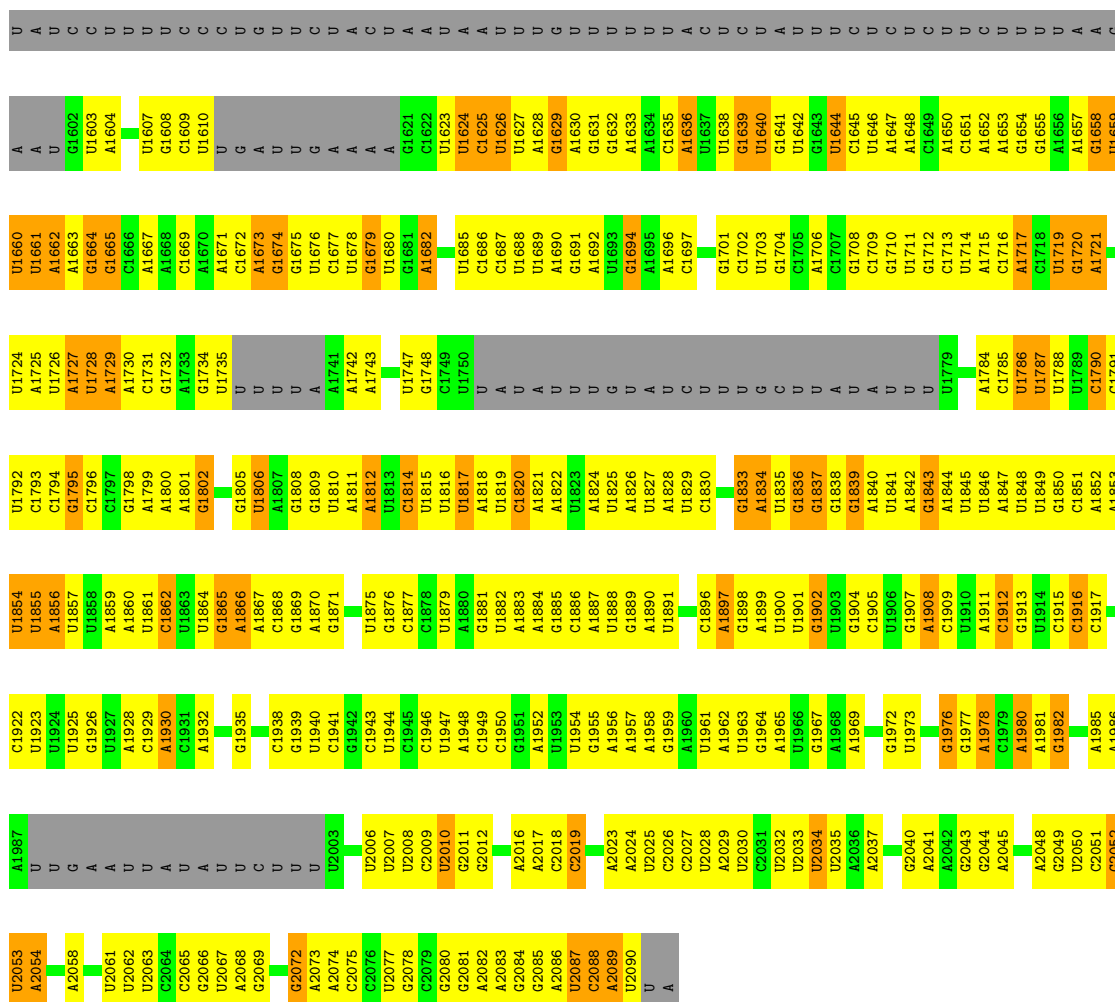
• Molecule 3: 40S ribosomal protein S26



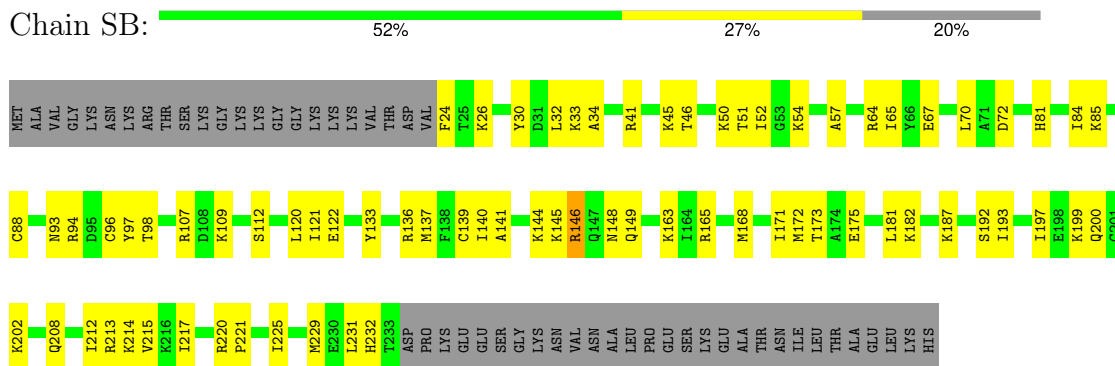
• Molecule 4: 40S ribosomal protein S27



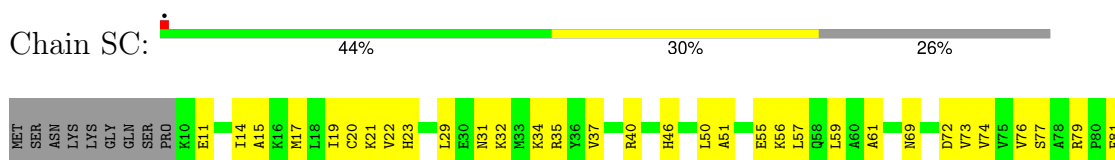
U1417	A	C1224	A1294	C1091	C949	G815	C748	U625	A557	C489	A	A
C1418	A	A1225	A1295	A1092	A950	U816	U749	A626	G558	C490	U	A
C1419	U	A1226	C1296	U1093	U951	U817		A627	G559	A491	U	U
G1420	U	G1227	U1094	U1093	U952	U818	U752	U628	G560		U	U
U1421	U		A1095	A1096	C953	A819	U753	A629	C561	G494	U	G
U1422	U	A1232	A1096	A1097	G954	A820	A754	C630	G564	C	U	C
A1423	U	A1233	C1097	U1098	U955	A821	A755	G631	U665	C	U	A
A1424	C	A1234	U1098	A1022	A956	A822	A756	U632	U666	A	U	A
C1425	U	G1235	A1099	A1023	U963	G823	A757	U633	C566	U	U	U
G1426	U	U1236	U1100	A1024	U965	A824		C634	U667	U	U	U
A1427	U	C1165	G1101	A1026	U966	A825	C760	G635	U570	U	U	U
C1428	U	G1166		C1027	U967	A826	C	U636		U	U	U
U1429	U	U1167	C1106	U1028	U968	A827	C	A637		U	U	U
G1430	U	C1168	U1107	U1029	A967	A828	C		C573	U	U	U
A1431	U	C1169	A1108	C1030	G968	A829	C	G641	A574	G	U	U
A1432	U	U1172	U1109		U969	U830	C	A642	G575	G	U	U
C1433	U	C1173	G1110	U1033	A969	U831	U752	U643	C576	U	U	U
U1434	U	A1174	U1111	U1034	G970	U832	U753	U644	A577	U	U	U
G1435	U	G1175	U1112	A1035	U972	A833	U754	U645	G578	U	U	U
U1436	U	U1176	U1113	U1036	G973	A834	A755	U646		U	U	U
U1437	U	C1177	U1114	A1037	G974	G835	A756	C647	G581	U	U	U
C1438	U	C1178		C1038	A975	U836		A648	C582	U	U	U
A1439	U	G1179	U1118	A1039	A976	A837		A649	G583	U	U	U
U1440	U	U1180	G1119		U977	U838		A650	U584	U	U	U
C1441	U	U1181	U1120	U1042	U978	U		G651	A513	U	U	U
U1442	U	A1182	A1121	A1043	C979	U		A652	U514	U	U	U
G1443	U	U1183	G1123	U1044	U980	A		A653	U515	U	U	U
C1444	U	C1184	U1124	G1045	U981	C		U654	G517	U	U	U
U1445	U	G1185	U1124		A982			U655	C518	U	U	U
A1446	U	C1186		A1057	G983			G	A519	U	U	U
U1447	U	A1187	G	U1058	A984			A	U520	U	U	U
U1448	U	U1188	U	U1059				A	G521	U	U	U
U1449	U	A1189	U	U1060	U987			U	G522	U	U	U
A1450	U		A	A1061	U988			A	U523	U	U	U
C1451	U	A1193	A	A1062	U989			U	G524	U	U	U
U1391	U		A	G1063	U990			U	G525	U	U	U
C1392	U	C1197	A	A1064	G991			U	G526	U	U	U
G1393	U	U1198	U	C1065	G992			A	A527	U	U	U
U1394	U	U1199	U	G1066	A993			U	A528	U	U	U
G1395	U	U1200	A	A1067	G994			U	U529	U	U	U
A1396	U	G1201	A	U1068	A995			U	G603	U	U	U
U1397	U	C1204	A	C1069	C996			U	A601	U	U	U
U	U	U1204	G	A1070	G997			U	U600	U	U	U
A	U	U1205	U	G1071	A998			U	A606	U	U	U
U1400	U	C1206	C	A1072	A999			A	U607	U	U	U
G1401	U	U1207	A	U1073	A1002			A	A608	U	U	U
A1402	U	G1208	U	A1074	C1003			U	U609	U	U	U
U1403	U	U1209	A	C1075	G995			U	U610	U	U	U
U1404	U	G1210	U	U1076	U1004			A	A543	U	U	U
U1405	U	U1211	U	G1077	G1005			U	G544	U	U	U
A1406	U	U1212	U	U1078	C1006			U	A545	U	U	U
U1407	U	A1213	C	U1079	U988			A	G546	U	U	U
U	U	U1214	G	C1079	U989			A	U547	U	U	U
U	U	G1215	U	U1080	A999			A	A548	U	U	U
U	U	U1216	G	U1081	G940			A	C549	U	U	U
U	U	U1217	G	U1082	A1009			A	C550	U	U	U
U	U	U1218	G	A1083	U942			A	A551	U	U	U
U	U	U1219	U	U1084	U943			A	A552	U	U	U
U	U	C1220	U	U1085	G944			A	A553	U	U	U
U	U	G1221	G	A1087	U947			A	U554	U	U	U
U	U	U1222	U	U1088	G947			A	G621	U	U	U
U	U	C1223	C	A1088	A948			A	A622	U	U	U
U	U	C1293						A	G623	U	U	U
U	U							A	U624	U	U	U

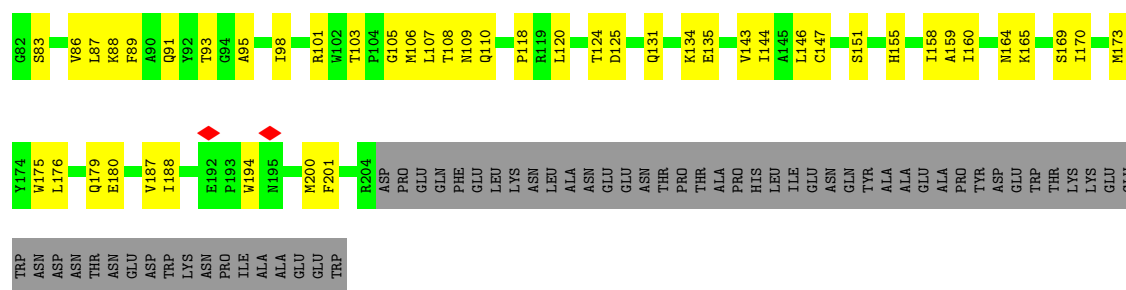


• Molecule 9: 40S ribosomal protein S3a



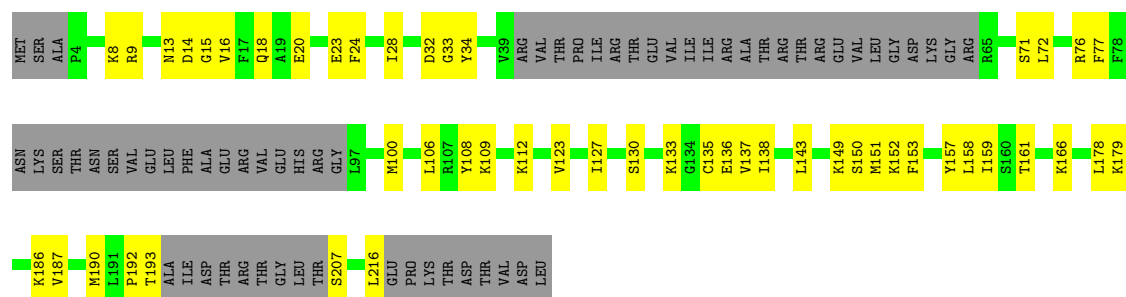
• Molecule 10: 40S ribosomal protein SA





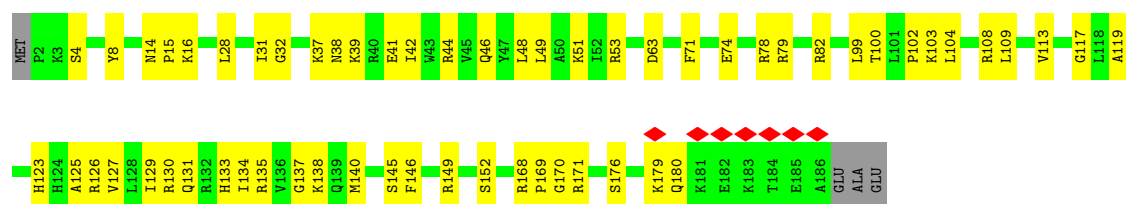
- Molecule 11: 40S ribosomal protein S3

Chain SD: 48% 23% 29%



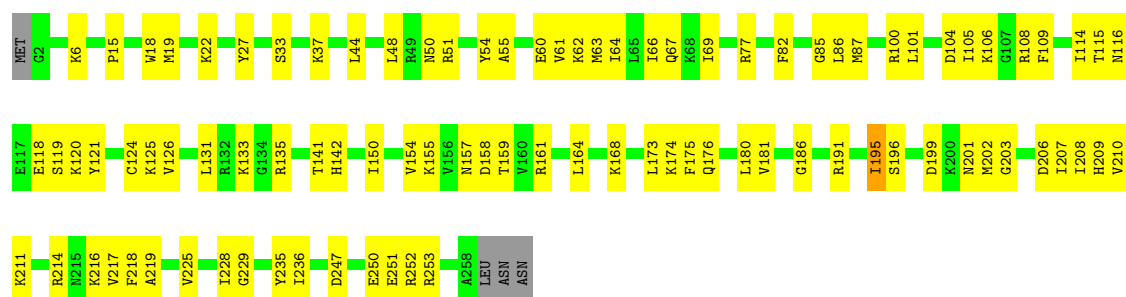
- Molecule 12: 40S ribosomal protein S9, putative

Chain SE: 67% 31% 2%



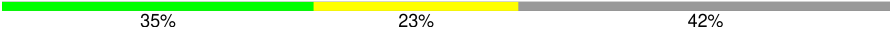
- Molecule 13: 40S ribosomal protein S4

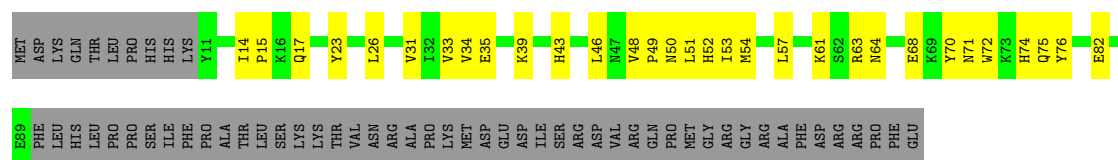
Chain SF: 63% 35% 2%



- Molecule 14: 40S ribosomal protein S5

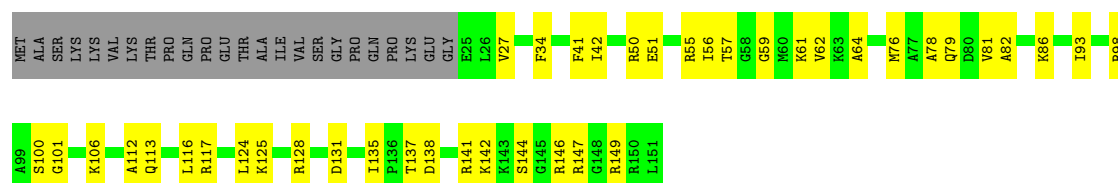
Chain SG: 57% 25% 18%

Chain SO: 



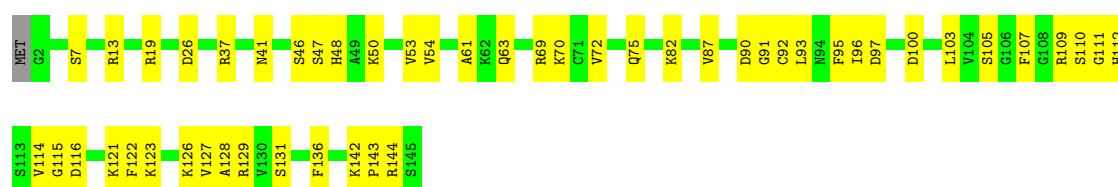
- Molecule 23: 40S ribosomal protein S11

Chain SP: 



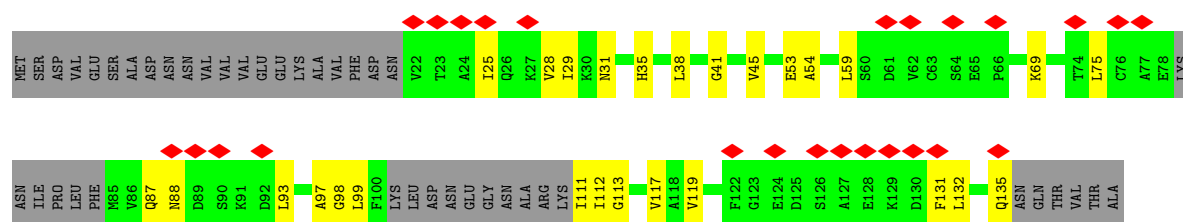
- Molecule 24: 40S ribosomal protein S23, putative

Chain SQ: 



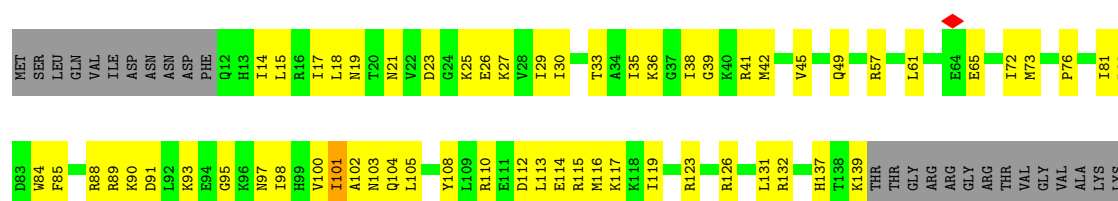
- Molecule 25: 40S ribosomal protein S12

Chain SR: 



- Molecule 26: 40S ribosomal protein S18, putative

Chain SS: 



LYS
GLY
ALA

- Molecule 27: 40S ribosomal protein S29, putative

Chain ST:  65% 24% 11%

MET GLY CYS ILE LEU ASN V7 H8 P9 K10 V21 R38 Q39 C40 F41 R42 R43 R44 I48 K52 Y53 R54

- Molecule 28: 40S ribosomal protein S15

Chain SU:  60% 38% 2%

MET GLY R3 M4 Y5 I11 K19 P23 S24 W25 L26 K29 P30 S31 E32 I33 E34 A36 I37 I38 K39 Q45 T46 P47 S48 Q49 I50 L54 R55 D56 P61 Q62 V63 K64 S65 V66 T67 G68 N69 K70 I71 I72 R73 I74 L75 R76 A81 E86 D87 L88

A95 M98 R99 K100 H101 K104 N105 D108 R114 L115 L116 L117 T118 E119 S120 K121 I122 H123 R124 W139 F140 Y141 A151

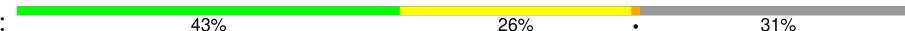
- Molecule 29: 40S ribosomal protein S11, putative

Chain SV:  58% 32% 9%

MET ALA THR LEU D6 Q8 H9 K15 Q16 E17 K25 LYS ILE LYS LYS GLY SER LYS SER TVR ILE R36 K39 K40 V41 G42 L43 P48 V55 V56 V57 D58 K59 K60 G61 P62 F63 T64 G65 N66 R70 I73 L74 K75 N81 K82 M83 T86

I89 R90 H95 R102 F103 E104 H107 N109 I110 P111 S115 P116 C117 E122 V126 T127 S128 G129 Q130 L134 V138 R139 F140 N141 V145 S153 K156 L160 F161

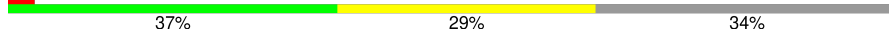
- Molecule 30: 40S ribosomal protein S17, putative

Chain SW:  43% 26% 31%

MET GLY R3 V4 R5 K10 R11 A12 I16 V17 F18 K19 Y20 K23 L24 T25 L26 D27 I30 K33 I34 V38 A39 I40 I41 P42 S43 K47 N48 K49 F53 H56 I61 Q62 I69 K72 E75 R78 E79 R80 D83 PHE VAL PRO GLU

LYS SER GLN ILE ASP VAL SER VAL ILE Y97 V98 E99 P100 D101 T102 I106 L109 G110 ILE ASN ILE ILE SER ASN MET LYS VAL HIS ASN PRO MET ILE THR ASN ASN GLN LYS GLN ASN ARG MET ASN ASN GLN PHE

- Molecule 31: 40S ribosomal protein S19

Chain SX:  37% 29% 34%

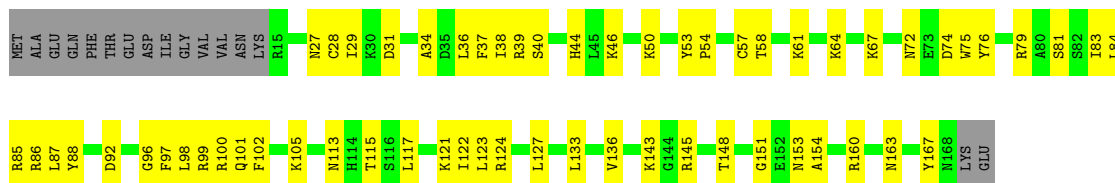
MET GLU ASP ALA ASN PRO LYS THR PHE ARG THR PHE GLN TYR ARG GLY VAL D21 L22 D23 G30 D31 I34 F37 K38 A39 R40 Q41 Y114 R42 R43 F44 F45 Q46 R47 K51 K54 L57 K58 K59 I60 R61 K62 S63 K64 E68 P69 G70 E71 K72 P73

P77 L80 R81 N82 M83 T84 I85 I86 F88 M89 V90 G91 S92 A95 VAL HIS ASN GLY LYS GLN TYR T103 I107 K108 M111 I112 G113 Y114 Y115 L116 G117 Y123 LYS HIS THR ARG HIS GLY PRO GLY ILE GLY ALA THR HIS SER ARG ARG PHE ILE PRO LEU

LYS

- Molecule 32: 40S ribosomal protein S19

Chain SY:



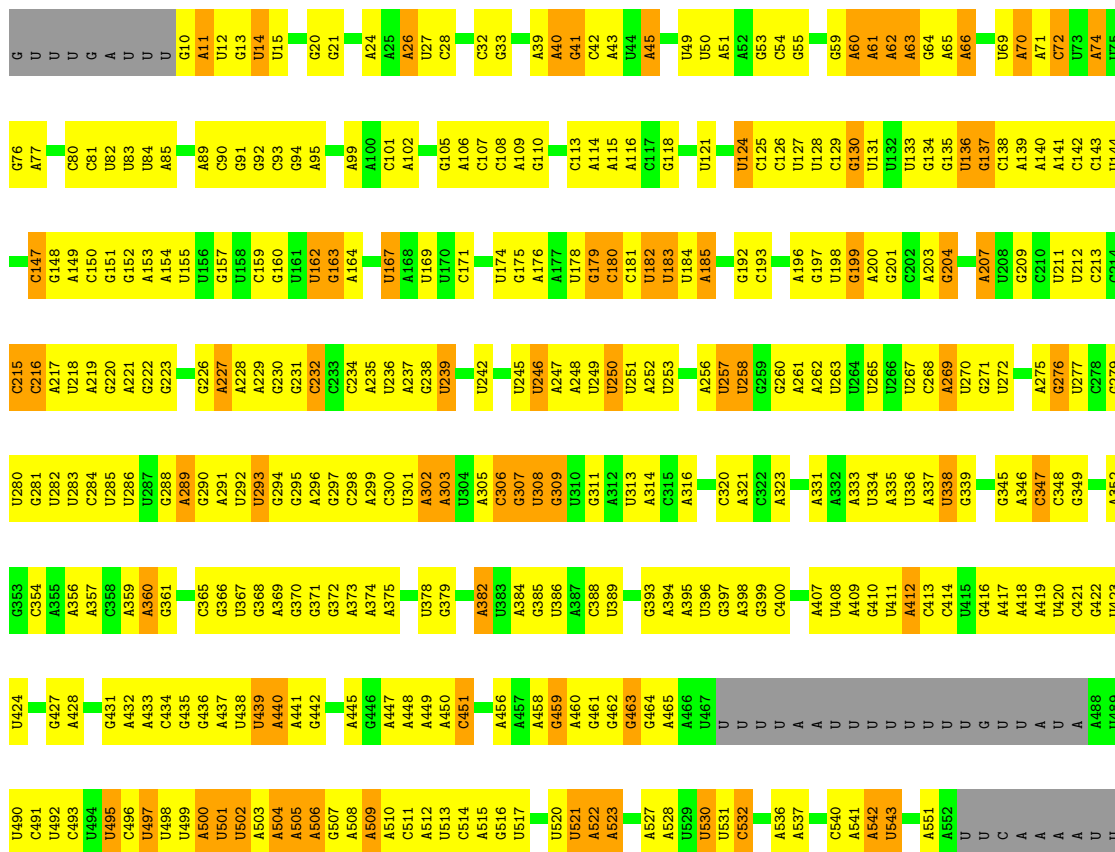
- Molecule 33: 40S ribosomal protein S21

Chain SZ:



- Molecule 34: 28S ribosomal RNA

Chain AA:



U1487	A1422	G1294	A1224	U1157	U1094	G1027	U947	A880	U	G758	A695	U627	U
U	G1423	A1295	A1225	G1158	U1095	G1028	G948	A881	U	U759	C696	U628	C
U	C1424	U1296	A1226	A1159	G1096	U1029	A949	G882	C821	U760	A697	A629	U
A	C1425	U1297	U1227	C1160	A1097	C1030	G950	C883	A822	U761	G698	U630	U
U	C1426	A1298	A1228	U1161	U1098	G1031	A884	A885	U823	A762	U699	U631	U
U	U1427	G1299	A1229	C1162	U1099	A1032	U952	U	U824	U763	A700		
U	U1428	C1300	A1230	A1163	A1100	A1033	U953	U	G825	G764	C701	U635	A
C	A1429	U1301	A1231	U1164	A1101	A1034	G954	U	U826	U765	U702	U636	A
U	A1430	G1302	U1232	U1165	U1102	G1035	A955	A888	A827	U766	U703	U637	U
U	A1431	C1303	A1233	U1166	A1103	A1036	A956	G890	U828	U767	U704	G638	U
C	A1432	C1304	A1234						A829	U768	C705	C639	U
G	U1433	U1305	U1235	U1170	A1106	A1039	A962	U830	U830	U769	U706	G640	U
G	U1434	U1306	C1236	A1171	U1107	A1040	C963	U833	U770	U770	U707	G641	U
A	U1435	C1237	U1173	U1172	U1108	U1041	G964	G835	U771	A708	A642	A642	
A	U1308	C1238	C1174	C1175	U1109	G1042	A965	U894	A772				U577
G	U1309	U1239	C1176	A1111	U1110	G1043	A966	G835	A773	C712	G643	G644	U578
C	U1311	G1240	C1177	A1112	A1111	A1044	A967	G	A774	U715	C714	C579	U
C	U1316	U1241	A1177	C1113	G1116	A1047	G968	U	U775	C716	U648	C581	U
A	U1317	U1242	U1178	A1114	U1117	G1048	U969	C903	U777	C717	U649	U582	U
A	A1318	G1243	U1179	A1115	U1118	U1049	U974	G904	U778	U718	U650	U583	U
A	U1319	C1244		G1115	U1119	C1050	G975	A905	U779	C719	A651	U584	U
U	U1320	G1245	A1186	G1116	A1118	U1051	G976	G906	C	U720	A652	C585	U
C	A1321	C1246	A1187	U1117	A1119	U1055	G979	C907	U	U721	U655		
C	G1322	U1248	A1188	A1120	G1119	G1056	A980	U909	U	U722	U656		
C	A1323	U1249	G1189	G1121	U1120	U1057	U981	U	U723	A724	A657		
U	U1324	G1254	G1190	A1122	U1121	C1058	U982	A910	U724	U725			U591
U	C1325	U1255	G1191	U1123	A1124	G1059	G983	U911	U	C592			U
A	C1326	U1256	G1192	A1124	U1125	U1062	A984	U912	U	A593	U660		U
G	C1327		G1193	G1125	U1126	U1063	G985	G914	U	A727	C726	G661	U
G	A1328	G1259	A1194	U1127	U1127	A1064	U986	G915	A	C728	U665	U665	U
G	U1329	C1260	A1195	G1127	U1128	U1065	U987	U916	U	G729	U666	U666	U
G	A1330	A1261	A1196	U1127	U1129	U1066	G988	A917	U	U730	U667	U667	U
U	C1331	G1262	U1197	U1130	U1130	U1067	A989	G918	A	U792	U668	U668	U
U	A1332	A1263	A1198	G1131	A1131	U1068	U993	C922	U	C733	C669	C669	U
U	A1333		A1199	G1132	A1132	C1068	G994	G923	A793	A734	U670	U600	U
U	G1334	U1266	C1200	A1133	A1133	G1069	A995	G924	G795	A735	U671	G601	U
A	U1337	G1267	U1201	A1136	A1136	A1070	C996	G925	C796	G736	C672		A606
A	U1338	C1268	C1202	U1202	U1202	A1071	G997	A925	U797	G737	U673	A607	U
C	U1339	C1269	A1203	A	A	G1072	G998	A860	U798	A738	U674	A608	U
A	U1340	A1270	A1204	U	U	G1073	U998	C861	A799	G739	A675		U
A	U1342	U1271	U1205	C1139	C1139	A1074	G999	U862	A800	U740		C609	U
C	U1343	A1272	U1206	A1140	A1140	U1075	G1006	G929	U801	C741		U610	U
U	C1344	G1273	U1207	G1141	G1141	C1076	U1007	C930	U802	U742		G611	U
C	A1345	A1274	G1208	G1142	G1142	U1077	U1007	U931	A803	A743		G612	U
C	U1346		U1209	G1143	G1143	C1078		U932		G744		C613	U
A	A	G1277	A1210	A	A	U1079	C1014	U933	G806	C745		U614	U
A	A	U1278	A1211	A	A	G1082	A1015	G934	U807	A746		U615	U
U	U	U1279	U1211	A	A	U1083	A1016	A935	A808	A747		U616	U
U	G	G1280	U1212	U	U	A1084	U1017	A936	A809	A748		A617	U
A	A	A1215		C	C	C1085	C1018	C937	U810	U749		U618	U
C	C	C1216	U1217	G	G	A1085	A1019	A938	A811	G750		U619	U
C	A	U1217	C1218	U	U	C1086	C1020	U939	U812	U751		U620	U
A	A	C1218	C1219	U	U	U1089	G1021	A940	G813	G752		C621	U
A	U	A1286	A1219	U	U	U1090	U1022	G941	U	C753		U622	U
A	A	U1287	U1220	U	U	G1091	U1023	C942	U	G754		C623	U
G	G	C1288	U1221	C1154	C1154	U1092	U1024	G943	U	A755		U624	U
G	U	A1222	U1222	C1155	C1155	A1093	A1025	G877	U	A756		A625	U
U	U	U1223	U1223	U1156	U1156	G1093	G1026	U944	U817	G757		A626	U



G3658	A3590	U3523	A3447	U3376	G3311	G3235	A3161	U3098	U3020	G2941	A	U2816	A	A2690
C3659	U3591	G3524	U3448	A3377	U3312	G3236	A3162	C3089	C3021	G2945	U	U2817	A	A2691
A3660	A3592	A3525	U3449	C3378	U3313	G3237	G3163	G3100	U3022	G2946	U	U2818	G	A2694
A3661	U3593	A3526	G3450	A3379	G3319	G3240	G3164	G3101	C3023	G2947	U	U2819	U	A2695
U3662	G3594	U3527	G3451	U3380	C3320	U3241	U3165	C3104	U3024	G2948	U	C2821	G	A2696
A3663	A3528	A3381	U3452	U3382	U3321	U3242	U3166	U3105	U3025	G2949	U	U2822	G	A2697
G3664	A3529	U3383	G3453	A3384	C3322	U3243	A3167	U3106	G3026	G2950	U	U2823	A	C2698
U3665	A3530	A3385	A3458	A3386	U3323	C3244	C3168	U3107	U3027	G2884	U	U2824	G	C2699
U3666	C3531	U3387	A3459	U3388	U3324	G3245	A3169	U3108	A3028	A2886	U	C2825	G	A2700
C3667	A3532	A3388	C3460	U3389	U3325	U3246	A3170	U3109	G3029	U2952	U	U2826	U	C2701
U3668	A3533	A3389	G3463	G3326	G3326	U3247	A3172	U3110	A3030	U2953	U	C2827	A	U2704
U3669	U3534	U3390	U3464	A3327	U3327	C3248	G3175	U3111	A3033	A2954	U	U2828	G	A2828
U3670	U3535	G3398	G3465	A3328	A3328	G3255	G3176	U3112	U3033	G2957	U	U2829	A	U2705
A3671	A3538	C3393	G3468	C3329	C3330	A3256	U3177	U3113	A3034	G2958	U	U2830	A	G2706
C3672	U	A3394	G3469	A3331	G3331	C3257	A3178	G3114	A3035	G2959	U	U2831	A	G2707
A3673	U	A3395	G3470	G3332	G3332	G3258	A3179	C3115	A3036	U2960	U	U2833	C	C2708
A3674	C	A3398	A3471	U3333	U3333	G3259	A3180	A3117	A3042	G2961	U	U2834	G	U2709
C3675	U	U3399	A3472	U3334	U3334	A3260	U3181	A3118	A3043	G2962	U	G2835	A	U2710
A3676	G	C3400	A3473	U3335	U3335	G3261	G3182	A3119	A3044	G2963	U	G2836	A	U2711
U3677	U	C3401	C3474	U3336	U3336	A3262	A3183	U3120	U3047	U2964	U	G2837	A	U2714
U3678	U	A3402	U3475	U3337	U3337	G3263	C3184	G3121	U3048	A2965	U	A	U	U2715
G3683	U	A3403	A3476	U3338	U3338	U3264	G3187	G3122	G3049	G2970	U	U2838	U	A2717
A3684	U	C3404	G3477	U3339	U3339	U3264	G3187	G3123	U3051	G2971	U	U2839	G	U2718
A	U	U3405	G3478	U3340	U3340	A3270	G3187	G3124	U3052	G2976	U	U2840	U	U2719
U	U	U3406	U3479	A3341	A3341	C3275	C3193	U3125	U3053	A2977	U	U2841	U	C2720
G3688	U	A3407	U3480	C3342	C3342	G3276	C3194	G3126	U3055	U2977	U	U2842	U	U2721
C3689	U	G3408	U3481	G3343	G3343	G3277	C3195	A3127	U3056	A2978	U	U2843	U	G2722
A3690	U	A3409	G3482	U3344	U3344	G3277	A3196	A3128	U3057	A2979	U	U2844	U	G2723
C3691	U	U3410	U3483	U3345	U3345	U3278	A3197	U3129	U3058	A2980	U	U2845	U	C2724
C3692	U	C3411	U3484	G3411	U3346	U3279	C3198	U3130	U3059	G2981	U	U2846	U	U2725
A3693	C	A3412	G3485	C3412	C3412	U3280	C3199	U3131	U3062	G2982	U	U2847	U	U2726
A3694	U	A3413	U3486	A3413	U3343	G3281	G3200	U3132	U3063	U2983	U	U2848	U	U2727
G3697	U	G3414	A3487	U3344	U3344	U3282	C3201	U3133	U3064	G2984	U	U2849	U	G2728
U3698	U	A3415	U3488	U3345	U3345	U3283	U3202	U3134	C3065	U2985	U	U2850	U	U2729
A3699	U	A3416	G3490	U3351	A3351	C3284	G3203	A3135	A3066	A2986	U	U2851	U	G2730
G3700	U	G3417	U3491	G3352	G3352	A3285	C3204	C3136	G3067	A2987	U	U2852	U	A2731
A3701	U	A3418	U3492	A3353	A3353	C3286	U3205	U3137	A3068	U2988	U	U2853	U	A2732
C3702	U	U3419	U3493	A3354	A3354	C3287	A3206	A3138	A3069	G2989	U	U2854	U	A2733
G3703	U	U3420	U3494	U3355	U3355	C3288	G3207	C3139	C3070	C2990	U	U2855	U	G2734
A3704	U	U3421	U3495	U3356	U3356	G3289	C3208	U3140	A3071	C2991	U	U2856	U	A2735
U3707	U	U3422	A3497	U3357	U3357	C3290	G3209	G3141	A3072	A3000	U	U2857	U	A2736
U3708	U	U3423	A3498	U3358	U3358	U3291	G3209	U3142	A3073	A3001	U	U2858	U	C2737
U3711	U	G3431	U3506	A3359	A3359	A3292	C3216	G3143	A3074	G3002	U	U2859	U	U2738
G3712	U	A3432	A3507	U3360	U3360	A3293	U3217	C3144	G3082	U3003	U	U2860	U	A2740
C3713	U	A3433	A3508	U3361	U3361	U3294	U3218	C3145	U3083	U3004	U	U2861	U	A2741
C3714	U	A3434	G3509	A3362	A3362	A3295	U3219	U3146	G3084	A2925	U	U2862	U	A2742
U3715	U	U3435	C3510	U3365	U3365	A3300	G3222	G3150	A3085	U2926	U	U2863	U	A2743
G3716	U	U3436	C3511	U	U	C3301	A3223	G3151	A3086	U2927	U	U2864	U	G2744
A3717	U	U3437	A3512	U	U	G3302	U3224	G3152	A3087	A3012	U	U2865	U	U2745
G3718	U	G3438	G3513	U	U	U3303	U3225	G3153	U3091	C2933	U	U2866	U	U2746
G3719	U	A3439	A3514	U	U	G3304	U3226	U3154	G3092	A3013	U	U2867	U	U2807
G3720	U	U3440	A3515	U	U	A3305	G3227	G3155	G3093	C3014	U	U2868	U	U2808
C3721	U	A3441	A3516	U	U	G3306	G3228	U3156	G3094	A3015	U	U2869	U	A2809
U3724	U	C3442	C3517	U	U	C3307	A3231	G3157	C3095	G3016	U	U2870	U	A2810
G3725	U	A3443	A3518	U	U	U3308	G3232	U3158	U3096	A3017	U	U2871	U	A
	U	A3444	A3519	A3373	A3373	G3309	G3233	G3159	G3097	A3018	U	U2872	U	G
	U	A3446	A3520	A3375	A3375	G3310	U3234	A3160	A3097	A3019	U	U2873	U	A



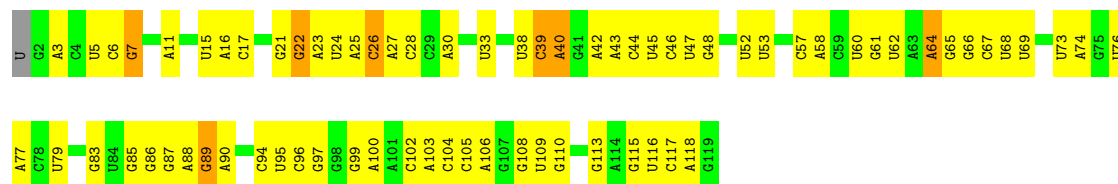
• Molecule 35: 5.8S ribosomal RNA

Chain AC: 30% 50% 15% 5%



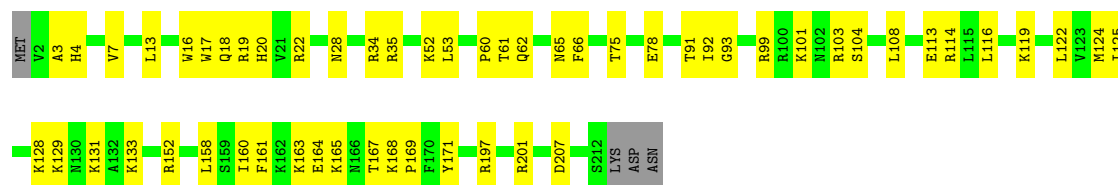
• Molecule 36: 5S ribosomal RNA

Chain AB: 39% 55% 6%



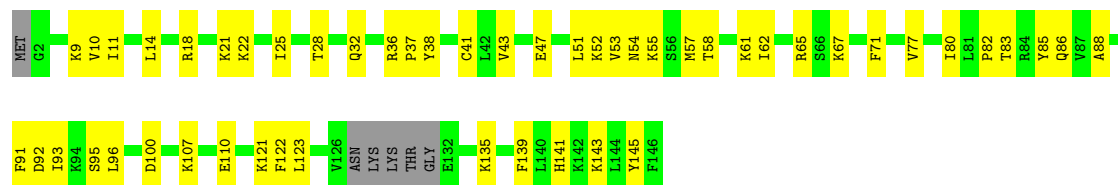
• Molecule 37: 60S ribosomal protein L13

Chain AL: 73% 26%



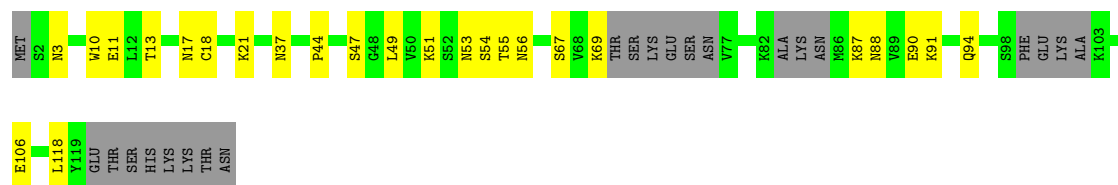
• Molecule 38: 60S ribosomal protein L27

Chain A1: 61% 35%



• Molecule 39: 60S ribosomal protein L28

Chain A2: 63% 20% 17%



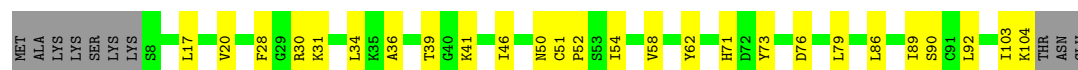
- Molecule 40: 60S ribosomal protein L29

Chain A4: 76% 22%



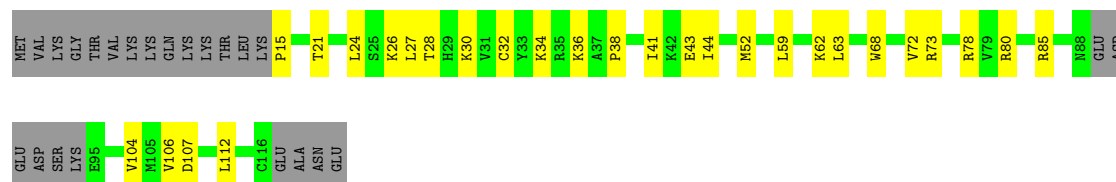
- Molecule 41: 60S ribosomal protein L30e, putative

Chain A6: 66% 24% 9%



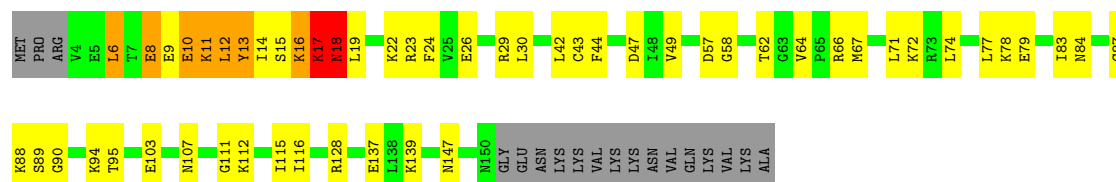
- Molecule 42: 60S ribosomal protein L31

Chain A7: 57% 23% 20%



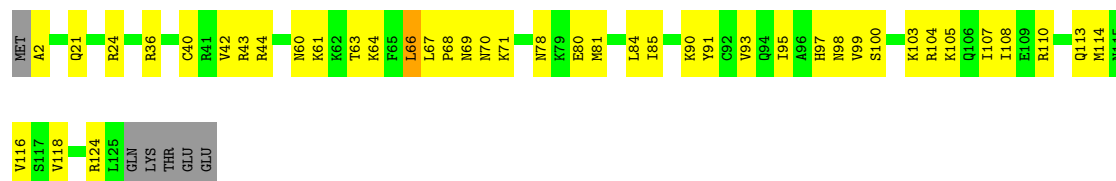
- Molecule 43: 60S ribosomal protein L14, putative

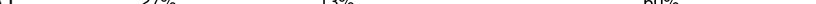
Chain AN: 56% 27% 11%

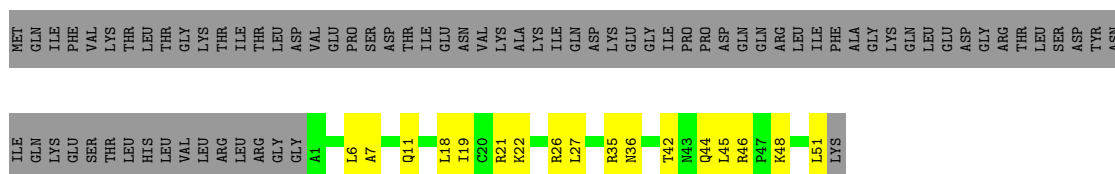


- Molecule 44: 60S ribosomal protein L32

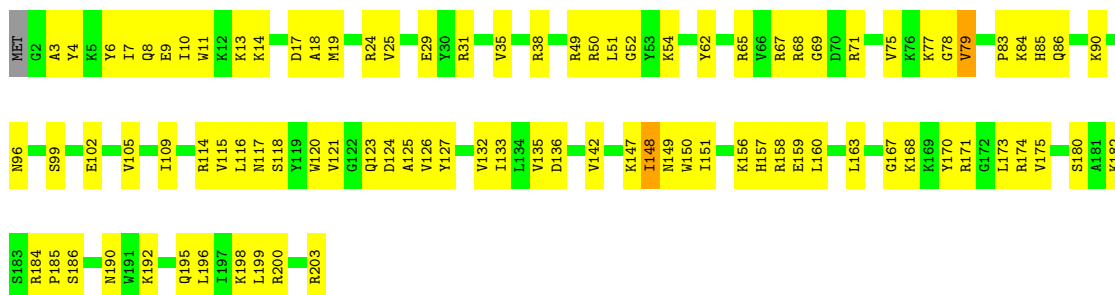
Chain A8: 63% 32% 5%



- Chain Af: 



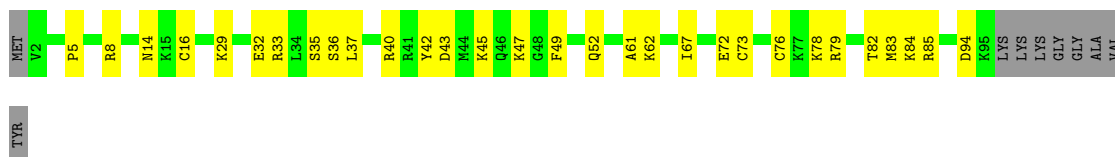
- Molecule 51: Ribosomal protein L15



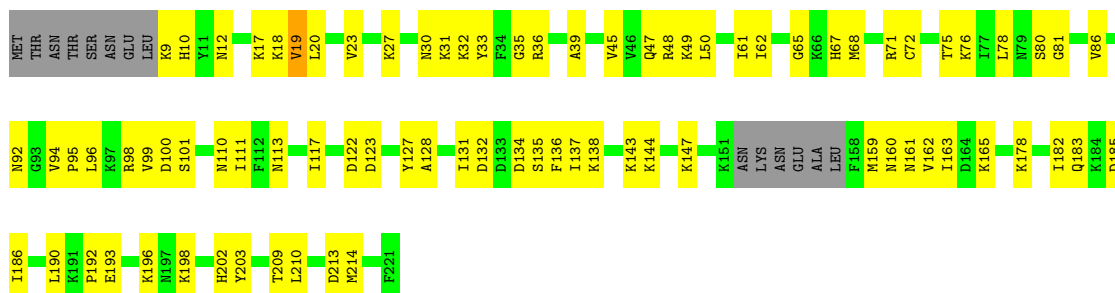
- Molecule 52: Large ribosomal subunit protein eL43



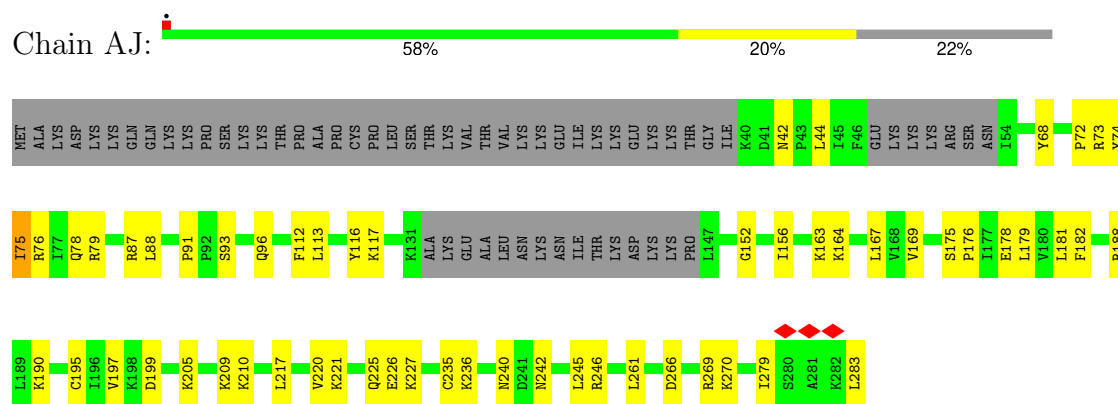
- Molecule 53: Large ribosomal subunit protein eL42



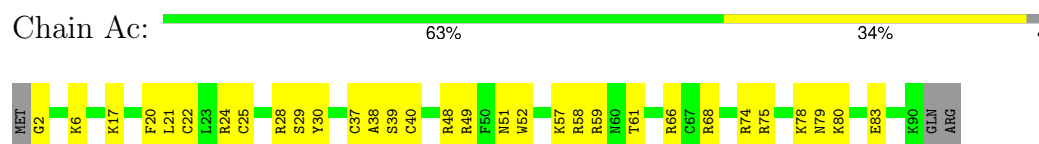
- Molecule 54: 60S ribosomal protein L6, putative



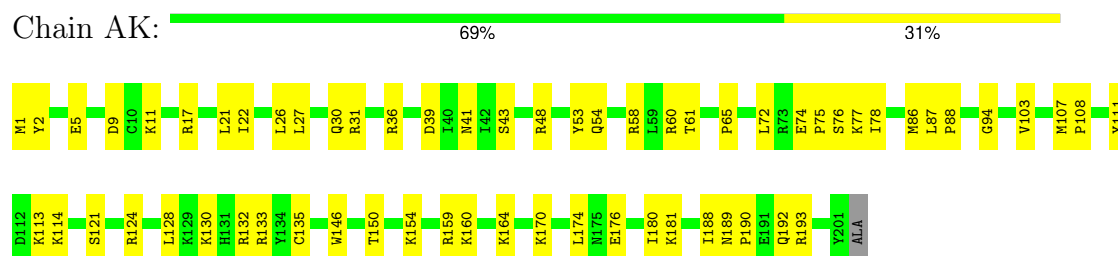
- Molecule 55: 60S ribosomal protein L7a



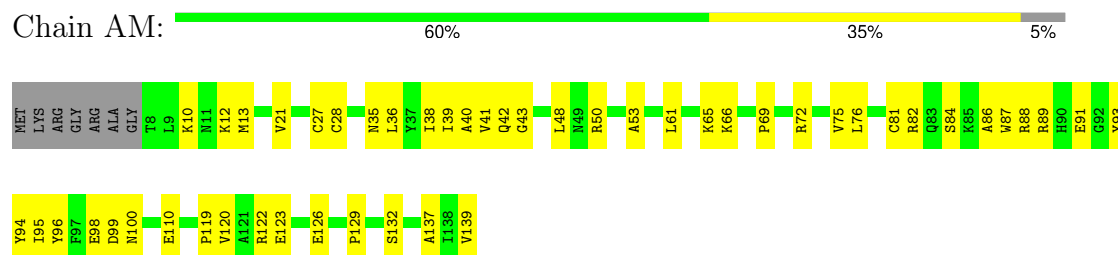
- Molecule 56: Ribosomal protein L37



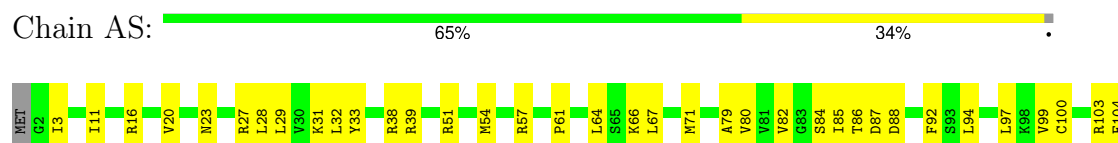
- Molecule 57: 60S ribosomal protein L13, putative



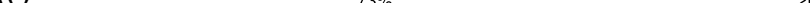
- Molecule 58: 60S ribosomal protein L23, putative

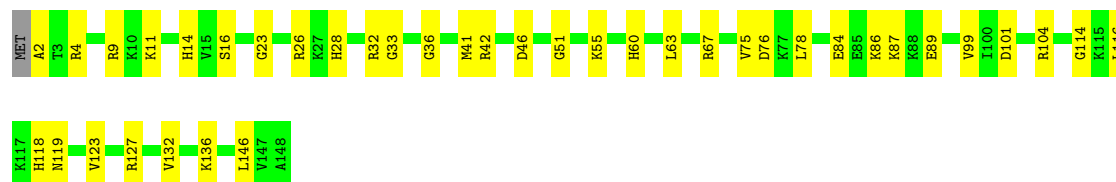


- Molecule 59: 60S ribosomal protein L18-2, putative

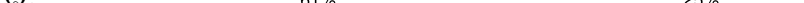


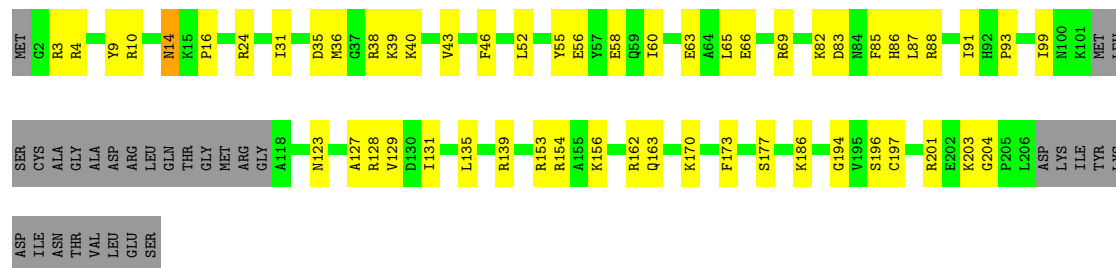
- Molecule 60: 60S ribosomal protein L27a, putative

Chain AO:  73% 26%

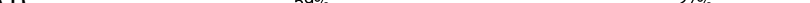


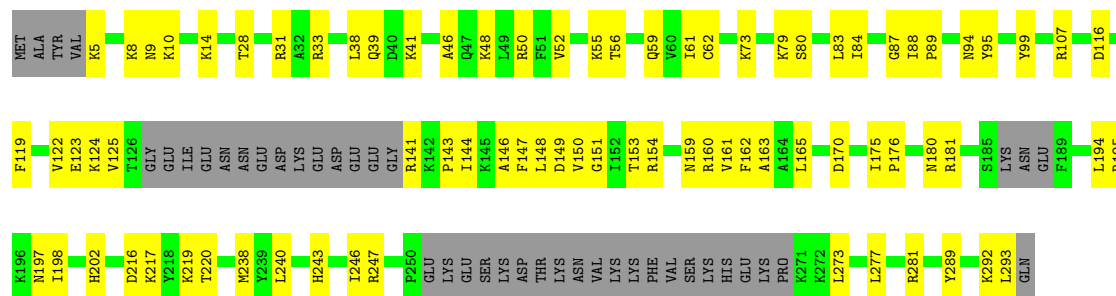
- Molecule 61: 60S ribosomal protein L10, putative

Chain AQ: 

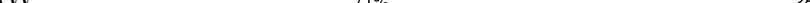


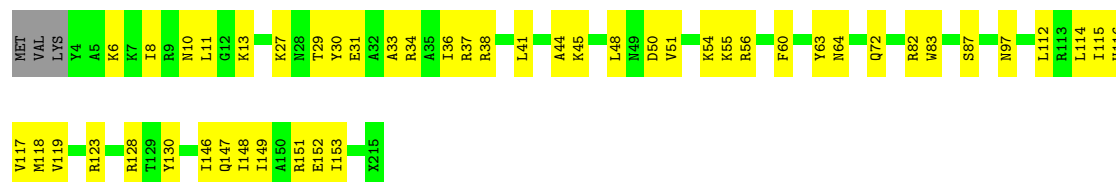
- Molecule 62: 60S ribosomal protein L5, putative

Chain AR: 

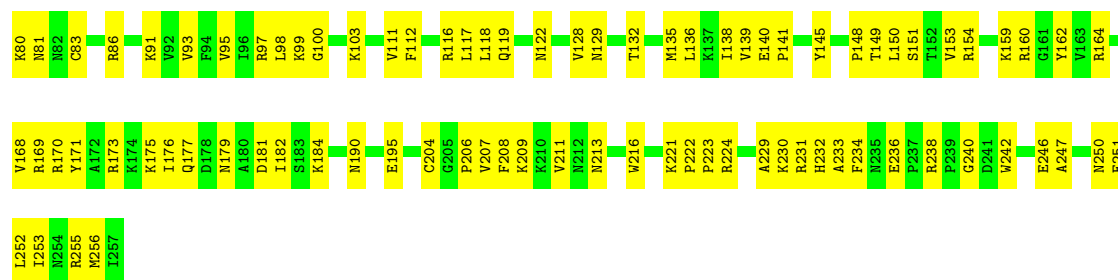


- Molecule 63: 60S ribosomal protein L17, putative

Chain AW:  71% 28%

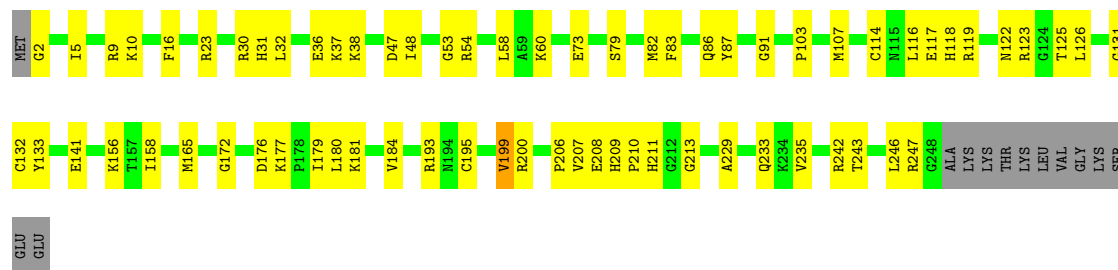


- | |
|-----|
| Met | ALA | ASP | ARG | TYR | GLU | ASN | GLN | VAL | GLU | ASN | LEU | GLY | LYS | SER | THR | SER | LEU | ARG | LYS | VAL | ASN | LYS | LYS | LYS | GLU | LEU | LYS | GLN | ALA | A35 | T41 | L42 | K43 | L44 | I45 | R50 | M51 | D52 | L53 | R54 | R56 | T57 | L58 | E65 | K69 | R76 | E77 | A78 | E79 |
|-----|



- Molecule 69: 60S ribosomal protein L2

Chain AD: 69% 26% 5%



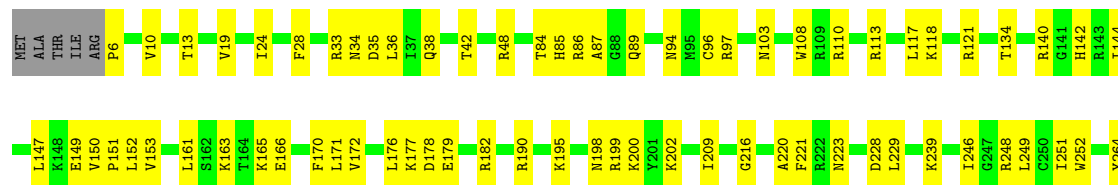
- Molecule 70: 60S ribosomal protein L3

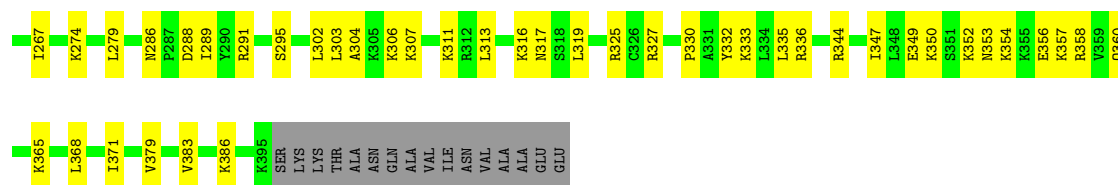
Chain AE: 70% 28% 2%



- Molecule 71: 60S ribosomal protein L4

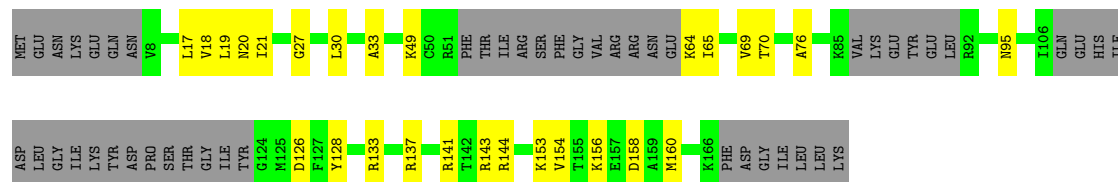
Chain AF: 68% 27% 5%





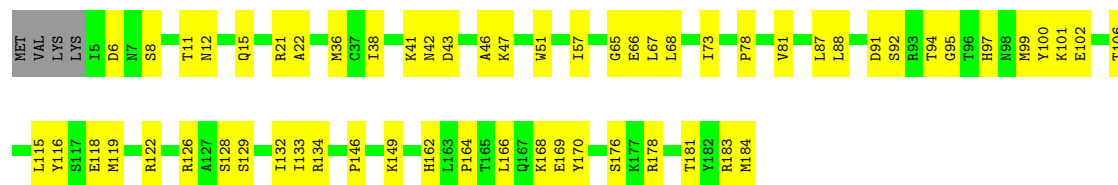
- Molecule 72: 60S ribosomal protein L11a, putative

Chain AG: 56% 16% 28%



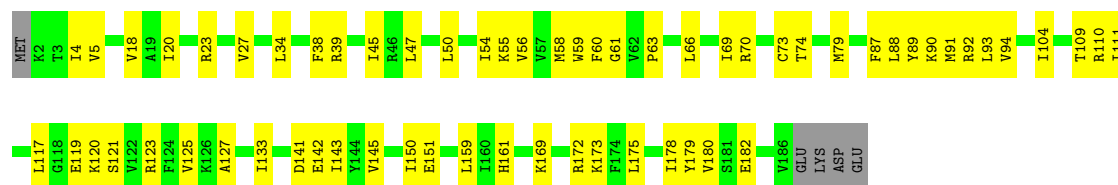
- Molecule 73: 60S ribosomal protein L18a

Chain AU: 66% 32% .



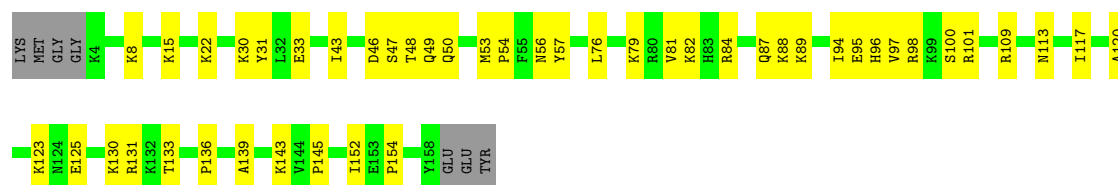
- Molecule 74: 60S ribosomal protein L6, putative

Chain AH: 65% 33% .



- Molecule 75: 60S ribosomal protein L21

Chain AV: 67% 28% .



- Molecule 76: 60S ribosomal protein L41

Chain Ag: 51% 44% 5%

4 Experimental information

Property	Value	Source
EM reconstruction method	SUBTOMOGRAM AVERAGING	Depositor
Imposed symmetry	3D CRYSTAL, $a=500.24002$ Å, $b=500.24002$ Å, $c=500.24002$ Å, $\alpha=90.0^\circ$, $\beta=90.0^\circ$, $\gamma=90.0^\circ$, space group=C1	Depositor
Number of subtomograms used	120226	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	120	Depositor
Minimum defocus (nm)	2800	Depositor
Maximum defocus (nm)	3200	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.159	Depositor
Minimum map value	-0.276	Depositor
Average map value	0.009	Depositor
Map value standard deviation	0.075	Depositor
Recommended contour level	0.16	Depositor
Map size (Å)	500.24002, 500.24002, 500.24002	wwPDB
Map dimensions	296, 296, 296	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.69, 1.69, 1.69	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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	S1	0.13	0/998	0.31	0/1321
2	S2	0.13	0/323	0.30	0/435
3	S3	0.14	0/793	0.37	0/1055
4	S4	0.17	0/597	0.48	0/801
5	S5	0.30	0/460	0.85	1/609 (0.2%)
6	S6	0.12	0/349	0.40	0/458
7	S7	0.12	0/1754	0.30	0/2732
8	SA	0.14	0/38276	0.30	0/59598
9	SB	0.15	0/1737	0.39	0/2321
10	SC	0.15	0/1569	0.38	0/2129
11	SD	0.12	0/1240	0.33	0/1652
12	SE	0.14	0/1538	0.35	0/2055
13	SF	0.16	0/2097	0.38	0/2819
14	SG	0.16	0/1799	0.42	0/2429
15	SH	0.13	0/1668	0.36	0/2214
16	SI	0.13	0/1443	0.34	0/1936
17	SJ	0.14	0/1544	0.39	0/2064
18	SK	0.19	0/1054	0.45	0/1411
19	SL	0.15	0/1407	0.39	0/1879
20	SM	0.16	0/1113	0.36	0/1487
21	SN	0.14	0/780	0.40	0/1053
22	SO	0.14	0/705	0.42	0/950
23	SP	0.14	0/966	0.38	0/1295
24	SQ	0.14	0/1149	0.37	0/1532
25	SR	0.12	0/754	0.34	0/1013
26	SS	0.18	0/1062	0.50	0/1425
27	ST	0.11	0/412	0.32	0/544
28	SU	0.16	0/1223	0.40	0/1634
29	SV	0.14	0/1233	0.35	0/1645
30	SW	0.16	0/792	0.46	0/1053
31	SX	0.17	0/787	0.43	0/1050
32	SY	0.15	0/1294	0.37	0/1742
33	SZ	0.14	0/565	0.31	0/758
34	AA	0.17	0/75947	0.32	0/118255

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	AC	0.17	0/3599	0.33	0/5603
36	AB	0.15	0/2823	0.29	0/4400
37	AL	0.16	0/1793	0.35	0/2387
38	A1	0.15	0/1151	0.40	0/1531
39	A2	0.14	0/837	0.31	0/1112
40	A4	0.15	0/564	0.36	0/737
41	A6	0.16	0/740	0.38	0/990
42	A7	0.16	0/805	0.36	0/1073
43	AN	0.44	0/1226	0.69	3/1632 (0.2%)
44	A8	0.19	0/1046	0.58	2/1389 (0.1%)
45	A9	0.20	0/860	0.40	0/1155
46	Aa	0.18	0/867	0.42	0/1156
47	Ab	0.16	0/762	0.39	0/1008
48	Ad	0.16	0/611	0.35	0/812
49	Ae	0.16	0/396	0.26	0/521
50	Af	0.16	0/418	0.35	0/556
51	AP	0.19	0/1720	0.45	0/2299
52	Ah	0.17	0/662	0.37	0/880
53	Ai	0.15	0/779	0.37	0/1021
54	AI	0.14	0/1708	0.36	0/2274
55	AJ	0.14	0/1840	0.37	0/2456
56	Ac	0.16	0/722	0.43	0/951
57	AK	0.18	0/1689	0.34	0/2260
58	AM	0.15	0/1012	0.38	0/1363
59	AS	0.18	0/1531	0.37	0/2040
60	AO	0.17	0/1199	0.35	0/1597
61	AQ	0.16	0/1579	0.35	0/2113
62	AR	0.15	0/2078	0.32	0/2776
63	AW	0.18	0/1244	0.39	0/1663
64	AY	0.16	0/805	0.34	0/1074
65	AT	0.16	0/1525	0.32	0/2016
66	AZ	0.15	0/1012	0.38	0/1339
67	A3	0.15	0/1004	0.35	0/1329
68	A5	0.17	0/1917	0.42	0/2562
69	AD	0.17	0/1901	0.36	0/2544
70	AE	0.18	0/3129	0.35	0/4195
71	AF	0.16	0/3144	0.37	0/4205
72	AG	0.15	0/1020	0.37	0/1349
73	AU	0.18	0/1527	0.36	0/2043
74	AH	0.16	0/1500	0.42	0/2025
75	AV	0.22	1/1300 (0.1%)	0.36	1/1732 (0.1%)
76	Ag	0.16	0/348	0.40	0/448
77	AX	0.17	0/841	0.43	0/1125

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
78	A0	0.16	0/533	0.38	0/711
79	S8	0.13	0/2520	0.35	0/3428
All	All	0.16	1/209715 (0.0%)	0.34	7/307234 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
75	AV	145	PRO	CA-C	5.01	1.55	1.52

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	S5	28	GLN	N-CA-C	13.92	131.88	107.80
44	A8	66	LEU	CA-C-N	11.01	137.41	120.68
44	A8	66	LEU	C-N-CA	11.01	137.41	120.68
43	AN	17	LYS	N-CA-C	-7.17	103.16	110.97
43	AN	18	ASN	CA-C-N	6.75	130.70	121.05
43	AN	18	ASN	C-N-CA	6.75	130.70	121.05
75	AV	145	PRO	O-C-N	5.29	123.64	121.15

There are no chirality outliers.

There are no planarity outliers.

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	S1	985	0	1076	31	0
2	S2	320	0	338	5	0
3	S3	781	0	820	29	0
4	S4	586	0	604	17	0
5	S5	458	0	495	42	0
6	S6	346	0	381	12	0
7	S7	1571	0	797	47	0
8	SA	34208	0	17266	1063	0
9	SB	1713	0	1838	55	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
10	SC	1538	0	1600	58	0
11	SD	1228	0	1311	44	0
12	SE	1514	0	1605	52	0
13	SF	2061	0	2200	71	0
14	SG	1757	0	1811	56	0
15	SH	1651	0	1807	56	0
16	SI	1424	0	1471	67	0
17	SJ	1528	0	1680	55	0
18	SK	1037	0	1099	38	0
19	SL	1383	0	1434	42	0
20	SM	1098	0	1183	50	0
21	SN	772	0	813	34	0
22	SO	686	0	695	22	0
23	SP	954	0	997	38	0
24	SQ	1129	0	1196	44	0
25	SR	746	0	754	15	0
26	SS	1046	0	1101	52	0
27	ST	405	0	419	17	0
28	SU	1202	0	1299	51	0
29	SV	1206	0	1239	36	0
30	SW	785	0	858	32	0
31	SX	776	0	832	44	0
32	SY	1266	0	1316	49	0
33	SZ	557	0	558	14	0
34	AA	67884	0	34244	1820	0
35	AC	3215	0	1633	94	0
36	AB	2522	0	1275	73	0
37	AL	1761	0	1896	50	0
38	A1	1134	0	1245	34	0
39	A2	828	0	888	18	0
40	A4	555	0	599	13	0
41	A6	732	0	759	19	0
42	A7	793	0	869	21	0
43	AN	1210	0	1329	67	0
44	A8	1029	0	1130	38	0
45	A9	840	0	883	33	0
46	Aa	854	0	909	37	0
47	Ab	756	0	842	28	0
48	Ad	603	0	686	23	0
49	Ae	388	0	421	11	0
50	Af	413	0	452	17	0
51	AP	1682	0	1782	91	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
52	Ah	653	0	722	29	0
53	Ai	769	0	848	26	0
54	AI	1685	0	1849	62	0
55	AJ	1813	0	1985	47	0
56	Ac	709	0	761	36	0
57	AK	1659	0	1782	50	0
58	AM	996	0	1044	36	0
59	AS	1503	0	1636	62	0
60	AO	1172	0	1230	37	0
61	AQ	1544	0	1582	38	0
62	AR	2049	0	2145	63	0
63	AW	1319	0	1304	36	0
64	AY	796	0	850	21	0
65	AT	1509	0	1682	34	0
66	AZ	1000	0	1099	27	0
67	A3	994	0	1121	32	0
68	A5	1879	0	2005	77	0
69	AD	1866	0	1964	62	0
70	AE	3061	0	3205	92	0
71	AF	3094	0	3333	112	0
72	AG	1010	0	1073	20	0
73	AU	1497	0	1556	50	0
74	AH	1475	0	1574	52	0
75	AV	1275	0	1355	41	0
76	Ag	343	0	388	13	0
77	AX	824	0	882	27	0
78	A0	521	0	539	19	0
79	S8	2464	0	2428	100	0
All	All	195395	0	146677	5228	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 16.

All (5228) 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)
34:AA:10:G:H21	34:AA:1706:A:N6	1.34	1.23
7:S7:29:G:H1	7:S7:38:A:N6	1.44	1.13
43:AN:13:TYR:CD1	74:AH:50:LEU:HD13	1.51	1.05
34:AA:10:G:N2	34:AA:1706:A:H61	1.55	1.04
36:AB:77:A:H62	36:AB:99:G:N2	1.56	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:AB:77:A:N6	36:AB:99:G:H21	1.59	1.01
34:AA:2164:A:H61	34:AA:2632:C:N4	1.59	1.01
34:AA:2742:G:H1	34:AA:2806:U:H3	1.09	0.99
34:AA:2164:A:N6	34:AA:2632:C:H42	1.60	0.98
8:SA:400:C:H42	8:SA:407:A:H62	1.08	0.97
8:SA:1889:G:H1	8:SA:1901:U:H3	1.09	0.97
34:AA:11:A:N6	35:AC:154:G:H1	1.62	0.97
34:AA:463:G:H1	34:AA:492:U:H3	1.11	0.96
8:SA:811:G:H21	8:SA:852:A:H62	1.13	0.94
8:SA:70:U:H3	8:SA:82:G:H1	1.01	0.94
34:AA:11:A:H61	35:AC:154:G:H1	1.13	0.94
8:SA:1288:U:H3	8:SA:1299:G:H1	0.97	0.92
34:AA:593:A:C2	43:AN:6:LEU:HD21	2.05	0.92
34:AA:1302:G:H21	57:AK:86:MET:HE3	1.31	0.92
34:AA:3637:G:H1	34:AA:3648:U:H3	1.18	0.92
5:S5:46:ILE:HB	16:SI:25:SER:HB3	1.53	0.91
8:SA:651:G:H1	8:SA:749:U:H3	1.12	0.90
5:S5:31:ARG:NH2	5:S5:31:ARG:HB3	1.86	0.90
8:SA:1250:G:H1	8:SA:1925:U:H3	0.91	0.89
34:AA:1141:G:H1	34:AA:1156:U:H3	1.14	0.89
5:S5:7:ALA:HB1	5:S5:28:GLN:N	1.87	0.89
43:AN:6:LEU:HB2	43:AN:10:GLU:HB3	1.55	0.88
34:AA:10:G:N2	34:AA:1706:A:N6	2.18	0.88
34:AA:3117:A:HO2'	47:Ab:2:GLY:N	1.73	0.87
43:AN:18:ASN:O	43:AN:18:ASN:ND2	2.08	0.87
5:S5:7:ALA:HA	5:S5:28:GLN:HB3	1.57	0.86
51:AP:51:LEU:HD21	51:AP:117:ASN:HB3	1.56	0.86
8:SA:142:G:H1	8:SA:169:A:H61	1.24	0.86
8:SA:811:G:N2	8:SA:852:A:H62	1.71	0.86
34:AA:3635:G:H1	34:AA:3650:U:H3	0.88	0.85
8:SA:811:G:H21	8:SA:852:A:N6	1.74	0.85
34:AA:2735:G:H1	34:AA:2814:U:H3	0.89	0.85
43:AN:6:LEU:HD13	43:AN:10:GLU:HG2	1.57	0.84
5:S5:7:ALA:HB1	5:S5:28:GLN:H	1.41	0.84
34:AA:506:A:H2'	34:AA:507:G:H8	1.43	0.84
34:AA:1571:C:H4'	34:AA:1572:U:H5''	1.60	0.84
8:SA:1829:U:O2'	26:SS:27:LYS:NZ	2.10	0.83
8:SA:1839:G:N2	8:SA:1866:A:OP2	2.11	0.83
34:AA:3568:G:N7	63:AW:38:ARG:NH2	2.26	0.83
34:AA:593:A:C6	43:AN:6:LEU:HD21	2.13	0.83
34:AA:743:A:OP1	51:AP:203:ARG:NH1	2.11	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1453:G:H1	8:SA:1610:U:H3	1.23	0.83
48:Ad:26:MET:HE1	48:Ad:76:TYR:H	1.44	0.83
8:SA:1980:A:N6	8:SA:2011:G:C6	2.47	0.82
13:SF:208:ILE:HD11	13:SF:225:VAL:HG11	1.60	0.82
21:SN:97:VAL:HA	21:SN:100:MET:HE2	1.59	0.82
34:AA:506:A:H2'	34:AA:507:G:C8	2.15	0.82
8:SA:574:A:H62	8:SA:583:G:H21	1.27	0.81
74:AH:23:ARG:HB2	74:AH:38:PHE:HB2	1.62	0.81
71:AF:149:GLU:HG3	71:AF:151:PRO:HD2	1.62	0.81
8:SA:887:A:N1	8:SA:915:G:O6	2.13	0.81
5:S5:5:LYS:HB3	5:S5:29:PHE:CD2	2.15	0.80
8:SA:1023:A:H2'	8:SA:1024:A:H8	1.47	0.80
34:AA:1094:U:H5''	59:AS:54:MET:HE2	1.63	0.80
59:AS:28:LEU:HG	71:AF:289:ILE:HD12	1.62	0.80
19:SL:210:ARG:NH1	34:AA:2388:U:OP1	2.14	0.80
23:SP:34:PHE:HB3	23:SP:41:PHE:HB2	1.61	0.80
34:AA:620:U:OP2	34:AA:624:C:N4	2.15	0.80
34:AA:1304:C:H4'	57:AK:88:PRO:HD3	1.62	0.80
70:AE:68:HIS:HD2	70:AE:69:LYS:HG2	1.47	0.80
34:AA:236:U:HO2'	66:AZ:2:LYS:N	1.80	0.80
22:SO:43:HIS:HB3	22:SO:46:LEU:HB2	1.64	0.79
36:AB:7:G:OP1	62:AR:33:ARG:NH1	2.15	0.79
34:AA:2726:U:H1'	51:AP:125:ALA:HB2	1.65	0.79
37:AL:171:TYR:HB2	60:AO:86:LYS:HE2	1.64	0.79
43:AN:13:TYR:OH	74:AH:50:LEU:N	2.14	0.79
10:SC:59:LEU:HB2	33:SZ:78:LEU:HD11	1.64	0.79
51:AP:182:LYS:O	51:AP:190:ASN:ND2	2.15	0.79
8:SA:127:C:H2'	15:SH:197:ARG:HH21	1.45	0.79
43:AN:6:LEU:H	43:AN:6:LEU:HD12	1.48	0.78
77:AX:63:PHE:O	77:AX:67:LYS:HB2	1.83	0.78
34:AA:2164:A:H61	34:AA:2632:C:H42	0.81	0.78
15:SH:81:MET:SD	15:SH:82:LYS:N	2.56	0.78
34:AA:3383:A:H2'	34:AA:3384:G:H8	1.47	0.78
36:AB:22:G:N2	36:AB:25:A:C6	2.52	0.78
34:AA:3086:A:H4'	62:AR:176:PRO:HB2	1.64	0.78
34:AA:593:A:N1	43:AN:6:LEU:HD21	1.98	0.78
38:A1:57:MET:HE2	38:A1:61:LYS:HD2	1.65	0.78
8:SA:520:U:OP2	12:SE:171:ARG:NH2	2.17	0.78
8:SA:613:A:H4'	8:SA:614:A:H3'	1.65	0.78
34:AA:641:G:H21	34:AA:685:U:H5''	1.49	0.78
34:AA:2659:C:H2'	34:AA:2660:A:H8	1.48	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:795:U:H2'	8:SA:796:A:H8	1.49	0.78
34:AA:3281:G:N2	34:AA:3311:G:N3	2.32	0.77
51:AP:105:VAL:HG11	51:AP:132:VAL:HG11	1.64	0.77
63:AW:118:MET:HB2	63:AW:147:GLN:HG2	1.66	0.77
34:AA:2884:G:C6	46:Aa:91:ALA:HA	2.19	0.77
8:SA:969:A:H3'	8:SA:970:G:H21	1.50	0.77
63:AW:41:LEU:HD22	63:AW:112:LEU:HB2	1.64	0.77
34:AA:3449:U:H2'	34:AA:3450:G:H8	1.50	0.77
12:SE:135:ARG:HG2	12:SE:137:GLY:H	1.49	0.77
54:AI:193:GLU:HA	54:AI:196:LYS:HE3	1.66	0.76
8:SA:1367:U:O4	8:SA:1689:U:N3	2.13	0.76
8:SA:1320:A:H61	8:SA:1365:G:H2'	1.50	0.76
14:SG:64:LEU:O	33:SZ:15:ARG:NH1	2.19	0.76
24:SQ:96:ILE:HG22	24:SQ:127:VAL:HG11	1.65	0.76
1:S1:17:LEU:HD22	13:SF:69:ILE:HD12	1.67	0.76
7:S7:1:G:N2	7:S7:71:C:C2	2.54	0.76
8:SA:1716:C:O2	8:SA:1868:C:O2'	2.03	0.76
20:SM:38:ASP:HA	20:SM:46:LYS:HD3	1.67	0.76
5:S5:6:LEU:O	5:S5:28:GLN:O	2.04	0.76
15:SH:57:ASP:HA	15:SH:106:LEU:HA	1.68	0.76
34:AA:2021:A:H2'	34:AA:2022:A:H8	1.51	0.76
8:SA:172:U:H3	8:SA:267:A:H62	1.31	0.76
72:AG:137:ARG:HG2	72:AG:141:ARG:HD2	1.68	0.76
9:SB:32:LEU:HD11	9:SB:46:THR:HG23	1.67	0.76
34:AA:734:A:H2'	34:AA:735:A:H8	1.50	0.75
34:AA:3158:U:O2	60:AO:42:ARG:NH2	2.19	0.75
8:SA:1282:U:O4	8:SA:1704:G:N1	2.18	0.75
34:AA:11:A:N6	35:AC:154:G:N1	2.24	0.75
17:SJ:137:ILE:HD11	17:SJ:156:ASP:HA	1.69	0.75
57:AK:107:MET:HE3	57:AK:159:ARG:HG3	1.67	0.75
7:S7:29:G:N2	7:S7:38:A:N1	2.32	0.75
52:Ah:51:CYS:SG	52:Ah:52:VAL:N	2.55	0.75
55:AJ:74:TYR:O	55:AJ:76:ARG:N	2.18	0.75
8:SA:1278:C:H2'	8:SA:1279:G:H8	1.51	0.74
34:AA:3636:U:H2'	34:AA:3637:G:H8	1.53	0.74
14:SG:251:PRO:HA	14:SG:254:GLU:HG2	1.69	0.74
8:SA:1368:G:H1	8:SA:1688:U:H3	1.36	0.74
34:AA:1861:C:H2'	34:AA:1862:A:H8	1.52	0.74
34:AA:2027:A:H2'	34:AA:2028:G:H8	1.52	0.74
8:SA:1453:G:OP2	20:SM:69:ARG:NH2	2.20	0.74
11:SD:136:GLU:HB2	11:SD:158:LEU:HD21	1.69	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:AB:22:G:C2	36:AB:25:A:C6	2.75	0.74
79:S8:229:ASP:HB2	79:S8:236:LEU:HD21	1.69	0.74
8:SA:1636:A:N6	8:SA:1650:A:OP2	2.20	0.74
30:SW:41:ILE:HG22	30:SW:43:SER:H	1.52	0.74
19:SL:175:GLN:HG2	19:SL:181:VAL:HG12	1.68	0.74
8:SA:1652:A:H2'	8:SA:1653:A:H8	1.52	0.74
8:SA:1697:C:H5''	27:ST:8:HIS:HB2	1.67	0.74
34:AA:1604:U:OP1	34:AA:2146:A:N6	2.20	0.74
34:AA:1886:A:N6	52:Ah:41:PHE:O	2.21	0.73
8:SA:1297:A:OP2	8:SA:1710:G:N2	2.20	0.73
8:SA:1422:U:H3'	10:SC:101:ARG:HH22	1.53	0.73
34:AA:1018:C:H2'	34:AA:1019:A:H8	1.52	0.73
8:SA:561:C:N4	8:SA:578:G:O6	2.21	0.73
18:SK:24:GLN:NE2	18:SK:64:ASN:OD1	2.22	0.73
34:AA:767:U:O2	34:AA:773:A:N6	2.20	0.73
8:SA:1982:G:N1	8:SA:2008:U:N3	2.37	0.73
35:AC:51:C:H1'	35:AC:65:A:H2'	1.70	0.73
8:SA:886:U:H3	8:SA:916:G:H1	0.81	0.73
8:SA:1456:G:N2	8:SA:1607:U:O2	2.22	0.73
34:AA:3636:U:H3	34:AA:3649:G:H1	0.81	0.73
37:AL:7:VAL:HG12	59:AS:165:TYR:HB3	1.71	0.73
8:SA:885:C:N3	8:SA:917:C:N4	2.35	0.73
36:AB:22:G:N3	36:AB:25:A:C6	2.56	0.73
43:AN:13:TYR:CD1	74:AH:50:LEU:CD1	2.41	0.73
8:SA:2027:C:OP1	58:AM:66:LYS:NZ	2.21	0.73
34:AA:517:U:OP2	71:AF:317:ASN:ND2	2.19	0.73
34:AA:593:A:N6	43:AN:6:LEU:HD11	2.04	0.73
8:SA:404:G:OP2	19:SL:47:ARG:NH2	2.22	0.73
9:SB:96:CYS:SG	9:SB:97:TYR:N	2.60	0.73
34:AA:2926:A:OP2	55:AJ:79:ARG:NH2	2.21	0.73
7:S7:4:U:H2'	7:S7:5:A:C8	2.24	0.73
8:SA:1981:A:H61	8:SA:2009:C:H42	1.37	0.73
16:SI:68:MET:HE2	16:SI:77:LYS:HG2	1.68	0.73
67:A3:70:GLN:HA	67:A3:73:LYS:HE3	1.70	0.72
71:AF:356:GLU:O	71:AF:360:GLN:NE2	2.22	0.72
20:SM:104:LYS:HE2	79:S8:63:THR:HB	1.71	0.72
34:AA:1177:A:H5''	34:AA:2976:A:H61	1.52	0.72
8:SA:574:A:H62	8:SA:583:G:N2	1.85	0.72
8:SA:1268:G:H1	8:SA:1875:U:H3	1.37	0.72
31:SX:34:ILE:HG22	31:SX:45:PHE:HD2	1.54	0.72
41:A6:28:PHE:HB3	41:A6:92:LEU:HD13	1.72	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1843:G:OP1	26:SS:123:ARG:NH2	2.22	0.72
70:AE:278:LYS:NZ	70:AE:346:ASP:O	2.22	0.72
8:SA:1385:U:O4'	8:SA:1387:U:N3	2.23	0.72
14:SG:45:THR:HG23	14:SG:48:GLY:H	1.55	0.72
34:AA:248:A:O3'	37:AL:152:ARG:NH2	2.23	0.72
34:AA:3632:U:O2	34:AA:3653:G:N2	2.22	0.72
26:SS:19:ASN:ND2	26:SS:35:ILE:O	2.23	0.72
34:AA:361:G:O6	56:Ac:58:ARG:NH2	2.22	0.72
8:SA:651:G:N2	8:SA:749:U:O2	2.23	0.71
34:AA:1618:C:H3'	34:AA:1658:G:H22	1.54	0.71
8:SA:415:C:H2'	8:SA:416:A:H8	1.55	0.71
26:SS:29:ILE:HG13	26:SS:30:ILE:HD12	1.73	0.71
77:AX:100:LYS:NZ	77:AX:127:LYS:O	2.23	0.71
79:S8:161:THR:H	79:S8:178:GLY:HA2	1.56	0.71
26:SS:76:PRO:HD2	26:SS:98:ILE:HD11	1.73	0.71
8:SA:251:U:N3	29:SV:66:ASN:OD1	2.23	0.71
8:SA:1288:U:H2'	8:SA:1289:G:H8	1.55	0.71
10:SC:147:CYS:SG	10:SC:151:SER:OG	2.47	0.71
36:AB:77:A:H62	36:AB:99:G:H21	0.79	0.71
8:SA:148:U:O4	8:SA:149:A:N6	2.24	0.71
24:SQ:97:ASP:HB3	24:SQ:100:ASP:HB2	1.73	0.71
34:AA:3096:U:H4'	75:AV:8:LYS:HB2	1.73	0.71
34:AA:3240:C:OP1	70:AE:8:ARG:NH2	2.23	0.71
34:AA:3531:C:H2'	34:AA:3532:A:H8	1.56	0.71
79:S8:96:VAL:HB	79:S8:110:PHE:HB2	1.72	0.71
8:SA:636:U:OP2	8:SA:1038:C:N4	2.22	0.71
34:AA:320:C:H2'	34:AA:321:A:H8	1.56	0.71
34:AA:3637:G:O6	34:AA:3648:U:O4	2.09	0.71
13:SF:195:ILE:HA	13:SF:210:VAL:HA	1.73	0.71
34:AA:3767:U:O2'	34:AA:3770:C:OP2	2.09	0.71
8:SA:886:U:O2	8:SA:916:G:N2	2.16	0.71
8:SA:1712:G:O2'	8:SA:1899:A:OP1	2.08	0.71
34:AA:3087:A:O2'	62:AR:48:LYS:NZ	2.23	0.71
71:AF:291:ARG:NH1	71:AF:291:ARG:O	2.24	0.71
14:SG:51:VAL:HG21	14:SG:74:ILE:HG23	1.72	0.71
34:AA:417:A:H4'	34:AA:1545:G:H5'	1.72	0.71
51:AP:168:LYS:HB2	51:AP:174:ARG:HH21	1.55	0.71
68:A5:129:ASN:ND2	75:AV:133:THR:O	2.24	0.71
5:S5:5:LYS:HB3	5:S5:29:PHE:HD2	1.55	0.70
5:S5:7:ALA:CB	5:S5:28:GLN:H	2.04	0.70
13:SF:211:LYS:HG2	13:SF:217:VAL:HG22	1.71	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:AS:32:LEU:HD12	71:AF:289:ILE:HG23	1.73	0.70
59:AS:169:LYS:O	59:AS:171:ARG:NH2	2.24	0.70
43:AN:6:LEU:HD12	43:AN:6:LEU:N	2.06	0.70
70:AE:53:MET:HG2	70:AE:77:THR:HA	1.72	0.70
1:S1:106:ARG:NH2	8:SA:465:G:OP2	2.24	0.70
36:AB:22:G:N2	36:AB:25:A:C5	2.60	0.70
47:Ab:48:VAL:HG21	51:AP:9:GLU:HG3	1.71	0.70
12:SE:100:THR:HG22	12:SE:102:PRO:HD2	1.72	0.70
14:SG:253:GLU:HA	14:SG:256:SER:HB2	1.73	0.70
28:SU:139:TRP:HE1	28:SU:141:TYR:HB2	1.55	0.70
34:AA:1520:A:OP2	60:AO:11:LYS:NZ	2.24	0.70
34:AA:3585:A:O2'	34:AA:3586:U:O4'	2.10	0.70
61:AQ:4:ARG:NH1	61:AQ:9:TYR:OH	2.25	0.70
16:SI:10:LEU:HB3	16:SI:14:TRP:HB2	1.73	0.70
23:SP:56:ILE:HD12	23:SP:81:VAL:HB	1.73	0.70
34:AA:450:A:H5''	34:AA:451:C:H5'	1.74	0.70
34:AA:975:G:OP1	65:AT:91:LYS:NZ	2.25	0.70
34:AA:3241:U:H2'	34:AA:3242:U:C6	2.26	0.70
55:AJ:188:ARG:HG2	55:AJ:246:ARG:HH22	1.57	0.70
68:A5:111:VAL:HG21	68:A5:138:ILE:HD11	1.73	0.70
8:SA:1311:U:H2'	8:SA:1312:A:H8	1.54	0.70
26:SS:88:ARG:HH12	26:SS:108:TYR:HD2	1.40	0.70
37:AL:167:THR:HG22	37:AL:169:PRO:HD3	1.73	0.70
14:SG:51:VAL:HG11	14:SG:74:ILE:HG12	1.73	0.70
14:SG:118:ASP:OD2	14:SG:122:HIS:ND1	2.24	0.70
32:SY:28:CYS:SG	32:SY:29:ILE:N	2.65	0.70
34:AA:593:A:C6	43:AN:6:LEU:HD11	2.27	0.70
34:AA:2662:G:H2'	34:AA:2663:G:C8	2.27	0.70
34:AA:2990:G:O2'	34:AA:3155:G:O6	2.10	0.70
8:SA:106:A:H5'	19:SL:12:ARG:HH22	1.57	0.69
34:AA:3277:G:H2'	34:AA:3278:A:H8	1.56	0.69
34:AA:3780:A:N7	34:AA:3782:A:N6	2.39	0.69
61:AQ:170:LYS:HA	61:AQ:177:SER:HA	1.72	0.69
34:AA:1444:A:OP2	57:AK:132:ARG:NH1	2.25	0.69
34:AA:2722:G:H2'	34:AA:2723:G:H8	1.56	0.69
70:AE:29:ILE:HD11	70:AE:334:THR:HG21	1.74	0.69
5:S5:8:LYS:H	5:S5:28:GLN:HB2	1.57	0.69
8:SA:22:A:O3'	12:SE:14:ASN:ND2	2.25	0.69
8:SA:394:G:O6	8:SA:416:A:N6	2.26	0.69
34:AA:2657:G:H22	34:AA:2689:G:H1'	1.56	0.69
8:SA:369:G:H2'	8:SA:370:G:C8	2.28	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1460:A:N1	8:SA:1604:A:N6	2.40	0.69
8:SA:1862:C:OP1	26:SS:41:ARG:NE	2.26	0.69
36:AB:22:G:N3	36:AB:25:A:N1	2.39	0.69
8:SA:400:C:N4	8:SA:407:A:H62	1.86	0.69
34:AA:777:U:OP2	71:AF:274:LYS:NZ	2.21	0.69
34:AA:3206:A:OP2	50:Af:21:ARG:NH1	2.25	0.69
61:AQ:16:PRO:HD3	61:AQ:128:ARG:HH12	1.57	0.69
65:AT:6:GLN:NE2	65:AT:34:ALA:O	2.22	0.69
65:AT:104:LEU:HD22	65:AT:134:LYS:HG3	1.75	0.69
74:AH:119:GLU:HG2	74:AH:121:SER:H	1.57	0.69
34:AA:10:G:H21	34:AA:1706:A:H61	0.73	0.69
34:AA:1630:A:O2'	34:AA:2125:A:N3	2.25	0.69
34:AA:3636:U:H2'	34:AA:3637:G:C8	2.26	0.69
70:AE:112:ASP:OD1	70:AE:115:ARG:NH1	2.25	0.69
34:AA:247:A:H2'	34:AA:248:A:C8	2.27	0.69
73:AU:88:LEU:HD11	73:AU:115:LEU:HD11	1.73	0.69
8:SA:1446:A:O2'	21:SN:52:PRO:O	2.10	0.69
12:SE:125:ALA:O	12:SE:129:ILE:HG12	1.93	0.69
34:AA:512:A:H4'	54:AI:48:ARG:HG3	1.75	0.69
34:AA:3042:A:N6	62:AR:28:THR:O	2.23	0.69
47:Ab:51:ILE:HD11	55:AJ:181:LEU:HG	1.73	0.69
56:Ac:22:CYS:HB2	56:Ac:30:TYR:HB2	1.75	0.69
67:A3:52:ASN:OD1	67:A3:55:ARG:NH2	2.24	0.69
41:A6:89:ILE:HD12	41:A6:92:LEU:HD21	1.73	0.69
8:SA:370:G:N2	8:SA:806:A:N6	2.41	0.69
8:SA:887:A:H2	8:SA:915:G:H1	1.39	0.69
10:SC:23:HIS:HB3	10:SC:50:LEU:HD11	1.75	0.69
34:AA:157:G:OP2	51:AP:4:TYR:OH	2.10	0.69
34:AA:1083:G:H2'	34:AA:1084:A:H8	1.58	0.69
34:AA:1197:U:H2'	34:AA:1198:A:C8	2.28	0.69
34:AA:3119:A:H5''	37:AL:197:ARG:HG3	1.75	0.69
41:A6:103:ILE:HG23	41:A6:104:LYS:HG3	1.73	0.69
8:SA:1185:A:OP1	14:SG:173:LYS:NZ	2.24	0.68
3:S3:49:ALA:HB2	23:SP:117:ARG:HD2	1.74	0.68
5:S5:13:LEU:HD11	5:S5:26:ARG:HG2	1.74	0.68
16:SI:39:TYR:HD2	20:SM:47:THR:HB	1.57	0.68
34:AA:628:U:H2'	34:AA:629:A:H8	1.57	0.68
7:S7:56:U:O2'	7:S7:58:G:OP2	2.10	0.68
8:SA:955:U:H2'	8:SA:956:A:C8	2.28	0.68
8:SA:1319:G:OP1	8:SA:1690:A:N6	2.26	0.68
31:SX:83:MET:HE3	31:SX:116:LEU:HD11	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3067:G:H5''	75:AV:84:ARG:HH22	1.58	0.68
11:SD:106:LEU:HD13	11:SD:123:VAL:HG21	1.75	0.68
34:AA:1850:U:O2'	34:AA:1969:A:N6	2.25	0.68
34:AA:3066:A:OP2	34:AA:3067:G:N2	2.26	0.68
36:AB:61:G:O2'	62:AR:281:ARG:NH2	2.18	0.68
62:AR:122:VAL:O	62:AR:247:ARG:NH1	2.27	0.68
32:SY:148:THR:HG23	32:SY:151:GLY:H	1.58	0.68
34:AA:1501:A:H3'	34:AA:1502:G:H21	1.58	0.68
8:SA:349:C:H2'	8:SA:350:A:H8	1.58	0.68
8:SA:1076:C:H2'	8:SA:1077:G:H8	1.58	0.68
8:SA:1603:U:OP1	20:SM:67:ARG:NH2	2.23	0.68
24:SQ:61:ALA:HB1	24:SQ:116:ASP:HB2	1.76	0.68
34:AA:440:A:H2'	34:AA:441:A:H8	1.58	0.68
34:AA:3201:C:OP1	34:AA:3203:C:N4	2.25	0.68
34:AA:3291:U:O2	34:AA:3294:U:N3	2.26	0.68
34:AA:3590:A:O3'	74:AH:23:ARG:NH1	2.26	0.68
8:SA:335:G:H5''	19:SL:98:LYS:HB3	1.75	0.68
8:SA:597:C:H2'	8:SA:598:A:C8	2.29	0.68
8:SA:1660:U:H5'	30:SW:3:ARG:HH11	1.59	0.68
8:SA:1980:A:N6	8:SA:2011:G:N1	2.41	0.68
71:AF:150:VAL:HG23	71:AF:151:PRO:HD3	1.75	0.68
8:SA:1394:U:O2	10:SC:109:ASN:ND2	2.27	0.68
16:SI:41:PRO:HB2	16:SI:81:ILE:HG12	1.75	0.68
34:AA:1842:U:H5''	34:AA:1843:U:H5'	1.75	0.68
34:AA:3362:A:O5'	70:AE:93:ARG:NH2	2.27	0.68
59:AS:39:ARG:HG2	71:AF:302:LEU:HD22	1.76	0.68
59:AS:145:ARG:HD2	59:AS:147:ALA:H	1.59	0.68
5:S5:4:SER:OG	16:SI:113:ARG:NH1	2.27	0.68
8:SA:1652:A:H2'	8:SA:1653:A:C8	2.28	0.68
8:SA:1849:U:O4	31:SX:40:ARG:NH1	2.26	0.68
20:SM:70:VAL:HG21	20:SM:78:GLN:HB2	1.74	0.68
34:AA:366:G:N2	34:AA:369:A:OP2	2.26	0.68
12:SE:129:ILE:HD12	12:SE:134:ILE:HD13	1.75	0.68
63:AW:128:ARG:NH1	63:AW:130:TYR:OH	2.27	0.68
8:SA:483:A:H2'	8:SA:484:A:H8	1.59	0.67
8:SA:1964:G:H2'	8:SA:1965:A:H8	1.59	0.67
43:AN:16:LYS:HD3	43:AN:16:LYS:N	2.07	0.67
61:AQ:31:ILE:HB	61:AQ:66:GLU:HB3	1.74	0.67
8:SA:558:G:H2'	8:SA:559:G:H8	1.58	0.67
16:SI:158:LYS:NZ	16:SI:162:GLU:OE2	2.24	0.67
34:AA:3077:A:H2'	34:AA:3078:A:H8	1.59	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:AB:105:C:H2'	36:AB:106:A:H8	1.57	0.67
2:S2:35:LYS:HD3	8:SA:1833:G:H4'	1.75	0.67
45:A9:81:VAL:HG22	45:A9:132:ILE:HG22	1.76	0.67
7:S7:69:U:H2'	7:S7:70:A:C4	2.29	0.67
8:SA:142:G:N7	15:SH:137:ARG:NH1	2.41	0.67
34:AA:2598:G:OP2	34:AA:2598:G:N2	2.27	0.67
46:Aa:16:LYS:HA	46:Aa:19:LYS:HE2	1.77	0.67
8:SA:460:G:C6	13:SF:66:ILE:HG21	2.30	0.67
34:AA:2152:A:H2'	34:AA:2153:A:O4'	1.95	0.67
34:AA:3683:G:H2'	34:AA:3684:A:H4'	1.77	0.67
9:SB:137:MET:HE1	9:SB:139:CYS:SG	2.34	0.67
32:SY:99:ARG:HB3	32:SY:117:LEU:HB3	1.77	0.67
34:AA:1844:G:O6	77:AX:101:ARG:NH2	2.27	0.67
34:AA:3360:U:O2'	34:AA:3377:A:N6	2.28	0.67
8:SA:1978:A:H4'	15:SH:31:ARG:HH12	1.59	0.67
14:SG:149:ILE:HD12	14:SG:150:PRO:HD2	1.76	0.67
32:SY:57:CYS:SG	32:SY:75:TRP:NE1	2.68	0.67
34:AA:2474:C:OP1	69:AD:193:ARG:NH2	2.27	0.67
36:AB:105:C:OP2	61:AQ:201:ARG:NH2	2.28	0.67
62:AR:125:VAL:HG11	62:AR:195:ARG:HB2	1.75	0.67
1:S1:18:LEU:HG	1:S1:20:ARG:HH21	1.60	0.67
8:SA:354:C:OP1	29:SV:109:ASN:ND2	2.28	0.67
8:SA:1277:G:H2'	8:SA:1278:C:C6	2.30	0.67
34:AA:859:C:H2'	34:AA:860:A:C8	2.30	0.67
34:AA:1293:G:OP1	45:A9:116:LYS:NZ	2.28	0.67
34:AA:3585:A:O2'	34:AA:3586:U:O5'	2.12	0.67
79:S8:295:LEU:HD22	79:S8:304:LEU:HD11	1.76	0.67
22:SO:33:VAL:HG13	22:SO:75:GLN:H	1.60	0.67
34:AA:92:G:OP1	53:Ai:45:LYS:NZ	2.28	0.67
34:AA:740:U:O2	71:AF:103:ASN:ND2	2.28	0.67
34:AA:2948:A:H1'	51:AP:86:GLN:HE22	1.58	0.67
56:Ac:49:ARG:HD2	56:Ac:57:LYS:HG2	1.77	0.67
63:AW:114:LEU:HD12	63:AW:148:ILE:HD11	1.76	0.67
68:A5:176:ILE:HG23	68:A5:177:GLN:H	1.60	0.67
56:Ac:78:LYS:O	56:Ac:80:LYS:NZ	2.27	0.67
10:SC:144:ILE:HG23	10:SC:158:ILE:HB	1.77	0.66
19:SL:81:VAL:HG22	19:SL:91:VAL:HG23	1.77	0.66
34:AA:734:A:H2'	34:AA:735:A:C8	2.29	0.66
62:AR:84:ILE:HG12	62:AR:89:PRO:HA	1.76	0.66
73:AU:183:ARG:HE	73:AU:184:MET:HE1	1.60	0.66
8:SA:106:A:OP2	8:SA:314:A:N6	2.27	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1608:G:H2'	8:SA:1609:C:C6	2.30	0.66
8:SA:1849:U:OP2	31:SX:43:ARG:NH2	2.28	0.66
34:AA:440:A:H2'	34:AA:441:A:C8	2.31	0.66
34:AA:2726:U:OP2	34:AA:2727:U:O2'	2.12	0.66
37:AL:53:LEU:HD11	37:AL:114:ARG:HE	1.59	0.66
39:A2:53:ASN:ND2	39:A2:69:LYS:O	2.28	0.66
79:S8:61:ILE:HG13	79:S8:315:VAL:HG11	1.76	0.66
79:S8:71:HIS:ND1	79:S8:93:ASP:OD2	2.26	0.66
8:SA:303:U:OP1	13:SF:37:LYS:NZ	2.28	0.66
14:SG:179:ILE:HG21	14:SG:226:ILE:HG12	1.77	0.66
34:AA:598:U:C5	43:AN:14:ILE:HG21	2.30	0.66
8:SA:1985:A:H2'	8:SA:1986:A:C8	2.30	0.66
11:SD:133:LYS:HE2	11:SD:192:PRO:HA	1.77	0.66
17:SJ:7:ARG:O	17:SJ:43:LYS:NZ	2.25	0.66
19:SL:89:GLU:HA	19:SL:92:ARG:HG2	1.78	0.66
35:AC:12:U:H2'	35:AC:13:A:H8	1.60	0.66
39:A2:13:THR:HG21	39:A2:49:LEU:HD11	1.78	0.66
8:SA:124:U:H5''	13:SF:77:ARG:HH12	1.60	0.66
10:SC:187:VAL:HG12	10:SC:188:ILE:HG23	1.77	0.66
34:AA:463:G:O6	34:AA:492:U:O4	2.14	0.66
34:AA:3509:G:OP2	57:AK:133:ARG:NH2	2.29	0.66
68:A5:86:ARG:HH12	75:AV:139:ALA:HA	1.61	0.66
79:S8:116:ASP:O	79:S8:134:ARG:N	2.21	0.66
8:SA:827:C:H2'	8:SA:828:A:C8	2.31	0.66
13:SF:116:ASN:OD1	13:SF:120:LYS:NZ	2.29	0.66
34:AA:716:C:N4	34:AA:717:G:O6	2.29	0.66
34:AA:2740:A:H2'	34:AA:2741:A:H8	1.61	0.66
54:AI:111:ILE:HG12	54:AI:117:ILE:HG21	1.76	0.66
5:S5:7:ALA:HA	5:S5:28:GLN:CB	2.24	0.66
34:AA:532:C:OP2	71:AF:365:LYS:NZ	2.28	0.66
34:AA:1740:A:H2'	34:AA:1741:G:C8	2.31	0.66
34:AA:2978:A:OP1	75:AV:15:LYS:NZ	2.24	0.66
8:SA:547:U:N3	8:SA:549:A:N7	2.44	0.66
24:SQ:107:PHE:HD1	24:SQ:123:LYS:HB2	1.61	0.66
34:AA:435:G:H2'	34:AA:436:G:H8	1.59	0.66
34:AA:530:U:H4'	71:AF:368:LEU:HD13	1.76	0.66
34:AA:1277:G:OP2	45:A9:54:ARG:NH2	2.29	0.66
56:Ac:37:CYS:SG	56:Ac:38:ALA:N	2.69	0.66
8:SA:453:U:O2'	13:SF:27:TYR:O	2.13	0.66
8:SA:1321:C:H5''	22:SO:63:ARG:HG3	1.78	0.66
8:SA:1680:U:O2'	8:SA:1682:A:OP1	2.12	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:SV:75:LYS:HG2	29:SV:127:THR:HG22	1.77	0.66
34:AA:1117:U:H2'	34:AA:1118:A:H8	1.59	0.66
36:AB:87:G:N2	36:AB:90:A:OP2	2.28	0.66
38:A1:22:LYS:NZ	38:A1:139:PHE:O	2.24	0.66
65:AT:71:LYS:O	65:AT:73:ARG:NH1	2.29	0.66
34:AA:908:A:H2'	34:AA:909:U:O4'	1.96	0.65
34:AA:3401:C:H2'	34:AA:3402:A:H8	1.61	0.65
36:AB:22:G:C2	36:AB:25:A:N1	2.64	0.65
37:AL:62:GLN:OE1	60:AO:127:ARG:NH1	2.29	0.65
51:AP:147:LYS:O	51:AP:149:ASN:N	2.27	0.65
3:S3:67:LEU:HD12	3:S3:68:TYR:H	1.60	0.65
8:SA:1655:G:N2	8:SA:1658:G:OP2	2.29	0.65
34:AA:773:A:OP1	37:AL:28:ASN:ND2	2.29	0.65
34:AA:3469:C:O2'	34:AA:3724:U:OP1	2.13	0.65
63:AW:37:ARG:HG3	63:AW:38:ARG:HG3	1.78	0.65
25:SR:87:GLN:NE2	25:SR:88:ASN:O	2.26	0.65
34:AA:905:A:N6	59:AS:86:THR:OG1	2.30	0.65
34:AA:1476:A:OP2	59:AS:39:ARG:NH2	2.28	0.65
53:AI:37:LEU:HA	53:AI:40:ARG:HD3	1.76	0.65
58:AM:87:TRP:NE1	58:AM:123:GLU:OE2	2.29	0.65
16:SI:64:VAL:HG12	16:SI:84:VAL:HG11	1.77	0.65
34:AA:745:C:H2'	34:AA:746:A:H8	1.61	0.65
34:AA:1263:A:OP2	40:A4:5:LYS:NZ	2.29	0.65
34:AA:1559:U:H5''	44:A8:97:HIS:HB3	1.77	0.65
34:AA:2476:A:O2'	69:AD:235:VAL:O	2.15	0.65
34:AA:3001:A:H2'	34:AA:3002:G:H8	1.62	0.65
45:A9:65:ILE:HG22	45:A9:66:LYS:H	1.61	0.65
10:SC:22:VAL:HG22	10:SC:169:SER:HA	1.79	0.65
15:SH:10:ASN:ND2	15:SH:127:LYS:O	2.29	0.65
34:AA:1610:A:H2'	34:AA:1611:A:H8	1.60	0.65
34:AA:1905:C:H2'	34:AA:1906:A:C8	2.32	0.65
8:SA:172:U:O4	8:SA:267:A:N7	2.30	0.65
8:SA:1278:C:N4	26:SS:139:LYS:O	2.29	0.65
39:A2:54:SER:H	39:A2:69:LYS:HB3	1.61	0.65
44:A8:81:MET:HE1	44:A8:93:VAL:HG21	1.77	0.65
8:SA:1302:G:N2	8:SA:1897:A:O4'	2.29	0.65
18:SK:87:GLU:OE2	18:SK:117:ARG:NH2	2.30	0.65
20:SM:32:LEU:HD12	20:SM:82:ILE:HD12	1.77	0.65
29:SV:40:LYS:O	29:SV:42:GLY:N	2.22	0.65
34:AA:514:C:OP1	54:AI:18:LYS:NZ	2.29	0.65
8:SA:207:G:N2	8:SA:208:U:O4	2.28	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:651:G:O6	8:SA:749:U:O4	2.15	0.65
8:SA:1453:G:OP1	20:SM:7:ARG:NH2	2.30	0.65
10:SC:40:ARG:HB3	10:SC:46:HIS:CD2	2.32	0.65
29:SV:60:LYS:HG2	29:SV:134:LEU:HD11	1.78	0.65
34:AA:3717:A:H2'	34:AA:3718:G:H8	1.62	0.65
52:Ah:69:TRP:HZ3	69:AD:176:ASP:HB2	1.62	0.65
59:AS:57:ARG:HB2	59:AS:145:ARG:HH12	1.61	0.65
8:SA:142:G:H1	8:SA:169:A:N6	1.93	0.65
34:AA:1301:U:H2'	34:AA:1308:A:H8	1.61	0.65
39:A2:11:GLU:OE2	59:AS:31:LYS:NZ	2.29	0.65
72:AG:133:ARG:NH2	72:AG:153:LYS:O	2.30	0.65
18:SK:49:SER:O	18:SK:64:ASN:ND2	2.30	0.65
34:AA:250:U:H2'	34:AA:251:U:H2'	1.79	0.65
34:AA:993:U:N3	34:AA:3337:U:OP1	2.30	0.65
34:AA:2947:G:OP1	69:AD:2:GLY:N	2.30	0.65
68:A5:164:ARG:HB3	68:A5:171:TYR:HB3	1.79	0.65
8:SA:370:G:N2	8:SA:806:A:H61	1.95	0.64
11:SD:138:ILE:HD13	11:SD:152:LYS:HG2	1.79	0.64
17:SJ:88:THR:HG1	17:SJ:90:LYS:HZ3	1.44	0.64
34:AA:115:A:OP1	51:AP:49:ARG:NH2	2.30	0.64
34:AA:373:A:OP1	71:AF:86:ARG:NH1	2.30	0.64
34:AA:1245:G:O6	34:AA:1270:G:N2	2.29	0.64
1:SI:117:LYS:NZ	8:SA:87:A:OP1	2.31	0.64
26:SS:100:VAL:HG23	26:SS:105:LEU:HA	1.79	0.64
59:AS:185:TYR:OH	60:AO:46:ASP:OD1	2.14	0.64
8:SA:1630:A:H2'	8:SA:1631:G:C8	2.32	0.64
8:SA:1938:C:H2'	8:SA:1939:G:C8	2.32	0.64
16:SI:66:SER:O	16:SI:150:ARG:NH2	2.30	0.64
17:SJ:50:ILE:HB	17:SJ:178:LYS:HZ1	1.60	0.64
18:SK:14:ILE:HD11	18:SK:27:ILE:HD11	1.78	0.64
34:AA:412:A:N3	63:AW:123:ARG:NH2	2.45	0.64
34:AA:735:A:H2'	34:AA:736:G:H8	1.61	0.64
34:AA:868:U:H2'	34:AA:869:A:H8	1.63	0.64
34:AA:1483:A:H2'	34:AA:1484:A:H8	1.62	0.64
5:S5:5:LYS:CB	5:S5:29:PHE:HD2	2.10	0.64
5:S5:31:ARG:HB3	5:S5:31:ARG:HH21	1.61	0.64
16:SI:83:ILE:HD13	16:SI:160:ILE:HD13	1.79	0.64
34:AA:116:A:N6	34:AA:162:U:O4	2.31	0.64
34:AA:275:A:OP2	51:AP:8:GLN:NE2	2.31	0.64
34:AA:2705:G:H2'	34:AA:2706:A:H8	1.61	0.64
34:AA:2739:U:H2'	34:AA:2740:A:H8	1.62	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:SB:171:ILE:HD11	9:SB:200:GLN:HG2	1.80	0.64
34:AA:438:U:OP1	44:A8:2:ALA:N	2.30	0.64
34:AA:3593:U:H2'	34:AA:3594:G:H8	1.62	0.64
35:AC:106:G:OP2	35:AC:108:A:O2'	2.15	0.64
79:S8:267:ILE:O	79:S8:276:ILE:N	2.31	0.64
8:SA:1717:A:OP1	16:SI:155:ARG:NH1	2.31	0.64
34:AA:253:U:OP2	37:AL:131:LYS:NZ	2.30	0.64
34:AA:2032:A:H2'	34:AA:2033:C:C6	2.33	0.64
8:SA:90:U:H2'	8:SA:91:G:H8	1.62	0.64
8:SA:953:C:H2'	8:SA:954:G:C8	2.33	0.64
20:SM:22:THR:O	20:SM:67:ARG:N	2.31	0.64
34:AA:1621:U:H2'	34:AA:1622:G:H8	1.63	0.64
34:AA:1784:G:N2	34:AA:1787:A:OP2	2.25	0.64
34:AA:3449:U:H2'	34:AA:3450:G:C8	2.31	0.64
36:AB:60:U:H2'	36:AB:61:G:H8	1.62	0.64
75:AV:79:LYS:HD2	75:AV:88:LYS:HE3	1.79	0.64
79:S8:245:ILE:HA	79:S8:261:THR:HG22	1.79	0.64
8:SA:1247:G:H2'	8:SA:1248:A:H8	1.63	0.64
8:SA:1902:G:H5''	20:SM:128:LYS:HB3	1.79	0.64
11:SD:137:VAL:HB	11:SD:153:PHE:HD2	1.63	0.64
16:SI:129:ALA:H	16:SI:195:ARG:HD2	1.63	0.64
34:AA:876:C:H2'	34:AA:877:G:H8	1.63	0.64
34:AA:2740:A:H2'	34:AA:2741:A:C8	2.33	0.64
34:AA:3627:C:H2'	34:AA:3628:C:C6	2.33	0.64
72:AG:21:ILE:HG21	72:AG:33:ALA:HB1	1.80	0.64
8:SA:469:U:H2'	8:SA:470:A:H8	1.63	0.64
34:AA:2127:G:O3'	65:AT:59:ARG:NH2	2.29	0.64
53:AI:67:ILE:HG23	53:AI:83:MET:HB2	1.80	0.64
59:AS:174:GLU:OE2	60:AO:51:GLY:N	2.30	0.64
75:AV:43:ILE:HD11	75:AV:54:PRO:HB3	1.80	0.64
77:AX:42:TYR:HB2	77:AX:92:ILE:HB	1.80	0.64
79:S8:298:SER:HB3	79:S8:303:LEU:HB2	1.79	0.64
8:SA:1432:G:H3'	8:SA:1433:A:H8	1.62	0.64
31:SX:85:ILE:HB	31:SX:112:ILE:HA	1.80	0.64
34:AA:463:G:N2	34:AA:492:U:O2	2.31	0.64
34:AA:3580:G:O2'	34:AA:3582:G:OP2	2.14	0.64
60:AO:36:GLY:HA3	60:AO:41:MET:HB2	1.78	0.64
68:A5:168:VAL:HG22	68:A5:169:ARG:HG2	1.80	0.64
7:S7:14:A:H2'	7:S7:15:G:C8	2.33	0.63
8:SA:1247:G:H2'	8:SA:1248:A:C8	2.33	0.63
24:SQ:95:PHE:O	24:SQ:144:ARG:NH1	2.30	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:1083:G:OP2	34:AA:1243:G:N1	2.30	0.63
35:AC:78:U:O4	66:AZ:71:LYS:NZ	2.32	0.63
45:A9:104:CYS:SG	45:A9:105:ARG:N	2.71	0.63
62:AR:216:ASP:OD1	62:AR:219:LYS:NZ	2.30	0.63
75:AV:109:ARG:O	75:AV:113:ASN:ND2	2.31	0.63
26:SS:91:ASP:O	26:SS:93:LYS:NZ	2.30	0.63
34:AA:1740:A:H2'	34:AA:1741:G:H8	1.61	0.63
34:AA:2731:A:H2'	34:AA:2732:A:C8	2.32	0.63
34:AA:3201:C:OP1	34:AA:3257:G:N2	2.31	0.63
44:A8:84:LEU:HD21	44:A8:116:VAL:HG11	1.80	0.63
7:S7:32:U:O4	16:SI:194:ASN:ND2	2.30	0.63
8:SA:14:U:OP2	14:SG:215:LYS:NZ	2.30	0.63
8:SA:934:G:H2'	8:SA:935:G:H8	1.63	0.63
34:AA:248:A:H2'	34:AA:249:U:O4'	1.98	0.63
34:AA:3175:G:N2	34:AA:3178:A:OP2	2.31	0.63
34:AA:3451:G:OP2	65:AT:61:ARG:NH2	2.31	0.63
52:Ah:10:LEU:HD22	52:Ah:30:GLU:HG3	1.81	0.63
68:A5:56:ARG:NH2	68:A5:190:ASN:OD1	2.32	0.63
74:AH:109:THR:HG22	74:AH:110:ARG:HG3	1.80	0.63
8:SA:93:G:OP1	8:SA:403:A:N6	2.30	0.63
8:SA:454:U:H2'	8:SA:455:C:H6	1.63	0.63
8:SA:943:U:H2'	8:SA:944:G:C8	2.34	0.63
34:AA:2034:G:H2'	34:AA:2035:G:H8	1.63	0.63
34:AA:2823:U:OP2	55:AJ:87:ARG:NH1	2.31	0.63
45:A9:39:ARG:HE	54:AI:210:LEU:HB3	1.64	0.63
57:AK:41:ASN:ND2	57:AK:135:CYS:O	2.28	0.63
8:SA:576:C:H41	24:SQ:69:ARG:HH22	1.47	0.63
34:AA:1141:G:N2	34:AA:1156:U:O2	2.29	0.63
9:SB:122:GLU:O	9:SB:165:ARG:NH1	2.31	0.63
17:SJ:55:LEU:HB3	17:SJ:56:LYS:HE3	1.81	0.63
34:AA:2957:G:O2'	34:AA:3224:U:OP1	2.17	0.63
34:AA:3134:U:H2'	34:AA:3135:A:H8	1.64	0.63
51:AP:69:GLY:O	51:AP:71:ARG:NH2	2.31	0.63
59:AS:92:PHE:O	60:AO:87:LYS:NZ	2.24	0.63
63:AW:118:MET:HG3	63:AW:147:GLN:HE21	1.64	0.63
8:SA:1794:C:H2'	8:SA:1795:G:C8	2.34	0.63
11:SD:9:ARG:O	11:SD:13:ASN:ND2	2.32	0.63
31:SX:61:ARG:HD2	31:SX:62:LYS:N	2.13	0.63
34:AA:764:G:OP2	37:AL:35:ARG:NH2	2.32	0.63
34:AA:1322:G:H2'	34:AA:1323:A:C8	2.34	0.63
34:AA:2511:G:H2'	34:AA:2512:A:H8	1.62	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:2739:U:H2'	34:AA:2740:A:C8	2.33	0.63
34:AA:2830:U:H3	34:AA:2832:A:H8	1.47	0.63
34:AA:3304:G:O2'	34:AA:3307:C:OP2	2.16	0.63
8:SA:414:C:H2'	8:SA:415:C:C6	2.34	0.63
8:SA:1830:C:H4'	8:SA:1836:G:H1	1.64	0.63
8:SA:1964:G:H2'	8:SA:1965:A:C8	2.34	0.63
8:SA:1982:G:O6	8:SA:2008:U:O4	2.17	0.63
16:SI:41:PRO:HD2	16:SI:81:ILE:HG23	1.79	0.63
26:SS:23:ASP:HB3	26:SS:26:GLU:HB3	1.80	0.63
34:AA:755:A:OP2	59:AS:86:THR:OG1	2.15	0.63
34:AA:956:A:OP2	52:Ah:4:ARG:NH1	2.31	0.63
34:AA:3067:G:O6	75:AV:79:LYS:NZ	2.26	0.63
55:AJ:197:VAL:HG12	55:AJ:199:ASP:H	1.64	0.63
61:AQ:88:ARG:HE	61:AQ:173:PHE:HE2	1.47	0.63
72:AG:49:LYS:O	72:AG:64:LYS:N	2.32	0.63
8:SA:1816:U:H1'	8:SA:1817:U:H2'	1.81	0.63
9:SB:54:LYS:NZ	34:AA:2817:U:O2	2.29	0.63
10:SC:179:GLN:HG3	10:SC:194:TRP:HE1	1.64	0.63
14:SG:237:LEU:HB2	33:SZ:23:LEU:HD22	1.80	0.63
15:SH:132:LYS:HG3	15:SH:133:LEU:HD12	1.81	0.63
20:SM:41:GLU:HB2	20:SM:42:PRO:HD3	1.80	0.63
35:AC:125:U:H2'	35:AC:126:C:H6	1.63	0.63
57:AK:72:LEU:HD13	57:AK:77:LYS:HB3	1.80	0.63
8:SA:400:C:H42	8:SA:407:A:N6	1.90	0.62
8:SA:1417:U:OP1	8:SA:1430:G:N1	2.30	0.62
8:SA:1623:U:O2	8:SA:1625:C:N4	2.31	0.62
34:AA:2008:G:H2'	34:AA:2009:A:C8	2.34	0.62
34:AA:3194:C:OP1	50:Af:22:LYS:NZ	2.31	0.62
59:AS:71:MET:HE2	59:AS:79:ALA:HB2	1.80	0.62
70:AE:33:PRO:HB3	70:AE:339:ILE:HA	1.81	0.62
73:AU:88:LEU:HD21	73:AU:115:LEU:HD21	1.81	0.62
74:AH:91:MET:HE1	74:AH:180:VAL:HG13	1.81	0.62
4:S4:36:PRO:HD3	4:S4:75:CYS:HA	1.81	0.62
8:SA:1669:C:OP1	11:SD:152:LYS:NZ	2.32	0.62
34:AA:293:U:H2'	34:AA:294:G:H8	1.64	0.62
34:AA:3066:A:OP1	75:AV:82:LYS:NZ	2.32	0.62
34:AA:3703:G:N2	34:AA:3703:G:OP2	2.32	0.62
42:A7:28:THR:HB	42:A7:36:LYS:HD2	1.81	0.62
1:S1:37:LYS:NZ	8:SA:529:U:OP1	2.32	0.62
8:SA:617:G:O2'	8:SA:620:G:O2'	2.17	0.62
8:SA:1798:G:N2	8:SA:1801:A:OP2	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:SQ:128:ALA:O	24:SQ:129:ARG:HD3	2.00	0.62
34:AA:1139:C:H2'	34:AA:1140:A:H8	1.63	0.62
34:AA:1530:G:OP1	71:AF:199:ARG:NH2	2.32	0.62
34:AA:2650:A:H2'	34:AA:2651:A:H8	1.63	0.62
62:AR:292:LYS:HG2	62:AR:293:LEU:HG	1.82	0.62
79:S8:221:LYS:HA	79:S8:244:THR:HG23	1.81	0.62
9:SB:88:CYS:HA	9:SB:98:THR:HA	1.79	0.62
34:AA:1511:U:H2'	34:AA:1512:A:C8	2.35	0.62
34:AA:3100:G:N1	34:AA:3155:G:OP1	2.27	0.62
7:S7:69:U:O2'	34:AA:2504:U:O2'	2.17	0.62
14:SG:177:VAL:HG21	14:SG:222:PHE:HD1	1.64	0.62
34:AA:655:U:H2'	34:AA:656:U:H6	1.65	0.62
74:AH:125:VAL:HG21	74:AH:159:LEU:HB3	1.81	0.62
34:AA:1065:U:H2'	34:AA:1066:U:H6	1.64	0.62
34:AA:1139:C:H2'	34:AA:1140:A:C8	2.35	0.62
34:AA:3589:U:O2'	73:AU:181:THR:OG1	2.16	0.62
35:AC:64:U:O4	67:A3:61:ASN:ND2	2.28	0.62
46:Aa:86:GLU:HA	46:Aa:89:MET:SD	2.39	0.62
61:AQ:201:ARG:HG3	61:AQ:203:LYS:HG2	1.80	0.62
70:AE:10:ARG:NH1	70:AE:11:HIS:O	2.32	0.62
73:AU:87:LEU:HB3	73:AU:133:ILE:HG23	1.82	0.62
8:SA:1908:A:O2'	16:SI:65:ASN:O	2.17	0.62
10:SC:164:ASN:HA	10:SC:170:ILE:HD11	1.80	0.62
13:SF:61:VAL:HA	13:SF:64:ILE:HD12	1.82	0.62
16:SI:41:PRO:HB3	16:SI:64:VAL:HG21	1.82	0.62
16:SI:81:ILE:HG21	20:SM:44:ILE:HG12	1.80	0.62
34:AA:745:C:H2'	34:AA:746:A:C8	2.35	0.62
34:AA:2735:G:O6	34:AA:2814:U:O4	2.17	0.62
34:AA:3048:U:H2'	34:AA:3049:G:H8	1.63	0.62
34:AA:3779:U:H5''	34:AA:3780:A:H5'	1.80	0.62
69:AD:10:LYS:NZ	69:AD:195:CYS:SG	2.71	0.62
1:S1:47:MET:HE1	8:SA:831:U:C2	2.35	0.62
14:SG:96:MET:HG3	14:SG:111:LYS:HB3	1.82	0.62
34:AA:64:G:OP2	51:AP:168:LYS:NZ	2.32	0.62
34:AA:1843:U:H2'	34:AA:1844:G:C8	2.35	0.62
55:AJ:116:TYR:HE2	55:AJ:220:VAL:HG12	1.65	0.62
8:SA:1274:C:OP1	26:SS:132:ARG:NH1	2.28	0.62
8:SA:1648:A:H5'	30:SW:4:VAL:HA	1.82	0.62
34:AA:596:A:OP2	74:AH:55:LYS:NZ	2.32	0.62
34:AA:2191:C:N3	34:AA:2197:G:N2	2.47	0.62
34:AA:3486:G:H2'	34:AA:3487:A:C8	2.35	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1853:A:H5''	8:SA:1854:U:H5	1.65	0.62
17:SJ:76:ILE:HG23	17:SJ:80:LEU:HD23	1.81	0.62
28:SU:63:VAL:HA	28:SU:66:VAL:HG22	1.81	0.62
34:AA:3120:U:OP1	37:AL:201:ARG:NH2	2.31	0.62
45:A9:101:GLY:HA3	45:A9:117:PHE:CD1	2.35	0.62
51:AP:24:ARG:HH12	55:AJ:88:LEU:HD21	1.65	0.62
61:AQ:36:MET:HE1	61:AQ:69:ARG:HD3	1.82	0.62
68:A5:224:ARG:H	68:A5:255:ARG:HB3	1.65	0.62
8:SA:1639:G:H5''	79:S8:286:LYS:HD3	1.82	0.61
34:AA:585:C:N4	43:AN:84:ASN:OD1	2.29	0.61
34:AA:1220:U:OP1	34:AA:1221:A:N6	2.33	0.61
44:A8:40:CYS:O	44:A8:42:VAL:N	2.32	0.61
68:A5:97:ARG:NH2	68:A5:100:GLY:O	2.23	0.61
71:AF:383:VAL:HG22	73:AU:134:ARG:HG3	1.82	0.61
5:S5:31:ARG:HB3	5:S5:31:ARG:CZ	2.29	0.61
8:SA:138:U:OP2	15:SH:187:LYS:NZ	2.33	0.61
8:SA:1179:C:H2'	8:SA:1180:U:C6	2.35	0.61
34:AA:63:A:O3'	51:AP:184:ARG:NH2	2.32	0.61
34:AA:374:A:OP1	71:AF:97:ARG:NH2	2.26	0.61
34:AA:2409:G:OP1	34:AA:2411:C:N4	2.33	0.61
37:AL:163:LYS:NZ	37:AL:164:GLU:O	2.33	0.61
51:AP:68:ARG:NH1	51:AP:123:GLN:OE1	2.31	0.61
55:AJ:266:ASP:OD1	55:AJ:269:ARG:NH1	2.33	0.61
57:AK:74:GLU:OE1	57:AK:146:TRP:NE1	2.32	0.61
79:S8:10:ILE:HG12	79:S8:318:VAL:HG22	1.81	0.61
3:S3:4:LYS:NZ	8:SA:2087:U:OP2	2.33	0.61
6:S6:33:ARG:NH2	8:SA:483:A:O2'	2.30	0.61
10:SC:22:VAL:HG21	10:SC:173:MET:HE3	1.81	0.61
18:SK:40:TYR:OH	18:SK:115:GLU:OE2	2.15	0.61
29:SV:90:ARG:HA	29:SV:109:ASN:HA	1.83	0.61
34:AA:760:A:H2'	34:AA:761:U:C6	2.35	0.61
34:AA:993:U:OP2	70:AE:238:LYS:NZ	2.33	0.61
34:AA:3441:A:H2	34:AA:3471:A:H62	1.48	0.61
70:AE:47:MET:HG2	70:AE:84:MET:HE1	1.81	0.61
73:AU:12:ASN:HB2	73:AU:41:LYS:HE2	1.82	0.61
73:AU:118:GLU:OE2	73:AU:122:ARG:NE	2.26	0.61
34:AA:1454:A:H2'	34:AA:1455:C:O4'	2.00	0.61
34:AA:3307:C:H2'	34:AA:3308:U:H6	1.65	0.61
5:S5:27:ALA:HB3	5:S5:35:ARG:HG3	1.82	0.61
8:SA:987:U:OP1	23:SP:98:ARG:NH1	2.32	0.61
8:SA:1386:U:H4'	8:SA:1387:U:H5'	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:1083:G:H2'	34:AA:1084:A:C8	2.34	0.61
34:AA:1469:U:H2'	34:AA:1470:A:C8	2.36	0.61
36:AB:21:G:H2'	36:AB:22:G:C8	2.36	0.61
8:SA:204:U:H2'	8:SA:205:A:H8	1.65	0.61
8:SA:850:G:H2'	8:SA:851:A:C8	2.35	0.61
13:SF:174:LYS:HG2	13:SF:175:PHE:H	1.66	0.61
14:SG:61:GLU:HA	14:SG:64:LEU:HD12	1.83	0.61
34:AA:3587:U:OP2	57:AK:36:ARG:NH2	2.32	0.61
51:AP:158:ARG:NH2	51:AP:163:LEU:O	2.34	0.61
66:AZ:16:LYS:O	66:AZ:20:THR:HG22	2.00	0.61
8:SA:425:G:OP1	15:SH:72:ARG:NH2	2.34	0.61
8:SA:478:G:H2'	8:SA:479:A:H8	1.65	0.61
8:SA:1316:U:H3	8:SA:1694:G:H1	1.46	0.61
28:SU:5:TYR:OH	28:SU:124:ARG:NH2	2.33	0.61
34:AA:159:C:OP1	51:AP:147:LYS:NZ	2.25	0.61
34:AA:1254:G:OP2	61:AQ:14:ASN:ND2	2.34	0.61
34:AA:1273:G:OP1	44:A8:44:ARG:NH1	2.33	0.61
34:AA:2088:A:H2'	34:AA:2089:C:C6	2.35	0.61
34:AA:2884:G:OP2	46:Aa:90:ARG:NH1	2.33	0.61
34:AA:3132:C:N3	47:Ab:6:THR:OG1	2.33	0.61
38:A1:52:LYS:O	38:A1:65:ARG:NH1	2.33	0.61
63:AW:31:GLU:HG2	63:AW:60:PHE:HD1	1.66	0.61
75:AV:56:ASN:OD1	75:AV:57:TYR:N	2.32	0.61
3:S3:5:ARG:HH22	8:SA:2087:U:H3'	1.65	0.61
7:S7:73:C:N4	34:AA:3104:C:O2'	2.27	0.61
8:SA:174:C:N4	8:SA:267:A:OP2	2.28	0.61
8:SA:1451:G:H21	8:SA:1625:C:H42	1.49	0.61
22:SO:48:VAL:HG13	22:SO:53:ILE:HD11	1.82	0.61
51:AP:192:LYS:O	51:AP:196:LEU:HB2	2.00	0.61
79:S8:16:LEU:HB2	79:S8:313:ILE:HB	1.82	0.61
8:SA:22:A:H2'	8:SA:23:G:H8	1.65	0.61
8:SA:152:G:H2'	8:SA:153:A:C8	2.36	0.61
8:SA:1311:U:H2'	8:SA:1312:A:C8	2.35	0.61
26:SS:17:ILE:HG22	26:SS:18:LEU:H	1.64	0.61
42:A7:15:PRO:HA	42:A7:85:ARG:HB2	1.81	0.61
51:AP:31:ARG:NH1	51:AP:124:ASP:OD2	2.33	0.61
8:SA:405:A:OP2	19:SL:26:LYS:NZ	2.30	0.61
8:SA:574:A:N6	8:SA:583:G:H21	1.97	0.61
34:AA:703:U:H2'	34:AA:704:U:C6	2.36	0.61
34:AA:3043:A:OP1	62:AR:31:ARG:NH2	2.33	0.61
34:AA:3485:G:H2'	34:AA:3486:G:H8	1.66	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:AQ:129:VAL:HG11	61:AQ:135:LEU:HD11	1.83	0.61
64:AY:114:PRO:HD3	67:A3:33:ILE:HD12	1.83	0.61
74:AH:45:ILE:HG22	74:AH:56:VAL:HG22	1.82	0.61
34:AA:291:A:OP2	53:AI:40:ARG:NH2	2.31	0.60
34:AA:593:A:C5	43:AN:6:LEU:HD21	2.34	0.60
34:AA:2511:G:OP1	47:Ab:75:ARG:NH1	2.32	0.60
73:AU:78:PRO:O	73:AU:106:THR:OG1	2.18	0.60
8:SA:1790:C:H2'	8:SA:1791:C:C6	2.36	0.60
17:SJ:42:ILE:HD11	17:SJ:64:ILE:HD12	1.83	0.60
34:AA:1072:A:H5'	34:AA:1073:G:H5''	1.83	0.60
34:AA:2644:U:H2'	34:AA:2645:A:H8	1.66	0.60
3:S3:12:LYS:NZ	3:S3:15:ARG:O	2.33	0.60
8:SA:624:U:H2'	8:SA:625:U:C6	2.36	0.60
8:SA:1023:A:H2'	8:SA:1024:A:C8	2.34	0.60
8:SA:1435:C:O2	8:SA:1665:G:N2	2.29	0.60
8:SA:1887:A:OP1	32:SY:113:ASN:ND2	2.34	0.60
12:SE:37:LYS:HD2	12:SE:126:ARG:HH22	1.66	0.60
14:SG:41:TRP:CG	14:SG:73:GLN:HG2	2.36	0.60
34:AA:439:U:H2'	34:AA:440:A:C8	2.35	0.60
34:AA:1064:U:H2'	34:AA:1065:U:C6	2.36	0.60
34:AA:1433:U:C2	70:AE:254:PRO:HB3	2.37	0.60
34:AA:1849:U:H4'	46:Aa:24:ARG:HH22	1.65	0.60
35:AC:13:A:H2'	35:AC:14:A:C8	2.36	0.60
71:AF:147:LEU:HD21	71:AF:152:LEU:HB2	1.83	0.60
8:SA:1061:A:O2'	8:SA:2077:U:O2	2.20	0.60
8:SA:1453:G:O6	8:SA:1610:U:O4	2.19	0.60
10:SC:74:VAL:HG23	10:SC:118:PRO:HB3	1.83	0.60
12:SE:149:ARG:H	12:SE:152:SER:HB2	1.65	0.60
34:AA:3131:A:O2'	34:AA:3133:U:OP2	2.18	0.60
34:AA:3306:G:C2	70:AE:247:ALA:HB1	2.35	0.60
67:A3:29:SER:O	67:A3:33:ILE:HG12	2.01	0.60
70:AE:215:ILE:HG12	70:AE:273:THR:HG22	1.82	0.60
8:SA:122:C:N3	13:SF:33:SER:OG	2.34	0.60
8:SA:883:A:H2'	8:SA:884:G:C8	2.37	0.60
8:SA:1786:U:O2'	8:SA:1787:U:OP1	2.19	0.60
8:SA:1859:A:H2'	8:SA:1860:A:C8	2.36	0.60
13:SF:125:LYS:NZ	13:SF:157:ASN:OD1	2.29	0.60
21:SN:42:ALA:HB1	21:SN:49:VAL:HG21	1.82	0.60
32:SY:29:ILE:O	32:SY:85:ARG:NH2	2.33	0.60
34:AA:859:C:H2'	34:AA:860:A:H8	1.65	0.60
34:AA:1468:A:H2'	34:AA:1469:U:C6	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3431:G:OP1	70:AE:19:ARG:NH2	2.33	0.60
37:AL:18:GLN:HE22	71:AF:108:TRP:HZ2	1.49	0.60
62:AR:39:GLN:NE2	62:AR:46:ALA:O	2.34	0.60
73:AU:6:ASP:OD2	73:AU:8:SER:OG	2.18	0.60
75:AV:76:LEU:HD11	75:AV:87:GLN:HB3	1.84	0.60
8:SA:1019:C:HO2'	28:SU:101:HIS:HD1	1.50	0.60
13:SF:196:SER:HB3	13:SF:211:LYS:HG3	1.83	0.60
34:AA:1536:U:O2'	44:A8:98:ASN:O	2.19	0.60
34:AA:3241:U:O4	34:AA:3302:G:N1	2.34	0.60
35:AC:150:U:H2'	35:AC:151:A:H8	1.67	0.60
53:AI:62:LYS:HD3	53:AI:85:ARG:HH12	1.67	0.60
70:AE:74:GLU:OE1	70:AE:322:LYS:NZ	2.33	0.60
5:S5:35:ARG:HD2	5:S5:49:LEU:HD22	1.84	0.60
8:SA:1384:U:H5''	8:SA:1385:U:H2'	1.84	0.60
9:SB:187:LYS:HE3	9:SB:192:SER:HB3	1.83	0.60
22:SO:14:ILE:HG12	22:SO:52:HIS:ND1	2.15	0.60
24:SQ:70:LYS:HG2	24:SQ:93:LEU:HD22	1.83	0.60
34:AA:89:A:OP2	59:AS:172:LYS:NZ	2.32	0.60
34:AA:1294:G:H2'	34:AA:1295:A:C8	2.36	0.60
34:AA:1552:G:O3'	44:A8:64:LYS:NZ	2.35	0.60
34:AA:1596:G:N2	34:AA:2649:A:OP2	2.22	0.60
34:AA:1634:G:N2	46:Aa:4:ARG:HD3	2.16	0.60
34:AA:1762:A:O2'	34:AA:1763:G:H8	1.85	0.60
34:AA:3106:U:H2'	34:AA:3107:U:C6	2.37	0.60
34:AA:3134:U:H2'	34:AA:3135:A:C8	2.36	0.60
63:AW:31:GLU:HG2	63:AW:60:PHE:HA	1.83	0.60
5:S5:40:PRO:O	16:SI:133:SER:OG	2.19	0.60
8:SA:844:G:H2'	8:SA:845:U:C6	2.37	0.60
34:AA:611:G:H2'	34:AA:612:G:H8	1.67	0.60
34:AA:638:G:H5''	45:A9:102:LYS:HE3	1.83	0.60
36:AB:57:C:H2'	36:AB:58:A:H8	1.65	0.60
45:A9:127:GLY:O	45:A9:129:ARG:NH1	2.34	0.60
8:SA:882:A:H2'	8:SA:883:A:H8	1.67	0.60
8:SA:932:U:H5	18:SK:28:ARG:HG3	1.67	0.60
8:SA:1978:A:H8	15:SH:65:GLN:HG3	1.66	0.60
13:SF:195:ILE:HG12	13:SF:210:VAL:HG22	1.83	0.60
24:SQ:110:SER:OG	24:SQ:111:GLY:N	2.34	0.60
34:AA:82:U:OP2	51:AP:198:LYS:NZ	2.34	0.60
34:AA:515:A:N6	34:AA:641:G:O6	2.35	0.60
34:AA:794:C:H2'	34:AA:795:G:H8	1.66	0.60
34:AA:2219:A:O2'	34:AA:2220:U:O5'	2.18	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3479:U:OP1	58:AM:88:ARG:NH1	2.35	0.60
35:AC:12:U:H2'	35:AC:13:A:C8	2.37	0.60
54:AI:159:MET:SD	54:AI:159:MET:N	2.75	0.60
57:AK:9:ASP:OD2	73:AU:178:ARG:NH2	2.34	0.60
66:AZ:65:ARG:HD2	66:AZ:84:VAL:HG22	1.82	0.60
75:AV:94:ILE:HA	75:AV:97:VAL:HG12	1.83	0.60
77:AX:94:VAL:HG12	77:AX:96:ILE:H	1.67	0.60
5:S5:42:ARG:N	5:S5:45:ASP:OD2	2.33	0.60
8:SA:467:G:H2'	8:SA:468:G:C8	2.37	0.60
8:SA:1794:C:H2'	8:SA:1795:G:H8	1.67	0.60
43:AN:103:GLU:O	43:AN:107:ASN:ND2	2.28	0.60
8:SA:881:C:H2'	8:SA:882:A:H8	1.67	0.59
8:SA:881:C:H2'	8:SA:882:A:C8	2.37	0.59
8:SA:939:A:H2'	8:SA:940:G:C8	2.37	0.59
8:SA:1007:G:N2	8:SA:1010:A:OP2	2.35	0.59
8:SA:1711:U:H5''	20:SM:140:GLN:HB3	1.84	0.59
13:SF:247:ASP:O	13:SF:251:GLU:HB2	2.01	0.59
15:SH:58:LYS:N	15:SH:105:ASP:O	2.35	0.59
20:SM:44:ILE:O	20:SM:47:THR:OG1	2.18	0.59
34:AA:283:U:OP1	53:AI:47:LYS:NZ	2.30	0.59
34:AA:996:C:HO2'	34:AA:999:G:HO2'	1.44	0.59
34:AA:3063:U:H1'	75:AV:8:LYS:NZ	2.17	0.59
34:AA:3402:A:H2'	34:AA:3403:A:C8	2.37	0.59
34:AA:3639:G:H22	34:AA:3646:G:H1	1.50	0.59
51:AP:96:ASN:OD1	51:AP:99:SER:N	2.31	0.59
52:Ah:67:GLY:HA2	69:AD:172:GLY:H	1.67	0.59
54:AI:48:ARG:HD2	54:AI:81:GLY:HA3	1.82	0.59
8:SA:788:A:H2'	8:SA:789:U:C6	2.37	0.59
8:SA:1391:U:OP1	14:SG:107:ARG:NH1	2.36	0.59
14:SG:77:TYR:O	14:SG:80:GLN:NE2	2.35	0.59
34:AA:750:G:O6	34:AA:910:A:N6	2.35	0.59
34:AA:1544:C:H2'	34:AA:1545:G:H8	1.67	0.59
34:AA:3534:U:H2'	34:AA:3535:A:C8	2.36	0.59
37:AL:16:TRP:HE1	37:AL:18:GLN:HB2	1.67	0.59
43:AN:128:ARG:NH2	54:AI:214:MET:SD	2.72	0.59
52:Ah:20:SER:OG	52:Ah:23:ARG:NH2	2.36	0.59
68:A5:77:GLU:OE2	68:A5:81:ASN:ND2	2.29	0.59
71:AF:239:LYS:O	71:AF:248:ARG:NH1	2.35	0.59
75:AV:48:THR:O	75:AV:50:GLN:NE2	2.35	0.59
5:S5:38:LYS:N	16:SI:131:ASP:O	2.34	0.59
9:SB:182:LYS:HD2	9:SB:231:LEU:HD21	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:SD:15:GLY:HA3	27:ST:48:ILE:HG23	1.84	0.59
34:AA:682:A:OP1	71:AF:316:LYS:NZ	2.31	0.59
34:AA:760:A:H4'	51:AP:200:ARG:HH12	1.67	0.59
34:AA:868:U:H2'	34:AA:869:A:C8	2.37	0.59
34:AA:1430:A:H62	34:AA:3216:C:H1'	1.68	0.59
34:AA:3158:U:O2'	60:AO:42:ARG:NH1	2.36	0.59
34:AA:3726:U:H4'	34:AA:3727:A:H5'	1.84	0.59
58:AM:35:ASN:HD21	58:AM:65:LYS:HB2	1.68	0.59
5:S5:58:ARG:HE	5:S5:59:LEU:H	1.49	0.59
8:SA:50:C:H41	8:SA:430:C:H2'	1.66	0.59
8:SA:811:G:H2'	8:SA:812:A:H8	1.67	0.59
8:SA:1310:C:N3	8:SA:1701:G:N2	2.50	0.59
13:SF:161:ARG:HH22	13:SF:235:TYR:HD2	1.48	0.59
34:AA:10:G:O6	35:AC:155:A:N1	2.35	0.59
34:AA:1602:A:N6	34:AA:2117:A:O4'	2.34	0.59
34:AA:1816:G:H2'	34:AA:1817:G:C8	2.36	0.59
34:AA:2489:C:H2'	34:AA:2535:A:H61	1.67	0.59
34:AA:2957:G:OP2	40:A4:3:LYS:NZ	2.35	0.59
35:AC:26:U:OP1	66:AZ:11:ARG:NH2	2.34	0.59
43:AN:13:TYR:OH	74:AH:50:LEU:CA	2.30	0.59
63:AW:30:TYR:HB2	63:AW:119:VAL:HG21	1.85	0.59
68:A5:204:CYS:HA	68:A5:208:PHE:CZ	2.37	0.59
70:AE:91:GLY:HA3	70:AE:148:ILE:HD12	1.84	0.59
34:AA:1339:U:O2'	73:AU:122:ARG:NH1	2.34	0.59
34:AA:2068:G:H2'	34:AA:2069:C:C6	2.37	0.59
56:Ac:74:ARG:O	56:Ac:75:ARG:HD3	2.01	0.59
58:AM:69:PRO:HA	58:AM:72:ARG:HB2	1.85	0.59
70:AE:24:ARG:HD2	70:AE:28:LYS:HD2	1.83	0.59
7:S7:1:G:C2	7:S7:71:C:C2	2.90	0.59
8:SA:865:G:H21	18:SK:107:PRO:HG3	1.68	0.59
8:SA:1446:A:H4'	21:SN:52:PRO:HD2	1.84	0.59
8:SA:1628:A:O2'	8:SA:1629:G:N7	2.30	0.59
8:SA:2044:G:H2'	8:SA:2045:A:C8	2.38	0.59
15:SH:41:ILE:HG23	15:SH:45:PHE:HD1	1.68	0.59
34:AA:162:U:O2'	34:AA:163:G:OP2	2.18	0.59
34:AA:257:U:H2'	34:AA:258:U:C6	2.38	0.59
34:AA:1090:G:H2'	34:AA:1091:G:H8	1.67	0.59
50:Af:42:THR:OG1	50:Af:44:GLN:OE1	2.20	0.59
57:AK:60:ARG:HD3	57:AK:65:PRO:HG3	1.85	0.59
57:AK:124:ARG:HG3	57:AK:128:LEU:HD12	1.85	0.59
68:A5:50:ARG:HE	71:AF:330:PRO:HB3	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:S8:248:LEU:HD11	79:S8:257:LEU:HD11	1.84	0.59
8:SA:50:C:OP2	8:SA:429:G:N2	2.31	0.59
8:SA:1647:A:OP1	30:SW:56:HIS:NE2	2.36	0.59
25:SR:59:LEU:HB3	25:SR:69:LYS:HZ3	1.68	0.59
34:AA:495:U:H2'	34:AA:496:C:H6	1.67	0.59
34:AA:1031:G:H1	69:AD:208:GLU:CD	2.10	0.59
1:S1:100:LYS:NZ	8:SA:532:A:O2'	2.35	0.59
8:SA:370:G:H21	8:SA:806:A:N6	1.98	0.59
8:SA:2068:A:H2'	8:SA:2069:G:C8	2.37	0.59
12:SE:63:ASP:HB3	18:SK:117:ARG:HD3	1.84	0.59
20:SM:131:GLY:O	20:SM:139:TYR:N	2.34	0.59
34:AA:267:U:H2'	34:AA:268:C:C6	2.38	0.59
34:AA:631:U:OP1	68:A5:154:ARG:NH1	2.35	0.59
34:AA:942:C:H2'	34:AA:943:G:H8	1.66	0.59
34:AA:2203:G:H2'	34:AA:2204:A:H8	1.67	0.59
59:AS:157:LYS:HB3	59:AS:160:SER:HB3	1.85	0.59
65:AT:139:GLU:OE2	65:AT:143:ARG:NH2	2.35	0.59
71:AF:349:GLU:OE2	71:AF:353:ASN:ND2	2.33	0.59
31:SX:85:ILE:HD13	31:SX:111:MET:HG3	1.85	0.59
34:AA:639:C:H2'	34:AA:640:U:C6	2.38	0.59
34:AA:911:U:OP1	71:AF:113:ARG:NH2	2.33	0.59
34:AA:1216:C:O2'	34:AA:1217:U:H5'	2.03	0.59
34:AA:2430:U:OP2	34:AA:2435:A:N6	2.27	0.59
8:SA:1843:G:OP2	8:SA:1856:A:N6	2.36	0.59
8:SA:1851:C:H42	27:ST:8:HIS:CD2	2.20	0.59
14:SG:73:GLN:N	14:SG:73:GLN:OE1	2.36	0.59
34:AA:3012:A:H5'	72:AG:95:ASN:HB2	1.83	0.59
34:AA:3593:U:H2'	34:AA:3594:G:C8	2.38	0.59
35:AC:64:U:OP1	64:AY:103:LYS:NZ	2.33	0.59
79:S8:114:THR:OG1	79:S8:135:ASP:OD2	2.19	0.59
8:SA:828:A:C6	8:SA:846:G:N1	2.71	0.58
8:SA:1277:G:N3	8:SA:1296:C:O2'	2.33	0.58
12:SE:176:SER:O	12:SE:180:GLN:HG2	2.03	0.58
13:SF:174:LYS:HD2	13:SF:176:GLN:NE2	2.18	0.58
19:SL:208:TYR:O	19:SL:212:MET:HG2	2.03	0.58
34:AA:1260:C:H2'	34:AA:1261:A:H8	1.68	0.58
34:AA:1577:A:OP2	60:AO:2:ALA:N	2.36	0.58
34:AA:1895:U:H2'	34:AA:1896:C:C6	2.38	0.58
34:AA:3393:C:H2'	34:AA:3394:A:C8	2.38	0.58
34:AA:3623:A:HO2'	45:A9:35:LEU:N	2.01	0.58
51:AP:67:ARG:NH2	51:AP:127:TYR:OH	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:AS:64:LEU:HD12	59:AS:94:LEU:HD11	1.85	0.58
69:AD:79:SER:H	69:AD:82:MET:HE2	1.67	0.58
71:AF:172:VAL:HG13	71:AF:177:LYS:HB2	1.85	0.58
8:SA:1980:A:OP1	15:SH:51:ARG:NH2	2.36	0.58
19:SL:67:TRP:CD1	19:SL:199:ILE:HD12	2.37	0.58
34:AA:1065:U:H2'	34:AA:1066:U:C6	2.37	0.58
34:AA:2946:G:OP1	69:AD:233:GLN:NE2	2.35	0.58
34:AA:3200:G:N2	34:AA:3257:G:O6	2.36	0.58
35:AC:124:U:H2'	35:AC:125:U:C6	2.38	0.58
70:AE:90:VAL:HG13	70:AE:104:THR:HG22	1.85	0.58
8:SA:490:C:H2'	8:SA:491:A:C8	2.38	0.58
8:SA:808:U:OP1	13:SF:22:LYS:NZ	2.26	0.58
8:SA:1204:U:OP2	24:SQ:7:SER:N	2.36	0.58
8:SA:1380:C:O2'	27:ST:42:ARG:NH2	2.32	0.58
8:SA:1635:C:H4'	30:SW:49:LYS:HA	1.85	0.58
8:SA:1800:A:H4'	32:SY:64:LYS:NZ	2.18	0.58
17:SJ:62:ILE:HB	17:SJ:94:LEU:HD13	1.86	0.58
26:SS:119:ILE:HG23	31:SX:111:MET:HE1	1.85	0.58
34:AA:911:U:H2'	34:AA:912:U:H6	1.68	0.58
34:AA:1236:U:H2'	34:AA:1237:C:H6	1.68	0.58
34:AA:3000:A:H2'	34:AA:3001:A:H8	1.67	0.58
42:A7:52:MET:HA	42:A7:52:MET:HE3	1.86	0.58
8:SA:599:A:OP1	12:SE:39:LYS:NZ	2.36	0.58
8:SA:606:A:H2'	8:SA:607:U:C6	2.38	0.58
8:SA:1288:U:H2'	8:SA:1289:G:C8	2.37	0.58
11:SD:16:VAL:O	11:SD:20:GLU:HG2	2.02	0.58
17:SJ:106:LYS:HD2	17:SJ:106:LYS:O	2.03	0.58
18:SK:50:PHE:HB2	18:SK:63:VAL:HA	1.85	0.58
34:AA:142:C:H2'	34:AA:143:C:H6	1.68	0.58
34:AA:308:U:HO2'	34:AA:309:G:H8	1.52	0.58
34:AA:3621:C:OP1	57:AK:181:LYS:NZ	2.35	0.58
8:SA:1257:C:H2'	8:SA:1258:A:C8	2.39	0.58
8:SA:1382:G:H4'	21:SN:73:THR:H	1.68	0.58
34:AA:507:G:H2'	34:AA:508:A:H8	1.67	0.58
35:AC:125:U:H2'	35:AC:126:C:C6	2.39	0.58
58:AM:84:SER:N	58:AM:100:ASN:OD1	2.36	0.58
30:SW:27:ASP:HB3	30:SW:30:ILE:HB	1.84	0.58
34:AA:261:A:H2'	34:AA:262:A:H8	1.69	0.58
34:AA:1237:C:H2'	34:AA:1238:C:C6	2.38	0.58
34:AA:2034:G:H1	34:AA:2075:U:H3	1.51	0.58
34:AA:2705:G:H2'	34:AA:2706:A:C8	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3664:G:N2	54:AI:137:ILE:O	2.36	0.58
34:AA:3736:A:N7	34:AA:3754:A:N6	2.51	0.58
43:AN:30:LEU:HG	43:AN:77:LEU:HD12	1.85	0.58
68:A5:54:ARG:NH2	71:AF:330:PRO:O	2.37	0.58
69:AD:119:ARG:O	69:AD:122:ASN:ND2	2.37	0.58
79:S8:22:ASP:HB2	79:S8:44:ASP:HB3	1.86	0.58
8:SA:1629:G:OP1	21:SN:86:ARG:NH1	2.36	0.58
10:SC:103:THR:HG22	10:SC:105:GLY:H	1.67	0.58
18:SK:115:GLU:HA	18:SK:118:ARG:HG2	1.86	0.58
26:SS:112:ASP:OD1	26:SS:115:ARG:NH2	2.37	0.58
34:AA:1510:U:OP1	71:AF:311:LYS:NZ	2.35	0.58
34:AA:3061:U:OP1	75:AV:89:LYS:NZ	2.28	0.58
34:AA:3281:G:H2'	34:AA:3282:U:O4'	2.03	0.58
34:AA:3420:U:O2'	74:AH:123:ARG:NH2	2.36	0.58
34:AA:3485:G:H2'	34:AA:3486:G:C8	2.39	0.58
35:AC:30:U:H2'	35:AC:31:U:C6	2.39	0.58
35:AC:75:A:N1	35:AC:84:G:O2'	2.30	0.58
51:AP:35:VAL:HA	51:AP:65:ARG:HD3	1.84	0.58
70:AE:153:THR:HG23	70:AE:154:VAL:HG23	1.86	0.58
74:AH:104:ILE:HG12	74:AH:111:ILE:HD12	1.86	0.58
77:AX:111:ILE:HG13	77:AX:117:ARG:HB2	1.85	0.58
78:A0:26:GLN:OE1	78:A0:26:GLN:N	2.36	0.58
8:SA:14:U:H2'	8:SA:15:U:C6	2.39	0.58
8:SA:1108:A:O2'	8:SA:1109:G:O5'	2.20	0.58
8:SA:1243:A:H2'	8:SA:1244:A:C8	2.39	0.58
8:SA:1453:G:H2'	8:SA:1454:G:C8	2.39	0.58
8:SA:1869:G:N2	8:SA:1869:G:OP2	2.34	0.58
19:SL:67:TRP:CZ2	19:SL:109:PHE:HB3	2.38	0.58
34:AA:606:A:H2'	34:AA:607:A:C8	2.38	0.58
34:AA:1247:C:H2'	34:AA:1248:A:H8	1.69	0.58
34:AA:3145:A:H2'	34:AA:3146:U:O4'	2.03	0.58
34:AA:3164:G:H2'	34:AA:3165:U:C6	2.39	0.58
35:AC:2:A:H2'	35:AC:3:G:H8	1.69	0.58
61:AQ:194:GLY:O	61:AQ:196:SER:N	2.37	0.58
77:AX:55:LEU:HD12	77:AX:56:ASP:H	1.67	0.58
79:S8:247:SER:HB3	79:S8:260:ALA:HB3	1.85	0.58
1:S1:9:VAL:HB	8:SA:829:G:H22	1.68	0.58
8:SA:953:C:H2'	8:SA:954:G:H8	1.69	0.58
8:SA:1091:C:H4'	8:SA:1226:A:H61	1.69	0.58
12:SE:49:LEU:HD13	12:SE:104:LEU:HD22	1.85	0.58
14:SG:215:LYS:NZ	14:SG:218:THR:OG1	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:SJ:158:LYS:O	17:SJ:162:ARG:NH1	2.37	0.58
34:AA:28:C:OP1	51:AP:192:LYS:NZ	2.33	0.58
34:AA:689:U:H2'	34:AA:690:U:C6	2.39	0.58
34:AA:2070:U:H2'	34:AA:2071:U:C6	2.39	0.58
34:AA:2647:C:H2'	34:AA:2648:G:C8	2.38	0.58
34:AA:3615:A:N6	34:AA:3618:A:N1	2.52	0.58
38:A1:88:ALA:HA	38:A1:93:ILE:HD11	1.86	0.58
58:AM:42:GLN:OE1	58:AM:43:GLY:N	2.36	0.58
65:AT:102:ARG:NH1	65:AT:123:TYR:OH	2.36	0.58
7:S7:51:U:H2'	7:S7:52:G:H8	1.69	0.58
8:SA:338:U:H4'	19:SL:29:LEU:HD23	1.85	0.58
28:SU:95:ALA:HA	28:SU:98:MET:SD	2.44	0.58
29:SV:111:PRO:HB2	29:SV:138:VAL:HG22	1.86	0.58
34:AA:59:G:H4'	34:AA:60:A:H4'	1.85	0.58
34:AA:99:A:O3'	51:AP:182:LYS:NZ	2.36	0.58
34:AA:180:C:N3	34:AA:181:C:N4	2.52	0.58
34:AA:2478:G:O2'	34:AA:2607:U:OP2	2.21	0.58
34:AA:2731:A:H2'	34:AA:2732:A:H8	1.68	0.58
34:AA:3435:A:O2'	70:AE:361:LYS:NZ	2.35	0.58
35:AC:79:G:O5'	49:Ae:30:LYS:NZ	2.28	0.58
62:AR:55:LYS:NZ	62:AR:159:ASN:OD1	2.28	0.58
68:A5:54:ARG:HH21	71:AF:330:PRO:HB2	1.69	0.58
74:AH:18:VAL:HG12	74:AH:27:VAL:HG22	1.85	0.58
8:SA:1081:U:H4'	69:AD:247:ARG:HD3	1.86	0.57
8:SA:1905:C:OP1	20:SM:16:THR:OG1	2.15	0.57
10:SC:155:HIS:CE1	33:SZ:60:GLN:HA	2.39	0.57
21:SN:35:CYS:O	21:SN:39:MET:HG2	2.03	0.57
21:SN:47:LEU:HD13	21:SN:92:SER:HB2	1.85	0.57
34:AA:1467:C:H5'	44:A8:60:ASN:HA	1.86	0.57
34:AA:1472:A:H2'	34:AA:1473:A:H8	1.68	0.57
34:AA:1537:G:OP2	44:A8:100:SER:N	2.23	0.57
34:AA:2816:U:H2'	34:AA:2817:U:C6	2.39	0.57
35:AC:126:C:OP1	67:A3:64:ARG:NH2	2.37	0.57
38:A1:21:LYS:NZ	38:A1:47:GLU:OE2	2.36	0.57
43:AN:44:PHE:HD1	43:AN:58:GLY:HA2	1.69	0.57
57:AK:190:PRO:HA	57:AK:193:ARG:HG2	1.84	0.57
62:AR:83:LEU:HB3	62:AR:88:ILE:HB	1.86	0.57
79:S8:281:PRO:HB3	79:S8:291:TRP:CE2	2.39	0.57
1:S1:118:LYS:NZ	8:SA:87:A:O2'	2.37	0.57
8:SA:632:C:H2'	8:SA:633:U:C6	2.39	0.57
8:SA:1119:G:H2'	8:SA:1120:A:H8	1.70	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1630:A:H2'	8:SA:1631:G:H8	1.68	0.57
8:SA:2081:G:OP2	23:SP:146:ARG:NH2	2.36	0.57
12:SE:71:PHE:O	12:SE:74:GLU:HG3	2.04	0.57
15:SH:33:GLY:N	15:SH:52:ILE:O	2.33	0.57
34:AA:593:A:C4	43:AN:6:LEU:HD21	2.38	0.57
34:AA:2685:C:O2'	70:AE:263:ARG:NH2	2.37	0.57
34:AA:3345:U:H2'	34:AA:3346:A:H8	1.68	0.57
50:Af:6:LEU:HD23	74:AH:94:VAL:HG13	1.86	0.57
51:AP:147:LYS:C	51:AP:149:ASN:H	2.12	0.57
54:AI:9:LYS:HG2	54:AI:20:LEU:HB2	1.85	0.57
66:AZ:33:LYS:HB3	66:AZ:104:VAL:HG12	1.85	0.57
3:S3:45:VAL:HG23	23:SP:113:GLN:HB2	1.85	0.57
7:S7:3:G:O2'	34:AA:2504:U:OP1	2.22	0.57
8:SA:612:A:OP2	8:SA:613:A:O2'	2.16	0.57
8:SA:1072:A:O2'	8:SA:1074:A:N7	2.33	0.57
10:SC:40:ARG:HA	10:SC:46:HIS:HA	1.86	0.57
15:SH:114:VAL:HG13	15:SH:115:LYS:HG3	1.84	0.57
16:SI:101:GLN:NE2	16:SI:105:ASN:OD1	2.37	0.57
34:AA:1469:U:H2'	34:AA:1470:A:H8	1.67	0.57
34:AA:2835:G:H2'	34:AA:2836:G:H8	1.68	0.57
34:AA:3196:A:H5''	61:AQ:154:ARG:HH11	1.68	0.57
34:AA:3480:C:O2'	70:AE:277:LYS:NZ	2.37	0.57
34:AA:3769:U:OP1	42:A7:30:LYS:NZ	2.36	0.57
35:AC:27:U:OP2	66:AZ:15:ARG:NH1	2.37	0.57
36:AB:62:U:O2'	36:AB:64:A:O4'	2.22	0.57
47:Ab:60:ARG:HH21	47:Ab:64:LEU:HD21	1.69	0.57
7:S7:7:U:H3	7:S7:65:A:H2	1.53	0.57
8:SA:984:A:N1	23:SP:55:ARG:NH2	2.51	0.57
8:SA:1319:G:O2'	8:SA:1365:G:N2	2.37	0.57
17:SJ:24:LEU:HD21	17:SJ:42:ILE:HG23	1.86	0.57
28:SU:55:ARG:NE	28:SU:56:ASP:OD1	2.37	0.57
32:SY:83:ILE:HG12	32:SY:98:LEU:HD22	1.85	0.57
34:AA:320:C:H1'	47:Ab:3:ARG:HH12	1.68	0.57
34:AA:3201:C:H3'	34:AA:3203:C:H41	1.69	0.57
59:AS:51:ARG:HB3	59:AS:82:VAL:HG21	1.85	0.57
8:SA:1958:A:H2'	8:SA:1959:G:H8	1.70	0.57
19:SL:81:VAL:HG11	19:SL:94:LYS:HA	1.84	0.57
28:SU:34:GLU:HA	28:SU:37:ILE:HG22	1.87	0.57
34:AA:507:G:H2'	34:AA:508:A:C8	2.39	0.57
34:AA:1483:A:H2'	34:AA:1484:A:C8	2.39	0.57
34:AA:3206:A:H3'	34:AA:3207:G:H8	1.70	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:AJ:117:LYS:NZ	55:AJ:205:LYS:O	2.38	0.57
57:AK:11:LYS:HB3	73:AU:178:ARG:HE	1.68	0.57
58:AM:28:CYS:SG	78:A0:31:ARG:NH2	2.71	0.57
5:S5:35:ARG:NH2	5:S5:54:ARG:O	2.37	0.57
8:SA:58:U:O2'	8:SA:457:A:N3	2.38	0.57
8:SA:124:U:H2'	8:SA:125:G:H8	1.69	0.57
8:SA:523:U:H2'	8:SA:524:G:H8	1.70	0.57
8:SA:1730:A:H2'	8:SA:1731:C:C6	2.39	0.57
8:SA:1836:G:C4	26:SS:30:ILE:HG12	2.38	0.57
31:SX:60:ILE:HD11	31:SX:92:SER:HB2	1.87	0.57
34:AA:302:A:H2'	34:AA:303:A:H8	1.70	0.57
34:AA:3078:A:OP1	40:A4:38:ASN:ND2	2.37	0.57
63:AW:115:ILE:HD12	63:AW:151:ARG:HB3	1.87	0.57
8:SA:27:U:H2'	8:SA:28:A:H8	1.70	0.57
8:SA:1821:A:H2'	8:SA:1822:A:C8	2.39	0.57
8:SA:2029:A:H2'	8:SA:2030:U:C6	2.39	0.57
10:SC:103:THR:HB	10:SC:106:MET:HE2	1.87	0.57
19:SL:90:LEU:HD22	19:SL:95:THR:HG21	1.87	0.57
34:AA:616:U:H2'	34:AA:617:A:C8	2.40	0.57
34:AA:758:G:OP2	71:AF:118:LYS:NZ	2.31	0.57
34:AA:997:G:H1'	34:AA:999:G:H21	1.69	0.57
34:AA:2213:G:H2'	34:AA:2214:A:C8	2.39	0.57
43:AN:12:LEU:O	43:AN:12:LEU:HD13	2.05	0.57
43:AN:17:LYS:NZ	43:AN:17:LYS:HB3	2.20	0.57
69:AD:131:GLY:HA3	69:AD:172:GLY:HA2	1.86	0.57
70:AE:33:PRO:O	70:AE:181:ASN:ND2	2.35	0.57
71:AF:178:ASP:OD1	71:AF:179:GLU:N	2.38	0.57
8:SA:467:G:H2'	8:SA:468:G:H8	1.70	0.57
8:SA:587:A:O2'	8:SA:589:U:OP2	2.21	0.57
8:SA:1653:A:H2'	8:SA:1654:G:C8	2.39	0.57
19:SL:100:CYS:SG	19:SL:101:ILE:N	2.78	0.57
25:SR:99:LEU:HG	25:SR:112:ILE:HG21	1.86	0.57
34:AA:299:A:OP2	51:AP:68:ARG:NH2	2.37	0.57
34:AA:521:U:O2'	34:AA:522:A:O5'	2.23	0.57
34:AA:827:A:H3'	34:AA:828:G:H8	1.70	0.57
34:AA:1280:G:OP2	34:AA:1280:G:N2	2.26	0.57
34:AA:1321:A:OP1	57:AK:48:ARG:NH2	2.33	0.57
34:AA:2027:A:H2'	34:AA:2028:G:C8	2.36	0.57
34:AA:2441:U:OP2	34:AA:2480:G:N1	2.38	0.57
34:AA:2634:A:H2'	34:AA:2635:C:C6	2.39	0.57
34:AA:2742:G:O6	34:AA:2806:U:O4	2.23	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3693:A:H2'	34:AA:3694:A:H8	1.70	0.57
51:AP:199:LEU:HD23	51:AP:203:ARG:HH12	1.69	0.57
74:AH:119:GLU:OE1	74:AH:119:GLU:N	2.33	0.57
7:S7:17:U:O5'	7:S7:58:G:N2	2.38	0.57
8:SA:293:U:H2'	8:SA:294:G:H8	1.70	0.57
8:SA:509:U:H2'	8:SA:510:G:C8	2.40	0.57
8:SA:884:G:H1	8:SA:918:U:H3	1.53	0.57
8:SA:951:U:H5'	52:Ah:84:ARG:HH12	1.69	0.57
8:SA:1402:A:OP1	14:SG:111:LYS:NZ	2.24	0.57
8:SA:1687:C:H2'	8:SA:1688:U:C6	2.39	0.57
16:SI:131:ASP:OD1	16:SI:132:VAL:N	2.36	0.57
20:SM:42:PRO:HG2	20:SM:45:LEU:HD12	1.86	0.57
28:SU:23:PRO:HG2	28:SU:26:LEU:HB2	1.86	0.57
34:AA:21:G:OP2	34:AA:21:G:N2	2.25	0.57
34:AA:967:A:C5	34:AA:968:G:H1'	2.40	0.57
34:AA:1443:U:OP1	57:AK:17:ARG:NH1	2.37	0.57
34:AA:2950:U:H2'	34:AA:2951:U:C6	2.40	0.57
69:AD:107:MET:N	69:AD:107:MET:SD	2.77	0.57
70:AE:40:PRO:O	70:AE:42:HIS:ND1	2.37	0.57
79:S8:204:LEU:HA	79:S8:220:GLY:HA3	1.87	0.57
6:S6:14:VAL:HA	6:S6:17:GLN:HE21	1.69	0.57
29:SV:58:ASP:OD1	29:SV:59:LYS:N	2.38	0.57
34:AA:320:C:H5'	37:AL:207:ASP:OD2	2.04	0.57
34:AA:1019:A:H2'	34:AA:1020:C:C6	2.39	0.57
70:AE:10:ARG:NH1	70:AE:12:GLY:O	2.38	0.57
71:AF:319:LEU:HD12	71:AF:325:ARG:NH2	2.20	0.57
8:SA:1061:A:H2	8:SA:1081:U:H3	1.53	0.56
8:SA:2073:A:H2'	8:SA:2074:A:C8	2.39	0.56
9:SB:140:ILE:HD11	9:SB:213:ARG:HD3	1.87	0.56
15:SH:11:ASN:ND2	15:SH:129:VAL:O	2.34	0.56
29:SV:16:GLN:HB2	29:SV:57:VAL:HG13	1.87	0.56
34:AA:650:U:H2'	34:AA:651:A:C8	2.40	0.56
34:AA:949:A:H2	34:AA:983:G:H21	1.52	0.56
34:AA:1125:A:N1	34:AA:1172:C:O2'	2.35	0.56
34:AA:2442:A:O2'	69:AD:179:ILE:O	2.12	0.56
34:AA:2516:A:H2'	34:AA:2517:A:C8	2.39	0.56
34:AA:3393:C:H2'	34:AA:3394:A:H8	1.69	0.56
34:AA:3431:G:H4'	70:AE:16:PHE:HE2	1.70	0.56
34:AA:3434:A:OP2	70:AE:219:LYS:NZ	2.35	0.56
34:AA:3628:C:H2'	34:AA:3629:U:H6	1.69	0.56
34:AA:3677:A:H2'	34:AA:3678:A:H8	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:AC:124:U:H2'	35:AC:125:U:H6	1.70	0.56
36:AB:15:U:H2'	36:AB:16:A:H8	1.70	0.56
45:A9:70:THR:HG23	45:A9:73:HIS:H	1.70	0.56
66:AZ:50:ARG:N	66:AZ:53:ASP:OD2	2.34	0.56
5:S5:5:LYS:CB	5:S5:29:PHE:CD2	2.84	0.56
8:SA:70:U:O4	8:SA:82:G:O6	2.22	0.56
8:SA:993:A:H2'	8:SA:994:G:C8	2.40	0.56
8:SA:1679:G:N3	27:ST:39:GLN:HB3	2.20	0.56
31:SX:60:ILE:HD13	31:SX:89:MET:HB2	1.87	0.56
34:AA:689:U:H2'	34:AA:690:U:H6	1.70	0.56
34:AA:1162:U:H2'	34:AA:1163:A:C8	2.39	0.56
34:AA:1193:G:N1	34:AA:1215:A:N7	2.52	0.56
34:AA:1225:A:OP1	75:AV:131:ARG:NH1	2.38	0.56
34:AA:3062:U:H2'	34:AA:3063:U:C6	2.40	0.56
34:AA:3635:G:O6	34:AA:3650:U:O4	2.23	0.56
35:AC:149:C:H2'	35:AC:150:U:C6	2.39	0.56
54:AI:198:LYS:O	54:AI:202:HIS:ND1	2.33	0.56
61:AQ:153:ARG:O	61:AQ:156:LYS:HG2	2.05	0.56
69:AD:60:LYS:HE2	69:AD:73:GLU:HG3	1.87	0.56
8:SA:56:A:OP1	8:SA:409:A:N6	2.35	0.56
8:SA:125:G:H2'	8:SA:126:A:H8	1.70	0.56
8:SA:149:A:N1	8:SA:162:A:N6	2.53	0.56
8:SA:265:U:H3'	8:SA:266:A:H5'	1.87	0.56
8:SA:367:C:N4	8:SA:385:U:OP1	2.38	0.56
8:SA:633:U:H2'	8:SA:634:C:C6	2.41	0.56
8:SA:633:U:H2'	8:SA:634:C:H6	1.69	0.56
8:SA:651:G:N1	8:SA:749:U:N3	2.29	0.56
8:SA:1212:C:H2'	8:SA:1213:G:O4'	2.04	0.56
13:SF:63:MET:O	13:SF:67:GLN:NE2	2.38	0.56
22:SO:34:VAL:HG11	22:SO:57:LEU:HG	1.86	0.56
34:AA:175:G:H2'	34:AA:176:A:H8	1.71	0.56
34:AA:464:G:H2'	34:AA:465:A:C8	2.39	0.56
34:AA:743:A:H2'	34:AA:744:G:C8	2.40	0.56
34:AA:881:A:H2'	34:AA:882:G:H8	1.71	0.56
34:AA:932:U:O2'	56:Ac:48:ARG:NH2	2.38	0.56
34:AA:1512:A:OP1	68:A5:173:ARG:NH1	2.39	0.56
34:AA:2197:G:H4'	34:AA:2614:A:H5'	1.87	0.56
34:AA:2659:C:H2'	34:AA:2660:A:C8	2.36	0.56
35:AC:115:C:H4'	49:Ae:6:ARG:HE	1.69	0.56
39:A2:17:ASN:OD1	39:A2:18:CYS:N	2.38	0.56
58:AM:12:LYS:O	58:AM:13:MET:HG2	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:AY:179:ASP:OD1	64:AY:180:ALA:N	2.39	0.56
69:AD:156:LYS:HE3	69:AD:158:ILE:HD11	1.86	0.56
70:AE:20:LYS:NZ	70:AE:21:ARG:O	2.38	0.56
1:S1:104:ALA:HB1	1:S1:107:ARG:HB3	1.87	0.56
8:SA:1851:C:H41	27:ST:10:LYS:HD2	1.70	0.56
16:SI:39:TYR:CD2	20:SM:47:THR:HB	2.39	0.56
32:SY:36:LEU:HD22	32:SY:39:ARG:HE	1.70	0.56
34:AA:216:C:OP2	71:AF:165:LYS:NZ	2.32	0.56
34:AA:660:U:H2'	34:AA:661:G:C8	2.41	0.56
34:AA:1544:C:H2'	34:AA:1545:G:C8	2.41	0.56
34:AA:2112:G:H5'	34:AA:2113:C:H5''	1.87	0.56
34:AA:2449:U:H2'	34:AA:2471:A:H61	1.68	0.56
54:AI:132:ASP:OD1	54:AI:135:SER:OG	2.17	0.56
58:AM:139:VAL:HG21	78:A0:29:ILE:HG12	1.87	0.56
65:AT:149:LEU:HA	65:AT:152:LYS:HZ2	1.70	0.56
3:S3:5:ARG:NH1	8:SA:2088:C:O5'	2.38	0.56
8:SA:1855:U:H4'	8:SA:1856:A:H5''	1.87	0.56
8:SA:1860:A:H2	26:SS:89:ARG:HH22	1.54	0.56
13:SF:60:GLU:O	13:SF:64:ILE:HG13	2.06	0.56
14:SG:150:PRO:HG2	14:SG:234:TYR:HE2	1.70	0.56
18:SK:3:ARG:HH21	18:SK:29:PRO:HB3	1.71	0.56
32:SY:40:SER:O	32:SY:44:HIS:ND1	2.38	0.56
34:AA:256:A:H2'	34:AA:257:U:C6	2.40	0.56
34:AA:746:A:H2'	34:AA:747:A:C8	2.41	0.56
34:AA:1505:U:OP1	59:AS:27:ARG:NH2	2.38	0.56
34:AA:1968:C:OP2	48:Ad:40:LYS:NZ	2.37	0.56
34:AA:3333:U:H2'	34:AA:3334:U:C6	2.40	0.56
61:AQ:38:ARG:NH1	61:AQ:83:ASP:O	2.35	0.56
7:S7:28:C:H2'	7:S7:29:G:C8	2.41	0.56
8:SA:984:A:H61	23:SP:55:ARG:HH12	1.53	0.56
8:SA:1638:U:H5''	79:S8:289:VAL:HG21	1.87	0.56
16:SI:166:GLU:O	16:SI:170:ASN:ND2	2.38	0.56
18:SK:6:VAL:HG13	18:SK:29:PRO:HB2	1.85	0.56
34:AA:12:U:O2	35:AC:154:G:N2	2.39	0.56
34:AA:348:C:N4	34:AA:349:G:O6	2.39	0.56
34:AA:505:A:H2'	34:AA:506:A:H8	1.69	0.56
34:AA:582:U:H2'	34:AA:583:U:C6	2.40	0.56
34:AA:612:G:H2'	34:AA:613:C:H6	1.69	0.56
34:AA:651:A:O3'	68:A5:43:LYS:NZ	2.37	0.56
35:AC:96:U:H2'	35:AC:97:C:O4'	2.06	0.56
36:AB:44:C:H4'	62:AR:154:ARG:HD3	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:Ah:38:LEU:HA	52:Ah:45:THR:HA	1.87	0.56
72:AG:156:LYS:HG2	72:AG:160:MET:SD	2.45	0.56
4:S4:9:ASP:HB3	4:S4:10:PRO:HD3	1.85	0.56
8:SA:272:U:H2'	8:SA:273:A:H8	1.70	0.56
8:SA:1059:U:H2'	8:SA:1060:G:O4'	2.06	0.56
11:SD:216:LEU:O	30:SW:19:LYS:NZ	2.39	0.56
13:SF:250:GLU:HA	13:SF:253:ARG:HG2	1.88	0.56
34:AA:508:A:H2'	34:AA:509:A:H8	1.70	0.56
34:AA:1117:U:H2'	34:AA:1118:A:C8	2.39	0.56
34:AA:1532:U:H2'	34:AA:1533:U:C6	2.40	0.56
34:AA:3289:G:H2'	34:AA:3290:C:C6	2.40	0.56
62:AR:122:VAL:HG22	62:AR:123:GLU:H	1.71	0.56
68:A5:207:VAL:HG12	68:A5:211:VAL:HG23	1.88	0.56
69:AD:23:ARG:HE	69:AD:53:GLY:HA3	1.69	0.56
74:AH:89:TYR:HB3	74:AH:91:MET:HE3	1.88	0.56
8:SA:479:A:OP1	12:SE:44:ARG:NH1	2.39	0.56
8:SA:1119:G:H2'	8:SA:1120:A:C8	2.41	0.56
8:SA:1207:U:H2'	8:SA:1208:G:H8	1.70	0.56
28:SU:69:ASN:OD1	28:SU:70:LYS:N	2.36	0.56
30:SW:23:LYS:HE3	30:SW:34:ILE:HG12	1.88	0.56
34:AA:51:A:OP1	37:AL:19:ARG:NH2	2.34	0.56
34:AA:92:G:H5'	34:AA:93:C:H5''	1.88	0.56
34:AA:1031:G:N1	69:AD:208:GLU:OE1	2.38	0.56
34:AA:1533:U:OP1	71:AF:140:ARG:NH2	2.39	0.56
34:AA:1821:U:H2'	34:AA:1822:A:H8	1.71	0.56
36:AB:15:U:H2'	36:AB:16:A:C8	2.41	0.56
70:AE:201:PRO:HG2	70:AE:204:THR:HG23	1.88	0.56
79:S8:215:LEU:HD11	79:S8:227:LEU:HD23	1.87	0.56
8:SA:600:U:O5'	12:SE:38:ASN:ND2	2.36	0.56
8:SA:1198:U:H1'	14:SG:180:ARG:HD2	1.87	0.56
8:SA:1388:A:H2'	8:SA:1415:A:H4'	1.88	0.56
8:SA:1841:U:O4	8:SA:1865:G:N2	2.38	0.56
16:SI:29:CYS:SG	16:SI:134:PRO:HB2	2.46	0.56
21:SN:65:ARG:O	27:ST:38:ARG:NH2	2.39	0.56
29:SV:62:PRO:HG3	29:SV:141:ASN:HB3	1.87	0.56
30:SW:17:VAL:HA	30:SW:24:LEU:HD11	1.88	0.56
34:AA:1095:U:H2'	34:AA:1096:G:C8	2.41	0.56
34:AA:1532:U:H2'	34:AA:1533:U:H6	1.69	0.56
34:AA:1996:C:O2'	34:AA:1997:G:N2	2.36	0.56
34:AA:2175:C:H2'	34:AA:2176:A:H8	1.70	0.56
68:A5:79:ARG:HH21	71:AF:371:ILE:HG21	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:A0:46:LEU:HD13	78:A0:49:GLN:HE21	1.71	0.56
8:SA:748:C:OP1	18:SK:118:ARG:NH2	2.38	0.56
8:SA:828:A:N6	8:SA:846:G:N1	2.53	0.56
8:SA:1257:C:H2'	8:SA:1258:A:H8	1.70	0.56
23:SP:106:LYS:HZ3	23:SP:135:ILE:HA	1.71	0.56
32:SY:153:ASN:OD1	32:SY:154:ALA:N	2.39	0.56
34:AA:288:G:O6	34:AA:289:A:N6	2.39	0.56
34:AA:668:U:OP1	71:AF:344:ARG:NH2	2.39	0.56
34:AA:1531:G:H1	34:AA:1573:C:H5	1.54	0.56
34:AA:1827:C:H2'	34:AA:1828:G:C8	2.41	0.56
34:AA:3068:A:H2'	34:AA:3069:A:O4'	2.06	0.56
34:AA:3663:A:H5''	34:AA:3664:G:H5'	1.89	0.56
51:AP:51:LEU:HG	51:AP:52:GLY:H	1.71	0.56
54:AI:47:GLN:HG2	54:AI:48:ARG:H	1.71	0.56
70:AE:33:PRO:HA	70:AE:339:ILE:HG23	1.87	0.56
71:AF:209:ILE:HG21	71:AF:221:PHE:HE2	1.69	0.56
8:SA:444:A:H1'	8:SA:471:G:H22	1.71	0.55
8:SA:934:G:H2'	8:SA:935:G:C8	2.41	0.55
9:SB:121:ILE:HB	9:SB:141:ALA:HB3	1.88	0.55
26:SS:100:VAL:O	26:SS:104:GLN:HB3	2.06	0.55
26:SS:103:ASN:OD1	26:SS:104:GLN:N	2.40	0.55
31:SX:57:LEU:HD13	31:SX:89:MET:HE2	1.88	0.55
34:AA:1779:A:O2'	38:A1:67:LYS:NZ	2.36	0.55
34:AA:1878:U:OP2	65:AT:123:TYR:OH	2.24	0.55
34:AA:2960:G:H2'	34:AA:2961:C:C6	2.41	0.55
34:AA:3623:A:OP2	43:AN:139:LYS:NZ	2.39	0.55
34:AA:3713:C:H2'	34:AA:3714:C:C6	2.41	0.55
34:AA:3717:A:H2'	34:AA:3718:G:C8	2.41	0.55
8:SA:1432:G:H3'	8:SA:1433:A:C8	2.41	0.55
9:SB:145:LYS:O	9:SB:146:ARG:HG2	2.06	0.55
10:SC:131:GLN:NE2	10:SC:135:GLU:OE2	2.31	0.55
12:SE:127:VAL:HG22	12:SE:131:GLN:NE2	2.21	0.55
30:SW:99:GLU:HG2	30:SW:100:PRO:HD2	1.88	0.55
34:AA:1574:C:H4'	71:AF:38:GLN:NE2	2.20	0.55
34:AA:3669:U:C4	54:AI:68:MET:HE1	2.41	0.55
41:A6:30:ARG:O	41:A6:34:LEU:HD23	2.07	0.55
42:A7:41:ILE:HD11	42:A7:59:LEU:HG	1.87	0.55
46:Aa:54:VAL:HG23	46:Aa:70:ARG:HA	1.88	0.55
51:AP:75:VAL:HG21	51:AP:79:VAL:HA	1.88	0.55
65:AT:9:LEU:HD22	65:AT:37:ARG:HE	1.71	0.55
8:SA:1653:A:H2'	8:SA:1654:G:H8	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:2044:G:H2'	8:SA:2045:A:H8	1.71	0.55
10:SC:88:LYS:HE3	10:SC:200:MET:HB3	1.88	0.55
13:SF:124:CYS:HA	13:SF:142:HIS:HE1	1.70	0.55
17:SJ:137:ILE:HD12	17:SJ:154:MET:HG3	1.89	0.55
34:AA:818:C:H42	34:AA:903:C:H42	1.54	0.55
34:AA:1819:U:H5'	65:AT:99:ARG:HH22	1.72	0.55
34:AA:1845:C:H2'	34:AA:1846:A:H8	1.71	0.55
34:AA:3235:C:O2	34:AA:3311:G:N2	2.39	0.55
37:AL:125:ILE:HD11	67:A3:119:LEU:HG	1.87	0.55
65:AT:91:LYS:O	65:AT:95:ILE:HG12	2.05	0.55
79:S8:266:ARG:HG3	79:S8:278:GLU:HG2	1.87	0.55
8:SA:513:A:H2'	8:SA:514:U:C6	2.41	0.55
8:SA:520:U:H2'	8:SA:521:G:H8	1.70	0.55
8:SA:889:A:H2'	8:SA:890:A:C8	2.42	0.55
8:SA:955:U:H1'	23:SP:137:THR:HB	1.87	0.55
8:SA:1368:G:O6	8:SA:1688:U:O4	2.24	0.55
8:SA:1444:C:H3'	8:SA:1445:U:C6	2.41	0.55
8:SA:1455:C:HO2'	8:SA:1456:G:H8	1.54	0.55
8:SA:1846:U:OP1	26:SS:90:LYS:NZ	2.39	0.55
9:SB:199:LYS:HA	9:SB:202:LYS:HD3	1.89	0.55
11:SD:127:ILE:O	11:SD:130:SER:OG	2.23	0.55
11:SD:151:MET:HE3	11:SD:153:PHE:HZ	1.71	0.55
13:SF:126:VAL:HA	13:SF:141:THR:HA	1.88	0.55
16:SI:57:CYS:SG	16:SI:62:ARG:NE	2.79	0.55
17:SJ:45:LEU:HG	17:SJ:65:PRO:HD3	1.88	0.55
34:AA:527:A:OP1	71:AF:357:LYS:NZ	2.36	0.55
34:AA:655:U:H2'	34:AA:656:U:C6	2.41	0.55
34:AA:803:A:OP1	59:AS:180:ARG:NH1	2.38	0.55
34:AA:2034:G:H2'	34:AA:2035:G:C8	2.39	0.55
34:AA:2479:U:H2'	34:AA:2480:G:O4'	2.06	0.55
34:AA:3358:U:H2'	34:AA:3359:A:C8	2.41	0.55
38:A1:57:MET:HE3	38:A1:58:THR:HG22	1.88	0.55
67:A3:51:LYS:HD3	67:A3:55:ARG:HE	1.71	0.55
8:SA:1256:G:H2'	8:SA:1257:C:C6	2.42	0.55
8:SA:1406:G:OP2	8:SA:1407:U:O2'	2.15	0.55
8:SA:1747:U:H2'	8:SA:1748:G:C8	2.42	0.55
8:SA:2017:A:H2'	8:SA:2018:C:C6	2.42	0.55
13:SF:114:ILE:HG23	13:SF:118:GLU:HG3	1.88	0.55
14:SG:169:LYS:HG2	14:SG:182:VAL:HG22	1.88	0.55
16:SI:70:HIS:O	16:SI:73:ASN:ND2	2.40	0.55
18:SK:101:HIS:HB2	18:SK:129:PHE:CE2	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:SQ:75:GLN:HE22	24:SQ:82:LYS:HG2	1.71	0.55
25:SR:41:GLY:H	25:SR:45:VAL:HG13	1.71	0.55
29:SV:83:MET:SD	29:SV:86:THR:OG1	2.64	0.55
34:AA:753:C:OP2	59:AS:103:ARG:NH2	2.40	0.55
34:AA:1101:A:H5'	34:AA:1223:U:H3	1.72	0.55
34:AA:3208:C:H2'	34:AA:3209:G:O4'	2.06	0.55
34:AA:3639:G:H1	34:AA:3646:G:H1	1.55	0.55
36:AB:22:G:N3	36:AB:25:A:N6	2.54	0.55
45:A9:38:VAL:HG12	54:AI:209:THR:HG22	1.88	0.55
65:AT:105:LEU:HB3	65:AT:119:TYR:HE1	1.71	0.55
8:SA:834:A:H2'	8:SA:835:G:H8	1.71	0.55
11:SD:23:GLU:OE2	22:SO:71:ASN:ND2	2.40	0.55
28:SU:119:GLU:HA	28:SU:122:ILE:HD12	1.89	0.55
34:AA:175:G:H2'	34:AA:176:A:C8	2.41	0.55
34:AA:296:A:H5''	51:AP:96:ASN:HB3	1.89	0.55
34:AA:661:G:H1	34:AA:673:U:H3	1.55	0.55
34:AA:1189:G:OP1	40:A4:28:LYS:NZ	2.39	0.55
34:AA:1316:U:OP1	34:AA:1338:U:O2'	2.25	0.55
34:AA:1464:A:H2'	34:AA:1465:G:H8	1.71	0.55
34:AA:3001:A:H2'	34:AA:3002:G:C8	2.41	0.55
34:AA:3234:U:OP2	34:AA:3304:G:N2	2.31	0.55
57:AK:5:GLU:OE2	57:AK:114:LYS:NZ	2.30	0.55
68:A5:204:CYS:HA	68:A5:208:PHE:HZ	1.71	0.55
75:AV:49:GLN:OE1	75:AV:50:GLN:N	2.39	0.55
79:S8:185:VAL:HB	79:S8:194:ASN:HB3	1.88	0.55
8:SA:2033:U:H2'	8:SA:2034:U:C6	2.41	0.55
17:SJ:131:VAL:HG11	17:SJ:155:LEU:HD22	1.88	0.55
26:SS:25:LYS:O	26:SS:57:ARG:NH1	2.39	0.55
34:AA:501:U:O2'	34:AA:502:U:OP1	2.24	0.55
34:AA:1030:C:OP2	69:AD:9:ARG:NH1	2.34	0.55
34:AA:3663:A:OP2	54:AI:67:HIS:NE2	2.38	0.55
39:A2:37:ASN:O	39:A2:56:ASN:ND2	2.38	0.55
52:Ah:64:VAL:HG12	69:AD:83:PHE:HB3	1.88	0.55
55:AJ:93:SER:O	55:AJ:96:GLN:NE2	2.35	0.55
63:AW:8:ILE:O	63:AW:10:ASN:N	2.40	0.55
8:SA:508:U:H2'	8:SA:509:U:C6	2.42	0.55
8:SA:648:A:H2'	8:SA:649:A:H8	1.72	0.55
8:SA:889:A:H2'	8:SA:890:A:H8	1.70	0.55
8:SA:1980:A:N6	8:SA:2010:U:O4	2.39	0.55
34:AA:721:U:O2'	34:AA:722:G:OP1	2.25	0.55
34:AA:2491:A:C6	34:AA:2492:G:C8	2.94	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3230:G:H5''	34:AA:3231:A:H5'	1.89	0.55
34:AA:3651:G:H2'	34:AA:3652:A:H8	1.72	0.55
54:AI:127:TYR:HE2	54:AI:185:ASP:HB3	1.71	0.55
62:AR:124:LYS:HE3	62:AR:240:LEU:HD21	1.87	0.55
3:S3:88:SER:O	3:S3:92:ARG:N	2.40	0.55
8:SA:1422:U:H5''	10:SC:101:ARG:HH12	1.72	0.55
11:SD:137:VAL:HG22	11:SD:187:VAL:HG22	1.89	0.55
20:SM:22:THR:N	20:SM:67:ARG:O	2.37	0.55
24:SQ:48:HIS:HB3	24:SQ:103:LEU:HD11	1.89	0.55
34:AA:1554:G:O2'	34:AA:1555:A:O4'	2.21	0.55
34:AA:2197:G:OP2	34:AA:2198:A:O2'	2.23	0.55
61:AQ:99:ILE:HG12	61:AQ:123:ASN:HB2	1.89	0.55
75:AV:33:GLU:N	75:AV:33:GLU:OE1	2.40	0.55
77:AX:44:LEU:HD21	77:AX:132:PHE:HE1	1.72	0.55
2:S2:76:ARG:HA	2:S2:79:ILE:HD12	1.88	0.55
8:SA:1838:G:H1'	8:SA:1867:A:N6	2.21	0.55
13:SF:104:ASP:OD1	13:SF:105:ILE:N	2.40	0.55
14:SG:167:PRO:O	14:SG:168:MET:HG2	2.07	0.55
16:SI:49:LYS:HG3	16:SI:50:LYS:HG2	1.89	0.55
20:SM:121:ASP:OD1	20:SM:122:THR:N	2.41	0.55
34:AA:703:U:H2'	34:AA:704:U:H6	1.71	0.55
34:AA:883:C:H2'	34:AA:884:A:O4'	2.07	0.55
34:AA:912:U:H2'	34:AA:913:U:C6	2.42	0.55
34:AA:979:G:N7	69:AD:181:LYS:HB2	2.21	0.55
34:AA:1561:C:H2'	34:AA:1562:G:H8	1.72	0.55
34:AA:1672:U:H1'	64:AY:159:ASN:HB3	1.89	0.55
34:AA:2027:A:H4'	46:Aa:76:TYR:O	2.05	0.55
34:AA:2506:A:H2'	34:AA:2507:A:C8	2.42	0.55
34:AA:3242:U:H2'	34:AA:3243:C:H6	1.72	0.55
34:AA:3412:G:C2	34:AA:3414:G:H5''	2.42	0.55
34:AA:3693:A:H2'	34:AA:3694:A:C8	2.42	0.55
35:AC:100:A:H2'	35:AC:101:A:C8	2.41	0.55
66:AZ:59:ARG:HB3	66:AZ:102:ASN:HB3	1.88	0.55
8:SA:110:A:H2'	8:SA:111:G:C8	2.42	0.54
8:SA:335:G:H2'	8:SA:336:G:H8	1.71	0.54
8:SA:1414:A:H2'	8:SA:1415:A:C4	2.42	0.54
24:SQ:13:ARG:NH2	29:SV:104:GLU:OE1	2.40	0.54
34:AA:284:C:H2'	34:AA:285:U:C6	2.42	0.54
34:AA:1094:U:H2'	34:AA:1095:U:C6	2.42	0.54
34:AA:1561:C:H2'	34:AA:1562:G:C8	2.42	0.54
34:AA:3586:U:H4'	57:AK:160:LYS:HE2	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:AY:129:THR:OG1	64:AY:172:VAL:O	2.22	0.54
64:AY:153:ILE:HD11	64:AY:183:VAL:HG21	1.88	0.54
71:AF:190:ARG:HD2	71:AF:202:LYS:HB2	1.89	0.54
8:SA:168:U:O2	8:SA:295:U:O2'	2.24	0.54
8:SA:846:G:H2'	8:SA:847:U:C6	2.43	0.54
28:SU:99:ARG:HH21	28:SU:115:LEU:HD21	1.72	0.54
34:AA:512:A:H2'	34:AA:513:U:C6	2.42	0.54
34:AA:669:C:O2	71:AF:336:ARG:NH1	2.29	0.54
34:AA:881:A:H2'	34:AA:882:G:C8	2.41	0.54
34:AA:911:U:H2'	34:AA:912:U:C6	2.42	0.54
34:AA:1191:G:N1	34:AA:1217:U:N3	2.54	0.54
34:AA:2506:A:H2'	34:AA:2507:A:H8	1.71	0.54
35:AC:38:G:O2'	35:AC:39:C:H6	1.91	0.54
58:AM:110:GLU:OE1	58:AM:110:GLU:N	2.40	0.54
62:AR:95:TYR:CZ	62:AR:163:ALA:HB2	2.42	0.54
8:SA:390:G:H2'	8:SA:391:A:H8	1.72	0.54
8:SA:942:U:H2'	8:SA:943:U:C6	2.42	0.54
10:SC:29:LEU:HD11	10:SC:37:VAL:HG11	1.89	0.54
34:AA:50:U:O2'	37:AL:19:ARG:NH1	2.41	0.54
34:AA:522:A:H2'	34:AA:523:A:O4'	2.08	0.54
34:AA:1538:U:H1'	34:AA:1539:U:OP2	2.08	0.54
34:AA:1896:C:N4	34:AA:1897:G:O6	2.40	0.54
34:AA:3628:C:H2'	34:AA:3629:U:C6	2.42	0.54
41:A6:39:THR:OG1	41:A6:41:LYS:NZ	2.31	0.54
43:AN:79:GLU:OE1	43:AN:79:GLU:N	2.40	0.54
46:Aa:86:GLU:OE2	46:Aa:90:ARG:NH2	2.40	0.54
65:AT:98:GLN:HE22	65:AT:127:LYS:HA	1.70	0.54
66:AZ:72:ILE:HG22	66:AZ:79:ILE:HG22	1.88	0.54
71:AF:291:ARG:HH12	71:AF:295:SER:HB2	1.71	0.54
1:S1:10:LYS:HB2	1:S1:24:ALA:HB3	1.89	0.54
8:SA:941:C:O2'	9:SB:163:LYS:NZ	2.28	0.54
8:SA:1456:G:N1	8:SA:1607:U:N3	2.55	0.54
16:SI:55:ALA:HB2	16:SI:135:LEU:HD13	1.89	0.54
31:SX:43:ARG:HH12	31:SX:47:ARG:HH11	1.53	0.54
34:AA:109:A:C4	34:AA:331:A:C6	2.96	0.54
34:AA:279:G:H2'	34:AA:280:U:H6	1.71	0.54
34:AA:626:A:H2'	34:AA:627:U:H6	1.73	0.54
34:AA:628:U:H2'	34:AA:629:A:C8	2.40	0.54
34:AA:1227:U:OP2	68:A5:209:LYS:NZ	2.40	0.54
34:AA:1614:A:H2'	34:AA:1615:G:O4'	2.08	0.54
34:AA:2003:G:H2'	34:AA:2004:U:O4'	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:2451:A:OP2	69:AD:156:LYS:NZ	2.37	0.54
34:AA:3657:G:H2'	34:AA:3658:G:C8	2.42	0.54
54:AI:61:ILE:HD13	54:AI:71:ARG:HG3	1.89	0.54
56:Ac:66:ARG:HH21	56:Ac:68:ARG:HH11	1.55	0.54
68:A5:250:ASN:OD1	68:A5:251:GLU:N	2.40	0.54
70:AE:260:GLN:OE1	70:AE:260:GLN:N	2.41	0.54
8:SA:631:G:H2'	8:SA:632:C:C6	2.43	0.54
8:SA:888:A:H2'	8:SA:889:A:C8	2.43	0.54
8:SA:1947:U:H2'	8:SA:1948:A:C8	2.42	0.54
19:SL:178:GLN:OE1	19:SL:180:ARG:NH1	2.40	0.54
34:AA:128:U:H2'	34:AA:129:C:C6	2.43	0.54
34:AA:1727:U:H2'	34:AA:1728:C:C6	2.42	0.54
34:AA:2096:G:OP1	64:AY:141:LYS:NZ	2.38	0.54
34:AA:2816:U:H2'	34:AA:2817:U:H6	1.70	0.54
34:AA:3000:A:H2'	34:AA:3001:A:C8	2.42	0.54
34:AA:3099:C:OP1	53:AI:84:LYS:NZ	2.39	0.54
35:AC:139:A:H4'	35:AC:140:G:O5'	2.08	0.54
35:AC:145:A:H2'	35:AC:146:C:C6	2.42	0.54
8:SA:70:U:H2'	8:SA:71:A:H8	1.72	0.54
8:SA:312:U:H2'	8:SA:313:G:H8	1.72	0.54
11:SD:193:THR:OG1	11:SD:207:SER:O	2.25	0.54
17:SJ:53:GLU:HG3	17:SJ:54:LYS:HD2	1.89	0.54
18:SK:101:HIS:HB2	18:SK:129:PHE:HE2	1.73	0.54
34:AA:300:C:H2'	34:AA:301:U:O4'	2.07	0.54
34:AA:626:A:H2'	34:AA:627:U:C6	2.42	0.54
34:AA:1785:U:OP1	38:A1:36:ARG:NH1	2.32	0.54
34:AA:2011:U:H2'	34:AA:2012:A:H8	1.72	0.54
34:AA:3693:A:H1'	34:AA:3781:A:H61	1.72	0.54
43:AN:88:LYS:HG2	43:AN:89:SER:H	1.72	0.54
46:Aa:7:TYR:HE1	46:Aa:20:VAL:HG21	1.71	0.54
51:AP:105:VAL:HG23	51:AP:109:ILE:HD11	1.88	0.54
54:AI:48:ARG:O	54:AI:49:LYS:HG2	2.06	0.54
54:AI:100:ASP:OD1	54:AI:101:SER:N	2.41	0.54
67:A3:39:ASN:OD1	67:A3:40:SER:N	2.40	0.54
5:S5:7:ALA:CB	5:S5:28:GLN:N	2.64	0.54
8:SA:1889:G:O6	8:SA:1901:U:O4	2.26	0.54
16:SI:54:LYS:HB3	16:SI:135:LEU:HD21	1.89	0.54
34:AA:311:G:O2'	34:AA:3117:A:OP1	2.25	0.54
39:A2:91:LYS:O	39:A2:94:GLN:NE2	2.41	0.54
51:AP:120:TRP:CZ2	51:AP:123:GLN:HB2	2.42	0.54
54:AI:122:ASP:OD1	54:AI:123:ASP:N	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:AD:246:LEU:O	69:AD:247:ARG:NE	2.36	0.54
8:SA:1446:A:N6	8:SA:1623:U:O2'	2.41	0.54
8:SA:1719:U:O3'	16:SI:79:LYS:NZ	2.36	0.54
8:SA:2024:A:H2'	8:SA:2025:U:C6	2.43	0.54
15:SH:209:LYS:HA	15:SH:212:LEU:HD12	1.90	0.54
17:SJ:135:GLU:HG3	17:SJ:136:ILE:H	1.73	0.54
32:SY:163:ASN:O	32:SY:167:TYR:HB2	2.08	0.54
34:AA:830:U:O4	34:AA:864:U:N3	2.41	0.54
34:AA:2440:A:H5''	69:AD:199:VAL:HA	1.88	0.54
36:AB:27:A:H2'	36:AB:28:C:C6	2.42	0.54
4:S4:54:CYS:SG	4:S4:61:LEU:HD11	2.48	0.54
5:S5:39:GLY:HA3	16:SI:136:ARG:HG3	1.90	0.54
15:SH:57:ASP:OD1	15:SH:61:PHE:N	2.41	0.54
32:SY:27:ASN:N	32:SY:31:ASP:OD2	2.40	0.54
34:AA:727:A:OP2	34:AA:3227:U:O2'	2.25	0.54
34:AA:735:A:H2'	34:AA:736:G:C8	2.42	0.54
34:AA:746:A:H2'	34:AA:747:A:H8	1.73	0.54
34:AA:1589:G:H2'	34:AA:1590:G:H8	1.73	0.54
34:AA:2132:A:C6	34:AA:2134:A:C5	2.96	0.54
34:AA:2162:U:O2'	34:AA:3440:U:OP1	2.24	0.54
34:AA:3636:U:O4	34:AA:3649:G:O6	2.25	0.54
35:AC:37:A:O2'	35:AC:38:G:H4'	2.08	0.54
58:AM:81:CYS:HB2	58:AM:120:VAL:HG23	1.89	0.54
68:A5:159:LYS:HG3	68:A5:160:ARG:HG2	1.90	0.54
73:AU:21:ARG:NH2	73:AU:66:GLU:OE2	2.41	0.54
74:AH:58:MET:HE1	74:AH:61:GLY:HA3	1.88	0.54
1:S1:20:ARG:HD3	1:S1:77:TYR:CE1	2.43	0.54
1:S1:29:HIS:ND1	1:S1:32:LYS:O	2.39	0.54
8:SA:1282:U:H2'	8:SA:1283:U:O4'	2.07	0.54
8:SA:1449:U:H3	21:SN:55:LEU:HD11	1.73	0.54
8:SA:2062:U:H2'	8:SA:2063:U:C6	2.42	0.54
9:SB:165:ARG:O	9:SB:168:MET:HG3	2.08	0.54
16:SI:33:SER:O	16:SI:37:CYS:N	2.41	0.54
17:SJ:73:VAL:HG12	17:SJ:77:GLN:HE21	1.73	0.54
34:AA:261:A:H5'	67:A3:108:LYS:HD2	1.89	0.54
34:AA:733:C:H2'	34:AA:734:A:C8	2.42	0.54
34:AA:1066:U:H2'	34:AA:1067:U:H6	1.73	0.54
34:AA:1821:U:H2'	34:AA:1822:A:C8	2.43	0.54
34:AA:2835:G:OP2	55:AJ:68:TYR:OH	2.25	0.54
45:A9:53:GLN:OE1	45:A9:53:GLN:N	2.37	0.54
57:AK:88:PRO:O	57:AK:94:GLY:HA3	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:A3:4:VAL:HG13	67:A3:55:ARG:HH12	1.73	0.54
70:AE:43:PHE:HB2	70:AE:205:VAL:HG21	1.89	0.54
70:AE:285:LYS:NZ	70:AE:316:GLU:OE1	2.32	0.54
8:SA:80:A:H5'	15:SH:154:ARG:HH12	1.72	0.53
8:SA:1854:U:N3	31:SX:81:ARG:O	2.42	0.53
8:SA:2040:G:H2'	8:SA:2041:A:C8	2.42	0.53
11:SD:14:ASP:OD2	11:SD:18:GLN:NE2	2.41	0.53
13:SF:19:MET:HE1	13:SF:108:ARG:HD3	1.88	0.53
17:SJ:65:PRO:HG2	17:SJ:68:ILE:HB	1.89	0.53
24:SQ:121:LYS:HB2	24:SQ:122:PHE:CE1	2.42	0.53
34:AA:64:G:H5'	51:AP:184:ARG:NH2	2.22	0.53
34:AA:715:U:O2'	34:AA:716:C:O4'	2.24	0.53
34:AA:910:A:H2'	34:AA:911:U:H6	1.73	0.53
34:AA:1178:A:H2'	34:AA:1179:U:O4'	2.08	0.53
34:AA:1302:G:H2'	34:AA:1303:C:C6	2.44	0.53
34:AA:2659:C:O3'	70:AE:256:ARG:NH1	2.42	0.53
34:AA:3008:A:H2'	34:AA:3009:G:C8	2.43	0.53
34:AA:3109:U:H4'	53:AI:14:ASN:ND2	2.23	0.53
34:AA:3282:U:H2'	34:AA:3283:U:H6	1.73	0.53
34:AA:3750:U:O2'	77:AX:73:LYS:NZ	2.31	0.53
52:Ah:51:CYS:HB3	52:Ah:54:ILE:HG12	1.91	0.53
65:AT:97:ARG:NH2	65:AT:129:ASN:OD1	2.34	0.53
70:AE:62:LYS:HD3	70:AE:63:PRO:HD2	1.90	0.53
70:AE:365:GLY:O	78:A0:24:ARG:NH2	2.40	0.53
8:SA:248:G:H2'	8:SA:249:A:C8	2.43	0.53
8:SA:481:A:P	12:SE:126:ARG:HH21	2.31	0.53
8:SA:553:U:H2'	8:SA:554:U:C6	2.43	0.53
8:SA:1460:A:O2'	32:SY:160:ARG:NH1	2.42	0.53
17:SJ:166:GLU:O	17:SJ:169:LEU:HG	2.08	0.53
21:SN:23:LEU:O	21:SN:85:LYS:HA	2.09	0.53
24:SQ:107:PHE:CE2	24:SQ:114:VAL:HB	2.44	0.53
34:AA:382:A:N3	34:AA:385:G:H5''	2.23	0.53
34:AA:495:U:H2'	34:AA:496:C:C6	2.43	0.53
34:AA:543:U:H6	34:AA:581:C:H5''	1.72	0.53
34:AA:962:A:H2'	34:AA:963:C:C6	2.44	0.53
34:AA:3414:G:O2'	34:AA:3415:A:OP1	2.23	0.53
44:A8:67:LEU:HD23	44:A8:69:ASN:H	1.73	0.53
65:AT:59:ARG:HB3	65:AT:63:ARG:HH21	1.74	0.53
79:S8:41:ALA:HB2	79:S8:78:VAL:HB	1.90	0.53
79:S8:195:LYS:HD2	79:S8:233:GLY:HA3	1.90	0.53
8:SA:4:C:H4'	14:SG:193:ALA:HB2	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:339:A:H2'	8:SA:340:U:C6	2.43	0.53
8:SA:854:A:H2'	8:SA:855:C:C6	2.43	0.53
8:SA:1420:G:H2'	8:SA:1421:A:H8	1.74	0.53
8:SA:1845:U:H2'	8:SA:1846:U:C6	2.43	0.53
13:SF:44:LEU:HD23	13:SF:82:PHE:HB2	1.89	0.53
34:AA:1874:C:H2'	34:AA:1875:A:C8	2.43	0.53
34:AA:3319:C:H2'	34:AA:3320:G:H8	1.73	0.53
34:AA:3388:U:OP2	70:AE:24:ARG:NH2	2.40	0.53
34:AA:3414:G:HO2'	34:AA:3415:A:P	2.31	0.53
36:AB:105:C:H2'	36:AB:106:A:C8	2.42	0.53
71:AF:85:HIS:O	71:AF:89:GLN:NE2	2.40	0.53
8:SA:80:A:H2'	8:SA:81:U:O4'	2.09	0.53
8:SA:312:U:H2'	8:SA:313:G:C8	2.43	0.53
8:SA:520:U:H2'	8:SA:521:G:C8	2.44	0.53
8:SA:795:U:H1'	29:SV:160:LEU:HD21	1.90	0.53
8:SA:1423:A:H61	10:SC:108:THR:HG21	1.72	0.53
8:SA:1846:U:OP1	31:SX:42:ARG:NH1	2.40	0.53
11:SD:151:MET:HE3	11:SD:153:PHE:CZ	2.43	0.53
32:SY:105:LYS:HA	32:SY:115:THR:HA	1.91	0.53
34:AA:320:C:H2'	34:AA:321:A:C8	2.41	0.53
34:AA:1887:G:N7	41:A6:31:LYS:HG2	2.23	0.53
34:AA:2123:C:H2'	34:AA:2124:C:C6	2.44	0.53
34:AA:2442:A:N6	34:AA:2480:G:O2'	2.31	0.53
34:AA:2634:A:H2'	34:AA:2635:C:H6	1.74	0.53
34:AA:2700:C:H2'	34:AA:2701:U:H6	1.73	0.53
34:AA:2817:U:H2'	34:AA:2818:U:C6	2.44	0.53
34:AA:3285:A:H2'	34:AA:3286:C:C6	2.44	0.53
53:AI:73:CYS:HB3	53:AI:76:CYS:O	2.08	0.53
77:AX:81:VAL:HG23	77:AX:94:VAL:HG22	1.90	0.53
8:SA:644:U:OP1	18:SK:32:LYS:N	2.35	0.53
8:SA:952:U:H2'	8:SA:953:C:C6	2.44	0.53
8:SA:954:G:H2'	8:SA:955:U:C6	2.42	0.53
8:SA:1629:G:H2'	8:SA:1630:A:C8	2.43	0.53
8:SA:1820:C:H4'	32:SY:100:ARG:HD2	1.91	0.53
11:SD:133:LYS:HD3	11:SD:157:TYR:HE2	1.74	0.53
14:SG:257:ASP:OD1	14:SG:258:PHE:N	2.42	0.53
15:SH:147:LEU:HD11	15:SH:153:VAL:HG12	1.90	0.53
34:AA:1093:G:H2'	34:AA:1094:U:H6	1.73	0.53
34:AA:1093:G:H5''	59:AS:16:ARG:HD3	1.91	0.53
34:AA:1534:U:O2'	34:AA:1535:G:O5'	2.23	0.53
34:AA:1643:U:O2'	49:Ae:17:ARG:NH1	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:2167:G:O2'	34:AA:2627:U:O4	2.27	0.53
34:AA:2819:U:H2'	34:AA:2820:A:H8	1.73	0.53
34:AA:3055:U:O3'	53:AI:79:ARG:NH2	2.42	0.53
51:AP:117:ASN:O	51:AP:133:ILE:HG22	2.07	0.53
67:A3:5:LYS:N	67:A3:8:GLU:OE2	2.40	0.53
79:S8:11:SER:OG	79:S8:13:ARG:NH2	2.41	0.53
79:S8:226:LYS:HB3	79:S8:235:HIS:HD2	1.73	0.53
8:SA:574:A:OP1	24:SQ:70:LYS:NZ	2.41	0.53
8:SA:1009:A:H2'	8:SA:1010:A:H8	1.74	0.53
11:SD:20:GLU:O	11:SD:23:GLU:HG3	2.08	0.53
20:SM:94:TYR:HB3	20:SM:103:LYS:HB2	1.91	0.53
34:AA:115:A:HO2'	34:AA:272:U:HO2'	1.57	0.53
34:AA:338:U:H2'	34:AA:339:G:H8	1.74	0.53
34:AA:439:U:O2'	34:AA:440:A:OP1	2.20	0.53
34:AA:2498:U:H2'	34:AA:2499:G:C8	2.43	0.53
34:AA:2587:U:H2'	34:AA:2588:A:H2'	1.89	0.53
34:AA:2835:G:H2'	34:AA:2836:G:C8	2.44	0.53
34:AA:3069:A:H2'	34:AA:3070:C:C6	2.43	0.53
70:AE:87:VAL:HG22	70:AE:106:TRP:HD1	1.73	0.53
8:SA:880:A:H2'	8:SA:881:C:C6	2.44	0.53
8:SA:1431:A:H5''	8:SA:1667:A:H2	1.73	0.53
8:SA:1982:G:N2	8:SA:2008:U:O2	2.41	0.53
23:SP:93:ILE:HD11	23:SP:124:LEU:HD13	1.90	0.53
32:SY:79:ARG:HH21	32:SY:122:ILE:HD11	1.72	0.53
34:AA:1435:G:O2'	34:AA:1436:A:OP2	2.23	0.53
34:AA:1513:U:H2'	34:AA:1514:G:C8	2.44	0.53
34:AA:3354:A:H2'	34:AA:3355:U:C6	2.43	0.53
34:AA:3724:U:H2'	34:AA:3725:G:O4'	2.09	0.53
36:AB:24:U:H2'	36:AB:25:A:H5'	1.89	0.53
48:Ad:16:ARG:NH1	48:Ad:16:ARG:O	2.42	0.53
59:AS:167:ARG:HB2	59:AS:173:PHE:HE2	1.74	0.53
60:AO:14:HIS:O	60:AO:16:SER:N	2.37	0.53
73:AU:51:TRP:HE1	73:AU:67:LEU:HD11	1.74	0.53
5:S5:40:PRO:O	5:S5:42:ARG:NH1	2.42	0.53
8:SA:246:A:H2'	8:SA:247:G:C8	2.43	0.53
8:SA:1252:A:H2'	8:SA:1253:A:H8	1.74	0.53
15:SH:78:LYS:HG2	15:SH:79:LYS:H	1.74	0.53
30:SW:72:LYS:O	30:SW:72:LYS:HG2	2.09	0.53
34:AA:2666:A:N3	34:AA:3183:G:O2'	2.41	0.53
34:AA:3243:C:H2'	34:AA:3244:C:H6	1.73	0.53
34:AA:3619:U:H2'	34:AA:3620:C:C6	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:AB:27:A:H2'	36:AB:28:C:H6	1.72	0.53
36:AB:96:C:O2'	68:A5:140:GLU:OE1	2.23	0.53
8:SA:109:C:H2'	8:SA:110:A:C8	2.44	0.53
8:SA:165:U:H1'	15:SH:133:LEU:HD22	1.91	0.53
8:SA:390:G:H2'	8:SA:391:A:C8	2.44	0.53
8:SA:1456:G:O6	8:SA:1457:A:N6	2.42	0.53
8:SA:1827:U:H2'	8:SA:1828:A:H8	1.74	0.53
8:SA:1848:U:H2'	8:SA:1849:U:H6	1.74	0.53
8:SA:1882:U:O2	8:SA:1882:U:H2'	2.09	0.53
10:SC:108:THR:O	14:SG:70:LYS:NZ	2.42	0.53
14:SG:53:GLU:HG3	14:SG:258:PHE:CZ	2.44	0.53
15:SH:5:ILE:HG12	15:SH:16:ILE:HD13	1.90	0.53
24:SQ:63:GLN:O	24:SQ:63:GLN:NE2	2.42	0.53
29:SV:70:ARG:HH12	29:SV:130:GLN:HG2	1.74	0.53
32:SY:46:LYS:NZ	32:SY:74:ASP:OD1	2.41	0.53
34:AA:51:A:P	37:AL:19:ARG:HH22	2.31	0.53
34:AA:209:G:H4'	34:AA:228:A:C5	2.43	0.53
34:AA:261:A:H2'	34:AA:262:A:C8	2.44	0.53
34:AA:279:G:H2'	34:AA:280:U:C6	2.44	0.53
34:AA:427:G:H2'	34:AA:428:A:H8	1.73	0.53
34:AA:1576:U:H2'	34:AA:1577:A:C8	2.44	0.53
34:AA:1900:G:OP2	46:Aa:21:ARG:NH1	2.32	0.53
34:AA:2828:A:H2'	34:AA:2829:U:C6	2.44	0.53
34:AA:3130:U:H4'	34:AA:3131:A:O5'	2.07	0.53
34:AA:3660:A:O2'	34:AA:3661:A:O4'	2.16	0.53
43:AN:90:GLY:O	43:AN:94:LYS:HG2	2.09	0.53
68:A5:173:ARG:HB2	68:A5:216:TRP:CE3	2.44	0.53
79:S8:98:LEU:HD13	79:S8:108:ARG:NE	2.24	0.53
5:S5:24:GLN:OE1	5:S5:58:ARG:NH2	2.42	0.53
7:S7:50:G:H1	7:S7:60:U:H3	1.56	0.53
8:SA:51:A:OP2	8:SA:430:C:N4	2.42	0.53
8:SA:62:A:HO2'	8:SA:269:A:HO2'	1.54	0.53
8:SA:150:C:O2	15:SH:4:ASN:ND2	2.42	0.53
8:SA:1106:C:H2'	8:SA:1107:U:C6	2.44	0.53
8:SA:1304:A:C2	8:SA:1850:G:N2	2.76	0.53
9:SB:30:TYR:HA	9:SB:94:ARG:HD3	1.90	0.53
10:SC:35:ARG:NH2	33:SZ:65:ASP:OD2	2.42	0.53
25:SR:54:ALA:HB3	25:SR:75:LEU:HD13	1.91	0.53
34:AA:867:A:H2'	34:AA:868:U:O4'	2.08	0.53
34:AA:1130:U:H3	34:AA:1165:U:H3	1.57	0.53
34:AA:1730:A:C6	34:AA:1733:G:C4	2.96	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:2830:U:OP1	69:AD:123:ARG:NH1	2.42	0.53
36:AB:26:C:H5'	62:AR:56:THR:HB	1.91	0.53
50:Af:51:LEU:HD11	74:AH:173:LYS:HB2	1.90	0.53
58:AM:95:ILE:HG12	78:A0:27:LYS:HB3	1.90	0.53
60:AO:101:ASP:OD2	60:AO:104:ARG:NE	2.38	0.53
61:AQ:36:MET:HE3	61:AQ:87:LEU:HD23	1.90	0.53
68:A5:253:ILE:HA	68:A5:256:MET:HB2	1.90	0.53
8:SA:816:U:H3	8:SA:820:A:H62	1.56	0.52
8:SA:964:G:H2'	8:SA:965:U:C6	2.44	0.52
34:AA:40:A:H61	34:AA:1082:G:H21	1.57	0.52
34:AA:298:C:H2'	34:AA:299:A:C8	2.44	0.52
34:AA:716:C:H2'	34:AA:717:G:H8	1.74	0.52
34:AA:3437:U:H2'	34:AA:3438:G:H8	1.74	0.52
34:AA:3479:U:H2'	34:AA:3480:C:C6	2.43	0.52
35:AC:13:A:H2'	35:AC:14:A:H8	1.73	0.52
63:AW:60:PHE:HB3	63:AW:64:ASN:HB3	1.91	0.52
73:AU:166:LEU:HD12	73:AU:170:TYR:HB2	1.90	0.52
79:S8:222:ASP:HB2	79:S8:224:VAL:HG12	1.91	0.52
79:S8:240:GLU:O	79:S8:266:ARG:NH1	2.42	0.52
8:SA:387:C:H2'	8:SA:388:C:H6	1.75	0.52
8:SA:1028:U:H6	28:SU:61:PRO:HB3	1.75	0.52
8:SA:1204:U:P	24:SQ:7:SER:H	2.32	0.52
8:SA:1443:G:O5'	79:S8:97:ARG:NH2	2.43	0.52
8:SA:1839:G:O2'	8:SA:1865:G:N2	2.39	0.52
8:SA:1847:A:H2'	8:SA:1848:U:C6	2.44	0.52
9:SB:64:ARG:HG2	9:SB:88:CYS:SG	2.49	0.52
34:AA:427:G:H2'	34:AA:428:A:C8	2.44	0.52
34:AA:1204:A:O4'	62:AR:141:ARG:NH2	2.42	0.52
34:AA:1628:U:O4	34:AA:1629:G:N1	2.41	0.52
34:AA:2401:C:H1'	34:AA:3736:A:C8	2.44	0.52
34:AA:3241:U:H2'	34:AA:3242:U:H6	1.73	0.52
43:AN:57:ASP:HB2	43:AN:66:ARG:HG3	1.90	0.52
46:Aa:46:ASP:OD2	46:Aa:87:ARG:NH2	2.42	0.52
51:AP:84:LYS:HG3	51:AP:85:HIS:CD2	2.45	0.52
68:A5:162:TYR:CZ	68:A5:175:LYS:HE3	2.44	0.52
79:S8:119:SER:HB3	79:S8:163:VAL:HG12	1.91	0.52
5:S5:5:LYS:NZ	5:S5:52:THR:OG1	2.43	0.52
8:SA:1272:A:H2'	8:SA:1273:G:C8	2.44	0.52
20:SM:17:ALA:HB2	20:SM:73:GLY:HA3	1.91	0.52
30:SW:33:LYS:HB3	79:S8:159:TRP:HH2	1.75	0.52
32:SY:58:THR:HA	32:SY:75:TRP:CZ2	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:368:G:N2	34:AA:934:G:O2'	2.42	0.52
34:AA:794:C:H2'	34:AA:795:G:C8	2.42	0.52
34:AA:1018:C:H2'	34:AA:1019:A:C8	2.39	0.52
34:AA:1242:U:OP1	60:AO:23:GLY:N	2.37	0.52
34:AA:1658:G:H2'	34:AA:1659:A:O4'	2.09	0.52
46:Aa:20:VAL:HG13	46:Aa:32:ILE:HG23	1.90	0.52
59:AS:51:ARG:O	59:AS:54:MET:HG3	2.09	0.52
60:AO:76:ASP:HB3	60:AO:114:GLY:HA3	1.92	0.52
68:A5:83:CYS:HB3	75:AV:143:LYS:HD2	1.91	0.52
79:S8:175:VAL:HG22	79:S8:185:VAL:HG22	1.91	0.52
5:S5:37:VAL:HG11	5:S5:41:VAL:HG21	1.90	0.52
8:SA:456:U:H2'	8:SA:457:A:C8	2.44	0.52
8:SA:887:A:N1	8:SA:915:G:C6	2.77	0.52
8:SA:1381:C:H2'	8:SA:1382:G:C8	2.44	0.52
8:SA:1859:A:H2'	8:SA:1860:A:H8	1.74	0.52
14:SG:149:ILE:HD13	33:SZ:27:LYS:HD2	1.92	0.52
17:SJ:89:LYS:O	17:SJ:89:LYS:HD3	2.08	0.52
29:SV:60:LYS:HB3	29:SV:134:LEU:HD21	1.90	0.52
34:AA:1535:G:O3'	44:A8:78:ASN:ND2	2.42	0.52
34:AA:1574:C:H2'	34:AA:1575:C:H6	1.73	0.52
34:AA:2802:U:H2'	34:AA:2803:A:H8	1.75	0.52
34:AA:2999:C:H2'	34:AA:3000:A:H8	1.74	0.52
34:AA:3144:C:OP1	53:Ai:33:ARG:NH2	2.32	0.52
34:AA:3739:A:O2'	34:AA:3740:A:H8	1.92	0.52
51:AP:75:VAL:HG11	51:AP:79:VAL:HB	1.92	0.52
62:AR:9:ASN:OD1	62:AR:10:LYS:N	2.42	0.52
79:S8:229:ASP:O	79:S8:233:GLY:N	2.43	0.52
1:S1:101:GLU:CD	1:S1:102:THR:H	2.18	0.52
7:S7:1:G:C2	7:S7:71:C:O2	2.63	0.52
8:SA:157:G:C5	15:SH:87:ARG:HD2	2.44	0.52
8:SA:914:U:H2'	8:SA:915:G:C8	2.45	0.52
8:SA:932:U:H5''	18:SK:28:ARG:NH1	2.25	0.52
8:SA:1218:U:OP1	76:Ag:35:ARG:NH1	2.42	0.52
8:SA:1850:G:O6	31:SX:43:ARG:NH1	2.42	0.52
14:SG:154:GLY:HA3	14:SG:167:PRO:HG3	1.91	0.52
29:SV:40:LYS:C	29:SV:42:GLY:H	2.16	0.52
31:SX:41:GLN:NE2	31:SX:113:GLY:O	2.42	0.52
34:AA:767:U:H1'	34:AA:773:A:H61	1.74	0.52
36:AB:21:G:N2	36:AB:22:G:O6	2.42	0.52
43:AN:24:PHE:O	43:AN:29:ARG:HG3	2.10	0.52
43:AN:49:VAL:HG12	73:AU:81:VAL:HG12	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:AJ:175:SER:OG	55:AJ:176:PRO:HD3	2.09	0.52
61:AQ:52:LEU:HD11	61:AQ:163:GLN:HB3	1.89	0.52
74:AH:4:ILE:O	74:AH:60:PHE:N	2.34	0.52
79:S8:53:ASN:HB3	79:S8:56:ASP:HB2	1.92	0.52
8:SA:947:G:O2'	28:SU:108:ASP:OD1	2.26	0.52
8:SA:1265:G:H2'	8:SA:1266:G:C8	2.45	0.52
8:SA:1412:U:H2'	8:SA:1413:U:C6	2.45	0.52
8:SA:1654:G:H3'	8:SA:1655:G:H8	1.74	0.52
8:SA:1729:A:H5'	20:SM:72:GLY:HA2	1.90	0.52
8:SA:2006:U:H2'	8:SA:2007:U:C6	2.45	0.52
34:AA:909:U:H2'	34:AA:910:A:C8	2.45	0.52
34:AA:982:C:H2'	34:AA:983:G:O4'	2.10	0.52
34:AA:1177:A:C6	34:AA:1178:A:C6	2.98	0.52
34:AA:2081:U:H2'	34:AA:2082:C:C6	2.45	0.52
34:AA:2447:U:H2'	34:AA:2448:G:H8	1.75	0.52
34:AA:2742:G:H2'	34:AA:2743:A:H8	1.74	0.52
34:AA:3101:A:O2'	59:AS:177:ARG:NH1	2.43	0.52
35:AC:49:C:OP2	49:Ae:15:LYS:NZ	2.43	0.52
35:AC:74:A:H61	35:AC:89:U:H3'	1.74	0.52
35:AC:150:U:H2'	35:AC:151:A:C8	2.45	0.52
36:AB:45:U:H2'	36:AB:46:C:H6	1.74	0.52
38:A1:143:LYS:HE3	38:A1:145:TYR:HE1	1.75	0.52
43:AN:17:LYS:NZ	43:AN:17:LYS:CB	2.73	0.52
46:Aa:3:GLN:HB2	46:Aa:30:LEU:HD12	1.92	0.52
56:Ac:66:ARG:HB3	56:Ac:68:ARG:NE	2.24	0.52
60:AO:60:HIS:CE1	60:AO:63:LEU:HA	2.44	0.52
8:SA:38:C:H42	8:SA:39:A:H62	1.58	0.52
8:SA:106:A:H4'	8:SA:107:A:H8	1.74	0.52
8:SA:1958:A:H2'	8:SA:1959:G:C8	2.44	0.52
13:SF:202:MET:HE3	13:SF:203:GLY:N	2.24	0.52
13:SF:228:ILE:HD11	13:SF:236:ILE:HD11	1.91	0.52
16:SI:156:ASN:O	16:SI:158:LYS:N	2.36	0.52
24:SQ:107:PHE:CD1	24:SQ:123:LYS:HB2	2.43	0.52
34:AA:11:A:N1	35:AC:154:G:N2	2.57	0.52
34:AA:196:A:OP1	66:AZ:39:ARG:NH2	2.43	0.52
34:AA:298:C:H2'	34:AA:299:A:H8	1.75	0.52
34:AA:913:U:H2'	34:AA:914:G:C8	2.45	0.52
34:AA:3013:A:H2'	34:AA:3014:C:O4'	2.09	0.52
34:AA:3590:A:H4'	34:AA:3591:U:O5'	2.08	0.52
35:AC:61:C:O2	35:AC:65:A:O2'	2.27	0.52
35:AC:123:A:H2'	35:AC:124:U:C6	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:AS:85:ILE:HD11	59:AS:104:PHE:CE2	2.44	0.52
71:AF:144:ILE:HD11	71:AF:147:LEU:HD22	1.92	0.52
2:S2:38:HIS:HB3	2:S2:70:VAL:HA	1.91	0.52
3:S3:58:VAL:HG11	23:SP:125:LYS:NZ	2.24	0.52
8:SA:346:U:H2'	8:SA:347:A:H8	1.75	0.52
8:SA:1938:C:H2'	8:SA:1939:G:H8	1.74	0.52
17:SJ:135:GLU:HG2	28:SU:19:LYS:HE3	1.91	0.52
24:SQ:69:ARG:NH2	24:SQ:116:ASP:OD2	2.43	0.52
34:AA:232:C:O2	66:AZ:101:SER:OG	2.23	0.52
34:AA:509:A:H2'	34:AA:510:A:C8	2.45	0.52
34:AA:1109:U:H2'	34:AA:1110:U:H6	1.73	0.52
34:AA:1897:G:H2'	34:AA:1898:U:C6	2.45	0.52
34:AA:2559:U:H2'	34:AA:2560:C:C6	2.44	0.52
34:AA:2621:U:H2'	34:AA:2622:C:H6	1.75	0.52
34:AA:3580:G:N1	34:AA:3622:U:O2	2.42	0.52
35:AC:146:C:H2'	35:AC:147:U:C6	2.44	0.52
42:A7:27:LEU:HD13	42:A7:43:GLU:HB3	1.91	0.52
43:AN:67:MET:N	43:AN:67:MET:SD	2.82	0.52
55:AJ:221:LYS:O	55:AJ:225:GLN:HG2	2.09	0.52
56:Ac:24:ARG:HD2	56:Ac:40:CYS:SG	2.49	0.52
64:AY:110:LEU:HD21	64:AY:142:ASN:HB3	1.91	0.52
79:S8:156:HIS:CD2	79:S8:184:LYS:HD2	2.45	0.52
8:SA:25:C:N4	12:SE:8:TYR:O	2.43	0.52
8:SA:70:U:H2'	8:SA:71:A:C8	2.45	0.52
8:SA:137:A:N6	8:SA:173:G:O2'	2.43	0.52
8:SA:147:C:H2'	8:SA:148:U:C6	2.45	0.52
8:SA:988:U:H2'	8:SA:989:C:C6	2.44	0.52
8:SA:1250:G:N2	8:SA:1925:U:O2	2.26	0.52
8:SA:1451:G:H2'	8:SA:1452:C:C6	2.45	0.52
8:SA:2077:U:OP2	23:SP:147:ARG:NH1	2.41	0.52
13:SF:131:LEU:HD11	13:SF:135:ARG:HA	1.92	0.52
15:SH:64:ILE:HG13	15:SH:65:GLN:H	1.75	0.52
34:AA:419:A:H8	34:AA:420:U:C6	2.28	0.52
34:AA:929:G:H2'	34:AA:930:C:C6	2.45	0.52
34:AA:1090:G:H2'	34:AA:1091:G:C8	2.44	0.52
34:AA:1784:G:H21	34:AA:1786:A:H8	1.58	0.52
36:AB:116:U:H2'	36:AB:117:C:C6	2.45	0.52
69:AD:141:GLU:OE1	69:AD:141:GLU:N	2.35	0.52
69:AD:210:PRO:HG2	69:AD:235:VAL:HG11	1.92	0.52
72:AG:18:VAL:HG12	72:AG:70:THR:HG22	1.92	0.52
73:AU:184:MET:SD	73:AU:184:MET:N	2.82	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:S8:202:GLY:H	79:S8:222:ASP:HB3	1.75	0.52
3:S3:68:TYR:CZ	9:SB:112:SER:HA	2.45	0.52
8:SA:1726:U:H2'	8:SA:1727:A:C8	2.45	0.52
8:SA:1816:U:OP2	32:SY:100:ARG:NH1	2.42	0.52
8:SA:1879:U:H5''	20:SM:136:ARG:HD3	1.91	0.52
8:SA:1889:G:H2'	8:SA:1890:A:C8	2.45	0.52
8:SA:1952:A:N6	8:SA:2037:A:O2'	2.43	0.52
13:SF:19:MET:HE1	13:SF:108:ARG:HH11	1.75	0.52
16:SI:146:CYS:O	16:SI:150:ARG:HD3	2.09	0.52
34:AA:183:U:H2'	34:AA:184:U:C6	2.45	0.52
34:AA:293:U:H2'	34:AA:294:G:C8	2.44	0.52
34:AA:910:A:H2'	34:AA:911:U:C6	2.45	0.52
34:AA:934:G:N2	34:AA:1039:A:OP2	2.29	0.52
34:AA:1295:A:OP2	45:A9:105:ARG:NH1	2.43	0.52
34:AA:1541:A:H2'	34:AA:1542:A:H8	1.75	0.52
34:AA:3589:U:H3'	57:AK:130:LYS:HE2	1.91	0.52
38:A1:14:LEU:HD22	46:Aa:85:ARG:HG2	1.91	0.52
54:AI:161:ASN:O	54:AI:165:LYS:HG2	2.10	0.52
57:AK:53:TYR:OH	57:AK:72:LEU:O	2.27	0.52
8:SA:1016:U:H2'	8:SA:1017:G:C8	2.45	0.51
8:SA:1853:A:H8	31:SX:40:ARG:NH2	2.08	0.51
17:SJ:21:ALA:O	17:SJ:25:LEU:HG	2.10	0.51
21:SN:60:LEU:HB2	21:SN:81:LEU:HB2	1.92	0.51
32:SY:127:LEU:HD21	32:SY:145:ARG:HG3	1.92	0.51
34:AA:159:C:H2'	34:AA:160:G:H8	1.75	0.51
34:AA:1562:G:H2'	34:AA:1563:U:C6	2.46	0.51
34:AA:1693:U:H5'	51:AP:67:ARG:HE	1.75	0.51
34:AA:2069:C:H2'	34:AA:2070:U:C5	2.45	0.51
34:AA:2153:A:O2'	34:AA:2154:A:H5''	2.11	0.51
34:AA:3104:C:OP1	60:AO:55:LYS:NZ	2.31	0.51
34:AA:3255:A:OP1	50:Af:26:ARG:NE	2.39	0.51
34:AA:3319:C:H2'	34:AA:3320:G:C8	2.45	0.51
34:AA:3651:G:H2'	34:AA:3652:A:C8	2.46	0.51
34:AA:3771:C:H2'	34:AA:3772:C:H6	1.74	0.51
35:AC:30:U:H2'	35:AC:31:U:H6	1.75	0.51
68:A5:132:THR:HG23	68:A5:135:MET:HE2	1.91	0.51
73:AU:15:GLN:HG3	73:AU:73:ILE:HB	1.91	0.51
8:SA:346:U:H2'	8:SA:347:A:C8	2.45	0.51
8:SA:892:U:H2'	8:SA:893:U:H6	1.76	0.51
8:SA:1036:A:H2'	8:SA:1037:U:C6	2.45	0.51
8:SA:1113:U:H2'	8:SA:1114:U:C6	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1603:U:H2'	8:SA:1604:A:C8	2.45	0.51
8:SA:1717:A:N3	8:SA:1720:G:O2'	2.41	0.51
8:SA:1743:A:H1'	8:SA:1788:U:H1'	1.93	0.51
8:SA:2043:G:H2'	8:SA:2044:G:H8	1.74	0.51
13:SF:86:LEU:HD12	13:SF:142:HIS:CD2	2.45	0.51
34:AA:428:A:O2'	34:AA:708:A:OP1	2.23	0.51
34:AA:501:U:O2'	34:AA:502:U:O4'	2.27	0.51
34:AA:802:U:H2'	34:AA:803:A:H5''	1.91	0.51
34:AA:2616:G:O2'	34:AA:2618:G:OP2	2.25	0.51
34:AA:2652:C:H2'	34:AA:2653:C:C6	2.44	0.51
34:AA:3437:U:H2'	34:AA:3438:G:C8	2.46	0.51
34:AA:3532:A:H2'	34:AA:3533:A:H8	1.75	0.51
34:AA:3757:U:H2'	34:AA:3758:G:H8	1.74	0.51
35:AC:134:G:O2'	35:AC:135:G:OP1	2.28	0.51
38:A1:91:PHE:HE2	38:A1:96:LEU:HD21	1.75	0.51
43:AN:66:ARG:HH12	43:AN:88:LYS:HA	1.76	0.51
51:AP:157:HIS:HB3	51:AP:160:LEU:HD12	1.92	0.51
55:AJ:188:ARG:HG2	55:AJ:246:ARG:NH2	2.22	0.51
58:AM:129:PRO:O	58:AM:132:SER:OG	2.23	0.51
61:AQ:196:SER:OG	61:AQ:197:CYS:N	2.43	0.51
8:SA:12:U:H2'	8:SA:13:C:C6	2.46	0.51
8:SA:793:G:C6	8:SA:872:A:N1	2.78	0.51
8:SA:1077:G:OP1	23:SP:149:ARG:NH1	2.44	0.51
8:SA:1188:A:H2'	8:SA:1189:A:C8	2.45	0.51
8:SA:1420:G:H2'	8:SA:1421:A:C8	2.45	0.51
8:SA:1902:G:OP2	20:SM:128:LYS:NZ	2.34	0.51
9:SB:217:ILE:O	9:SB:217:ILE:HG13	2.10	0.51
17:SJ:144:LYS:O	18:SK:42:GLN:NE2	2.42	0.51
21:SN:34:VAL:O	21:SN:38:ILE:HG12	2.11	0.51
29:SV:126:VAL:HG12	29:SV:145:VAL:HG22	1.92	0.51
32:SY:79:ARG:HH12	32:SY:102:PHE:HB3	1.75	0.51
34:AA:742:U:H2'	34:AA:743:A:H8	1.74	0.51
34:AA:1641:G:N7	49:Ae:2:GLY:N	2.57	0.51
34:AA:1764:U:H2'	34:AA:1765:A:H8	1.76	0.51
34:AA:3171:C:H2'	34:AA:3172:A:H8	1.74	0.51
39:A2:10:TRP:CD2	39:A2:44:PRO:HB3	2.45	0.51
45:A9:65:ILE:HB	45:A9:68:VAL:HG22	1.91	0.51
62:AR:39:GLN:HG3	62:AR:46:ALA:HB3	1.91	0.51
62:AR:41:LYS:NZ	75:AV:33:GLU:O	2.34	0.51
71:AF:161:LEU:HD11	71:AF:166:GLU:HG2	1.91	0.51
78:A0:17:GLU:O	78:A0:19:ARG:NH2	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:347:A:H1'	19:SL:87:ASN:HB3	1.93	0.51
8:SA:1373:U:O2'	8:SA:1376:A:OP2	2.17	0.51
8:SA:1790:C:O2'	8:SA:1791:C:O4'	2.28	0.51
8:SA:1800:A:H4'	32:SY:64:LYS:HZ1	1.74	0.51
8:SA:1802:G:O2'	8:SA:1847:A:O2'	2.29	0.51
8:SA:1808:G:N3	8:SA:1814:C:H1'	2.24	0.51
8:SA:1972:G:H2'	8:SA:1973:U:C6	2.46	0.51
11:SD:8:LYS:HE3	21:SN:60:LEU:HD11	1.92	0.51
12:SE:41:GLU:O	12:SE:44:ARG:HG2	2.10	0.51
13:SF:126:VAL:HG12	13:SF:141:THR:HG22	1.92	0.51
15:SH:28:MET:HB3	15:SH:29:GLU:OE1	2.10	0.51
19:SL:56:ARG:HD3	19:SL:190:GLY:O	2.10	0.51
34:AA:505:A:H2'	34:AA:506:A:C8	2.45	0.51
34:AA:1906:A:N6	34:AA:1964:G:O6	2.43	0.51
34:AA:2806:U:H2'	34:AA:2807:U:C6	2.46	0.51
35:AC:109:U:H4'	35:AC:110:G:H5''	1.93	0.51
35:AC:147:U:O2'	51:AP:109:ILE:O	2.27	0.51
41:A6:50:ASN:ND2	41:A6:76:ASP:HB2	2.26	0.51
54:AI:99:VAL:HG22	54:AI:100:ASP:H	1.76	0.51
68:A5:234:PHE:HZ	73:AU:42:ASN:HD21	1.57	0.51
7:S7:22:A:H2'	7:S7:23:G:C8	2.46	0.51
7:S7:70:A:H2'	7:S7:71:C:C5	2.46	0.51
8:SA:545:A:O4'	8:SA:550:C:N4	2.44	0.51
8:SA:795:U:H2'	8:SA:796:A:C8	2.37	0.51
8:SA:1661:U:H2'	8:SA:1662:A:C8	2.45	0.51
8:SA:1675:G:H2'	8:SA:1676:U:C6	2.45	0.51
8:SA:1720:G:H2'	8:SA:1721:A:C8	2.46	0.51
10:SC:73:VAL:HG22	10:SC:120:LEU:HB2	1.93	0.51
20:SM:75:GLN:O	20:SM:78:GLN:HG2	2.09	0.51
34:AA:1074:A:OP1	40:A4:7:HIS:ND1	2.40	0.51
34:AA:3242:U:H2'	34:AA:3243:C:C6	2.46	0.51
47:Ab:13:ILE:HA	60:AO:146:LEU:HD12	1.92	0.51
55:AJ:242:ASN:HB3	55:AJ:245:LEU:HD22	1.92	0.51
58:AM:48:LEU:HB2	70:AE:8:ARG:HB3	1.93	0.51
63:AW:50:ASP:OD1	63:AW:56:ARG:N	2.43	0.51
68:A5:232:HIS:ND1	68:A5:236:GLU:OE1	2.44	0.51
70:AE:8:ARG:HH22	70:AE:11:HIS:CE1	2.27	0.51
79:S8:40:SER:OG	79:S8:50:TRP:NE1	2.31	0.51
8:SA:93:G:H2'	8:SA:94:A:O4'	2.10	0.51
8:SA:412:U:H2'	8:SA:413:A:H8	1.75	0.51
8:SA:804:U:O2'	8:SA:856:U:N3	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1248:A:H2'	8:SA:1249:C:H6	1.74	0.51
8:SA:1286:U:H4'	8:SA:1287:U:H5''	1.91	0.51
8:SA:1786:U:HO2'	8:SA:1787:U:P	2.33	0.51
8:SA:1842:A:H2'	8:SA:1843:G:C8	2.46	0.51
8:SA:2068:A:H2'	8:SA:2069:G:H8	1.74	0.51
25:SR:25:ILE:HG13	25:SR:132:LEU:HD23	1.90	0.51
34:AA:179:G:O2'	34:AA:180:C:OP1	2.25	0.51
34:AA:295:G:H2'	34:AA:296:A:H8	1.75	0.51
34:AA:491:C:H2'	34:AA:492:U:H6	1.75	0.51
34:AA:715:U:H2'	34:AA:716:C:C6	2.46	0.51
34:AA:1681:C:H2'	34:AA:1682:U:C6	2.45	0.51
34:AA:1861:C:H2'	34:AA:1862:A:C8	2.41	0.51
34:AA:2959:G:O2'	34:AA:2960:G:OP1	2.25	0.51
34:AA:3479:U:H2'	34:AA:3480:C:H6	1.75	0.51
35:AC:31:U:H2'	35:AC:32:C:H6	1.76	0.51
51:AP:167:GLY:HA2	51:AP:170:TYR:CE2	2.45	0.51
52:Ah:65:CYS:SG	52:Ah:66:GLY:N	2.84	0.51
58:AM:27:CYS:SG	58:AM:36:LEU:HG	2.51	0.51
58:AM:82:ARG:NH1	58:AM:99:ASP:OD2	2.44	0.51
69:AD:10:LYS:HG3	69:AD:16:PHE:CD2	2.45	0.51
72:AG:17:LEU:HD12	72:AG:76:ALA:HA	1.92	0.51
72:AG:27:GLY:HA2	72:AG:30:LEU:HB3	1.93	0.51
79:S8:75:ILE:HG23	79:S8:91:SER:HB2	1.91	0.51
8:SA:359:A:H2'	8:SA:360:C:O4'	2.10	0.51
8:SA:560:G:N2	8:SA:578:G:N7	2.59	0.51
8:SA:955:U:OP1	9:SB:214:LYS:NZ	2.44	0.51
8:SA:1319:G:N2	8:SA:1690:A:OP2	2.31	0.51
8:SA:1842:A:H2'	8:SA:1843:G:H8	1.74	0.51
8:SA:2016:A:H2'	8:SA:2017:A:C8	2.45	0.51
9:SB:133:TYR:CE1	9:SB:220:ARG:HG3	2.46	0.51
10:SC:125:ASP:OD2	10:SC:164:ASN:ND2	2.43	0.51
16:SI:69:MET:H	16:SI:150:ARG:HH21	1.58	0.51
17:SJ:156:ASP:OD1	17:SJ:156:ASP:N	2.42	0.51
18:SK:87:GLU:HG2	18:SK:117:ARG:HH22	1.75	0.51
20:SM:98:VAL:HG23	20:SM:99:ASP:H	1.74	0.51
34:AA:32:C:H2'	34:AA:33:G:O4'	2.11	0.51
34:AA:262:A:H2'	34:AA:263:U:C6	2.45	0.51
34:AA:759:U:OP1	71:AF:117:LEU:N	2.38	0.51
34:AA:773:A:O2'	34:AA:774:A:H8	1.94	0.51
34:AA:1093:G:H2'	34:AA:1094:U:C6	2.46	0.51
34:AA:2089:C:H2'	34:AA:2090:U:C6	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3085:A:H2'	34:AA:3086:A:C8	2.46	0.51
34:AA:3442:C:H5	42:A7:32:CYS:HB2	1.75	0.51
34:AA:3673:C:H2'	34:AA:3674:A:C8	2.45	0.51
57:AK:1:MET:H1	57:AK:30:GLN:HG2	1.74	0.51
68:A5:91:LYS:HA	68:A5:128:VAL:HB	1.92	0.51
79:S8:159:TRP:HB2	79:S8:179:TRP:CD1	2.45	0.51
8:SA:384:A:H2'	8:SA:385:U:O4'	2.10	0.51
8:SA:1410:G:H2'	8:SA:1411:G:H8	1.76	0.51
18:SK:44:LYS:HE2	18:SK:101:HIS:CD2	2.45	0.51
20:SM:49:VAL:O	20:SM:52:PRO:HD2	2.11	0.51
21:SN:21:ILE:HA	21:SN:112:GLU:O	2.09	0.51
34:AA:943:G:H1'	34:AA:1684:A:N3	2.26	0.51
34:AA:1331:A:H2'	34:AA:1332:A:C8	2.45	0.51
34:AA:1587:U:O2'	71:AF:96:CYS:HB2	2.11	0.51
34:AA:1610:A:H2'	34:AA:1611:A:C8	2.43	0.51
34:AA:2742:G:H2'	34:AA:2743:A:C8	2.46	0.51
34:AA:3757:U:H2'	34:AA:3758:G:C8	2.45	0.51
35:AC:110:G:H4'	35:AC:145:A:H5'	1.92	0.51
41:A6:73:TYR:CD2	41:A6:79:LEU:HD21	2.46	0.51
47:Ab:48:VAL:HA	47:Ab:51:ILE:HG22	1.93	0.51
61:AQ:31:ILE:HG21	61:AQ:65:LEU:HD22	1.92	0.51
68:A5:256:MET:HE2	68:A5:256:MET:HA	1.92	0.51
69:AD:179:ILE:HG23	69:AD:184:VAL:HB	1.93	0.51
8:SA:1017:G:H2'	8:SA:1018:U:H6	1.76	0.51
8:SA:1810:U:H5''	8:SA:1811:A:O4'	2.11	0.51
14:SG:118:ASP:CG	14:SG:122:HIS:H	2.19	0.51
14:SG:222:PHE:O	14:SG:226:ILE:HG13	2.11	0.51
34:AA:683:A:OP1	71:AF:327:ARG:NH1	2.36	0.51
34:AA:1900:G:P	46:Aa:21:ARG:HH22	2.34	0.51
34:AA:1964:G:O2'	34:AA:1965:U:H4'	2.11	0.51
34:AA:2439:C:H2'	34:AA:2440:A:C8	2.46	0.51
34:AA:3290:C:H2'	34:AA:3291:U:O4'	2.10	0.51
70:AE:63:PRO:HA	70:AE:68:HIS:CE1	2.46	0.51
79:S8:155:GLN:NE2	79:S8:156:HIS:O	2.43	0.51
79:S8:267:ILE:HG22	79:S8:276:ILE:HD12	1.93	0.51
8:SA:204:U:H2'	8:SA:205:A:C8	2.44	0.51
8:SA:1636:A:H2	8:SA:1658:G:H1'	1.76	0.51
9:SB:97:TYR:CG	9:SB:229:MET:HE1	2.46	0.51
26:SS:116:MET:HA	26:SS:119:ILE:HB	1.93	0.51
34:AA:129:C:H2'	34:AA:130:G:O4'	2.11	0.51
34:AA:1747:U:H4'	34:AA:2102:A:H4'	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:2469:U:OP1	69:AD:54:ARG:NH1	2.44	0.51
43:AN:12:LEU:HD11	43:AN:16:LYS:HE3	1.93	0.51
45:A9:66:LYS:HA	57:AK:2:TYR:CE2	2.46	0.51
71:AF:142:HIS:CD2	71:AF:249:LEU:HB3	2.46	0.51
73:AU:92:SER:N	73:AU:95:GLY:O	2.43	0.51
7:S7:71:C:H2'	7:S7:72:C:O4'	2.11	0.50
8:SA:5:U:H2'	8:SA:6:G:C8	2.46	0.50
8:SA:882:A:H2'	8:SA:883:A:C8	2.45	0.50
8:SA:1219:U:H2'	8:SA:1220:C:C6	2.46	0.50
8:SA:1295:A:O2'	8:SA:1296:C:OP1	2.27	0.50
34:AA:72:C:O3'	37:AL:65:ASN:ND2	2.36	0.50
34:AA:1914:A:H2	34:AA:1956:U:H3	1.59	0.50
34:AA:3585:A:OP2	57:AK:170:LYS:NZ	2.35	0.50
34:AA:3647:C:H2'	34:AA:3648:U:C6	2.46	0.50
34:AA:3677:A:H2'	34:AA:3678:A:C8	2.46	0.50
35:AC:39:C:H2'	35:AC:40:G:H8	1.76	0.50
50:Af:27:LEU:HD23	50:Af:45:LEU:HD11	1.92	0.50
51:AP:17:ASP:OD1	51:AP:18:ALA:N	2.45	0.50
58:AM:89:ARG:HB3	58:AM:91:GLU:OE1	2.11	0.50
62:AR:149:ASP:OD1	62:AR:150:VAL:N	2.44	0.50
77:AX:102:TYR:HE1	77:AX:106:LEU:HD11	1.76	0.50
79:S8:250:PHE:CE1	79:S8:257:LEU:HD13	2.46	0.50
8:SA:10:G:O4'	8:SA:1930:A:O2'	2.28	0.50
8:SA:648:A:H2'	8:SA:649:A:C8	2.46	0.50
8:SA:829:G:H1'	8:SA:832:A:N6	2.26	0.50
8:SA:1381:C:H4'	21:SN:66:LYS:HB3	1.93	0.50
8:SA:1446:A:N6	8:SA:1623:U:HO2'	2.09	0.50
8:SA:1659:U:C4	8:SA:1662:A:H5'	2.47	0.50
8:SA:1687:C:H2'	8:SA:1688:U:H6	1.77	0.50
10:SC:69:ASN:ND2	10:SC:72:ASP:OD2	2.44	0.50
28:SU:37:ILE:HD13	28:SU:74:ILE:HD11	1.93	0.50
30:SW:75:GLU:HG3	30:SW:78:ARG:HE	1.75	0.50
34:AA:69:U:H2'	34:AA:70:A:O4'	2.11	0.50
34:AA:162:U:H4'	34:AA:163:G:H5'	1.94	0.50
34:AA:742:U:H2'	34:AA:743:A:C8	2.45	0.50
34:AA:2029:G:H2'	34:AA:2030:G:C4	2.47	0.50
34:AA:2203:G:H2'	34:AA:2204:A:C8	2.45	0.50
34:AA:3240:C:H2'	34:AA:3241:U:C6	2.46	0.50
34:AA:3669:U:H1'	34:AA:3671:A:H62	1.74	0.50
34:AA:3702:C:H3'	34:AA:3703:G:H21	1.76	0.50
75:AV:95:GLU:OE1	75:AV:95:GLU:N	2.34	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:S8:266:ARG:HD2	79:S8:268:TRP:CZ2	2.46	0.50
7:S7:3:G:H2'	7:S7:4:U:C6	2.45	0.50
8:SA:1042:A:H2'	8:SA:1043:A:H8	1.75	0.50
8:SA:1627:U:H2'	8:SA:1628:A:C8	2.47	0.50
20:SM:15:LYS:O	20:SM:124:ARG:NE	2.45	0.50
34:AA:50:U:H2'	34:AA:51:A:H8	1.75	0.50
34:AA:76:G:C4	37:AL:99:ARG:HB3	2.46	0.50
34:AA:434:C:O2	44:A8:24:ARG:NH1	2.45	0.50
34:AA:801:U:OP1	34:AA:899:A:O2'	2.20	0.50
34:AA:1211:U:H2'	34:AA:1212:U:C6	2.46	0.50
34:AA:1267:G:OP2	40:A4:14:ARG:NH2	2.44	0.50
34:AA:1814:U:H2'	34:AA:1815:A:H8	1.76	0.50
34:AA:2627:U:O2'	34:AA:2628:G:H5'	2.11	0.50
34:AA:3715:U:H2'	34:AA:3716:C:C6	2.47	0.50
37:AL:164:GLU:HG2	37:AL:165:LYS:O	2.11	0.50
42:A7:21:THR:OG1	42:A7:80:ARG:NE	2.38	0.50
51:AP:18:ALA:HA	55:AJ:91:PRO:HG3	1.93	0.50
71:AF:171:LEU:O	71:AF:176:LEU:HB2	2.11	0.50
78:A0:49:GLN:HG3	78:A0:51:LYS:HG2	1.93	0.50
8:SA:1272:A:H2'	8:SA:1273:G:H8	1.76	0.50
25:SR:117:VAL:HG13	25:SR:119:VAL:HG23	1.93	0.50
31:SX:39:ALA:HA	31:SX:42:ARG:HG3	1.92	0.50
33:SZ:35:ASN:HD21	33:SZ:49:THR:HG21	1.75	0.50
34:AA:359:A:H61	49:Ae:38:ASN:HA	1.76	0.50
34:AA:906:G:H2'	34:AA:907:C:C6	2.47	0.50
34:AA:996:C:O2'	34:AA:999:G:O2'	2.17	0.50
34:AA:1187:A:N6	34:AA:1220:U:O4	2.45	0.50
34:AA:1220:U:H5''	34:AA:1221:A:N7	2.26	0.50
34:AA:3121:G:N7	37:AL:201:ARG:NH1	2.58	0.50
34:AA:3171:C:H2'	34:AA:3172:A:C8	2.46	0.50
35:AC:4:C:H2'	35:AC:5:A:C8	2.47	0.50
36:AB:117:C:H2'	36:AB:118:A:C8	2.45	0.50
56:Ac:29:SER:HB3	56:Ac:38:ALA:HB3	1.93	0.50
74:AH:90:LYS:HB3	74:AH:142:GLU:OE2	2.12	0.50
78:A0:13:CYS:SG	78:A0:14:SER:N	2.85	0.50
8:SA:27:U:H2'	8:SA:28:A:C8	2.46	0.50
8:SA:255:A:OP2	13:SF:133:LYS:NZ	2.36	0.50
8:SA:809:U:O4	8:SA:810:A:N6	2.45	0.50
11:SD:71:SER:HB3	22:SO:31:VAL:HG21	1.93	0.50
16:SI:101:GLN:NE2	16:SI:101:GLN:O	2.42	0.50
32:SY:29:ILE:HD11	32:SY:88:TYR:HB3	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:627:U:H2'	34:AA:628:U:C6	2.47	0.50
34:AA:716:C:H2'	34:AA:717:G:C8	2.45	0.50
34:AA:1035:G:O6	69:AD:207:VAL:HG21	2.11	0.50
34:AA:1069:G:C6	34:AA:1516:G:C8	3.00	0.50
34:AA:1546:A:H2'	34:AA:1547:A:O4'	2.12	0.50
34:AA:1624:A:H2'	34:AA:1625:G:C8	2.46	0.50
34:AA:2624:C:H2'	34:AA:2625:A:C8	2.47	0.50
34:AA:2667:C:N4	34:AA:3300:A:O4'	2.45	0.50
34:AA:3063:U:OP2	34:AA:3065:C:N4	2.44	0.50
34:AA:3714:C:OP1	70:AE:169:ARG:NH1	2.45	0.50
37:AL:60:PRO:O	37:AL:61:THR:HG22	2.11	0.50
48:Ad:47:LYS:HG2	48:Ad:48:TYR:CD2	2.47	0.50
60:AO:118:HIS:NE2	60:AO:119:ASN:OD1	2.44	0.50
3:S3:51:ARG:HG2	3:S3:55:GLU:OE1	2.11	0.50
8:SA:12:U:H2'	8:SA:13:C:H6	1.76	0.50
8:SA:1302:G:C2	8:SA:1896:C:H2'	2.46	0.50
8:SA:1716:C:H4'	8:SA:1837:G:N2	2.26	0.50
14:SG:58:SER:HA	14:SG:78:PHE:HE1	1.77	0.50
14:SG:215:LYS:HE2	14:SG:217:LYS:HB2	1.92	0.50
19:SL:203:ASP:HA	19:SL:206:LEU:HB2	1.94	0.50
31:SX:80:LEU:HD11	31:SX:83:MET:HB2	1.93	0.50
33:SZ:63:GLU:OE1	33:SZ:63:GLU:N	2.45	0.50
34:AA:439:U:H2'	34:AA:440:A:H8	1.75	0.50
34:AA:1254:G:H2'	34:AA:1255:G:C8	2.46	0.50
34:AA:1621:U:H2'	34:AA:1622:G:C8	2.45	0.50
34:AA:3138:A:H2'	34:AA:3139:C:C2	2.47	0.50
34:AA:3644:G:H2'	34:AA:3645:A:H8	1.75	0.50
34:AA:3713:C:H2'	34:AA:3714:C:H6	1.76	0.50
34:AA:3729:A:H2'	34:AA:3730:C:H6	1.75	0.50
41:A6:17:LEU:HA	41:A6:20:VAL:HG12	1.93	0.50
59:AS:87:ASP:HB2	59:AS:108:ALA:HB2	1.93	0.50
66:AZ:30:MET:HE3	66:AZ:100:PRO:HG2	1.93	0.50
79:S8:269:ASN:N	79:S8:274:LEU:O	2.40	0.50
8:SA:302:A:H2'	8:SA:303:U:O4'	2.11	0.50
8:SA:602:G:H2'	8:SA:603:C:C6	2.46	0.50
8:SA:635:G:N1	8:SA:1039:A:OP2	2.42	0.50
8:SA:1646:U:H2'	8:SA:1647:A:C8	2.45	0.50
8:SA:1798:G:N2	8:SA:1800:A:H3'	2.26	0.50
9:SB:65:ILE:HD11	9:SB:85:LYS:HB3	1.93	0.50
17:SJ:34:ASP:HB3	17:SJ:79:LYS:HG2	1.94	0.50
34:AA:61:A:H2'	34:AA:62:A:H8	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:619:U:O2'	34:AA:620:U:OP2	2.27	0.50
34:AA:733:C:H2'	34:AA:734:A:H8	1.76	0.50
34:AA:1967:G:H21	48:Ad:2:PRO:HB2	1.77	0.50
38:A1:92:ASP:OD2	38:A1:95:SER:OG	2.26	0.50
46:Aa:11:ASN:O	46:Aa:18:ASN:ND2	2.44	0.50
52:Ah:49:ARG:NH1	52:Ah:51:CYS:O	2.44	0.50
58:AM:86:ALA:HA	58:AM:96:TYR:HB3	1.93	0.50
66:AZ:31:SER:HA	66:AZ:48:PRO:HA	1.92	0.50
79:S8:75:ILE:HA	79:S8:91:SER:HA	1.93	0.50
8:SA:1278:C:H2'	8:SA:1279:G:C8	2.41	0.50
8:SA:1321:C:OP1	22:SO:63:ARG:NH1	2.45	0.50
8:SA:1392:C:H2'	8:SA:1393:G:C8	2.47	0.50
8:SA:1825:U:OP1	16:SI:79:LYS:HG3	2.12	0.50
8:SA:1883:A:N1	16:SI:69:MET:HE1	2.26	0.50
8:SA:2080:G:H3'	23:SP:146:ARG:NH2	2.26	0.50
18:SK:36:LYS:O	18:SK:39:GLN:HG3	2.11	0.50
21:SN:49:VAL:HG13	21:SN:90:LEU:HG	1.92	0.50
26:SS:29:ILE:O	26:SS:33:THR:HG23	2.12	0.50
34:AA:1248:A:H2'	34:AA:1249:U:C6	2.47	0.50
34:AA:1863:A:H2'	34:AA:1864:A:C8	2.46	0.50
34:AA:2970:U:OP1	34:AA:3096:U:O2'	2.30	0.50
34:AA:3401:C:H2'	34:AA:3402:A:C8	2.43	0.50
35:AC:145:A:H2'	35:AC:146:C:H6	1.77	0.50
48:Ad:26:MET:HE1	48:Ad:76:TYR:HB2	1.92	0.50
62:AR:99:TYR:OH	62:AR:170:ASP:OD2	2.20	0.50
74:AH:63:PRO:HA	74:AH:66:LEU:HB3	1.94	0.50
79:S8:208:THR:HG23	79:S8:250:PHE:HE2	1.76	0.50
8:SA:173:G:N1	8:SA:267:A:OP1	2.36	0.50
8:SA:329:A:OP2	19:SL:10:LYS:HB2	2.12	0.50
8:SA:1168:U:H2'	8:SA:1169:C:C6	2.46	0.50
18:SK:101:HIS:HA	18:SK:113:HIS:HE1	1.77	0.50
32:SY:58:THR:HA	32:SY:75:TRP:HZ2	1.77	0.50
34:AA:1534:U:OP2	71:AF:182:ARG:NH1	2.44	0.50
34:AA:1764:U:H2'	34:AA:1765:A:C8	2.46	0.50
34:AA:1974:U:H2'	34:AA:1975:A:C8	2.47	0.50
34:AA:1999:A:H2'	34:AA:2000:G:C8	2.46	0.50
34:AA:3048:U:H2'	34:AA:3049:G:C8	2.45	0.50
35:AC:39:C:H2'	35:AC:40:G:C8	2.47	0.50
38:A1:53:VAL:HG11	38:A1:62:ILE:HG23	1.92	0.50
38:A1:82:PRO:HD2	41:A6:62:TYR:OH	2.12	0.50
51:AP:175:VAL:HG13	51:AP:180:SER:HB3	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:AW:60:PHE:CE2	63:AW:82:ARG:HB2	2.47	0.50
68:A5:136:LEU:HA	68:A5:139:VAL:HG12	1.94	0.50
71:AF:84:THR:HG23	71:AF:87:ALA:H	1.77	0.50
6:S6:41:ASN:HB2	8:SA:510:G:H4'	1.93	0.49
7:S7:27:G:N2	7:S7:41:C:H1'	2.27	0.49
8:SA:158:C:O3'	15:SH:95:LYS:NZ	2.45	0.49
8:SA:338:U:OP2	19:SL:191:GLN:NE2	2.44	0.49
8:SA:754:A:H1'	17:SJ:100:ILE:HG13	1.94	0.49
8:SA:1005:G:H2'	8:SA:1006:C:C6	2.47	0.49
8:SA:1417:U:H2'	8:SA:1418:C:C6	2.46	0.49
11:SD:127:ILE:HD13	11:SD:135:CYS:SG	2.52	0.49
11:SD:166:LYS:O	11:SD:166:LYS:NZ	2.31	0.49
14:SG:68:PRO:HB3	33:SZ:29:HIS:CD2	2.47	0.49
26:SS:126:ARG:HG3	26:SS:131:LEU:HB2	1.93	0.49
34:AA:627:U:H2'	34:AA:628:U:H6	1.77	0.49
34:AA:1739:C:O2'	34:AA:1851:A:N3	2.42	0.49
34:AA:2103:C:O2'	34:AA:2109:A:N1	2.45	0.49
34:AA:2632:C:OP2	58:AM:50:ARG:NE	2.44	0.49
34:AA:2936:A:H2'	34:AA:2937:G:H8	1.76	0.49
34:AA:3469:C:H2'	34:AA:3470:G:O4'	2.12	0.49
36:AB:44:C:OP2	72:AG:137:ARG:NH1	2.33	0.49
44:A8:21:GLN:HE22	44:A8:24:ARG:HH21	1.59	0.49
50:Af:21:ARG:HD2	50:Af:44:GLN:HB3	1.94	0.49
62:AR:38:LEU:HD22	75:AV:31:TYR:CD1	2.46	0.49
68:A5:148:PRO:O	68:A5:149:THR:OG1	2.27	0.49
71:AF:161:LEU:HD21	71:AF:166:GLU:HG3	1.93	0.49
79:S8:260:ALA:HA	79:S8:265:ILE:HG12	1.94	0.49
1:S1:10:LYS:NZ	8:SA:826:A:OP2	2.40	0.49
8:SA:437:C:C2	8:SA:438:G:C8	3.01	0.49
8:SA:483:A:H2'	8:SA:484:A:C8	2.45	0.49
8:SA:756:A:H4'	17:SJ:108:LYS:HE3	1.94	0.49
8:SA:812:A:OP1	12:SE:79:ARG:NH1	2.45	0.49
8:SA:1403:U:H2'	8:SA:1404:U:H6	1.76	0.49
8:SA:1793:C:O2	32:SY:143:LYS:NZ	2.35	0.49
12:SE:168:ARG:HG2	12:SE:169:PRO:HD2	1.93	0.49
15:SH:22:LYS:HA	15:SH:25:LEU:HB2	1.95	0.49
17:SJ:73:VAL:O	17:SJ:77:GLN:HG3	2.12	0.49
28:SU:87:ASP:OD1	28:SU:88:LEU:N	2.45	0.49
34:AA:220:G:H2'	71:AF:223:ASN:OD1	2.12	0.49
34:AA:600:U:H2'	34:AA:601:G:C8	2.46	0.49
34:AA:1058:U:OP2	60:AO:26:ARG:NH2	2.38	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:1574:C:HO2'	34:AA:1575:C:P	2.34	0.49
34:AA:1863:A:H2'	34:AA:1864:A:H8	1.76	0.49
34:AA:2835:G:N1	34:AA:2919:A:N7	2.60	0.49
34:AA:3008:A:H2'	34:AA:3009:G:H8	1.77	0.49
34:AA:3113:U:H2'	34:AA:3114:G:C8	2.47	0.49
34:AA:3409:U:C2	34:AA:3410:A:C8	3.00	0.49
36:AB:67:C:OP1	62:AR:14:LYS:NZ	2.33	0.49
37:AL:168:LYS:HB3	60:AO:104:ARG:HB3	1.94	0.49
54:AI:132:ASP:OD1	54:AI:132:ASP:N	2.45	0.49
59:AS:67:LEU:HD21	59:AS:99:VAL:HG11	1.93	0.49
70:AE:170:MET:HE3	70:AE:172:LYS:H	1.77	0.49
73:AU:166:LEU:HD23	73:AU:166:LEU:H	1.77	0.49
74:AH:90:LYS:NZ	74:AH:182:GLU:OE2	2.30	0.49
77:AX:45:ASP:HB2	77:AX:131:GLU:HG3	1.93	0.49
8:SA:343:G:O3'	19:SL:10:LYS:NZ	2.45	0.49
8:SA:1063:G:H2'	8:SA:1064:A:H8	1.78	0.49
8:SA:1315:U:H2'	8:SA:1316:U:C6	2.47	0.49
8:SA:1631:G:H2'	8:SA:1632:G:H8	1.76	0.49
8:SA:1641:G:H2'	8:SA:1642:U:H6	1.78	0.49
8:SA:1980:A:O2'	8:SA:1981:A:O4'	2.28	0.49
13:SF:101:LEU:HD11	13:SF:109:PHE:HB3	1.94	0.49
24:SQ:54:VAL:HG21	24:SQ:75:GLN:HG2	1.94	0.49
26:SS:15:LEU:O	26:SS:21:ASN:HB3	2.13	0.49
34:AA:62:A:O2'	34:AA:63:A:OP1	2.27	0.49
34:AA:215:C:H2'	34:AA:216:C:C6	2.47	0.49
34:AA:543:U:C6	34:AA:581:C:H5''	2.47	0.49
34:AA:670:U:H2'	34:AA:671:U:C6	2.47	0.49
34:AA:858:C:H2'	34:AA:859:C:C6	2.47	0.49
34:AA:1788:C:H2'	34:AA:1789:A:H8	1.77	0.49
34:AA:2999:C:H2'	34:AA:3000:A:C8	2.47	0.49
34:AA:3063:U:H1'	75:AV:8:LYS:HZ1	1.75	0.49
34:AA:3532:A:H2'	34:AA:3533:A:C8	2.47	0.49
51:AP:199:LEU:HD23	51:AP:203:ARG:HH22	1.77	0.49
63:AW:31:GLU:HG2	63:AW:60:PHE:CD1	2.47	0.49
64:AY:140:LYS:HD2	64:AY:158:VAL:HG23	1.95	0.49
69:AD:103:PRO:O	69:AD:107:MET:HE1	2.12	0.49
71:AF:152:LEU:HD23	71:AF:251:ILE:HG12	1.95	0.49
8:SA:392:G:H2'	8:SA:393:A:C8	2.48	0.49
8:SA:1308:C:H42	8:SA:1702:C:H41	1.59	0.49
8:SA:1456:G:N1	8:SA:1607:U:C2	2.81	0.49
8:SA:1624:U:H3	20:SM:9:GLN:CD	2.20	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:SD:108:TYR:O	11:SD:112:LYS:HG2	2.13	0.49
16:SI:65:ASN:HA	16:SI:68:MET:HE1	1.94	0.49
31:SX:45:PHE:HE1	31:SX:84:THR:HG21	1.77	0.49
34:AA:280:U:H2'	34:AA:281:G:H8	1.78	0.49
34:AA:542:A:N6	34:AA:608:A:O2'	2.45	0.49
34:AA:577:U:H2'	34:AA:578:U:C6	2.46	0.49
34:AA:917:A:OP1	60:AO:33:GLY:N	2.39	0.49
34:AA:1177:A:H5''	34:AA:2976:A:N6	2.25	0.49
34:AA:1284:C:OP2	68:A5:103:LYS:NZ	2.45	0.49
34:AA:1322:G:H8	34:AA:1322:G:O5'	1.94	0.49
34:AA:1601:A:O2'	34:AA:1602:A:H5'	2.11	0.49
34:AA:3465:G:P	42:A7:73:ARG:HH22	2.35	0.49
50:Af:7:ALA:O	50:Af:11:GLN:HG2	2.12	0.49
52:Ah:73:THR:O	52:Ah:77:VAL:HG23	2.13	0.49
54:AI:71:ARG:NH1	54:AI:203:TYR:O	2.44	0.49
62:AR:273:LEU:HG	62:AR:277:LEU:HD23	1.95	0.49
77:AX:120:LEU:HD22	77:AX:132:PHE:HB3	1.94	0.49
8:SA:110:A:H2'	8:SA:111:G:H8	1.78	0.49
8:SA:1304:A:H61	8:SA:1850:G:H1'	1.77	0.49
9:SB:133:TYR:CE1	9:SB:221:PRO:HD2	2.47	0.49
16:SI:8:ILE:HG13	16:SI:39:TYR:HE1	1.78	0.49
19:SL:105:ASP:OD1	19:SL:106:SER:N	2.46	0.49
34:AA:114:A:C4	34:AA:115:A:C8	3.00	0.49
34:AA:234:C:H2'	34:AA:235:A:O4'	2.12	0.49
34:AA:751:U:O3'	71:AF:33:ARG:NH2	2.40	0.49
34:AA:770:U:O3'	71:AF:48:ARG:NH2	2.45	0.49
34:AA:776:A:P	71:AF:121:ARG:HH21	2.35	0.49
34:AA:1064:U:H2'	34:AA:1065:U:H6	1.77	0.49
34:AA:1342:U:H2'	34:AA:1343:U:H6	1.78	0.49
34:AA:2609:G:C6	34:AA:2610:A:C6	3.01	0.49
34:AA:2637:U:H2'	34:AA:2638:G:H8	1.76	0.49
34:AA:2709:U:H2'	34:AA:2710:U:H6	1.78	0.49
43:AN:17:LYS:HB3	43:AN:17:LYS:HZ3	1.78	0.49
44:A8:104:ARG:NH1	44:A8:124:ARG:HB2	2.27	0.49
45:A9:73:HIS:ND1	73:AU:169:GLU:OE2	2.45	0.49
51:AP:115:VAL:HG21	51:AP:159:GLU:HB3	1.93	0.49
53:AI:94:ASP:N	53:AI:94:ASP:OD1	2.44	0.49
56:Ac:66:ARG:HE	56:Ac:68:ARG:CZ	2.26	0.49
68:A5:98:LEU:HD12	68:A5:230:LYS:HE3	1.95	0.49
73:AU:99:MET:HE3	73:AU:101:LYS:HE2	1.94	0.49
74:AH:5:VAL:HG22	74:AH:59:TRP:CE3	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:AX:100:LYS:HG3	77:AX:130:TYR:CZ	2.47	0.49
8:SA:802:A:C6	8:SA:803:G:C6	3.01	0.49
8:SA:1233:A:H2'	8:SA:1234:A:H8	1.77	0.49
8:SA:1725:A:N1	8:SA:1826:A:C6	2.80	0.49
19:SL:36:THR:HG23	19:SL:96:LEU:HB2	1.94	0.49
20:SM:43:TYR:O	20:SM:47:THR:HG23	2.13	0.49
31:SX:86:ILE:O	31:SX:89:MET:HG2	2.12	0.49
34:AA:54:C:H2'	34:AA:55:G:H8	1.77	0.49
34:AA:128:U:H2'	34:AA:129:C:H6	1.76	0.49
34:AA:296:A:H2'	34:AA:297:G:H8	1.77	0.49
34:AA:797:A:H2'	34:AA:798:U:C6	2.48	0.49
34:AA:865:G:H4'	34:AA:866:C:H5''	1.95	0.49
34:AA:888:A:H4'	34:AA:889:U:O5'	2.12	0.49
34:AA:1907:A:H2'	34:AA:1908:U:O4'	2.13	0.49
34:AA:2208:G:H2'	34:AA:2209:C:C6	2.47	0.49
34:AA:3106:U:H2'	34:AA:3107:U:H6	1.76	0.49
34:AA:3676:C:H2'	34:AA:3677:A:H8	1.77	0.49
34:AA:3729:A:H2'	34:AA:3730:C:C6	2.48	0.49
38:A1:85:TYR:HE1	38:A1:135:LYS:HE3	1.78	0.49
57:AK:108:PRO:HG2	57:AK:111:TYR:HD2	1.78	0.49
67:A3:17:LEU:HD23	67:A3:60:TYR:HD2	1.78	0.49
1:S1:5:PHE:O	8:SA:830:U:N3	2.45	0.49
7:S7:13:C:H2'	7:S7:14:A:C8	2.47	0.49
8:SA:99:C:H2'	8:SA:100:U:H6	1.77	0.49
8:SA:607:U:H2'	8:SA:608:A:H8	1.77	0.49
8:SA:1864:U:OP2	26:SS:39:GLY:N	2.46	0.49
12:SE:131:GLN:HB3	12:SE:133:HIS:CE1	2.48	0.49
24:SQ:109:ARG:HB3	24:SQ:112:HIS:HB2	1.94	0.49
26:SS:113:LEU:O	26:SS:116:MET:HG3	2.13	0.49
28:SU:73:ARG:HA	28:SU:76:ARG:HG2	1.95	0.49
34:AA:388:C:H2'	34:AA:389:U:H6	1.77	0.49
34:AA:2700:C:H2'	34:AA:2701:U:C6	2.48	0.49
34:AA:3025:U:H2'	34:AA:3026:G:O4'	2.12	0.49
34:AA:3402:A:H2'	34:AA:3403:A:H8	1.78	0.49
36:AB:5:U:H2'	36:AB:6:C:C6	2.48	0.49
38:A1:51:LEU:HD23	38:A1:51:LEU:O	2.12	0.49
51:AP:185:PRO:O	51:AP:186:SER:HB3	2.12	0.49
64:AY:108:TYR:OH	67:A3:26:LYS:NZ	2.36	0.49
66:AZ:54:GLU:HB3	66:AZ:107:LYS:HB3	1.94	0.49
73:AU:115:LEU:O	73:AU:119:MET:HG2	2.12	0.49
73:AU:116:TYR:HE1	73:AU:132:ILE:HD11	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:S8:21:SER:OG	79:S8:44:ASP:OD2	2.26	0.49
8:SA:109:C:H2'	8:SA:110:A:H8	1.76	0.49
8:SA:258:A:H2'	8:SA:259:A:O4'	2.13	0.49
8:SA:335:G:H2'	8:SA:336:G:C8	2.47	0.49
8:SA:454:U:H2'	8:SA:455:C:C6	2.47	0.49
8:SA:1061:A:H2'	8:SA:1062:A:H5'	1.95	0.49
8:SA:1243:A:H2'	8:SA:1244:A:H8	1.78	0.49
8:SA:1455:C:O2'	8:SA:1456:G:H5''	2.13	0.49
8:SA:1456:G:C2	8:SA:1607:U:O2	2.65	0.49
8:SA:1980:A:N7	8:SA:2011:G:C2	2.80	0.49
9:SB:193:ILE:O	9:SB:197:ILE:HG12	2.13	0.49
10:SC:56:LYS:NZ	10:SC:159:ALA:O	2.44	0.49
13:SF:87:MET:HE1	13:SF:100:ARG:HD3	1.94	0.49
13:SF:209:HIS:CE1	13:SF:219:ALA:HB2	2.47	0.49
22:SO:15:PRO:HB2	22:SO:17:GLN:HE21	1.77	0.49
34:AA:217:A:O2'	71:AF:223:ASN:ND2	2.44	0.49
34:AA:295:G:H2'	34:AA:296:A:C8	2.47	0.49
34:AA:378:U:H2'	34:AA:379:G:O4'	2.12	0.49
34:AA:416:G:N2	35:AC:20:G:O2'	2.45	0.49
34:AA:944:U:H5''	34:AA:2019:A:N1	2.28	0.49
34:AA:1185:A:O2'	75:AV:109:ARG:NH1	2.33	0.49
34:AA:3408:G:O2'	34:AA:3417:G:O6	2.27	0.49
34:AA:3771:C:H2'	34:AA:3772:C:C6	2.48	0.49
36:AB:45:U:H2'	36:AB:46:C:C6	2.48	0.49
54:AI:30:ASN:HA	54:AI:36:ARG:HG2	1.93	0.49
3:S3:51:ARG:NH2	3:S3:52:ASP:OD1	2.45	0.49
8:SA:5:U:H2'	8:SA:6:G:H8	1.77	0.49
8:SA:423:A:H4'	8:SA:424:G:O5'	2.12	0.49
17:SJ:175:VAL:HA	17:SJ:178:LYS:HG2	1.94	0.49
19:SL:83:TYR:HB2	19:SL:212:MET:HE1	1.94	0.49
24:SQ:26:ASP:N	24:SQ:26:ASP:OD1	2.45	0.49
25:SR:31:ASN:O	25:SR:35:HIS:ND1	2.45	0.49
25:SR:38:LEU:HD13	25:SR:97:ALA:HB1	1.93	0.49
26:SS:110:ARG:O	26:SS:114:GLU:HG2	2.13	0.49
34:AA:26:A:H2'	34:AA:27:U:H6	1.76	0.49
34:AA:1066:U:H2'	34:AA:1067:U:C6	2.47	0.49
34:AA:1634:G:H5'	34:AA:2141:G:H21	1.78	0.49
34:AA:1819:U:H2'	34:AA:1820:U:C6	2.48	0.49
34:AA:2099:C:OP1	64:AY:168:LYS:NZ	2.42	0.49
34:AA:3497:A:H2'	34:AA:3498:A:O4'	2.13	0.49
34:AA:3784:U:H2'	34:AA:3785:G:C8	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A6:46:ILE:HD13	41:A6:71:HIS:HB3	1.94	0.49
44:A8:99:VAL:O	44:A8:104:ARG:NH2	2.46	0.49
46:Aa:92:PHE:HD2	46:Aa:93:LEU:HD12	1.78	0.49
58:AM:75:VAL:C	58:AM:76:LEU:HD12	2.38	0.49
59:AS:67:LEU:HG	59:AS:97:LEU:HD21	1.94	0.49
67:A3:4:VAL:HG12	67:A3:55:ARG:HH22	1.78	0.49
69:AD:206:PRO:HG3	69:AD:213:GLY:HA2	1.95	0.49
74:AH:56:VAL:HG12	74:AH:69:ILE:HD11	1.94	0.49
79:S8:211:PRO:HG2	79:S8:252:PRO:HA	1.94	0.49
8:SA:15:U:H2'	8:SA:16:G:O4'	2.13	0.49
8:SA:391:A:H2'	8:SA:392:G:C8	2.48	0.49
8:SA:1363:U:H2'	8:SA:1364:G:C8	2.48	0.49
8:SA:1367:U:H2'	8:SA:1368:G:C8	2.48	0.49
8:SA:1437:U:H2'	8:SA:1438:A:C8	2.48	0.49
8:SA:1708:G:H2'	8:SA:1709:C:C6	2.47	0.49
9:SB:133:TYR:CD2	9:SB:181:LEU:HD13	2.48	0.49
10:SC:15:ALA:O	10:SC:19:ILE:HG23	2.13	0.49
26:SS:42:MET:HA	26:SS:45:VAL:HG12	1.94	0.49
34:AA:929:G:H2'	34:AA:930:C:H6	1.77	0.49
34:AA:2085:A:H2'	34:AA:2086:A:C8	2.48	0.49
34:AA:2624:C:H2'	34:AA:2625:A:H8	1.78	0.49
34:AA:2884:G:OP1	69:AD:87:TYR:OH	2.30	0.49
34:AA:2959:G:HO2'	34:AA:2960:G:P	2.36	0.49
34:AA:3138:A:O2'	34:AA:3139:C:O4'	2.13	0.49
34:AA:3277:G:H2'	34:AA:3278:A:C8	2.44	0.49
35:AC:74:A:H3'	66:AZ:113:ASN:ND2	2.28	0.49
37:AL:52:LYS:HD2	37:AL:93:GLY:HA2	1.95	0.49
44:A8:95:ILE:HG21	44:A8:104:ARG:HG3	1.95	0.49
59:AS:123:ASP:OD2	71:AF:286:ASN:N	2.38	0.49
70:AE:57:VAL:HG22	70:AE:73:VAL:HG22	1.95	0.49
71:AF:153:VAL:HG12	71:AF:252:TRP:HB2	1.95	0.49
74:AH:47:LEU:HD13	74:AH:54:ILE:HG12	1.95	0.49
5:S5:8:LYS:N	5:S5:28:GLN:HB2	2.25	0.48
8:SA:1440:C:H2'	8:SA:1441:C:C6	2.48	0.48
8:SA:1650:A:H2'	8:SA:1651:C:C6	2.48	0.48
8:SA:1679:G:H2'	8:SA:1680:U:C6	2.47	0.48
9:SB:97:TYR:OH	55:AJ:283:LEU:HD22	2.13	0.48
15:SH:39:ASP:OD1	15:SH:40:SER:N	2.45	0.48
16:SI:129:ALA:HB3	16:SI:195:ARG:HD3	1.95	0.48
17:SJ:78:ARG:HH11	17:SJ:133:PRO:HB3	1.78	0.48
18:SK:87:GLU:HA	18:SK:90:ILE:HG22	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:702:U:H2'	34:AA:703:U:H6	1.78	0.48
34:AA:1618:C:H2'	34:AA:1658:G:H1	1.78	0.48
34:AA:2404:A:O3'	78:A0:51:LYS:NZ	2.46	0.48
55:AJ:236:LYS:HD3	55:AJ:240:ASN:HB2	1.95	0.48
57:AK:30:GLN:OE1	57:AK:31:ARG:N	2.46	0.48
59:AS:148:GLU:OE1	59:AS:148:GLU:N	2.46	0.48
60:AO:99:VAL:HG22	60:AO:123:VAL:HB	1.95	0.48
62:AR:59:GLN:HB2	62:AR:80:SER:HB2	1.95	0.48
68:A5:119:GLN:HB2	68:A5:122:ASN:CG	2.38	0.48
70:AE:55:HIS:NE2	70:AE:357:ASP:OD2	2.45	0.48
70:AE:92:TYR:HB2	70:AE:154:VAL:HB	1.95	0.48
1:S1:27:ILE:HG13	1:S1:70:THR:HB	1.96	0.48
8:SA:156:A:H3'	8:SA:157:G:H5''	1.95	0.48
8:SA:410:G:H2'	8:SA:411:C:C6	2.48	0.48
8:SA:910:A:H2'	8:SA:911:U:C6	2.48	0.48
8:SA:1908:A:O5'	16:SI:65:ASN:ND2	2.46	0.48
13:SF:15:PRO:HD2	13:SF:18:TRP:CD2	2.48	0.48
14:SG:59:ILE:HG13	14:SG:78:PHE:HD1	1.79	0.48
34:AA:39:A:H61	34:AA:42:C:H3'	1.79	0.48
34:AA:356:A:N3	34:AA:360:A:O2'	2.46	0.48
34:AA:388:C:H2'	34:AA:389:U:C6	2.48	0.48
34:AA:914:G:H2'	34:AA:915:G:C8	2.48	0.48
34:AA:1472:A:H5'	68:A5:170:ARG:HG2	1.94	0.48
34:AA:1647:U:H2'	34:AA:1648:U:H6	1.78	0.48
34:AA:3166:U:O2'	34:AA:3168:C:OP1	2.29	0.48
34:AA:3379:A:H2'	34:AA:3380:U:O4'	2.13	0.48
34:AA:3655:U:H2'	34:AA:3656:A:C8	2.48	0.48
43:AN:23:ARG:HA	43:AN:29:ARG:HH22	1.78	0.48
58:AM:98:GLU:OE1	58:AM:98:GLU:N	2.41	0.48
69:AD:117:GLU:HA	69:AD:125:THR:HG22	1.94	0.48
72:AG:20:ASN:HB3	72:AG:126:ASP:HB2	1.95	0.48
78:A0:10:THR:HG21	78:A0:21:TYR:CD1	2.48	0.48
8:SA:936:A:OP1	28:SU:121:LYS:NZ	2.46	0.48
8:SA:954:G:H2'	8:SA:955:U:H6	1.78	0.48
8:SA:1076:C:H2'	8:SA:1077:G:C8	2.44	0.48
8:SA:1277:G:C6	8:SA:1710:G:C6	3.01	0.48
8:SA:1822:A:N1	8:SA:1905:C:H1'	2.28	0.48
8:SA:1976:G:H5''	8:SA:1976:G:H8	1.78	0.48
15:SH:32:ILE:HD11	15:SH:65:GLN:HB2	1.94	0.48
34:AA:11:A:N6	35:AC:154:G:C6	2.77	0.48
34:AA:106:A:N3	34:AA:333:A:O2'	2.35	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:291:A:H2	53:AI:35:SER:HB3	1.78	0.48
34:AA:672:C:H5''	68:A5:54:ARG:HH12	1.79	0.48
34:AA:690:U:H2'	34:AA:691:C:C6	2.48	0.48
34:AA:1031:G:N2	34:AA:1036:A:N7	2.62	0.48
34:AA:1236:U:H2'	34:AA:1237:C:C6	2.48	0.48
34:AA:1338:U:H2'	34:AA:1339:U:C6	2.48	0.48
34:AA:1442:C:O2'	34:AA:1446:A:O2'	2.24	0.48
34:AA:1841:U:O2'	34:AA:1842:U:OP1	2.26	0.48
34:AA:2011:U:C2	34:AA:2012:A:C8	3.01	0.48
34:AA:3523:U:H2'	34:AA:3524:G:C8	2.48	0.48
34:AA:3567:U:C4	63:AW:153:ILE:HD11	2.47	0.48
34:AA:3784:U:H2'	34:AA:3785:G:H8	1.78	0.48
36:AB:115:G:H2'	36:AB:116:U:H6	1.79	0.48
46:Aa:7:TYR:HD2	46:Aa:12:HIS:HA	1.78	0.48
54:AI:75:THR:HG21	54:AI:86:VAL:HG23	1.94	0.48
54:AI:160:ASN:HA	54:AI:163:ILE:HG12	1.95	0.48
61:AQ:82:LYS:HA	61:AQ:85:PHE:HE1	1.78	0.48
71:AF:13:THR:HA	71:AF:170:PHE:HE1	1.78	0.48
76:Ag:7:ARG:HG3	76:Ag:17:TRP:CE2	2.48	0.48
3:S3:13:HIS:ND1	8:SA:1177:A:O5'	2.46	0.48
8:SA:26:A:N6	8:SA:608:A:N6	2.62	0.48
8:SA:886:U:H2'	8:SA:887:A:C8	2.49	0.48
8:SA:951:U:H5'	52:Ah:84:ARG:NH1	2.28	0.48
8:SA:1308:C:H42	8:SA:1702:C:N4	2.10	0.48
8:SA:1633:A:H2'	8:SA:1657:A:N1	2.29	0.48
34:AA:115:A:C5	34:AA:116:A:C2	3.01	0.48
34:AA:308:U:O2'	34:AA:309:G:H8	1.96	0.48
34:AA:495:U:C2	34:AA:496:C:C5	3.01	0.48
34:AA:573:U:H2'	34:AA:574:G:C8	2.47	0.48
34:AA:656:U:H2'	34:AA:657:A:C8	2.49	0.48
34:AA:939:A:H2'	34:AA:940:A:C8	2.48	0.48
34:AA:1640:G:H5''	56:Ac:17:LYS:HZ2	1.79	0.48
34:AA:2516:A:O3'	47:Ab:81:LYS:NZ	2.46	0.48
34:AA:2741:A:H2'	34:AA:2742:G:C8	2.48	0.48
34:AA:3023:C:H2'	34:AA:3024:U:H6	1.78	0.48
34:AA:3106:U:O2'	53:AI:29:LYS:O	2.31	0.48
34:AA:3310:G:H2'	34:AA:3311:G:C8	2.48	0.48
34:AA:3435:A:H4'	70:AE:361:LYS:HE3	1.95	0.48
34:AA:3675:A:H2'	34:AA:3676:C:C6	2.48	0.48
71:AF:221:PHE:HB2	71:AF:229:LEU:HD11	1.95	0.48
74:AH:34:LEU:HD12	74:AH:79:MET:HG3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:S7:22:A:H2'	7:S7:23:G:H8	1.78	0.48
8:SA:99:C:H2'	8:SA:100:U:C6	2.48	0.48
8:SA:162:A:H2'	8:SA:163:G:C8	2.47	0.48
8:SA:469:U:H2'	8:SA:470:A:C8	2.48	0.48
8:SA:1017:G:H2'	8:SA:1018:U:C6	2.48	0.48
8:SA:1029:U:O5'	28:SU:55:ARG:NH1	2.47	0.48
8:SA:1200:U:O4	14:SG:180:ARG:NH1	2.47	0.48
8:SA:1956:A:H2'	8:SA:1957:A:H8	1.77	0.48
34:AA:65:A:H5''	34:AA:66:A:H4'	1.95	0.48
34:AA:94:G:H2'	34:AA:95:A:C8	2.49	0.48
34:AA:171:C:H5'	37:AL:133:LYS:HD3	1.95	0.48
34:AA:183:U:N3	34:AA:249:U:O2	2.47	0.48
34:AA:878:G:H2'	34:AA:879:U:C6	2.49	0.48
34:AA:1172:C:H2'	34:AA:1173:U:C6	2.48	0.48
34:AA:1504:A:OP2	39:A2:10:TRP:NE1	2.39	0.48
34:AA:2679:A:N7	34:AA:3353:A:N6	2.62	0.48
34:AA:3403:A:H2'	34:AA:3404:C:C6	2.49	0.48
34:AA:3655:U:H2'	34:AA:3656:A:H8	1.79	0.48
34:AA:3655:U:O4	34:AA:3656:A:N6	2.47	0.48
56:Ac:30:TYR:HA	56:Ac:37:CYS:HA	1.94	0.48
71:AF:13:THR:HA	71:AF:170:PHE:CE1	2.48	0.48
1:S1:18:LEU:HB3	1:S1:20:ARG:HE	1.78	0.48
8:SA:984:A:H61	23:SP:55:ARG:NH1	2.12	0.48
8:SA:1167:U:O2'	9:SB:148:ASN:OD1	2.31	0.48
8:SA:1279:G:H3'	8:SA:1280:G:H8	1.79	0.48
12:SE:71:PHE:HE1	13:SF:252:ARG:HG3	1.78	0.48
30:SW:102:THR:O	30:SW:106:ILE:HG12	2.14	0.48
31:SX:34:ILE:HB	31:SX:42:ARG:HA	1.95	0.48
34:AA:684:G:H1	71:AF:311:LYS:HE3	1.79	0.48
34:AA:922:C:H4'	71:AF:94:ASN:ND2	2.29	0.48
34:AA:941:G:H2'	34:AA:942:C:H6	1.79	0.48
34:AA:1788:C:H2'	34:AA:1789:A:C8	2.47	0.48
34:AA:2002:G:H1'	34:AA:2003:G:C8	2.47	0.48
34:AA:2031:A:C6	34:AA:2032:A:C6	3.02	0.48
34:AA:3443:A:N6	34:AA:3470:G:O2'	2.47	0.48
34:AA:3591:U:P	74:AH:23:ARG:HH12	2.36	0.48
34:AA:3619:U:H2'	34:AA:3620:C:H6	1.78	0.48
35:AC:25:C:OP1	71:AF:195:LYS:NZ	2.41	0.48
44:A8:67:LEU:HG	44:A8:68:PRO:HD2	1.95	0.48
52:Ah:18:TYR:CG	69:AD:180:LEU:HD12	2.49	0.48
61:AQ:162:ARG:HH12	73:AU:94:THR:HB	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:AW:6:LYS:HD2	63:AW:116:HIS:HB2	1.95	0.48
67:A3:89:ASN:O	67:A3:93:GLN:HB2	2.13	0.48
79:S8:51:ASN:HB3	79:S8:63:THR:OG1	2.14	0.48
79:S8:138:ILE:HG21	79:S8:151:ILE:HD12	1.96	0.48
79:S8:249:CYS:SG	79:S8:258:CYS:HB3	2.54	0.48
4:S4:18:LYS:HG3	4:S4:19:LEU:O	2.14	0.48
6:S6:33:ARG:HH22	8:SA:483:A:HO2'	1.60	0.48
8:SA:331:G:H2'	8:SA:332:U:C6	2.48	0.48
8:SA:364:U:H2'	8:SA:366:A:C8	2.48	0.48
8:SA:1256:G:H2'	8:SA:1257:C:H6	1.78	0.48
8:SA:1639:G:H2'	8:SA:1640:U:C6	2.48	0.48
8:SA:1800:A:N3	8:SA:1860:A:H1'	2.28	0.48
8:SA:1846:U:H3	8:SA:1859:A:H2	1.61	0.48
15:SH:121:ILE:H	15:SH:125:THR:HG22	1.79	0.48
18:SK:11:LEU:HD22	18:SK:74:VAL:HG23	1.96	0.48
23:SP:100:SER:OG	23:SP:101:GLY:N	2.38	0.48
24:SQ:142:LYS:NZ	24:SQ:143:PRO:O	2.42	0.48
25:SR:29:ILE:HG21	25:SR:93:LEU:HD22	1.95	0.48
26:SS:119:ILE:HD13	31:SX:114:TYR:HE2	1.79	0.48
31:SX:30:GLN:O	31:SX:34:ILE:HG23	2.13	0.48
34:AA:114:A:OP1	51:AP:54:LYS:NZ	2.47	0.48
34:AA:276:G:H5''	51:AP:14:LYS:HE2	1.95	0.48
34:AA:644:G:H3'	54:AI:32:LYS:HB2	1.94	0.48
34:AA:1047:A:H2'	34:AA:1048:G:C8	2.49	0.48
34:AA:1096:G:N1	34:AA:1097:A:N1	2.62	0.48
34:AA:2441:U:H2'	34:AA:2442:A:C8	2.49	0.48
34:AA:2716:U:H2'	34:AA:2717:A:C8	2.48	0.48
34:AA:3077:A:H2'	34:AA:3078:A:C8	2.46	0.48
34:AA:3494:C:H2'	34:AA:3495:U:C6	2.49	0.48
34:AA:3538:A:N6	34:AA:3546:C:O2'	2.47	0.48
35:AC:44:A:OP2	35:AC:106:G:N1	2.32	0.48
44:A8:61:LYS:HA	44:A8:64:LYS:HB2	1.95	0.48
62:AR:48:LYS:HE3	62:AR:147:PHE:CE1	2.49	0.48
79:S8:76:ASN:HD22	79:S8:118:PHE:HA	1.77	0.48
79:S8:266:ARG:NE	79:S8:278:GLU:OE2	2.43	0.48
8:SA:619:U:H4'	8:SA:1201:G:C6	2.48	0.48
8:SA:1227:G:OP2	76:Ag:32:ARG:NH2	2.47	0.48
8:SA:1632:G:H2'	8:SA:1633:A:H8	1.78	0.48
8:SA:1836:G:O2'	8:SA:1837:G:H5'	2.14	0.48
8:SA:1846:U:C4	8:SA:1847:A:N7	2.81	0.48
8:SA:1981:A:N6	8:SA:2009:C:H42	2.08	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:SD:24:PHE:O	11:SD:28:ILE:HG12	2.14	0.48
13:SF:174:LYS:HD2	13:SF:176:GLN:HE22	1.78	0.48
16:SI:23:ASP:HB2	16:SI:26:LEU:HG	1.95	0.48
18:SK:103:ILE:HD13	18:SK:112:ASP:HB3	1.96	0.48
29:SV:7:VAL:HG11	29:SV:55:VAL:HG22	1.95	0.48
34:AA:14:U:O3'	64:AY:89:ARG:NH2	2.47	0.48
34:AA:492:U:H2'	34:AA:493:C:C6	2.49	0.48
34:AA:1285:U:OP1	68:A5:99:LYS:NZ	2.39	0.48
34:AA:1472:A:H2'	34:AA:1473:A:C8	2.47	0.48
34:AA:1474:A:H2'	34:AA:1475:G:H8	1.79	0.48
34:AA:3067:G:H5''	75:AV:84:ARG:NH2	2.26	0.48
34:AA:3739:A:O2'	34:AA:3740:A:H5'	2.14	0.48
35:AC:146:C:H2'	35:AC:147:U:H6	1.78	0.48
38:A1:10:VAL:O	38:A1:83:THR:HG22	2.14	0.48
44:A8:36:ARG:HH21	60:AO:14:HIS:CE1	2.32	0.48
51:AP:38:ARG:HA	51:AP:62:TYR:HD1	1.79	0.48
61:AQ:91:ILE:HG13	61:AQ:127:ALA:HB1	1.95	0.48
62:AR:119:PHE:CZ	62:AR:143:PRO:HA	2.49	0.48
78:A0:62:TRP:HE3	78:A0:63:ARG:HD2	1.79	0.48
79:S8:16:LEU:HD23	79:S8:50:TRP:CD2	2.49	0.48
1:S1:87:GLU:OE2	1:S1:91:ARG:HD2	2.14	0.48
8:SA:886:U:O4	8:SA:916:G:O6	2.32	0.48
8:SA:1246:U:C2	8:SA:1247:G:C8	3.01	0.48
8:SA:1883:A:H3'	8:SA:1884:A:H8	1.78	0.48
8:SA:2077:U:H2'	8:SA:2078:G:H8	1.79	0.48
11:SD:34:TYR:CE2	11:SD:100:MET:HE3	2.49	0.48
34:AA:305:A:H4'	34:AA:306:C:H5''	1.96	0.48
34:AA:497:U:H2'	34:AA:498:U:C6	2.49	0.48
34:AA:694:U:OP2	54:AI:147:LYS:NZ	2.33	0.48
34:AA:1108:U:H2'	34:AA:1109:U:H6	1.79	0.48
34:AA:1881:C:O2'	34:AA:1882:U:O5'	2.21	0.48
34:AA:1999:A:O2'	34:AA:2000:G:OP1	2.27	0.48
34:AA:2414:G:H2'	34:AA:2415:G:O3'	2.14	0.48
34:AA:2460:A:H2'	34:AA:2461:A:C8	2.48	0.48
34:AA:2578:C:H2'	34:AA:2579:U:C5	2.48	0.48
34:AA:2719:U:H2'	34:AA:2720:C:C6	2.49	0.48
38:A1:9:LYS:HB2	38:A1:86:GLN:HE22	1.79	0.48
38:A1:123:LEU:O	55:AJ:42:ASN:ND2	2.47	0.48
46:Aa:5:VAL:HG21	46:Aa:32:ILE:HD11	1.94	0.48
51:AP:135:VAL:HG11	51:AP:151:ILE:HD13	1.95	0.48
52:Ah:69:TRP:CZ3	69:AD:176:ASP:HB2	2.45	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:AJ:176:PRO:HG2	55:AJ:179:LEU:HD21	1.94	0.48
68:A5:141:PRO:HA	68:A5:242:TRP:CE3	2.49	0.48
79:S8:215:LEU:HD13	79:S8:255:TYR:HE1	1.79	0.48
8:SA:827:C:H2'	8:SA:828:A:H8	1.78	0.48
8:SA:828:A:N6	8:SA:846:G:C6	2.82	0.48
8:SA:1795:G:C6	8:SA:1796:C:C4	3.02	0.48
8:SA:2006:U:H2'	8:SA:2007:U:H6	1.77	0.48
11:SD:143:LEU:O	11:SD:143:LEU:HD23	2.13	0.48
11:SD:178:LEU:HG	11:SD:179:LYS:H	1.79	0.48
13:SF:159:THR:HG22	13:SF:173:LEU:HB2	1.96	0.48
17:SJ:134:SER:HB3	17:SJ:158:LYS:HB2	1.96	0.48
30:SW:10:LYS:HA	30:SW:53:PHE:HE2	1.79	0.48
34:AA:53:G:OP1	56:Ac:51:ASN:N	2.41	0.48
34:AA:142:C:H2'	34:AA:143:C:C6	2.49	0.48
34:AA:154:A:OP2	55:AJ:210:LYS:HD2	2.14	0.48
34:AA:371:G:OP2	56:Ac:59:ARG:NH2	2.47	0.48
34:AA:721:U:HO2'	34:AA:722:G:P	2.35	0.48
34:AA:1072:A:OP1	40:A4:15:LYS:NZ	2.35	0.48
34:AA:1589:G:H2'	34:AA:1590:G:C8	2.48	0.48
34:AA:1694:G:N2	34:AA:1697:A:OP2	2.47	0.48
34:AA:1784:G:O2'	34:AA:1786:A:N6	2.47	0.48
34:AA:3590:A:N1	74:AH:59:TRP:HD1	2.11	0.48
34:AA:3759:U:OP2	78:A0:68:LYS:NZ	2.47	0.48
36:AB:61:G:O3'	62:AR:281:ARG:NH1	2.43	0.48
44:A8:85:ILE:HG12	44:A8:114:MET:HE3	1.96	0.48
48:Ad:25:ILE:O	48:Ad:26:MET:HE2	2.13	0.48
51:AP:6:TYR:O	51:AP:10:ILE:HG23	2.13	0.48
55:AJ:116:TYR:CE2	55:AJ:220:VAL:HG12	2.49	0.48
3:S3:67:LEU:HD12	3:S3:68:TYR:N	2.27	0.47
8:SA:258:A:O2'	19:SL:73:SER:O	2.30	0.47
8:SA:1424:A:H2'	8:SA:1425:C:C6	2.49	0.47
8:SA:1808:G:H2'	8:SA:1809:G:C8	2.49	0.47
18:SK:14:ILE:O	18:SK:18:GLU:OE1	2.32	0.47
34:AA:1006:G:H2'	34:AA:1007:U:C6	2.49	0.47
34:AA:1556:G:H2'	34:AA:1557:U:C6	2.49	0.47
34:AA:1632:G:O2'	34:AA:1633:U:O5'	2.30	0.47
34:AA:2106:A:H5'	34:AA:2107:C:C5	2.48	0.47
34:AA:3256:C:OP2	50:Af:48:LYS:NZ	2.45	0.47
35:AC:145:A:O2'	35:AC:146:C:OP1	2.28	0.47
40:A4:25:LYS:HD2	40:A4:27:HIS:CE1	2.49	0.47
42:A7:106:VAL:HG21	42:A7:112:LEU:HD11	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:S8:226:LYS:HB3	79:S8:235:HIS:CD2	2.49	0.47
8:SA:1110:G:H2'	8:SA:1111:U:C6	2.48	0.47
8:SA:1248:A:H2'	8:SA:1249:C:C6	2.49	0.47
8:SA:1431:A:C6	8:SA:1432:G:H1'	2.49	0.47
8:SA:1962:A:H2'	8:SA:1963:U:C6	2.49	0.47
8:SA:2065:C:H2'	8:SA:2066:G:C8	2.50	0.47
16:SI:22:ALA:HB1	16:SI:26:LEU:HB2	1.96	0.47
21:SN:64:THR:OG1	21:SN:77:ASP:OD1	2.33	0.47
32:SY:50:LYS:HB3	32:SY:133:LEU:HD11	1.97	0.47
34:AA:729:G:H2'	34:AA:730:G:C8	2.50	0.47
34:AA:1820:U:H2'	34:AA:1821:U:C6	2.49	0.47
34:AA:2170:G:H2'	34:AA:2171:U:O4'	2.14	0.47
34:AA:2640:U:H2'	34:AA:2641:A:O4'	2.13	0.47
34:AA:3020:U:H2'	34:AA:3021:C:C6	2.49	0.47
34:AA:3382:U:H2'	34:AA:3383:A:C8	2.50	0.47
34:AA:3567:U:H5'	63:AW:151:ARG:NH1	2.30	0.47
35:AC:32:C:H2'	35:AC:33:C:H6	1.79	0.47
44:A8:90:LYS:HE3	44:A8:91:TYR:HE2	1.78	0.47
74:AH:88:LEU:HA	74:AH:145:VAL:O	2.14	0.47
8:SA:125:G:H2'	8:SA:126:A:C8	2.47	0.47
8:SA:394:G:H2'	8:SA:395:G:C8	2.50	0.47
8:SA:822:G:N2	8:SA:824:A:H1'	2.30	0.47
8:SA:828:A:N6	8:SA:846:G:H1	2.12	0.47
8:SA:1079:C:H2'	8:SA:1080:G:O4'	2.14	0.47
8:SA:1840:A:N6	8:SA:1865:G:O4'	2.47	0.47
8:SA:2043:G:H2'	8:SA:2044:G:C8	2.50	0.47
9:SB:70:LEU:HD11	9:SB:84:ILE:HG23	1.97	0.47
9:SB:172:MET:SD	9:SB:173:THR:N	2.88	0.47
15:SH:160:ARG:C	15:SH:160:ARG:CD	2.85	0.47
18:SK:41:MET:HE1	18:SK:129:PHE:CZ	2.49	0.47
28:SU:4:MET:HE2	28:SU:124:ARG:NH2	2.29	0.47
29:SV:153:SER:HB3	29:SV:156:LYS:HG3	1.96	0.47
34:AA:61:A:O2'	34:AA:62:A:OP1	2.29	0.47
34:AA:514:C:H2'	34:AA:515:A:C8	2.50	0.47
34:AA:716:C:OP1	44:A8:21:GLN:NE2	2.47	0.47
34:AA:947:U:H2'	34:AA:948:G:C8	2.49	0.47
34:AA:1109:U:H2'	34:AA:1110:U:C6	2.50	0.47
34:AA:1655:U:H2'	34:AA:1659:A:H61	1.79	0.47
34:AA:2191:C:C4	34:AA:2197:G:N2	2.82	0.47
34:AA:3480:C:H2'	34:AA:3481:U:C6	2.49	0.47
38:A1:36:ARG:HB3	38:A1:38:TYR:CZ	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:A4:53:LYS:O	40:A4:56:GLU:HG3	2.14	0.47
57:AK:189:ASN:HB2	57:AK:192:GLN:OE1	2.14	0.47
58:AM:41:VAL:HG21	58:AM:53:ALA:C	2.39	0.47
69:AD:5:ILE:HG13	69:AD:208:GLU:O	2.14	0.47
69:AD:47:ASP:OD1	69:AD:48:ILE:N	2.47	0.47
8:SA:172:U:H3	8:SA:267:A:N6	2.04	0.47
8:SA:480:A:H4'	12:SE:130:ARG:NH2	2.30	0.47
8:SA:1293:C:OP2	8:SA:1294:A:O2'	2.28	0.47
8:SA:1444:C:H3'	8:SA:1445:U:H6	1.78	0.47
8:SA:1900:U:H2'	8:SA:1901:U:C6	2.49	0.47
8:SA:2028:U:H2'	8:SA:2029:A:C8	2.49	0.47
9:SB:45:LYS:HE3	23:SP:27:VAL:HG21	1.96	0.47
10:SC:175:TRP:HA	10:SC:201:PHE:HE2	1.79	0.47
13:SF:125:LYS:H	13:SF:142:HIS:CE1	2.33	0.47
17:SJ:119:LEU:HD11	17:SJ:123:TYR:CZ	2.49	0.47
18:SK:36:LYS:HB3	18:SK:110:ILE:HD11	1.94	0.47
24:SQ:46:SER:OG	24:SQ:47:SER:N	2.46	0.47
25:SR:111:ILE:HG22	25:SR:113:GLY:H	1.79	0.47
34:AA:615:U:C2	34:AA:616:U:C5	3.02	0.47
34:AA:1470:A:H2'	34:AA:1471:A:C8	2.50	0.47
34:AA:1849:U:O3'	46:Aa:24:ARG:NH1	2.36	0.47
34:AA:2021:A:H2'	34:AA:2022:A:C8	2.41	0.47
34:AA:2679:A:C5	34:AA:3353:A:C6	3.02	0.47
34:AA:2735:G:H2'	34:AA:2736:A:O4'	2.14	0.47
34:AA:3358:U:H2'	34:AA:3359:A:H8	1.78	0.47
34:AA:3413:A:O2'	34:AA:3414:G:OP1	2.30	0.47
34:AA:3587:U:H2'	34:AA:3588:A:C8	2.49	0.47
34:AA:3626:A:H2'	34:AA:3626:A:N3	2.28	0.47
34:AA:3768:A:N3	42:A7:26:LYS:HA	2.29	0.47
34:AA:3776:U:H2'	34:AA:3777:G:C8	2.50	0.47
41:A6:36:ALA:HA	41:A6:41:LYS:HZ1	1.79	0.47
59:AS:133:LYS:HG2	59:AS:134:LYS:HG3	1.97	0.47
67:A3:62:GLN:O	67:A3:66:MET:HG2	2.14	0.47
70:AE:63:PRO:HA	70:AE:68:HIS:HE1	1.79	0.47
71:AF:140:ARG:NH1	71:AF:142:HIS:HE1	2.12	0.47
71:AF:144:ILE:HD13	71:AF:249:LEU:HD22	1.97	0.47
6:S6:14:VAL:HA	6:S6:17:GLN:HG2	1.97	0.47
7:S7:14:A:H2'	7:S7:15:G:H8	1.75	0.47
8:SA:389:G:C2	8:SA:390:G:C8	3.03	0.47
8:SA:441:U:O4	24:SQ:46:SER:OG	2.17	0.47
8:SA:844:G:O2'	8:SA:845:U:O5'	2.24	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1392:C:H2'	8:SA:1393:G:H8	1.79	0.47
8:SA:1417:U:H2'	8:SA:1418:C:H6	1.80	0.47
8:SA:1445:U:H2'	8:SA:1446:A:O4'	2.14	0.47
8:SA:1696:A:H4'	27:ST:7:VAL:HG12	1.96	0.47
26:SS:113:LEU:O	26:SS:117:LYS:HG2	2.15	0.47
34:AA:260:G:H2'	34:AA:261:A:H8	1.79	0.47
34:AA:501:U:H2'	34:AA:502:U:C6	2.49	0.47
34:AA:922:C:H4'	71:AF:94:ASN:HD21	1.78	0.47
34:AA:937:C:H2'	34:AA:938:U:O4'	2.15	0.47
34:AA:1089:U:H2'	34:AA:1090:G:C8	2.50	0.47
34:AA:1175:C:H2'	34:AA:1176:C:C6	2.50	0.47
34:AA:1787:A:N3	34:AA:1866:C:H1'	2.29	0.47
34:AA:2650:A:H2'	34:AA:2651:A:C8	2.48	0.47
34:AA:3320:G:H2'	34:AA:3321:U:C6	2.50	0.47
36:AB:83:G:H4'	68:A5:231:ARG:HG2	1.97	0.47
61:AQ:55:TYR:HA	61:AQ:131:ILE:HG13	1.96	0.47
68:A5:57:THR:OG1	68:A5:195:GLU:HG2	2.15	0.47
69:AD:229:ALA:HB1	69:AD:233:GLN:HB3	1.96	0.47
79:S8:304:LEU:HB3	79:S8:316:TYR:HB2	1.95	0.47
3:S3:5:ARG:NH2	8:SA:2087:U:H3'	2.30	0.47
8:SA:438:G:H2'	8:SA:439:C:C6	2.48	0.47
8:SA:811:G:OP1	12:SE:51:LYS:NZ	2.42	0.47
8:SA:1661:U:O4	8:SA:1662:A:N6	2.47	0.47
8:SA:1696:A:H5'	22:SO:39:LYS:NZ	2.30	0.47
8:SA:2018:C:H2'	8:SA:2019:C:C6	2.50	0.47
13:SF:180:LEU:N	13:SF:229:GLY:O	2.48	0.47
19:SL:84:ASN:ND2	19:SL:86:SER:OG	2.48	0.47
19:SL:212:MET:O	19:SL:217:ARG:NH2	2.43	0.47
20:SM:11:PHE:CE1	20:SM:88:LYS:HE2	2.50	0.47
20:SM:91:ILE:HD12	20:SM:103:LYS:HE2	1.96	0.47
34:AA:90:C:H2'	34:AA:91:G:O4'	2.15	0.47
34:AA:245:U:O2'	34:AA:246:U:H5'	2.14	0.47
34:AA:514:C:H2'	34:AA:515:A:H8	1.80	0.47
34:AA:593:A:C6	43:AN:6:LEU:CD2	2.91	0.47
34:AA:1048:G:H2'	34:AA:1049:C:C6	2.50	0.47
34:AA:1587:U:H2'	34:AA:1588:U:C6	2.50	0.47
34:AA:2525:A:H2'	34:AA:2526:A:H8	1.78	0.47
34:AA:3327:G:H2'	34:AA:3328:A:H8	1.80	0.47
34:AA:3617:A:O2'	34:AA:3618:A:OP2	2.32	0.47
35:AC:62:G:N7	56:Ac:66:ARG:NH2	2.63	0.47
36:AB:104:C:OP1	61:AQ:201:ARG:NH1	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Ab:98:GLN:HA	47:Ab:101:VAL:HG12	1.97	0.47
51:AP:78:GLY:O	51:AP:79:VAL:HG12	2.15	0.47
51:AP:159:GLU:OE1	51:AP:159:GLU:N	2.36	0.47
58:AM:126:GLU:N	58:AM:126:GLU:OE1	2.48	0.47
64:AY:107:LYS:HD2	64:AY:146:SER:HA	1.97	0.47
65:AT:2:SER:C	65:AT:3:LEU:HD12	2.40	0.47
4:S4:81:ILE:HD12	28:SU:25:TRP:HZ3	1.79	0.47
5:S5:58:ARG:HE	5:S5:59:LEU:N	2.13	0.47
8:SA:34:G:H1	8:SA:480:A:H2	1.63	0.47
8:SA:100:U:H2'	8:SA:101:C:C6	2.50	0.47
8:SA:291:A:O2'	8:SA:292:G:OP1	2.30	0.47
8:SA:387:C:H2'	8:SA:388:C:C6	2.50	0.47
8:SA:632:C:H2'	8:SA:633:U:H6	1.76	0.47
8:SA:950:A:O2'	52:Ah:84:ARG:NH1	2.48	0.47
8:SA:1724:U:O4	8:SA:1725:A:N6	2.48	0.47
8:SA:1834:A:O2'	8:SA:1868:C:N4	2.48	0.47
8:SA:1836:G:C8	26:SS:30:ILE:HG21	2.49	0.47
8:SA:2011:G:H2'	8:SA:2012:G:O4'	2.14	0.47
8:SA:2053:U:O2'	8:SA:2054:A:OP2	2.26	0.47
15:SH:131:LYS:O	15:SH:132:LYS:HG2	2.15	0.47
16:SI:39:TYR:OH	20:SM:54:TRP:HE3	1.97	0.47
18:SK:71:LYS:HB3	18:SK:130:PHE:CE1	2.50	0.47
21:SN:65:ARG:NH2	21:SN:74:ASN:OD1	2.47	0.47
26:SS:61:LEU:HD22	26:SS:65:GLU:OE1	2.15	0.47
34:AA:162:U:H6	67:A3:105:ARG:HH22	1.63	0.47
34:AA:338:U:H2'	34:AA:339:G:C8	2.50	0.47
34:AA:505:A:O2'	34:AA:506:A:OP1	2.29	0.47
34:AA:622:U:H2'	34:AA:623:U:C6	2.49	0.47
34:AA:736:G:C6	34:AA:737:G:C6	3.02	0.47
34:AA:767:U:H1'	34:AA:773:A:N6	2.30	0.47
34:AA:942:C:H2'	34:AA:943:G:C8	2.49	0.47
34:AA:950:G:H2'	34:AA:951:A:O4'	2.15	0.47
34:AA:1485:A:H2'	34:AA:1486:A:C8	2.50	0.47
34:AA:1588:U:H2'	34:AA:1589:G:C8	2.50	0.47
34:AA:1590:G:H4'	35:AC:19:G:H4'	1.95	0.47
34:AA:1601:A:OP1	34:AA:2148:U:H5'	2.15	0.47
34:AA:1739:C:H2'	34:AA:1740:A:C8	2.49	0.47
34:AA:1883:U:H2'	34:AA:1884:G:C8	2.50	0.47
34:AA:1911:A:C6	34:AA:1959:G:C6	3.03	0.47
34:AA:2709:U:H2'	34:AA:2710:U:C6	2.49	0.47
34:AA:2917:C:H2'	34:AA:2918:C:C6	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:2994:A:C2	53:AI:5:PRO:HG3	2.49	0.47
34:AA:3113:U:H2'	34:AA:3114:G:H8	1.80	0.47
34:AA:3261:A:OP1	74:AH:169:LYS:NZ	2.43	0.47
34:AA:3406:U:H3'	34:AA:3407:G:C8	2.49	0.47
34:AA:3474:C:OP1	70:AE:219:LYS:NZ	2.42	0.47
34:AA:3691:C:H2'	34:AA:3692:A:O4'	2.15	0.47
34:AA:3707:U:H2'	34:AA:3708:U:C6	2.50	0.47
35:AC:156:A:O2'	35:AC:157:A:H8	1.97	0.47
36:AB:113:G:O2'	62:AR:73:LYS:NZ	2.48	0.47
39:A2:49:LEU:HD23	39:A2:49:LEU:H	1.80	0.47
43:AN:29:ARG:HD2	43:AN:29:ARG:HA	1.73	0.47
45:A9:117:PHE:CD2	45:A9:121:ILE:HD11	2.50	0.47
46:Aa:10:HIS:ND1	46:Aa:10:HIS:O	2.48	0.47
47:Ab:47:VAL:HG21	51:AP:6:TYR:HE2	1.78	0.47
48:Ad:58:LYS:O	48:Ad:62:ARG:HG2	2.15	0.47
58:AM:48:LEU:HD22	70:AE:8:ARG:HD3	1.96	0.47
58:AM:89:ARG:HD3	58:AM:95:ILE:HD12	1.96	0.47
59:AS:71:MET:HG3	59:AS:97:LEU:HD11	1.95	0.47
62:AR:217:LYS:HA	62:AR:220:THR:HG22	1.97	0.47
63:AW:55:LYS:O	63:AW:72:GLN:NE2	2.47	0.47
67:A3:48:GLY:O	67:A3:52:ASN:ND2	2.48	0.47
70:AE:47:MET:H	70:AE:84:MET:HE2	1.79	0.47
71:AF:134:THR:HA	71:AF:150:VAL:HG11	1.97	0.47
79:S8:61:ILE:HG21	79:S8:315:VAL:HG21	1.96	0.47
79:S8:115:SER:HG	79:S8:134:ARG:HE	1.59	0.47
79:S8:161:THR:HG23	79:S8:178:GLY:HA2	1.97	0.47
79:S8:162:CYS:HB2	79:S8:206:THR:HA	1.97	0.47
3:S3:44:ILE:HB	3:S3:64:LEU:HD21	1.95	0.47
8:SA:155:A:H2'	8:SA:156:A:C8	2.50	0.47
8:SA:601:A:H4'	8:SA:602:G:H5'	1.96	0.47
8:SA:942:U:H2'	8:SA:943:U:H6	1.79	0.47
8:SA:1073:U:N3	8:SA:2072:G:OP1	2.47	0.47
8:SA:1208:G:O2'	8:SA:1209:G:H5'	2.15	0.47
8:SA:1277:G:H2'	8:SA:1278:C:H6	1.76	0.47
8:SA:1319:G:O2'	8:SA:1320:A:N7	2.47	0.47
8:SA:1654:G:H3'	8:SA:1655:G:C8	2.48	0.47
8:SA:1713:C:H2'	8:SA:1714:U:C6	2.49	0.47
8:SA:1904:G:H2'	8:SA:1905:C:C6	2.50	0.47
8:SA:2062:U:H2'	8:SA:2063:U:H6	1.78	0.47
31:SX:37:PHE:CE1	31:SX:112:ILE:HD12	2.49	0.47
34:AA:436:G:H2'	34:AA:437:A:H8	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:600:U:H2'	34:AA:601:G:H8	1.79	0.47
34:AA:619:U:H2'	71:AF:354:LYS:NZ	2.29	0.47
34:AA:648:U:OP2	71:AF:307:LYS:NZ	2.39	0.47
34:AA:989:A:OP2	56:Ac:2:GLY:N	2.48	0.47
34:AA:1835:G:H2'	34:AA:1836:U:C6	2.50	0.47
34:AA:2216:G:N7	34:AA:2392:A:N6	2.63	0.47
34:AA:3383:A:H2'	34:AA:3384:G:C8	2.38	0.47
34:AA:3585:A:O2'	34:AA:3586:U:H6	1.97	0.47
34:AA:3703:G:H3'	34:AA:3704:A:H8	1.79	0.47
41:A6:89:ILE:HG13	41:A6:90:SER:H	1.79	0.47
54:AI:94:VAL:O	54:AI:183:GLN:NE2	2.48	0.47
57:AK:22:ILE:O	57:AK:26:LEU:HD23	2.15	0.47
67:A3:37:LEU:HD23	67:A3:38:GLY:N	2.30	0.47
1:S1:15:ASN:ND2	13:SF:54:TYR:O	2.48	0.47
8:SA:1246:U:H2'	8:SA:1247:G:H8	1.79	0.47
8:SA:1607:U:H2'	8:SA:1608:G:C8	2.49	0.47
21:SN:101:THR:O	21:SN:105:ILE:HG12	2.15	0.47
26:SS:91:ASP:HB3	26:SS:97:ASN:OD1	2.15	0.47
29:SV:39:LYS:NZ	29:SV:65:GLY:O	2.40	0.47
31:SX:40:ARG:HA	31:SX:40:ARG:HD2	1.77	0.47
34:AA:497:U:H2'	34:AA:498:U:H6	1.80	0.47
34:AA:618:U:OP1	71:AF:352:LYS:NZ	2.41	0.47
34:AA:1069:G:C2	34:AA:1519:G:C6	3.03	0.47
34:AA:1452:U:OP1	73:AU:12:ASN:ND2	2.38	0.47
34:AA:1632:G:O6	46:Aa:4:ARG:NH2	2.48	0.47
34:AA:1647:U:H2'	34:AA:1648:U:C6	2.49	0.47
34:AA:2087:U:H2'	34:AA:2088:A:C8	2.50	0.47
34:AA:2473:A:H2'	34:AA:2474:C:C6	2.50	0.47
38:A1:100:ASP:OD1	38:A1:100:ASP:N	2.46	0.47
43:AN:16:LYS:N	43:AN:16:LYS:CD	2.74	0.47
45:A9:65:ILE:HD11	45:A9:113:ILE:HD11	1.97	0.47
51:AP:7:ILE:CD1	55:AJ:179:LEU:HA	2.45	0.47
61:AQ:3:ARG:NE	61:AQ:63:GLU:OE2	2.35	0.47
62:AR:146:ALA:O	62:AR:175:ILE:HG12	2.15	0.47
70:AE:86:VAL:HG22	70:AE:159:CYS:SG	2.55	0.47
72:AG:17:LEU:HD23	72:AG:17:LEU:HA	1.79	0.47
74:AH:20:ILE:HD12	74:AH:45:ILE:HD12	1.96	0.47
79:S8:116:ASP:O	79:S8:133:SER:OG	2.26	0.47
8:SA:814:U:OP2	12:SE:82:ARG:NH1	2.44	0.47
8:SA:876:U:OP2	28:SU:76:ARG:NH2	2.47	0.47
8:SA:1265:G:H2'	8:SA:1266:G:H8	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:SJ:161:GLN:HE21	17:SJ:162:ARG:HH22	1.63	0.47
26:SS:116:MET:HA	26:SS:119:ILE:HD12	1.96	0.47
34:AA:275:A:OP1	51:AP:50:ARG:NH1	2.47	0.47
34:AA:361:G:H22	34:AA:372:G:H2'	1.80	0.47
34:AA:394:A:H2'	34:AA:395:A:O4'	2.15	0.47
34:AA:398:A:H2'	34:AA:399:G:C8	2.50	0.47
34:AA:613:C:C2	34:AA:614:U:C5	3.03	0.47
34:AA:671:U:H2'	34:AA:672:C:C6	2.50	0.47
34:AA:962:A:H2'	34:AA:963:C:H6	1.80	0.47
34:AA:979:G:O2'	34:AA:1014:C:H4'	2.14	0.47
34:AA:1096:G:H21	34:AA:1231:A:H8	1.63	0.47
34:AA:1285:U:O2'	34:AA:1297:A:N3	2.43	0.47
34:AA:1836:U:H2'	34:AA:1837:U:O4'	2.15	0.47
34:AA:3518:C:P	57:AK:58:ARG:HH22	2.37	0.47
35:AC:31:U:H2'	35:AC:32:C:C6	2.50	0.47
35:AC:74:A:H3'	66:AZ:113:ASN:HD21	1.80	0.47
38:A1:122:PHE:CE1	38:A1:141:HIS:HB2	2.50	0.47
39:A2:55:THR:OG1	39:A2:67:SER:O	2.27	0.47
55:AJ:75:ILE:O	55:AJ:78:GLN:HG3	2.15	0.47
68:A5:229:ALA:HB3	68:A5:240:GLY:HA2	1.96	0.47
75:AV:54:PRO:HD3	75:AV:96:HIS:ND1	2.29	0.47
78:A0:42:LYS:O	78:A0:46:LEU:HD23	2.14	0.47
3:S3:85:ARG:HG3	3:S3:87:ARG:HG2	1.96	0.46
8:SA:388:C:C2	8:SA:389:G:C8	3.03	0.46
8:SA:395:G:OP2	8:SA:395:G:H8	1.97	0.46
8:SA:624:U:H5'	8:SA:1100:U:O4'	2.15	0.46
8:SA:928:U:O4'	17:SJ:115:ARG:HG3	2.15	0.46
8:SA:1861:U:H1'	26:SS:89:ARG:NH2	2.31	0.46
12:SE:42:ILE:O	12:SE:46:GLN:HG2	2.16	0.46
16:SI:54:LYS:HG3	16:SI:135:LEU:HD11	1.97	0.46
34:AA:151:G:H2'	34:AA:152:G:O4'	2.15	0.46
34:AA:207:A:N6	34:AA:1538:U:O2'	2.48	0.46
34:AA:702:U:H2'	34:AA:703:U:C6	2.50	0.46
34:AA:916:U:H2'	34:AA:917:A:C8	2.50	0.46
34:AA:1195:A:H2'	34:AA:1196:A:H8	1.80	0.46
34:AA:1278:A:H61	34:AA:2662:G:H1'	1.79	0.46
34:AA:2180:U:H1'	34:AA:2181:A:H5'	1.96	0.46
34:AA:2422:C:H2'	34:AA:2423:G:C8	2.49	0.46
34:AA:2716:U:H2'	34:AA:2717:A:H8	1.79	0.46
34:AA:2995:A:C5	34:AA:2997:G:C8	3.03	0.46
34:AA:3433:C:O2'	34:AA:3434:A:H5'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3612:U:N3	34:AA:3613:A:N7	2.63	0.46
36:AB:102:C:C2	36:AB:103:A:C8	3.03	0.46
46:Aa:100:VAL:HA	46:Aa:103:VAL:HG12	1.97	0.46
51:AP:11:TRP:HE1	55:AJ:178:GLU:HG3	1.80	0.46
53:Ai:43:ASP:O	53:Ai:47:LYS:HG2	2.16	0.46
54:AI:96:LEU:HB3	54:AI:136:PHE:HE1	1.80	0.46
59:AS:64:LEU:HD23	59:AS:87:ASP:HA	1.98	0.46
60:AO:114:GLY:O	60:AO:136:LYS:NZ	2.44	0.46
74:AH:23:ARG:HE	74:AH:39:ARG:HA	1.80	0.46
79:S8:115:SER:HB3	79:S8:135:ASP:N	2.30	0.46
8:SA:19:A:OP1	24:SQ:109:ARG:NE	2.42	0.46
8:SA:1884:A:H2'	8:SA:1885:G:H8	1.79	0.46
9:SB:212:ILE:HD11	9:SB:215:VAL:HG22	1.97	0.46
13:SF:121:TYR:CD2	13:SF:161:ARG:HD2	2.50	0.46
17:SJ:53:GLU:OE2	17:SJ:54:LYS:NZ	2.46	0.46
24:SQ:90:ASP:OD1	24:SQ:91:GLY:N	2.49	0.46
34:AA:672:C:OP1	71:AF:333:LYS:HD3	2.15	0.46
34:AA:712:C:H2'	34:AA:713:A:H8	1.81	0.46
34:AA:967:A:N6	34:AA:968:G:N3	2.63	0.46
34:AA:1203:A:N3	62:AR:141:ARG:NH2	2.63	0.46
34:AA:3154:U:OP1	53:Ai:61:ALA:N	2.29	0.46
34:AA:3637:G:O6	34:AA:3648:U:C4	2.68	0.46
37:AL:91:THR:HG23	37:AL:92:ILE:HG23	1.98	0.46
43:AN:29:ARG:NH2	43:AN:77:LEU:O	2.46	0.46
44:A8:63:THR:HG23	44:A8:66:LEU:HD21	1.97	0.46
74:AH:87:PHE:CE2	74:AH:150:ILE:HB	2.50	0.46
8:SA:70:U:O2'	8:SA:71:A:H5'	2.15	0.46
8:SA:519:A:H2'	8:SA:520:U:C6	2.50	0.46
8:SA:1421:A:C6	8:SA:1422:U:H1'	2.50	0.46
8:SA:1451:G:H21	8:SA:1625:C:N4	2.11	0.46
8:SA:1822:A:HO2'	8:SA:1886:C:HO2'	1.62	0.46
8:SA:1922:C:H2'	8:SA:1923:U:C6	2.50	0.46
8:SA:1956:A:H2'	8:SA:1957:A:C8	2.50	0.46
9:SB:133:TYR:HD2	9:SB:181:LEU:HD13	1.81	0.46
12:SE:53:ARG:HD3	14:SG:187:GLY:O	2.15	0.46
20:SM:64:LEU:HD11	20:SM:98:VAL:HG11	1.97	0.46
28:SU:35:ASP:O	28:SU:39:LYS:HG2	2.16	0.46
34:AA:124:U:H2'	34:AA:125:C:C6	2.50	0.46
34:AA:179:G:N1	34:AA:252:A:C6	2.83	0.46
34:AA:423:U:H2'	34:AA:424:U:C6	2.50	0.46
34:AA:508:A:H2'	34:AA:509:A:C8	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:870:C:H4'	40:A4:27:HIS:CG	2.50	0.46
34:AA:922:C:H2'	34:AA:923:C:C6	2.50	0.46
34:AA:2028:G:H3'	34:AA:2029:G:H8	1.80	0.46
34:AA:3195:C:N4	34:AA:3196:A:N1	2.63	0.46
34:AA:3258:C:N3	74:AH:172:ARG:NH2	2.61	0.46
34:AA:3344:C:H2'	34:AA:3345:U:C6	2.50	0.46
34:AA:3347:C:H2'	34:AA:3348:U:C6	2.51	0.46
34:AA:3438:G:H2'	34:AA:3439:G:H8	1.80	0.46
34:AA:3485:G:N2	34:AA:3519:A:H1'	2.30	0.46
34:AA:3667:C:H4'	34:AA:3668:U:O5'	2.14	0.46
36:AB:5:U:H2'	36:AB:6:C:H6	1.80	0.46
36:AB:44:C:H2'	36:AB:45:U:H6	1.81	0.46
55:AJ:112:PHE:CD2	55:AJ:113:LEU:HD22	2.50	0.46
62:AR:159:ASN:OD1	62:AR:160:ARG:N	2.48	0.46
65:AT:6:GLN:OE1	65:AT:6:GLN:N	2.47	0.46
72:AG:143:ARG:HB3	72:AG:144:ARG:HD2	1.97	0.46
75:AV:117:ILE:HA	75:AV:120:ALA:HB3	1.98	0.46
3:S3:62:PHE:HE1	23:SP:128:ARG:HG3	1.80	0.46
6:S6:40:TYR:CE1	12:SE:32:GLY:HA3	2.50	0.46
8:SA:124:U:H2'	8:SA:125:G:C8	2.50	0.46
8:SA:338:U:OP1	19:SL:56:ARG:NH2	2.48	0.46
8:SA:556:G:H2'	8:SA:557:A:H8	1.81	0.46
9:SB:50:LYS:HG3	9:SB:52:ILE:HG12	1.97	0.46
12:SE:78:ARG:HH12	12:SE:82:ARG:CZ	2.28	0.46
14:SG:53:GLU:HG3	14:SG:258:PHE:HZ	1.79	0.46
16:SI:79:LYS:HG2	16:SI:82:ARG:HH21	1.79	0.46
25:SR:53:GLU:HG2	25:SR:54:ALA:H	1.80	0.46
29:SV:95:HIS:O	29:SV:104:GLU:N	2.46	0.46
29:SV:128:VAL:CG2	29:SV:140:PHE:HB3	2.45	0.46
31:SX:23:ASP:N	31:SX:23:ASP:OD1	2.48	0.46
32:SY:37:PHE:CD1	32:SY:85:ARG:HD3	2.50	0.46
34:AA:979:G:C8	69:AD:181:LYS:HB2	2.51	0.46
34:AA:1123:U:O2'	34:AA:1124:A:OP1	2.31	0.46
34:AA:1301:U:H2'	34:AA:1308:A:C8	2.46	0.46
34:AA:3020:U:H5'	72:AG:65:ILE:HD11	1.96	0.46
34:AA:3129:U:O2	34:AA:3131:A:N6	2.41	0.46
34:AA:3388:U:H2'	34:AA:3389:G:O4'	2.16	0.46
52:Ah:77:VAL:O	52:Ah:77:VAL:HG12	2.16	0.46
71:AF:209:ILE:HG21	71:AF:221:PHE:CE2	2.49	0.46
73:AU:21:ARG:NH1	73:AU:68:LEU:HD21	2.31	0.46
8:SA:69:A:H2'	8:SA:70:U:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1086:U:C2	8:SA:1087:U:C5	3.04	0.46
8:SA:1639:G:OP1	79:S8:286:LYS:N	2.48	0.46
10:SC:110:GLN:NE2	14:SG:71:GLU:OE2	2.40	0.46
11:SD:143:LEU:HD13	11:SD:149:LYS:HB3	1.98	0.46
19:SL:90:LEU:O	19:SL:95:THR:HG22	2.16	0.46
21:SN:28:LEU:HD23	21:SN:28:LEU:H	1.80	0.46
34:AA:14:U:O2'	64:AY:89:ARG:NH2	2.48	0.46
34:AA:1197:U:H2'	34:AA:1198:A:H8	1.78	0.46
34:AA:1592:G:H2'	34:AA:1593:G:C8	2.51	0.46
34:AA:2008:G:H2'	34:AA:2009:A:H8	1.76	0.46
34:AA:3125:U:H2'	34:AA:3126:A:H8	1.81	0.46
34:AA:3324:U:H2'	34:AA:3325:G:O4'	2.15	0.46
70:AE:279:ILE:HD13	70:AE:319:LEU:HD13	1.97	0.46
71:AF:216:GLY:O	71:AF:220:ALA:HB2	2.16	0.46
7:S7:32:U:H4'	7:S7:33:C:H5'	1.96	0.46
8:SA:212:U:H1'	19:SL:196:ASP:OD2	2.16	0.46
8:SA:610:U:H2'	8:SA:611:A:C8	2.50	0.46
8:SA:805:A:H2'	8:SA:806:A:O4'	2.16	0.46
8:SA:1672:C:H3'	8:SA:1673:A:H4'	1.97	0.46
10:SC:83:SER:HA	10:SC:86:VAL:HG22	1.97	0.46
11:SD:34:TYR:HE2	11:SD:100:MET:HE3	1.81	0.46
11:SD:136:GLU:HA	11:SD:153:PHE:O	2.16	0.46
28:SU:45:GLN:CD	28:SU:49:GLN:HB2	2.40	0.46
29:SV:70:ARG:NH1	29:SV:130:GLN:HG2	2.30	0.46
34:AA:45:A:N3	34:AA:95:A:H2	2.14	0.46
34:AA:501:U:HO2'	34:AA:502:U:P	2.38	0.46
34:AA:678:A:H2'	34:AA:679:U:C6	2.50	0.46
34:AA:811:A:C8	60:AO:136:LYS:HE2	2.51	0.46
34:AA:1086:C:O2'	34:AA:3067:G:OP2	2.34	0.46
34:AA:1203:A:O4'	62:AR:144:ILE:HA	2.16	0.46
34:AA:2451:A:C2	34:AA:2470:A:C6	3.03	0.46
34:AA:2588:A:N6	58:AM:39:ILE:HB	2.31	0.46
34:AA:3199:C:H2'	34:AA:3200:G:O4'	2.16	0.46
51:AP:35:VAL:HG23	51:AP:65:ARG:HB2	1.98	0.46
60:AO:4:ARG:HA	60:AO:9:ARG:HG3	1.96	0.46
61:AQ:39:LYS:HA	61:AQ:86:HIS:CE1	2.51	0.46
68:A5:233:ALA:HB2	68:A5:242:TRP:CZ2	2.51	0.46
72:AG:141:ARG:HH12	72:AG:144:ARG:C	2.23	0.46
5:S5:5:LYS:HB2	5:S5:49:LEU:HB2	1.97	0.46
8:SA:12:U:H1'	8:SA:1402:A:N3	2.30	0.46
8:SA:30:G:H4'	24:SQ:131:SER:HB2	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:154:A:H2'	8:SA:155:A:C8	2.51	0.46
8:SA:754:A:N6	17:SJ:102:LYS:HD2	2.30	0.46
8:SA:851:A:OP1	13:SF:106:LYS:HD3	2.15	0.46
8:SA:927:A:C6	28:SU:73:ARG:HD2	2.50	0.46
8:SA:1207:U:H2'	8:SA:1208:G:C8	2.51	0.46
8:SA:1672:C:O2'	8:SA:1674:G:H5'	2.16	0.46
10:SC:134:LYS:HA	10:SC:134:LYS:HD2	1.68	0.46
15:SH:57:ASP:OD2	15:SH:61:PHE:HB2	2.16	0.46
16:SI:49:LYS:HE3	16:SI:50:LYS:HE3	1.98	0.46
22:SO:49:PRO:HB2	22:SO:52:HIS:HD2	1.80	0.46
34:AA:215:C:H2'	34:AA:216:C:H6	1.79	0.46
34:AA:436:G:H2'	34:AA:437:A:C8	2.51	0.46
34:AA:515:A:H2'	34:AA:516:G:C8	2.50	0.46
34:AA:582:U:O2'	34:AA:583:U:O5'	2.34	0.46
34:AA:1721:C:H2'	34:AA:1722:C:H6	1.79	0.46
34:AA:2971:G:O6	34:AA:2986:A:N6	2.48	0.46
34:AA:3320:G:H2'	34:AA:3321:U:H6	1.80	0.46
34:AA:3636:U:O2	34:AA:3649:G:N2	2.28	0.46
35:AC:82:G:H2'	35:AC:83:U:H6	1.80	0.46
50:Af:19:ILE:HG21	50:Af:46:ARG:HH21	1.81	0.46
52:Ah:26:ILE:O	52:Ah:29:ILE:HG12	2.16	0.46
53:Ai:42:TYR:OH	53:Ai:52:GLN:OE1	2.21	0.46
57:AK:54:GLN:O	57:AK:58:ARG:HG2	2.15	0.46
58:AM:94:TYR:O	78:A0:27:LYS:N	2.34	0.46
72:AG:20:ASN:O	72:AG:126:ASP:HB2	2.16	0.46
74:AH:93:LEU:HD23	74:AH:143:ILE:HD11	1.96	0.46
5:S5:31:ARG:HH21	5:S5:31:ARG:CB	2.27	0.46
8:SA:142:G:HO2'	8:SA:143:A:H8	1.62	0.46
8:SA:575:G:HO2'	8:SA:590:C:HO2'	1.60	0.46
8:SA:1267:C:H2'	8:SA:1268:G:O4'	2.16	0.46
8:SA:1312:A:N6	8:SA:1313:G:C5	2.84	0.46
8:SA:1728:U:H5'	8:SA:1729:A:OP1	2.16	0.46
8:SA:2026:C:H2'	8:SA:2027:C:C6	2.51	0.46
8:SA:2065:C:H2'	8:SA:2066:G:H8	1.81	0.46
10:SC:51:ALA:HB2	30:SW:109:LEU:HD21	1.98	0.46
13:SF:55:ALA:HB2	13:SF:64:ILE:HD11	1.97	0.46
15:SH:31:ARG:N	15:SH:34:ASN:OD1	2.49	0.46
16:SI:42:HIS:HB2	16:SI:81:ILE:HD11	1.97	0.46
22:SO:43:HIS:N	22:SO:50:ASN:HD21	2.14	0.46
31:SX:81:ARG:HE	31:SX:117:GLY:HA2	1.81	0.46
34:AA:282:U:H2'	34:AA:283:U:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:1097:A:H2'	34:AA:1098:U:O4'	2.16	0.46
34:AA:1266:U:H2'	34:AA:1267:G:H8	1.80	0.46
34:AA:1419:A:H2'	34:AA:1420:C:O4'	2.16	0.46
34:AA:1674:G:C8	34:AA:2096:G:C4	3.04	0.46
34:AA:2585:U:H2'	34:AA:2586:C:C6	2.51	0.46
34:AA:3100:G:H1	34:AA:3154:U:H3'	1.81	0.46
34:AA:3137:U:O2'	34:AA:3138:A:OP1	2.29	0.46
34:AA:3509:G:N2	74:AH:151:GLU:OE2	2.45	0.46
68:A5:65:GLU:O	68:A5:69:LYS:HG2	2.16	0.46
70:AE:57:VAL:HG12	70:AE:354:LYS:HB3	1.98	0.46
70:AE:94:GLU:OE1	70:AE:94:GLU:N	2.41	0.46
71:AF:368:LEU:HA	71:AF:371:ILE:HG22	1.98	0.46
74:AH:133:ILE:HG22	74:AH:145:VAL:HG13	1.98	0.46
79:S8:159:TRP:HB2	79:S8:179:TRP:HD1	1.80	0.46
1:S1:25:LEU:N	1:S1:72:GLY:O	2.36	0.46
5:S5:32:PHE:CD1	5:S5:32:PHE:O	2.69	0.46
8:SA:105:A:H4'	8:SA:106:A:O5'	2.14	0.46
8:SA:337:G:H2'	8:SA:338:U:C6	2.50	0.46
8:SA:803:G:OP1	13:SF:186:GLY:HA2	2.16	0.46
8:SA:810:A:N6	8:SA:854:A:H61	2.13	0.46
8:SA:988:U:H1'	23:SP:50:ARG:HG2	1.97	0.46
8:SA:1667:A:H5'	11:SD:161:THR:HB	1.98	0.46
34:AA:285:U:H2'	34:AA:286:U:C6	2.51	0.46
34:AA:672:C:N4	34:AA:673:U:O4	2.49	0.46
34:AA:1019:A:H2'	34:AA:1020:C:H6	1.80	0.46
34:AA:1222:U:O2'	34:AA:1223:U:O5'	2.31	0.46
34:AA:1796:U:H2'	46:Aa:66:ARG:HD3	1.98	0.46
34:AA:2685:C:H1'	70:AE:263:ARG:HH21	1.81	0.46
34:AA:3021:C:H2'	34:AA:3022:U:C6	2.51	0.46
34:AA:3035:A:N7	34:AA:3097:A:N6	2.64	0.46
34:AA:3255:A:H4'	50:Af:19:ILE:HD12	1.96	0.46
34:AA:3447:A:H2'	34:AA:3448:U:C6	2.51	0.46
36:AB:66:G:OP1	62:AR:10:LYS:NZ	2.38	0.46
37:AL:20:HIS:CE1	51:AP:195:GLN:HE22	2.33	0.46
37:AL:129:LYS:HA	37:AL:129:LYS:HD3	1.79	0.46
48:Ad:40:LYS:HA	48:Ad:52:MET:O	2.16	0.46
54:AI:71:ARG:O	54:AI:92:ASN:ND2	2.49	0.46
60:AO:75:VAL:HG22	60:AO:116:LEU:HD21	1.97	0.46
68:A5:77:GLU:HA	68:A5:80:LYS:HE2	1.98	0.46
70:AE:219:LYS:HE2	70:AE:328:THR:HG22	1.97	0.46
79:S8:258:CYS:SG	79:S8:267:ILE:HG12	2.56	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S1:106:ARG:HH21	8:SA:464:A:P	2.39	0.46
8:SA:394:G:O2'	8:SA:395:G:O5'	2.17	0.46
8:SA:802:A:H2'	8:SA:803:G:C8	2.51	0.46
8:SA:825:A:H2'	8:SA:826:A:C8	2.50	0.46
8:SA:1395:G:H2'	8:SA:1396:A:H8	1.81	0.46
8:SA:1662:A:N6	8:SA:1663:A:H62	2.14	0.46
8:SA:1901:U:OP2	20:SM:139:TYR:OH	2.30	0.46
8:SA:2032:U:H2'	8:SA:2033:U:C6	2.51	0.46
9:SB:67:GLU:OE1	9:SB:67:GLU:N	2.49	0.46
10:SC:107:LEU:HB2	10:SC:135:GLU:HB3	1.97	0.46
14:SG:87:PRO:HB2	14:SG:89:LYS:HE2	1.98	0.46
16:SI:105:ASN:HA	16:SI:108:GLN:HG3	1.98	0.46
21:SN:31:ILE:HD13	21:SN:84:TYR:HB3	1.98	0.46
31:SX:57:LEU:O	31:SX:60:ILE:HG22	2.16	0.46
31:SX:81:ARG:HH21	31:SX:117:GLY:HA2	1.81	0.46
34:AA:460:A:H2'	34:AA:461:G:O4'	2.15	0.46
34:AA:751:U:O2'	71:AF:36:LEU:HD21	2.16	0.46
34:AA:906:G:OP1	59:AS:146:THR:HG23	2.16	0.46
34:AA:1023:U:H2'	34:AA:1024:U:C6	2.50	0.46
34:AA:1065:U:C2	34:AA:1523:A:H2	2.34	0.46
34:AA:1752:C:H2'	34:AA:1753:U:C6	2.50	0.46
34:AA:1845:C:H41	77:AX:101:ARG:HH22	1.63	0.46
34:AA:3020:U:H2'	34:AA:3021:C:H6	1.81	0.46
34:AA:3322:C:H2'	34:AA:3323:G:C8	2.50	0.46
43:AN:23:ARG:HE	43:AN:78:LYS:HD3	1.81	0.46
48:Ad:11:PHE:HA	48:Ad:14:ILE:HG22	1.98	0.46
68:A5:93:VAL:HG11	68:A5:145:TYR:HD2	1.80	0.46
68:A5:119:GLN:H	68:A5:122:ASN:ND2	2.14	0.46
76:Ag:10:LYS:NZ	76:Ag:15:MET:O	2.49	0.46
79:S8:260:ALA:HB1	79:S8:292:CYS:HB3	1.98	0.46
3:S3:47:THR:HA	3:S3:50:GLN:HB3	1.97	0.45
8:SA:527:A:H2'	8:SA:528:A:H8	1.79	0.45
8:SA:628:A:O2'	8:SA:1207:U:O2'	2.30	0.45
8:SA:1849:U:N3	8:SA:1857:U:O4	2.50	0.45
13:SF:157:ASN:HB3	13:SF:175:PHE:CD2	2.51	0.45
21:SN:39:MET:HE3	21:SN:52:PRO:HG3	1.98	0.45
23:SP:86:LYS:NZ	23:SP:124:LEU:HG	2.31	0.45
28:SU:64:LYS:HD3	28:SU:70:LYS:HG2	1.97	0.45
28:SU:66:VAL:HG23	28:SU:67:THR:HG23	1.98	0.45
34:AA:24:A:OP1	56:Ac:49:ARG:NH2	2.47	0.45
34:AA:83:U:H2'	34:AA:84:U:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:361:G:N2	34:AA:372:G:H2'	2.31	0.45
34:AA:504:A:O2'	34:AA:505:A:OP1	2.31	0.45
34:AA:1574:C:H4'	71:AF:38:GLN:HE22	1.81	0.45
34:AA:1624:A:H2'	34:AA:1625:G:H8	1.81	0.45
34:AA:2028:G:C6	34:AA:2029:G:C6	3.03	0.45
34:AA:2088:A:H2'	34:AA:2089:C:H6	1.79	0.45
34:AA:2510:U:H2'	34:AA:2511:G:C8	2.51	0.45
34:AA:3051:U:H2'	34:AA:3052:U:C6	2.50	0.45
36:AB:64:A:H4'	61:AQ:204:GLY:HA2	1.98	0.45
36:AB:108:G:H2'	36:AB:109:U:C6	2.51	0.45
38:A1:107:LYS:HA	38:A1:110:GLU:OE2	2.16	0.45
45:A9:82:ALA:HB2	45:A9:100:TRP:CZ3	2.51	0.45
54:AI:65:GLY:O	54:AI:68:MET:HG3	2.16	0.45
55:AJ:152:GLY:O	55:AJ:156:ILE:HG12	2.15	0.45
59:AS:80:VAL:HG23	59:AS:137:LEU:HA	1.99	0.45
59:AS:167:ARG:HB2	59:AS:173:PHE:CE2	2.51	0.45
61:AQ:93:PRO:HA	61:AQ:127:ALA:HA	1.98	0.45
8:SA:88:A:O2'	8:SA:145:A:N3	2.48	0.45
8:SA:545:A:OP1	8:SA:550:C:N4	2.49	0.45
8:SA:1838:G:H1'	8:SA:1867:A:H61	1.80	0.45
8:SA:1854:U:O4	31:SX:82:ASN:HB3	2.15	0.45
8:SA:2016:A:H2'	8:SA:2017:A:H8	1.81	0.45
15:SH:81:MET:HE1	15:SH:83:CYS:HB3	1.97	0.45
17:SJ:79:LYS:HD3	17:SJ:79:LYS:HA	1.77	0.45
24:SQ:128:ALA:C	24:SQ:129:ARG:HD3	2.42	0.45
34:AA:503:A:OP2	54:AI:144:LYS:HD2	2.16	0.45
34:AA:509:A:H2'	34:AA:510:A:H8	1.81	0.45
34:AA:510:A:H2'	34:AA:511:C:C6	2.51	0.45
34:AA:810:U:H4'	34:AA:875:C:H4'	1.98	0.45
34:AA:1161:C:H2'	34:AA:1162:U:C6	2.51	0.45
34:AA:1308:A:C4	34:AA:1310:A:C8	3.03	0.45
34:AA:1443:U:OP2	57:AK:43:SER:OG	2.26	0.45
34:AA:1588:U:H2'	34:AA:1589:G:H8	1.80	0.45
34:AA:2492:G:H2'	34:AA:2493:U:H6	1.81	0.45
34:AA:2935:U:C2	34:AA:2936:A:C8	3.05	0.45
38:A1:11:ILE:HD11	38:A1:43:VAL:HG11	1.97	0.45
38:A1:25:ILE:HA	38:A1:43:VAL:HG12	1.98	0.45
41:A6:58:VAL:HA	46:Aa:93:LEU:HD21	1.97	0.45
44:A8:81:MET:HE2	44:A8:107:ILE:HG23	1.98	0.45
54:AI:134:ASP:O	54:AI:137:ILE:HG22	2.17	0.45
57:AK:87:LEU:HG	57:AK:88:PRO:HD2	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S1:45:ALA:HA	1:S1:50:LEU:HD12	1.98	0.45
1:S1:66:GLY:HA2	12:SE:140:MET:HE3	1.98	0.45
3:S3:58:VAL:HG11	23:SP:125:LYS:HZ1	1.82	0.45
7:S7:37:U:H2'	7:S7:38:A:C8	2.51	0.45
8:SA:1447:A:N6	8:SA:1623:U:O2	2.49	0.45
8:SA:1785:C:H2'	8:SA:1786:U:C6	2.52	0.45
10:SC:89:PHE:O	10:SC:93:THR:HG22	2.16	0.45
13:SF:62:LYS:HB3	13:SF:62:LYS:HE2	1.72	0.45
18:SK:42:GLN:NE2	18:SK:49:SER:HA	2.31	0.45
19:SL:162:ILE:N	19:SL:164:LYS:HZ3	2.14	0.45
31:SX:108:LYS:H	31:SX:111:MET:HB3	1.82	0.45
34:AA:335:A:O2'	34:AA:336:U:O4'	2.34	0.45
34:AA:442:G:OP1	45:A9:91:HIS:NE2	2.50	0.45
34:AA:756:G:H2'	34:AA:757:U:O4'	2.17	0.45
34:AA:941:G:H2'	34:AA:942:C:C6	2.51	0.45
34:AA:1523:A:H2'	34:AA:1524:U:O4'	2.17	0.45
34:AA:1725:U:H2'	34:AA:1726:C:C6	2.52	0.45
34:AA:1886:A:N6	52:Ah:42:CYS:HA	2.32	0.45
34:AA:2948:A:H2'	34:AA:2949:G:H8	1.82	0.45
34:AA:3069:A:H2'	34:AA:3070:C:H6	1.81	0.45
34:AA:3235:C:H1'	34:AA:3311:G:H22	1.80	0.45
42:A7:59:LEU:HD12	42:A7:63:LEU:HD22	1.98	0.45
43:AN:71:LEU:HG	43:AN:74:LEU:HD12	1.98	0.45
51:AP:180:SER:O	51:AP:182:LYS:N	2.49	0.45
61:AQ:186:LYS:HB2	61:AQ:186:LYS:HE3	1.78	0.45
62:AR:107:ARG:NH2	62:AR:116:ASP:OD1	2.36	0.45
70:AE:216:SER:OG	70:AE:217:VAL:N	2.48	0.45
79:S8:12:LEU:HD13	79:S8:314:TYR:HB3	1.97	0.45
8:SA:80:A:H5'	15:SH:154:ARG:HH22	1.81	0.45
8:SA:470:A:C2	8:SA:471:G:C8	3.04	0.45
8:SA:610:U:H2'	8:SA:611:A:H8	1.80	0.45
8:SA:1066:G:C6	8:SA:1077:G:C6	3.04	0.45
8:SA:1295:A:HO2'	8:SA:1296:C:P	2.37	0.45
8:SA:1663:A:H2'	8:SA:1664:G:C8	2.52	0.45
10:SC:93:THR:HG23	10:SC:95:ALA:H	1.81	0.45
20:SM:8:VAL:HG12	20:SM:93:TYR:HD2	1.80	0.45
24:SQ:53:VAL:HG12	24:SQ:100:ASP:O	2.16	0.45
30:SW:80:ARG:NH1	30:SW:80:ARG:O	2.49	0.45
31:SX:59:LYS:NZ	31:SX:77:PRO:HG2	2.31	0.45
32:SY:54:PRO:HD3	32:SY:76:TYR:CE2	2.51	0.45
34:AA:74:A:OP2	37:AL:103:ARG:HB3	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:1507:U:H2'	34:AA:1508:U:H6	1.81	0.45
34:AA:1642:G:H3'	49:Ae:42:ARG:HH22	1.80	0.45
34:AA:1874:C:H2'	34:AA:1875:A:H8	1.80	0.45
34:AA:1999:A:HO2'	34:AA:2000:G:P	2.39	0.45
34:AA:2522:A:H2'	34:AA:2523:U:C6	2.52	0.45
34:AA:3007:A:H2'	34:AA:3008:A:C8	2.51	0.45
34:AA:3300:A:OP1	70:AE:252:TRP:HB3	2.15	0.45
34:AA:3331:G:H2'	34:AA:3332:G:H8	1.80	0.45
37:AL:78:GLU:HG3	37:AL:108:LEU:HD12	1.98	0.45
52:Ah:47:THR:HA	52:Ah:56:LYS:O	2.15	0.45
54:AI:76:LYS:HB2	54:AI:128:ALA:HB1	1.98	0.45
73:AU:133:ILE:HB	75:AV:154:PRO:HG2	1.97	0.45
79:S8:262:ASP:CG	79:S8:290:PRO:HA	2.42	0.45
5:S5:47:LEU:HD11	16:SI:133:SER:HA	1.98	0.45
8:SA:968:G:H2'	8:SA:969:A:H8	1.82	0.45
8:SA:1111:U:H2'	8:SA:1112:G:O4'	2.17	0.45
8:SA:1187:A:H2'	8:SA:1188:A:C8	2.52	0.45
8:SA:1213:G:H3'	8:SA:1214:A:H8	1.82	0.45
8:SA:1734:G:H3'	8:SA:1811:A:H61	1.81	0.45
8:SA:2007:U:H2'	8:SA:2008:U:H6	1.82	0.45
15:SH:19:ASP:OD1	15:SH:20:ASP:N	2.49	0.45
23:SP:82:ALA:HA	23:SP:124:LEU:HD11	1.98	0.45
34:AA:199:G:O6	34:AA:212:U:O2	2.35	0.45
34:AA:607:A:O2'	34:AA:608:A:O5'	2.28	0.45
34:AA:612:G:H2'	34:AA:613:C:C6	2.50	0.45
34:AA:653:A:C2	34:AA:682:A:H1'	2.52	0.45
34:AA:818:C:O4'	34:AA:821:C:N4	2.49	0.45
34:AA:1237:C:H2'	34:AA:1238:C:H6	1.79	0.45
34:AA:1302:G:N2	57:AK:86:MET:HE3	2.15	0.45
34:AA:1734:G:H2'	34:AA:1735:G:O4'	2.16	0.45
34:AA:1977:U:H4'	77:AX:123:ILE:HD11	1.97	0.45
34:AA:2039:U:H2'	34:AA:2040:G:O4'	2.17	0.45
34:AA:2207:G:H2'	34:AA:2208:G:H8	1.81	0.45
34:AA:3062:U:H2'	34:AA:3063:U:H6	1.80	0.45
35:AC:74:A:N6	35:AC:90:G:OP2	2.49	0.45
48:Ad:47:LYS:C	48:Ad:48:TYR:HD2	2.24	0.45
48:Ad:47:LYS:O	48:Ad:48:TYR:HD2	2.00	0.45
58:AM:40:ALA:HB3	58:AM:61:LEU:HD12	1.99	0.45
62:AR:95:TYR:CD2	62:AR:197:ASN:HB3	2.52	0.45
63:AW:34:ARG:HD2	63:AW:37:ARG:HD3	1.98	0.45
65:AT:171:LYS:O	65:AT:174:LEU:HG	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:A5:41:THR:O	68:A5:45:ILE:HG12	2.17	0.45
69:AD:36:GLU:HG2	69:AD:91:GLY:HA2	1.97	0.45
1:S1:8:ARG:HG3	8:SA:829:G:C6	2.51	0.45
8:SA:29:U:H2'	8:SA:30:G:H8	1.81	0.45
8:SA:63:G:H2'	8:SA:64:U:O4'	2.16	0.45
8:SA:937:G:H2'	8:SA:938:U:C6	2.51	0.45
8:SA:1016:U:H2'	8:SA:1017:G:H8	1.82	0.45
8:SA:1318:A:H8	8:SA:1694:G:H21	1.64	0.45
8:SA:1794:C:P	32:SY:96:GLY:H	2.40	0.45
8:SA:1982:G:O6	8:SA:2008:U:C4	2.70	0.45
13:SF:168:LYS:HD2	13:SF:168:LYS:HA	1.79	0.45
30:SW:41:ILE:O	30:SW:47:LYS:HD2	2.16	0.45
34:AA:114:A:O2'	51:AP:50:ARG:HG2	2.16	0.45
34:AA:374:A:H2'	34:AA:375:A:O4'	2.17	0.45
34:AA:589:C:H2'	34:AA:590:C:C6	2.52	0.45
34:AA:589:C:H2'	34:AA:590:C:H6	1.81	0.45
34:AA:617:A:H2'	34:AA:618:U:H6	1.82	0.45
34:AA:712:C:H2'	34:AA:713:A:C8	2.51	0.45
34:AA:728:C:H2'	34:AA:729:G:C8	2.52	0.45
34:AA:769:U:H3'	34:AA:770:U:H6	1.81	0.45
34:AA:1431:A:C6	34:AA:3246:A:C6	3.04	0.45
34:AA:1452:U:O2'	73:AU:8:SER:HA	2.17	0.45
34:AA:1739:C:H2'	34:AA:1740:A:H8	1.82	0.45
34:AA:2817:U:H2'	34:AA:2818:U:H6	1.80	0.45
34:AA:3480:C:H2'	34:AA:3481:U:H6	1.82	0.45
38:A1:122:PHE:O	55:AJ:44:LEU:HD11	2.17	0.45
39:A2:88:ASN:HA	39:A2:91:LYS:HG2	1.98	0.45
43:AN:18:ASN:ND2	43:AN:18:ASN:C	2.74	0.45
45:A9:50:LYS:HE3	45:A9:114:ARG:HH12	1.81	0.45
47:Ab:93:LYS:HA	47:Ab:93:LYS:HD2	1.81	0.45
51:AP:38:ARG:HB2	51:AP:62:TYR:HE1	1.81	0.45
52:Ah:57:CYS:HB3	52:Ah:60:CYS:HB2	1.97	0.45
63:AW:10:ASN:OD1	63:AW:11:LEU:N	2.49	0.45
73:AU:11:THR:OG1	73:AU:12:ASN:N	2.50	0.45
7:S7:12:G:N1	7:S7:23:G:O6	2.49	0.45
7:S7:33:C:H2'	7:S7:34:U:C5	2.51	0.45
8:SA:38:C:N4	8:SA:39:A:H62	2.14	0.45
8:SA:253:A:O2'	13:SF:131:LEU:O	2.31	0.45
8:SA:1860:A:C6	8:SA:1861:U:C4	3.05	0.45
8:SA:1868:C:H3'	8:SA:1869:G:H21	1.82	0.45
8:SA:2029:A:H2'	8:SA:2030:U:H6	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:SC:86:VAL:HG23	10:SC:87:LEU:HD12	1.98	0.45
15:SH:8:PRO:HD3	15:SH:112:THR:OG1	2.17	0.45
16:SI:41:PRO:HA	16:SI:61:GLU:OE2	2.17	0.45
17:SJ:123:TYR:HA	17:SJ:126:ILE:HG12	1.98	0.45
28:SU:45:GLN:OE1	28:SU:46:THR:N	2.46	0.45
32:SY:121:LYS:HE3	32:SY:124:ARG:HH12	1.82	0.45
34:AA:283:U:H2'	34:AA:284:C:C6	2.52	0.45
34:AA:581:C:O2'	34:AA:582:U:OP1	2.28	0.45
34:AA:764:G:C6	34:AA:765:A:C6	3.04	0.45
34:AA:980:A:H4'	52:Ah:17:ARG:HH12	1.81	0.45
34:AA:1269:C:H2'	34:AA:1270:G:O4'	2.16	0.45
34:AA:1649:G:H2'	34:AA:1650:U:O4'	2.17	0.45
34:AA:1706:A:H8	55:AJ:73:ARG:HH12	1.64	0.45
34:AA:3255:A:H4'	50:Af:19:ILE:CD1	2.47	0.45
34:AA:3458:A:H2'	34:AA:3459:A:O4'	2.16	0.45
35:AC:112:A:H2'	35:AC:113:A:O4'	2.17	0.45
36:AB:7:G:OP1	62:AR:50:ARG:NH2	2.49	0.45
59:AS:172:LYS:HG3	59:AS:173:PHE:CD1	2.51	0.45
69:AD:132:CYS:SG	69:AD:133:TYR:N	2.89	0.45
70:AE:116:ARG:HB3	70:AE:172:LYS:HG2	1.98	0.45
79:S8:296:THR:HG22	79:S8:305:TYR:HB2	1.98	0.45
3:S3:50:GLN:HE22	3:S3:64:LEU:HB3	1.81	0.45
8:SA:560:G:H3'	8:SA:561:C:H2'	1.99	0.45
11:SD:127:ILE:HG21	11:SD:135:CYS:HB2	1.99	0.45
14:SG:62:ILE:HB	14:SG:67:LEU:HD12	1.98	0.45
18:SK:10:CYS:SG	18:SK:27:ILE:HD13	2.56	0.45
34:AA:137:G:H8	34:AA:140:A:H62	1.64	0.45
34:AA:1274:A:H4'	34:AA:1459:U:H5	1.81	0.45
34:AA:1421:U:O2'	73:AU:97:HIS:NE2	2.50	0.45
34:AA:2149:A:H2'	34:AA:2150:G:H8	1.82	0.45
34:AA:2491:A:C6	34:AA:2563:A:C2	3.04	0.45
34:AA:2492:G:H2'	34:AA:2493:U:C6	2.52	0.45
34:AA:3035:A:H2'	34:AA:3036:A:C8	2.52	0.45
34:AA:3047:U:H2'	34:AA:3048:U:C6	2.52	0.45
34:AA:3517:C:H2'	34:AA:3518:C:C6	2.52	0.45
35:AC:74:A:N6	35:AC:89:U:H3'	2.32	0.45
42:A7:38:PRO:HA	42:A7:41:ILE:HG22	1.97	0.45
51:AP:102:GLU:HA	51:AP:105:VAL:HG12	1.99	0.45
54:AI:110:ASN:HB3	54:AI:113:ASN:OD1	2.17	0.45
56:Ac:52:TRP:CD1	56:Ac:52:TRP:H	2.35	0.45
59:AS:32:LEU:HD23	59:AS:33:TYR:CD1	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:AO:28:HIS:ND1	60:AO:32:ARG:HG2	2.31	0.45
63:AW:116:HIS:HB3	63:AW:149:ILE:HB	1.98	0.45
5:S5:27:ALA:HB3	5:S5:35:ARG:CG	2.46	0.45
8:SA:26:A:N6	8:SA:608:A:C6	2.85	0.45
8:SA:150:C:O2'	15:SH:4:ASN:OD1	2.29	0.45
8:SA:156:A:H2	8:SA:426:A:H4'	1.82	0.45
8:SA:485:C:H2'	8:SA:486:A:C8	2.52	0.45
13:SF:85:GLY:O	13:SF:101:LEU:HD23	2.17	0.45
21:SN:64:THR:HG21	27:ST:41:PHE:HE2	1.82	0.45
34:AA:167:U:C4	34:AA:265:U:C4	3.05	0.45
34:AA:203:A:H2	34:AA:207:A:H2	1.64	0.45
34:AA:573:U:H2'	34:AA:574:G:H8	1.82	0.45
34:AA:593:A:N6	43:AN:6:LEU:CD1	2.78	0.45
34:AA:1309:U:OP1	73:AU:168:LYS:NZ	2.40	0.45
34:AA:1468:A:OP2	44:A8:61:LYS:NZ	2.31	0.45
34:AA:1612:U:H3'	34:AA:1613:G:C8	2.51	0.45
34:AA:2019:A:C6	34:AA:2020:A:N1	2.84	0.45
34:AA:2577:C:N4	34:AA:2601:C:O4'	2.50	0.45
34:AA:2621:U:H2'	34:AA:2622:C:C6	2.51	0.45
34:AA:2725:U:N3	34:AA:2726:U:C4	2.85	0.45
34:AA:2940:A:H2'	34:AA:2941:G:H8	1.82	0.45
34:AA:3777:G:H2'	34:AA:3778:G:C8	2.51	0.45
36:AB:65:G:H2'	36:AB:66:G:O4'	2.17	0.45
37:AL:114:ARG:NH2	37:AL:160:ILE:O	2.50	0.45
38:A1:32:GLN:HG3	38:A1:37:PRO:HA	1.99	0.45
43:AN:26:GLU:O	43:AN:29:ARG:HG2	2.17	0.45
44:A8:104:ARG:HH12	44:A8:124:ARG:HB2	1.81	0.45
49:Ae:43:HIS:HB3	49:Ae:46:ARG:HB3	1.98	0.45
55:AJ:169:VAL:HG22	55:AJ:195:CYS:SG	2.57	0.45
61:AQ:86:HIS:HB3	61:AQ:139:ARG:CG	2.47	0.45
68:A5:52:ASP:O	68:A5:56:ARG:HG3	2.17	0.45
68:A5:221:LYS:HG2	68:A5:222:PRO:O	2.16	0.45
69:AD:116:LEU:HB2	69:AD:126:LEU:HB2	1.99	0.45
5:S5:54:ARG:NH1	16:SI:195:ARG:OXT	2.45	0.45
7:S7:61:C:H2'	7:S7:62:C:C6	2.52	0.45
8:SA:810:A:H2'	8:SA:811:G:O4'	2.17	0.45
8:SA:1317:A:O2'	8:SA:1319:G:OP1	2.25	0.45
10:SC:57:LEU:HG	10:SC:160:ILE:HG21	1.99	0.45
10:SC:79:ARG:HD2	10:SC:81:PHE:CZ	2.52	0.45
10:SC:124:THR:O	10:SC:146:LEU:HB2	2.17	0.45
28:SU:30:PRO:O	28:SU:33:ILE:N	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31: SX:31: ASP:O	31: SX:34: ILE:HG12	2.16	0.45
34: AA:650: U:H2'	34: AA:651: A:H8	1.81	0.45
34: AA:756: G:C6	34: AA:797: A:N1	2.85	0.45
34: AA:930: C:H2'	34: AA:931: U:C6	2.52	0.45
34: AA:1109: U:C2	34: AA:1110: U:C5	3.05	0.45
34: AA:1672: U:OP1	34: AA:1750: U:N3	2.50	0.45
34: AA:1845: C:N4	77: AX:101: ARG:HH22	2.15	0.45
34: AA:2074: C:H2'	34: AA:2075: U:C6	2.52	0.45
34: AA:2491: A:C5	34: AA:2492: G:C8	3.04	0.45
34: AA:2626: C:H2'	34: AA:2627: U:C6	2.52	0.45
34: AA:2816: U:O2'	34: AA:2817: U:OP1	2.32	0.45
34: AA:2962: G:H3'	34: AA:2963: G:H8	1.82	0.45
34: AA:3301: C:OP1	34: AA:3302: G:H5''	2.16	0.45
34: AA:3632: U:H3	34: AA:3653: G:H1	1.65	0.45
55: AJ:279: ILE:HD12	55: AJ:279: ILE:HA	1.86	0.45
68: A5:252: LEU:HD23	68: A5:256: MET:HG2	1.98	0.45
69: AD:114: CYS:SG	69: AD:165: MET:HB3	2.57	0.45
1: S1:90: TYR:CZ	1: S1:91: ARG:HG3	2.52	0.44
3: S3:10: ARG:NH2	3: S3:34: LYS:HD2	2.31	0.44
3: S3:95: ARG:NH2	8: SA:2089: A:OP1	2.50	0.44
7: S7:70: A:H2'	7: S7:71: C:C6	2.52	0.44
8: SA:331: G:H2'	8: SA:332: U:H6	1.82	0.44
8: SA:634: C:H2'	8: SA:635: G:O4'	2.17	0.44
8: SA:636: U:H2'	8: SA:637: A:H8	1.81	0.44
8: SA:644: U:O2	17: SJ:115: ARG:NH2	2.39	0.44
8: SA:1704: G:N3	8: SA:1704: G:H2'	2.32	0.44
8: SA:1978: A:C8	15: SH:66: GLY:HA2	2.52	0.44
10: SC:77: SER:HB2	10: SC:124: THR:HG21	1.98	0.44
14: SG:90: ASP:OD1	14: SG:90: ASP:N	2.45	0.44
17: SJ:102: LYS:HB3	17: SJ:105: GLN:HG2	1.99	0.44
34: AA:62: A:H2'	34: AA:63: A:C8	2.52	0.44
34: AA:135: G:N2	34: AA:136: U:H3	2.14	0.44
34: AA:217: A:OP1	71: AF:163: LYS:NZ	2.49	0.44
34: AA:354: C:N4	34: AA:357: A:OP2	2.47	0.44
34: AA:725: A:H2	34: AA:2664: G:H21	1.66	0.44
34: AA:988: G:H2'	34: AA:989: A:C8	2.52	0.44
34: AA:993: U:OP1	34: AA:994: G:H5'	2.17	0.44
34: AA:1101: A:H5'	34: AA:1223: U:N3	2.32	0.44
34: AA:1102: U:H2'	34: AA:1103: A:H8	1.82	0.44
34: AA:1293: G:P	45: A9:59: ASN:HD21	2.40	0.44
34: AA:1462: C:H2'	34: AA:1463: A:H8	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:1494:U:H2'	34:AA:1495:U:C6	2.52	0.44
34:AA:1576:U:H2'	34:AA:1577:A:H8	1.81	0.44
34:AA:2440:A:OP2	69:AD:200:ARG:NH1	2.42	0.44
34:AA:3451:G:H2'	34:AA:3452:U:C6	2.52	0.44
39:A2:87:LYS:O	39:A2:90:GLU:HG3	2.18	0.44
62:AR:83:LEU:HD22	62:AR:88:ILE:HD12	2.00	0.44
66:AZ:10:SER:OG	71:AF:198:ASN:ND2	2.50	0.44
70:AE:212:ILE:HG13	70:AE:213:ASP:H	1.81	0.44
70:AE:280:TYR:CD1	70:AE:351:VAL:HG11	2.52	0.44
75:AV:53:MET:HA	75:AV:96:HIS:CE1	2.51	0.44
77:AX:107:ALA:O	77:AX:111:ILE:HG12	2.17	0.44
79:S8:237:TYR:CE1	79:S8:239:LEU:HG	2.52	0.44
79:S8:257:LEU:HB2	79:S8:270:LEU:HD11	1.99	0.44
5:S5:7:ALA:CA	5:S5:28:GLN:CB	2.94	0.44
7:S7:40:U:H2'	7:S7:41:C:O4'	2.17	0.44
8:SA:353:G:H5'	29:SV:83:MET:HE2	1.99	0.44
8:SA:833:A:H2'	8:SA:834:A:O4'	2.18	0.44
8:SA:880:A:H2'	8:SA:881:C:H6	1.81	0.44
8:SA:1908:A:C8	8:SA:1909:C:H5	2.35	0.44
10:SC:110:GLN:OE1	10:SC:110:GLN:N	2.49	0.44
18:SK:85:GLU:OE1	18:SK:85:GLU:N	2.50	0.44
21:SN:65:ARG:H	27:ST:38:ARG:HH21	1.65	0.44
28:SU:76:ARG:HA	28:SU:81:ALA:HB2	1.98	0.44
31:SX:83:MET:O	31:SX:116:LEU:HG	2.18	0.44
32:SY:61:LYS:NZ	32:SY:67:LYS:HD2	2.32	0.44
34:AA:212:U:H2'	34:AA:213:C:C6	2.52	0.44
34:AA:1474:A:H2'	34:AA:1475:G:C8	2.52	0.44
34:AA:1485:A:H2'	34:AA:1486:A:H8	1.82	0.44
34:AA:1626:A:H2'	34:AA:1627:C:H6	1.82	0.44
34:AA:2588:A:N3	34:AA:3288:C:O2'	2.49	0.44
34:AA:2633:U:H2'	34:AA:2634:A:H8	1.82	0.44
34:AA:3061:U:H5'	75:AV:89:LYS:NZ	2.31	0.44
34:AA:3334:U:H2'	34:AA:3335:A:C8	2.52	0.44
34:AA:3572:A:C8	34:AA:3677:A:H1'	2.52	0.44
34:AA:3736:A:O2'	34:AA:3737:G:O4'	2.24	0.44
38:A1:91:PHE:HB2	38:A1:121:LYS:NZ	2.32	0.44
39:A2:106:GLU:OE1	39:A2:106:GLU:N	2.36	0.44
47:Ab:92:ALA:O	47:Ab:95:GLU:HG3	2.17	0.44
51:AP:3:ALA:O	51:AP:7:ILE:HG12	2.17	0.44
56:Ac:37:CYS:SG	56:Ac:39:SER:N	2.85	0.44
57:AK:21:LEU:HD11	57:AK:121:SER:HB2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:AS:133:LYS:HE3	59:AS:133:LYS:HB2	1.88	0.44
65:AT:54:GLN:H	65:AT:54:GLN:CD	2.25	0.44
79:S8:74:ALA:HB3	79:S8:92:TRP:CE3	2.52	0.44
8:SA:299:U:H2'	8:SA:300:C:C6	2.51	0.44
8:SA:792:U:O2'	17:SJ:106:LYS:HE3	2.17	0.44
8:SA:1720:G:H2'	8:SA:1721:A:H8	1.81	0.44
9:SB:120:LEU:HD11	9:SB:140:ILE:HG23	1.98	0.44
11:SD:138:ILE:CG2	11:SD:186:LYS:HB3	2.47	0.44
14:SG:65:HIS:CE1	14:SG:251:PRO:HD3	2.52	0.44
22:SO:61:LYS:NZ	22:SO:68:GLU:HB3	2.32	0.44
23:SP:62:VAL:HG12	23:SP:64:ALA:H	1.81	0.44
30:SW:5:ARG:HE	30:SW:53:PHE:HB2	1.82	0.44
32:SY:61:LYS:HD2	32:SY:64:LYS:HA	1.99	0.44
33:SZ:16:LYS:HZ2	33:SZ:21:SER:C	2.24	0.44
34:AA:149:A:H2'	34:AA:150:C:C6	2.52	0.44
34:AA:276:G:H5'	51:AP:120:TRP:CD2	2.52	0.44
34:AA:749:U:N3	34:AA:750:G:N7	2.65	0.44
34:AA:1462:C:H2'	34:AA:1463:A:C8	2.52	0.44
34:AA:2469:U:H5''	69:AD:54:ARG:HH11	1.82	0.44
41:A6:73:TYR:CG	41:A6:79:LEU:HD21	2.51	0.44
69:AD:31:HIS:CD2	69:AD:32:LEU:HD23	2.52	0.44
70:AE:278:LYS:HD3	70:AE:280:TYR:HE1	1.82	0.44
79:S8:202:GLY:N	79:S8:222:ASP:HB3	2.32	0.44
5:S5:32:PHE:O	5:S5:32:PHE:CG	2.70	0.44
8:SA:136:U:H2'	8:SA:137:A:C8	2.52	0.44
8:SA:301:A:H2'	8:SA:302:A:C8	2.52	0.44
8:SA:573:C:H2'	8:SA:574:A:C8	2.52	0.44
8:SA:642:A:N7	8:SA:1033:U:N3	2.66	0.44
8:SA:888:A:H2'	8:SA:889:A:H8	1.79	0.44
8:SA:1068:U:H2'	8:SA:1069:C:O4'	2.17	0.44
8:SA:1799:A:C6	26:SS:84:TRP:CD2	3.05	0.44
8:SA:2082:A:H2'	8:SA:2083:A:C8	2.52	0.44
11:SD:138:ILE:HD11	11:SD:150:SER:OG	2.17	0.44
13:SF:181:VAL:HG11	13:SF:225:VAL:HB	1.99	0.44
15:SH:178:LEU:HG	15:SH:179:VAL:H	1.83	0.44
16:SI:73:ASN:HA	16:SI:76:LYS:HE3	1.99	0.44
17:SJ:165:ILE:H	17:SJ:165:ILE:HD12	1.83	0.44
22:SO:23:TYR:O	22:SO:26:LEU:HG	2.16	0.44
23:SP:78:ALA:HA	23:SP:81:VAL:HG12	1.98	0.44
27:ST:38:ARG:HA	27:ST:41:PHE:HB3	1.98	0.44
34:AA:407:A:C5	34:AA:410:G:C6	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:515:A:H2'	34:AA:516:G:H8	1.82	0.44
34:AA:695:A:H2'	34:AA:696:C:C6	2.52	0.44
34:AA:765:A:C5	34:AA:767:U:O4	2.70	0.44
34:AA:1040:A:H4'	56:Ac:6:LYS:HG2	1.98	0.44
34:AA:1078:C:O2	34:AA:2953:G:O2'	2.26	0.44
34:AA:1550:A:H2'	34:AA:1551:C:C6	2.52	0.44
34:AA:1706:A:C8	55:AJ:73:ARG:NH1	2.86	0.44
34:AA:1726:C:H2'	34:AA:1727:U:C6	2.53	0.44
34:AA:1823:C:C2	34:AA:1824:A:C8	3.05	0.44
34:AA:3491:U:OP1	50:Af:36:ASN:ND2	2.50	0.44
34:AA:3531:C:H2'	34:AA:3532:A:C8	2.44	0.44
35:AC:33:C:H2'	35:AC:34:U:H6	1.82	0.44
36:AB:68:U:H2'	36:AB:69:U:C6	2.52	0.44
37:AL:101:LYS:HG3	37:AL:103:ARG:HH21	1.82	0.44
42:A7:24:LEU:HD21	42:A7:44:ILE:HD11	2.00	0.44
56:Ac:57:LYS:O	56:Ac:61:THR:OG1	2.24	0.44
65:AT:10:ALA:HA	65:AT:13:VAL:HG12	1.99	0.44
67:A3:81:ASN:OD1	67:A3:82:LEU:N	2.50	0.44
68:A5:206:PRO:HG2	68:A5:207:VAL:HG23	2.00	0.44
71:AF:10:VAL:HB	71:AF:19:VAL:HG23	1.99	0.44
71:AF:347:ILE:HG22	71:AF:350:LYS:HE3	1.99	0.44
76:Ag:16:ARG:HD3	76:Ag:19:TRP:NE1	2.32	0.44
8:SA:1224:C:H2'	8:SA:1225:A:C8	2.52	0.44
8:SA:1245:U:H2'	8:SA:1246:U:C6	2.52	0.44
8:SA:1727:A:OP1	20:SM:35:LYS:NZ	2.51	0.44
8:SA:1799:A:H2'	8:SA:1800:A:O4'	2.17	0.44
8:SA:2007:U:H2'	8:SA:2008:U:C6	2.53	0.44
11:SD:135:CYS:SG	11:SD:136:GLU:N	2.90	0.44
34:AA:62:A:H2'	34:AA:63:A:H8	1.82	0.44
34:AA:398:A:H2'	34:AA:399:G:H8	1.82	0.44
34:AA:407:A:H4'	34:AA:408:U:H5''	2.00	0.44
34:AA:496:C:C2	34:AA:497:U:C5	3.06	0.44
34:AA:630:U:OP1	68:A5:151:SER:N	2.50	0.44
34:AA:1020:C:C2	34:AA:1021:G:C8	3.06	0.44
34:AA:1327:C:H4'	34:AA:1328:A:O4'	2.18	0.44
34:AA:1423:G:H2'	34:AA:1424:C:C6	2.52	0.44
34:AA:1584:A:H5'	34:AA:1585:U:H5''	1.98	0.44
34:AA:1683:A:C2	34:AA:1730:A:C6	3.06	0.44
34:AA:1868:U:H2'	34:AA:1869:G:O4'	2.17	0.44
34:AA:1908:U:H2'	34:AA:1909:U:C6	2.53	0.44
34:AA:2005:A:H2'	34:AA:2006:A:C8	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:2150:G:C6	34:AA:2151:A:C6	3.06	0.44
34:AA:2732:A:H2'	34:AA:2733:A:C8	2.53	0.44
34:AA:3311:G:H2'	34:AA:3312:U:O4'	2.18	0.44
34:AA:3423:U:P	70:AE:345:ARG:HH12	2.41	0.44
38:A1:51:LEU:HB3	38:A1:65:ARG:HD2	2.00	0.44
39:A2:47:SER:O	39:A2:51:LYS:HG2	2.16	0.44
54:AI:10:HIS:HB3	54:AI:19:VAL:HA	1.99	0.44
54:AI:190:LEU:HA	54:AI:193:GLU:OE2	2.17	0.44
59:AS:61:PRO:HA	59:AS:84:SER:O	2.17	0.44
62:AR:125:VAL:HG22	62:AR:198:ILE:HD11	1.99	0.44
63:AW:54:LYS:HA	63:AW:83:TRP:CD1	2.52	0.44
64:AY:167:ASP:N	64:AY:167:ASP:OD1	2.47	0.44
67:A3:39:ASN:OD1	67:A3:41:ALA:N	2.43	0.44
68:A5:236:GLU:HG2	68:A5:238:ARG:H	1.83	0.44
70:AE:56:ILE:HD11	70:AE:353:LEU:HD12	1.99	0.44
75:AV:81:VAL:O	75:AV:81:VAL:HG13	2.18	0.44
77:AX:46:CYS:O	77:AX:50:VAL:HG22	2.17	0.44
79:S8:15:VAL:HG22	79:S8:314:TYR:CE1	2.53	0.44
8:SA:389:G:OP2	13:SF:6:LYS:NZ	2.48	0.44
8:SA:486:A:H2'	8:SA:487:A:H8	1.82	0.44
8:SA:1087:U:N3	8:SA:1088:A:N7	2.65	0.44
8:SA:1446:A:H2'	8:SA:1447:A:C8	2.52	0.44
13:SF:155:LYS:HD3	13:SF:155:LYS:HA	1.83	0.44
13:SF:214:ARG:HG3	13:SF:216:LYS:HG2	1.99	0.44
30:SW:23:LYS:O	30:SW:25:THR:HG23	2.18	0.44
31:SX:64:LYS:HZ1	31:SX:73:PRO:HB2	1.83	0.44
34:AA:62:A:HO2'	34:AA:63:A:P	2.39	0.44
34:AA:1295:A:O2'	68:A5:223:PRO:O	2.35	0.44
34:AA:1310:A:H2'	34:AA:1311:U:H6	1.83	0.44
34:AA:1899:U:H5'	46:Aa:21:ARG:NH1	2.32	0.44
34:AA:2547:U:H2'	34:AA:2554:G:N2	2.33	0.44
34:AA:2714:U:H2'	34:AA:2715:C:O4'	2.16	0.44
34:AA:3639:G:N2	34:AA:3646:G:H22	2.16	0.44
50:Af:19:ILE:HG22	50:Af:46:ARG:O	2.18	0.44
52:Ah:30:GLU:HA	52:Ah:33:GLN:HB3	1.99	0.44
59:AS:32:LEU:HB2	71:AF:289:ILE:HD13	2.00	0.44
59:AS:110:LYS:NZ	60:AO:84:GLU:OE2	2.43	0.44
71:AF:264:TYR:O	71:AF:279:LEU:HD21	2.18	0.44
73:AU:146:PRO:HA	73:AU:149:LYS:HB3	1.98	0.44
74:AH:92:ARG:HA	74:AH:141:ASP:O	2.18	0.44
7:S7:27:G:H22	7:S7:41:C:HI'	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:97:G:C4	8:SA:98:G:C8	3.05	0.44
8:SA:330:U:N3	8:SA:331:G:N7	2.66	0.44
8:SA:1044:C:H2'	8:SA:1045:G:O4'	2.18	0.44
8:SA:1219:U:H2'	8:SA:1220:C:H6	1.83	0.44
8:SA:1825:U:H5'	16:SI:78:LEU:HB3	2.00	0.44
8:SA:1884:A:H2'	8:SA:1885:G:C8	2.53	0.44
8:SA:1889:G:C6	8:SA:1902:G:C6	3.06	0.44
8:SA:2067:U:H2'	8:SA:2068:A:C8	2.53	0.44
14:SG:249:LYS:HD2	14:SG:253:GLU:HG2	1.99	0.44
15:SH:61:PHE:CE2	15:SH:72:ARG:HD3	2.52	0.44
15:SH:160:ARG:C	15:SH:160:ARG:HD3	2.42	0.44
34:AA:126:C:H2'	34:AA:127:U:H6	1.83	0.44
34:AA:138:C:H2'	34:AA:139:A:O4'	2.16	0.44
34:AA:262:A:H2'	34:AA:263:U:H6	1.83	0.44
34:AA:1030:C:H2'	34:AA:1031:G:C8	2.53	0.44
34:AA:1536:U:OP1	44:A8:103:LYS:NZ	2.51	0.44
34:AA:2455:G:O6	34:AA:2467:A:N6	2.50	0.44
34:AA:3240:C:H2'	34:AA:3241:U:H6	1.81	0.44
42:A7:80:ARG:NH2	42:A7:112:LEU:HB3	2.33	0.44
46:Aa:97:GLN:HA	46:Aa:100:VAL:HG22	1.99	0.44
52:Ah:23:ARG:HA	52:Ah:26:ILE:HG22	2.00	0.44
56:Ac:66:ARG:HH21	56:Ac:68:ARG:NH1	2.14	0.44
62:AR:87:GLY:O	62:AR:238:MET:HE3	2.18	0.44
65:AT:104:LEU:HD13	65:AT:134:LYS:HE3	1.99	0.44
68:A5:164:ARG:NH1	68:A5:213:ASN:O	2.51	0.44
68:A5:181:ASP:OD1	68:A5:182:ILE:N	2.51	0.44
76:Ag:24:THR:O	76:Ag:28:GLN:HG2	2.18	0.44
7:S7:48:U:H2'	7:S7:49:C:C6	2.53	0.44
7:S7:74:A:N6	53:Ai:32:GLU:OE1	2.50	0.44
8:SA:94:A:P	8:SA:404:G:H22	2.41	0.44
8:SA:106:A:H4'	8:SA:107:A:C8	2.53	0.44
8:SA:124:U:H5''	13:SF:77:ARG:NH1	2.30	0.44
8:SA:996:C:H1'	23:SP:138:ASP:HB2	1.98	0.44
8:SA:1674:G:C2	8:SA:1675:G:C5	3.05	0.44
8:SA:1726:U:P	32:SY:101:GLN:HE21	2.40	0.44
8:SA:1925:U:H2'	8:SA:1926:G:C8	2.53	0.44
8:SA:2034:U:H2'	8:SA:2035:U:C6	2.53	0.44
12:SE:108:ARG:NH1	12:SE:145:SER:HA	2.32	0.44
15:SH:204:GLN:O	15:SH:207:GLU:HG2	2.18	0.44
21:SN:97:VAL:O	21:SN:101:THR:HG23	2.18	0.44
22:SO:72:TRP:C	22:SO:74:HIS:H	2.26	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:SU:3:ARG:HD3	28:SU:4:MET:H	1.83	0.44
34:AA:614:U:N3	34:AA:615:U:C5	2.85	0.44
34:AA:1063:A:H2'	34:AA:1064:U:H6	1.82	0.44
34:AA:1076:C:H2'	34:AA:1077:U:O4'	2.18	0.44
34:AA:1646:C:H2'	34:AA:1647:U:H6	1.83	0.44
34:AA:2158:U:H2'	34:AA:2159:A:C8	2.53	0.44
34:AA:2509:U:H2'	34:AA:2510:U:C6	2.53	0.44
34:AA:2663:G:H2'	34:AA:2664:G:C8	2.52	0.44
34:AA:3065:C:C2	34:AA:3067:G:C2	3.06	0.44
34:AA:3669:U:C5	54:AI:68:MET:HE1	2.53	0.44
36:AB:57:C:H2'	36:AB:58:A:C8	2.51	0.44
37:AL:158:LEU:HA	37:AL:161:PHE:HD2	1.83	0.44
59:AS:100:CYS:HA	59:AS:120:LEU:O	2.18	0.44
68:A5:184:LYS:HB2	68:A5:184:LYS:HE2	1.76	0.44
71:AF:161:LEU:HD12	71:AF:161:LEU:HA	1.76	0.44
73:AU:57:ILE:HB	75:AV:152:ILE:HD11	1.98	0.44
7:S7:68:U:C4	7:S7:69:U:C4	3.06	0.44
8:SA:441:U:H5'	24:SQ:50:LYS:HG3	1.99	0.44
8:SA:597:C:H2'	8:SA:598:A:H8	1.77	0.44
8:SA:887:A:C2	8:SA:915:G:N1	2.79	0.44
8:SA:912:U:H2'	8:SA:913:U:C6	2.53	0.44
8:SA:1074:A:H2'	8:SA:1075:C:C6	2.53	0.44
8:SA:1644:U:H2'	8:SA:1646:U:C4	2.53	0.44
8:SA:1655:G:H3'	20:SM:115:ARG:NH2	2.33	0.44
9:SB:144:LYS:HA	9:SB:208:GLN:HG3	2.00	0.44
15:SH:68:LEU:HD23	15:SH:68:LEU:H	1.83	0.44
16:SI:105:ASN:O	16:SI:108:GLN:HG3	2.18	0.44
20:SM:103:LYS:NZ	79:S8:67:SER:HB3	2.33	0.44
24:SQ:48:HIS:CD2	24:SQ:105:SER:HB3	2.53	0.44
34:AA:182:U:O2'	34:AA:183:U:OP1	2.29	0.44
34:AA:203:A:H2'	34:AA:204:G:O4'	2.18	0.44
34:AA:505:A:HO2'	34:AA:506:A:P	2.39	0.44
34:AA:625:A:H3'	34:AA:626:A:H8	1.82	0.44
34:AA:1200:C:H2'	34:AA:1201:U:H6	1.83	0.44
34:AA:1246:C:H2'	34:AA:1247:C:C6	2.53	0.44
34:AA:1333:A:H2'	34:AA:1334:G:O4'	2.18	0.44
34:AA:1468:A:H2'	34:AA:1469:U:H6	1.80	0.44
34:AA:1556:G:H2'	34:AA:1557:U:H6	1.83	0.44
34:AA:1763:G:H2'	34:AA:1764:U:C6	2.53	0.44
34:AA:2510:U:H2'	34:AA:2511:G:H8	1.82	0.44
34:AA:2525:A:H2'	34:AA:2526:A:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3197:A:H2'	34:AA:3198:G:O4'	2.18	0.44
34:AA:3340:U:OP2	70:AE:241:ARG:NH2	2.51	0.44
41:A6:54:ILE:HG13	46:Aa:86:GLU:OE2	2.18	0.44
47:Ab:39:LYS:HA	47:Ab:42:GLU:OE2	2.18	0.44
47:Ab:44:ILE:HA	47:Ab:47:VAL:HG22	1.99	0.44
54:AI:12:ASN:OD1	54:AI:17:LYS:HG2	2.17	0.44
57:AK:176:GLU:O	57:AK:180:ILE:HG12	2.18	0.44
70:AE:62:LYS:O	70:AE:68:HIS:ND1	2.50	0.44
71:AF:379:VAL:O	71:AF:383:VAL:HG23	2.18	0.44
6:S6:31:THR:HA	6:S6:35:LYS:HD3	2.00	0.43
7:S7:2:G:C6	7:S7:70:A:H2	2.36	0.43
8:SA:295:U:C2	8:SA:296:G:C8	3.05	0.43
8:SA:295:U:H2'	8:SA:296:G:C8	2.53	0.43
8:SA:1110:G:H2'	8:SA:1111:U:H6	1.83	0.43
8:SA:1428:A:H2'	8:SA:1429:C:H6	1.83	0.43
8:SA:2032:U:H2'	8:SA:2033:U:H6	1.83	0.43
10:SC:23:HIS:HB3	10:SC:50:LEU:HD21	1.99	0.43
10:SC:57:LEU:HD13	10:SC:176:LEU:HD23	1.99	0.43
11:SD:109:LYS:HA	11:SD:109:LYS:HD3	1.78	0.43
12:SE:37:LYS:HD2	12:SE:126:ARG:NH2	2.32	0.43
14:SG:164:HIS:CE1	14:SG:186:ARG:HG2	2.53	0.43
17:SJ:135:GLU:HG3	17:SJ:136:ILE:N	2.33	0.43
18:SK:79:TYR:OH	29:SV:102:ARG:NH2	2.51	0.43
24:SQ:53:VAL:HG23	24:SQ:72:VAL:HG11	1.99	0.43
33:SZ:68:LEU:O	33:SZ:72:MET:HG2	2.17	0.43
34:AA:107:C:H2'	34:AA:108:C:O4'	2.18	0.43
34:AA:611:G:H2'	34:AA:612:G:C8	2.51	0.43
34:AA:715:U:C2	34:AA:2654:A:C4	3.06	0.43
34:AA:767:U:H2'	34:AA:768:C:O4'	2.18	0.43
34:AA:974:U:H2'	34:AA:975:G:C8	2.53	0.43
34:AA:1210:A:H2'	34:AA:1211:U:C6	2.52	0.43
34:AA:1240:A:H2'	34:AA:1241:G:C8	2.52	0.43
34:AA:1302:G:H2'	34:AA:1303:C:H6	1.81	0.43
34:AA:1963:U:C2'	34:AA:1964:G:H5'	2.48	0.43
34:AA:2028:G:C5	34:AA:2029:G:C5	3.06	0.43
34:AA:2699:C:H2'	34:AA:2700:C:C6	2.53	0.43
34:AA:2725:U:C4	34:AA:2726:U:O4	2.71	0.43
34:AA:3070:C:H2'	34:AA:3071:A:O4'	2.18	0.43
34:AA:3085:A:N1	62:AR:150:VAL:HG12	2.32	0.43
34:AA:3459:A:H2'	34:AA:3460:C:C6	2.53	0.43
34:AA:3550:U:H2'	34:AA:3551:U:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3634:C:O2'	43:AN:147:ASN:O	2.34	0.43
35:AC:140:G:N2	35:AC:140:G:OP2	2.51	0.43
51:AP:25:VAL:O	51:AP:29:GLU:HG2	2.18	0.43
52:Ah:39:CYS:HB2	52:Ah:47:THR:HG23	2.00	0.43
52:Ah:69:TRP:HH2	69:AD:177:LYS:H	1.65	0.43
54:AI:128:ALA:O	54:AI:131:ILE:HG12	2.16	0.43
3:S3:75:VAL:O	3:S3:79:ILE:HG22	2.18	0.43
8:SA:118:U:H2'	8:SA:119:C:C6	2.54	0.43
8:SA:882:A:H61	8:SA:920:A:H61	1.65	0.43
8:SA:1624:U:H2'	8:SA:1625:C:O4'	2.17	0.43
8:SA:1876:G:H2'	8:SA:1877:C:C6	2.53	0.43
8:SA:1943:C:H2'	8:SA:1944:U:H6	1.82	0.43
8:SA:1980:A:N7	8:SA:2011:G:N2	2.66	0.43
10:SC:11:GLU:HA	10:SC:14:ILE:HD12	2.00	0.43
10:SC:20:CYS:SG	10:SC:21:LYS:N	2.88	0.43
12:SE:176:SER:HA	12:SE:179:LYS:HG2	1.99	0.43
19:SL:188:ARG:HB2	19:SL:191:GLN:HB2	2.00	0.43
28:SU:104:LYS:HG3	28:SU:105:ASN:ND2	2.33	0.43
34:AA:419:A:C8	34:AA:420:U:C6	3.07	0.43
34:AA:622:U:H2'	34:AA:623:U:H6	1.83	0.43
34:AA:2399:A:H2'	34:AA:2400:A:C8	2.52	0.43
34:AA:2447:U:H2'	34:AA:2448:G:C8	2.52	0.43
34:AA:2461:A:H2'	34:AA:2462:C:C6	2.53	0.43
34:AA:2730:G:H1	34:AA:2819:U:H3	1.66	0.43
34:AA:3139:C:H4'	34:AA:3140:U:OP2	2.18	0.43
34:AA:3183:G:H2'	34:AA:3184:C:C6	2.53	0.43
36:AB:3:A:O2'	36:AB:25:A:O2'	2.22	0.43
36:AB:89:G:H22	61:AQ:56:GLU:CD	2.26	0.43
43:AN:47:ASP:OD2	43:AN:47:ASP:N	2.48	0.43
44:A8:71:LYS:HG3	44:A8:90:LYS:C	2.43	0.43
45:A9:63:ILE:HB	45:A9:113:ILE:HG13	2.01	0.43
46:Aa:57:LEU:HB3	46:Aa:61:ASP:HB2	2.01	0.43
53:Ai:82:THR:O	53:Ai:83:MET:HE2	2.17	0.43
54:AI:193:GLU:H	54:AI:193:GLU:CD	2.26	0.43
58:AM:87:TRP:HE1	58:AM:89:ARG:HG3	1.83	0.43
70:AE:195:MET:N	70:AE:195:MET:SD	2.81	0.43
6:S6:14:VAL:HG12	8:SA:574:A:O2'	2.19	0.43
6:S6:37:ARG:HD3	12:SE:123:HIS:CD2	2.53	0.43
8:SA:305:G:H2'	8:SA:306:A:H8	1.83	0.43
8:SA:626:A:H5''	8:SA:1242:G:H4'	1.99	0.43
8:SA:995:A:H2'	8:SA:996:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1018:U:H2'	8:SA:1019:C:C6	2.54	0.43
8:SA:1025:U:H2'	8:SA:1026:A:C8	2.54	0.43
8:SA:1173:C:H4'	28:SU:11:ILE:HD11	1.99	0.43
8:SA:1180:U:H2'	8:SA:1181:U:C6	2.53	0.43
8:SA:1232:A:H2'	8:SA:1233:A:O4'	2.18	0.43
8:SA:1940:U:H2'	8:SA:1941:C:O4'	2.19	0.43
8:SA:1946:C:H2'	8:SA:1947:U:C6	2.53	0.43
13:SF:50:ASN:HB2	13:SF:51:ARG:NH1	2.33	0.43
13:SF:131:LEU:HD21	13:SF:135:ARG:HD2	2.00	0.43
16:SI:69:MET:H	16:SI:150:ARG:NH2	2.16	0.43
22:SO:82:GLU:OE2	22:SO:82:GLU:N	2.51	0.43
28:SU:116:ILE:O	28:SU:119:GLU:HG2	2.19	0.43
29:SV:15:LYS:HD3	29:SV:17:GLU:HA	2.00	0.43
30:SW:27:ASP:OD2	30:SW:30:ILE:N	2.39	0.43
31:SX:58:LYS:HA	31:SX:61:ARG:HG3	2.00	0.43
32:SY:38:ILE:HA	32:SY:81:SER:OG	2.18	0.43
34:AA:105:G:C2	34:AA:106:A:C8	3.06	0.43
34:AA:150:C:H2'	34:AA:151:G:O4'	2.18	0.43
34:AA:281:G:O6	34:AA:299:A:N6	2.51	0.43
34:AA:694:U:O4	54:AI:144:LYS:NZ	2.34	0.43
34:AA:719:C:H2'	34:AA:720:U:O4'	2.18	0.43
34:AA:1428:G:OP2	34:AA:1429:A:O2'	2.27	0.43
34:AA:1475:G:N7	59:AS:38:ARG:NH1	2.66	0.43
34:AA:1588:U:H5''	71:AF:89:GLN:HG2	2.00	0.43
34:AA:1648:U:N3	34:AA:1649:G:N7	2.66	0.43
34:AA:2000:G:H2'	34:AA:2001:U:C6	2.54	0.43
34:AA:2166:G:H3'	34:AA:2167:G:H8	1.83	0.43
34:AA:2455:G:H2'	34:AA:2456:C:C6	2.54	0.43
34:AA:3700:G:O2'	34:AA:3702:C:OP2	2.28	0.43
34:AA:3771:C:O3'	70:AE:312:GLY:HA2	2.18	0.43
36:AB:38:U:H2'	36:AB:39:C:O3'	2.18	0.43
36:AB:46:C:H2'	36:AB:47:U:H6	1.83	0.43
38:A1:18:ARG:HG2	38:A1:71:PHE:CE2	2.53	0.43
39:A2:118:LEU:HD21	44:A8:110:ARG:HG3	2.01	0.43
51:AP:136:ASP:O	51:AP:142:VAL:HG11	2.18	0.43
54:AI:48:ARG:NH1	54:AI:80:SER:O	2.52	0.43
54:AI:182:ILE:O	54:AI:186:ILE:HG12	2.18	0.43
55:AJ:75:ILE:HA	55:AJ:78:GLN:HG3	1.99	0.43
55:AJ:116:TYR:HD2	55:AJ:217:LEU:HD11	1.82	0.43
55:AJ:163:LYS:NZ	55:AJ:190:LYS:O	2.49	0.43
57:AK:160:LYS:O	57:AK:164:LYS:HG2	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:AS:51:ARG:HA	59:AS:54:MET:HG3	2.00	0.43
64:AY:156:ASP:N	64:AY:173:ARG:O	2.50	0.43
70:AE:60:VAL:HG12	70:AE:62:LYS:H	1.84	0.43
71:AF:6:PRO:HB2	71:AF:24:ILE:HB	2.00	0.43
8:SA:69:A:H2'	8:SA:70:U:H6	1.82	0.43
8:SA:116:A:C2	8:SA:250:A:C5	3.06	0.43
8:SA:149:A:C6	8:SA:162:A:N6	2.85	0.43
8:SA:1005:G:H2'	8:SA:1006:C:H6	1.82	0.43
8:SA:1061:A:N6	8:SA:1082:A:H1'	2.33	0.43
8:SA:1242:G:H2'	8:SA:1243:A:H8	1.83	0.43
8:SA:1826:A:H2'	8:SA:1827:U:C6	2.53	0.43
16:SI:61:GLU:HA	16:SI:64:VAL:HG22	2.00	0.43
17:SJ:4:VAL:HA	17:SJ:7:ARG:HB2	2.01	0.43
19:SL:55:TYR:HB3	19:SL:193:GLY:HA3	2.00	0.43
23:SP:41:PHE:HA	23:SP:57:THR:HA	1.98	0.43
25:SR:131:PHE:CE2	25:SR:135:GLN:HG3	2.54	0.43
34:AA:64:G:P	51:AP:184:ARG:HH22	2.42	0.43
34:AA:1015:A:O2'	34:AA:1016:A:H5'	2.18	0.43
34:AA:1085:U:H2'	34:AA:1086:C:C6	2.54	0.43
34:AA:1575:C:H5'	71:AF:42:THR:HG21	2.00	0.43
34:AA:1738:A:O2'	34:AA:1739:C:H5''	2.17	0.43
34:AA:1867:U:H2'	34:AA:1868:U:C6	2.53	0.43
34:AA:2151:A:C2	34:AA:2152:A:C2	3.06	0.43
34:AA:2190:A:H2'	34:AA:2191:C:O4'	2.19	0.43
34:AA:2442:A:C2	34:AA:2481:A:H4'	2.53	0.43
34:AA:3490:A:H2'	34:AA:3491:U:O4'	2.18	0.43
35:AC:82:G:H2'	35:AC:83:U:C6	2.53	0.43
36:AB:45:U:C2	36:AB:46:C:C5	3.06	0.43
50:Af:18:LEU:HB3	50:Af:45:LEU:HD12	1.98	0.43
51:AP:203:ARG:HD2	71:AF:110:ARG:HD3	2.00	0.43
54:AI:23:VAL:HG21	54:AI:45:VAL:HB	2.00	0.43
55:AJ:167:LEU:HG	55:AJ:217:LEU:HB3	1.99	0.43
68:A5:150:LEU:O	68:A5:153:VAL:HG12	2.18	0.43
71:AF:228:ASP:N	71:AF:228:ASP:OD1	2.50	0.43
74:AH:73:CYS:SG	74:AH:74:THR:N	2.90	0.43
8:SA:109:C:OP1	8:SA:389:G:O2'	2.37	0.43
8:SA:1008:A:OP1	28:SU:114:ARG:NH2	2.52	0.43
8:SA:1025:U:H2'	8:SA:1026:A:H8	1.83	0.43
8:SA:1414:A:H4'	8:SA:1415:A:OP1	2.19	0.43
8:SA:1453:G:H5'	20:SM:7:ARG:NH2	2.34	0.43
8:SA:1641:G:H2'	8:SA:1642:U:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:SG:224:ARG:HA	14:SG:227:PHE:CE1	2.52	0.43
16:SI:67:MET:HE2	16:SI:164:LEU:HD21	2.01	0.43
19:SL:64:SER:O	19:SL:196:ASP:HA	2.18	0.43
24:SQ:92:CYS:SG	24:SQ:136:PHE:HB2	2.58	0.43
31:SX:87:PRO:O	31:SX:90:VAL:HG13	2.18	0.43
34:AA:204:G:H21	34:AA:227:A:N6	2.17	0.43
34:AA:616:U:C2	34:AA:617:A:N7	2.87	0.43
34:AA:1343:U:H2'	34:AA:1344:C:O4'	2.18	0.43
34:AA:1770:G:H2'	34:AA:1771:A:C8	2.54	0.43
34:AA:2479:U:H5''	34:AA:2608:G:OP2	2.19	0.43
34:AA:3107:U:H2'	34:AA:3108:A:H8	1.82	0.43
34:AA:3446:A:H2'	34:AA:3447:A:H8	1.82	0.43
34:AA:3698:U:O3'	70:AE:331:ARG:NH2	2.51	0.43
35:AC:2:A:H2'	35:AC:3:G:C8	2.53	0.43
37:AL:20:HIS:CG	51:AP:195:GLN:HE22	2.36	0.43
40:A4:62:LYS:HA	40:A4:65:LYS:HE3	1.99	0.43
42:A7:68:TRP:HZ3	42:A7:72:VAL:HG22	1.83	0.43
46:Aa:89:MET:O	46:Aa:93:LEU:HD13	2.19	0.43
67:A3:90:LYS:HD3	67:A3:90:LYS:HA	1.85	0.43
68:A5:169:ARG:C	68:A5:170:ARG:HD2	2.42	0.43
71:AF:35:ASP:OD1	71:AF:36:LEU:N	2.47	0.43
8:SA:142:G:O2'	8:SA:143:A:H5'	2.19	0.43
8:SA:527:A:H2'	8:SA:528:A:C8	2.54	0.43
8:SA:963:U:H2'	8:SA:964:G:C8	2.54	0.43
8:SA:1440:C:H2'	8:SA:1441:C:H6	1.83	0.43
8:SA:1853:A:H5''	8:SA:1854:U:C5	2.49	0.43
13:SF:120:LYS:O	13:SF:164:LEU:HG	2.18	0.43
16:SI:186:GLU:CD	16:SI:189:ARG:HH12	2.27	0.43
18:SK:41:MET:HB3	18:SK:47:ILE:HD13	2.00	0.43
20:SM:80:TYR:HA	20:SM:83:ARG:HE	1.83	0.43
24:SQ:75:GLN:NE2	24:SQ:82:LYS:HG2	2.34	0.43
34:AA:153:A:OP1	55:AJ:210:LYS:NZ	2.36	0.43
34:AA:674:U:O2'	34:AA:675:A:OP1	2.32	0.43
34:AA:764:G:O6	34:AA:776:A:C6	2.72	0.43
34:AA:1132:G:H5'	61:AQ:40:LYS:NZ	2.32	0.43
34:AA:1474:A:H5''	71:AF:306:LYS:HB2	2.01	0.43
34:AA:2419:A:H2'	34:AA:2420:U:C6	2.54	0.43
34:AA:2561:U:H2'	34:AA:2562:U:C6	2.53	0.43
34:AA:3007:A:H2'	34:AA:3008:A:H8	1.84	0.43
34:AA:3107:U:C2	34:AA:3108:A:C8	3.07	0.43
34:AA:3386:A:H2'	34:AA:3387:U:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:AC:10:C:H2'	35:AC:11:U:C6	2.53	0.43
35:AC:134:G:HO2'	35:AC:135:G:P	2.41	0.43
36:AB:43:A:C5	36:AB:44:C:C5	3.07	0.43
45:A9:39:ARG:NH1	45:A9:43:LYS:HE3	2.33	0.43
55:AJ:74:TYR:C	55:AJ:76:ARG:N	2.76	0.43
62:AR:8:LYS:HD3	62:AR:8:LYS:HA	1.84	0.43
62:AR:289:TYR:HA	62:AR:292:LYS:HB3	1.99	0.43
67:A3:49:VAL:HA	67:A3:52:ASN:HD22	1.83	0.43
70:AE:114:PHE:HB2	70:AE:160:HIS:CE1	2.53	0.43
8:SA:1419:C:H5'	30:SW:10:LYS:HE2	2.00	0.43
8:SA:1450:A:H2'	8:SA:1451:G:O4'	2.18	0.43
8:SA:1864:U:P	26:SS:38:ILE:HG22	2.58	0.43
12:SE:131:GLN:CB	12:SE:133:HIS:CE1	3.01	0.43
12:SE:135:ARG:HD2	12:SE:138:LYS:H	1.84	0.43
13:SF:199:ASP:HB2	13:SF:207:ILE:O	2.18	0.43
15:SH:56:ASN:O	15:SH:107:SER:N	2.51	0.43
16:SI:10:LEU:HG	16:SI:11:PHE:HD2	1.83	0.43
25:SR:25:ILE:O	25:SR:28:VAL:HG12	2.18	0.43
34:AA:41:G:N2	34:AA:3162:A:H62	2.17	0.43
34:AA:184:U:H2'	34:AA:185:A:O4'	2.18	0.43
34:AA:346:A:H4'	71:AF:199:ARG:HH12	1.84	0.43
34:AA:685:U:H1'	34:AA:686:U:C6	2.53	0.43
34:AA:715:U:O2'	34:AA:716:C:P	2.77	0.43
34:AA:1067:U:H2'	34:AA:1068:C:H6	1.82	0.43
34:AA:1132:G:C2	34:AA:1133:A:C8	3.07	0.43
34:AA:1266:U:H2'	34:AA:1267:G:C8	2.53	0.43
34:AA:1734:G:H5''	46:Aa:37:LYS:NZ	2.34	0.43
34:AA:1896:C:H2'	34:AA:1897:G:C8	2.54	0.43
34:AA:1999:A:H2'	34:AA:2000:G:H8	1.83	0.43
34:AA:2011:U:H2'	34:AA:2012:A:C8	2.53	0.43
34:AA:2131:A:OP1	65:AT:82:GLY:N	2.51	0.43
34:AA:3341:A:O2'	34:AA:3342:C:H5''	2.19	0.43
34:AA:3403:A:H2'	34:AA:3404:C:H6	1.84	0.43
34:AA:3776:U:H2'	34:AA:3777:G:H8	1.83	0.43
45:A9:132:ILE:O	45:A9:132:ILE:HG13	2.19	0.43
48:Ad:11:PHE:CD1	48:Ad:52:MET:HE1	2.54	0.43
57:AK:150:THR:O	57:AK:154:LYS:HG2	2.19	0.43
68:A5:58:LEU:HA	68:A5:58:LEU:HD23	1.81	0.43
71:AF:325:ARG:HD3	71:AF:332:TYR:CZ	2.53	0.43
2:S2:61:PRO:HA	2:S2:79:ILE:HD11	2.01	0.43
4:S4:36:PRO:HG3	4:S4:75:CYS:H	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:S6:17:GLN:NE2	8:SA:570:U:H4'	2.33	0.43
8:SA:391:A:H2'	8:SA:392:G:H8	1.82	0.43
8:SA:996:C:H2'	8:SA:997:G:C8	2.54	0.43
8:SA:1070:A:N6	8:SA:2053:U:OP1	2.45	0.43
8:SA:1426:G:H2'	8:SA:1427:A:H8	1.83	0.43
8:SA:1453:G:C2	8:SA:1454:G:C5	3.07	0.43
8:SA:1794:C:O2'	8:SA:1795:G:H5'	2.19	0.43
8:SA:1943:C:H2'	8:SA:1944:U:C6	2.53	0.43
13:SF:247:ASP:HB2	13:SF:250:GLU:HG3	2.00	0.43
20:SM:98:VAL:HG23	20:SM:99:ASP:N	2.34	0.43
21:SN:67:SER:O	21:SN:67:SER:OG	2.34	0.43
26:SS:81:ILE:HA	26:SS:82:PRO:HD3	1.91	0.43
29:SV:43:LEU:HD11	29:SV:73:ILE:HD11	2.00	0.43
34:AA:101:C:H2'	34:AA:102:A:O4'	2.18	0.43
34:AA:281:G:C6	34:AA:299:A:C6	3.06	0.43
34:AA:456:A:N6	34:AA:500:A:N6	2.66	0.43
34:AA:624:C:H5''	34:AA:625:A:C5'	2.48	0.43
34:AA:752:G:H2'	34:AA:753:C:O4'	2.18	0.43
34:AA:1073:G:H22	34:AA:1243:G:H1'	1.84	0.43
34:AA:1436:A:O2'	34:AA:1439:G:OP1	2.32	0.43
34:AA:1805:U:O2'	34:AA:1806:C:OP1	2.33	0.43
34:AA:2655:C:H2'	34:AA:2656:A:O4'	2.19	0.43
34:AA:3620:C:H2'	34:AA:3621:C:C6	2.54	0.43
43:AN:43:CYS:SG	43:AN:64:VAL:HG11	2.59	0.43
45:A9:57:ASP:O	45:A9:59:ASN:N	2.48	0.43
48:Ad:24:ILE:HD13	48:Ad:74:ILE:HB	2.00	0.43
63:AW:33:ALA:HA	63:AW:36:ILE:HG22	2.00	0.43
63:AW:97:ASN:C	63:AW:97:ASN:HD22	2.27	0.43
76:Ag:7:ARG:HG3	76:Ag:17:TRP:CD2	2.54	0.43
79:S8:222:ASP:OD1	79:S8:222:ASP:N	2.52	0.43
8:SA:412:U:H2'	8:SA:413:A:C8	2.53	0.43
8:SA:836:C:O2'	8:SA:837:A:H5'	2.18	0.43
8:SA:1455:C:O2'	8:SA:1456:G:H8	2.00	0.43
8:SA:1850:G:N2	8:SA:1852:A:H3'	2.34	0.43
8:SA:1861:U:H2'	8:SA:1862:C:C6	2.54	0.43
15:SH:180:THR:OG1	15:SH:183:ARG:HB2	2.19	0.43
18:SK:34:VAL:O	18:SK:38:LEU:HG	2.18	0.43
19:SL:7:GLY:C	19:SL:8:ARG:HD3	2.44	0.43
29:SV:48:PRO:HD3	29:SV:63:PHE:HE2	1.83	0.43
32:SY:84:LEU:HA	32:SY:87:LEU:HD12	2.00	0.43
34:AA:61:A:H2'	34:AA:62:A:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:61:A:C4	34:AA:62:A:C8	3.07	0.43
34:AA:348:C:H2'	34:AA:349:G:C8	2.53	0.43
34:AA:498:U:H2'	34:AA:499:U:C6	2.53	0.43
34:AA:596:A:N3	74:AH:5:VAL:HG11	2.34	0.43
34:AA:627:U:C2	34:AA:628:U:C5	3.06	0.43
34:AA:682:A:N7	34:AA:683:A:H2'	2.34	0.43
34:AA:1511:U:H2'	34:AA:1512:A:H8	1.81	0.43
34:AA:1786:A:O2'	34:AA:1787:A:O4'	2.22	0.43
34:AA:2017:U:H4'	34:AA:2018:G:O4'	2.18	0.43
34:AA:2970:U:N3	34:AA:2971:G:N7	2.66	0.43
34:AA:3351:U:H2'	34:AA:3352:G:O4'	2.19	0.43
34:AA:3725:G:N2	34:AA:3761:G:O2'	2.49	0.43
35:AC:101:A:H2'	35:AC:102:U:O4'	2.18	0.43
44:A8:40:CYS:SG	44:A8:43:ARG:HB2	2.59	0.43
61:AQ:38:ARG:HD3	61:AQ:46:PHE:CZ	2.53	0.43
62:AR:161:VAL:HG23	62:AR:162:PHE:HD1	1.83	0.43
73:AU:22:ALA:HA	73:AU:65:GLY:HA2	2.01	0.43
73:AU:91:ASP:OD1	73:AU:129:SER:HB3	2.19	0.43
79:S8:66:LYS:NZ	79:S8:101:LEU:O	2.50	0.43
8:SA:67:A:N6	8:SA:85:G:O2'	2.52	0.43
8:SA:406:A:H4'	8:SA:407:A:H5'	2.01	0.43
8:SA:834:A:H2'	8:SA:835:G:C8	2.52	0.43
8:SA:990:U:H2'	8:SA:991:G:C8	2.54	0.43
8:SA:1696:A:H2'	8:SA:1697:C:C6	2.54	0.43
8:SA:1844:A:H1'	26:SS:88:ARG:HA	2.01	0.43
11:SD:133:LYS:HB2	11:SD:190:MET:SD	2.59	0.43
12:SE:41:GLU:OE1	12:SE:41:GLU:N	2.41	0.43
14:SG:208:CYS:SG	14:SG:209:PHE:N	2.92	0.43
23:SP:76:MET:O	23:SP:79:GLN:HG2	2.19	0.43
28:SU:70:LYS:O	28:SU:74:ILE:HG23	2.18	0.43
34:AA:10:G:H3'	34:AA:11:A:H5''	2.01	0.43
34:AA:178:U:H2'	34:AA:179:G:C8	2.54	0.43
34:AA:218:U:OP1	71:AF:163:LYS:NZ	2.51	0.43
34:AA:365:C:H2'	34:AA:366:G:C8	2.53	0.43
34:AA:366:G:N1	34:AA:370:G:C6	2.87	0.43
34:AA:463:G:N1	34:AA:492:U:N3	2.35	0.43
34:AA:593:A:C5	43:AN:6:LEU:CD2	3.01	0.43
34:AA:954:G:N2	34:AA:976:G:C4	2.87	0.43
34:AA:1056:G:H22	34:AA:1079:U:H5''	1.83	0.43
34:AA:1107:U:H2'	34:AA:1108:U:C6	2.54	0.43
34:AA:1470:A:O2'	59:AS:11:ILE:O	2.36	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:1567:A:H5''	71:AF:195:LYS:HE3	2.01	0.43
34:AA:1622:G:H2'	34:AA:1623:A:H8	1.83	0.43
34:AA:1670:G:O6	49:Ae:17:ARG:NH2	2.28	0.43
34:AA:1844:G:O3'	65:AT:58:SER:OG	2.33	0.43
34:AA:2449:U:H2'	34:AA:2471:A:N6	2.33	0.43
34:AA:3002:G:H2'	34:AA:3003:C:C6	2.54	0.43
34:AA:3306:G:H2'	34:AA:3307:C:C6	2.53	0.43
34:AA:3306:G:N3	70:AE:247:ALA:HB1	2.34	0.43
34:AA:3580:G:N2	34:AA:3622:U:H1'	2.34	0.43
36:AB:39:C:O2'	36:AB:40:A:OP1	2.33	0.43
46:Aa:7:TYR:CD2	46:Aa:12:HIS:HA	2.53	0.43
51:AP:83:PRO:HA	51:AP:86:GLN:HG2	2.01	0.43
54:AI:138:LYS:HD3	54:AI:143:LYS:NZ	2.34	0.43
55:AJ:164:LYS:HA	55:AJ:164:LYS:HD2	1.77	0.43
57:AK:77:LYS:HD3	57:AK:77:LYS:HA	1.74	0.43
59:AS:66:LYS:HA	59:AS:66:LYS:HD2	1.83	0.43
61:AQ:86:HIS:HB3	61:AQ:139:ARG:HG3	1.99	0.43
63:AW:29:THR:HA	63:AW:87:SER:OG	2.19	0.43
68:A5:246:GLU:HG3	68:A5:247:ALA:H	1.84	0.43
69:AD:37:LYS:C	69:AD:38:LYS:HD3	2.44	0.43
79:S8:13:ARG:HG3	79:S8:317:GLU:CG	2.48	0.43
79:S8:43:ARG:HG3	79:S8:74:ALA:CB	2.48	0.43
1:S1:61:PHE:CD1	1:S1:72:GLY:HA3	2.54	0.42
4:S4:24:PRO:HD2	18:SK:55:ASP:OD2	2.19	0.42
7:S7:48:U:H2'	7:S7:49:C:H6	1.84	0.42
8:SA:398:G:H2'	8:SA:399:C:C6	2.55	0.42
8:SA:1429:C:C2	8:SA:1430:G:C8	3.07	0.42
8:SA:1429:C:H5''	11:SD:159:ILE:HG22	2.01	0.42
8:SA:1712:G:H2'	8:SA:1713:C:C6	2.54	0.42
9:SB:81:HIS:HB2	9:SB:109:LYS:HD3	2.00	0.42
10:SC:76:VAL:HA	10:SC:98:ILE:O	2.19	0.42
15:SH:185:LEU:HA	15:SH:188:ARG:HG2	2.01	0.42
34:AA:236:U:O2'	66:AZ:2:LYS:N	2.48	0.42
34:AA:924:G:H2'	34:AA:1055:A:H61	1.84	0.42
34:AA:1114:A:H2'	34:AA:1115:G:C8	2.54	0.42
34:AA:1640:G:H5''	56:Ac:17:LYS:NZ	2.33	0.42
34:AA:1802:A:C5	34:AA:2031:A:C8	3.07	0.42
34:AA:1827:C:H2'	34:AA:1828:G:H8	1.83	0.42
34:AA:2115:U:H5'	49:Ae:45:ARG:NH2	2.34	0.42
34:AA:2395:U:H2'	34:AA:2396:C:C6	2.54	0.42
34:AA:2741:A:H2'	34:AA:2742:G:H8	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3082:G:H2'	34:AA:3083:U:C6	2.53	0.42
34:AA:3592:A:H2'	34:AA:3593:U:C6	2.54	0.42
34:AA:3780:A:H2'	34:AA:3781:A:H8	1.84	0.42
51:AP:158:ARG:HB3	51:AP:163:LEU:HB2	2.01	0.42
54:AI:27:LYS:HB3	54:AI:39:ALA:HB3	2.00	0.42
59:AS:148:GLU:HA	59:AS:151:PHE:CD2	2.54	0.42
62:AR:61:ILE:HG12	62:AR:79:LYS:HG2	2.00	0.42
63:AW:36:ILE:HD11	63:AW:44:ALA:HB1	2.01	0.42
68:A5:119:GLN:HB2	68:A5:122:ASN:OD1	2.18	0.42
70:AE:224:LYS:HD3	70:AE:224:LYS:HA	1.91	0.42
74:AH:133:ILE:HG22	74:AH:145:VAL:HG22	2.01	0.42
4:S4:18:LYS:HE3	4:S4:19:LEU:HB3	2.01	0.42
4:S4:35:CYS:HB3	4:S4:38:CYS:HB2	2.01	0.42
5:S5:22:VAL:HG13	5:S5:36:ASN:HB3	2.02	0.42
8:SA:87:A:N3	8:SA:146:A:O2'	2.41	0.42
8:SA:525:G:O2'	8:SA:526:G:P	2.77	0.42
8:SA:1009:A:H2'	8:SA:1010:A:C8	2.54	0.42
8:SA:1080:G:H2'	8:SA:1081:U:C5	2.54	0.42
8:SA:1245:U:H2'	8:SA:1246:U:H6	1.83	0.42
8:SA:1385:U:C1'	8:SA:1387:U:H3	2.30	0.42
8:SA:1795:G:H5''	32:SY:145:ARG:HH12	1.85	0.42
8:SA:1829:U:H2'	8:SA:1830:C:O4'	2.19	0.42
10:SC:55:GLU:OE1	33:SZ:78:LEU:HD13	2.19	0.42
12:SE:109:LEU:HG	12:SE:146:PHE:HB3	2.00	0.42
20:SM:45:LEU:HB3	20:SM:79:ILE:HG13	2.00	0.42
28:SU:5:TYR:CG	28:SU:117:LEU:HD11	2.54	0.42
28:SU:34:GLU:HA	28:SU:37:ILE:CG2	2.49	0.42
30:SW:34:ILE:O	30:SW:38:VAL:HG23	2.19	0.42
34:AA:316:A:H5''	47:Ab:87:HIS:CD2	2.54	0.42
34:AA:458:A:O2'	34:AA:459:G:H8	2.02	0.42
34:AA:491:C:H2'	34:AA:492:U:C6	2.53	0.42
34:AA:1297:A:H2'	34:AA:1298:A:C8	2.54	0.42
34:AA:1342:U:H2'	34:AA:1343:U:C6	2.53	0.42
34:AA:1484:A:H2'	34:AA:1485:A:H8	1.83	0.42
34:AA:1779:A:O4'	34:AA:1780:G:N2	2.51	0.42
34:AA:1819:U:C5'	65:AT:99:ARG:HH22	2.31	0.42
34:AA:2208:G:H21	34:AA:3754:A:H8	1.62	0.42
34:AA:2623:C:H2'	34:AA:2624:C:H6	1.84	0.42
34:AA:2809:A:O2'	34:AA:2810:A:O5'	2.36	0.42
34:AA:2823:U:O2'	34:AA:2824:A:H8	2.02	0.42
34:AA:3497:A:O3'	74:AH:70:ARG:HD3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:AB:86:G:H4'	73:AU:126:ARG:NH1	2.33	0.42
37:AL:128:LYS:HD2	37:AL:128:LYS:HA	1.76	0.42
43:AN:19:LEU:O	43:AN:22:LYS:NZ	2.44	0.42
47:Ab:101:VAL:O	47:Ab:104:GLN:HG3	2.19	0.42
48:Ad:24:ILE:HB	48:Ad:42:LYS:HB2	2.01	0.42
48:Ad:41:LEU:HD23	48:Ad:54:PHE:CE2	2.54	0.42
54:AI:78:LEU:HD22	54:AI:132:ASP:HA	2.01	0.42
58:AM:119:PRO:HA	58:AM:137:ALA:HB3	2.01	0.42
65:AT:158:LEU:O	65:AT:162:ARG:HG2	2.19	0.42
69:AD:91:GLY:O	69:AD:103:PRO:HD3	2.20	0.42
69:AD:242:ARG:NH2	69:AD:243:THR:O	2.51	0.42
74:AH:109:THR:HG23	74:AH:127:ALA:HB3	2.00	0.42
2:S2:59:ILE:HG22	2:S2:101:TYR:CE1	2.54	0.42
4:S4:39:LEU:HD12	4:S4:39:LEU:O	2.20	0.42
8:SA:29:U:O3'	24:SQ:126:LYS:NZ	2.52	0.42
8:SA:43:A:C6	8:SA:384:A:C6	3.08	0.42
8:SA:136:U:H2'	8:SA:137:A:H8	1.84	0.42
8:SA:217:G:N2	8:SA:254:U:O4	2.52	0.42
8:SA:566:C:H2'	8:SA:567:U:C6	2.55	0.42
8:SA:755:A:H2'	8:SA:756:A:H8	1.85	0.42
8:SA:1317:A:O2'	8:SA:1690:A:N6	2.47	0.42
8:SA:1729:A:C2	8:SA:1904:G:H1'	2.55	0.42
10:SC:29:LEU:HD13	10:SC:46:HIS:CD2	2.54	0.42
16:SI:90:ILE:O	16:SI:94:MET:HG2	2.18	0.42
23:SP:86:LYS:HZ1	23:SP:124:LEU:N	2.17	0.42
32:SY:86:ARG:HB3	32:SY:97:PHE:HE1	1.84	0.42
34:AA:147:C:H2'	34:AA:148:G:O4'	2.18	0.42
34:AA:451:C:C4	34:AA:693:A:C4	3.07	0.42
34:AA:531:U:OP1	71:AF:358:ARG:NH2	2.51	0.42
34:AA:635:U:H2'	34:AA:636:U:H6	1.84	0.42
34:AA:700:A:H5'	45:A9:92:ASP:HB3	2.01	0.42
34:AA:1058:U:H2'	34:AA:1059:G:H8	1.84	0.42
34:AA:1649:G:C6	34:AA:1666:A:C6	3.07	0.42
34:AA:1810:U:O2'	34:AA:2022:A:N6	2.47	0.42
34:AA:3151:A:H2'	34:AA:3152:G:H8	1.84	0.42
34:AA:3377:A:H4'	34:AA:3378:C:H5''	2.01	0.42
34:AA:3435:A:C6	70:AE:75:ALA:HB2	2.55	0.42
34:AA:3620:C:H2'	34:AA:3621:C:H6	1.84	0.42
36:AB:86:G:H4'	73:AU:126:ARG:CZ	2.49	0.42
63:AW:118:MET:O	63:AW:146:ILE:HD12	2.19	0.42
64:AY:89:ARG:HD3	64:AY:90:ASN:N	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:A3:5:LYS:HA	67:A3:5:LYS:HD3	1.67	0.42
69:AD:5:ILE:HD11	69:AD:209:HIS:CD2	2.54	0.42
70:AE:68:HIS:CD2	70:AE:69:LYS:HE3	2.54	0.42
70:AE:123:TYR:CE2	70:AE:124:LYS:HG2	2.55	0.42
70:AE:195:MET:HA	70:AE:198:LYS:HG2	2.00	0.42
70:AE:230:TYR:CD2	70:AE:262:PRO:HB3	2.55	0.42
75:AV:123:LYS:HB2	75:AV:125:GLU:HG2	2.01	0.42
79:S8:88:LEU:HB2	79:S8:122:PHE:CZ	2.53	0.42
3:S3:59:TYR:OH	9:SB:72:ASP:OD1	2.26	0.42
4:S4:18:LYS:HD3	8:SA:1172:U:O2'	2.19	0.42
8:SA:51:A:H2'	8:SA:52:U:O4'	2.20	0.42
8:SA:370:G:N2	8:SA:806:A:C6	2.88	0.42
8:SA:519:A:OP1	12:SE:170:GLY:HA2	2.20	0.42
8:SA:756:A:H2'	8:SA:757:A:H8	1.84	0.42
8:SA:883:A:H2'	8:SA:884:G:H8	1.84	0.42
8:SA:1210:G:C2	8:SA:1211:G:C8	3.08	0.42
8:SA:1381:C:H5''	21:SN:66:LYS:HE3	2.00	0.42
8:SA:1636:A:H5''	30:SW:3:ARG:HH21	1.85	0.42
14:SG:59:ILE:HG13	14:SG:78:PHE:CD1	2.54	0.42
15:SH:39:ASP:HA	15:SH:46:THR:HA	2.01	0.42
19:SL:200:ILE:HD13	19:SL:208:TYR:CD2	2.53	0.42
23:SP:112:ALA:O	23:SP:116:LEU:HD23	2.19	0.42
26:SS:93:LYS:HG3	26:SS:95:GLY:H	1.85	0.42
30:SW:12:ALA:O	30:SW:16:ILE:HG13	2.20	0.42
34:AA:40:A:H61	34:AA:1082:G:N2	2.17	0.42
34:AA:417:A:O2'	34:AA:418:A:H5'	2.19	0.42
34:AA:593:A:H61	43:AN:6:LEU:HD11	1.84	0.42
34:AA:800:A:H2'	34:AA:801:U:O4'	2.18	0.42
34:AA:818:C:H42	34:AA:903:C:N4	2.16	0.42
34:AA:1132:G:H5'	61:AQ:40:LYS:HZ2	1.83	0.42
34:AA:1331:A:H2'	34:AA:1332:A:H8	1.83	0.42
34:AA:1554:G:O2'	34:AA:1555:A:O5'	2.37	0.42
34:AA:2442:A:H61	34:AA:2480:G:HO2'	1.61	0.42
34:AA:3042:A:H3'	62:AR:31:ARG:NH2	2.35	0.42
34:AA:3322:C:H2'	34:AA:3323:G:H8	1.84	0.42
34:AA:3441:A:C8	34:AA:3470:G:N1	2.87	0.42
35:AC:47:G:H4'	56:Ac:25:CYS:O	2.20	0.42
39:A2:3:ASN:ND2	71:AF:28:PHE:O	2.52	0.42
44:A8:93:VAL:HG13	44:A8:118:VAL:HG12	2.00	0.42
46:Aa:87:ARG:HE	46:Aa:87:ARG:HB2	1.72	0.42
51:AP:123:GLN:HG2	51:AP:124:ASP:H	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:AQ:35:ASP:OD1	61:AQ:35:ASP:N	2.53	0.42
64:AY:127:ILE:O	64:AY:127:ILE:HG13	2.18	0.42
77:AX:47:THR:O	77:AX:51:LYS:HB2	2.19	0.42
78:A0:46:LEU:HD13	78:A0:49:GLN:NE2	2.33	0.42
8:SA:423:A:H5'	8:SA:424:G:C8	2.54	0.42
8:SA:1064:A:H2'	8:SA:1065:C:O4'	2.20	0.42
8:SA:1186:G:H2'	8:SA:1188:A:OP2	2.19	0.42
8:SA:1215:G:OP1	76:Ag:20:LYS:NZ	2.52	0.42
8:SA:1827:U:H2'	8:SA:1828:A:C8	2.54	0.42
8:SA:1859:A:N1	8:SA:1860:A:N6	2.66	0.42
12:SE:28:LEU:O	12:SE:31:ILE:HG22	2.19	0.42
13:SF:115:THR:O	13:SF:119:SER:HB3	2.18	0.42
16:SI:16:TYR:CZ	16:SI:32:VAL:HG22	2.55	0.42
17:SJ:44:LEU:HD23	17:SJ:47:CYS:SG	2.59	0.42
20:SM:43:TYR:HA	20:SM:46:LYS:HB2	2.02	0.42
20:SM:52:PRO:HG2	20:SM:86:ILE:HD11	2.01	0.42
29:SV:128:VAL:HG22	29:SV:140:PHE:HB3	2.02	0.42
34:AA:27:U:O2'	34:AA:335:A:H1'	2.20	0.42
34:AA:435:G:H2'	34:AA:436:G:C8	2.46	0.42
34:AA:594:C:O2	34:AA:594:C:H2'	2.19	0.42
34:AA:751:U:H2'	34:AA:752:G:C8	2.54	0.42
34:AA:952:U:OP1	65:AT:85:ASN:HB3	2.20	0.42
34:AA:1017:U:H2'	34:AA:1018:C:C6	2.54	0.42
34:AA:1299:G:H2'	34:AA:1300:G:H8	1.85	0.42
34:AA:1727:U:H2'	34:AA:1728:C:H6	1.83	0.42
34:AA:2175:C:H2'	34:AA:2176:A:C8	2.52	0.42
34:AA:2405:A:P	78:A0:51:LYS:HZ2	2.43	0.42
34:AA:2450:G:O2'	69:AD:156:LYS:HD2	2.20	0.42
34:AA:3125:U:H2'	34:AA:3126:A:C8	2.55	0.42
34:AA:3352:G:N1	34:AA:3526:U:O2	2.53	0.42
36:AB:85:G:H2'	36:AB:86:G:H8	1.85	0.42
39:A2:21:LYS:HG3	44:A8:80:GLU:OE2	2.20	0.42
51:AP:13:LYS:HA	51:AP:13:LYS:HD3	1.82	0.42
56:Ac:79:ASN:O	56:Ac:80:LYS:HG2	2.19	0.42
58:AM:122:ARG:N	58:AM:139:VAL:OXT	2.52	0.42
59:AS:23:ASN:HD21	71:AF:33:ARG:NH1	2.17	0.42
66:AZ:88:LYS:HE2	66:AZ:92:GLU:HB3	2.02	0.42
68:A5:112:PHE:HD1	68:A5:117:LEU:HB2	1.83	0.42
72:AG:19:LEU:HB2	72:AG:69:VAL:HG12	2.01	0.42
77:AX:55:LEU:HD12	77:AX:56:ASP:N	2.31	0.42
8:SA:556:G:H2'	8:SA:557:A:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1266:G:H2'	8:SA:1267:C:C6	2.55	0.42
8:SA:1447:A:H5'	21:SN:51:GLY:HA3	2.01	0.42
8:SA:1795:G:C5'	32:SY:145:ARG:HH12	2.32	0.42
8:SA:1904:G:H2'	8:SA:1905:C:H6	1.84	0.42
13:SF:150:ILE:HD12	13:SF:154:VAL:HB	2.02	0.42
17:SJ:88:THR:OG1	17:SJ:90:LYS:NZ	2.27	0.42
24:SQ:19:ARG:NH1	24:SQ:19:ARG:HA	2.34	0.42
25:SR:98:GLY:HA3	25:SR:112:ILE:HG12	2.01	0.42
26:SS:76:PRO:HB3	26:SS:81:ILE:HD12	2.02	0.42
26:SS:100:VAL:HG21	26:SS:108:TYR:CD2	2.54	0.42
28:SU:34:GLU:O	28:SU:38:ILE:HG12	2.20	0.42
34:AA:184:U:H3'	34:AA:185:A:H5''	2.00	0.42
34:AA:393:G:H2'	34:AA:394:A:C8	2.55	0.42
34:AA:541:A:H2	34:AA:611:G:H22	1.67	0.42
34:AA:1040:A:O2'	34:AA:1041:U:H5'	2.19	0.42
34:AA:1605:A:C8	42:A7:34:LYS:HD2	2.55	0.42
34:AA:1801:G:H22	34:AA:2030:G:H1'	1.84	0.42
34:AA:2105:A:H5''	34:AA:2106:A:OP1	2.20	0.42
34:AA:2448:G:C6	34:AA:2475:A:N1	2.87	0.42
34:AA:2588:A:C2	58:AM:39:ILE:HD12	2.55	0.42
34:AA:2635:C:H2'	34:AA:2636:U:C6	2.54	0.42
34:AA:2744:G:H2'	34:AA:2745:G:C8	2.55	0.42
34:AA:3360:U:C2'	34:AA:3377:A:H61	2.33	0.42
34:AA:3403:A:H1'	58:AM:10:LYS:HB2	2.01	0.42
35:AC:107:A:OP2	35:AC:108:A:H5''	2.20	0.42
35:AC:156:A:O2'	35:AC:157:A:O5'	2.34	0.42
36:AB:95:U:H2'	36:AB:96:C:C6	2.55	0.42
42:A7:107:ASP:OD1	42:A7:107:ASP:N	2.51	0.42
43:AN:83:ILE:HG22	43:AN:95:THR:HG21	2.01	0.42
46:Aa:7:TYR:CE1	46:Aa:20:VAL:HG21	2.54	0.42
47:Ab:96:GLU:O	47:Ab:100:VAL:HG13	2.20	0.42
59:AS:123:ASP:OD1	59:AS:124:GLN:HG2	2.20	0.42
66:AZ:42:TYR:O	66:AZ:43:LYS:HG2	2.19	0.42
67:A3:71:LEU:HD23	67:A3:71:LEU:HA	1.87	0.42
72:AG:18:VAL:CG2	72:AG:128:TYR:HB3	2.50	0.42
73:AU:133:ILE:HG13	73:AU:134:ARG:HB2	2.01	0.42
7:S7:15:G:H21	7:S7:19:G:H1	1.67	0.42
8:SA:295:U:H2'	8:SA:296:G:H8	1.85	0.42
8:SA:526:G:H2'	8:SA:527:A:H8	1.85	0.42
8:SA:954:G:OP1	9:SB:136:ARG:NH1	2.53	0.42
8:SA:1118:U:H2'	8:SA:1119:G:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1168:U:H5'	9:SB:149:GLN:HA	2.00	0.42
8:SA:1382:G:H4'	21:SN:73:THR:N	2.31	0.42
8:SA:1626:U:H1'	8:SA:1812:A:N1	2.34	0.42
8:SA:1679:G:C2	27:ST:39:GLN:HB3	2.55	0.42
16:SI:67:MET:C	16:SI:150:ARG:HH21	2.26	0.42
19:SL:8:ARG:NH1	19:SL:28:GLU:OE2	2.43	0.42
27:ST:40:CYS:HB3	27:ST:44:ARG:HD2	2.00	0.42
29:SV:90:ARG:HH21	29:SV:107:HIS:CG	2.38	0.42
30:SW:16:ILE:HG22	30:SW:17:VAL:H	1.84	0.42
34:AA:441:A:H2'	34:AA:442:G:H8	1.84	0.42
34:AA:912:U:C2	34:AA:913:U:C5	3.07	0.42
34:AA:1260:C:H2'	34:AA:1261:A:C8	2.51	0.42
34:AA:2386:A:H2'	34:AA:2387:A:C8	2.55	0.42
34:AA:2511:G:N1	34:AA:2521:A:C6	2.87	0.42
34:AA:2577:C:H5''	34:AA:2579:U:O2'	2.20	0.42
34:AA:2578:C:H2'	34:AA:2579:U:C6	2.55	0.42
34:AA:2884:G:C6	34:AA:2885:A:N6	2.88	0.42
34:AA:3002:G:H2'	34:AA:3003:C:H6	1.85	0.42
34:AA:3386:A:H2'	34:AA:3387:U:H6	1.85	0.42
34:AA:3508:A:OP1	57:AK:133:ARG:NH1	2.35	0.42
34:AA:3699:A:H2'	34:AA:3700:G:C8	2.55	0.42
34:AA:3720:G:C2	34:AA:3771:C:C2	3.08	0.42
35:AC:7:A:C4	35:AC:8:G:C8	3.08	0.42
55:AJ:195:CYS:HB3	55:AJ:235:CYS:SG	2.60	0.42
67:A3:87:THR:OG1	67:A3:90:LYS:HG2	2.20	0.42
71:AF:34:ASN:OD1	71:AF:246:ILE:HD11	2.19	0.42
71:AF:36:LEU:HA	71:AF:36:LEU:HD23	1.74	0.42
71:AF:303:LEU:HG	71:AF:304:ALA:H	1.84	0.42
72:AG:18:VAL:HG23	72:AG:128:TYR:HB3	2.01	0.42
77:AX:127:LYS:HG3	77:AX:128:LEU:HD22	2.02	0.42
79:S8:207:VAL:HG23	79:S8:218:SER:HB2	2.01	0.42
79:S8:262:ASP:HA	79:S8:291:TRP:H	1.83	0.42
4:S4:32:ASP:HB2	4:S4:80:LYS:HD3	2.01	0.42
8:SA:341:U:H2'	8:SA:342:G:C8	2.55	0.42
8:SA:410:G:H2'	8:SA:411:C:H6	1.83	0.42
8:SA:466:A:H5'	8:SA:467:G:OP2	2.19	0.42
8:SA:485:C:H2'	8:SA:486:A:H8	1.84	0.42
8:SA:1025:U:C2	8:SA:1026:A:C8	3.07	0.42
8:SA:1028:U:C6	28:SU:61:PRO:HB3	2.55	0.42
8:SA:1063:G:H2'	8:SA:1064:A:C8	2.54	0.42
8:SA:1418:C:O3'	30:SW:10:LYS:HD2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1455:C:C2	8:SA:1456:G:C8	3.08	0.42
8:SA:1798:G:C2	8:SA:1802:G:C6	3.08	0.42
8:SA:1889:G:N2	8:SA:1901:U:O2	2.40	0.42
8:SA:1890:A:H2'	8:SA:1891:U:C6	2.54	0.42
9:SB:225:ILE:HD12	9:SB:225:ILE:H	1.85	0.42
9:SB:231:LEU:HD23	9:SB:231:LEU:HA	1.80	0.42
17:SJ:11:SER:OG	17:SJ:12:ASN:N	2.51	0.42
22:SO:46:LEU:HD13	22:SO:53:ILE:HD13	2.01	0.42
24:SQ:70:LYS:HB3	24:SQ:93:LEU:HD13	2.01	0.42
34:AA:70:A:H2	34:AA:72:C:N4	2.18	0.42
34:AA:163:G:C6	34:AA:269:A:N1	2.88	0.42
34:AA:421:C:H2'	34:AA:422:G:H8	1.84	0.42
34:AA:974:U:C4	34:AA:975:G:C6	3.08	0.42
34:AA:1089:U:H2'	34:AA:1090:G:H8	1.84	0.42
34:AA:1219:A:N7	34:AA:1224:A:C5	2.87	0.42
34:AA:1330:A:C6	34:AA:1429:A:C4	3.08	0.42
34:AA:1801:G:N1	34:AA:2030:G:C4	2.87	0.42
34:AA:1970:A:C4	34:AA:1972:A:C8	3.07	0.42
34:AA:2491:A:C5	34:AA:2563:A:C2	3.07	0.42
34:AA:2547:U:H2'	34:AA:2554:G:H22	1.85	0.42
35:AC:34:U:H2'	35:AC:35:A:H8	1.84	0.42
35:AC:57:A:C4	35:AC:58:A:C8	3.07	0.42
36:AB:116:U:H2'	36:AB:117:C:H6	1.83	0.42
38:A1:11:ILE:HD12	38:A1:80:ILE:HB	2.01	0.42
56:Ac:20:PHE:CZ	56:Ac:21:LEU:HD23	2.55	0.42
74:AH:23:ARG:HD2	74:AH:38:PHE:O	2.20	0.42
76:Ag:12:ARG:HH21	76:Ag:14:LYS:HD2	1.84	0.42
79:S8:116:ASP:C	79:S8:133:SER:HG	2.22	0.42
4:S4:81:ILE:HD12	28:SU:25:TRP:CZ3	2.54	0.42
8:SA:57:G:H2'	8:SA:58:U:O4'	2.19	0.42
8:SA:106:A:N6	8:SA:314:A:OP2	2.52	0.42
8:SA:939:A:H2'	8:SA:940:G:H8	1.81	0.42
8:SA:1318:A:O2'	8:SA:1694:G:N2	2.53	0.42
8:SA:1381:C:H2'	8:SA:1382:G:H8	1.85	0.42
8:SA:2050:U:H2'	8:SA:2051:C:C6	2.55	0.42
12:SE:117:GLY:O	12:SE:119:ALA:N	2.53	0.42
21:SN:77:ASP:OD1	21:SN:77:ASP:N	2.52	0.42
30:SW:19:LYS:HE2	30:SW:20:TYR:CZ	2.54	0.42
34:AA:282:U:H2'	34:AA:283:U:H6	1.85	0.42
34:AA:307:G:C2'	34:AA:308:U:H5'	2.50	0.42
34:AA:628:U:C2	34:AA:629:A:N7	2.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:793:A:H2'	34:AA:794:C:O4'	2.20	0.42
34:AA:1441:G:H2'	34:AA:1442:C:C6	2.53	0.42
34:AA:2208:G:OP1	65:AT:74:HIS:ND1	2.46	0.42
34:AA:2948:A:H2'	34:AA:2949:G:C8	2.54	0.42
34:AA:3086:A:OP2	34:AA:3086:A:H8	2.03	0.42
34:AA:3665:U:OP1	54:AI:98:ARG:NH2	2.50	0.42
37:AL:124:MET:HE2	37:AL:124:MET:HA	2.00	0.42
44:A8:110:ARG:HA	44:A8:113:GLN:HE21	1.84	0.42
46:Aa:61:ASP:OD1	46:Aa:64:ARG:NH2	2.53	0.42
51:AP:120:TRP:CH2	51:AP:123:GLN:HB2	2.55	0.42
68:A5:95:VAL:HG23	68:A5:145:TYR:HB3	2.02	0.42
70:AE:186:LYS:H	70:AE:186:LYS:HD2	1.84	0.42
79:S8:98:LEU:HD13	79:S8:108:ARG:HE	1.82	0.42
79:S8:200:HIS:CD2	79:S8:204:LEU:HD11	2.55	0.42
8:SA:94:A:OP2	8:SA:404:G:N2	2.41	0.42
8:SA:577:A:N1	24:SQ:115:GLY:HA3	2.35	0.42
8:SA:990:U:H2'	8:SA:991:G:H8	1.85	0.42
8:SA:1021:A:O2'	28:SU:114:ARG:HG2	2.19	0.42
8:SA:1245:U:C2	8:SA:1246:U:C5	3.08	0.42
8:SA:1828:A:C2	8:SA:1829:U:C5	3.08	0.42
8:SA:1967:G:O2'	8:SA:2023:A:N6	2.49	0.42
9:SB:34:ALA:HB3	9:SB:41:ARG:HA	2.00	0.42
9:SB:65:ILE:HD12	9:SB:65:ILE:HA	1.87	0.42
14:SG:65:HIS:CD2	14:SG:250:SER:HA	2.55	0.42
24:SQ:37:ARG:HG3	24:SQ:41:ASN:OD1	2.20	0.42
31:SX:85:ILE:HG23	31:SX:107:ILE:HD12	2.02	0.42
32:SY:53:TYR:HB3	32:SY:54:PRO:C	2.44	0.42
34:AA:53:G:P	56:Ac:51:ASN:HB2	2.60	0.42
34:AA:130:G:C6	34:AA:131:U:C4	3.08	0.42
34:AA:699:U:O2'	45:A9:91:HIS:O	2.26	0.42
34:AA:833:G:N1	34:AA:862:U:O4	2.53	0.42
34:AA:965:A:H2'	34:AA:966:A:O4'	2.20	0.42
34:AA:1158:G:H2'	34:AA:1159:A:C8	2.55	0.42
34:AA:1193:G:H2'	34:AA:1194:A:H8	1.85	0.42
34:AA:1673:A:O2'	34:AA:1675:C:OP2	2.31	0.42
34:AA:1768:A:O2'	34:AA:1769:U:H5'	2.20	0.42
34:AA:3085:A:H5'	62:AR:180:ASN:HB2	2.01	0.42
35:AC:25:C:N4	35:AC:26:U:O4	2.53	0.42
35:AC:85:A:H2'	35:AC:86:C:C6	2.55	0.42
35:AC:152:C:H2'	35:AC:153:A:C8	2.55	0.42
40:A4:57:LEU:HD23	40:A4:57:LEU:HA	1.93	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:AN:12:LEU:HD13	43:AN:12:LEU:HA	1.77	0.42
60:AO:76:ASP:N	60:AO:76:ASP:OD1	2.51	0.42
62:AR:162:PHE:CE2	62:AR:181:ARG:HB2	2.55	0.42
65:AT:105:LEU:HB3	65:AT:119:TYR:CE1	2.53	0.42
73:AU:36:MET:HE2	73:AU:38:ILE:HG22	2.01	0.42
73:AU:91:ASP:OD1	73:AU:91:ASP:N	2.51	0.42
75:AV:100:SER:OG	75:AV:101:ARG:N	2.52	0.42
3:S3:53:ILE:O	3:S3:57:SER:OG	2.28	0.41
6:S6:46:ASP:OD1	6:S6:46:ASP:N	2.51	0.41
7:S7:29:G:H1	7:S7:38:A:H61	0.62	0.41
7:S7:73:C:H6	7:S7:73:C:H2'	1.70	0.41
8:SA:558:G:H2'	8:SA:559:G:C8	2.47	0.41
8:SA:609:U:H2'	8:SA:610:U:C6	2.55	0.41
8:SA:803:G:H5''	8:SA:804:U:OP2	2.20	0.41
8:SA:911:U:H2'	8:SA:912:U:H6	1.85	0.41
8:SA:975:A:H2'	8:SA:976:A:C8	2.55	0.41
8:SA:1798:G:P	32:SY:121:LYS:HZ1	2.43	0.41
8:SA:1799:A:H5''	32:SY:121:LYS:HD3	2.02	0.41
8:SA:1845:U:O5'	26:SS:90:LYS:HB3	2.20	0.41
13:SF:48:LEU:HD11	13:SF:61:VAL:HG13	2.02	0.41
14:SG:239:PRO:HA	14:SG:242:TRP:CE2	2.55	0.41
17:SJ:69:TYR:CG	17:SJ:96:ALA:HB2	2.55	0.41
24:SQ:116:ASP:OD1	24:SQ:116:ASP:N	2.53	0.41
28:SU:37:ILE:HD11	28:SU:71:ILE:HG13	2.01	0.41
31:SX:51:LYS:HA	31:SX:54:LYS:HG2	2.00	0.41
32:SY:136:VAL:HG21	32:SY:145:ARG:HB3	2.02	0.41
34:AA:20:G:H3'	34:AA:21:G:N2	2.35	0.41
34:AA:154:A:C5	55:AJ:209:LYS:HE3	2.55	0.41
34:AA:179:G:HO2'	34:AA:180:C:P	2.42	0.41
34:AA:281:G:C6	34:AA:299:A:N6	2.88	0.41
34:AA:684:G:C5'	71:AF:313:LEU:HD12	2.50	0.41
34:AA:687:G:H2'	34:AA:688:U:C6	2.55	0.41
34:AA:740:U:H2'	34:AA:741:C:C6	2.54	0.41
34:AA:1142:G:H2'	34:AA:1143:G:H8	1.85	0.41
34:AA:1179:U:H3'	34:AA:1180:A:H8	1.85	0.41
34:AA:1425:C:H2'	34:AA:1426:C:C6	2.55	0.41
34:AA:1481:A:O2'	34:AA:1482:A:H5''	2.20	0.41
34:AA:1638:A:OP1	49:Ae:3:SER:HB2	2.20	0.41
34:AA:1837:U:OP2	77:AX:112:LYS:NZ	2.48	0.41
34:AA:1845:C:H2'	34:AA:1846:A:C8	2.51	0.41
34:AA:2638:G:C6	34:AA:2639:C:C4	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:2814:U:H2'	34:AA:2815:G:C8	2.55	0.41
34:AA:2935:U:C4	34:AA:2936:A:N7	2.88	0.41
34:AA:3236:G:H2'	34:AA:3237:G:H8	1.85	0.41
34:AA:3276:G:C6	34:AA:3289:G:N1	2.87	0.41
34:AA:3280:U:H2'	34:AA:3282:U:O5'	2.20	0.41
37:AL:104:SER:HB2	47:Ab:23:VAL:HG21	2.01	0.41
45:A9:133:LEU:HD13	45:A9:135:TYR:CZ	2.54	0.41
48:Ad:72:LYS:HE3	48:Ad:72:LYS:HB3	1.88	0.41
51:AP:148:ILE:HA	51:AP:150:TRP:NE1	2.34	0.41
51:AP:171:ARG:HE	51:AP:173:LEU:HD11	1.85	0.41
62:AR:94:ASN:OD1	62:AR:95:TYR:N	2.53	0.41
62:AR:148:LEU:HD22	62:AR:165:LEU:HD22	2.01	0.41
62:AR:151:GLY:O	62:AR:153:THR:N	2.47	0.41
76:Ag:8:TYR:HD2	76:Ag:9:LYS:H	1.61	0.41
79:S8:212:ASP:N	79:S8:212:ASP:OD1	2.52	0.41
6:S6:18:THR:O	6:S6:20:LYS:NZ	2.33	0.41
8:SA:39:A:H5''	12:SE:4:SER:OG	2.20	0.41
8:SA:394:G:C6	8:SA:416:A:C6	3.08	0.41
8:SA:452:A:H62	8:SA:467:G:H21	1.68	0.41
8:SA:552:A:O4'	8:SA:601:A:N6	2.53	0.41
8:SA:594:C:H2'	8:SA:595:U:C6	2.54	0.41
8:SA:619:U:OP2	8:SA:620:G:O2'	2.37	0.41
8:SA:794:U:H2'	8:SA:795:U:O4'	2.20	0.41
8:SA:1018:U:H2'	8:SA:1019:C:H6	1.85	0.41
8:SA:1603:U:H2'	8:SA:1604:A:N7	2.35	0.41
8:SA:1839:G:H22	8:SA:1865:G:H1'	1.86	0.41
8:SA:2040:G:H2'	8:SA:2041:A:H8	1.83	0.41
9:SB:24:PHE:HD2	9:SB:26:LYS:HG3	1.83	0.41
11:SD:32:ASP:OD1	11:SD:33:GLY:N	2.47	0.41
17:SJ:24:LEU:O	17:SJ:27:ILE:HG22	2.19	0.41
19:SL:70:PHE:HE1	19:SL:166:LYS:HB2	1.84	0.41
19:SL:83:TYR:HB2	19:SL:212:MET:CE	2.50	0.41
21:SN:88:ILE:HG13	21:SN:89:ASP:H	1.85	0.41
24:SQ:70:LYS:O	24:SQ:87:VAL:HG12	2.20	0.41
26:SS:72:ILE:O	26:SS:76:PRO:HG3	2.20	0.41
30:SW:33:LYS:HB3	79:S8:159:TRP:CH2	2.54	0.41
34:AA:397:G:H2'	34:AA:398:A:H8	1.85	0.41
34:AA:754:A:O2'	34:AA:905:A:N1	2.48	0.41
34:AA:1050:C:C4	34:AA:1051:U:C4	3.08	0.41
34:AA:1654:C:H2'	34:AA:1655:U:C6	2.55	0.41
34:AA:1734:G:OP1	46:Aa:17:SER:HB3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:2216:G:C2	34:AA:2217:A:C4	3.08	0.41
34:AA:3043:A:O2'	34:AA:3044:A:O5'	2.35	0.41
34:AA:3263:G:H2'	34:AA:3264:U:C6	2.54	0.41
34:AA:3406:U:H3'	34:AA:3407:G:H8	1.85	0.41
35:AC:89:U:O2'	35:AC:91:A:N7	2.50	0.41
44:A8:40:CYS:SG	44:A8:43:ARG:NH1	2.92	0.41
47:Ab:59:LYS:HD2	47:Ab:59:LYS:HA	1.91	0.41
54:AI:62:ILE:HG23	54:AI:72:CYS:SG	2.60	0.41
57:AK:75:PRO:HA	57:AK:78:ILE:HD12	2.01	0.41
57:AK:170:LYS:HE2	57:AK:174:LEU:HD11	2.01	0.41
70:AE:209:ASN:OD1	70:AE:351:VAL:HG22	2.20	0.41
74:AH:175:LEU:O	74:AH:179:TYR:OH	2.32	0.41
1:S1:120:ARG:HG3	1:S1:122:THR:H	1.85	0.41
7:S7:12:G:H1	7:S7:22:A:N6	2.17	0.41
8:SA:948:A:H2'	8:SA:949:C:C6	2.55	0.41
8:SA:964:G:N1	8:SA:987:U:O4	2.53	0.41
8:SA:1110:G:P	10:SC:31:ASN:HD21	2.44	0.41
8:SA:1444:C:O2	8:SA:1444:C:H2'	2.20	0.41
8:SA:1639:G:H2'	8:SA:1640:U:H6	1.85	0.41
8:SA:1685:U:H2'	8:SA:1686:C:H6	1.84	0.41
8:SA:1835:U:H2'	8:SA:1836:G:H2'	2.02	0.41
8:SA:1846:U:P	31:SX:39:ALA:H	2.38	0.41
8:SA:1949:C:H2'	8:SA:1950:C:H6	1.86	0.41
10:SC:155:HIS:HB3	33:SZ:59:ARG:NH2	2.36	0.41
15:SH:61:PHE:HE2	15:SH:72:ARG:HD3	1.86	0.41
28:SU:29:LYS:HB3	28:SU:32:GLU:OE1	2.20	0.41
34:AA:373:A:C6	34:AA:374:A:C6	3.08	0.41
34:AA:706:U:H2'	34:AA:707:U:C6	2.55	0.41
34:AA:1031:G:OP2	69:AD:9:ARG:NH2	2.51	0.41
34:AA:1209:U:O4	34:AA:1210:A:N6	2.53	0.41
34:AA:1510:U:H2'	34:AA:1511:U:C6	2.55	0.41
34:AA:1814:U:H2'	34:AA:1815:A:C8	2.55	0.41
34:AA:2010:C:H2'	34:AA:2011:U:C6	2.56	0.41
34:AA:2087:U:H2'	34:AA:2088:A:H8	1.83	0.41
34:AA:2163:A:O2'	34:AA:3439:G:H4'	2.21	0.41
34:AA:2679:A:C8	34:AA:3353:A:N6	2.88	0.41
34:AA:2725:U:H2'	34:AA:2726:U:C6	2.55	0.41
34:AA:3259:A:C4	34:AA:3260:G:C8	3.08	0.41
34:AA:3262:A:H2'	34:AA:3263:G:O4'	2.20	0.41
34:AA:3359:A:H2'	34:AA:3360:U:H6	1.85	0.41
36:AB:30:A:N6	36:AB:48:G:C6	2.87	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:AL:108:LEU:HD22	47:Ab:26:ARG:NH2	2.35	0.41
38:A1:54:ASN:OD1	38:A1:55:LYS:N	2.53	0.41
47:Ab:51:ILE:HG23	47:Ab:52:THR:HG23	2.02	0.41
56:Ac:20:PHE:CE2	56:Ac:21:LEU:HD23	2.55	0.41
59:AS:178:GLY:O	59:AS:187:LYS:N	2.33	0.41
60:AO:86:LYS:HA	60:AO:89:GLU:HG2	2.02	0.41
60:AO:86:LYS:O	60:AO:89:GLU:HG2	2.20	0.41
66:AZ:43:LYS:HD3	66:AZ:122:ALA:HA	2.01	0.41
78:A0:45:SER:O	78:A0:49:GLN:HG2	2.20	0.41
1:S1:107:ARG:HA	1:S1:110:LYS:HE3	2.02	0.41
7:S7:29:G:N1	7:S7:38:A:N6	2.25	0.41
8:SA:173:G:H1	8:SA:267:A:P	2.43	0.41
8:SA:940:G:H22	8:SA:1024:A:H2	1.67	0.41
8:SA:1235:G:H2'	8:SA:1236:U:O4'	2.21	0.41
8:SA:1786:U:H2'	8:SA:1787:U:O4'	2.21	0.41
8:SA:1949:C:H2'	8:SA:1950:C:C6	2.56	0.41
9:SB:30:TYR:HA	9:SB:94:ARG:CD	2.50	0.41
10:SC:32:LYS:O	10:SC:35:ARG:NH1	2.54	0.41
12:SE:108:ARG:HH12	12:SE:145:SER:HA	1.85	0.41
12:SE:109:LEU:O	12:SE:113:VAL:HG12	2.21	0.41
13:SF:106:LYS:HD2	13:SF:108:ARG:NH2	2.35	0.41
14:SG:114:VAL:O	14:SG:125:LEU:HG	2.20	0.41
17:SJ:116:SER:HG	17:SJ:117:ARG:HE	1.65	0.41
18:SK:52:ILE:HG22	18:SK:61:ILE:HG23	2.02	0.41
29:SV:8:GLN:O	29:SV:9:HIS:ND1	2.53	0.41
29:SV:89:ILE:O	29:SV:110:ILE:N	2.48	0.41
31:SX:34:ILE:HG22	31:SX:45:PHE:CD2	2.45	0.41
34:AA:593:A:N1	43:AN:6:LEU:HD11	2.35	0.41
34:AA:616:U:H2'	34:AA:617:A:H8	1.84	0.41
34:AA:911:U:C2	34:AA:912:U:C5	3.08	0.41
34:AA:1531:G:P	71:AF:190:ARG:HH22	2.43	0.41
34:AA:1557:U:H2'	34:AA:1558:U:C6	2.55	0.41
34:AA:2511:G:N3	34:AA:2512:A:C8	2.89	0.41
34:AA:3343:C:H2'	34:AA:3344:C:C6	2.56	0.41
34:AA:3727:A:H2'	34:AA:3728:A:C8	2.56	0.41
48:Ad:52:MET:HE3	48:Ad:52:MET:HB2	1.90	0.41
58:AM:93:TYR:HE1	58:AM:95:ILE:HD11	1.85	0.41
59:AS:16:ARG:HH21	59:AS:20:VAL:HG12	1.85	0.41
66:AZ:14:MET:C	66:AZ:14:MET:SD	3.03	0.41
69:AD:30:ARG:NH1	69:AD:31:HIS:O	2.53	0.41
69:AD:54:ARG:HH21	69:AD:58:LEU:HD11	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:AF:33:ARG:HH21	71:AF:36:LEU:HG	1.85	0.41
71:AF:386:LYS:HD3	71:AF:386:LYS:HA	1.95	0.41
77:AX:120:LEU:HD23	77:AX:120:LEU:HA	1.95	0.41
79:S8:77:ASP:HB2	79:S8:118:PHE:O	2.20	0.41
8:SA:139:A:H2'	8:SA:139:A:N3	2.36	0.41
8:SA:472:U:H2'	8:SA:473:G:O4'	2.20	0.41
8:SA:911:U:H2'	8:SA:912:U:C6	2.54	0.41
8:SA:969:A:OP1	23:SP:59:GLY:HA3	2.20	0.41
8:SA:970:G:H2'	8:SA:971:G:O4'	2.21	0.41
8:SA:1631:G:H2'	8:SA:1632:G:C8	2.55	0.41
8:SA:1839:G:N2	8:SA:1865:G:H1'	2.35	0.41
8:SA:1846:U:H6	8:SA:1846:U:O5'	2.03	0.41
8:SA:1912:C:OP2	16:SI:51:ARG:NH1	2.53	0.41
12:SE:103:LYS:HD2	12:SE:103:LYS:HA	1.93	0.41
15:SH:5:ILE:HA	15:SH:111:LEU:O	2.21	0.41
22:SO:51:LEU:HA	22:SO:54:MET:HG3	2.03	0.41
26:SS:36:LYS:CD	26:SS:101:ILE:HG13	2.50	0.41
27:ST:9:PRO:C	27:ST:10:LYS:HD3	2.46	0.41
32:SY:72:ASN:HD21	32:SY:75:TRP:HB3	1.85	0.41
34:AA:265:U:O2	34:AA:265:U:H2'	2.20	0.41
34:AA:367:U:H4'	56:Ac:28:ARG:HH22	1.85	0.41
34:AA:528:A:OP1	68:A5:76:ARG:NH2	2.36	0.41
34:AA:593:A:C6	43:AN:6:LEU:CD1	3.02	0.41
34:AA:705:C:H2'	34:AA:706:U:C6	2.56	0.41
34:AA:806:G:H2'	34:AA:807:U:C6	2.56	0.41
34:AA:873:U:H3'	34:AA:874:A:H8	1.85	0.41
34:AA:1968:C:H2'	34:AA:1969:A:C2	2.56	0.41
34:AA:2174:G:N2	34:AA:2178:A:H2	2.19	0.41
34:AA:2216:G:C6	34:AA:2217:A:C5	3.08	0.41
34:AA:3056:U:C5'	53:Ai:79:ARG:HH21	2.34	0.41
34:AA:3275:C:H2'	34:AA:3276:G:H8	1.85	0.41
34:AA:3573:U:H1'	34:AA:3574:G:C8	2.56	0.41
36:AB:115:G:H2'	36:AB:116:U:C6	2.55	0.41
38:A1:28:THR:HA	38:A1:41:CYS:HA	2.02	0.41
38:A1:41:CYS:SG	38:A1:77:VAL:HG12	2.60	0.41
48:Ad:28:LYS:HE2	48:Ad:38:ILE:HD11	2.02	0.41
51:AP:19:MET:HE2	51:AP:19:MET:HA	2.02	0.41
55:AJ:72:PRO:HD2	55:AJ:75:ILE:HD11	2.03	0.41
55:AJ:226:GLU:HG2	55:AJ:227:LYS:N	2.35	0.41
59:AS:87:ASP:OD1	59:AS:88:ASP:N	2.54	0.41
63:AW:45:LYS:HE3	63:AW:45:LYS:HB2	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:AY:131:VAL:HG22	64:AY:171:TYR:HD1	1.86	0.41
68:A5:176:ILE:HG23	68:A5:177:GLN:N	2.32	0.41
74:AH:4:ILE:HG13	74:AH:5:VAL:N	2.34	0.41
79:S8:81:SER:HB2	79:S8:126:ASN:CG	2.45	0.41
7:S7:4:U:H2'	7:S7:5:A:H8	1.82	0.41
8:SA:452:A:N6	8:SA:467:G:H21	2.19	0.41
8:SA:747:U:O5'	8:SA:747:U:H6	2.04	0.41
8:SA:792:U:H5''	8:SA:793:G:OP1	2.21	0.41
8:SA:877:U:H5'	65:AT:162:ARG:HD2	2.02	0.41
8:SA:978:U:H2'	8:SA:979:C:C6	2.56	0.41
8:SA:1087:U:C2	8:SA:1088:A:C8	3.08	0.41
8:SA:1632:G:H2'	8:SA:1633:A:C8	2.55	0.41
8:SA:1646:U:H2'	8:SA:1647:A:H8	1.84	0.41
8:SA:1888:U:H2'	8:SA:1889:G:H8	1.85	0.41
9:SB:51:THR:HA	9:SB:57:ALA:HB2	2.02	0.41
13:SF:201:ASN:N	13:SF:206:ASP:OD1	2.38	0.41
15:SH:81:MET:CG	15:SH:82:LYS:H	2.32	0.41
17:SJ:130:ILE:HD13	17:SJ:130:ILE:HA	1.93	0.41
28:SU:30:PRO:O	28:SU:34:GLU:OE1	2.39	0.41
29:SV:81:ASN:ND2	29:SV:122:GLU:OE2	2.54	0.41
34:AA:144:U:OP2	67:A3:97:LYS:NZ	2.37	0.41
34:AA:335:A:OP1	37:AL:22:ARG:NH2	2.54	0.41
34:AA:347:C:OP1	34:AA:1529:G:O2'	2.38	0.41
34:AA:540:C:H2'	34:AA:541:A:C8	2.56	0.41
34:AA:979:G:C5	69:AD:181:LYS:HB2	2.56	0.41
34:AA:1067:U:H2'	34:AA:1068:C:C6	2.56	0.41
34:AA:1124:A:H2'	34:AA:1125:A:H8	1.85	0.41
34:AA:1678:C:P	34:AA:1735:G:H22	2.43	0.41
34:AA:1690:A:H2'	34:AA:1691:G:O4'	2.20	0.41
34:AA:1721:C:H2'	34:AA:1722:C:C6	2.55	0.41
34:AA:1758:C:H2'	34:AA:1759:A:C8	2.55	0.41
34:AA:2726:U:H3'	34:AA:2727:U:H2'	2.03	0.41
34:AA:2940:A:H2'	34:AA:2941:G:C8	2.56	0.41
35:AC:120:C:H2'	35:AC:121:C:C6	2.56	0.41
36:AB:7:G:O3'	62:AR:33:ARG:NH2	2.53	0.41
36:AB:94:C:H2'	36:AB:95:U:C6	2.55	0.41
44:A8:105:LYS:O	44:A8:108:ILE:HG22	2.20	0.41
47:Ab:41:LYS:HD3	47:Ab:41:LYS:HA	1.84	0.41
54:AI:192:PRO:HG2	54:AI:193:GLU:OE1	2.21	0.41
59:AS:29:LEU:HD21	59:AS:122:PHE:HB2	2.02	0.41
59:AS:123:ASP:OD1	59:AS:124:GLN:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:AS:177:ARG:O	60:AO:51:GLY:HA2	2.21	0.41
62:AR:197:ASN:OD1	62:AR:202:HIS:ND1	2.53	0.41
65:AT:21:ILE:HD12	65:AT:21:ILE:HA	1.92	0.41
66:AZ:87:GLU:OE2	66:AZ:91:GLY:HA2	2.21	0.41
67:A3:52:ASN:HA	67:A3:55:ARG:NH2	2.36	0.41
72:AG:154:VAL:O	72:AG:158:ASP:HB3	2.20	0.41
1:S1:58:LEU:HB3	1:S1:61:PHE:CZ	2.56	0.41
3:S3:22:ARG:NH1	23:SP:141:ARG:HE	2.18	0.41
3:S3:28:ARG:NH2	8:SA:2062:U:O4	2.53	0.41
7:S7:52:G:N1	7:S7:56:U:H5	2.19	0.41
8:SA:354:C:H5''	29:SV:109:ASN:HD21	1.85	0.41
8:SA:407:A:O2'	8:SA:408:U:H4'	2.20	0.41
8:SA:1220:C:H2'	8:SA:1221:G:C8	2.55	0.41
8:SA:1816:U:H4'	8:SA:1817:U:H5'	2.02	0.41
9:SB:33:LYS:HB3	9:SB:232:HIS:NE2	2.36	0.41
9:SB:107:ARG:NH2	23:SP:131:ASP:OD2	2.31	0.41
11:SD:133:LYS:HD3	11:SD:157:TYR:CE2	2.54	0.41
12:SE:78:ARG:HH12	12:SE:82:ARG:NH2	2.19	0.41
18:SK:101:HIS:HA	18:SK:113:HIS:CE1	2.55	0.41
23:SP:61:LYS:HA	23:SP:61:LYS:HD3	1.80	0.41
34:AA:588:C:C2	34:AA:589:C:C5	3.08	0.41
34:AA:724:A:H2'	34:AA:725:A:O4'	2.21	0.41
34:AA:742:U:H1'	71:AF:108:TRP:HZ3	1.84	0.41
34:AA:792:U:N3	37:AL:66:PHE:HE2	2.19	0.41
34:AA:1122:A:H5''	34:AA:1123:U:C5	2.55	0.41
34:AA:1225:A:OP2	75:AV:130:LYS:HA	2.20	0.41
34:AA:1527:U:H2'	34:AA:1528:G:H8	1.86	0.41
34:AA:1696:A:H2'	34:AA:1697:A:C8	2.56	0.41
34:AA:1835:G:H2'	34:AA:1836:U:H6	1.86	0.41
34:AA:2132:A:N6	34:AA:2134:A:C6	2.89	0.41
34:AA:2178:A:OP2	34:AA:2178:A:H8	2.03	0.41
34:AA:3398:A:H2'	34:AA:3399:U:C6	2.55	0.41
34:AA:3419:U:H2'	34:AA:3420:U:O4'	2.21	0.41
34:AA:3497:A:C2	34:AA:3507:A:C4	3.08	0.41
34:AA:3584:A:N1	57:AK:113:LYS:NZ	2.66	0.41
35:AC:145:A:HO2'	35:AC:146:C:P	2.42	0.41
37:AL:75:THR:HG22	37:AL:78:GLU:CD	2.46	0.41
43:AN:111:GLY:O	43:AN:115:ILE:HG12	2.21	0.41
47:Ab:51:ILE:HD12	55:AJ:182:PHE:HA	2.02	0.41
53:AI:72:GLU:OE2	53:AI:78:LYS:HE3	2.21	0.41
54:AI:95:PRO:HA	54:AI:183:GLN:HE22	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:AQ:43:VAL:HG21	61:AQ:197:CYS:SG	2.61	0.41
63:AW:13:LYS:HD3	63:AW:152:GLU:HG2	2.02	0.41
65:AT:104:LEU:O	65:AT:108:LEU:HD23	2.20	0.41
65:AT:137:LEU:HD23	65:AT:137:LEU:HA	1.90	0.41
66:AZ:114:ARG:O	66:AZ:117:ILE:HG22	2.21	0.41
68:A5:97:ARG:HD2	68:A5:112:PHE:CE1	2.56	0.41
69:AD:118:HIS:ND1	69:AD:125:THR:HG21	2.36	0.41
69:AD:209:HIS:ND1	69:AD:211:HIS:HB2	2.36	0.41
70:AE:300:LYS:NZ	70:AE:368:GLN:OE1	2.53	0.41
8:SA:109:C:OP1	8:SA:390:G:H5'	2.21	0.41
8:SA:247:G:N2	8:SA:249:A:H8	2.18	0.41
8:SA:347:A:H2'	8:SA:348:A:H8	1.86	0.41
8:SA:518:A:H5''	12:SE:171:ARG:HG2	2.02	0.41
8:SA:525:G:O2'	8:SA:526:G:OP1	2.34	0.41
8:SA:622:A:H2'	8:SA:623:G:H8	1.86	0.41
8:SA:1035:A:H2'	8:SA:1036:A:C8	2.55	0.41
8:SA:1220:C:H2'	8:SA:1221:G:H8	1.86	0.41
8:SA:1308:C:H4'	8:SA:1309:A:O5'	2.21	0.41
8:SA:1410:G:H2'	8:SA:1411:G:C8	2.53	0.41
8:SA:1453:G:H2'	8:SA:1454:G:H8	1.83	0.41
8:SA:1798:G:O6	32:SY:124:ARG:NH2	2.54	0.41
10:SC:34:LYS:HA	10:SC:37:VAL:HG12	2.02	0.41
12:SE:15:PRO:O	12:SE:16:LYS:HB3	2.21	0.41
21:SN:65:ARG:HG3	21:SN:75:THR:O	2.20	0.41
31:SX:37:PHE:HB3	31:SX:41:GLN:HB2	2.02	0.41
34:AA:118:G:C6	34:AA:160:G:C6	3.09	0.41
34:AA:221:A:H2'	34:AA:222:G:O4'	2.20	0.41
34:AA:393:G:C2	34:AA:1614:A:N1	2.89	0.41
34:AA:624:C:H5''	34:AA:625:A:O4'	2.21	0.41
34:AA:656:U:H2'	34:AA:657:A:H8	1.83	0.41
34:AA:722:G:H2'	34:AA:2665:A:C5	2.56	0.41
34:AA:725:A:OP1	34:AA:727:A:N6	2.53	0.41
34:AA:763:U:P	37:AL:34:ARG:HH21	2.43	0.41
34:AA:1058:U:H2'	34:AA:1059:G:C8	2.56	0.41
34:AA:1121:G:H2'	34:AA:1122:A:C4	2.56	0.41
34:AA:1479:A:H8	34:AA:1480:G:O6	2.04	0.41
34:AA:1512:A:H2'	34:AA:1513:U:C6	2.56	0.41
34:AA:1730:A:C5	34:AA:1733:G:C5	3.08	0.41
34:AA:1841:U:O4	77:AX:109:LYS:NZ	2.53	0.41
34:AA:2672:U:H2'	34:AA:2673:U:C6	2.56	0.41
34:AA:2953:G:H2'	34:AA:2954:A:H8	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3105:U:H2'	34:AA:3106:U:C6	2.55	0.41
34:AA:3766:U:OP2	42:A7:78:ARG:NH2	2.53	0.41
36:AB:94:C:H4'	73:AU:128:SER:HB2	2.03	0.41
51:AP:90:LYS:HB2	53:AI:49:PHE:HZ	1.84	0.41
52:Ah:26:ILE:HG12	52:Ah:30:GLU:OE1	2.19	0.41
54:AI:32:LYS:HG2	54:AI:33:TYR:CD1	2.55	0.41
56:Ac:66:ARG:NH2	56:Ac:68:ARG:HD2	2.35	0.41
56:Ac:74:ARG:C	56:Ac:75:ARG:HD3	2.45	0.41
70:AE:41:PRO:HB2	70:AE:191:PHE:CD2	2.55	0.41
70:AE:77:THR:HG21	70:AE:325:VAL:HG12	2.03	0.41
70:AE:280:TYR:HB2	70:AE:320:LEU:HD22	2.03	0.41
73:AU:100:TYR:OH	73:AU:102:GLU:OE2	2.24	0.41
75:AV:30:LYS:HZ3	75:AV:98:ARG:HB2	1.86	0.41
79:S8:200:HIS:CD2	79:S8:204:LEU:HD21	2.55	0.41
3:S3:37:LYS:HE2	3:S3:37:LYS:HB2	1.85	0.41
4:S4:40:GLN:OE1	4:S4:40:GLN:N	2.53	0.41
8:SA:335:G:C2	8:SA:336:G:C5	3.09	0.41
8:SA:433:C:C4	8:SA:434:A:N7	2.89	0.41
8:SA:825:A:H2'	8:SA:826:A:H8	1.86	0.41
8:SA:828:A:H3'	8:SA:829:G:H8	1.86	0.41
8:SA:881:C:C2	8:SA:882:A:C8	3.08	0.41
8:SA:952:U:C2	8:SA:1015:U:N3	2.89	0.41
8:SA:1246:U:H2'	8:SA:1247:G:C8	2.56	0.41
8:SA:1310:C:C4	8:SA:1701:G:N2	2.89	0.41
8:SA:1453:G:O2'	8:SA:1454:G:H5'	2.21	0.41
8:SA:1638:U:C2	8:SA:1639:G:N7	2.89	0.41
8:SA:1703:U:H4'	26:SS:137:HIS:CD2	2.56	0.41
8:SA:1980:A:H2'	8:SA:1980:A:N3	2.36	0.41
8:SA:2052:G:H1'	8:SA:2073:A:H2	1.85	0.41
8:SA:2066:G:OP1	76:Ag:21:LYS:NZ	2.36	0.41
9:SB:144:LYS:HG2	9:SB:146:ARG:H	1.86	0.41
10:SC:165:LYS:HA	10:SC:165:LYS:HD3	1.87	0.41
11:SD:76:ARG:NH1	11:SD:77:PHE:HA	2.36	0.41
12:SE:49:LEU:HD11	12:SE:99:LEU:HB3	2.02	0.41
13:SF:158:ASP:OD1	13:SF:174:LYS:HA	2.20	0.41
16:SI:33:SER:H	16:SI:36:ALA:HB3	1.85	0.41
17:SJ:28:GLU:OE1	17:SJ:40:LYS:HA	2.21	0.41
17:SJ:50:ILE:HB	17:SJ:178:LYS:NZ	2.34	0.41
17:SJ:124:ASP:O	17:SJ:128:GLU:HG3	2.20	0.41
22:SO:68:GLU:HG2	22:SO:70:TYR:N	2.36	0.41
22:SO:72:TRP:CE3	27:ST:21:VAL:HA	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:71:A:OP2	60:AO:67:ARG:NH2	2.48	0.41
34:AA:80:C:C2	34:AA:81:C:C5	3.09	0.41
34:AA:215:C:O2'	34:AA:216:C:OP1	2.36	0.41
34:AA:237:A:H2'	34:AA:238:G:O4'	2.19	0.41
34:AA:238:G:H2'	34:AA:239:U:O4'	2.21	0.41
34:AA:500:A:C5	34:AA:501:U:C4	3.08	0.41
34:AA:770:U:H3'	34:AA:771:U:H6	1.85	0.41
34:AA:824:U:C2	34:AA:825:G:C8	3.08	0.41
34:AA:876:C:H2'	34:AA:877:G:C8	2.50	0.41
34:AA:953:U:H2'	34:AA:954:G:O4'	2.20	0.41
34:AA:1084:A:H2'	34:AA:1085:U:C6	2.55	0.41
34:AA:1126:U:C2	34:AA:1127:G:C8	3.09	0.41
34:AA:1178:A:C2	36:AB:79:U:H4'	2.56	0.41
34:AA:1211:U:H2'	34:AA:1212:U:H6	1.84	0.41
34:AA:1319:U:OP2	57:AK:48:ARG:HD2	2.21	0.41
34:AA:1434:G:C5	57:AK:61:THR:HA	2.55	0.41
34:AA:1456:C:H2'	34:AA:1457:G:C8	2.55	0.41
34:AA:1495:U:H2'	34:AA:1496:U:C6	2.56	0.41
34:AA:1530:G:H2'	34:AA:1531:G:H8	1.85	0.41
34:AA:1537:G:C6	34:AA:1567:A:N6	2.89	0.41
34:AA:1636:A:H5'	34:AA:1637:G:OP2	2.21	0.41
34:AA:1756:G:H2'	34:AA:1757:C:O4'	2.21	0.41
34:AA:1763:G:H2'	34:AA:1764:U:H6	1.86	0.41
34:AA:1814:U:C2	34:AA:1815:A:C8	3.09	0.41
34:AA:2450:G:H4'	34:AA:2451:A:H5'	2.03	0.41
34:AA:2452:A:OP2	69:AD:118:HIS:NE2	2.47	0.41
34:AA:2736:A:H2'	34:AA:2737:C:H6	1.85	0.41
34:AA:3003:C:H2'	34:AA:3004:U:C6	2.55	0.41
34:AA:3216:C:H2'	34:AA:3217:U:C6	2.56	0.41
34:AA:3471:A:N3	34:AA:3471:A:H2'	2.35	0.41
34:AA:3473:G:H2'	34:AA:3474:C:C6	2.55	0.41
34:AA:3533:A:H2'	34:AA:3534:U:C6	2.55	0.41
34:AA:3665:U:OP2	54:AI:98:ARG:HB3	2.19	0.41
34:AA:3714:C:H2'	34:AA:3715:U:C6	2.56	0.41
35:AC:29:G:H2'	35:AC:30:U:H6	1.86	0.41
36:AB:16:A:H2'	36:AB:17:C:C6	2.56	0.41
36:AB:47:U:OP1	62:AR:95:TYR:N	2.53	0.41
36:AB:94:C:C2	36:AB:95:U:C5	3.09	0.41
37:AL:113:GLU:O	37:AL:116:LEU:HG	2.21	0.41
40:A4:7:HIS:CG	40:A4:8:THR:N	2.88	0.41
43:AN:87:CYS:SG	43:AN:88:LYS:N	2.94	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:AN:137:GLU:HG2	57:AK:188:ILE:HG23	2.03	0.41
45:A9:41:TYR:HB3	45:A9:133:LEU:HD23	2.03	0.41
45:A9:56:GLN:HG3	45:A9:57:ASP:H	1.86	0.41
51:AP:117:ASN:CG	51:AP:118:SER:H	2.29	0.41
55:AJ:261:LEU:HD12	55:AJ:261:LEU:HA	1.97	0.41
56:Ac:83:GLU:CD	67:A3:85:LYS:H	2.29	0.41
57:AK:76:SER:HB2	57:AK:103:VAL:HG13	2.03	0.41
63:AW:48:LEU:HA	63:AW:51:VAL:HG12	2.03	0.41
63:AW:117:VAL:HG12	63:AW:148:ILE:CD1	2.51	0.41
64:AY:89:ARG:HD3	64:AY:90:ASN:H	1.85	0.41
66:AZ:76:ARG:O	66:AZ:78:LYS:HG2	2.21	0.41
68:A5:230:LYS:HB3	68:A5:230:LYS:HE2	1.82	0.41
70:AE:345:ARG:N	70:AE:345:ARG:HD2	2.36	0.41
71:AF:335:LEU:HD23	71:AF:335:LEU:HA	1.92	0.41
73:AU:164:PRO:HG3	73:AU:183:ARG:HH11	1.86	0.41
74:AH:91:MET:HB2	74:AH:143:ILE:HB	2.03	0.41
75:AV:46:ASP:OD1	75:AV:47:SER:N	2.54	0.41
79:S8:20:HIS:CD2	79:S8:50:TRP:HZ2	2.39	0.41
79:S8:161:THR:N	79:S8:177:CYS:O	2.54	0.41
79:S8:208:THR:HG23	79:S8:250:PHE:CE2	2.54	0.41
8:SA:29:U:H2'	8:SA:30:G:C8	2.55	0.41
8:SA:87:A:C5	8:SA:88:A:C8	3.09	0.41
8:SA:628:A:HO2'	8:SA:1207:U:HO2'	1.64	0.41
8:SA:629:A:C2	8:SA:1206:C:C2	3.09	0.41
8:SA:788:A:O2'	8:SA:789:U:O4'	2.34	0.41
8:SA:964:G:H1'	23:SP:51:GLU:HA	2.03	0.41
20:SM:99:ASP:N	20:SM:99:ASP:OD1	2.54	0.41
24:SQ:107:PHE:HE2	24:SQ:114:VAL:HB	1.85	0.41
26:SS:84:TRP:CZ3	26:SS:85:PHE:HD1	2.39	0.41
28:SU:37:ILE:HD12	28:SU:54:LEU:HD11	2.01	0.41
29:SV:36:ARG:HA	29:SV:36:ARG:HD2	1.90	0.41
30:SW:30:ILE:HA	30:SW:33:LYS:HE2	2.02	0.41
31:SX:108:LYS:H	31:SX:111:MET:CB	2.34	0.41
32:SY:34:ALA:O	32:SY:38:ILE:HG23	2.21	0.41
34:AA:162:U:H1'	34:AA:163:G:O5'	2.22	0.41
34:AA:294:G:C4	34:AA:295:G:C8	3.09	0.41
34:AA:607:A:O2'	34:AA:608:A:H8	2.04	0.41
34:AA:1235:C:H2'	34:AA:1236:U:C6	2.56	0.41
34:AA:1445:A:O2'	34:AA:1446:A:H3'	2.20	0.41
34:AA:1886:A:H5''	41:A6:30:ARG:HB2	2.02	0.41
34:AA:2708:C:O2'	34:AA:2709:U:H5'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3233:G:C6	34:AA:3304:G:C8	3.09	0.41
34:AA:3286:C:H2'	34:AA:3287:C:C6	2.56	0.41
34:AA:3449:U:C2	34:AA:3450:G:N7	2.89	0.41
35:AC:94:C:H2'	35:AC:95:A:C8	2.56	0.41
35:AC:95:A:C6	35:AC:96:U:C4	3.09	0.41
37:AL:108:LEU:HD22	47:Ab:26:ARG:HH21	1.86	0.41
42:A7:80:ARG:HG3	42:A7:104:VAL:HB	2.03	0.41
48:Ad:14:ILE:HG13	48:Ad:17:LYS:HD2	2.03	0.41
51:AP:168:LYS:HB2	51:AP:174:ARG:NH2	2.28	0.41
54:AI:50:LEU:HD23	54:AI:50:LEU:HA	1.94	0.41
63:AW:118:MET:HB2	63:AW:147:GLN:CG	2.45	0.41
76:Ag:7:ARG:HE	76:Ag:17:TRP:NE1	2.19	0.41
77:AX:43:VAL:O	77:AX:129:ALA:HA	2.20	0.41
78:A0:13:CYS:HB2	78:A0:20:ILE:HD11	2.02	0.41
7:S7:17:U:C2	7:S7:55:U:H2'	2.55	0.40
8:SA:213:G:C6	8:SA:258:A:C6	3.10	0.40
8:SA:394:G:OP2	8:SA:429:G:O2'	2.27	0.40
8:SA:1805:G:H2'	8:SA:1806:U:C6	2.56	0.40
8:SA:1859:A:C2	8:SA:1860:A:N6	2.89	0.40
8:SA:1916:C:H2'	8:SA:1917:C:H6	1.86	0.40
10:SC:61:ALA:HB2	10:SC:180:GLU:HG3	2.02	0.40
13:SF:191:ARG:HD3	13:SF:218:PHE:CE2	2.56	0.40
16:SI:59:ILE:HD11	16:SI:142:ILE:HD11	2.03	0.40
19:SL:80:ASP:OD1	19:SL:81:VAL:N	2.50	0.40
26:SS:49:GLN:HB3	26:SS:72:ILE:HD12	2.03	0.40
28:SU:30:PRO:O	28:SU:31:SER:C	2.63	0.40
29:SV:115:SER:OG	29:SV:117:CYS:SG	2.63	0.40
30:SW:39:ALA:HB1	30:SW:41:ILE:HD12	2.03	0.40
32:SY:122:ILE:HG13	32:SY:123:LEU:N	2.35	0.40
34:AA:309:G:OP1	47:Ab:89:ARG:NH2	2.54	0.40
34:AA:650:U:O4	34:AA:651:A:N6	2.54	0.40
34:AA:1187:A:H5'	34:AA:1189:G:H1'	2.02	0.40
34:AA:1438:G:H2'	34:AA:1439:G:C8	2.56	0.40
34:AA:2562:U:H2'	34:AA:2563:A:H8	1.87	0.40
34:AA:2827:C:H2'	34:AA:2828:A:H8	1.87	0.40
34:AA:2832:A:H2'	34:AA:2832:A:N3	2.36	0.40
34:AA:2926:A:H2'	34:AA:2927:U:C6	2.57	0.40
34:AA:2994:A:N6	53:AI:8:ARG:HD3	2.36	0.40
34:AA:3067:G:N7	75:AV:88:LYS:NZ	2.63	0.40
34:AA:3293:A:H2'	34:AA:3294:U:O4'	2.21	0.40
43:AN:8:GLU:HA	43:AN:11:LYS:CD	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:AN:112:LYS:O	43:AN:116:ILE:HG12	2.21	0.40
47:Ab:99:LYS:O	47:Ab:103:LEU:HD23	2.21	0.40
48:Ad:17:LYS:HA	48:Ad:18:PRO:HD3	1.94	0.40
51:AP:38:ARG:HA	51:AP:62:TYR:CD1	2.55	0.40
56:Ac:66:ARG:HB3	56:Ac:68:ARG:CZ	2.51	0.40
59:AS:3:ILE:HG13	68:A5:118:LEU:HB3	2.03	0.40
60:AO:75:VAL:HA	60:AO:78:LEU:HD13	2.02	0.40
71:AF:161:LEU:HD11	71:AF:166:GLU:CG	2.51	0.40
74:AH:120:LYS:HA	74:AH:120:LYS:HD3	1.65	0.40
74:AH:161:HIS:ND1	74:AH:178:ILE:O	2.42	0.40
76:Ag:33:LYS:HE3	76:Ag:33:LYS:HB2	1.93	0.40
77:AX:77:LEU:HB2	77:AX:81:VAL:HG13	2.02	0.40
4:S4:30:PHE:CZ	28:SU:61:PRO:HG3	2.55	0.40
8:SA:26:A:C6	8:SA:608:A:C6	3.09	0.40
8:SA:57:G:C6	8:SA:93:G:C6	3.09	0.40
8:SA:929:U:H2'	8:SA:930:A:O4'	2.21	0.40
8:SA:1198:U:H6	14:SG:180:ARG:HD2	1.86	0.40
8:SA:1372:A:H2'	8:SA:1373:U:C6	2.55	0.40
8:SA:1441:C:H2'	8:SA:1442:U:O4'	2.21	0.40
8:SA:1661:U:H2'	8:SA:1662:A:H8	1.85	0.40
8:SA:1711:U:OP1	20:SM:140:GLN:HG2	2.21	0.40
8:SA:1865:G:H1'	8:SA:1866:A:OP2	2.20	0.40
9:SB:64:ARG:HB3	23:SP:50:ARG:NH1	2.36	0.40
12:SE:14:ASN:OD1	12:SE:15:PRO:HD2	2.20	0.40
15:SH:49:VAL:HG21	15:SH:115:LYS:HD2	2.04	0.40
20:SM:38:ASP:OD1	20:SM:46:LYS:NZ	2.48	0.40
23:SP:42:ILE:H	23:SP:57:THR:HA	1.87	0.40
34:AA:193:C:H5''	66:AZ:121:LYS:HA	2.03	0.40
34:AA:773:A:C4	34:AA:774:A:C8	3.10	0.40
34:AA:809:A:OP1	60:AO:132:VAL:HB	2.21	0.40
34:AA:1108:U:H2'	34:AA:1109:U:C6	2.57	0.40
34:AA:1195:A:H2'	34:AA:1196:A:C8	2.55	0.40
34:AA:1872:A:H62	41:A6:86:LEU:HD23	1.86	0.40
34:AA:2513:U:H2'	34:AA:2514:G:O4'	2.21	0.40
34:AA:2705:G:C6	34:AA:3170:A:C6	3.09	0.40
34:AA:2809:A:N1	34:AA:2811:A:N6	2.69	0.40
34:AA:3106:U:OP1	53:Ai:36:SER:OG	2.34	0.40
34:AA:3418:A:N1	74:AH:117:LEU:HD21	2.35	0.40
34:AA:3423:U:H2'	34:AA:3424:U:C6	2.56	0.40
34:AA:3617:A:H2'	73:AU:176:SER:HB3	2.04	0.40
37:AL:13:LEU:HD12	37:AL:17:TRP:CD2	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:AL:119:LYS:HA	37:AL:122:LEU:HD23	2.04	0.40
41:A6:51:CYS:SG	41:A6:52:PRO:HD2	2.61	0.40
43:AN:16:LYS:HD2	43:AN:16:LYS:HA	1.88	0.40
43:AN:42:LEU:O	43:AN:62:THR:HG21	2.21	0.40
43:AN:72:LYS:HA	73:AU:162:HIS:CD2	2.56	0.40
54:AI:31:LYS:N	54:AI:35:GLY:O	2.48	0.40
54:AI:159:MET:HA	54:AI:162:VAL:HG22	2.02	0.40
54:AI:178:LYS:O	54:AI:182:ILE:HG12	2.21	0.40
55:AJ:270:LYS:HD2	55:AJ:270:LYS:HA	1.81	0.40
57:AK:11:LYS:HD2	57:AK:39:ASP:OD2	2.21	0.40
57:AK:27:LEU:HD23	57:AK:27:LEU:HA	1.92	0.40
62:AR:194:LEU:O	62:AR:198:ILE:HG23	2.21	0.40
62:AR:243:HIS:O	62:AR:246:ILE:HG22	2.21	0.40
63:AW:27:LYS:HD3	63:AW:63:TYR:HB3	2.04	0.40
67:A3:64:ARG:HA	67:A3:64:ARG:HD2	1.90	0.40
68:A5:116:ARG:HE	68:A5:116:ARG:HB3	1.65	0.40
70:AE:29:ILE:HG13	70:AE:215:ILE:HD12	2.03	0.40
4:S4:18:LYS:HD2	4:S4:19:LEU:H	1.86	0.40
8:SA:201:G:H8	8:SA:201:G:O5'	2.03	0.40
8:SA:642:A:H2'	8:SA:643:A:C8	2.56	0.40
8:SA:1030:C:H5''	28:SU:71:ILE:HG21	2.02	0.40
8:SA:1318:A:H8	8:SA:1694:G:N2	2.19	0.40
8:SA:1441:C:H2'	8:SA:1442:U:C6	2.56	0.40
9:SB:175:GLU:OE1	9:SB:187:LYS:NZ	2.54	0.40
9:SB:182:LYS:HB2	9:SB:182:LYS:HE3	1.83	0.40
14:SG:69:ILE:HG22	14:SG:146:LEU:HD23	2.04	0.40
19:SL:39:GLY:O	19:SL:61:ASP:HB3	2.20	0.40
20:SM:141:LYS:HA	20:SM:141:LYS:HD2	1.86	0.40
26:SS:73:MET:O	26:SS:76:PRO:HD3	2.21	0.40
26:SS:98:ILE:O	26:SS:100:VAL:HG13	2.21	0.40
28:SU:50:ILE:HG22	28:SU:71:ILE:HD11	2.03	0.40
33:SZ:36:VAL:O	33:SZ:49:THR:OG1	2.38	0.40
34:AA:223:G:OP2	71:AF:200:LYS:NZ	2.39	0.40
34:AA:276:G:H5'	51:AP:120:TRP:CE3	2.57	0.40
34:AA:812:U:O4	60:AO:116:LEU:N	2.54	0.40
34:AA:885:A:H5''	34:AA:3138:A:N6	2.36	0.40
34:AA:1031:G:C2	34:AA:1033:A:C2	3.09	0.40
34:AA:1048:G:O2'	56:Ac:52:TRP:O	2.36	0.40
34:AA:1118:A:C5	34:AA:1119:G:C8	3.10	0.40
34:AA:1161:C:H5''	62:AR:5:LYS:HG2	2.04	0.40
34:AA:1553:U:O2'	34:AA:1554:G:O5'	2.40	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:1805:U:HO2'	34:AA:1806:C:P	2.44	0.40
34:AA:2086:A:H2'	34:AA:2087:U:C6	2.56	0.40
34:AA:3235:C:H2'	34:AA:3236:G:O4'	2.21	0.40
34:AA:3438:G:H2'	34:AA:3439:G:C8	2.55	0.40
34:AA:3511:C:H2'	34:AA:3512:A:C8	2.56	0.40
35:AC:127:C:OP1	67:A3:60:TYR:OH	2.36	0.40
37:AL:3:ALA:HB1	37:AL:4:HIS:CE1	2.56	0.40
43:AN:8:GLU:HA	43:AN:11:LYS:HD2	2.03	0.40
44:A8:66:LEU:HD13	44:A8:70:ASN:HA	2.03	0.40
45:A9:42:GLU:OE1	45:A9:42:GLU:N	2.54	0.40
50:Af:27:LEU:HD12	50:Af:35:ARG:HH21	1.86	0.40
51:AP:116:LEU:HD12	51:AP:116:LEU:HA	1.92	0.40
51:AP:117:ASN:CG	51:AP:118:SER:N	2.80	0.40
51:AP:126:VAL:HG23	51:AP:127:TYR:CD2	2.56	0.40
53:Ai:14:ASN:C	53:Ai:16:CYS:H	2.28	0.40
62:AR:52:VAL:O	62:AR:62:CYS:HA	2.21	0.40
70:AE:8:ARG:HB2	70:AE:9:PRO:HD2	2.03	0.40
73:AU:38:ILE:HD11	73:AU:46:ALA:HA	2.03	0.40
1:S1:118:LYS:HA	1:S1:118:LYS:HE2	2.02	0.40
4:S4:46:SER:OG	4:S4:47:HIS:ND1	2.49	0.40
5:S5:3:LYS:HE3	5:S5:4:SER:H	1.86	0.40
8:SA:1295:A:O2'	8:SA:1296:C:P	2.80	0.40
8:SA:1815:U:OP2	8:SA:1816:U:O2'	2.33	0.40
8:SA:1834:A:N7	8:SA:1869:G:N1	2.69	0.40
8:SA:1845:U:H5'	26:SS:90:LYS:HD2	2.03	0.40
8:SA:1929:C:H5'	8:SA:1935:G:H21	1.87	0.40
9:SB:133:TYR:HE1	9:SB:221:PRO:HD2	1.85	0.40
10:SC:17:MET:HE1	10:SC:50:LEU:HD22	2.03	0.40
10:SC:88:LYS:HA	10:SC:91:GLN:HG2	2.02	0.40
11:SD:72:LEU:HD22	22:SO:76:TYR:HD1	1.87	0.40
11:SD:112:LYS:HA	11:SD:112:LYS:HD3	1.88	0.40
12:SE:48:LEU:HD23	12:SE:104:LEU:HD21	2.03	0.40
23:SP:142:LYS:HE2	23:SP:142:LYS:HB3	1.89	0.40
28:SU:48:SER:H	28:SU:86:GLU:CD	2.29	0.40
30:SW:61:ILE:C	30:SW:62:GLN:HG3	2.46	0.40
32:SY:92:ASP:OD1	32:SY:92:ASP:N	2.54	0.40
34:AA:345:G:H1	35:AC:30:U:H3	1.68	0.40
34:AA:688:U:H2'	34:AA:689:U:C6	2.57	0.40
34:AA:880:A:C6	34:AA:881:A:C5	3.08	0.40
34:AA:1191:G:C2	34:AA:1217:U:O2	2.74	0.40
34:AA:1256:U:N3	34:AA:3187:G:O4'	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:1288:C:O2'	34:AA:1515:A:H5'	2.21	0.40
34:AA:1712:G:H2'	34:AA:1713:G:C8	2.56	0.40
34:AA:1980:G:H3'	34:AA:1981:U:C6	2.56	0.40
34:AA:2394:C:HO2'	34:AA:2395:U:H6	1.66	0.40
34:AA:2691:A:OP1	34:AA:3232:U:H4'	2.21	0.40
34:AA:3202:U:O2	34:AA:3202:U:H2'	2.20	0.40
34:AA:3237:G:H5''	70:AE:5:LYS:HE2	2.02	0.40
34:AA:3292:A:N1	34:AA:3400:C:H4'	2.37	0.40
34:AA:3327:G:H2'	34:AA:3328:A:C8	2.56	0.40
35:AC:32:C:C2	35:AC:33:C:C5	3.10	0.40
35:AC:38:G:O2'	35:AC:39:C:O5'	2.38	0.40
51:AP:114:ARG:NH2	51:AP:156:LYS:HG2	2.37	0.40
54:AI:213:ASP:OD1	54:AI:214:MET:N	2.54	0.40
58:AM:21:VAL:HA	58:AM:38:ILE:HG23	2.03	0.40
59:AS:84:SER:HB3	59:AS:103:ARG:HB2	2.03	0.40
64:AY:118:GLU:H	64:AY:118:GLU:CD	2.30	0.40
68:A5:128:VAL:O	75:AV:136:PRO:HD3	2.22	0.40
69:AD:83:PHE:CE1	69:AD:86:GLN:HB2	2.57	0.40
71:AF:288:ASP:OD1	71:AF:288:ASP:N	2.52	0.40
73:AU:43:ASP:O	73:AU:47:LYS:HG3	2.22	0.40
79:S8:133:SER:OG	79:S8:134:ARG:N	2.55	0.40
8:SA:147:C:H2'	8:SA:148:U:H6	1.86	0.40
8:SA:540:C:H2'	8:SA:541:C:H6	1.85	0.40
8:SA:1726:U:OP1	32:SY:86:ARG:HD3	2.22	0.40
8:SA:1825:U:O4	8:SA:1826:A:N6	2.55	0.40
8:SA:1830:C:H4'	8:SA:1836:G:N1	2.33	0.40
8:SA:1851:C:N4	27:ST:10:LYS:HD2	2.33	0.40
14:SG:250:SER:HB3	14:SG:253:GLU:CD	2.47	0.40
15:SH:160:ARG:HD3	15:SH:160:ARG:HA	1.88	0.40
17:SJ:126:ILE:O	17:SJ:130:ILE:HG12	2.21	0.40
21:SN:79:PHE:CE1	27:ST:52:LYS:HB3	2.57	0.40
34:AA:124:U:H2'	34:AA:125:C:H6	1.87	0.40
34:AA:314:A:N6	34:AA:3143:G:C2	2.90	0.40
34:AA:417:A:O5'	34:AA:417:A:H8	2.04	0.40
34:AA:1022:U:H2'	34:AA:1023:U:H6	1.87	0.40
34:AA:1511:U:H4'	68:A5:173:ARG:O	2.21	0.40
34:AA:1896:C:H2'	34:AA:1897:G:H8	1.86	0.40
34:AA:2163:A:H5'	34:AA:2164:A:OP1	2.21	0.40
34:AA:2427:G:N1	34:AA:2440:A:C2	2.90	0.40
34:AA:2428:U:H2'	34:AA:2429:U:C6	2.57	0.40
34:AA:2997:G:C2	34:AA:2998:A:C8	3.10	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3247:U:C4	34:AA:3270:A:C6	3.09	0.40
34:AA:3361:U:H4'	34:AA:3362:A:OP2	2.21	0.40
34:AA:3708:U:H5''	70:AE:171:LYS:HB2	2.03	0.40
36:AB:40:A:H2'	36:AB:42:A:N7	2.36	0.40
37:AL:101:LYS:HE2	37:AL:103:ARG:HH21	1.87	0.40
42:A7:62:LYS:HA	42:A7:62:LYS:HD2	1.90	0.40
43:AN:23:ARG:HA	43:AN:29:ARG:NH2	2.36	0.40
44:A8:63:THR:O	44:A8:63:THR:HG22	2.21	0.40
48:Ad:20:THR:HG23	48:Ad:44:ARG:O	2.22	0.40
48:Ad:56:ASP:HB3	48:Ad:59:LYS:HB2	2.03	0.40
57:AK:74:GLU:O	57:AK:78:ILE:HG13	2.22	0.40
59:AS:67:LEU:HD21	59:AS:99:VAL:CG1	2.51	0.40
61:AQ:10:ARG:HG3	61:AQ:58:GLU:OE1	2.21	0.40
68:A5:179:ASN:O	68:A5:182:ILE:HG22	2.21	0.40
70:AE:294:ASP:N	70:AE:294:ASP:OD1	2.51	0.40
75:AV:22:LYS:HA	75:AV:22:LYS:HD3	1.94	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	S1	118/133 (89%)	112 (95%)	6 (5%)	0	100	100
2	S2	35/105 (33%)	33 (94%)	2 (6%)	0	100	100
3	S3	93/107 (87%)	84 (90%)	9 (10%)	0	100	100
4	S4	74/82 (90%)	60 (81%)	14 (19%)	0	100	100
5	S5	56/58 (97%)	49 (88%)	5 (9%)	2 (4%)	3	23
6	S6	41/43 (95%)	35 (85%)	6 (15%)	0	100	100
9	SB	208/262 (79%)	196 (94%)	10 (5%)	2 (1%)	13	48

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
10	SC	193/263 (73%)	179 (93%)	13 (7%)	1 (0%)	25	62
11	SD	149/221 (67%)	143 (96%)	6 (4%)	0	100	100
12	SE	183/189 (97%)	171 (93%)	12 (7%)	0	100	100
13	SF	255/261 (98%)	235 (92%)	19 (8%)	1 (0%)	30	67
14	SG	222/272 (82%)	209 (94%)	13 (6%)	0	100	100
15	SH	200/306 (65%)	187 (94%)	12 (6%)	1 (0%)	25	62
16	SI	176/195 (90%)	163 (93%)	13 (7%)	0	100	100
17	SJ	186/194 (96%)	168 (90%)	16 (9%)	2 (1%)	12	46
18	SK	127/130 (98%)	114 (90%)	13 (10%)	0	100	100
19	SL	165/218 (76%)	147 (89%)	16 (10%)	2 (1%)	11	44
20	SM	136/144 (94%)	128 (94%)	7 (5%)	1 (1%)	19	56
21	SN	96/118 (81%)	90 (94%)	6 (6%)	0	100	100
22	SO	77/137 (56%)	71 (92%)	5 (6%)	1 (1%)	10	42
23	SP	125/151 (83%)	118 (94%)	6 (5%)	1 (1%)	16	53
24	SQ	142/145 (98%)	132 (93%)	10 (7%)	0	100	100
25	SR	92/141 (65%)	86 (94%)	6 (6%)	0	100	100
26	SS	126/156 (81%)	99 (79%)	24 (19%)	3 (2%)	5	30
27	ST	46/54 (85%)	44 (96%)	2 (4%)	0	100	100
28	SU	147/151 (97%)	141 (96%)	6 (4%)	0	100	100
29	SV	142/161 (88%)	131 (92%)	10 (7%)	1 (1%)	19	56
30	SW	91/137 (66%)	82 (90%)	7 (8%)	2 (2%)	5	32
31	SX	92/145 (63%)	83 (90%)	9 (10%)	0	100	100
32	SY	152/170 (89%)	147 (97%)	5 (3%)	0	100	100
33	SZ	70/82 (85%)	65 (93%)	4 (6%)	1 (1%)	9	40
37	AL	209/215 (97%)	200 (96%)	9 (4%)	0	100	100
38	A1	136/146 (93%)	123 (90%)	13 (10%)	0	100	100
39	A2	96/126 (76%)	93 (97%)	3 (3%)	0	100	100
40	A4	64/67 (96%)	58 (91%)	6 (9%)	0	100	100
41	A6	95/107 (89%)	89 (94%)	6 (6%)	0	100	100
42	A7	92/120 (77%)	92 (100%)	0	0	100	100
43	AN	145/165 (88%)	134 (92%)	10 (7%)	1 (1%)	19	56

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
44	A8	122/130 (94%)	100 (82%)	22 (18%)	0	100	100
45	A9	100/139 (72%)	87 (87%)	13 (13%)	0	100	100
46	Aa	103/149 (69%)	95 (92%)	8 (8%)	0	100	100
47	Ab	91/112 (81%)	85 (93%)	6 (7%)	0	100	100
48	Ad	68/87 (78%)	66 (97%)	2 (3%)	0	100	100
49	Ae	39/51 (76%)	39 (100%)	0	0	100	100
50	Af	49/128 (38%)	42 (86%)	7 (14%)	0	100	100
51	AP	200/203 (98%)	179 (90%)	17 (8%)	4 (2%)	6	34
52	Ah	82/95 (86%)	76 (93%)	6 (7%)	0	100	100
53	Ai	92/103 (89%)	84 (91%)	8 (9%)	0	100	100
54	AI	203/221 (92%)	190 (94%)	12 (6%)	1 (0%)	25	62
55	AJ	216/283 (76%)	208 (96%)	7 (3%)	1 (0%)	25	62
56	Ac	87/92 (95%)	72 (83%)	15 (17%)	0	100	100
57	AK	199/202 (98%)	193 (97%)	6 (3%)	0	100	100
58	AM	130/139 (94%)	122 (94%)	8 (6%)	0	100	100
59	AS	184/187 (98%)	174 (95%)	10 (5%)	0	100	100
60	AO	145/148 (98%)	131 (90%)	14 (10%)	0	100	100
61	AQ	185/219 (84%)	166 (90%)	16 (9%)	3 (2%)	8	39
62	AR	244/294 (83%)	231 (95%)	13 (5%)	0	100	100
63	AW	149/173 (86%)	139 (93%)	10 (7%)	0	100	100
64	AY	99/190 (52%)	95 (96%)	4 (4%)	0	100	100
65	AT	179/182 (98%)	175 (98%)	4 (2%)	0	100	100
66	AZ	119/126 (94%)	114 (96%)	5 (4%)	0	100	100
67	A3	117/124 (94%)	105 (90%)	12 (10%)	0	100	100
68	A5	221/257 (86%)	206 (93%)	15 (7%)	0	100	100
69	AD	245/260 (94%)	230 (94%)	14 (6%)	1 (0%)	30	67
70	AE	378/386 (98%)	361 (96%)	17 (4%)	0	100	100
71	AF	388/411 (94%)	362 (93%)	25 (6%)	1 (0%)	37	71
72	AG	116/173 (67%)	110 (95%)	6 (5%)	0	100	100
73	AU	178/184 (97%)	172 (97%)	6 (3%)	0	100	100
74	AH	183/190 (96%)	172 (94%)	11 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
75	AV	153/162 (94%)	143 (94%)	10 (6%)	0	100	100
76	Ag	35/39 (90%)	29 (83%)	6 (17%)	0	100	100
77	AX	95/139 (68%)	88 (93%)	7 (7%)	0	100	100
78	A0	60/162 (37%)	57 (95%)	3 (5%)	0	100	100
79	S8	315/323 (98%)	300 (95%)	15 (5%)	0	100	100
All	All	10421/12340 (84%)	9689 (93%)	699 (7%)	33 (0%)	38	71

All (33) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
15	SH	148	ASP
17	SJ	112	ILE
20	SM	41	GLU
29	SV	41	VAL
30	SW	4	VAL
51	AP	79	VAL
51	AP	148	ILE
55	AJ	75	ILE
5	S5	31	ARG
9	SB	93	ASN
19	SL	168	ILE
22	SO	35	GLU
26	SS	102	ALA
51	AP	121	VAL
54	AI	19	VAL
5	S5	27	ALA
9	SB	146	ARG
26	SS	101	ILE
61	AQ	24	ARG
10	SC	143	VAL
19	SL	119	THR
51	AP	77	LYS
13	SF	195	ILE
17	SJ	110	PHE
30	SW	69	ILE
33	SZ	81	GLN
43	AN	18	ASN
61	AQ	14	ASN
61	AQ	60	ILE
69	AD	199	VAL

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Mol	Chain	Res	Type
23	SP	144	SER
71	AF	267	ILE
26	SS	14	ILE

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	S1	104/115 (90%)	104 (100%)	0	100	100
2	S2	35/88 (40%)	35 (100%)	0	100	100
3	S3	87/98 (89%)	87 (100%)	0	100	100
4	S4	70/76 (92%)	70 (100%)	0	100	100
5	S5	47/47 (100%)	44 (94%)	3 (6%)	14	37
6	S6	36/36 (100%)	36 (100%)	0	100	100
9	SB	195/238 (82%)	195 (100%)	0	100	100
10	SC	167/227 (74%)	167 (100%)	0	100	100
11	SD	132/188 (70%)	132 (100%)	0	100	100
12	SE	161/167 (96%)	161 (100%)	0	100	100
13	SF	233/237 (98%)	233 (100%)	0	100	100
14	SG	191/222 (86%)	191 (100%)	0	100	100
15	SH	182/279 (65%)	181 (100%)	1 (0%)	86	90
16	SI	154/165 (93%)	154 (100%)	0	100	100
17	SJ	177/183 (97%)	177 (100%)	0	100	100
18	SK	115/116 (99%)	115 (100%)	0	100	100
19	SL	151/193 (78%)	151 (100%)	0	100	100
20	SM	116/122 (95%)	116 (100%)	0	100	100
21	SN	91/109 (84%)	91 (100%)	0	100	100
22	SO	76/129 (59%)	75 (99%)	1 (1%)	65	77
23	SP	99/119 (83%)	99 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
24	SQ	120/121 (99%)	120 (100%)	0	100	100
25	SR	83/121 (69%)	83 (100%)	0	100	100
26	SS	114/136 (84%)	114 (100%)	0	100	100
27	ST	43/48 (90%)	43 (100%)	0	100	100
28	SU	132/133 (99%)	132 (100%)	0	100	100
29	SV	131/144 (91%)	131 (100%)	0	100	100
30	SW	86/127 (68%)	86 (100%)	0	100	100
31	SX	88/130 (68%)	88 (100%)	0	100	100
32	SY	137/151 (91%)	137 (100%)	0	100	100
33	SZ	60/70 (86%)	60 (100%)	0	100	100
37	AL	190/194 (98%)	190 (100%)	0	100	100
38	A1	127/132 (96%)	127 (100%)	0	100	100
39	A2	97/117 (83%)	97 (100%)	0	100	100
40	A4	60/61 (98%)	60 (100%)	0	100	100
41	A6	82/91 (90%)	82 (100%)	0	100	100
42	A7	90/112 (80%)	90 (100%)	0	100	100
43	AN	136/152 (90%)	125 (92%)	11 (8%)	9	31
44	A8	113/119 (95%)	113 (100%)	0	100	100
45	A9	90/127 (71%)	90 (100%)	0	100	100
46	Aa	89/128 (70%)	89 (100%)	0	100	100
47	Ab	82/97 (84%)	82 (100%)	0	100	100
48	Ad	69/83 (83%)	69 (100%)	0	100	100
49	Ae	40/48 (83%)	40 (100%)	0	100	100
50	Af	45/114 (40%)	45 (100%)	0	100	100
51	AP	177/178 (99%)	177 (100%)	0	100	100
52	Ah	70/80 (88%)	70 (100%)	0	100	100
53	Ai	86/92 (94%)	86 (100%)	0	100	100
54	AI	189/203 (93%)	189 (100%)	0	100	100
55	AJ	204/260 (78%)	204 (100%)	0	100	100
56	Ac	74/77 (96%)	74 (100%)	0	100	100
57	AK	181/182 (100%)	181 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
58	AM	106/110 (96%)	106 (100%)	0	100	100
59	AS	158/159 (99%)	158 (100%)	0	100	100
60	AO	121/122 (99%)	121 (100%)	0	100	100
61	AQ	165/190 (87%)	165 (100%)	0	100	100
62	AR	215/254 (85%)	215 (100%)	0	100	100
63	AW	128/131 (98%)	128 (100%)	0	100	100
64	AY	90/177 (51%)	90 (100%)	0	100	100
65	AT	162/163 (99%)	162 (100%)	0	100	100
66	AZ	111/115 (96%)	111 (100%)	0	100	100
67	A3	110/115 (96%)	110 (100%)	0	100	100
68	A5	201/231 (87%)	201 (100%)	0	100	100
69	AD	191/202 (95%)	191 (100%)	0	100	100
70	AE	335/340 (98%)	335 (100%)	0	100	100
71	AF	336/352 (96%)	336 (100%)	0	100	100
72	AG	110/155 (71%)	110 (100%)	0	100	100
73	AU	162/166 (98%)	162 (100%)	0	100	100
74	AH	168/173 (97%)	168 (100%)	0	100	100
75	AV	140/145 (97%)	140 (100%)	0	100	100
76	Ag	34/35 (97%)	34 (100%)	0	100	100
77	AX	92/131 (70%)	92 (100%)	0	100	100
78	A0	53/146 (36%)	53 (100%)	0	100	100
79	S8	281/287 (98%)	281 (100%)	0	100	100
All	All	9373/10881 (86%)	9357 (100%)	16 (0%)	91	94

All (16) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	S5	28	GLN
5	S5	31	ARG
5	S5	32	PHE
15	SH	160	ARG
22	SO	64	ASN
43	AN	6	LEU
43	AN	8	GLU

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Mol	Chain	Res	Type
43	AN	9	GLU
43	AN	10	GLU
43	AN	11	LYS
43	AN	12	LEU
43	AN	13	TYR
43	AN	15	SER
43	AN	16	LYS
43	AN	17	LYS
43	AN	18	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (81) such sidechains are listed below:

Mol	Chain	Res	Type
1	S1	15	ASN
6	S6	17	GLN
6	S6	38	GLN
9	SB	93	ASN
9	SB	147	GLN
9	SB	157	GLN
10	SC	155	HIS
10	SC	164	ASN
11	SD	13	ASN
11	SD	126	HIS
12	SE	83	GLN
13	SF	142	HIS
13	SF	172	HIS
13	SF	254	ASN
16	SI	101	GLN
16	SI	156	ASN
17	SJ	5	GLN
17	SJ	82	ASN
18	SK	24	GLN
18	SK	42	GLN
18	SK	101	HIS
19	SL	21	HIS
19	SL	84	ASN
22	SO	43	HIS
22	SO	50	ASN
22	SO	52	HIS
22	SO	75	GLN
25	SR	26	GLN
27	ST	35	ASN

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Mol	Chain	Res	Type
28	SU	78	GLN
32	SY	163	ASN
32	SY	168	ASN
33	SZ	33	GLN
37	AL	24	ASN
37	AL	200	ASN
43	AN	130	GLN
44	A8	21	GLN
45	A9	59	ASN
45	A9	67	ASN
45	A9	69	ASN
46	Aa	18	ASN
51	AP	85	HIS
51	AP	86	GLN
51	AP	195	GLN
53	Ai	81	GLN
54	AI	197	ASN
55	AJ	42	ASN
55	AJ	95	ASN
57	AK	62	ASN
57	AK	155	ASN
57	AK	175	ASN
57	AK	186	ASN
59	AS	73	ASN
60	AO	8	ASN
61	AQ	14	ASN
61	AQ	183	GLN
63	AW	106	ASN
63	AW	133	HIS
63	AW	147	GLN
65	AT	85	ASN
66	AZ	102	ASN
67	A3	93	GLN
67	A3	112	ASN
68	A5	51	ASN
69	AD	115	ASN
69	AD	187	HIS
69	AD	194	ASN
69	AD	205	ASN
70	AE	68	HIS
70	AE	135	ASN
70	AE	240	HIS

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Mol	Chain	Res	Type
70	AE	342	GLN
71	AF	38	GLN
71	AF	268	HIS
71	AF	362	GLN
73	AU	131	ASN
73	AU	162	HIS
75	AV	113	ASN
77	AX	75	ASN
79	S8	200	HIS
79	S8	246	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
34	AA	3164/3788 (83%)	747 (23%)	71 (2%)
35	AC	148/159 (93%)	37 (25%)	5 (3%)
36	AB	117/119 (98%)	18 (15%)	3 (2%)
7	S7	73/74 (98%)	19 (26%)	1 (1%)
8	SA	1587/2087 (76%)	366 (23%)	27 (1%)
All	All	5089/6227 (81%)	1187 (23%)	107 (2%)

All (1187) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
7	S7	8	U
7	S7	10	G
7	S7	16	U
7	S7	17	U
7	S7	18	G
7	S7	19	G
7	S7	20	U
7	S7	32	U
7	S7	34	U
7	S7	37	U
7	S7	46	G
7	S7	53	A
7	S7	54	G
7	S7	56	U
7	S7	57	C
7	S7	69	U
7	S7	72	C

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Mol	Chain	Res	Type
7	S7	73	C
7	S7	74	A
8	SA	2	A
8	SA	5	U
8	SA	26	A
8	SA	27	U
8	SA	34	G
8	SA	35	U
8	SA	42	G
8	SA	43	A
8	SA	44	U
8	SA	45	U
8	SA	47	A
8	SA	57	G
8	SA	59	G
8	SA	65	A
8	SA	71	A
8	SA	73	A
8	SA	74	U
8	SA	79	U
8	SA	82	G
8	SA	84	A
8	SA	102	A
8	SA	106	A
8	SA	107	A
8	SA	116	A
8	SA	118	U
8	SA	126	A
8	SA	128	A
8	SA	129	U
8	SA	130	U
8	SA	143	A
8	SA	144	U
8	SA	151	G
8	SA	157	G
8	SA	164	C
8	SA	166	A
8	SA	168	U
8	SA	179	U
8	SA	183	C
8	SA	207	G
8	SA	208	U

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Mol	Chain	Res	Type
8	SA	247	G
8	SA	248	G
8	SA	249	A
8	SA	251	U
8	SA	252	U
8	SA	259	A
8	SA	260	A
8	SA	262	A
8	SA	263	A
8	SA	266	A
8	SA	268	C
8	SA	271	G
8	SA	272	U
8	SA	274	A
8	SA	292	G
8	SA	305	G
8	SA	314	A
8	SA	315	C
8	SA	320	C
8	SA	322	G
8	SA	326	U
8	SA	339	A
8	SA	343	G
8	SA	344	C
8	SA	358	G
8	SA	365	A
8	SA	367	C
8	SA	371	G
8	SA	375	U
8	SA	376	A
8	SA	379	G
8	SA	386	U
8	SA	395	G
8	SA	406	A
8	SA	408	U
8	SA	409	A
8	SA	410	G
8	SA	422	A
8	SA	423	A
8	SA	424	G
8	SA	429	G
8	SA	430	C

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Mol	Chain	Res	Type
8	SA	432	G
8	SA	443	A
8	SA	445	U
8	SA	450	C
8	SA	459	A
8	SA	474	A
8	SA	475	C
8	SA	487	A
8	SA	488	U
8	SA	494	G
8	SA	509	U
8	SA	515	U
8	SA	516	G
8	SA	518	A
8	SA	526	G
8	SA	543	A
8	SA	545	A
8	SA	546	G
8	SA	548	A
8	SA	549	A
8	SA	558	G
8	SA	564	G
8	SA	565	U
8	SA	566	C
8	SA	575	G
8	SA	581	G
8	SA	585	U
8	SA	601	A
8	SA	618	U
8	SA	626	A
8	SA	627	A
8	SA	628	A
8	SA	629	A
8	SA	630	C
8	SA	631	G
8	SA	641	G
8	SA	642	A
8	SA	646	U
8	SA	647	C
8	SA	653	A
8	SA	655	C
8	SA	746	U

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Mol	Chain	Res	Type
8	SA	753	U
8	SA	754	A
8	SA	757	A
8	SA	760	C
8	SA	790	U
8	SA	791	U
8	SA	793	G
8	SA	801	G
8	SA	803	G
8	SA	804	U
8	SA	805	A
8	SA	806	A
8	SA	815	G
8	SA	816	U
8	SA	818	C
8	SA	821	A
8	SA	824	A
8	SA	830	U
8	SA	833	A
8	SA	837	A
8	SA	845	U
8	SA	846	G
8	SA	849	U
8	SA	851	A
8	SA	852	A
8	SA	856	U
8	SA	857	A
8	SA	858	U
8	SA	866	A
8	SA	870	A
8	SA	875	A
8	SA	877	U
8	SA	879	A
8	SA	888	A
8	SA	908	U
8	SA	913	U
8	SA	915	G
8	SA	920	A
8	SA	924	A
8	SA	925	C
8	SA	929	U
8	SA	931	A

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Mol	Chain	Res	Type
8	SA	941	C
8	SA	942	U
8	SA	966	C
8	SA	967	A
8	SA	973	G
8	SA	974	A
8	SA	982	A
8	SA	983	G
8	SA	984	A
8	SA	999	A
8	SA	1002	A
8	SA	1004	U
8	SA	1011	G
8	SA	1013	A
8	SA	1029	U
8	SA	1035	A
8	SA	1057	A
8	SA	1061	A
8	SA	1062	A
8	SA	1065	C
8	SA	1073	U
8	SA	1074	A
8	SA	1093	U
8	SA	1095	A
8	SA	1096	A
8	SA	1097	C
8	SA	1099	A
8	SA	1101	G
8	SA	1108	A
8	SA	1109	G
8	SA	1112	G
8	SA	1168	U
8	SA	1175	G
8	SA	1177	A
8	SA	1182	A
8	SA	1183	U
8	SA	1187	A
8	SA	1193	A
8	SA	1197	C
8	SA	1198	U
8	SA	1199	U
8	SA	1214	A

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Mol	Chain	Res	Type
8	SA	1219	U
8	SA	1239	A
8	SA	1251	G
8	SA	1252	A
8	SA	1259	C
8	SA	1261	A
8	SA	1265	G
8	SA	1268	G
8	SA	1271	G
8	SA	1285	A
8	SA	1286	U
8	SA	1291	C
8	SA	1292	U
8	SA	1295	A
8	SA	1296	C
8	SA	1297	A
8	SA	1300	G
8	SA	1301	G
8	SA	1303	A
8	SA	1307	U
8	SA	1308	C
8	SA	1313	G
8	SA	1317	A
8	SA	1318	A
8	SA	1363	U
8	SA	1366	A
8	SA	1367	U
8	SA	1370	U
8	SA	1374	G
8	SA	1377	U
8	SA	1382	G
8	SA	1386	U
8	SA	1387	U
8	SA	1388	A
8	SA	1414	A
8	SA	1415	A
8	SA	1416	U
8	SA	1417	U
8	SA	1421	A
8	SA	1422	U
8	SA	1423	A
8	SA	1432	G

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Mol	Chain	Res	Type
8	SA	1443	G
8	SA	1444	C
8	SA	1445	U
8	SA	1446	A
8	SA	1448	U
8	SA	1453	G
8	SA	1454	G
8	SA	1456	G
8	SA	1458	G
8	SA	1460	A
8	SA	1464	U
8	SA	1624	U
8	SA	1625	C
8	SA	1626	U
8	SA	1629	G
8	SA	1636	A
8	SA	1639	G
8	SA	1640	U
8	SA	1644	U
8	SA	1645	C
8	SA	1658	G
8	SA	1659	U
8	SA	1660	U
8	SA	1661	U
8	SA	1662	A
8	SA	1664	G
8	SA	1665	G
8	SA	1671	A
8	SA	1673	A
8	SA	1674	G
8	SA	1677	C
8	SA	1678	U
8	SA	1679	G
8	SA	1682	A
8	SA	1691	G
8	SA	1692	A
8	SA	1694	G
8	SA	1706	A
8	SA	1715	A
8	SA	1717	A
8	SA	1719	U
8	SA	1720	G

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Mol	Chain	Res	Type
8	SA	1721	A
8	SA	1727	A
8	SA	1728	U
8	SA	1729	A
8	SA	1732	G
8	SA	1735	U
8	SA	1742	A
8	SA	1784	A
8	SA	1787	U
8	SA	1790	C
8	SA	1792	U
8	SA	1795	G
8	SA	1802	G
8	SA	1806	U
8	SA	1812	A
8	SA	1814	C
8	SA	1817	U
8	SA	1818	A
8	SA	1819	U
8	SA	1820	C
8	SA	1824	A
8	SA	1833	G
8	SA	1834	A
8	SA	1836	G
8	SA	1837	G
8	SA	1839	G
8	SA	1843	G
8	SA	1854	U
8	SA	1855	U
8	SA	1856	A
8	SA	1862	C
8	SA	1866	A
8	SA	1870	A
8	SA	1871	G
8	SA	1881	G
8	SA	1898	G
8	SA	1902	G
8	SA	1907	G
8	SA	1908	A
8	SA	1911	A
8	SA	1912	C
8	SA	1913	G

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Mol	Chain	Res	Type
8	SA	1915	C
8	SA	1916	C
8	SA	1928	A
8	SA	1930	A
8	SA	1932	A
8	SA	1954	U
8	SA	1955	G
8	SA	1961	U
8	SA	1969	A
8	SA	1976	G
8	SA	1977	G
8	SA	1978	A
8	SA	1980	A
8	SA	1982	G
8	SA	2010	U
8	SA	2019	C
8	SA	2034	U
8	SA	2048	A
8	SA	2049	G
8	SA	2052	G
8	SA	2054	A
8	SA	2058	A
8	SA	2061	U
8	SA	2072	G
8	SA	2075	C
8	SA	2084	G
8	SA	2085	G
8	SA	2086	A
8	SA	2087	U
8	SA	2088	C
8	SA	2089	A
8	SA	2090	U
34	AA	11	A
34	AA	13	G
34	AA	14	U
34	AA	15	U
34	AA	26	A
34	AA	40	A
34	AA	41	G
34	AA	43	A
34	AA	45	A
34	AA	49	U

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Mol	Chain	Res	Type
34	AA	60	A
34	AA	62	A
34	AA	63	A
34	AA	66	A
34	AA	70	A
34	AA	72	C
34	AA	74	A
34	AA	77	A
34	AA	85	A
34	AA	110	G
34	AA	113	C
34	AA	121	U
34	AA	124	U
34	AA	130	G
34	AA	133	U
34	AA	134	G
34	AA	136	U
34	AA	137	G
34	AA	141	A
34	AA	147	C
34	AA	155	U
34	AA	163	G
34	AA	164	A
34	AA	167	U
34	AA	169	U
34	AA	174	U
34	AA	179	G
34	AA	180	C
34	AA	182	U
34	AA	183	U
34	AA	185	A
34	AA	192	G
34	AA	197	G
34	AA	198	U
34	AA	199	G
34	AA	200	A
34	AA	201	G
34	AA	204	G
34	AA	207	A
34	AA	211	U
34	AA	216	C
34	AA	219	A

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Mol	Chain	Res	Type
34	AA	226	G
34	AA	227	A
34	AA	229	A
34	AA	230	G
34	AA	232	C
34	AA	239	U
34	AA	242	U
34	AA	246	U
34	AA	250	U
34	AA	258	U
34	AA	269	A
34	AA	271	G
34	AA	276	G
34	AA	277	U
34	AA	290	G
34	AA	292	U
34	AA	293	U
34	AA	302	A
34	AA	303	A
34	AA	306	C
34	AA	307	G
34	AA	308	U
34	AA	309	G
34	AA	313	U
34	AA	323	A
34	AA	334	U
34	AA	337	A
34	AA	338	U
34	AA	347	C
34	AA	352	A
34	AA	360	A
34	AA	382	A
34	AA	384	A
34	AA	386	U
34	AA	396	U
34	AA	400	C
34	AA	409	A
34	AA	411	U
34	AA	412	A
34	AA	413	C
34	AA	414	C
34	AA	431	G

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Mol	Chain	Res	Type
34	AA	432	A
34	AA	433	A
34	AA	439	U
34	AA	440	A
34	AA	445	A
34	AA	447	A
34	AA	448	A
34	AA	449	A
34	AA	451	C
34	AA	459	G
34	AA	462	G
34	AA	463	G
34	AA	490	U
34	AA	495	U
34	AA	497	U
34	AA	501	U
34	AA	502	U
34	AA	504	A
34	AA	505	A
34	AA	506	A
34	AA	509	A
34	AA	520	U
34	AA	521	U
34	AA	522	A
34	AA	523	A
34	AA	530	U
34	AA	532	C
34	AA	536	A
34	AA	537	A
34	AA	542	A
34	AA	543	U
34	AA	551	A
34	AA	573	U
34	AA	580	A
34	AA	581	C
34	AA	582	U
34	AA	583	U
34	AA	585	C
34	AA	592	C
34	AA	593	A
34	AA	598	U
34	AA	599	G

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Mol	Chain	Res	Type
34	AA	608	A
34	AA	609	C
34	AA	610	U
34	AA	620	U
34	AA	621	C
34	AA	623	U
34	AA	625	A
34	AA	642	A
34	AA	648	U
34	AA	650	U
34	AA	652	A
34	AA	653	A
34	AA	665	U
34	AA	666	U
34	AA	667	U
34	AA	668	U
34	AA	673	U
34	AA	674	U
34	AA	675	A
34	AA	679	U
34	AA	680	U
34	AA	682	A
34	AA	683	A
34	AA	684	G
34	AA	685	U
34	AA	693	A
34	AA	694	U
34	AA	697	A
34	AA	698	G
34	AA	699	U
34	AA	700	A
34	AA	704	U
34	AA	708	A
34	AA	715	U
34	AA	716	C
34	AA	720	U
34	AA	722	G
34	AA	727	A
34	AA	738	A
34	AA	755	A
34	AA	759	U
34	AA	760	A

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Mol	Chain	Res	Type
34	AA	763	U
34	AA	765	A
34	AA	767	U
34	AA	768	C
34	AA	769	U
34	AA	771	U
34	AA	772	A
34	AA	773	A
34	AA	774	A
34	AA	778	U
34	AA	798	U
34	AA	799	A
34	AA	803	A
34	AA	806	G
34	AA	809	A
34	AA	810	U
34	AA	812	U
34	AA	813	G
34	AA	818	C
34	AA	822	A
34	AA	827	A
34	AA	830	U
34	AA	834	U
34	AA	835	G
34	AA	857	C
34	AA	858	C
34	AA	859	C
34	AA	860	A
34	AA	861	C
34	AA	862	U
34	AA	863	U
34	AA	866	C
34	AA	871	A
34	AA	874	A
34	AA	885	A
34	AA	889	U
34	AA	890	G
34	AA	893	U
34	AA	896	U
34	AA	899	A
34	AA	900	G
34	AA	903	C

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Mol	Chain	Res	Type
34	AA	904	G
34	AA	905	A
34	AA	909	U
34	AA	918	G
34	AA	925	A
34	AA	927	A
34	AA	935	A
34	AA	936	A
34	AA	939	A
34	AA	949	A
34	AA	950	G
34	AA	966	A
34	AA	968	G
34	AA	969	U
34	AA	976	G
34	AA	980	A
34	AA	984	A
34	AA	986	U
34	AA	993	U
34	AA	998	U
34	AA	999	G
34	AA	1016	A
34	AA	1026	G
34	AA	1027	G
34	AA	1028	G
34	AA	1032	A
34	AA	1033	A
34	AA	1034	A
34	AA	1035	G
34	AA	1036	A
34	AA	1040	A
34	AA	1043	G
34	AA	1044	A
34	AA	1056	G
34	AA	1062	U
34	AA	1063	A
34	AA	1070	A
34	AA	1073	G
34	AA	1074	A
34	AA	1078	C
34	AA	1086	C
34	AA	1096	G

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Mol	Chain	Res	Type
34	AA	1100	A
34	AA	1101	A
34	AA	1106	A
34	AA	1107	U
34	AA	1111	A
34	AA	1112	C
34	AA	1122	A
34	AA	1123	U
34	AA	1124	A
34	AA	1132	G
34	AA	1158	G
34	AA	1170	A
34	AA	1172	C
34	AA	1186	A
34	AA	1189	G
34	AA	1197	U
34	AA	1198	A
34	AA	1199	A
34	AA	1200	C
34	AA	1205	U
34	AA	1206	U
34	AA	1208	G
34	AA	1209	U
34	AA	1215	A
34	AA	1217	U
34	AA	1218	C
34	AA	1221	A
34	AA	1222	U
34	AA	1223	U
34	AA	1225	A
34	AA	1228	A
34	AA	1229	A
34	AA	1230	A
34	AA	1231	A
34	AA	1232	U
34	AA	1233	A
34	AA	1245	G
34	AA	1259	G
34	AA	1271	A
34	AA	1279	U
34	AA	1283	C
34	AA	1287	A

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Mol	Chain	Res	Type
34	AA	1296	U
34	AA	1305	U
34	AA	1310	A
34	AA	1317	C
34	AA	1319	U
34	AA	1320	G
34	AA	1325	C
34	AA	1327	C
34	AA	1329	U
34	AA	1334	G
34	AA	1337	G
34	AA	1344	C
34	AA	1346	U
34	AA	1420	C
34	AA	1423	G
34	AA	1432	A
34	AA	1435	G
34	AA	1436	A
34	AA	1437	U
34	AA	1441	G
34	AA	1445	A
34	AA	1453	U
34	AA	1455	C
34	AA	1458	A
34	AA	1476	A
34	AA	1481	A
34	AA	1495	U
34	AA	1498	U
34	AA	1499	U
34	AA	1503	A
34	AA	1504	A
34	AA	1505	U
34	AA	1506	C
34	AA	1524	U
34	AA	1529	G
34	AA	1535	G
34	AA	1537	G
34	AA	1538	U
34	AA	1539	U
34	AA	1540	G
34	AA	1549	U
34	AA	1550	A

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Mol	Chain	Res	Type
34	AA	1553	U
34	AA	1554	G
34	AA	1555	A
34	AA	1556	G
34	AA	1565	G
34	AA	1567	A
34	AA	1571	C
34	AA	1572	U
34	AA	1575	C
34	AA	1583	G
34	AA	1584	A
34	AA	1586	C
34	AA	1595	A
34	AA	1601	A
34	AA	1602	A
34	AA	1604	U
34	AA	1619	U
34	AA	1630	A
34	AA	1631	A
34	AA	1633	U
34	AA	1636	A
34	AA	1637	G
34	AA	1645	U
34	AA	1657	U
34	AA	1672	U
34	AA	1676	C
34	AA	1682	U
34	AA	1685	G
34	AA	1691	G
34	AA	1703	U
34	AA	1704	U
34	AA	1705	A
34	AA	1706	A
34	AA	1707	A
34	AA	1725	U
34	AA	1732	A
34	AA	1736	A
34	AA	1737	A
34	AA	1739	C
34	AA	1744	U
34	AA	1748	A
34	AA	1750	U

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Mol	Chain	Res	Type
34	AA	1762	A
34	AA	1763	G
34	AA	1767	U
34	AA	1769	U
34	AA	1771	A
34	AA	1774	U
34	AA	1781	A
34	AA	1782	U
34	AA	1783	G
34	AA	1788	C
34	AA	1793	A
34	AA	1795	A
34	AA	1797	A
34	AA	1800	U
34	AA	1801	G
34	AA	1806	C
34	AA	1812	C
34	AA	1838	U
34	AA	1842	U
34	AA	1855	U
34	AA	1856	U
34	AA	1881	C
34	AA	1882	U
34	AA	1886	A
34	AA	1898	U
34	AA	1899	U
34	AA	1902	A
34	AA	1903	C
34	AA	1904	U
34	AA	1905	C
34	AA	1914	A
34	AA	1964	G
34	AA	1969	A
34	AA	1970	A
34	AA	1971	U
34	AA	1976	A
34	AA	1978	U
34	AA	1980	G
34	AA	1981	U
34	AA	1991	U
34	AA	1996	C
34	AA	1997	G

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Mol	Chain	Res	Type
34	AA	1998	A
34	AA	2000	G
34	AA	2003	G
34	AA	2004	U
34	AA	2009	A
34	AA	2019	A
34	AA	2023	A
34	AA	2030	G
34	AA	2031	A
34	AA	2032	A
34	AA	2034	G
34	AA	2072	U
34	AA	2081	U
34	AA	2082	C
34	AA	2084	U
34	AA	2090	U
34	AA	2092	G
34	AA	2093	U
34	AA	2096	G
34	AA	2102	A
34	AA	2106	A
34	AA	2107	C
34	AA	2108	A
34	AA	2109	A
34	AA	2113	C
34	AA	2117	A
34	AA	2121	C
34	AA	2125	A
34	AA	2145	A
34	AA	2146	A
34	AA	2147	A
34	AA	2148	U
34	AA	2153	A
34	AA	2154	A
34	AA	2160	G
34	AA	2161	G
34	AA	2163	A
34	AA	2174	G
34	AA	2175	C
34	AA	2176	A
34	AA	2178	A
34	AA	2180	U

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Mol	Chain	Res	Type
34	AA	2181	A
34	AA	2219	A
34	AA	2220	U
34	AA	2221	U
34	AA	2394	C
34	AA	2395	U
34	AA	2400	A
34	AA	2404	A
34	AA	2405	A
34	AA	2409	G
34	AA	2410	A
34	AA	2415	G
34	AA	2424	A
34	AA	2433	U
34	AA	2435	A
34	AA	2438	A
34	AA	2451	A
34	AA	2453	A
34	AA	2461	A
34	AA	2463	U
34	AA	2467	A
34	AA	2480	G
34	AA	2481	A
34	AA	2485	C
34	AA	2487	G
34	AA	2500	A
34	AA	2516	A
34	AA	2521	A
34	AA	2522	A
34	AA	2523	U
34	AA	2525	A
34	AA	2532	G
34	AA	2542	G
34	AA	2545	A
34	AA	2549	A
34	AA	2550	C
34	AA	2551	U
34	AA	2565	G
34	AA	2566	G
34	AA	2567	U
34	AA	2572	A
34	AA	2573	A

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Mol	Chain	Res	Type
34	AA	2576	G
34	AA	2577	C
34	AA	2578	C
34	AA	2589	A
34	AA	2591	U
34	AA	2600	G
34	AA	2603	U
34	AA	2606	A
34	AA	2607	U
34	AA	2608	G
34	AA	2612	U
34	AA	2628	G
34	AA	2629	U
34	AA	2640	U
34	AA	2652	C
34	AA	2665	A
34	AA	2666	A
34	AA	2667	C
34	AA	2668	G
34	AA	2669	G
34	AA	2676	C
34	AA	2681	U
34	AA	2686	G
34	AA	2689	G
34	AA	2690	A
34	AA	2691	A
34	AA	2694	A
34	AA	2695	A
34	AA	2696	G
34	AA	2697	A
34	AA	2704	U
34	AA	2727	U
34	AA	2728	G
34	AA	2740	A
34	AA	2810	A
34	AA	2817	U
34	AA	2823	U
34	AA	2830	U
34	AA	2833	U
34	AA	2884	G
34	AA	2885	A
34	AA	2886	A

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Mol	Chain	Res	Type
34	AA	2887	U
34	AA	2920	A
34	AA	2932	A
34	AA	2934	A
34	AA	2945	G
34	AA	2946	G
34	AA	2953	G
34	AA	2959	G
34	AA	2960	G
34	AA	2962	G
34	AA	2965	A
34	AA	2987	G
34	AA	2991	U
34	AA	2995	A
34	AA	2996	A
34	AA	3013	A
34	AA	3015	A
34	AA	3016	G
34	AA	3018	A
34	AA	3020	U
34	AA	3028	A
34	AA	3030	A
34	AA	3033	A
34	AA	3035	A
34	AA	3042	A
34	AA	3043	A
34	AA	3061	U
34	AA	3066	A
34	AA	3067	G
34	AA	3068	A
34	AA	3086	A
34	AA	3091	U
34	AA	3092	G
34	AA	3094	C
34	AA	3111	U
34	AA	3116	A
34	AA	3122	A
34	AA	3123	C
34	AA	3124	G
34	AA	3127	A
34	AA	3128	A
34	AA	3129	U

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Mol	Chain	Res	Type
34	AA	3131	A
34	AA	3135	A
34	AA	3138	A
34	AA	3141	G
34	AA	3150	G
34	AA	3155	G
34	AA	3156	U
34	AA	3158	U
34	AA	3159	G
34	AA	3160	A
34	AA	3161	A
34	AA	3163	A
34	AA	3167	A
34	AA	3169	C
34	AA	3175	G
34	AA	3176	A
34	AA	3180	C
34	AA	3181	U
34	AA	3193	G
34	AA	3201	C
34	AA	3203	C
34	AA	3204	C
34	AA	3206	A
34	AA	3208	C
34	AA	3218	U
34	AA	3222	G
34	AA	3228	U
34	AA	3230	G
34	AA	3231	A
34	AA	3246	A
34	AA	3248	C
34	AA	3257	G
34	AA	3258	C
34	AA	3259	A
34	AA	3270	A
34	AA	3281	G
34	AA	3282	U
34	AA	3292	A
34	AA	3293	A
34	AA	3294	U
34	AA	3295	A
34	AA	3300	A

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Mol	Chain	Res	Type
34	AA	3301	C
34	AA	3302	G
34	AA	3304	G
34	AA	3306	G
34	AA	3313	U
34	AA	3330	A
34	AA	3339	U
34	AA	3342	C
34	AA	3349	G
34	AA	3353	A
34	AA	3354	A
34	AA	3356	U
34	AA	3357	U
34	AA	3359	A
34	AA	3362	A
34	AA	3374	U
34	AA	3375	A
34	AA	3377	A
34	AA	3379	A
34	AA	3380	U
34	AA	3381	A
34	AA	3382	U
34	AA	3383	A
34	AA	3384	G
34	AA	3385	U
34	AA	3389	G
34	AA	3398	A
34	AA	3409	U
34	AA	3414	G
34	AA	3415	A
34	AA	3416	G
34	AA	3423	U
34	AA	3432	A
34	AA	3435	A
34	AA	3442	C
34	AA	3443	A
34	AA	3459	A
34	AA	3463	G
34	AA	3468	G
34	AA	3474	C
34	AA	3477	A
34	AA	3483	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	AA	3485	G
34	AA	3497	A
34	AA	3506	U
34	AA	3507	A
34	AA	3513	G
34	AA	3514	A
34	AA	3515	A
34	AA	3516	A
34	AA	3524	G
34	AA	3526	U
34	AA	3527	U
34	AA	3528	A
34	AA	3529	A
34	AA	3530	A
34	AA	3549	U
34	AA	3553	G
34	AA	3571	A
34	AA	3572	A
34	AA	3573	U
34	AA	3574	G
34	AA	3580	G
34	AA	3581	A
34	AA	3582	G
34	AA	3585	A
34	AA	3586	U
34	AA	3588	A
34	AA	3589	U
34	AA	3590	A
34	AA	3591	U
34	AA	3594	G
34	AA	3615	A
34	AA	3616	U
34	AA	3617	A
34	AA	3618	A
34	AA	3622	U
34	AA	3626	A
34	AA	3627	C
34	AA	3632	U
34	AA	3636	U
34	AA	3659	C
34	AA	3664	G
34	AA	3666	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	AA	3668	U
34	AA	3670	U
34	AA	3684	A
34	AA	3689	C
34	AA	3697	G
34	AA	3698	U
34	AA	3707	U
34	AA	3711	U
34	AA	3712	G
34	AA	3726	U
34	AA	3728	A
34	AA	3732	U
34	AA	3733	G
34	AA	3736	A
34	AA	3737	G
34	AA	3740	A
34	AA	3752	C
34	AA	3761	G
34	AA	3768	A
34	AA	3770	C
34	AA	3774	A
34	AA	3775	G
34	AA	3783	G
35	AC	5	A
35	AC	6	C
35	AC	16	G
35	AC	17	A
35	AC	27	U
35	AC	36	C
35	AC	38	G
35	AC	39	C
35	AC	42	U
35	AC	43	G
35	AC	55	A
35	AC	63	A
35	AC	66	C
35	AC	67	G
35	AC	74	A
35	AC	75	A
35	AC	76	A
35	AC	78	U
35	AC	79	G

Continued on next page...

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Mol	Chain	Res	Type
35	AC	85	A
35	AC	90	G
35	AC	91	A
35	AC	92	A
35	AC	98	A
35	AC	103	G
35	AC	107	A
35	AC	109	U
35	AC	115	C
35	AC	116	U
35	AC	123	A
35	AC	135	G
35	AC	138	U
35	AC	139	A
35	AC	140	G
35	AC	145	A
35	AC	146	C
35	AC	157	A
36	AB	7	G
36	AB	11	A
36	AB	22	G
36	AB	23	A
36	AB	26	C
36	AB	33	U
36	AB	39	C
36	AB	40	A
36	AB	52	U
36	AB	53	U
36	AB	64	A
36	AB	73	U
36	AB	74	A
36	AB	76	U
36	AB	89	G
36	AB	97	G
36	AB	100	A
36	AB	110	G

All (107) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
7	S7	72	C
8	SA	105	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
8	SA	246	A
8	SA	248	G
8	SA	291	A
8	SA	423	A
8	SA	525	G
8	SA	752	U
8	SA	844	G
8	SA	981	U
8	SA	998	A
8	SA	1098	U
8	SA	1182	A
8	SA	1295	A
8	SA	1306	C
8	SA	1381	C
8	SA	1386	U
8	SA	1413	U
8	SA	1414	A
8	SA	1455	C
8	SA	1786	U
8	SA	1817	U
8	SA	1818	A
8	SA	1819	U
8	SA	1865	G
8	SA	1897	A
8	SA	1976	G
8	SA	2053	U
34	AA	13	G
34	AA	61	A
34	AA	62	A
34	AA	162	U
34	AA	179	G
34	AA	182	U
34	AA	215	C
34	AA	231	G
34	AA	257	U
34	AA	270	U
34	AA	289	A
34	AA	439	U
34	AA	500	A
34	AA	501	U
34	AA	504	A
34	AA	505	A

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Mol	Chain	Res	Type
34	AA	579	C
34	AA	580	A
34	AA	581	C
34	AA	607	A
34	AA	620	U
34	AA	652	A
34	AA	674	U
34	AA	697	A
34	AA	698	G
34	AA	703	U
34	AA	715	U
34	AA	721	U
34	AA	764	G
34	AA	821	C
34	AA	859	C
34	AA	888	A
34	AA	965	A
34	AA	1197	U
34	AA	1205	U
34	AA	1217	U
34	AA	1222	U
34	AA	1224	A
34	AA	1435	G
34	AA	1538	U
34	AA	1554	G
34	AA	1574	C
34	AA	1705	A
34	AA	1736	A
34	AA	1805	U
34	AA	1841	U
34	AA	1881	C
34	AA	1990	A
34	AA	1996	C
34	AA	1999	A
34	AA	2105	A
34	AA	2180	U
34	AA	2219	A
34	AA	2394	C
34	AA	2651	A
34	AA	2816	U
34	AA	2822	U
34	AA	2885	A

Continued on next page...

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Mol	Chain	Res	Type
34	AA	2959	G
34	AA	3130	U
34	AA	3137	U
34	AA	3230	G
34	AA	3361	U
34	AA	3413	A
34	AA	3414	G
34	AA	3476	A
34	AA	3587	U
34	AA	3590	A
34	AA	3658	G
34	AA	3667	C
34	AA	3688	G
35	AC	35	A
35	AC	37	A
35	AC	134	G
35	AC	139	A
35	AC	145	A
36	AB	22	G
36	AB	39	C
36	AB	88	A

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues

The following chains have linkage breaks:

Mol	Chain	Number of breaks
63	AW	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	AW	154:ASN	C	197:UNK	N	32.78

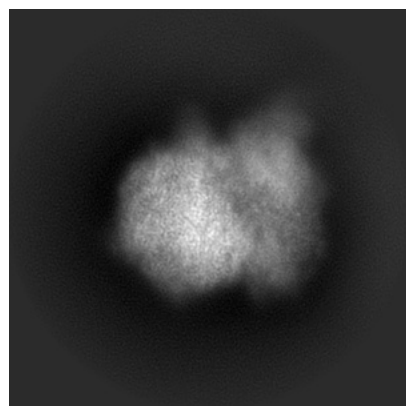
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-41485. These allow visual inspection of the internal detail of the map and identification of artifacts.

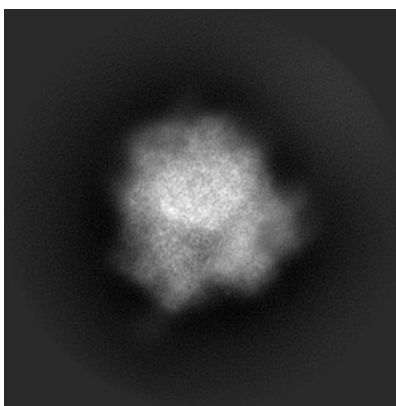
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

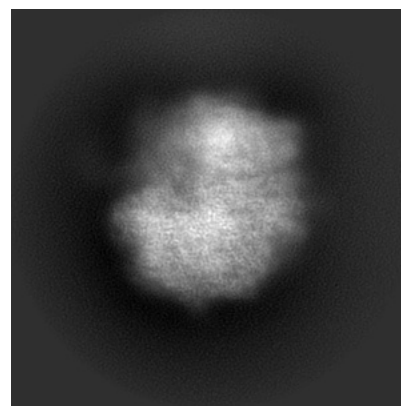
6.1.1 Primary map



X

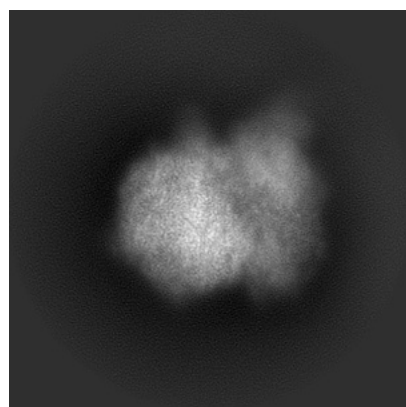


Y

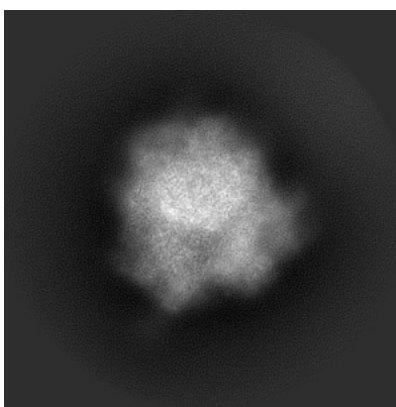


Z

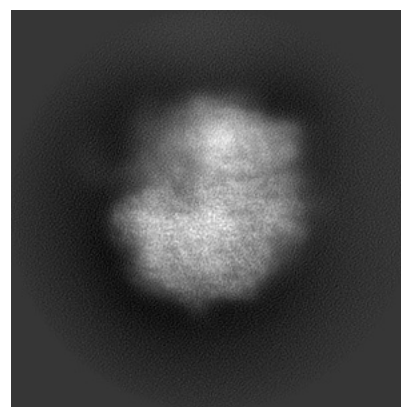
6.1.2 Raw map



X



Y

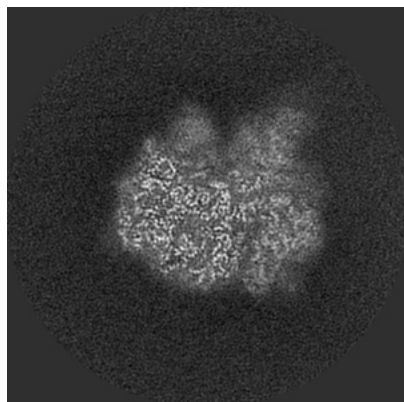


Z

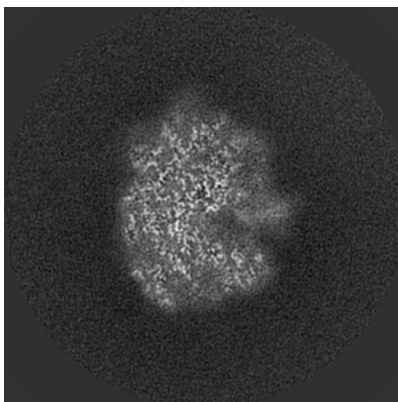
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

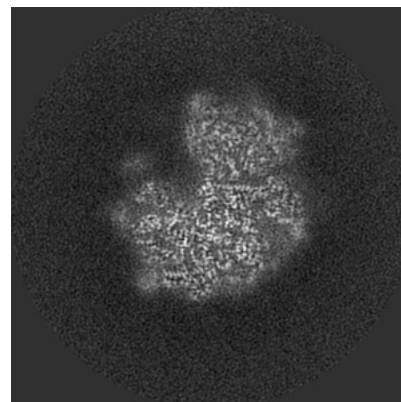
6.2.1 Primary map



X Index: 148

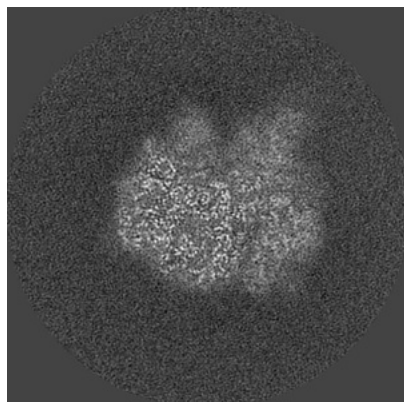


Y Index: 148

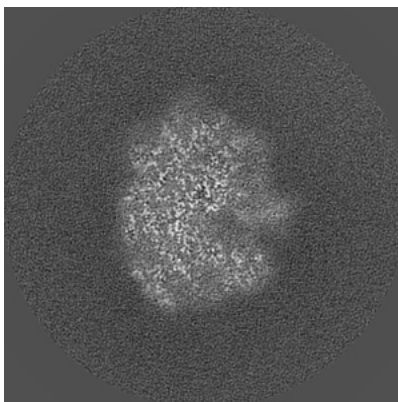


Z Index: 148

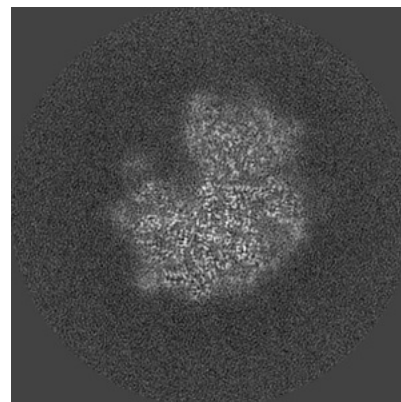
6.2.2 Raw map



X Index: 148



Y Index: 148

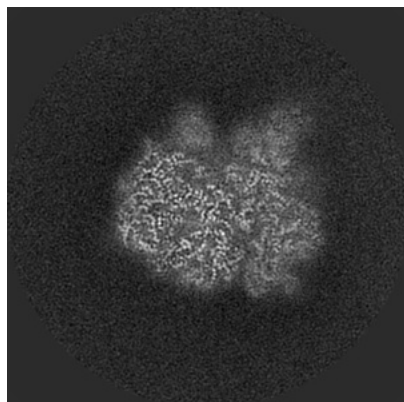


Z Index: 148

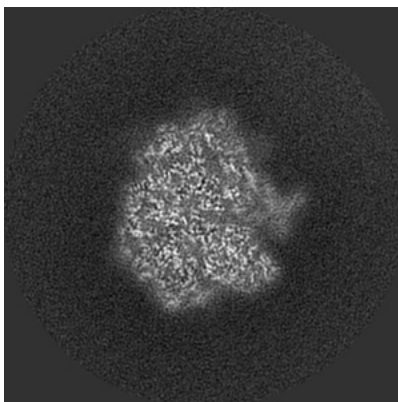
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

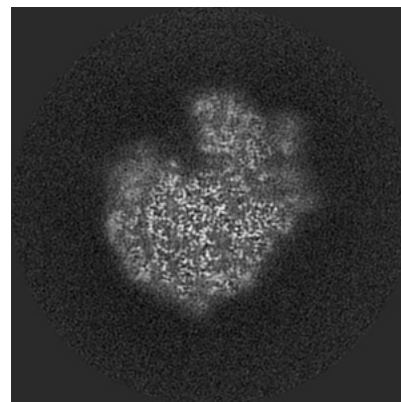
6.3.1 Primary map



X Index: 150

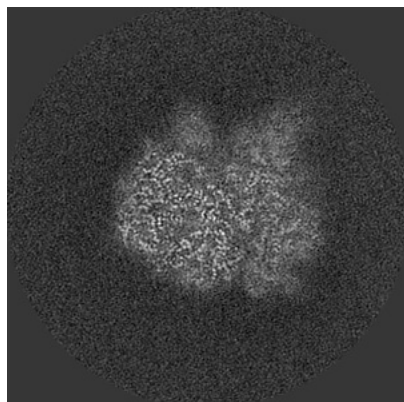


Y Index: 139

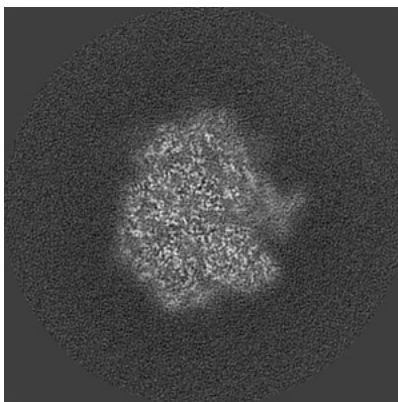


Z Index: 127

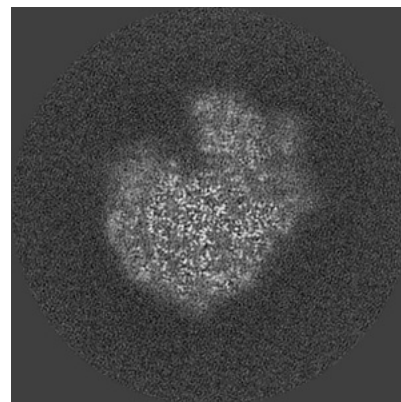
6.3.2 Raw map



X Index: 150



Y Index: 139

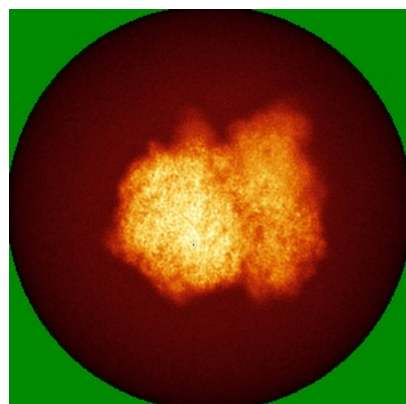


Z Index: 127

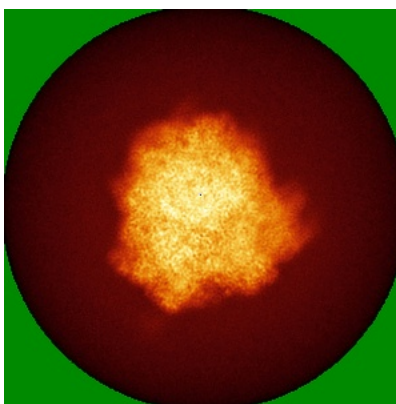
The images above show the largest variance slices of the map in three orthogonal directions.

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

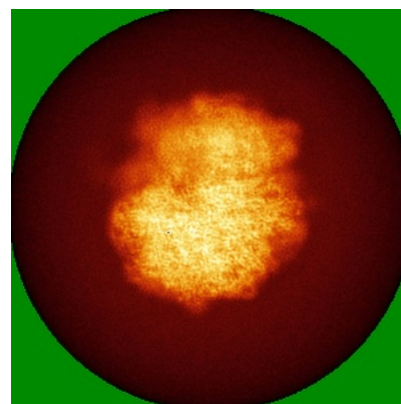
6.4.1 Primary map



X

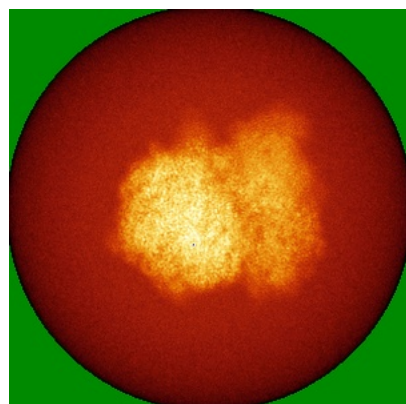


Y

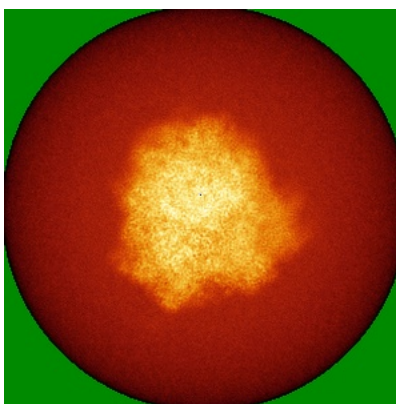


Z

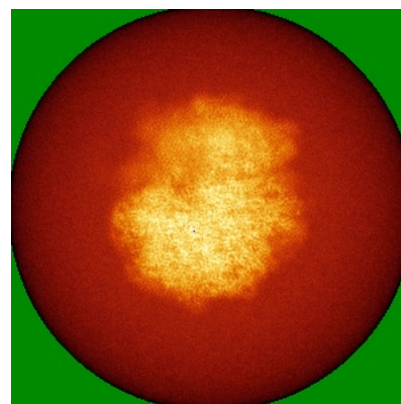
6.4.2 Raw map



X



Y



Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



X



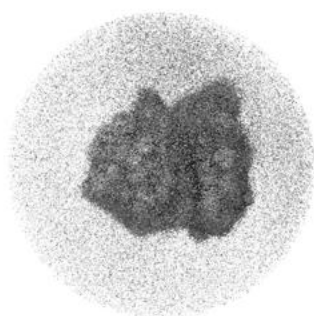
Y



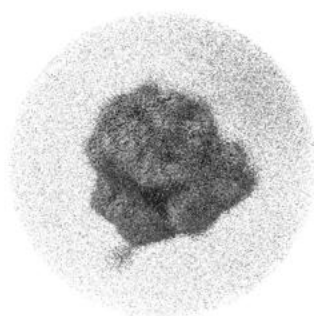
Z

The images above show the 3D surface view of the map at the recommended contour level 0.16. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

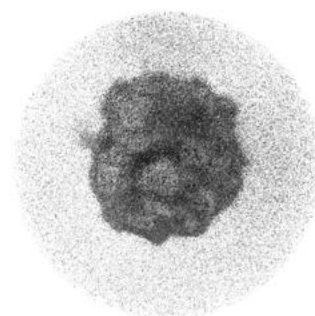
6.5.2 Raw map



X



Y



Z

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

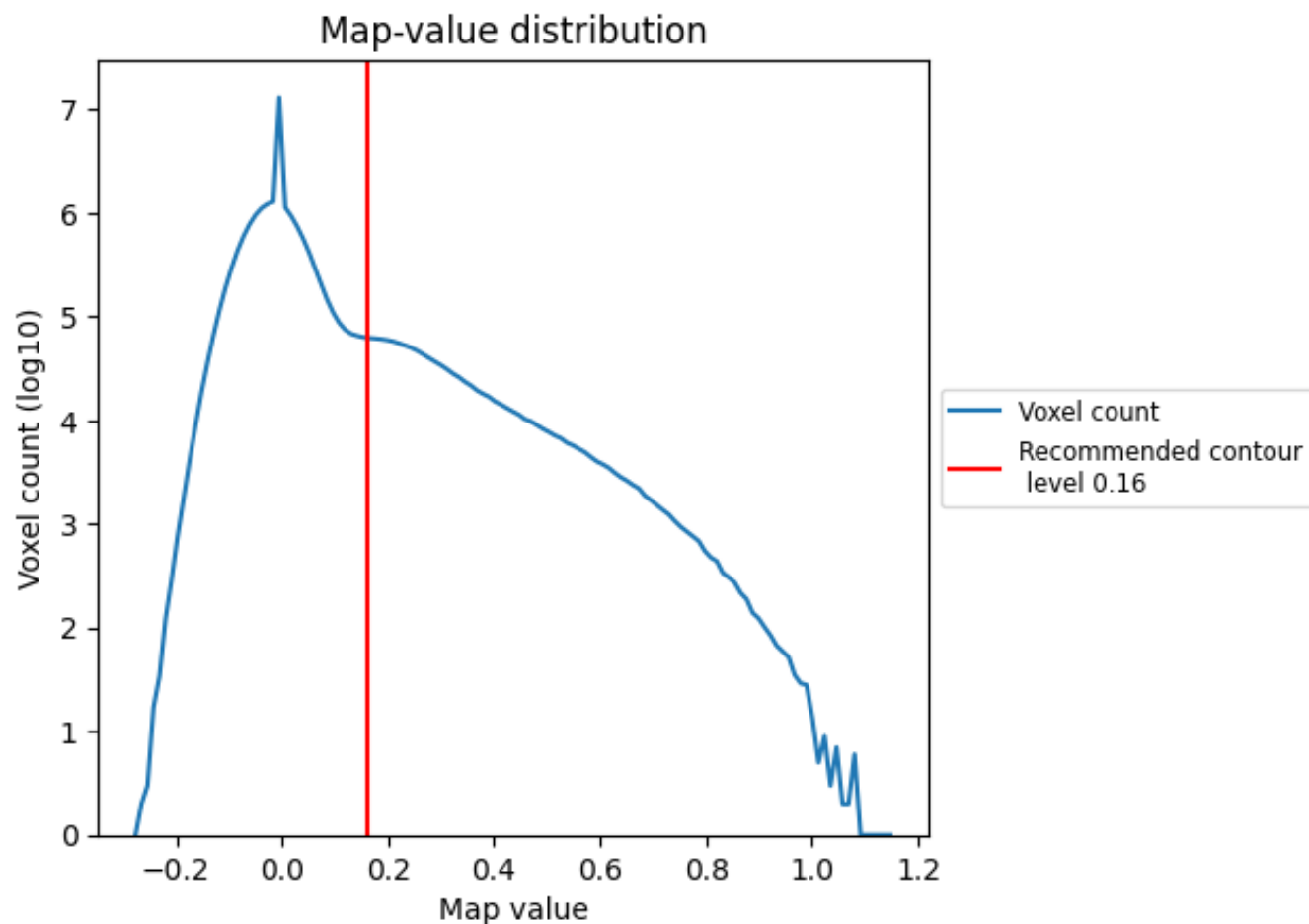
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

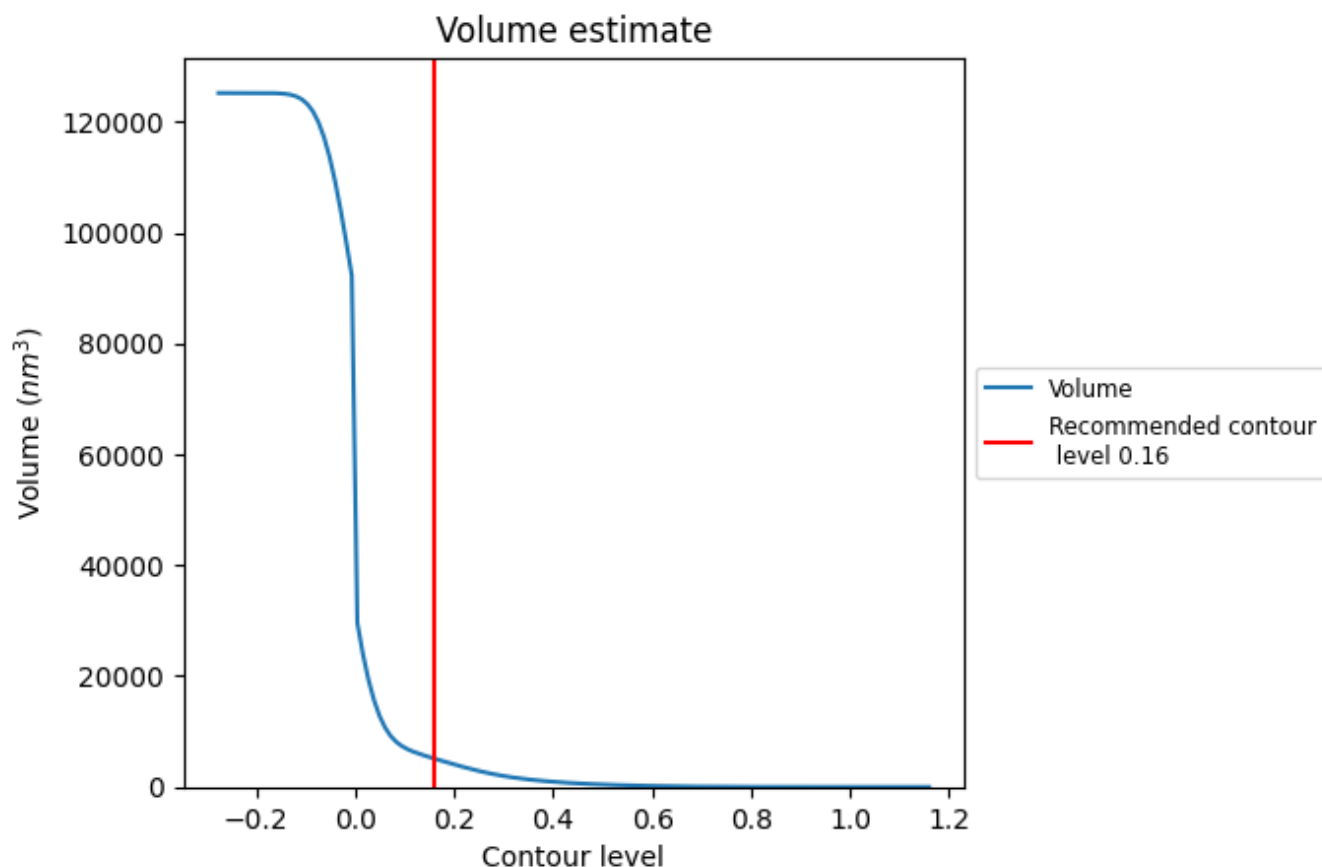
This section contains the results of statistical analysis of the map.

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.

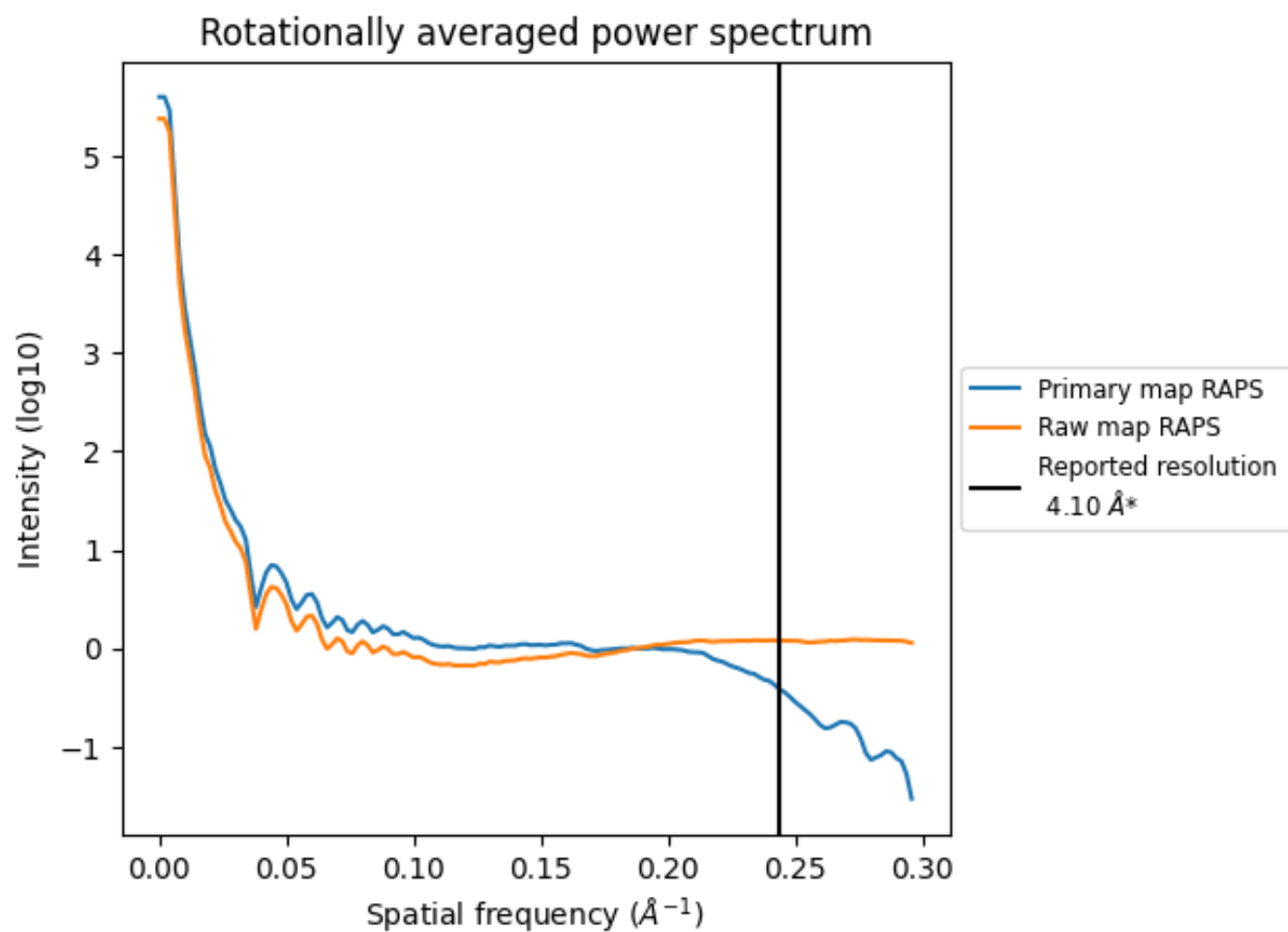
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 5103 nm³; this corresponds to an approximate mass of 4610 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 ⓘ

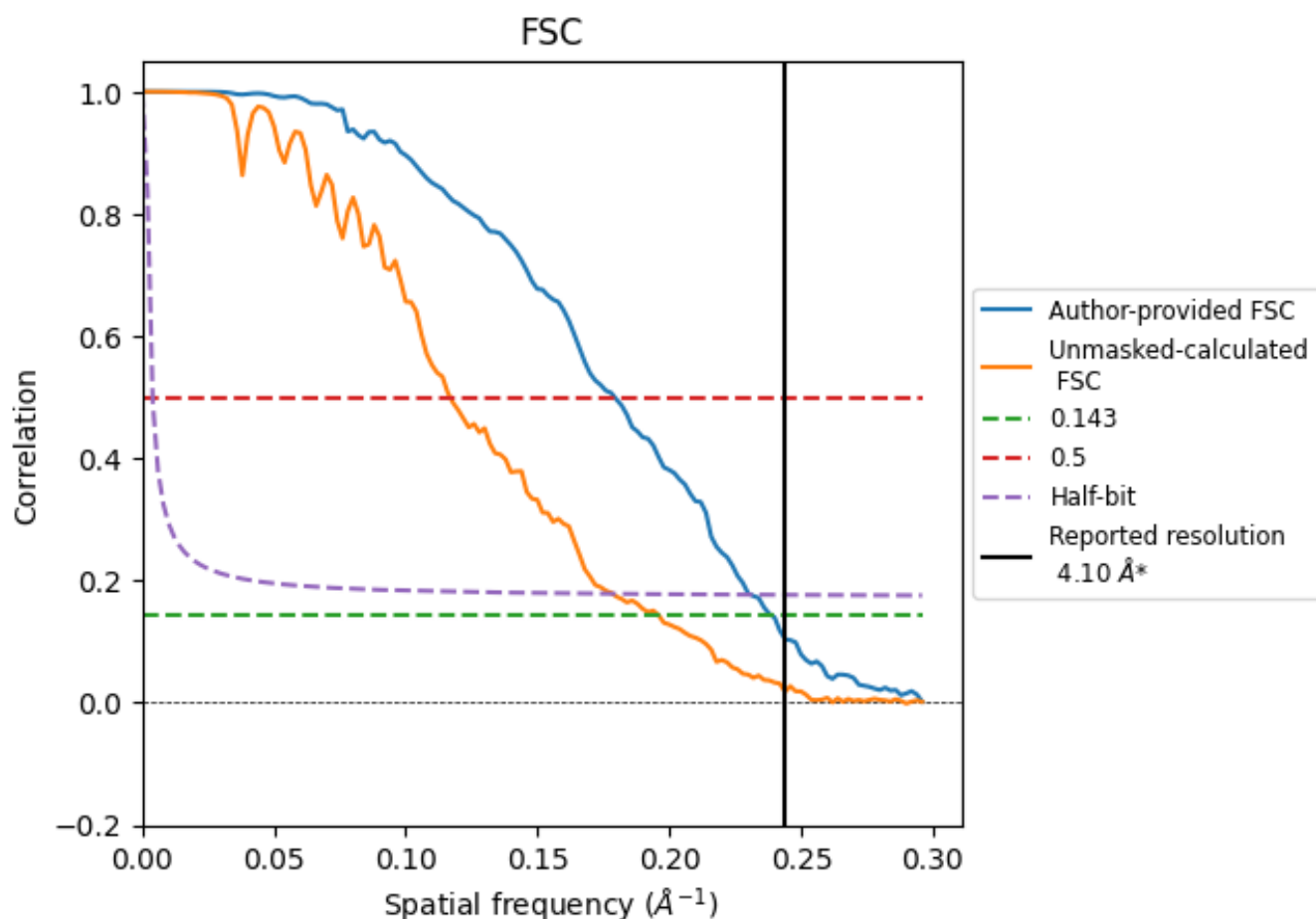


*Reported resolution corresponds to spatial frequency of 0.244 Å⁻¹

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 0.244 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

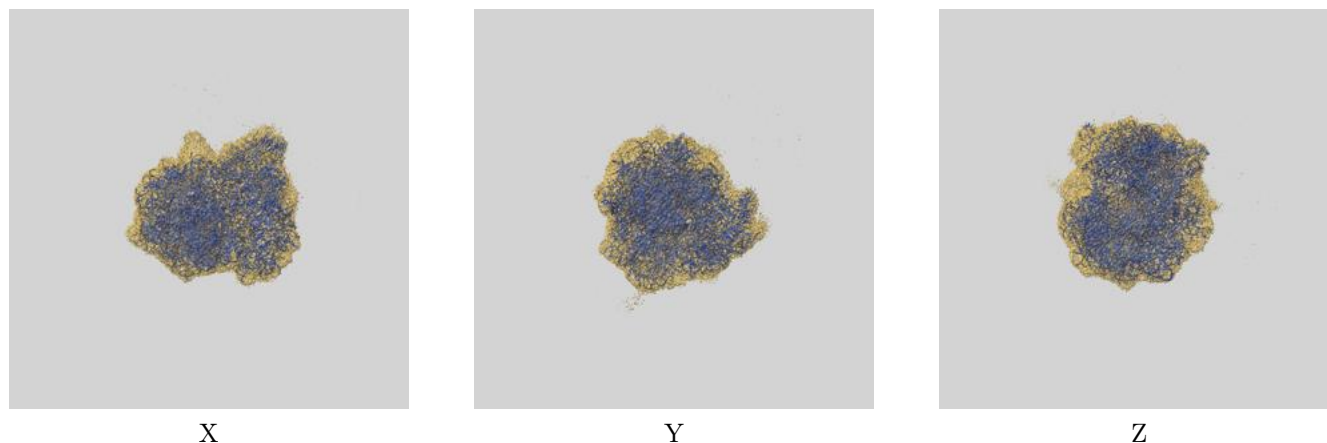
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.10	-	-
Author-provided FSC curve	4.19	5.58	4.33
Unmasked-calculated*	5.10	8.55	5.60

*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 5.10 differs from the reported value 4.1 by more than 10 %

9 Map-model fit [i](#)

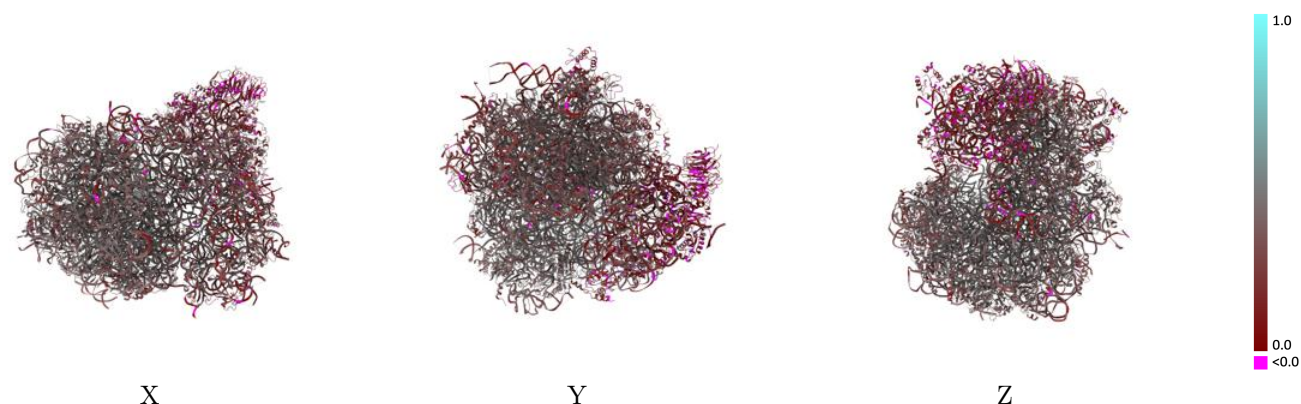
This section contains information regarding the fit between EMDB map EMD-41485 and PDB model 8TPU. Per-residue inclusion information can be found in section 3 on page 19.

9.1 Map-model overlay [i](#)



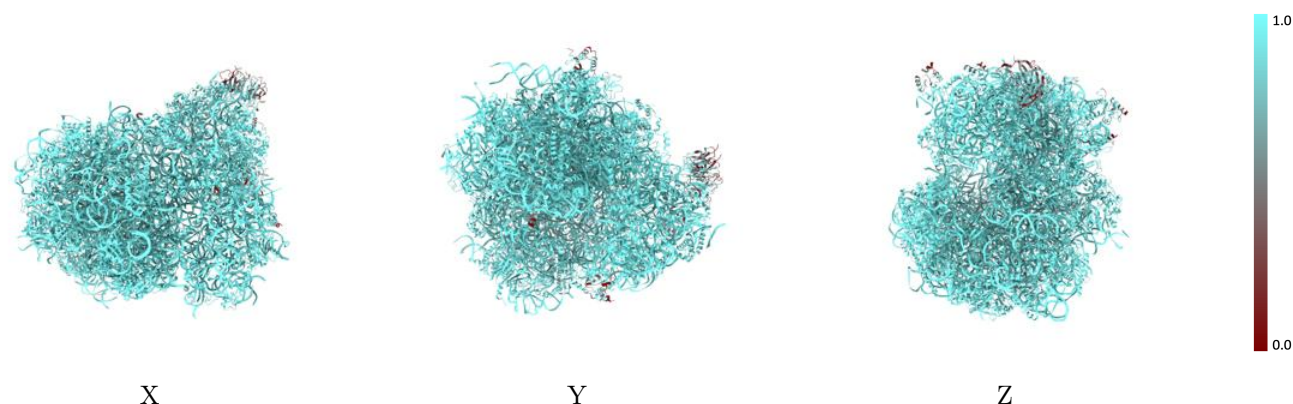
The images above show the 3D surface view of the map at the recommended contour level 0.16 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



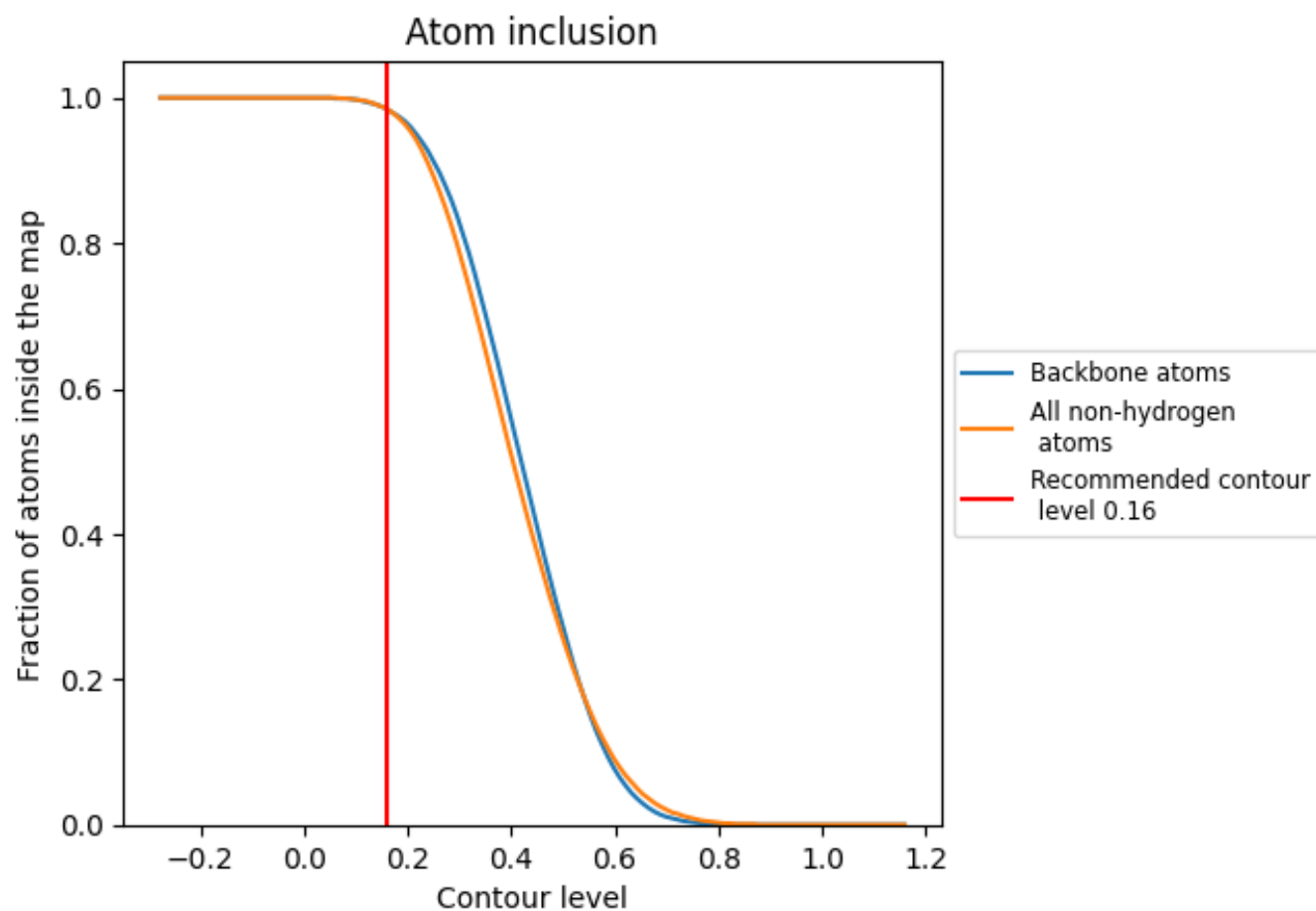
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.16).

9.4 Atom inclusion [i](#)



At the recommended contour level, 98% of all backbone atoms, 98% 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 (0.16) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9850	 0.3590
A0	 0.9980	 0.4070
A1	 0.9870	 0.3780
A2	 0.9960	 0.4000
A3	 0.9940	 0.3950
A4	 0.9890	 0.3650
A5	 0.9920	 0.4090
A6	 0.9900	 0.3970
A7	 0.9960	 0.4210
A8	 0.9980	 0.4200
A9	 1.0000	 0.4430
AA	 0.9980	 0.3920
AB	 1.0000	 0.3920
AC	 1.0000	 0.4030
AD	 0.9960	 0.4270
AE	 0.9910	 0.4150
AF	 0.9930	 0.4050
AG	 0.9940	 0.3640
AH	 0.9920	 0.3960
AI	 0.9880	 0.3900
AJ	 0.9550	 0.3580
AK	 0.9940	 0.4050
AL	 0.9910	 0.4040
AM	 0.9910	 0.4130
AN	 0.9950	 0.3930
AO	 0.9960	 0.4280
AP	 0.9990	 0.4220
AQ	 0.9940	 0.4030
AR	 0.9840	 0.3740
AS	 0.9980	 0.4160
AT	 0.9600	 0.3700
AU	 0.9970	 0.4200
AV	 0.9900	 0.4150
AW	 0.9960	 0.4270
AX	 0.9740	 0.3410



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Chain	Atom inclusion	Q-score
AY	 0.9950	 0.4090
AZ	 0.9990	 0.4010
Aa	 0.9990	 0.4220
Ab	 0.9990	 0.3920
Ac	 1.0000	 0.4310
Ad	 0.9920	 0.3810
Ae	 1.0000	 0.4300
Af	 1.0000	 0.4200
Ag	 1.0000	 0.3880
Ah	 0.9950	 0.4230
Ai	 0.9960	 0.4240
S1	 0.9880	 0.2920
S2	 0.9720	 0.1910
S3	 0.9930	 0.3700
S4	 0.9640	 0.3320
S5	 0.9710	 0.2180
S6	 1.0000	 0.3050
S7	 0.9840	 0.1760
S8	 0.6360	 0.1440
SA	 0.9930	 0.3110
SB	 0.9830	 0.3440
SC	 0.9580	 0.3090
SD	 0.9810	 0.2400
SE	 0.9350	 0.3160
SF	 0.9810	 0.3450
SG	 0.9840	 0.3490
SH	 0.9750	 0.2790
SI	 0.9500	 0.1480
SJ	 0.8530	 0.2900
SK	 0.9960	 0.3700
SL	 0.9910	 0.3660
SM	 0.9700	 0.1840
SN	 0.9130	 0.2260
SO	 0.9840	 0.2530
SP	 0.9860	 0.3560
SQ	 0.9960	 0.3690
SR	 0.6680	 0.1710
SS	 0.9750	 0.1940
ST	 0.9970	 0.2640
SU	 0.9940	 0.3580
SV	 0.9920	 0.4070
SW	 0.9610	 0.2440

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Chain	Atom inclusion	Q-score
SX	 0.9250	 0.1830
SY	 0.9760	 0.1850
SZ	 0.9710	 0.3450