



Full wwPDB EM Validation Report ⓘ

Mar 8, 2026 – 11:43 AM UTC

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.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMD archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

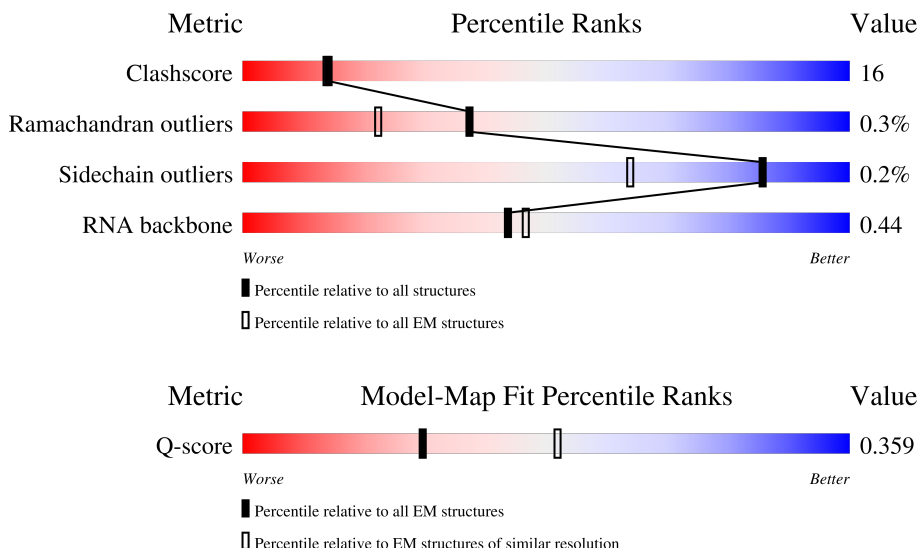
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 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.



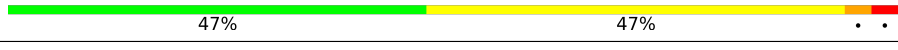
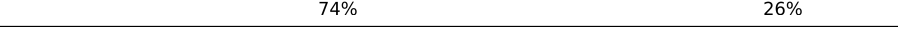
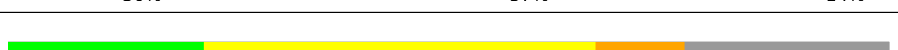
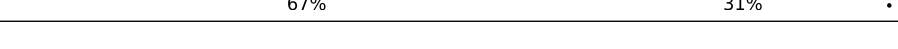
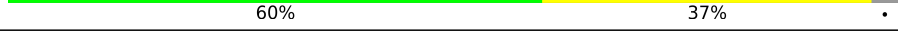
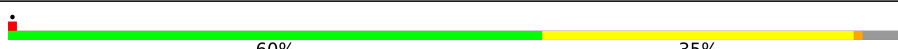
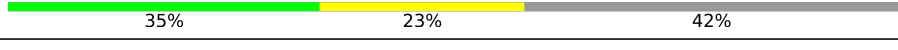
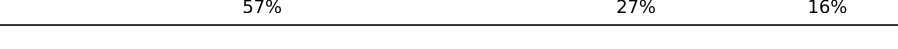
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	6458 (3.60 - 4.60)

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	

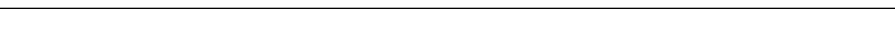
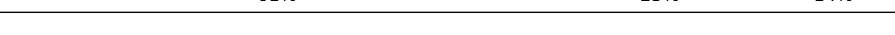
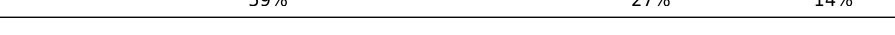
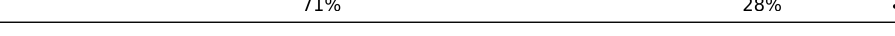
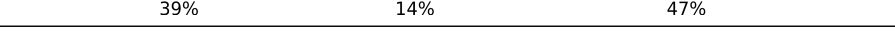
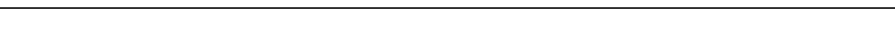
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Mol	Chain	Length	Quality of chain
29	SV	161	
30	SW	137	
31	SX	145	
32	SY	170	
33	SZ	82	
34	AA	3788	
35	AC	159	
36	AB	119	
37	AL	215	
38	A1	146	
39	A2	126	
40	A4	67	
41	A6	107	
42	A7	120	
43	AN	165	
44	A8	130	
45	A9	139	
46	Aa	149	
47	Ab	112	
48	Ad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

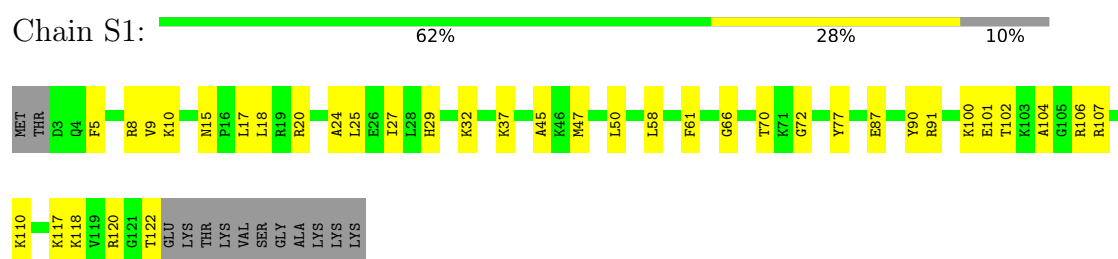
- Molecule 79 is a protein called Receptor for activated c kinase.

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

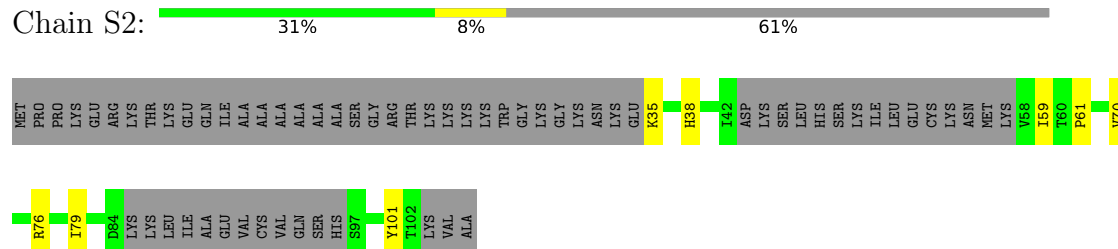
3 Residue-property plots

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



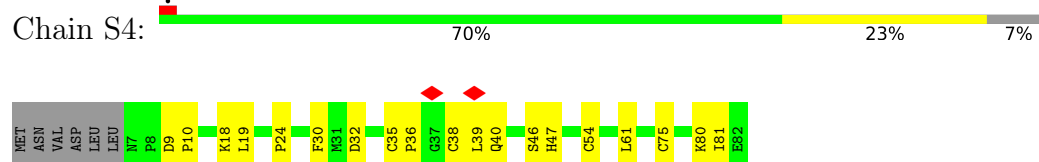
• Molecule 2: 40S ribosomal protein S25



• Molecule 3: 40S ribosomal protein S26



• Molecule 4: 40S ribosomal protein S27



- Molecule 5: 60S ribosomal protein L41

Chain S5:  47% 47%



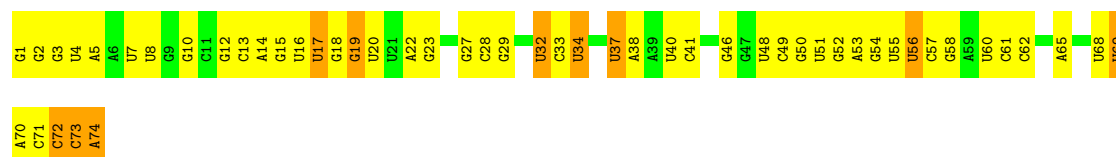
- Molecule 6: Small ribosomal subunit protein eS30

Chain S6:  74% 26%



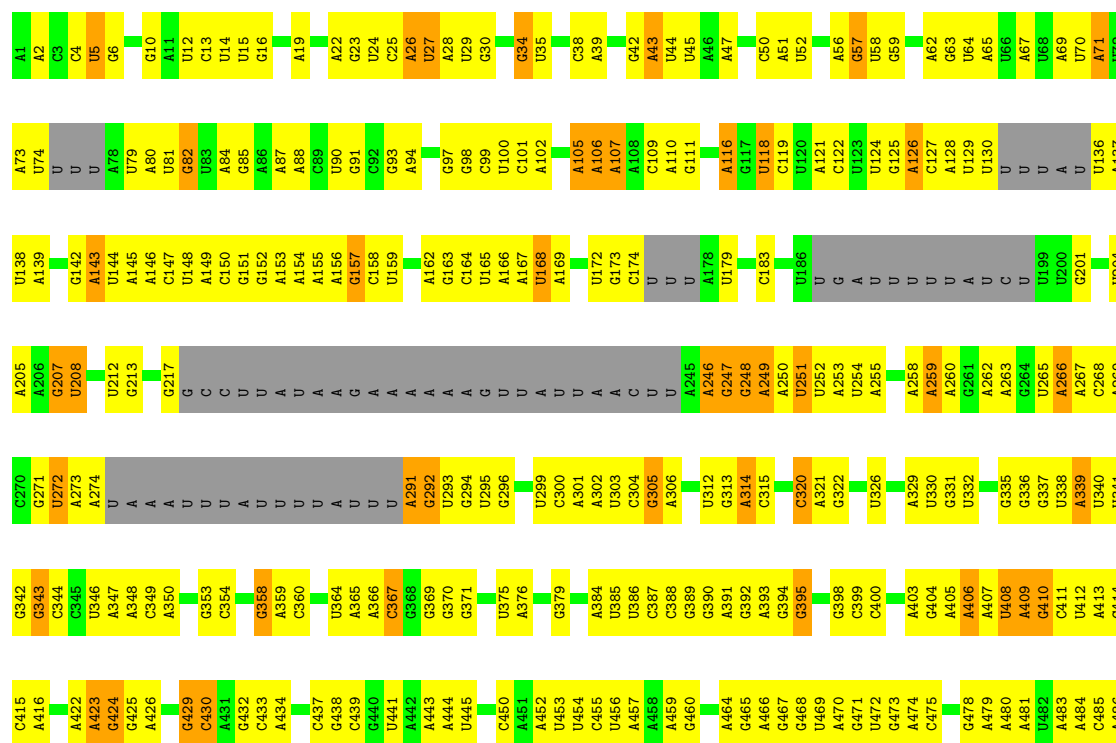
- Molecule 7: 60S ribosomal protein L24, putative

Chain S7:  30% 57% 14%

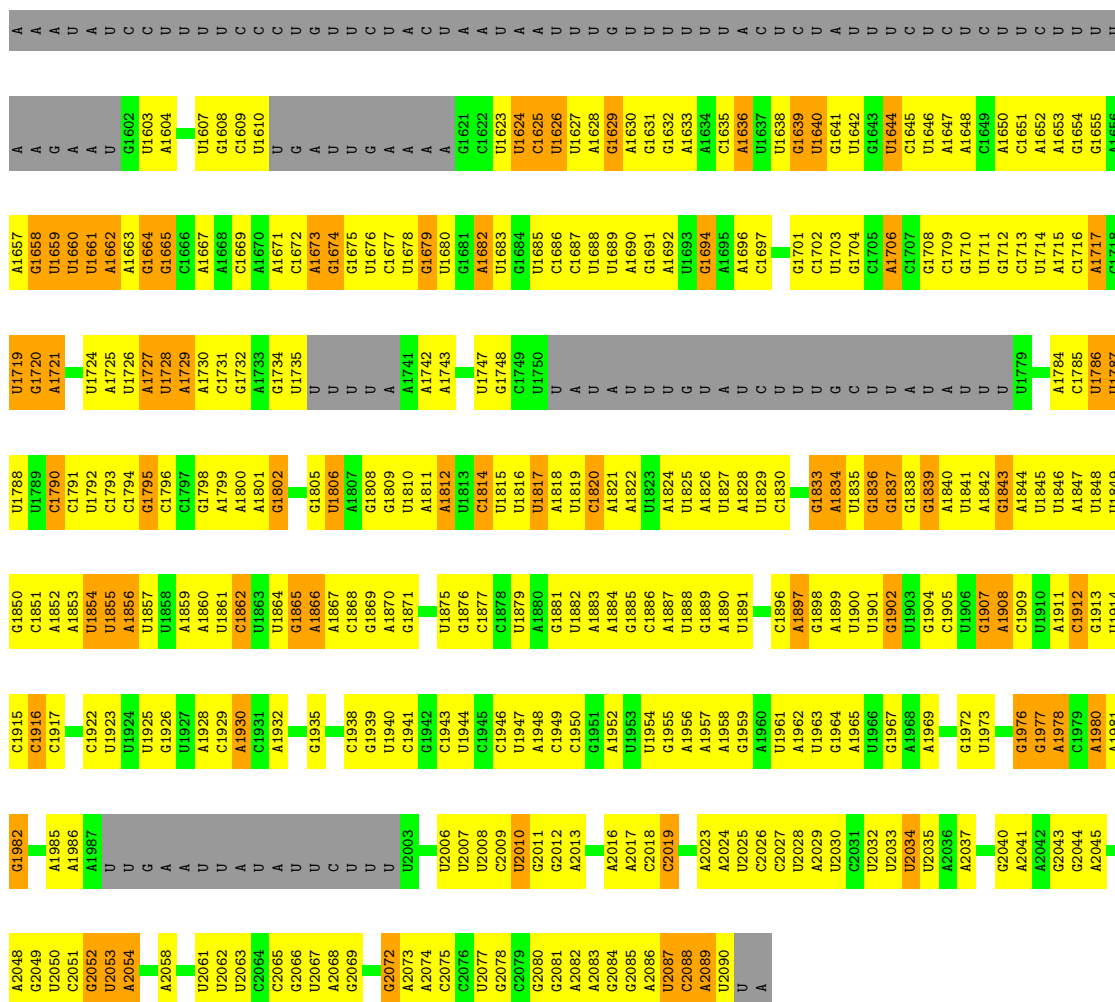


- Molecule 8: 18S ribosomal RNA

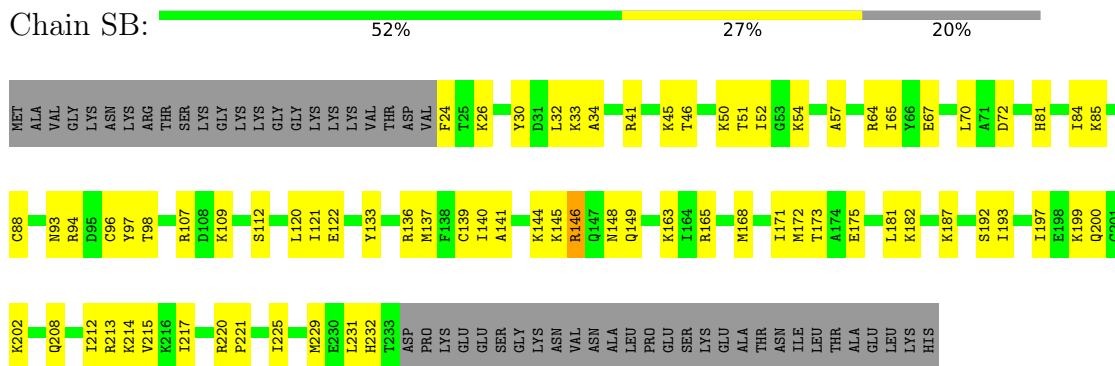
Chain SA:  22% 44% 10% 23%



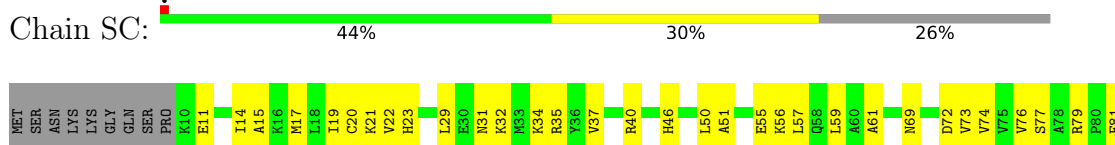
A1414	U	G1221	A	A1088	H1014	G947	C881	G813	U746	G623	G555	A487
A1415	C		C	C1091	U1015	A948	A882	U814	U747	U624	G556	U488
A1416	U	C1224	U	A1092	U1016	A949	A883	U815	C748	U625	G557	C489
U1417	U	A1225	U	A1093	G1017	A950	A884	U816	U749	A626	G558	G490
C1418	G	A1226	U	A1094	U1018	U951	C885	U817		A627	G559	A491
C1419	A	G1227	U	A1095	C1019	U952	U886	U818	U752	A628	G560	
G1420	U		A	A1096	H1020	C953	A887	A819	U753	A629	C561	G494
A1421	U	A1232	G	A1097	A1021	G954	A888	A820	A754	C630		C
A1422	U	A1233	A	C1097	A1022	U955	A889	A821	A755	G631	G564	C
A1423	C	A1234	U	A1098	A1023	A956	A890	G822	A756	C632	U565	A
A1424	U	G1235	U	A1099	A1024		U891	C823	A757	U633	C566	A
C1425	A	U1236	G1165	U1100	U1025	U963	U892	A824		C634	U567	U
G1426	U	U1236	C1166	G1101	U1026	U964	U893	A825	C760	G635	U570	U
A1427	A	A1239	U1167		G1027	U965		A826	C	U636		U
A1428	G		U1168	C1106	U1028	C966	G897	A827	C	A637		
A1429	G	G1242	C1169	U1107	U1029	A967	U	A828	A		C573	U
G1430	U	A1243	C1170	A1108	C1030	G968	U	G829	U	G641	C574	G
A1431	U	A1244	U1172	G1109	U1033	A969	C	U830	U	A642	G575	G
A1432	C	U1245	C1173	G1110	U1034	G970	U	U831	U	A643	C576	U
A1433	A	U1246	A1174	U1111	U1035	G971	U	A832	U	A644	A577	
U1434	U	G1247	G1175	A1035	A1036	U972	U	A833	U	U645	G578	
C1435	A	A1248	U1176	A1036	G973	G974	U	A834	U	U646	G581	U508
A1436	U	C1249	A1177	U1037	A974	A975	U	G835	G	C647	U509	G510
U1437	U	G1250	C1178	C1038	A976	A977	U	C836	U	A648	C582	U511
C1438	C	G1251	C1179	A1039	A976	U977	U	A837	U	A649	G583	A
A1439	A	A1252	U1180	G1118	A1057	G983	U	U838	U	A650	G584	A513
C1440	U	A1253	U1181	G1119	G1058	A984	U	U	U	G651	U585	U514
C1441	U		U1182	A1120	U1059	U987	G916	U	G	A652	A586	U515
U1442	U	G1256	A1183	A	U1060	U988	C917	U847	U	A	A587	G516
G1443	A	C1257	G1184	G1123	A1061	C989	U919	U848	G	U	C596	G517
A1444	U	A1258	A1185	U1124	A1062	U990	A920	G850		U	G597	U523
U1445	U	C1259	G1186	G	G1063	G991	A924	A851	G787	U	A598	G524
A1446	C	C1260	A1187	U	A1064	G992	C925	A852	A788	U	G525	G526
A1447	U	A1261	A1188	U	G1066	A993	G926	U853	U789	U	A599	G527
U1448	G	G1266	A1189	A	A1067	G994	A927	A854	U790	U	U600	A527
U1449	U	C1267	A1193	A	U1068	A995	U928	C855	U791	U	A601	A528
A1450	A	G1268		A	U1069	C996	U929	U856	U792	U	G603	U529
G1451	A			A	A1070	G997	A930	A857	G793	U		
C1452	C	G1277	U1204	G	G1071	G998	A931	U858	U794	U	A532	
G1453	U	C1278	U1205	C	A1072	A999	U932		U795	C	A606	C540
G1454	U	G1279	C1206	C	U1073	A999	U933	G865	A796	U	U607	C541
C1455	A	A1271	U1207	A	A1074	A1002	G934	A866		U	U609	C542
A1456	A	G1272	G1208	U	C1075	C1003	G935	A870	G801	U	U610	A543
G1457	U	C1273	G1209	C	U1076	U1004	A936	G871	A802	U	A611	C544
A1458	U	A1274	G1210	U	G1077	G1005	G937	A872	G803	U	A612	A545
U1459	C	C1281	G1211	U	U1078	C1006	U938	A875	U804	C	A613	G546
U1460	A	U1282	C1212	C	C1079	C1007	A939	A876	A805	U	U614	U547
	A	A1283	G1213	G	U1080	A1008	G940	U877	A806	A	A548	A548
A	U	U1284	A1214	A	U1081	A1009	C941	U878	A807	G	A549	A549
U	U	C1285	G1215	G	A1082	A1010	U942	U879	U808	A	C550	C550
U	U	U1286		G	U1083	G1011	U943	A879	U809	G	A551	A551
U	U	U1287	U1218	G	U1084	G1012	G944	A880	A810	A	A552	A552
U	U	U1288	C1220	G	U1086	U1087			A812	G	G621	U553
U	A	C1291		G	U1087					A	A622	U554

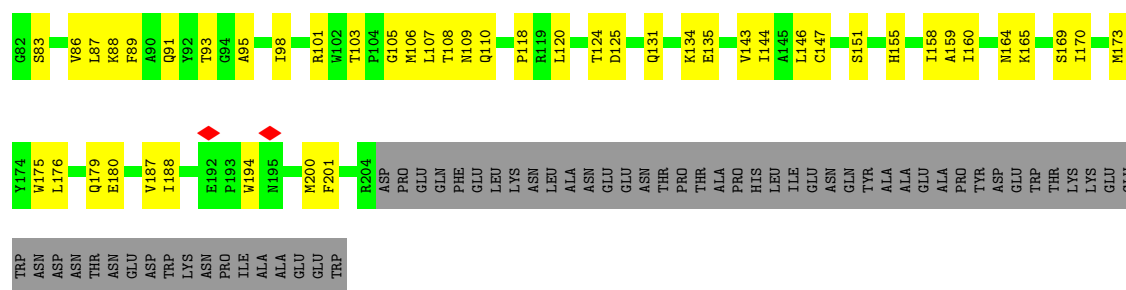


• Molecule 9: 40S ribosomal protein S3a



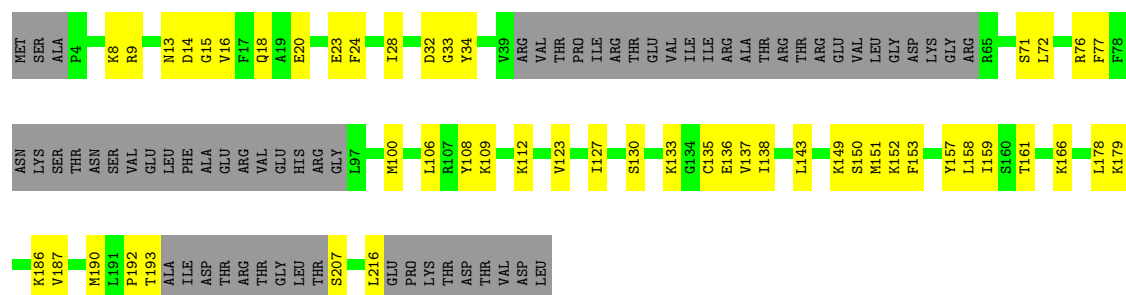
• Molecule 10: 40S ribosomal protein SA





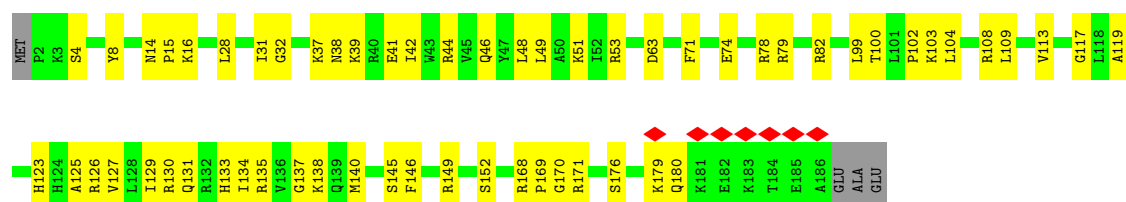
- Molecule 11: 40S ribosomal protein S3

Chain SD: 48% 23% 29%



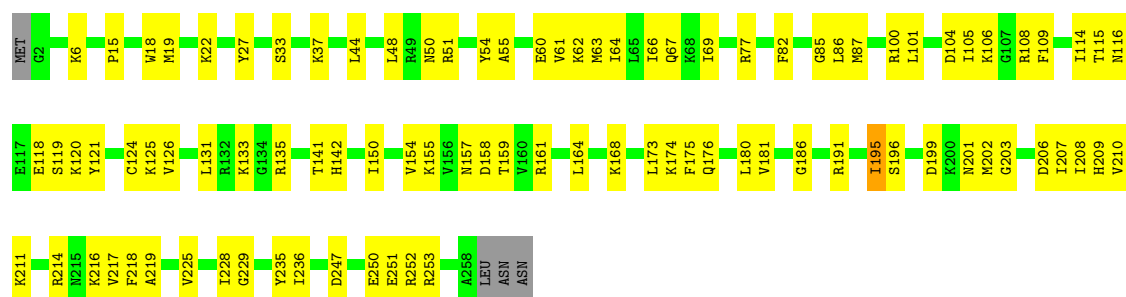
- Molecule 12: 40S ribosomal protein S9, putative

Chain SE: 67% 31% .



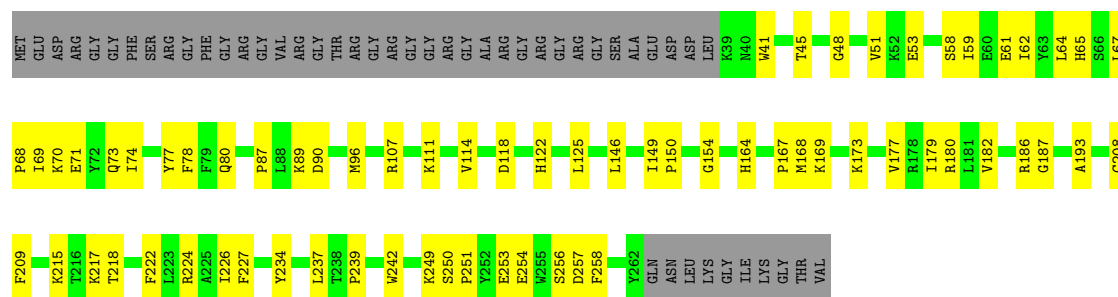
- Molecule 13: 40S ribosomal protein S4

Chain SF: 63% 35% .

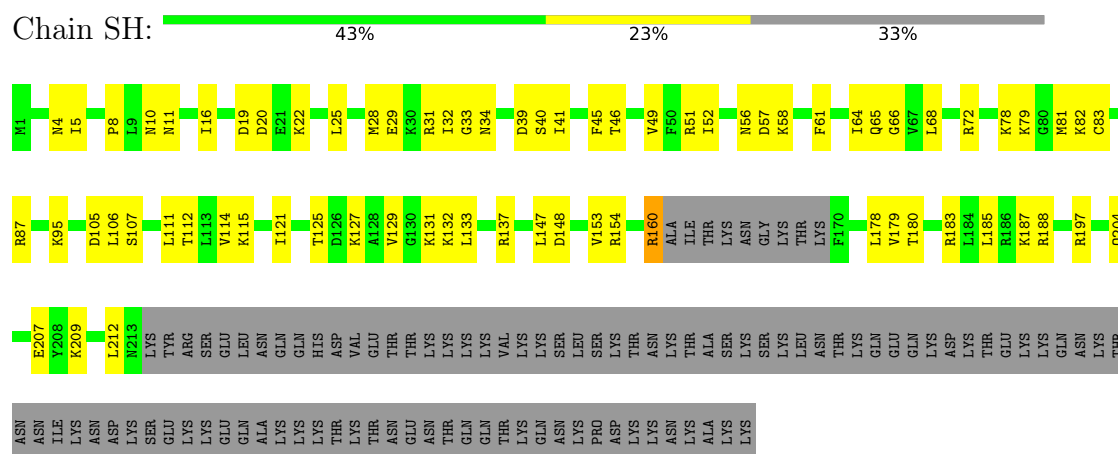


- Molecule 14: 40S ribosomal protein S5

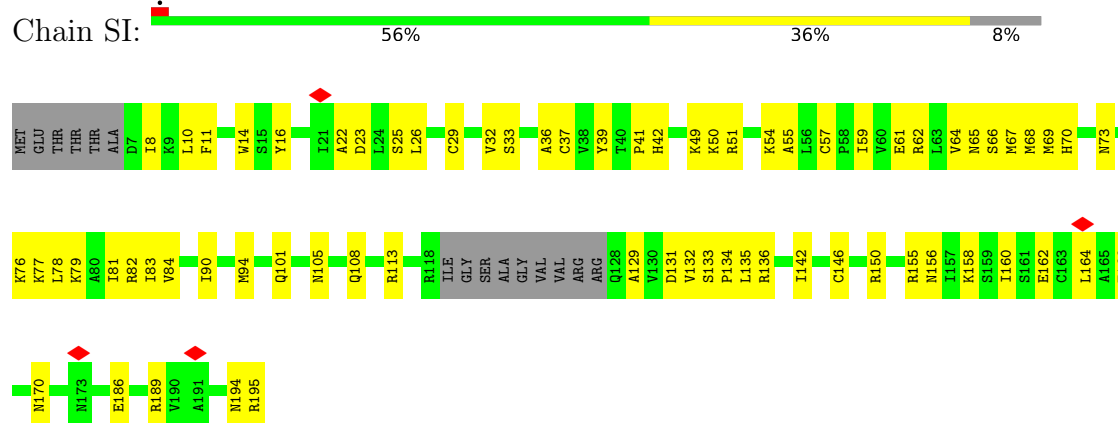
Chain SG: 57% 25% 18%



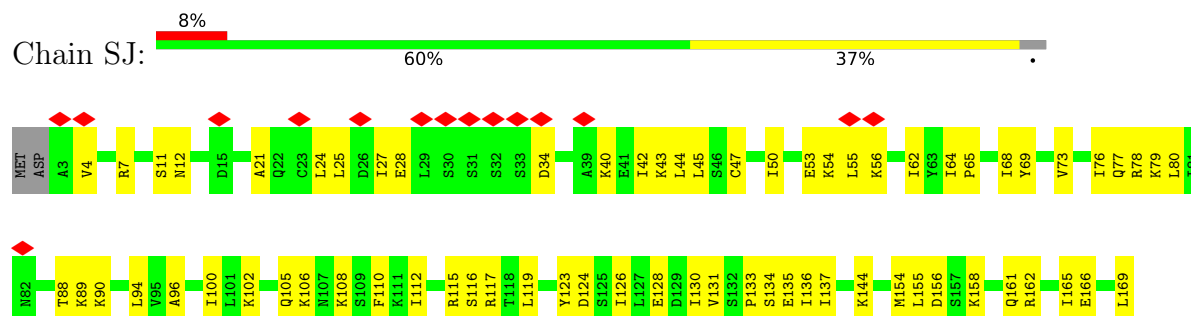
• Molecule 15: 40S ribosomal protein S6

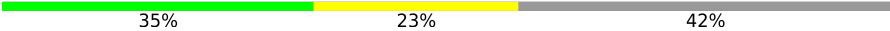


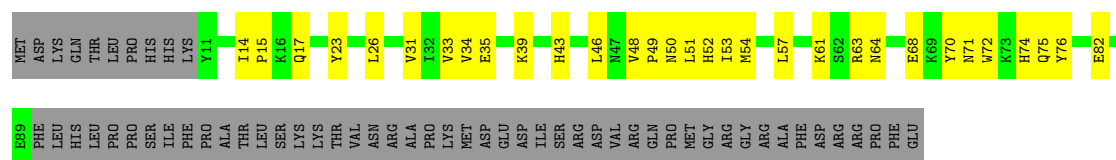
• Molecule 16: 40S ribosomal protein S5, putative



• Molecule 17: 40S ribosomal protein S7

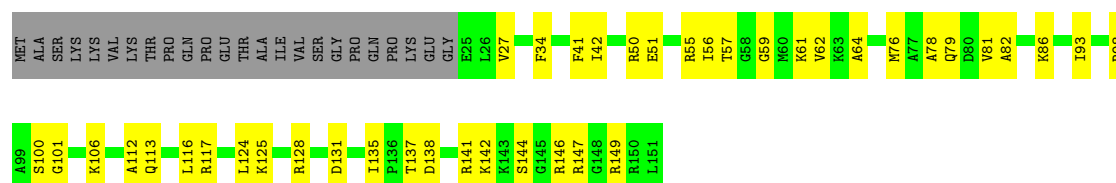


Chain SO: 



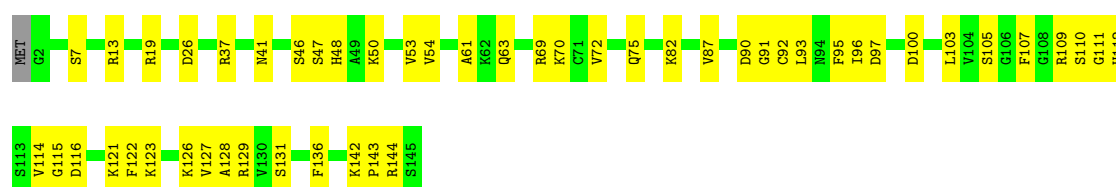
- Molecule 23: 40S ribosomal protein S11

Chain SP: 



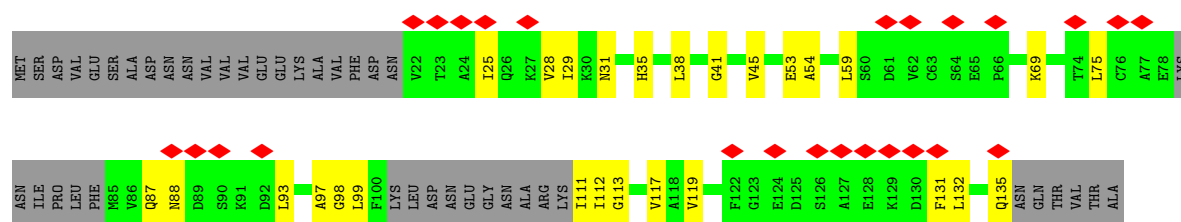
- Molecule 24: 40S ribosomal protein S23, putative

Chain SQ: 

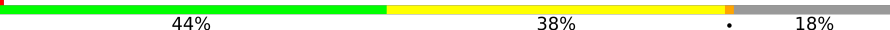


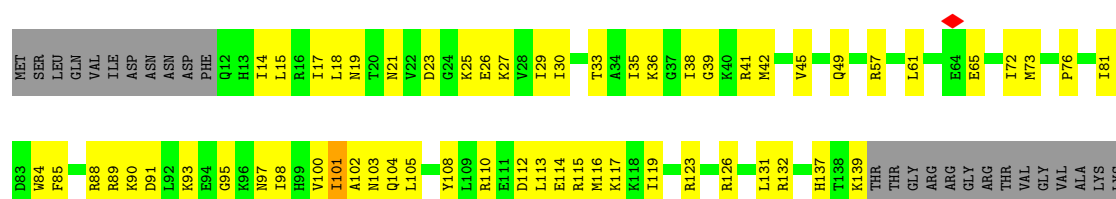
- Molecule 25: 40S ribosomal protein S12

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 E43 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

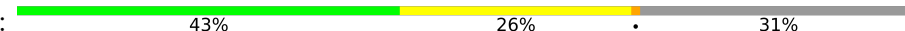
- Molecule 29: 40S ribosomal protein S11, putative

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 Y56 V57 D58 K59 K60 G61 P62 F63 T64 G65 N66 R70 I73 L74 K75 N81 K82 N83 T86

I89 R90 H95 R102 F103 E104 H107 N109 I110 P111 S115 P116 C117 E122 V126 T127 V128 G129 Q130 L134 V138 R139 F140 N141 V145 S153 K156 L160 F161

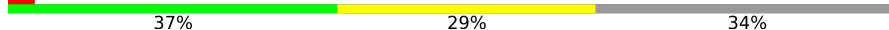
- Molecule 30: 40S ribosomal protein S17, putative

Chain SW:  43% 26% 31%

MET GLY R3 V4 R5 K10 R11 A12 I16 V17 E18 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 ASN THR GLN LYS GLN LYS ASN ARG MET ASN GLN PHE

- Molecule 31: 40S ribosomal protein S19

Chain SX:  37% 29% 34%

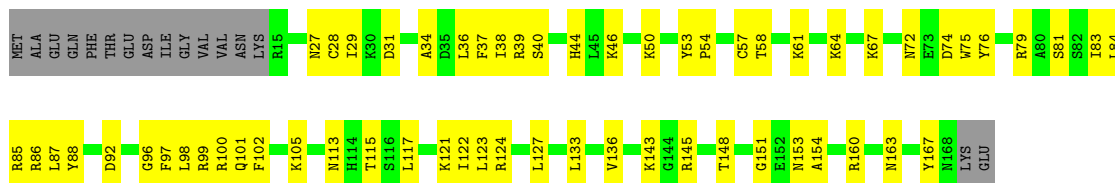
MET GLU ASP ALA ASN PRO LYS THR PHE ARG THR PHE GLN TYR ARG GLY VAL D21 L22 D23 G30 D31 I34 F37 K38 A39 R40 Q41 Y114 R42 R43 R44 F45 Q46 R47 K51 K54 L57 K58 K59 I60 R61 K62 S63 K64 E68 P69 G70 E71 K72 P73

P77 L80 R81 N82 M83 T84 I85 I86 E88 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: 55% 35% 9%



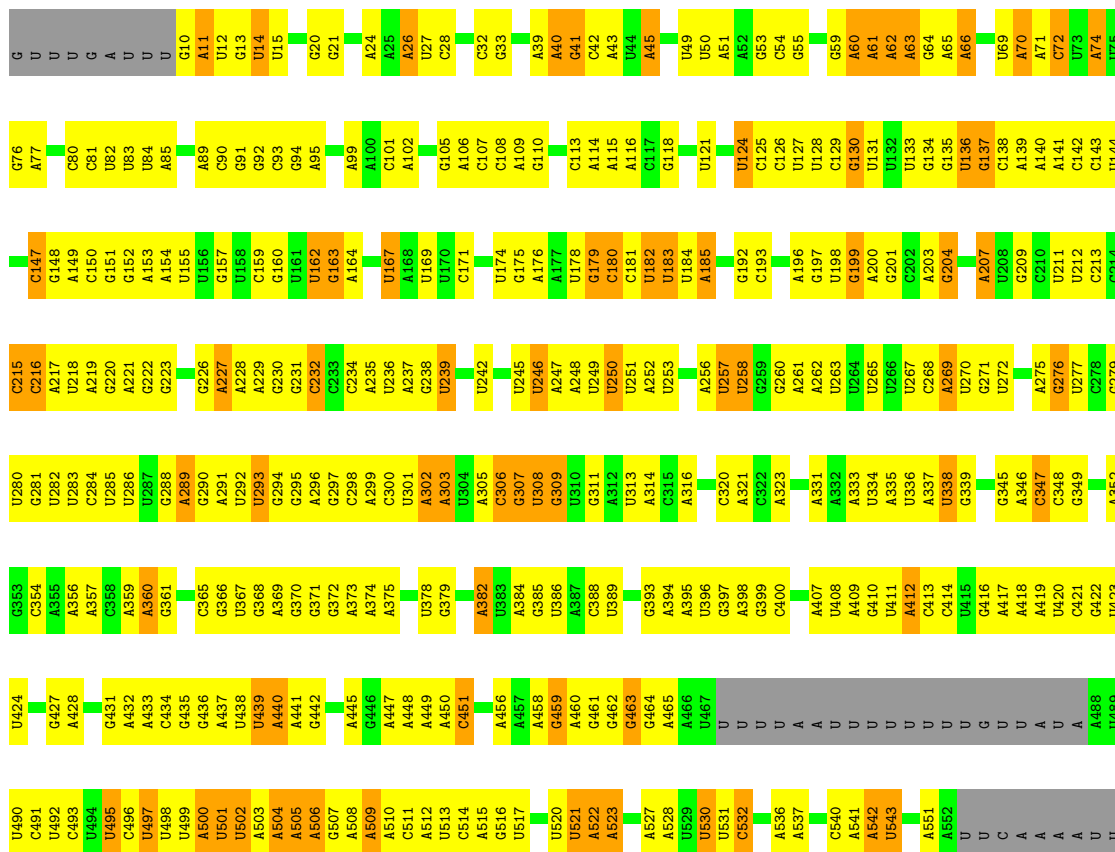
- Molecule 33: 40S ribosomal protein S21

Chain SZ: 67% 21% 12%



- Molecule 34: 28S ribosomal RNA

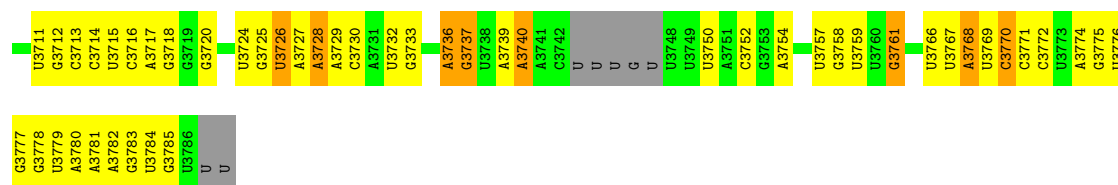
Chain AA: 28% 45% 12% 16%



A1484	C1420	U1222	G1155	A1092	A1025	U947	A880	U	G758	A695	U627	U
A1485	U1421	U1223	U1156	G1093	G1026	G948	A881	U	U759	C696	U628	C
A1486	A1422	A1224	U1157	U1094	G1027	A949	G882	C821	A760	A697	A629	U
U1487	G1423	A1225	G1158	U1095	G1028	A950	G883	A822	U761	G698	U630	U
U	C1424	U1226	U1159	G1096	G1029	A951	A884	U823	A762	U699	U631	U
U	U1297	A1227	G1160	A1097	C1030	U952	A885	U824	A763	A700	U635	U
A	C1426	A1228	C1161	U1098	G1031	U953	U	G825	G764	C701	U636	A
U	U1427	A1229	U1162	U1099	A1032	G954	U	U826	U765	U702	U637	A
U1493	G1428	A1230	U1163	A1100	A1033	A955	A888	A827	U766	U703	U638	U
U1494	A1429	U1231	U1164	A1101	A1034	A956	U889	G828	U767	U704	G638	U
U1495	A1430	A1232	U1165	A1102	G1035	G	G890	A829	C768	C705	C639	U
U1496	A1431	A1233	U1170	A1103	A1036	A962	U830	U830	U769	U706	U640	U
U1497	U1432	A1234	A1171	A1106	G	G963	U833	G833	U770	U707	G641	U
U1498	C1433	C1235	A1172	A1107	A1039	G964	U834	U834	A708	A642	A642	U
U1499	G1434	U1236	U1173	U1108	A1040	A965	U835	U835	U771	G643	G643	U
U1500	A1435	A1237	U1174	U1109	A1041	A966	U836	U836	A772	C712	U577	U
U1501	U1436	C1238	C1174	U1110	G1042	A967	G	G	A773	C713	C579	U
U1502	A1437	A1239	C1175	U1111	C1043	G968	G900	U	A774	G714	A580	U
U1503	G1438	A1240	C1176	A1112	A1044	U969	C903	U	A775	C715	C581	U
A1504	C1439	G1241	A1177	C1113	G	U974	G904	U	U776	C716	U582	U
U1505	G1440	U1242	A1178	C1114	A1047	G975	A905	U	U777	G717	U583	U
C1506	A1441	G1243	U1179	A1115	G1048	G976	U	U	U778	U718	C584	U
U1507	A1442	G1244	A1180	G1115	C1049	G	A	C	U779	C719	C585	U
U1508	U1443	U1245	U1181	G1116	C1050	G979	U	U	U	U720	U655	U
U1509	A1444	C1246	A1185	U1117	U1051	A980	U909	U	U	U721	U656	U
U1510	A1445	C1247	A1186	A1118	G	U981	U910	U	U	G722	A657	U
U1511	U1446	U1248	A1187	G1119	A1055	U982	A910	U	U	A723	C588	U
U1512	U1452	A1249	A1188	A1120	G1056	U983	U911	U	U	A724	G591	U
U1513	U1453	G	G1189	G1121	C1057	A984	U912	U	U	C725	C592	U
A1514	A1454	G1254	G1190	A1122	U1058	U985	U913	A	U	C726	A593	U
A1515	C1455	G1255	G1191	U1123	G1059	U986	G914	U	U	A727	C594	U
U1516	C1456	U1256	C1192	A1124	G	U987	G915	U	U	C728	U586	U
U1519	G1457	G1259	G1193	A1125	U1062	U987	U916	A	U	G729	U666	U
A1520	A1458	C1260	A1194	U1126	A1063	A988	A917	A	A	U730	U667	U
U1521	U1459	A1261	A1196	G1127	U1065	U989	G918	U	U	C733	U598	U
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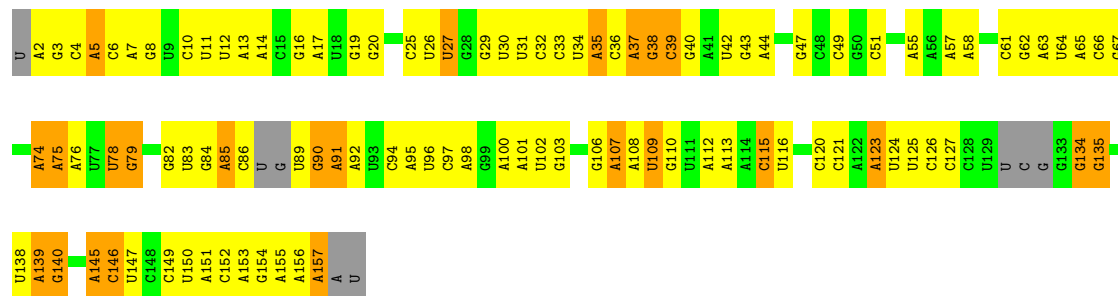


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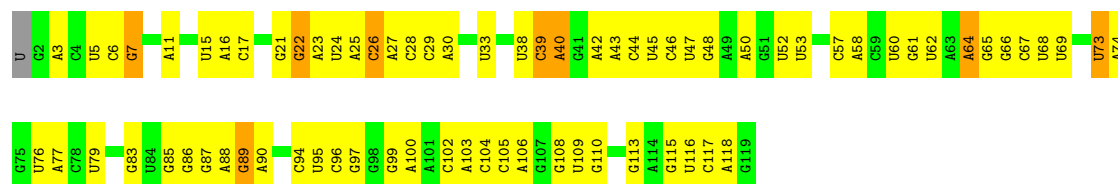
- Molecule 35: 5.8S ribosomal RNA

Chain AC: 30% 50% 15% 5%



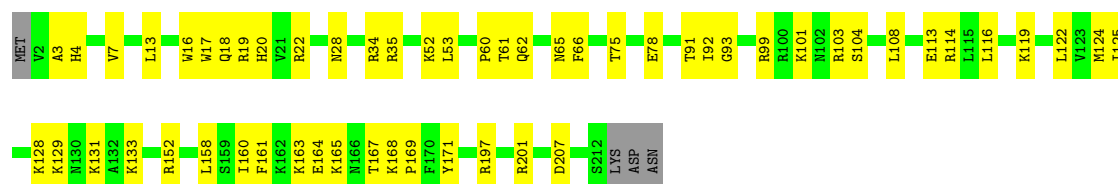
- Molecule 36: 5S ribosomal RNA

Chain AB: 37% 55% 7%



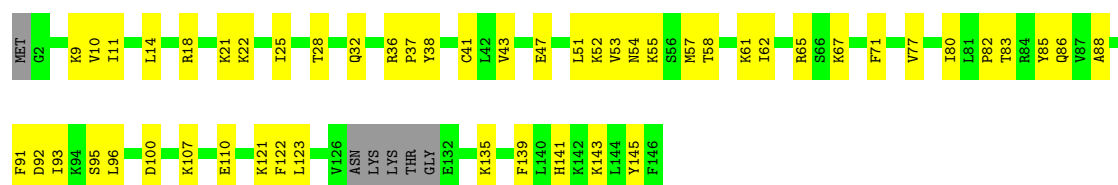
- Molecule 37: 60S ribosomal protein L13

Chain AL: 73% 26%



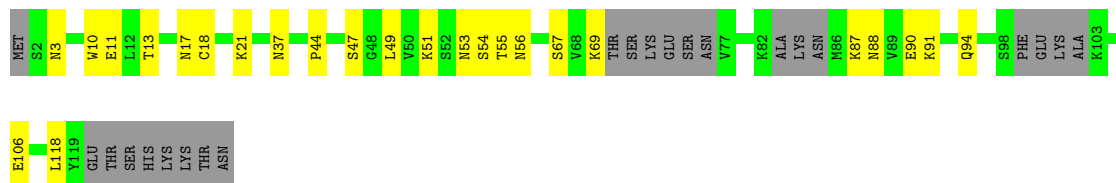
- Molecule 38: 60S ribosomal protein L27

Chain A1: 61% 35%



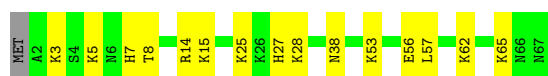
- Molecule 39: 60S ribosomal protein L28

Chain A2:  63% 20% 17%



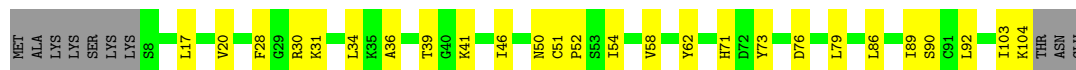
- Molecule 40: 60S ribosomal protein L29

Chain A4:  76% 22% .



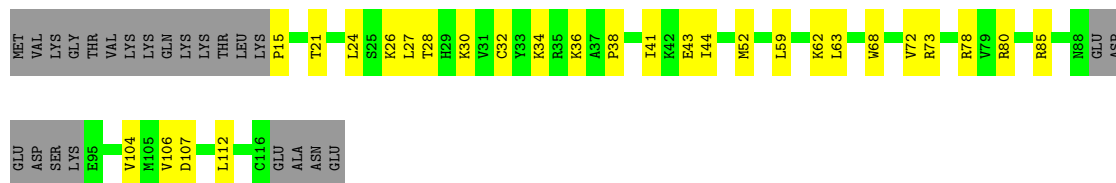
- Molecule 41: 60S ribosomal protein L30e, putative

Chain A6:  66% 24% 9%



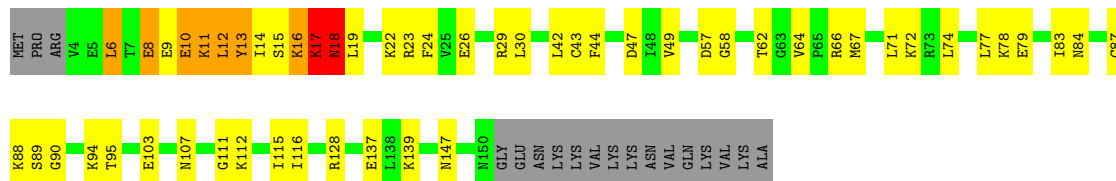
- Molecule 42: 60S ribosomal protein L31

Chain A7:  57% 23% 20%



- Molecule 43: 60S ribosomal protein L14, putative

Chain AN:  56% 27% . . 11%



- Molecule 44: 60S ribosomal protein L32

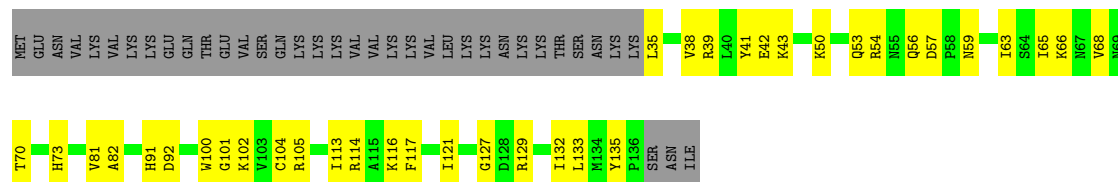
Chain A8:  63% 32% . 5%





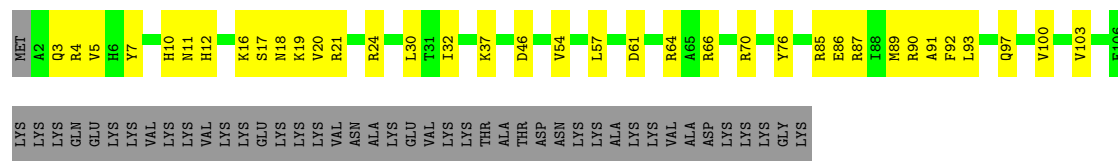
- Molecule 45: 60S ribosomal protein L35ae, putative

Chain A9: 47% 27% 27%



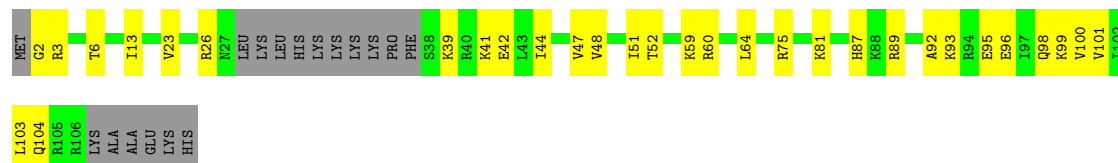
- Molecule 46: 60S ribosomal protein L34

Chain Aa: 46% 24% 30%



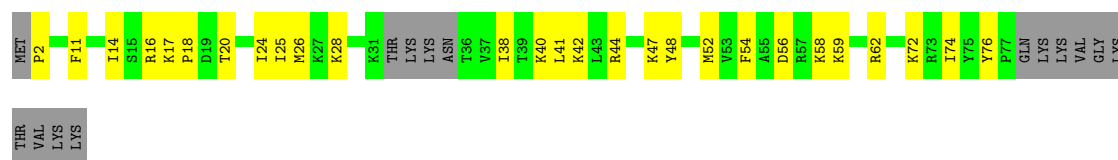
- Molecule 47: 60S ribosomal protein L36

Chain Ab: 57% 28% 15%



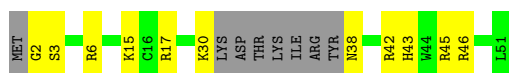
- Molecule 48: 60S ribosomal protein L38

Chain Ad: 52% 31% 17%



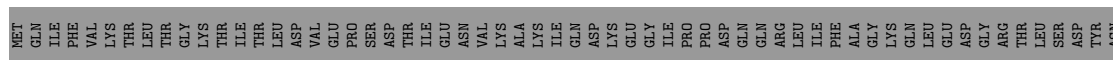
- Molecule 49: 60S ribosomal protein L39

Chain Ae: 63% 22% 16%



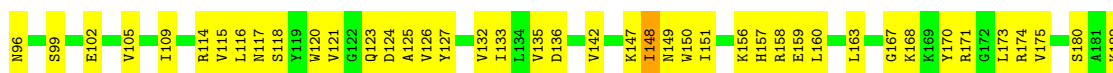
- Molecule 50: Ubiquitin-60S ribosomal protein L40

Chain Af: 27% 13% 60%



- Molecule 51: Ribosomal protein L15

Chain AP: 54% 44% .



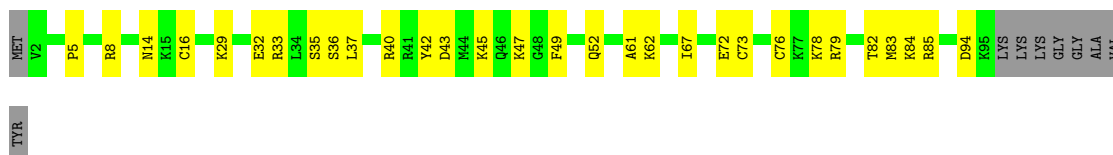
- Molecule 52: Large ribosomal subunit protein eL43

Chain Ah: 56% 33% 12%



- Molecule 53: Large ribosomal subunit protein eL42

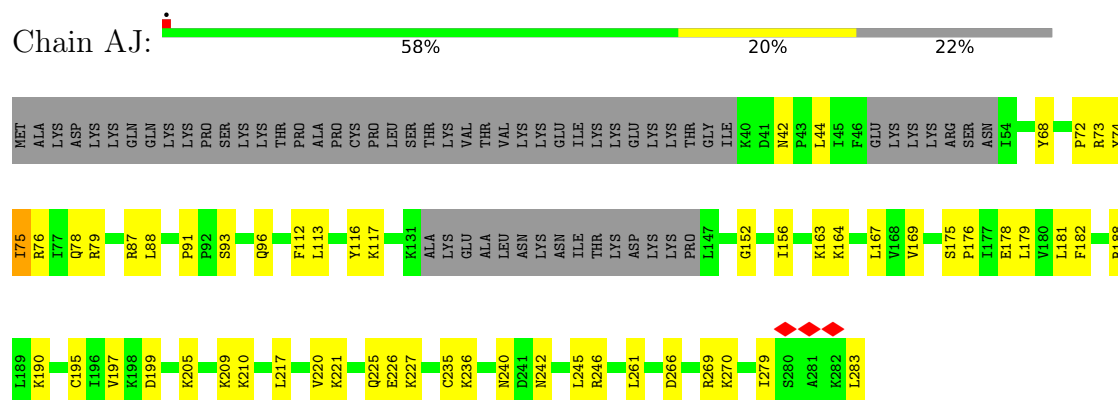
Chain Ai: 62% 29% 9%



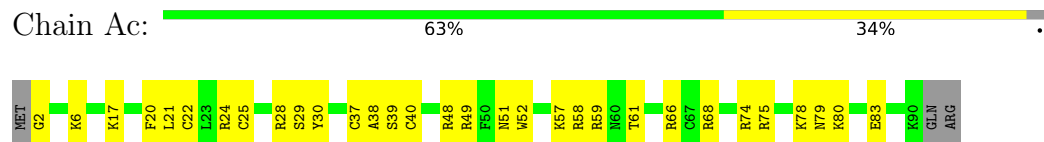
- Molecule 54: 60S ribosomal protein L6, putative

Chain AI: 57% 37% 6%

- Molecule 55: 60S ribosomal protein L7a



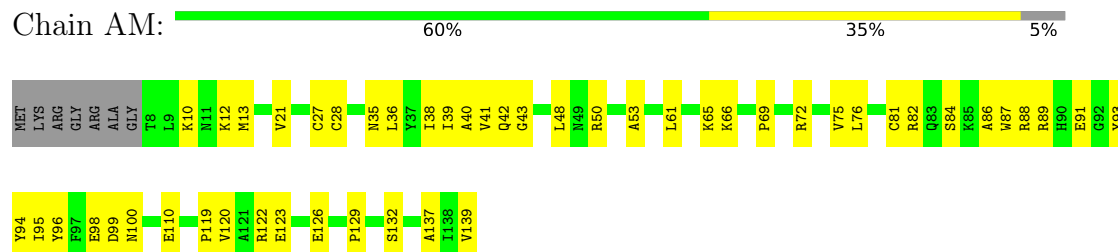
- Molecule 56: Ribosomal protein L37



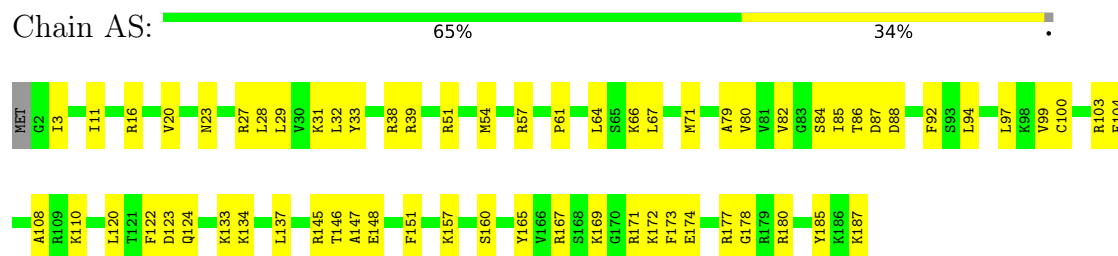
- Molecule 57: 60S ribosomal protein L13, putative



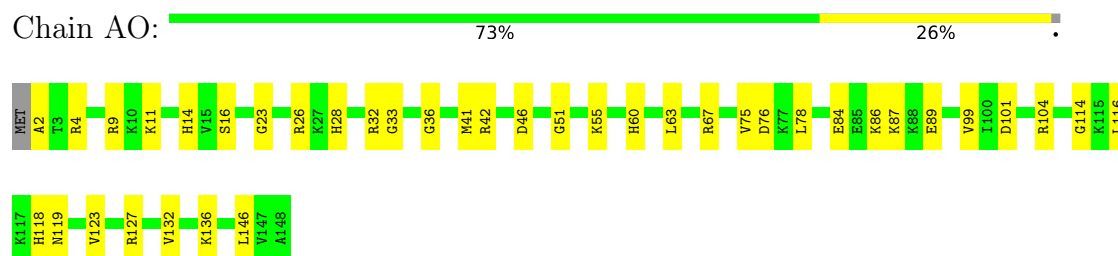
- Molecule 58: 60S ribosomal protein L23, putative



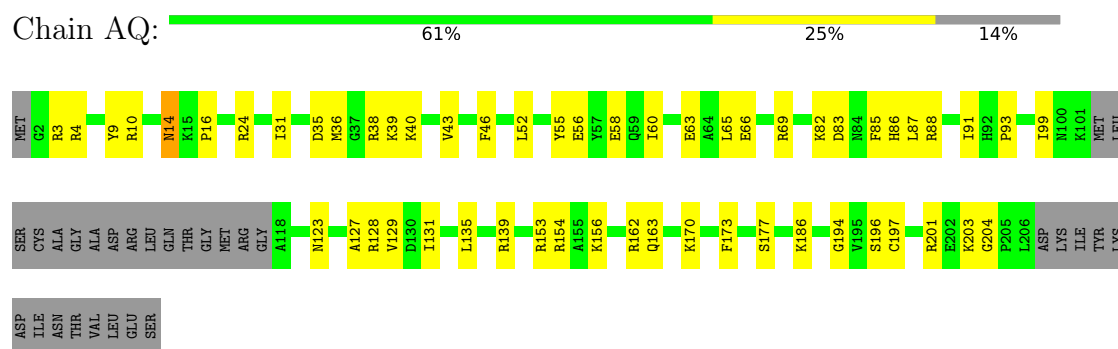
- Molecule 59: 60S ribosomal protein L18-2, putative



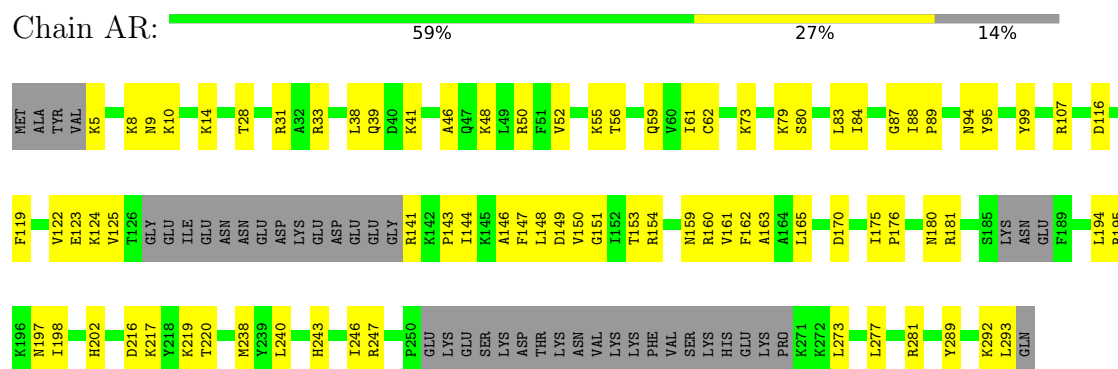
- Molecule 60: 60S ribosomal protein L27a, putative



- Molecule 61: 60S ribosomal protein L10, putative



- Molecule 62: 60S ribosomal protein L5, putative

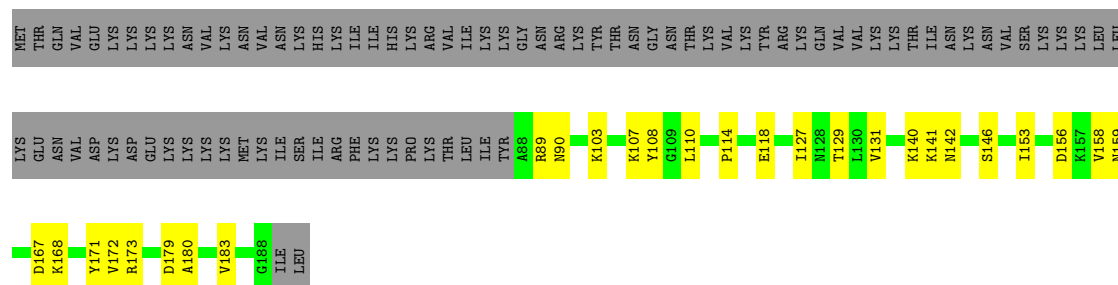


- Molecule 63: 60S ribosomal protein L17, putative



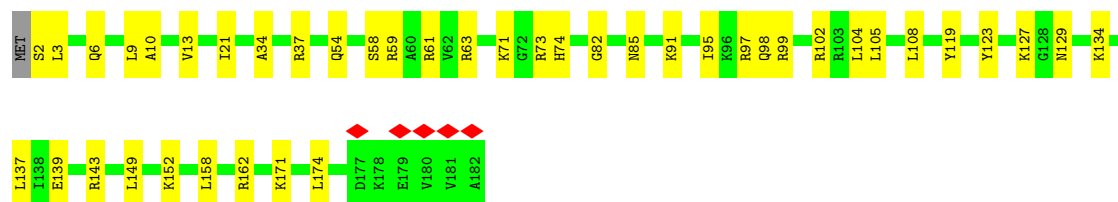
- Molecule 64: 60S ribosomal protein L23

Chain AY:

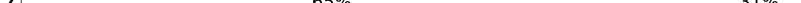


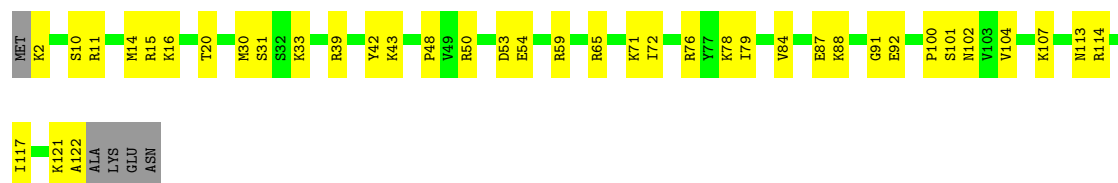
- Molecule 65: 60S ribosomal protein L19

Chain AT: 76% 23%

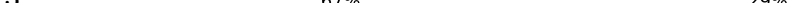


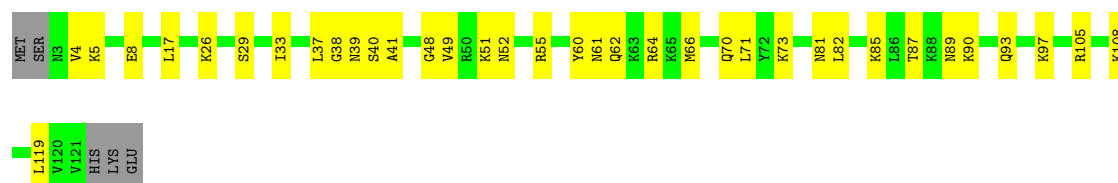
- Molecule 66: 60S ribosomal protein L26, putative

Chain AZ:  65% 31% .

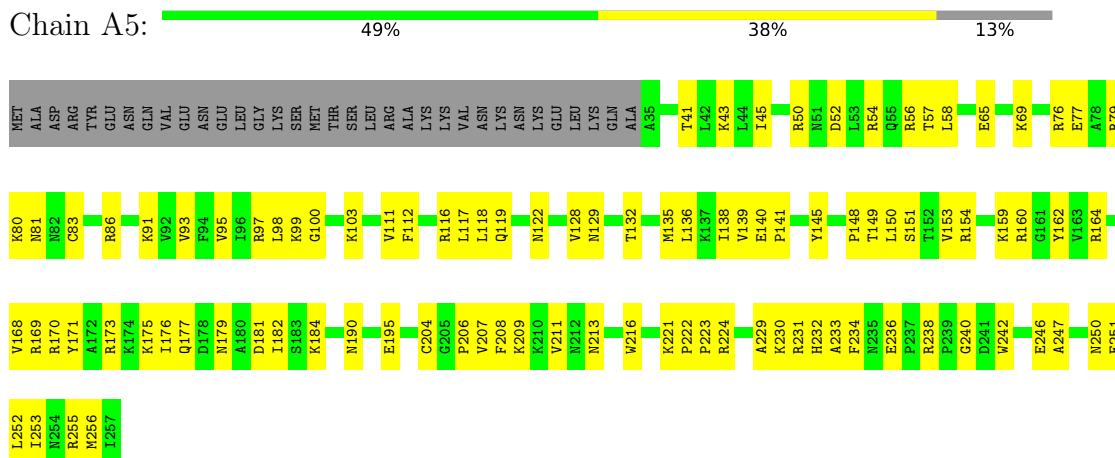


- Molecule 67: 60S ribosomal protein L35, putative

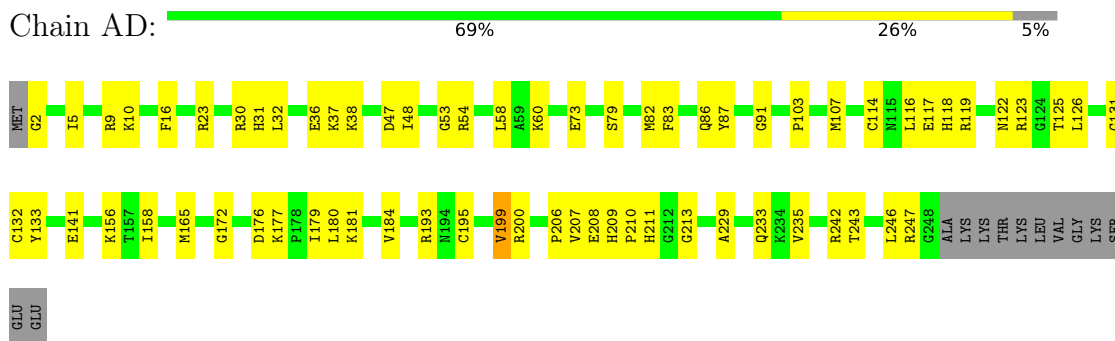
Chain A3:  67% 29% .



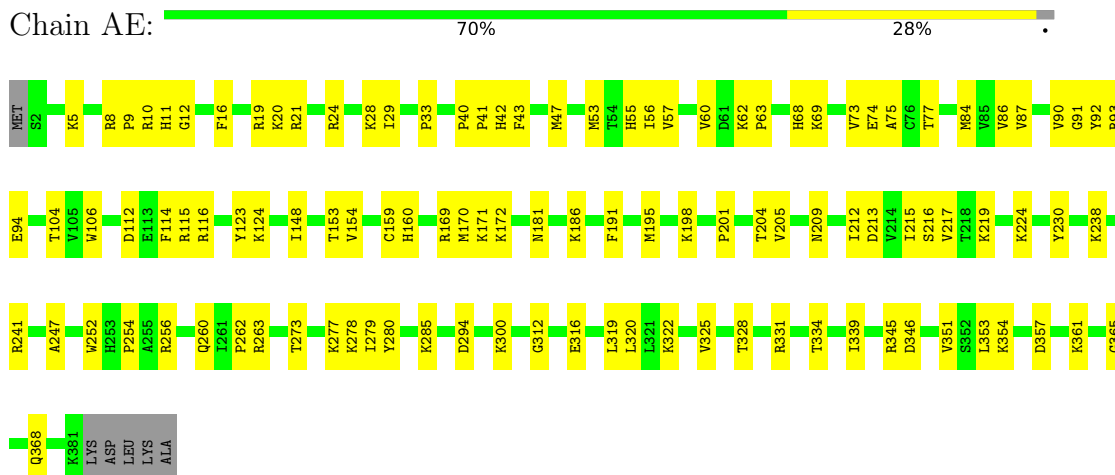
- Molecule 68: 60S ribosomal protein L7, putative



- Molecule 69: 60S ribosomal protein L2

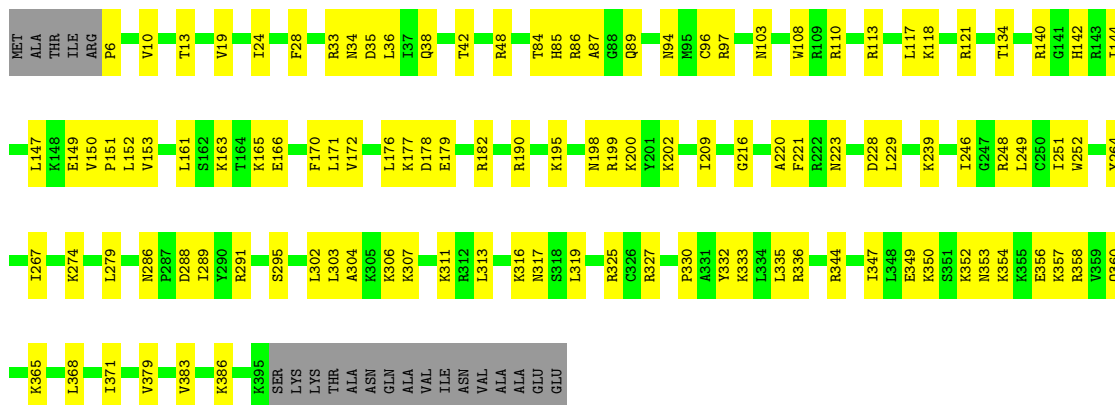


- Molecule 70: 60S ribosomal protein L3



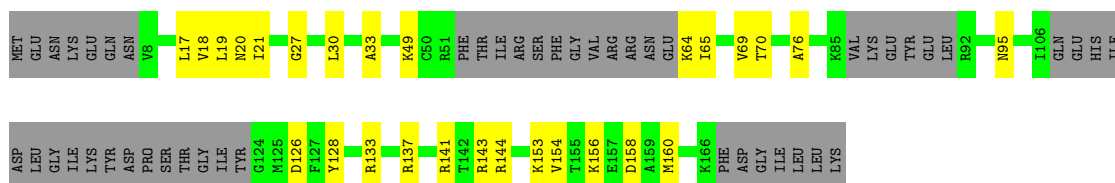
- Molecule 71: 60S ribosomal protein L4





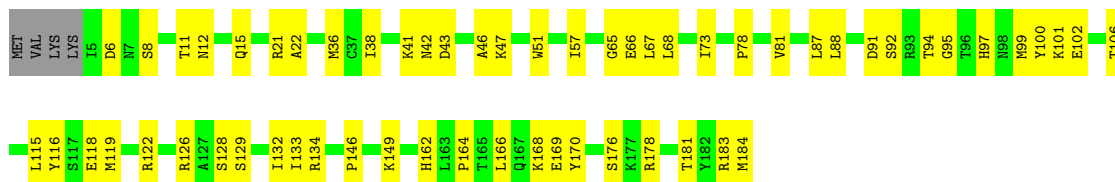
- Molecule 72: 60S ribosomal protein L11a, putative

Chain AG: 56% 16% 28%



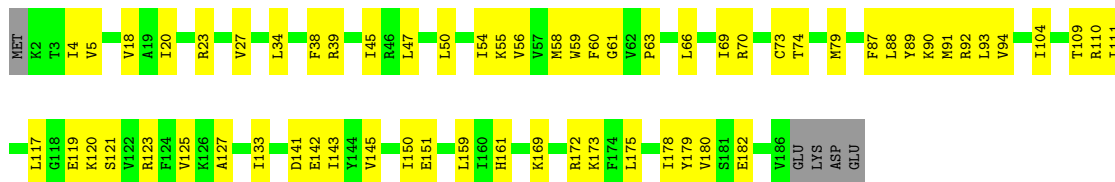
- Molecule 73: 60S ribosomal protein L18a

Chain AU: 66% 32% .



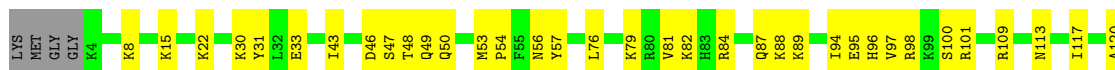
- Molecule 74: 60S ribosomal protein L6, putative

Chain AH: 65% 33% .



- Molecule 75: 60S ribosomal protein L21

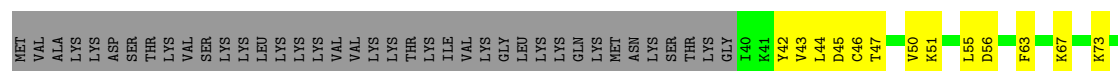
Chain AV: 67% 28% .



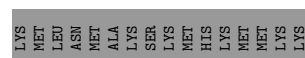
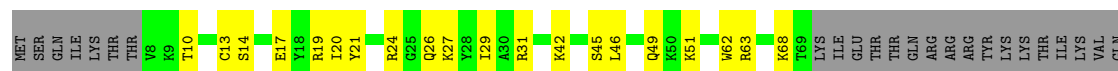
- Molecule 76: 60S ribosomal protein L41



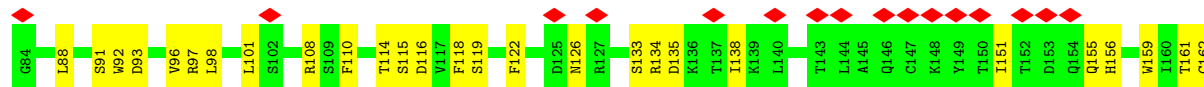
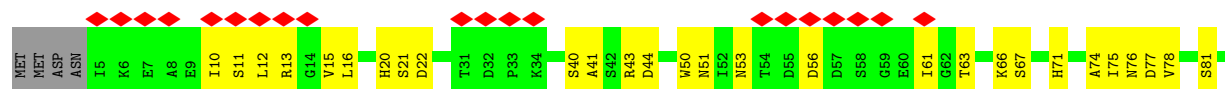
- Molecule 77: 60S ribosomal protein L22, putative



- Molecule 78: 60S ribosomal protein L24, putative



- Molecule 79: Receptor for activated c kinase



Y305	C306	G307	I313	Y314	V315	Y316	E317	V318	K319	K320	H321	SER	VAL

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	52	0
8	SA	34208	0	17266	1096	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	1856	0
35	AC	3215	0	1633	94	0
36	AB	2522	0	1275	76	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	5305	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 (5305) 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
8:SA:1280:G:N2	8:SA:1706:A:N1	2.26	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:743:A:OP1	51:AP:203:ARG:NH1	2.11	0.83
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
8:SA:882:A:N1	8:SA:920:A:N6	2.28	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:1136:A:N6	34:AA:1159:A:N1	2.31	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
34:AA:2974:A:N6	34:AA:2981:A:N7	2.32	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
36:AB:22:G:N2	36:AB:26:C:N3	2.35	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
8:SA:1883:A:N7	8:SA:1907:G:N2	2.36	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:1295:A:N1	34:AA:1460:A:N6	2.33	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
8:SA:1977:G:N2	8:SA:2013:A:N7	2.37	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
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
8:SA:1214:A:N6	8:SA:1233:A:N7	2.41	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:Al: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
8:SA:1914:U:O2	8:SA:1916:C:N4	2.26	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:2974:A:N7	34:AA:2981:A:N6	2.42	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:321:A:N7	8:SA:358:G:N2	2.42	0.67
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
7:S7:1:G:N1	7:S7:71:C:N3	2.41	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
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
8:SA:1121:A:N6	8:SA:1167:U:O4	2.27	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
36:AB:73:U:O2	36:AB:103: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
29:SV:75:LYS:HG2	29:SV:127:THR:HG22	1.77	0.66
34:AA:1118:A:N6	34:AA:1176:C:O2	2.28	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
8:SA:654:U:O4	8:SA:746:U:N3	2.28	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
7:S7:1:G:N2	7:S7:71:C:O2	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
36:AB:29:C:O2	36:AB:50:A:N6	2.28	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S1:117: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
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
7:S7:3:G:N2	7:S7:68:U:O4	2.24	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:3487:A:N1	34:AA:3516:A:N6	2.40	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
8:SA:1808:G:N2	8:SA:1814:C:O2	2.26	0.63
8:SA:1841:U:N3	8:SA:1864:U:O2	2.32	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
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:1121:A:N1	8:SA:1167:U:N3	2.46	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:2155:A:N6	34:AA:2641:A:N3	2.45	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
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
7:S7:27:G:N1	7:S7:41:C:O2	2.34	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
34:AA:3365:U:O4	34:AA:3373:A:N6	2.33	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:1642:U:N3	8:SA:1648:A:N1	2.50	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:637:A:N6	8:SA:1038:C:O2	2.33	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
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:1287:U:O4	8:SA:1301:G:N2	2.30	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:1255:G:N2	34:AA:1260:C:N3	2.50	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:121:A:N6	8:SA:304:C:O2	2.36	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:1192:C:N3	34:AA:1215:A:N6	2.50	0.59
34:AA:1852:C:N4	34:AA:1968:C:O2	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
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:1642:U:O4	8:SA:1648:A:N6	2.36	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:1626:U:O2	8:SA:1812:A:N6	2.36	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:1774:U:N3	34:AA:2079:A:N1	2.51	0.58
34:AA:2070:U:H2'	34:AA:2071:U:C6	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:1828:G:N2	34:AA:1997:G:N7	2.51	0.58
34:AA:2478:G:O2'	34:AA:2607:U:OP2	2.21	0.58
34:AA:2547:U:O2	34:AA:2555:A:N6	2.37	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:1802:A:N7	34:AA:2030:G:N2	2.41	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:838:U:O4	8:SA:843:U:N3	2.33	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
34:AA:1480:G:O6	34:AA:1502:G:N1	2.39	0.56
35:AC:96:U:H2'	35:AC:97:C:O4'	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:AB:44:C:H4'	62:AR:154:ARG:HD3	1.88	0.56
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:A5:79:ARG:HH21	71:AF:371:ILE:HG21	1.69	0.56
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:2038:U:O2	34:AA:2072:U:N3	2.39	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:652:A:N6	8:SA:748:C:N3	2.55	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:1320:A:N6	8:SA:1365:G:N3	2.55	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:1379:G:N2	8:SA:1679:G:O6	2.34	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:996: C: O2	34: AA:1001: A: N6	2.42	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:2160:G:N2	34:AA:3464:U:O4	2.44	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:3016:G:N1	34:AA:3019:A:N7	2.60	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
34:AA:3412:G:N2	34:AA:3415:A:N7	2.52	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
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:143:A:N1	8:SA:167:A:N6	2.59	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:818:C:O2	34:AA:821:C:N4	2.45	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:3441:A:N1	34:AA:3472:A:N6	2.61	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
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:320:C:N3	8:SA:360:C:N4	2.60	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:636:U:O2	8:SA:1039:A:N6	2.46	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:1908:U:O2	34:AA:1962:U:N3	2.46	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:652:A:N6	34:AA:683:A:N7	2.59	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:3628:C:O2	34:AA:3658:G:N2	2.47	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:395:G:N2	8:SA:415:C:O2	2.47	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:1304:A:N1	8:SA:1850:G:N2	2.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:1828:G:N1	34:AA:1997:G:O6	2.30	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:940:G:N1	8:SA:1024:A:N1	2.59	0.47
8:SA:1265:G:H2'	8:SA:1266:G:H8	1.79	0.47
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
8:SA:1086:U:C2	8:SA:1087:U:C5	3.04	0.46
8:SA:1377:U:N3	8:SA:1683:U:O2	2.49	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:S7:1:G:N2	7:S7:72:C:O2	2.48	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:2433:U:N3	34:AA:3314:U:O4	2.33	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:88:A:O2'	8:SA:145:A:N3	2.48	0.45
8:SA:370:G:N2	8:SA:387:C:O2	2.49	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:217:G:N2	8:SA:253:A:N1	2.65	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
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:1064:U:N3	34:AA:1524:U:O2	2.49	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:1635:G:N1	34:AA:2124:C:N3	2.64	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
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:1317:C:N4	34:AA:1443:U:O2	2.50	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:2836:G:N1	34:AA:2918:C:N3	2.65	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:H1'	1.83	0.44
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:24:U:N3	8:SA:26:A:N7	2.65	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:2135:G:N2	34:AA:2411:C:O2	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:SA: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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:152:G:N1	8:SA:159:U:O2	2.53	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
34:AA:3626:A:N6	34:AA:3659:C:O2	2.53	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:2663:G:N2	34:AA:2668:G:O6	2.44	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:1125:A:N6	34:AA:1172:C:O2	2.52	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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 [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	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%)	2	22
6	S6	41/43 (95%)	35 (85%)	6 (15%)	0	100	100
9	SB	208/262 (79%)	196 (94%)	10 (5%)	2 (1%)	12	46
10	SC	193/263 (73%)	179 (93%)	13 (7%)	1 (0%)	24	61
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	65

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	SG	222/272 (82%)	209 (94%)	13 (6%)	0	100	100
15	SH	200/306 (65%)	187 (94%)	12 (6%)	1 (0%)	24	61
16	SI	176/195 (90%)	163 (93%)	13 (7%)	0	100	100
17	SJ	186/194 (96%)	168 (90%)	16 (9%)	2 (1%)	11	44
18	SK	127/130 (98%)	114 (90%)	13 (10%)	0	100	100
19	SL	165/218 (76%)	147 (89%)	16 (10%)	2 (1%)	10	42
20	SM	136/144 (94%)	128 (94%)	7 (5%)	1 (1%)	18	55
21	SN	96/118 (81%)	90 (94%)	6 (6%)	0	100	100
22	SO	77/137 (56%)	71 (92%)	5 (6%)	1 (1%)	9	41
23	SP	125/151 (83%)	118 (94%)	6 (5%)	1 (1%)	16	52
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%)	4	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%)	18	55
30	SW	91/137 (66%)	82 (90%)	7 (8%)	2 (2%)	5	31
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	39
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%)	18	55
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

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
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	33
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%)	24	61
55	AJ	216/283 (76%)	208 (96%)	7 (3%)	1 (0%)	24	61
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%)	7	37
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	65
70	AE	378/386 (98%)	361 (96%)	17 (4%)	0	100	100
71	AF	388/411 (94%)	362 (93%)	25 (6%)	1 (0%)	36	70
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
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

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
79	S8	315/323 (98%)	300 (95%)	15 (5%)	0	100	100
All	All	10421/12340 (84%)	9689 (93%)	699 (7%)	33 (0%)	37	70

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
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%)	16	40
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%)	81	82
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%)	61	72
23	SP	99/119 (83%)	99 (100%)	0	100	100
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

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
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%)	11	33
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
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

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
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%)	85	87

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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

Continued on next page...

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Mol	Chain	Res	Type
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
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

Continued on next page...

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Mol	Chain	Res	Type
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
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

Continued on next page...

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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 [i](#)

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

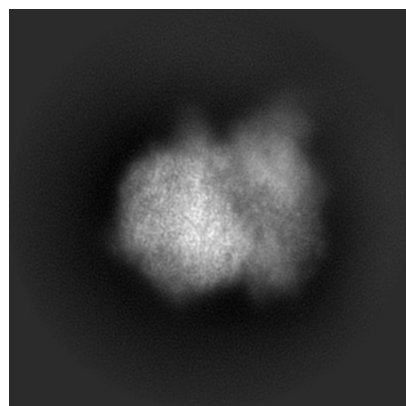
6 Map visualisation [i](#)

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.

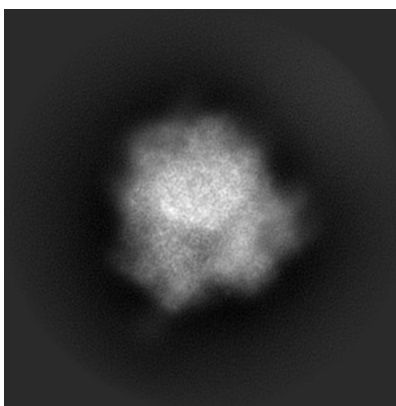
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

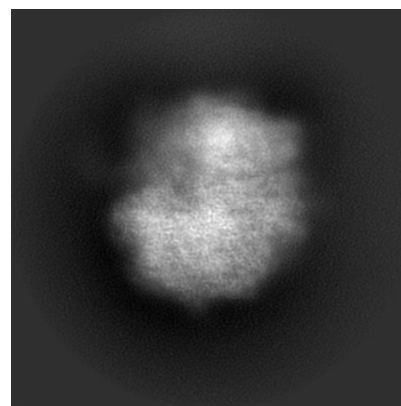
6.1.1 Primary map



X

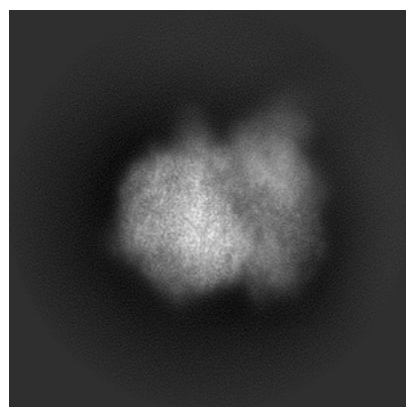


Y

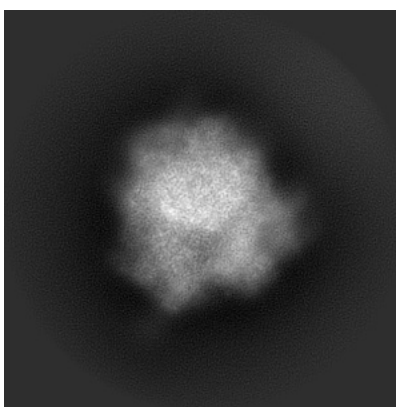


Z

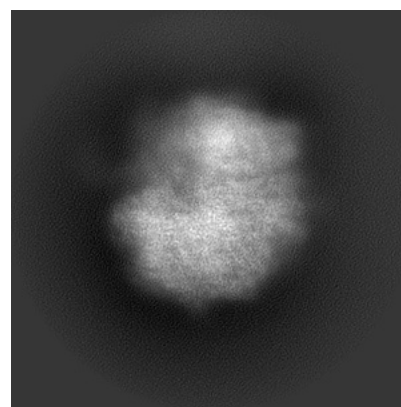
6.1.2 Raw map



X



Y

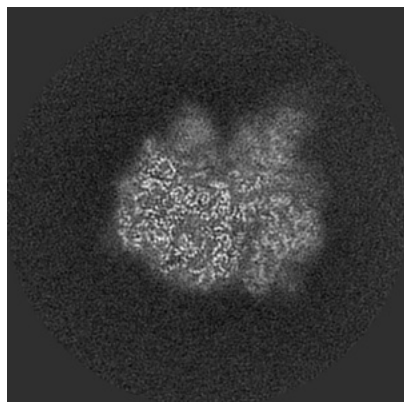


Z

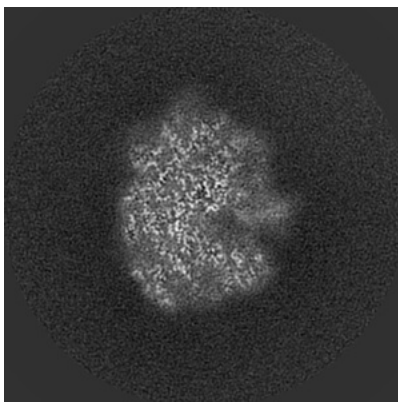
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

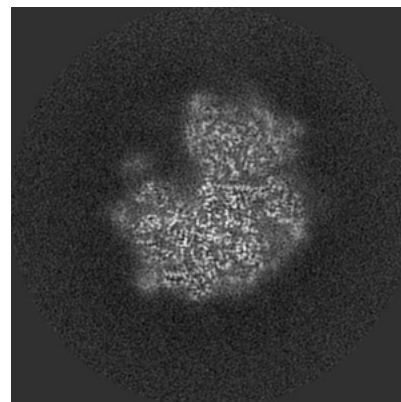
6.2.1 Primary map



X Index: 148

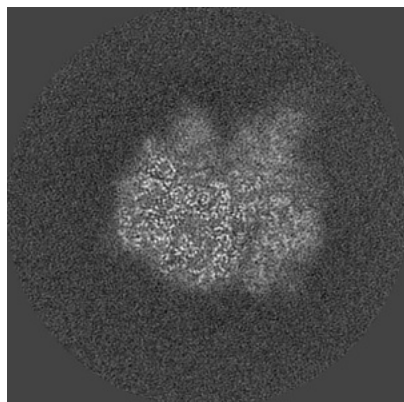


Y Index: 148

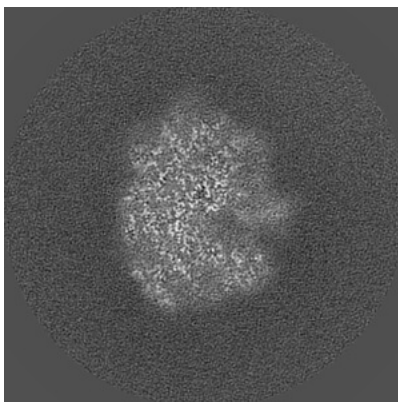


Z Index: 148

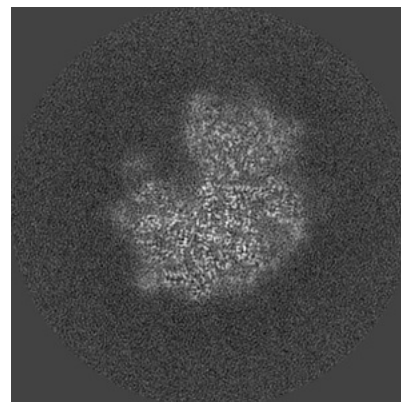
6.2.2 Raw map



X Index: 148



Y Index: 148

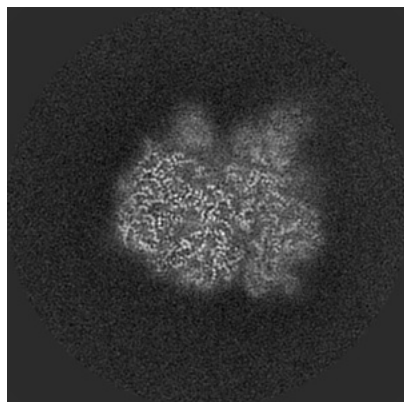


Z Index: 148

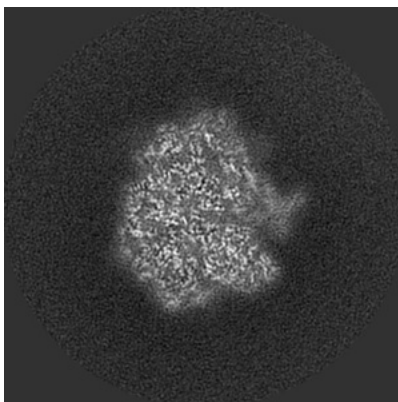
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

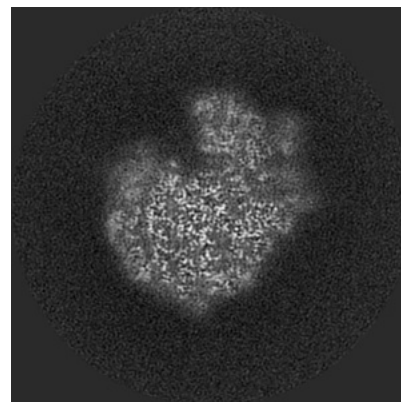
6.3.1 Primary map



X Index: 150

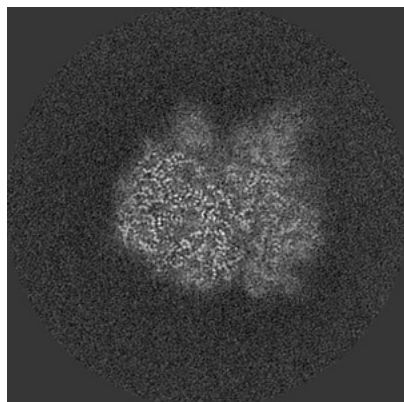


Y Index: 139

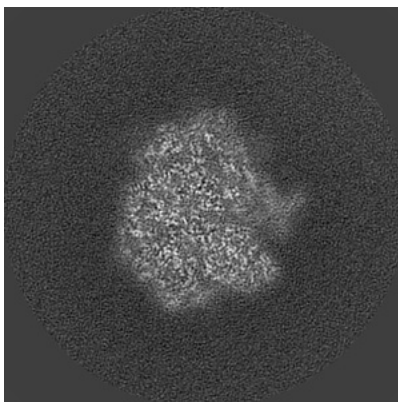


Z Index: 127

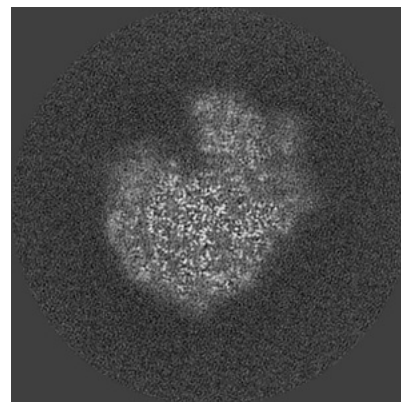
6.3.2 Raw map



X Index: 150



Y Index: 139

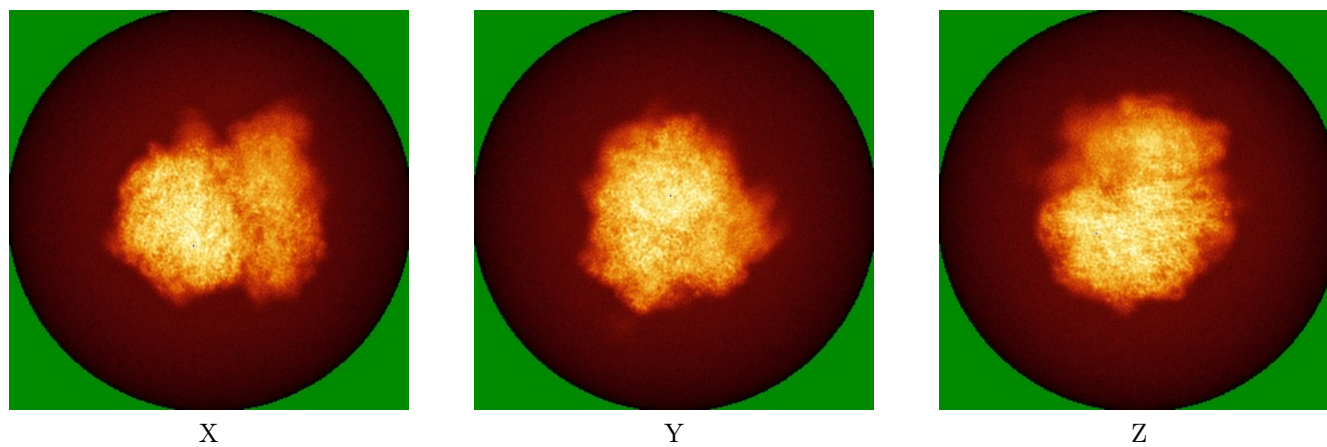


Z Index: 127

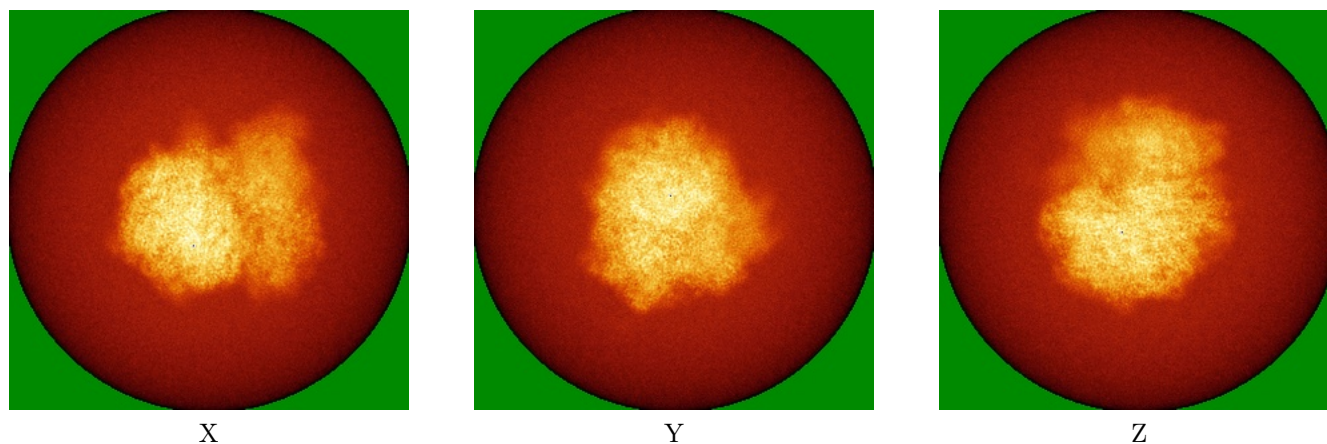
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map



6.4.2 Raw map



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](#)

This section was not generated.

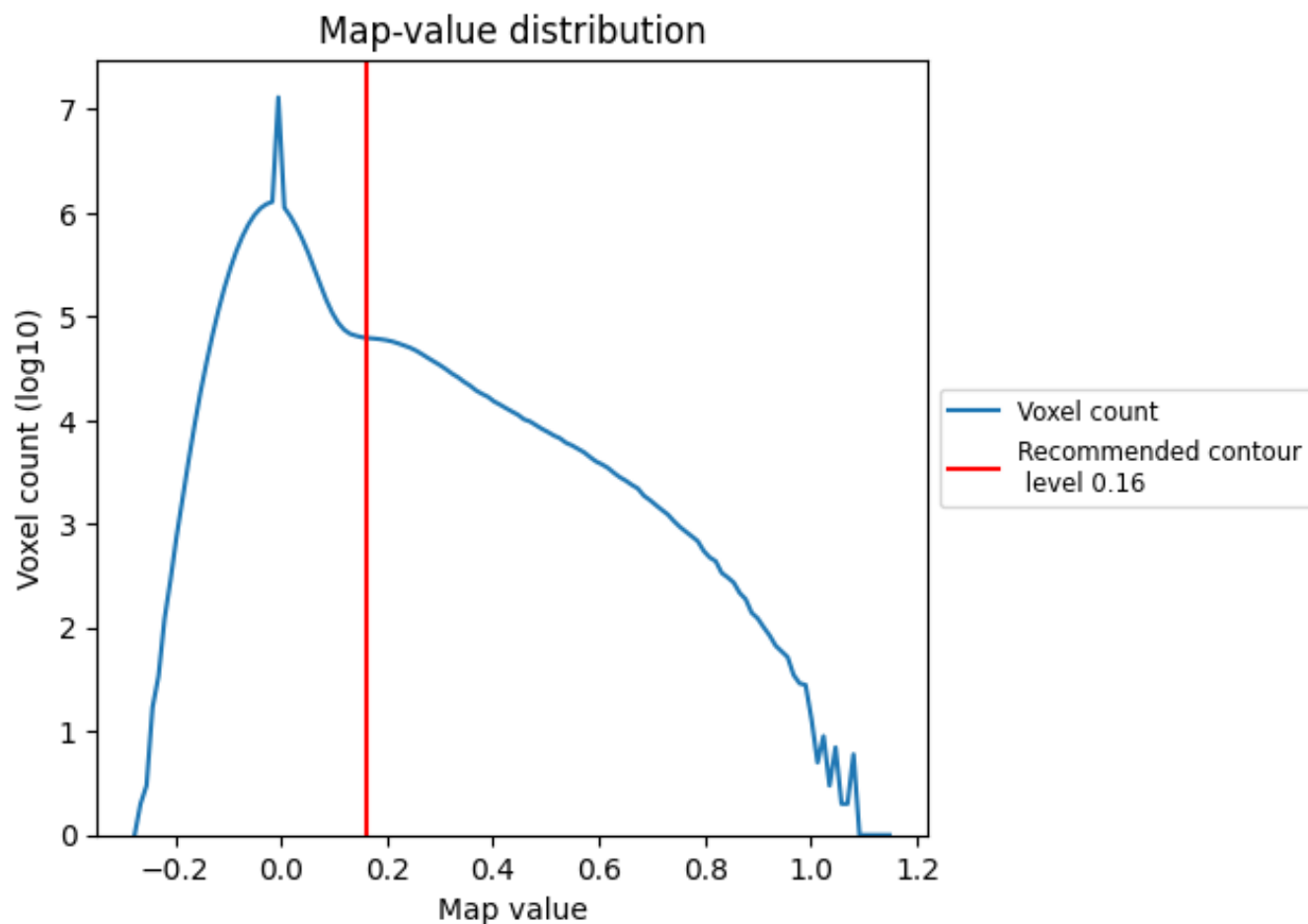
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

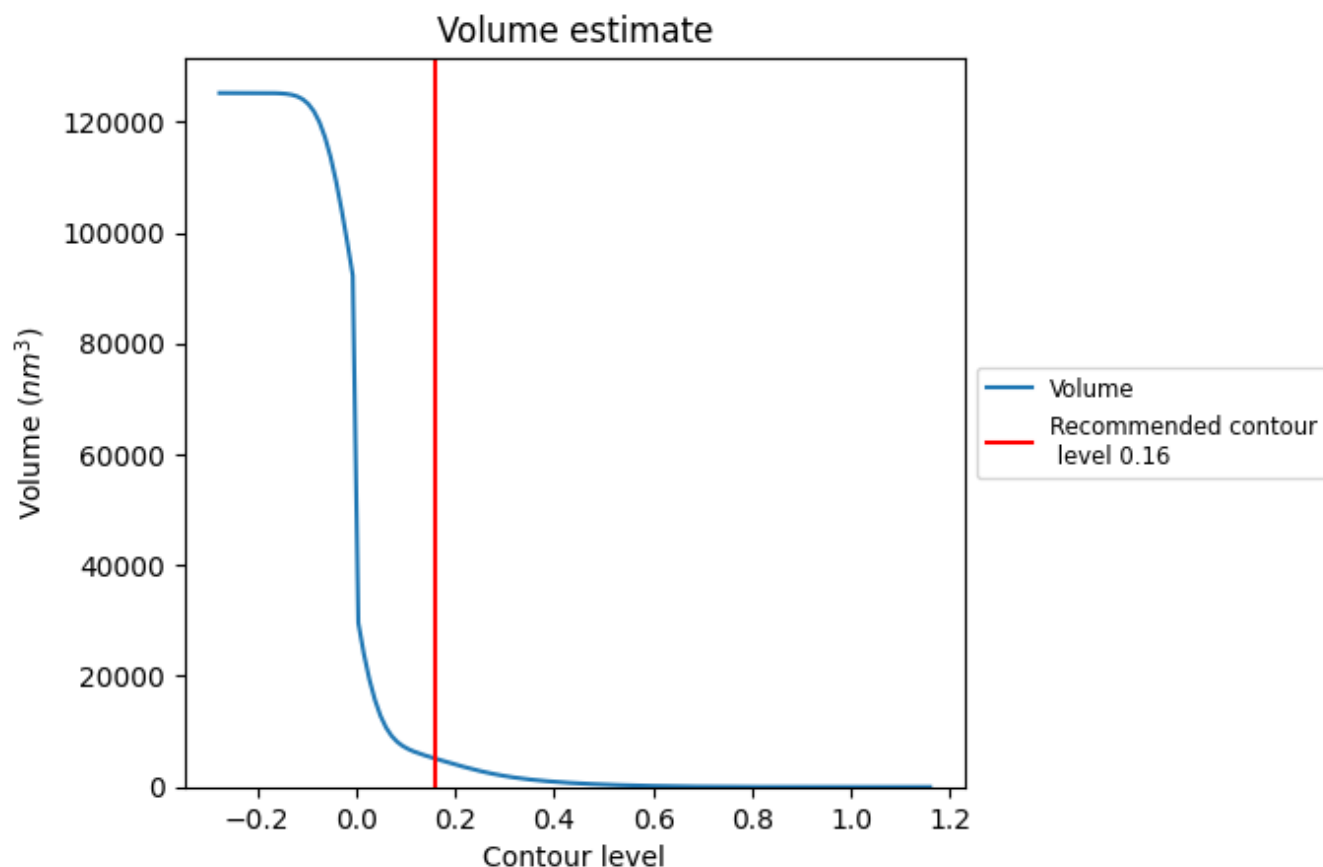
This section contains the results of statistical analysis of the map.

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.

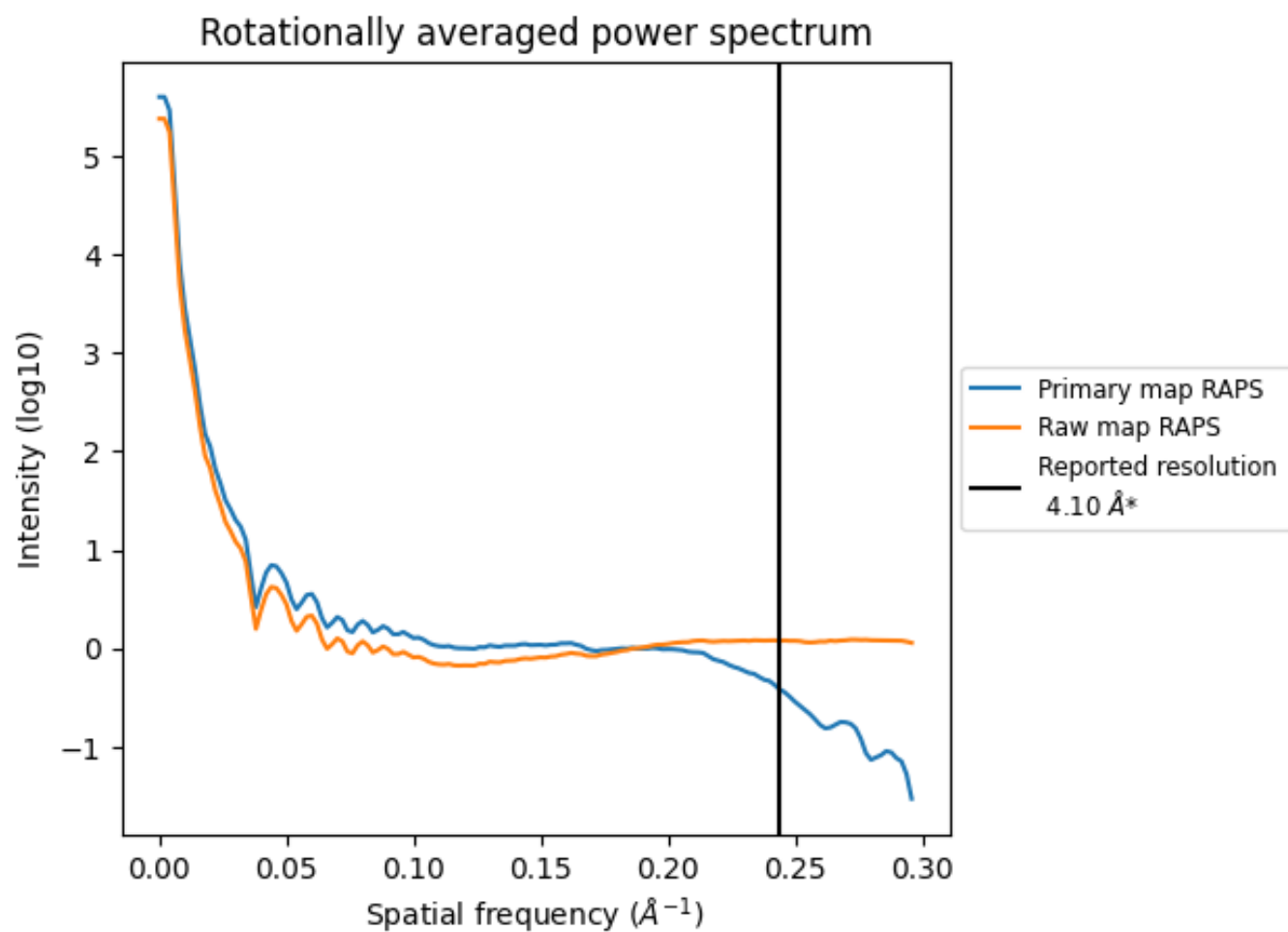
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 5103 nm^3 ; 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 ⓘ

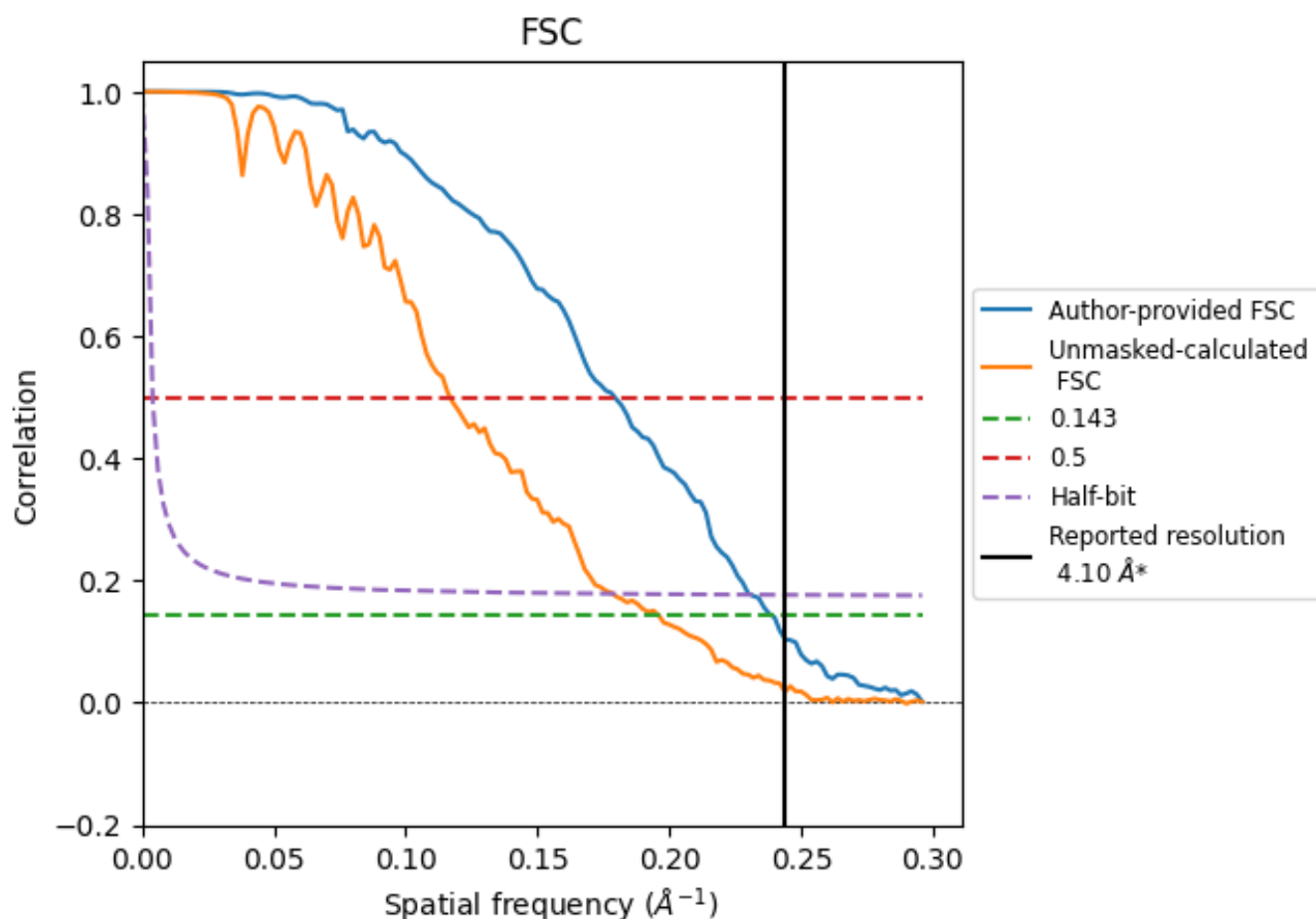


*Reported resolution corresponds to spatial frequency of 0.244 Å⁻¹

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](#)

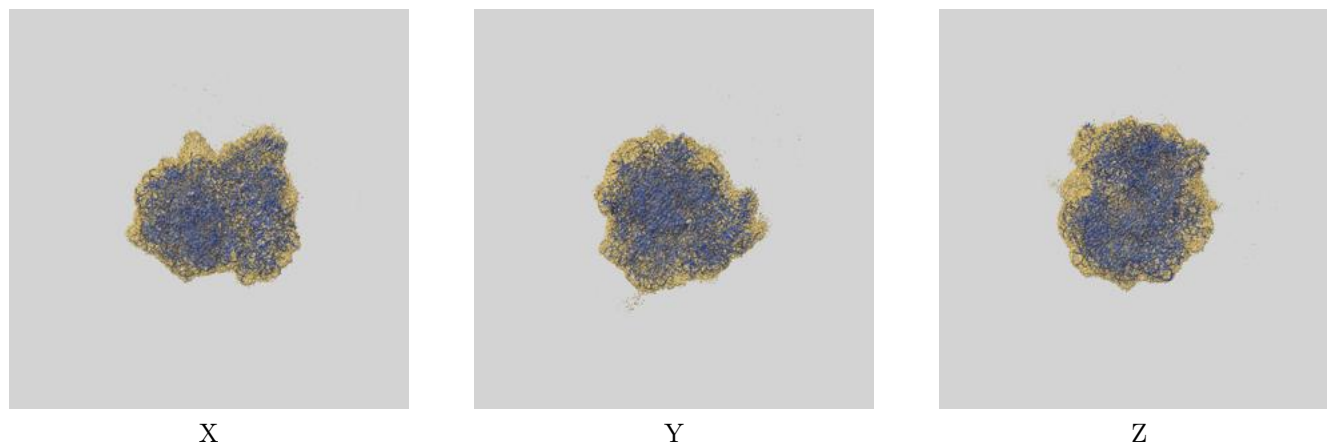
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.10	-	-
Author-provided FSC curve	4.19	5.58	4.33
Unmasked-calculated*	5.10	8.55	5.60

*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](#)

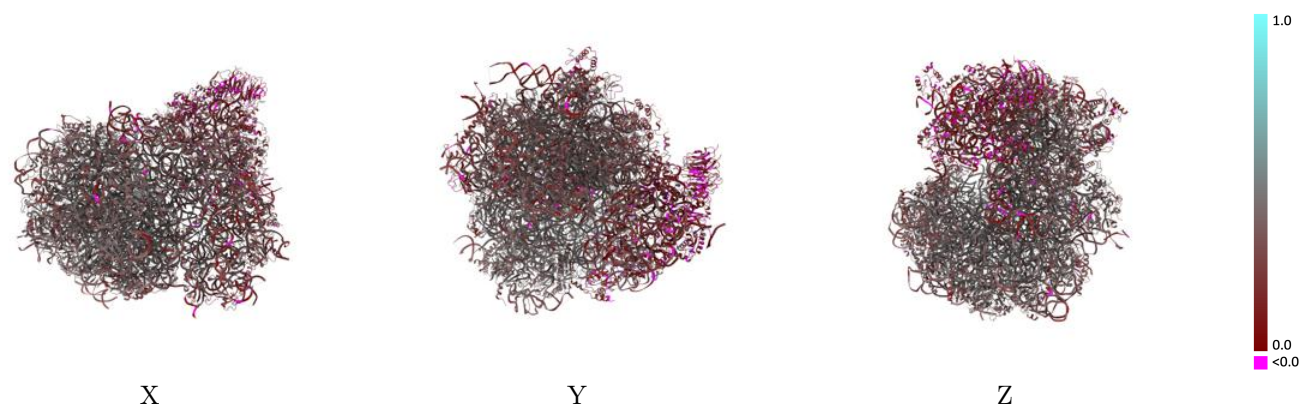
This section contains information regarding the fit between EMDB map EMD-41485 and PDB model 8TPU. Per-residue inclusion information can be found in section 3 on page 19.

9.1 Map-model overlay [i](#)



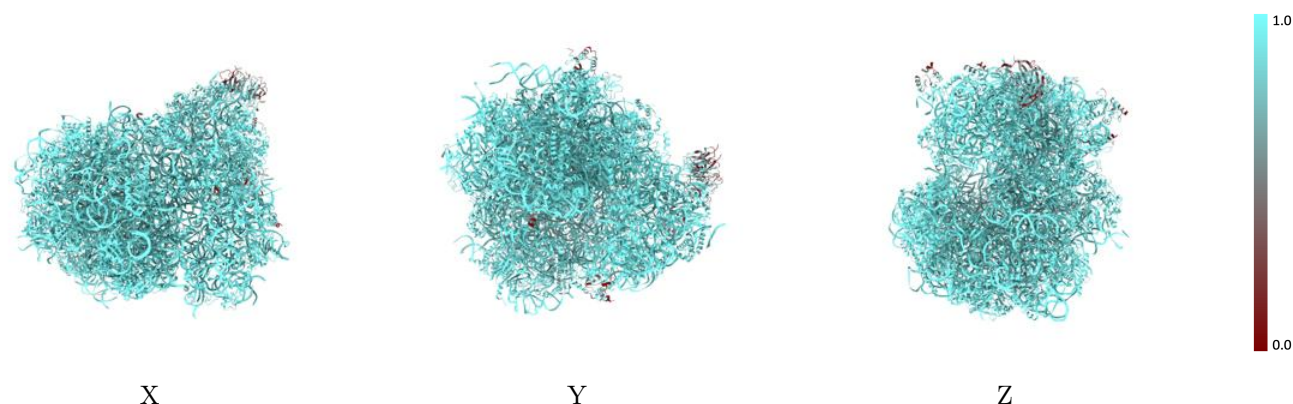
The images above show the 3D surface view of the map at the recommended contour level 0.16 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



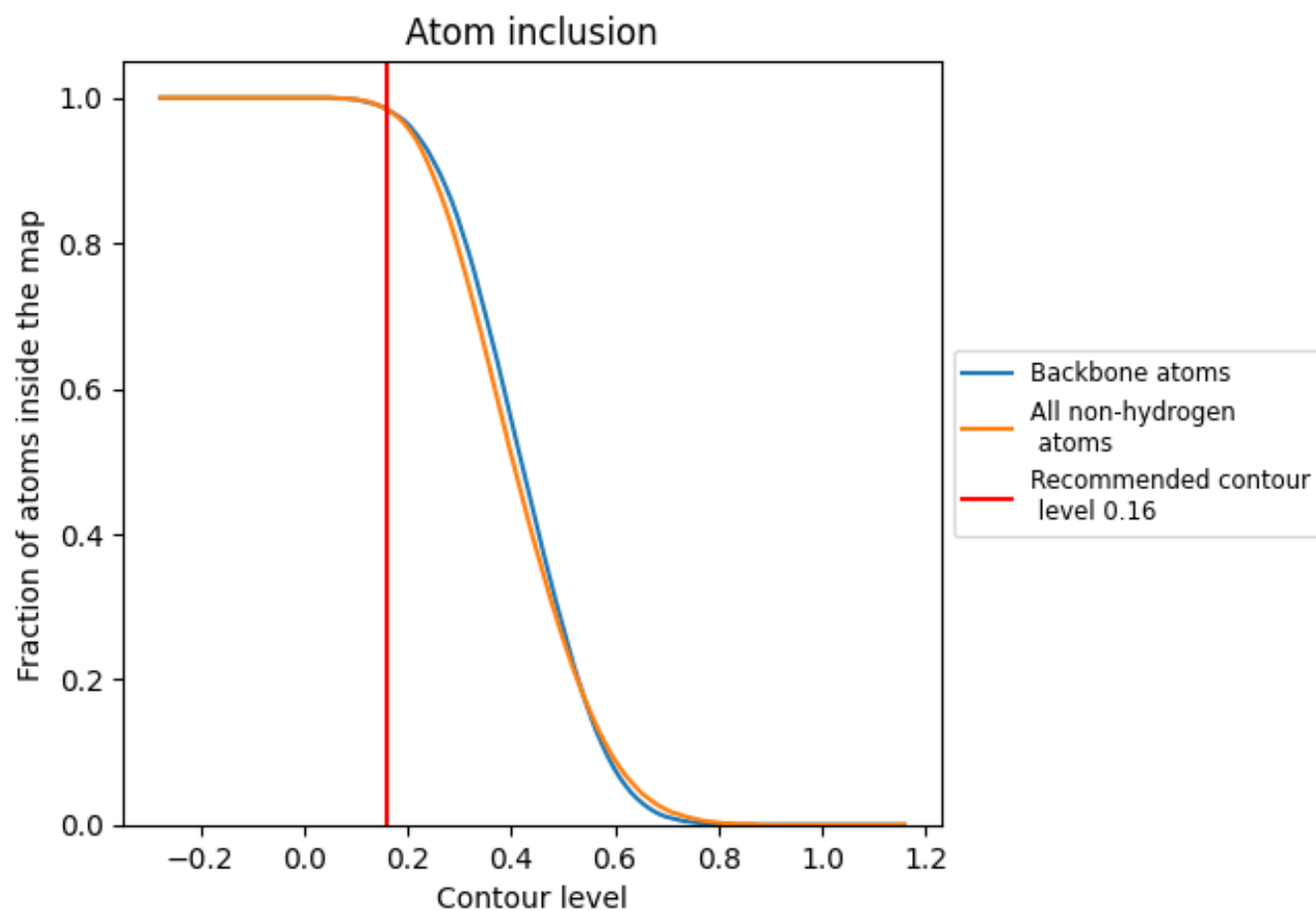
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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