



Full wwPDB EM Validation Report ⓘ

Mar 9, 2026 – 12:16 PM UTC

PDB ID : 8UTI / pdb_00008uti
EMDB ID : EMD-42540
Title : Eukaryotic 80S ribosome with Reh1 and A/P site tRNA
Authors : Yelland, J.N.; Taylor, D.W.; Johnson, A.W.
Deposited on : 2023-10-31
Resolution : 3.13 Å(reported)

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

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

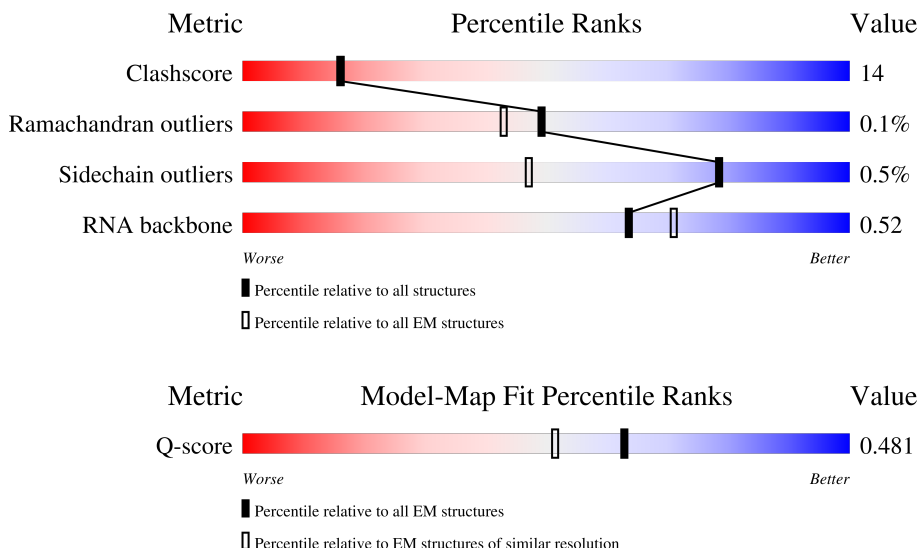
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.13 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	14478 (2.63 - 3.63)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	3394	
2	B	121	
3	C	158	

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Mol	Chain	Length	Quality of chain
4	D	10	
5	m	76	
6	n	75	
7	z	588	
8	E	1800	
9	SP	206	
10	SQ	232	
11	SE	117	
12	SR	216	
13	SA	222	
14	SS	258	
15	SB	206	
16	ST	228	
17	SU	184	
18	SV	198	
19	SW	184	
20	SC	92	
21	SX	142	
22	SD	121	
23	SY	150	
24	SZ	127	
25	SF	141	
26	SG	125	
27	SH	145	
28	SI	143	

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Mol	Chain	Length	Quality of chain
29	SJ	100	
30	Sa	87	
31	Sb	129	
32	Sc	144	
33	Sd	134	
34	Se	97	
35	Sf	81	
36	SM	53	
37	Sg	57	
38	SN	73	
39	SO	312	
40	SL	63	
41	AA	108	
42	LD	251	
43	LE	386	
44	LF	361	
45	LG	294	
46	LH	175	
47	LI	222	
48	LJ	233	
49	LK	191	
50	LL	218	
51	LM	169	
52	LN	193	
53	LO	136	

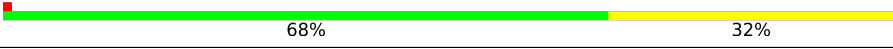
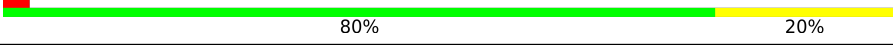
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Mol	Chain	Length	Quality of chain
54	LP	203	
55	LQ	197	
56	LR	183	
57	LS	185	
58	LT	188	
59	LU	171	
60	LV	159	
61	LW	100	
62	LX	136	
63	LY	65	
64	LZ	121	
65	La	125	
66	Lb	135	
67	Lc	148	
68	Ld	58	
69	Le	96	
70	Lf	109	
71	Lg	127	
72	Lh	106	
73	Li	112	
74	Lj	119	
75	Lk	99	
76	Ll	81	
77	Lm	77	
78	Ln	50	

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Mol	Chain	Length	Quality of chain
79	Lo	52	
80	Lp	25	
81	Lq	103	
82	Lr	91	

2 Entry composition

There are 83 unique types of molecules in this entry. The entry contains 196410 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 25S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	3044	Total	C	N	O	P	0	0
			65120	29088	11753	21235	3044		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	493	U	G	conflict	GB 2313943860

- Molecule 2 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	121	Total	C	N	O	P	0	0
			2579	1152	461	845	121		

- Molecule 3 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	158	Total	C	N	O	P	0	0
			3353	1500	586	1109	158		

- Molecule 4 is a RNA chain called Messenger RNA (5'-R(P*AP*AP*UP*AP*AP*UP*GP*AP*AP*AP*A)-3').

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	10	Total	C	N	O	P	0	0
			218	98	44	66	10		

- Molecule 5 is a RNA chain called A site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	m	76	Total	C	N	O	P	0	0
			1611	721	281	534	75		

- Molecule 6 is a RNA chain called P site initiator tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	n	75	Total	C	N	O	P	0	0
			1607	716	297	519	75		

- Molecule 7 is a protein called Cytoplasmic 60S subunit biogenesis factor REH1 (N-terminal 3xFLAG tag).

Mol	Chain	Residues	Atoms					AltConf	Trace
7	z	57	Total	C	N	O	S	0	0
			480	295	96	86	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
8	E	1597	Total	C	N	O	P	0	0
			34053	15224	6049	11183	1597		

- Molecule 9 is a protein called 40S ribosomal protein S0-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	SP	206	Total	C	N	O	S	0	0
			1603	1030	284	287	2		

- Molecule 10 is a protein called 40S ribosomal protein S1-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	SQ	226	Total	C	N	O	S	0	0
			1798	1139	330	325	4		

- Molecule 11 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	SE	117	Total	C	N	O	S	0	0
			916	583	171	155	7		

- Molecule 12 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	SR	216	Total	C	N	O	S	0	0
			1626	1042	287	295	2		

- Molecule 13 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	SA	222	Total	C	N	O	S	0	0
			1729	1098	312	313	6		

- Molecule 14 is a protein called 40S ribosomal protein S4-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	SS	258	Total	C	N	O	S	0	0
			2056	1308	387	358	3		

- Molecule 15 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	SB	206	Total	C	N	O	S	0	0
			1605	1005	299	298	3		

- Molecule 16 is a protein called 40S ribosomal protein S6-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	ST	228	Total	C	N	O	S	0	0
			1815	1138	351	323	3		

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

Mol	Chain	Residues	Atoms				AltConf	Trace
17	SU	184	Total	C	N	O	0	0
			1473	946	263	264		

- Molecule 18 is a protein called 40S ribosomal protein S8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	SV	187	Total	C	N	O	S	0	0
			1476	916	295	263	2		

- Molecule 19 is a protein called 40S ribosomal protein S9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	SW	184	Total	C	N	O	S	0	0
			1479	935	285	258	1		

- Molecule 20 is a protein called 40S ribosomal protein S10-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	SC	92	Total	C	N	O	S	0	0
			754	489	122	141	2		

- Molecule 21 is a protein called 40S ribosomal protein S11-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	SX	142	Total	C	N	O	S	0	0
			1142	733	217	189	3		

- Molecule 22 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	SD	121	Total	C	N	O	S	0	0
			875	551	153	169	2		

- Molecule 23 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	SY	150	Total	C	N	O	S	0	0
			1192	759	224	207	2		

- Molecule 24 is a protein called 40S ribosomal protein S14-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	SZ	127	Total	C	N	O	S	0	0
			923	568	185	167	3		

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

Mol	Chain	Residues	Atoms				AltConf	Trace
25	SF	141	Total	C	N	O	0	0
			1105	708	203	194		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
26	SG	121	Total	C	N	O	S	0	0
			948	596	179	171	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
27	SH	145	Total	C	N	O	S	0	0
			1188	741	237	208	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
28	SI	143	Total	C	N	O	S	0	0
			1112	694	208	208	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
29	SJ	100	Total	C	N	O	S	0	0
			797	506	144	146	1		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
30	Sa	87	Total	C	N	O	S	0	0
			673	415	125	131	2		

- Molecule 31 is a protein called 40S ribosomal protein S22-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	Sb	129	Total	C	N	O	S	0	0
			1021	650	188	180	3		

- Molecule 32 is a protein called 40S ribosomal protein S23-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Sc	144	Total	C	N	O	S	0	0
			1121	708	220	191	2		

- Molecule 33 is a protein called 40S ribosomal protein S24-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
33	Sd	134	Total	C	N	O	0	0
			1032	651	195	186		

- Molecule 34 is a protein called 40S ribosomal protein S26-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	Se	97	Total	C	N	O	S	0	0
			765	473	160	127	5		

- Molecule 35 is a protein called 40S ribosomal protein S27-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	Sf	81	Total	C	N	O	S	0	0
			610	382	110	113	5		

- Molecule 36 is a protein called 40S ribosomal protein S29-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	SM	53	Total	C	N	O	S	0	0
			443	275	92	72	4		

- Molecule 37 is a protein called 40S ribosomal protein S30-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	Sg	57	Total	C	N	O	S	0	0
			451	284	93	73	1		

- Molecule 38 is a protein called 40S ribosomal protein S31.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	SN	73	Total	C	N	O	S	0	0
			556	352	105	95	4		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
SN	97	ALA	LYS	conflict	UNP A0A6A5PU37

- Molecule 39 is a protein called 40S ribosomal protein ASC1.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	SO	312	Total	C	N	O	S	0	0
			2383	1514	409	452	8		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
40	SL	63	Total	C	N	O	S	0	0
			491	303	96	91	1		

- Molecule 41 is a protein called 40S ribosomal protein S25-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	AA	95	Total	C	N	O	S	0	0
			737	466	139	132			

- Molecule 42 is a protein called 60S ribosomal protein L2-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	LD	251	Total	C	N	O	S	0	0
			1899	1182	385	331	1		

- Molecule 43 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	LE	386	Total	C	N	O	S	0	0
			3079	1954	584	533	8		

- Molecule 44 is a protein called 60S ribosomal protein L4-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	LF	361	Total	C	N	O	S	0	0
			2749	1730	522	494	3		

- Molecule 45 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	LG	294	Total	C	N	O	S	0	0
			2351	1484	410	455	2		

- Molecule 46 is a protein called 60S ribosomal protein L6-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	LH	167	Total	C	N	O	S	0	0
			1307	843	234	230			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LH	120	LYS	ASN	conflict	UNP P05739

- Molecule 47 is a protein called 60S ribosomal protein L7-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	LI	222	Total	C	N	O	S	0	0
			1784	1151	324	308	1		

- Molecule 48 is a protein called 60S ribosomal protein L8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	LJ	233	Total	C	N	O	S	0	0
			1804	1151	323	327	3		

- Molecule 49 is a protein called 60S ribosomal protein L9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	LK	191	Total	C	N	O	S	0	0
			1508	957	274	273	4		

- Molecule 50 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	LL	218	Total	C	N	O	S	0	0
			1764	1117	334	306	7		

- Molecule 51 is a protein called 60S ribosomal protein L11-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	LM	169	Total	C	N	O	S	0	0
			1346	843	252	247	4		

- Molecule 52 is a protein called 60S ribosomal protein L13-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	LN	193	Total	C	N	O		0	0
			1543	962	315	266			

- Molecule 53 is a protein called 60S ribosomal protein L14-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	LO	136	Total	C	N	O	S	0	0
			1053	675	199	177	2		

- Molecule 54 is a protein called 60S ribosomal protein L15-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	LP	203	Total	C	N	O	S	0	0
			1720	1077	361	281	1		

- Molecule 55 is a protein called 60S ribosomal protein L16-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	LQ	197	Total	C	N	O	S	0	0
			1555	1003	289	262	1		

- Molecule 56 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	LR	183	Total	C	N	O		0	0
			1416	879	284	253			

- Molecule 57 is a protein called 60S ribosomal protein L18-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	LS	185	Total	C	N	O	S	0	0
			1441	908	290	241	2		

- Molecule 58 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	LT	188	Total	C	N	O		0	0
			1515	932	323	260			

- Molecule 59 is a protein called 60S ribosomal protein L20-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	LU	171	Total	C	N	O	S	0	0
			1437	925	266	243	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
60	LV	159	Total	C	N	O	S	0	0
			1272	802	245	221	4		

- Molecule 61 is a protein called 60S ribosomal protein L22-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	LW	100	Total	C	N	O		0	0
			796	516	131	149			

- Molecule 62 is a protein called 60S ribosomal protein L23-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	LX	136	Total	C	N	O	S	0	0
			1003	628	189	179	7		

- Molecule 63 is a protein called 60S ribosomal protein L24-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	LY	65	Total	C	N	O	S	0	0
			528	339	104	84	1		

- Molecule 64 is a protein called 60S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	LZ	121	Total	C	N	O	S	0	0
			964	620	169	173	2		

- Molecule 65 is a protein called 60S ribosomal protein L26-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	La	125	Total	C	N	O		0	0
			984	620	191	173			

- Molecule 66 is a protein called 60S ribosomal protein L27-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	Lb	135	Total	C	N	O		0	0
			1080	701	199	180			

- Molecule 67 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	Lc	148	Total	C	N	O	S	0	0
			1169	747	231	188	3		

- Molecule 68 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	Ld	58	Total	C	N	O		0	0
			462	289	100	73			

- Molecule 69 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	Le	96	Total	C	N	O	S	0	0
			737	476	123	137	1		

- Molecule 70 is a protein called 60S ribosomal protein L31-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	Lf	109	Total	C	N	O	S	0	0
			876	556	167	152	1		

- Molecule 71 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	Lg	127	Total	C	N	O	S	0	0
			1017	644	205	167	1		

- Molecule 72 is a protein called 60S ribosomal protein L33-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	Lh	106	Total	C	N	O	S	0	0
			850	540	165	144	1		

- Molecule 73 is a protein called 60S ribosomal protein L34-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	Li	112	Total	C	N	O	S	0	0
			880	545	179	152	4		

- Molecule 74 is a protein called 60S ribosomal protein L35-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	Lj	119	Total	C	N	O	S	0	0
			969	615	186	167	1		

- Molecule 75 is a protein called 60S ribosomal protein L36-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	Lk	99	Total	C	N	O	S	0	0
			766	478	154	132	2		

- Molecule 76 is a protein called 60S ribosomal protein L37-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	Ll	81	Total	C	N	O	S	0	0
			645	393	141	106	5		

- Molecule 77 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	Lm	77	Total	C	N	O		0	0
			612	391	115	106			

- Molecule 78 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	Ln	50	Total	C	N	O	S	0	0
			436	272	97	65	2		

- Molecule 79 is a protein called 60S ribosomal protein L40-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	Lo	52	Total	C	N	O	S	0	0
			410	254	86	65	5		

- Molecule 80 is a protein called 60S ribosomal protein L41-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	Lp	25	Total	C	N	O	S	0	0
			229	139	62	27	1		

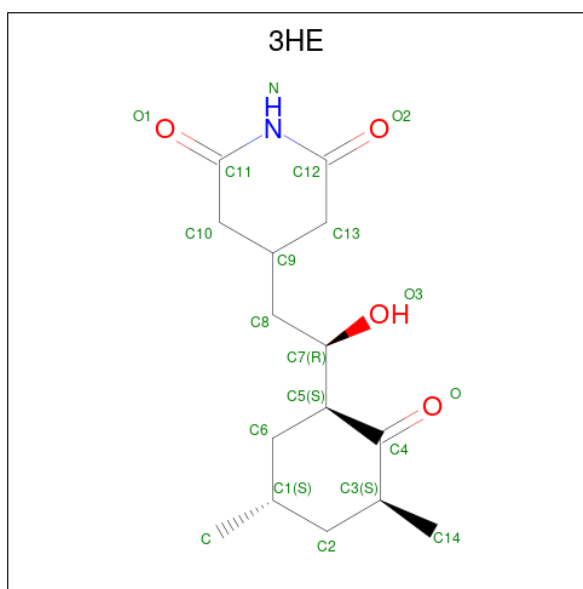
- Molecule 81 is a protein called 60S ribosomal protein L42-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	Lq	103	Total	C	N	O	S	0	0
			824	517	167	135	5		

- Molecule 82 is a protein called 60S ribosomal protein L43-A.

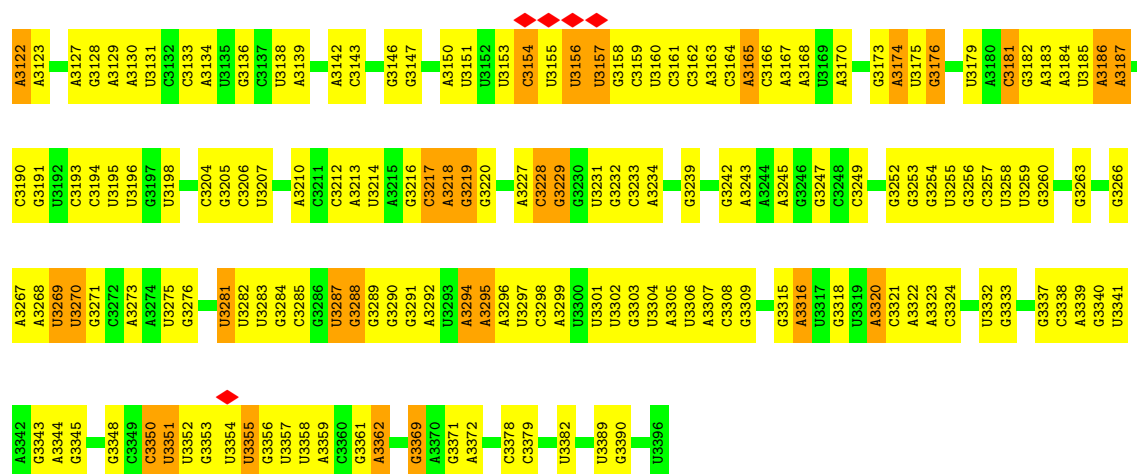
Mol	Chain	Residues	Atoms					AltConf	Trace
82	Lr	91	Total	C	N	O	S	0	0
			694	429	138	121	6		

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

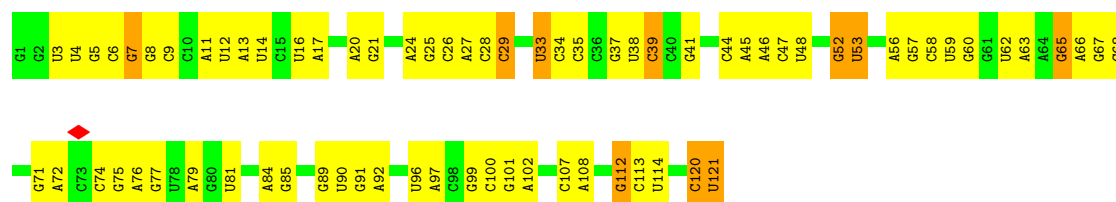


Mol	Chain	Residues	Atoms				AltConf
83	A	1	Total	C	N	O	0
			20	15	1	4	

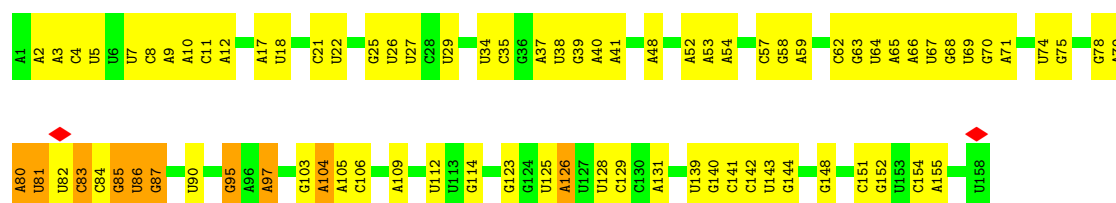
A3046	U3047	A2971	C2867	G2777	A2696	G2614	C2546	C2415	G2342	G2249	A2158	A	A	U
U3048	U3049	U2974	U2868	G2778	A2697	G2615	A2547	G2418	U2343	G2250	U2159	C	C	U
A3049	U2975	U2974	G2871	A2779	G2698	G2616	A2548	A2419	C2344	U2254	G2160	A	A	G
U3050			A2872	A2780		G2618	U2550	C2420	A2345	U2162	U2162	U	U	G
		U2980		G2786	A2704	G2619	U2551	U2421				U	U	C
G3053			U2875		A2705		C2552	C2422	U2351	A2166	A2166	A	A	C
U3054	C2983		G2876	G2793	G2706	U2629	U2553	U2423	A2352	U2258	A2167	A2093		A
U3055			G2877	G2794	C2707	C2630	U2554	A2424	U2359	U2259	A2168	C2094		G
U3056	U2986			G2795	C2708	U2631	G2555	A2425	C2355	U2260	A2169	G	C	C
U3057	A2987		U2880	G2796	C2709	G2632	G2556	U2426	A2356	G2261	U2170	A2096		G
U3058	C2988		U2881	C2710	C2711	U2633	A2557	U2427	A2357	U2262	U2171	U2097		C
G3059	U2989		U2882	G2711	U2634	U2635	U2558	U2428	A2358	U2266	U2176	C2098		C
	G2990		U2883	G2712	A2636	A2635	U2559	G2429		C2267	G2177			A
U3064	A2991		C2884	U2713	A2637	A2636	C2560	A2430	A2361			C2101		G
G3065				G2714		A2637	A2561	A2431	C2362	G2272	G2180	U2102		U
U3066	U2995			G2715				A2432	A2363	G2273	C2181	U2103		C
C3067	U2996							A2433		U2274	A2104			G
	U2997							U2434	C2366					U
C3072	U2998							G2435	A2367	C2278	G2185	A2107		G
A3073	U2999							U2436	A2368	U2279				U
G3074								G2437	G2369	A2280	U2193	G2111		A
G3075	C3002							U2438	G2370	A2281	G2195	G2112		G
								G2440	G2371	U2282	C2196	A2113		C
U3078	A3006							A	G2372		C2197	C2114		U
U3079	U3007							G	A2373	G2288	A2198	G2115		U
G3080	A3008							A	G2374		G2199	G2116		G
	G3009							U2439	C2375	A2291	U2200	A2117		U
G3085	A3012								G2376	U2292	G2201	G2118		G
A3086	U3013								G2377		C2202	A2119		C
C3087	U3014									A2295	G2206	A2120		A
G3088	A3016								U2380		A2207	G2121		U
U3089	A3017								G2385	U2298	A2208	G2122		U
C3092	G3018								U2388		U2209			C
A3094	U3019								G2389	C2306	U2129	G2130		U
U3095	C3022								A2390	G2307	A2131	A2131		U
C3096	U3023								G2391	C2308	G2125	C2132		G
C3097	A3024								C2392	A2309	A2216	U2133		U
	G3025								G2393	U2310	U2217	C2136		G
G3101									C2394	U2317	U2137	U2137		G
	A3029								G2395	A2313	G2218	A2138		G
U3104	U3105								G2396	U2314	A2219	A2139		C
A3106	G3030								A2397	G2315	G2220	U2140		U
U3107	A3031									G2316	G2221	U2141		C
G3108	A3032								G2400	A2317	A2222	U2142		G
G3109	C3033								A2401	A2223	A2224	A2143		A
	C3034								A2402	U2319	U2225	A2144		C
A3035	U2953								A2403	A2320	U2226	A2144		C
G3036	U2954								G2405	G2323	G2227	A2147		U
U3037	U3038								C2406	A2324	A2228	U2148		G
C3039	G3116								G2407	G2325	A2229	A2149		C
G3117	C3117								U2408	U2334	A2232	A2152		C
C3118	U3042								U2411	G2335	A2233	U2153		A
U3119	G3043								G2412	U2336	G2155	U2154		G
G3120	G3044								A2413	A2242	C2156	G2155		C
U3121	G3045								G2414	C2339	A2244	G2157		G



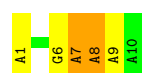
• Molecule 2: 5S rRNA



• Molecule 3: 5.8S rRNA



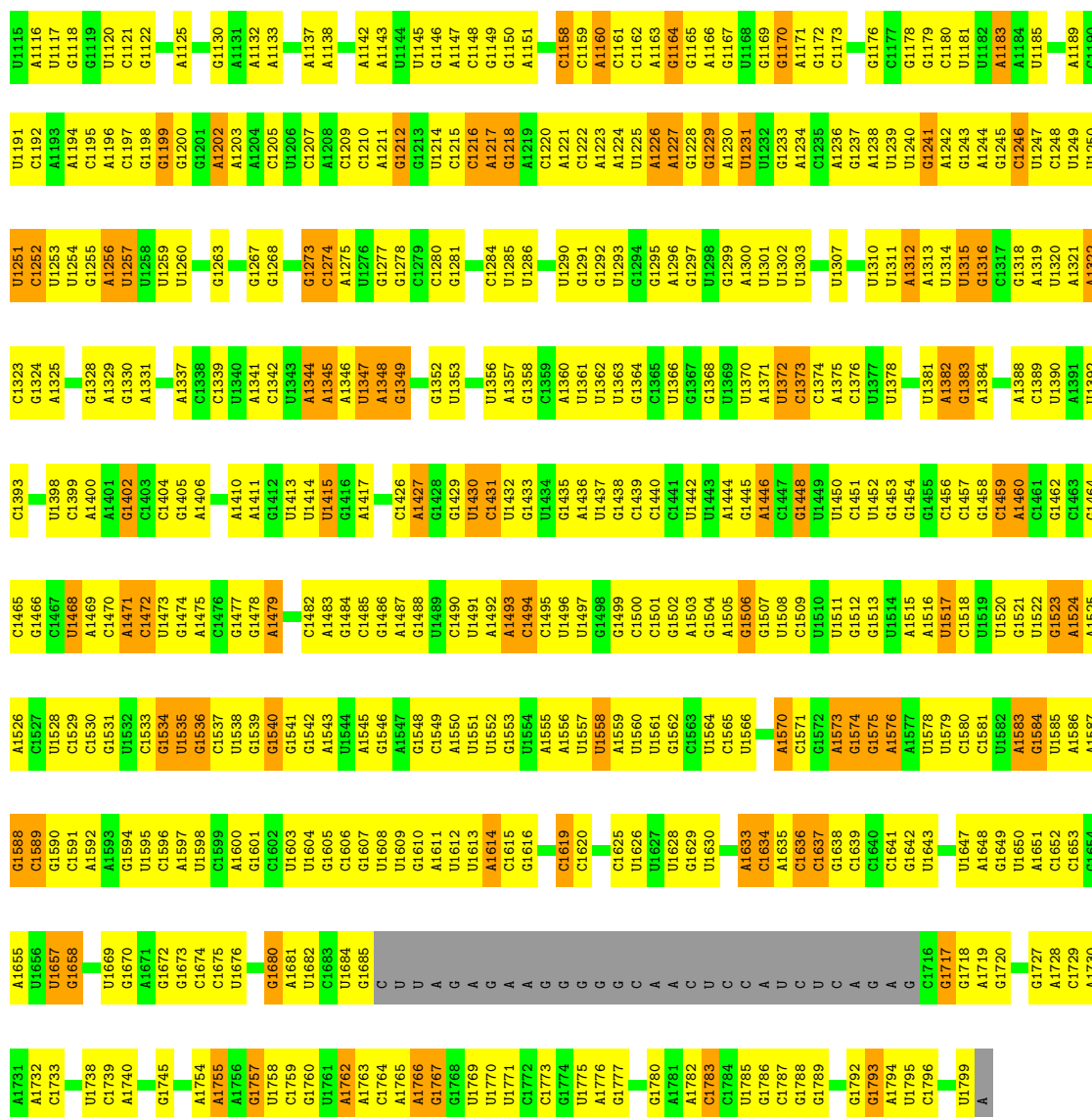
• Molecule 4: Messenger RNA (5'-R(P*AP*AP*UP*AP*AP*UP*GP*AP*AP*AP*A)-3')



• Molecule 5: A site tRNA

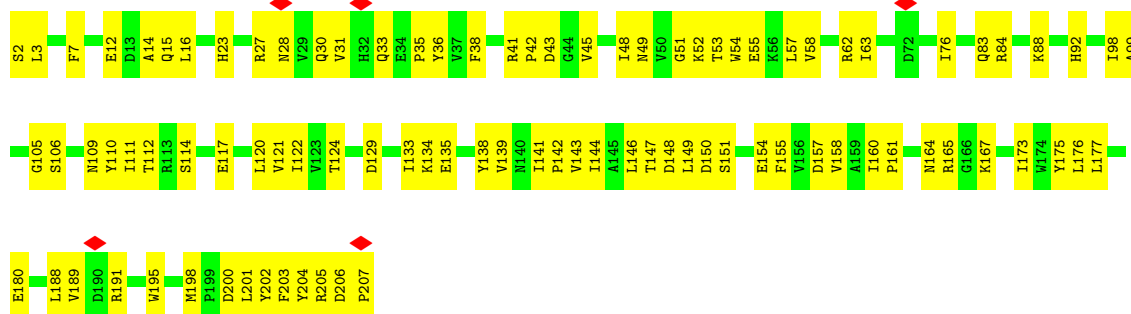




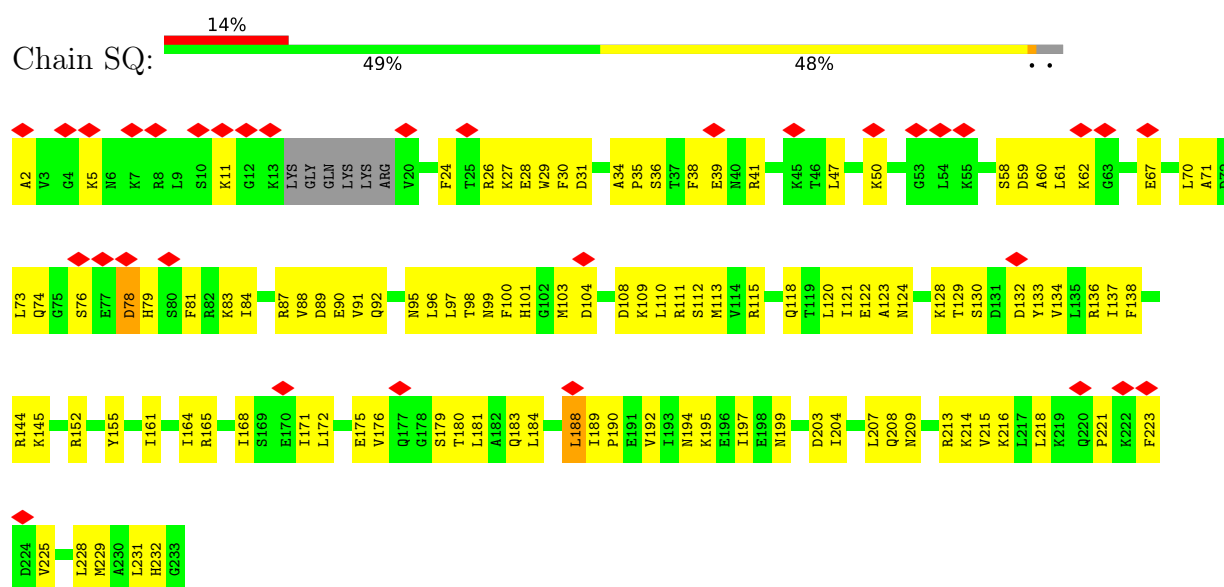


• Molecule 9: 40S ribosomal protein S0-A

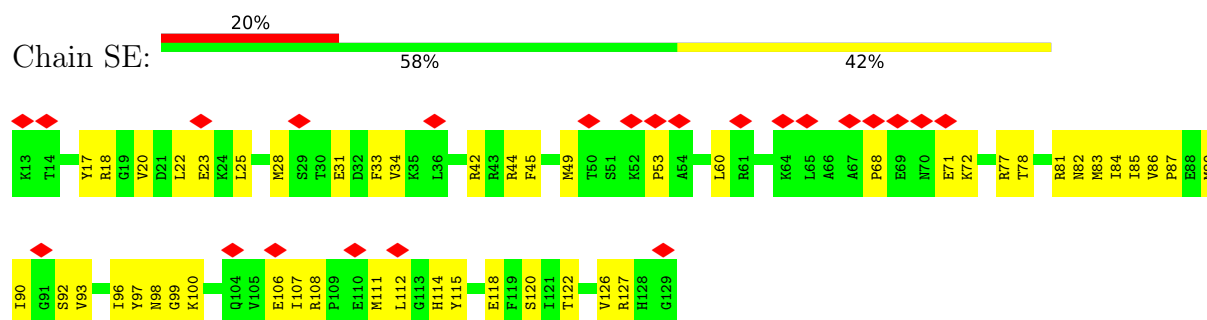
Chain SP: 55% 45%



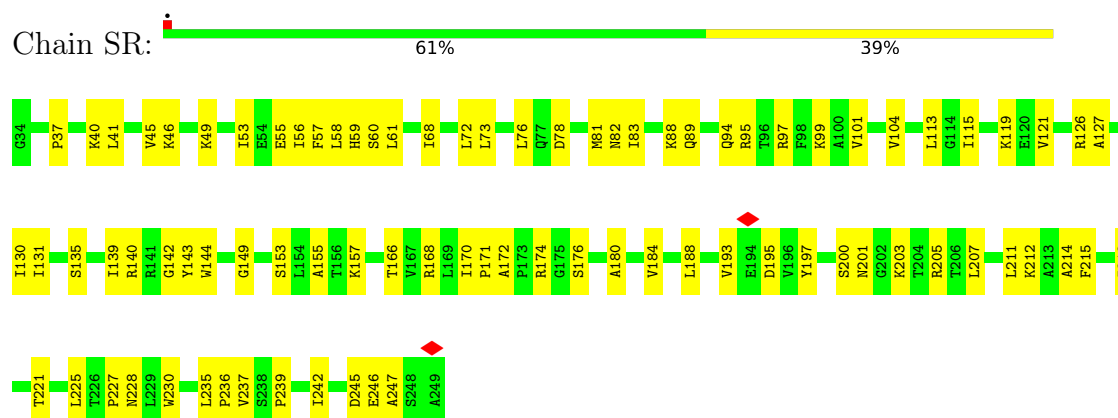
• Molecule 10: 40S ribosomal protein S1-A



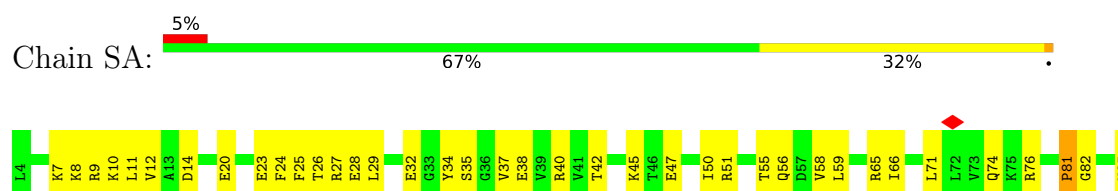
• Molecule 11: 40S ribosomal protein S15

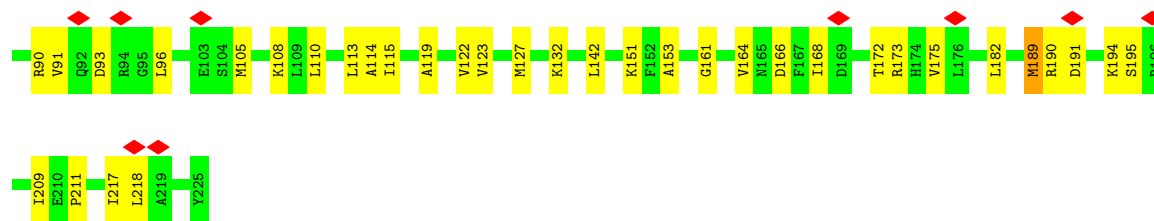


• Molecule 12: 40S ribosomal protein S2

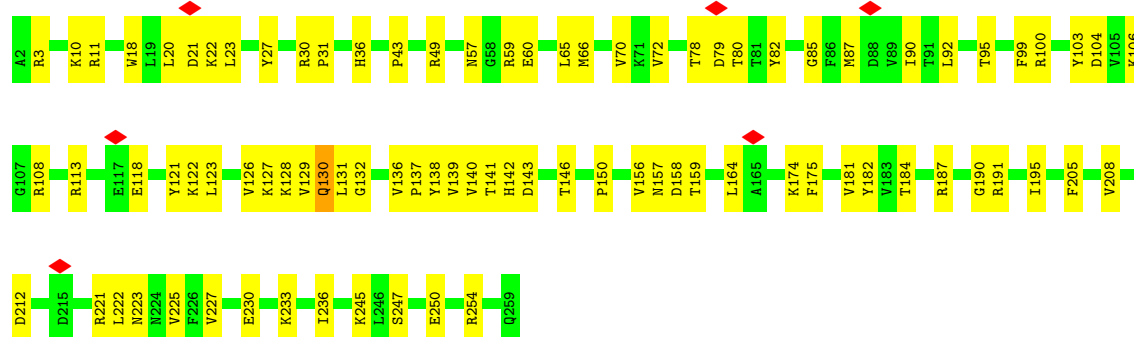


• Molecule 13: 40S ribosomal protein S3

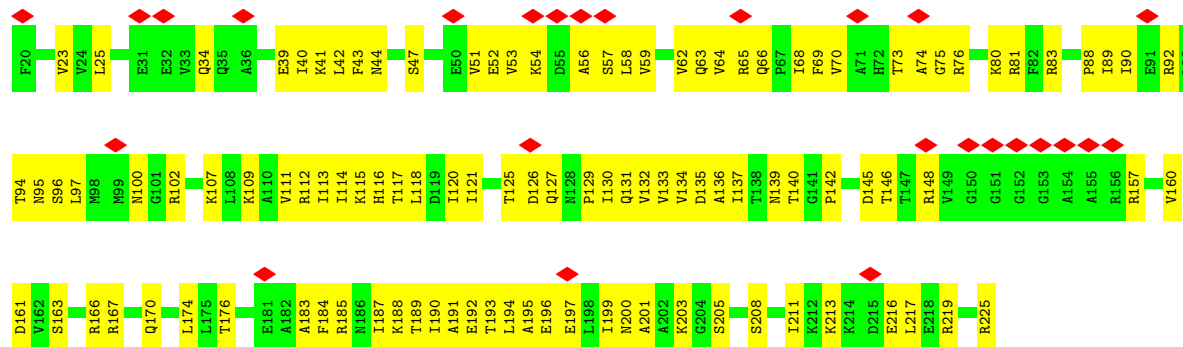




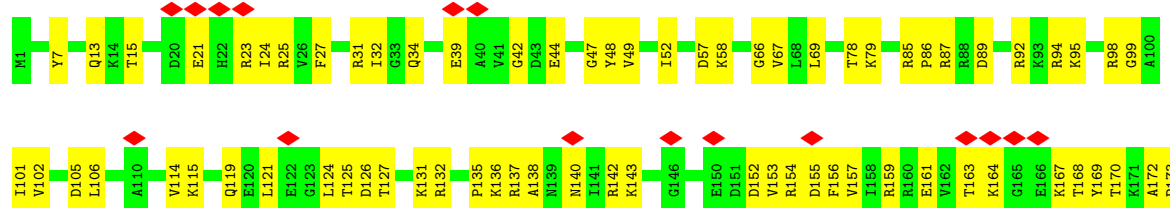
• Molecule 14: 40S ribosomal protein S4-A

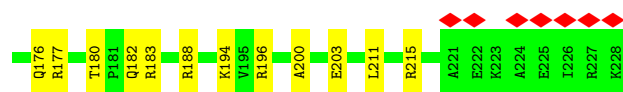


• Molecule 15: 40S ribosomal protein S5

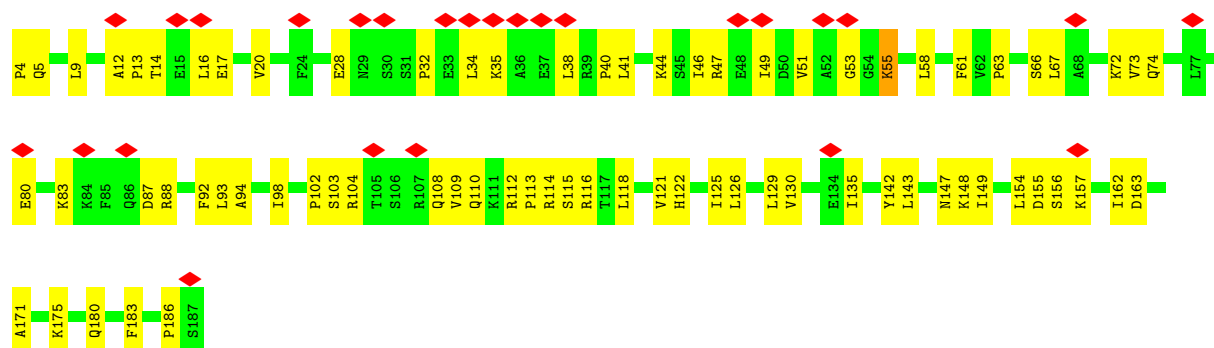


• Molecule 16: 40S ribosomal protein S6-A

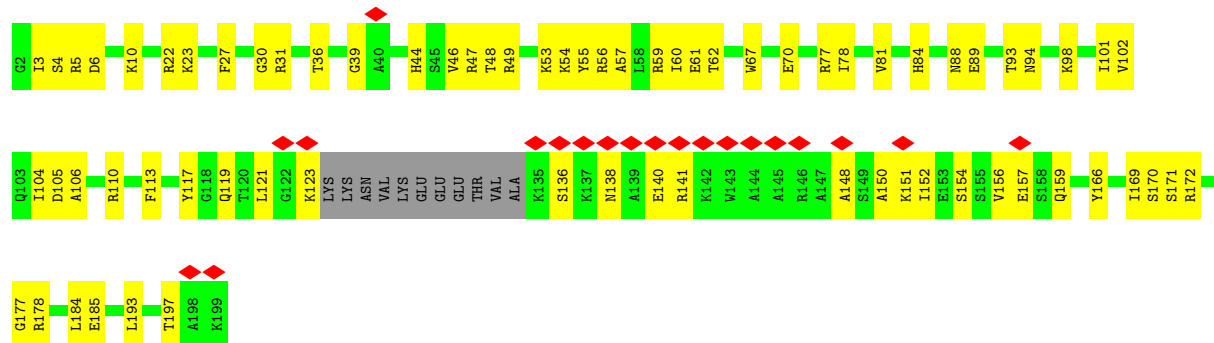




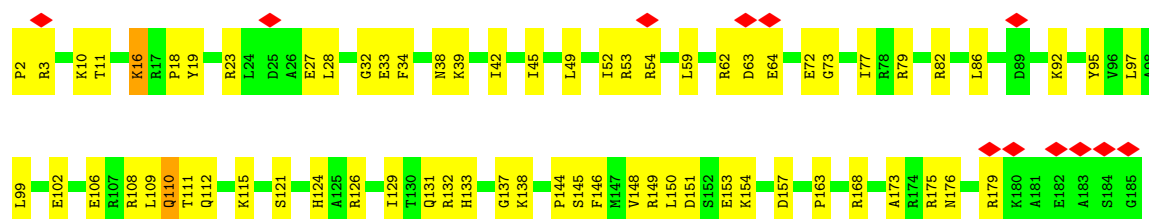
• Molecule 17: 40S ribosomal protein S7-A



• Molecule 18: 40S ribosomal protein S8-A

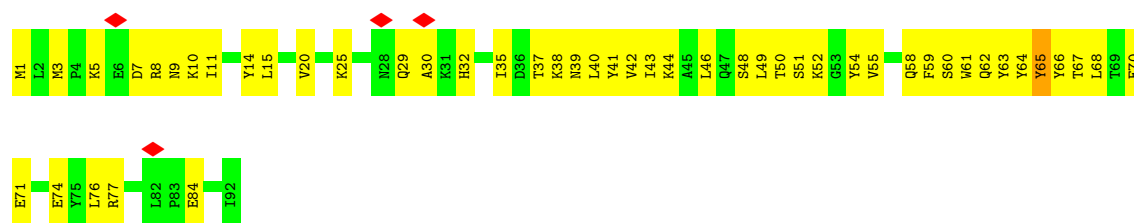


• Molecule 19: 40S ribosomal protein S9-A

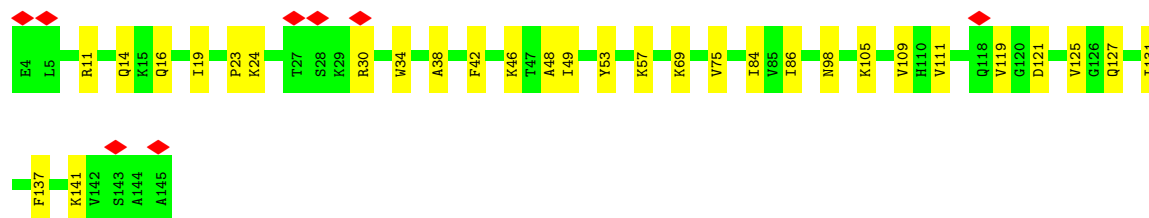
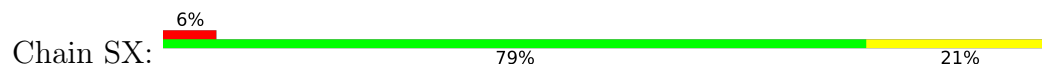


• Molecule 20: 40S ribosomal protein S10-A

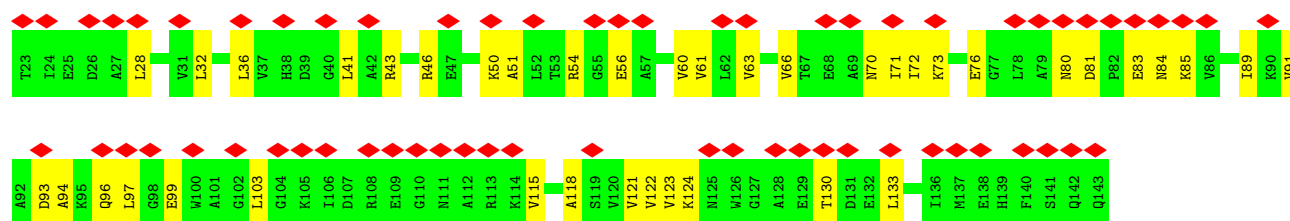




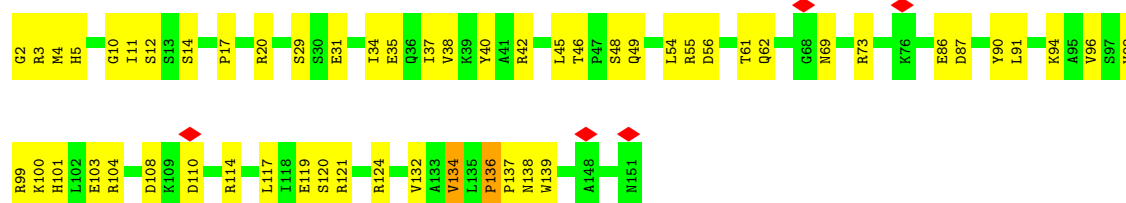
- Molecule 21: 40S ribosomal protein S11-A



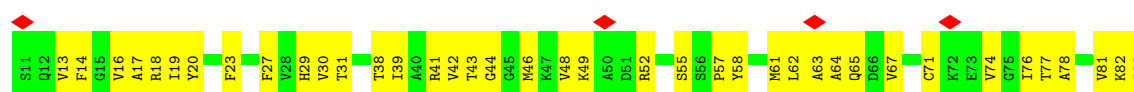
- Molecule 22: 40S ribosomal protein S12

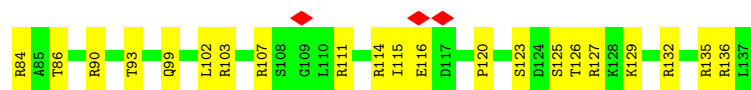


- Molecule 23: 40S ribosomal protein S13

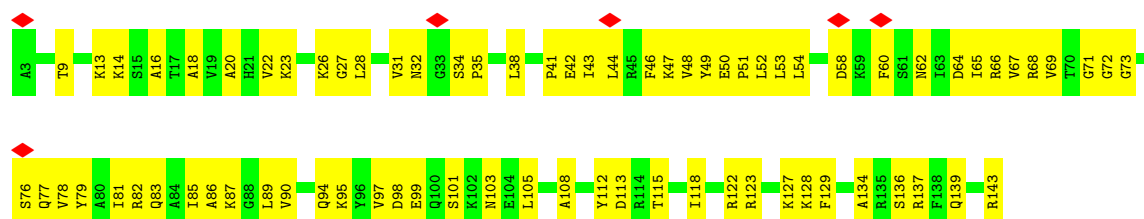


- Molecule 24: 40S ribosomal protein S14-B

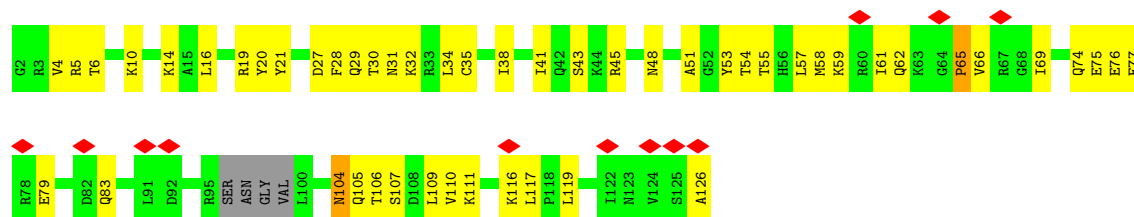




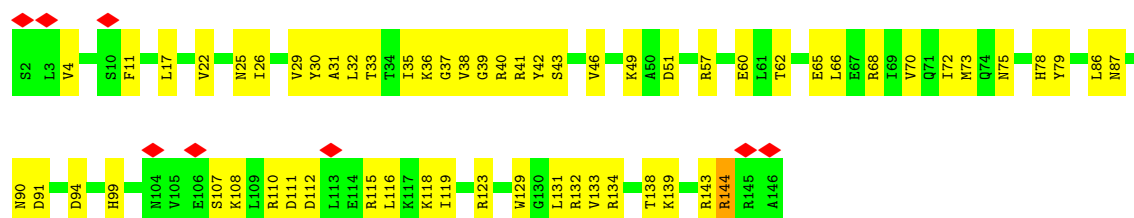
• Molecule 25: 40S ribosomal protein S16-A



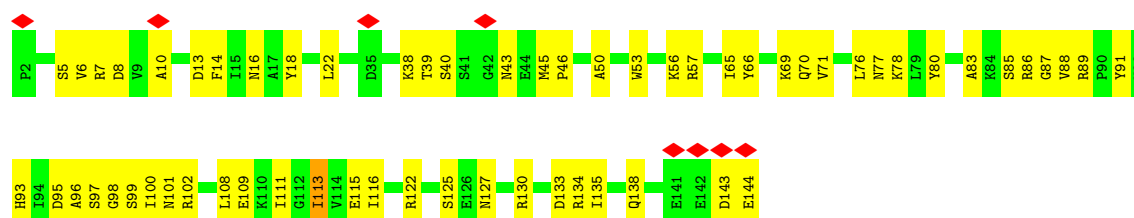
• Molecule 26: 40S ribosomal protein S17-B



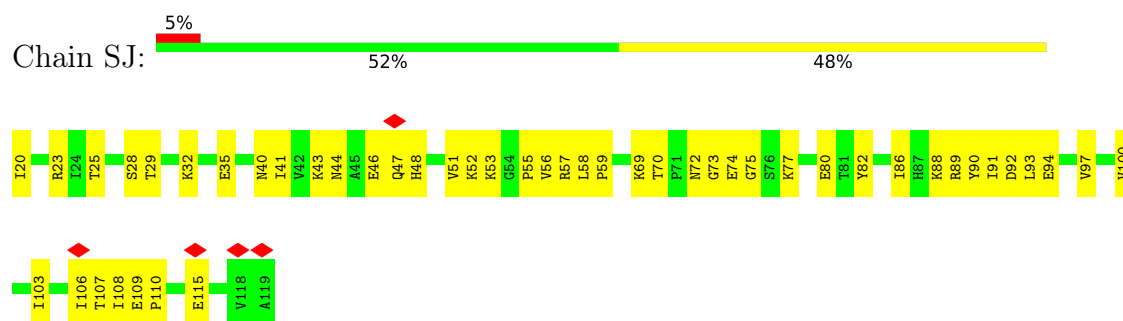
• Molecule 27: 40S ribosomal protein S18-A



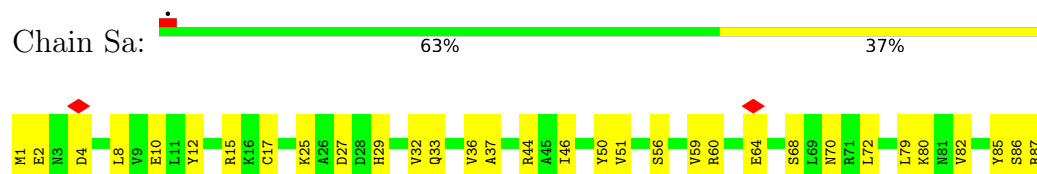
• Molecule 28: 40S ribosomal protein S19-A



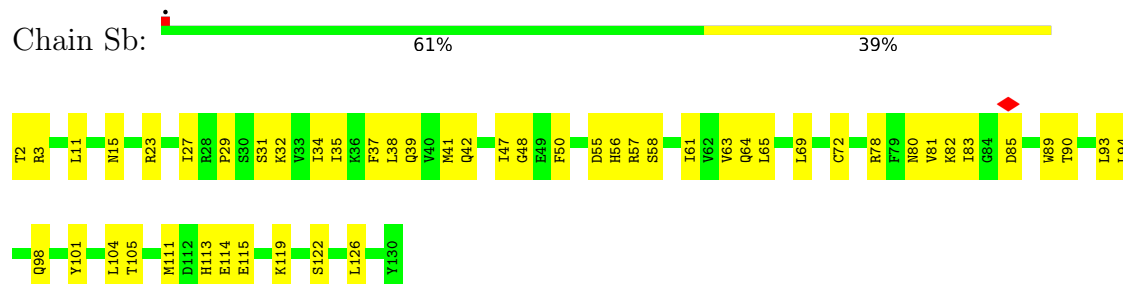
• Molecule 29: 40S ribosomal protein S20



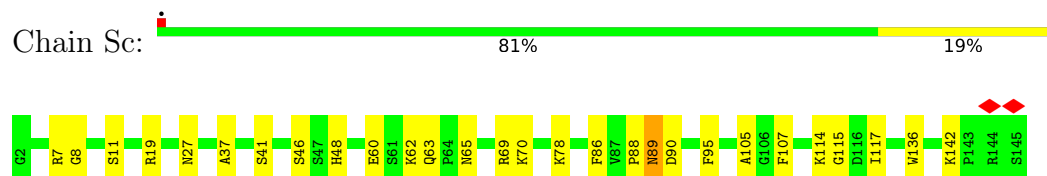
- Molecule 30: 40S ribosomal protein S21-A



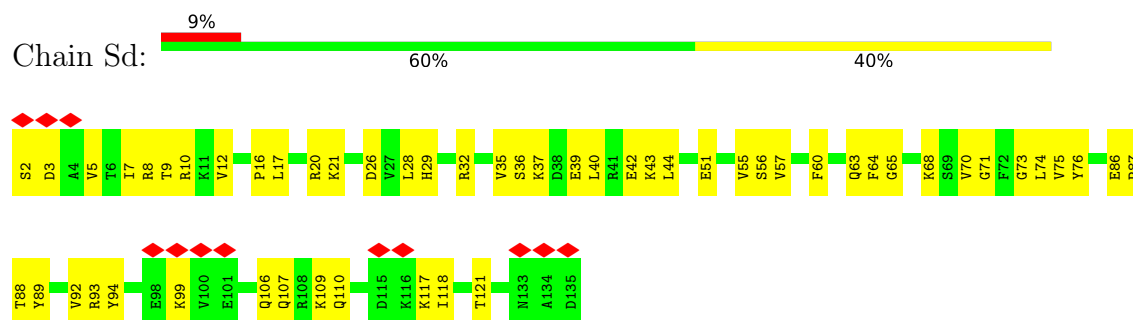
- Molecule 31: 40S ribosomal protein S22-A



- Molecule 32: 40S ribosomal protein S23-A

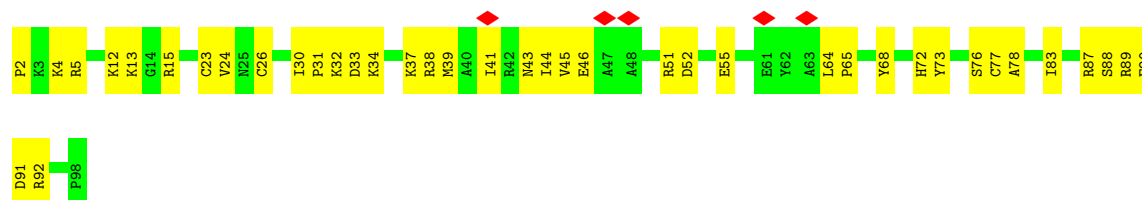


- Molecule 33: 40S ribosomal protein S24-A

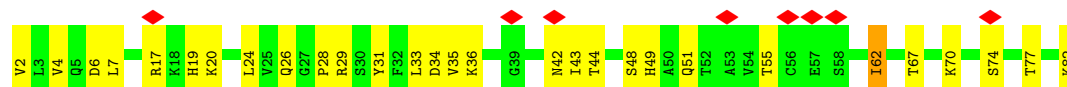


- Molecule 34: 40S ribosomal protein S26-B





- Molecule 35: 40S ribosomal protein S27-A



- Molecule 36: 40S ribosomal protein S29-A



- Molecule 37: 40S ribosomal protein S30-A

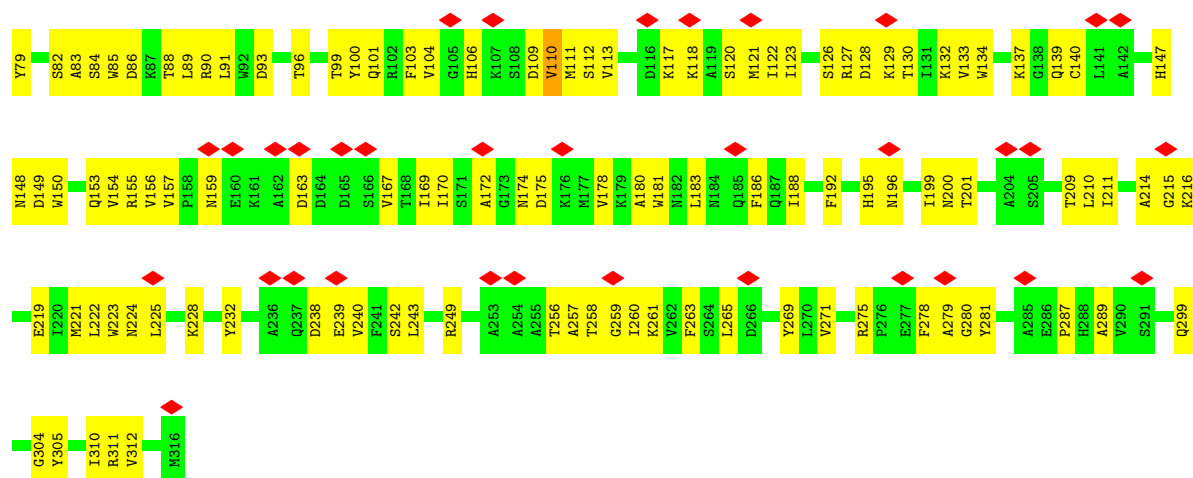


- Molecule 38: 40S ribosomal protein S31

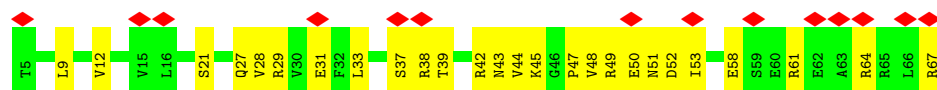


- Molecule 39: 40S ribosomal protein ASC1

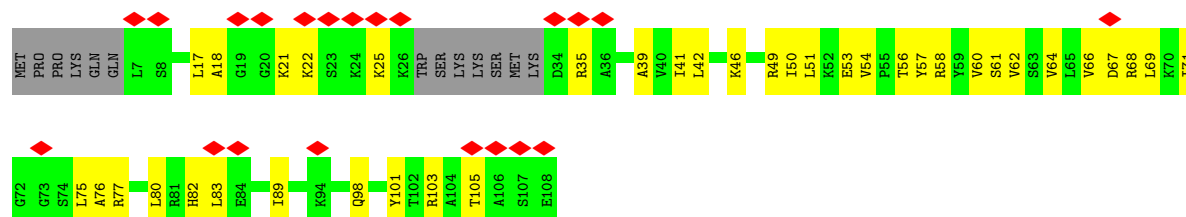




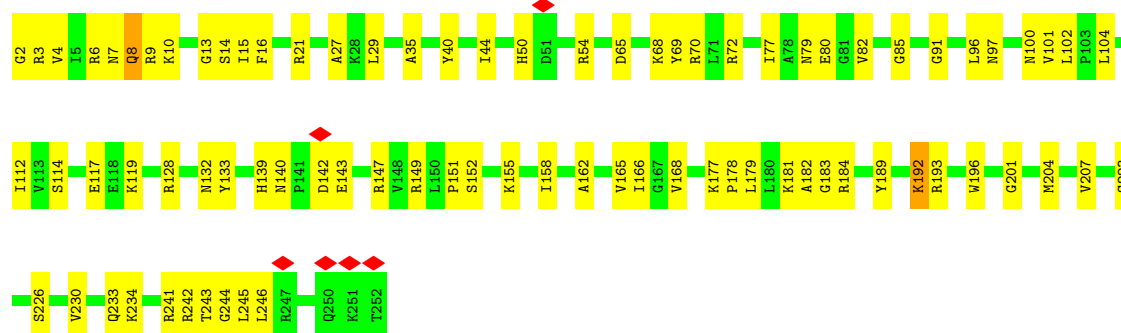
- Molecule 40: 40S ribosomal protein S28-A



- Molecule 41: 40S ribosomal protein S25-A



- Molecule 42: 60S ribosomal protein L2-A



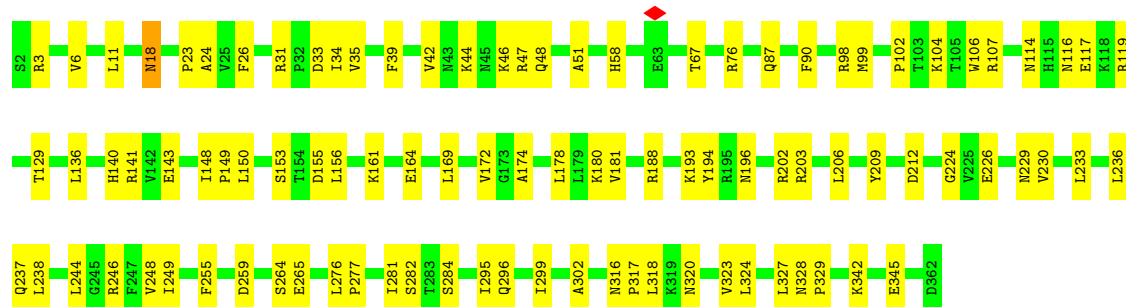
- Molecule 43: 60S ribosomal protein L3

Chain LE:  68% 32%



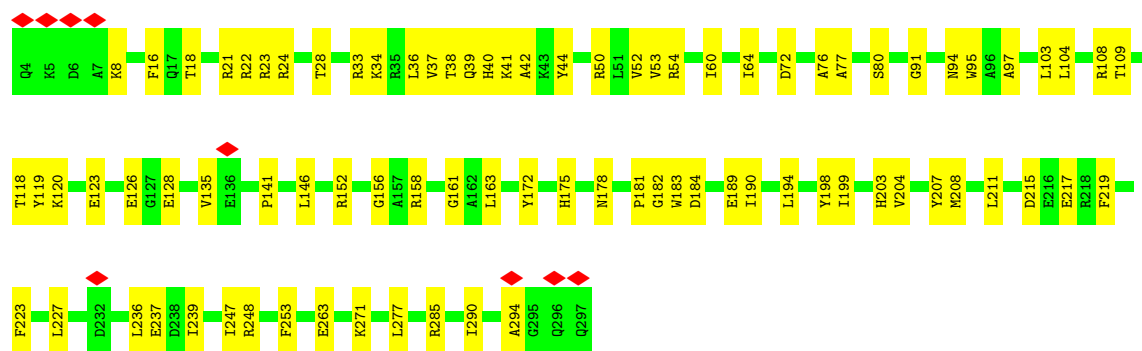
• Molecule 44: 60S ribosomal protein L4-A

Chain LF:  73% 27%



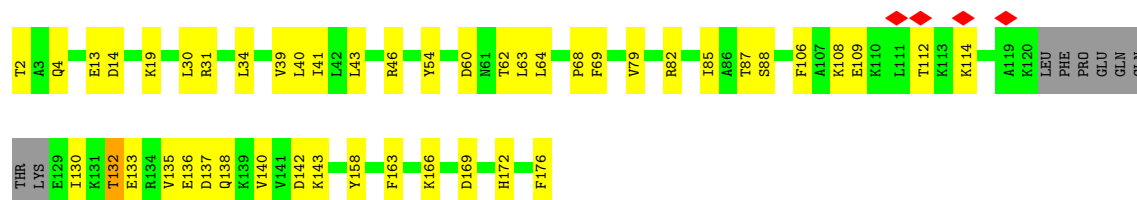
• Molecule 45: 60S ribosomal protein L5

Chain LG:  71% 29%



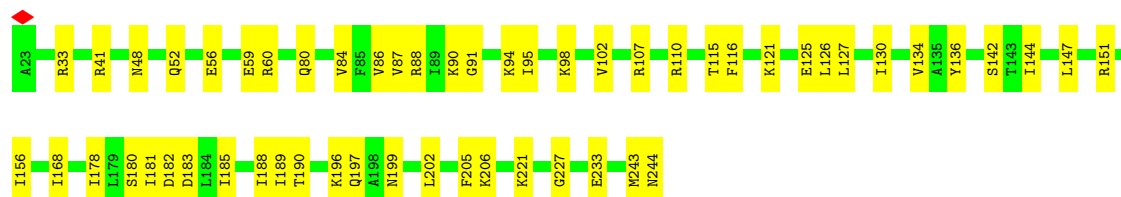
• Molecule 46: 60S ribosomal protein L6-B

Chain LH:  69% 26% 5%



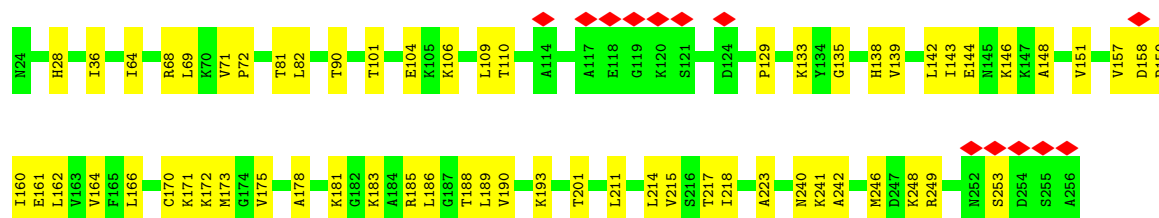
• Molecule 47: 60S ribosomal protein L7-A

Chain LI: 75% 25%



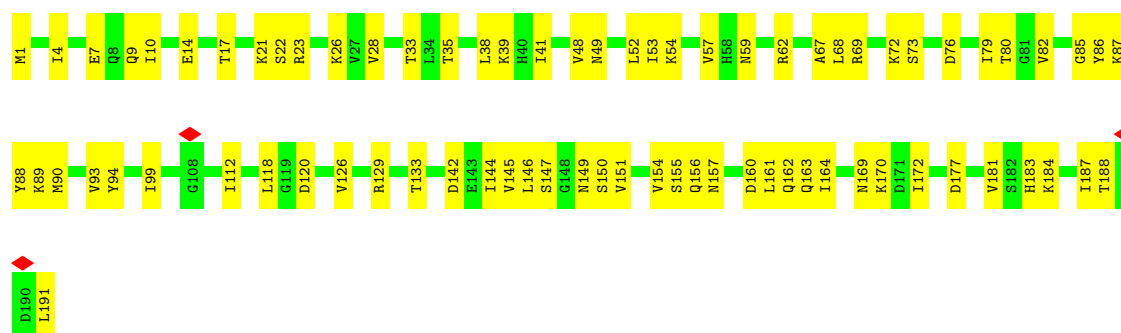
• Molecule 48: 60S ribosomal protein L8-A

Chain LJ: 6% 73% 27%



• Molecule 49: 60S ribosomal protein L9-A

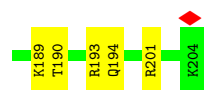
Chain LK: 60% 40%



• Molecule 50: 60S ribosomal protein L10

Chain LL: 66% 33%





- Molecule 55: 60S ribosomal protein L16-A

Chain LQ: 73% 27%



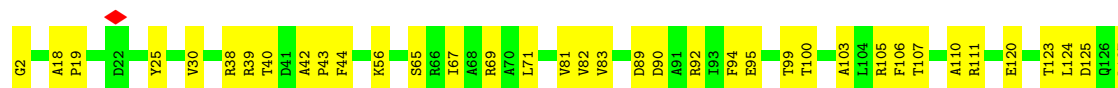
- Molecule 56: 60S ribosomal protein L17-A

Chain LR: 81% 19%



- Molecule 57: 60S ribosomal protein L18-A

Chain LS: 70% 30%



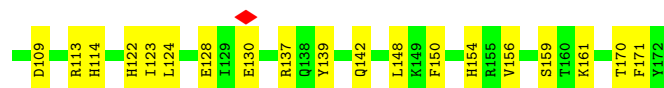
- Molecule 58: 60S ribosomal protein L19-A

Chain LT: 5% 74% 26%

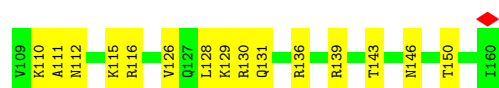
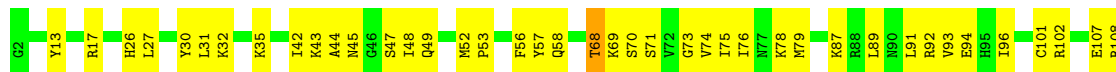


- Molecule 59: 60S ribosomal protein L20-A

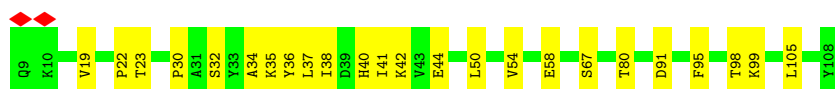
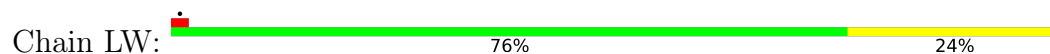
Chain LU: 68% 32%



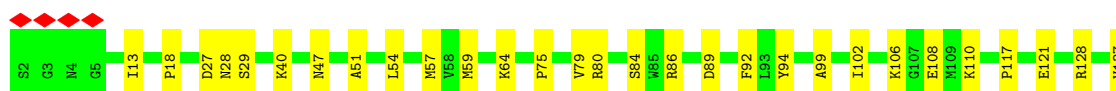
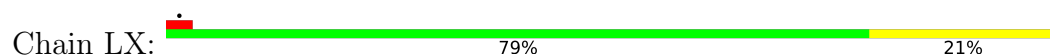
- Molecule 60: 60S ribosomal protein L21-A



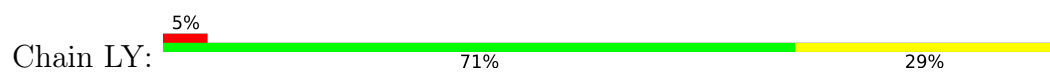
- Molecule 61: 60S ribosomal protein L22-A



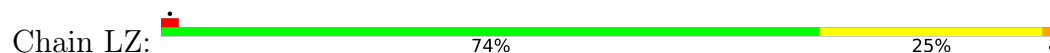
- Molecule 62: 60S ribosomal protein L23-A



- Molecule 63: 60S ribosomal protein L24-A



- Molecule 64: 60S ribosomal protein L25



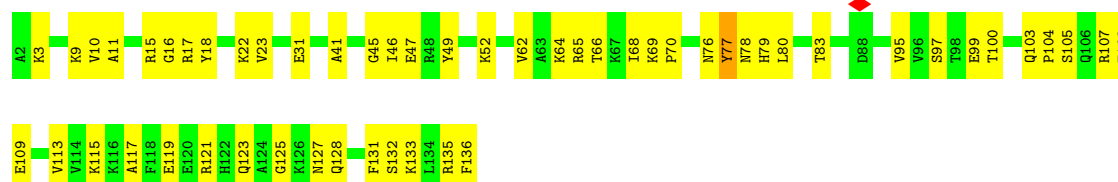
- Molecule 65: 60S ribosomal protein L26-A

Chain La:  74% 26%



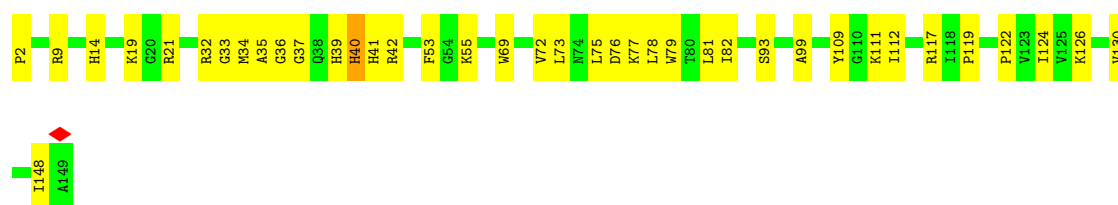
- Molecule 66: 60S ribosomal protein L27-A

Chain Lb:  60% 39%



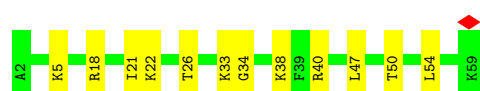
- Molecule 67: 60S ribosomal protein L28

Chain Lc:  74% 26%



- Molecule 68: 60S ribosomal protein L29

Chain Ld:  79% 21%



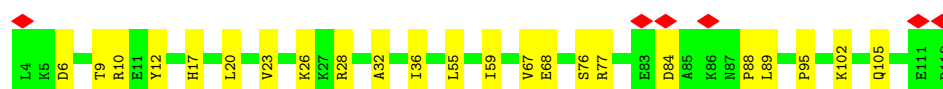
- Molecule 69: 60S ribosomal protein L30

Chain Le:  74% 25%



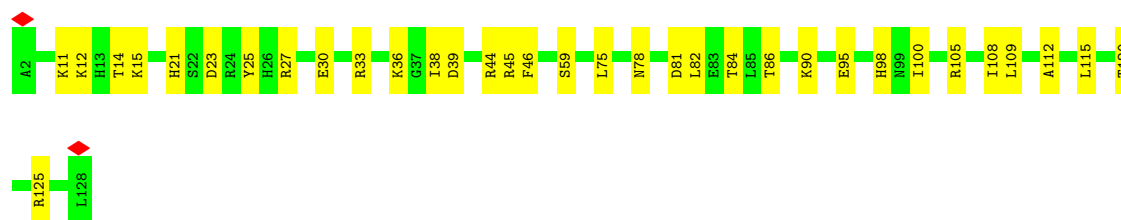
- Molecule 70: 60S ribosomal protein L31-A

Chain Lf:  6% 79% 21%



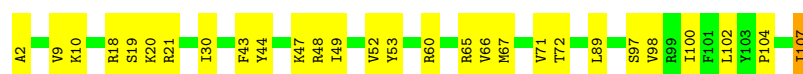
- Molecule 71: 60S ribosomal protein L32

Chain Lg:  73% 27%



- Molecule 72: 60S ribosomal protein L33-A

Chain Lh:  74% 25%



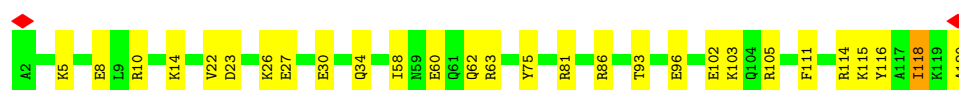
- Molecule 73: 60S ribosomal protein L34-A

Chain Li:  80% 20%



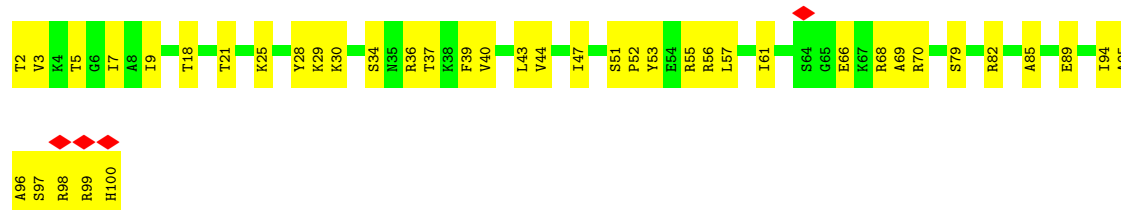
- Molecule 74: 60S ribosomal protein L35-A

Chain Lj:  76% 23%



- Molecule 75: 60S ribosomal protein L36-A

Chain Lk:  59% 41%



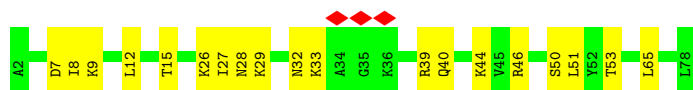
- Molecule 76: 60S ribosomal protein L37-A

Chain Ll:  74% 26%



- Molecule 77: 60S ribosomal protein L38

Chain Lm:  75% 25%



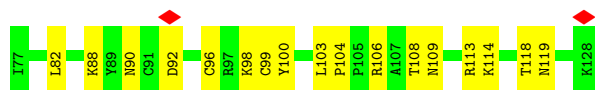
- Molecule 78: 60S ribosomal protein L39

Chain Ln:  68% 32%



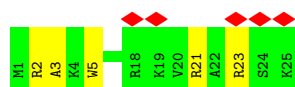
- Molecule 79: 60S ribosomal protein L40-A

Chain Lo:  67% 33%



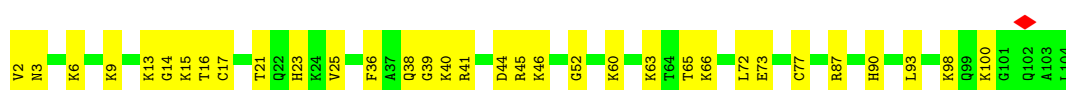
- Molecule 80: 60S ribosomal protein L41-A

Chain Lp:  20% 80% 20%



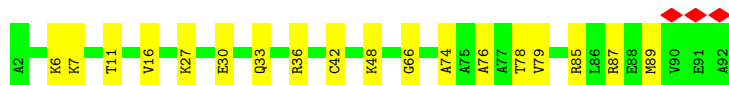
- Molecule 81: 60S ribosomal protein L42-A

Chain Lq:  68% 32%



- Molecule 82: 60S ribosomal protein L43-A

Chain Lr:  80% 20%



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	32746	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 ($e^-/\text{\AA}^2$)	70	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.644	Depositor
Minimum map value	-0.339	Depositor
Average map value	-0.001	Depositor
Map value standard deviation	0.025	Depositor
Recommended contour level	0.0875	Depositor
Map size ($\text{\AA}$)	524.88, 524.88, 524.88	wwPDB
Map dimensions	648, 648, 648	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	0.81, 0.81, 0.81	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: 3HE

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A	0.31	0/72889	0.31	0/113624
2	B	0.24	0/2883	0.28	0/4491
3	C	0.33	0/3746	0.31	0/5832
4	D	0.25	0/245	0.37	0/378
5	m	0.21	0/1799	0.37	0/2801
6	n	0.79	1/1797 (0.1%)	0.58	4/2801 (0.1%)
7	z	0.22	0/483	0.34	0/640
8	E	0.23	0/38089	0.32	0/59339
9	SP	0.20	0/1644	0.37	0/2249
10	SQ	0.22	0/1823	0.42	0/2447
11	SE	0.20	0/936	0.46	1/1259 (0.1%)
12	SR	0.22	0/1656	0.34	0/2251
13	SA	0.20	0/1754	0.42	1/2361 (0.0%)
14	SS	0.20	0/2097	0.36	0/2823
15	SB	0.19	0/1625	0.43	0/2197
16	ST	0.18	0/1839	0.33	0/2460
17	SU	0.19	0/1498	0.39	0/2019
18	SV	0.22	0/1501	0.36	0/2006
19	SW	0.21	0/1504	0.36	0/2016
20	SC	0.25	0/772	0.54	0/1044
21	SX	0.23	0/1168	0.36	0/1575
22	SD	0.17	0/883	0.46	0/1199
23	SY	0.22	0/1215	0.43	1/1638 (0.1%)
24	SZ	0.19	0/934	0.36	0/1257
25	SF	0.20	0/1125	0.43	0/1510
26	SG	0.20	0/957	0.44	1/1283 (0.1%)
27	SH	0.18	0/1207	0.40	0/1623
28	SI	0.20	0/1130	0.41	0/1517
29	SJ	0.20	0/807	0.44	0/1091
30	Sa	0.20	0/682	0.40	0/921
31	Sb	0.23	0/1038	0.41	0/1395
32	Sc	0.23	0/1139	0.31	0/1518

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	Sd	0.18	0/1046	0.32	0/1401
34	Se	0.24	0/778	0.37	0/1042
35	Sf	0.20	0/620	0.36	0/838
36	SM	0.25	0/453	0.35	0/602
37	Sg	0.17	0/459	0.38	0/611
38	SN	0.13	0/567	0.36	0/764
39	SO	0.16	0/2436	0.43	0/3318
40	SL	0.19	0/493	0.41	0/663
41	AA	0.18	0/744	0.41	0/991
42	LD	0.31	0/1933	0.39	0/2598
43	LE	0.31	0/3150	0.37	0/4236
44	LF	0.28	0/2801	0.33	0/3792
45	LG	0.20	0/2400	0.33	0/3239
46	LH	0.26	0/1329	0.38	0/1794
47	LI	0.27	0/1821	0.33	0/2451
48	LJ	0.25	0/1836	0.39	0/2481
49	LK	0.25	0/1529	0.40	0/2060
50	LL	0.23	0/1801	0.37	0/2416
51	LM	0.21	0/1367	0.44	0/1834
52	LN	0.27	0/1568	0.36	0/2106
53	LO	0.25	0/1068	0.35	0/1438
54	LP	0.31	0/1757	0.38	0/2354
55	LQ	0.29	0/1585	0.35	0/2128
56	LR	0.30	0/1439	0.36	0/1938
57	LS	0.26	0/1465	0.36	0/1965
58	LT	0.27	0/1532	0.30	0/2043
59	LU	0.27	0/1473	0.41	0/1980
60	LV	0.24	0/1296	0.36	0/1739
61	LW	0.26	0/812	0.47	0/1099
62	LX	0.29	0/1018	0.34	0/1369
63	LY	0.29	0/540	0.34	0/717
64	LZ	0.31	0/979	0.35	0/1321
65	La	0.30	0/995	0.32	0/1329
66	Lb	0.28	0/1106	0.39	0/1485
67	Lc	0.27	0/1200	0.37	0/1607
68	Ld	0.24	0/473	0.45	0/629
69	Le	0.27	0/745	0.33	0/1001
70	Lf	0.28	0/890	0.34	0/1196
71	Lg	0.28	0/1038	0.32	0/1390
72	Lh	0.33	0/868	0.38	0/1168
73	Li	0.31	0/890	0.37	0/1189
74	Lj	0.27	0/978	0.38	0/1301
75	Lk	0.23	0/772	0.39	0/1026

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
76	Ll	0.31	0/660	0.32	0/875
77	Lm	0.25	0/618	0.36	0/826
78	Ln	0.32	0/443	0.34	0/588
79	Lo	0.24	0/416	0.36	0/553
80	Lp	0.21	0/230	0.27	0/296
81	Lq	0.25	0/836	0.38	0/1104
82	Lr	0.28	0/701	0.34	0/934
All	All	0.28	1/210819 (0.0%)	0.34	8/309390 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
27	SH	0	1
42	LD	0	1
All	All	0	2

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	n	16	U	O3'-P	32.34	2.09	1.61

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	n	16	U	P-O3'-C3'	-20.44	89.55	120.20
6	n	16	U	OP1-P-O3'	-10.02	77.95	108.00
6	n	16	U	O3'-P-O5'	9.54	118.31	104.00
23	SY	136	PRO	CA-N-CD	-7.55	101.44	112.00
26	SG	65	PRO	CA-N-CD	-6.23	103.28	112.00
13	SA	81	PRO	CA-N-CD	-6.01	103.59	112.00
6	n	16	U	OP2-P-O3'	5.91	125.71	108.00
11	SE	49	MET	CB-CG-SD	5.72	129.87	112.70

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
42	LD	192	LYS	Peptide

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Mol	Chain	Res	Type	Group
27	SH	144	ARG	Sidechain

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	65120	0	32732	1279	0
2	B	2579	0	1304	67	0
3	C	3353	0	1695	66	0
4	D	218	0	109	7	0
5	m	1611	0	817	35	0
6	n	1607	0	817	35	0
7	z	480	0	505	15	0
8	E	34053	0	17132	970	0
9	SP	1603	0	1610	80	0
10	SQ	1798	0	1890	101	0
11	SE	916	0	941	48	0
12	SR	1626	0	1715	70	0
13	SA	1729	0	1812	63	0
14	SS	2056	0	2140	80	0
15	SB	1605	0	1669	101	0
16	ST	1815	0	1894	76	0
17	SU	1473	0	1555	58	0
18	SV	1476	0	1501	62	0
19	SW	1479	0	1556	62	0
20	SC	754	0	725	62	0
21	SX	1142	0	1209	27	0
22	SD	875	0	878	40	0
23	SY	1192	0	1255	48	0
24	SZ	923	0	948	59	0
25	SF	1105	0	1166	68	0
26	SG	948	0	990	50	0
27	SH	1188	0	1218	48	0
28	SI	1112	0	1124	62	0
29	SJ	797	0	863	43	0
30	Sa	673	0	662	37	0
31	Sb	1021	0	1060	38	0
32	Sc	1121	0	1196	25	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
33	Sd	1032	0	1044	48	0
34	Se	765	0	814	41	0
35	Sf	610	0	633	28	0
36	SM	443	0	436	22	0
37	Sg	451	0	494	20	0
38	SN	556	0	552	25	0
39	SO	2383	0	2332	129	0
40	SL	491	0	524	26	0
41	AA	737	0	799	32	0
42	LD	1899	0	1957	77	0
43	LE	3079	0	3158	106	0
44	LF	2749	0	2863	81	0
45	LG	2351	0	2294	72	0
46	LH	1307	0	1377	41	0
47	LI	1784	0	1862	42	0
48	LJ	1804	0	1877	54	0
49	LK	1508	0	1572	68	0
50	LL	1764	0	1804	60	0
51	LM	1346	0	1370	42	0
52	LN	1543	0	1608	57	0
53	LO	1053	0	1149	31	0
54	LP	1720	0	1779	70	0
55	LQ	1555	0	1659	35	0
56	LR	1416	0	1433	29	0
57	LS	1441	0	1543	49	0
58	LT	1515	0	1606	35	0
59	LU	1437	0	1475	48	0
60	LV	1272	0	1312	51	0
61	LW	796	0	812	17	0
62	LX	1003	0	1048	22	0
63	LY	528	0	546	15	0
64	LZ	964	0	1025	22	0
65	La	984	0	1075	27	0
66	Lb	1080	0	1122	45	0
67	Lc	1169	0	1211	41	0
68	Ld	462	0	491	12	0
69	Le	737	0	792	18	0
70	Lf	876	0	912	18	0
71	Lg	1017	0	1081	28	0
72	Lh	850	0	880	27	0
73	Li	880	0	945	21	0
74	Lj	969	0	1078	26	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
75	Lk	766	0	844	35	0
76	Ll	645	0	649	18	0
77	Lm	612	0	682	13	0
78	Ln	436	0	475	17	0
79	Lo	410	0	446	15	0
80	Lp	229	0	273	4	0
81	Lq	824	0	892	30	0
82	Lr	694	0	738	12	0
83	A	20	0	23	3	0
All	All	196410	0	146054	4869	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 14.

All (4869) 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)
6:n:16:U:O3'	6:n:18:G:P	2.09	1.10
1:A:2737:C:H4'	60:LV:68:THR:HG21	1.46	0.98
6:n:16:U:C3'	6:n:18:G:P	2.52	0.97
6:n:16:U:H3'	6:n:18:G:P	2.07	0.94
8:E:480:G:H1	8:E:508:U:H3	1.12	0.93
1:A:2427:U:H3	1:A:2602:G:H1	1.13	0.92
1:A:3348:G:H1	1:A:3357:U:H3	1.03	0.90
60:LV:136:ARG:HD3	60:LV:139:ARG:HH21	1.36	0.88
8:E:129:U:H5'	8:E:264:G:H1	1.39	0.87
5:m:27:G:H1	5:m:43:U:H3	1.23	0.86
8:E:1588:G:H1	8:E:1608:U:H3	0.89	0.85
21:SX:42:PHE:HA	21:SX:141:LYS:HZ1	1.38	0.85
34:Se:51:ARG:HH22	40:SL:38:ARG:HG2	1.40	0.84
10:SQ:132:ASP:HB3	10:SQ:221:PRO:HB3	1.59	0.84
1:A:640:U:OP1	67:Lc:21:ARG:NH2	2.11	0.84
39:SO:33:LEU:HB3	39:SO:45:TRP:HB2	1.60	0.83
14:SS:129:VAL:HG12	14:SS:139:VAL:HG12	1.59	0.83
8:E:647:G:H22	8:E:687:G:H1	1.27	0.83
39:SO:289:ALA:HA	39:SO:305:TYR:HA	1.61	0.83
49:LK:41:ILE:HD11	49:LK:67:ALA:HB1	1.58	0.82
1:A:1565:G:N2	1:A:1574:C:O2'	2.12	0.82
25:SF:22:VAL:HG22	25:SF:65:ILE:HG12	1.59	0.82
8:E:1368:G:H5''	28:SI:69:LYS:HG2	1.62	0.81
8:E:1202:A:H62	8:E:1456:C:H3'	1.45	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:153:U:H4'	1:A:158:G:H4'	1.63	0.81
8:E:1339:C:O2'	8:E:1341:A:N7	2.14	0.80
8:E:1684:U:H3	8:E:1717:G:H1	1.30	0.80
1:A:1639:C:OP2	73:Li:74:ARG:NH2	2.15	0.80
24:SZ:20:TYR:HB3	24:SZ:27:PHE:HB2	1.62	0.80
11:SE:87:PRO:HA	11:SE:90:ILE:HG12	1.64	0.80
11:SE:97:TYR:HD1	11:SE:99:GLY:H	1.29	0.80
8:E:44:U:OP2	8:E:437:A:N6	2.13	0.79
17:SU:113:PRO:HG2	17:SU:116:ARG:HD3	1.62	0.79
42:LD:80:GLU:HG3	82:Lr:66:GLY:HA2	1.63	0.79
81:Lq:38:GLN:OE1	81:Lq:41:ARG:NH2	2.15	0.79
8:E:1429:G:N3	29:SJ:72:ASN:ND2	2.30	0.79
1:A:75:G:H5''	52:LN:58:VAL:HG22	1.64	0.79
18:SV:156:VAL:HA	18:SV:159:GLN:HB2	1.62	0.79
1:A:1564:U:O2	1:A:1575:A:N6	2.15	0.78
8:E:815:G:H1'	58:LT:162:ARG:HH11	1.47	0.78
8:E:1022:C:O2'	8:E:1125:A:N1	2.17	0.78
8:E:1456:C:H5''	8:E:1457:C:H5''	1.65	0.78
39:SO:42:LEU:HD21	39:SO:82:SER:HB3	1.63	0.78
24:SZ:29:HIS:HB3	24:SZ:41:ARG:HA	1.64	0.78
13:SA:45:LYS:NZ	13:SA:82:GLY:O	2.17	0.78
51:LM:23:VAL:HG13	51:LM:29:ARG:HD2	1.66	0.78
50:LL:205:SER:OG	50:LL:208:ASN:OD1	2.02	0.77
1:A:337:G:O4'	44:LF:48:GLN:NE2	2.17	0.77
1:A:3042:U:OP2	1:A:3092:C:N4	2.16	0.77
1:A:2931:C:H5''	62:LX:40:LYS:HE3	1.66	0.77
13:SA:127:MET:HA	13:SA:127:MET:HE3	1.66	0.77
1:A:687:U:OP2	52:LN:36:ARG:NH2	2.17	0.77
8:E:871:G:H2'	8:E:872:G:C8	2.19	0.77
32:Sc:88:PRO:O	32:Sc:89:ASN:ND2	2.18	0.76
50:LL:108:ALA:O	50:LL:112:GLN:HB2	1.84	0.76
69:Le:34:LEU:HD21	69:Le:42:ILE:HD11	1.66	0.76
8:E:555:A:N7	8:E:590:C:O2'	2.18	0.76
18:SV:159:GLN:HE22	18:SV:166:TYR:HD1	1.30	0.76
39:SO:148:ASN:ND2	39:SO:175:ASP:OD2	2.19	0.76
23:SY:55:ARG:NH2	35:Sf:51:GLN:OE1	2.18	0.76
8:E:15:U:O2'	8:E:620:A:N6	2.19	0.75
8:E:571:G:H5''	32:Sc:114:LYS:HE2	1.66	0.75
17:SU:63:PRO:HG2	17:SU:66:SER:HB3	1.68	0.75
39:SO:240:VAL:HA	39:SO:256:THR:HA	1.69	0.75
42:LD:27:ALA:O	42:LD:128:ARG:NH2	2.19	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:Le:53:LYS:NZ	69:Le:57:GLU:OE2	2.20	0.75
1:A:691:A:N6	44:LF:48:GLN:OE1	2.19	0.75
1:A:2185:G:O2'	1:A:2314:U:OP2	2.04	0.75
1:A:2323:G:O2'	1:A:2325:G:OP2	2.03	0.75
1:A:779:G:OP1	57:LS:185:LYS:NZ	2.20	0.75
1:A:2516:U:O2'	1:A:2595:A:N6	2.20	0.75
8:E:1550:A:OP2	11:SE:42:ARG:NH2	2.20	0.75
59:LU:22:PRO:O	60:LV:146:ASN:ND2	2.16	0.75
8:E:864:U:H4'	23:SY:11:ILE:HD11	1.66	0.75
25:SF:97:VAL:HG12	25:SF:98:ASP:OD1	1.87	0.75
1:A:2863:G:O3'	50:LL:112:GLN:NE2	2.20	0.74
8:E:522:U:H5''	33:Sd:37:LYS:HG2	1.68	0.74
10:SQ:104:ASP:HA	10:SQ:214:LYS:HB2	1.69	0.74
73:Li:108:GLN:NE2	73:Li:109:THR:OG1	2.20	0.74
10:SQ:74:GLN:HE22	10:SQ:189:ILE:HG21	1.51	0.74
1:A:3151:U:OP1	43:LE:128:LYS:NZ	2.20	0.74
8:E:148:A:N6	8:E:166:C:C4	2.56	0.74
64:LZ:82:LEU:HD11	64:LZ:135:ILE:HD11	1.68	0.74
1:A:271:C:N4	1:A:294:U:O2	2.20	0.74
12:SR:40:LYS:HG2	12:SR:247:ALA:HB1	1.68	0.74
44:LF:35:VAL:HG21	44:LF:244:LEU:HD21	1.68	0.74
45:LG:91:GLY:O	45:LG:94:ASN:ND2	2.21	0.74
1:A:824:C:H5''	42:LD:21:ARG:HD3	1.69	0.74
40:SL:9:LEU:HB3	40:SL:33:LEU:HD12	1.68	0.74
1:A:2437:G:H1	1:A:2510:U:H3	1.34	0.73
8:E:1672:G:H2'	8:E:1673:G:C8	2.23	0.73
31:Sb:15:ASN:ND2	31:Sb:72:CYS:O	2.21	0.73
1:A:1907:C:O2	43:LE:240:ARG:NH2	2.21	0.73
47:LI:80:GLN:OE1	60:LV:136:ARG:NH1	2.21	0.73
66:Lb:95:VAL:HG11	66:Lb:113:VAL:HG11	1.71	0.73
1:A:3175:U:OP1	72:Lh:10:LYS:NZ	2.21	0.73
3:C:8:C:H2'	3:C:9:A:H8	1.52	0.73
3:C:41:A:HO2'	76:LI:59:THR:HG1	1.29	0.73
39:SO:110:VAL:HA	39:SO:126:SER:HA	1.70	0.73
5:m:53:G:N2	5:m:62:C:O2	2.21	0.73
50:LL:52:LEU:HB3	50:LL:136:PHE:HB2	1.71	0.73
15:SB:81:ARG:HD2	40:SL:47:PRO:HB3	1.71	0.73
14:SS:65:LEU:HD23	14:SS:70:VAL:HG11	1.70	0.73
39:SO:34:LEU:HD21	39:SO:42:LEU:HD23	1.68	0.73
47:LI:116:PHE:O	47:LI:199:ASN:ND2	2.21	0.73
39:SO:214:ALA:HB1	39:SO:240:VAL:HG11	1.69	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:Lk:34:SER:HB3	75:Lk:37:THR:HG23	1.71	0.73
64:LZ:67:ILE:HD13	64:LZ:83:VAL:HG12	1.70	0.73
1:A:1129:A:OP1	50:LL:13:LYS:NZ	2.22	0.72
59:LU:77:VAL:HG21	59:LU:106:LEU:HD12	1.71	0.72
8:E:763:G:OP2	19:SW:79:ARG:NH2	2.22	0.72
1:A:2193:U:H5'	1:A:2194:G:H5'	1.70	0.72
49:LK:89:LYS:HD3	49:LK:183:HIS:HB3	1.71	0.72
1:A:1547:G:OP1	54:LP:108:ARG:NH2	2.23	0.72
60:LV:108:ARG:O	60:LV:112:ASN:ND2	2.23	0.72
64:LZ:46:TYR:HD2	74:Lj:75:TYR:HB3	1.55	0.72
1:A:240:U:O2'	1:A:242:C:N4	2.22	0.72
8:E:142:G:H22	8:E:173:A:H2	1.38	0.72
31:Sb:111:MET:HE2	31:Sb:115:GLU:HG2	1.72	0.72
56:LR:118:GLN:NE2	56:LR:147:GLU:OE2	2.21	0.72
8:E:1303:U:O2'	8:E:1322:A:OP2	2.07	0.72
1:A:18:G:OP1	74:Lj:81:ARG:NH2	2.19	0.72
1:A:364:G:N7	76:Ll:56:ARG:NH2	2.38	0.72
50:LL:170:LYS:HA	50:LL:177:ASP:HA	1.71	0.72
8:E:458:G:OP1	33:Sd:109:LYS:NZ	2.23	0.71
11:SE:118:GLU:OE1	11:SE:118:GLU:N	2.22	0.71
54:LP:64:VAL:HG11	54:LP:102:ALA:HB1	1.70	0.71
27:SH:49:LYS:NZ	27:SH:79:TYR:O	2.23	0.71
1:A:76:G:O2'	52:LN:100:ARG:NH1	2.23	0.71
2:B:28:C:OP1	51:LM:137:ARG:NH1	2.21	0.71
22:SD:36:LEU:HD11	22:SD:43:ARG:HH21	1.55	0.71
69:Le:95:ALA:HB2	69:Le:101:LEU:HD23	1.72	0.71
72:Lh:52:VAL:HG22	72:Lh:66:VAL:HG22	1.72	0.71
14:SS:60:GLU:OE1	14:SS:60:GLU:N	2.23	0.71
35:Sf:35:VAL:HG22	35:Sf:77:THR:HG22	1.72	0.71
81:Lq:25:VAL:HG12	81:Lq:72:LEU:HD22	1.73	0.71
8:E:1445:G:N2	38:SN:87:THR:OG1	2.22	0.71
10:SQ:97:LEU:HB3	10:SQ:232:HIS:CD2	2.26	0.71
14:SS:87:MET:HE1	14:SS:236:ILE:HG21	1.71	0.71
39:SO:159:ASN:HB3	39:SO:163:ASP:H	1.55	0.71
45:LG:53:VAL:O	45:LG:54:ARG:NH1	2.23	0.71
1:A:1798:A:H2'	1:A:1799:A:C8	2.25	0.71
8:E:1591:C:H2'	8:E:1592:A:H8	1.56	0.71
39:SO:181:TRP:HD1	39:SO:188:ILE:HA	1.55	0.71
1:A:275:U:H3	1:A:290:G:H1	1.39	0.71
52:LN:55:ARG:NH1	52:LN:73:ARG:O	2.24	0.71
8:E:1488:G:H3'	8:E:1515:A:H61	1.55	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:SG:54:THR:O	26:SG:58:MET:HG2	1.90	0.71
47:LI:87:VAL:HG11	47:LI:243:MET:HE1	1.72	0.71
1:A:3268:A:H5''	46:LH:46:ARG:HH12	1.56	0.71
8:E:1682:U:OP1	16:ST:31:ARG:NH2	2.24	0.71
70:Lf:20:LEU:HD22	70:Lf:67:VAL:HG11	1.72	0.71
11:SE:60:LEU:HD11	11:SE:92:SER:HB3	1.73	0.70
19:SW:53:ARG:NH2	19:SW:97:LEU:O	2.23	0.70
8:E:411:C:OP1	62:LX:28:ASN:ND2	2.23	0.70
13:SA:40:ARG:HH12	29:SJ:110:PRO:HB3	1.55	0.70
13:SA:55:THR:OG1	13:SA:90:ARG:NH2	2.23	0.70
50:LL:185:ARG:NH2	50:LL:190:VAL:O	2.22	0.70
8:E:513:U:H2'	8:E:514:G:C8	2.26	0.70
8:E:1565:C:OP1	27:SH:41:ARG:NH1	2.24	0.70
48:LJ:82:LEU:HD11	48:LJ:178:ALA:HB1	1.73	0.70
57:LS:180:ARG:HD2	57:LS:185:LYS:HB2	1.72	0.70
8:E:513:U:H4'	19:SW:131:GLN:HB3	1.74	0.70
8:E:918:U:H2'	8:E:919:A:H8	1.56	0.70
17:SU:143:LEU:O	31:Sb:42:GLN:NE2	2.24	0.70
8:E:1566:U:H5''	27:SH:39:GLY:H	1.55	0.70
50:LL:76:MET:HE1	50:LL:148:VAL:HA	1.73	0.70
8:E:174:U:H3	8:E:266:A:H62	1.37	0.70
8:E:1254:U:OP2	22:SD:46:ARG:NH2	2.22	0.70
44:LF:181:VAL:HG21	44:LF:224:GLY:HA3	1.74	0.70
73:Li:11:ASN:OD1	73:Li:18:ASN:ND2	2.25	0.70
72:Lh:67:MET:HE2	72:Lh:89:LEU:HD23	1.74	0.70
1:A:2571:U:H1'	1:A:2572:C:H2'	1.74	0.70
12:SR:78:ASP:HB3	12:SR:104:VAL:HG12	1.74	0.70
16:ST:159:ARG:NH2	16:ST:170:THR:OG1	2.22	0.69
39:SO:109:ASP:OD2	39:SO:127:ARG:NH1	2.25	0.69
1:A:2895:G:O2'	79:Lo:100:TYR:O	2.10	0.69
8:E:129:U:OP1	8:E:264:G:N2	2.23	0.69
8:E:1388:A:OP2	26:SG:32:LYS:NZ	2.25	0.69
46:LH:166:LYS:N	46:LH:169:ASP:OD2	2.24	0.69
1:A:1661:G:H2'	1:A:1662:G:C8	2.27	0.69
1:A:2901:G:O2'	1:A:3024:A:N1	2.26	0.69
8:E:637:C:O2	17:SU:114:ARG:NH2	2.24	0.69
14:SS:100:ARG:HH12	14:SS:118:GLU:HG2	1.57	0.69
39:SO:123:ILE:HG21	39:SO:169:ILE:HG21	1.74	0.69
1:A:2344:U:H2'	1:A:2345:A:H8	1.57	0.69
8:E:1562:G:OP1	28:SI:89:ARG:NH2	2.24	0.69
20:SC:3:MET:HE3	20:SC:8:ARG:HD2	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:SF:13:LYS:HE3	25:SF:14:LYS:HD2	1.73	0.69
45:LG:103:LEU:HD21	45:LG:248:ARG:HD3	1.75	0.69
10:SQ:195:LYS:O	10:SQ:199:ASN:ND2	2.26	0.69
9:SP:88:LYS:O	9:SP:92:HIS:ND1	2.25	0.69
49:LK:69:ARG:NH1	49:LK:73:SER:OG	2.24	0.69
1:A:3212:C:OP2	53:LO:124:ARG:NH2	2.25	0.69
10:SQ:137:ILE:HD11	10:SQ:172:LEU:HB3	1.75	0.69
13:SA:27:ARG:O	20:SC:58:GLN:NE2	2.26	0.69
1:A:664:U:H2'	1:A:665:A:C8	2.26	0.69
1:A:1720:U:OP2	58:LT:120:TYR:OH	2.08	0.69
1:A:3184:A:N3	1:A:3187:A:O2'	2.26	0.69
8:E:542:A:N1	37:Sg:28:LYS:NZ	2.40	0.69
8:E:821:U:N3	8:E:852:C:O2	2.26	0.69
9:SP:120:LEU:HD21	9:SP:144:ILE:HG13	1.74	0.69
16:ST:23:ARG:HE	16:ST:42:GLY:HA2	1.58	0.69
20:SC:15:LEU:HB3	20:SC:68:LEU:HD21	1.74	0.69
22:SD:56:GLU:CG	22:SD:124:LYS:HE2	2.23	0.69
43:LE:47:LEU:HD22	43:LE:335:ILE:HD11	1.73	0.69
53:LO:36:VAL:HG11	53:LO:55:ARG:HH21	1.57	0.69
66:Lb:23:VAL:HG12	66:Lb:45:GLY:HA3	1.73	0.69
1:A:597:G:H2'	1:A:598:A:H8	1.58	0.69
54:LP:39:ALA:HB3	54:LP:61:ILE:HG22	1.74	0.69
1:A:1833:G:H21	78:Ln:4:GLN:HE22	1.40	0.68
1:A:3185:U:HO2'	59:LU:170:THR:HG1	1.40	0.68
8:E:568:G:OP2	32:Sc:70:LYS:NZ	2.26	0.68
8:E:1727:G:H2'	8:E:1728:A:C8	2.28	0.68
36:SM:24:CYS:SG	36:SM:26:SER:OG	2.51	0.68
42:LD:201:GLY:HA2	42:LD:204:MET:HG3	1.74	0.68
44:LF:33:ASP:OD1	44:LF:34:ILE:N	2.26	0.68
51:LM:17:LEU:HD13	51:LM:129:VAL:HG22	1.74	0.68
52:LN:50:PRO:HG3	74:Lj:118:ILE:HD12	1.75	0.68
54:LP:160:GLU:N	54:LP:160:GLU:OE1	2.24	0.68
1:A:884:A:OP1	76:Ll:5:THR:OG1	2.09	0.68
6:n:53:G:H2'	6:n:54:A:H8	1.58	0.68
8:E:446:A:H5'	14:SS:57:ASN:HB3	1.74	0.68
10:SQ:92:GLN:NE2	10:SQ:95:ASN:O	2.26	0.68
15:SB:188:LYS:NZ	41:AA:67:ASP:OD2	2.26	0.68
28:SI:97:SER:HB3	28:SI:100:ILE:HG22	1.75	0.68
42:LD:230:VAL:HG22	42:LD:233:GLN:HE21	1.57	0.68
8:E:447:U:O2'	14:SS:27:TYR:O	2.10	0.68
8:E:512:A:O2'	19:SW:133:HIS:NE2	2.26	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:SS:70:VAL:HG23	14:SS:90:ILE:HD11	1.74	0.68
39:SO:22:SER:OG	39:SO:71:CYS:SG	2.51	0.68
1:A:1493:G:O6	78:Ln:2:ALA:N	2.26	0.68
69:Le:100:ILE:HG23	69:Le:101:LEU:HD22	1.75	0.68
1:A:86:G:O2'	1:A:98:G:O6	2.09	0.68
8:E:534:A:OP1	19:SW:168:ARG:NH2	2.26	0.68
8:E:1296:A:OP1	9:SP:138:TYR:OH	2.10	0.68
8:E:472:U:O2'	8:E:769:A:N3	2.26	0.68
44:LF:320:ASN:HB3	44:LF:323:VAL:HG12	1.76	0.68
27:SH:91:ASP:OD1	27:SH:94:ASP:N	2.26	0.68
74:Lj:23:ASP:HA	74:Lj:26:LYS:HG3	1.76	0.68
8:E:821:U:O4	8:E:852:C:N3	2.26	0.68
8:E:1297:G:N2	8:E:1300:A:OP2	2.22	0.68
15:SB:112:ARG:NH2	25:SF:42:GLU:OE1	2.23	0.68
8:E:511:A:OP2	19:SW:176:ASN:ND2	2.27	0.68
8:E:936:G:OP1	8:E:1074:G:N2	2.22	0.68
14:SS:57:ASN:ND2	14:SS:60:GLU:OE2	2.27	0.68
59:LU:8:GLN:HE21	59:LU:62:ASN:HB2	1.58	0.68
1:A:297:G:OP2	1:A:297:G:N2	2.26	0.68
1:A:1576:G:H2'	1:A:1577:G:H8	1.59	0.68
1:A:3233:C:H2'	1:A:3234:A:C8	2.29	0.68
19:SW:82:ARG:HE	19:SW:149:ARG:HD2	1.57	0.68
1:A:691:A:OP1	44:LF:46:LYS:NZ	2.24	0.67
1:A:2745:G:N2	1:A:2748:A:OP2	2.26	0.67
3:C:8:C:H2'	3:C:9:A:C8	2.29	0.67
8:E:929:A:N1	10:SQ:111:ARG:NH2	2.42	0.67
8:E:1171:A:H2'	8:E:1172:G:C8	2.30	0.67
9:SP:111:ILE:HG13	9:SP:112:THR:HG23	1.76	0.67
14:SS:11:ARG:NH1	14:SS:21:ASP:O	2.27	0.67
15:SB:73:THR:HG22	15:SB:75:GLY:H	1.59	0.67
28:SI:85:SER:OG	28:SI:87:GLY:O	2.13	0.67
46:LH:130:ILE:HD12	46:LH:130:ILE:H	1.59	0.67
55:LQ:39:GLU:OE1	55:LQ:39:GLU:N	2.26	0.67
66:Lb:9:LYS:NZ	66:Lb:83:THR:O	2.26	0.67
8:E:343:C:H2'	8:E:344:A:H8	1.58	0.67
8:E:1241:G:OP1	11:SE:77:ARG:NH2	2.24	0.67
15:SB:225:ARG:HB3	40:SL:61:ARG:HH12	1.59	0.67
25:SF:43:ILE:H	25:SF:43:ILE:HD12	1.59	0.67
54:LP:104:GLU:OE2	54:LP:108:ARG:NH1	2.27	0.67
1:A:2137:U:OP2	1:A:2142:A:N6	2.23	0.67
8:E:868:G:H1	8:E:960:U:H3	1.41	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:1171:A:H2'	8:E:1172:G:H8	1.59	0.67
9:SP:55:GLU:HB2	30:Sa:79:LEU:HD11	1.77	0.67
70:Lf:55:LEU:HB2	70:Lf:95:PRO:HD3	1.75	0.67
1:A:1576:G:H2'	1:A:1577:G:C8	2.30	0.67
8:E:123:G:H21	14:SS:146:THR:HG21	1.58	0.67
8:E:628:G:OP1	23:SY:124:ARG:NH1	2.26	0.67
10:SQ:128:LYS:NZ	10:SQ:129:THR:O	2.26	0.67
26:SG:51:ALA:O	26:SG:55:THR:HG23	1.95	0.67
43:LE:71:GLU:OE2	43:LE:357:LYS:NZ	2.23	0.67
48:LJ:148:ALA:HA	48:LJ:201:THR:HG22	1.75	0.67
1:A:271:C:O2	75:Lk:82:ARG:NH2	2.25	0.67
1:A:312:C:H2'	1:A:313:A:H8	1.60	0.67
1:A:2176:U:OP1	42:LD:54:ARG:NH2	2.28	0.67
8:E:752:A:H3'	14:SS:187:ARG:HH21	1.59	0.67
8:E:872:G:H1	8:E:955:A:H61	1.43	0.67
39:SO:199:ILE:HA	39:SO:215:GLY:HA2	1.75	0.67
39:SO:239:GLU:O	39:SO:257:ALA:N	2.26	0.67
76:Ll:18:LEU:HD11	78:Ln:12:LYS:HD2	1.75	0.67
20:SC:3:MET:HG3	20:SC:41:TYR:HD2	1.58	0.67
26:SG:57:LEU:O	26:SG:61:ILE:HG13	1.94	0.67
8:E:131:C:H42	8:E:180:A:H61	1.43	0.67
67:Lc:76:ASP:OD1	67:Lc:76:ASP:N	2.27	0.67
15:SB:142:PRO:HG2	15:SB:170:GLN:HE21	1.60	0.67
39:SO:178:VAL:HB	39:SO:192:PHE:HB2	1.75	0.67
1:A:1126:G:OP2	50:LL:14:ASN:ND2	2.28	0.67
8:E:590:C:H2'	8:E:591:A:H8	1.59	0.67
8:E:947:U:H2'	8:E:948:G:H8	1.60	0.67
8:E:1482:C:N4	8:E:1524:A:OP2	2.27	0.67
11:SE:44:ARG:HG2	11:SE:84:ILE:HD11	1.76	0.67
60:LV:17:ARG:NH1	60:LV:45:ASN:OD1	2.28	0.67
53:LO:48:GLY:HA3	53:LO:53:VAL:HB	1.78	0.66
54:LP:190:THR:HG22	54:LP:193:ARG:HH21	1.60	0.66
66:Lb:31:GLU:OE1	66:Lb:31:GLU:N	2.28	0.66
71:Lg:82:LEU:HD11	71:Lg:112:ALA:HB2	1.77	0.66
1:A:2528:G:H5''	48:LJ:248:LYS:HE2	1.78	0.66
50:LL:12:GLN:HA	50:LL:59:GLN:HE21	1.60	0.66
77:Lm:27:ILE:HG23	77:Lm:39:ARG:HD2	1.78	0.66
1:A:1284:C:H2'	1:A:1285:G:C8	2.31	0.66
19:SW:92:LYS:HD3	19:SW:95:TYR:HE2	1.60	0.66
39:SO:123:ILE:HG22	39:SO:133:VAL:HG12	1.76	0.66
50:LL:153:ARG:NH1	50:LL:157:TYR:OH	2.27	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:655:C:H2'	1:A:656:A:H8	1.59	0.66
1:A:3162:C:N4	1:A:3163:A:N6	2.44	0.66
16:ST:180:THR:HG22	16:ST:182:GLN:H	1.61	0.66
22:SD:43:ARG:NH1	22:SD:103:LEU:HA	2.11	0.66
23:SY:136:PRO:HD2	23:SY:139:TRP:HB2	1.77	0.66
35:Sf:20:LYS:HB3	35:Sf:29:ARG:HG2	1.76	0.66
35:Sf:74:SER:HB2	35:Sf:77:THR:OG1	1.94	0.66
74:Lj:14:LYS:HE3	74:Lj:58:ILE:HG23	1.78	0.66
74:Lj:102:GLU:OE2	74:Lj:105:ARG:NH2	2.28	0.66
8:E:781:U:OP2	33:Sd:9:THR:OG1	2.13	0.66
19:SW:112:GLN:HG3	19:SW:148:VAL:HG21	1.77	0.66
44:LF:206:LEU:HB3	44:LF:248:VAL:HG22	1.76	0.66
64:LZ:51:VAL:HG11	74:Lj:62:GLN:HB3	1.78	0.66
1:A:2424:A:H61	42:LD:230:VAL:HG11	1.61	0.66
8:E:590:C:H2'	8:E:591:A:C8	2.30	0.66
15:SB:52:GLU:OE2	15:SB:54:LYS:NZ	2.28	0.66
30:Sa:17:CYS:HB2	30:Sa:56:SER:HB2	1.78	0.66
40:SL:27:GLN:NE2	40:SL:64:ARG:O	2.28	0.66
54:LP:102:ALA:O	54:LP:106:VAL:HG23	1.96	0.66
8:E:895:G:H1	8:E:917:U:H3	1.42	0.66
40:SL:31:GLU:HB2	40:SL:39:THR:HG22	1.78	0.66
8:E:149:C:H2'	8:E:150:U:C6	2.31	0.66
51:LM:32:ARG:HG2	51:LM:120:ILE:HA	1.78	0.66
61:LW:34:ALA:O	61:LW:38:ILE:HG13	1.95	0.66
1:A:681:U:O2	1:A:696:C:N4	2.26	0.66
1:A:3162:C:N4	1:A:3163:A:H62	1.92	0.66
8:E:1415:U:OP1	26:SG:45:ARG:NH2	2.29	0.66
27:SH:115:ARG:O	27:SH:119:ILE:HG12	1.96	0.66
34:Se:51:ARG:NH2	40:SL:38:ARG:HG2	2.10	0.66
37:Sg:7:SER:OG	37:Sg:10:ARG:NH1	2.29	0.66
66:Lb:97:SER:O	66:Lb:100:THR:OG1	2.13	0.66
3:C:81:U:H4'	3:C:82:U:H5'	1.78	0.66
8:E:29:U:H2'	8:E:30:G:H8	1.61	0.66
15:SB:57:SER:HA	40:SL:53:ILE:HB	1.78	0.66
42:LD:149:ARG:HH21	42:LD:155:LYS:HZ1	1.43	0.66
43:LE:10:ARG:NH1	43:LE:11:HIS:O	2.29	0.66
59:LU:6:GLU:OE2	59:LU:99:ARG:NH2	2.29	0.66
1:A:655:C:H2'	1:A:656:A:C8	2.31	0.65
3:C:71:A:O2'	65:La:52:ARG:NH2	2.29	0.65
7:z:409:ILE:O	7:z:413:ILE:HD12	1.96	0.65
9:SP:167:LYS:HG3	9:SP:204:TYR:HB3	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:SQ:61:LEU:HD23	10:SQ:91:VAL:HG21	1.78	0.65
32:Sc:95:PHE:O	32:Sc:142:LYS:NZ	2.29	0.65
1:A:241:G:N2	1:A:242:C:O4'	2.29	0.65
1:A:571:U:H2'	1:A:572:A:H8	1.61	0.65
1:A:1390:A:N6	1:A:1418:A:O2'	2.29	0.65
8:E:259:U:H1'	18:SV:178:ARG:HH21	1.61	0.65
8:E:1331:A:H61	13:SA:161:GLY:HA2	1.62	0.65
28:SI:38:LYS:HG2	28:SI:46:PRO:HD3	1.78	0.65
50:LL:185:ARG:CZ	50:LL:190:VAL:HG23	2.26	0.65
8:E:129:U:H5'	8:E:264:G:N1	2.12	0.65
8:E:1345:A:H5'	29:SJ:53:LYS:HE3	1.79	0.65
8:E:1474:G:H2'	8:E:1475:A:H8	1.60	0.65
15:SB:205:SER:O	15:SB:208:SER:OG	2.14	0.65
17:SU:51:VAL:HG13	17:SU:53:GLY:H	1.61	0.65
19:SW:59:LEU:HD11	19:SW:72:GLU:HB3	1.76	0.65
23:SY:31:GLU:O	23:SY:35:GLU:HG3	1.96	0.65
33:Sd:26:ASP:HB3	33:Sd:70:VAL:HG22	1.78	0.65
1:A:89:A:N7	57:LS:171:LYS:NZ	2.45	0.65
8:E:284:G:N7	16:ST:188:ARG:NH1	2.44	0.65
8:E:551:G:H2'	8:E:552:G:H8	1.62	0.65
8:E:555:A:C6	19:SW:19:TYR:HE2	2.14	0.65
8:E:1474:G:H2'	8:E:1475:A:C8	2.32	0.65
15:SB:166:ARG:O	15:SB:170:GLN:HG3	1.95	0.65
64:LZ:131:ASP:HB3	64:LZ:134:ASP:HB3	1.76	0.65
12:SR:94:GLN:OE1	12:SR:94:GLN:N	2.28	0.65
34:Se:90:GLU:OE1	34:Se:90:GLU:N	2.25	0.65
44:LF:328:ASN:OD1	47:LI:48:ASN:ND2	2.30	0.65
1:A:439:C:H4'	1:A:494:G:H1'	1.79	0.65
16:ST:85:ARG:O	16:ST:87:ARG:NH1	2.29	0.65
18:SV:193:LEU:O	18:SV:197:THR:HG22	1.96	0.65
39:SO:12:THR:HG22	39:SO:311:ARG:HG2	1.78	0.65
1:A:2552:C:OP1	73:Li:102:LYS:NZ	2.30	0.65
8:E:992:A:O2'	8:E:1785:U:O2	2.15	0.65
15:SB:135:ASP:O	15:SB:139:ASN:ND2	2.28	0.65
33:Sd:60:PHE:CD1	33:Sd:71:GLY:HA3	2.32	0.65
38:SN:132:LEU:HB3	38:SN:139:LEU:HB3	1.79	0.65
8:E:474:A:H5''	19:SW:144:PRO:HD2	1.79	0.65
8:E:1215:C:H2'	8:E:1216:C:C6	2.32	0.65
1:A:148:G:OP2	54:LP:4:TYR:OH	2.13	0.65
1:A:2557:A:OP1	42:LD:69:TYR:OH	2.14	0.65
46:LH:39:VAL:HG11	46:LH:158:TYR:HE2	1.62	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:638:C:N4	1:A:639:G:O6	2.30	0.64
8:E:1231:U:H3	8:E:1254:U:H3	1.43	0.64
8:E:1426:C:H3'	8:E:1427:A:H4'	1.79	0.64
22:SD:76:GLU:O	22:SD:80:ASN:ND2	2.30	0.64
71:Lg:95:GLU:OE1	71:Lg:120:THR:OG1	2.15	0.64
1:A:3092:C:O2'	1:A:3094:A:OP2	2.15	0.64
8:E:1172:G:H21	28:SI:88:VAL:HG21	1.62	0.64
39:SO:37:SER:OG	39:SO:38:ARG:N	2.28	0.64
49:LK:48:VAL:HG21	49:LK:54:LYS:HE2	1.79	0.64
73:Li:11:ASN:O	73:Li:18:ASN:ND2	2.30	0.64
1:A:1634:G:N7	66:Lb:17:ARG:NH1	2.45	0.64
1:A:2656:A:H4'	81:Lq:98:LYS:HD3	1.78	0.64
2:B:47:C:H2'	2:B:48:U:C6	2.33	0.64
8:E:1041:G:H2'	8:E:1042:G:C8	2.33	0.64
8:E:1636:C:O2	8:E:1765:A:N6	2.30	0.64
9:SP:155:PHE:O	30:Sa:60:ARG:NH2	2.30	0.64
9:SP:157:ASP:OD1	30:Sa:60:ARG:NE	2.25	0.64
12:SR:236:PRO:O	30:Sa:33:GLN:NE2	2.30	0.64
16:ST:121:LEU:HB2	16:ST:124:LEU:HB2	1.80	0.64
26:SG:35:CYS:HA	26:SG:38:ILE:HG22	1.80	0.64
30:Sa:1:MET:N	30:Sa:10:GLU:OE1	2.30	0.64
45:LG:23:ARG:NH1	45:LG:23:ARG:O	2.30	0.64
52:LN:27:ASP:O	52:LN:31:LYS:HB2	1.97	0.64
1:A:2177:G:OP2	42:LD:128:ARG:NH1	2.30	0.64
1:A:3343:G:H21	1:A:3362:A:H2	1.43	0.64
1:A:3379:C:H4'	43:LE:315:GLY:HA2	1.79	0.64
8:E:924:A:H2'	8:E:925:G:C8	2.32	0.64
12:SR:168:ARG:HG2	12:SR:170:ILE:HD11	1.79	0.64
15:SB:117:THR:HG21	15:SB:194:LEU:HD22	1.79	0.64
1:A:77:A:OP2	52:LN:73:ARG:NH1	2.30	0.64
1:A:2761:G:N7	81:Lq:63:LYS:NZ	2.40	0.64
8:E:1524:A:H2'	8:E:1525:A:C8	2.31	0.64
10:SQ:24:PHE:HA	10:SQ:27:LYS:HB2	1.79	0.64
43:LE:216:ASP:OD2	43:LE:339:ARG:NH2	2.26	0.64
44:LF:11:LEU:HD21	44:LF:156:LEU:HB2	1.79	0.64
49:LK:85:GLY:O	49:LK:187:ILE:N	2.26	0.64
54:LP:178:HIS:O	54:LP:181:ASN:ND2	2.30	0.64
60:LV:79:MET:HE1	68:Ld:21:ILE:HD12	1.79	0.64
3:C:142:C:H2'	3:C:143:U:C6	2.32	0.64
8:E:558:U:OP2	37:Sg:55:ARG:NH2	2.31	0.64
46:LH:132:THR:O	46:LH:136:GLU:HG3	1.97	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:63:A:N3	1:A:78:U:O2'	2.26	0.64
1:A:3045:G:OP1	43:LE:19:ARG:NH2	2.28	0.64
1:A:3119:U:H4'	79:Lo:104:PRO:HG2	1.80	0.64
22:SD:43:ARG:HH12	22:SD:103:LEU:HA	1.62	0.64
27:SH:11:PHE:HD1	27:SH:60:GLU:HB3	1.63	0.64
1:A:358:G:N2	1:A:361:A:OP2	2.31	0.64
8:E:555:A:C6	19:SW:19:TYR:CE2	2.86	0.64
10:SQ:36:SER:HB3	10:SQ:41:ARG:HH21	1.62	0.64
25:SF:90:VAL:HA	25:SF:105:LEU:HD23	1.78	0.64
27:SH:38:VAL:HG23	27:SH:42:TYR:HB3	1.78	0.64
39:SO:68:VAL:HA	39:SO:84:SER:HA	1.80	0.64
43:LE:221:THR:O	43:LE:334:ARG:NH1	2.30	0.64
62:LX:27:ASP:OD1	62:LX:29:SER:OG	2.14	0.64
1:A:407:A:C2	3:C:17:A:H1'	2.33	0.64
1:A:501:A:H2'	1:A:502:U:C6	2.33	0.64
1:A:2772:C:H4'	1:A:2773:C:H5'	1.78	0.64
1:A:2837:A:H2'	1:A:2845:A:C2	2.33	0.64
8:E:1596:C:H3'	36:SM:32:ARG:HH12	1.62	0.64
15:SB:74:ALA:O	25:SF:122:ARG:NH2	2.31	0.64
25:SF:23:LYS:HG2	25:SF:64:ASP:HB3	1.80	0.64
1:A:649:A:OP2	1:A:2868:U:O2'	2.16	0.64
1:A:2991:A:O2'	1:A:3309:G:N7	2.31	0.64
8:E:1410:A:H5''	25:SF:118:ILE:HD12	1.78	0.64
13:SA:56:GLN:H	13:SA:56:GLN:CD	2.06	0.64
39:SO:240:VAL:HG23	39:SO:256:THR:HG22	1.80	0.64
46:LH:172:HIS:ND1	72:Lh:44:TYR:OH	2.23	0.64
1:A:2697:A:H2'	1:A:2698:G:H8	1.63	0.63
8:E:405:C:O2'	16:ST:92:ARG:O	2.16	0.63
9:SP:105:GLY:N	9:SP:135:GLU:OE2	2.25	0.63
15:SB:203:LYS:HE3	15:SB:205:SER:HB2	1.80	0.63
20:SC:30:ALA:HA	20:SC:38:LYS:HD2	1.78	0.63
39:SO:224:ASN:O	39:SO:228:LYS:N	2.31	0.63
48:LJ:246:MET:SD	48:LJ:249:ARG:NH2	2.70	0.63
1:A:2687:G:OP1	45:LG:8:LYS:NZ	2.29	0.63
2:B:7:G:O2'	45:LG:72:ASP:OD1	2.16	0.63
8:E:523:G:OP2	33:Sd:93:ARG:NH2	2.31	0.63
8:E:929:A:OP1	8:E:931:C:N4	2.31	0.63
9:SP:147:THR:HG1	9:SP:151:SER:HG	1.39	0.63
15:SB:170:GLN:O	15:SB:174:LEU:HG	1.98	0.63
23:SY:137:PRO:O	23:SY:138:ASN:ND2	2.31	0.63
49:LK:94:TYR:OH	49:LK:142:ASP:OD2	2.04	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:Lb:103:GLN:NE2	66:Lb:105:SER:OG	2.32	0.63
1:A:20:A:H2'	1:A:21:G:C8	2.33	0.63
1:A:737:G:H2'	1:A:738:A:H8	1.62	0.63
1:A:3050:U:O2'	63:LY:16:GLY:O	2.15	0.63
8:E:366:A:OP1	8:E:758:U:O2'	2.16	0.63
8:E:976:G:N2	8:E:1024:U:OP2	2.24	0.63
8:E:1160:A:H2'	8:E:1161:C:C6	2.33	0.63
8:E:1320:U:O2'	8:E:1322:A:OP1	2.16	0.63
9:SP:2:SER:OG	9:SP:3:LEU:N	2.30	0.63
19:SW:108:ARG:NH2	19:SW:145:SER:OG	2.31	0.63
51:LM:86:VAL:HG23	51:LM:111:ASP:OD2	1.98	0.63
1:A:1766:G:N7	58:LT:46:LYS:NZ	2.45	0.63
8:E:278:U:OP1	8:E:279:G:N2	2.31	0.63
26:SG:106:THR:O	26:SG:110:VAL:HG23	1.99	0.63
27:SH:17:LEU:HD12	27:SH:22:VAL:HG21	1.79	0.63
1:A:620:U:H4'	56:LR:167:ARG:HH22	1.62	0.63
7:z:398:MET:O	7:z:402:GLN:HG2	1.99	0.63
8:E:555:A:HO2'	8:E:556:A:H8	1.46	0.63
10:SQ:2:ALA:N	24:SZ:49:LYS:O	2.31	0.63
13:SA:20:GLU:HB2	20:SC:61:TRP:CZ3	2.33	0.63
17:SU:163:ASP:OD1	17:SU:163:ASP:N	2.28	0.63
19:SW:73:GLY:O	19:SW:77:ILE:HG13	1.98	0.63
39:SO:93:ASP:HB2	39:SO:100:TYR:HE1	1.62	0.63
54:LP:8:GLU:HG3	54:LP:50:ARG:CZ	2.29	0.63
1:A:439:C:OP2	1:A:440:A:N6	2.30	0.63
1:A:3174:A:OP1	72:Lh:97:SER:OG	2.16	0.63
8:E:327:U:H4'	21:SX:14:GLN:HE22	1.62	0.63
8:E:1633:A:H4'	8:E:1634:C:H5''	1.80	0.63
13:SA:59:LEU:HA	13:SA:66:ILE:HG13	1.80	0.63
54:LP:153:ASP:OD1	54:LP:155:VAL:HG12	1.98	0.63
1:A:1799:A:H2'	1:A:1800:A:C8	2.33	0.63
5:m:19:G:N2	5:m:57:G:O6	2.32	0.63
10:SQ:30:PHE:CE2	10:SQ:61:LEU:HD21	2.33	0.63
15:SB:116:HIS:ND1	41:AA:98:GLN:OE1	2.31	0.63
16:ST:32:ILE:HD13	16:ST:52:ILE:HG22	1.81	0.63
16:ST:98:ARG:NH1	16:ST:101:ILE:O	2.31	0.63
49:LK:7:GLU:OE1	49:LK:7:GLU:N	2.31	0.63
1:A:912:G:OP2	42:LD:9:ARG:NH2	2.31	0.63
11:SE:17:TYR:CE2	11:SE:18:ARG:HG3	2.33	0.63
61:LW:98:THR:HG22	61:LW:99:LYS:HG2	1.80	0.63
72:Lh:19:SER:OG	72:Lh:20:LYS:N	2.30	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1574:C:H2'	1:A:1576:G:C8	2.33	0.63
3:C:95:G:OP2	76:Ll:72:ARG:NH1	2.30	0.63
18:SV:119:GLN:HG3	18:SV:150:ALA:HB2	1.81	0.63
23:SY:87:ASP:O	23:SY:91:LEU:HG	1.98	0.63
39:SO:19:TRP:HB2	39:SO:38:ARG:HD2	1.80	0.63
43:LE:291:GLU:OE1	43:LE:291:GLU:N	2.29	0.63
1:A:1896:A:H61	1:A:2339:C:H42	1.46	0.62
1:A:2697:A:H2'	1:A:2698:G:C8	2.34	0.62
1:A:2815:G:N2	1:A:2818:U:O2	2.29	0.62
1:A:3165:A:H2'	1:A:3166:C:C6	2.34	0.62
1:A:3187:A:OP1	49:LK:23:ARG:NH1	2.31	0.62
3:C:57:C:OP2	76:Ll:68:LYS:NZ	2.32	0.62
14:SS:92:LEU:HD23	33:Sd:17:LEU:HD11	1.79	0.62
20:SC:46:LEU:O	20:SC:50:THR:HG23	1.98	0.62
50:LL:36:LEU:HD21	50:LL:69:ARG:HH11	1.65	0.62
53:LO:13:ARG:NH1	53:LO:65:LEU:O	2.28	0.62
65:La:56:VAL:HG21	65:La:104:LEU:HD13	1.80	0.62
66:Lb:97:SER:OG	66:Lb:99:GLU:OE1	2.14	0.62
1:A:440:A:OP1	1:A:494:G:N2	2.32	0.62
2:B:7:G:OP1	45:LG:33:ARG:NH1	2.32	0.62
8:E:163:G:N2	8:E:163:G:OP2	2.32	0.62
8:E:1477:G:H5'	28:Sl:45:MET:HB2	1.80	0.62
11:SE:34:VAL:HG21	11:SE:45:PHE:CD2	2.34	0.62
12:SR:49:LYS:NZ	12:SR:246:GLU:OE2	2.31	0.62
12:SR:140:ARG:HB3	12:SR:221:THR:HB	1.79	0.62
15:SB:39:GLU:HG2	15:SB:40:ILE:HG22	1.80	0.62
16:ST:25:ARG:HH12	43:LE:298:PHE:HE1	1.44	0.62
22:SD:56:GLU:HG2	22:SD:124:LYS:HE2	1.81	0.62
1:A:3154:C:H1'	1:A:3156:U:H1'	1.80	0.62
8:E:1789:G:OP2	24:SZ:132:ARG:NH2	2.26	0.62
31:Sb:2:THR:OG1	31:Sb:3:ARG:N	2.29	0.62
39:SO:259:GLY:HA3	39:SO:275:ARG:NH2	2.15	0.62
45:LG:41:LYS:HE3	60:LV:93:VAL:HG11	1.81	0.62
47:LI:48:ASN:ND2	47:LI:182:ASP:OD2	2.32	0.62
51:LM:111:ASP:CG	51:LM:112:LEU:H	2.07	0.62
71:Lg:81:ASP:O	71:Lg:84:THR:OG1	2.17	0.62
1:A:1096:U:OP2	60:LV:116:ARG:NH2	2.31	0.62
1:A:2228:A:H2'	1:A:2229:A:C8	2.34	0.62
1:A:2568:C:O2'	1:A:2569:A:O4'	2.16	0.62
1:A:3016:A:H2'	1:A:3017:A:H8	1.63	0.62
8:E:1535:U:H4'	8:E:1536:G:O5'	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:SQ:59:ASP:OD1	10:SQ:60:ALA:N	2.33	0.62
16:ST:78:THR:HG22	16:ST:79:LYS:H	1.61	0.62
44:LF:229:ASN:OD1	44:LF:230:VAL:N	2.32	0.62
58:LT:7:GLN:NE2	58:LT:35:ALA:O	2.28	0.62
67:Lc:39:HIS:O	67:Lc:42:ARG:N	2.31	0.62
72:Lh:53:TYR:HE1	72:Lh:67:MET:HG3	1.64	0.62
1:A:36:C:OP2	54:LP:83:LYS:NZ	2.31	0.62
1:A:47:C:H5''	52:LN:16:LYS:HG2	1.81	0.62
1:A:3183:A:OP2	55:LQ:12:LYS:NZ	2.33	0.62
8:E:447:U:H2'	8:E:448:C:O4'	1.99	0.62
8:E:1122:G:N2	8:E:1125:A:OP2	2.31	0.62
39:SO:10:ARG:NH1	39:SO:50:ASP:O	2.32	0.62
50:LL:180:GLU:OE2	50:LL:184:LYS:NZ	2.24	0.62
69:Le:14:LEU:O	69:Le:18:ILE:HG12	1.99	0.62
1:A:217:U:O2	65:La:103:LYS:NZ	2.31	0.62
1:A:1493:G:C8	78:Ln:13:MET:HE1	2.34	0.62
1:A:1805:C:H2'	1:A:1806:A:H8	1.63	0.62
1:A:2181:C:OP1	42:LD:193:ARG:NH1	2.33	0.62
1:A:3281:U:H2'	1:A:3282:U:C6	2.34	0.62
41:AA:18:ALA:HA	41:AA:21:LYS:HG2	1.82	0.62
48:LJ:171:LYS:NZ	48:LJ:223:ALA:O	2.23	0.62
50:LL:12:GLN:HA	50:LL:59:GLN:NE2	2.15	0.62
1:A:784:A:H5'	57:LS:69:ARG:HH22	1.64	0.62
1:A:1003:A:N1	1:A:1049:C:O2'	2.31	0.62
12:SR:60:SER:OG	30:Sa:25:LYS:O	2.18	0.62
41:AA:62:VAL:O	41:AA:66:VAL:HG23	2.00	0.62
1:A:1060:U:H2'	1:A:1061:A:H8	1.64	0.62
1:A:2344:U:H2'	1:A:2345:A:C8	2.35	0.62
1:A:2434:U:OP2	54:LP:24:ARG:NH1	2.28	0.62
2:B:112:G:H2'	2:B:113:C:C6	2.34	0.62
8:E:66:U:OP1	16:ST:136:LYS:NZ	2.28	0.62
19:SW:110:GLN:OE1	19:SW:126:ARG:NH1	2.31	0.62
50:LL:193:ASP:OD2	50:LL:198:LYS:NZ	2.32	0.62
52:LN:28:GLN:HB3	54:LP:201:ARG:HH11	1.65	0.62
1:A:531:G:H2'	1:A:532:A:C8	2.35	0.62
1:A:674:G:O6	57:LS:56:LYS:NZ	2.33	0.62
1:A:714:G:N7	67:Lc:111:LYS:NZ	2.46	0.62
1:A:2366:C:H2'	1:A:2367:A:H8	1.64	0.62
8:E:1209:C:OP1	38:SN:80:ARG:NH1	2.31	0.62
8:E:1478:G:OP1	28:SI:39:THR:OG1	2.13	0.62
12:SR:83:ILE:HG21	12:SR:121:VAL:HG23	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:SC:50:THR:HG22	20:SC:55:VAL:HG13	1.82	0.62
22:SD:66:VAL:HG22	22:SD:72:ILE:HG13	1.82	0.62
75:Lk:57:LEU:O	75:Lk:61:ILE:HG12	2.00	0.62
82:Lr:30:GLU:HA	82:Lr:33:GLN:HG2	1.82	0.62
1:A:1794:G:O2'	1:A:1796:G:N2	2.33	0.62
1:A:3348:G:N2	1:A:3357:U:O2	2.24	0.62
21:SX:16:GLN:NE2	21:SX:34:TRP:O	2.27	0.62
1:A:1341:U:H2'	1:A:1342:C:C6	2.34	0.61
1:A:1799:A:H2'	1:A:1800:A:H8	1.64	0.61
1:A:3227:A:O2'	53:LO:133:LYS:NZ	2.33	0.61
8:E:1472:C:OP1	15:SB:102:ARG:NH2	2.31	0.61
19:SW:63:ASP:OD1	19:SW:64:GLU:N	2.33	0.61
20:SC:64:TYR:HB3	20:SC:66:TYR:CE1	2.35	0.61
26:SG:21:TYR:OH	26:SG:62:GLN:OE1	2.16	0.61
26:SG:27:ASP:OD1	39:SO:38:ARG:NH1	2.25	0.61
39:SO:69:GLN:HG2	39:SO:111:MET:HA	1.82	0.61
63:LY:6:ASP:OD1	63:LY:31:PHE:HA	2.00	0.61
1:A:595:G:OP1	47:LI:33:ARG:NH2	2.32	0.61
1:A:2256:A:C5	8:E:1757:G:H5'	2.35	0.61
8:E:1502:G:N7	28:SI:102:ARG:NH2	2.47	0.61
1:A:154:U:OP2	74:Lj:103:LYS:NZ	2.21	0.61
1:A:563:U:H2'	1:A:564:G:H8	1.64	0.61
1:A:1369:A:H5''	67:Lc:21:ARG:HH11	1.66	0.61
8:E:859:A:C6	23:SY:73:ARG:HD3	2.35	0.61
15:SB:107:LYS:O	15:SB:111:VAL:HG22	2.00	0.61
15:SB:148:ARG:HD3	15:SB:157:ARG:HH21	1.65	0.61
23:SY:94:LYS:O	23:SY:98:VAL:HG23	2.00	0.61
26:SG:29:GLN:N	26:SG:29:GLN:OE1	2.30	0.61
40:SL:31:GLU:OE2	40:SL:37:SER:N	2.31	0.61
51:LM:15:GLU:HG2	51:LM:132:ASN:HD21	1.66	0.61
76:Ll:82:SER:O	76:Ll:82:SER:OG	2.11	0.61
8:E:63:G:O2'	8:E:170:U:OP1	2.18	0.61
10:SQ:38:PHE:HB3	10:SQ:73:LEU:HB3	1.83	0.61
14:SS:141:THR:OG1	14:SS:143:ASP:OD1	2.17	0.61
24:SZ:81:VAL:HB	24:SZ:115:ILE:HG22	1.82	0.61
33:Sd:76:TYR:OH	33:Sd:86:GLU:OE1	2.17	0.61
49:LK:4:ILE:N	59:LU:142:GLN:OE1	2.32	0.61
60:LV:78:LYS:HD3	60:LV:87:LYS:HZ2	1.66	0.61
2:B:84:A:H2'	2:B:85:G:C8	2.35	0.61
8:E:868:G:OP1	23:SY:121:ARG:NH1	2.34	0.61
8:E:1341:A:H2'	8:E:1342:C:H6	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:1483:A:OP1	25:SF:71:GLY:N	2.27	0.61
59:LU:109:ASP:OD1	59:LU:113:ARG:NH1	2.28	0.61
1:A:3118:C:O2'	79:Lo:106:ARG:NH2	2.33	0.61
2:B:28:C:H5''	51:LM:137:ARG:HG2	1.81	0.61
8:E:1215:C:H2'	8:E:1216:C:H6	1.64	0.61
18:SV:46:VAL:HG13	18:SV:54:LYS:HB3	1.81	0.61
39:SO:183:LEU:HD23	39:SO:183:LEU:H	1.65	0.61
52:LN:128:ARG:HH21	74:Lj:114:ARG:HH11	1.47	0.61
60:LV:130:ARG:O	60:LV:131:GLN:NE2	2.33	0.61
62:LX:57:MET:HE3	62:LX:75:PRO:HB3	1.83	0.61
1:A:1128:U:OP1	50:LL:4:ARG:NH1	2.33	0.61
19:SW:175:ARG:HH21	19:SW:179:ARG:HH22	1.47	0.61
24:SZ:61:MET:O	24:SZ:65:GLN:HG2	2.00	0.61
28:SI:69:LYS:HE3	28:SI:70:GLN:HE22	1.65	0.61
41:AA:53:GLU:O	41:AA:56:THR:OG1	2.15	0.61
1:A:627:U:H2'	1:A:628:A:C8	2.35	0.61
1:A:1405:U:OP2	71:Lg:59:SER:OG	2.18	0.61
8:E:849:C:H2'	8:E:850:A:H8	1.65	0.61
70:Lf:68:GLU:OE1	70:Lf:68:GLU:N	2.33	0.61
1:A:1060:U:H2'	1:A:1061:A:C8	2.36	0.61
1:A:1717:U:H2'	1:A:1718:G:C8	2.35	0.61
1:A:3109:G:H21	49:LK:156:GLN:NE2	1.99	0.61
9:SP:53:THR:HG22	9:SP:161:PRO:HG2	1.83	0.61
13:SA:40:ARG:HB2	13:SA:47:GLU:HG2	1.83	0.61
14:SS:158:ASP:OD2	14:SS:174:LYS:NZ	2.33	0.61
18:SV:81:VAL:HG12	18:SV:102:VAL:HG22	1.82	0.61
31:Sb:69:LEU:HD11	31:Sb:72:CYS:HB3	1.82	0.61
34:Se:30:ILE:HD12	34:Se:31:PRO:HD2	1.83	0.61
39:SO:46:LYS:HE3	39:SO:58:VAL:HG21	1.83	0.61
52:LN:88:ALA:O	52:LN:92:THR:HG23	2.00	0.61
53:LO:38:ILE:O	59:LU:95:ARG:NH2	2.33	0.61
1:A:600:G:N2	1:A:603:A:OP2	2.34	0.61
1:A:1808:G:OP1	66:Lb:135:ARG:NH2	2.34	0.61
8:E:475:A:OP1	19:SW:126:ARG:NE	2.33	0.61
38:SN:149:LYS:NZ	38:SN:150:VAL:O	2.33	0.61
56:LR:64:ASN:O	56:LR:80:LYS:NZ	2.31	0.61
1:A:2546:C:H2'	1:A:2547:A:C8	2.36	0.60
1:A:3322:A:H2'	1:A:3323:A:C8	2.36	0.60
8:E:390:G:H2'	8:E:391:A:C8	2.36	0.60
14:SS:59:ARG:NH2	33:Sd:87:PRO:HG3	2.16	0.60
32:Sc:37:ALA:O	32:Sc:41:SER:OG	2.19	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:LM:132:ASN:HA	51:LM:154:THR:HG21	1.81	0.60
57:LS:95:GLU:OE1	57:LS:95:GLU:N	2.34	0.60
8:E:549:G:O2'	8:E:556:A:N1	2.31	0.60
8:E:1533:C:OP2	41:AA:77:ARG:NH2	2.33	0.60
15:SB:53:VAL:HG11	15:SB:62:VAL:HG11	1.82	0.60
24:SZ:84:ARG:HH21	24:SZ:120:PRO:HG3	1.65	0.60
26:SG:20:TYR:CZ	26:SG:38:ILE:HD11	2.36	0.60
39:SO:33:LEU:HD12	39:SO:34:LEU:H	1.65	0.60
55:LQ:109:PRO:HB2	55:LQ:111:PRO:HD2	1.83	0.60
1:A:638:C:OP1	71:Lg:21:HIS:NE2	2.33	0.60
1:A:1282:G:H2'	1:A:1283:C:C6	2.37	0.60
1:A:1477:A:OP1	1:A:3075:G:O2'	2.18	0.60
8:E:575:C:N4	32:Sc:65:ASN:OD1	2.34	0.60
8:E:956:C:OP1	8:E:1072:C:O2'	2.19	0.60
8:E:1490:C:H5''	8:E:1492:A:H1'	1.84	0.60
18:SV:62:THR:HG22	18:SV:77:ARG:HA	1.82	0.60
18:SV:101:ILE:HD12	18:SV:184:LEU:HD11	1.83	0.60
35:Sf:67:THR:OG1	35:Sf:70:LYS:O	2.18	0.60
66:Lb:117:ALA:O	66:Lb:121:ARG:HG3	2.01	0.60
75:Lk:66:GLU:OE1	75:Lk:70:ARG:NH1	2.34	0.60
5:m:23:A:H2'	5:m:24:G:H8	1.66	0.60
8:E:866:G:OP1	23:SY:2:GLY:N	2.34	0.60
15:SB:126:ASP:OD1	41:AA:58:ARG:NH2	2.32	0.60
36:SM:46:LYS:O	36:SM:50:ILE:HG13	2.00	0.60
69:Le:12:GLN:OE1	69:Le:12:GLN:N	2.24	0.60
1:A:105:C:H2'	1:A:106:A:H8	1.65	0.60
1:A:314:U:H2'	1:A:315:C:C6	2.36	0.60
1:A:2812:C:H2'	1:A:2813:A:H8	1.67	0.60
8:E:1169:G:N1	8:E:1575:G:OP2	2.31	0.60
19:SW:106:GLU:HA	19:SW:111:THR:HG21	1.83	0.60
20:SC:14:TYR:CD2	20:SC:35:ILE:HG12	2.37	0.60
28:SI:13:ASP:OD1	28:SI:14:PHE:N	2.35	0.60
28:SI:77:ASN:HA	28:SI:96:ALA:HB3	1.81	0.60
1:A:952:A:N3	1:A:1114:U:O2'	2.34	0.60
1:A:2357:A:H2'	1:A:2358:A:H8	1.67	0.60
8:E:932:U:OP2	10:SQ:155:TYR:OH	2.16	0.60
8:E:1027:A:OP1	8:E:1789:G:O2'	2.20	0.60
8:E:1085:G:N2	8:E:1088:A:OP2	2.33	0.60
8:E:1444:A:H4'	8:E:1445:G:H5'	1.82	0.60
9:SP:188:LEU:HD21	9:SP:195:TRP:CD1	2.36	0.60
10:SQ:30:PHE:CD2	10:SQ:61:LEU:HD21	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:SE:31:GLU:OE1	11:SE:31:GLU:N	2.34	0.60
13:SA:51:ARG:HB3	13:SA:91:VAL:HG22	1.82	0.60
14:SS:103:TYR:O	14:SS:182:TYR:OH	2.18	0.60
31:Sb:41:MET:HB3	31:Sb:47:ILE:HG12	1.83	0.60
43:LE:60:LEU:HD11	43:LE:62:ARG:HE	1.66	0.60
44:LF:150:LEU:HD23	44:LF:249:ILE:HG12	1.83	0.60
57:LS:123:THR:OG1	57:LS:125:ASP:OD1	2.16	0.60
58:LT:116:ASP:OD2	58:LT:118:HIS:ND1	2.26	0.60
64:LZ:107:VAL:HA	64:LZ:126:LEU:HA	1.84	0.60
69:Le:10:ILE:HG12	69:Le:68:TYR:HE2	1.66	0.60
1:A:417:A:H2'	1:A:418:A:C8	2.37	0.60
8:E:1218:G:N2	8:E:1444:A:OP2	2.26	0.60
8:E:1785:U:H2'	8:E:1786:G:H8	1.67	0.60
15:SB:135:ASP:OD1	15:SB:139:ASN:ND2	2.34	0.60
18:SV:57:ALA:HB1	18:SV:60:ILE:HD11	1.82	0.60
30:Sa:68:SER:O	30:Sa:72:LEU:HD12	2.02	0.60
49:LK:160:ASP:O	49:LK:164:ILE:HG12	2.02	0.60
54:LP:106:VAL:HG21	54:LP:132:VAL:HG21	1.83	0.60
1:A:900:G:H1'	1:A:1589:A:N6	2.17	0.60
1:A:1778:G:O2'	1:A:1780:G:OP2	2.19	0.60
4:D:7:A:H2'	4:D:8:A:H8	1.67	0.60
8:E:749:U:H5''	31:Sb:83:ILE:HG12	1.82	0.60
8:E:1041:G:H2'	8:E:1042:G:H8	1.67	0.60
8:E:1459:C:OP2	27:SH:138:THR:OG1	2.16	0.60
16:ST:39:GLU:OE2	16:ST:47:GLY:N	2.32	0.60
25:SF:86:ALA:O	25:SF:90:VAL:HG23	2.01	0.60
26:SG:75:GLU:HG2	26:SG:76:GLU:OE1	2.02	0.60
43:LE:306:THR:HG1	43:LE:317:ILE:H	1.49	0.60
45:LG:41:LYS:NZ	60:LV:32:LYS:O	2.34	0.60
52:LN:102:GLN:NE2	75:Lk:25:LYS:HD2	2.17	0.60
58:LT:98:ARG:NH2	58:LT:130:ASN:OD1	2.35	0.60
1:A:50:U:H2'	1:A:51:A:H8	1.66	0.60
8:E:1454:G:H4'	11:SE:122:THR:HG21	1.84	0.60
17:SU:38:LEU:HA	17:SU:41:LEU:HD22	1.82	0.60
18:SV:136:SER:O	18:SV:140:GLU:HG2	2.01	0.60
39:SO:169:ILE:HG23	39:SO:183:LEU:HD22	1.83	0.60
58:LT:183:ALA:HA	58:LT:186:LYS:HB2	1.82	0.60
75:Lk:51:SER:HG	75:Lk:53:TYR:HD1	1.48	0.60
1:A:103:G:OP1	52:LN:70:ARG:NE	2.34	0.60
1:A:1863:G:N1	1:A:1866:C:OP2	2.27	0.60
1:A:2842:U:OP1	1:A:2844:C:N4	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:103:G:OP2	3:C:105:A:O2'	2.19	0.60
8:E:1430:U:O2'	8:E:1431:C:OP1	2.18	0.60
8:E:1591:C:H2'	8:E:1592:A:C8	2.36	0.60
12:SR:180:ALA:HB1	12:SR:184:VAL:HG13	1.82	0.60
53:LO:28:SER:HB3	53:LO:53:VAL:HG22	1.84	0.60
78:Ln:10:LYS:HA	78:Ln:13:MET:HG3	1.84	0.60
1:A:1084:A:H2'	1:A:1085:A:C8	2.37	0.59
8:E:588:U:OP2	37:Sg:26:LYS:NZ	2.31	0.59
8:E:1504:G:OP1	28:SI:97:SER:OG	2.18	0.59
17:SU:16:LEU:HD21	17:SU:58:LEU:HD11	1.84	0.59
20:SC:29:GLN:NE2	20:SC:39:ASN:HD22	2.00	0.59
23:SY:86:GLU:O	23:SY:90:TYR:HD1	1.84	0.59
1:A:2162:U:OP1	42:LD:234:LYS:NZ	2.25	0.59
1:A:2432:A:N6	1:A:2598:G:O6	2.36	0.59
1:A:2960:C:H2'	1:A:2961:G:C8	2.36	0.59
1:A:3059:G:H5''	70:Lf:17:HIS:HE1	1.67	0.59
4:D:8:A:H2'	4:D:9:A:H8	1.67	0.59
8:E:1465:C:OP1	25:SF:139:GLN:NE2	2.26	0.59
9:SP:83:GLN:HG2	9:SP:99:ALA:HB1	1.84	0.59
11:SE:25:LEU:HA	11:SE:28:MET:HE2	1.84	0.59
25:SF:44:LEU:HB3	25:SF:78:VAL:HG11	1.84	0.59
55:LQ:49:ARG:HH11	55:LQ:49:ARG:HG3	1.66	0.59
1:A:718:G:N2	1:A:721:G:O2'	2.35	0.59
1:A:1404:G:N2	1:A:1407:A:OP2	2.34	0.59
1:A:3344:A:N6	1:A:3361:G:O2'	2.36	0.59
8:E:113:U:O2'	8:E:115:G:O2'	2.21	0.59
8:E:1087:A:H2'	8:E:1088:A:C8	2.37	0.59
22:SD:80:ASN:O	38:SN:113:LYS:NZ	2.28	0.59
39:SO:83:ALA:HB2	39:SO:113:VAL:HB	1.83	0.59
1:A:348:A:N3	1:A:352:A:O2'	2.35	0.59
1:A:2413:A:H2'	1:A:2414:G:H8	1.67	0.59
8:E:480:G:N2	8:E:508:U:O2	2.32	0.59
8:E:1293:U:O2	9:SP:109:ASN:ND2	2.34	0.59
9:SP:106:SER:OG	9:SP:114:SER:O	2.17	0.59
16:ST:67:VAL:HG23	16:ST:99:GLY:HA2	1.84	0.59
22:SD:66:VAL:HG21	22:SD:71:ILE:HB	1.84	0.59
26:SG:66:VAL:HG13	26:SG:69:ILE:HD12	1.84	0.59
28:SI:108:LEU:HD22	28:SI:113:ILE:HG21	1.84	0.59
39:SO:90:ARG:HH11	39:SO:99:THR:HG21	1.67	0.59
1:A:1861:G:O2'	1:A:3066:U:OP1	2.20	0.59
8:E:143:G:H2'	8:E:144:U:C6	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:SR:45:VAL:HG21	12:SR:68:ILE:HG23	1.84	0.59
14:SS:18:TRP:HB3	14:SS:20:LEU:HD13	1.84	0.59
39:SO:10:ARG:HB3	39:SO:312:VAL:HG13	1.83	0.59
61:LW:19:VAL:HG12	61:LW:105:LEU:HD22	1.83	0.59
62:LX:40:LYS:HG3	62:LX:57:MET:HE2	1.84	0.59
69:Le:40:LYS:NZ	69:Le:93:LEU:O	2.26	0.59
1:A:321:C:OP1	54:LP:159:ARG:NH2	2.36	0.59
1:A:544:C:O2'	1:A:545:U:O5'	2.20	0.59
1:A:664:U:H2'	1:A:665:A:H8	1.67	0.59
1:A:835:G:O2'	1:A:857:G:N2	2.29	0.59
1:A:1786:G:H2'	1:A:1787:A:C8	2.38	0.59
8:E:939:A:H2'	8:E:940:A:C8	2.37	0.59
8:E:1025:A:HO2'	8:E:1773:C:HO2'	1.50	0.59
9:SP:51:GLY:O	9:SP:55:GLU:HG2	2.02	0.59
20:SC:43:ILE:HG22	20:SC:44:LYS:HD2	1.83	0.59
39:SO:170:ILE:HG12	39:SO:211:ILE:HG12	1.84	0.59
41:AA:50:ILE:HG13	41:AA:51:LEU:HD22	1.83	0.59
41:AA:50:ILE:O	41:AA:54:VAL:HG13	2.03	0.59
43:LE:110:LEU:HD12	43:LE:114:VAL:HG11	1.84	0.59
44:LF:296:GLN:HA	44:LF:299:ILE:HD12	1.85	0.59
57:LS:176:ARG:HA	57:LS:182:LYS:HB3	1.85	0.59
66:Lb:17:ARG:NH2	66:Lb:18:TYR:OH	2.35	0.59
1:A:243:G:H2'	1:A:244:G:O4'	2.02	0.59
1:A:799:G:O2'	52:LN:18:TRP:NE1	2.35	0.59
1:A:808:A:HO2'	1:A:2412:G:HO2'	1.48	0.59
1:A:1627:U:H2'	1:A:1814:A:H61	1.67	0.59
8:E:1479:A:OP1	28:SI:57:ARG:NE	2.32	0.59
8:E:1541:G:H1'	8:E:1570:A:H61	1.67	0.59
22:SD:56:GLU:HG3	22:SD:124:LYS:HE2	1.84	0.59
33:Sd:35:VAL:HG13	33:Sd:40:LEU:HD11	1.84	0.59
45:LG:146:LEU:HD22	45:LG:163:LEU:HD12	1.85	0.59
49:LK:72:LYS:NZ	49:LK:76:ASP:OD2	2.35	0.59
2:B:89:G:N2	2:B:92:A:OP2	2.34	0.59
8:E:323:A:OP2	18:SV:10:LYS:NZ	2.24	0.59
16:ST:138:ALA:HB1	16:ST:142:ARG:HH12	1.68	0.59
18:SV:39:GLY:O	18:SV:59:ARG:HB3	2.01	0.59
22:SD:91:VAL:HG11	22:SD:97:LEU:HB2	1.84	0.59
43:LE:81:THR:OG1	43:LE:205:VAL:HG21	2.03	0.59
51:LM:143:ARG:NH1	51:LM:144:CYS:SG	2.76	0.59
59:LU:80:ARG:HG2	59:LU:122:HIS:HB2	1.84	0.59
1:A:696:C:OP2	44:LF:119:ARG:NH2	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1795:U:OP2	42:LD:50:HIS:NE2	2.34	0.59
6:n:58:A:O2'	6:n:59:A:OP1	2.21	0.59
20:SC:1:MET:HE1	20:SC:41:TYR:HA	1.84	0.59
35:Sf:31:TYR:O	35:Sf:48:SER:OG	2.21	0.59
62:LX:108:GLU:HG3	62:LX:128:ARG:HE	1.66	0.59
66:Lb:49:TYR:HD2	66:Lb:133:LYS:HG3	1.66	0.59
70:Lf:20:LEU:HD23	70:Lf:28:ARG:HG3	1.85	0.59
1:A:1364:C:OP1	47:LI:110:ARG:NH2	2.25	0.59
1:A:2244:A:HO2'	42:LD:223:SER:HG	1.50	0.59
1:A:2786:G:H5''	81:Lq:38:GLN:HB2	1.85	0.59
1:A:3109:G:H21	49:LK:156:GLN:HE22	1.49	0.59
8:E:91:G:OP1	8:E:397:A:N6	2.35	0.59
8:E:427:C:O2'	8:E:459:G:N3	2.28	0.59
13:SA:209:ILE:O	26:SG:20:TYR:OH	2.16	0.59
28:SI:40:SER:HB2	28:SI:96:ALA:HA	1.83	0.59
45:LG:104:LEU:HB2	45:LG:247:ILE:HD13	1.84	0.59
50:LL:207:GLU:OE1	50:LL:207:GLU:N	2.32	0.59
60:LV:45:ASN:ND2	60:LV:47:SER:OG	2.36	0.59
64:LZ:73:MET:HE2	64:LZ:73:MET:HA	1.85	0.59
1:A:289:A:H2'	1:A:290:G:H8	1.68	0.58
1:A:1430:U:C4	67:Lc:9:ARG:HD2	2.38	0.58
8:E:176:C:N4	8:E:266:A:OP2	2.35	0.58
8:E:958:U:O4	23:SY:12:SER:OG	2.20	0.58
8:E:1220:C:H2'	8:E:1221:A:H8	1.67	0.58
31:Sb:81:VAL:HG13	31:Sb:85:ASP:HB2	1.85	0.58
48:LJ:158:ASP:OD2	54:LP:41:ARG:NH1	2.33	0.58
55:LQ:141:LEU:O	55:LQ:145:VAL:HG22	2.02	0.58
57:LS:67:ILE:HD13	57:LS:140:LEU:HD12	1.85	0.58
60:LV:49:GLN:HA	60:LV:52:MET:HE2	1.85	0.58
1:A:80:G:OP1	54:LP:189:LYS:NZ	2.36	0.58
1:A:1214:U:OP2	59:LU:137:ARG:NH2	2.35	0.58
1:A:2703:A:N6	45:LG:28:THR:O	2.34	0.58
8:E:1218:G:H5''	8:E:1444:A:H61	1.69	0.58
8:E:1382:A:O2'	8:E:1383:G:OP1	2.18	0.58
9:SP:52:LYS:HE2	30:Sa:82:VAL:HA	1.85	0.58
27:SH:115:ARG:HA	27:SH:118:LYS:HE2	1.85	0.58
31:Sb:111:MET:HE1	31:Sb:119:LYS:HD2	1.86	0.58
55:LQ:56:ASP:OD1	55:LQ:60:LYS:NZ	2.36	0.58
62:LX:80:ARG:NH1	62:LX:117:PRO:O	2.32	0.58
1:A:633:C:O2'	72:Lh:21:ARG:O	2.19	0.58
1:A:1447:G:N7	56:LR:25:SER:OG	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1942:U:OP2	58:LT:74:ARG:NE	2.31	0.58
1:A:2661:G:H2'	1:A:2662:G:H8	1.68	0.58
1:A:2945:G:O2'	1:A:2948:C:OP2	2.21	0.58
8:E:1164:G:O2'	8:E:1612:U:O2	2.21	0.58
8:E:1366:U:O2'	28:SI:7:ARG:NH1	2.37	0.58
12:SR:172:ALA:HB1	12:SR:176:SER:HB3	1.85	0.58
17:SU:28:GLU:HB2	17:SU:38:LEU:HD11	1.85	0.58
21:SX:75:VAL:HG12	21:SX:86:ILE:HG22	1.85	0.58
25:SF:129:PHE:O	25:SF:137:ARG:NH2	2.36	0.58
31:Sb:81:VAL:O	31:Sb:122:SER:OG	2.19	0.58
70:Lf:6:ASP:HB3	70:Lf:89:LEU:HD11	1.85	0.58
1:A:655:C:OP1	71:Lg:27:ARG:N	2.37	0.58
1:A:1011:A:H2'	1:A:1012:G:C8	2.38	0.58
1:A:1560:G:H2'	1:A:1561:G:C8	2.39	0.58
2:B:120:C:HO2'	2:B:121:U:P	2.26	0.58
7:z:423:GLN:NE2	56:LR:133:HIS:O	2.37	0.58
8:E:748:U:O2	8:E:801:G:O6	2.21	0.58
16:ST:21:GLU:HA	16:ST:24:ILE:HG12	1.83	0.58
28:SI:45:MET:HE2	28:SI:45:MET:HA	1.86	0.58
39:SO:149:ASP:OD2	39:SO:174:ASN:HB2	2.04	0.58
48:LJ:69:LEU:HD21	54:LP:24:ARG:HH21	1.68	0.58
73:Li:22:VAL:HG12	73:Li:30:LEU:HD12	1.86	0.58
74:Lj:5:LYS:HB2	74:Lj:8:GLU:HG2	1.84	0.58
81:Lq:16:THR:OG1	81:Lq:77:CYS:SG	2.61	0.58
1:A:243:G:OP1	74:Lj:115:LYS:NZ	2.29	0.58
1:A:952:A:H4'	1:A:968:G:N2	2.18	0.58
1:A:1127:G:OP2	50:LL:98:ARG:NH2	2.29	0.58
1:A:1940:G:H21	1:A:3362:A:H8	1.50	0.58
1:A:2351:U:H2'	1:A:2352:A:H8	1.66	0.58
2:B:4:U:H2'	2:B:5:G:H8	1.67	0.58
8:E:826:U:H2'	8:E:827:C:C6	2.38	0.58
8:E:1650:U:H2'	8:E:1651:A:C8	2.38	0.58
20:SC:60:SER:HB2	20:SC:65:TYR:CE1	2.38	0.58
43:LE:220:VAL:HG13	43:LE:334:ARG:HD3	1.86	0.58
60:LV:44:ALA:N	60:LV:58:GLN:OE1	2.36	0.58
63:LY:6:ASP:HB3	63:LY:10:GLY:H	1.67	0.58
1:A:2683:U:H2'	1:A:2684:C:C6	2.39	0.58
8:E:610:G:O2'	8:E:613:G:O2'	2.20	0.58
8:E:874:C:H2'	8:E:875:G:C8	2.38	0.58
10:SQ:214:LYS:HZ1	10:SQ:216:LYS:HE2	1.69	0.58
12:SR:78:ASP:N	12:SR:78:ASP:OD1	2.35	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1098:A:OP2	60:LV:129:LYS:HA	2.04	0.58
8:E:128:U:H4'	8:E:131:C:H41	1.68	0.58
8:E:594:A:OP2	19:SW:38:ASN:ND2	2.35	0.58
12:SR:37:PRO:HG3	12:SR:46:LYS:HG3	1.85	0.58
18:SV:110:ARG:HE	18:SV:121:LEU:HD12	1.68	0.58
57:LS:82:VAL:HG22	57:LS:127:LEU:HD21	1.86	0.58
57:LS:134:GLY:O	57:LS:137:THR:OG1	2.19	0.58
61:LW:23:THR:HG21	61:LW:30:PRO:HG3	1.85	0.58
1:A:1340:G:H2'	1:A:1341:U:C6	2.39	0.58
1:A:1497:C:H2'	1:A:1498:A:H8	1.68	0.58
1:A:3138:U:OP2	43:LE:30:LYS:NZ	2.29	0.58
3:C:104:A:OP1	76:Ll:21:ARG:NH2	2.33	0.58
8:E:1776:A:H2'	8:E:1777:G:C8	2.38	0.58
9:SP:84:ARG:O	9:SP:88:LYS:HG2	2.03	0.58
10:SQ:87:ARG:NH2	10:SQ:133:TYR:OH	2.37	0.58
55:LQ:162:VAL:O	55:LQ:166:GLU:HG2	2.03	0.58
59:LU:159:SER:OG	59:LU:161:LYS:O	2.21	0.58
1:A:3164:C:O2'	1:A:3165:A:H8	1.86	0.58
8:E:156:A:H2'	8:E:157:A:O4'	2.03	0.58
8:E:934:C:N4	8:E:1077:C:O3'	2.37	0.58
8:E:1676:U:OP1	18:SV:44:HIS:ND1	2.26	0.58
8:E:1684:U:H2'	8:E:1685:G:H8	1.69	0.58
8:E:1776:A:H2'	8:E:1777:G:H8	1.68	0.58
8:E:1795:U:OP2	34:Se:4:LYS:NZ	2.33	0.58
9:SP:134:LYS:HE2	9:SP:138:TYR:HE2	1.68	0.58
12:SR:88:LYS:HG2	12:SR:89:GLN:H	1.68	0.58
18:SV:159:GLN:NE2	18:SV:166:TYR:H	2.02	0.58
44:LF:155:ASP:OD1	44:LF:155:ASP:N	2.34	0.58
45:LG:123:GLU:OE1	45:LG:248:ARG:NH2	2.37	0.58
45:LG:290:ILE:HD11	50:LL:206:LEU:HD22	1.84	0.58
50:LL:47:PRO:HD2	50:LL:141:LYS:HA	1.85	0.58
52:LN:123:ILE:HG22	74:Lj:118:ILE:HG12	1.86	0.58
64:LZ:85:GLN:OE1	64:LZ:115:ARG:NH2	2.37	0.58
5:m:23:A:H2'	5:m:24:G:C8	2.37	0.58
8:E:34:G:O2'	8:E:515:A:O2'	2.22	0.58
8:E:591:A:H2'	8:E:592:A:C8	2.39	0.58
8:E:968:U:O3'	8:E:1032:G:N2	2.37	0.58
8:E:1402:G:H5'	26:SG:4:VAL:HA	1.86	0.58
10:SQ:129:THR:OG1	10:SQ:179:SER:O	2.22	0.58
56:LR:29:THR:HG23	56:LR:119:VAL:HG11	1.86	0.58
64:LZ:108:LEU:N	64:LZ:125:ARG:O	2.32	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:394:G:N1	1:A:397:A:OP2	2.36	0.57
1:A:718:G:OP1	67:Lc:117:ARG:NH2	2.37	0.57
10:SQ:74:GLN:NE2	10:SQ:189:ILE:HG21	2.17	0.57
14:SS:65:LEU:HD13	14:SS:80:THR:HA	1.86	0.57
22:SD:60:VAL:HA	22:SD:122:VAL:HG22	1.84	0.57
26:SG:79:GLU:O	26:SG:83:GLN:HG2	2.04	0.57
34:Se:87:ARG:HD2	34:Se:91:ASP:OD1	2.05	0.57
68:Ld:50:THR:O	68:Ld:54:LEU:HD12	2.04	0.57
8:E:1179:G:H2'	8:E:1180:C:C6	2.38	0.57
24:SZ:58:TYR:CE2	24:SZ:62:LEU:HD11	2.39	0.57
35:Sf:49:HIS:CD2	35:Sf:70:LYS:HG2	2.39	0.57
75:Lk:96:ALA:O	75:Lk:100:HIS:CB	2.52	0.57
5:m:1:G:H2'	5:m:2:G:H8	1.68	0.57
8:E:153:G:H2'	8:E:154:G:H8	1.69	0.57
8:E:391:A:OP2	18:SV:23:LYS:NZ	2.30	0.57
11:SE:20:VAL:HG21	11:SE:28:MET:HE1	1.86	0.57
17:SU:72:LYS:HG3	17:SU:73:VAL:HG13	1.85	0.57
18:SV:148:ALA:O	18:SV:151:LYS:NZ	2.34	0.57
24:SZ:135:ARG:N	34:Se:26:CYS:SG	2.77	0.57
39:SO:48:THR:OG1	39:SO:50:ASP:OD2	2.22	0.57
39:SO:91:LEU:HB3	39:SO:101:GLN:H	1.68	0.57
66:Lb:41:ALA:HB2	66:Lb:77:TYR:HE1	1.68	0.57
77:Lm:8:ILE:HD11	77:Lm:65:LEU:HD11	1.85	0.57
1:A:1076:C:H4'	68:Ld:38:LYS:HG2	1.87	0.57
1:A:3016:A:H2'	1:A:3017:A:C8	2.40	0.57
1:A:3308:C:O2	56:LR:69:ARG:HD2	2.04	0.57
8:E:1504:G:H2'	8:E:1505:A:C8	2.40	0.57
10:SQ:137:ILE:HD12	10:SQ:172:LEU:HD22	1.84	0.57
17:SU:143:LEU:HD23	17:SU:147:ASN:HB2	1.86	0.57
22:SD:93:ASP:OD2	22:SD:96:GLN:N	2.36	0.57
43:LE:214:MET:HE3	43:LE:279:ASN:C	2.30	0.57
45:LG:94:ASN:OD1	45:LG:97:ALA:N	2.30	0.57
62:LX:137:VAL:HG21	63:LY:28:ILE:HD11	1.86	0.57
75:Lk:43:LEU:O	75:Lk:47:ILE:HG23	2.05	0.57
1:A:622:A:O4'	72:Lh:60:ARG:NH2	2.37	0.57
1:A:737:G:H2'	1:A:738:A:C8	2.40	0.57
1:A:1419:A:H5''	44:LF:193:LYS:NZ	2.19	0.57
1:A:1883:A:H2'	1:A:1884:A:H8	1.70	0.57
1:A:2683:U:H2'	1:A:2684:C:H6	1.70	0.57
8:E:901:G:H3'	8:E:902:G:H8	1.68	0.57
39:SO:86:ASP:OD1	39:SO:88:THR:OG1	2.21	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:LQ:194:LEU:HD22	55:LQ:199:TYR:HB2	1.86	0.57
1:A:107:A:OP1	52:LN:39:ARG:NH1	2.34	0.57
1:A:126:U:OP1	54:LP:144:ARG:NH1	2.37	0.57
1:A:159:A:H2'	1:A:160:G:H8	1.68	0.57
8:E:390:G:H2'	8:E:391:A:H8	1.70	0.57
8:E:1349:G:N2	8:E:1378:U:O4	2.17	0.57
9:SP:63:ILE:HG12	30:Sa:36:VAL:HG22	1.86	0.57
18:SV:39:GLY:HA2	18:SV:61:GLU:OE1	2.04	0.57
22:SD:83:GLU:OE2	22:SD:85:LYS:NZ	2.37	0.57
23:SY:99:ARG:NH2	23:SY:119:GLU:OE2	2.36	0.57
36:SM:45:GLU:HG2	36:SM:46:LYS:HG2	1.86	0.57
1:A:38:U:H4'	67:Lc:32:ARG:HG3	1.86	0.57
1:A:494:G:H2'	1:A:495:G:H8	1.70	0.57
1:A:884:A:H62	7:z:427:ARG:HG2	1.70	0.57
1:A:1119:C:H2'	1:A:1120:A:H8	1.70	0.57
1:A:1190:A:H4'	79:Lo:113:ARG:HH21	1.68	0.57
8:E:1071:U:H2'	8:E:1072:C:C6	2.40	0.57
10:SQ:88:VAL:HG11	10:SQ:96:LEU:HD12	1.86	0.57
19:SW:150:LEU:O	19:SW:154:LYS:NZ	2.37	0.57
23:SY:101:HIS:NE2	23:SY:108:ASP:OD2	2.36	0.57
24:SZ:99:GLN:OE1	34:Se:46:GLU:N	2.32	0.57
25:SF:94:GLN:NE2	39:SO:60:SER:O	2.37	0.57
29:SJ:109:GLU:OE2	29:SJ:110:PRO:HD2	2.05	0.57
46:LH:88:SER:N	46:LH:176:PHE:O	2.38	0.57
1:A:201:A:H2'	1:A:202:G:H8	1.69	0.57
1:A:2882:U:H2'	1:A:2883:U:C6	2.40	0.57
6:n:66:C:H2'	6:n:67:G:C8	2.40	0.57
8:E:61:A:O2'	8:E:62:A:O4'	2.23	0.57
8:E:300:A:H2'	8:E:301:A:C8	2.40	0.57
8:E:1064:G:O2'	10:SQ:204:ILE:O	2.23	0.57
8:E:1267:G:H1	8:E:1442:U:H3	1.51	0.57
8:E:1628:U:H2'	8:E:1629:G:C8	2.40	0.57
11:SE:53:PRO:HB3	11:SE:83:MET:HE2	1.85	0.57
13:SA:166:ASP:O	13:SA:190:ARG:NH2	2.37	0.57
16:ST:31:ARG:HG2	16:ST:101:ILE:HD13	1.85	0.57
18:SV:138:ASN:OD1	18:SV:141:ARG:NH2	2.38	0.57
25:SF:58:ASP:OD1	25:SF:58:ASP:N	2.36	0.57
28:SI:76:LEU:HB3	28:SI:101:ASN:HB3	1.86	0.57
43:LE:301:THR:HG22	43:LE:302:LYS:H	1.70	0.57
74:Lj:30:GLU:OE1	74:Lj:34:GLN:NE2	2.37	0.57
82:Lr:74:ALA:O	82:Lr:78:THR:HG23	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:341:G:O2'	3:C:22:U:O4	2.21	0.57
1:A:503:C:H2'	1:A:504:A:H8	1.70	0.57
1:A:1178:G:N3	1:A:1328:C:O2'	2.36	0.57
1:A:2543:U:H2'	1:A:2544:U:C6	2.39	0.57
2:B:8:G:O6	45:LG:21:ARG:NH2	2.38	0.57
8:E:815:G:H5'	58:LT:166:ASN:HD22	1.69	0.57
8:E:1450:U:H2'	8:E:1451:C:C6	2.40	0.57
10:SQ:120:LEU:HD21	10:SQ:122:GLU:OE2	2.04	0.57
15:SB:53:VAL:HG12	15:SB:134:VAL:HB	1.87	0.57
22:SD:97:LEU:HD21	22:SD:121:VAL:HG23	1.86	0.57
38:SN:139:LEU:HB2	38:SN:150:VAL:HG23	1.86	0.57
50:LL:56:GLU:OE2	50:LL:162:GLN:N	2.37	0.57
52:LN:3:ILE:HD11	67:Lc:34:MET:HA	1.87	0.57
55:LQ:157:GLU:OE1	55:LQ:160:ARG:NH2	2.30	0.57
77:Lm:29:LYS:HE2	77:Lm:39:ARG:HH12	1.70	0.57
1:A:49:A:OP1	52:LN:16:LYS:NZ	2.33	0.57
1:A:2433:U:H3'	1:A:2434:U:H2'	1.86	0.57
8:E:130:C:O2'	8:E:131:C:OP1	2.22	0.57
8:E:144:U:H2'	8:E:145:A:O4'	2.05	0.57
8:E:854:U:O4	8:E:855:A:N6	2.37	0.57
8:E:1299:G:O3'	12:SR:99:LYS:NZ	2.37	0.57
8:E:1357:A:H2'	8:E:1358:G:C8	2.39	0.57
24:SZ:20:TYR:HD2	24:SZ:84:ARG:HD3	1.69	0.57
43:LE:193:ASP:O	43:LE:197:GLU:HG2	2.05	0.57
1:A:651:G:O2'	1:A:1435:A:OP1	2.23	0.56
1:A:804:C:OP1	44:LF:98:ARG:NH2	2.38	0.56
1:A:1635:G:N2	1:A:1638:A:OP2	2.35	0.56
3:C:81:U:H1'	3:C:83:C:H5''	1.87	0.56
8:E:532:U:H2'	8:E:533:U:O4'	2.05	0.56
30:Sa:87:ARG:HE	35:Sf:2:VAL:HG11	1.70	0.56
44:LF:345:GLU:OE1	44:LF:345:GLU:N	2.32	0.56
67:Lc:126:LYS:HE2	67:Lc:148:ILE:HG21	1.86	0.56
1:A:177:U:H3	1:A:239:G:H22	1.52	0.56
1:A:1008:U:O4	1:A:1043:C:N4	2.38	0.56
1:A:1302:A:N7	1:A:2857:C:O2'	2.38	0.56
1:A:3026:G:N2	1:A:3029:A:OP2	2.38	0.56
8:E:385:A:H5''	18:SV:22:ARG:HB3	1.87	0.56
15:SB:183:ALA:HB2	15:SB:193:THR:HG21	1.86	0.56
53:LO:57:ALA:HB2	59:LU:97:VAL:HG21	1.86	0.56
1:A:565:U:H2'	1:A:566:G:H8	1.70	0.56
1:A:986:U:OP1	47:LI:98:LYS:NZ	2.35	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1283:C:H2'	1:A:1284:C:C6	2.39	0.56
1:A:1420:C:OP2	44:LF:193:LYS:NZ	2.26	0.56
1:A:1621:A:H2'	1:A:1622:U:C6	2.40	0.56
8:E:27:U:H2'	8:E:28:A:H8	1.69	0.56
8:E:183:U:H3	8:E:203:U:H3	1.53	0.56
8:E:1147:A:O2'	8:E:1636:C:OP2	2.19	0.56
8:E:1727:G:H2'	8:E:1728:A:H8	1.69	0.56
11:SE:115:TYR:HB2	11:SE:118:GLU:OE2	2.05	0.56
12:SR:53:ILE:HD13	12:SR:73:LEU:HG	1.87	0.56
12:SR:97:ARG:HG2	12:SR:119:LYS:HD3	1.87	0.56
18:SV:48:THR:HG21	18:SV:54:LYS:HE3	1.87	0.56
19:SW:137:GLY:O	19:SW:138:LYS:NZ	2.27	0.56
39:SO:68:VAL:HG12	39:SO:84:SER:HB2	1.87	0.56
48:LJ:142:LEU:HD13	48:LJ:201:THR:HG21	1.87	0.56
53:LO:32:LEU:HD11	53:LO:94:TRP:CD1	2.39	0.56
54:LP:121:VAL:HG11	54:LP:131:GLU:HG3	1.87	0.56
62:LX:80:ARG:HB2	62:LX:99:ALA:HB3	1.88	0.56
68:Ld:22:LYS:HA	68:Ld:22:LYS:HE3	1.86	0.56
72:Lh:47:LYS:NZ	72:Lh:104:PRO:O	2.28	0.56
1:A:597:G:H2'	1:A:598:A:C8	2.38	0.56
1:A:616:G:H2'	1:A:617:G:C8	2.41	0.56
1:A:3094:A:H2'	1:A:3095:U:C6	2.39	0.56
1:A:3216:G:OP2	72:Lh:2:ALA:N	2.38	0.56
7:z:401:MET:HE2	78:Ln:28:ARG:HD3	1.88	0.56
8:E:520:A:H2'	8:E:521:A:C8	2.40	0.56
8:E:918:U:H2'	8:E:919:A:C8	2.40	0.56
8:E:1795:U:O4	34:Se:34:LYS:NZ	2.37	0.56
10:SQ:70:LEU:HD13	10:SQ:84:ILE:HD11	1.87	0.56
64:LZ:24:LEU:H	64:LZ:24:LEU:HD12	1.70	0.56
1:A:283:G:OP1	81:Lq:45:ARG:NH1	2.38	0.56
1:A:760:G:N2	1:A:770:G:N3	2.54	0.56
1:A:1108:U:H2'	1:A:1109:U:C6	2.40	0.56
5:m:43:U:N3	5:m:44:U:O4	2.39	0.56
8:E:1657:U:H5'	8:E:1658:G:H5''	1.87	0.56
12:SR:140:ARG:NH2	12:SR:228:ASN:HD21	2.02	0.56
17:SU:49:ILE:HD12	17:SU:175:LYS:HG2	1.86	0.56
19:SW:153:GLU:OE1	19:SW:153:GLU:N	2.31	0.56
20:SC:71:GLU:HA	20:SC:74:GLU:HG3	1.88	0.56
39:SO:11:GLY:HA3	39:SO:54:PHE:HB2	1.88	0.56
48:LJ:186:LEU:O	48:LJ:190:VAL:HG22	2.06	0.56
50:LL:153:ARG:HG3	50:LL:156:ARG:HH21	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:307:A:H2'	1:A:308:A:C8	2.40	0.56
1:A:728:G:H5''	57:LS:43:PRO:HB2	1.88	0.56
1:A:2584:G:O2'	48:LJ:240:ASN:OD1	2.22	0.56
2:B:107:C:H2'	2:B:108:A:H8	1.71	0.56
3:C:83:C:H1'	3:C:85:G:H21	1.71	0.56
8:E:1:U:H3	19:SW:54:ARG:HE	1.53	0.56
8:E:39:A:OP1	19:SW:3:ARG:NH1	2.39	0.56
8:E:108:A:H2'	8:E:109:G:C8	2.41	0.56
8:E:1160:A:H2'	8:E:1161:C:H6	1.70	0.56
12:SR:143:TYR:OH	12:SR:149:GLY:O	2.16	0.56
16:ST:23:ARG:NH2	16:ST:39:GLU:O	2.39	0.56
16:ST:48:TYR:OH	16:ST:119:GLN:O	2.20	0.56
24:SZ:31:THR:HG22	24:SZ:38:THR:HA	1.87	0.56
39:SO:69:GLN:N	39:SO:83:ALA:O	2.38	0.56
39:SO:128:ASP:OD1	39:SO:130:THR:OG1	2.19	0.56
66:Lb:83:THR:HG22	73:Li:93:PHE:CZ	2.41	0.56
1:A:585:A:H4'	72:Lh:72:THR:HG22	1.87	0.56
1:A:1101:G:OP2	47:LI:196:LYS:NZ	2.38	0.56
1:A:2197:C:H4'	1:A:2198:A:H5'	1.88	0.56
8:E:1086:A:H2'	8:E:1087:A:C8	2.40	0.56
8:E:1483:A:H4'	25:SF:71:GLY:HA2	1.87	0.56
29:SJ:28:SER:OG	29:SJ:29:THR:N	2.36	0.56
45:LG:50:ARG:NH2	45:LG:72:ASP:OD2	2.39	0.56
48:LJ:214:LEU:O	48:LJ:217:THR:OG1	2.23	0.56
1:A:200:C:OP2	65:La:60:ARG:NH2	2.38	0.56
1:A:786:A:H4'	1:A:787:G:H5'	1.88	0.56
1:A:2369:G:H2'	1:A:2370:G:C8	2.40	0.56
5:m:21:A:N6	5:m:46:G:H2'	2.20	0.56
8:E:553:G:H3'	8:E:554:C:H2'	1.87	0.56
10:SQ:39:GLU:OE1	10:SQ:39:GLU:N	2.34	0.56
13:SA:172:THR:O	13:SA:173:ARG:NH1	2.39	0.56
15:SB:23:VAL:HG13	15:SB:34:GLN:HE22	1.70	0.56
31:Sb:78:ARG:HE	31:Sb:126:LEU:HD23	1.71	0.56
45:LG:60:ILE:HB	45:LG:80:SER:HB3	1.87	0.56
49:LK:23:ARG:HE	49:LK:39:LYS:HA	1.70	0.56
49:LK:90:MET:HE3	49:LK:181:VAL:HB	1.87	0.56
1:A:768:C:N4	1:A:769:G:O6	2.38	0.56
3:C:58:G:O6	76:Ll:63:ARG:NH1	2.39	0.56
8:E:213:A:H2'	8:E:214:G:O4'	2.06	0.56
8:E:800:U:H2'	8:E:801:G:H8	1.70	0.56
8:E:1146:G:H2'	8:E:1147:A:C8	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:1217:A:H4'	8:E:1218:G:OP2	2.06	0.56
15:SB:192:GLU:O	15:SB:196:GLU:HG2	2.06	0.56
18:SV:152:ILE:HD12	21:SX:24:LYS:HE2	1.87	0.56
24:SZ:71:CYS:HA	24:SZ:74:VAL:HG12	1.87	0.56
29:SJ:82:TYR:HB3	36:SM:52:PHE:HB3	1.87	0.56
43:LE:45:SER:OG	43:LE:46:PHE:N	2.39	0.56
49:LK:89:LYS:HG2	49:LK:145:VAL:HG22	1.88	0.56
64:LZ:90:ALA:O	64:LZ:120:LYS:NZ	2.35	0.56
1:A:371:G:N1	1:A:374:A:OP2	2.37	0.56
1:A:999:G:N3	1:A:1002:A:N6	2.53	0.56
1:A:1597:C:H2'	1:A:1598:G:H8	1.70	0.56
1:A:3013:U:H2'	1:A:3014:U:C6	2.41	0.56
5:m:40:C:H2'	5:m:41:A:H8	1.71	0.56
8:E:1063:U:H2'	8:E:1064:G:H8	1.71	0.56
8:E:1170:G:H21	8:E:1571:C:H4'	1.71	0.56
8:E:1179:G:H2'	8:E:1180:C:H6	1.71	0.56
8:E:1487:A:OP2	13:SA:8:LYS:NZ	2.37	0.56
15:SB:109:LYS:O	15:SB:113:ILE:HG12	2.06	0.56
30:Sa:85:TYR:CD1	35:Sf:6:ASP:HB2	2.41	0.56
38:SN:107:LYS:HB3	38:SN:114:VAL:HG12	1.87	0.56
43:LE:17:LEU:HD11	43:LE:233:TRP:HH2	1.71	0.56
43:LE:152:LYS:HG2	43:LE:192:VAL:HG21	1.88	0.56
47:LI:88:ARG:NH2	47:LI:91:GLY:O	2.36	0.56
48:LJ:249:ARG:O	48:LJ:253:SER:OG	2.24	0.56
1:A:1348:U:OP1	57:LS:39:ARG:NH1	2.38	0.55
1:A:1601:U:OP1	58:LT:42:ARG:NH2	2.39	0.55
1:A:2708:C:OP2	81:Lq:100:LYS:NZ	2.35	0.55
8:E:1216:C:O2'	8:E:1217:A:H3'	2.06	0.55
14:SS:79:ASP:OD1	14:SS:82:TYR:HB2	2.06	0.55
15:SB:111:VAL:HA	15:SB:114:ILE:HG22	1.87	0.55
15:SB:160:VAL:HG23	40:SL:43:ASN:HD22	1.71	0.55
24:SZ:19:ILE:HB	24:SZ:83:ILE:HD13	1.88	0.55
45:LG:211:LEU:HB3	45:LG:219:PHE:HB2	1.88	0.55
46:LH:68:PRO:HB2	46:LH:142:ASP:HB2	1.87	0.55
48:LJ:106:LYS:O	48:LJ:110:THR:HG23	2.06	0.55
49:LK:188:THR:OG1	49:LK:191:LEU:O	2.18	0.55
50:LL:177:ASP:OD1	50:LL:177:ASP:N	2.34	0.55
57:LS:152:HIS:ND1	57:LS:162:ALA:O	2.35	0.55
58:LT:95:TRP:CZ2	58:LT:99:LEU:HD22	2.40	0.55
1:A:1336:U:H2'	1:A:1337:A:H8	1.70	0.55
1:A:1341:U:H2'	1:A:1342:C:H6	1.70	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3007:U:H2'	1:A:3008:A:C8	2.41	0.55
1:A:3268:A:H5''	46:LH:46:ARG:NH1	2.19	0.55
5:m:54:U:H4'	5:m:55:U:OP1	2.04	0.55
15:SB:94:THR:HG22	15:SB:114:ILE:HG21	1.87	0.55
17:SU:156:SER:OG	17:SU:186:PRO:O	2.24	0.55
53:LO:77:ARG:O	53:LO:81:VAL:HG12	2.06	0.55
1:A:121:A:C2	48:LJ:129:PRO:HB3	2.42	0.55
1:A:656:A:H2'	1:A:657:A:H8	1.72	0.55
1:A:1130:A:H61	50:LL:115:MET:HE3	1.72	0.55
1:A:1334:U:OP1	47:LI:206:LYS:NZ	2.33	0.55
1:A:1411:C:OP1	71:Lg:98:HIS:N	2.36	0.55
1:A:1596:C:H2'	1:A:1597:C:C6	2.40	0.55
1:A:2415:C:OP1	42:LD:2:GLY:N	2.40	0.55
1:A:2663:G:OP1	51:LM:142:LYS:NZ	2.40	0.55
8:E:424:C:O2'	8:E:426:G:OP1	2.22	0.55
8:E:825:U:H2'	8:E:826:U:H6	1.71	0.55
8:E:905:A:H5''	24:SZ:52:ARG:HD3	1.88	0.55
8:E:1210:C:H2'	8:E:1211:A:H8	1.72	0.55
8:E:1217:A:O2'	20:SC:44:LYS:NZ	2.40	0.55
8:E:1373:C:H2'	8:E:1374:C:C6	2.42	0.55
12:SR:195:ASP:N	12:SR:195:ASP:OD1	2.39	0.55
16:ST:167:LYS:HE2	16:ST:169:TYR:HE2	1.72	0.55
1:A:1838:G:H5''	1:A:1839:A:H5'	1.88	0.55
3:C:40:A:OP2	3:C:103:G:N1	2.36	0.55
8:E:1586:A:H1'	8:E:1611:A:H61	1.72	0.55
12:SR:127:ALA:O	12:SR:131:ILE:HG13	2.06	0.55
50:LL:21:ARG:O	50:LL:24:ARG:NH1	2.40	0.55
50:LL:162:GLN:N	50:LL:162:GLN:OE1	2.40	0.55
59:LU:66:GLU:OE2	59:LU:73:LYS:HE3	2.07	0.55
60:LV:94:GLU:OE1	60:LV:94:GLU:N	2.35	0.55
1:A:2803:A:OP1	81:Lq:60:LYS:NZ	2.39	0.55
8:E:623:A:H3'	8:E:624:G:H5''	1.88	0.55
8:E:1630:U:O2'	8:E:1764:C:O2'	2.24	0.55
10:SQ:89:ASP:HB3	10:SQ:223:PHE:HE1	1.71	0.55
18:SV:4:SER:OG	18:SV:6:ASP:OD2	2.24	0.55
20:SC:74:GLU:HA	20:SC:77:ARG:NH1	2.22	0.55
22:SD:61:VAL:HG22	22:SD:89:ILE:HB	1.89	0.55
25:SF:60:PHE:HE1	25:SF:65:ILE:HD12	1.72	0.55
39:SO:106:HIS:HD2	39:SO:110:VAL:HB	1.70	0.55
44:LF:317:PRO:HA	44:LF:323:VAL:HG13	1.89	0.55
74:Lj:23:ASP:O	74:Lj:27:GLU:HG2	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:Lk:2:THR:OG1	75:Lk:3:VAL:N	2.36	0.55
1:A:2737:C:OP1	60:LV:70:SER:OG	2.21	0.55
8:E:137:U:O2'	8:E:139:C:OP2	2.24	0.55
8:E:858:G:OP1	17:SU:116:ARG:NH1	2.35	0.55
8:E:1488:G:O2'	8:E:1494:C:O2	2.19	0.55
9:SP:42:PRO:HB2	26:SG:126:ALA:HB2	1.89	0.55
14:SS:139:VAL:HG13	14:SS:150:PRO:HG3	1.89	0.55
19:SW:23:ARG:NH1	19:SW:27:GLU:OE1	2.39	0.55
25:SF:62:ASN:N	25:SF:62:ASN:OD1	2.39	0.55
35:Sf:55:THR:HG22	35:Sf:62:ILE:HD13	1.89	0.55
39:SO:196:ASN:ND2	39:SO:219:GLU:OE1	2.40	0.55
43:LE:41:VAL:HA	43:LE:185:GLY:HA3	1.88	0.55
44:LF:44:LYS:HB3	44:LF:47:ARG:HH11	1.70	0.55
44:LF:58:HIS:HA	44:LF:90:PHE:HE1	1.72	0.55
47:LI:151:ARG:NH2	47:LI:244:ASN:O	2.31	0.55
55:LQ:189:ASP:OD1	55:LQ:190:VAL:N	2.38	0.55
71:Lg:86:THR:HG22	71:Lg:115:LEU:HD13	1.89	0.55
1:A:754:G:H2'	1:A:755:A:H8	1.69	0.55
1:A:2154:U:H2'	1:A:2155:G:H8	1.72	0.55
1:A:2254:U:H2'	1:A:2261:G:N2	2.22	0.55
2:B:44:C:OP2	51:LM:137:ARG:NH2	2.38	0.55
51:LM:37:LEU:O	51:LM:41:SER:OG	2.23	0.55
1:A:896:A:H5'	42:LD:183:GLY:HA2	1.87	0.55
1:A:988:U:OP1	47:LI:121:LYS:NZ	2.39	0.55
1:A:2611:U:H2'	1:A:2612:U:C6	2.42	0.55
1:A:2837:A:H2'	1:A:2845:A:N1	2.21	0.55
8:E:819:G:H4'	8:E:820:U:O5'	2.07	0.55
8:E:1499:G:OP1	28:SI:122:ARG:NH1	2.34	0.55
9:SP:206:ASP:OD1	9:SP:207:PRO:HA	2.06	0.55
25:SF:28:LEU:HD11	25:SF:66:ARG:HH21	1.71	0.55
44:LF:237:GLN:O	44:LF:246:ARG:NH1	2.37	0.55
49:LK:69:ARG:HH12	49:LK:73:SER:HG	1.51	0.55
51:LM:49:LYS:HG2	51:LM:64:LYS:HD3	1.87	0.55
1:A:584:G:H2'	1:A:585:A:H8	1.72	0.55
1:A:700:C:H2'	1:A:701:G:H8	1.71	0.55
1:A:874:U:OP2	1:A:1907:C:O2'	2.19	0.55
1:A:1011:A:H2'	1:A:1012:G:H8	1.71	0.55
1:A:1378:U:H2'	1:A:1379:G:H8	1.71	0.55
1:A:1883:A:H2'	1:A:1884:A:C8	2.41	0.55
1:A:2218:G:H2'	1:A:2219:A:H8	1.71	0.55
1:A:2569:A:H1'	1:A:2570:U:H5'	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2848:G:OP1	79:Lo:100:TYR:OH	2.16	0.55
8:E:843:U:H2'	8:E:844:A:H8	1.72	0.55
8:E:1118:G:P	80:Lp:21:ARG:HH22	2.30	0.55
10:SQ:111:ARG:O	34:Se:68:TYR:OH	2.17	0.55
32:Sc:70:LYS:HE2	37:Sg:11:ALA:HB2	1.89	0.55
41:AA:103:ARG:HB2	41:AA:105:THR:HG23	1.89	0.55
43:LE:286:GLY:C	43:LE:287:LYS:HD3	2.31	0.55
67:Lc:81:LEU:H	67:Lc:81:LEU:HD12	1.72	0.55
76:Ll:21:ARG:NH2	76:Ll:41:ALA:O	2.24	0.55
1:A:787:G:H2'	1:A:788:C:C6	2.42	0.55
1:A:2696:A:H2'	1:A:2697:A:C8	2.42	0.55
1:A:2881:C:OP1	43:LE:11:HIS:NE2	2.40	0.55
1:A:2881:C:H2'	1:A:2882:U:C6	2.41	0.55
1:A:3231:U:H3	1:A:3256:G:H1	1.55	0.55
12:SR:214:ALA:O	12:SR:218:ILE:HG12	2.07	0.55
15:SB:25:LEU:HD22	25:SF:27:GLY:HA3	1.89	0.55
19:SW:151:ASP:OD1	19:SW:151:ASP:N	2.40	0.55
36:SM:45:GLU:HG2	36:SM:46:LYS:CG	2.37	0.55
54:LP:15:GLN:HB3	75:Lk:52:PRO:HD2	1.90	0.55
54:LP:163:GLY:O	54:LP:172:ARG:NH1	2.35	0.55
78:Ln:9:ILE:O	78:Ln:13:MET:HG2	2.06	0.55
1:A:1283:C:H2'	1:A:1284:C:C5	2.43	0.54
1:A:2129:U:H2'	1:A:2130:G:C8	2.42	0.54
1:A:2217:U:H2'	1:A:2218:G:H8	1.72	0.54
5:m:65:C:H2'	5:m:66:A:H8	1.72	0.54
8:E:29:U:H2'	8:E:30:G:C8	2.42	0.54
8:E:477:A:H2'	8:E:478:A:H8	1.72	0.54
8:E:1388:A:N7	8:E:1411:A:N6	2.54	0.54
42:LD:132:ASN:OD1	42:LD:151:PRO:HB3	2.07	0.54
53:LO:15:VAL:HG12	59:LU:150:PHE:O	2.07	0.54
1:A:2852:C:N3	50:LL:158:LYS:NZ	2.52	0.54
6:n:62:C:H2'	6:n:63:G:H8	1.72	0.54
8:E:905:A:O3'	24:SZ:52:ARG:NH1	2.40	0.54
8:E:1189:A:O2'	29:SJ:74:GLU:OE2	2.24	0.54
8:E:1280:C:H2'	8:E:1281:G:H8	1.72	0.54
8:E:1373:C:H2'	8:E:1374:C:H6	1.73	0.54
10:SQ:26:ARG:O	10:SQ:50:LYS:N	2.37	0.54
10:SQ:70:LEU:HB3	10:SQ:79:HIS:HB3	1.88	0.54
12:SR:81:MET:HB2	12:SR:101:VAL:HG13	1.87	0.54
23:SY:37:ILE:HG12	23:SY:54:LEU:HD11	1.88	0.54
42:LD:102:LEU:HD12	42:LD:166:ILE:HD11	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:LE:298:PHE:CD2	43:LE:357:LYS:HE3	2.41	0.54
1:A:846:A:N6	8:E:971:A:N1	2.54	0.54
8:E:166:C:OP1	16:ST:131:LYS:NZ	2.37	0.54
8:E:637:C:OP1	31:Sb:32:LYS:HG3	2.08	0.54
14:SS:22:LYS:HG3	14:SS:23:LEU:HD13	1.89	0.54
15:SB:96:SER:HB2	15:SB:176:THR:HG21	1.89	0.54
20:SC:35:ILE:HG22	20:SC:37:THR:H	1.72	0.54
39:SO:69:GLN:OE1	39:SO:85:TRP:NE1	2.32	0.54
43:LE:205:VAL:HG11	43:LE:322:ILE:HD11	1.89	0.54
58:LT:161:ALA:HA	58:LT:164:LEU:HD12	1.89	0.54
74:Lj:116:TYR:O	74:Lj:118:ILE:N	2.36	0.54
1:A:129:U:H2'	1:A:130:A:C8	2.43	0.54
1:A:146:U:O2	1:A:148:G:N1	2.41	0.54
1:A:612:U:H2'	1:A:613:G:H8	1.72	0.54
1:A:1188:U:OP1	1:A:1210:U:O2'	2.19	0.54
1:A:2392:C:O2'	43:LE:266:ARG:NH1	2.41	0.54
1:A:3139:A:OP1	43:LE:274:SER:OG	2.25	0.54
8:E:334:G:O6	18:SV:5:ARG:NH2	2.40	0.54
8:E:825:U:H2'	8:E:826:U:C6	2.42	0.54
8:E:1172:G:N2	28:SI:88:VAL:HG21	2.23	0.54
14:SS:140:VAL:HG12	14:SS:146:THR:HG22	1.90	0.54
15:SB:193:THR:O	15:SB:197:GLU:HG2	2.08	0.54
18:SV:110:ARG:NH2	18:SV:121:LEU:O	2.40	0.54
23:SY:34:ILE:O	23:SY:38:VAL:HG23	2.08	0.54
44:LF:161:LYS:HB2	44:LF:164:GLU:HG3	1.88	0.54
51:LM:110:ILE:HG22	51:LM:111:ASP:H	1.72	0.54
1:A:594:U:P	1:A:609:G:H1	2.30	0.54
1:A:1338:C:O2	71:Lg:12:LYS:NZ	2.34	0.54
1:A:1597:C:H2'	1:A:1598:G:C8	2.43	0.54
1:A:2228:A:H2'	1:A:2229:A:H8	1.72	0.54
1:A:2406:C:H2'	1:A:2407:C:H6	1.72	0.54
1:A:3057:U:H5'	1:A:3086:A:H61	1.72	0.54
3:C:9:A:H2'	3:C:10:A:C8	2.42	0.54
8:E:58:U:O2'	8:E:451:A:N3	2.37	0.54
8:E:292:U:H2'	8:E:293:U:C6	2.43	0.54
8:E:603:U:H2'	8:E:604:A:H8	1.73	0.54
14:SS:230:GLU:HB2	14:SS:233:LYS:HB3	1.89	0.54
15:SB:161:ASP:OD2	40:SL:42:ARG:NH2	2.41	0.54
16:ST:161:GLU:OE1	16:ST:170:THR:HG22	2.07	0.54
1:A:273:A:H2'	1:A:274:G:H8	1.73	0.54
1:A:987:U:H2'	1:A:988:U:C6	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2812:C:H2'	1:A:2813:A:C8	2.43	0.54
1:A:3309:G:H1'	56:LR:69:ARG:HD3	1.89	0.54
1:A:3322:A:H2'	1:A:3323:A:H8	1.72	0.54
3:C:9:A:H2'	3:C:10:A:H8	1.73	0.54
22:SD:36:LEU:HD11	22:SD:43:ARG:NH2	2.22	0.54
27:SH:25:ASN:O	27:SH:57:ARG:NH1	2.41	0.54
28:SI:89:ARG:HD3	28:SI:89:ARG:H	1.72	0.54
44:LF:329:PRO:HB3	47:LI:41:ARG:HH21	1.71	0.54
45:LG:41:LYS:HB2	60:LV:68:THR:O	2.08	0.54
1:A:282:G:O2'	1:A:283:G:OP2	2.19	0.54
1:A:638:C:P	71:Lg:21:HIS:HE2	2.31	0.54
8:E:68:A:N6	16:ST:132:ARG:HG2	2.23	0.54
8:E:603:U:H2'	8:E:604:A:C8	2.43	0.54
8:E:1606:C:H2'	8:E:1607:G:C8	2.42	0.54
8:E:1648:A:H2'	8:E:1649:G:C8	2.42	0.54
25:SF:79:TYR:O	25:SF:82:ARG:HG2	2.08	0.54
25:SF:98:ASP:O	25:SF:101:SER:OG	2.24	0.54
49:LK:17:THR:HG23	53:LO:5:SER:HA	1.90	0.54
50:LL:12:GLN:NE2	50:LL:129:VAL:O	2.41	0.54
50:LL:164:LYS:C	50:LL:165:ILE:HD13	2.32	0.54
51:LM:52:TYR:HA	51:LM:61:ARG:HG3	1.90	0.54
61:LW:35:LYS:HA	61:LW:38:ILE:HD12	1.89	0.54
62:LX:59:MET:HE2	62:LX:75:PRO:HG3	1.89	0.54
66:Lb:22:LYS:NZ	66:Lb:132:SER:O	2.38	0.54
1:A:2116:G:OP1	1:A:2118:C:N4	2.40	0.54
1:A:2961:G:H2'	1:A:2962:U:C6	2.42	0.54
8:E:150:U:H2'	8:E:151:G:H8	1.71	0.54
8:E:205:U:H2'	8:E:206:A:H8	1.72	0.54
8:E:329:G:H2'	8:E:330:G:H8	1.73	0.54
8:E:1358:G:O2'	28:SI:133:ASP:OD1	2.24	0.54
12:SR:82:ASN:ND2	12:SR:207:LEU:HD23	2.22	0.54
12:SR:235:LEU:HD12	12:SR:236:PRO:HD2	1.90	0.54
28:SI:134:ARG:O	28:SI:138:GLN:HG3	2.07	0.54
36:SM:22:ARG:HG2	36:SM:38:ILE:HG12	1.90	0.54
44:LF:23:PRO:HB3	44:LF:259:ASP:HB3	1.90	0.54
1:A:364:G:OP2	76:Ll:52:LYS:NZ	2.27	0.54
1:A:801:A:N6	52:LN:19:GLN:HE22	2.06	0.54
1:A:831:G:O2'	1:A:1864:A:N3	2.31	0.54
1:A:999:G:H2'	1:A:1000:C:C6	2.43	0.54
1:A:1064:A:H4'	1:A:1065:A:O5'	2.08	0.54
1:A:3160:U:H3	1:A:3290:G:H1	1.56	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3306:U:H2'	1:A:3307:A:H5''	1.89	0.54
5:m:15:G:N2	5:m:21:A:N3	2.56	0.54
8:E:1291:G:H2'	8:E:1292:G:H8	1.72	0.54
8:E:1348:A:H2'	8:E:1349:G:O4'	2.08	0.54
13:SA:211:PRO:HD3	26:SG:19:ARG:HD3	1.88	0.54
17:SU:40:PRO:HB3	58:LT:185:LEU:HD21	1.90	0.54
22:SD:50:LYS:NZ	38:SN:129:GLY:O	2.36	0.54
23:SY:5:HIS:HE1	23:SY:120:SER:HB2	1.73	0.54
45:LG:77:ALA:O	45:LG:108:ARG:NH1	2.41	0.54
45:LG:120:LYS:O	45:LG:248:ARG:NH2	2.39	0.54
55:LQ:61:ALA:HA	55:LQ:70:PRO:HD2	1.89	0.54
1:A:656:A:H2'	1:A:657:A:C8	2.42	0.54
1:A:787:G:H2'	1:A:788:C:H6	1.72	0.54
1:A:1650:G:H5'	42:LD:70:ARG:HG2	1.89	0.54
1:A:2357:A:H2'	1:A:2358:A:C8	2.43	0.54
8:E:150:U:H2'	8:E:151:G:C8	2.43	0.54
9:SP:148:ASP:OD2	9:SP:165:ARG:NH1	2.41	0.54
10:SQ:58:SER:O	10:SQ:62:LYS:HG2	2.07	0.54
11:SE:22:LEU:HA	11:SE:25:LEU:HG	1.90	0.54
11:SE:83:MET:N	11:SE:83:MET:SD	2.81	0.54
33:Sd:7:ILE:HG21	33:Sd:44:LEU:HD11	1.90	0.54
70:Lf:6:ASP:O	70:Lf:77:ARG:NH1	2.35	0.54
1:A:1194:G:H2'	1:A:1195:A:C8	2.43	0.53
1:A:1517:G:H5''	7:z:398:MET:HE2	1.90	0.53
8:E:1226:A:H4'	8:E:1227:A:OP1	2.08	0.53
8:E:1486:G:H2'	8:E:1487:A:C8	2.43	0.53
8:E:1524:A:N3	8:E:1590:G:O2'	2.38	0.53
9:SP:124:THR:HA	9:SP:146:LEU:HD12	1.90	0.53
9:SP:198:MET:HG2	9:SP:200:ASP:H	1.73	0.53
47:LI:180:SER:H	47:LI:183:ASP:HB2	1.73	0.53
52:LN:119:TYR:HE1	74:Lj:118:ILE:HD11	1.73	0.53
1:A:92:G:OP1	81:Lq:46:LYS:NZ	2.35	0.53
1:A:279:U:H2'	1:A:280:U:C6	2.43	0.53
1:A:1313:G:O2'	1:A:1318:A:N1	2.32	0.53
8:E:95:G:O2'	8:E:460:A:O2'	2.25	0.53
8:E:135:A:N3	8:E:137:U:N3	2.44	0.53
8:E:541:A:O2'	8:E:542:A:OP1	2.24	0.53
15:SB:40:ILE:HG23	15:SB:42:LEU:HG	1.90	0.53
55:LQ:49:ARG:HG3	55:LQ:49:ARG:NH1	2.23	0.53
1:A:269:G:P	54:LP:44:ARG:HH12	2.30	0.53
1:A:1156:C:OP2	47:LI:94:LYS:NZ	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1630:U:O2'	1:A:1812:G:N1	2.39	0.53
1:A:2599:U:H2'	1:A:2600:C:H6	1.72	0.53
1:A:2960:C:H2'	1:A:2961:G:H8	1.74	0.53
1:A:3121:U:H1'	1:A:3122:A:H5''	1.91	0.53
1:A:3333:G:N2	1:A:3369:G:O2'	2.39	0.53
3:C:21:C:H5''	44:LF:194:TYR:HE1	1.74	0.53
5:m:26:A:N1	5:m:45:G:N2	2.56	0.53
8:E:66:U:C5	16:ST:173:PRO:HB3	2.42	0.53
8:E:1225:U:O2	8:E:1230:A:O2'	2.22	0.53
10:SQ:39:GLU:OE1	10:SQ:74:GLN:HG2	2.08	0.53
10:SQ:180:THR:HG22	10:SQ:183:GLN:NE2	2.24	0.53
24:SZ:71:CYS:HB3	24:SZ:76:ILE:HG22	1.89	0.53
42:LD:35:ALA:HB1	48:LJ:36:ILE:HG23	1.90	0.53
43:LE:206:ASP:OD1	43:LE:206:ASP:N	2.40	0.53
44:LF:114:ASN:ND2	44:LF:117:GLU:OE1	2.38	0.53
48:LJ:143:ILE:HD11	48:LJ:151:VAL:HG11	1.91	0.53
48:LJ:161:GLU:OE2	54:LP:26:ARG:NH1	2.30	0.53
59:LU:77:VAL:HG22	59:LU:92:LYS:O	2.08	0.53
1:A:792:G:H5''	67:Lc:2:PRO:HD3	1.89	0.53
1:A:2221:G:N2	1:A:2224:A:OP2	2.36	0.53
8:E:4:C:OP2	12:SR:200:SER:OG	2.20	0.53
8:E:12:U:H2'	8:E:13:C:C6	2.44	0.53
8:E:53:G:H2'	8:E:54:C:H6	1.74	0.53
8:E:1227:A:N7	22:SD:43:ARG:HD2	2.24	0.53
8:E:1353:U:H3	8:E:1372:U:H3	1.56	0.53
8:E:1648:A:H2'	8:E:1649:G:H8	1.74	0.53
10:SQ:134:VAL:HG23	10:SQ:218:LEU:HB2	1.89	0.53
16:ST:102:VAL:HG13	16:ST:106:LEU:HD12	1.91	0.53
39:SO:214:ALA:HB2	39:SO:243:LEU:HD11	1.89	0.53
43:LE:204:ALA:O	43:LE:207:SER:OG	2.25	0.53
60:LV:68:THR:HG22	60:LV:69:LYS:H	1.72	0.53
64:LZ:133:LEU:O	64:LZ:137:ASN:ND2	2.41	0.53
77:Lm:26:LYS:NZ	77:Lm:28:ASN:OD1	2.42	0.53
1:A:559:A:N6	1:A:560:G:N3	2.56	0.53
1:A:1695:U:O2'	1:A:1749:A:N1	2.33	0.53
1:A:1797:A:H2'	1:A:1798:A:C8	2.44	0.53
1:A:2406:C:H2'	1:A:2407:C:C6	2.43	0.53
1:A:2724:U:OP2	1:A:2726:C:N4	2.41	0.53
8:E:399:A:OP1	18:SV:49:ARG:NH1	2.38	0.53
8:E:1241:G:H4'	11:SE:78:THR:HA	1.91	0.53
8:E:1551:U:H2'	8:E:1552:U:H6	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:SV:159:GLN:HE22	18:SV:166:TYR:H	1.55	0.53
20:SC:71:GLU:OE1	20:SC:71:GLU:N	2.25	0.53
33:Sd:56:SER:N	33:Sd:74:LEU:O	2.37	0.53
43:LE:59:ASP:OD1	43:LE:357:LYS:HD3	2.07	0.53
51:LM:10:ARG:HA	51:LM:134:PRO:HD2	1.90	0.53
52:LN:90:ALA:HB1	52:LN:95:ILE:HB	1.90	0.53
52:LN:119:TYR:O	52:LN:123:ILE:HG23	2.08	0.53
54:LP:103:GLU:HG3	54:LP:160:GLU:HB2	1.91	0.53
1:A:627:U:H2'	1:A:628:A:H8	1.73	0.53
1:A:911:C:N4	42:LD:3:ARG:HD2	2.24	0.53
1:A:2618:G:O2'	1:A:2865:U:OP1	2.16	0.53
1:A:3284:G:H2'	1:A:3285:C:C6	2.43	0.53
8:E:887:A:H2'	8:E:888:U:H6	1.74	0.53
10:SQ:123:ALA:HB2	10:SQ:165:ARG:HG3	1.91	0.53
13:SA:11:LEU:HD12	29:SJ:86:ILE:HG12	1.90	0.53
15:SB:47:SER:O	15:SB:130:ILE:HD11	2.09	0.53
23:SY:100:LYS:HE3	23:SY:104:ARG:HH12	1.73	0.53
34:Se:37:LYS:O	34:Se:38:ARG:NH1	2.40	0.53
39:SO:67:ILE:O	39:SO:85:TRP:N	2.35	0.53
43:LE:368:GLY:O	63:LY:17:ARG:NH1	2.42	0.53
45:LG:263:GLU:OE1	45:LG:263:GLU:N	2.35	0.53
54:LP:4:TYR:HB3	54:LP:50:ARG:HH12	1.74	0.53
54:LP:190:THR:O	54:LP:194:GLN:HG2	2.08	0.53
55:LQ:27:LEU:HD22	55:LQ:98:ALA:O	2.09	0.53
56:LR:60:PHE:HB3	56:LR:64:ASN:HB3	1.91	0.53
59:LU:9:VAL:HG22	59:LU:61:ILE:HG13	1.91	0.53
78:Ln:23:LEU:HD11	78:Ln:35:ILE:HG22	1.91	0.53
1:A:585:A:H2'	1:A:586:C:C6	2.44	0.53
1:A:591:G:N2	1:A:612:U:OP1	2.29	0.53
1:A:900:G:H1'	1:A:1589:A:H62	1.73	0.53
1:A:1203:A:H2'	1:A:1204:A:C8	2.44	0.53
1:A:2418:G:OP2	1:A:2606:G:N2	2.37	0.53
1:A:2512:C:H5''	48:LJ:249:ARG:HH12	1.73	0.53
1:A:3298:C:C2	1:A:3299:A:C8	2.96	0.53
8:E:131:C:N4	8:E:180:A:H61	2.06	0.53
8:E:1535:U:H3	15:SB:187:ILE:HA	1.74	0.53
39:SO:89:LEU:HB2	39:SO:103:PHE:HB2	1.90	0.53
52:LN:62:THR:OG1	52:LN:63:VAL:N	2.40	0.53
59:LU:26:ARG:NH1	60:LV:150:THR:OG1	2.41	0.53
1:A:597:G:H5''	47:LI:41:ARG:NH1	2.23	0.53
1:A:1431:G:OP2	67:Lc:9:ARG:NH2	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1666:G:H2'	1:A:1667:A:H8	1.73	0.53
1:A:2656:A:N7	1:A:2658:G:C8	2.77	0.53
1:A:3182:G:H2'	1:A:3183:A:C8	2.44	0.53
3:C:154:C:H2'	3:C:155:A:C8	2.44	0.53
10:SQ:138:PHE:O	10:SQ:213:ARG:N	2.42	0.53
18:SV:57:ALA:HB2	18:SV:177:GLY:HA2	1.90	0.53
26:SG:10:LYS:O	26:SG:14:LYS:HG2	2.09	0.53
27:SH:26:ILE:HG13	27:SH:31:ALA:HB2	1.89	0.53
29:SJ:40:ASN:OD1	29:SJ:41:ILE:N	2.41	0.53
34:Se:23:CYS:SG	34:Se:24:VAL:N	2.82	0.53
49:LK:90:MET:HB2	49:LK:144:ILE:HG23	1.91	0.53
75:Lk:55:ARG:C	75:Lk:57:LEU:H	2.16	0.53
1:A:1157:G:H2'	1:A:1158:A:O4'	2.09	0.53
1:A:1376:C:O2'	1:A:1408:G:O2'	2.27	0.53
1:A:2684:C:H2'	1:A:2685:C:C6	2.44	0.53
6:n:62:C:H2'	6:n:63:G:C8	2.44	0.53
8:E:646:C:H2'	8:E:647:G:C8	2.43	0.53
8:E:1524:A:H5'	28:SI:78:LYS:HE2	1.91	0.53
8:E:1540:G:OP1	27:SH:40:ARG:NH1	2.41	0.53
17:SU:16:LEU:O	17:SU:20:VAL:HG23	2.09	0.53
33:Sd:92:VAL:HG21	33:Sd:99:LYS:HB2	1.89	0.53
34:Se:41:ILE:HA	34:Se:68:TYR:HB2	1.89	0.53
52:LN:47:ALA:O	52:LN:137:GLN:NE2	2.42	0.53
1:A:911:C:H5''	42:LD:15:ILE:HD13	1.90	0.53
1:A:970:A:H2'	1:A:971:G:H8	1.74	0.53
1:A:1207:G:OP1	79:Lo:119:ASN:ND2	2.41	0.53
1:A:1480:G:O2'	1:A:1871:U:O4	2.22	0.53
1:A:2160:G:H2'	1:A:2161:G:H8	1.75	0.53
1:A:2407:C:H2'	1:A:2408:U:H6	1.73	0.53
1:A:2684:C:H2'	1:A:2685:C:H6	1.75	0.53
8:E:306:U:OP2	21:SX:105:LYS:NZ	2.42	0.53
8:E:917:U:O2'	24:SZ:29:HIS:NE2	2.42	0.53
8:E:1158:C:N3	8:E:1162:C:N4	2.55	0.53
8:E:1583:A:H1'	8:E:1585:U:C2	2.44	0.53
10:SQ:110:LEU:HA	10:SQ:113:MET:HE2	1.90	0.53
20:SC:3:MET:HG3	20:SC:41:TYR:CD2	2.43	0.53
27:SH:62:THR:N	27:SH:65:GLU:OE2	2.41	0.53
39:SO:133:VAL:HG21	39:SO:186:PHE:HE2	1.74	0.53
48:LJ:64:ILE:O	48:LJ:68:ARG:HG2	2.09	0.53
55:LQ:62:THR:HG22	55:LQ:65:ASN:H	1.74	0.53
1:A:1301:A:H4'	1:A:1302:A:H5''	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2107:A:H2	1:A:3344:A:H8	1.56	0.52
3:C:139:U:H2'	3:C:140:G:H8	1.73	0.52
8:E:138:A:C6	8:E:142:G:H1'	2.44	0.52
8:E:246:G:N2	21:SX:38:ALA:O	2.39	0.52
8:E:623:A:O2'	8:E:624:G:OP1	2.22	0.52
8:E:947:U:H2'	8:E:948:G:C8	2.41	0.52
8:E:1404:C:H2'	8:E:1405:G:C8	2.44	0.52
8:E:1673:G:OP1	16:ST:94:ARG:NH2	2.39	0.52
14:SS:129:VAL:HG22	14:SS:156:VAL:HG23	1.91	0.52
15:SB:80:LYS:HB2	15:SB:83:ARG:HB2	1.90	0.52
18:SV:78:ILE:HA	18:SV:104:ILE:HG22	1.91	0.52
33:Sd:57:VAL:HG12	33:Sd:73:GLY:HA2	1.90	0.52
65:La:56:VAL:CG2	65:La:104:LEU:HB3	2.39	0.52
1:A:1497:C:H2'	1:A:1498:A:C8	2.44	0.52
1:A:1709:C:H2'	1:A:1710:C:H6	1.72	0.52
1:A:2655:U:H1'	1:A:2656:A:C2	2.44	0.52
1:A:3105:U:C2	1:A:3106:A:C8	2.97	0.52
1:A:3258:U:O2'	1:A:3260:G:OP1	2.21	0.52
6:n:52:G:H2'	6:n:53:G:H8	1.72	0.52
8:E:313:U:H4'	8:E:314:C:O5'	2.07	0.52
8:E:930:A:OP1	34:Se:32:LYS:NZ	2.30	0.52
8:E:1337:A:H4'	25:SF:123:ARG:HH11	1.74	0.52
8:E:1477:G:H2'	8:E:1478:G:H8	1.73	0.52
13:SA:47:GLU:HA	13:SA:85:VAL:O	2.10	0.52
15:SB:113:ILE:O	15:SB:117:THR:HG23	2.09	0.52
22:SD:63:VAL:HG11	22:SD:94:ALA:HA	1.90	0.52
25:SF:52:LEU:HB3	25:SF:60:PHE:CE2	2.44	0.52
30:Sa:1:MET:HB3	30:Sa:10:GLU:HB2	1.91	0.52
35:Sf:34:ASP:OD2	35:Sf:82:LYS:NZ	2.25	0.52
41:AA:71:ILE:HG21	41:AA:76:ALA:HB2	1.91	0.52
59:LU:12:ARG:HH21	60:LV:139:ARG:NH1	2.06	0.52
62:LX:84:SER:HA	62:LX:94:TYR:HB3	1.89	0.52
65:La:31:LEU:HB3	65:La:101:PRO:HG3	1.91	0.52
66:Lb:62:VAL:O	66:Lb:66:THR:HG22	2.09	0.52
1:A:370:U:H4'	1:A:404:G:H5'	1.92	0.52
1:A:2429:G:H2'	1:A:2430:A:C8	2.44	0.52
1:A:3369:G:N1	43:LE:380:MET:O	2.42	0.52
3:C:69:U:H2'	3:C:70:G:O4'	2.09	0.52
3:C:126:A:O2'	3:C:129:C:N4	2.42	0.52
6:n:23:C:H2'	6:n:24:G:C8	2.43	0.52
8:E:30:G:H2'	8:E:31:C:C6	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:209:U:O3'	18:SV:170:SER:OG	2.26	0.52
8:E:821:U:N3	8:E:852:C:C2	2.77	0.52
8:E:1173:C:OP1	27:SH:132:ARG:NH2	2.38	0.52
8:E:1484:G:H2'	8:E:1485:C:H6	1.74	0.52
10:SQ:76:SER:OG	10:SQ:78:ASP:OD1	2.26	0.52
22:SD:56:GLU:OE1	22:SD:122:VAL:HG12	2.09	0.52
22:SD:83:GLU:HG2	22:SD:84:ASN:H	1.75	0.52
38:SN:133:ALA:N	38:SN:140:TYR:O	2.32	0.52
39:SO:88:THR:HG22	39:SO:104:VAL:HG12	1.91	0.52
42:LD:114:SER:N	42:LD:165:VAL:O	2.42	0.52
45:LG:211:LEU:HD22	45:LG:215:ASP:HB3	1.91	0.52
50:LL:41:ALA:HB3	50:LL:139:ARG:HH22	1.74	0.52
1:A:1065:A:N1	68:Ld:26:THR:HG23	2.24	0.52
1:A:1395:G:O2'	3:C:18:U:O2	2.27	0.52
1:A:2242:A:H5''	42:LD:244:GLY:HA3	1.92	0.52
6:n:40:C:HO2'	8:E:1576:A:HO2'	1.54	0.52
8:E:85:A:N3	8:E:148:A:O2'	2.43	0.52
8:E:207:U:H2'	8:E:208:U:C6	2.43	0.52
8:E:333:A:N7	18:SV:49:ARG:HD3	2.25	0.52
8:E:555:A:H1'	8:E:556:A:O5'	2.09	0.52
8:E:607:G:H5'	8:E:613:G:N2	2.25	0.52
8:E:961:U:H2'	8:E:962:C:H6	1.73	0.52
8:E:1522:U:O3'	28:SI:78:LYS:NZ	2.41	0.52
8:E:1553:G:N2	8:E:1555:A:H3'	2.25	0.52
9:SP:23:HIS:O	9:SP:48:ILE:N	2.34	0.52
10:SQ:171:ILE:O	10:SQ:175:GLU:HG2	2.10	0.52
16:ST:152:ASP:OD1	16:ST:153:VAL:N	2.42	0.52
42:LD:230:VAL:HG22	42:LD:233:GLN:NE2	2.22	0.52
77:Lm:28:ASN:ND2	77:Lm:40:GLN:OE1	2.33	0.52
1:A:317:A:H2'	1:A:318:A:C8	2.44	0.52
1:A:718:G:N1	1:A:721:G:H1'	2.25	0.52
1:A:799:G:OP2	67:Lc:32:ARG:NH1	2.42	0.52
1:A:1590:G:C2	1:A:1591:G:C8	2.98	0.52
1:A:2940:A:OP2	43:LE:2:SER:N	2.42	0.52
2:B:96:U:H2'	2:B:97:A:H8	1.75	0.52
8:E:1597:A:C8	36:SM:14:TYR:HB2	2.44	0.52
8:E:1597:A:N7	36:SM:14:TYR:HD2	2.08	0.52
13:SA:42:THR:OG1	13:SA:45:LYS:O	2.16	0.52
19:SW:18:PRO:O	19:SW:23:ARG:NH2	2.39	0.52
19:SW:82:ARG:NE	19:SW:149:ARG:HD2	2.24	0.52
20:SC:49:LEU:HB3	20:SC:54:TYR:HB2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:SJ:47:GLN:HE21	29:SJ:48:HIS:HE1	1.56	0.52
30:Sa:85:TYR:CE1	35:Sf:6:ASP:HB2	2.45	0.52
39:SO:89:LEU:HB3	39:SO:103:PHE:CD1	2.45	0.52
44:LF:18:ASN:OD1	44:LF:18:ASN:N	2.42	0.52
44:LF:282:SER:OG	57:LS:125:ASP:OD2	2.18	0.52
50:LL:160:PRO:O	50:LL:163:GLN:NE2	2.42	0.52
51:LM:60:ARG:HG3	51:LM:63:GLU:OE1	2.10	0.52
62:LX:102:ILE:HG22	62:LX:110:LYS:HB3	1.92	0.52
63:LY:6:ASP:HB3	63:LY:10:GLY:N	2.25	0.52
65:La:70:ILE:HD12	65:La:80:VAL:HG21	1.91	0.52
1:A:662:U:H2'	1:A:663:C:C6	2.44	0.52
1:A:1083:G:H2'	1:A:1084:A:C8	2.45	0.52
1:A:1661:G:H2'	1:A:1662:G:H8	1.75	0.52
1:A:1895:A:O2'	1:A:3053:G:H4'	2.10	0.52
1:A:2432:A:C6	1:A:2598:G:C6	2.98	0.52
1:A:2570:U:H5''	1:A:2573:G:C6	2.45	0.52
1:A:3163:A:N6	1:A:3288:G:O6	2.43	0.52
8:E:340:U:H2'	8:E:341:A:C8	2.45	0.52
9:SP:35:PRO:CB	30:Sa:87:ARG:HH12	2.23	0.52
9:SP:84:ARG:NH2	9:SP:200:ASP:O	2.37	0.52
11:SE:34:VAL:HG11	11:SE:45:PHE:HB2	1.92	0.52
14:SS:36:HIS:CG	14:SS:85:GLY:HA3	2.45	0.52
16:ST:69:LEU:O	16:ST:99:GLY:HA3	2.10	0.52
30:Sa:36:VAL:HB	30:Sa:51:VAL:HG22	1.90	0.52
50:LL:206:LEU:O	50:LL:210:ILE:HD12	2.10	0.52
57:LS:92:ARG:HG2	67:Lc:76:ASP:HB2	1.91	0.52
72:Lh:49:ILE:HD11	72:Lh:71:VAL:HG22	1.91	0.52
1:A:8:C:H2'	1:A:9:U:C6	2.44	0.52
1:A:428:A:H2'	1:A:429:U:C6	2.44	0.52
1:A:928:C:H2'	1:A:929:A:C8	2.44	0.52
1:A:1340:G:H2'	1:A:1341:U:H6	1.73	0.52
1:A:2102:U:H2'	1:A:2103:U:C6	2.45	0.52
1:A:2599:U:H2'	1:A:2600:C:C6	2.45	0.52
1:A:2615:G:H2'	1:A:2616:C:H6	1.75	0.52
34:Se:12:LYS:N	34:Se:33:ASP:OD2	2.43	0.52
38:SN:121:CYS:HB2	38:SN:132:LEU:HD21	1.92	0.52
43:LE:10:ARG:NH2	43:LE:263:SER:O	2.43	0.52
43:LE:246:LEU:HD12	43:LE:247:ARG:HG2	1.92	0.52
1:A:674:G:O2'	44:LF:116:ASN:OD1	2.27	0.52
1:A:1441:G:OP1	7:z:414:ARG:HD2	2.10	0.52
1:A:2569:A:O2'	1:A:2571:U:OP1	2.27	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:m:26:A:H2'	5:m:27:G:H8	1.75	0.52
5:m:65:C:H2'	5:m:66:A:C8	2.44	0.52
8:E:312:A:H4'	8:E:313:U:H3'	1.92	0.52
10:SQ:67:GLU:CD	10:SQ:83:LYS:HB3	2.35	0.52
16:ST:67:VAL:CG2	16:ST:99:GLY:HA2	2.40	0.52
19:SW:49:LEU:HD12	19:SW:52:ILE:HD11	1.91	0.52
19:SW:157:ASP:N	19:SW:157:ASP:OD1	2.41	0.52
34:Se:78:ALA:HA	34:Se:83:ILE:HD12	1.91	0.52
38:SN:138:ARG:HB2	38:SN:149:LYS:HZ3	1.74	0.52
43:LE:63:PRO:HD2	43:LE:348:ARG:HH21	1.74	0.52
66:Lb:46:ILE:HA	66:Lb:70:PRO:HA	1.92	0.52
1:A:92:G:O2'	83:A:3401:3HE:O2	2.25	0.52
1:A:1447:G:O2'	1:A:2355:G:O6	2.22	0.52
1:A:2430:A:H2'	1:A:2431:C:C6	2.44	0.52
1:A:2555:G:N7	73:Li:95:ILE:HD11	2.25	0.52
1:A:2837:A:P	1:A:2845:A:H61	2.33	0.52
8:E:887:A:H5''	24:SZ:120:PRO:HB2	1.90	0.52
8:E:923:A:H2'	8:E:924:A:C8	2.44	0.52
17:SU:80:GLU:HA	17:SU:83:LYS:HG2	1.92	0.52
20:SC:14:TYR:CE2	20:SC:35:ILE:HG12	2.44	0.52
23:SY:3:ARG:HD2	23:SY:3:ARG:N	2.25	0.52
23:SY:17:PRO:HG3	35:Sf:28:PRO:HG3	1.91	0.52
24:SZ:42:VAL:HG13	24:SZ:63:ALA:HB1	1.90	0.52
32:Sc:90:ASP:O	32:Sc:136:TRP:NE1	2.43	0.52
69:Le:74:ASN:OD1	69:Le:74:ASN:N	2.42	0.52
1:A:2674:A:H5''	51:LM:105:GLY:HA3	1.91	0.52
1:A:3157:U:H4'	1:A:3158:G:H8	1.75	0.52
1:A:3193:C:H2'	1:A:3194:C:C6	2.45	0.52
3:C:10:A:H2'	3:C:11:C:C6	2.45	0.52
6:n:9:G:O2'	6:n:10:G:N7	2.43	0.52
8:E:333:A:OP2	18:SV:31:ARG:NH2	2.43	0.52
9:SP:88:LYS:HE3	9:SP:201:LEU:O	2.08	0.52
10:SQ:172:LEU:O	10:SQ:176:VAL:HG12	2.09	0.52
12:SR:144:TRP:HD1	12:SR:171:PRO:HB2	1.74	0.52
17:SU:130:VAL:HG12	17:SU:162:ILE:HD12	1.92	0.52
21:SX:75:VAL:HA	21:SX:86:ILE:HA	1.92	0.52
30:Sa:64:GLU:OE1	35:Sf:2:VAL:N	2.43	0.52
30:Sa:86:SER:HA	35:Sf:6:ASP:HB3	1.90	0.52
31:Sb:105:THR:HG22	31:Sb:126:LEU:HG	1.92	0.52
34:Se:52:ASP:O	34:Se:55:GLU:HG3	2.10	0.52
39:SO:20:VAL:HG11	39:SO:310:ILE:HD11	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:SO:201:THR:HG21	39:SO:242:SER:HA	1.92	0.52
44:LF:42:VAL:HG12	44:LF:236:LEU:HD21	1.92	0.52
64:LZ:86:VAL:HB	64:LZ:120:LYS:HB3	1.91	0.52
77:Lm:44:LYS:HB3	77:Lm:51:LEU:HD11	1.91	0.52
1:A:1281:G:H2'	1:A:1282:G:H8	1.75	0.51
1:A:1460:A:H2'	1:A:1461:A:H8	1.75	0.51
1:A:3116:G:OP1	1:A:3116:G:N2	2.40	0.51
8:E:153:G:H2'	8:E:154:G:C8	2.45	0.51
8:E:170:U:H3	8:E:289:U:HO2'	1.53	0.51
8:E:1540:G:C5	8:E:1541:G:C5	2.98	0.51
16:ST:31:ARG:HB2	16:ST:34:GLN:OE1	2.10	0.51
23:SY:29:SER:OG	23:SY:31:GLU:OE1	2.26	0.51
40:SL:12:VAL:HG12	40:SL:52:ASP:H	1.75	0.51
40:SL:49:ARG:HG3	40:SL:52:ASP:OD1	2.10	0.51
47:LI:130:ILE:HD12	47:LI:134:VAL:HG11	1.91	0.51
49:LK:112:ILE:HB	49:LK:126:VAL:HG13	1.92	0.51
1:A:80:G:H2'	1:A:81:C:H6	1.76	0.51
1:A:1861:G:H1'	1:A:3066:U:H5''	1.92	0.51
1:A:2196:C:H2'	1:A:2242:A:H61	1.75	0.51
8:E:340:U:H2'	8:E:341:A:H8	1.75	0.51
8:E:918:U:O2'	24:SZ:18:ARG:NH1	2.35	0.51
8:E:1197:C:OP1	29:SJ:77:LYS:NZ	2.35	0.51
8:E:1250:U:O2'	38:SN:134:ASN:O	2.28	0.51
9:SP:144:ILE:HG23	9:SP:158:VAL:HB	1.93	0.51
11:SE:22:LEU:HD12	11:SE:23:GLU:N	2.26	0.51
27:SH:29:VAL:HG23	27:SH:43:SER:OG	2.11	0.51
33:Sd:28:LEU:HD23	33:Sd:68:LYS:HB3	1.92	0.51
33:Sd:64:PHE:HD1	33:Sd:65:GLY:N	2.08	0.51
43:LE:262:TRP:CD1	43:LE:262:TRP:H	2.27	0.51
57:LS:176:ARG:HB3	67:Lc:53:PHE:O	2.10	0.51
71:Lg:100:ILE:O	71:Lg:125:ARG:NH1	2.44	0.51
76:Ll:27:PHE:HA	76:Ll:34:CYS:HA	1.92	0.51
1:A:28:C:O2'	1:A:61:A:N3	2.41	0.51
1:A:1551:C:O2'	1:A:2170:U:O2'	2.14	0.51
1:A:1615:C:H2'	1:A:1616:U:C6	2.45	0.51
1:A:2152:A:H2'	1:A:2153:U:H6	1.75	0.51
8:E:1241:G:H2'	8:E:1242:A:O4'	2.10	0.51
8:E:1536:G:H4'	41:AA:35:ARG:HG2	1.91	0.51
9:SP:43:ASP:OD1	26:SG:126:ALA:N	2.29	0.51
16:ST:39:GLU:CD	16:ST:47:GLY:H	2.18	0.51
19:SW:42:ILE:H	19:SW:42:ILE:HD12	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:SZ:13:VAL:N	24:SZ:77:THR:OG1	2.44	0.51
29:SJ:69:LYS:O	36:SM:44:ARG:NH1	2.44	0.51
42:LD:4:VAL:HG13	42:LD:8:GLN:HB3	1.93	0.51
1:A:796:U:H2'	1:A:797:U:C6	2.46	0.51
1:A:2366:C:H2'	1:A:2367:A:C8	2.44	0.51
8:E:1077:C:OP1	34:Se:13:LYS:NZ	2.44	0.51
8:E:1435:G:O6	20:SC:64:TYR:OH	2.19	0.51
8:E:1484:G:H2'	8:E:1485:C:C6	2.46	0.51
8:E:1590:G:H2'	8:E:1591:C:C6	2.46	0.51
15:SB:184:PHE:HE2	15:SB:185:ARG:HH21	1.57	0.51
15:SB:196:GLU:HA	15:SB:199:ILE:HG12	1.93	0.51
16:ST:159:ARG:HB3	16:ST:170:THR:HB	1.91	0.51
17:SU:44:LYS:HG2	17:SU:63:PRO:HD3	1.91	0.51
31:Sb:29:PRO:HB3	31:Sb:58:SER:OG	2.10	0.51
53:LO:55:ARG:HD3	59:LU:70:THR:HB	1.92	0.51
1:A:550:A:H2'	1:A:551:A:H8	1.75	0.51
1:A:2376:G:H2'	1:A:2377:G:C8	2.44	0.51
5:m:65:C:O2'	5:m:66:A:OP1	2.28	0.51
8:E:371:G:N2	8:E:612:U:O2	2.44	0.51
8:E:546:U:H2'	8:E:547:U:C6	2.46	0.51
8:E:788:A:OP2	14:SS:108:ARG:NH2	2.44	0.51
8:E:1237:G:H2'	8:E:1238:A:H8	1.75	0.51
8:E:1437:U:H2'	8:E:1438:G:H8	1.75	0.51
10:SQ:225:VAL:O	10:SQ:229:MET:HG2	2.09	0.51
12:SR:56:ILE:HG23	12:SR:61:LEU:HB2	1.92	0.51
14:SS:131:LEU:HA	14:SS:137:PRO:HA	1.91	0.51
15:SB:68:ILE:O	25:SF:112:TYR:OH	2.26	0.51
15:SB:76:ARG:HH11	15:SB:76:ARG:HG3	1.75	0.51
17:SU:115:SER:HB2	17:SU:116:ARG:HH11	1.75	0.51
22:SD:83:GLU:HG2	22:SD:84:ASN:N	2.26	0.51
36:SM:4:GLU:HB3	36:SM:7:TRP:CD1	2.45	0.51
1:A:987:U:H4'	47:LI:121:LYS:HG3	1.91	0.51
1:A:1083:G:H2'	1:A:1084:A:H8	1.75	0.51
1:A:1290:A:H2'	1:A:1291:A:C8	2.46	0.51
1:A:1574:C:H3'	1:A:1575:A:H5''	1.93	0.51
1:A:2586:G:O2'	1:A:2588:U:OP2	2.27	0.51
1:A:2661:G:H2'	1:A:2662:G:C8	2.45	0.51
1:A:2736:A:H2'	1:A:2737:C:O4'	2.11	0.51
8:E:352:A:H4'	8:E:353:A:O5'	2.11	0.51
8:E:647:G:N2	8:E:687:G:H22	2.08	0.51
8:E:1564:U:H2'	8:E:1565:C:C6	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:SA:42:THR:HG22	29:SJ:108:ILE:HG21	1.93	0.51
34:Se:73:TYR:HB3	34:Se:78:ALA:HB2	1.93	0.51
39:SO:74:THR:OG1	39:SO:76:ASP:OD1	2.27	0.51
42:LD:70:ARG:NE	42:LD:72:ARG:HH12	2.08	0.51
42:LD:242:ARG:NH1	42:LD:243:THR:O	2.44	0.51
47:LI:125:GLU:OE1	47:LI:125:GLU:HA	2.11	0.51
49:LK:88:TYR:HD1	49:LK:184:LYS:HA	1.76	0.51
50:LL:58:GLU:OE2	50:LL:160:PRO:HG2	2.11	0.51
63:LY:35:LYS:HE2	63:LY:51:TRP:CZ2	2.46	0.51
70:Lf:9:THR:HG23	70:Lf:76:SER:HB3	1.92	0.51
1:A:528:U:H2'	1:A:529:A:C8	2.45	0.51
1:A:1284:C:O2'	1:A:1285:G:O4'	2.21	0.51
1:A:2216:G:H22	1:A:2229:A:H2	1.57	0.51
1:A:2651:G:H5''	1:A:2652:U:O4'	2.11	0.51
8:E:27:U:H2'	8:E:28:A:C8	2.44	0.51
8:E:1117:U:H2'	8:E:1118:G:H8	1.75	0.51
8:E:1273:G:O2'	8:E:1430:U:OP2	2.17	0.51
8:E:1580:C:H2'	8:E:1581:C:C6	2.46	0.51
13:SA:74:GLN:OE1	13:SA:81:PRO:HA	2.11	0.51
15:SB:64:VAL:HG12	15:SB:65:ARG:H	1.75	0.51
24:SZ:18:ARG:HH11	24:SZ:18:ARG:HG3	1.76	0.51
27:SH:108:LYS:HD2	27:SH:111:ASP:OD2	2.11	0.51
52:LN:92:THR:HG21	74:Lj:111:PHE:HB3	1.93	0.51
1:A:507:U:H2'	1:A:508:U:C6	2.46	0.51
1:A:1342:C:H2'	1:A:1343:A:H8	1.75	0.51
1:A:1777:U:H2'	1:A:1778:G:C8	2.46	0.51
1:A:2512:C:H2'	1:A:2513:U:C6	2.45	0.51
1:A:3233:C:H2'	1:A:3234:A:H8	1.71	0.51
3:C:29:U:H5''	52:LN:27:ASP:HB3	1.93	0.51
8:E:16:G:O6	12:SR:203:LYS:NZ	2.43	0.51
8:E:47:A:N1	8:E:386:G:H1'	2.25	0.51
8:E:803:A:H4'	8:E:804:A:O5'	2.11	0.51
8:E:1117:U:H2'	8:E:1118:G:C8	2.46	0.51
8:E:1142:A:H2'	8:E:1143:A:C8	2.46	0.51
9:SP:84:ARG:NE	9:SP:201:LEU:O	2.44	0.51
17:SU:58:LEU:HD23	17:SU:88:ARG:HD2	1.93	0.51
20:SC:7:ASP:O	20:SC:11:ILE:HG22	2.11	0.51
34:Se:90:GLU:H	34:Se:90:GLU:CD	2.14	0.51
57:LS:94:PHE:HB2	57:LS:95:GLU:OE1	2.11	0.51
66:Lb:11:ALA:HB3	66:Lb:80:LEU:HD22	1.93	0.51
1:A:1168:U:H2'	1:A:1169:A:H8	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2278:C:P	80:Lp:23:ARG:HH22	2.34	0.51
8:E:1280:C:H2'	8:E:1281:G:C8	2.45	0.51
8:E:1504:G:P	28:SI:99:SER:HB3	2.51	0.51
13:SA:76:ARG:O	13:SA:76:ARG:NH1	2.38	0.51
14:SS:11:ARG:NH1	14:SS:20:LEU:HB3	2.26	0.51
34:Se:88:SER:O	34:Se:92:ARG:HG3	2.11	0.51
46:LH:138:GLN:HE21	46:LH:142:ASP:HB3	1.75	0.51
53:LO:76:ALA:HB1	53:LO:80:THR:HG23	1.93	0.51
54:LP:38:ARG:NE	54:LP:60:VAL:HG13	2.26	0.51
1:A:2430:A:H2'	1:A:2431:C:H6	1.76	0.51
1:A:2433:U:OP2	1:A:2434:U:O2'	2.18	0.51
1:A:3337:G:H2'	1:A:3338:C:C6	2.46	0.51
2:B:4:U:H2'	2:B:5:G:C8	2.46	0.51
6:n:52:G:H2'	6:n:53:G:C8	2.46	0.51
8:E:209:U:H2'	8:E:210:A:C8	2.46	0.51
8:E:765:G:O6	19:SW:149:ARG:N	2.41	0.51
8:E:868:G:N2	23:SY:48:SER:OG	2.44	0.51
8:E:1077:C:H2'	8:E:1078:C:H6	1.76	0.51
12:SR:95:ARG:O	12:SR:95:ARG:HG2	2.10	0.51
13:SA:71:LEU:HD22	20:SC:20:VAL:HG22	1.93	0.51
15:SB:63:GLN:HE22	15:SB:66:GLN:HG2	1.75	0.51
17:SU:67:LEU:HD13	17:SU:94:ALA:HB2	1.93	0.51
22:SD:28:LEU:O	22:SD:32:LEU:HG	2.10	0.51
25:SF:81:ILE:O	25:SF:85:ILE:HG23	2.11	0.51
33:Sd:107:GLN:H	33:Sd:107:GLN:CD	2.17	0.51
39:SO:106:HIS:CD2	39:SO:110:VAL:HB	2.46	0.51
49:LK:4:ILE:HD12	59:LU:148:LEU:HD11	1.93	0.51
76:Ll:50:GLY:O	76:Ll:54:LYS:HG3	2.11	0.51
1:A:441:U:C5	1:A:493:U:H1'	2.46	0.50
1:A:3294:A:H2'	1:A:3295:A:O4'	2.11	0.50
5:m:49:G:C6	5:m:50:C:N4	2.79	0.50
8:E:407:A:H2'	8:E:408:C:C6	2.46	0.50
8:E:901:G:O6	10:SQ:5:LYS:NZ	2.27	0.50
8:E:1146:G:H2'	8:E:1147:A:H8	1.76	0.50
8:E:1203:A:C2	8:E:1556:A:C4	2.99	0.50
8:E:1227:A:H61	8:E:1256:A:H2'	1.76	0.50
18:SV:84:HIS:O	21:SX:11:ARG:NH2	2.38	0.50
22:SD:41:LEU:HA	22:SD:123:VAL:HG23	1.92	0.50
24:SZ:39:ILE:HG21	24:SZ:74:VAL:HG11	1.93	0.50
24:SZ:86:THR:HG21	24:SZ:90:ARG:HD2	1.92	0.50
33:Sd:36:SER:O	33:Sd:40:LEU:HG	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:LE:60:LEU:HD12	43:LE:61:ASP:H	1.75	0.50
73:Li:7:PHE:CE1	73:Li:20:ILE:HD13	2.46	0.50
1:A:1110:U:H2'	1:A:1111:U:C6	2.46	0.50
1:A:1310:G:HO2'	1:A:2380:U:HO2'	1.59	0.50
1:A:1562:C:H2'	1:A:1563:C:C6	2.45	0.50
1:A:1660:C:H2'	1:A:1661:G:H8	1.75	0.50
1:A:1744:G:H2'	1:A:1745:C:C6	2.47	0.50
8:E:691:C:H2'	8:E:692:C:C6	2.47	0.50
8:E:912:U:H4'	8:E:913:G:O5'	2.12	0.50
8:E:938:G:O3'	23:SY:114:ARG:NH2	2.41	0.50
8:E:1500:C:OP1	28:SI:122:ARG:NH2	2.42	0.50
8:E:1555:A:O2'	11:SE:82:ASN:ND2	2.43	0.50
12:SR:41:LEU:HD23	12:SR:68:ILE:HD13	1.93	0.50
15:SB:56:ALA:HA	15:SB:59:VAL:HG13	1.93	0.50
16:ST:152:ASP:OD1	16:ST:154:ARG:N	2.41	0.50
24:SZ:23:PHE:HZ	24:SZ:93:THR:HG23	1.76	0.50
27:SH:107:SER:O	27:SH:110:ARG:HG3	2.11	0.50
41:AA:50:ILE:HG13	41:AA:51:LEU:N	2.26	0.50
45:LG:178:ASN:HA	45:LG:183:TRP:CD2	2.46	0.50
57:LS:44:PHE:HD1	57:LS:139:ILE:HD11	1.75	0.50
57:LS:106:PHE:HB2	57:LS:111:ARG:NH1	2.26	0.50
65:La:80:VAL:HG11	65:La:104:LEU:HD11	1.92	0.50
1:A:1210:U:H5''	49:LK:62:ARG:HD3	1.93	0.50
1:A:1220:U:H4'	1:A:1222:G:H5''	1.92	0.50
1:A:2988:C:O2	43:LE:266:ARG:NH2	2.44	0.50
1:A:3019:U:O2	1:A:3035:A:N6	2.37	0.50
1:A:3154:C:O2'	1:A:3156:U:O2	2.25	0.50
5:m:1:G:H2'	5:m:2:G:C8	2.45	0.50
8:E:1063:U:H2'	8:E:1064:G:C8	2.47	0.50
8:E:1312:A:H2'	8:E:1313:A:C8	2.47	0.50
8:E:1381:U:H4'	29:SJ:59:PRO:HG3	1.93	0.50
8:E:1566:U:H5''	27:SH:39:GLY:N	2.25	0.50
13:SA:105:MET:HG2	13:SA:122:VAL:HG21	1.93	0.50
28:SI:85:SER:HB2	28:SI:91:TYR:CE1	2.47	0.50
33:Sd:2:SER:OG	33:Sd:3:ASP:N	2.36	0.50
33:Sd:40:LEU:HD13	33:Sd:60:PHE:HE2	1.75	0.50
39:SO:120:SER:C	39:SO:121:MET:HE2	2.36	0.50
39:SO:134:TRP:CE2	39:SO:140:CYS:HB2	2.45	0.50
58:LT:147:ALA:O	58:LT:150:GLN:HG3	2.12	0.50
64:LZ:72:ALA:O	64:LZ:76:VAL:HG13	2.11	0.50
1:A:1177:G:H5''	72:Lh:18:ARG:NH1	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1941:C:H2'	1:A:1942:U:C6	2.45	0.50
1:A:2213:A:H2'	1:A:2214:A:H8	1.76	0.50
8:E:78:A:H8	16:ST:154:ARG:HB3	1.76	0.50
8:E:97:C:H1'	8:E:426:G:H5'	1.93	0.50
8:E:130:C:N4	8:E:179:A:OP1	2.44	0.50
8:E:1268:G:H1'	8:E:1448:G:H5''	1.92	0.50
8:E:1793:G:N2	34:Se:76:SER:OG	2.42	0.50
15:SB:90:ILE:O	15:SB:94:THR:HG23	2.11	0.50
15:SB:136:ALA:HB1	15:SB:201:ALA:HB3	1.93	0.50
27:SH:41:ARG:HD2	28:SI:45:MET:HE2	1.92	0.50
28:SI:143:ASP:OD1	28:SI:144:GLU:N	2.43	0.50
31:Sb:89:TRP:O	31:Sb:93:LEU:HD23	2.11	0.50
39:SO:112:SER:HB2	39:SO:153:GLN:HA	1.93	0.50
45:LG:34:LYS:O	45:LG:38:THR:OG1	2.28	0.50
50:LL:5:PRO:HB2	50:LL:7:ARG:HG2	1.94	0.50
50:LL:38:LYS:NZ	50:LL:45:GLU:OE2	2.28	0.50
52:LN:64:LYS:HG3	67:Lc:69:TRP:CG	2.46	0.50
63:LY:8:PHE:CD1	63:LY:46:PRO:HG3	2.47	0.50
78:Ln:45:ARG:HG2	78:Ln:45:ARG:HH11	1.76	0.50
1:A:1119:C:H2'	1:A:1120:A:C8	2.46	0.50
1:A:1222:G:O2'	1:A:1223:A:OP1	2.23	0.50
1:A:1381:A:H2'	1:A:1382:G:H8	1.76	0.50
1:A:1801:U:H2'	1:A:1802:C:C6	2.46	0.50
1:A:2760:C:C4	81:Lq:63:LYS:HE3	2.46	0.50
1:A:2974:U:H2'	1:A:2975:U:C6	2.47	0.50
8:E:263:C:H2'	8:E:264:G:C8	2.47	0.50
8:E:1553:G:N1	8:E:1556:A:OP2	2.45	0.50
25:SF:95:LYS:HA	39:SO:59:ARG:HH12	1.77	0.50
31:Sb:57:ARG:NE	35:Sf:26:GLN:HE21	2.10	0.50
39:SO:21:THR:N	39:SO:36:ALA:O	2.44	0.50
61:LW:50:LEU:HD23	61:LW:50:LEU:H	1.76	0.50
75:Lk:95:ALA:O	75:Lk:99:ARG:NH2	2.44	0.50
1:A:1047:A:N3	1:A:2633:U:O2'	2.45	0.50
1:A:1913:A:N3	1:A:2120:A:H2'	2.27	0.50
1:A:2107:A:H2	1:A:3344:A:C8	2.28	0.50
1:A:2144:A:H1'	1:A:2281:A:H61	1.77	0.50
1:A:3214:U:OP2	53:LO:128:ARG:NH1	2.45	0.50
6:n:16:U:O3'	6:n:18:G:OP1	2.30	0.50
8:E:30:G:H2'	8:E:31:C:H6	1.77	0.50
8:E:534:A:H3'	8:E:535:A:H8	1.74	0.50
8:E:1410:A:H2'	8:E:1411:A:C8	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:1486:G:H2'	8:E:1487:A:H8	1.76	0.50
16:ST:79:LYS:HD2	16:ST:86:PRO:HG3	1.94	0.50
18:SV:121:LEU:O	18:SV:123:LYS:NZ	2.44	0.50
22:SD:51:ALA:O	22:SD:54:ARG:HG2	2.12	0.50
22:SD:70:ASN:OD1	22:SD:71:ILE:N	2.45	0.50
25:SF:127:LYS:HA	25:SF:134:ALA:HA	1.94	0.50
27:SH:32:LEU:HD22	27:SH:73:MET:HE1	1.94	0.50
27:SH:35:ILE:H	27:SH:35:ILE:HD12	1.76	0.50
39:SO:34:LEU:HD23	39:SO:35:SER:N	2.26	0.50
40:SL:21:SER:N	40:SL:67:ARG:O	2.45	0.50
41:AA:42:LEU:HG	41:AA:75:LEU:HD13	1.94	0.50
48:LJ:158:ASP:OD1	48:LJ:159:PRO:HD3	2.11	0.50
50:LL:72:ALA:O	50:LL:76:MET:HG3	2.12	0.50
57:LS:19:PRO:HD3	57:LS:30:VAL:HG21	1.92	0.50
1:A:2149:A:OP1	42:LD:196:TRP:NE1	2.39	0.50
1:A:2555:G:O2'	66:Lb:136:PHE:O	2.30	0.50
1:A:3059:G:H5''	70:Lf:17:HIS:CE1	2.47	0.50
3:C:21:C:OP2	44:LF:194:TYR:OH	2.23	0.50
8:E:406:U:H2'	8:E:407:A:H8	1.77	0.50
8:E:751:G:H2'	8:E:752:A:H8	1.76	0.50
8:E:816:G:H2'	8:E:817:A:H8	1.76	0.50
8:E:886:U:H2'	8:E:887:A:H8	1.75	0.50
8:E:1198:G:OP1	8:E:1199:G:O2'	2.21	0.50
8:E:1383:G:H2'	8:E:1384:A:C8	2.46	0.50
8:E:1483:A:H2'	8:E:1484:G:C8	2.45	0.50
11:SE:90:ILE:HA	11:SE:107:ILE:HG22	1.94	0.50
14:SS:182:TYR:HE1	14:SS:190:GLY:HA2	1.76	0.50
15:SB:51:VAL:HG21	15:SB:130:ILE:HG13	1.93	0.50
15:SB:213:LYS:O	15:SB:217:LEU:HG	2.12	0.50
35:Sf:31:TYR:HE1	35:Sf:70:LYS:HE2	1.76	0.50
37:Sg:54:ARG:NH1	37:Sg:56:MET:HG3	2.27	0.50
40:SL:33:LEU:HD11	40:SL:53:ILE:HD12	1.92	0.50
81:Lq:65:THR:HG23	81:Lq:87:ARG:HB3	1.93	0.50
1:A:269:G:N2	1:A:295:A:OP2	2.31	0.50
1:A:312:C:H2'	1:A:313:A:C8	2.43	0.50
1:A:313:A:H2'	1:A:314:U:C6	2.46	0.50
1:A:584:G:H2'	1:A:585:A:C8	2.46	0.50
1:A:2532:U:H2'	1:A:2533:G:C8	2.47	0.50
1:A:2597:U:O2	54:LP:125:SER:OG	2.30	0.50
1:A:2883:U:H2'	1:A:2884:C:H6	1.76	0.50
8:E:65:A:H4'	8:E:66:U:OP1	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:151:G:N3	16:ST:13:GLN:NE2	2.60	0.50
8:E:752:A:O5'	14:SS:187:ARG:NH2	2.44	0.50
8:E:1357:A:H2'	8:E:1358:G:H8	1.76	0.50
9:SP:84:ARG:NE	9:SP:203:PHE:O	2.45	0.50
43:LE:80:ASP:OD2	43:LE:314:TYR:OH	2.29	0.50
49:LK:88:TYR:CD1	49:LK:184:LYS:HA	2.47	0.50
67:Lc:37:GLY:HA3	67:Lc:53:PHE:HZ	1.77	0.50
1:A:292:U:OP2	54:LP:68:ARG:NH2	2.36	0.50
1:A:1351:U:H3'	1:A:1353:U:H5'	1.94	0.50
1:A:1616:U:H2'	1:A:1617:G:C8	2.47	0.50
1:A:2244:A:O2'	42:LD:223:SER:OG	2.26	0.50
2:B:71:G:H2'	2:B:72:A:H8	1.77	0.50
3:C:109:A:C2	3:C:114:G:C6	2.99	0.50
6:n:75:C:OP2	50:LL:110:ARG:NH2	2.41	0.50
8:E:92:A:OP2	8:E:398:G:N1	2.43	0.50
8:E:406:U:H2'	8:E:407:A:C8	2.47	0.50
8:E:628:G:H21	8:E:971:A:H62	1.59	0.50
8:E:1732:A:H2'	8:E:1733:C:C6	2.46	0.50
15:SB:69:PHE:HD1	15:SB:70:VAL:HG23	1.77	0.50
15:SB:201:ALA:HA	15:SB:211:ILE:CD1	2.42	0.50
16:ST:135:PRO:HB3	16:ST:140:ASN:HB3	1.94	0.50
20:SC:70:GLU:OE1	20:SC:70:GLU:HA	2.12	0.50
35:Sf:33:LEU:HA	35:Sf:82:LYS:H	1.77	0.50
43:LE:37:ARG:HA	43:LE:185:GLY:O	2.11	0.50
48:LJ:144:GLU:OE1	75:Lk:36:ARG:NH1	2.45	0.50
50:LL:32:ARG:HG2	50:LL:32:ARG:HH11	1.77	0.50
58:LT:98:ARG:HD2	58:LT:133:LYS:O	2.12	0.50
81:Lq:6:LYS:O	81:Lq:25:VAL:HG22	2.11	0.50
81:Lq:36:PHE:HA	81:Lq:41:ARG:HD3	1.94	0.50
1:A:286:U:H2'	1:A:287:G:C8	2.47	0.49
1:A:422:A:N1	1:A:2362:C:O2'	2.33	0.49
1:A:584:G:OP1	46:LH:82:ARG:NH2	2.45	0.49
1:A:632:G:H2'	1:A:633:C:C6	2.47	0.49
1:A:1066:G:H2'	1:A:1067:U:C6	2.46	0.49
1:A:1766:G:H2'	1:A:1767:C:C6	2.47	0.49
1:A:2373:A:N3	1:A:2824:G:O2'	2.34	0.49
1:A:2615:G:H2'	1:A:2616:C:C6	2.47	0.49
1:A:3159:C:H2'	1:A:3160:U:H6	1.76	0.49
8:E:17:C:H2'	8:E:18:C:C6	2.46	0.49
8:E:849:C:H2'	8:E:850:A:C8	2.47	0.49
8:E:990:C:H2'	8:E:991:G:O4'	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:1120:U:H2'	8:E:1121:C:C6	2.47	0.49
8:E:1170:G:N2	8:E:1571:C:O2'	2.45	0.49
12:SR:53:ILE:HD11	12:SR:72:LEU:HB3	1.93	0.49
12:SR:245:ASP:OD1	12:SR:246:GLU:N	2.45	0.49
14:SS:122:LYS:HD2	14:SS:164:LEU:HD21	1.94	0.49
14:SS:132:GLY:N	14:SS:136:VAL:O	2.44	0.49
15:SB:115:LYS:HA	15:SB:118:LEU:HD12	1.93	0.49
17:SU:121:VAL:O	17:SU:125:ILE:HG23	2.12	0.49
20:SC:3:MET:SD	20:SC:41:TYR:HB3	2.52	0.49
44:LF:136:LEU:HD21	44:LF:143:GLU:HG3	1.94	0.49
74:Lj:10:ARG:NH1	74:Lj:60:GLU:OE1	2.44	0.49
1:A:65:A:H1'	1:A:77:A:H1'	1.95	0.49
1:A:72:C:H1'	52:LN:61:PRO:O	2.12	0.49
1:A:270:U:H2'	1:A:271:C:H6	1.76	0.49
1:A:887:G:H2'	1:A:888:A:C8	2.47	0.49
1:A:1419:A:H5''	44:LF:193:LYS:HZ3	1.77	0.49
1:A:2570:U:H4'	1:A:2571:U:H2'	1.94	0.49
1:A:2930:A:H2'	1:A:2931:C:C6	2.47	0.49
4:D:8:A:H2'	4:D:9:A:C8	2.45	0.49
8:E:15:U:H2'	8:E:16:G:O4'	2.12	0.49
8:E:477:A:H5''	37:Sg:34:ALA:HB2	1.95	0.49
8:E:780:A:C2	33:Sd:8:ARG:HD3	2.47	0.49
8:E:979:A:H4'	8:E:1786:G:N2	2.27	0.49
9:SP:175:TYR:HA	9:SP:202:TYR:CE2	2.47	0.49
39:SO:278:PHE:O	39:SO:280:GLY:N	2.45	0.49
43:LE:298:PHE:O	43:LE:298:PHE:HD1	1.95	0.49
47:LI:86:VAL:HG13	47:LI:136:TYR:HB3	1.94	0.49
49:LK:10:ILE:HG12	49:LK:53:ILE:HB	1.93	0.49
55:LQ:77:SER:HB3	55:LQ:106:GLU:HG3	1.94	0.49
67:Lc:73:LEU:HD21	67:Lc:81:LEU:HD11	1.93	0.49
1:A:68:C:O3'	54:LP:177:GLY:HA2	2.12	0.49
1:A:565:U:H2'	1:A:566:G:C8	2.48	0.49
1:A:1335:C:H2'	1:A:1336:U:H6	1.77	0.49
1:A:1438:U:H2'	1:A:1439:U:C6	2.48	0.49
8:E:319:U:H4'	8:E:323:A:C8	2.46	0.49
8:E:1079:U:H2'	8:E:1080:U:C6	2.47	0.49
8:E:1344:A:H2'	8:E:1345:A:C8	2.46	0.49
8:E:1468:U:H1'	28:SI:88:VAL:HG23	1.95	0.49
13:SA:23:GLU:HA	13:SA:26:THR:HG22	1.93	0.49
14:SS:36:HIS:CE1	14:SS:85:GLY:HA3	2.47	0.49
15:SB:68:ILE:HG13	15:SB:88:PRO:HG3	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:SU:109:VAL:HG13	17:SU:110:GLN:H	1.76	0.49
18:SV:36:THR:OG1	18:SV:57:ALA:O	2.29	0.49
18:SV:113:PHE:HD2	18:SV:121:LEU:HD11	1.76	0.49
25:SF:18:ALA:HB2	25:SF:69:VAL:HG12	1.94	0.49
26:SG:19:ARG:HG3	26:SG:20:TYR:CD2	2.47	0.49
26:SG:110:VAL:HG11	26:SG:117:LEU:HD13	1.94	0.49
29:SJ:43:LYS:O	29:SJ:46:GLU:HG3	2.12	0.49
29:SJ:53:LYS:HB2	29:SJ:92:ASP:HB3	1.94	0.49
39:SO:59:ARG:HE	39:SO:96:THR:C	2.21	0.49
44:LF:206:LEU:HA	44:LF:226:GLU:O	2.12	0.49
54:LP:64:VAL:CG1	54:LP:102:ALA:HB1	2.41	0.49
67:Lc:79:TRP:CZ3	67:Lc:82:ILE:HD12	2.47	0.49
1:A:1310:G:O2'	1:A:2380:U:O2'	2.31	0.49
1:A:1609:C:N4	1:A:1610:G:O6	2.45	0.49
1:A:2101:C:HO2'	1:A:2102:U:H6	1.60	0.49
1:A:2659:G:H2'	1:A:2660:G:C8	2.47	0.49
5:m:59:A:O2'	5:m:60:U:OP1	2.29	0.49
8:E:53:G:H2'	8:E:54:C:C6	2.48	0.49
8:E:86:A:H2'	8:E:87:C:H6	1.77	0.49
8:E:768:C:O2'	8:E:769:A:OP1	2.29	0.49
8:E:1404:C:H2'	8:E:1405:G:H8	1.77	0.49
8:E:1501:C:OP2	28:SI:102:ARG:NH1	2.43	0.49
8:E:1522:U:H4'	8:E:1523:G:OP2	2.12	0.49
10:SQ:73:LEU:HD23	10:SQ:84:ILE:HD13	1.94	0.49
36:SM:33:LYS:HE2	36:SM:34:TYR:OH	2.12	0.49
43:LE:274:SER:O	43:LE:275:ARG:NH1	2.43	0.49
45:LG:236:LEU:HA	45:LG:239:ILE:HG22	1.93	0.49
48:LJ:81:THR:HG21	48:LJ:181:LYS:HD3	1.94	0.49
1:A:1544:G:O2'	1:A:2167:A:H1'	2.12	0.49
1:A:3275:U:O4'	72:Lh:66:VAL:HG21	2.13	0.49
3:C:67:U:H2'	3:C:68:G:H8	1.77	0.49
6:n:40:C:O2'	8:E:1576:A:O2'	2.30	0.49
13:SA:190:ARG:NH1	13:SA:195:SER:OG	2.46	0.49
16:ST:136:LYS:HG3	16:ST:173:PRO:HB2	1.94	0.49
20:SC:62:GLN:OE1	20:SC:62:GLN:N	2.45	0.49
33:Sd:39:GLU:O	33:Sd:42:GLU:HG3	2.12	0.49
39:SO:70:ASP:OD1	39:SO:83:ALA:HB3	2.13	0.49
42:LD:142:ASP:OD1	42:LD:143:GLU:N	2.43	0.49
43:LE:46:PHE:CE2	43:LE:205:VAL:HG22	2.47	0.49
49:LK:28:VAL:HG23	49:LK:33:THR:HG22	1.94	0.49
55:LQ:16:VAL:HG22	55:LQ:41:LEU:HD13	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:19:U:H2'	1:A:20:A:C8	2.47	0.49
1:A:201:A:H2'	1:A:202:G:C8	2.47	0.49
1:A:629:U:H2'	1:A:630:A:C8	2.47	0.49
1:A:659:G:H2'	1:A:1432:C:H42	1.78	0.49
1:A:2232:A:H2'	1:A:2233:A:C8	2.48	0.49
1:A:2916:U:H2'	1:A:2917:G:H8	1.78	0.49
1:A:3167:A:H2'	1:A:3168:A:H8	1.76	0.49
5:m:22:G:N7	5:m:46:G:O6	2.45	0.49
8:E:168:A:H5'	16:ST:137:ARG:HB2	1.95	0.49
8:E:388:G:OP1	8:E:423:G:O2'	2.29	0.49
8:E:610:G:OP2	32:Sc:19:ARG:NE	2.46	0.49
8:E:939:A:P	23:SY:114:ARG:HH22	2.36	0.49
8:E:1147:A:H2'	8:E:1148:C:C6	2.48	0.49
8:E:1315:U:H2'	8:E:1316:G:O4'	2.13	0.49
8:E:1364:G:O3'	25:SF:26:LYS:NZ	2.42	0.49
8:E:1511:U:H2'	8:E:1512:G:C8	2.47	0.49
13:SA:175:VAL:HG13	13:SA:182:LEU:HB2	1.92	0.49
17:SU:143:LEU:HD21	17:SU:149:ILE:HG12	1.94	0.49
35:Sf:34:ASP:OD1	35:Sf:43:ILE:HG22	2.13	0.49
45:LG:41:LYS:NZ	60:LV:30:TYR:O	2.36	0.49
49:LK:87:LYS:HE3	49:LK:187:ILE:HA	1.94	0.49
1:A:129:U:H2'	1:A:130:A:H8	1.77	0.49
1:A:210:U:C2	1:A:230:U:H4'	2.47	0.49
1:A:377:A:H1'	1:A:392:G:N2	2.28	0.49
1:A:550:A:H2'	1:A:551:A:C8	2.47	0.49
1:A:785:G:N7	67:Lc:77:LYS:NZ	2.44	0.49
1:A:1117:G:H5'	68:Ld:5:LYS:HE3	1.95	0.49
1:A:1529:A:OP2	1:A:1592:G:N2	2.41	0.49
1:A:2427:U:O4	1:A:2602:G:O6	2.31	0.49
1:A:2800:G:O6	67:Lc:42:ARG:NH2	2.44	0.49
1:A:3086:A:H3'	1:A:3087:A:H8	1.77	0.49
2:B:52:G:O2'	2:B:53:U:OP1	2.27	0.49
3:C:143:U:H2'	3:C:144:G:O4'	2.13	0.49
8:E:5:U:H2'	8:E:6:G:H8	1.78	0.49
8:E:887:A:H2'	8:E:888:U:C6	2.47	0.49
8:E:888:U:H2'	8:E:889:U:C6	2.47	0.49
18:SV:113:PHE:HD1	18:SV:117:TYR:HD2	1.61	0.49
57:LS:65:SER:OG	57:LS:90:ASP:OD2	2.28	0.49
1:A:297:G:O6	54:LP:12:ARG:NH1	2.46	0.49
1:A:559:A:O2'	53:LO:84:LYS:NZ	2.44	0.49
1:A:595:G:H1	1:A:609:G:H5''	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:12:U:OP2	2:B:68:C:O2'	2.30	0.49
8:E:640:U:H2'	8:E:641:G:O4'	2.13	0.49
8:E:762:A:C8	8:E:789:A:N6	2.80	0.49
8:E:1170:G:C2	8:E:1171:A:C8	3.01	0.49
8:E:1205:C:O2	36:SM:17:GLY:N	2.45	0.49
8:E:1619:C:H2'	8:E:1620:C:H6	1.78	0.49
8:E:1684:U:H2'	8:E:1685:G:C8	2.47	0.49
13:SA:20:GLU:OE1	13:SA:76:ARG:NE	2.46	0.49
15:SB:134:VAL:HA	15:SB:137:ILE:HG12	1.94	0.49
18:SV:89:GLU:O	18:SV:93:THR:HG23	2.13	0.49
20:SC:32:HIS:CE1	20:SC:35:ILE:HG13	2.47	0.49
29:SJ:47:GLN:HG3	29:SJ:48:HIS:ND1	2.28	0.49
37:Sg:54:ARG:HH12	37:Sg:56:MET:HG3	1.78	0.49
42:LD:112:ILE:HG13	82:Lr:79:VAL:HG22	1.94	0.49
48:LJ:161:GLU:HA	48:LJ:164:VAL:HG22	1.94	0.49
48:LJ:173:MET:HE2	48:LJ:173:MET:HA	1.95	0.49
49:LK:80:THR:HG1	49:LK:86:TYR:HH	1.60	0.49
50:LL:60:LEU:HD13	50:LL:159:PHE:CD1	2.48	0.49
53:LO:70:PHE:CE2	53:LO:72:LEU:HD12	2.48	0.49
58:LT:78:TYR:HA	58:LT:81:ARG:HG3	1.94	0.49
1:A:674:G:OP2	57:LS:105:ARG:NH1	2.46	0.49
1:A:1660:C:H2'	1:A:1661:G:C8	2.48	0.49
1:A:1896:A:H61	1:A:2339:C:N4	2.11	0.49
1:A:2547:A:H2'	1:A:2548:C:O4'	2.12	0.49
1:A:2880:U:H1'	43:LE:250:ALA:HB3	1.95	0.49
1:A:3107:U:H2'	1:A:3108:G:C8	2.48	0.49
3:C:83:C:HO2'	3:C:85:G:N2	2.11	0.49
8:E:353:A:H8	8:E:353:A:OP2	1.96	0.49
8:E:689:G:H2'	8:E:690:G:H8	1.78	0.49
8:E:1220:C:H5''	20:SC:52:LYS:NZ	2.27	0.49
8:E:1548:G:H2'	8:E:1549:C:C6	2.48	0.49
8:E:1590:G:OP1	28:SI:91:TYR:HB2	2.13	0.49
8:E:1758:U:H2'	8:E:1759:C:H6	1.78	0.49
19:SW:86:LEU:HD13	19:SW:99:LEU:HD21	1.95	0.49
29:SJ:57:ARG:HG2	29:SJ:57:ARG:HH11	1.78	0.49
31:Sb:50:PHE:HB3	31:Sb:63:VAL:HG13	1.94	0.49
43:LE:21:ARG:HG2	43:LE:269:GLN:NE2	2.28	0.49
48:LJ:160:ILE:O	48:LJ:164:VAL:HG13	2.13	0.49
59:LU:8:GLN:HB3	59:LU:64:ILE:HD11	1.94	0.49
1:A:1648:A:H2'	1:A:1649:U:O4'	2.13	0.49
1:A:1659:U:H2'	1:A:1660:C:C6	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2508:U:H2'	1:A:2509:U:C6	2.46	0.49
8:E:547:U:H1'	8:E:596:C:H1'	1.94	0.49
8:E:765:G:N7	19:SW:149:ARG:NH2	2.61	0.49
8:E:818:C:O2'	8:E:819:G:OP1	2.20	0.49
8:E:872:G:H1	8:E:955:A:N6	2.07	0.49
8:E:913:G:C2	10:SQ:11:LYS:HE2	2.48	0.49
8:E:928:U:H4'	8:E:929:A:O5'	2.12	0.49
8:E:1435:G:O6	20:SC:25:LYS:NZ	2.38	0.49
10:SQ:115:ARG:HB2	10:SQ:118:GLN:OE1	2.13	0.49
13:SA:32:GLU:OE2	13:SA:65:ARG:NH1	2.36	0.49
21:SX:109:VAL:HG21	21:SX:125:VAL:HG11	1.94	0.49
27:SH:68:ARG:O	27:SH:72:ILE:HG13	2.12	0.49
27:SH:111:ASP:OD1	27:SH:112:ASP:N	2.46	0.49
46:LH:40:LEU:HD11	46:LH:54:TYR:HB2	1.95	0.49
54:LP:5:LYS:HG3	75:Lk:40:VAL:HG11	1.94	0.49
58:LT:15:VAL:HG11	58:LT:52:LYS:HB2	1.94	0.49
1:A:113:C:OP1	54:LP:147:ARG:HD3	2.13	0.48
1:A:966:U:H2'	1:A:967:A:H8	1.78	0.48
1:A:970:A:H2'	1:A:971:G:C8	2.48	0.48
1:A:1037:C:H2'	1:A:1038:C:C6	2.48	0.48
1:A:1729:A:N6	82:Lr:42:CYS:HA	2.28	0.48
1:A:1881:A:H2'	1:A:1882:G:H8	1.78	0.48
1:A:2148:U:O2'	42:LD:182:ALA:HB2	2.13	0.48
1:A:2429:G:H2'	1:A:2430:A:H8	1.77	0.48
1:A:3032:A:H2	49:LK:170:LYS:HZ1	1.60	0.48
1:A:3138:U:OP2	43:LE:30:LYS:HG3	2.12	0.48
8:E:866:G:H5''	23:SY:2:GLY:HA3	1.94	0.48
8:E:1210:C:H2'	8:E:1211:A:C8	2.48	0.48
8:E:1787:C:H2'	8:E:1788:G:C8	2.48	0.48
10:SQ:124:ASN:HA	10:SQ:137:ILE:O	2.13	0.48
12:SR:184:VAL:O	12:SR:188:LEU:HD22	2.13	0.48
13:SA:119:ALA:O	13:SA:123:VAL:HG13	2.13	0.48
18:SV:113:PHE:HE2	18:SV:121:LEU:HD21	1.78	0.48
26:SG:104:ASN:OD1	26:SG:104:ASN:N	2.45	0.48
31:Sb:101:TYR:HA	31:Sb:113:HIS:CE1	2.48	0.48
39:SO:127:ARG:HA	39:SO:150:TRP:HB2	1.96	0.48
43:LE:69:LYS:HE2	43:LE:69:LYS:HA	1.94	0.48
46:LH:85:ILE:HD11	72:Lh:107:ILE:HB	1.95	0.48
49:LK:49:ASN:OD1	49:LK:52:LEU:N	2.46	0.48
54:LP:70:ASN:HB3	54:LP:92:LEU:O	2.13	0.48
64:LZ:58:ASP:N	64:LZ:58:ASP:OD1	2.45	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:Lc:99:ALA:HB2	67:Lc:122:PRO:HB2	1.95	0.48
81:Lq:38:GLN:HA	81:Lq:41:ARG:HH21	1.78	0.48
1:A:1280:C:H2'	1:A:1281:G:C8	2.49	0.48
1:A:1686:U:OP1	61:LW:42:LYS:NZ	2.45	0.48
1:A:1720:U:P	58:LT:110:ARG:HH12	2.36	0.48
1:A:1729:A:C6	69:Le:49:PRO:HD3	2.48	0.48
1:A:2342:U:O3'	1:A:3088:G:N2	2.46	0.48
1:A:2558:U:C6	42:LD:69:TYR:HE2	2.31	0.48
1:A:2883:U:H2'	1:A:2884:C:C6	2.47	0.48
1:A:3136:G:H4'	43:LE:342:LEU:HD13	1.96	0.48
2:B:39:C:H4'	51:LM:44:THR:HG23	1.96	0.48
6:n:28:A:H2'	6:n:29:G:H8	1.77	0.48
8:E:1181:U:O2'	11:SE:126:VAL:HG12	2.14	0.48
8:E:1278:G:H1	8:E:1430:U:H3	1.60	0.48
13:SA:211:PRO:HB3	26:SG:20:TYR:CE1	2.48	0.48
14:SS:181:VAL:HA	14:SS:227:VAL:HA	1.96	0.48
16:ST:25:ARG:NH1	43:LE:298:PHE:HE1	2.10	0.48
26:SG:41:ILE:HG22	26:SG:43:SER:H	1.78	0.48
44:LF:264:SER:OG	44:LF:265:GLU:N	2.46	0.48
45:LG:237:GLU:CD	45:LG:237:GLU:H	2.21	0.48
48:LJ:101:THR:HG23	48:LJ:104:GLU:H	1.77	0.48
54:LP:41:ARG:HG2	54:LP:42:PRO:HD2	1.94	0.48
57:LS:153:PHE:O	57:LS:161:LYS:NZ	2.34	0.48
60:LV:108:ARG:HG2	60:LV:112:ASN:HD21	1.77	0.48
1:A:156:G:N2	52:LN:91:ARG:HH22	2.11	0.48
1:A:1460:A:H2'	1:A:1461:A:C8	2.48	0.48
1:A:3034:C:C2	49:LK:120:ASP:HB2	2.48	0.48
1:A:3089:C:H2'	1:A:3090:U:O4'	2.12	0.48
1:A:3160:U:H2'	1:A:3161:C:C6	2.48	0.48
2:B:96:U:H2'	2:B:97:A:C8	2.48	0.48
8:E:298:C:O3'	14:SS:30:ARG:NH2	2.46	0.48
8:E:322:G:O2'	8:E:323:A:OP2	2.25	0.48
8:E:856:A:O2'	17:SU:116:ARG:NH2	2.47	0.48
8:E:1103:U:H2'	8:E:1104:U:H6	1.78	0.48
8:E:1252:C:O2'	38:SN:131:PHE:O	2.32	0.48
8:E:1402:G:H4'	26:SG:4:VAL:HG22	1.94	0.48
8:E:1549:C:OP1	11:SE:42:ARG:NH1	2.34	0.48
8:E:1550:A:H2'	8:E:1551:U:C6	2.48	0.48
14:SS:36:HIS:CD2	14:SS:85:GLY:HA3	2.49	0.48
16:ST:155:ASP:OD1	16:ST:156:PHE:N	2.46	0.48
16:ST:211:LEU:HD11	16:ST:215:ARG:HH21	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:SV:113:PHE:CD2	18:SV:121:LEU:HD11	2.48	0.48
19:SW:33:GLU:HG3	19:SW:34:PHE:CD1	2.48	0.48
27:SH:116:LEU:HD23	27:SH:119:ILE:HD11	1.94	0.48
29:SJ:25:THR:HG22	29:SJ:115:GLU:HG3	1.94	0.48
43:LE:151:ILE:O	43:LE:155:ALA:CB	2.61	0.48
43:LE:360:ASP:OD1	43:LE:361:THR:N	2.46	0.48
70:Lf:23:VAL:O	70:Lf:28:ARG:NH2	2.30	0.48
81:Lq:40:LYS:NZ	81:Lq:44:ASP:OD2	2.40	0.48
1:A:75:G:H5''	52:LN:58:VAL:CG2	2.41	0.48
1:A:1448:U:OP1	56:LR:82:ARG:NH2	2.38	0.48
1:A:2543:U:H2'	1:A:2544:U:H6	1.77	0.48
1:A:3159:C:H2'	1:A:3160:U:C6	2.49	0.48
1:A:3268:A:N1	46:LH:135:VAL:HG23	2.29	0.48
5:m:15:G:H3'	5:m:16:U:H5''	1.94	0.48
8:E:1035:G:H2'	8:E:1036:A:H8	1.78	0.48
8:E:1088:A:O3'	34:Se:89:ARG:NH2	2.43	0.48
8:E:1149:G:N2	8:E:1766:A:OP1	2.46	0.48
8:E:1417:A:O3'	25:SF:128:LYS:NZ	2.45	0.48
8:E:1470:C:H5''	8:E:1471:A:C8	2.48	0.48
8:E:1586:A:H1'	8:E:1611:A:N6	2.28	0.48
9:SP:31:VAL:HG12	9:SP:33:GLN:H	1.79	0.48
9:SP:180:GLU:OE1	9:SP:180:GLU:HA	2.13	0.48
10:SQ:144:ARG:HD3	10:SQ:208:GLN:HB3	1.93	0.48
15:SB:97:LEU:HD11	15:SB:194:LEU:HD13	1.94	0.48
23:SY:100:LYS:HA	23:SY:103:GLU:OE2	2.14	0.48
29:SJ:58:LEU:HD12	29:SJ:88:LYS:HD3	1.95	0.48
44:LF:233:LEU:HD13	44:LF:238:LEU:HD11	1.96	0.48
45:LG:64:ILE:HG13	45:LG:109:THR:HG21	1.95	0.48
47:LI:144:ILE:HD13	47:LI:188:ILE:HG22	1.95	0.48
56:LR:33:ALA:HB1	56:LR:117:ILE:HG12	1.95	0.48
1:A:664:U:H5'	44:LF:107:ARG:HA	1.96	0.48
1:A:2213:A:H2'	1:A:2214:A:C8	2.49	0.48
1:A:2586:G:O6	48:LJ:242:ALA:N	2.46	0.48
2:B:16:U:H2'	2:B:17:A:C8	2.49	0.48
2:B:24:A:H2'	2:B:25:G:C8	2.48	0.48
8:E:150:U:C2	8:E:165:G:N2	2.82	0.48
8:E:447:U:O5'	14:SS:49:ARG:NH1	2.46	0.48
8:E:451:A:N6	8:E:453:U:O2	2.47	0.48
8:E:754:A:H2	8:E:793:A:H2'	1.79	0.48
8:E:1137:A:OP1	32:Sc:62:LYS:NZ	2.38	0.48
8:E:1183:A:H1'	8:E:1210:C:O2'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:1247:U:H2'	8:E:1248:C:C6	2.49	0.48
8:E:1389:C:OP1	26:SG:48:ASN:ND2	2.47	0.48
8:E:1471:A:N6	8:E:1540:G:O4'	2.47	0.48
8:E:1584:G:N2	8:E:1611:A:OP2	2.42	0.48
9:SP:147:THR:OG1	9:SP:151:SER:OG	2.18	0.48
11:SE:115:TYR:HB2	11:SE:118:GLU:CD	2.37	0.48
12:SR:142:GLY:N	12:SR:153:SER:O	2.47	0.48
14:SS:212:ASP:OD1	14:SS:212:ASP:N	2.36	0.48
48:LJ:71:VAL:HG12	54:LP:21:PHE:CZ	2.49	0.48
66:Lb:76:ASN:OD1	66:Lb:77:TYR:N	2.47	0.48
1:A:273:A:H2'	1:A:274:G:C8	2.49	0.48
1:A:307:A:H2'	1:A:308:A:H8	1.78	0.48
1:A:641:C:H2'	1:A:642:U:O4'	2.13	0.48
1:A:1713:G:O2'	1:A:1730:G:N2	2.45	0.48
2:B:107:C:H2'	2:B:108:A:C8	2.48	0.48
6:n:25:C:C2	6:n:26:G:C8	3.02	0.48
8:E:129:U:O4	16:ST:194:LYS:NZ	2.46	0.48
8:E:250:C:H2'	8:E:251:A:H8	1.78	0.48
8:E:575:C:H41	32:Sc:65:ASN:CG	2.20	0.48
8:E:903:U:H5''	24:SZ:135:ARG:HH21	1.78	0.48
8:E:1253:U:H5'	38:SN:130:VAL:HG23	1.94	0.48
8:E:1295:G:H1	8:E:1302:U:H3	1.61	0.48
8:E:1508:U:H2'	8:E:1509:C:C6	2.49	0.48
8:E:1585:U:H5''	25:SF:134:ALA:HB3	1.94	0.48
9:SP:189:VAL:HA	30:Sa:44:ARG:NH2	2.29	0.48
10:SQ:89:ASP:HB3	10:SQ:223:PHE:CE1	2.48	0.48
11:SE:72:LYS:NZ	11:SE:106:GLU:OE1	2.46	0.48
17:SU:154:LEU:HD11	17:SU:183:PHE:HD2	1.79	0.48
20:SC:3:MET:CE	20:SC:8:ARG:HD2	2.43	0.48
43:LE:57:VAL:HG22	43:LE:73:VAL:HG22	1.96	0.48
1:A:640:U:H2'	1:A:641:C:C6	2.48	0.48
1:A:945:C:H2'	1:A:946:U:C6	2.49	0.48
1:A:1039:U:H2'	1:A:1040:A:C8	2.49	0.48
1:A:1334:U:H2'	1:A:1335:C:C6	2.49	0.48
1:A:2880:U:O2	43:LE:250:ALA:HB3	2.14	0.48
1:A:3006:A:H2'	1:A:3007:U:O4'	2.13	0.48
8:E:1383:G:H2'	8:E:1384:A:H8	1.79	0.48
8:E:1545:A:H3'	27:SH:134:ARG:HH21	1.79	0.48
8:E:1594:G:OP2	8:E:1596:C:N4	2.47	0.48
9:SP:117:GLU:O	12:SR:40:LYS:HE3	2.14	0.48
10:SQ:87:ARG:HB2	10:SQ:101:HIS:CD2	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:SR:207:LEU:HD12	12:SR:207:LEU:O	2.14	0.48
13:SA:9:ARG:HA	13:SA:12:VAL:HG22	1.96	0.48
14:SS:95:THR:HG23	33:Sd:16:PRO:HG2	1.94	0.48
19:SW:102:GLU:OE1	19:SW:102:GLU:N	2.44	0.48
23:SY:132:VAL:HG23	23:SY:134:VAL:HG12	1.96	0.48
24:SZ:71:CYS:HB3	24:SZ:76:ILE:CG2	2.44	0.48
33:Sd:32:ARG:HA	33:Sd:32:ARG:CZ	2.44	0.48
38:SN:135:HIS:HB2	38:SN:138:ARG:NH2	2.29	0.48
42:LD:77:ILE:HD12	42:LD:128:ARG:HB3	1.95	0.48
44:LF:196:ASN:ND2	65:La:11:ASP:OD1	2.46	0.48
46:LH:31:ARG:HG3	46:LH:34:LEU:HD23	1.94	0.48
48:LJ:143:ILE:HG23	48:LJ:175:VAL:HG11	1.95	0.48
48:LJ:215:VAL:C	48:LJ:217:THR:H	2.22	0.48
51:LM:131:MET:HE1	51:LM:162:TRP:CH2	2.48	0.48
60:LV:73:GLY:HA2	60:LV:89:LEU:O	2.14	0.48
1:A:576:C:O3'	47:LI:142:SER:OG	2.31	0.48
1:A:1288:U:H2'	1:A:1289:G:H8	1.79	0.48
1:A:2947:G:C2	43:LE:250:ALA:HB1	2.49	0.48
1:A:2995:A:O2'	1:A:2996:U:O2	2.26	0.48
1:A:3228:C:H4'	1:A:3229:G:O5'	2.12	0.48
5:m:40:C:H2'	5:m:41:A:C8	2.49	0.48
5:m:71:C:H2'	5:m:72:C:C6	2.48	0.48
8:E:156:A:N6	8:E:418:G:O6	2.46	0.48
8:E:1227:A:C8	22:SD:43:ARG:HG3	2.49	0.48
8:E:1383:G:O2'	29:SJ:35:GLU:OE2	2.29	0.48
8:E:1494:C:H2'	8:E:1495:C:C6	2.48	0.48
8:E:1589:C:H2'	8:E:1590:G:C8	2.48	0.48
9:SP:57:LEU:HD21	9:SP:177:LEU:HA	1.95	0.48
11:SE:85:ILE:HG22	11:SE:112:LEU:HD23	1.95	0.48
17:SU:34:LEU:HD12	17:SU:34:LEU:O	2.13	0.48
24:SZ:16:VAL:O	24:SZ:30:VAL:HA	2.14	0.48
33:Sd:29:HIS:O	33:Sd:29:HIS:ND1	2.45	0.48
40:SL:29:ARG:HH11	40:SL:29:ARG:HG3	1.78	0.48
45:LG:126:GLU:HG3	45:LG:128:GLU:HG2	1.96	0.48
45:LG:184:ASP:N	45:LG:189:GLU:O	2.38	0.48
1:A:1940:G:HO2'	1:A:3362:A:HO2'	1.61	0.48
1:A:2352:A:H5''	56:LR:83:TRP:O	2.13	0.48
1:A:2407:C:H2'	1:A:2408:U:C6	2.49	0.48
1:A:2681:U:H2'	1:A:2682:C:H6	1.79	0.48
2:B:74:C:H2'	2:B:75:G:C8	2.48	0.48
8:E:17:C:H2'	8:E:18:C:H6	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:555:A:C5	19:SW:19:TYR:HE2	2.31	0.48
8:E:1070:C:H4'	35:Sf:17:ARG:HG3	1.95	0.48
34:Se:41:ILE:HA	34:Se:68:TYR:CB	2.44	0.48
37:Sg:43:ARG:HD3	37:Sg:56:MET:SD	2.54	0.48
38:SN:118:ARG:HB2	38:SN:131:PHE:CE2	2.48	0.48
39:SO:167:VAL:HG22	39:SO:183:LEU:HD21	1.96	0.48
45:LG:76:ALA:HB3	45:LG:109:THR:HG22	1.96	0.48
49:LK:172:ILE:HB	79:Lo:90:ASN:ND2	2.29	0.48
61:LW:80:THR:HG21	61:LW:95:PHE:CD2	2.49	0.48
1:A:268:A:H61	1:A:295:A:H3'	1.79	0.48
1:A:709:A:OP1	57:LS:179:ARG:NH1	2.43	0.48
1:A:1709:C:H2'	1:A:1710:C:C6	2.47	0.48
1:A:3015:G:H2'	1:A:3016:A:H8	1.78	0.48
1:A:3165:A:H2'	1:A:3166:C:H6	1.79	0.48
1:A:3218:A:H4'	1:A:3219:G:O5'	2.13	0.48
6:n:66:C:H2'	6:n:67:G:H8	1.78	0.48
10:SQ:67:GLU:OE1	10:SQ:83:LYS:HB3	2.14	0.48
10:SQ:189:ILE:HB	10:SQ:190:PRO:HD3	1.95	0.48
10:SQ:192:VAL:HA	10:SQ:195:LYS:HE2	1.95	0.48
12:SR:55:GLU:O	12:SR:59:HIS:ND1	2.38	0.48
13:SA:32:GLU:OE1	13:SA:32:GLU:N	2.47	0.48
15:SB:148:ARG:HD3	15:SB:157:ARG:NH2	2.29	0.48
19:SW:121:SER:H	19:SW:124:HIS:HB3	1.79	0.48
21:SX:98:ASN:CG	21:SX:98:ASN:O	2.57	0.48
22:SD:32:LEU:HD22	22:SD:41:LEU:HD11	1.96	0.48
26:SG:5:ARG:HE	26:SG:53:TYR:HD1	1.60	0.48
28:SI:77:ASN:HD21	28:SI:98:GLY:HA2	1.79	0.48
29:SJ:56:VAL:HG23	29:SJ:90:TYR:CE1	2.49	0.48
34:Se:12:LYS:HG3	34:Se:15:ARG:HG2	1.96	0.48
34:Se:30:ILE:HD11	34:Se:34:LYS:HD3	1.95	0.48
34:Se:44:ILE:HD12	34:Se:65:PRO:HG2	1.95	0.48
42:LD:79:ASN:O	42:LD:82:VAL:HG23	2.13	0.48
43:LE:165:GLN:OE1	43:LE:168:LYS:NZ	2.34	0.48
49:LK:59:ASN:HB2	53:LO:41:GLN:NE2	2.29	0.48
49:LK:93:VAL:HG22	79:Lo:82:LEU:HB3	1.96	0.48
52:LN:55:ARG:O	52:LN:115:ARG:NH2	2.47	0.48
53:LO:94:TRP:CE2	53:LO:100:ALA:HB2	2.49	0.48
66:Lb:128:GLN:H	66:Lb:128:GLN:CD	2.22	0.48
1:A:167:U:H2'	1:A:168:U:C6	2.49	0.47
1:A:290:G:H2'	1:A:291:C:C6	2.49	0.47
1:A:417:A:H2'	1:A:418:A:H8	1.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:982:C:H2'	1:A:983:A:C8	2.49	0.47
1:A:1279:C:H2'	1:A:1280:C:C6	2.48	0.47
1:A:1342:C:H2'	1:A:1343:A:C8	2.49	0.47
1:A:1348:U:H5''	1:A:1349:G:OP1	2.14	0.47
1:A:2743:A:H2'	1:A:2744:U:C6	2.48	0.47
1:A:3167:A:H2'	1:A:3168:A:C8	2.49	0.47
1:A:3175:U:H4'	1:A:3176:G:H5'	1.96	0.47
3:C:83:C:O2'	3:C:85:G:N2	2.47	0.47
8:E:128:U:H4'	8:E:131:C:N4	2.29	0.47
8:E:331:A:H4'	18:SV:31:ARG:O	2.14	0.47
8:E:464:A:C2	8:E:465:G:C8	3.02	0.47
8:E:903:U:H5''	24:SZ:135:ARG:NH2	2.29	0.47
8:E:1018:U:O4	8:E:1019:A:N6	2.47	0.47
8:E:1290:U:H2'	8:E:1291:G:N3	2.28	0.47
8:E:1330:G:C2	8:E:1331:A:H1'	2.49	0.47
8:E:1389:C:H6	26:SG:28:PHE:CZ	2.32	0.47
8:E:1405:G:H2'	8:E:1406:A:H8	1.79	0.47
8:E:1504:G:H22	8:E:1549:C:H1'	1.79	0.47
8:E:1536:G:N3	8:E:1536:G:H2'	2.29	0.47
8:E:1595:U:H5	8:E:1596:C:C4	2.31	0.47
9:SP:55:GLU:HA	9:SP:58:VAL:HG12	1.96	0.47
11:SE:68:PRO:HG2	11:SE:71:GLU:HB3	1.96	0.47
16:ST:7:TYR:CE2	16:ST:125:THR:HG22	2.49	0.47
16:ST:49:VAL:HG13	16:ST:114:VAL:HG23	1.96	0.47
23:SY:87:ASP:OD1	23:SY:87:ASP:N	2.47	0.47
28:SI:16:ASN:HA	28:SI:56:LYS:HE2	1.96	0.47
31:Sb:11:LEU:HD21	31:Sb:37:PHE:CE2	2.49	0.47
39:SO:238:ASP:OD2	39:SO:258:THR:N	2.45	0.47
43:LE:92:TYR:O	43:LE:156:SER:N	2.43	0.47
48:LJ:172:LYS:HD3	75:Lk:39:PHE:HE1	1.78	0.47
55:LQ:54:TYR:OH	55:LQ:73:PHE:O	2.31	0.47
56:LR:19:GLY:HA3	56:LR:22:LEU:HD11	1.96	0.47
60:LV:44:ALA:HB2	60:LV:53:PRO:HG2	1.96	0.47
1:A:277:G:H2'	1:A:278:U:C6	2.48	0.47
1:A:601:U:H3'	1:A:602:A:C8	2.50	0.47
1:A:798:G:OP1	67:Lc:33:GLY:N	2.47	0.47
1:A:2218:G:H2'	1:A:2219:A:C8	2.48	0.47
1:A:2534:G:H2'	1:A:2535:A:C8	2.49	0.47
1:A:3162:C:H2'	1:A:3163:A:C8	2.49	0.47
1:A:3332:U:H2'	1:A:3333:G:O4'	2.14	0.47
8:E:886:U:C2	8:E:887:A:C8	3.01	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:959:U:H6	23:SY:61:THR:HB	1.77	0.47
10:SQ:2:ALA:O	10:SQ:5:LYS:HG2	2.13	0.47
12:SR:174:ARG:O	19:SW:97:LEU:HD13	2.13	0.47
14:SS:72:VAL:HG22	14:SS:90:ILE:HD13	1.97	0.47
15:SB:51:VAL:HG13	15:SB:131:GLN:OE1	2.13	0.47
23:SY:96:VAL:O	23:SY:100:LYS:HG2	2.14	0.47
26:SG:51:ALA:O	26:SG:54:THR:OG1	2.30	0.47
27:SH:30:TYR:O	27:SH:33:THR:OG1	2.32	0.47
28:SI:5:SER:N	28:SI:8:ASP:OD2	2.45	0.47
28:SI:108:LEU:HA	28:SI:111:ILE:HG22	1.96	0.47
30:Sa:37:ALA:HA	30:Sa:50:TYR:HB3	1.96	0.47
33:Sd:5:VAL:HG21	33:Sd:43:LYS:HE2	1.95	0.47
35:Sf:31:TYR:CE1	35:Sf:70:LYS:HE2	2.49	0.47
45:LG:39:GLN:OE1	45:LG:40:HIS:N	2.47	0.47
1:A:7:C:H5''	48:LJ:193:LYS:HB3	1.94	0.47
1:A:728:G:H2'	1:A:729:C:H6	1.79	0.47
1:A:761:A:H2'	1:A:762:U:C6	2.49	0.47
1:A:847:A:H2'	1:A:848:A:C8	2.49	0.47
1:A:2763:U:N3	83:A:3401:3HE:O1	2.41	0.47
1:A:3190:C:H2'	1:A:3191:G:C8	2.49	0.47
8:E:65:A:O2'	8:E:66:U:O5'	2.30	0.47
8:E:208:U:H2'	8:E:209:U:C6	2.49	0.47
8:E:1579:U:H2'	8:E:1580:C:C6	2.48	0.47
8:E:1613:U:C4	8:E:1614:A:H2	2.33	0.47
23:SY:40:TYR:HB3	23:SY:45:LEU:HD12	1.96	0.47
44:LF:58:HIS:HA	44:LF:90:PHE:CE1	2.48	0.47
46:LH:132:THR:O	46:LH:135:VAL:HG12	2.13	0.47
54:LP:173:GLY:O	54:LP:183:THR:OG1	2.32	0.47
60:LV:57:TYR:CD2	60:LV:89:LEU:HD21	2.49	0.47
77:Lm:8:ILE:HD11	77:Lm:65:LEU:HD21	1.97	0.47
1:A:195:U:H2'	1:A:196:G:O4'	2.13	0.47
1:A:519:A:N6	59:LU:65:ASN:O	2.37	0.47
1:A:1689:U:H4'	58:LT:59:SER:OG	2.14	0.47
1:A:1943:C:H5	58:LT:74:ARG:HH12	1.63	0.47
1:A:2391:G:H22	43:LE:266:ARG:HH21	1.61	0.47
1:A:3256:G:H2'	1:A:3257:C:C6	2.49	0.47
1:A:3338:C:H2'	1:A:3339:A:H8	1.78	0.47
2:B:7:G:H5''	45:LG:22:ARG:HD3	1.96	0.47
3:C:97:A:O5'	74:Lj:63:ARG:NE	2.47	0.47
8:E:953:G:H2'	8:E:954:G:H8	1.78	0.47
8:E:956:C:H2'	8:E:957:G:H8	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:975:C:H2'	8:E:976:G:O4'	2.15	0.47
8:E:1392:U:OP1	26:SG:59:LYS:NZ	2.43	0.47
8:E:1525:A:H2'	8:E:1526:A:C8	2.49	0.47
8:E:1682:U:P	16:ST:31:ARG:HH22	2.37	0.47
41:AA:46:LYS:O	41:AA:50:ILE:HG23	2.13	0.47
41:AA:66:VAL:HG13	41:AA:71:ILE:O	2.14	0.47
45:LG:219:PHE:CE2	45:LG:227:LEU:HD21	2.49	0.47
46:LH:31:ARG:NH1	72:Lh:107:ILE:O	2.47	0.47
46:LH:54:TYR:CE1	46:LH:63:LEU:HB3	2.49	0.47
62:LX:106:LYS:HB3	62:LX:108:GLU:OE1	2.15	0.47
79:Lo:96:CYS:HB2	79:Lo:103:LEU:HD11	1.95	0.47
82:Lr:36:ARG:HE	82:Lr:48:LYS:HZ2	1.61	0.47
1:A:151:A:H2'	1:A:152:U:C6	2.50	0.47
1:A:432:G:H2'	1:A:433:A:H8	1.80	0.47
1:A:542:G:O6	1:A:550:A:N6	2.48	0.47
1:A:594:U:H2'	1:A:609:G:O6	2.14	0.47
1:A:1302:A:N6	1:A:2857:C:O2	2.47	0.47
1:A:1314:C:H5'	55:LQ:17:GLY:HA3	1.97	0.47
1:A:1481:A:H1'	1:A:1858:A:N3	2.30	0.47
1:A:2222:A:H2'	1:A:2223:A:C8	2.49	0.47
1:A:2655:U:OP2	81:Lq:3:ASN:N	2.46	0.47
1:A:3190:C:H2'	1:A:3191:G:H8	1.79	0.47
5:m:27:G:H2'	5:m:28:U:C6	2.50	0.47
8:E:103:A:H4'	8:E:105:A:C8	2.49	0.47
8:E:934:C:N3	8:E:1077:C:H4'	2.29	0.47
8:E:1500:C:P	28:SI:122:ARG:HH22	2.36	0.47
9:SP:62:ARG:NH2	30:Sa:37:ALA:O	2.43	0.47
10:SQ:81:PHE:HB2	10:SQ:109:LYS:HB2	1.96	0.47
16:ST:115:LYS:HE3	16:ST:115:LYS:HB3	1.70	0.47
17:SU:34:LEU:HD11	17:SU:38:LEU:HD23	1.95	0.47
25:SF:32:ASN:HA	25:SF:68:ARG:HD2	1.96	0.47
48:LJ:158:ASP:CG	48:LJ:159:PRO:HD3	2.39	0.47
51:LM:101:ASN:OD1	51:LM:130:VAL:HA	2.14	0.47
54:LP:190:THR:HG22	54:LP:193:ARG:NH2	2.29	0.47
71:Lg:15:LYS:HE3	71:Lg:15:LYS:HB3	1.64	0.47
1:A:547:G:H1'	1:A:548:G:C8	2.50	0.47
1:A:907:G:H4'	1:A:908:G:H5'	1.96	0.47
1:A:1141:C:O2'	1:A:1153:A:N3	2.43	0.47
1:A:1593:A:O5'	73:Li:60:ARG:HG3	2.15	0.47
1:A:2133:U:O4	1:A:2147:A:H2	1.96	0.47
1:A:2213:A:N3	1:A:2601:A:O2'	2.41	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2423:U:H2'	1:A:2424:A:H8	1.80	0.47
1:A:3267:A:OP1	1:A:3268:A:N6	2.46	0.47
6:n:34:C:H2'	6:n:35:A:C8	2.50	0.47
8:E:955:A:H5''	23:SY:10:GLY:HA3	1.97	0.47
8:E:1079:U:H2'	8:E:1080:U:H6	1.79	0.47
8:E:1116:A:H2'	8:E:1117:U:O4'	2.15	0.47
8:E:1681:A:H5''	8:E:1682:U:C5	2.50	0.47
39:SO:66:HIS:CG	39:SO:67:ILE:H	2.32	0.47
39:SO:210:LEU:HD11	39:SO:222:LEU:HD12	1.96	0.47
40:SL:50:GLU:HG2	40:SL:51:ASN:OD1	2.15	0.47
42:LD:96:LEU:O	82:Lr:87:ARG:HD3	2.14	0.47
43:LE:148:LEU:O	43:LE:152:LYS:HG3	2.15	0.47
49:LK:14:GLU:OE1	49:LK:14:GLU:N	2.45	0.47
51:LM:82:ARG:NH1	51:LM:112:LEU:O	2.48	0.47
63:LY:47:ARG:HD2	63:LY:58:HIS:ND1	2.29	0.47
1:A:179:C:H2'	1:A:180:C:C6	2.50	0.47
1:A:435:C:H2'	1:A:436:A:C8	2.49	0.47
1:A:529:A:H2'	1:A:530:G:H8	1.79	0.47
1:A:546:C:H4'	1:A:547:G:N3	2.29	0.47
1:A:567:G:H2'	1:A:568:G:C8	2.49	0.47
1:A:792:G:H2'	1:A:793:C:C6	2.49	0.47
1:A:1066:G:H2'	1:A:1067:U:H6	1.79	0.47
1:A:1109:U:H2'	1:A:1110:U:C6	2.50	0.47
1:A:2219:A:P	75:Lk:68:ARG:HH22	2.37	0.47
1:A:2576:G:H2'	1:A:2577:C:C6	2.48	0.47
1:A:2768:U:H2'	1:A:2769:A:H8	1.79	0.47
1:A:3047:U:O2'	1:A:3048:A:H5'	2.15	0.47
2:B:33:U:C2	45:LG:207:TYR:CD1	3.02	0.47
2:B:59:U:H2'	2:B:60:G:H8	1.79	0.47
8:E:131:C:O2	8:E:133:U:H1'	2.15	0.47
8:E:132:U:O2'	8:E:136:C:N4	2.48	0.47
8:E:343:C:H2'	8:E:344:A:C8	2.44	0.47
8:E:380:U:H4'	19:SW:2:PRO:HD2	1.96	0.47
8:E:396:G:N2	8:E:398:G:H3'	2.29	0.47
8:E:566:C:O2	37:Sg:13:LYS:NZ	2.38	0.47
8:E:886:U:H2'	8:E:887:A:C8	2.50	0.47
8:E:978:A:C4	8:E:979:A:C8	3.03	0.47
8:E:1053:G:H2'	8:E:1053:G:N3	2.30	0.47
8:E:1257:U:O2'	20:SC:8:ARG:NH1	2.46	0.47
8:E:1341:A:H4'	39:SO:90:ARG:HH21	1.79	0.47
8:E:1493:A:HO2'	8:E:1494:C:H6	1.61	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:1546:G:OP1	27:SH:123:ARG:NH2	2.47	0.47
8:E:1548:G:H2'	8:E:1549:C:H6	1.79	0.47
10:SQ:108:ASP:O	10:SQ:112:SER:OG	2.28	0.47
12:SR:57:PHE:HB3	30:Sa:12:TYR:CE2	2.49	0.47
12:SR:58:LEU:O	30:Sa:15:ARG:NE	2.47	0.47
13:SA:115:ILE:HD13	13:SA:142:LEU:HD22	1.95	0.47
14:SS:10:LYS:HA	14:SS:27:TYR:HA	1.97	0.47
14:SS:208:VAL:HG21	14:SS:225:VAL:HG11	1.97	0.47
15:SB:121:ILE:HG21	15:SB:129:PRO:HA	1.95	0.47
16:ST:57:ASP:HA	16:ST:106:LEU:HA	1.95	0.47
18:SV:185:GLU:HG2	21:SX:23:PRO:HG2	1.96	0.47
20:SC:35:ILE:HG21	20:SC:37:THR:HG22	1.95	0.47
25:SF:16:ALA:HB2	25:SF:72:GLY:HA3	1.96	0.47
39:SO:149:ASP:CG	39:SO:150:TRP:N	2.72	0.47
42:LD:101:VAL:HG22	42:LD:165:VAL:HG22	1.95	0.47
42:LD:104:LEU:HD12	42:LD:158:ILE:HD11	1.96	0.47
42:LD:133:TYR:HB3	42:LD:168:VAL:HG12	1.97	0.47
43:LE:375:GLU:OE2	63:LY:14:TYR:OH	2.20	0.47
44:LF:129:THR:HG21	44:LF:248:VAL:HB	1.96	0.47
46:LH:140:VAL:HA	46:LH:143:LYS:HG2	1.96	0.47
51:LM:111:ASP:CG	51:LM:112:LEU:N	2.73	0.47
52:LN:122:LYS:HD2	74:Lj:120:ALA:HB2	1.97	0.47
54:LP:61:ILE:HD11	54:LP:133:ILE:HG13	1.96	0.47
54:LP:122:ASN:OD1	54:LP:123:GLN:N	2.48	0.47
54:LP:158:HIS:HB3	54:LP:161:ALA:HB3	1.97	0.47
56:LR:119:VAL:HG13	56:LR:144:SER:HB3	1.96	0.47
63:LY:27:LYS:HD2	63:LY:28:ILE:H	1.78	0.47
66:Lb:15:ARG:HD2	66:Lb:79:HIS:CD2	2.50	0.47
77:Lm:44:LYS:HG2	77:Lm:53:THR:HG23	1.97	0.47
78:Ln:36:ARG:HH11	78:Ln:36:ARG:HG3	1.80	0.47
82:Lr:85:ARG:HG2	82:Lr:89:MET:HE3	1.96	0.47
1:A:714:G:H1	67:Lc:72:VAL:HG11	1.80	0.47
1:A:1120:A:H2'	1:A:1121:U:H6	1.79	0.47
1:A:1627:U:H2'	1:A:1814:A:N6	2.30	0.47
1:A:1696:A:H2'	1:A:1697:A:C8	2.49	0.47
1:A:1834:U:OP1	78:Ln:5:LYS:NZ	2.48	0.47
1:A:2676:A:H5'	1:A:2677:G:C8	2.50	0.47
1:A:2772:C:H4'	1:A:2773:C:C5'	2.44	0.47
1:A:3147:G:O2'	43:LE:104:THR:HG23	2.14	0.47
1:A:3198:U:H1'	49:LK:21:LYS:HB2	1.97	0.47
3:C:80:A:H2'	3:C:82:U:C4	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:n:43:G:H2'	6:n:44:A:C8	2.49	0.47
8:E:48:G:C6	8:E:432:G:C2	3.03	0.47
8:E:351:C:OP1	8:E:630:A:O2'	2.22	0.47
8:E:398:G:OP2	18:SV:47:ARG:NH2	2.48	0.47
8:E:521:A:H2'	8:E:522:U:C6	2.50	0.47
8:E:624:G:N2	8:E:976:G:H1'	2.30	0.47
8:E:843:U:H2'	8:E:844:A:C8	2.49	0.47
8:E:844:A:H2'	8:E:845:G:H8	1.80	0.47
8:E:898:A:C2	8:E:915:A:C5	3.03	0.47
8:E:1038:U:H2'	8:E:1039:A:H5''	1.96	0.47
8:E:1068:C:H2'	8:E:1069:A:H8	1.80	0.47
8:E:1456:C:OP1	8:E:1457:C:H2'	2.15	0.47
8:E:1506:G:H2'	8:E:1507:G:H8	1.80	0.47
8:E:1732:A:H2'	8:E:1733:C:H6	1.80	0.47
13:SA:28:GLU:OE1	20:SC:58:GLN:HG3	2.14	0.47
13:SA:151:LYS:NZ	13:SA:153:ALA:HB3	2.29	0.47
22:SD:51:ALA:HB1	22:SD:56:GLU:CD	2.39	0.47
32:Sc:8:GLY:O	32:Sc:11:SER:OG	2.33	0.47
33:Sd:26:ASP:OD1	33:Sd:26:ASP:N	2.45	0.47
34:Se:26:CYS:HB2	34:Se:77:CYS:SG	2.55	0.47
43:LE:110:LEU:HD12	43:LE:114:VAL:CG1	2.45	0.47
47:LI:178:ILE:HG23	47:LI:183:ASP:HB3	1.97	0.47
54:LP:6:TYR:CE1	75:Lk:40:VAL:HG22	2.50	0.47
66:Lb:83:THR:HG22	73:Li:93:PHE:CE1	2.49	0.47
67:Lc:75:LEU:O	67:Lc:78:LEU:HB3	2.15	0.47
76:Ll:54:LYS:O	76:Ll:58:THR:HB	2.15	0.47
77:Lm:33:LYS:HD3	77:Lm:33:LYS:HA	1.65	0.47
1:A:871:U:H2'	1:A:872:U:C6	2.50	0.47
1:A:1295:G:H2'	1:A:1296:C:C6	2.50	0.47
1:A:1530:U:O2'	3:C:114:G:O2'	2.21	0.47
3:C:25:G:N7	65:La:13:ARG:NH1	2.55	0.47
8:E:411:C:O2	8:E:423:G:N2	2.44	0.47
8:E:609:U:H4'	8:E:610:G:O5'	2.15	0.47
8:E:926:A:H2'	8:E:927:C:O4'	2.14	0.47
8:E:958:U:O2'	23:SY:55:ARG:NH1	2.47	0.47
8:E:1233:G:N2	8:E:1253:U:H1'	2.30	0.47
8:E:1452:U:H2'	8:E:1453:G:C8	2.50	0.47
12:SR:59:HIS:HB2	12:SR:61:LEU:HG	1.96	0.47
12:SR:143:TYR:O	31:Sb:98:GLN:NE2	2.46	0.47
13:SA:113:LEU:HD23	13:SA:114:ALA:N	2.30	0.47
15:SB:199:ILE:HG13	15:SB:200:ASN:N	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:SH:4:VAL:HG21	41:AA:82:HIS:ND1	2.30	0.47
31:Sb:55:ASP:OD1	31:Sb:56:HIS:N	2.48	0.47
38:SN:133:ALA:O	38:SN:139:LEU:HA	2.15	0.47
44:LF:316:ASN:OD1	44:LF:318:LEU:N	2.45	0.47
44:LF:342:LYS:NZ	47:LI:56:GLU:OE1	2.35	0.47
47:LI:202:LEU:HD13	47:LI:205:PHE:HZ	1.80	0.47
49:LK:57:VAL:HG22	49:LK:68:LEU:HD12	1.96	0.47
67:Lc:78:LEU:HD12	67:Lc:78:LEU:O	2.15	0.47
81:Lq:25:VAL:HG12	81:Lq:72:LEU:CD2	2.43	0.47
1:A:296:A:H2'	1:A:297:G:C4	2.50	0.47
1:A:860:G:C5	42:LD:181:LYS:HB3	2.50	0.47
1:A:1134:G:O2'	1:A:2642:A:N3	2.44	0.47
1:A:1355:A:H4'	1:A:1356:U:O5'	2.15	0.47
1:A:1662:G:H22	1:A:1787:A:H2	1.63	0.47
1:A:2597:U:H2'	1:A:2598:G:H8	1.79	0.47
1:A:2986:U:H2'	1:A:2987:A:H8	1.80	0.47
1:A:3204:C:H2'	1:A:3205:G:C8	2.49	0.47
2:B:3:U:H2'	2:B:4:U:H6	1.80	0.47
6:n:61:C:H2'	6:n:62:C:C6	2.50	0.47
8:E:129:U:C4	8:E:264:G:H2'	2.50	0.47
8:E:336:G:H2'	8:E:338:C:H5	1.80	0.47
8:E:917:U:HO2'	24:SZ:29:HIS:CE1	2.32	0.47
8:E:1277:G:H2'	8:E:1278:G:O4'	2.14	0.47
8:E:1329:A:H2'	8:E:1330:G:O4'	2.15	0.47
8:E:1545:A:H5'	27:SH:133:VAL:CG1	2.44	0.47
18:SV:3:ILE:O	18:SV:30:GLY:N	2.40	0.47
20:SC:30:ALA:HA	20:SC:38:LYS:CD	2.45	0.47
27:SH:46:VAL:HG21	27:SH:73:MET:HE3	1.96	0.47
31:Sb:23:ARG:HB3	35:Sf:4:VAL:HG12	1.97	0.47
48:LJ:161:GLU:CD	54:LP:26:ARG:HH22	2.22	0.47
62:LX:86:ARG:HB2	62:LX:92:PHE:CE1	2.50	0.47
65:La:23:PRO:HG2	65:La:26:GLN:HG3	1.97	0.47
65:La:112:ASP:H	65:La:115:ARG:HB2	1.80	0.47
1:A:255:A:H2'	1:A:256:G:C8	2.50	0.46
1:A:589:A:H1'	1:A:1337:A:H5''	1.96	0.46
1:A:665:A:H1'	52:LN:14:PHE:CE2	2.50	0.46
1:A:2765:C:O3'	81:Lq:39:GLY:HA3	2.14	0.46
1:A:3252:G:H2'	1:A:3253:G:C8	2.50	0.46
8:E:602:U:H2'	8:E:603:U:H6	1.80	0.46
8:E:691:C:H2'	8:E:692:C:H6	1.80	0.46
8:E:1452:U:H2'	8:E:1453:G:H8	1.78	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:SP:188:LEU:HD11	9:SP:195:TRP:NE1	2.30	0.46
13:SA:10:LYS:NZ	13:SA:14:ASP:OD2	2.40	0.46
20:SC:25:LYS:HD2	20:SC:59:PHE:CZ	2.50	0.46
24:SZ:55:SER:O	24:SZ:55:SER:OG	2.30	0.46
27:SH:144:ARG:HG3	41:AA:25:LYS:HD2	1.97	0.46
33:Sd:63:GLN:HG2	33:Sd:64:PHE:N	2.31	0.46
36:SM:47:ALA:HB1	36:SM:52:PHE:HB2	1.97	0.46
41:AA:71:ILE:CG2	41:AA:76:ALA:HB2	2.45	0.46
46:LH:30:LEU:HD23	46:LH:30:LEU:HA	1.77	0.46
48:LJ:158:ASP:OD1	48:LJ:158:ASP:N	2.46	0.46
54:LP:46:ASP:OD1	54:LP:46:ASP:N	2.48	0.46
60:LV:79:MET:HE1	68:Ld:21:ILE:CD1	2.44	0.46
1:A:148:G:O6	48:LJ:135:GLY:HA3	2.16	0.46
1:A:507:U:H2'	1:A:508:U:H6	1.80	0.46
1:A:544:C:H2'	1:A:547:G:H1	1.81	0.46
1:A:591:G:H1'	46:LH:19:LYS:HG3	1.97	0.46
1:A:3072:C:H2'	1:A:3073:A:O4'	2.15	0.46
8:E:153:G:C6	8:E:162:A:C6	3.03	0.46
8:E:161:U:P	16:ST:87:ARG:HH12	2.37	0.46
8:E:540:G:N2	8:E:542:A:N7	2.59	0.46
8:E:992:A:H2	8:E:1012:U:H3	1.63	0.46
8:E:1220:C:H5''	20:SC:52:LYS:HZ1	1.80	0.46
8:E:1483:A:C2	8:E:1607:G:H1'	2.50	0.46
11:SE:33:PHE:CD1	11:SE:33:PHE:C	2.93	0.46
14:SS:184:THR:O	14:SS:184:THR:OG1	2.32	0.46
40:SL:44:VAL:HG11	40:SL:48:VAL:HG21	1.96	0.46
42:LD:97:ASN:H	42:LD:100:ASN:HD22	1.61	0.46
44:LF:226:GLU:CD	44:LF:246:ARG:HH22	2.22	0.46
56:LR:31:GLU:OE1	56:LR:31:GLU:HA	2.15	0.46
58:LT:181:ARG:CZ	58:LT:184:LEU:HD12	2.44	0.46
1:A:69:C:HO2'	1:A:101:G:HO2'	1.57	0.46
1:A:295:A:N3	75:Lk:82:ARG:NH1	2.63	0.46
1:A:754:G:H2'	1:A:755:A:C8	2.50	0.46
1:A:797:U:O2	52:LN:12:ASN:ND2	2.49	0.46
1:A:2890:A:O2'	1:A:2933:A:N3	2.42	0.46
1:A:3354:U:H5''	1:A:3355:U:H3'	1.98	0.46
3:C:80:A:N3	3:C:82:U:N3	2.63	0.46
8:E:1:U:H3	19:SW:54:ARG:HH21	1.62	0.46
8:E:285:G:OP1	16:ST:196:ARG:NH2	2.47	0.46
9:SP:35:PRO:HG3	30:Sa:87:ARG:HH22	1.81	0.46
9:SP:49:ASN:O	9:SP:53:THR:HG23	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:SP:76:ILE:HD13	9:SP:98:ILE:HB	1.97	0.46
13:SA:194:LYS:HD2	13:SA:194:LYS:O	2.15	0.46
39:SO:26:SER:OG	39:SO:75:ALA:O	2.32	0.46
44:LF:281:ILE:HG13	57:LS:125:ASP:CG	2.40	0.46
46:LH:112:THR:HG23	46:LH:114:LYS:H	1.80	0.46
49:LK:162:GLN:HG2	49:LK:163:GLN:HE21	1.81	0.46
50:LL:92:HIS:HB2	50:LL:94:PHE:CE2	2.50	0.46
52:LN:106:GLN:HB3	75:Lk:18:THR:OG1	2.15	0.46
59:LU:42:TRP:CD1	59:LU:53:LYS:HD3	2.49	0.46
59:LU:73:LYS:HB3	59:LU:128:GLU:HG2	1.97	0.46
71:Lg:14:THR:HG22	71:Lg:15:LYS:H	1.80	0.46
1:A:876:A:H5''	1:A:1890:U:H5''	1.97	0.46
1:A:1037:C:H2'	1:A:1038:C:H6	1.79	0.46
1:A:1348:U:H4'	1:A:1349:G:O5'	2.15	0.46
1:A:1382:G:OP2	44:LF:188:ARG:NH1	2.29	0.46
1:A:1575:A:H3'	1:A:1576:G:O4'	2.16	0.46
1:A:1621:A:H2'	1:A:1622:U:H6	1.78	0.46
1:A:1941:C:H2'	1:A:1942:U:H6	1.79	0.46
1:A:2154:U:H2'	1:A:2155:G:C8	2.49	0.46
1:A:2351:U:H2'	1:A:2352:A:C8	2.49	0.46
1:A:2553:U:C5	73:Li:95:ILE:HG22	2.50	0.46
1:A:2986:U:C2	1:A:2987:A:C8	3.04	0.46
4:D:7:A:O2'	4:D:8:A:OP1	2.33	0.46
8:E:36:C:H2'	8:E:37:U:C6	2.50	0.46
8:E:884:A:O2'	10:SQ:124:ASN:ND2	2.48	0.46
8:E:1234:A:O2'	38:SN:140:TYR:OH	2.26	0.46
9:SP:122:ILE:HA	9:SP:144:ILE:O	2.16	0.46
10:SQ:89:ASP:HB2	10:SQ:228:LEU:HD22	1.97	0.46
10:SQ:128:LYS:HE3	10:SQ:128:LYS:HB3	1.83	0.46
12:SR:113:LEU:HD12	12:SR:215:PHE:HB2	1.97	0.46
15:SB:201:ALA:HA	15:SB:211:ILE:HD12	1.96	0.46
25:SF:48:VAL:HG23	25:SF:78:VAL:HG13	1.96	0.46
25:SF:113:ASP:OD1	25:SF:115:THR:HG22	2.15	0.46
39:SO:112:SER:HB3	39:SO:154:VAL:HG12	1.97	0.46
39:SO:221:MET:HE3	39:SO:223:TRP:CZ2	2.50	0.46
45:LG:182:GLY:HA2	45:LG:194:LEU:HD23	1.97	0.46
51:LM:78:GLU:OE1	51:LM:82:ARG:HD2	2.15	0.46
54:LP:54:LYS:O	54:LP:56:LYS:N	2.47	0.46
65:La:56:VAL:HG21	65:La:104:LEU:HB3	1.98	0.46
70:Lf:20:LEU:HD21	70:Lf:32:ALA:HB2	1.96	0.46
73:Li:22:VAL:CG1	73:Li:30:LEU:HD12	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:300:G:H2'	1:A:301:G:H8	1.81	0.46
1:A:966:U:H2'	1:A:967:A:C8	2.51	0.46
1:A:987:U:H2'	1:A:988:U:H6	1.80	0.46
1:A:1534:A:H2'	1:A:1535:A:C8	2.51	0.46
1:A:1807:G:O2'	1:A:2559:U:O4	2.32	0.46
1:A:2219:A:H2'	1:A:2220:A:C8	2.50	0.46
1:A:3107:U:OP1	79:Lo:114:LYS:NZ	2.46	0.46
2:B:63:A:OP1	45:LG:285:ARG:NH1	2.48	0.46
6:n:61:C:H2'	6:n:62:C:H6	1.81	0.46
7:z:376:ARG:HD3	7:z:379:THR:HG22	1.96	0.46
8:E:250:C:H2'	8:E:251:A:C8	2.51	0.46
8:E:284:G:O6	16:ST:188:ARG:NH2	2.32	0.46
8:E:399:A:H4'	14:SS:3:ARG:HB2	1.97	0.46
8:E:636:A:H5'	31:Sb:31:SER:HB3	1.97	0.46
8:E:767:U:C2	33:Sd:64:PHE:CD2	3.04	0.46
8:E:959:U:H5''	23:SY:14:SER:OG	2.15	0.46
8:E:1164:G:H2'	8:E:1165:G:C8	2.51	0.46
8:E:1226:A:O2'	8:E:1227:A:O5'	2.29	0.46
9:SP:30:GLN:OE1	9:SP:30:GLN:HA	2.14	0.46
9:SP:121:VAL:HG23	9:SP:141:ILE:HG21	1.96	0.46
17:SU:44:LYS:HE3	17:SU:44:LYS:HB3	1.82	0.46
39:SO:156:VAL:HG22	39:SO:169:ILE:HG22	1.97	0.46
54:LP:68:ARG:NH1	54:LP:124:ASP:O	2.34	0.46
59:LU:8:GLN:OE1	59:LU:10:ILE:HD11	2.16	0.46
70:Lf:10:ARG:HD2	70:Lf:12:TYR:OH	2.16	0.46
72:Lh:48:ARG:HA	72:Lh:48:ARG:HD3	1.70	0.46
1:A:296:A:N3	1:A:299:G:O2'	2.48	0.46
1:A:415:G:H2'	1:A:416:A:C8	2.51	0.46
1:A:643:U:O2'	1:A:1153:A:N1	2.49	0.46
1:A:1116:G:N2	1:A:2817:A:O4'	2.48	0.46
1:A:1615:C:H2'	1:A:1616:U:H6	1.80	0.46
1:A:1942:U:H2'	1:A:1943:C:O4'	2.16	0.46
1:A:2115:G:H22	1:A:2120:A:H1'	1.80	0.46
1:A:2413:A:H2'	1:A:2414:G:C8	2.49	0.46
1:A:2720:G:C2	1:A:2721:A:C8	3.03	0.46
1:A:3127:A:H2'	1:A:3128:G:O4'	2.16	0.46
1:A:3358:U:H2'	1:A:3359:A:H8	1.81	0.46
5:m:15:G:H2'	5:m:16:U:C5	2.50	0.46
8:E:100:A:O2'	8:E:101:U:OP1	2.31	0.46
8:E:267:U:H2'	8:E:268:C:C6	2.50	0.46
8:E:381:C:O2'	8:E:755:A:N1	2.47	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:783:G:H2'	8:E:784:C:C6	2.50	0.46
8:E:955:A:H2'	8:E:956:C:O4'	2.15	0.46
8:E:1681:A:H2	8:E:1720:G:H21	1.63	0.46
8:E:1795:U:OP2	34:Se:5:ARG:NH2	2.49	0.46
13:SA:56:GLN:HA	13:SA:59:LEU:HD12	1.96	0.46
14:SS:43:PRO:HA	14:SS:82:TYR:O	2.15	0.46
14:SS:127:LYS:HE2	14:SS:142:HIS:HA	1.97	0.46
15:SB:146:THR:OG1	15:SB:157:ARG:HB3	2.15	0.46
18:SV:138:ASN:HA	18:SV:141:ARG:HE	1.80	0.46
25:SF:50:GLU:OE2	25:SF:112:TYR:OH	2.34	0.46
26:SG:29:GLN:HB3	39:SO:85:TRP:HZ3	1.80	0.46
39:SO:106:HIS:HE1	39:SO:132:LYS:HB2	1.81	0.46
45:LG:104:LEU:HD11	45:LG:108:ARG:HH21	1.81	0.46
46:LH:64:LEU:HD13	46:LH:106:PHE:HZ	1.80	0.46
48:LJ:72:PRO:HG3	54:LP:18:VAL:HA	1.96	0.46
48:LJ:218:ILE:HD13	48:LJ:218:ILE:HA	1.83	0.46
49:LK:118:LEU:HD23	49:LK:118:LEU:HA	1.80	0.46
62:LX:54:LEU:HD12	62:LX:54:LEU:HA	1.66	0.46
81:Lq:65:THR:O	81:Lq:87:ARG:NH1	2.46	0.46
1:A:684:G:H2'	1:A:685:G:H8	1.81	0.46
1:A:1088:U:C2	1:A:1089:G:C8	3.03	0.46
1:A:1836:C:H2'	1:A:1837:U:C6	2.51	0.46
1:A:2666:C:OP2	1:A:2687:G:N1	2.34	0.46
1:A:3213:A:OP1	53:LO:128:ARG:HD2	2.16	0.46
2:B:59:U:H2'	2:B:60:G:C8	2.51	0.46
3:C:39:G:H1'	3:C:104:A:N6	2.31	0.46
8:E:332:U:O4	18:SV:172:ARG:NH2	2.48	0.46
8:E:509:G:H2'	8:E:510:G:C8	2.51	0.46
8:E:900:A:C4	8:E:901:G:C8	3.04	0.46
8:E:1393:C:H4'	39:SO:281:TYR:CD1	2.51	0.46
13:SA:25:PHE:O	13:SA:29:LEU:HB2	2.16	0.46
20:SC:14:TYR:HD2	20:SC:35:ILE:HG12	1.80	0.46
26:SG:65:PRO:HD2	26:SG:65:PRO:O	2.16	0.46
29:SJ:82:TYR:CE1	36:SM:54:LYS:HE2	2.51	0.46
35:Sf:36:LYS:HB2	35:Sf:43:ILE:HD12	1.98	0.46
49:LK:88:TYR:HE2	49:LK:155:SER:HB2	1.81	0.46
50:LL:35:ASP:C	50:LL:36:LEU:HD12	2.41	0.46
77:Lm:32:ASN:OD1	77:Lm:33:LYS:N	2.48	0.46
1:A:146:U:H5''	1:A:148:G:O4'	2.16	0.46
1:A:543:C:H2'	1:A:544:C:O4'	2.16	0.46
1:A:1224:C:H41	1:A:1285:G:N2	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1606:U:O4	73:Li:9:ARG:NE	2.41	0.46
1:A:2423:U:H2'	1:A:2424:A:C8	2.51	0.46
1:A:2663:G:H5'	45:LG:152:ARG:HD2	1.97	0.46
1:A:2689:A:N3	1:A:2689:A:H2'	2.31	0.46
1:A:2915:U:C5	43:LE:7:GLU:HG2	2.51	0.46
1:A:3009:G:N2	43:LE:15:GLY:O	2.36	0.46
1:A:3185:U:O2'	59:LU:170:THR:OG1	2.17	0.46
1:A:3338:C:H2'	1:A:3339:A:C8	2.51	0.46
2:B:3:U:H2'	2:B:4:U:C6	2.51	0.46
5:m:50:C:HO2'	5:m:51:A:H8	1.61	0.46
8:E:408:C:H2'	8:E:409:C:C6	2.51	0.46
8:E:766:U:H3'	8:E:768:C:OP2	2.16	0.46
8:E:821:U:C4	8:E:852:C:N3	2.84	0.46
8:E:929:A:H5''	8:E:931:C:H41	1.80	0.46
8:E:1487:A:H2'	8:E:1488:G:C8	2.51	0.46
8:E:1525:A:H4'	28:SI:83:ALA:HB2	1.98	0.46
13:SA:20:GLU:CD	13:SA:76:ARG:HE	2.22	0.46
19:SW:52:ILE:HD12	19:SW:53:ARG:N	2.30	0.46
20:SC:55:VAL:HG23	20:SC:67:THR:C	2.40	0.46
21:SX:109:VAL:HG23	21:SX:137:PHE:C	2.41	0.46
24:SZ:82:LYS:HA	24:SZ:116:GLU:O	2.15	0.46
28:SI:18:TYR:HD1	28:SI:135:ILE:HG21	1.81	0.46
45:LG:183:TRP:HA	45:LG:190:ILE:HA	1.98	0.46
49:LK:22:SER:OG	49:LK:23:ARG:N	2.48	0.46
50:LL:163:GLN:H	50:LL:163:GLN:CD	2.18	0.46
59:LU:90:MET:HE1	59:LU:114:HIS:NE2	2.30	0.46
67:Lc:36:GLY:HA3	67:Lc:40:HIS:CE1	2.51	0.46
1:A:542:G:H2'	1:A:543:C:C6	2.51	0.46
1:A:903:U:H2'	1:A:904:A:H8	1.80	0.46
1:A:938:C:O2	1:A:2813:A:O2'	2.34	0.46
1:A:1071:U:O2'	1:A:1072:G:O5'	2.26	0.46
1:A:1392:G:H1'	1:A:1418:A:N6	2.31	0.46
1:A:1551:C:H2'	1:A:1552:G:O4'	2.16	0.46
1:A:2656:A:C5	1:A:2658:G:N7	2.84	0.46
5:m:15:G:H2'	5:m:16:U:C6	2.51	0.46
8:E:980:G:H4'	8:E:1776:A:H4'	1.97	0.46
8:E:1611:A:O2'	15:SB:95:ASN:O	2.33	0.46
8:E:1681:A:C8	16:ST:66:GLY:HA2	2.51	0.46
10:SQ:29:TRP:CZ2	10:SQ:47:LEU:HD21	2.50	0.46
12:SR:76:LEU:HD13	12:SR:104:VAL:HB	1.98	0.46
12:SR:227:PRO:HA	12:SR:230:TRP:CD2	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:SA:35:SER:O	13:SA:35:SER:OG	2.27	0.46
14:SS:57:ASN:HB2	14:SS:60:GLU:OE1	2.16	0.46
17:SU:155:ASP:OD2	17:SU:157:LYS:HD3	2.16	0.46
20:SC:30:ALA:C	20:SC:38:LYS:HB3	2.41	0.46
25:SF:83:GLN:NE2	25:SF:115:THR:HG23	2.31	0.46
29:SJ:52:LYS:HA	29:SJ:92:ASP:O	2.16	0.46
36:SM:44:ARG:HH11	36:SM:44:ARG:HG3	1.81	0.46
39:SO:19:TRP:HB2	39:SO:38:ARG:HG3	1.98	0.46
41:AA:62:VAL:HG23	41:AA:76:ALA:HB3	1.97	0.46
46:LH:13:GLU:OE2	71:Lg:90:LYS:HB2	2.16	0.46
46:LH:60:ASP:OD1	46:LH:62:THR:HG22	2.15	0.46
49:LK:146:LEU:HD23	49:LK:157:ASN:HB3	1.98	0.46
54:LP:119:TYR:OH	54:LP:131:GLU:OE1	2.22	0.46
58:LT:153:LYS:O	58:LT:157:GLU:HG2	2.16	0.46
59:LU:78:TRP:O	59:LU:124:LEU:HB2	2.16	0.46
66:Lb:70:PRO:HG3	66:Lb:115:LYS:HB2	1.97	0.46
81:Lq:23:HIS:HA	81:Lq:73:GLU:O	2.16	0.46
1:A:179:C:H2'	1:A:180:C:H6	1.81	0.46
1:A:1412:G:OP1	71:Lg:105:ARG:NH1	2.44	0.46
1:A:2696:A:N7	1:A:2758:A:N6	2.64	0.46
1:A:2767:U:H2'	1:A:2768:U:C6	2.51	0.46
1:A:2948:C:H4'	43:LE:242:THR:HG23	1.97	0.46
1:A:3231:U:H2'	1:A:3232:G:H8	1.80	0.46
3:C:75:G:OP2	65:La:74:TYR:OH	2.24	0.46
6:n:53:G:H2'	6:n:54:A:C8	2.45	0.46
8:E:65:A:H2	8:E:84:A:H62	1.62	0.46
8:E:208:U:H2'	8:E:209:U:H6	1.81	0.46
8:E:304:U:O4'	21:SX:127:GLN:NE2	2.49	0.46
8:E:753:A:N7	14:SS:187:ARG:NH2	2.64	0.46
8:E:1227:A:N6	8:E:1256:A:H2'	2.31	0.46
8:E:1541:G:H1'	8:E:1570:A:N6	2.30	0.46
10:SQ:35:PRO:HD3	10:SQ:98:THR:O	2.16	0.46
11:SE:60:LEU:HD12	11:SE:60:LEU:O	2.17	0.46
13:SA:24:PHE:HD1	13:SA:25:PHE:HD1	1.64	0.46
18:SV:154:SER:HA	18:SV:157:GLU:HB2	1.97	0.46
19:SW:109:LEU:HB2	19:SW:146:PHE:HB3	1.97	0.46
21:SX:75:VAL:HG11	21:SX:84:ILE:HD12	1.98	0.46
27:SH:75:ASN:OD1	27:SH:78:HIS:HB3	2.16	0.46
28:SI:65:ILE:HG12	28:SI:71:VAL:HG22	1.97	0.46
28:SI:83:ALA:HB1	28:SI:91:TYR:HB3	1.98	0.46
28:SI:115:GLU:OE1	28:SI:125:SER:OG	2.27	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:LF:203:ARG:NE	44:LF:226:GLU:OE2	2.46	0.46
44:LF:302:ALA:HB2	57:LS:39:ARG:CZ	2.46	0.46
49:LK:94:TYR:HD2	49:LK:99:ILE:HG13	1.81	0.46
49:LK:150:SER:O	49:LK:154:VAL:HG12	2.16	0.46
54:LP:142:ILE:HG23	54:LP:148:TYR:HB3	1.98	0.46
75:Lk:79:SER:OG	75:Lk:82:ARG:HD2	2.16	0.46
1:A:1367:G:H5'	71:Lg:45:ARG:HH22	1.81	0.45
1:A:1864:A:OP1	58:LT:83:GLY:N	2.49	0.45
1:A:2544:U:H2'	1:A:2545:C:C6	2.51	0.45
1:A:2881:C:H2'	1:A:2882:U:H6	1.81	0.45
1:A:3316:A:C6	43:LE:124:LYS:HB2	2.50	0.45
2:B:28:C:C4	2:B:29:C:H1'	2.51	0.45
8:E:86:A:H2'	8:E:87:C:C6	2.50	0.45
8:E:119:A:H1'	8:E:397:A:C5	2.51	0.45
8:E:204:G:H2'	8:E:205:U:O4'	2.16	0.45
8:E:388:G:C6	8:E:410:A:C6	3.04	0.45
8:E:748:U:OP1	31:Sb:82:LYS:NZ	2.48	0.45
8:E:1042:G:H2'	8:E:1043:A:H8	1.80	0.45
8:E:1459:C:N4	27:SH:139:LYS:HE3	2.32	0.45
15:SB:43:PHE:CG	15:SB:44:ASN:N	2.84	0.45
15:SB:58:LEU:O	15:SB:62:VAL:HG13	2.16	0.45
15:SB:189:THR:N	15:SB:192:GLU:OE2	2.38	0.45
20:SC:35:ILE:CG2	20:SC:37:THR:HG22	2.45	0.45
33:Sd:20:ARG:NE	33:Sd:74:LEU:HD11	2.30	0.45
33:Sd:56:SER:HB2	33:Sd:94:TYR:CE2	2.51	0.45
39:SO:192:PHE:HB3	39:SO:223:TRP:CH2	2.51	0.45
51:LM:92:ARG:HB2	51:LM:95:ASN:OD1	2.15	0.45
57:LS:67:ILE:CD1	57:LS:81:VAL:HG11	2.45	0.45
60:LV:101:CYS:SG	60:LV:102:ARG:N	2.88	0.45
64:LZ:53:HIS:CE1	64:LZ:56:ARG:HG2	2.51	0.45
65:La:36:SER:OG	65:La:38:GLU:OE1	2.29	0.45
75:Lk:94:ILE:HA	75:Lk:97:SER:OG	2.15	0.45
1:A:243:G:C6	1:A:244:G:C5	3.05	0.45
1:A:1128:U:H2'	1:A:1129:A:O4'	2.15	0.45
1:A:1326:A:H2'	1:A:1327:C:O4'	2.17	0.45
1:A:3038:U:H2'	1:A:3039:C:O4'	2.15	0.45
6:n:21:A:H62	6:n:46:G:H2'	1.80	0.45
8:E:397:A:H2'	8:E:398:G:O4'	2.15	0.45
8:E:398:G:P	18:SV:47:ARG:HH22	2.40	0.45
8:E:447:U:O2'	8:E:448:C:OP1	2.33	0.45
8:E:872:G:H2'	8:E:873:U:O4'	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:SQ:137:ILE:HG22	10:SQ:215:VAL:HB	1.97	0.45
12:SR:170:ILE:HB	12:SR:197:TYR:HB2	1.97	0.45
13:SA:24:PHE:HD1	13:SA:25:PHE:CD1	2.34	0.45
13:SA:191:ASP:HB3	13:SA:194:LYS:HB3	1.97	0.45
17:SU:44:LYS:N	17:SU:61:PHE:O	2.49	0.45
17:SU:51:VAL:HG23	17:SU:171:ALA:HB2	1.98	0.45
18:SV:152:ILE:HG22	18:SV:156:VAL:HG23	1.98	0.45
25:SF:73:GLY:N	25:SF:76:SER:OG	2.48	0.45
34:Se:89:ARG:HG3	34:Se:89:ARG:HH11	1.81	0.45
43:LE:119:TYR:HD2	43:LE:122:TRP:HE3	1.64	0.45
44:LF:284:SER:HB3	57:LS:25:TYR:HE1	1.81	0.45
57:LS:83:VAL:O	57:LS:103:ALA:HA	2.15	0.45
57:LS:120:GLU:OE2	57:LS:130:ARG:NH1	2.38	0.45
67:Lc:93:SER:O	67:Lc:93:SER:OG	2.34	0.45
1:A:708:G:N2	1:A:711:A:OP2	2.40	0.45
1:A:796:U:H2'	1:A:797:U:H6	1.81	0.45
1:A:1144:U:C4	1:A:1366:A:H2	2.34	0.45
1:A:1299:U:H2'	1:A:1300:G:O4'	2.16	0.45
1:A:2223:A:H2'	1:A:2224:A:C8	2.51	0.45
1:A:2793:G:H4'	81:Lq:66:LYS:HD3	1.99	0.45
1:A:3297:U:H2'	1:A:3298:C:H6	1.80	0.45
1:A:3303:G:C6	1:A:3305:A:C2	3.04	0.45
3:C:83:C:H42	65:La:52:ARG:NH2	2.15	0.45
6:n:10:G:C2	6:n:26:G:H1'	2.51	0.45
8:E:152:U:O2'	16:ST:15:THR:HG23	2.16	0.45
8:E:637:C:OP1	31:Sb:32:LYS:N	2.45	0.45
8:E:1388:A:C5	8:E:1411:A:C6	3.04	0.45
15:SB:53:VAL:HG11	15:SB:62:VAL:HG21	1.98	0.45
24:SZ:17:ALA:HB1	24:SZ:19:ILE:HD11	1.99	0.45
26:SG:69:ILE:O	26:SG:74:GLN:NE2	2.49	0.45
39:SO:269:TYR:HE1	39:SO:271:VAL:HA	1.82	0.45
40:SL:29:ARG:HG3	40:SL:29:ARG:NH1	2.32	0.45
42:LD:245:LEU:HD12	42:LD:246:LEU:H	1.80	0.45
45:LG:219:PHE:O	45:LG:223:PHE:HB2	2.16	0.45
46:LH:43:LEU:HD13	72:Lh:102:LEU:HB2	1.98	0.45
46:LH:158:TYR:OH	53:LO:114:ASP:OD2	2.22	0.45
50:LL:56:GLU:CD	50:LL:162:GLN:H	2.24	0.45
1:A:784:A:H5'	57:LS:69:ARG:NH2	2.29	0.45
1:A:1305:U:C2	43:LE:257:PRO:HB3	2.51	0.45
1:A:1643:A:O2'	1:A:1644:C:O4'	2.26	0.45
1:A:1829:G:H5''	1:A:1830:G:H5'	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2202:C:H5''	42:LD:226:SER:HB2	1.99	0.45
1:A:2219:A:H2'	1:A:2220:A:H8	1.82	0.45
1:A:2533:G:C2	1:A:2547:A:C2	3.05	0.45
1:A:3291:G:H2'	1:A:3292:A:C8	2.52	0.45
2:B:6:C:O2'	45:LG:50:ARG:NH2	2.49	0.45
8:E:848:C:H2'	8:E:849:C:C6	2.51	0.45
8:E:885:G:OP1	10:SQ:136:ARG:NH1	2.49	0.45
8:E:1483:A:H2	8:E:1607:G:H1'	1.80	0.45
8:E:1647:U:H2'	8:E:1648:A:C8	2.52	0.45
10:SQ:231:LEU:HD12	10:SQ:231:LEU:O	2.16	0.45
12:SR:135:SER:O	12:SR:135:SER:OG	2.31	0.45
13:SA:59:LEU:HD23	13:SA:66:ILE:HD12	1.98	0.45
15:SB:117:THR:HG22	15:SB:191:ALA:O	2.17	0.45
15:SB:125:THR:OG1	15:SB:127:GLN:OE1	2.26	0.45
25:SF:46:PHE:HA	25:SF:49:TYR:CD2	2.51	0.45
27:SH:66:LEU:O	27:SH:70:VAL:HG13	2.16	0.45
28:SI:127:ASN:HA	28:SI:130:ARG:HG2	1.97	0.45
29:SJ:47:GLN:HE21	29:SJ:48:HIS:CE1	2.34	0.45
38:SN:133:ALA:HB3	38:SN:140:TYR:HB3	1.99	0.45
44:LF:259:ASP:C	44:LF:259:ASP:OD1	2.59	0.45
50:LL:37:GLY:HA2	50:LL:82:ARG:HG2	1.98	0.45
55:LQ:189:ASP:OD1	55:LQ:190:VAL:HG13	2.16	0.45
57:LS:155:MET:HA	57:LS:161:LYS:HB2	1.98	0.45
66:Lb:52:LYS:O	66:Lb:65:ARG:NH2	2.39	0.45
1:A:19:U:H4'	54:LP:138:GLN:NE2	2.32	0.45
1:A:123:A:C6	1:A:150:A:N7	2.85	0.45
1:A:541:U:H2'	1:A:542:G:C8	2.51	0.45
1:A:1643:A:H2'	1:A:1644:C:C2	2.52	0.45
1:A:2225:U:H2'	1:A:2226:U:C6	2.52	0.45
1:A:2536:A:H2	1:A:2543:U:H3	1.65	0.45
1:A:2953:U:H2'	1:A:2954:U:H2'	1.98	0.45
1:A:3121:U:H4'	1:A:3122:A:OP1	2.16	0.45
2:B:71:G:H2'	2:B:72:A:C8	2.52	0.45
8:E:7:G:O6	12:SR:205:ARG:NH2	2.50	0.45
8:E:562:G:H21	37:Sg:14:VAL:HG11	1.82	0.45
8:E:617:U:H2'	8:E:618:U:C6	2.52	0.45
8:E:1031:U:H4'	8:E:1032:G:OP2	2.16	0.45
8:E:1164:G:H2'	8:E:1165:G:H8	1.81	0.45
8:E:1202:A:N6	8:E:1457:C:O5'	2.49	0.45
8:E:1429:G:H2'	8:E:1430:U:C6	2.51	0.45
8:E:1477:G:H2'	8:E:1478:G:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:1586:A:H5''	25:SF:136:SER:OG	2.16	0.45
8:E:1638:G:H2'	8:E:1639:C:O4'	2.17	0.45
9:SP:27:ARG:HD3	9:SP:28:ASN:HB2	1.98	0.45
36:SM:53:ASN:HB2	36:SM:55:PHE:CE1	2.51	0.45
38:SN:149:LYS:HD2	38:SN:149:LYS:HA	1.72	0.45
39:SO:33:LEU:HD12	39:SO:34:LEU:N	2.32	0.45
39:SO:133:VAL:HG21	39:SO:186:PHE:CE2	2.52	0.45
43:LE:85:VAL:HG23	43:LE:165:GLN:HE21	1.81	0.45
48:LJ:90:THR:HG23	48:LJ:214:LEU:HD21	1.98	0.45
49:LK:52:LEU:HD12	49:LK:53:ILE:N	2.31	0.45
50:LL:52:LEU:HB2	50:LL:152:LEU:HD13	1.99	0.45
66:Lb:47:GLU:N	66:Lb:69:LYS:O	2.50	0.45
72:Lh:43:PHE:HD2	72:Lh:44:TYR:CE1	2.35	0.45
1:A:317:A:C6	1:A:318:A:C6	3.05	0.45
1:A:638:C:H2'	1:A:639:G:H8	1.80	0.45
1:A:676:G:O5'	57:LS:107:THR:HG23	2.17	0.45
1:A:903:U:H2'	1:A:904:A:C8	2.52	0.45
1:A:1466:G:N2	1:A:1510:G:H5''	2.31	0.45
1:A:2256:A:C6	8:E:1757:G:H5'	2.50	0.45
1:A:2320:A:H2	82:Lr:16:VAL:HG22	1.82	0.45
1:A:3023:U:O2	1:A:3024:A:C8	2.70	0.45
8:E:123:G:N2	14:SS:146:THR:HG21	2.26	0.45
8:E:1132:A:H2'	8:E:1133:A:H8	1.81	0.45
9:SP:38:PHE:CD1	26:SG:109:LEU:HD23	2.52	0.45
10:SQ:171:ILE:HD12	10:SQ:197:ILE:HD13	1.98	0.45
16:ST:124:LEU:O	16:ST:127:THR:N	2.36	0.45
17:SU:126:LEU:O	17:SU:130:VAL:HG22	2.17	0.45
20:SC:35:ILE:HD12	20:SC:42:VAL:HG22	1.98	0.45
24:SZ:20:TYR:CD2	24:SZ:84:ARG:HD3	2.52	0.45
25:SF:41:PRO:HG2	25:SF:44:LEU:HB2	1.98	0.45
27:SH:86:LEU:HD13	27:SH:99:HIS:HB2	1.99	0.45
42:LD:149:ARG:HE	42:LD:155:LYS:HZ2	1.63	0.45
45:LG:33:ARG:O	45:LG:37:VAL:HG23	2.17	0.45
50:LL:140:THR:HG22	50:LL:141:LYS:O	2.17	0.45
52:LN:8:PRO:HB3	57:LS:164:ARG:O	2.16	0.45
66:Lb:119:GLU:O	66:Lb:123:GLN:HG2	2.16	0.45
1:A:616:G:H2'	1:A:617:G:H8	1.81	0.45
1:A:1042:U:H2'	1:A:1043:C:C6	2.52	0.45
1:A:1132:C:H2'	1:A:1133:A:H8	1.81	0.45
1:A:2876:C:H2'	1:A:2877:G:O4'	2.16	0.45
1:A:3066:U:H2'	1:A:3067:C:C6	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3228:C:H5''	53:LO:137:LYS:NZ	2.32	0.45
3:C:26:U:O2'	44:LF:51:ALA:O	2.35	0.45
8:E:341:A:H2'	8:E:342:C:C6	2.52	0.45
8:E:855:A:O2'	8:E:856:A:H3'	2.16	0.45
8:E:1142:A:H5''	34:Se:2:PRO:HB3	1.98	0.45
8:E:1203:A:N6	8:E:1553:G:H1'	2.32	0.45
8:E:1256:A:H4'	8:E:1257:U:O4'	2.17	0.45
9:SP:76:ILE:HG22	9:SP:129:ASP:OD2	2.16	0.45
10:SQ:35:PRO:HB3	10:SQ:231:LEU:HD11	1.97	0.45
12:SR:225:LEU:HD23	12:SR:225:LEU:HA	1.79	0.45
16:ST:167:LYS:HE2	16:ST:169:TYR:CE2	2.50	0.45
19:SW:109:LEU:HG	19:SW:129:ILE:HD11	1.99	0.45
26:SG:31:ASN:HA	26:SG:34:LEU:HG	1.98	0.45
28:SI:80:TYR:C	28:SI:96:ALA:HB2	2.41	0.45
36:SM:10:HIS:ND1	36:SM:11:PRO:HD2	2.32	0.45
39:SO:157:VAL:HG11	39:SO:225:LEU:HD13	1.99	0.45
47:LI:59:GLU:HG3	47:LI:60:ARG:N	2.32	0.45
47:LI:197:GLN:OE1	47:LI:197:GLN:N	2.50	0.45
59:LU:29:ILE:HG21	59:LU:40:ARG:HB2	1.99	0.45
1:A:63:A:H5''	54:LP:174:ILE:HG21	1.98	0.45
1:A:80:G:H2'	1:A:81:C:C6	2.52	0.45
1:A:105:C:H2'	1:A:106:A:C8	2.50	0.45
1:A:412:G:H2'	1:A:413:U:C6	2.51	0.45
1:A:504:A:N6	1:A:588:G:O6	2.50	0.45
1:A:2662:G:H2'	1:A:2663:G:C8	2.52	0.45
2:B:77:G:O2'	2:B:101:G:O6	2.26	0.45
3:C:26:U:H2'	3:C:27:U:C6	2.51	0.45
8:E:52:U:H2'	8:E:53:G:C8	2.52	0.45
8:E:267:U:H2'	8:E:268:C:H6	1.82	0.45
8:E:329:G:H2'	8:E:330:G:C8	2.51	0.45
8:E:448:C:OP2	14:SS:49:ARG:NH2	2.50	0.45
8:E:1224:A:H2'	8:E:1225:U:H6	1.82	0.45
8:E:1237:G:H2'	8:E:1238:A:C8	2.52	0.45
8:E:1259:U:H2'	8:E:1260:U:H6	1.81	0.45
8:E:1315:U:OP1	8:E:1328:G:N2	2.39	0.45
8:E:1558:U:H3	11:SE:122:THR:HG1	1.65	0.45
8:E:1755:A:O4'	32:Sc:63:GLN:NE2	2.49	0.45
10:SQ:144:ARG:NH1	10:SQ:145:LYS:O	2.48	0.45
14:SS:87:MET:CE	14:SS:123:LEU:HB2	2.46	0.45
17:SU:126:LEU:HD23	17:SU:126:LEU:HA	1.82	0.45
18:SV:67:TRP:CD2	18:SV:70:GLU:HG2	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:SV:81:VAL:CG2	18:SV:94:ASN:HA	2.47	0.45
21:SX:30:ARG:HD3	21:SX:30:ARG:HA	1.78	0.45
22:SD:99:GLU:HB3	22:SD:115:VAL:HG11	1.99	0.45
33:Sd:55:VAL:HA	33:Sd:75:VAL:HA	1.98	0.45
39:SO:23:LEU:HD22	39:SO:33:LEU:HD11	1.98	0.45
45:LG:141:PRO:HB2	45:LG:172:TYR:HB2	1.99	0.45
52:LN:188:ARG:CZ	52:LN:188:ARG:HA	2.47	0.45
66:Lb:41:ALA:HB2	66:Lb:77:TYR:CE1	2.52	0.45
1:A:208:C:H2'	1:A:209:A:O4'	2.17	0.45
1:A:209:A:H4'	1:A:211:A:N7	2.32	0.45
1:A:501:A:H2'	1:A:502:U:H6	1.77	0.45
1:A:792:G:H2'	1:A:793:C:H6	1.82	0.45
1:A:1046:A:O2'	1:A:1048:A:OP2	2.21	0.45
1:A:2674:A:N6	51:LM:21:ILE:HG23	2.31	0.45
1:A:2835:U:H2'	1:A:2836:C:O2	2.17	0.45
4:D:7:A:H2'	4:D:8:A:C8	2.51	0.45
5:m:26:A:H2'	5:m:27:G:C8	2.52	0.45
8:E:522:U:O2'	33:Sd:60:PHE:O	2.33	0.45
8:E:532:U:OP1	19:SW:132:ARG:NH1	2.50	0.45
8:E:752:A:O2'	14:SS:221:ARG:HG3	2.16	0.45
8:E:1655:A:N6	8:E:1745:G:O2'	2.50	0.45
10:SQ:180:THR:HG22	10:SQ:183:GLN:CD	2.42	0.45
17:SU:118:LEU:O	17:SU:121:VAL:HG22	2.16	0.45
20:SC:40:LEU:O	20:SC:44:LYS:HG2	2.17	0.45
29:SJ:97:VAL:HA	29:SJ:100:VAL:HB	1.98	0.45
30:Sa:4:ASP:N	30:Sa:4:ASP:OD1	2.48	0.45
41:AA:17:LEU:C	41:AA:21:LYS:HZ2	2.24	0.45
41:AA:89:ILE:HB	41:AA:101:TYR:HB3	1.99	0.45
43:LE:236:LYS:HB2	43:LE:236:LYS:HE2	1.76	0.45
55:LQ:127:LEU:HD22	59:LU:156:VAL:HG12	1.98	0.45
56:LR:84:PRO:HB2	56:LR:87:SER:HB2	1.98	0.45
67:Lc:73:LEU:HB2	67:Lc:109:TYR:CD2	2.52	0.45
71:Lg:78:ASN:HA	71:Lg:108:ILE:HD11	1.99	0.45
76:Ll:69:HIS:O	76:Ll:73:ARG:HG3	2.16	0.45
1:A:68:C:N4	1:A:314:U:O2'	2.50	0.45
1:A:308:A:H1'	1:A:2222:A:N3	2.32	0.45
1:A:561:C:H2'	1:A:562:C:H6	1.82	0.45
1:A:899:U:H2'	1:A:900:G:H8	1.82	0.45
1:A:1072:G:H2'	1:A:1073:U:C6	2.51	0.45
1:A:1503:A:C4	1:A:1504:A:C8	3.05	0.45
1:A:1776:G:H2'	1:A:1777:U:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2631:U:H2'	1:A:2632:G:H8	1.82	0.45
1:A:3283:U:H2'	1:A:3284:G:C8	2.52	0.45
2:B:38:U:N3	2:B:41:G:OP2	2.50	0.45
3:C:82:U:C2	3:C:83:C:H5	2.34	0.45
6:n:16:U:H3'	6:n:18:G:OP2	2.17	0.45
7:z:378:ILE:O	7:z:378:ILE:HG13	2.16	0.45
8:E:128:U:O2'	8:E:203:U:OP2	2.22	0.45
8:E:304:U:O2	21:SX:69:LYS:NZ	2.40	0.45
8:E:432:G:H2'	8:E:433:C:C6	2.52	0.45
8:E:566:C:P	37:Sg:5:HIS:HB3	2.57	0.45
8:E:891:A:H2'	8:E:892:A:H8	1.81	0.45
8:E:1151:A:O2'	8:E:1766:A:N7	2.44	0.45
8:E:1183:A:C2	11:SE:100:LYS:HB2	2.52	0.45
8:E:1758:U:H2'	8:E:1759:C:C6	2.51	0.45
8:E:1773:C:OP1	80:Lp:3:ALA:HB3	2.17	0.45
10:SQ:144:ARG:HB3	10:SQ:208:GLN:HB3	1.99	0.45
15:SB:52:GLU:HB3	15:SB:65:ARG:HH21	1.82	0.45
29:SJ:74:GLU:HG3	29:SJ:75:GLY:H	1.82	0.45
36:SM:19:ARG:HD2	36:SM:32:ARG:HD2	1.99	0.45
39:SO:195:HIS:CD2	39:SO:199:ILE:HG12	2.52	0.45
44:LF:143:GLU:CD	44:LF:143:GLU:H	2.24	0.45
44:LF:295:ILE:HG22	44:LF:299:ILE:HD11	1.98	0.45
48:LJ:133:LYS:HB3	48:LJ:138:HIS:CD2	2.52	0.45
51:LM:83:GLY:O	51:LM:86:VAL:HG12	2.17	0.45
64:LZ:85:GLN:NE2	64:LZ:119:THR:HG21	2.32	0.45
66:Lb:11:ALA:CB	66:Lb:80:LEU:HD22	2.47	0.45
75:Lk:94:ILE:HG23	75:Lk:98:ARG:NH1	2.32	0.45
1:A:571:U:H2'	1:A:572:A:C8	2.48	0.44
1:A:1597:C:H4'	73:Li:26:PRO:HD2	1.99	0.44
1:A:2551:U:O2	42:LD:40:TYR:OH	2.28	0.44
1:A:3008:A:N6	1:A:3139:A:N6	2.65	0.44
1:A:3138:U:O4	1:A:3139:A:N6	2.50	0.44
2:B:56:A:H4'	51:LM:152:HIS:HB2	1.99	0.44
8:E:693:U:H5''	8:E:694:U:H5'	1.98	0.44
8:E:898:A:H4'	24:SZ:46:MET:SD	2.57	0.44
8:E:1075:C:O2'	34:Se:13:LYS:O	2.26	0.44
8:E:1163:A:H2'	8:E:1164:G:O4'	2.17	0.44
8:E:1252:C:H2'	8:E:1253:U:O4'	2.17	0.44
8:E:1647:U:H2'	8:E:1648:A:H8	1.80	0.44
13:SA:7:LYS:HD3	13:SA:7:LYS:HA	1.82	0.44
15:SB:52:GLU:HB3	15:SB:65:ARG:NH2	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:SV:113:PHE:CE2	18:SV:121:LEU:HD21	2.51	0.44
20:SC:5:LYS:O	20:SC:9:ASN:ND2	2.50	0.44
24:SZ:44:GLY:O	24:SZ:48:VAL:HG22	2.17	0.44
35:Sf:29:ARG:HA	35:Sf:29:ARG:HD3	1.83	0.44
39:SO:79:TYR:HB3	39:SO:91:LEU:HD11	1.99	0.44
39:SO:111:MET:SD	39:SO:127:ARG:HG3	2.58	0.44
39:SO:181:TRP:CD1	39:SO:188:ILE:HA	2.45	0.44
46:LH:14:ASP:OD1	46:LH:14:ASP:C	2.60	0.44
47:LI:189:ILE:HG23	47:LI:190:THR:HG23	1.99	0.44
51:LM:21:ILE:HD12	51:LM:37:LEU:HD11	1.98	0.44
51:LM:111:ASP:C	51:LM:113:GLY:H	2.24	0.44
55:LQ:180:SER:O	55:LQ:184:THR:HG23	2.17	0.44
61:LW:80:THR:HG21	61:LW:95:PHE:HD2	1.82	0.44
64:LZ:61:LYS:HE3	64:LZ:61:LYS:HB2	1.80	0.44
1:A:165:A:H2'	1:A:166:C:C6	2.52	0.44
1:A:340:C:H2'	1:A:341:G:O4'	2.17	0.44
1:A:763:G:HO2'	1:A:764:U:P	2.40	0.44
1:A:1631:C:H5''	1:A:1632:A:H5''	1.99	0.44
1:A:3066:U:H2'	1:A:3067:C:H6	1.82	0.44
8:E:429:G:H2'	8:E:430:G:H8	1.82	0.44
8:E:845:G:C5	8:E:846:G:C2	3.06	0.44
8:E:1738:U:H2'	8:E:1739:C:C6	2.51	0.44
15:SB:225:ARG:HG2	40:SL:61:ARG:HH22	1.82	0.44
43:LE:155:ALA:HB3	43:LE:188:ILE:HG21	1.99	0.44
45:LG:44:TYR:HE2	60:LV:35:LYS:HA	1.82	0.44
45:LG:236:LEU:HA	45:LG:236:LEU:HD12	1.79	0.44
50:LL:33:ILE:HG22	50:LL:36:LEU:HD11	1.99	0.44
52:LN:48:PRO:HA	52:LN:137:GLN:HB3	1.98	0.44
59:LU:96:ASP:OD1	59:LU:97:VAL:N	2.47	0.44
59:LU:106:LEU:HD22	59:LU:123:ILE:HD11	1.99	0.44
65:La:27:ARG:HA	65:La:30:LEU:HB2	1.98	0.44
70:Lf:88:PRO:O	70:Lf:89:LEU:HD23	2.16	0.44
1:A:209:A:H4'	1:A:211:A:C8	2.53	0.44
1:A:264:G:OP1	75:Lk:34:SER:OG	2.18	0.44
1:A:598:A:P	47:LI:41:ARG:HH12	2.41	0.44
1:A:638:C:H2'	1:A:639:G:C8	2.53	0.44
1:A:738:A:H2'	1:A:739:G:H8	1.82	0.44
1:A:967:A:C4	1:A:968:G:C8	3.05	0.44
1:A:991:G:C6	1:A:1059:G:C5	3.06	0.44
1:A:1082:U:H2'	1:A:1083:G:O4'	2.18	0.44
1:A:1404:G:OP2	71:Lg:11:LYS:NZ	2.49	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3303:G:O2'	1:A:3305:A:N6	2.49	0.44
2:B:6:C:H4'	45:LG:52:VAL:HG11	1.99	0.44
8:E:395:U:H2'	8:E:396:G:O4'	2.17	0.44
8:E:602:U:H2'	8:E:603:U:C6	2.51	0.44
8:E:1176:G:C6	8:E:1464:G:C6	3.05	0.44
8:E:1217:A:C5	20:SC:40:LEU:HD21	2.52	0.44
8:E:1242:A:O3'	8:E:1243:G:N2	2.49	0.44
8:E:1323:C:H2'	8:E:1324:G:O4'	2.16	0.44
8:E:1330:G:O2'	26:SG:6:THR:HG21	2.17	0.44
8:E:1393:C:H4'	39:SO:281:TYR:HD1	1.81	0.44
8:E:1586:A:H2'	8:E:1587:A:O4'	2.17	0.44
8:E:1641:C:H2'	8:E:1642:G:C8	2.52	0.44
10:SQ:87:ARG:C	10:SQ:98:THR:HG23	2.42	0.44
16:ST:27:PHE:HB3	16:ST:102:VAL:HG11	2.00	0.44
21:SX:48:ALA:HA	21:SX:53:TYR:OH	2.16	0.44
28:SI:14:PHE:CD1	28:SI:14:PHE:C	2.96	0.44
37:Sg:6:GLY:O	37:Sg:10:ARG:NH1	2.50	0.44
39:SO:85:TRP:HA	39:SO:109:ASP:OD1	2.18	0.44
39:SO:195:HIS:HD2	39:SO:199:ILE:HG12	1.82	0.44
42:LD:68:LYS:HG3	42:LD:69:TYR:N	2.32	0.44
45:LG:118:THR:OG1	45:LG:119:TYR:N	2.50	0.44
50:LL:23:ASN:O	50:LL:25:ALA:N	2.46	0.44
53:LO:17:VAL:HG11	53:LO:74:ARG:HB3	2.00	0.44
56:LR:30:ARG:HD2	56:LR:63:PHE:HE2	1.81	0.44
58:LT:136:ARG:O	58:LT:140:GLU:HG2	2.17	0.44
71:Lg:82:LEU:HD12	71:Lg:108:ILE:HG23	1.98	0.44
81:Lq:14:GLY:O	81:Lq:15:LYS:HG2	2.17	0.44
1:A:77:A:H5'	52:LN:100:ARG:NH1	2.32	0.44
1:A:165:A:H2'	1:A:166:C:H6	1.82	0.44
1:A:846:A:H2'	1:A:847:A:C8	2.52	0.44
1:A:1087:G:C2	1:A:1088:U:C5	3.06	0.44
1:A:1190:A:H2'	1:A:1190:A:N3	2.32	0.44
1:A:1666:G:H2'	1:A:1667:A:C8	2.51	0.44
1:A:1752:A:C6	1:A:1753:G:C5	3.06	0.44
1:A:2137:U:C6	1:A:2141:U:C4	3.06	0.44
1:A:2176:U:H5''	42:LD:54:ARG:HH22	1.81	0.44
1:A:2507:C:H2'	1:A:2508:U:C6	2.51	0.44
1:A:2723:U:OP1	60:LV:87:LYS:HE2	2.17	0.44
5:m:6:G:H2'	5:m:7:U:H6	1.82	0.44
8:E:143:G:OP1	16:ST:143:LYS:NZ	2.45	0.44
8:E:600:U:H2'	8:E:601:A:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:846:G:H3'	8:E:847:A:H8	1.82	0.44
8:E:997:G:C6	8:E:1008:G:C6	3.06	0.44
8:E:1055:U:H2'	8:E:1056:U:C6	2.53	0.44
8:E:1291:G:C8	8:E:1292:G:C8	3.06	0.44
8:E:1533:C:H4'	8:E:1539:G:O6	2.18	0.44
8:E:1763:A:H5''	8:E:1771:U:H5''	1.99	0.44
10:SQ:90:GLU:HB2	10:SQ:228:LEU:HD23	1.98	0.44
12:SR:59:HIS:CE1	12:SR:239:PRO:HD3	2.52	0.44
14:SS:191:ARG:HH21	14:SS:245:LYS:HB3	1.81	0.44
16:ST:98:ARG:HE	16:ST:105:ASP:CG	2.25	0.44
22:SD:97:LEU:HD23	22:SD:118:ALA:HB3	1.99	0.44
27:SH:87:ASN:OD1	27:SH:99:HIS:ND1	2.49	0.44
29:SJ:32:LYS:HD2	29:SJ:32:LYS:HA	1.74	0.44
30:Sa:79:LEU:HD21	30:Sa:82:VAL:HG11	1.99	0.44
42:LD:2:GLY:HA2	42:LD:207:VAL:HG23	1.98	0.44
44:LF:104:LYS:HG2	44:LF:106:TRP:CZ2	2.52	0.44
46:LH:62:THR:OG1	46:LH:79:VAL:O	2.17	0.44
48:LJ:139:VAL:O	48:LJ:143:ILE:HG13	2.18	0.44
50:LL:184:LYS:HG3	50:LL:189:GLU:HB2	1.99	0.44
52:LN:79:GLU:OE2	52:LN:103:ASN:ND2	2.50	0.44
60:LV:56:PHE:CD1	60:LV:56:PHE:C	2.95	0.44
60:LV:71:SER:HA	60:LV:92:ARG:HA	1.99	0.44
72:Lh:30:ILE:HG21	72:Lh:100:ILE:HD11	2.00	0.44
1:A:432:G:H2'	1:A:433:A:C8	2.52	0.44
1:A:714:G:N1	67:Lc:72:VAL:HG11	2.32	0.44
1:A:1616:U:H2'	1:A:1617:G:H8	1.82	0.44
1:A:3037:U:H5''	43:LE:348:ARG:HD3	2.00	0.44
1:A:3269:U:H4'	1:A:3270:U:O5'	2.17	0.44
3:C:52:A:OP1	78:Ln:21:ARG:NH1	2.45	0.44
3:C:53:A:C4	3:C:54:A:C8	3.06	0.44
8:E:82:U:H2'	8:E:83:G:O4'	2.17	0.44
8:E:564:G:N1	8:E:580:A:OP2	2.39	0.44
8:E:762:A:P	19:SW:79:ARG:HH22	2.40	0.44
8:E:797:G:O2'	21:SX:69:LYS:HE2	2.18	0.44
8:E:884:A:H2'	8:E:885:G:C8	2.52	0.44
8:E:968:U:H2'	8:E:969:C:O4'	2.17	0.44
8:E:1231:U:OP1	8:E:1259:U:H1'	2.18	0.44
8:E:1374:C:H2'	8:E:1375:A:C8	2.53	0.44
10:SQ:113:MET:HG2	10:SQ:209:ASN:HD21	1.82	0.44
14:SS:108:ARG:HB2	14:SS:108:ARG:HH11	1.83	0.44
15:SB:76:ARG:HG3	15:SB:76:ARG:NH1	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:ST:137:ARG:HD3	16:ST:177:ARG:HD3	1.99	0.44
21:SX:121:ASP:OD1	21:SX:121:ASP:N	2.51	0.44
39:SO:51:ASP:O	39:SO:52:GLN:NE2	2.51	0.44
39:SO:174:ASN:H	39:SO:174:ASN:HD22	1.66	0.44
40:SL:28:VAL:HG11	40:SL:48:VAL:HG11	1.99	0.44
43:LE:159:ARG:HG2	43:LE:182:GLN:HA	1.99	0.44
44:LF:148:ILE:HA	44:LF:149:PRO:C	2.43	0.44
49:LK:149:ASN:N	49:LK:149:ASN:OD1	2.47	0.44
54:LP:150:TRP:CH2	54:LP:151:ILE:HD12	2.53	0.44
56:LR:52:LEU:HD23	56:LR:52:LEU:HA	1.81	0.44
59:LU:14:LEU:HD11	60:LV:136:ARG:NH2	2.32	0.44
60:LV:111:ALA:O	60:LV:115:LYS:HG3	2.18	0.44
66:Lb:78:ASN:OD1	69:Le:35:ARG:NH2	2.51	0.44
79:Lo:88:LYS:HA	79:Lo:92:ASP:HB3	1.99	0.44
1:A:175:C:H2'	1:A:176:G:C8	2.53	0.44
1:A:562:C:H2'	1:A:563:U:C6	2.53	0.44
1:A:675:C:O2'	1:A:679:U:OP1	2.35	0.44
1:A:2685:C:H2'	1:A:2686:A:H8	1.83	0.44
1:A:3213:A:H2'	1:A:3214:U:O4'	2.18	0.44
1:A:3295:A:H2'	1:A:3296:A:C8	2.51	0.44
6:n:21:A:N6	6:n:46:G:H2'	2.33	0.44
8:E:448:C:H2'	8:E:449:C:H6	1.82	0.44
8:E:1259:U:H2'	8:E:1260:U:C6	2.53	0.44
8:E:1337:A:H4'	25:SF:123:ARG:NH1	2.33	0.44
8:E:1609:U:H2'	8:E:1610:G:O4'	2.17	0.44
15:SB:160:VAL:HG23	40:SL:43:ASN:ND2	2.33	0.44
18:SV:171:SER:OG	18:SV:172:ARG:N	2.51	0.44
22:SD:81:ASP:HB2	22:SD:85:LYS:HB2	2.00	0.44
31:Sb:35:ILE:O	31:Sb:39:GLN:HG3	2.18	0.44
62:LX:18:PRO:HA	62:LX:51:ALA:HA	2.00	0.44
65:La:55:GLU:HA	65:La:69:LYS:HA	1.99	0.44
75:Lk:53:TYR:O	75:Lk:57:LEU:HB2	2.18	0.44
1:A:304:G:C6	54:LP:178:HIS:HD2	2.35	0.44
1:A:947:G:H2'	1:A:948:C:C6	2.52	0.44
1:A:1097:G:H4'	1:A:1098:A:O5'	2.17	0.44
1:A:1791:C:H2'	1:A:1792:C:C6	2.52	0.44
1:A:1805:C:H2'	1:A:1806:A:C8	2.48	0.44
1:A:1836:C:H2'	1:A:1837:U:H6	1.83	0.44
1:A:3164:C:O2'	1:A:3165:A:O5'	2.36	0.44
2:B:91:G:H2'	2:B:92:A:H8	1.83	0.44
8:E:778:G:H22	33:Sd:10:ARG:NE	2.15	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:909:U:H2'	8:E:910:C:C6	2.52	0.44
8:E:1564:U:H2'	8:E:1565:C:H6	1.81	0.44
8:E:1603:U:H2'	8:E:1604:U:C6	2.52	0.44
9:SP:41:ARG:HG2	26:SG:105:GLN:OE1	2.18	0.44
9:SP:55:GLU:HB2	30:Sa:79:LEU:CD1	2.46	0.44
10:SQ:190:PRO:O	10:SQ:195:LYS:NZ	2.51	0.44
14:SS:123:LEU:HD13	14:SS:159:THR:HG21	2.00	0.44
17:SU:32:PRO:HA	17:SU:35:LYS:HB2	2.00	0.44
19:SW:32:GLY:HA3	37:Sg:40:TYR:CG	2.52	0.44
22:SD:32:LEU:O	22:SD:36:LEU:HD23	2.18	0.44
42:LD:10:LYS:HA	42:LD:16:PHE:CD2	2.53	0.44
43:LE:199:PHE:O	43:LE:200:GLU:HG2	2.18	0.44
43:LE:287:LYS:HB2	43:LE:290:ASP:HB3	1.98	0.44
47:LI:107:ARG:HH21	47:LI:115:THR:HG23	1.83	0.44
48:LJ:109:LEU:HA	48:LJ:109:LEU:HD23	1.79	0.44
50:LL:200:LEU:HD12	50:LL:213:PHE:CD2	2.53	0.44
57:LS:71:LEU:HD11	57:LS:99:THR:HG21	2.00	0.44
67:Lc:14:HIS:ND1	71:Lg:36:LYS:HE2	2.33	0.44
67:Lc:39:HIS:O	67:Lc:41:HIS:N	2.50	0.44
1:A:100:A:H2'	1:A:101:G:N3	2.33	0.44
1:A:114:A:H2'	1:A:115:A:O4'	2.18	0.44
1:A:439:C:H5''	1:A:441:U:H1'	1.99	0.44
1:A:546:C:H5'	1:A:547:G:H5'	1.99	0.44
1:A:860:G:N7	42:LD:181:LYS:HB3	2.33	0.44
1:A:1055:A:N3	2:B:81:U:O2'	2.51	0.44
1:A:1414:G:H2'	1:A:1415:U:C6	2.53	0.44
1:A:1507:G:N7	56:LR:129:THR:HG23	2.32	0.44
1:A:1652:G:C2	1:A:1804:A:C2	3.05	0.44
1:A:2396:G:OP1	1:A:2397:A:O2'	2.26	0.44
1:A:2669:G:H2'	1:A:2670:G:C8	2.52	0.44
1:A:3107:U:H2'	1:A:3108:G:H8	1.82	0.44
1:A:3187:A:OP1	49:LK:23:ARG:HG3	2.18	0.44
2:B:99:G:OP2	59:LU:53:LYS:NZ	2.43	0.44
2:B:120:C:H4'	2:B:121:U:OP1	2.18	0.44
8:E:508:U:H2'	8:E:509:G:C8	2.52	0.44
8:E:783:G:H2'	8:E:784:C:H6	1.82	0.44
8:E:1042:G:H2'	8:E:1043:A:C8	2.52	0.44
8:E:1471:A:N7	8:E:1540:G:H1'	2.33	0.44
8:E:1613:U:OP1	15:SB:92:ARG:NH2	2.49	0.44
9:SP:36:TYR:OH	30:Sa:70:ASN:ND2	2.33	0.44
10:SQ:99:ASN:OD1	10:SQ:100:PHE:N	2.43	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:SQ:184:LEU:HD12	10:SQ:188:LEU:HD13	1.99	0.44
15:SB:58:LEU:HB3	15:SB:62:VAL:HG13	1.99	0.44
17:SU:28:GLU:OE1	17:SU:35:LYS:HA	2.18	0.44
17:SU:180:GLN:OE1	17:SU:180:GLN:N	2.49	0.44
18:SV:105:ASP:OD1	18:SV:106:ALA:N	2.51	0.44
21:SX:75:VAL:HG23	21:SX:119:VAL:HA	2.00	0.44
27:SH:139:LYS:O	27:SH:143:ARG:NH2	2.50	0.44
33:Sd:64:PHE:CD1	33:Sd:65:GLY:N	2.86	0.44
39:SO:122:ILE:HB	39:SO:134:TRP:HB2	2.00	0.44
43:LE:123:TYR:CZ	43:LE:124:LYS:HD3	2.53	0.44
48:LJ:162:LEU:HA	54:LP:7:LEU:HD21	2.00	0.44
51:LM:133:ARG:NH1	51:LM:158:ASP:OD2	2.50	0.44
51:LM:141:ARG:O	51:LM:145:LYS:HE2	2.17	0.44
54:LP:94:TYR:CE2	54:LP:96:ARG:HB2	2.53	0.44
60:LV:107:GLU:O	60:LV:110:LYS:HG2	2.18	0.44
62:LX:108:GLU:OE1	62:LX:108:GLU:N	2.36	0.44
69:Le:62:LEU:HD23	69:Le:62:LEU:HA	1.87	0.44
1:A:68:C:N4	1:A:315:C:H5'	2.33	0.44
1:A:75:G:H5'	52:LN:59:ARG:O	2.18	0.44
1:A:213:A:N6	1:A:228:U:O4'	2.51	0.44
1:A:728:G:H2'	1:A:729:C:C6	2.53	0.44
1:A:1636:U:O2'	66:Lb:79:HIS:ND1	2.49	0.44
1:A:2217:U:H2'	1:A:2218:G:C8	2.52	0.44
1:A:2569:A:N3	1:A:2570:U:H2'	2.33	0.44
1:A:2618:G:OP1	1:A:2644:C:O2'	2.32	0.44
3:C:154:C:H2'	3:C:155:A:H8	1.82	0.44
6:n:22:G:H2'	6:n:23:C:H6	1.83	0.44
8:E:108:A:H2'	8:E:109:G:H8	1.80	0.44
8:E:385:A:H2'	8:E:386:G:C8	2.53	0.44
8:E:479:C:H2'	8:E:480:G:H8	1.83	0.44
8:E:629:U:C2	8:E:630:A:C8	3.06	0.44
10:SQ:203:ASP:OD1	10:SQ:203:ASP:N	2.49	0.44
13:SA:37:VAL:HG12	13:SA:50:ILE:HA	2.00	0.44
17:SU:103:SER:OG	17:SU:104:ARG:N	2.51	0.44
17:SU:112:ARG:HG3	17:SU:112:ARG:O	2.18	0.44
20:SC:25:LYS:HD2	20:SC:59:PHE:CE2	2.53	0.44
21:SX:57:LYS:HG2	21:SX:131:ILE:HD12	1.99	0.44
45:LG:217:GLU:H	45:LG:217:GLU:CD	2.24	0.44
49:LK:162:GLN:HG2	49:LK:163:GLN:NE2	2.33	0.44
52:LN:42:ARG:NH1	52:LN:51:LEU:O	2.51	0.44
55:LQ:167:TYR:OH	55:LQ:171:LYS:HD2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:LY:9:SER:HA	63:LY:52:THR:HG23	1.99	0.44
79:Lo:108:THR:O	79:Lo:109:ASN:ND2	2.51	0.44
1:A:429:U:H2'	1:A:430:U:H6	1.83	0.43
1:A:1351:U:H2'	1:A:1353:U:OP1	2.18	0.43
1:A:1471:U:H2'	1:A:1472:U:C6	2.53	0.43
1:A:1717:U:H2'	1:A:1718:G:H8	1.81	0.43
1:A:1911:A:H2	1:A:2122:G:C8	2.36	0.43
1:A:2104:A:OP2	58:LT:81:ARG:NH2	2.47	0.43
1:A:3320:A:H2'	1:A:3321:C:C6	2.53	0.43
2:B:14:U:H5''	45:LG:24:ARG:HD3	1.98	0.43
3:C:7:U:H2'	3:C:8:C:C6	2.53	0.43
3:C:151:C:C6	64:LZ:24:LEU:HD21	2.52	0.43
8:E:97:C:H2'	8:E:98:U:C6	2.53	0.43
8:E:396:G:N2	8:E:399:A:OP2	2.51	0.43
8:E:448:C:H2'	8:E:449:C:C6	2.53	0.43
8:E:551:G:H5'	8:E:581:U:C2	2.53	0.43
8:E:599:A:H2'	8:E:600:U:C6	2.53	0.43
8:E:1573:A:OP2	15:SB:185:ARG:NH2	2.51	0.43
15:SB:42:LEU:HD22	15:SB:47:SER:HB2	2.00	0.43
16:ST:200:ALA:O	16:ST:203:GLU:HG3	2.17	0.43
25:SF:31:VAL:HG12	25:SF:32:ASN:OD1	2.17	0.43
26:SG:20:TYR:OH	26:SG:38:ILE:HD11	2.18	0.43
27:SH:108:LYS:HD2	27:SH:108:LYS:HA	1.76	0.43
28:SI:108:LEU:HD22	28:SI:113:ILE:CG2	2.46	0.43
33:Sd:39:GLU:O	33:Sd:43:LYS:HG3	2.18	0.43
46:LH:2:THR:HG22	46:LH:4:GLN:H	1.83	0.43
55:LQ:42:ASN:HA	55:LQ:136:THR:O	2.18	0.43
65:La:55:GLU:HB3	65:La:108:LYS:HB2	2.00	0.43
1:A:107:A:O2'	1:A:324:A:N3	2.43	0.43
1:A:130:A:H2'	1:A:131:C:C6	2.53	0.43
1:A:415:G:H2'	1:A:416:A:H8	1.82	0.43
1:A:824:C:O2'	1:A:1534:A:N3	2.44	0.43
1:A:877:C:O2'	1:A:880:G:H1'	2.18	0.43
1:A:911:C:H42	42:LD:3:ARG:HD2	1.82	0.43
1:A:1641:U:O2'	1:A:1642:A:H3'	2.18	0.43
1:A:2298:U:O2'	1:A:2299:A:H5'	2.18	0.43
1:A:2570:U:H5''	1:A:2573:G:C5	2.53	0.43
2:B:62:U:H5''	45:LG:277:LEU:HD22	2.00	0.43
3:C:12:A:P	56:LR:3:ARG:HH21	2.41	0.43
8:E:533:U:O2'	8:E:534:A:H5''	2.19	0.43
9:SP:146:LEU:HD23	9:SP:160:ILE:HD12	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:SA:151:LYS:HZ3	13:SA:153:ALA:HB3	1.82	0.43
14:SS:106:LYS:HD3	14:SS:106:LYS:HA	1.81	0.43
15:SB:76:ARG:HG2	25:SF:122:ARG:HD3	2.00	0.43
15:SB:163:SER:O	15:SB:167:ARG:HG3	2.18	0.43
22:SD:130:THR:HG22	22:SD:133:LEU:HG	2.01	0.43
31:Sb:47:ILE:HG22	31:Sb:65:LEU:HD22	2.00	0.43
33:Sd:88:THR:O	33:Sd:92:VAL:HG12	2.18	0.43
37:Sg:29:LYS:HA	37:Sg:29:LYS:HD3	1.82	0.43
41:AA:49:ARG:O	41:AA:53:GLU:HG3	2.17	0.43
43:LE:284:ARG:NH1	43:LE:293:ASN:O	2.51	0.43
49:LK:26:LYS:HB2	49:LK:35:THR:HG22	2.01	0.43
57:LS:40:THR:HG22	57:LS:42:ALA:H	1.82	0.43
65:La:51:ARG:HG2	65:La:52:ARG:H	1.83	0.43
65:La:53:ASP:OD1	65:La:69:LYS:HD3	2.18	0.43
1:A:1054:A:H5''	1:A:2637:A:N6	2.32	0.43
1:A:1334:U:H5''	47:LI:206:LYS:HB3	1.99	0.43
1:A:2258:U:C2	1:A:2259:A:C8	3.06	0.43
1:A:3217:C:C5	1:A:3220:G:H1'	2.53	0.43
7:z:394:TYR:HD1	78:Ln:25:GLN:HG3	1.83	0.43
8:E:472:U:H2'	8:E:473:A:C8	2.53	0.43
8:E:560:U:H2'	8:E:561:G:H8	1.82	0.43
8:E:997:G:H2'	8:E:998:A:O4'	2.18	0.43
8:E:1145:U:H4'	12:SR:88:LYS:HE3	2.01	0.43
8:E:1220:C:H2'	8:E:1221:A:C8	2.50	0.43
8:E:1229:G:C2	8:E:1255:G:C2	3.06	0.43
14:SS:66:MET:SD	14:SS:78:THR:OG1	2.74	0.43
16:ST:58:LYS:HD2	16:ST:105:ASP:O	2.18	0.43
17:SU:108:GLN:H	17:SU:108:GLN:HG3	1.66	0.43
23:SY:4:MET:HG3	23:SY:5:HIS:CD2	2.53	0.43
24:SZ:18:ARG:NH1	24:SZ:18:ARG:HG3	2.32	0.43
25:SF:23:LYS:HG2	25:SF:23:LYS:HZ2	1.66	0.43
26:SG:77:GLU:OE1	26:SG:77:GLU:HA	2.19	0.43
29:SJ:70:THR:HG23	29:SJ:73:GLY:H	1.83	0.43
33:Sd:63:GLN:HG2	33:Sd:64:PHE:H	1.83	0.43
34:Se:43:ASN:HB2	34:Se:45:VAL:O	2.18	0.43
39:SO:69:GLN:HB2	39:SO:85:TRP:CD1	2.54	0.43
41:AA:83:LEU:HB2	41:AA:89:ILE:HD11	1.99	0.43
45:LG:95:TRP:HZ3	45:LG:199:ILE:HD13	1.82	0.43
49:LK:17:THR:OG1	53:LO:3:THR:O	2.37	0.43
63:LY:20:LEU:HD21	63:LY:28:ILE:HG23	1.99	0.43
69:Le:18:ILE:HG13	69:Le:81:VAL:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:Lq:6:LYS:C	81:Lq:25:VAL:HG22	2.44	0.43
81:Lq:17:CYS:SG	81:Lq:21:THR:HG21	2.58	0.43
1:A:61:A:C4	1:A:62:A:C8	3.06	0.43
1:A:499:G:OP1	72:Lh:48:ARG:NH1	2.52	0.43
1:A:945:C:H2'	1:A:946:U:H6	1.82	0.43
1:A:1203:A:OP2	1:A:1301:A:N6	2.48	0.43
1:A:1525:G:H5'	1:A:1830:G:OP2	2.18	0.43
1:A:2295:A:N3	1:A:2929:C:O2'	2.43	0.43
1:A:2572:C:O2'	1:A:2573:G:O5'	2.34	0.43
1:A:3115:C:H1'	1:A:3117:C:H41	1.82	0.43
1:A:3220:G:C6	1:A:3266:G:N1	2.86	0.43
8:E:3:U:O4	19:SW:16:LYS:HE2	2.18	0.43
8:E:51:A:OP2	8:E:424:C:N4	2.46	0.43
8:E:132:U:O2'	8:E:133:U:OP1	2.33	0.43
8:E:1341:A:H5''	39:SO:63:GLY:O	2.19	0.43
8:E:1785:U:OP1	24:SZ:136:ARG:NH1	2.37	0.43
10:SQ:103:MET:HB3	10:SQ:215:VAL:HG22	1.99	0.43
11:SE:96:ILE:HB	11:SE:120:SER:OG	2.19	0.43
12:SR:55:GLU:H	12:SR:55:GLU:HG3	1.65	0.43
12:SR:81:MET:HG3	12:SR:211:LEU:HD11	2.01	0.43
13:SA:217:ILE:HD12	13:SA:218:LEU:H	1.83	0.43
20:SC:48:SER:O	20:SC:51:SER:OG	2.34	0.43
29:SJ:20:ILE:N	29:SJ:94:GLU:OE2	2.51	0.43
51:LM:53:THR:HG22	51:LM:60:ARG:HA	1.99	0.43
51:LM:166:LYS:NZ	51:LM:167:TYR:HB2	2.34	0.43
52:LN:50:PRO:HA	52:LN:138:VAL:O	2.18	0.43
55:LQ:72:HIS:O	55:LQ:74:ARG:HD2	2.19	0.43
65:La:18:ALA:O	65:La:22:ALA:HB2	2.18	0.43
75:Lk:55:ARG:O	75:Lk:56:ARG:HB3	2.17	0.43
80:Lp:2:ARG:HD3	80:Lp:5:TRP:NE1	2.33	0.43
1:A:437:G:O2'	1:A:438:A:O5'	2.32	0.43
1:A:516:A:H2'	1:A:517:G:H8	1.84	0.43
1:A:800:G:O6	44:LF:104:LYS:NZ	2.37	0.43
1:A:1071:U:O2'	1:A:1072:G:H8	2.01	0.43
1:A:2232:A:H1'	1:A:2429:G:H5'	1.99	0.43
1:A:2367:A:H2'	1:A:2368:A:C8	2.53	0.43
7:z:394:TYR:CD1	78:Ln:25:GLN:HG3	2.54	0.43
8:E:205:U:C2	8:E:206:A:C8	3.06	0.43
8:E:759:U:H2'	8:E:760:A:H8	1.83	0.43
8:E:895:G:H22	8:E:917:U:H3	1.67	0.43
8:E:1191:U:H2'	8:E:1192:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:1291:G:OP1	12:SR:119:LYS:NZ	2.45	0.43
8:E:1445:G:H22	38:SN:87:THR:HG1	1.64	0.43
8:E:1560:U:H2'	8:E:1561:U:O4'	2.19	0.43
8:E:1588:G:HO2'	8:E:1589:C:P	2.41	0.43
8:E:1596:C:OP2	36:SM:32:ARG:HD3	2.18	0.43
8:E:1767:G:OP1	8:E:1770:U:H4'	2.19	0.43
9:SP:142:PRO:HG3	30:Sa:32:VAL:HB	2.01	0.43
10:SQ:39:GLU:N	10:SQ:39:GLU:CD	2.76	0.43
10:SQ:121:ILE:HG12	10:SQ:161:ILE:HD12	2.00	0.43
13:SA:55:THR:O	13:SA:58:VAL:HG22	2.18	0.43
14:SS:128:LYS:HB3	14:SS:140:VAL:CG2	2.47	0.43
27:SH:38:VAL:HG21	27:SH:73:MET:HE2	1.99	0.43
42:LD:68:LYS:HG3	42:LD:70:ARG:H	1.84	0.43
43:LE:56:ILE:HG22	43:LE:359:ILE:HG12	1.99	0.43
49:LK:86:TYR:CE1	49:LK:151:VAL:HB	2.54	0.43
57:LS:182:LYS:HE2	67:Lc:55:LYS:O	2.19	0.43
59:LU:130:GLU:OE1	59:LU:130:GLU:N	2.45	0.43
66:Lb:109:GLU:O	66:Lb:113:VAL:HG12	2.18	0.43
67:Lc:112:ILE:HB	67:Lc:130:VAL:HG12	2.00	0.43
70:Lf:36:ILE:HD12	70:Lf:59:ILE:HD11	2.00	0.43
1:A:738:A:H2'	1:A:739:G:C8	2.53	0.43
1:A:1347:U:P	57:LS:38:ARG:HH21	2.41	0.43
1:A:2282:U:O2	1:A:2310:U:H4'	2.19	0.43
1:A:2585:G:N3	1:A:2585:G:H2'	2.32	0.43
1:A:2713:U:H3'	81:Lq:9:LYS:O	2.19	0.43
1:A:2722:U:H2'	1:A:2723:U:H6	1.82	0.43
1:A:2824:G:H2'	1:A:2825:C:C6	2.54	0.43
3:C:37:A:OP2	74:Lj:86:ARG:NH1	2.44	0.43
8:E:755:A:H2'	8:E:756:A:O4'	2.18	0.43
8:E:856:A:N6	17:SU:115:SER:O	2.50	0.43
8:E:898:A:N1	8:E:911:U:O2'	2.52	0.43
8:E:1529:C:H2'	8:E:1530:C:C6	2.54	0.43
13:SA:110:LEU:HD23	13:SA:110:LEU:HA	1.79	0.43
18:SV:53:LYS:HD2	18:SV:55:TYR:OH	2.18	0.43
19:SW:62:ARG:H	19:SW:62:ARG:HG2	1.66	0.43
27:SH:17:LEU:HD21	27:SH:66:LEU:HD12	2.01	0.43
28:SI:6:VAL:HB	28:SI:66:TYR:CE2	2.53	0.43
39:SO:261:LYS:HB3	39:SO:263:PHE:HE1	1.84	0.43
44:LF:140:HIS:NE2	44:LF:246:ARG:HD2	2.33	0.43
45:LG:108:ARG:CZ	45:LG:253:PHE:HB2	2.48	0.43
48:LJ:143:ILE:HD13	48:LJ:170:CYS:SG	2.58	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:LM:81:GLU:OE1	51:LM:81:GLU:HA	2.18	0.43
52:LN:3:ILE:HB	67:Lc:41:HIS:CD2	2.53	0.43
53:LO:113:THR:HG23	53:LO:116:GLU:OE1	2.17	0.43
56:LR:18:ARG:NH2	56:LR:147:GLU:OE1	2.52	0.43
75:Lk:66:GLU:HA	75:Lk:69:ALA:HB3	2.01	0.43
75:Lk:85:ALA:O	75:Lk:89:GLU:HG3	2.17	0.43
1:A:215:G:H5''	65:La:12:ARG:HG3	2.00	0.43
1:A:286:U:H2'	1:A:287:G:H8	1.84	0.43
1:A:315:C:OP2	75:Lk:28:TYR:OH	2.31	0.43
1:A:646:A:H2'	1:A:647:A:O4'	2.18	0.43
1:A:1357:G:H2'	1:A:1358:C:C6	2.54	0.43
1:A:1667:A:H2'	1:A:1668:G:C8	2.54	0.43
1:A:1752:A:C4	1:A:1753:G:C8	3.07	0.43
1:A:2391:G:N2	43:LE:266:ARG:HH21	2.15	0.43
1:A:2961:G:H2'	1:A:2962:U:H6	1.84	0.43
1:A:3316:A:N6	43:LE:124:LYS:HB2	2.34	0.43
2:B:91:G:H2'	2:B:92:A:C8	2.53	0.43
3:C:128:U:OP1	3:C:129:C:N4	2.51	0.43
6:n:33:U:OP2	25:SF:143:ARG:NH2	2.45	0.43
8:E:953:G:H2'	8:E:954:G:C8	2.53	0.43
8:E:1077:C:H2'	8:E:1078:C:C6	2.53	0.43
8:E:1603:U:H2'	8:E:1604:U:H6	1.83	0.43
9:SP:84:ARG:NH1	9:SP:205:ARG:HG3	2.34	0.43
16:ST:57:ASP:HB3	16:ST:106:LEU:HD23	2.00	0.43
16:ST:95:LYS:HE3	16:ST:95:LYS:HB3	1.84	0.43
34:Se:39:MET:HE3	34:Se:68:TYR:CD2	2.53	0.43
39:SO:170:ILE:HD13	39:SO:180:ALA:HB2	1.99	0.43
43:LE:286:GLY:HA3	43:LE:321:PHE:CZ	2.54	0.43
45:LG:290:ILE:HD13	45:LG:290:ILE:HA	1.84	0.43
58:LT:81:ARG:HD3	58:LT:88:ARG:CZ	2.49	0.43
59:LU:42:TRP:NE1	59:LU:53:LYS:HD3	2.33	0.43
67:Lc:35:ALA:O	67:Lc:41:HIS:ND1	2.52	0.43
69:Le:10:ILE:HG12	69:Le:68:TYR:CE2	2.51	0.43
1:A:147:U:O4	48:LJ:183:LYS:NZ	2.38	0.43
1:A:197:G:N2	1:A:372:A:C8	2.87	0.43
1:A:351:A:N6	78:Ln:37:TYR:O	2.38	0.43
1:A:997:A:O2'	2:B:79:A:N3	2.50	0.43
1:A:1357:G:H2'	1:A:1358:C:H6	1.84	0.43
1:A:1408:G:P	71:Lg:33:ARG:HH12	2.42	0.43
1:A:2662:G:H2'	1:A:2663:G:H8	1.84	0.43
1:A:2681:U:OP1	51:LM:51:ARG:HG3	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2974:U:H2'	1:A:2975:U:H6	1.83	0.43
1:A:3122:A:C2	1:A:3123:A:C8	3.06	0.43
1:A:3267:A:H2'	46:LH:69:PHE:CE1	2.54	0.43
1:A:3271:G:O2'	46:LH:108:LYS:HE2	2.19	0.43
2:B:72:A:O2'	2:B:74:C:OP1	2.20	0.43
3:C:151:C:C4	64:LZ:24:LEU:HD11	2.54	0.43
8:E:152:U:H2'	8:E:153:G:O4'	2.18	0.43
8:E:868:G:N2	8:E:960:U:O2	2.43	0.43
11:SE:93:VAL:HG12	11:SE:106:GLU:HB3	2.00	0.43
12:SR:142:GLY:HA2	30:Sa:1:MET:SD	2.59	0.43
13:SA:11:LEU:HD23	13:SA:11:LEU:HA	1.74	0.43
15:SB:90:ILE:H	15:SB:90:ILE:HD12	1.82	0.43
17:SU:142:TYR:CD1	17:SU:148:LYS:HG2	2.53	0.43
21:SX:19:ILE:HD13	21:SX:19:ILE:HA	1.89	0.43
24:SZ:20:TYR:HB3	24:SZ:27:PHE:CB	2.41	0.43
25:SF:77:GLN:O	25:SF:81:ILE:HG13	2.17	0.43
29:SJ:106:ILE:HG13	29:SJ:107:THR:HG23	2.00	0.43
39:SO:19:TRP:HB2	39:SO:38:ARG:CD	2.48	0.43
44:LF:153:SER:HB3	44:LF:155:ASP:OD1	2.18	0.43
45:LG:163:LEU:HD21	45:LG:175:HIS:CG	2.54	0.43
45:LG:198:TYR:CD2	45:LG:203:HIS:CE1	3.06	0.43
46:LH:4:GLN:HB2	71:Lg:75:LEU:HB2	2.00	0.43
61:LW:30:PRO:HB2	61:LW:58:GLU:OE2	2.19	0.43
61:LW:44:GLU:OE1	61:LW:44:GLU:HA	2.19	0.43
65:La:101:PRO:HA	65:La:104:LEU:HD12	2.00	0.43
66:Lb:10:VAL:O	66:Lb:83:THR:OG1	2.36	0.43
1:A:123:A:C5	1:A:150:A:C6	3.06	0.43
1:A:304:G:N1	54:LP:178:HIS:HD2	2.17	0.43
1:A:760:G:H1'	1:A:771:A:N6	2.34	0.43
1:A:1010:G:OP1	50:LL:39:LYS:NZ	2.33	0.43
1:A:1203:A:H2'	1:A:1204:A:H8	1.82	0.43
1:A:1336:U:H2'	1:A:1337:A:C8	2.51	0.43
1:A:2424:A:N6	42:LD:230:VAL:HG11	2.31	0.43
1:A:2947:G:N3	43:LE:250:ALA:HB1	2.34	0.43
1:A:3181:C:C4	1:A:3182:G:C5	3.06	0.43
1:A:3270:U:C2	46:LH:46:ARG:HD2	2.54	0.43
8:E:149:C:H2'	8:E:150:U:H6	1.81	0.43
8:E:407:A:H2'	8:E:408:C:H6	1.82	0.43
8:E:933:A:OP2	34:Se:37:LYS:NZ	2.51	0.43
8:E:1178:G:C6	8:E:1462:G:C6	3.07	0.43
8:E:1330:G:H2'	8:E:1331:A:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:SP:110:TYR:CE1	9:SP:111:ILE:HG23	2.53	0.43
10:SQ:164:ILE:HD13	10:SQ:207:LEU:HD21	2.01	0.43
14:SS:181:VAL:HG11	14:SS:195:ILE:HD11	2.01	0.43
17:SU:55:LYS:HA	17:SU:87:ASP:OD1	2.19	0.43
22:SD:61:VAL:HA	22:SD:89:ILE:O	2.17	0.43
29:SJ:58:LEU:HD21	29:SJ:90:TYR:HE1	1.84	0.43
31:Sb:27:ILE:HB	31:Sb:61:ILE:HB	2.00	0.43
32:Sc:117:ILE:HD12	32:Sc:117:ILE:HA	1.78	0.43
40:SL:44:VAL:HG11	40:SL:48:VAL:CG2	2.49	0.43
41:AA:39:ALA:O	41:AA:41:ILE:N	2.41	0.43
42:LD:65:ASP:HB3	42:LD:68:LYS:O	2.19	0.43
45:LG:34:LYS:HA	60:LV:27:LEU:HD11	2.01	0.43
46:LH:39:VAL:O	46:LH:87:THR:OG1	2.30	0.43
47:LI:90:LYS:HG2	47:LI:95:ILE:HD11	2.00	0.43
49:LK:126:VAL:HG11	49:LK:161:LEU:HD13	2.00	0.43
54:LP:36:ILE:CG1	54:LP:64:VAL:HG23	2.49	0.43
55:LQ:155:LYS:HE2	55:LQ:155:LYS:HB2	1.86	0.43
58:LT:46:LYS:HE3	58:LT:46:LYS:HB3	1.83	0.43
60:LV:143:THR:HG22	60:LV:143:THR:O	2.18	0.43
1:A:337:G:OP2	44:LF:196:ASN:ND2	2.39	0.43
1:A:503:C:H2'	1:A:504:A:C8	2.53	0.43
1:A:563:U:H2'	1:A:564:G:C8	2.49	0.43
1:A:1676:A:C6	1:A:1677:G:N7	2.87	0.43
1:A:1856:C:H2'	1:A:1857:C:H6	1.84	0.43
1:A:2117:A:O2'	1:A:3080:G:O2'	2.32	0.43
1:A:2419:A:H2'	1:A:2420:C:C6	2.54	0.43
1:A:2768:U:H2'	1:A:2769:A:C8	2.54	0.43
1:A:3113:A:O2'	49:LK:69:ARG:HB3	2.19	0.43
1:A:3186:A:OP1	59:LU:154:HIS:ND1	2.49	0.43
2:B:58:C:H2'	2:B:59:U:H6	1.83	0.43
6:n:47:U:H5'	6:n:48:C:OP2	2.19	0.43
8:E:64:U:H5''	16:ST:176:GLN:NE2	2.33	0.43
8:E:393:C:H2'	8:E:394:C:C6	2.53	0.43
8:E:783:G:C8	33:Sd:12:VAL:HG22	2.54	0.43
8:E:883:C:H2'	8:E:884:A:C8	2.54	0.43
8:E:1533:C:O2'	8:E:1534:G:O4'	2.36	0.43
10:SQ:34:ALA:N	10:SQ:41:ARG:O	2.35	0.43
12:SR:157:LYS:HE3	12:SR:168:ARG:NH2	2.33	0.43
14:SS:118:GLU:HG3	14:SS:121:TYR:CZ	2.54	0.43
15:SB:225:ARG:NH2	40:SL:58:GLU:HB2	2.33	0.43
17:SU:14:THR:HB	17:SU:17:GLU:OE2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:SC:1:MET:CE	20:SC:44:LYS:HB2	2.49	0.43
20:SC:7:ASP:HA	20:SC:10:LYS:HB2	2.00	0.43
20:SC:55:VAL:HA	20:SC:68:LEU:HA	2.00	0.43
25:SF:47:LYS:HA	25:SF:50:GLU:HG3	2.00	0.43
26:SG:28:PHE:CZ	26:SG:32:LYS:HD3	2.54	0.43
39:SO:172:ALA:HB1	39:SO:199:ILE:HG21	2.00	0.43
39:SO:232:TYR:OH	39:SO:265:LEU:HD12	2.19	0.43
42:LD:13:GLY:C	42:LD:14:SER:HG	2.24	0.43
44:LF:233:LEU:HD23	44:LF:233:LEU:HA	1.67	0.43
48:LJ:189:LEU:HD23	48:LJ:189:LEU:HA	1.88	0.43
54:LP:153:ASP:CG	54:LP:155:VAL:HG12	2.44	0.43
64:LZ:58:ASP:O	64:LZ:62:VAL:HG12	2.19	0.43
67:Lc:19:LYS:HA	67:Lc:19:LYS:HD3	1.83	0.43
69:Le:40:LYS:HB3	69:Le:101:LEU:HD11	2.01	0.43
1:A:68:C:H41	1:A:315:C:H5'	1.84	0.42
1:A:646:A:C2	1:A:2375:G:C2	3.06	0.42
1:A:734:C:H3'	1:A:735:A:C8	2.54	0.42
1:A:860:G:O4'	42:LD:181:LYS:HE3	2.18	0.42
1:A:1062:A:OP1	1:A:1063:G:H5'	2.19	0.42
1:A:1868:G:H2'	1:A:1869:C:H6	1.84	0.42
1:A:2097:U:H2'	1:A:2098:C:C6	2.53	0.42
1:A:2148:U:H2'	1:A:2149:A:C8	2.54	0.42
1:A:2613:U:O2'	1:A:2805:G:OP2	2.37	0.42
1:A:2685:C:H2'	1:A:2686:A:C8	2.54	0.42
1:A:2861:U:H2'	1:A:2862:U:O4'	2.19	0.42
1:A:3287:U:H3'	1:A:3288:G:C8	2.55	0.42
2:B:11:A:C8	45:LG:18:THR:HG23	2.53	0.42
5:m:6:G:H2'	5:m:7:U:C6	2.54	0.42
8:E:627:C:H4'	23:SY:117:LEU:HD22	2.00	0.42
8:E:640:U:O2'	8:E:641:G:OP1	2.32	0.42
8:E:907:A:O2'	8:E:997:G:O2'	2.29	0.42
8:E:1356:U:H2'	8:E:1357:A:H8	1.84	0.42
9:SP:7:PHE:HA	9:SP:191:ARG:HH22	1.83	0.42
13:SA:38:GLU:OE2	13:SA:40:ARG:NH1	2.51	0.42
17:SU:4:PRO:HB2	17:SU:5:GLN:H	1.59	0.42
19:SW:52:ILE:HD12	19:SW:52:ILE:C	2.44	0.42
19:SW:133:HIS:CE1	19:SW:163:PRO:HD2	2.54	0.42
27:SH:144:ARG:NH2	41:AA:22:LYS:O	2.51	0.42
34:Se:89:ARG:HA	34:Se:92:ARG:HE	1.84	0.42
41:AA:68:ARG:C	41:AA:69:LEU:HD22	2.44	0.42
42:LD:139:HIS:O	42:LD:140:ASN:ND2	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:LE:60:LEU:HD12	43:LE:61:ASP:N	2.34	0.42
46:LH:41:ILE:HG21	46:LH:163:PHE:HB3	2.01	0.42
47:LI:52:GLN:NE2	47:LI:56:GLU:OE2	2.35	0.42
48:LJ:185:ARG:O	48:LJ:188:THR:HG22	2.19	0.42
49:LK:9:GLN:HB3	49:LK:52:LEU:HD11	2.00	0.42
73:Li:41:ARG:NH2	73:Li:51:LEU:O	2.51	0.42
1:A:424:G:O2'	71:Lg:23:ASP:OD2	2.30	0.42
1:A:1335:C:H2'	1:A:1336:U:C6	2.55	0.42
1:A:1384:U:P	44:LF:202:ARG:HD3	2.60	0.42
1:A:2279:A:N7	1:A:2288:G:C8	2.86	0.42
1:A:2402:A:H2'	44:LF:67:THR:HG21	2.01	0.42
1:A:2588:U:H2'	1:A:2589:G:H8	1.84	0.42
1:A:2845:A:H2'	1:A:2846:U:O4'	2.20	0.42
1:A:3065:G:H2'	1:A:3066:U:C6	2.54	0.42
1:A:3138:U:H2'	1:A:3139:A:C8	2.54	0.42
1:A:3217:C:C2	56:LR:182:ILE:HD12	2.54	0.42
1:A:3256:G:H2'	1:A:3257:C:H6	1.84	0.42
1:A:3268:A:OP1	46:LH:46:ARG:NH2	2.33	0.42
1:A:3283:U:H2'	1:A:3284:G:H8	1.83	0.42
2:B:9:C:OP1	60:LV:26:HIS:HB2	2.19	0.42
2:B:113:C:H2'	2:B:114:U:O4'	2.18	0.42
3:C:52:A:H62	78:Ln:27:ILE:HD13	1.84	0.42
6:n:43:G:H2'	6:n:44:A:H8	1.84	0.42
8:E:446:A:N1	8:E:461:G:O2'	2.50	0.42
8:E:566:C:H2'	8:E:567:A:O4'	2.19	0.42
8:E:759:U:H2'	8:E:760:A:C8	2.54	0.42
8:E:894:U:H2'	8:E:895:G:C8	2.53	0.42
8:E:976:G:C6	8:E:1023:A:C4	3.08	0.42
8:E:1211:A:H2'	8:E:1212:G:O4'	2.19	0.42
8:E:1754:A:H5''	32:Sc:62:LYS:HG2	2.00	0.42
9:SP:202:TYR:N	9:SP:202:TYR:CD1	2.86	0.42
10:SQ:109:LYS:O	10:SQ:113:MET:HG3	2.19	0.42
11:SE:60:LEU:HD21	11:SE:89:MET:HB2	2.01	0.42
11:SE:86:VAL:HG22	11:SE:89:MET:HE2	2.01	0.42
11:SE:127:ARG:HD3	11:SE:127:ARG:HA	1.78	0.42
12:SR:139:ILE:HD12	12:SR:218:ILE:HB	2.00	0.42
14:SS:247:SER:N	14:SS:250:GLU:OE1	2.41	0.42
15:SB:68:ILE:HD13	15:SB:68:ILE:HA	1.87	0.42
24:SZ:14:PHE:HA	24:SZ:78:ALA:O	2.20	0.42
24:SZ:78:ALA:HB2	24:SZ:111:ARG:HB2	2.00	0.42
25:SF:98:ASP:OD1	25:SF:98:ASP:N	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:SG:27:ASP:OD2	26:SG:30:THR:N	2.44	0.42
29:SJ:109:GLU:CD	29:SJ:110:PRO:HD2	2.44	0.42
31:Sb:47:ILE:HG13	31:Sb:48:GLY:H	1.84	0.42
33:Sd:55:VAL:HG23	33:Sd:75:VAL:HB	2.01	0.42
41:AA:61:SER:OG	41:AA:64:VAL:HG23	2.19	0.42
44:LF:39:PHE:HE2	44:LF:236:LEU:HA	1.85	0.42
47:LI:147:LEU:HD23	47:LI:147:LEU:HA	1.78	0.42
47:LI:156:ILE:HD11	47:LI:168:ILE:HG23	2.00	0.42
47:LI:221:LYS:O	47:LI:227:GLY:HA3	2.20	0.42
57:LS:94:PHE:CZ	67:Lc:119:PRO:HD3	2.54	0.42
61:LW:37:LEU:O	61:LW:41:ILE:HD12	2.18	0.42
1:A:130:A:H2'	1:A:131:C:H6	1.84	0.42
1:A:612:U:H2'	1:A:613:G:C8	2.53	0.42
1:A:673:U:O2'	44:LF:34:ILE:HD11	2.19	0.42
1:A:990:U:H1'	60:LV:101:CYS:HB3	2.01	0.42
1:A:1157:G:O2'	1:A:1169:A:N3	2.40	0.42
1:A:1488:G:C2	1:A:1489:A:C8	3.07	0.42
1:A:2674:A:H62	51:LM:21:ILE:HG23	1.84	0.42
1:A:2707:C:H2'	1:A:2708:C:C6	2.54	0.42
1:A:2813:A:H2'	1:A:2814:G:O4'	2.19	0.42
1:A:3324:C:O2'	70:Lf:105:GLN:HA	2.20	0.42
1:A:3353:G:C4	1:A:3356:G:C8	3.06	0.42
2:B:26:C:O2	2:B:57:G:N2	2.52	0.42
8:E:151:G:N1	8:E:152:U:C4	2.87	0.42
8:E:514:G:C2	8:E:515:A:C8	3.07	0.42
8:E:756:A:H3'	8:E:757:A:H8	1.84	0.42
8:E:768:C:HO2'	8:E:769:A:P	2.42	0.42
8:E:778:G:H22	33:Sd:10:ARG:HE	1.68	0.42
8:E:1071:U:H2'	8:E:1072:C:H6	1.79	0.42
8:E:1158:C:O2'	8:E:1581:C:OP2	2.33	0.42
8:E:1375:A:H2'	8:E:1376:C:C6	2.54	0.42
8:E:1719:A:H2'	8:E:1720:G:O4'	2.18	0.42
8:E:1755:A:H5''	32:Sc:60:GLU:OE2	2.18	0.42
9:SP:48:ILE:HG21	9:SP:161:PRO:HB2	2.01	0.42
12:SR:188:LEU:HB3	12:SR:193:VAL:CG2	2.50	0.42
15:SB:69:PHE:CD1	15:SB:70:VAL:HG23	2.54	0.42
16:ST:163:THR:HB	16:ST:168:THR:HG22	2.01	0.42
23:SY:56:ASP:OD2	35:Sf:51:GLN:N	2.46	0.42
23:SY:110:ASP:O	23:SY:114:ARG:HG2	2.19	0.42
29:SJ:47:GLN:HG3	29:SJ:48:HIS:HD1	1.83	0.42
31:Sb:104:LEU:HD13	31:Sb:122:SER:O	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Sb:114:GLU:OE1	31:Sb:114:GLU:HA	2.19	0.42
33:Sd:87:PRO:HB2	33:Sd:89:TYR:CD1	2.55	0.42
37:Sg:43:ARG:NH1	37:Sg:56:MET:SD	2.93	0.42
41:AA:57:TYR:O	41:AA:60:VAL:HG23	2.19	0.42
42:LD:140:ASN:OD1	42:LD:147:ARG:NH1	2.52	0.42
50:LL:32:ARG:HG2	50:LL:32:ARG:NH1	2.34	0.42
60:LV:45:ASN:HD22	60:LV:48:ILE:CD1	2.32	0.42
65:La:59:VAL:O	65:La:64:LYS:HD3	2.19	0.42
73:Li:5:VAL:HG11	73:Li:22:VAL:HG13	2.02	0.42
1:A:150:A:C6	1:A:151:A:C5	3.08	0.42
1:A:631:U:H2'	1:A:632:G:H8	1.84	0.42
1:A:1125:U:H2'	1:A:1126:G:H8	1.85	0.42
1:A:1746:U:H2'	1:A:1747:G:H8	1.84	0.42
1:A:2655:U:H4'	1:A:2656:A:O4'	2.19	0.42
1:A:3350:C:HO2'	1:A:3351:U:P	2.43	0.42
2:B:27:A:H2'	2:B:28:C:C6	2.54	0.42
3:C:123:G:C6	3:C:131:A:C6	3.08	0.42
8:E:14:C:H2'	8:E:15:U:C6	2.55	0.42
8:E:861:U:H4'	23:SY:20:ARG:NH2	2.34	0.42
8:E:1195:C:H42	25:SF:143:ARG:C	2.27	0.42
8:E:1450:U:O2'	36:SM:7:TRP:O	2.33	0.42
9:SP:188:LEU:HD11	9:SP:195:TRP:HE1	1.84	0.42
10:SQ:194:ASN:OD1	10:SQ:194:ASN:N	2.52	0.42
11:SE:85:ILE:HG23	11:SE:107:ILE:HD12	2.01	0.42
12:SR:166:THR:OG1	12:SR:201:ASN:HB3	2.20	0.42
13:SA:108:LYS:HE2	13:SA:113:LEU:HD13	2.00	0.42
13:SA:164:VAL:HA	13:SA:168:ILE:HD13	2.01	0.42
14:SS:157:ASN:CG	14:SS:222:LEU:HD21	2.44	0.42
14:SS:159:THR:OG1	14:SS:227:VAL:HG13	2.19	0.42
14:SS:205:PHE:HD1	14:SS:223:ASN:HD21	1.66	0.42
17:SU:93:LEU:HD21	17:SU:129:LEU:HD23	2.01	0.42
25:SF:23:LYS:O	25:SF:64:ASP:N	2.43	0.42
25:SF:89:LEU:HD23	25:SF:89:LEU:HA	1.87	0.42
28:SI:10:ALA:HB3	28:SI:13:ASP:CG	2.43	0.42
30:Sa:12:TYR:C	30:Sa:12:TYR:CD1	2.97	0.42
39:SO:154:VAL:O	39:SO:155:ARG:HD2	2.18	0.42
39:SO:281:TYR:HD2	39:SO:287:PRO:HG3	1.84	0.42
42:LD:117:GLU:HB3	42:LD:162:ALA:HB1	2.01	0.42
44:LF:193:LYS:HE3	44:LF:193:LYS:HB2	1.91	0.42
44:LF:276:LEU:HD23	44:LF:277:PRO:HD2	2.01	0.42
44:LF:327:LEU:HD23	44:LF:327:LEU:HA	1.74	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:LG:156:GLY:HA2	45:LG:181:PRO:HD3	2.01	0.42
50:LL:76:MET:CE	50:LL:148:VAL:HA	2.46	0.42
56:LR:30:ARG:NH1	56:LR:31:GLU:OE1	2.52	0.42
57:LS:67:ILE:HD13	57:LS:67:ILE:HA	1.90	0.42
60:LV:75:ILE:O	60:LV:76:ILE:HD13	2.19	0.42
66:Lb:105:SER:HA	66:Lb:108:GLU:OE1	2.19	0.42
82:Lr:6:LYS:HE3	82:Lr:7:LYS:HG3	2.02	0.42
1:A:176:G:N1	1:A:243:G:C6	2.87	0.42
1:A:398:A:O2'	1:A:1416:C:OP1	2.30	0.42
1:A:673:U:H2'	1:A:674:G:C8	2.54	0.42
1:A:821:U:H2'	1:A:822:G:H8	1.84	0.42
1:A:916:G:H5'	1:A:917:A:OP1	2.19	0.42
1:A:952:A:OP1	68:Ld:18:ARG:NH2	2.53	0.42
1:A:1351:U:C6	1:A:1353:U:H5''	2.54	0.42
1:A:1595:U:C2	1:A:1596:C:C5	3.08	0.42
1:A:1646:G:N2	1:A:1808:G:C4	2.87	0.42
1:A:2158:A:N7	1:A:2160:G:C2	2.87	0.42
1:A:2558:U:C2	42:LD:69:TYR:HE2	2.37	0.42
1:A:2706:G:H2'	1:A:2707:C:C6	2.54	0.42
1:A:3113:A:H2'	1:A:3114:A:O4'	2.20	0.42
8:E:361:C:H2'	8:E:362:G:C8	2.55	0.42
8:E:388:G:O6	8:E:410:A:N6	2.53	0.42
8:E:400:A:H4'	8:E:401:A:C5'	2.49	0.42
8:E:599:A:H2'	8:E:600:U:H6	1.85	0.42
8:E:1103:U:H2'	8:E:1104:U:C6	2.53	0.42
8:E:1319:A:H2'	8:E:1320:U:O4'	2.19	0.42
8:E:1446:A:OP1	38:SN:85:TYR:OH	2.25	0.42
11:SE:85:ILE:HG13	11:SE:114:HIS:O	2.19	0.42
14:SS:175:PHE:HZ	14:SS:208:VAL:HG11	1.85	0.42
16:ST:164:LYS:HD2	16:ST:167:LYS:HD3	2.01	0.42
19:SW:111:THR:O	19:SW:115:LYS:HG2	2.19	0.42
25:SF:53:LEU:HD23	25:SF:53:LEU:HA	1.84	0.42
26:SG:107:SER:O	26:SG:111:LYS:HG2	2.19	0.42
32:Sc:46:SER:OG	32:Sc:78:LYS:NZ	2.53	0.42
47:LI:144:ILE:HG22	47:LI:185:ILE:HG23	2.01	0.42
49:LK:79:ILE:O	49:LK:82:VAL:HG12	2.20	0.42
61:LW:91:ASP:OD1	61:LW:91:ASP:C	2.62	0.42
1:A:137:G:H2'	1:A:138:U:C6	2.55	0.42
1:A:431:U:OP1	72:Lh:65:ARG:NH1	2.51	0.42
1:A:714:G:O2'	1:A:753:C:O2'	2.34	0.42
1:A:809:G:H2'	1:A:810:A:H8	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:836:A:N7	1:A:856:G:N2	2.68	0.42
1:A:954:U:O4	1:A:1115:G:H1'	2.20	0.42
1:A:1334:U:H2'	1:A:1335:C:H6	1.83	0.42
1:A:1478:C:H2'	1:A:1479:U:C6	2.54	0.42
1:A:2291:A:H2'	1:A:2292:U:C6	2.55	0.42
1:A:2767:U:H2'	1:A:2768:U:H6	1.84	0.42
1:A:3254:G:H2'	1:A:3255:U:C6	2.54	0.42
3:C:139:U:H2'	3:C:140:G:C8	2.54	0.42
8:E:556:A:H4'	37:Sg:56:MET:HE3	2.01	0.42
8:E:622:A:O2'	8:E:1032:G:H5'	2.19	0.42
8:E:1358:G:H5''	28:SI:130:ARG:CZ	2.49	0.42
8:E:1513:G:H1'	8:E:1518:C:O2	2.19	0.42
8:E:1535:U:H6	8:E:1536:G:N2	2.18	0.42
8:E:1597:A:C6	8:E:1598:U:C4	3.07	0.42
8:E:1673:G:H22	8:E:1728:A:H2	1.68	0.42
11:SE:97:TYR:HE1	11:SE:99:GLY:C	2.28	0.42
14:SS:108:ARG:HB2	14:SS:108:ARG:NH1	2.35	0.42
15:SB:96:SER:CB	15:SB:176:THR:HG21	2.49	0.42
15:SB:190:ILE:HA	15:SB:193:THR:HG22	2.02	0.42
20:SC:15:LEU:HD21	20:SC:46:LEU:HD21	2.00	0.42
20:SC:55:VAL:HG21	20:SC:66:TYR:HB3	2.02	0.42
25:SF:31:VAL:HG13	25:SF:67:VAL:HG13	2.00	0.42
35:Sf:19:HIS:CE1	35:Sf:20:LYS:HG2	2.54	0.42
45:LG:40:HIS:CE1	45:LG:42:ALA:HB3	2.55	0.42
47:LI:126:LEU:O	47:LI:130:ILE:HG12	2.19	0.42
49:LK:38:LEU:O	49:LK:41:ILE:HG22	2.20	0.42
49:LK:129:ARG:HG2	49:LK:157:ASN:OD1	2.19	0.42
53:LO:59:ASN:OD1	53:LO:59:ASN:C	2.63	0.42
53:LO:103:ILE:O	53:LO:107:GLU:HG3	2.18	0.42
55:LQ:83:ALA:O	55:LQ:87:MET:HG3	2.18	0.42
58:LT:23:TRP:CE3	58:LT:51:VAL:HG22	2.55	0.42
61:LW:19:VAL:O	61:LW:22:PRO:HD2	2.20	0.42
69:Le:10:ILE:HD12	69:Le:10:ILE:HA	1.90	0.42
1:A:109:A:N1	1:A:322:U:O2'	2.43	0.42
1:A:260:C:H2'	1:A:261:U:C6	2.54	0.42
1:A:594:U:OP2	1:A:609:G:N1	2.44	0.42
1:A:815:G:OP1	76:Ll:35:SER:OG	2.37	0.42
1:A:951:A:P	1:A:1367:G:H22	2.42	0.42
1:A:1181:U:O4	55:LQ:21:SER:HB3	2.20	0.42
1:A:1945:A:H2'	1:A:1946:A:C8	2.54	0.42
1:A:2200:U:C4	1:A:2201:G:N7	2.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2526:C:H2'	1:A:2527:G:H8	1.84	0.42
1:A:2710:C:H2'	1:A:2711:C:C6	2.54	0.42
1:A:3176:G:C6	1:A:3213:A:C2	3.07	0.42
8:E:119:A:H1'	8:E:397:A:C8	2.55	0.42
8:E:141:U:O4	16:ST:183:ARG:HB3	2.20	0.42
8:E:586:G:H2'	8:E:587:C:C6	2.54	0.42
8:E:939:A:H2'	8:E:940:A:H8	1.81	0.42
8:E:1220:C:OP1	20:SC:48:SER:OG	2.35	0.42
8:E:1273:G:H4'	8:E:1274:C:O5'	2.18	0.42
8:E:1625:C:H2'	8:E:1626:U:H6	1.85	0.42
8:E:1729:C:H2'	8:E:1730:A:O4'	2.19	0.42
12:SR:95:ARG:HH21	12:SR:97:ARG:NH1	2.17	0.42
15:SB:120:ILE:HD11	41:AA:98:GLN:HE22	1.83	0.42
18:SV:159:GLN:NE2	18:SV:166:TYR:CD1	2.84	0.42
24:SZ:64:ALA:HA	24:SZ:67:VAL:HG12	2.00	0.42
27:SH:51:ASP:OD1	27:SH:51:ASP:N	2.53	0.42
28:SI:6:VAL:HG13	28:SI:14:PHE:CE2	2.55	0.42
44:LF:76:ARG:HA	44:LF:87:GLN:O	2.20	0.42
54:LP:68:ARG:HA	54:LP:98:LEU:HD21	2.02	0.42
55:LQ:128:ARG:HA	55:LQ:128:ARG:HD2	1.71	0.42
55:LQ:151:ASP:OD1	55:LQ:152:VAL:N	2.52	0.42
55:LQ:186:ALA:C	55:LQ:188:SER:H	2.28	0.42
60:LV:91:LEU:HD12	60:LV:96:ILE:HD11	2.00	0.42
74:Lj:22:VAL:O	74:Lj:26:LYS:HG3	2.19	0.42
77:Lm:12:LEU:O	77:Lm:15:THR:OG1	2.38	0.42
1:A:35:A:H2'	1:A:36:C:H6	1.84	0.42
1:A:51:A:C4	1:A:52:A:C8	3.08	0.42
1:A:270:U:H2'	1:A:271:C:C6	2.55	0.42
1:A:750:G:C2	1:A:751:A:C8	3.07	0.42
1:A:801:A:H61	52:LN:19:GLN:HE22	1.65	0.42
1:A:817:A:N3	76:Ll:11:ARG:HB2	2.35	0.42
1:A:1138:U:H2'	1:A:1139:G:C8	2.54	0.42
1:A:1873:U:OP2	58:LT:20:ARG:NH2	2.49	0.42
1:A:2111:G:H1'	63:LY:44:LYS:HD2	2.02	0.42
1:A:2941:A:H8	1:A:2941:A:OP2	2.03	0.42
1:A:3022:G:O2'	1:A:3031:G:O6	2.35	0.42
1:A:3298:C:C4	1:A:3299:A:N7	2.88	0.42
3:C:128:U:P	3:C:129:C:H41	2.43	0.42
6:n:67:G:H2'	6:n:68:G:C8	2.54	0.42
8:E:320:U:H2'	8:E:321:C:C5	2.54	0.42
8:E:570:A:C2	32:Sc:115:GLY:HA3	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:899:G:H4'	24:SZ:46:MET:HG2	2.02	0.42
8:E:1009:U:OP2	24:SZ:129:LYS:NZ	2.53	0.42
8:E:1166:A:OP1	15:SB:100:ASN:HA	2.20	0.42
8:E:1625:C:H2'	8:E:1626:U:C6	2.55	0.42
8:E:1788:G:P	24:SZ:127:ARG:HH22	2.43	0.42
15:SB:195:ALA:O	15:SB:199:ILE:HG23	2.20	0.42
16:ST:7:TYR:CD2	16:ST:125:THR:HG22	2.55	0.42
17:SU:74:GLN:HG3	17:SU:92:PHE:CE2	2.55	0.42
19:SW:11:THR:O	19:SW:11:THR:HG22	2.20	0.42
20:SC:29:GLN:HE21	20:SC:39:ASN:HB2	1.85	0.42
20:SC:74:GLU:HA	20:SC:77:ARG:HH11	1.84	0.42
21:SX:42:PHE:HD1	21:SX:141:LYS:NZ	2.17	0.42
25:SF:48:VAL:O	25:SF:51:PRO:HD2	2.20	0.42
33:Sd:106:GLN:O	33:Sd:110:GLN:HG3	2.20	0.42
35:Sf:7:LEU:O	35:Sf:24:LEU:HD11	2.20	0.42
39:SO:49:GLY:HA2	39:SO:54:PHE:CE1	2.55	0.42
39:SO:129:LYS:HZ2	39:SO:149:ASP:HA	1.84	0.42
39:SO:147:HIS:HB3	39:SO:149:ASP:O	2.20	0.42
39:SO:216:LYS:HA	39:SO:239:GLU:OE1	2.19	0.42
42:LD:119:LYS:HB3	42:LD:119:LYS:HE2	1.80	0.42
45:LG:263:GLU:H	45:LG:263:GLU:CD	2.26	0.42
50:LL:185:ARG:NH2	50:LL:190:VAL:HG23	2.33	0.42
51:LM:110:ILE:H	51:LM:110:ILE:HD12	1.84	0.42
52:LN:102:GLN:HE22	75:Lk:25:LYS:HD2	1.81	0.42
54:LP:138:GLN:OE1	54:LP:138:GLN:N	2.53	0.42
56:LR:22:LEU:HB3	56:LR:90:PHE:CE2	2.55	0.42
61:LW:32:SER:HA	61:LW:35:LYS:HG2	2.02	0.42
71:Lg:38:ILE:HG13	71:Lg:39:ASP:H	1.84	0.42
1:A:241:G:H2'	1:A:241:G:N3	2.35	0.42
1:A:263:C:H2'	1:A:264:G:O4'	2.20	0.42
1:A:707:U:OP1	1:A:780:A:O2'	2.23	0.42
1:A:884:A:N7	1:A:2139:A:C4	2.88	0.42
1:A:1184:A:H2'	1:A:1185:C:C6	2.54	0.42
1:A:1785:U:H2'	1:A:1786:G:C8	2.55	0.42
1:A:2581:U:H2'	1:A:2582:C:C6	2.54	0.42
1:A:3049:A:C5	1:A:3050:U:C5	3.08	0.42
1:A:3064:U:H2'	1:A:3065:G:H8	1.84	0.42
3:C:70:G:C2	3:C:87:G:N3	2.87	0.42
8:E:176:C:H2'	8:E:177:U:C6	2.55	0.42
8:E:445:A:H2'	8:E:446:A:H8	1.85	0.42
8:E:592:A:H2'	8:E:593:U:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:595:G:H2'	8:E:596:C:C6	2.55	0.42
8:E:884:A:H2'	8:E:885:G:H8	1.85	0.42
8:E:1163:A:N3	8:E:1613:U:O2'	2.43	0.42
8:E:1392:U:H2'	8:E:1393:C:C6	2.55	0.42
8:E:1561:U:H2'	8:E:1562:G:H8	1.85	0.42
8:E:1588:G:O6	8:E:1608:U:O4	2.38	0.42
8:E:1604:U:C4	8:E:1605:G:N7	2.88	0.42
8:E:1652:C:H2'	8:E:1653:C:C6	2.55	0.42
10:SQ:108:ASP:OD1	10:SQ:108:ASP:C	2.62	0.42
12:SR:153:SER:OG	12:SR:171:PRO:HA	2.20	0.42
17:SU:12:ALA:HA	17:SU:13:PRO:HD3	1.85	0.42
25:SF:9:THR:HG23	25:SF:20:ALA:HB3	2.01	0.42
25:SF:13:LYS:HG2	25:SF:76:SER:HA	2.01	0.42
25:SF:122:ARG:C	25:SF:123:ARG:HD2	2.44	0.42
27:SH:29:VAL:HG13	27:SH:30:TYR:CD2	2.55	0.42
28:SI:77:ASN:HB2	28:SI:95:ASP:HB2	2.02	0.42
31:Sb:34:ILE:O	31:Sb:38:LEU:HG	2.20	0.42
39:SO:260:ILE:HG13	39:SO:275:ARG:HH12	1.85	0.42
42:LD:29:LEU:HD22	42:LD:101:VAL:HG11	2.02	0.42
42:LD:69:TYR:O	42:LD:69:TYR:HD1	2.02	0.42
43:LE:60:LEU:HD11	43:LE:62:ARG:NE	2.32	0.42
43:LE:137:TYR:CE1	43:LE:144:ILE:HG12	2.55	0.42
43:LE:232:ARG:HD3	43:LE:233:TRP:HE1	1.85	0.42
43:LE:240:ARG:HE	43:LE:240:ARG:HB3	1.67	0.42
44:LF:23:PRO:HG2	44:LF:26:PHE:CD2	2.55	0.42
52:LN:67:ARG:HG3	52:LN:68:LYS:N	2.34	0.42
62:LX:89:ASP:C	62:LX:89:ASP:OD1	2.62	0.42
68:Ld:33:LYS:HG3	68:Ld:34:GLY:N	2.35	0.42
77:Lm:46:ARG:HH21	77:Lm:50:SER:C	2.27	0.42
1:A:312:C:C2	1:A:2778:G:C2	3.08	0.42
1:A:631:U:H2'	1:A:632:G:C8	2.54	0.42
1:A:1064:A:C2	1:A:1066:G:C6	3.08	0.42
1:A:1120:A:H2'	1:A:1121:U:C6	2.53	0.42
1:A:1193:A:H8	55:LQ:49:ARG:HH21	1.67	0.42
1:A:1284:C:H2'	1:A:1285:G:N9	2.33	0.42
1:A:1584:U:H2'	1:A:1585:C:H6	1.85	0.42
1:A:2152:A:H2'	1:A:2153:U:C6	2.53	0.42
1:A:2931:C:H2'	1:A:2932:U:O4'	2.20	0.42
3:C:2:A:C4	3:C:3:A:C8	3.08	0.42
5:m:28:U:H2'	5:m:29:U:C6	2.55	0.42
6:n:5:C:H2'	6:n:6:C:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:256:A:H2'	8:E:257:A:O4'	2.20	0.42
8:E:299:A:P	14:SS:30:ARG:HH22	2.42	0.42
8:E:586:G:H4'	37:Sg:21:VAL:HG12	2.01	0.42
8:E:767:U:C5	33:Sd:64:PHE:HE2	2.38	0.42
8:E:1049:U:H2'	8:E:1050:G:C8	2.55	0.42
8:E:1501:C:H2'	8:E:1502:G:C8	2.55	0.42
10:SQ:28:GLU:HG3	10:SQ:30:PHE:CZ	2.55	0.42
14:SS:99:PHE:CE2	14:SS:113:ARG:HG2	2.54	0.42
16:ST:89:ASP:OD1	16:ST:89:ASP:N	2.51	0.42
25:SF:50:GLU:OE1	25:SF:82:ARG:NH2	2.49	0.42
26:SG:16:LEU:HD23	26:SG:16:LEU:HA	1.93	0.42
26:SG:27:ASP:O	26:SG:30:THR:OG1	2.25	0.42
28:SI:6:VAL:HB	28:SI:66:TYR:HE2	1.85	0.42
29:SJ:51:VAL:O	29:SJ:93:LEU:HA	2.20	0.42
30:Sa:46:ILE:HD13	30:Sa:46:ILE:HA	1.86	0.42
32:Sc:69:ARG:HG3	32:Sc:117:ILE:HD13	2.02	0.42
35:Sf:42:ASN:OD1	35:Sf:44:THR:HG22	2.20	0.42
38:SN:92:LYS:HB2	38:SN:92:LYS:HE2	1.85	0.42
39:SO:10:ARG:HA	39:SO:10:ARG:HD2	1.74	0.42
39:SO:83:ALA:HA	39:SO:89:LEU:HD12	2.01	0.42
39:SO:200:ASN:ND2	39:SO:239:GLU:OE2	2.52	0.42
42:LD:44:ILE:HD11	42:LD:85:GLY:HA2	2.02	0.42
45:LG:204:VAL:O	45:LG:208:MET:HG2	2.20	0.42
45:LG:294:ALA:HB2	50:LL:210:ILE:HG12	2.02	0.42
47:LI:98:LYS:O	47:LI:102:VAL:HG23	2.20	0.42
49:LK:172:ILE:O	79:Lo:90:ASN:ND2	2.41	0.42
52:LN:81:LYS:HE3	52:LN:81:LYS:HB2	1.92	0.42
56:LR:16:SER:HB3	56:LR:149:VAL:HG22	2.02	0.42
57:LS:89:ASP:HB2	57:LS:110:ALA:N	2.34	0.42
62:LX:64:LYS:HB2	62:LX:64:LYS:HE3	1.58	0.42
1:A:993:G:N3	1:A:2637:A:H2'	2.34	0.41
1:A:2918:G:C2	1:A:2919:A:N7	2.88	0.41
1:A:3299:A:H2	1:A:3315:G:H22	1.68	0.41
5:m:55:U:H2'	5:m:57:G:O6	2.20	0.41
8:E:143:G:N7	16:ST:177:ARG:NH2	2.68	0.41
8:E:151:G:N1	8:E:164:A:C6	2.88	0.41
8:E:332:U:P	18:SV:56:ARG:HH22	2.43	0.41
8:E:604:A:H2'	8:E:605:A:O4'	2.19	0.41
8:E:1239:U:C4	8:E:1240:U:C4	3.08	0.41
8:E:1614:A:C5	8:E:1615:C:C4	3.08	0.41
8:E:1674:C:H2'	8:E:1675:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:1762:A:H1'	8:E:1783:C:H5'	2.01	0.41
10:SQ:96:LEU:HD23	10:SQ:96:LEU:H	1.84	0.41
11:SE:118:GLU:N	11:SE:118:GLU:CD	2.78	0.41
12:SR:53:ILE:HD12	12:SR:53:ILE:N	2.35	0.41
14:SS:18:TRP:HH2	14:SS:31:PRO:HD3	1.85	0.41
14:SS:131:LEU:HD23	14:SS:137:PRO:HB3	2.01	0.41
15:SB:216:GLU:HA	15:SB:219:ARG:HG2	2.00	0.41
17:SU:47:ARG:HE	17:SU:61:PHE:HE2	1.68	0.41
17:SU:102:PRO:HD3	17:SU:112:ARG:CD	2.51	0.41
25:SF:31:VAL:N	25:SF:34:SER:O	2.30	0.41
25:SF:83:GLN:NE2	25:SF:115:THR:O	2.50	0.41
39:SO:225:LEU:O	39:SO:228:LYS:HG3	2.20	0.41
49:LK:88:TYR:CE1	49:LK:184:LYS:HG2	2.55	0.41
51:LM:46:VAL:HG13	51:LM:68:HIS:CE1	2.55	0.41
52:LN:119:TYR:CE1	74:Lj:118:ILE:HD11	2.53	0.41
56:LR:43:LYS:HE2	56:LR:43:LYS:HB2	1.89	0.41
66:Lb:22:LYS:N	66:Lb:49:TYR:OH	2.30	0.41
66:Lb:104:PRO:O	66:Lb:107:ARG:HB2	2.20	0.41
69:Le:43:ILE:HB	69:Le:90:VAL:HG13	2.01	0.41
75:Lk:9:ILE:HD13	75:Lk:9:ILE:HA	1.89	0.41
1:A:613:G:H2'	1:A:614:C:C6	2.55	0.41
1:A:860:G:O2'	1:A:895:A:H4'	2.20	0.41
1:A:1146:C:H2'	1:A:1147:G:H8	1.85	0.41
1:A:1203:A:N3	1:A:2855:U:O2'	2.40	0.41
1:A:1562:C:H2'	1:A:1563:C:H6	1.84	0.41
1:A:1881:A:C6	1:A:2352:A:N6	2.88	0.41
1:A:2305:G:OP2	1:A:2305:G:N2	2.44	0.41
1:A:2400:G:N7	1:A:2401:A:N6	2.68	0.41
1:A:2748:A:H1'	45:LG:36:LEU:HD23	2.01	0.41
1:A:2770:G:H2'	1:A:2771:U:C6	2.55	0.41
1:A:3002:C:O2'	43:LE:180:GLU:OE2	2.30	0.41
1:A:3044:G:H2'	1:A:3045:G:C8	2.54	0.41
1:A:3147:G:H4'	43:LE:102:LEU:O	2.21	0.41
1:A:3372:A:OP1	70:Lf:102:LYS:NZ	2.53	0.41
3:C:85:G:H4'	3:C:86:U:OP1	2.20	0.41
8:E:43:A:C6	8:E:378:A:C6	3.08	0.41
8:E:148:A:N6	8:E:166:C:N4	2.67	0.41
8:E:148:A:H62	8:E:166:C:N4	2.19	0.41
8:E:295:A:O2'	14:SS:140:VAL:HG11	2.21	0.41
8:E:624:G:OP1	8:E:624:G:H8	2.02	0.41
8:E:624:G:OP1	8:E:624:G:C8	2.73	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:1013:A:H2'	8:E:1014:G:O4'	2.20	0.41
8:E:1739:C:H2'	8:E:1740:A:H8	1.84	0.41
9:SP:15:GLN:HG3	26:SG:117:LEU:HD23	2.03	0.41
11:SE:98:ASN:HB2	11:SE:122:THR:HA	2.02	0.41
14:SS:130:GLN:HB2	14:SS:138:TYR:CE1	2.55	0.41
24:SZ:115:ILE:HD11	34:Se:64:LEU:HD12	2.02	0.41
27:SH:129:TRP:HB3	27:SH:131:LEU:HD13	2.02	0.41
28:SI:108:LEU:HA	28:SI:108:LEU:HD23	1.98	0.41
29:SJ:57:ARG:HG2	29:SJ:89:ARG:CD	2.50	0.41
32:Sc:27:ASN:OD1	32:Sc:27:ASN:C	2.63	0.41
44:LF:150:LEU:HD21	44:LF:172:VAL:HG12	2.02	0.41
47:LI:84:VAL:HG21	47:LI:127:LEU:HD11	2.01	0.41
51:LM:17:LEU:HD22	51:LM:80:LEU:HB2	2.01	0.41
57:LS:140:LEU:HD23	57:LS:140:LEU:HA	1.82	0.41
63:LY:10:GLY:HA3	63:LY:53:VAL:HG11	2.02	0.41
65:La:103:LYS:HA	65:La:103:LYS:HD3	1.82	0.41
66:Lb:99:GLU:OE1	66:Lb:99:GLU:N	2.23	0.41
1:A:991:G:C5	1:A:1059:G:C6	3.08	0.41
1:A:1291:A:H2'	1:A:1292:C:O4'	2.19	0.41
1:A:1525:G:C8	1:A:1829:G:C5	3.08	0.41
1:A:1565:G:H2'	1:A:1566:A:O4'	2.20	0.41
1:A:1812:G:N7	66:Lb:64:LYS:NZ	2.55	0.41
1:A:1846:C:OP1	1:A:1849:C:N4	2.38	0.41
1:A:2616:C:H2'	1:A:2617:U:O4'	2.20	0.41
1:A:2667:A:C6	1:A:2690:G:C6	3.08	0.41
1:A:3118:C:H2'	1:A:3119:U:C6	2.54	0.41
1:A:3371:G:H2'	1:A:3372:A:H8	1.86	0.41
2:B:65:G:H2'	2:B:66:A:C8	2.55	0.41
7:z:404:LEU:HD13	78:Ln:36:ARG:HB3	2.01	0.41
8:E:982:U:H2'	8:E:983:A:C8	2.56	0.41
8:E:1003:A:O2'	8:E:1005:A:N7	2.36	0.41
8:E:1114:G:O2'	8:E:1130:G:O6	2.36	0.41
8:E:1439:C:H2'	8:E:1440:C:H6	1.85	0.41
9:SP:173:ILE:HD13	9:SP:173:ILE:HA	1.94	0.41
10:SQ:71:ALA:HB3	24:SZ:114:ARG:NH2	2.35	0.41
10:SQ:108:ASP:OD2	34:Se:65:PRO:HB3	2.20	0.41
10:SQ:168:ILE:HA	10:SQ:197:ILE:HD12	2.02	0.41
12:SR:237:VAL:HG13	12:SR:242:ILE:HD11	2.02	0.41
15:SB:41:LYS:HD2	15:SB:41:LYS:HA	1.83	0.41
15:SB:89:ILE:HD11	15:SB:134:VAL:HG12	2.01	0.41
25:SF:99:GLU:O	25:SF:103:ASN:HB2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Sb:90:THR:O	31:Sb:94:LEU:HB2	2.20	0.41
32:Sc:69:ARG:HB3	32:Sc:86:PHE:CE1	2.56	0.41
42:LD:179:LEU:HD22	42:LD:184:ARG:HB3	2.02	0.41
43:LE:296:THR:H	43:LE:299:ASP:HB3	1.85	0.41
44:LF:317:PRO:O	44:LF:324:LEU:HB2	2.20	0.41
46:LH:130:ILE:HD12	46:LH:130:ILE:N	2.32	0.41
48:LJ:211:LEU:O	48:LJ:215:VAL:HG22	2.20	0.41
55:LQ:36:VAL:HB	55:LQ:108:ILE:HG12	2.02	0.41
57:LS:100:THR:O	57:LS:100:THR:OG1	2.39	0.41
59:LU:57:GLU:OE1	60:LV:139:ARG:NH2	2.54	0.41
59:LU:124:LEU:HD13	59:LU:124:LEU:HA	1.86	0.41
73:Li:46:ASP:OD1	73:Li:80:ARG:HD2	2.20	0.41
1:A:7:C:H2'	1:A:8:C:C6	2.55	0.41
1:A:366:A:H2'	1:A:367:A:O4'	2.19	0.41
1:A:677:A:OP1	57:LS:89:ASP:HB3	2.20	0.41
1:A:1090:G:H2'	1:A:1091:A:H8	1.85	0.41
1:A:1145:G:O2'	71:Lg:45:ARG:O	2.29	0.41
1:A:1381:A:C2	1:A:1426:C:C2	3.09	0.41
1:A:1483:G:C8	1:A:1485:G:C8	3.09	0.41
1:A:2355:G:H5'	56:LR:139:TYR:CE2	2.55	0.41
1:A:2389:C:H2'	1:A:2390:A:H8	1.85	0.41
1:A:2412:G:H2'	1:A:2413:A:C8	2.55	0.41
1:A:3146:G:H2'	1:A:3147:G:C8	2.55	0.41
8:E:413:U:H2'	8:E:414:C:C6	2.55	0.41
8:E:1102:G:OP2	32:Sc:7:ARG:HD2	2.20	0.41
8:E:1493:A:O2'	8:E:1494:C:H6	2.03	0.41
8:E:1642:G:H2'	8:E:1643:U:H6	1.86	0.41
8:E:1650:U:H2'	8:E:1651:A:H8	1.83	0.41
9:SP:133:ILE:HG22	9:SP:143:VAL:HG11	2.03	0.41
11:SE:108:ARG:O	11:SE:111:MET:HG2	2.20	0.41
11:SE:115:TYR:HB2	11:SE:118:GLU:OE1	2.21	0.41
13:SA:93:ASP:HB3	13:SA:96:LEU:HD23	2.03	0.41
14:SS:126:VAL:HG12	14:SS:158:ASP:O	2.20	0.41
19:SW:45:ILE:HD13	19:SW:45:ILE:HA	1.81	0.41
39:SO:90:ARG:NH1	39:SO:99:THR:HG21	2.33	0.41
39:SO:249:ARG:HE	39:SO:299:GLN:HE22	1.69	0.41
42:LD:91:GLY:O	42:LD:102:LEU:HD23	2.20	0.41
42:LD:179:LEU:HB3	42:LD:184:ARG:HB2	2.02	0.41
43:LE:58:ARG:O	43:LE:72:VAL:HG22	2.20	0.41
43:LE:261:MET:HE3	43:LE:261:MET:HB3	1.97	0.41
45:LG:95:TRP:CH2	45:LG:161:GLY:HA2	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:LJ:171:LYS:HA	48:LJ:171:LYS:HD2	1.72	0.41
49:LK:1:MET:HE2	49:LK:1:MET:HB2	1.78	0.41
49:LK:169:ASN:C	49:LK:170:LYS:HD3	2.45	0.41
52:LN:3:ILE:HD11	67:Lc:34:MET:HE3	2.02	0.41
52:LN:58:VAL:HG12	52:LN:70:ARG:O	2.19	0.41
54:LP:9:GLU:HG3	75:Lk:44:VAL:HG21	2.01	0.41
54:LP:70:ASN:OD1	54:LP:93:LYS:HE3	2.20	0.41
58:LT:175:GLN:HE21	58:LT:176:ARG:HE	1.67	0.41
68:Ld:47:LEU:HA	68:Ld:50:THR:HG22	2.02	0.41
69:Le:39:SER:HB2	69:Le:91:SER:OG	2.19	0.41
79:Lo:99:CYS:HB2	79:Lo:114:LYS:HE3	2.01	0.41
82:Lr:11:THR:HG23	82:Lr:27:LYS:HB2	2.02	0.41
1:A:544:C:HO2'	1:A:545:U:P	2.42	0.41
1:A:884:A:OP2	1:A:2139:A:N6	2.53	0.41
1:A:1159:A:OP1	57:LS:2:GLY:N	2.53	0.41
1:A:1596:C:O2'	1:A:1696:A:N3	2.46	0.41
1:A:1816:A:C6	1:A:1817:G:C8	3.08	0.41
1:A:2318:U:H2'	1:A:2319:U:O4'	2.21	0.41
1:A:2368:A:H2'	1:A:2369:G:H8	1.84	0.41
1:A:2515:A:N6	1:A:2592:G:O2'	2.51	0.41
1:A:2717:U:O3'	81:Lq:13:LYS:NZ	2.51	0.41
1:A:3350:C:O2'	1:A:3351:U:OP1	2.36	0.41
2:B:90:U:H2'	2:B:91:G:O4'	2.19	0.41
2:B:100:C:H2'	2:B:101:G:O4'	2.20	0.41
2:B:112:G:H2'	2:B:113:C:H6	1.83	0.41
3:C:64:U:C2	3:C:65:A:C8	3.07	0.41
5:m:71:C:H2'	5:m:72:C:H6	1.85	0.41
8:E:5:U:H2'	8:E:6:G:C8	2.56	0.41
8:E:97:C:H2'	8:E:98:U:H6	1.85	0.41
8:E:600:U:H2'	8:E:601:A:H8	1.86	0.41
8:E:749:U:C4	8:E:801:G:O6	2.73	0.41
8:E:765:G:C6	19:SW:149:ARG:HB2	2.56	0.41
8:E:1524:A:H4'	28:SI:93:HIS:CE1	2.56	0.41
8:E:1545:A:H2'	8:E:1546:G:H8	1.86	0.41
8:E:1545:A:H2'	8:E:1546:G:C8	2.56	0.41
8:E:1550:A:C6	8:E:1562:G:C6	3.08	0.41
8:E:1636:C:H1'	8:E:1637:C:OP2	2.20	0.41
8:E:1669:U:H2'	8:E:1670:G:O4'	2.21	0.41
12:SR:207:LEU:HD12	12:SR:211:LEU:HG	2.01	0.41
14:SS:87:MET:SD	14:SS:100:ARG:HD3	2.60	0.41
15:SB:129:PRO:O	15:SB:132:VAL:HG22	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:ST:159:ARG:HD2	16:ST:172:ALA:HB2	2.03	0.41
21:SX:84:ILE:HG23	21:SX:111:VAL:HG11	2.02	0.41
23:SY:86:GLU:HG3	23:SY:87:ASP:N	2.34	0.41
24:SZ:57:PRO:HD2	24:SZ:58:TYR:H	1.86	0.41
39:SO:67:ILE:C	39:SO:84:SER:HG	2.28	0.41
39:SO:199:ILE:HA	39:SO:215:GLY:CA	2.48	0.41
43:LE:284:ARG:NH2	43:LE:296:THR:HG22	2.35	0.41
50:LL:56:GLU:HG3	50:LL:58:GLU:OE1	2.20	0.41
52:LN:89:TYR:O	52:LN:93:ILE:HG23	2.21	0.41
53:LO:128:ARG:HA	53:LO:131:VAL:HG22	2.01	0.41
54:LP:99:ARG:HG2	54:LP:130:PHE:CE1	2.56	0.41
56:LR:176:ILE:HD13	56:LR:176:ILE:HA	1.83	0.41
59:LU:71:LYS:HE3	59:LU:73:LYS:HG2	2.01	0.41
60:LV:75:ILE:HD13	60:LV:75:ILE:HA	1.97	0.41
76:LI:17:THR:OG1	76:LI:18:LEU:N	2.52	0.41
1:A:506:U:H2'	1:A:507:U:O4'	2.20	0.41
1:A:717:C:OP1	1:A:751:A:O2'	2.30	0.41
1:A:776:U:O5'	68:Ld:40:ARG:NH1	2.53	0.41
1:A:1338:C:H2'	1:A:1339:C:H6	1.85	0.41
1:A:2155:G:OP1	42:LD:241:ARG:HG3	2.20	0.41
1:A:2880:U:OP1	62:LX:47:ASN:ND2	2.54	0.41
1:A:3187:A:H5'	49:LK:22:SER:HA	2.03	0.41
8:E:24:U:OP1	19:SW:10:LYS:NZ	2.29	0.41
8:E:333:A:N6	18:SV:27:PHE:HB2	2.35	0.41
8:E:389:G:H3'	8:E:390:G:N2	2.35	0.41
8:E:859:A:C5	23:SY:73:ARG:HD3	2.55	0.41
8:E:1251:U:O2'	8:E:1252:C:OP1	2.34	0.41
8:E:1649:G:H2'	8:E:1650:U:C6	2.56	0.41
9:SP:30:GLN:OE1	9:SP:149:LEU:HB3	2.20	0.41
9:SP:41:ARG:HB2	9:SP:45:VAL:O	2.21	0.41
10:SQ:129:THR:OG1	10:SQ:130:SER:N	2.53	0.41
10:SQ:132:ASP:O	10:SQ:132:ASP:OD1	2.39	0.41
13:SA:25:PHE:HD2	13:SA:37:VAL:HG11	1.85	0.41
14:SS:254:ARG:HG2	14:SS:254:ARG:HH11	1.85	0.41
20:SC:20:VAL:HA	20:SC:66:TYR:O	2.21	0.41
26:SG:116:LYS:C	26:SG:117:LEU:HD12	2.46	0.41
28:SI:50:ALA:HA	28:SI:53:TRP:HD1	1.85	0.41
30:Sa:32:VAL:HG13	30:Sa:60:ARG:HD2	2.03	0.41
31:Sb:11:LEU:HD23	31:Sb:72:CYS:SG	2.60	0.41
34:Se:89:ARG:HG3	34:Se:89:ARG:NH1	2.35	0.41
39:SO:269:TYR:CE1	39:SO:271:VAL:HA	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:LG:119:TYR:CZ	45:LG:135:VAL:HG13	2.55	0.41
47:LI:181:ILE:O	47:LI:185:ILE:HG13	2.20	0.41
54:LP:143:ARG:HG2	74:Lj:96:GLU:CD	2.46	0.41
58:LT:105:LEU:HD23	58:LT:138:LEU:HD23	2.02	0.41
59:LU:50:LYS:HE2	59:LU:50:LYS:HB2	1.90	0.41
59:LU:60:SER:OG	59:LU:62:ASN:OD1	2.38	0.41
62:LX:13:ILE:HD11	62:LX:121:GLU:HG2	2.03	0.41
62:LX:54:LEU:HD11	62:LX:79:VAL:C	2.45	0.41
66:Lb:16:GLY:O	73:Li:74:ARG:HG3	2.20	0.41
66:Lb:66:THR:OG1	66:Lb:123:GLN:NE2	2.48	0.41
70:Lf:26:LYS:HD2	70:Lf:26:LYS:HA	1.83	0.41
1:A:159:A:H2'	1:A:160:G:C8	2.53	0.41
1:A:199:A:C4	1:A:201:A:C8	3.08	0.41
1:A:436:A:H2'	1:A:437:G:C8	2.54	0.41
1:A:529:A:H2'	1:A:530:G:C8	2.55	0.41
1:A:1047:A:H2'	1:A:1048:A:C8	2.56	0.41
1:A:1072:G:C4	1:A:1087:G:C2	3.09	0.41
1:A:1117:G:H2'	1:A:1118:C:C6	2.56	0.41
1:A:1444:G:H2'	1:A:1445:U:O4'	2.21	0.41
1:A:1813:A:O2'	1:A:1816:A:HI'	2.21	0.41
1:A:2157:G:N7	42:LD:152:SER:OG	2.49	0.41
1:A:2368:A:H2'	1:A:2369:G:C8	2.56	0.41
1:A:2513:U:O4	1:A:2593:A:N7	2.53	0.41
2:B:11:A:N6	45:LG:16:PHE:O	2.52	0.41
8:E:624:G:H22	8:E:976:G:HI'	1.85	0.41
8:E:1068:C:H2'	8:E:1069:A:C8	2.55	0.41
8:E:1534:G:OP1	8:E:1539:G:N1	2.52	0.41
8:E:1566:U:H4'	27:SH:37:GLY:O	2.19	0.41
10:SQ:31:ASP:O	10:SQ:96:LEU:HD23	2.21	0.41
10:SQ:133:TYR:CE2	10:SQ:181:LEU:HD22	2.56	0.41
15:SB:130:ILE:HA	15:SB:133:VAL:HG12	2.01	0.41
22:SD:73:LYS:HE2	22:SD:73:LYS:HB3	1.97	0.41
30:Sa:56:SER:O	30:Sa:59:VAL:HG12	2.21	0.41
33:Sd:21:LYS:HB2	33:Sd:75:VAL:HG13	2.02	0.41
39:SO:43:ILE:HG21	39:SO:45:TRP:CH2	2.55	0.41
41:AA:42:LEU:HD23	41:AA:46:LYS:HG3	2.02	0.41
43:LE:106:TRP:CH2	43:LE:161:LEU:HD13	2.56	0.41
43:LE:332:ARG:HG2	43:LE:333:LYS:HG3	2.03	0.41
48:LJ:157:VAL:HG23	48:LJ:160:ILE:HA	2.03	0.41
49:LK:133:THR:OG1	49:LK:147:SER:OG	2.36	0.41
53:LO:40:ASP:OD1	53:LO:40:ASP:C	2.64	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:LT:89:LEU:HD12	58:LT:90:PRO:HD2	2.02	0.41
64:LZ:103:TYR:O	64:LZ:105:VAL:N	2.53	0.41
75:Lk:5:THR:HG23	75:Lk:7:ILE:H	1.85	0.41
1:A:196:G:N1	1:A:199:A:OP2	2.48	0.41
1:A:504:A:H2'	1:A:505:G:H8	1.86	0.41
1:A:539:C:H2'	1:A:540:U:C6	2.55	0.41
1:A:1383:G:H2'	1:A:1384:U:C6	2.55	0.41
1:A:1493:G:N2	1:A:1493:G:OP2	2.54	0.41
1:A:2180:G:H2'	1:A:2181:C:C6	2.56	0.41
1:A:2609:A:N3	54:LP:87:GLN:NE2	2.68	0.41
1:A:3078:U:OP1	1:A:3080:G:H5'	2.21	0.41
1:A:3133:C:H2'	1:A:3134:A:O4'	2.21	0.41
2:B:41:G:N2	2:B:45:A:C4	2.89	0.41
2:B:46:A:OP1	45:LG:158:ARG:HG2	2.20	0.41
4:D:1:A:H4'	8:E:904:G:C4	2.55	0.41
8:E:61:A:H8	8:E:269:G:O2'	2.04	0.41
8:E:68:A:H4'	8:E:69:G:OP2	2.21	0.41
8:E:78:A:H4'	16:ST:157:VAL:HG11	2.01	0.41
8:E:555:A:O2'	8:E:556:A:H8	2.03	0.41
8:E:752:A:H61	8:E:797:G:H1	1.69	0.41
8:E:905:A:H2'	8:E:906:A:O4'	2.21	0.41
8:E:929:A:C8	24:SZ:123:SER:HA	2.56	0.41
8:E:1179:G:H21	8:E:1460:A:H62	1.69	0.41
8:E:1222:C:H2'	8:E:1223:A:C8	2.56	0.41
8:E:1310:U:H2'	8:E:1311:U:C6	2.55	0.41
8:E:1517:U:H5''	8:E:1518:C:H5	1.85	0.41
8:E:1530:C:C2	8:E:1531:G:C8	3.09	0.41
9:SP:121:VAL:O	9:SP:143:VAL:HA	2.21	0.41
10:SQ:179:SER:HB2	10:SQ:183:GLN:HG2	2.03	0.41
12:SR:53:ILE:CD1	12:SR:73:LEU:HG	2.50	0.41
13:SA:132:LYS:HB3	13:SA:189:MET:HE2	2.02	0.41
15:SB:213:LYS:HA	15:SB:213:LYS:HD3	1.83	0.41
16:ST:119:GLN:OE1	16:ST:119:GLN:N	2.54	0.41
17:SU:118:LEU:O	17:SU:118:LEU:HD12	2.21	0.41
19:SW:28:LEU:HD12	19:SW:28:LEU:O	2.20	0.41
23:SY:61:THR:OG1	23:SY:62:GLN:N	2.54	0.41
24:SZ:102:LEU:HD12	24:SZ:103:ARG:N	2.35	0.41
28:SI:40:SER:HB3	28:SI:43:ASN:OD1	2.21	0.41
39:SO:47:LEU:HD12	39:SO:54:PHE:CD2	2.56	0.41
42:LD:7:ASN:OD1	42:LD:8:GLN:N	2.53	0.41
43:LE:19:ARG:HB2	43:LE:232:ARG:NH2	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:LF:99:MET:SD	44:LF:102:PRO:HA	2.60	0.41
45:LG:271:LYS:HB2	45:LG:271:LYS:HE2	1.66	0.41
46:LH:82:ARG:HA	46:LH:82:ARG:HD2	1.80	0.41
49:LK:86:TYR:CD1	49:LK:151:VAL:HB	2.56	0.41
54:LP:113:LEU:HB3	54:LP:134:LEU:HB3	2.02	0.41
55:LQ:23:VAL:HG12	55:LQ:27:LEU:HD12	2.02	0.41
57:LS:124:LEU:HD23	57:LS:124:LEU:HA	1.88	0.41
58:LT:21:LYS:HA	58:LT:21:LYS:HD3	1.79	0.41
59:LU:21:GLU:OE1	59:LU:21:GLU:O	2.39	0.41
71:Lg:109:LEU:HD23	71:Lg:109:LEU:HA	1.87	0.41
72:Lh:18:ARG:HD3	72:Lh:19:SER:O	2.21	0.41
72:Lh:67:MET:HE1	72:Lh:89:LEU:HA	2.02	0.41
1:A:283:G:O6	1:A:304:G:H1'	2.21	0.41
1:A:532:A:H2'	1:A:555:U:O4	2.21	0.41
1:A:637:C:C2	1:A:638:C:C5	3.08	0.41
1:A:657:A:H2'	1:A:658:G:H8	1.86	0.41
1:A:674:G:OP1	44:LF:31:ARG:NH1	2.31	0.41
1:A:873:C:H3'	1:A:874:U:H4'	2.03	0.41
1:A:949:C:H2'	1:A:950:G:O4'	2.21	0.41
1:A:976:U:H2'	1:A:977:C:O4'	2.21	0.41
1:A:1050:U:OP2	60:LV:13:TYR:OH	2.22	0.41
1:A:1143:A:H5'	1:A:1368:U:H1'	2.03	0.41
1:A:1315:U:OP2	55:LQ:44:SER:OG	2.36	0.41
1:A:1355:A:OP2	1:A:1355:A:H8	2.04	0.41
1:A:1590:G:C2	1:A:1591:G:N7	2.89	0.41
1:A:1896:A:N6	1:A:2339:C:H42	2.17	0.41
1:A:2136:C:H2'	1:A:2137:U:O2	2.21	0.41
1:A:2361:A:O2'	71:Lg:25:TYR:OH	2.18	0.41
1:A:2394:G:C8	43:LE:252:ILE:HD11	2.56	0.41
1:A:2407:C:H1'	1:A:2818:U:C2	2.56	0.41
1:A:2412:G:H2'	1:A:2413:A:H8	1.85	0.41
1:A:2582:C:H2'	1:A:2583:C:C6	2.56	0.41
1:A:2609:A:H2'	1:A:2610:G:C8	2.56	0.41
1:A:2872:A:H61	7:z:432:GLN:CD	2.26	0.41
1:A:2882:U:H2'	1:A:2883:U:H6	1.83	0.41
1:A:3085:G:H5'	1:A:3332:U:OP1	2.21	0.41
1:A:3166:C:H2'	1:A:3167:A:C8	2.56	0.41
1:A:3358:U:H2'	1:A:3359:A:C8	2.56	0.41
2:B:13:A:OP2	2:B:67:G:N2	2.51	0.41
2:B:58:C:H2'	2:B:59:U:C6	2.56	0.41
8:E:12:U:H2'	8:E:13:C:H6	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:76:A:N6	8:E:80:A:O2'	2.54	0.41
8:E:147:A:C5	8:E:148:A:C8	3.09	0.41
8:E:147:A:C4	8:E:148:A:C8	3.08	0.41
8:E:358:U:H2'	8:E:360:A:C8	2.56	0.41
8:E:476:U:H3'	8:E:477:A:H5'	2.03	0.41
8:E:512:A:OP2	19:SW:173:ALA:N	2.48	0.41
8:E:867:G:OP1	23:SY:3:ARG:HA	2.20	0.41
8:E:883:C:H2'	8:E:884:A:H8	1.86	0.41
8:E:1347:U:O4'	8:E:1517:U:H1'	2.20	0.41
8:E:1352:G:H2'	8:E:1353:U:C6	2.56	0.41
8:E:1578:U:H2'	8:E:1579:U:H6	1.85	0.41
8:E:1652:C:H2'	8:E:1653:C:H6	1.86	0.41
8:E:1680:G:C6	8:E:1720:G:C6	3.08	0.41
9:SP:12:GLU:O	9:SP:16:LEU:HG	2.21	0.41
9:SP:139:VAL:O	9:SP:139:VAL:HG13	2.21	0.41
9:SP:143:VAL:O	9:SP:157:ASP:HB2	2.20	0.41
10:SQ:152:ARG:HE	10:SQ:152:ARG:HB2	1.65	0.41
11:SE:81:ARG:NH2	11:SE:120:SER:O	2.47	0.41
11:SE:98:ASN:HA	11:SE:122:THR:HG22	2.03	0.41
12:SR:115:ILE:HD12	12:SR:212:LYS:HE3	2.02	0.41
13:SA:71:LEU:HD22	20:SC:20:VAL:CG2	2.51	0.41
14:SS:65:LEU:CD1	14:SS:80:THR:HA	2.50	0.41
14:SS:104:ASP:OD2	14:SS:108:ARG:NH1	2.54	0.41
15:SB:41:LYS:HZ1	15:SB:69:PHE:HD2	1.66	0.41
15:SB:112:ARG:HD2	15:SB:116:HIS:NE2	2.36	0.41
15:SB:137:ILE:HA	15:SB:140:THR:HG22	2.03	0.41
16:ST:44:GLU:H	16:ST:44:GLU:CD	2.29	0.41
16:ST:124:LEU:O	16:ST:126:ASP:N	2.54	0.41
17:SU:9:LEU:HD11	17:SU:17:GLU:HB2	2.03	0.41
17:SU:51:VAL:HG12	17:SU:55:LYS:O	2.21	0.41
20:SC:60:SER:O	20:SC:63:TYR:HB2	2.20	0.41
22:SD:41:LEU:HD21	22:SD:121:VAL:HG13	2.03	0.41
23:SY:46:THR:HG23	23:SY:49:GLN:OE1	2.21	0.41
24:SZ:43:THR:OG1	24:SZ:46:MET:HG3	2.21	0.41
24:SZ:83:ILE:HD13	24:SZ:83:ILE:HA	1.89	0.41
26:SG:28:PHE:HA	26:SG:55:THR:HG21	2.01	0.41
26:SG:119:LEU:HD23	26:SG:119:LEU:H	1.85	0.41
28:SI:18:TYR:CE2	28:SI:22:LEU:HD11	2.56	0.41
29:SJ:55:PRO:HA	29:SJ:91:ILE:HG12	2.02	0.41
30:Sa:27:ASP:O	30:Sa:29:HIS:N	2.52	0.41
31:Sb:64:GLN:O	31:Sb:65:LEU:HD23	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Sb:98:GLN:CD	31:Sb:98:GLN:H	2.27	0.41
32:Sc:86:PHE:O	32:Sc:88:PRO:HD3	2.20	0.41
33:Sd:51:GLU:H	33:Sd:51:GLU:CD	2.29	0.41
33:Sd:117:LYS:C	33:Sd:118:ILE:HD13	2.46	0.41
42:LD:6:ARG:O	42:LD:10:LYS:HG3	2.20	0.41
43:LE:86:VAL:HG22	43:LE:162:VAL:HG12	2.03	0.41
44:LF:209:TYR:CE2	44:LF:212:ASP:HB2	2.56	0.41
46:LH:133:GLU:O	46:LH:137:ASP:OD1	2.39	0.41
48:LJ:166:LEU:HD23	48:LJ:166:LEU:HA	1.87	0.41
51:LM:91:LEU:HD23	51:LM:91:LEU:HA	1.89	0.41
53:LO:59:ASN:OD1	53:LO:60:LEU:N	2.53	0.41
56:LR:119:VAL:HG22	56:LR:146:ILE:HG23	2.02	0.41
59:LU:41:TYR:CD1	59:LU:41:TYR:C	2.98	0.41
59:LU:137:ARG:HB3	59:LU:139:TYR:CE2	2.54	0.41
60:LV:42:ILE:HD11	60:LV:74:VAL:HG11	2.03	0.41
61:LW:54:VAL:HG23	61:LW:67:SER:HB2	2.03	0.41
66:Lb:3:LYS:H	66:Lb:3:LYS:HG2	1.61	0.41
81:Lq:2:VAL:N	81:Lq:90:HIS:O	2.54	0.41
81:Lq:93:LEU:HD23	81:Lq:93:LEU:HA	1.91	0.41
1:A:189:G:C6	1:A:206:G:C6	3.08	0.41
1:A:278:U:H2'	1:A:279:U:C6	2.56	0.41
1:A:695:C:OP1	44:LF:119:ARG:NE	2.33	0.41
1:A:992:A:H5''	60:LV:43:LYS:HD2	2.03	0.41
1:A:1036:A:H2'	1:A:1037:C:C6	2.56	0.41
1:A:1073:U:H1'	68:Ld:50:THR:HB	2.02	0.41
1:A:1169:A:C6	1:A:1170:A:C6	3.09	0.41
1:A:1528:G:H21	1:A:1588:A:H2	1.68	0.41
1:A:1699:A:C6	1:A:1747:G:C6	3.08	0.41
1:A:2266:U:H2'	1:A:2267:C:H6	1.86	0.41
1:A:2824:G:H2'	1:A:2825:C:H6	1.86	0.41
1:A:2998:U:H2'	1:A:2999:U:C6	2.56	0.41
3:C:4:C:H2'	3:C:5:U:C6	2.55	0.41
3:C:7:U:H2'	3:C:8:C:H6	1.85	0.41
3:C:66:A:H2'	3:C:67:U:H6	1.86	0.41
4:D:7:A:O2'	4:D:8:A:P	2.79	0.41
8:E:150:U:C2	8:E:151:G:C8	3.09	0.41
8:E:153:G:C6	8:E:162:A:N6	2.89	0.41
8:E:647:G:C2	8:E:648:G:N7	2.89	0.41
8:E:778:G:C6	8:E:783:G:C6	3.09	0.41
8:E:852:C:OP1	58:LT:176:ARG:NH1	2.30	0.41
8:E:903:U:H2'	8:E:905:A:OP2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:1291:G:OP2	8:E:1291:G:N2	2.52	0.41
8:E:1523:G:OP2	8:E:1523:G:N2	2.33	0.41
9:SP:176:LEU:HD23	9:SP:176:LEU:HA	1.93	0.41
17:SU:122:HIS:HA	17:SU:125:ILE:HG12	2.02	0.41
19:SW:150:LEU:HD12	19:SW:150:LEU:HA	1.87	0.41
21:SX:46:LYS:HA	21:SX:49:ILE:HB	2.03	0.41
23:SY:136:PRO:HD2	23:SY:136:PRO:O	2.21	0.41
24:SZ:99:GLN:CD	34:Se:45:VAL:HA	2.46	0.41
25:SF:54:LEU:HD21	25:SF:108:ALA:O	2.21	0.41
25:SF:83:GLN:HE21	25:SF:115:THR:C	2.28	0.41
27:SH:111:ASP:OD1	27:SH:111:ASP:C	2.64	0.41
29:SJ:23:ARG:HD2	29:SJ:90:TYR:CD2	2.56	0.41
29:SJ:57:ARG:HG2	29:SJ:89:ARG:HD3	2.03	0.41
29:SJ:80:GLU:HB2	36:SM:54:LYS:NZ	2.35	0.41
30:Sa:2:GLU:HG3	30:Sa:8:LEU:HA	2.03	0.41
31:Sb:78:ARG:NE	31:Sb:126:LEU:HD23	2.34	0.41
44:LF:141:ARG:NH2	44:LF:180:LYS:HD2	2.36	0.41
46:LH:109:GLU:OE1	46:LH:109:GLU:N	2.54	0.41
52:LN:8:PRO:HB2	57:LS:166:LEU:HG	2.03	0.41
52:LN:14:PHE:HB3	52:LN:18:TRP:CD1	2.56	0.41
54:LP:73:ARG:HB2	54:LP:92:LEU:HD12	2.01	0.41
55:LQ:186:ALA:O	55:LQ:187:GLU:HB3	2.21	0.41
74:Lj:118:ILE:O	74:Lj:118:ILE:HG22	2.21	0.41
75:Lk:28:TYR:HB2	75:Lk:29:LYS:NZ	2.36	0.41
1:A:186:U:O2'	1:A:187:A:OP1	2.33	0.40
1:A:193:C:H2'	1:A:194:U:C6	2.56	0.40
1:A:316:U:O2'	75:Lk:30:LYS:HD2	2.22	0.40
1:A:649:A:H2'	1:A:650:C:C6	2.56	0.40
1:A:1592:G:OP2	73:Li:37:LYS:NZ	2.54	0.40
1:A:2393:G:OP1	43:LE:248:LYS:HE2	2.22	0.40
1:A:3184:A:H2'	1:A:3185:U:O4'	2.22	0.40
2:B:33:U:H2'	2:B:34:C:O4'	2.21	0.40
3:C:74:U:OP1	65:La:76:LEU:HD13	2.21	0.40
7:z:385:MET:HE2	7:z:385:MET:HB2	1.87	0.40
8:E:85:A:H2'	8:E:86:A:O4'	2.20	0.40
8:E:149:C:OP1	33:Sd:121:THR:HG23	2.21	0.40
8:E:567:A:H1'	37:Sg:14:VAL:HG23	2.02	0.40
8:E:861:U:H3'	8:E:862:A:C8	2.55	0.40
8:E:979:A:C4	8:E:980:G:C8	3.09	0.40
8:E:1053:G:C2	8:E:1054:U:C5	3.09	0.40
8:E:1218:G:H22	8:E:1444:A:P	2.38	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:1718:G:H2'	8:E:1719:A:C8	2.56	0.40
24:SZ:125:SER:OG	24:SZ:126:THR:N	2.55	0.40
28:SI:77:ASN:ND2	28:SI:98:GLY:HA2	2.36	0.40
30:Sa:80:LYS:HE2	30:Sa:80:LYS:HB2	1.93	0.40
32:Sc:48:HIS:CD2	32:Sc:105:ALA:HB2	2.56	0.40
34:Se:24:VAL:HG22	34:Se:72:HIS:O	2.21	0.40
40:SL:45:LYS:O	40:SL:45:LYS:HG2	2.21	0.40
44:LF:3:ARG:NH1	44:LF:24:ALA:HA	2.36	0.40
44:LF:174:ALA:O	44:LF:178:LEU:HG	2.21	0.40
52:LN:57:VAL:HG22	52:LN:147:ILE:HD13	2.03	0.40
1:A:422:A:C2	1:A:2363:A:H4'	2.56	0.40
1:A:759:U:H2'	1:A:760:G:O4'	2.21	0.40
1:A:920:A:OP1	1:A:923:C:N4	2.47	0.40
1:A:2432:A:H2'	1:A:2433:U:C6	2.56	0.40
1:A:2436:U:H2'	1:A:2437:G:H5''	2.02	0.40
1:A:2668:U:H2'	1:A:2669:G:C8	2.56	0.40
1:A:3205:G:OP2	1:A:3206:C:N4	2.54	0.40
2:B:37:G:N2	2:B:41:G:N3	2.69	0.40
3:C:78:G:H2'	3:C:79:A:C8	2.56	0.40
8:E:36:C:H2'	8:E:37:U:H6	1.85	0.40
8:E:107:C:H2'	8:E:108:A:H8	1.86	0.40
8:E:1236:A:H1'	38:SN:138:ARG:NH2	2.36	0.40
8:E:1473:U:N3	15:SB:97:LEU:O	2.35	0.40
8:E:1494:C:H2'	8:E:1495:C:H6	1.85	0.40
8:E:1548:G:H5'	27:SH:90:ASN:HB3	2.04	0.40
8:E:1573:A:H4'	8:E:1574:G:O5'	2.21	0.40
9:SP:31:VAL:HG23	9:SP:150:ASP:HA	2.04	0.40
9:SP:54:TRP:HH2	9:SP:180:GLU:OE2	2.04	0.40
9:SP:154:GLU:OE1	9:SP:154:GLU:HA	2.22	0.40
10:SQ:100:PHE:HB3	10:SQ:181:LEU:HD21	2.04	0.40
11:SE:25:LEU:CB	11:SE:28:MET:HE2	2.51	0.40
12:SR:126:ARG:O	12:SR:130:ILE:HG12	2.21	0.40
17:SU:88:ARG:HH11	17:SU:88:ARG:HG2	1.86	0.40
19:SW:39:LYS:HA	19:SW:42:ILE:CD1	2.51	0.40
21:SX:75:VAL:CG1	21:SX:84:ILE:HD12	2.50	0.40
28:SI:86:ARG:O	28:SI:89:ARG:NE	2.35	0.40
29:SJ:57:ARG:HG2	29:SJ:57:ARG:NH1	2.37	0.40
42:LD:177:LYS:HA	42:LD:178:PRO:HD3	1.96	0.40
42:LD:189:TYR:HA	42:LD:192:LYS:HB2	2.03	0.40
45:LG:178:ASN:OD1	45:LG:178:ASN:C	2.64	0.40
50:LL:53:VAL:HG23	50:LL:134:ILE:HA	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:LO:27:GLN:OE1	53:LO:27:GLN:N	2.41	0.40
58:LT:138:LEU:O	58:LT:142:ILE:HG13	2.20	0.40
72:Lh:43:PHE:CE1	72:Lh:107:ILE:HD11	2.56	0.40
1:A:178:U:H2'	1:A:179:C:H6	1.86	0.40
1:A:307:A:O2'	1:A:2223:A:H1'	2.22	0.40
1:A:848:A:OP2	1:A:848:A:H8	2.05	0.40
1:A:1332:A:H2'	1:A:1333:C:H6	1.86	0.40
1:A:1506:A:H1'	1:A:1848:G:O6	2.22	0.40
1:A:1815:U:H1'	1:A:1816:A:OP2	2.20	0.40
1:A:1817:G:H2'	1:A:1818:U:H6	1.86	0.40
1:A:2588:U:C2	1:A:2589:G:C8	3.10	0.40
1:A:2794:G:C4	83:A:3401:3HE:H18	2.56	0.40
1:A:3187:A:C2	59:LU:171:PHE:HB3	2.56	0.40
1:A:3301:U:H2'	1:A:3302:U:C6	2.57	0.40
1:A:3340:G:H3'	1:A:3341:U:H5''	2.03	0.40
2:B:77:G:H5''	59:LU:46:GLN:O	2.21	0.40
5:m:29:U:H2'	5:m:30:G:H8	1.86	0.40
5:m:56:C:H3'	5:m:57:G:C8	2.57	0.40
8:E:590:C:OP2	37:Sg:42:ARG:NH1	2.55	0.40
8:E:743:U:H2'	8:E:744:U:C6	2.57	0.40
8:E:1435:G:H4'	8:E:1437:U:P	2.61	0.40
8:E:1775:U:H2'	8:E:1776:A:C8	2.57	0.40
8:E:1787:C:H2'	8:E:1788:G:H8	1.87	0.40
10:SQ:24:PHE:CZ	24:SZ:39:ILE:HG23	2.57	0.40
18:SV:88:ASN:OD1	18:SV:88:ASN:N	2.55	0.40
20:SC:46:LEU:HD23	20:SC:46:LEU:HA	1.82	0.40
20:SC:76:LEU:HD23	20:SC:76:LEU:HA	1.79	0.40
20:SC:77:ARG:HE	20:SC:84:GLU:HA	1.86	0.40
24:SZ:58:TYR:CZ	24:SZ:62:LEU:HD21	2.57	0.40
25:SF:35:PRO:HG2	25:SF:38:LEU:HD23	2.02	0.40
29:SJ:44:ASN:ND2	29:SJ:103:ILE:HD13	2.36	0.40
39:SO:5:GLU:OE1	39:SO:5:GLU:N	2.54	0.40
39:SO:209:THR:OG1	39:SO:224:ASN:OD1	2.39	0.40
42:LD:80:GLU:OE2	82:Lr:76:ALA:HB3	2.21	0.40
43:LE:188:ILE:O	43:LE:192:VAL:HG22	2.22	0.40
44:LF:6:VAL:HG11	44:LF:255:PHE:CE2	2.55	0.40
48:LJ:69:LEU:HD23	48:LJ:69:LEU:HA	1.77	0.40
50:LL:56:GLU:OE1	50:LL:56:GLU:N	2.55	0.40
50:LL:75:TYR:OH	50:LL:150:GLU:HG2	2.21	0.40
60:LV:31:LEU:HA	60:LV:31:LEU:HD13	1.79	0.40
60:LV:128:LEU:HA	60:LV:128:LEU:HD23	1.84	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:Lb:18:TYR:HE1	66:Lb:47:GLU:OE1	2.04	0.40
66:Lb:127:ASN:O	66:Lb:131:PHE:HD1	2.04	0.40
73:Li:7:PHE:CD2	73:Li:12:PRO:HA	2.57	0.40
75:Lk:21:THR:O	75:Lk:21:THR:OG1	2.32	0.40
79:Lo:98:LYS:HG3	79:Lo:118:THR:HG21	2.04	0.40
1:A:139:G:H2'	1:A:140:C:C6	2.56	0.40
1:A:261:U:H2'	1:A:262:U:C6	2.56	0.40
1:A:508:U:H2'	1:A:509:U:C6	2.57	0.40
1:A:561:C:H2'	1:A:562:C:C6	2.56	0.40
1:A:952:A:C2	1:A:1114:U:H4'	2.56	0.40
1:A:1046:A:H2'	1:A:1049:C:C5	2.57	0.40
1:A:1895:A:N6	1:A:2335:G:O2'	2.55	0.40
1:A:2342:U:O2	1:A:3054:U:O2'	2.39	0.40
8:E:333:A:H62	18:SV:27:PHE:HB2	1.85	0.40
8:E:551:G:H2'	8:E:552:G:C8	2.48	0.40
8:E:747:C:H4'	31:Sb:80:ASN:ND2	2.36	0.40
8:E:862:A:O2'	8:E:963:A:N1	2.40	0.40
8:E:991:G:N1	8:E:1012:U:OP2	2.38	0.40
8:E:1246:C:C4	8:E:1247:U:C4	3.09	0.40
8:E:1588:G:C6	8:E:1589:C:C4	3.10	0.40
10:SQ:91:VAL:HG23	10:SQ:96:LEU:HB3	2.04	0.40
10:SQ:130:SER:OG	10:SQ:180:THR:HB	2.22	0.40
12:SR:142:GLY:HA3	12:SR:155:ALA:HA	2.03	0.40
13:SA:35:SER:HB3	13:SA:91:VAL:HG21	2.02	0.40
14:SS:99:PHE:CD2	14:SS:113:ARG:HG2	2.57	0.40
14:SS:254:ARG:HG2	14:SS:254:ARG:NH1	2.37	0.40
23:SY:11:ILE:HA	23:SY:11:ILE:HD12	1.83	0.40
24:SZ:107:ARG:HH22	40:SL:38:ARG:HD3	1.86	0.40
41:AA:80:LEU:HD13	41:AA:101:TYR:HE2	1.87	0.40
43:LE:287:LYS:HD3	43:LE:287:LYS:N	2.36	0.40
48:LJ:146:LYS:HE3	48:LJ:146:LYS:HB2	1.87	0.40
52:LN:89:TYR:CE2	52:LN:93:ILE:HG21	2.55	0.40
60:LV:116:ARG:HG3	60:LV:126:VAL:HG11	2.03	0.40
61:LW:36:TYR:O	61:LW:40:HIS:HB2	2.21	0.40
66:Lb:125:GLY:O	66:Lb:128:GLN:NE2	2.54	0.40
71:Lg:44:ARG:O	71:Lg:46:PHE:N	2.54	0.40
74:Lj:93:THR:OG1	74:Lj:96:GLU:HG3	2.22	0.40
1:A:117:U:O2'	1:A:119:U:OP2	2.24	0.40
1:A:207:U:H2'	1:A:208:C:C6	2.57	0.40
1:A:435:C:H2'	1:A:436:A:H8	1.86	0.40
1:A:499:G:H5''	72:Lh:48:ARG:HH12	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:718:G:C2	1:A:721:G:H1'	2.56	0.40
1:A:727:G:N2	57:LS:139:ILE:HB	2.37	0.40
1:A:1204:A:H2	1:A:2835:U:O4'	2.03	0.40
1:A:1440:G:P	7:z:419:ARG:HH12	2.45	0.40
1:A:2315:G:C2	1:A:2316:G:N7	2.89	0.40
1:A:2421:U:O2'	81:Lq:52:GLY:HA3	2.21	0.40
1:A:2425:G:N2	42:LD:230:VAL:HG12	2.36	0.40
1:A:2565:U:H2'	1:A:2566:C:C6	2.57	0.40
1:A:3032:A:H2	49:LK:170:LYS:NZ	2.20	0.40
1:A:3049:A:H4'	43:LE:364:LYS:HD2	2.04	0.40
1:A:3096:C:H2'	1:A:3097:C:C6	2.56	0.40
1:A:3150:A:OP1	43:LE:132:LYS:HB2	2.22	0.40
2:B:20:A:H2'	2:B:21:G:H8	1.87	0.40
2:B:20:A:H2'	2:B:21:G:C8	2.56	0.40
3:C:141:C:H2'	3:C:142:C:H6	1.87	0.40
6:n:23:C:H2'	6:n:24:G:H8	1.86	0.40
8:E:119:A:H1'	8:E:397:A:C4	2.56	0.40
8:E:1497:U:N3	8:E:1511:U:O2	2.54	0.40
8:E:1526:A:N1	8:E:1608:U:O2'	2.49	0.40
8:E:1552:U:O2'	8:E:1597:A:N3	2.51	0.40
9:SP:3:LEU:HD13	9:SP:7:PHE:CD2	2.57	0.40
9:SP:14:ALA:HB3	26:SG:117:LEU:HD21	2.03	0.40
9:SP:49:ASN:ND2	9:SP:52:LYS:HG3	2.36	0.40
11:SE:86:VAL:H	11:SE:89:MET:HE2	1.86	0.40
13:SA:34:TYR:CE1	13:SA:37:VAL:HG13	2.57	0.40
15:SB:145:ASP:OD1	15:SB:146:THR:N	2.50	0.40
17:SU:98:ILE:HD11	17:SU:121:VAL:HG21	2.03	0.40
18:SV:98:LYS:HA	18:SV:169:ILE:HG22	2.04	0.40
22:SD:54:ARG:HH12	38:SN:127:GLY:HA3	1.87	0.40
23:SY:38:VAL:O	23:SY:42:ARG:HG2	2.21	0.40
24:SZ:20:TYR:CD1	24:SZ:27:PHE:HD2	2.40	0.40
25:SF:87:LYS:HB3	25:SF:87:LYS:HE2	1.95	0.40
28:SI:6:VAL:HG22	28:SI:14:PHE:CE2	2.57	0.40
29:SJ:56:VAL:HG22	29:SJ:90:TYR:O	2.21	0.40
32:Sc:107:PHE:HD1	32:Sc:107:PHE:O	2.05	0.40
39:SO:40:LYS:HE3	39:SO:40:LYS:HB2	1.89	0.40
39:SO:117:LYS:O	39:SO:118:LYS:HG2	2.22	0.40
39:SO:137:LYS:HG3	39:SO:139:GLN:HE22	1.86	0.40
39:SO:304:GLY:HA2	39:SO:310:ILE:HG12	2.04	0.40
44:LF:169:LEU:HD23	44:LF:169:LEU:HA	1.89	0.40
48:LJ:241:LYS:HB2	48:LJ:241:LYS:HE3	1.95	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:LK:1:MET:HE1	59:LU:139:TYR:N	2.37	0.40
49:LK:41:ILE:HA	49:LK:41:ILE:HD12	1.77	0.40
52:LN:60:ALA:HB3	52:LN:65:TYR:O	2.22	0.40
66:Lb:68:ILE:O	66:Lb:115:LYS:NZ	2.29	0.40
67:Lc:124:ILE:N	67:Lc:124:ILE:HD12	2.37	0.40
70:Lf:84:ASP:OD1	70:Lf:84:ASP:N	2.54	0.40
77:Lm:7:ASP:OD1	77:Lm:9:LYS:HG2	2.21	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	
7	z	55/588 (9%)	51 (93%)	4 (7%)	0	100	100
9	SP	204/206 (99%)	195 (96%)	9 (4%)	0	100	100
10	SQ	222/232 (96%)	209 (94%)	13 (6%)	0	100	100
11	SE	115/117 (98%)	114 (99%)	1 (1%)	0	100	100
12	SR	214/216 (99%)	203 (95%)	11 (5%)	0	100	100
13	SA	220/222 (99%)	216 (98%)	4 (2%)	0	100	100
14	SS	256/258 (99%)	237 (93%)	19 (7%)	0	100	100
15	SB	204/206 (99%)	194 (95%)	10 (5%)	0	100	100
16	ST	226/228 (99%)	216 (96%)	10 (4%)	0	100	100
17	SU	182/184 (99%)	176 (97%)	5 (3%)	1 (0%)	24	54
18	SV	183/198 (92%)	172 (94%)	11 (6%)	0	100	100
19	SW	182/184 (99%)	176 (97%)	6 (3%)	0	100	100
20	SC	90/92 (98%)	85 (94%)	5 (6%)	0	100	100
21	SX	140/142 (99%)	128 (91%)	12 (9%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
22	SD	119/121 (98%)	106 (89%)	13 (11%)	0	100	100
23	SY	148/150 (99%)	142 (96%)	6 (4%)	0	100	100
24	SZ	125/127 (98%)	119 (95%)	6 (5%)	0	100	100
25	SF	139/141 (99%)	134 (96%)	5 (4%)	0	100	100
26	SG	117/125 (94%)	114 (97%)	3 (3%)	0	100	100
27	SH	143/145 (99%)	137 (96%)	6 (4%)	0	100	100
28	SI	141/143 (99%)	139 (99%)	2 (1%)	0	100	100
29	SJ	98/100 (98%)	96 (98%)	2 (2%)	0	100	100
30	Sa	85/87 (98%)	81 (95%)	4 (5%)	0	100	100
31	Sb	127/129 (98%)	123 (97%)	4 (3%)	0	100	100
32	Sc	142/144 (99%)	136 (96%)	6 (4%)	0	100	100
33	Sd	132/134 (98%)	128 (97%)	4 (3%)	0	100	100
34	Se	95/97 (98%)	91 (96%)	4 (4%)	0	100	100
35	Sf	79/81 (98%)	75 (95%)	4 (5%)	0	100	100
36	SM	51/53 (96%)	48 (94%)	3 (6%)	0	100	100
37	Sg	55/57 (96%)	52 (94%)	3 (6%)	0	100	100
38	SN	71/73 (97%)	59 (83%)	12 (17%)	0	100	100
39	SO	310/312 (99%)	282 (91%)	27 (9%)	1 (0%)	36	64
40	SL	61/63 (97%)	58 (95%)	3 (5%)	0	100	100
41	AA	91/108 (84%)	82 (90%)	9 (10%)	0	100	100
42	LD	249/251 (99%)	235 (94%)	14 (6%)	0	100	100
43	LE	384/386 (100%)	365 (95%)	19 (5%)	0	100	100
44	LF	359/361 (99%)	346 (96%)	13 (4%)	0	100	100
45	LG	292/294 (99%)	284 (97%)	8 (3%)	0	100	100
46	LH	163/175 (93%)	154 (94%)	9 (6%)	0	100	100
47	LI	220/222 (99%)	211 (96%)	9 (4%)	0	100	100
48	LJ	231/233 (99%)	219 (95%)	12 (5%)	0	100	100
49	LK	189/191 (99%)	180 (95%)	9 (5%)	0	100	100
50	LL	216/218 (99%)	205 (95%)	11 (5%)	0	100	100
51	LM	167/169 (99%)	160 (96%)	7 (4%)	0	100	100
52	LN	191/193 (99%)	180 (94%)	10 (5%)	1 (0%)	24	54

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
53	LO	134/136 (98%)	132 (98%)	2 (2%)	0	100	100
54	LP	201/203 (99%)	192 (96%)	9 (4%)	0	100	100
55	LQ	195/197 (99%)	191 (98%)	4 (2%)	0	100	100
56	LR	181/183 (99%)	178 (98%)	3 (2%)	0	100	100
57	LS	183/185 (99%)	172 (94%)	10 (6%)	1 (0%)	24	54
58	LT	186/188 (99%)	182 (98%)	4 (2%)	0	100	100
59	LU	169/171 (99%)	161 (95%)	8 (5%)	0	100	100
60	LV	157/159 (99%)	155 (99%)	2 (1%)	0	100	100
61	LW	98/100 (98%)	92 (94%)	6 (6%)	0	100	100
62	LX	134/136 (98%)	131 (98%)	3 (2%)	0	100	100
63	LY	63/65 (97%)	63 (100%)	0	0	100	100
64	LZ	119/121 (98%)	115 (97%)	4 (3%)	0	100	100
65	La	123/125 (98%)	123 (100%)	0	0	100	100
66	Lb	133/135 (98%)	129 (97%)	4 (3%)	0	100	100
67	Lc	146/148 (99%)	135 (92%)	10 (7%)	1 (1%)	18	47
68	Ld	56/58 (97%)	54 (96%)	2 (4%)	0	100	100
69	Le	94/96 (98%)	92 (98%)	2 (2%)	0	100	100
70	Lf	107/109 (98%)	106 (99%)	1 (1%)	0	100	100
71	Lg	125/127 (98%)	116 (93%)	9 (7%)	0	100	100
72	Lh	104/106 (98%)	102 (98%)	2 (2%)	0	100	100
73	Li	110/112 (98%)	107 (97%)	3 (3%)	0	100	100
74	Lj	117/119 (98%)	114 (97%)	2 (2%)	1 (1%)	14	41
75	Lk	97/99 (98%)	91 (94%)	6 (6%)	0	100	100
76	Ll	79/81 (98%)	76 (96%)	3 (4%)	0	100	100
77	Lm	75/77 (97%)	74 (99%)	1 (1%)	0	100	100
78	Ln	48/50 (96%)	47 (98%)	1 (2%)	0	100	100
79	Lo	50/52 (96%)	50 (100%)	0	0	100	100
80	Lp	23/25 (92%)	23 (100%)	0	0	100	100
81	Lq	101/103 (98%)	95 (94%)	6 (6%)	0	100	100
82	Lr	89/91 (98%)	86 (97%)	3 (3%)	0	100	100
All	All	10980/11713 (94%)	10497 (96%)	477 (4%)	6 (0%)	49	76

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
17	SU	135	ILE
39	SO	279	ALA
52	LN	47	ALA
67	Lc	40	HIS
74	Lj	118	ILE
57	LS	18	ALA

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	
7	z	52/523 (10%)	51 (98%)	1 (2%)	50	69
9	SP	170/173 (98%)	169 (99%)	1 (1%)	78	80
10	SQ	200/205 (98%)	198 (99%)	2 (1%)	68	76
11	SE	95/98 (97%)	95 (100%)	0	100	100
12	SR	175/175 (100%)	175 (100%)	0	100	100
13	SA	182/182 (100%)	181 (100%)	1 (0%)	81	82
14	SS	220/220 (100%)	219 (100%)	1 (0%)	81	82
15	SB	172/173 (99%)	172 (100%)	0	100	100
16	ST	189/195 (97%)	189 (100%)	0	100	100
17	SU	163/165 (99%)	161 (99%)	2 (1%)	63	74
18	SV	148/159 (93%)	148 (100%)	0	100	100
19	SW	156/157 (99%)	154 (99%)	2 (1%)	61	73
20	SC	78/85 (92%)	77 (99%)	1 (1%)	61	73
21	SX	126/127 (99%)	126 (100%)	0	100	100
22	SD	88/98 (90%)	88 (100%)	0	100	100
23	SY	127/127 (100%)	125 (98%)	2 (2%)	55	71
24	SZ	90/96 (94%)	90 (100%)	0	100	100
25	SF	117/117 (100%)	117 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
26	SG	101/113 (89%)	100 (99%)	1 (1%)	68	76
27	SH	127/128 (99%)	126 (99%)	1 (1%)	73	78
28	SI	115/115 (100%)	112 (97%)	3 (3%)	40	64
29	SJ	93/93 (100%)	93 (100%)	0	100	100
30	Sa	71/74 (96%)	71 (100%)	0	100	100
31	Sb	110/110 (100%)	110 (100%)	0	100	100
32	Sc	119/119 (100%)	118 (99%)	1 (1%)	73	78
33	Sd	102/112 (91%)	102 (100%)	0	100	100
34	Se	82/83 (99%)	82 (100%)	0	100	100
35	Sf	70/70 (100%)	69 (99%)	1 (1%)	59	72
36	SM	47/47 (100%)	47 (100%)	0	100	100
37	Sg	48/49 (98%)	46 (96%)	2 (4%)	26	54
38	SN	56/63 (89%)	55 (98%)	1 (2%)	51	69
39	SO	250/257 (97%)	249 (100%)	1 (0%)	84	84
40	SL	55/56 (98%)	55 (100%)	0	100	100
41	AA	76/89 (85%)	76 (100%)	0	100	100
42	LD	190/193 (98%)	189 (100%)	1 (0%)	81	82
43	LE	321/322 (100%)	319 (99%)	2 (1%)	78	80
44	LF	288/288 (100%)	287 (100%)	1 (0%)	86	85
45	LG	241/243 (99%)	241 (100%)	0	100	100
46	LH	139/154 (90%)	138 (99%)	1 (1%)	76	79
47	LI	186/186 (100%)	185 (100%)	1 (0%)	81	82
48	LJ	187/191 (98%)	186 (100%)	1 (0%)	81	82
49	LK	168/171 (98%)	167 (99%)	1 (1%)	78	80
50	LL	185/185 (100%)	183 (99%)	2 (1%)	65	75
51	LM	145/147 (99%)	144 (99%)	1 (1%)	76	79
52	LN	154/154 (100%)	154 (100%)	0	100	100
53	LO	107/107 (100%)	106 (99%)	1 (1%)	70	77
54	LP	175/175 (100%)	175 (100%)	0	100	100
55	LQ	160/160 (100%)	160 (100%)	0	100	100
56	LR	138/145 (95%)	138 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
57	LS	150/150 (100%)	150 (100%)	0	100	100
58	LT	152/153 (99%)	151 (99%)	1 (1%)	76	79
59	LU	155/155 (100%)	155 (100%)	0	100	100
60	LV	135/136 (99%)	134 (99%)	1 (1%)	76	79
61	LW	87/87 (100%)	87 (100%)	0	100	100
62	LX	104/104 (100%)	104 (100%)	0	100	100
63	LY	54/57 (95%)	54 (100%)	0	100	100
64	LZ	104/105 (99%)	101 (97%)	3 (3%)	37	61
65	La	108/108 (100%)	107 (99%)	1 (1%)	70	77
66	Lb	112/115 (97%)	111 (99%)	1 (1%)	70	77
67	Lc	117/118 (99%)	117 (100%)	0	100	100
68	Ld	46/46 (100%)	46 (100%)	0	100	100
69	Le	81/81 (100%)	78 (96%)	3 (4%)	30	57
70	Lf	92/96 (96%)	92 (100%)	0	100	100
71	Lg	108/109 (99%)	107 (99%)	1 (1%)	70	77
72	Lh	90/90 (100%)	87 (97%)	3 (3%)	33	59
73	Li	95/95 (100%)	95 (100%)	0	100	100
74	Lj	104/104 (100%)	104 (100%)	0	100	100
75	Lk	80/81 (99%)	80 (100%)	0	100	100
76	Ll	67/67 (100%)	67 (100%)	0	100	100
77	Lm	68/68 (100%)	68 (100%)	0	100	100
78	Ln	45/45 (100%)	45 (100%)	0	100	100
79	Lo	45/47 (96%)	45 (100%)	0	100	100
80	Lp	22/23 (96%)	22 (100%)	0	100	100
81	Lq	87/88 (99%)	87 (100%)	0	100	100
82	Lr	71/71 (100%)	71 (100%)	0	100	100
All	All	9233/9873 (94%)	9183 (100%)	50 (0%)	78	82

All (50) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
7	z	409	ILE
9	SP	164	ASN

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Mol	Chain	Res	Type
10	SQ	78	ASP
10	SQ	188	LEU
13	SA	189	MET
14	SS	130	GLN
17	SU	46	ILE
17	SU	55	LYS
19	SW	16	LYS
19	SW	110	GLN
20	SC	65	TYR
23	SY	69	ASN
23	SY	134	VAL
26	SG	104	ASN
27	SH	36	LYS
28	SI	109	GLU
28	SI	113	ILE
28	SI	116	ILE
32	Sc	89	ASN
35	Sf	62	ILE
37	Sg	5	HIS
37	Sg	47	VAL
38	SN	130	VAL
39	SO	110	VAL
42	LD	8	GLN
43	LE	103	THR
43	LE	110	LEU
44	LF	18	ASN
46	LH	132	THR
47	LI	233	GLU
48	LJ	28	HIS
49	LK	177	ASP
50	LL	130	ASP
50	LL	190	VAL
51	LM	20	ASN
53	LO	63	VAL
58	LT	134	HIS
60	LV	68	THR
64	LZ	37	THR
64	LZ	119	THR
64	LZ	135	ILE
65	La	67	GLU
66	Lb	77	TYR
69	Le	67	VAL

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Mol	Chain	Res	Type
69	Le	74	ASN
69	Le	89	VAL
71	Lg	30	GLU
72	Lh	9	VAL
72	Lh	98	VAL
72	Lh	107	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (80) such sidechains are listed below:

Mol	Chain	Res	Type
10	SQ	74	GLN
10	SQ	79	HIS
10	SQ	124	ASN
10	SQ	199	ASN
10	SQ	209	ASN
11	SE	104	GLN
12	SR	150	GLN
13	SA	22	ASN
13	SA	67	ASN
13	SA	159	HIS
13	SA	165	ASN
14	SS	36	HIS
14	SS	157	ASN
15	SB	100	ASN
15	SB	104	ASN
15	SB	169	ASN
16	ST	176	GLN
17	SU	19	GLN
17	SU	71	HIS
17	SU	150	GLN
18	SV	20	GLN
18	SV	119	GLN
18	SV	159	GLN
19	SW	124	HIS
20	SC	9	ASN
20	SC	29	GLN
20	SC	32	HIS
21	SX	14	GLN
21	SX	104	HIS
21	SX	138	ASN
23	SY	5	HIS
24	SZ	65	GLN

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Mol	Chain	Res	Type
26	SG	74	GLN
27	SH	25	ASN
27	SH	74	GLN
28	SI	70	GLN
29	SJ	44	ASN
29	SJ	47	GLN
35	Sf	26	GLN
38	SN	134	ASN
40	SL	43	ASN
42	LD	233	GLN
43	LE	212	ASN
43	LE	256	HIS
44	LF	116	ASN
44	LF	328	ASN
47	LI	48	ASN
47	LI	166	ASN
47	LI	200	ASN
48	LJ	137	ASN
48	LJ	232	HIS
49	LK	156	GLN
50	LL	14	ASN
50	LL	55	ASN
50	LL	73	ASN
51	LM	68	HIS
51	LM	90	GLN
51	LM	132	ASN
52	LN	37	ASN
52	LN	149	GLN
54	LP	34	ASN
54	LP	178	HIS
56	LR	45	GLN
57	LS	158	HIS
59	LU	108	GLN
60	LV	16	GLN
60	LV	112	ASN
61	LW	40	HIS
66	Lb	40	HIS
66	Lb	57	HIS
67	Lc	38	GLN
70	Lf	15	ASN
72	Lh	87	ASN
73	Li	108	GLN

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Mol	Chain	Res	Type
76	Ll	30	GLN
78	Ln	4	GLN
78	Ln	33	ASN
79	Lo	109	ASN
81	Lq	27	GLN
81	Lq	90	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	3033/3394 (89%)	481 (15%)	25 (0%)
2	B	120/121 (99%)	11 (9%)	2 (1%)
3	C	157/158 (99%)	24 (15%)	1 (0%)
4	D	9/10 (90%)	3 (33%)	1 (11%)
5	m	75/76 (98%)	26 (34%)	0
6	n	74/75 (98%)	16 (21%)	0
8	E	1588/1800 (88%)	352 (22%)	48 (3%)
All	All	5056/5634 (89%)	913 (18%)	77 (1%)

All (913) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	13	A
1	A	14	U
1	A	26	A
1	A	40	A
1	A	43	A
1	A	49	A
1	A	59	G
1	A	60	A
1	A	65	A
1	A	66	A
1	A	92	G
1	A	99	A
1	A	110	G
1	A	111	C
1	A	116	A
1	A	117	U
1	A	118	U
1	A	121	A
1	A	122	A

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Mol	Chain	Res	Type
1	A	135	C
1	A	136	G
1	A	155	G
1	A	156	G
1	A	157	A
1	A	161	G
1	A	165	A
1	A	187	A
1	A	190	U
1	A	191	U
1	A	200	C
1	A	206	G
1	A	210	U
1	A	213	A
1	A	218	G
1	A	219	A
1	A	234	G
1	A	239	G
1	A	241	G
1	A	242	C
1	A	243	G
1	A	269	G
1	A	281	G
1	A	283	G
1	A	286	U
1	A	295	A
1	A	305	U
1	A	329	U
1	A	330	G
1	A	339	C
1	A	350	C
1	A	351	A
1	A	376	G
1	A	395	A
1	A	398	A
1	A	399	A
1	A	401	U
1	A	402	A
1	A	403	C
1	A	404	G
1	A	420	G
1	A	421	G

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Mol	Chain	Res	Type
1	A	422	A
1	A	438	A
1	A	440	A
1	A	441	U
1	A	494	G
1	A	503	C
1	A	518	G
1	A	521	A
1	A	523	A
1	A	533	A
1	A	535	G
1	A	536	U
1	A	543	C
1	A	545	U
1	A	546	C
1	A	549	U
1	A	557	A
1	A	559	A
1	A	560	G
1	A	579	G
1	A	592	A
1	A	609	G
1	A	611	A
1	A	620	U
1	A	621	A
1	A	622	A
1	A	637	C
1	A	638	C
1	A	649	A
1	A	667	C
1	A	677	A
1	A	681	U
1	A	691	A
1	A	705	A
1	A	712	G
1	A	715	A
1	A	719	U
1	A	720	A
1	A	727	G
1	A	742	G
1	A	758	C
1	A	763	G

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Mol	Chain	Res	Type
1	A	764	U
1	A	765	C
1	A	766	U
1	A	767	U
1	A	776	U
1	A	779	G
1	A	781	G
1	A	785	G
1	A	806	A
1	A	808	A
1	A	817	A
1	A	830	A
1	A	848	A
1	A	849	C
1	A	850	U
1	A	861	C
1	A	874	U
1	A	879	U
1	A	896	A
1	A	907	G
1	A	908	G
1	A	914	A
1	A	916	G
1	A	917	A
1	A	921	A
1	A	923	C
1	A	924	G
1	A	937	G
1	A	944	C
1	A	959	C
1	A	960	U
1	A	974	G
1	A	981	U
1	A	982	C
1	A	992	A
1	A	1002	A
1	A	1010	G
1	A	1047	A
1	A	1049	C
1	A	1063	G
1	A	1064	A
1	A	1065	A

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Mol	Chain	Res	Type
1	A	1072	G
1	A	1081	U
1	A	1093	A
1	A	1094	U
1	A	1095	U
1	A	1097	G
1	A	1098	A
1	A	1103	A
1	A	1104	G
1	A	1117	G
1	A	1131	G
1	A	1144	U
1	A	1159	A
1	A	1177	G
1	A	1180	A
1	A	1181	U
1	A	1190	A
1	A	1192	C
1	A	1193	A
1	A	1196	C
1	A	1201	C
1	A	1202	A
1	A	1217	A
1	A	1220	U
1	A	1222	G
1	A	1223	A
1	A	1227	C
1	A	1230	G
1	A	1282	G
1	A	1284	C
1	A	1285	G
1	A	1287	A
1	A	1295	G
1	A	1307	G
1	A	1308	A
1	A	1309	U
1	A	1330	A
1	A	1331	U
1	A	1349	G
1	A	1352	A
1	A	1355	A
1	A	1356	U

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Mol	Chain	Res	Type
1	A	1357	G
1	A	1386	A
1	A	1392	G
1	A	1399	A
1	A	1400	G
1	A	1408	G
1	A	1417	G
1	A	1418	A
1	A	1419	A
1	A	1434	G
1	A	1437	C
1	A	1446	A
1	A	1450	G
1	A	1481	A
1	A	1483	G
1	A	1487	G
1	A	1503	A
1	A	1508	C
1	A	1527	C
1	A	1536	G
1	A	1546	A
1	A	1555	U
1	A	1556	C
1	A	1560	G
1	A	1562	C
1	A	1563	C
1	A	1564	U
1	A	1573	G
1	A	1574	C
1	A	1575	A
1	A	1576	G
1	A	1580	A
1	A	1583	A
1	A	1587	A
1	A	1589	A
1	A	1593	A
1	A	1596	C
1	A	1606	U
1	A	1619	A
1	A	1620	U
1	A	1627	U
1	A	1629	U

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Mol	Chain	Res	Type
1	A	1630	U
1	A	1639	C
1	A	1642	A
1	A	1643	A
1	A	1645	U
1	A	1657	C
1	A	1683	A
1	A	1688	U
1	A	1717	U
1	A	1724	U
1	A	1725	C
1	A	1741	A
1	A	1750	A
1	A	1751	G
1	A	1770	G
1	A	1775	G
1	A	1780	G
1	A	1788	C
1	A	1797	A
1	A	1808	G
1	A	1815	U
1	A	1816	A
1	A	1817	G
1	A	1819	U
1	A	1820	U
1	A	1821	U
1	A	1839	A
1	A	1840	U
1	A	1841	A
1	A	1842	A
1	A	1846	C
1	A	1849	C
1	A	1858	A
1	A	1866	C
1	A	1867	A
1	A	1878	G
1	A	1879	A
1	A	1884	A
1	A	1893	A
1	A	1906	G
1	A	1943	C
1	A	1953	G

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Mol	Chain	Res	Type
1	A	1954	G
1	A	1955	U
1	A	2094	C
1	A	2095	G
1	A	2102	U
1	A	2111	G
1	A	2113	A
1	A	2114	C
1	A	2121	G
1	A	2122	G
1	A	2131	A
1	A	2140	U
1	A	2144	A
1	A	2158	A
1	A	2166	A
1	A	2169	G
1	A	2206	G
1	A	2207	A
1	A	2208	A
1	A	2209	U
1	A	2222	A
1	A	2223	A
1	A	2244	A
1	A	2249	G
1	A	2256	A
1	A	2272	G
1	A	2273	G
1	A	2274	U
1	A	2281	A
1	A	2282	U
1	A	2307	G
1	A	2308	C
1	A	2310	U
1	A	2313	A
1	A	2314	U
1	A	2315	G
1	A	2325	G
1	A	2334	U
1	A	2335	G
1	A	2336	U
1	A	2372	A
1	A	2373	A

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Mol	Chain	Res	Type
1	A	2374	C
1	A	2375	G
1	A	2385	G
1	A	2388	U
1	A	2393	G
1	A	2394	G
1	A	2397	A
1	A	2402	A
1	A	2403	G
1	A	2404	A
1	A	2411	U
1	A	2419	A
1	A	2434	U
1	A	2437	G
1	A	2440	G
1	A	2514	U
1	A	2515	A
1	A	2531	C
1	A	2532	U
1	A	2533	G
1	A	2549	G
1	A	2552	C
1	A	2555	G
1	A	2561	A
1	A	2569	A
1	A	2570	U
1	A	2572	C
1	A	2573	G
1	A	2585	G
1	A	2593	A
1	A	2594	C
1	A	2595	A
1	A	2606	G
1	A	2607	G
1	A	2614	G
1	A	2619	G
1	A	2629	U
1	A	2635	A
1	A	2652	U
1	A	2656	A
1	A	2657	A
1	A	2664	C

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Mol	Chain	Res	Type
1	A	2674	A
1	A	2677	G
1	A	2681	U
1	A	2689	A
1	A	2691	A
1	A	2694	A
1	A	2696	A
1	A	2704	A
1	A	2713	U
1	A	2714	G
1	A	2719	U
1	A	2727	A
1	A	2728	G
1	A	2729	U
1	A	2737	C
1	A	2749	G
1	A	2753	G
1	A	2777	G
1	A	2778	G
1	A	2780	A
1	A	2796	G
1	A	2800	G
1	A	2801	A
1	A	2802	A
1	A	2803	A
1	A	2810	C
1	A	2814	G
1	A	2817	A
1	A	2818	U
1	A	2821	C
1	A	2838	A
1	A	2842	U
1	A	2845	A
1	A	2849	C
1	A	2856	G
1	A	2867	C
1	A	2871	G
1	A	2872	A
1	A	2875	U
1	A	2887	A
1	A	2889	C
1	A	2914	G

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Mol	Chain	Res	Type
1	A	2923	U
1	A	2935	U
1	A	2936	A
1	A	2941	A
1	A	2947	G
1	A	2954	U
1	A	2964	G
1	A	2971	A
1	A	2980	U
1	A	2983	C
1	A	2990	G
1	A	2996	U
1	A	2997	G
1	A	3012	A
1	A	3056	U
1	A	3059	G
1	A	3078	U
1	A	3079	U
1	A	3086	A
1	A	3092	C
1	A	3093	C
1	A	3101	G
1	A	3104	U
1	A	3117	C
1	A	3119	U
1	A	3122	A
1	A	3129	A
1	A	3130	A
1	A	3131	U
1	A	3142	A
1	A	3143	C
1	A	3153	U
1	A	3154	C
1	A	3155	U
1	A	3156	U
1	A	3157	U
1	A	3165	A
1	A	3170	A
1	A	3173	G
1	A	3174	A
1	A	3176	G
1	A	3179	U

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Mol	Chain	Res	Type
1	A	3181	C
1	A	3186	A
1	A	3187	A
1	A	3195	U
1	A	3196	U
1	A	3207	U
1	A	3210	A
1	A	3217	C
1	A	3218	A
1	A	3219	G
1	A	3229	G
1	A	3239	G
1	A	3242	G
1	A	3243	A
1	A	3245	A
1	A	3247	G
1	A	3249	C
1	A	3259	U
1	A	3263	G
1	A	3270	U
1	A	3273	A
1	A	3276	G
1	A	3281	U
1	A	3287	U
1	A	3288	G
1	A	3289	G
1	A	3294	A
1	A	3295	A
1	A	3304	U
1	A	3316	A
1	A	3318	G
1	A	3320	A
1	A	3345	G
1	A	3351	U
1	A	3352	U
1	A	3355	U
1	A	3362	A
1	A	3369	G
1	A	3378	C
1	A	3382	U
1	A	3389	U
1	A	3390	G

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Mol	Chain	Res	Type
2	B	7	G
2	B	29	C
2	B	33	U
2	B	35	C
2	B	39	C
2	B	53	U
2	B	65	G
2	B	76	A
2	B	102	A
2	B	112	G
2	B	121	U
3	C	34	U
3	C	35	C
3	C	38	U
3	C	48	A
3	C	59	A
3	C	62	C
3	C	63	G
3	C	80	A
3	C	81	U
3	C	83	C
3	C	84	C
3	C	85	G
3	C	86	U
3	C	87	G
3	C	90	U
3	C	95	G
3	C	97	A
3	C	104	A
3	C	106	C
3	C	112	U
3	C	125	U
3	C	126	A
3	C	148	G
3	C	152	G
4	D	6	G
4	D	7	A
4	D	8	A
5	m	2	G
5	m	8	U
5	m	9	A
5	m	14	A

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Mol	Chain	Res	Type
5	m	15	G
5	m	16	U
5	m	18	G
5	m	21	A
5	m	45	G
5	m	46	G
5	m	48	C
5	m	49	G
5	m	50	C
5	m	51	A
5	m	52	G
5	m	53	G
5	m	54	U
5	m	55	U
5	m	57	G
5	m	58	A
5	m	59	A
5	m	60	U
5	m	61	C
5	m	66	A
5	m	68	G
5	m	74	C
6	n	3	C
6	n	16	U
6	n	18	G
6	n	19	G
6	n	20	A
6	n	21	A
6	n	22	G
6	n	30	G
6	n	47	U
6	n	48	C
6	n	54	A
6	n	55	U
6	n	59	A
6	n	63	G
6	n	64	A
6	n	76	A
8	E	2	A
8	E	4	C
8	E	25	C
8	E	26	A

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Mol	Chain	Res	Type
8	E	42	G
8	E	43	A
8	E	45	U
8	E	46	A
8	E	47	A
8	E	56	U
8	E	57	G
8	E	61	A
8	E	62	A
8	E	63	G
8	E	65	A
8	E	66	U
8	E	68	A
8	E	69	G
8	E	75	U
8	E	78	A
8	E	79	C
8	E	81	G
8	E	101	U
8	E	104	A
8	E	114	C
8	E	127	G
8	E	129	U
8	E	130	C
8	E	131	C
8	E	132	U
8	E	133	U
8	E	134	U
8	E	135	A
8	E	136	C
8	E	138	A
8	E	140	A
8	E	145	A
8	E	153	G
8	E	156	A
8	E	158	U
8	E	161	U
8	E	166	C
8	E	169	A
8	E	176	C
8	E	178	U
8	E	179	A

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Mol	Chain	Res	Type
8	E	180	A
8	E	182	A
8	E	250	C
8	E	257	A
8	E	261	U
8	E	265	A
8	E	272	U
8	E	274	G
8	E	276	C
8	E	278	U
8	E	279	G
8	E	280	U
8	E	287	G
8	E	299	A
8	E	312	A
8	E	313	U
8	E	314	C
8	E	316	A
8	E	321	C
8	E	322	G
8	E	323	A
8	E	330	G
8	E	333	A
8	E	337	G
8	E	338	C
8	E	352	A
8	E	353	A
8	E	359	A
8	E	361	C
8	E	370	A
8	E	373	G
8	E	388	G
8	E	400	A
8	E	401	A
8	E	402	C
8	E	404	G
8	E	416	A
8	E	417	A
8	E	418	G
8	E	419	G
8	E	423	G
8	E	424	C

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Mol	Chain	Res	Type
8	E	425	A
8	E	426	G
8	E	428	A
8	E	434	G
8	E	437	A
8	E	439	U
8	E	444	C
8	E	445	A
8	E	447	U
8	E	448	C
8	E	460	A
8	E	461	G
8	E	468	A
8	E	471	A
8	E	482	U
8	E	510	G
8	E	517	U
8	E	518	A
8	E	527	A
8	E	534	A
8	E	538	A
8	E	539	G
8	E	540	G
8	E	541	A
8	E	542	A
8	E	554	C
8	E	555	A
8	E	556	A
8	E	558	U
8	E	565	C
8	E	568	G
8	E	578	U
8	E	579	A
8	E	583	C
8	E	594	A
8	E	595	G
8	E	606	A
8	E	608	U
8	E	609	U
8	E	610	G
8	E	611	U
8	E	619	A

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Mol	Chain	Res	Type
8	E	620	A
8	E	623	A
8	E	624	G
8	E	639	U
8	E	640	U
8	E	641	G
8	E	687	G
8	E	693	U
8	E	694	U
8	E	745	U
8	E	756	A
8	E	765	G
8	E	766	U
8	E	769	A
8	E	771	A
8	E	774	A
8	E	775	G
8	E	778	G
8	E	780	A
8	E	781	U
8	E	782	U
8	E	783	G
8	E	787	G
8	E	789	A
8	E	794	U
8	E	803	A
8	E	804	A
8	E	809	A
8	E	812	A
8	E	813	U
8	E	814	A
8	E	815	G
8	E	816	G
8	E	817	A
8	E	819	G
8	E	820	U
8	E	821	U
8	E	823	G
8	E	847	A
8	E	851	U
8	E	852	C
8	E	863	A

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Mol	Chain	Res	Type
8	E	873	U
8	E	899	G
8	E	901	G
8	E	902	G
8	E	904	G
8	E	912	U
8	E	913	G
8	E	921	U
8	E	929	A
8	E	933	A
8	E	935	U
8	E	942	G
8	E	945	U
8	E	951	A
8	E	960	U
8	E	966	A
8	E	988	A
8	E	993	A
8	E	1004	U
8	E	1005	A
8	E	1024	U
8	E	1028	C
8	E	1032	G
8	E	1039	A
8	E	1053	G
8	E	1066	C
8	E	1076	A
8	E	1081	A
8	E	1082	C
8	E	1092	A
8	E	1093	A
8	E	1096	C
8	E	1097	U
8	E	1098	U
8	E	1100	G
8	E	1138	A
8	E	1150	G
8	E	1158	C
8	E	1159	C
8	E	1160	A
8	E	1164	G
8	E	1167	G

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Mol	Chain	Res	Type
8	E	1170	G
8	E	1183	A
8	E	1185	U
8	E	1194	A
8	E	1196	A
8	E	1199	G
8	E	1200	G
8	E	1202	A
8	E	1207	C
8	E	1212	G
8	E	1214	U
8	E	1216	C
8	E	1217	A
8	E	1218	G
8	E	1227	A
8	E	1228	G
8	E	1229	G
8	E	1231	U
8	E	1241	G
8	E	1244	A
8	E	1245	G
8	E	1246	C
8	E	1249	U
8	E	1252	C
8	E	1257	U
8	E	1263	G
8	E	1274	C
8	E	1275	A
8	E	1284	C
8	E	1285	U
8	E	1286	U
8	E	1301	U
8	E	1307	U
8	E	1312	A
8	E	1314	U
8	E	1315	U
8	E	1316	G
8	E	1318	G
8	E	1321	A
8	E	1322	A
8	E	1325	A
8	E	1344	A

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Mol	Chain	Res	Type
8	E	1345	A
8	E	1346	A
8	E	1347	U
8	E	1348	A
8	E	1349	G
8	E	1360	A
8	E	1361	U
8	E	1362	U
8	E	1363	U
8	E	1370	U
8	E	1371	A
8	E	1372	U
8	E	1373	C
8	E	1382	A
8	E	1383	G
8	E	1390	U
8	E	1398	U
8	E	1399	C
8	E	1400	A
8	E	1402	G
8	E	1413	U
8	E	1414	U
8	E	1415	U
8	E	1427	A
8	E	1431	C
8	E	1432	U
8	E	1433	G
8	E	1436	A
8	E	1446	A
8	E	1448	G
8	E	1458	G
8	E	1459	C
8	E	1460	A
8	E	1466	G
8	E	1468	U
8	E	1469	A
8	E	1471	A
8	E	1472	C
8	E	1479	A
8	E	1491	U
8	E	1494	C
8	E	1496	U

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Mol	Chain	Res	Type
8	E	1503	A
8	E	1506	G
8	E	1516	A
8	E	1517	U
8	E	1520	U
8	E	1521	G
8	E	1523	G
8	E	1524	A
8	E	1528	U
8	E	1535	U
8	E	1536	G
8	E	1537	C
8	E	1538	U
8	E	1540	G
8	E	1542	G
8	E	1543	A
8	E	1557	U
8	E	1558	U
8	E	1559	A
8	E	1570	A
8	E	1573	A
8	E	1574	G
8	E	1575	G
8	E	1576	A
8	E	1583	A
8	E	1584	G
8	E	1589	C
8	E	1600	A
8	E	1601	G
8	E	1614	A
8	E	1616	G
8	E	1619	C
8	E	1634	C
8	E	1635	A
8	E	1637	C
8	E	1657	U
8	E	1658	G
8	E	1680	G
8	E	1717	G
8	E	1755	A
8	E	1757	G
8	E	1760	G

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Mol	Chain	Res	Type
8	E	1762	A
8	E	1766	A
8	E	1767	G
8	E	1769	U
8	E	1780	G
8	E	1782	A
8	E	1783	C
8	E	1792	G
8	E	1793	G
8	E	1794	A
8	E	1796	C
8	E	1799	U

All (77) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	13	A
1	A	186	U
1	A	282	G
1	A	544	C
1	A	637	C
1	A	763	G
1	A	849	C
1	A	916	G
1	A	1064	A
1	A	1097	G
1	A	1222	G
1	A	1307	G
1	A	1348	U
1	A	1355	A
1	A	1562	C
1	A	1815	U
1	A	2112	U
1	A	2513	U
1	A	3078	U
1	A	3121	U
1	A	3218	A
1	A	3228	C
1	A	3269	U
1	A	3294	A
1	A	3350	C
2	B	52	G

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Mol	Chain	Res	Type
2	B	120	C
3	C	85	G
4	D	7	A
8	E	65	A
8	E	68	A
8	E	77	U
8	E	100	A
8	E	130	C
8	E	139	C
8	E	178	U
8	E	279	G
8	E	313	U
8	E	322	G
8	E	352	A
8	E	387	A
8	E	400	A
8	E	447	U
8	E	539	G
8	E	541	A
8	E	555	A
8	E	609	U
8	E	639	U
8	E	640	U
8	E	755	A
8	E	768	C
8	E	803	A
8	E	818	C
8	E	819	G
8	E	912	U
8	E	928	U
8	E	1023	A
8	E	1217	A
8	E	1226	A
8	E	1245	G
8	E	1251	U
8	E	1256	A
8	E	1273	G
8	E	1274	C
8	E	1285	U
8	E	1344	A
8	E	1382	A
8	E	1430	U

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Mol	Chain	Res	Type
8	E	1471	A
8	E	1493	A
8	E	1534	G
8	E	1535	U
8	E	1536	G
8	E	1573	A
8	E	1588	G
8	E	1633	A
8	E	1636	C

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](#)

1 ligand is modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
83	3HE	A	3401	-	21,21,21	0.54	0	23,30,30	0.90	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
83	3HE	A	3401	-	-	6/8/36/36	0/2/2/2

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (6) torsion outliers are listed below:

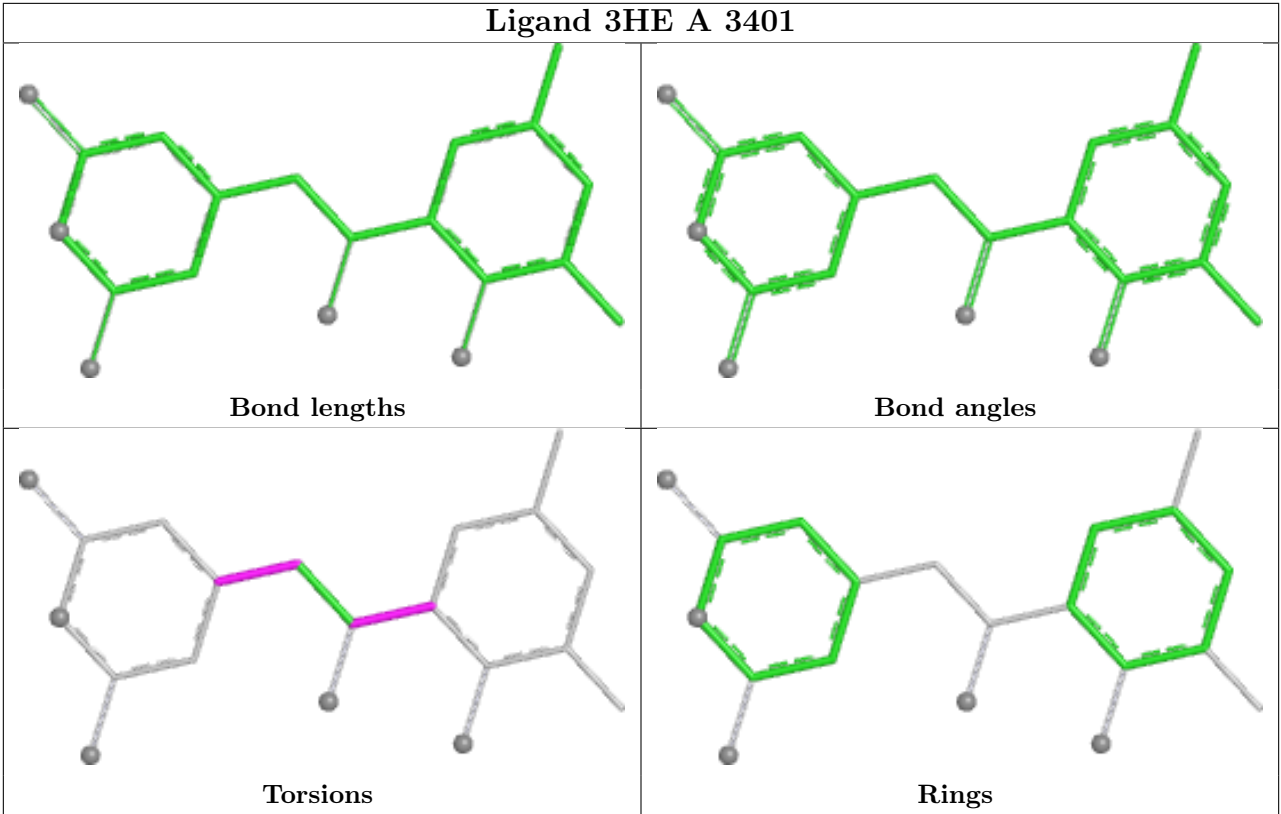
Mol	Chain	Res	Type	Atoms
83	A	3401	3HE	C4-C5-C7-C8
83	A	3401	3HE	C4-C5-C7-O3
83	A	3401	3HE	C6-C5-C7-C8
83	A	3401	3HE	C6-C5-C7-O3
83	A	3401	3HE	C7-C8-C9-C13
83	A	3401	3HE	C7-C8-C9-C10

There are no ring outliers.

1 monomer is involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
83	A	3401	3HE	3	0

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



5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

The following chains have linkage breaks:

Mol	Chain	Number of breaks
6	n	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	n	16:U	O3'	18:G	P	2.09

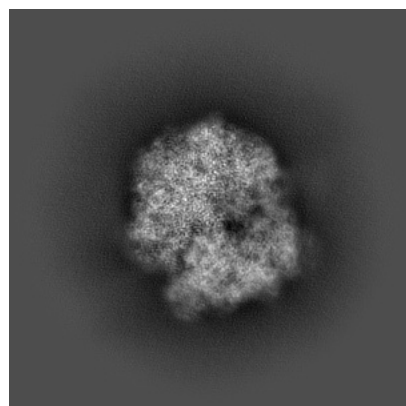
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-42540. These allow visual inspection of the internal detail of the map and identification of artifacts.

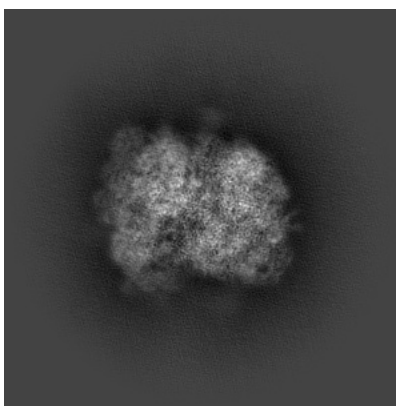
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

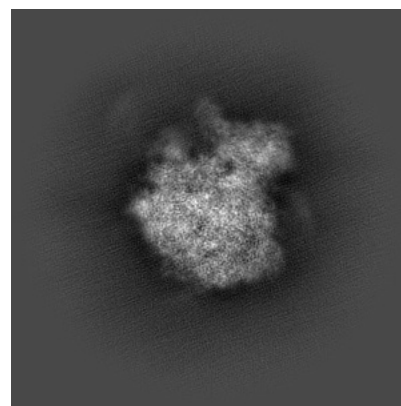
6.1.1 Primary map



X

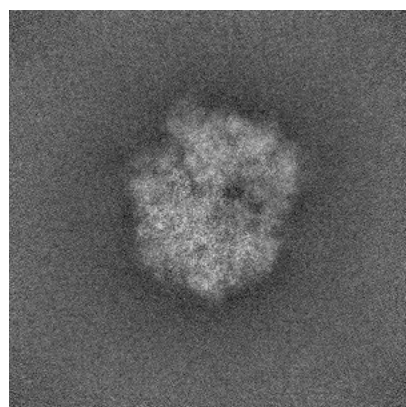


Y

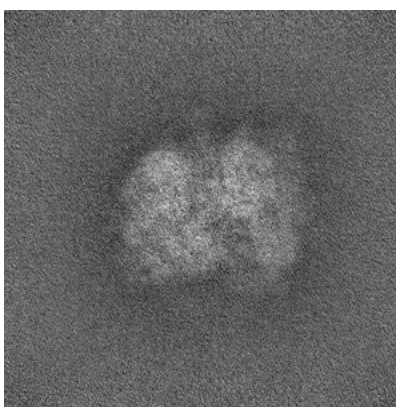


Z

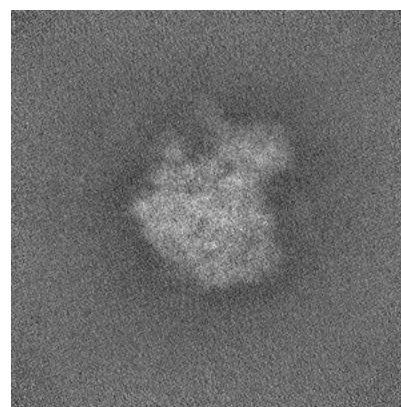
6.1.2 Raw map



X



Y

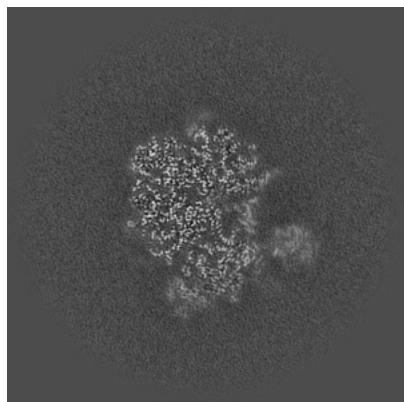


Z

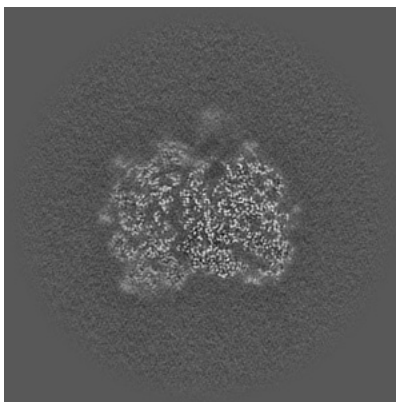
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

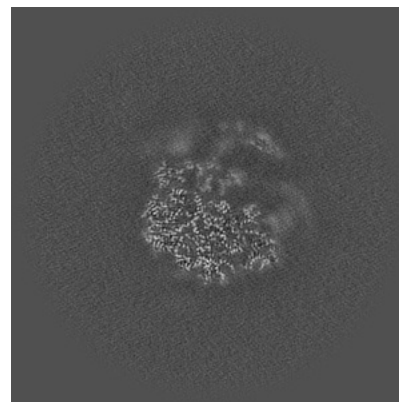
6.2.1 Primary map



X Index: 324

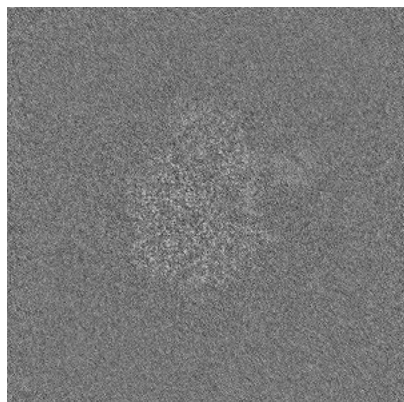


Y Index: 324

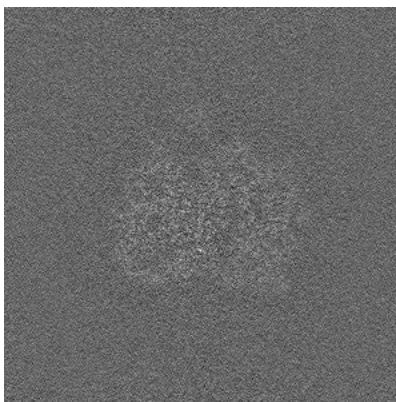


Z Index: 324

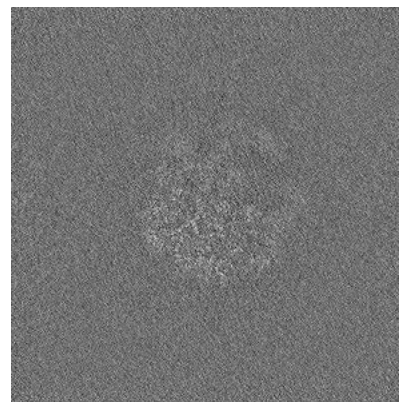
6.2.2 Raw map



X Index: 324



Y Index: 324

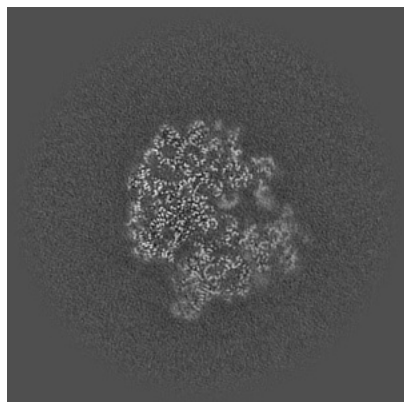


Z Index: 324

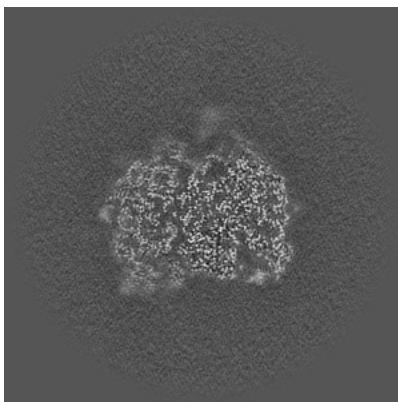
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

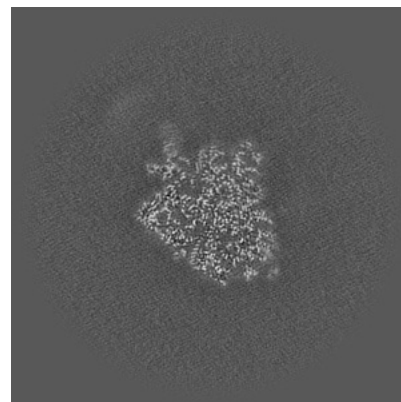
6.3.1 Primary map



X Index: 343

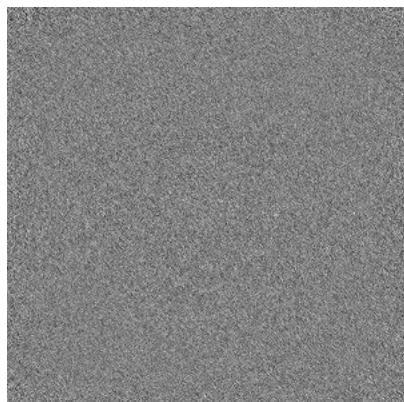


Y Index: 319

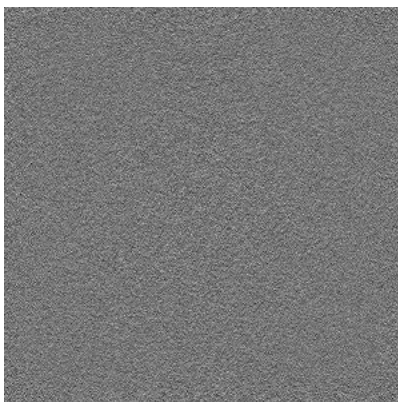


Z Index: 367

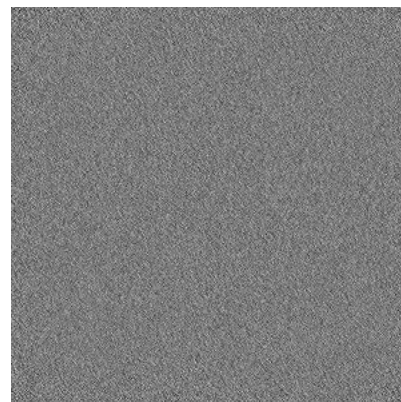
6.3.2 Raw map



X Index: 0



Y Index: 0

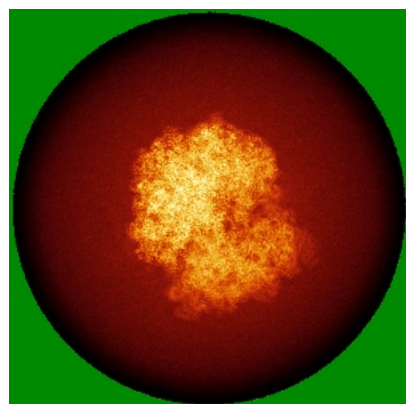


Z Index: 0

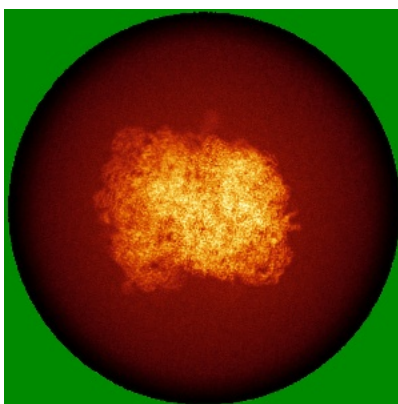
The images above show the largest variance slices of the map in three orthogonal directions.

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

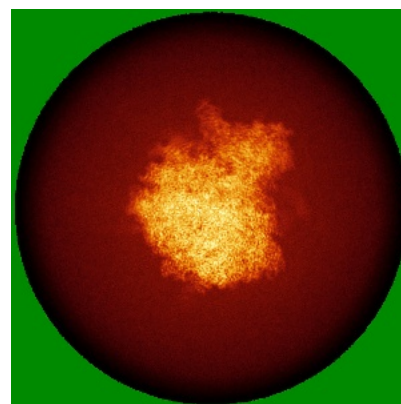
6.4.1 Primary map



X

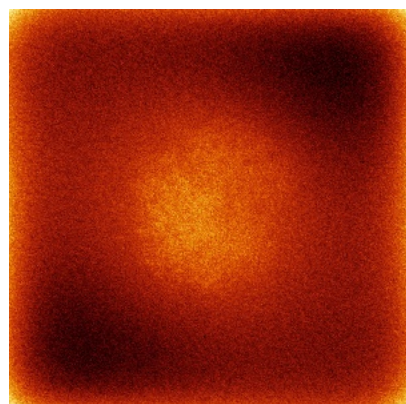


Y

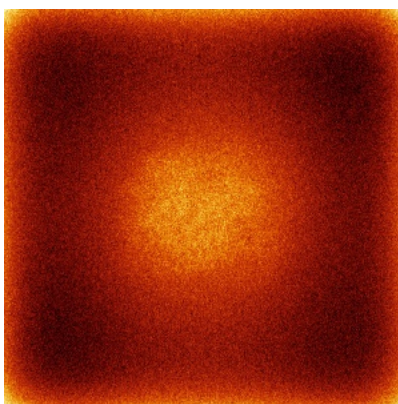


Z

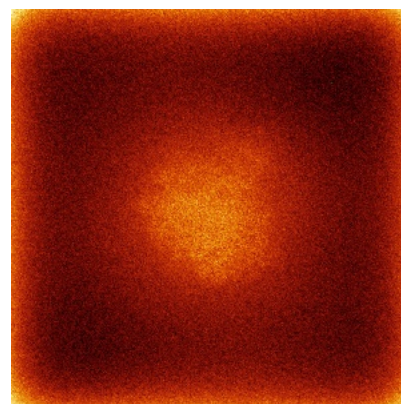
6.4.2 Raw map



X



Y

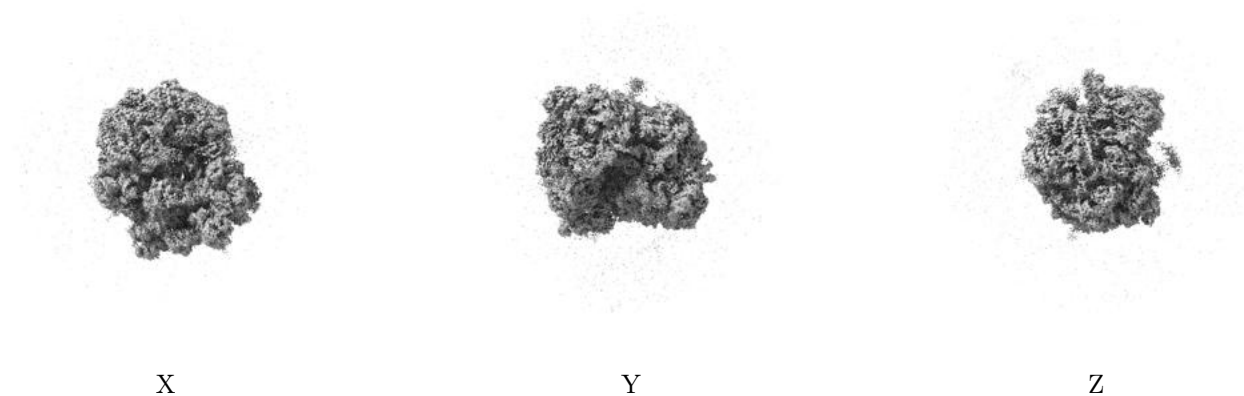


Z

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

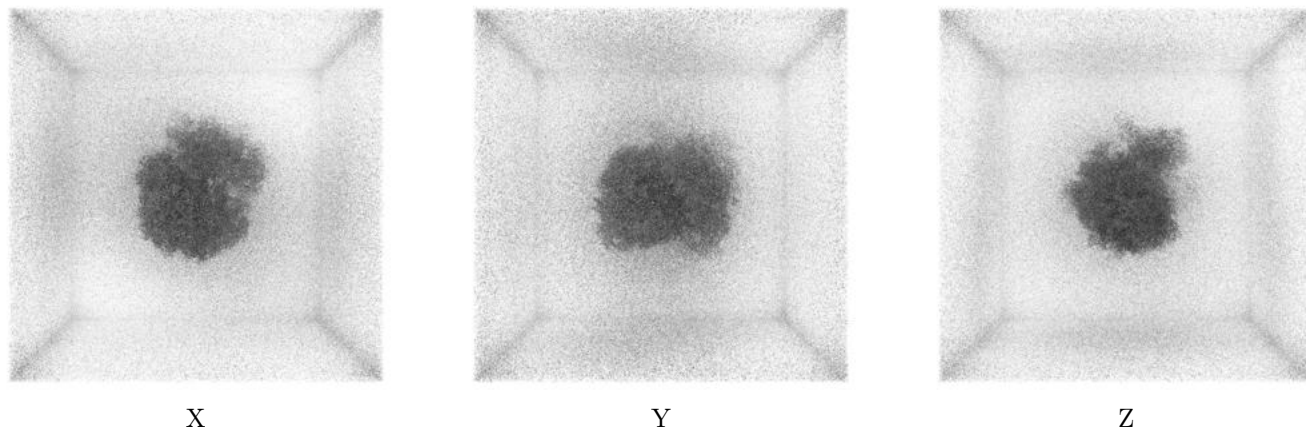
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.0875. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

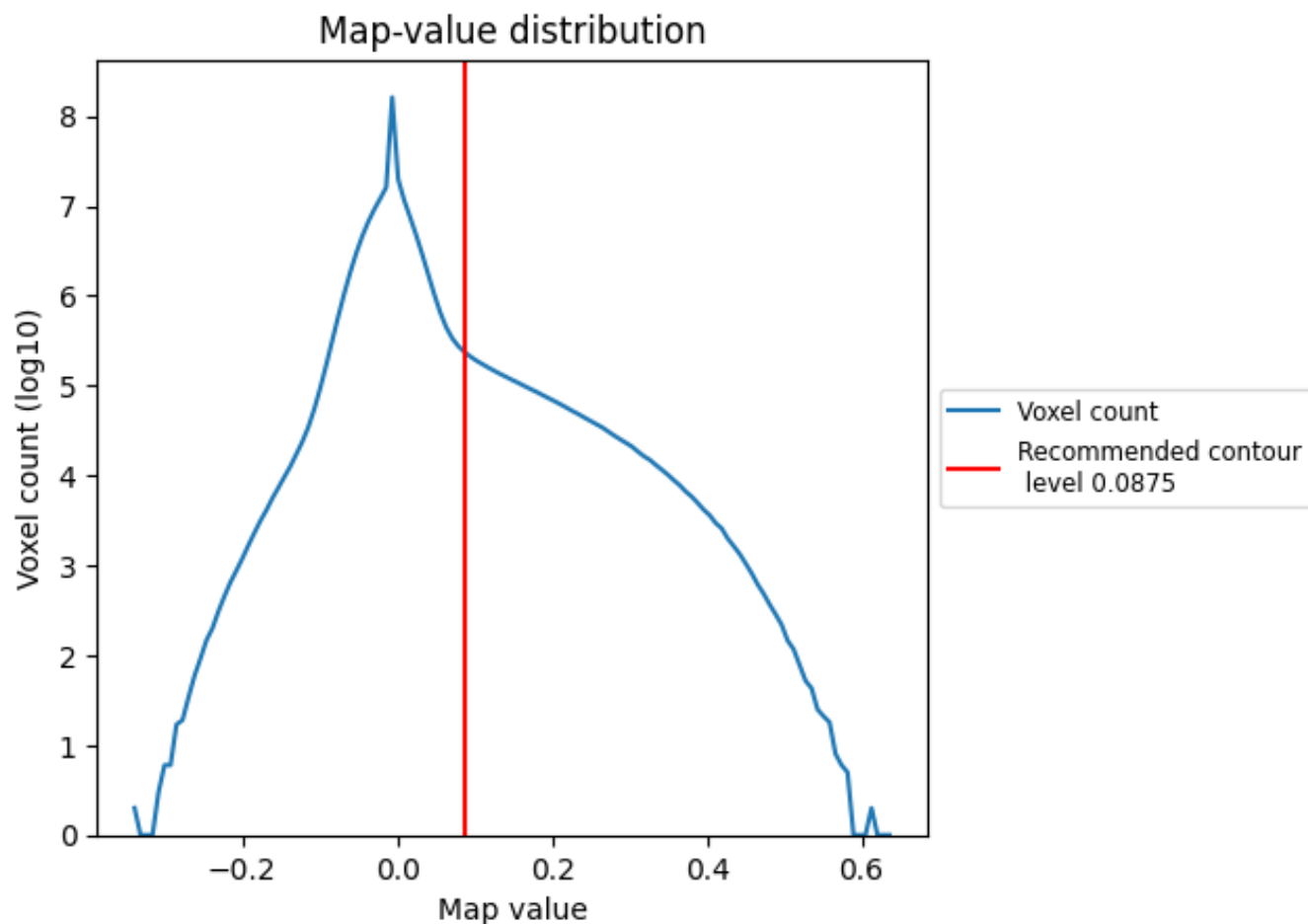
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

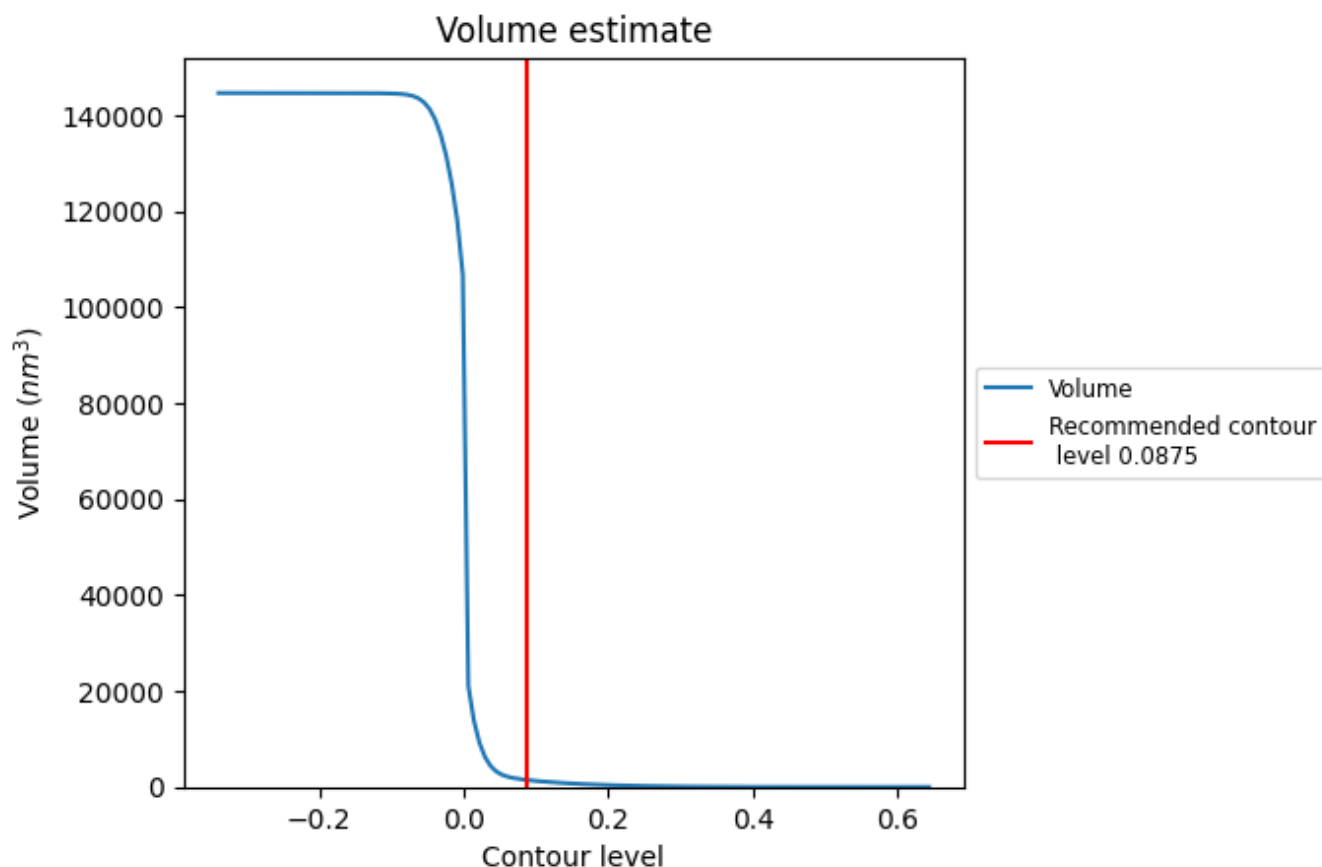
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

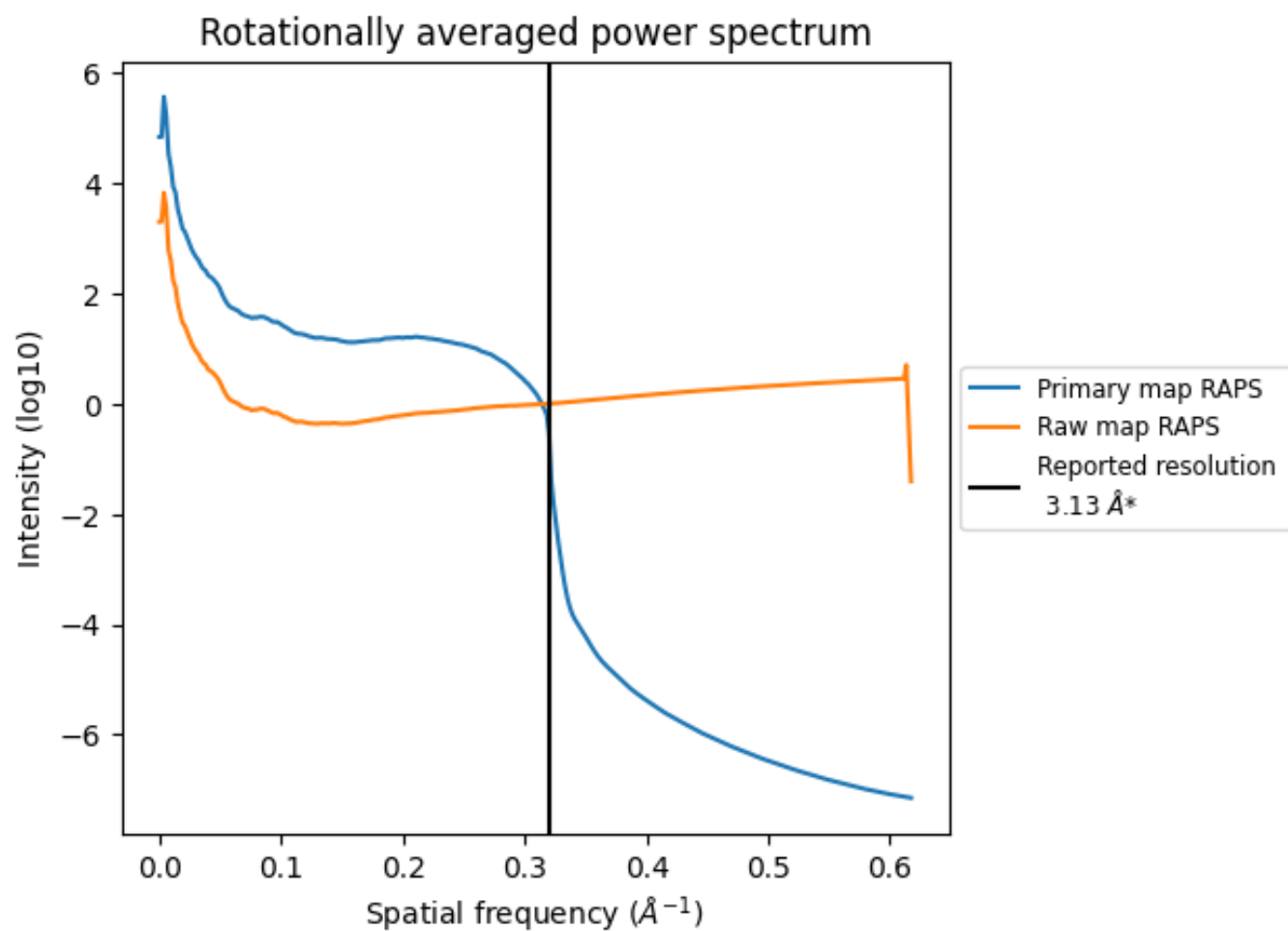
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1452 nm³; this corresponds to an approximate mass of 1312 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 ⓘ

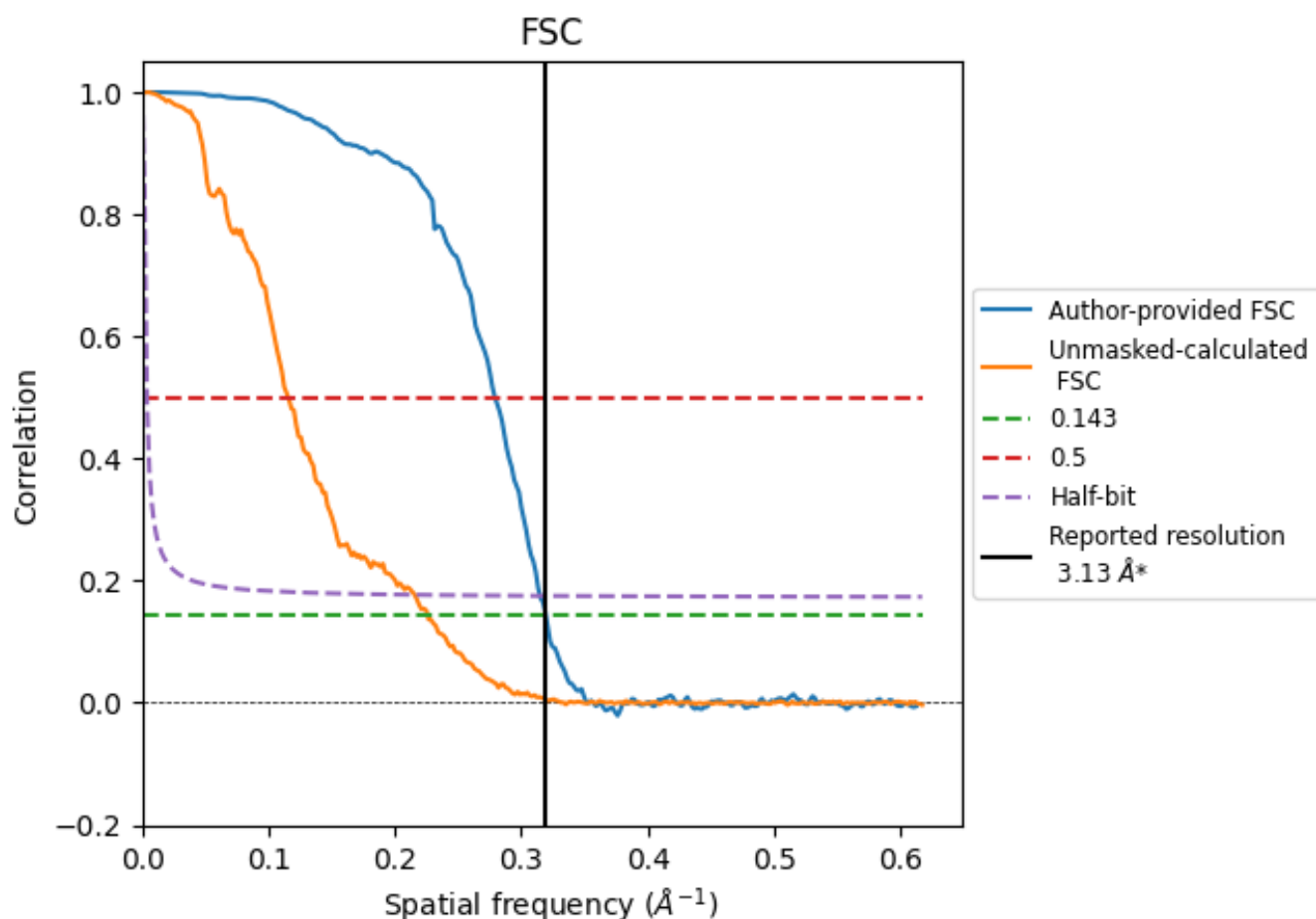


*Reported resolution corresponds to spatial frequency of 0.319 $\text{\AA}^{-1}$

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.319 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.13	-	-
Author-provided FSC curve	3.13	3.58	3.18
Unmasked-calculated*	4.43	8.65	4.64

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.43 differs from the reported value 3.13 by more than 10 %

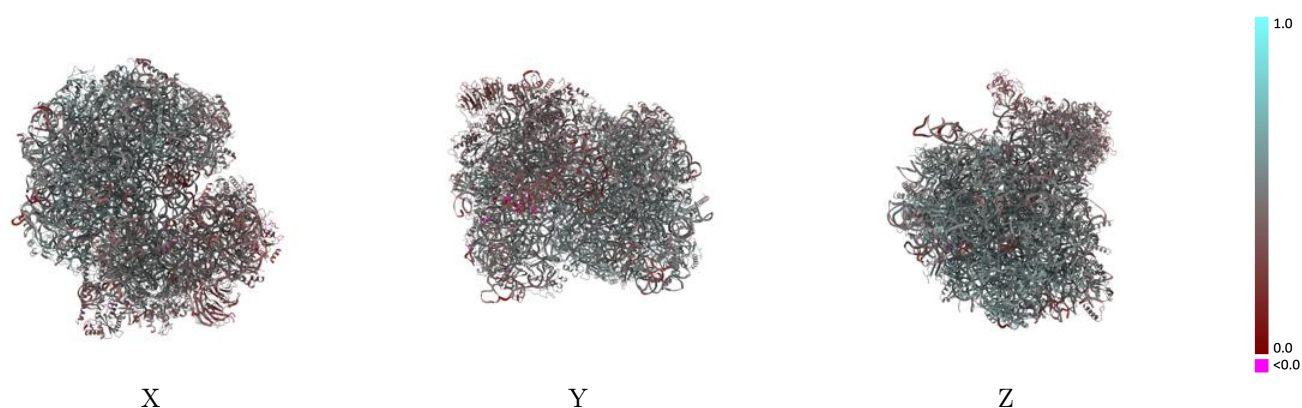
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-42540 and PDB model 8UTI. Per-residue inclusion information can be found in section 3 on page 20.

9.1 Map-model overlay [i](#)

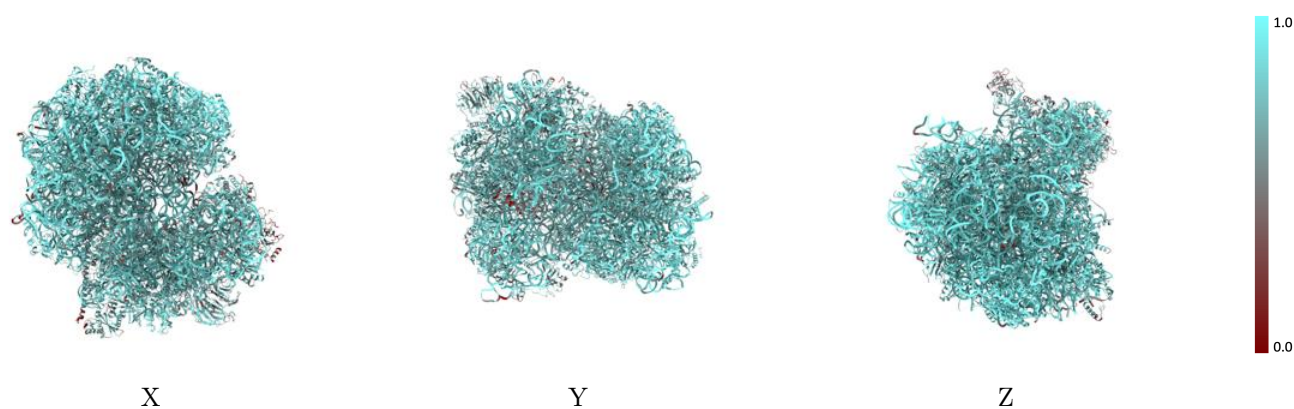
This section was not generated.

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



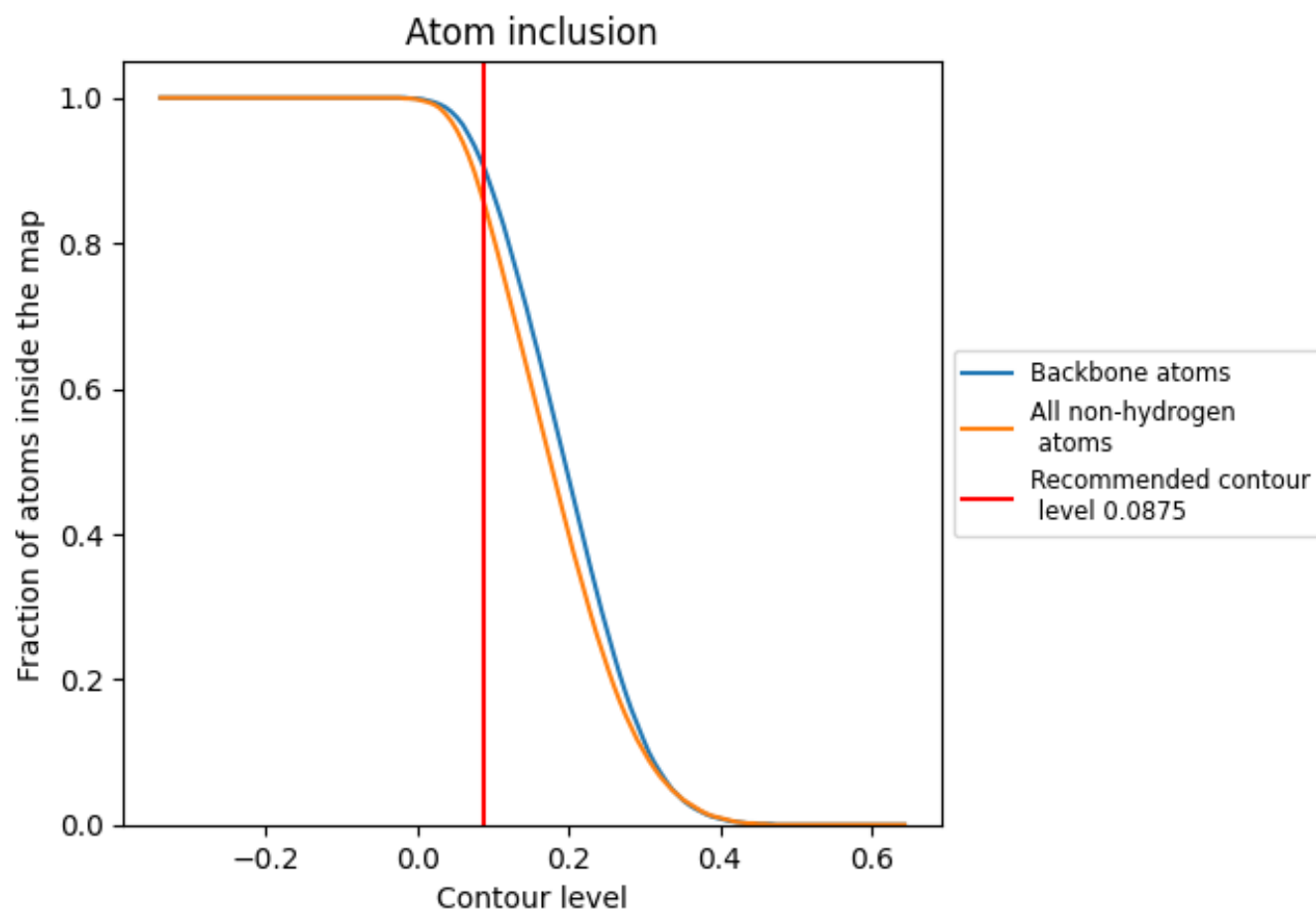
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0875).

9.4 Atom inclusion [i](#)



At the recommended contour level, 91% of all backbone atoms, 86% 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 (0.0875) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8580	 0.4810
A	 0.9250	 0.4990
AA	 0.5730	 0.3440
B	 0.9480	 0.4690
C	 0.9420	 0.5120
D	 0.9170	 0.4830
E	 0.8910	 0.4470
LD	 0.8340	 0.5510
LE	 0.8820	 0.5420
LF	 0.8910	 0.5430
LG	 0.8490	 0.4550
LH	 0.8340	 0.5030
LI	 0.8460	 0.5170
LJ	 0.8180	 0.4930
LK	 0.8410	 0.5070
LL	 0.7780	 0.4980
LM	 0.7640	 0.4450
LN	 0.8370	 0.5180
LO	 0.8570	 0.5070
LP	 0.8580	 0.5400
LQ	 0.8430	 0.5240
LR	 0.8630	 0.5460
LS	 0.8670	 0.5340
LT	 0.8100	 0.5170
LU	 0.8490	 0.5230
LV	 0.8330	 0.5180
LW	 0.8500	 0.4980
LX	 0.7900	 0.5450
LY	 0.8380	 0.5400
LZ	 0.8810	 0.5490
La	 0.9110	 0.5600
Lb	 0.8810	 0.5270
Lc	 0.8850	 0.5400
Ld	 0.8070	 0.5000
Le	 0.8660	 0.5270



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Chain	Atom inclusion	Q-score
Lf	 0.8600	 0.5300
Lg	 0.8640	 0.5590
Lh	 0.8790	 0.5540
Li	 0.8400	 0.5340
Lj	 0.8620	 0.5310
Lk	 0.8090	 0.4730
Ll	 0.9260	 0.5630
Lm	 0.8260	 0.5100
Ln	 0.9060	 0.5600
Lo	 0.8280	 0.5260
Lp	 0.5960	 0.4980
Lq	 0.8470	 0.5240
Lr	 0.7980	 0.5510
SA	 0.7110	 0.4400
SB	 0.6490	 0.3890
SC	 0.7370	 0.3860
SD	 0.3920	 0.2300
SE	 0.6700	 0.3770
SF	 0.7390	 0.4160
SG	 0.7120	 0.3930
SH	 0.7380	 0.4320
SI	 0.7500	 0.4180
SJ	 0.7330	 0.4360
SL	 0.6260	 0.4000
SM	 0.8490	 0.4800
SN	 0.4050	 0.2600
SO	 0.6690	 0.3330
SP	 0.8040	 0.4460
SQ	 0.6750	 0.4260
SR	 0.7800	 0.4980
SS	 0.7850	 0.4950
ST	 0.7160	 0.4400
SU	 0.6940	 0.4050
SV	 0.7330	 0.4860
SW	 0.7650	 0.4650
SX	 0.7730	 0.5030
SY	 0.7600	 0.4710
SZ	 0.7280	 0.4470
Sa	 0.8070	 0.4830
Sb	 0.8030	 0.5150
Sc	 0.7500	 0.5300
Sd	 0.7690	 0.4610

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Chain	Atom inclusion	Q-score
Se	 0.7800	 0.4750
Sf	 0.7290	 0.4490
Sg	 0.6760	 0.4620
m	 0.8110	 0.3900
n	 0.8080	 0.3820
z	 0.7260	 0.5160