



Full wwPDB EM Validation Report ⓘ

Mar 20, 2026 – 05:42 PM UTC

PDB ID : 8UT0 / pdb_00008ut0
EMDB ID : EMD-42525
Title : Eukaryotic 80S ribosome with Reh1, eIF5A and A/P site tRNA
Authors : Yelland, J.N.; Taylor, D.W.; Johnson, A.W.
Deposited on : 2023-10-30
Resolution : 3.22 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:

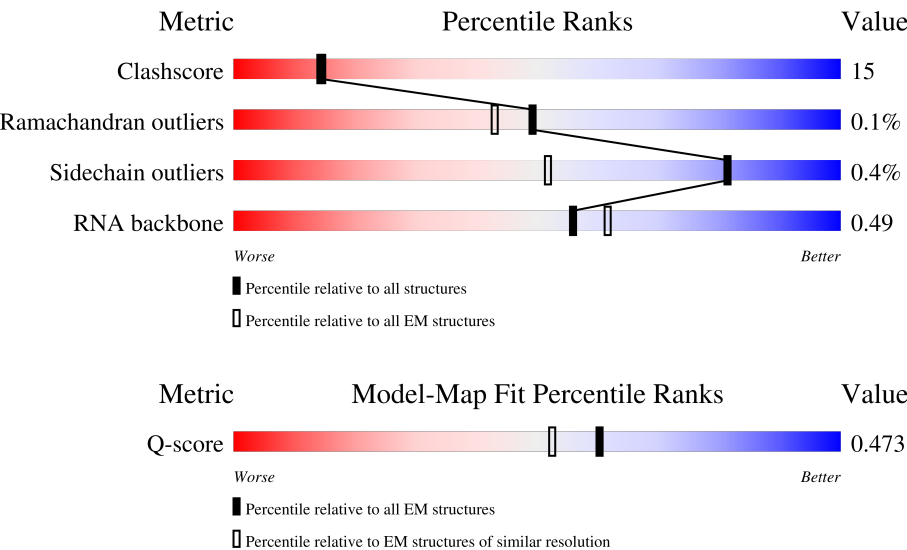
EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13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

1 Overall quality at a glance i

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

The reported resolution of this entry is 3.22 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	14612 (2.72 - 3.72)

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	2	1800	8% 34% 48% 17% .
2	SP	206	68% 32%
3	SQ	232	6% 59% 39% .

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Mol	Chain	Length	Quality of chain
4	SE	117	
5	SR	216	
6	SA	222	
7	SS	258	
8	SB	206	
9	ST	228	
10	SU	184	
11	SV	187	
12	SW	184	
13	SC	92	
14	SX	142	
15	SD	121	
16	SY	150	
17	SZ	127	
18	SF	141	
19	SG	125	
20	SH	145	
21	SI	143	
22	SJ	100	
23	Sa	87	
24	Sb	129	
25	Sc	144	
26	Sd	134	
27	Se	97	
28	Sf	81	

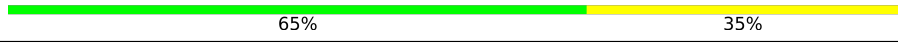
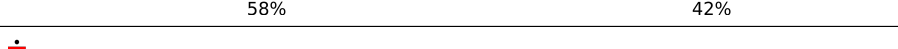
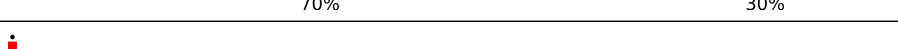
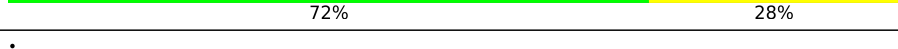
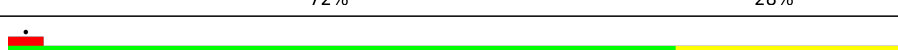
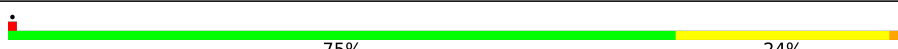
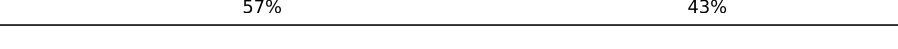
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Mol	Chain	Length	Quality of chain
29	SM	53	
30	Sg	57	
31	SN	73	
32	SO	312	
33	SL	63	
34	AA	102	
35	A	3394	
36	B	121	
37	C	158	
38	LD	251	
39	LE	386	
40	LF	361	
41	LG	294	
42	LH	175	
43	LI	222	
44	LJ	233	
45	LK	191	
46	LL	218	
47	LM	169	
48	LN	193	
49	LO	136	
50	LP	203	
51	LQ	197	
52	LR	183	
53	LS	185	

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Mol	Chain	Length	Quality of chain
54	LT	188	
55	LU	171	
56	LV	159	
57	LW	100	
58	LX	136	
59	LY	65	
60	LZ	121	
61	La	125	
62	Lb	135	
63	Lc	148	
64	Ld	58	
65	Le	96	
66	Lf	109	
67	Lg	127	
68	Lh	106	
69	Li	112	
70	Lj	119	
71	Lk	99	
72	Ll	81	
73	Lm	77	
74	Ln	50	
75	Lo	52	
76	Lp	25	
77	Lq	103	
78	Lr	91	

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Mol	Chain	Length	Quality of chain
79	Ls	157	7%62%28%9%
80	z	588	7%90%
81	m	76	33%41%26%
82	n	75	47%40%12%
83	D	10	60%20%20%
84	E	210	90%10%

2 Entry composition

There are 85 unique types of molecules in this entry. The entry contains 205193 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
1	2	1771	Total	C	N	O	P	0	0
			37739	16872	6683	12413	1771		

- Molecule 2 is a protein called 40S ribosomal protein S0-A.

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

- Molecule 3 is a protein called 40S ribosomal protein S1-A.

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

- Molecule 4 is a protein called 40S ribosomal protein S15.

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

- Molecule 5 is a protein called 40S ribosomal protein S2.

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

- Molecule 6 is a protein called 40S ribosomal protein S3.

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

- Molecule 7 is a protein called 40S ribosomal protein S4-A.

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

- Molecule 8 is a protein called 40S ribosomal protein S5.

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

- Molecule 9 is a protein called 40S ribosomal protein S6-A.

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

- Molecule 10 is a protein called 40S ribosomal protein S7-A.

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

- Molecule 11 is a protein called 40S ribosomal protein S8-A.

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

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

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

- Molecule 13 is a protein called 40S ribosomal protein S10-A.

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

- Molecule 14 is a protein called 40S ribosomal protein S11-A.

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

- Molecule 15 is a protein called 40S ribosomal protein S12.

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

- Molecule 16 is a protein called 40S ribosomal protein S13.

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

- Molecule 17 is a protein called 40S ribosomal protein S14-B.

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

- Molecule 18 is a protein called 40S ribosomal protein S16-A.

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

- Molecule 19 is a protein called 40S ribosomal protein S17-B.

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

- Molecule 20 is a protein called 40S ribosomal protein S18-A.

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

- Molecule 21 is a protein called 40S ribosomal protein S19-A.

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

- Molecule 22 is a protein called 40S ribosomal protein S20.

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

- Molecule 23 is a protein called 40S ribosomal protein S21-A.

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

- Molecule 24 is a protein called 40S ribosomal protein S22-A.

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

- Molecule 25 is a protein called 40S ribosomal protein S23-A.

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

- Molecule 26 is a protein called 40S ribosomal protein S24-A.

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

- Molecule 27 is a protein called 40S ribosomal protein S26-B.

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

- Molecule 28 is a protein called 40S ribosomal protein S27-A.

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

- Molecule 29 is a protein called 40S ribosomal protein S29-A.

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

- Molecule 30 is a protein called 40S ribosomal protein S30-A.

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

- Molecule 31 is a protein called 40S ribosomal protein S31.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	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 32 is a protein called 40S ribosomal protein ASC1.

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

- Molecule 33 is a protein called 40S ribosomal protein S28-A.

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

- Molecule 34 is a protein called 40S ribosomal protein S25-A.

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

- Molecule 35 is a RNA chain called 25S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	A	3184	Total	C	N	O	P	0	0
			68091	30415	12259	22233	3184		

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

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

- Molecule 37 is a RNA chain called 5.8S rRNA.

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

- Molecule 38 is a protein called 60S ribosomal protein L2-A.

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

- Molecule 39 is a protein called 60S ribosomal protein L3.

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

- Molecule 40 is a protein called 60S ribosomal protein L4-A.

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

- Molecule 41 is a protein called 60S ribosomal protein L5.

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

- Molecule 42 is a protein called 60S ribosomal protein L6-B.

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

- Molecule 43 is a protein called 60S ribosomal protein L7-A.

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

- Molecule 44 is a protein called 60S ribosomal protein L8-A.

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

- Molecule 45 is a protein called 60S ribosomal protein L9-A.

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

- Molecule 46 is a protein called 60S ribosomal protein L10.

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

- Molecule 47 is a protein called 60S ribosomal protein L11-B.

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

- Molecule 48 is a protein called 60S ribosomal protein L13-A.

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

- Molecule 49 is a protein called 60S ribosomal protein L14-A.

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

- Molecule 50 is a protein called 60S ribosomal protein L15-A.

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

- Molecule 51 is a protein called 60S ribosomal protein L16-A.

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

- Molecule 52 is a protein called 60S ribosomal protein L17-A.

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

- Molecule 53 is a protein called 60S ribosomal protein L18-A.

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

- Molecule 54 is a protein called 60S ribosomal protein L19-A.

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

- Molecule 55 is a protein called 60S ribosomal protein L20-A.

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

- Molecule 56 is a protein called 60S ribosomal protein L21-A.

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

- Molecule 57 is a protein called 60S ribosomal protein L22-A.

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

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

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

- Molecule 59 is a protein called 60S ribosomal protein L24-A.

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

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

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

- Molecule 61 is a protein called 60S ribosomal protein L26-A.

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

- Molecule 62 is a protein called 60S ribosomal protein L27-A.

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

- Molecule 63 is a protein called 60S ribosomal protein L28.

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

- Molecule 64 is a protein called 60S ribosomal protein L29.

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

- Molecule 65 is a protein called 60S ribosomal protein L30.

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

- Molecule 66 is a protein called 60S ribosomal protein L31-A.

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

- Molecule 67 is a protein called 60S ribosomal protein L32.

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

- Molecule 68 is a protein called 60S ribosomal protein L33-A.

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

- Molecule 69 is a protein called 60S ribosomal protein L34-A.

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

- Molecule 70 is a protein called 60S ribosomal protein L35-A.

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

- Molecule 71 is a protein called 60S ribosomal protein L36-A.

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

- Molecule 72 is a protein called 60S ribosomal protein L37-A.

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

- Molecule 73 is a protein called 60S ribosomal protein L38.

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

- Molecule 74 is a protein called 60S ribosomal protein L39.

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

- Molecule 75 is a protein called 60S ribosomal protein L40-A.

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

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

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

- Molecule 77 is a protein called 60S ribosomal protein L42-A.

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

- Molecule 78 is a protein called 60S ribosomal protein L43-A.

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

- Molecule 79 is a protein called Translation factor eIF5A.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	Ls	143	Total	C	N	O	S	0	0
			1081	672	181	219	9		

- Molecule 80 is a protein called Cytoplasmic 60S subunit biogenesis factor REH1 (N-terminal 3xFLAG tag).

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

- Molecule 81 is a RNA chain called A site tRNA.

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

- Molecule 82 is a RNA chain called P site initiator tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	n	75	Total	C	N	O	P	0	0
			1606	716	297	518	75		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
n	10	A	G	conflict	GB 176433

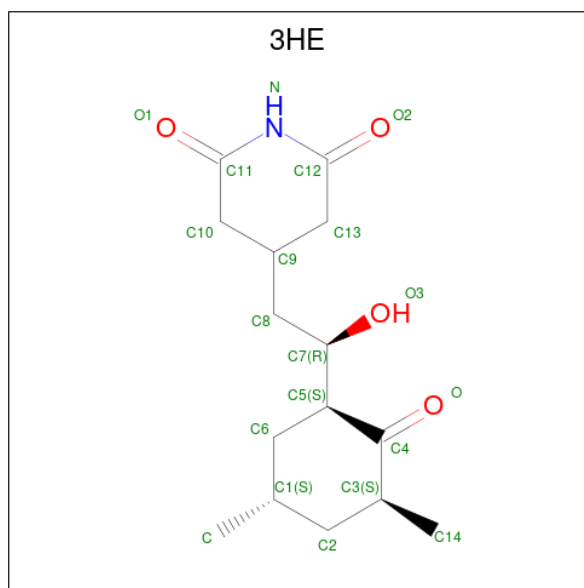
- Molecule 83 is a RNA chain called Messenger RNA (5'-R(P*AP*AP*UP*AP*UP*GP*AP*AP*AP*A)-3').

Mol	Chain	Residues	Atoms				AltConf	Trace
83	D	10	Total	C	N	O	P	
			213	98	44	61	10	

- Molecule 84 is a protein called 60S ribosomal protein L1.

Mol	Chain	Residues	Atoms				AltConf	Trace
84	E	210	Total	C	N	O		
			1051	630	210	211	0	0

- Molecule 85 is 4-{(2R)-2-[(1S,3S,5S)-3,5-dimethyl-2-oxocyclohexyl]-2-hydroxyethyl}piperidine-2,6-dione (CCD ID: 3HE) (formula: C₁₅H₂₃NO₄).

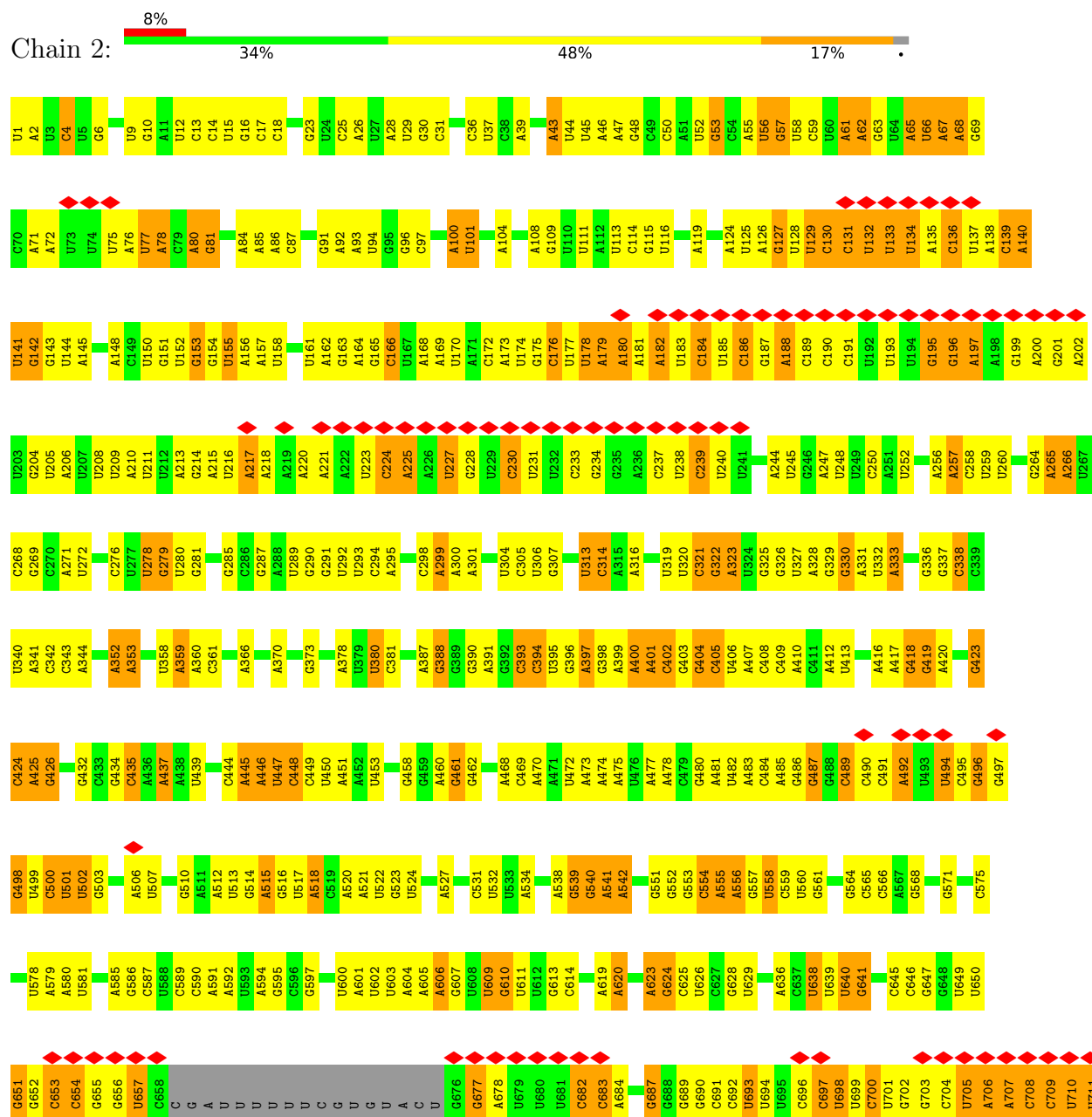


Mol	Chain	Residues	Atoms				AltConf
85	A	1	Total	C	N	O	
			20	15	1	4	0

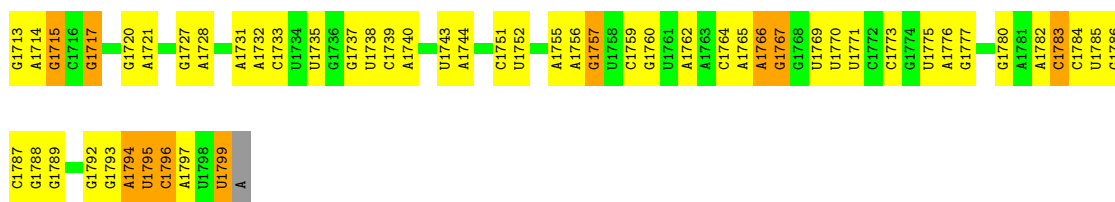
3 Residue-property plots

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

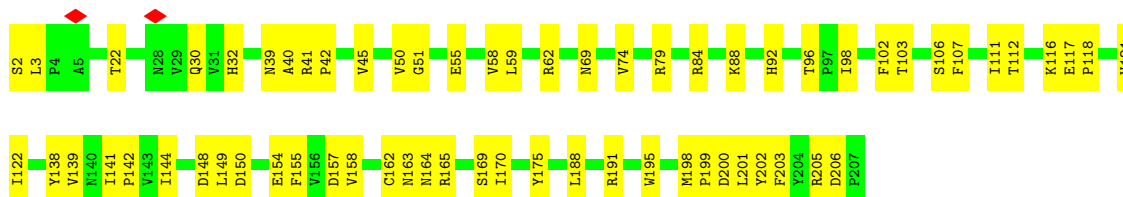
• Molecule 1: 18S rRNA



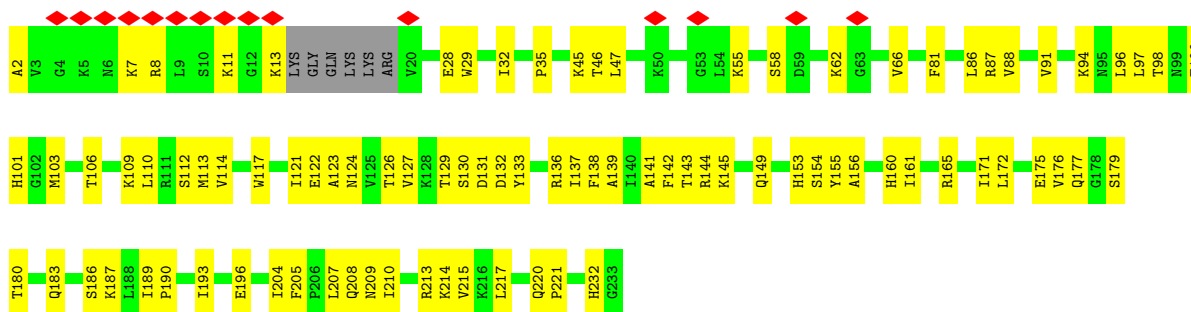




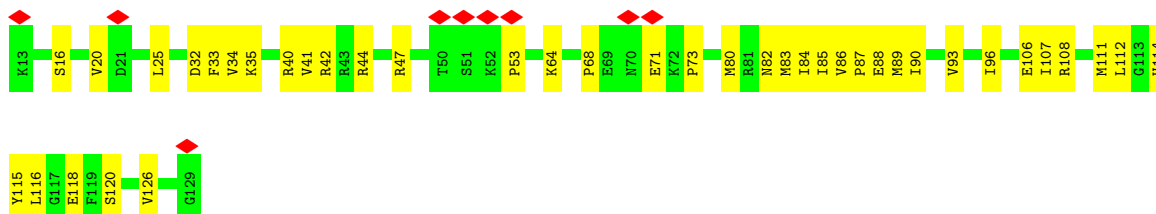
- Molecule 2: 40S ribosomal protein S0-A



- Molecule 3: 40S ribosomal protein S1-A



- Molecule 4: 40S ribosomal protein S15

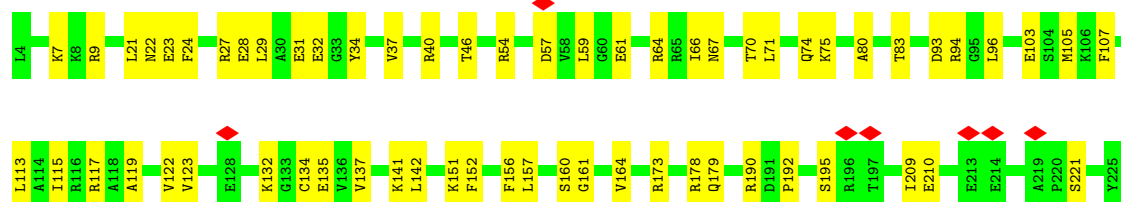
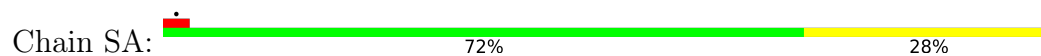


- Molecule 5: 40S ribosomal protein S2

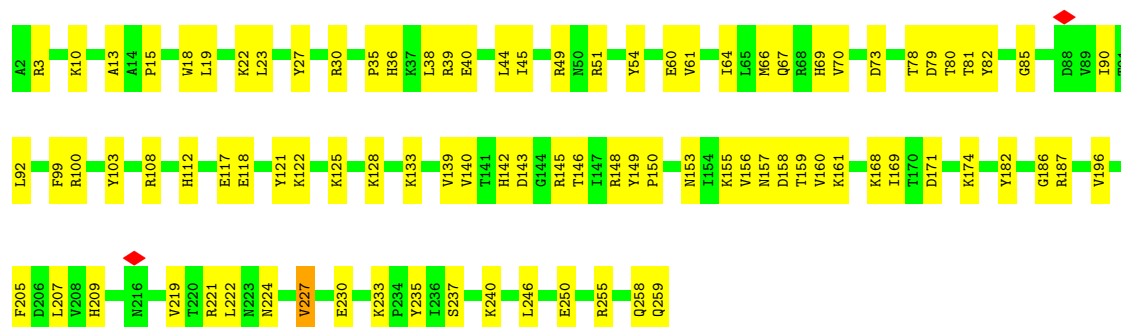




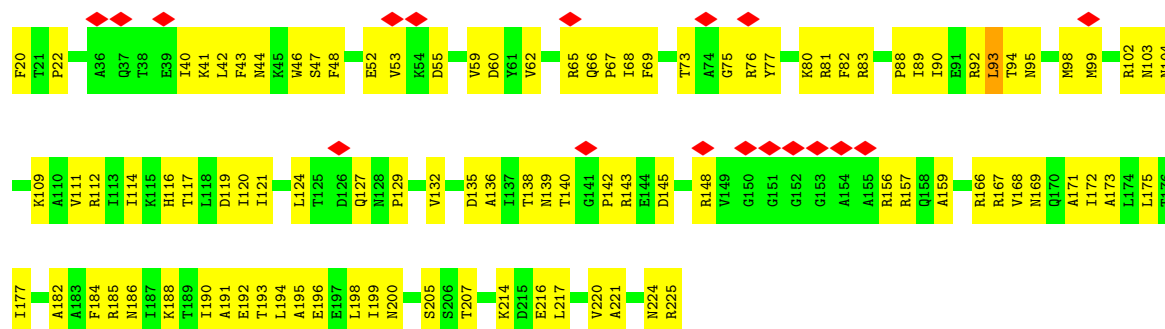
• Molecule 6: 40S ribosomal protein S3



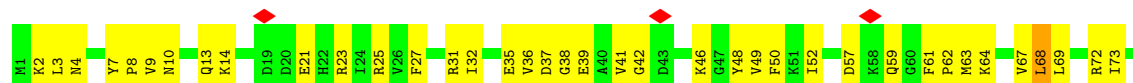
• Molecule 7: 40S ribosomal protein S4-A

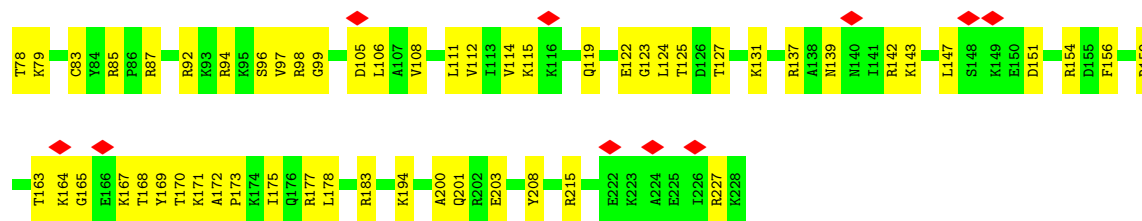


• Molecule 8: 40S ribosomal protein S5

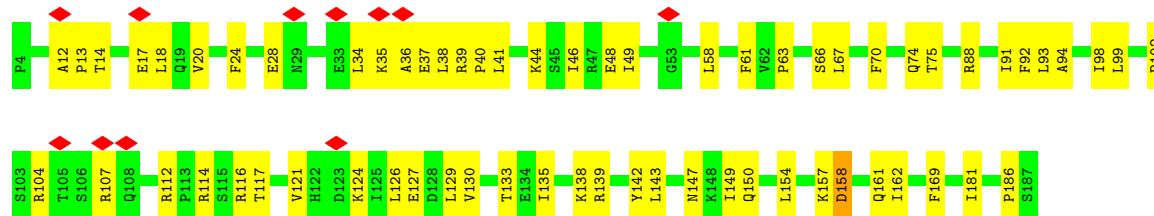


• Molecule 9: 40S ribosomal protein S6-A

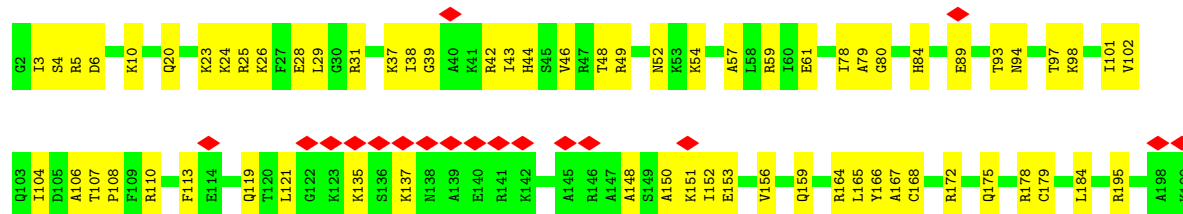




• Molecule 10: 40S ribosomal protein S7-A



• Molecule 11: 40S ribosomal protein S8-A

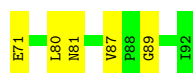


• Molecule 12: 40S ribosomal protein S9-A

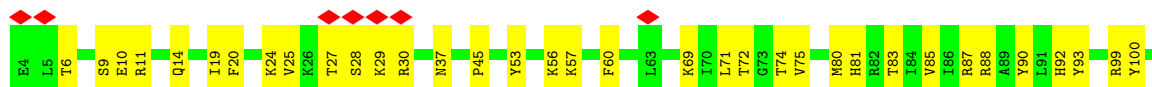


• Molecule 13: 40S ribosomal protein S10-A

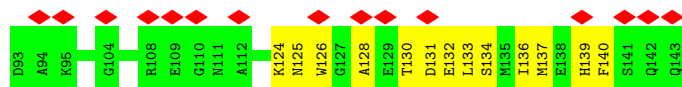
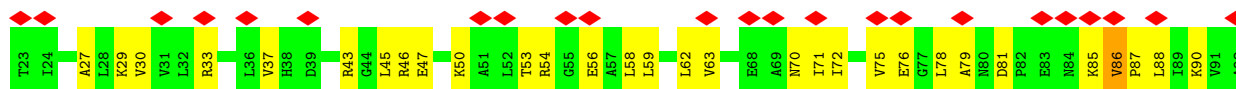




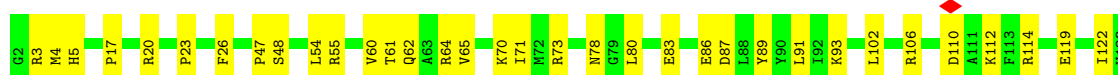
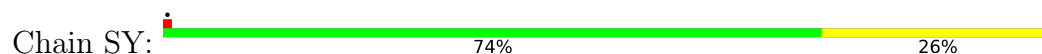
- Molecule 14: 40S ribosomal protein S11-A



- Molecule 15: 40S ribosomal protein S12



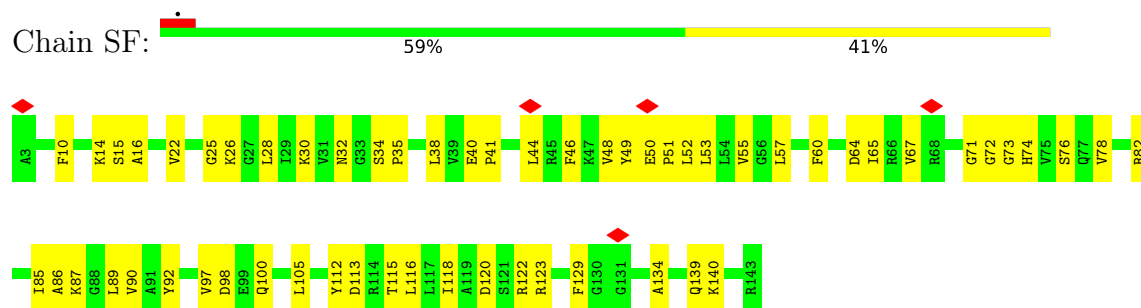
- Molecule 16: 40S ribosomal protein S13



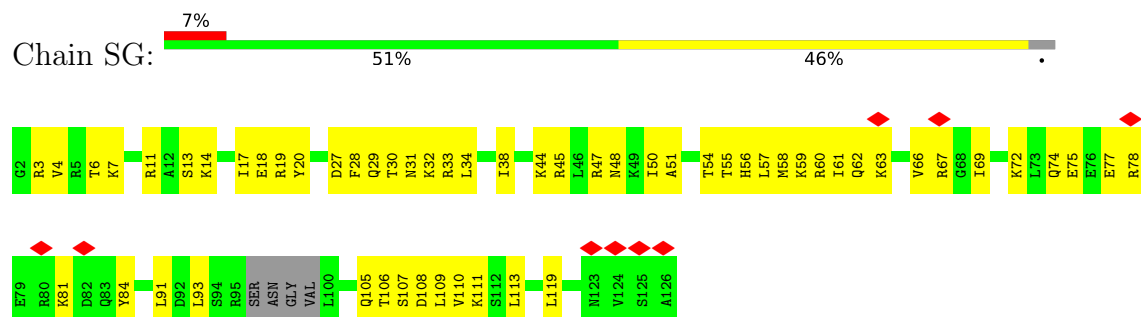
- Molecule 17: 40S ribosomal protein S14-B



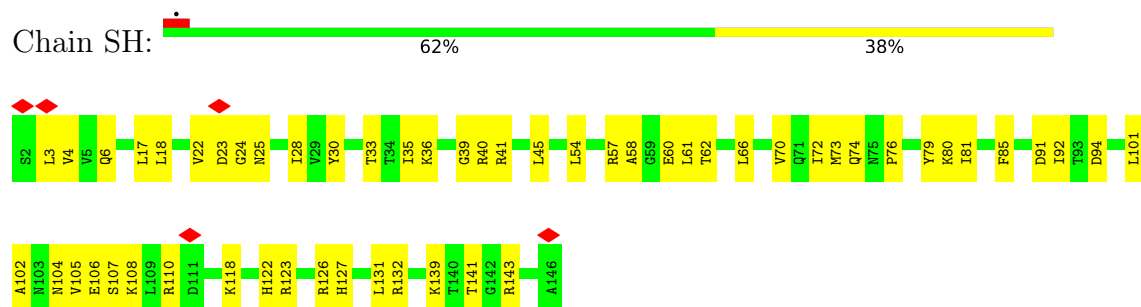
- Molecule 18: 40S ribosomal protein S16-A



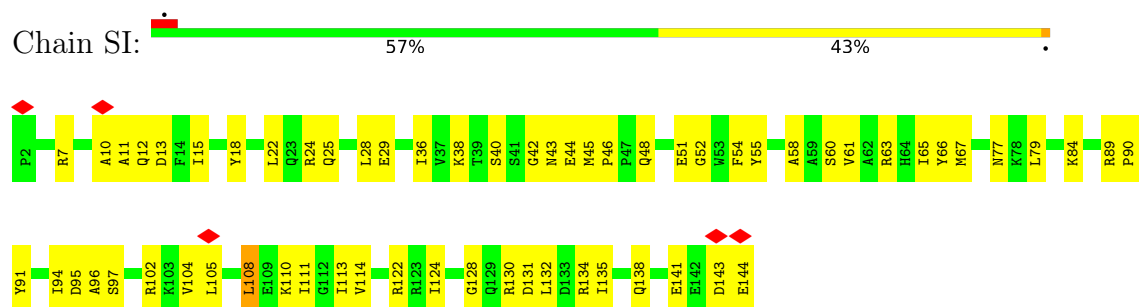
• Molecule 19: 40S ribosomal protein S17-B



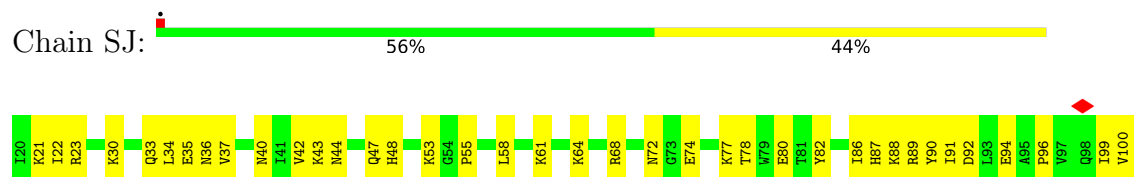
• Molecule 20: 40S ribosomal protein S18-A

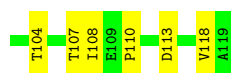


• Molecule 21: 40S ribosomal protein S19-A

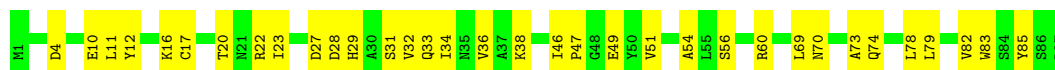


• Molecule 22: 40S ribosomal protein S20

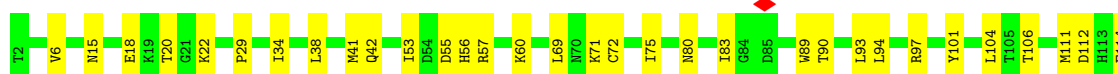




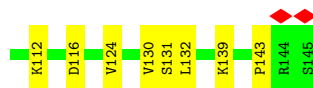
- Molecule 23: 40S ribosomal protein S21-A



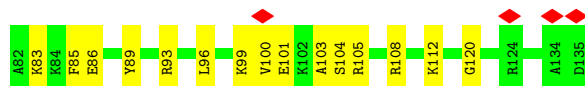
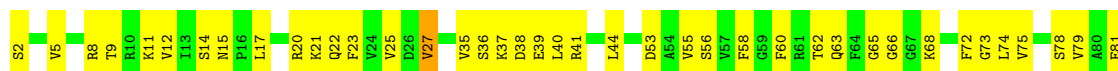
- Molecule 24: 40S ribosomal protein S22-A



- Molecule 25: 40S ribosomal protein S23-A



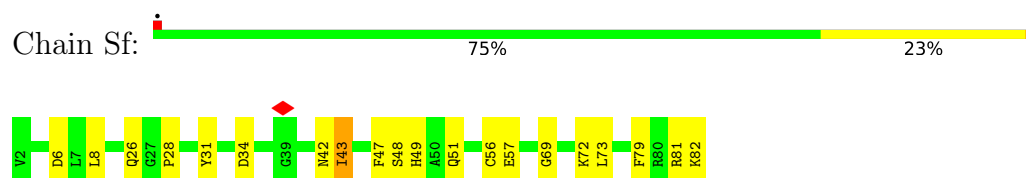
- Molecule 26: 40S ribosomal protein S24-A



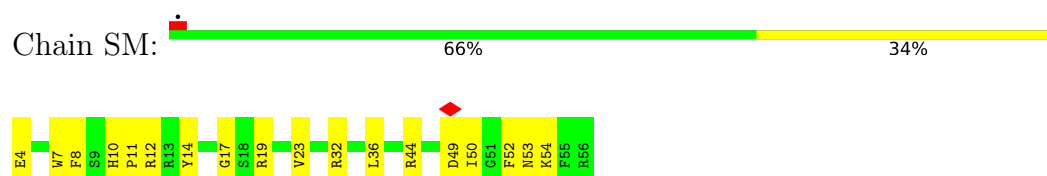
- Molecule 27: 40S ribosomal protein S26-B



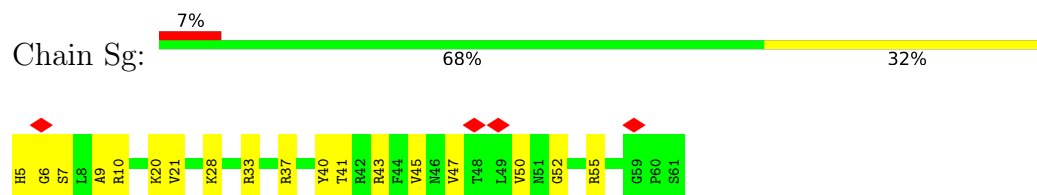
- Molecule 28: 40S ribosomal protein S27-A



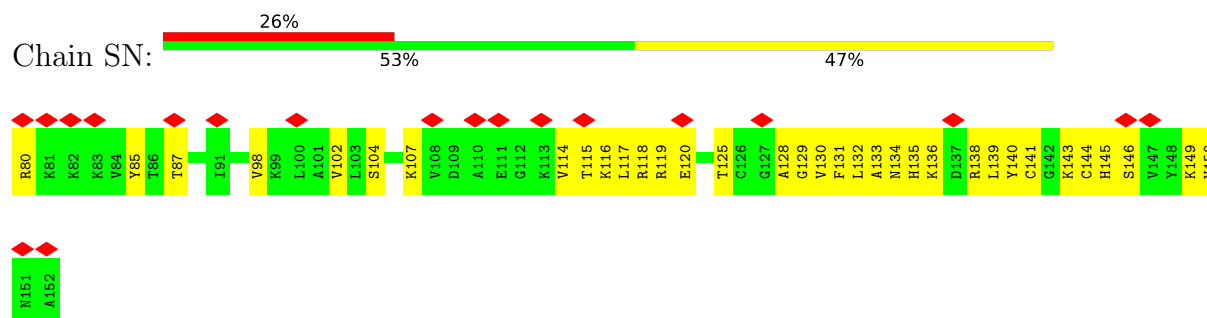
- Molecule 29: 40S ribosomal protein S29-A



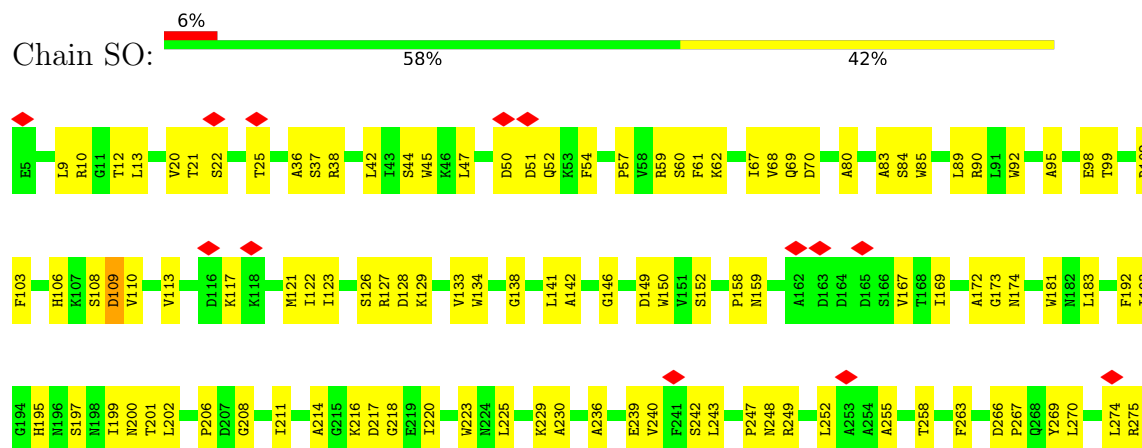
- Molecule 30: 40S ribosomal protein S30-A



- Molecule 31: 40S ribosomal protein S31



- Molecule 32: 40S ribosomal protein ASC1

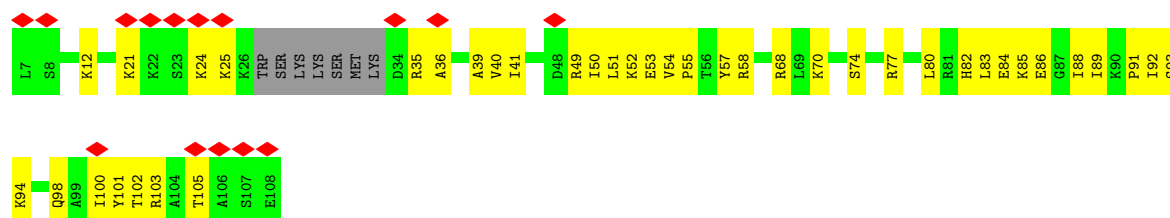




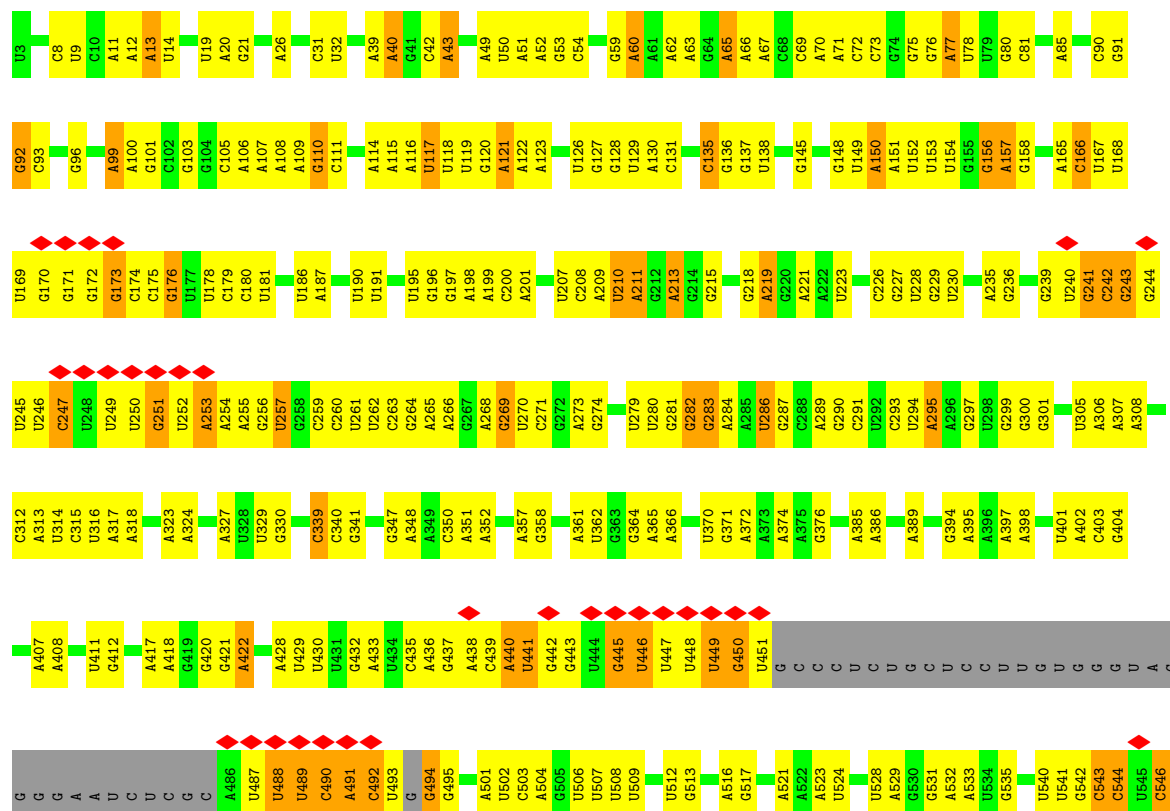
• Molecule 33: 40S ribosomal protein S28-A



• Molecule 34: 40S ribosomal protein S25-A

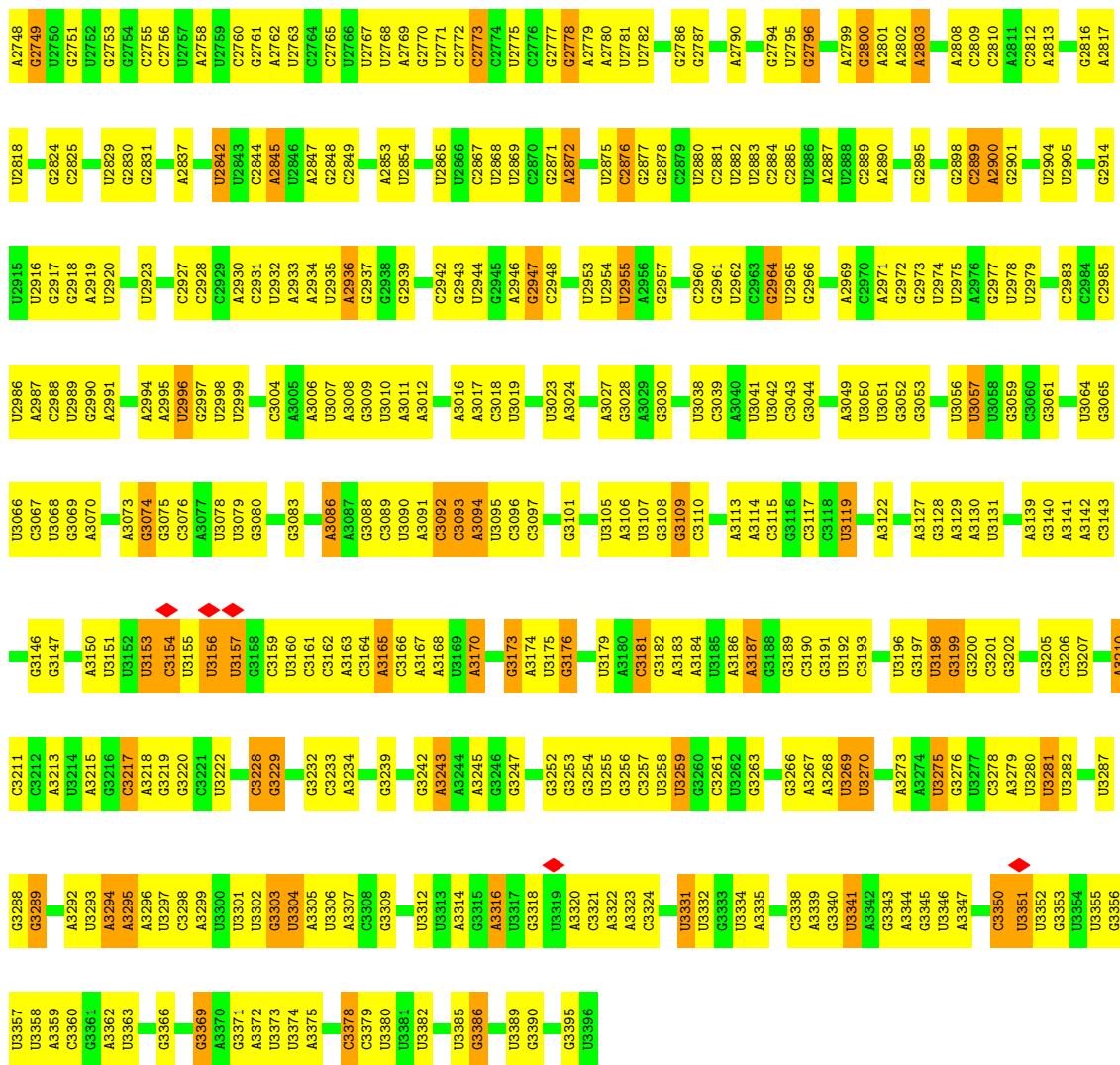


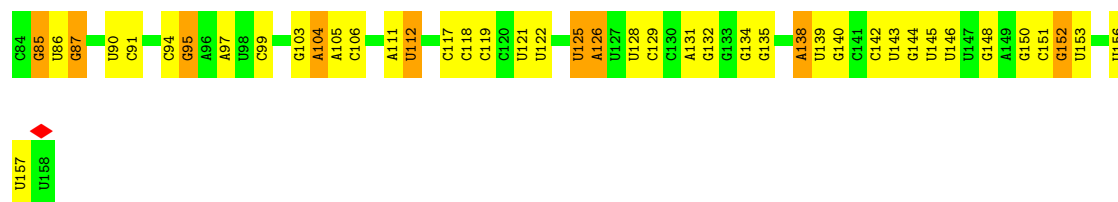
• Molecule 35: 25S rRNA



A1559	G1476	C1391	U1309	A1244	C1176	G1097	A1027	C961	G856	C765	A690	G616	G547
G1560	A1477	G1392	G1310	A1245	G1177	A1098	U1028	A962	G857	U766	A691	G617	G548
G1561	A1481	A1399	G1311	G1246	A1178	A1099	G1029	G963	G857	U767	A692	C618	U549
C1563	A1482	G1400	C1314	U1247	A1179	U1100	G1030	G964	G860	C768	A693	A619	U550
U1564	G1483	G1403	G1321	G1249	U1181	A1102	C1031	A967	G861	G770	C696	A621	A551
G1565	G1486	U1404	U1322	A1251	A1182	A1103	C1032	G968	U871	A771	U700	A622	U555
A1566	G1487	G1405	G1323	A1252	C1183	G1104	U1033	C969	U872	U772	G701	U626	U556
U1567	G1488	A1406	U1324	U1253	C1185	A1105	U1034	G970	U873	U773	G702	U627	A557
U1568	A1489	A1407	G1325	C1254	G1107	A1106	G1035	G971	U874	G774	U703	U628	U558
U1569	G1408	G1408	C1328	C1255	U1108	U1109	A1036	A972	U875	U775	A705	A628	G560
A1570	U1410	U1409	U1329	G1256	U1109	G974	C1037	A973	C877	U776	U707	G632	C561
A1571	G443	C1411	A1330	C1257	U1110	U1109	U1038	G975	U878	U777	G708	C633	C562
U1572	U1494	U1412	G1331	G1258	U1111	U1111	U1039	U976	U879	U778	G709	U634	U563
G1573	U1495	G1413	G1332	A1259	A1191	A1112	A1040	U977	G880	U779	A710	U635	G564
C1574	C1496	U1414	U1333	A1260	U1191	A1113	U1041	G978	U886	G781	G711	U636	U565
A1575	U1498	U1415	C1335	G1261	C1195	U1114	C1045	U981	U889	U783	U713	U640	U571
G1576	C1499	C1416	U1336	G1262	G1115	G1116	A1046	C982	U900	A784	G714	C641	A572
U1577	G1500	G1417	C1337	A1263	G1117	C1118	A1047	G983	G901	G785	A715	U642	C573
C1578	U1501	A1418	C1339	G1264	C1118	C1119	C1049	U986	G902	U786	A716	U643	U574
C1579	A1419	A1419	G1340	U1265	C1119	C1120	A1054	U987	U905	G787	C717	A646	
A1580	C1420	C1420	U1341	G1266	U1120	A1121	A1055	U988	U906	C788	U718	A646	C577
C1581			U1342	U1267	C1195	U1121	U1056	A989	A906	G792	U719	A649	A578
A1587	C1426	U1427	A1343	G1268	G1207	G1126	U1056	U990	G907	C793	A720	G650	C580
A1588	U1428	U1428	U1348	U1269	U1208	G1127	U1058	U991	G908		A721	G651	
A1589	A1428	A1428	U1349	U1270	G1209	G1128	U1059	G992				G652	
G1590	G1431	G1431	U1350	C1272	U1210	U1129	U1060	G993	C911	U797	G725	A653	G684
G1591	C1432	C1432	U1351	A1273	U1211	A1061	A1061	G994	G912	U798	G726	G654	A585
G1592	A1433	A1433	U1352	C1274	A1212	G1130	U1062	U995	A913	U799	G727	C655	
A1593	G1434	G1434	A1352	U1274	C1213	G1131	G1063	A996	G916	G800	G728	C656	
A1594	U1435	U1435	U1353	C1275	U1214	A1133	A1064	A997	A915	A801	C729	C655	G588
U1595	U1436	U1436	G1354	U1276	A1217	G1134	A1065	A998	G916	G658	C730	A657	A589
C1596	C1437	C1437	A1355	C1277		A1135	G1066	G999	A917	G659	A735	G660	G590
G1597	U1438	U1438	G1356	A1278	U1220	G1139	U1067	C1000		G659	A736	A660	G591
C1598	U1439	U1439	G1357	C1279	A1221	G1140	C1068	G1001	C923	A806	A737	C661	A592
U1599	G1440	G1441	C1358	C1280	G1222	G1141	C1069	A1002	G924	U810	A738	U662	C593
U1600	U1442	U1442	U1364	C1281	A1223	C1141	U1070	A1003		U811		U663	U594
U1601	C1443	C1443	G1365	C1282	C1224	C1146	U1071	U1004	C928	G742	C743	U664	G595
A1602	U1444	U1444	A1366	C1283	A1225	G1147	G1072	G1005	A929	C743	A744	A665	C596
G1603	U1445	U1445	G1367	G1284	C1227	G1147		A1006	U930	A816	C745	A665	G597
A1604	A1446	A1446	U1368	A1285	C1227	G1147				A817	C746		A598
A1605	U1447	U1447	U1369	U1286	G1228	A1150	C1076	G1010	G937	C870	A746	C870	C599
U1606	U1448	U1448	G1370	U1287	G1229	A1153	U1081	A1011	C938	U671	A746	U671	G600
U1607	U1449	U1449	G1371	C1288	G1230	A1154	U1082	G1012		U672		U672	U601
C1608	A1460	A1461	G1375	C1289	A1231	A1155	A1084	G1013	C944	G674		G674	A602
C1609	U1461	U1461	G1376	C1290	C1232	C1155	A1085	U1014	C945				A603
C1610	A1467	A1467	U1377	A1291	G1233	A1159	U1086	U1015	U946	A877		A877	G604
C1611	U1468	U1468	U1378	G1295	G1234	A1160	C1087	C1016	G947	G678		G678	U605
U1616	C1469	C1469	G1379	C1296	U1235	C1160	U1088	C1017	C948	U679		U679	C666
G1617	U1470	U1470	A1381	C1297	G1236	U1167	G1089	G1018	C949	A607		A607	A607
U1620	U1471	U1471	G1382	C1298	C1237	U1168	G1090	G1019	G950	G680		G680	G609
U1621	U1472	U1472	C1385	A1301	C1238	A1169	A1091	G1020	A951	U681		U681	G610
U1622	G1473	G1473	U1386	U1305	C1239	A1170	C1092	G1021	A952	U682		U682	A611
	A1475	A1475	A1386	G1306	A1240	G1174	A1093	U1022	G953	U683		U683	U612
U1627			A1390	U1241	U1241	C1175	U1094	C1023	C959	U687		U687	G613
C1628				G1242	G1242		U1095	G1024	C849	G688		G688	C614
U1629				A1308	A1308		U1096	A1025	U960	U689		U689	U615

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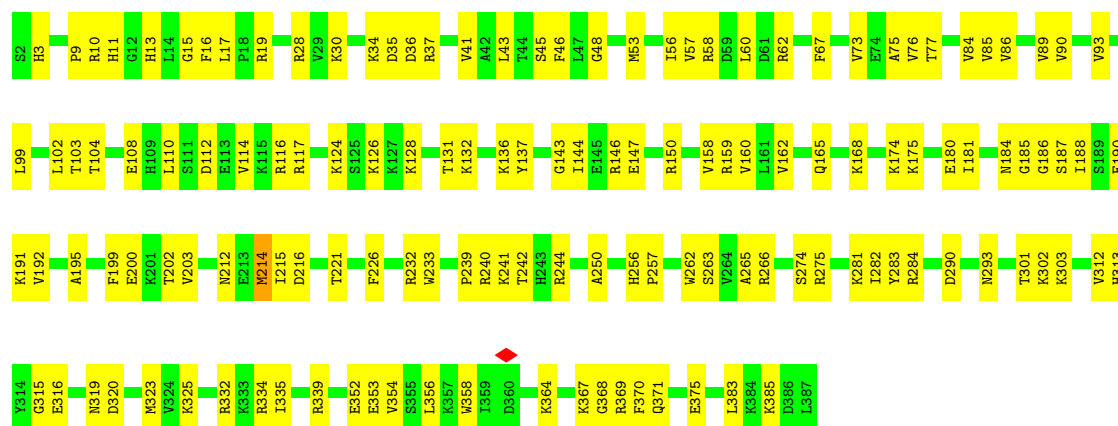




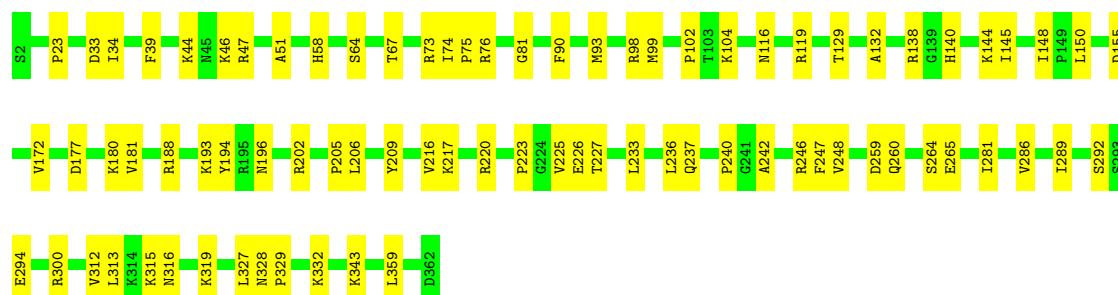
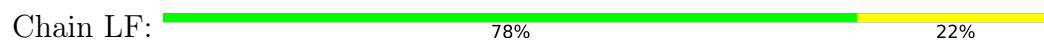
• Molecule 38: 60S ribosomal protein L2-A



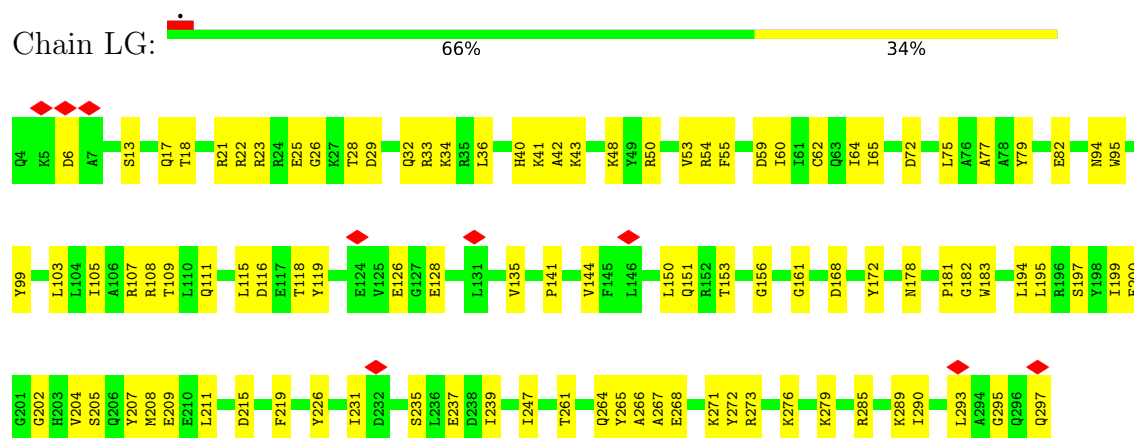
• Molecule 39: 60S ribosomal protein L3



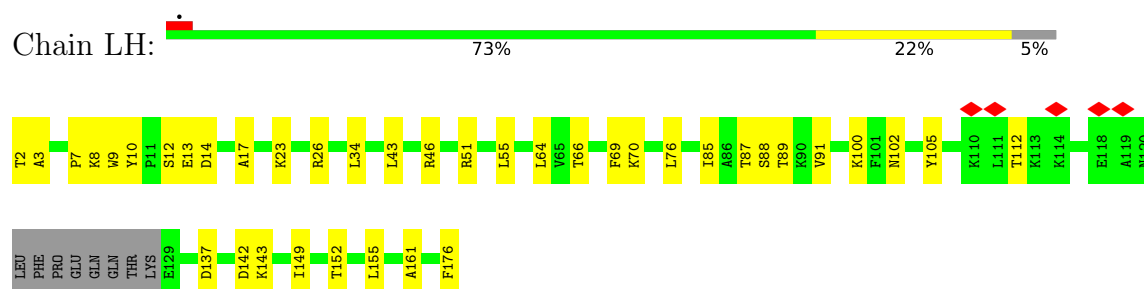
• Molecule 40: 60S ribosomal protein L4-A



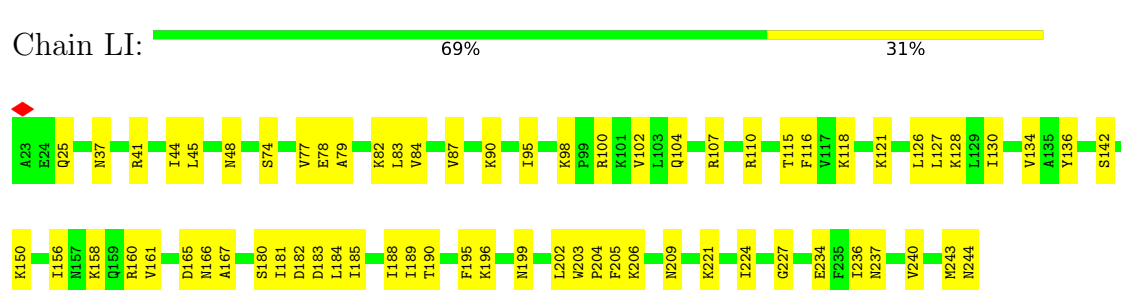
- Molecule 41: 60S ribosomal protein L5



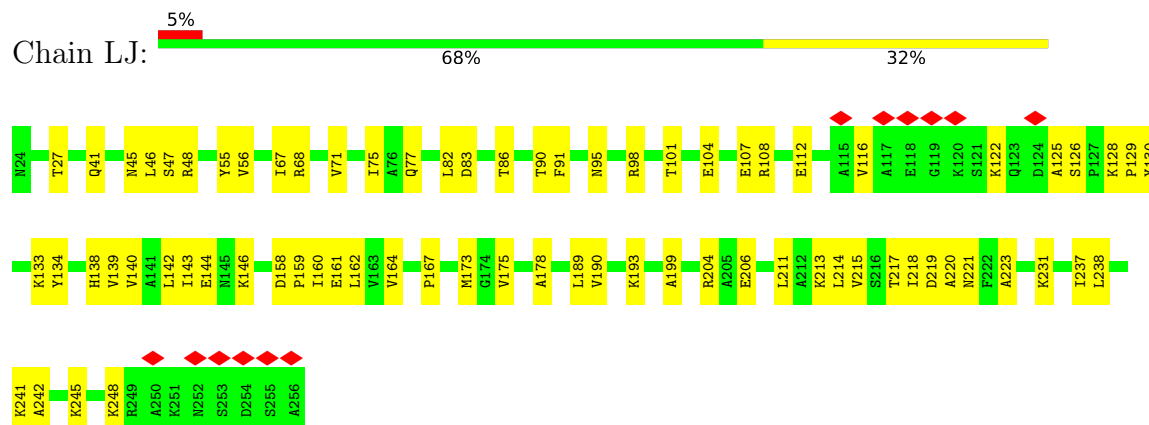
- Molecule 42: 60S ribosomal protein L6-B



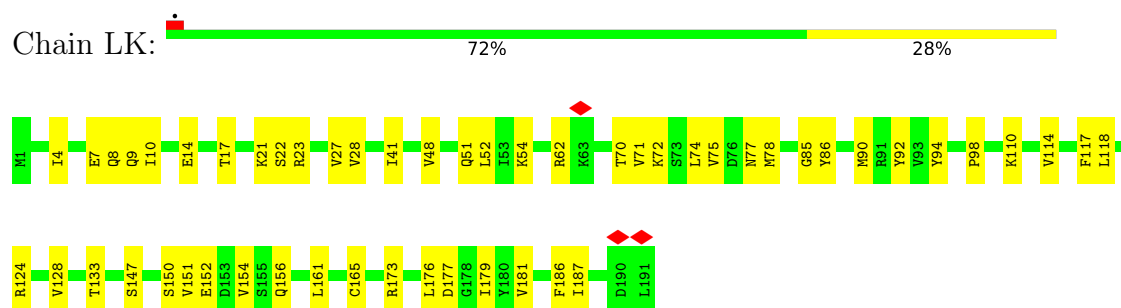
- Molecule 43: 60S ribosomal protein L7-A



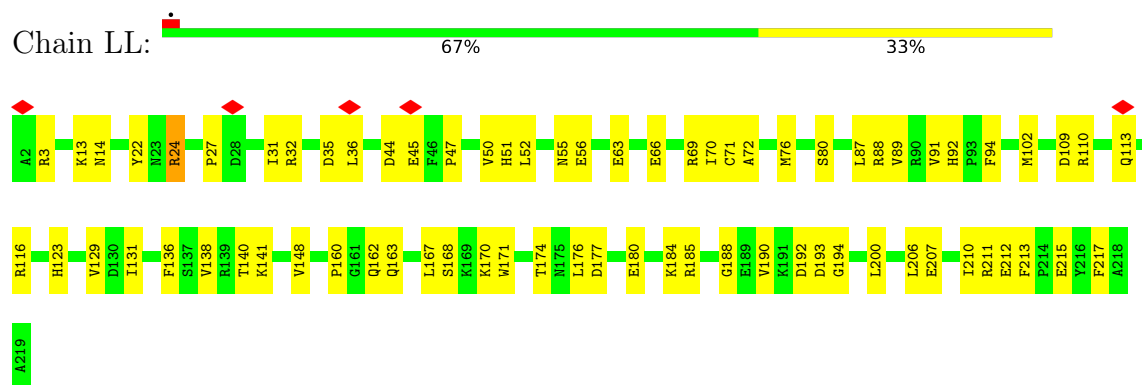
- Molecule 44: 60S ribosomal protein L8-A



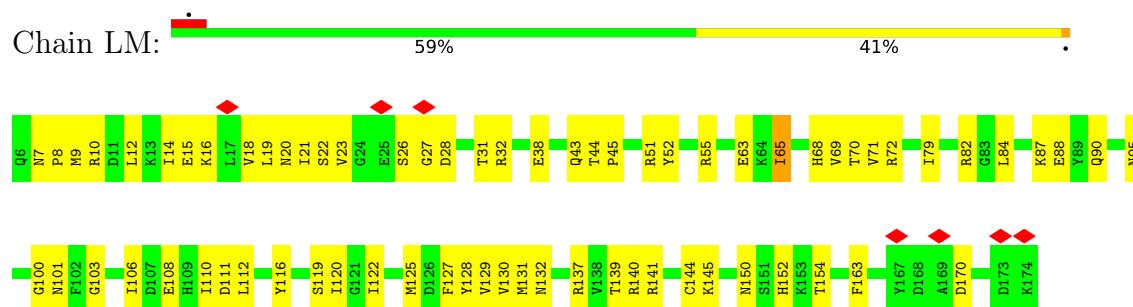
- Molecule 45: 60S ribosomal protein L9-A



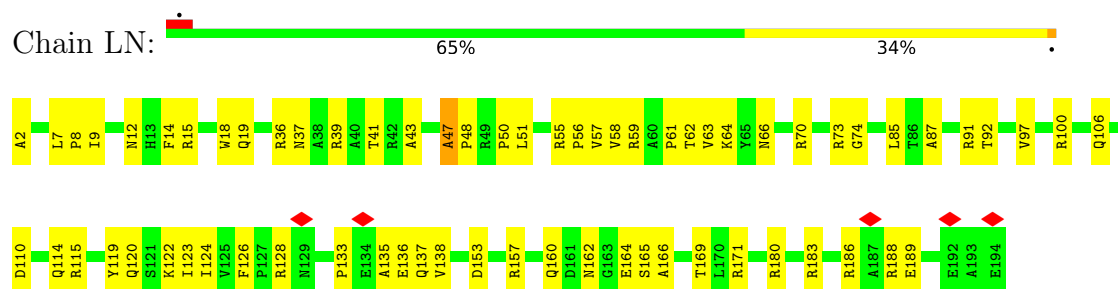
- Molecule 46: 60S ribosomal protein L10



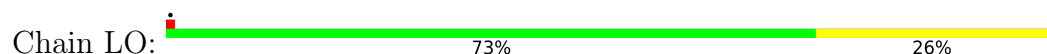
- Molecule 47: 60S ribosomal protein L11-B

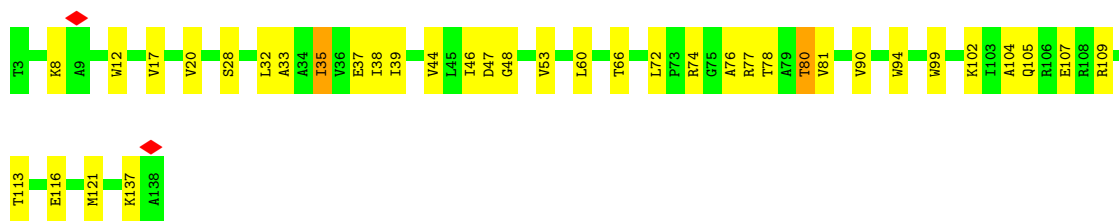


- Molecule 48: 60S ribosomal protein L13-A



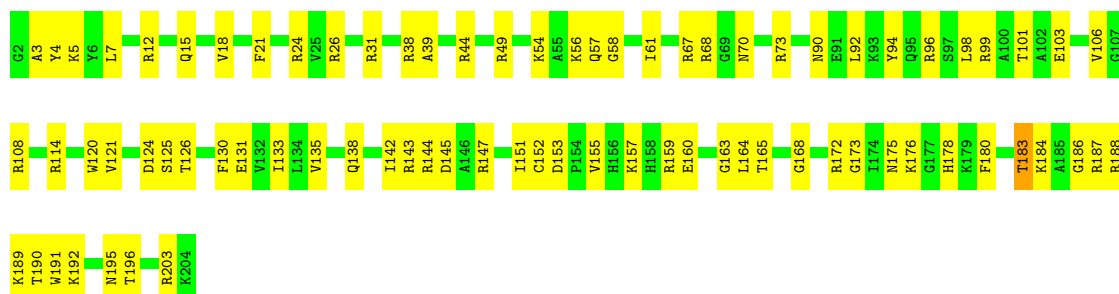
- Molecule 49: 60S ribosomal protein L14-A





- Molecule 50: 60S ribosomal protein L15-A

Chain LP: 61% 38%



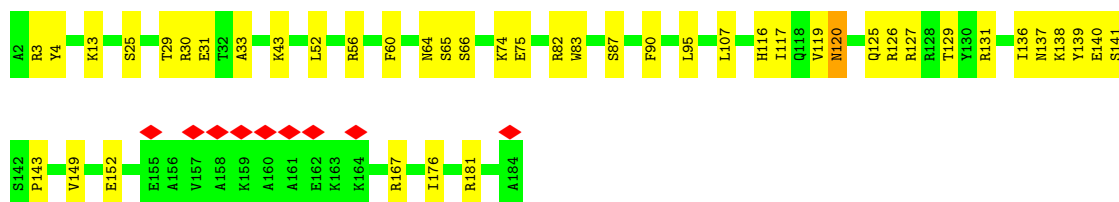
- Molecule 51: 60S ribosomal protein L16-A

Chain LQ: 75% 24%



- Molecule 52: 60S ribosomal protein L17-A

Chain LR: 5% 76% 23%



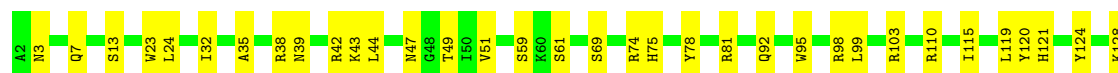
- Molecule 53: 60S ribosomal protein L18-A

Chain LS: 63% 37%





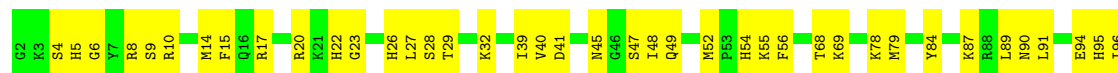
- Molecule 54: 60S ribosomal protein L19-A



- Molecule 55: 60S ribosomal protein L20-A



- Molecule 56: 60S ribosomal protein L21-A

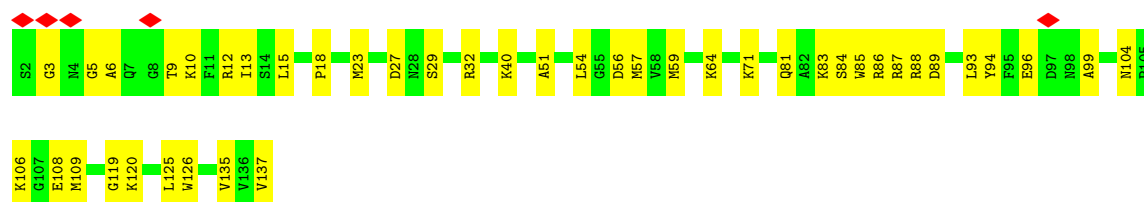


- Molecule 57: 60S ribosomal protein L22-A



- Molecule 58: 60S ribosomal protein L23-A

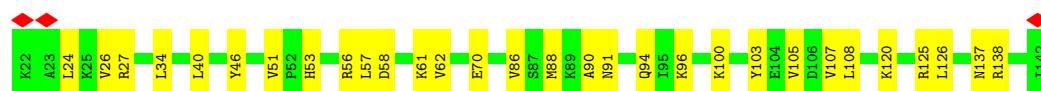
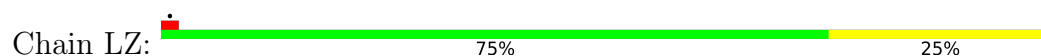




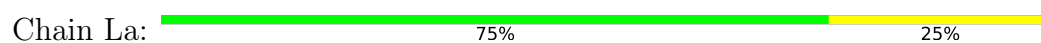
- Molecule 59: 60S ribosomal protein L24-A



- Molecule 60: 60S ribosomal protein L25



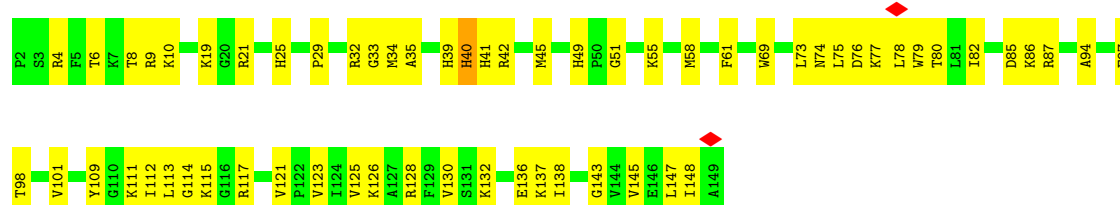
- Molecule 61: 60S ribosomal protein L26-A



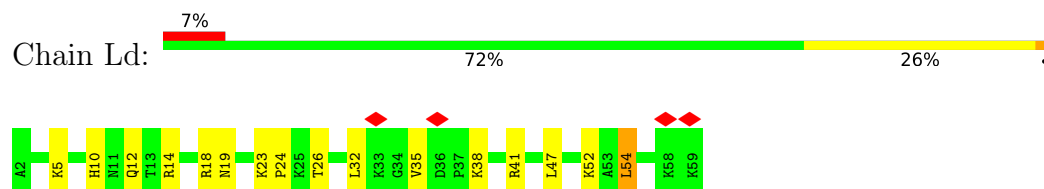
- Molecule 62: 60S ribosomal protein L27-A



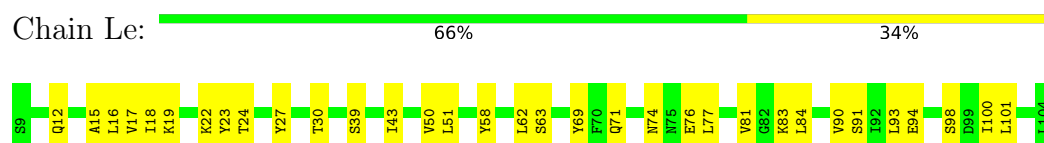
- Molecule 63: 60S ribosomal protein L28



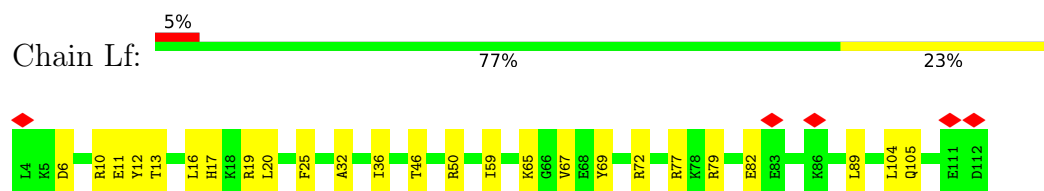
- Molecule 64: 60S ribosomal protein L29



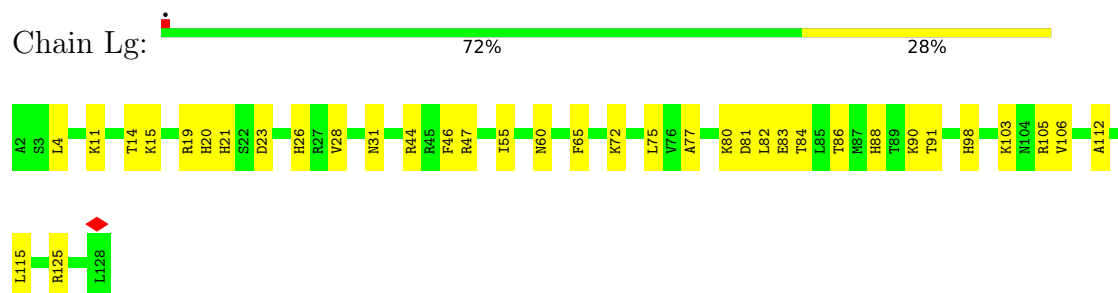
- Molecule 65: 60S ribosomal protein L30



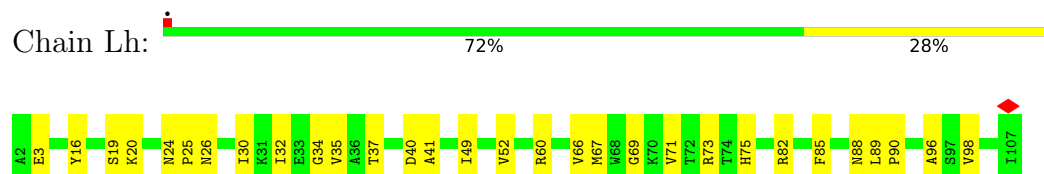
- Molecule 66: 60S ribosomal protein L31-A



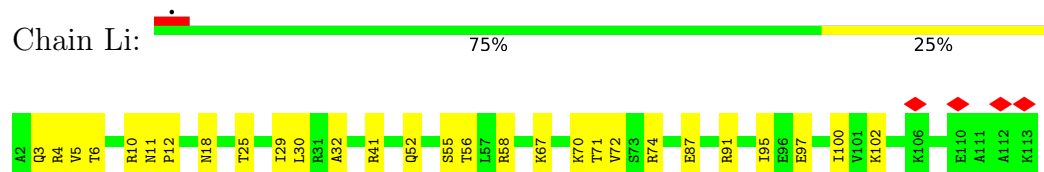
- Molecule 67: 60S ribosomal protein L32



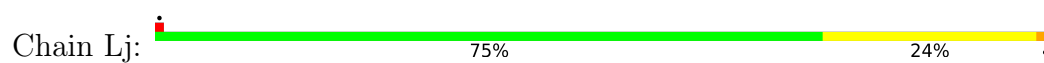
- Molecule 68: 60S ribosomal protein L33-A



- Molecule 69: 60S ribosomal protein L34-A



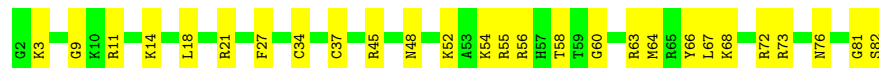
- Molecule 70: 60S ribosomal protein L35-A



- Molecule 71: 60S ribosomal protein L36-A



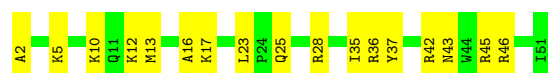
- Molecule 72: 60S ribosomal protein L37-A



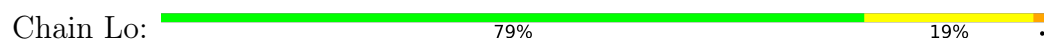
- Molecule 73: 60S ribosomal protein L38



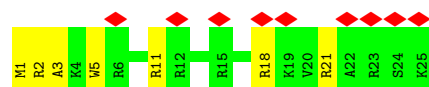
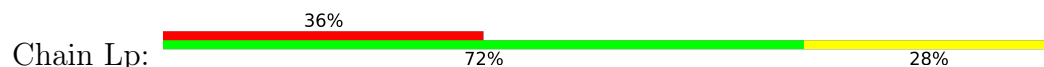
- Molecule 74: 60S ribosomal protein L39



- Molecule 75: 60S ribosomal protein L40-A



- Molecule 76: 60S ribosomal protein L41-A



- Chain Lq: 

- [illegible]

- Chain Ls:
-
- 7% 62% 28% 9%

- Chain z:

7%

90%

MET	PHE	GLY	GLN	MET	LEU	LYS	MET
THR	GLU	GLN	LYS	LYS	ASN	LYS	THR
GLU	ASP	GLN	THR	GLY	ALA	ASN	ALA
HIS	THR	LYS	GLY	GLN	ALA	ASP	ALA
GLY	SER	PRO	HIS	ALA	ALA	ALA	LEU
LEU	GLU	ILE	ARG	PRO	PRO	GLN	ALA
PHE	TYR	LYS	TYR	LYS	LYS	ALA	GLN
ILE	GLY	SER	LYS	VAL	VAL	PRO	HIS
PRO	PHE	LYS	LEU	ASP	ASP	LYS	LYS
GLU	THR	ARG	LYS	ALA	ALA	VAL	ASP
ARG	SER	GLY	ARG	ASN	ASN	ASP	PHE
SER	ASP	ARG	ARG	SER	SER	ASN	ALA
TYR	SER	LYS	ILE	ALA	ALA	PHE	VAL
LEU	ASN	VAL	ALA	GLY	GLY	ASN	ASP
ASP	TYR	GLY	LEU	LYS	LYS	ASN	LYS
ILE	GLU	THR	ASN	SER	SER	GLU	PHE
LEU	TYR	LEU	PRO	THR	THR	GLU	ASN
ASN	ALA	LEU	PRO	GLY	GLN	ASN	LYS
GLY	THR	LEU	ILE	SER	SER	GLN	GLU
LEU	SER	LYS	GLY	GLY	GLY	ASN	GLN
LEU	ASP	ARG	ALA	SER	ALA	ASN	GLN
GLU	GLU	LYS	GLU	GLU	GLU	GLU	GLN
PHE	GLU	ASP	GLN	ASN	ASN	TYR	ALA
LEU	LEU	ASP	PHE	LEU	LEU	GLU	ALA
ILE	ASP	ASP	ALA	TYR	ILE	ILE	TYR
LYS	ILE	ILE	GLU	PHE	PHE	GLU	GLU
MET	ALA	ALA	LYS	GLN	HIS	ILE	ILE
VAL	ASP	LYS	LEU	GLY	GLY	LEU	LEU
LEU	LYS	GLU	GLN	ASP	ASP	PRO	HIS
ASP	PRO	LYS	ILE	TYR	TYR	ASN	PRO
HIS	ASN	LYS	SER	LYS	LYS	ASN	ASN
LYS	LYS	ARG	GLU	ASP	GLU	GLU	GLU
CYS	CYS	GLU	ASN	SER	LYS	ASN	ASN
ASN	ASN	LYS	PRO	SER	SER	ASN	GLN
PHE	THR	ILE	SER	THR	THR	PHE	ALA
THR	ILE	SER	VAL	PHE	PHE	ASN	ARG
GLY	THR	ILE	ASP	PHE	THR	SER	GLY
SER	GLU	GLU	GLY	THR	CYS	LEU	LEU
GLY	CYS	SER	SER	PHE	ASN	LYS	GLN
LEU	ILE	ILE	GLN	GLY	ASN	LYS	LEU
GLU	TYR	TYR	PHE	CYS	CYS	ASP	SER
SER	CYS	GLY	ASN	VAL	VAL	PRO	ASP
ARG	LYS	LYS	LEU	ILE	ILE	SER	ASP
ALA	ASP	THR	THR	GLN	GLN	GLN	PRO
HIS	ASN	VAL	VAL	PHE	PHE	SER	SER
MET	LYS	GLY	GLY	THR	THR	ALA	GLN
ALA	GLU	THR	THR	MET	LYS	ASN	ALA
SER	VAL	GLU	ASN	ASN	SER	LEU	ALA
LYS	GLU	GLU	GLU	GLN	LEU	ALA	ASN
ARG	ARG	THR	SER	LEU	LEU	ILE	LEU
HIS	ASN	ASN	ASN	ASN	GLN	GLU	LEU
CYS	VAL	THR	THR	ALA	ARG	ALA	LEU
ARG	HIS	LYS	TYR	LEU	THR	LYS	GLU
LEU	ARG	HIS	PRO	HIS	TYR	LYS	ALA



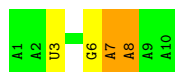
Chain m:



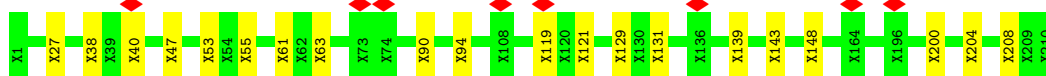
Chain n: 47% 40% 12%



Chain D: 60% 20% 20%



Chain E:



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	23734	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	0.629	Depositor
Minimum map value	-0.337	Depositor
Average map value	-0.001	Depositor
Map value standard deviation	0.027	Depositor
Recommended contour level	0.0875	Depositor
Map size (Å)	524.88, 524.88, 524.88	wwPDB
Map dimensions	648, 648, 648	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	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, 5CT

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	2	0.32	0/42211	0.39	0/65773
2	SP	0.27	0/1644	0.38	0/2249
3	SQ	0.25	0/1823	0.40	0/2447
4	SE	0.22	0/936	0.39	0/1259
5	SR	0.31	0/1656	0.41	0/2251
6	SA	0.25	0/1754	0.42	0/2361
7	SS	0.29	0/2097	0.42	0/2823
8	SB	0.25	0/1625	0.47	0/2197
9	ST	0.24	0/1839	0.41	0/2460
10	SU	0.24	0/1498	0.43	0/2019
11	SV	0.31	0/1501	0.44	0/2006
12	SW	0.26	0/1504	0.41	0/2016
13	SC	0.27	0/772	0.46	0/1044
14	SX	0.33	0/1168	0.47	0/1575
15	SD	0.17	0/883	0.43	0/1199
16	SY	0.28	0/1215	0.39	0/1638
17	SZ	0.26	0/934	0.39	0/1257
18	SF	0.26	0/1125	0.44	0/1510
19	SG	0.25	0/957	0.45	0/1283
20	SH	0.25	0/1207	0.42	0/1623
21	SI	0.24	0/1130	0.41	0/1517
22	SJ	0.25	0/807	0.41	0/1091
23	Sa	0.29	0/682	0.42	0/921
24	Sb	0.36	0/1038	0.44	0/1395
25	Sc	0.34	0/1139	0.40	0/1518
26	Sd	0.27	0/1046	0.41	0/1401
27	Se	0.29	0/778	0.38	0/1042
28	Sf	0.28	0/620	0.37	0/838
29	SM	0.30	0/453	0.43	0/602
30	Sg	0.24	0/459	0.45	0/611
31	SN	0.21	0/567	0.56	0/764
32	SO	0.22	0/2436	0.45	0/3318

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	SL	0.24	0/493	0.50	0/663
34	AA	0.21	0/744	0.45	0/991
35	A	0.38	0/76214	0.37	0/118821
36	B	0.30	0/2883	0.34	0/4491
37	C	0.41	0/3746	0.36	0/5832
38	LD	0.38	0/1933	0.43	0/2598
39	LE	0.36	0/3150	0.41	0/4236
40	LF	0.35	0/2801	0.41	0/3792
41	LG	0.26	0/2400	0.41	0/3239
42	LH	0.30	0/1329	0.40	0/1794
43	LI	0.32	0/1821	0.37	0/2451
44	LJ	0.31	0/1836	0.43	0/2481
45	LK	0.31	0/1529	0.46	0/2060
46	LL	0.30	0/1801	0.42	0/2416
47	LM	0.26	0/1367	0.46	0/1834
48	LN	0.32	0/1568	0.42	0/2106
49	LO	0.30	0/1068	0.38	0/1438
50	LP	0.39	0/1757	0.43	0/2354
51	LQ	0.34	0/1585	0.39	0/2128
52	LR	0.37	0/1439	0.41	0/1938
53	LS	0.32	0/1465	0.39	0/1965
54	LT	0.32	0/1532	0.35	0/2043
55	LU	0.34	0/1473	0.41	0/1980
56	LV	0.30	0/1296	0.40	0/1739
57	LW	0.30	0/812	0.52	0/1099
58	LX	0.38	0/1018	0.45	0/1369
59	LY	0.33	0/540	0.36	0/717
60	LZ	0.37	0/979	0.43	0/1321
61	La	0.36	0/995	0.35	0/1329
62	Lb	0.34	0/1106	0.42	0/1485
63	Lc	0.35	0/1200	0.47	0/1607
64	Ld	0.25	0/473	0.34	0/629
65	Le	0.32	0/745	0.38	0/1001
66	Lf	0.34	0/890	0.39	0/1196
67	Lg	0.35	0/1038	0.40	0/1390
68	Lh	0.39	0/868	0.44	0/1168
69	Li	0.40	0/890	0.45	0/1189
70	Lj	0.33	0/978	0.40	0/1301
71	Lk	0.26	0/772	0.45	0/1026
72	Ll	0.39	0/660	0.41	0/875
73	Lm	0.32	0/618	0.39	0/826
74	Ln	0.41	0/443	0.45	0/588
75	Lo	0.29	0/416	0.33	0/553

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
76	Lp	0.25	0/230	0.31	0/296
77	Lq	0.30	0/836	0.40	0/1104
78	Lr	0.33	0/701	0.38	0/934
79	Ls	0.25	0/1080	0.43	0/1452
80	z	0.31	0/483	0.42	0/640
81	m	0.29	0/1799	0.44	0/2801
82	n	0.85	1/1796 (0.1%)	0.49	2/2799 (0.1%)
83	D	0.34	0/240	0.44	0/368
All	All	0.34	1/219340 (0.0%)	0.39	2/322461 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
82	n	16	U	O3'-P	34.02	2.12	1.61

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
82	n	16	U	P-O3'-C3'	-14.11	99.04	120.20
82	n	16	U	O3'-P-O5'	-6.12	94.82	104.00

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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	2	37739	0	18988	1123	0
2	SP	1603	0	1610	57	0
3	SQ	1798	0	1890	78	0
4	SE	916	0	941	40	0
5	SR	1626	0	1715	57	0
6	SA	1729	0	1812	55	0
7	SS	2056	0	2140	77	0
8	SB	1605	0	1669	77	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
9	ST	1815	0	1894	78	0
10	SU	1473	0	1555	49	0
11	SV	1476	0	1501	64	0
12	SW	1479	0	1556	70	0
13	SC	754	0	725	45	0
14	SX	1142	0	1209	41	0
15	SD	875	0	878	45	0
16	SY	1192	0	1255	39	0
17	SZ	923	0	948	40	0
18	SF	1105	0	1166	54	0
19	SG	948	0	990	51	0
20	SH	1188	0	1218	58	0
21	SI	1112	0	1124	68	0
22	SJ	797	0	863	34	0
23	Sa	673	0	662	30	0
24	Sb	1021	0	1060	34	0
25	Sc	1121	0	1196	37	0
26	Sd	1032	0	1044	53	0
27	Se	765	0	814	29	0
28	Sf	610	0	633	16	0
29	SM	443	0	436	26	0
30	Sg	451	0	494	18	0
31	SN	556	0	552	34	0
32	SO	2383	0	2332	113	0
33	SL	491	0	524	19	0
34	AA	737	0	799	30	0
35	A	68091	0	34217	1597	0
36	B	2579	0	1304	86	0
37	C	3353	0	1695	72	0
38	LD	1899	0	1957	73	0
39	LE	3079	0	3158	109	0
40	LF	2749	0	2863	84	0
41	LG	2351	0	2294	85	0
42	LH	1307	0	1377	33	0
43	LI	1784	0	1862	59	0
44	LJ	1804	0	1877	57	0
45	LK	1508	0	1572	48	0
46	LL	1764	0	1804	68	0
47	LM	1346	0	1370	61	0
48	LN	1543	0	1608	69	0
49	LO	1053	0	1149	31	0
50	LP	1720	0	1779	68	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
51	LQ	1555	0	1659	43	0
52	LR	1416	0	1433	43	0
53	LS	1441	0	1543	58	0
54	LT	1515	0	1606	52	0
55	LU	1437	0	1475	53	0
56	LV	1272	0	1312	68	0
57	LW	796	0	812	25	0
58	LX	1003	0	1048	36	0
59	LY	528	0	546	20	0
60	LZ	964	0	1025	30	0
61	La	984	0	1075	22	0
62	Lb	1080	0	1122	30	0
63	Lc	1169	0	1211	51	0
64	Ld	462	0	491	19	0
65	Le	737	0	792	27	0
66	Lf	876	0	912	21	0
67	Lg	1017	0	1081	33	0
68	Lh	850	0	880	23	0
69	Li	880	0	945	31	0
70	Lj	969	0	1078	30	0
71	Lk	766	0	844	32	0
72	Ll	645	0	649	26	0
73	Lm	612	0	682	36	0
74	Ln	436	0	475	19	0
75	Lo	410	0	446	10	0
76	Lp	229	0	273	10	0
77	Lq	824	0	892	32	0
78	Lr	694	0	738	17	0
79	Ls	1081	0	1071	38	0
80	z	480	0	505	13	0
81	m	1611	0	817	47	0
82	n	1606	0	817	36	0
83	D	213	0	109	1	0
84	E	1051	0	241	12	0
85	A	20	0	23	3	0
All	All	205193	0	150707	5386	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 15.

All (5386) 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)
82:n:16:U:O3'	82:n:18:G:P	2.12	1.07
1:2:699:U:H3	1:2:739:G:H1	1.11	0.99
1:2:225:A:N6	1:2:837:G:N3	2.14	0.96
11:SV:152:ILE:HD12	14:SX:24:LYS:HE2	1.47	0.94
1:2:647:G:H22	1:2:687:G:H1	1.15	0.93
1:2:868:G:H1	1:2:960:U:H3	1.17	0.91
81:m:52:G:N1	81:m:62:C:O2	2.04	0.90
47:LM:82:ARG:HB3	47:LM:112:LEU:HB2	1.53	0.90
1:2:1233:G:HO2'	31:SN:145:HIS:HE2	1.04	0.90
35:A:714:G:HO2'	35:A:753:C:HO2'	1.17	0.89
1:2:1565:C:OP1	20:SH:41:ARG:NH1	2.06	0.88
49:LO:37:GLU:HG2	55:LU:72:VAL:HG21	1.55	0.88
35:A:3164:C:HO2'	35:A:3165:A:H8	0.95	0.88
53:LS:64:VAL:HA	53:LS:67:ILE:HD12	1.55	0.88
1:2:142:G:OP1	9:ST:139:ASN:ND2	2.07	0.88
35:A:149:U:OP2	50:LP:49:ARG:NH2	2.08	0.87
35:A:1419:A:H5''	40:LF:193:LYS:HZ2	1.40	0.87
18:SF:89:LEU:HG	18:SF:105:LEU:HD11	1.56	0.87
1:2:500:C:H2'	1:2:501:U:H4'	1.56	0.86
15:SD:78:LEU:HD21	31:SN:114:VAL:HB	1.57	0.86
2:SP:42:PRO:HD3	19:SG:105:GLN:HE22	1.38	0.86
11:SV:159:GLN:NE2	11:SV:166:TYR:H	1.73	0.86
1:2:752:A:H3'	7:SS:187:ARG:HH21	1.40	0.85
55:LU:96:ASP:OD1	55:LU:97:VAL:N	2.09	0.85
10:SU:150:GLN:HB3	10:SU:181:ILE:HG22	1.58	0.85
1:2:1171:A:H2'	1:2:1172:G:H8	1.41	0.85
1:2:1588:G:H1	1:2:1608:U:H3	0.89	0.84
3:SQ:132:ASP:HB2	3:SQ:221:PRO:HB3	1.57	0.84
7:SS:153:ASN:OD1	9:ST:215:ARG:NH1	2.10	0.84
35:A:1255:C:N4	35:A:1263:A:OP2	2.11	0.84
1:2:170:U:H3	1:2:289:U:HO2'	1.26	0.84
1:2:1332:C:OP2	19:SG:45:ARG:NH1	2.11	0.84
1:2:188:A:N6	1:2:197:A:O2'	2.11	0.83
40:LF:74:ILE:HD12	40:LF:75:PRO:HD2	1.59	0.83
11:SV:159:GLN:HE21	11:SV:166:TYR:H	1.25	0.83
35:A:2193:U:H5'	35:A:2194:G:H5'	1.61	0.83
35:A:1576:G:H2'	35:A:1577:G:H8	1.43	0.82
19:SG:27:ASP:O	19:SG:31:ASN:ND2	2.12	0.82
35:A:1576:G:H2'	35:A:1577:G:C8	2.14	0.82
32:SO:289:ALA:HA	32:SO:305:TYR:HA	1.60	0.82
35:A:754:G:H1	35:A:778:U:H3	1.23	0.82
6:SA:105:MET:HG3	6:SA:122:VAL:HG21	1.62	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:SG:32:LYS:HD2	19:SG:47:ARG:HH21	1.45	0.82
32:SO:38:ARG:HA	32:SO:67:ILE:HG23	1.62	0.81
32:SO:89:LEU:HB2	32:SO:103:PHE:HB2	1.61	0.81
14:SX:99:ARG:NH1	25:Sc:7:ARG:O	2.13	0.81
35:A:2427:U:H3	35:A:2602:G:H1	0.85	0.81
35:A:240:U:H5''	35:A:241:G:H5'	1.63	0.81
35:A:3092:C:O2'	35:A:3094:A:OP2	1.98	0.81
19:SG:7:LYS:HE3	19:SG:11:ARG:HD2	1.61	0.80
2:SP:205:ARG:NH1	2:SP:206:ASP:O	2.14	0.80
11:SV:119:GLN:HG2	11:SV:150:ALA:HB2	1.64	0.80
81:m:27:G:H1	81:m:43:U:H3	0.83	0.80
35:A:2553:U:O2'	69:Li:91:ARG:NH2	2.14	0.80
1:2:512:A:O2'	12:SW:133:HIS:NE2	2.14	0.80
8:SB:48:PHE:HE2	8:SB:68:ILE:H	1.27	0.80
1:2:1499:G:OP1	21:SI:122:ARG:NH1	2.15	0.80
46:LL:89:VAL:HG12	46:LL:136:PHE:HE1	1.47	0.79
56:LV:108:ARG:O	56:LV:112:ASN:ND2	2.14	0.79
35:A:1564:U:O2	35:A:1575:A:N6	2.15	0.79
35:A:1281:G:H2'	35:A:1282:G:H8	1.48	0.79
1:2:217:A:N1	1:2:844:A:O2'	2.16	0.79
32:SO:201:THR:HG21	32:SO:242:SER:HA	1.64	0.79
35:A:804:C:OP1	40:LF:98:ARG:NH2	2.16	0.79
48:LN:153:ASP:OD2	48:LN:157:ARG:NH2	2.14	0.79
5:SR:139:ILE:HD11	5:SR:218:ILE:HD12	1.65	0.79
35:A:173:G:N2	35:A:246:U:O2	2.15	0.79
12:SW:59:LEU:HD12	12:SW:69:ARG:HA	1.66	0.78
3:SQ:149:GLN:HE22	3:SQ:154:SER:HB3	1.47	0.78
14:SX:80:MET:HE3	14:SX:83:THR:HG23	1.63	0.78
46:LL:110:ARG:NH2	82:n:75:C:OP2	2.16	0.78
2:SP:139:VAL:HG13	2:SP:141:ILE:HG12	1.65	0.78
35:A:824:C:H5''	38:LD:21:ARG:HD3	1.66	0.78
46:LL:44:ASP:OD2	46:LL:185:ARG:NH1	2.15	0.78
18:SF:28:LEU:HD11	18:SF:30:LYS:HE3	1.64	0.78
1:2:333:A:OP2	11:SV:31:ARG:NH2	2.15	0.78
1:2:1303:U:O2'	1:2:1322:A:OP2	2.01	0.78
56:LV:48:ILE:HG21	56:LV:94:GLU:HG3	1.63	0.78
52:LR:56:ARG:NH2	52:LR:75:GLU:OE2	2.14	0.77
1:2:868:G:N2	16:SY:48:SER:OG	2.16	0.77
1:2:1402:G:H5'	19:SG:4:VAL:HG13	1.67	0.77
4:SE:85:ILE:HG22	4:SE:112:LEU:HD23	1.66	0.77
35:A:2452:G:O6	35:A:2495:C:N4	2.18	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:2737:C:H4'	56:LV:68:THR:HG21	1.65	0.77
35:A:2571:U:H1'	35:A:2572:C:H2'	1.67	0.77
35:A:3190:C:OP1	51:LQ:172:ARG:NH1	2.17	0.76
35:A:655:C:H2'	35:A:656:A:H8	1.50	0.76
12:SW:170:GLY:O	12:SW:174:ARG:NH1	2.19	0.76
35:A:1062:A:N3	56:LV:130:ARG:NH2	2.33	0.76
19:SG:77:GLU:OE1	19:SG:81:LYS:NZ	2.16	0.76
20:SH:70:VAL:HG13	20:SH:74:GLN:HE21	1.49	0.76
35:A:2775:U:H1'	63:Lc:58:MET:HE1	1.65	0.76
82:n:16:U:C3'	82:n:18:G:P	2.74	0.76
1:2:129:U:O4	9:ST:194:LYS:NZ	2.16	0.76
3:SQ:131:ASP:OD2	3:SQ:180:THR:OG1	2.04	0.76
21:SI:108:LEU:HD22	21:SI:114:VAL:HG22	1.67	0.76
35:A:600:G:N2	35:A:603:A:OP2	2.17	0.76
25:Sc:109:ARG:HH21	25:Sc:112:LYS:HD3	1.48	0.76
46:LL:170:LYS:HA	46:LL:177:ASP:HA	1.68	0.76
80:z:398:MET:HG3	80:z:402:GLN:HE21	1.51	0.76
1:2:629:U:OP2	1:2:969:C:N4	2.18	0.76
46:LL:36:LEU:HD13	46:LL:87:LEU:HD23	1.65	0.76
74:Ln:28:ARG:HD2	80:z:401:MET:HE2	1.67	0.76
35:A:1639:C:OP2	69:Li:74:ARG:NH2	2.19	0.75
35:A:1896:A:H61	35:A:2339:C:H42	1.32	0.75
1:2:513:U:H2'	1:2:514:G:C8	2.21	0.75
35:A:708:G:N2	35:A:711:A:OP2	2.16	0.75
50:LP:73:ARG:HH21	50:LP:92:LEU:HD11	1.52	0.75
1:2:821:U:N3	1:2:852:C:O2	2.20	0.75
35:A:279:U:N3	35:A:286:U:O4	2.19	0.75
63:Lc:112:ILE:HB	63:Lc:130:VAL:HG23	1.69	0.75
1:2:388:G:OP1	1:2:423:G:O2'	2.03	0.75
35:A:2890:A:O2'	35:A:2933:A:N3	2.20	0.75
1:2:327:U:H1'	14:SX:10:GLU:OE2	1.86	0.74
32:SO:169:ILE:HG23	32:SO:183:LEU:HD22	1.69	0.74
35:A:3153:U:O2'	35:A:3154:C:O4'	2.05	0.74
12:SW:20:GLU:OE1	12:SW:23:ARG:NE	2.17	0.74
35:A:75:G:H5''	48:LN:58:VAL:HG13	1.69	0.74
35:A:2386:A:N6	35:A:2994:A:N7	2.35	0.74
45:LK:75:VAL:HA	45:LK:78:MET:HE2	1.67	0.74
63:Lc:6:THR:HG22	63:Lc:8:THR:H	1.50	0.74
1:2:871:G:H2'	1:2:872:G:C8	2.22	0.74
35:A:2747:A:N1	41:LG:32:GLN:NE2	2.36	0.74
38:LD:51:ASP:OD2	38:LD:54:ARG:NH1	2.20	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:LM:88:GLU:HG3	47:LM:90:GLN:H	1.52	0.74
81:m:15:G:H3'	81:m:16:U:H5''	1.70	0.74
5:SR:165:VAL:HG11	5:SR:210:THR:HA	1.68	0.74
35:A:2756:C:O2	56:LV:8:ARG:NH1	2.21	0.74
35:A:1627:U:H2'	35:A:1814:A:H61	1.50	0.74
1:2:808:U:H2'	1:2:809:A:H8	1.51	0.74
1:2:1171:A:H2'	1:2:1172:G:C8	2.23	0.74
2:SP:39:ASN:OD1	2:SP:40:ALA:N	2.21	0.74
19:SG:108:ASP:HA	19:SG:111:LYS:HG2	1.70	0.74
1:2:113:U:O2'	1:2:115:G:O2'	2.06	0.74
32:SO:152:SER:H	32:SO:173:GLY:HA2	1.53	0.74
35:A:1060:U:H2'	35:A:1061:A:H8	1.52	0.74
41:LG:23:ARG:NH1	41:LG:23:ARG:O	2.21	0.74
8:SB:145:ASP:OD1	33:SL:45:LYS:NZ	2.21	0.73
25:Sc:73:ARG:HH11	25:Sc:84:THR:HG23	1.52	0.73
32:SO:229:LYS:NZ	32:SO:230:ALA:O	2.21	0.73
1:2:828:U:H2'	1:2:829:A:C8	2.24	0.73
48:LN:62:THR:HG23	48:LN:64:LYS:H	1.53	0.73
35:A:294:U:OP2	50:LP:15:GLN:NE2	2.21	0.73
35:A:651:G:O2'	35:A:1435:A:OP1	2.07	0.73
35:A:2323:G:O2'	35:A:2325:G:OP2	2.06	0.73
36:B:2:G:H1	36:B:119:U:H3	1.34	0.73
35:A:2425:G:OP2	50:LP:90:ASN:ND2	2.21	0.73
1:2:1222:C:H2'	1:2:1223:A:H8	1.53	0.73
35:A:295:A:N3	71:Lk:82:ARG:NH1	2.37	0.73
43:LI:87:VAL:HG11	43:LI:243:MET:HE1	1.69	0.73
35:A:1129:A:OP1	46:LL:13:LYS:NZ	2.21	0.73
35:A:1280:C:H2'	35:A:1281:G:H8	1.53	0.73
35:A:3379:C:H4'	39:LE:315:GLY:HA2	1.70	0.73
35:A:544:C:H2'	35:A:547:G:H1	1.54	0.73
54:LT:7:GLN:NE2	54:LT:35:ALA:O	2.17	0.73
1:2:494:U:OP1	1:2:496:G:N2	2.19	0.73
1:2:1566:U:H5''	20:SH:39:GLY:H	1.52	0.73
6:SA:40:ARG:O	6:SA:46:THR:OG1	2.06	0.73
35:A:2557:A:OP1	38:LD:69:TYR:OH	2.05	0.73
57:LW:35:LYS:HA	57:LW:38:ILE:HG12	1.70	0.73
7:SS:19:LEU:HD11	7:SS:108:ARG:HD2	1.71	0.73
31:SN:107:LYS:HB3	31:SN:114:VAL:HG13	1.68	0.73
35:A:1376:C:HO2'	35:A:1408:G:HO2'	1.35	0.73
35:A:3042:U:OP2	35:A:3092:C:N4	2.22	0.73
37:C:71:A:O2'	61:La:52:ARG:NH2	2.22	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1778:G:O2'	35:A:1780:G:OP2	2.07	0.72
42:LH:152:THR:HG23	42:LH:155:LEU:HB2	1.71	0.72
77:Lq:73:GLU:HG3	77:Lq:80:ARG:HG3	1.71	0.72
1:2:1591:C:H2'	1:2:1592:A:H8	1.54	0.72
26:Sd:14:SER:HB3	26:Sd:21:LYS:HD3	1.71	0.72
35:A:1940:G:OP1	54:LT:75:HIS:ND1	2.17	0.72
35:A:2241:U:H4'	38:LD:242:ARG:HG3	1.71	0.72
37:C:126:A:O2'	37:C:128:U:OP2	2.07	0.72
1:2:1504:G:OP1	21:SI:97:SER:OG	2.08	0.72
35:A:291:C:OP1	50:LP:68:ARG:NE	2.21	0.72
35:A:1661:G:H2'	35:A:1662:G:C8	2.24	0.72
35:A:3228:C:O2'	35:A:3229:G:OP2	2.07	0.72
37:C:83:C:O2'	37:C:85:G:N2	2.22	0.72
45:LK:77:ASN:O	45:LK:86:TYR:OH	2.06	0.72
58:LX:104:ASN:ND2	58:LX:108:GLU:OE1	2.21	0.72
1:2:142:G:H22	1:2:173:A:H2	1.37	0.72
1:2:1672:G:H2'	1:2:1673:G:C8	2.24	0.72
7:SS:207:LEU:HD22	7:SS:219:VAL:HG12	1.71	0.72
35:A:640:U:OP1	63:Lc:21:ARG:NH2	2.21	0.72
35:A:754:G:H2'	35:A:755:A:H8	1.54	0.72
38:LD:36:GLU:OE2	38:LD:163:ARG:NH1	2.22	0.72
38:LD:70:ARG:HE	38:LD:72:ARG:HH22	1.34	0.72
58:LX:87:ARG:NH2	58:LX:137:VAL:O	2.20	0.72
13:SC:3:MET:HE2	13:SC:41:TYR:HB3	1.71	0.72
24:Sb:6:VAL:HG23	24:Sb:29:PRO:HD2	1.70	0.72
35:A:1280:C:H2'	35:A:1281:G:C8	2.24	0.72
50:LP:160:GLU:OE1	50:LP:160:GLU:N	2.18	0.72
79:Ls:63:ASP:OD2	79:Ls:66:THR:OG1	2.08	0.72
35:A:1139:G:OP2	64:Ld:14:ARG:NH2	2.22	0.72
66:Lf:50:ARG:NH2	66:Lf:82:GLU:OE2	2.23	0.72
1:2:1524:A:H2'	1:2:1525:A:C8	2.24	0.72
1:2:1594:G:OP2	1:2:1596:C:N4	2.23	0.72
11:SV:102:VAL:O	11:SV:167:ALA:N	2.19	0.72
47:LM:141:ARG:HH21	47:LM:144:CYS:HB3	1.55	0.72
1:2:144:U:O4	9:ST:137:ARG:NH2	2.23	0.71
35:A:2413:A:H2'	35:A:2414:G:H8	1.55	0.71
35:A:2803:A:OP1	77:Lq:60:LYS:NZ	2.23	0.71
73:Lm:44:LYS:HG2	73:Lm:53:THR:HG22	1.72	0.71
1:2:68:A:OP2	9:ST:171:LYS:NZ	2.23	0.71
1:2:1556:A:H3'	4:SE:40:ARG:HH21	1.54	0.71
15:SD:56:GLU:HG2	15:SD:124:LYS:HD3	1.72	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:SO:200:ASN:ND2	32:SO:240:VAL:O	2.20	0.71
35:A:2538:U:O2'	35:A:2539:C:O4'	2.08	0.71
45:LK:4:ILE:HG13	55:LU:142:GLN:OE1	1.90	0.71
66:Lf:13:THR:OG1	66:Lf:72:ARG:NH1	2.22	0.71
79:Ls:87:ARG:NH1	82:n:16:U:O2	2.21	0.71
35:A:1213:G:H4'	55:LU:90:MET:HG2	1.72	0.71
49:LO:48:GLY:HA3	49:LO:53:VAL:HB	1.72	0.71
35:A:664:U:H2'	35:A:665:A:C8	2.25	0.71
46:LL:185:ARG:HH21	46:LL:190:VAL:HG23	1.55	0.71
1:2:1227:A:H61	1:2:1256:A:H2'	1.52	0.71
6:SA:27:ARG:HB3	13:SC:58:GLN:HE21	1.55	0.71
37:C:95:G:OP2	72:Ll:72:ARG:NH1	2.23	0.71
67:Lg:83:GLU:O	67:Lg:86:THR:OG1	2.07	0.71
12:SW:125:ALA:O	12:SW:129:ILE:HG12	1.90	0.71
16:SY:55:ARG:HH22	28:Sf:51:GLN:HE21	1.37	0.71
1:2:1502:G:N7	21:SI:102:ARG:NH2	2.38	0.71
3:SQ:175:GLU:OE2	3:SQ:187:LYS:NZ	2.23	0.71
35:A:69:C:OP1	50:LP:178:HIS:ND1	2.24	0.71
1:2:163:G:OP2	1:2:163:G:N2	2.21	0.71
1:2:614:C:OP1	25:Sc:3:LYS:NZ	2.16	0.71
1:2:961:U:H5''	16:SY:71:ILE:HD13	1.72	0.71
1:2:1218:G:O4'	1:2:1444:A:N6	2.24	0.71
6:SA:115:ILE:HD13	6:SA:142:LEU:HD22	1.73	0.71
35:A:255:A:H2'	35:A:256:G:H8	1.55	0.71
35:A:681:U:O2'	35:A:696:C:N4	2.24	0.71
35:A:2763:U:N3	85:A:3401:3HE:O1	2.19	0.71
41:LG:53:VAL:O	41:LG:54:ARG:NH1	2.20	0.71
1:2:781:U:OP2	26:Sd:9:THR:OG1	2.08	0.71
1:2:1063:U:H2'	1:2:1064:G:H8	1.56	0.71
1:2:1699:G:N2	1:2:1702:A:N7	2.39	0.71
10:SU:41:LEU:HD13	10:SU:70:PHE:CZ	2.25	0.71
35:A:2772:C:H4'	35:A:2773:C:H5'	1.71	0.71
46:LL:56:GLU:OE2	46:LL:162:GLN:N	2.23	0.71
1:2:1172:G:O2'	1:2:1543:A:O2'	2.05	0.70
1:2:1209:C:OP1	31:SN:80:ARG:NH1	2.24	0.70
4:SE:93:VAL:HG12	4:SE:106:GLU:HG3	1.73	0.70
21:SI:114:VAL:HG12	21:SI:124:ILE:HA	1.73	0.70
35:A:737:G:H2'	35:A:738:A:H8	1.55	0.70
44:LJ:217:THR:O	44:LJ:221:ASN:ND2	2.24	0.70
1:2:130:C:N4	1:2:179:A:OP1	2.24	0.70
10:SU:75:THR:OG1	10:SU:161:GLN:OE1	2.08	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1907:C:O2	39:LE:240:ARG:NH2	2.24	0.70
35:A:2549:G:N2	35:A:2549:G:OP2	2.24	0.70
39:LE:58:ARG:NH1	39:LE:352:GLU:OE2	2.24	0.70
35:A:754:G:N2	35:A:778:U:O2	2.20	0.70
35:A:1259:A:N3	35:A:1280:C:O2'	2.24	0.70
42:LH:51:ARG:NH1	42:LH:161:ALA:O	2.24	0.70
44:LJ:82:LEU:HD11	44:LJ:178:ALA:HB1	1.72	0.70
1:2:141:U:O2	9:ST:183:ARG:NH2	2.25	0.70
30:Sg:50:VAL:HG12	30:Sg:52:GLY:H	1.57	0.70
32:SO:10:ARG:HB3	32:SO:312:VAL:HG13	1.72	0.70
1:2:990:C:H5''	17:SZ:129:LYS:HB2	1.74	0.70
1:2:1341:A:O3'	32:SO:102:ARG:NH1	2.19	0.70
35:A:145:G:OP2	44:LJ:193:LYS:NZ	2.21	0.70
35:A:3187:A:OP1	45:LK:23:ARG:NH1	2.24	0.70
44:LJ:130:TYR:HB2	44:LJ:204:ARG:CZ	2.20	0.70
1:2:1584:G:N2	1:2:1611:A:OP2	2.24	0.70
2:SP:154:GLU:OE1	2:SP:154:GLU:N	2.25	0.70
11:SV:195:ARG:HH21	14:SX:11:ARG:HA	1.57	0.70
21:SI:29:GLU:OE1	21:SI:29:GLU:N	2.24	0.70
32:SO:80:ALA:HB3	32:SO:92:TRP:HB2	1.72	0.70
35:A:1020:G:H2'	35:A:1021:G:H8	1.57	0.70
58:LX:54:LEU:HD21	58:LX:119:GLY:HA3	1.73	0.70
1:2:992:A:H2	1:2:1012:U:H3	1.38	0.70
9:ST:67:VAL:HG23	9:ST:99:GLY:HA2	1.73	0.70
12:SW:62:ARG:HH12	12:SW:68:LYS:HD3	1.56	0.70
21:SI:24:ARG:HH12	21:SI:25:GLN:HG3	1.55	0.70
46:LL:171:TRP:O	46:LL:174:THR:OG1	2.10	0.70
54:LT:13:SER:OG	54:LT:38:ARG:NH1	2.25	0.70
1:2:590:C:H2'	1:2:591:A:H8	1.54	0.70
1:2:1198:G:OP1	1:2:1199:G:O2'	2.06	0.70
1:2:1444:A:H4'	1:2:1445:G:H5'	1.74	0.70
40:LF:217:LYS:HG2	40:LF:220:ARG:HH21	1.55	0.70
48:LN:55:ARG:NH1	48:LN:73:ARG:O	2.23	0.70
77:Lq:47:GLN:NE2	77:Lq:53:GLN:OE1	2.24	0.70
35:A:912:G:OP2	38:LD:9:ARG:NH2	2.24	0.69
35:A:1192:C:N4	35:A:1301:A:O2'	2.25	0.69
40:LF:138:ARG:HH21	40:LF:240:PRO:HD2	1.57	0.69
1:2:405:C:O2'	9:ST:92:ARG:O	2.09	0.69
4:SE:83:MET:HB3	4:SE:116:LEU:HD12	1.74	0.69
35:A:2424:A:H61	38:LD:230:VAL:HG11	1.55	0.69
41:LG:290:ILE:HD11	46:LL:206:LEU:HD22	1.73	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1062:A:O3'	28:Sf:72:LYS:HE2	1.91	0.69
35:A:674:G:O2'	40:LF:116:ASN:OD1	2.10	0.69
35:A:2842:U:OP1	35:A:2844:C:N4	2.25	0.69
35:A:3057:U:H5'	35:A:3086:A:H61	1.57	0.69
81:m:47:U:H4'	81:m:48:C:H5''	1.73	0.69
35:A:2427:U:O4	35:A:2602:G:O6	2.10	0.69
1:2:108:A:H2'	1:2:109:G:C8	2.27	0.69
1:2:391:A:OP2	11:SV:23:LYS:NZ	2.24	0.69
1:2:1688:U:H3	1:2:1713:G:H1	1.41	0.69
26:Sd:63:GLN:HE22	26:Sd:68:LYS:HE3	1.58	0.69
39:LE:53:MET:HG2	39:LE:77:THR:HG22	1.73	0.69
53:LS:106:PHE:HB2	53:LS:111:ARG:HH11	1.58	0.69
1:2:1496:U:HO2'	1:2:1519:U:HO2'	1.37	0.69
35:A:571:U:H2'	35:A:572:A:H8	1.55	0.69
63:Lc:80:THR:O	63:Lc:87:ARG:NH2	2.26	0.69
1:2:1431:C:H5''	1:2:1432:U:H5'	1.74	0.69
35:A:687:U:OP2	48:LN:36:ARG:NH2	2.26	0.69
35:A:914:A:N1	38:LD:204:MET:HE2	2.08	0.69
35:A:2433:U:OP2	35:A:2434:U:O2'	2.09	0.69
39:LE:186:GLY:O	39:LE:191:LYS:NZ	2.20	0.69
1:2:15:U:O2'	1:2:620:A:N6	2.26	0.69
1:2:238:U:OP2	1:2:239:C:N4	2.26	0.69
1:2:343:C:H2'	1:2:344:A:H8	1.56	0.69
1:2:474:A:H5''	12:SW:144:PRO:HD2	1.74	0.69
7:SS:103:TYR:O	7:SS:182:TYR:OH	2.10	0.69
8:SB:69:PHE:CE2	18:SF:46:PHE:HB3	2.28	0.69
35:A:156:G:H22	48:LN:91:ARG:HH12	1.39	0.69
35:A:638:C:OP1	67:Lg:21:HIS:NE2	2.21	0.69
35:A:714:G:N7	63:Lc:111:LYS:NZ	2.41	0.69
35:A:2185:G:O2'	35:A:2314:U:OP2	2.09	0.69
35:A:2745:G:N2	35:A:2748:A:OP2	2.24	0.69
35:A:2901:G:O2'	35:A:3024:A:N1	2.25	0.69
6:SA:192:PRO:O	6:SA:195:SER:OG	2.10	0.69
35:A:1174:G:N2	51:LQ:87:MET:HE2	2.08	0.69
35:A:1544:G:H5'	50:LP:67:ARG:HD2	1.73	0.69
1:2:1097:U:O4	5:SR:201:ASN:ND2	2.26	0.69
1:2:1795:U:OP2	27:Se:5:ARG:NH2	2.26	0.69
1:2:1499:G:H5''	21:SI:122:ARG:HH12	1.58	0.68
1:2:1550:A:OP2	4:SE:42:ARG:NH2	2.26	0.68
6:SA:179:GLN:N	6:SA:179:GLN:OE1	2.26	0.68
1:2:976:G:N2	1:2:1024:U:OP2	2.24	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1795:U:H5'	27:Se:79:ILE:HD11	1.76	0.68
9:ST:27:PHE:HE1	9:ST:36:VAL:HG21	1.57	0.68
43:LI:104:GLN:HE22	53:LS:4:ASP:HB3	1.57	0.68
1:2:1465:C:OP1	18:SF:139:GLN:NE2	2.26	0.68
39:LE:90:VAL:HB	39:LE:104:THR:HG22	1.76	0.68
48:LN:166:ALA:HB1	63:Lc:147:LEU:HD21	1.75	0.68
1:2:39:A:OP1	12:SW:3:ARG:NH1	2.26	0.68
1:2:472:U:O2'	1:2:769:A:N3	2.26	0.68
35:A:674:G:O6	53:LS:56:LYS:NZ	2.26	0.68
35:A:952:A:N3	35:A:1114:U:O2'	2.26	0.68
1:2:652:G:H1	1:2:682:C:H2'	1.57	0.68
24:Sb:117:ARG:HH12	24:Sb:118:ARG:HG3	1.59	0.68
35:A:597:G:H2'	35:A:598:A:H8	1.58	0.68
35:A:1003:A:N1	35:A:1049:C:O2'	2.26	0.68
35:A:1447:G:OP1	52:LR:65:SER:OG	2.11	0.68
38:LD:30:ARG:NH2	38:LD:33:ASP:OD2	2.26	0.68
1:2:137:U:O2	1:2:176:C:O2'	2.10	0.68
22:SJ:30:LYS:HB2	22:SJ:33:GLN:HE21	1.58	0.68
35:A:524:U:OP1	49:LO:77:ARG:NH2	2.26	0.68
39:LE:76:VAL:HG21	39:LE:323:MET:HE3	1.75	0.68
67:Lg:82:LEU:HD21	67:Lg:112:ALA:HB2	1.76	0.68
11:SV:119:GLN:N	11:SV:119:GLN:OE1	2.27	0.68
35:A:1364:C:OP1	43:LI:110:ARG:NH2	2.27	0.68
1:2:844:A:H2'	1:2:845:G:C8	2.29	0.68
31:SN:125:THR:OG1	31:SN:144:CYS:SG	2.51	0.68
35:A:1018:G:N2	35:A:1034:U:O2	2.26	0.68
37:C:40:A:OP2	37:C:103:G:N1	2.18	0.68
1:2:815:G:OP1	54:LT:163:ARG:NH2	2.22	0.68
35:A:837:A:OP1	78:Lr:5:THR:OG1	2.12	0.68
35:A:1514:G:O2'	74:Ln:45:ARG:NH1	2.27	0.68
47:LM:32:ARG:HG2	47:LM:120:ILE:HA	1.76	0.68
1:2:393:C:O2'	1:2:394:C:O5'	2.13	0.67
1:2:924:A:H2'	1:2:925:G:C8	2.28	0.67
1:2:1563:C:OP1	21:SI:84:LYS:NZ	2.21	0.67
37:C:21:C:OP2	40:LF:194:TYR:OH	2.10	0.67
35:A:243:G:H2'	35:A:244:G:O4'	1.94	0.67
35:A:348:A:N3	35:A:352:A:O2'	2.27	0.67
35:A:799:G:O2'	48:LN:18:TRP:NE1	2.25	0.67
35:A:2522:G:O6	38:LD:70:ARG:NH2	2.27	0.67
36:B:71:G:H2'	36:B:72:A:H8	1.59	0.67
1:2:815:G:OP2	54:LT:163:ARG:NH1	2.25	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:2369:G:H2'	35:A:2370:G:C8	2.29	0.67
37:C:58:G:O6	72:Ll:63:ARG:NH1	2.27	0.67
1:2:1474:G:H2'	1:2:1475:A:H8	1.59	0.67
1:2:65:A:H2	1:2:84:A:H62	1.39	0.67
1:2:814:A:H3'	54:LT:166:ASN:ND2	2.10	0.67
1:2:1482:C:O5'	1:2:1521:G:N2	2.28	0.67
28:Sf:42:ASN:ND2	28:Sf:56:CYS:SG	2.67	0.67
35:A:1448:U:OP2	35:A:2355:G:N1	2.19	0.67
36:B:11:A:N7	56:LV:20:ARG:NH1	2.42	0.67
41:LG:50:ARG:NH2	41:LG:72:ASP:OD2	2.27	0.67
1:2:333:A:H5'	11:SV:48:THR:HB	1.75	0.67
2:SP:162:CYS:SG	2:SP:163:ASN:N	2.68	0.67
9:ST:159:ARG:NH2	9:ST:170:THR:O	2.28	0.67
22:SJ:40:ASN:HA	22:SJ:43:LYS:HG2	1.76	0.67
35:A:339:C:OP1	35:A:1380:G:O2'	2.11	0.67
56:LV:144:GLU:OE1	56:LV:144:GLU:N	2.26	0.67
17:SZ:117:ASP:OD2	27:Se:67:THR:OG1	2.11	0.67
32:SO:10:ARG:NH1	32:SO:50:ASP:O	2.27	0.67
35:A:1284:C:O2'	35:A:1285:G:O4'	2.11	0.67
37:C:8:C:H2'	37:C:9:A:H8	1.58	0.67
38:LD:97:ASN:OD1	78:Lr:87:ARG:NH1	2.27	0.67
79:Ls:139:ILE:HD12	79:Ls:148:ILE:HG21	1.75	0.67
1:2:10:G:O2'	5:SR:87:GLN:OE1	2.13	0.67
18:SF:52:LEU:HB3	18:SF:60:PHE:CE2	2.30	0.67
35:A:286:U:H2'	35:A:287:G:H8	1.59	0.67
35:A:542:G:H2'	35:A:543:C:C6	2.29	0.67
35:A:801:A:H61	48:LN:19:GLN:HE22	1.43	0.67
35:A:2525:G:O2'	35:A:2526:C:OP2	2.08	0.67
35:A:2697:A:H2'	35:A:2698:G:H8	1.59	0.67
25:Sc:70:LYS:HB3	25:Sc:93:LEU:HD22	1.76	0.67
32:SO:292:LEU:HB3	32:SO:301:LEU:HD11	1.77	0.67
40:LF:33:ASP:OD1	40:LF:34:ILE:N	2.28	0.67
63:Lc:97:GLU:OE1	63:Lc:97:GLU:N	2.20	0.67
66:Lf:6:ASP:HB3	66:Lf:89:LEU:HD11	1.75	0.67
1:2:1109:G:OP2	25:Sc:27:ASN:ND2	2.24	0.67
40:LF:329:PRO:HB3	43:LI:41:ARG:HH21	1.60	0.67
66:Lf:72:ARG:NH2	66:Lf:105:GLN:O	2.26	0.67
1:2:1483:A:H4'	18:SF:71:GLY:HA2	1.77	0.66
2:SP:59:LEU:HD22	23:Sa:79:LEU:HD11	1.77	0.66
35:A:655:C:H2'	35:A:656:A:C8	2.29	0.66
35:A:3252:G:H2'	35:A:3253:G:C8	2.30	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:SX:6:THR:HG23	14:SX:9:SER:HB3	1.77	0.66
1:2:447:U:O2'	7:SS:27:TYR:O	2.13	0.66
1:2:652:G:N2	1:2:683:C:OP2	2.28	0.66
1:2:1713:G:H2'	1:2:1714:A:C8	2.30	0.66
9:ST:227:ARG:NE	9:ST:227:ARG:O	2.28	0.66
20:SH:28:ILE:HD11	20:SH:54:LEU:HA	1.78	0.66
35:A:1431:G:OP2	63:Lc:9:ARG:NH2	2.26	0.66
35:A:2228:A:H2'	35:A:2229:A:C8	2.30	0.66
35:A:2536:A:H2'	35:A:2537:U:C2	2.31	0.66
39:LE:375:GLU:OE2	59:LY:14:TYR:OH	2.12	0.66
82:n:16:U:H3'	82:n:18:G:P	2.35	0.66
35:A:2948:C:OP1	39:LE:244:ARG:NH2	2.28	0.66
35:A:3041:U:OP1	58:LX:12:ARG:NH1	2.28	0.66
40:LF:237:GLN:O	40:LF:246:ARG:NH1	2.29	0.66
1:2:419:G:OP1	9:ST:72:ARG:NH2	2.25	0.66
1:2:1429:G:N3	22:SJ:72:ASN:ND2	2.43	0.66
8:SB:156:ARG:HH11	17:SZ:52:ARG:HH11	1.43	0.66
10:SU:63:PRO:HG2	10:SU:66:SER:HB3	1.75	0.66
12:SW:52:ILE:HG23	12:SW:76:LEU:HD11	1.78	0.66
35:A:3268:A:OP2	52:LR:181:ARG:NH1	2.28	0.66
36:B:7:G:O3'	41:LG:33:ARG:NH2	2.29	0.66
68:Lh:24:ASN:OD1	68:Lh:26:ASN:ND2	2.29	0.66
1:2:1656:U:HO2'	35:A:2292:U:HO2'	1.43	0.66
15:SD:59:LEU:HA	15:SD:87:PRO:HB2	1.76	0.66
18:SF:52:LEU:HB3	18:SF:60:PHE:HE2	1.59	0.66
35:A:1390:A:N6	35:A:1418:A:O2'	2.29	0.66
35:A:1521:G:O6	74:Ln:17:LYS:NZ	2.29	0.66
35:A:2960:C:H2'	35:A:2961:G:H8	1.61	0.66
36:B:112:G:H2'	36:B:113:C:C6	2.31	0.66
61:La:85:VAL:HG12	61:La:97:ILE:HD13	1.76	0.66
1:2:1357:A:H2'	1:2:1358:G:C8	2.31	0.66
8:SB:65:ARG:NH1	8:SB:65:ARG:O	2.28	0.66
36:B:11:A:N6	41:LG:13:SER:O	2.29	0.66
41:LG:40:HIS:HB3	41:LG:43:LYS:HD2	1.78	0.66
44:LJ:82:LEU:HD23	44:LJ:86:THR:HG22	1.77	0.66
63:Lc:39:HIS:O	63:Lc:42:ARG:N	2.28	0.66
1:2:1713:G:H2'	1:2:1714:A:H8	1.61	0.66
9:ST:52:ILE:HG13	9:ST:111:LEU:HD23	1.78	0.66
9:ST:59:GLN:OE1	9:ST:72:ARG:NH1	2.22	0.66
40:LF:292:SER:OG	40:LF:294:GLU:OE1	2.14	0.66
45:LK:14:GLU:OE1	45:LK:14:GLU:N	2.22	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:LT:99:LEU:HD21	54:LT:103:ARG:HH21	1.60	0.66
68:Lh:19:SER:OG	68:Lh:20:LYS:N	2.27	0.66
1:2:418:G:OP2	58:LX:120:LYS:NZ	2.24	0.66
35:A:148:G:OP2	50:LP:4:TYR:OH	2.12	0.66
35:A:3163:A:N6	35:A:3288:G:O6	2.29	0.66
35:A:3324:C:OP1	66:Lf:19:ARG:NH2	2.28	0.66
1:2:1297:G:N2	1:2:1300:A:OP2	2.26	0.66
32:SO:172:ALA:HB1	32:SO:199:ILE:HG21	1.76	0.66
35:A:221:A:O2'	35:A:223:U:OP2	2.12	0.66
35:A:1183:C:OP1	55:LU:158:LYS:NZ	2.29	0.66
35:A:1261:G:N2	35:A:1261:G:OP2	2.27	0.66
35:A:1408:G:OP2	67:Lg:31:ASN:ND2	2.28	0.66
36:B:28:C:H5''	47:LM:137:ARG:HG2	1.78	0.66
41:LG:197:SER:O	41:LG:202:GLY:N	2.23	0.66
53:LS:98:LYS:NZ	53:LS:118:GLY:O	2.27	0.66
53:LS:173:GLU:OE2	63:Lc:51:GLY:N	2.29	0.66
79:Ls:104:ASN:OD1	79:Ls:105:MET:N	2.28	0.66
1:2:1588:G:O6	1:2:1608:U:O4	2.14	0.65
3:SQ:7:LYS:HG3	3:SQ:8:ARG:HG3	1.78	0.65
21:SI:40:SER:HB2	21:SI:96:ALA:HA	1.77	0.65
35:A:2213:A:H2'	35:A:2214:A:H8	1.61	0.65
60:LZ:108:LEU:N	60:LZ:125:ARG:O	2.27	0.65
1:2:560:U:H2'	1:2:561:G:H8	1.61	0.65
1:2:623:A:H3'	1:2:624:G:H5''	1.77	0.65
1:2:1488:G:H3'	1:2:1515:A:H61	1.60	0.65
3:SQ:126:THR:OG1	3:SQ:136:ARG:NE	2.27	0.65
37:C:8:C:H2'	37:C:9:A:C8	2.31	0.65
52:LR:29:THR:HG23	52:LR:119:VAL:HG11	1.77	0.65
60:LZ:91:ASN:OD1	60:LZ:94:GLN:HG3	1.96	0.65
1:2:125:U:OP1	9:ST:201:GLN:NE2	2.29	0.65
1:2:244:A:H2'	1:2:245:U:C6	2.32	0.65
1:2:912:U:OP2	3:SQ:8:ARG:NH1	2.30	0.65
1:2:1357:A:H2'	1:2:1358:G:H8	1.62	0.65
7:SS:121:TYR:OH	7:SS:235:TYR:O	2.09	0.65
19:SG:27:ASP:OD1	19:SG:29:GLN:N	2.29	0.65
32:SO:103:PHE:HE1	32:SO:138:GLY:HA2	1.61	0.65
48:LN:37:ASN:O	48:LN:41:THR:HG23	1.96	0.65
1:2:815:G:OP2	54:LT:166:ASN:ND2	2.28	0.65
15:SD:62:LEU:HD11	15:SD:72:ILE:HG12	1.77	0.65
35:A:726:G:N1	35:A:743:C:OP2	2.24	0.65
35:A:1096:U:OP2	56:LV:116:ARG:NH1	2.26	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1477:A:OP1	35:A:3075:G:O2'	2.13	0.65
35:A:2761:G:H1	35:A:2795:U:H3'	1.62	0.65
47:LM:26:SER:HB2	47:LM:63:GLU:HG3	1.78	0.65
55:LU:71:LYS:HE3	55:LU:73:LYS:HG2	1.78	0.65
1:2:590:C:H2'	1:2:591:A:C8	2.31	0.65
13:SC:50:THR:HG22	13:SC:55:VAL:HG23	1.77	0.65
35:A:531:G:H2'	35:A:532:A:C8	2.31	0.65
38:LD:27:ALA:O	38:LD:128:ARG:NH2	2.29	0.65
39:LE:89:VAL:HG12	39:LE:160:VAL:HG12	1.78	0.65
1:2:591:A:H2'	1:2:592:A:C8	2.32	0.65
2:SP:111:ILE:HG13	2:SP:112:THR:HG23	1.77	0.65
3:SQ:126:THR:HG1	3:SQ:136:ARG:HE	1.44	0.65
7:SS:92:LEU:HD12	7:SS:99:PHE:HE1	1.61	0.65
35:A:1764:U:O2'	54:LT:39:ASN:ND2	2.28	0.65
36:B:18:C:OP2	47:LM:150:ASN:ND2	2.28	0.65
58:LX:81:GLN:NE2	58:LX:83:LYS:O	2.27	0.65
61:La:56:VAL:HG21	61:La:104:LEU:HD13	1.78	0.65
1:2:884:A:H4'	3:SQ:124:ASN:HD21	1.61	0.65
6:SA:22:ASN:OD1	6:SA:34:TYR:OH	2.14	0.65
35:A:1493:G:O6	74:Ln:2:ALA:N	2.30	0.65
35:A:1750:A:H5'	73:Lm:28:ASN:HD21	1.62	0.65
35:A:2137:U:OP2	35:A:2142:A:N6	2.29	0.65
41:LG:208:MET:HE1	41:LG:226:TYR:CG	2.31	0.65
68:Lh:3:GLU:OE1	68:Lh:3:GLU:N	2.29	0.65
1:2:828:U:H2'	1:2:829:A:H8	1.60	0.65
9:ST:48:TYR:OH	9:ST:119:GLN:O	2.13	0.65
22:SJ:35:GLU:OE2	22:SJ:89:ARG:NH2	2.29	0.65
35:A:1609:C:OP1	60:LZ:125:ARG:NH1	2.30	0.65
41:LG:293:LEU:O	41:LG:297:GLN:NE2	2.20	0.65
55:LU:66:GLU:OE2	55:LU:73:LYS:NZ	2.30	0.65
73:Lm:42:LYS:HG2	73:Lm:55:VAL:HG12	1.76	0.65
37:C:62:C:OP1	70:Lj:49:LYS:NZ	2.30	0.65
42:LH:43:LEU:HD21	42:LH:85:ILE:HD12	1.79	0.65
1:2:137:U:O2'	1:2:139:C:OP2	2.14	0.65
33:SL:57:MET:HE2	33:SL:57:MET:HA	1.79	0.65
35:A:407:A:C2	37:C:17:A:H1'	2.32	0.65
35:A:1807:G:OP1	62:Lb:133:LYS:NZ	2.24	0.65
39:LE:216:ASP:OD2	39:LE:339:ARG:NH2	2.19	0.65
45:LK:92:TYR:HD1	45:LK:179:ILE:HG12	1.61	0.65
17:SZ:17:ALA:HB3	17:SZ:81:VAL:HA	1.79	0.64
45:LK:51:GLN:OE1	45:LK:51:GLN:N	2.30	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:LL:206:LEU:O	46:LL:210:ILE:HG12	1.96	0.64
1:2:1597:A:OP2	29:SM:19:ARG:NH2	2.30	0.64
15:SD:47:GLU:OE1	15:SD:47:GLU:N	2.25	0.64
35:A:1246:G:H21	35:A:1265:U:H3'	1.62	0.64
35:A:1705:U:O2	35:A:1786:G:O2'	2.14	0.64
35:A:3187:A:H5'	45:LK:22:SER:HA	1.79	0.64
53:LS:155:MET:HE1	53:LS:163:PRO:HA	1.79	0.64
62:Lb:26:VAL:HG23	62:Lb:89:VAL:HG11	1.79	0.64
1:2:12:U:H2'	1:2:13:C:C6	2.33	0.64
1:2:169:A:OP2	9:ST:137:ARG:NH2	2.27	0.64
6:SA:132:LYS:HZ3	6:SA:156:PHE:HE1	1.45	0.64
35:A:282:G:O2'	35:A:283:G:OP2	2.16	0.64
35:A:2107:A:H2	35:A:3344:A:H8	1.45	0.64
35:A:2434:U:OP2	50:LP:24:ARG:NH1	2.27	0.64
39:LE:45:SER:HB3	39:LE:181:ILE:HD12	1.78	0.64
72:Ll:64:MET:HB3	72:Ll:68:LYS:HG3	1.79	0.64
1:2:298:C:O3'	7:SS:30:ARG:NH2	2.31	0.64
62:Lb:103:GLN:HG3	62:Lb:106:GLN:H	1.63	0.64
66:Lf:82:GLU:OE1	66:Lf:82:GLU:N	2.29	0.64
1:2:1041:G:OP1	2:SP:32:HIS:ND1	2.30	0.64
1:2:1555:A:N6	29:SM:14:TYR:OH	2.31	0.64
8:SB:173:ALA:O	8:SB:177:ILE:HG13	1.97	0.64
21:SI:110:LYS:HG3	21:SI:111:ILE:HD12	1.78	0.64
32:SO:51:ASP:O	32:SO:52:GLN:NE2	2.31	0.64
35:A:312:C:H2'	35:A:313:A:H8	1.63	0.64
35:A:1597:C:H2'	35:A:1598:G:H8	1.63	0.64
35:A:1748:G:OP2	73:Lm:42:LYS:NZ	2.27	0.64
62:Lb:23:VAL:HG12	62:Lb:45:GLY:HA3	1.78	0.64
10:SU:143:LEU:O	24:Sb:42:GLN:NE2	2.30	0.64
17:SZ:20:TYR:HB3	17:SZ:27:PHE:HB2	1.79	0.64
21:SI:84:LYS:HE2	21:SI:94:ILE:HG13	1.79	0.64
46:LL:92:HIS:HB2	46:LL:94:PHE:CE1	2.31	0.64
57:LW:56:VAL:HG13	57:LW:65:VAL:HG22	1.79	0.64
1:2:1054:U:H2'	1:2:1055:U:H6	1.63	0.64
11:SV:148:ALA:O	11:SV:151:LYS:NZ	2.23	0.64
35:A:76:G:O2'	48:LN:100:ARG:NH1	2.26	0.64
35:A:860:G:OP1	78:Lr:17:ARG:NH2	2.31	0.64
37:C:58:G:N7	72:Ll:63:ARG:NH2	2.42	0.64
68:Lh:67:MET:HE3	68:Lh:89:LEU:HD23	1.80	0.64
1:2:128:U:O2'	1:2:131:C:N4	2.31	0.64
1:2:701:U:OP2	1:2:732:G:N1	2.27	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1552:U:H3	1:2:1556:A:H62	1.46	0.64
35:A:2407:C:H2'	35:A:2408:U:H6	1.63	0.64
36:B:7:G:OP1	41:LG:33:ARG:NH1	2.30	0.64
52:LR:138:LYS:NZ	52:LR:140:GLU:OE2	2.23	0.64
65:Le:30:THR:HG23	65:Le:91:SER:HB2	1.79	0.64
81:m:63:U:H2'	81:m:64:G:H8	1.61	0.64
1:2:66:U:C5	9:ST:173:PRO:HB3	2.33	0.64
35:A:969:C:OP1	64:Ld:19:ASN:ND2	2.31	0.64
1:2:31:C:O3'	25:Sc:139:LYS:NZ	2.31	0.63
17:SZ:87:GLY:HA3	17:SZ:120:PRO:HG2	1.80	0.63
21:SI:77:ASN:HA	21:SI:96:ALA:HB3	1.79	0.63
35:A:501:A:H2'	35:A:502:U:C6	2.33	0.63
35:A:1233:G:OP2	35:A:1245:A:N6	2.25	0.63
35:A:1433:A:OP1	67:Lg:19:ARG:NH2	2.31	0.63
3:SQ:28:GLU:OE1	3:SQ:94:LYS:NZ	2.28	0.63
8:SB:95:ASN:HA	8:SB:98:MET:HE2	1.80	0.63
13:SC:11:ILE:HD11	13:SC:42:VAL:HG22	1.80	0.63
14:SX:80:MET:HE3	14:SX:83:THR:CG2	2.28	0.63
32:SO:21:THR:HG23	32:SO:37:SER:HA	1.80	0.63
32:SO:220:ILE:HD13	32:SO:243:LEU:HD11	1.79	0.63
1:2:1125:A:OP1	76:Lp:18:ARG:NH1	2.32	0.63
6:SA:54:ARG:HB3	6:SA:57:ASP:HB2	1.80	0.63
8:SB:76:ARG:NH1	18:SF:120:ASP:OD1	2.31	0.63
19:SG:54:THR:O	19:SG:58:MET:HG2	1.98	0.63
26:Sd:101:GLU:OE1	26:Sd:101:GLU:N	2.31	0.63
35:A:445:G:N1	35:A:489:U:O4	2.31	0.63
35:A:2228:A:H2'	35:A:2229:A:H8	1.62	0.63
51:LQ:189:ASP:OD1	51:LQ:190:VAL:N	2.31	0.63
66:Lf:72:ARG:NH1	66:Lf:104:LEU:O	2.31	0.63
16:SY:142:GLU:OE1	16:SY:142:GLU:N	2.30	0.63
19:SG:44:LYS:O	19:SG:48:ASN:ND2	2.32	0.63
30:Sg:41:THR:HA	30:Sg:45:VAL:HG12	1.80	0.63
35:A:1167:U:O2	43:LI:209:ASN:ND2	2.28	0.63
35:A:1181:U:H2'	51:LQ:122:GLN:HE21	1.62	0.63
35:A:1630:U:O2'	35:A:1812:G:N2	2.31	0.63
35:A:3266:G:OP2	42:LH:70:LYS:NZ	2.29	0.63
43:LI:77:VAL:HG22	55:LU:59:VAL:HG23	1.80	0.63
58:LX:10:LYS:NZ	58:LX:56:ASP:OD1	2.24	0.63
1:2:551:G:H2'	1:2:552:G:H8	1.62	0.63
9:ST:159:ARG:HD2	9:ST:172:ALA:HB2	1.79	0.63
11:SV:39:GLY:O	11:SV:59:ARG:HB3	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:B:44:C:OP2	47:LM:137:ARG:NH2	2.31	0.63
37:C:21:C:H5'	40:LF:194:TYR:HE1	1.63	0.63
73:Lm:77:ARG:HB3	73:Lm:77:ARG:HH11	1.62	0.63
1:2:1525:A:N3	1:2:1589:C:O2'	2.32	0.63
1:2:1785:U:H2'	1:2:1786:G:H8	1.63	0.63
35:A:1229:G:H2'	35:A:1230:G:C8	2.33	0.63
35:A:1834:U:OP1	74:Ln:5:LYS:NZ	2.28	0.63
55:LU:59:VAL:HG21	56:LV:141:VAL:HG11	1.81	0.63
1:2:333:A:N7	11:SV:49:ARG:HD2	2.13	0.63
1:2:808:U:H2'	1:2:809:A:C8	2.33	0.63
1:2:821:U:N3	1:2:852:C:C2	2.66	0.63
8:SB:73:THR:HG22	8:SB:75:GLY:H	1.63	0.63
40:LF:99:MET:SD	40:LF:102:PRO:HA	2.39	0.63
43:LI:121:LYS:HB2	56:LV:133:ALA:HB3	1.81	0.63
46:LL:89:VAL:HG12	46:LL:136:PHE:CE1	2.29	0.63
58:LX:13:ILE:HG23	58:LX:85:TRP:CG	2.33	0.63
65:Le:94:GLU:N	65:Le:94:GLU:OE1	2.30	0.63
8:SB:184:PHE:CD1	8:SB:185:ARG:HB2	2.34	0.63
35:A:1940:G:H21	35:A:3362:A:H8	1.47	0.63
35:A:3184:A:N3	35:A:3187:A:O2'	2.29	0.63
49:LO:20:VAL:O	49:LO:66:THR:OG1	2.16	0.63
53:LS:159:LYS:HB3	53:LS:161:LYS:HG2	1.81	0.63
58:LX:23:MET:HB2	58:LX:99:ALA:HA	1.81	0.63
1:2:558:U:OP2	30:Sg:55:ARG:NH2	2.30	0.63
1:2:1320:U:O2'	1:2:1322:A:OP1	2.17	0.63
15:SD:81:ASP:N	15:SD:85:LYS:O	2.31	0.63
35:A:1207:G:OP1	75:Lo:119:ASN:ND2	2.32	0.63
1:2:58:U:O2'	1:2:451:A:N3	2.29	0.62
1:2:141:U:O2'	1:2:142:G:O5'	2.15	0.62
1:2:705:U:O2'	1:2:706:A:O5'	2.16	0.62
20:SH:6:GLN:OE1	20:SH:6:GLN:N	2.31	0.62
35:A:2844:C:H42	35:A:2898:G:H22	1.44	0.62
35:A:2960:C:H2'	35:A:2961:G:C8	2.34	0.62
41:LG:41:LYS:NZ	56:LV:32:LYS:O	2.29	0.62
56:LV:127:GLN:OE1	56:LV:127:GLN:N	2.32	0.62
59:LY:37:ALA:O	59:LY:41:LYS:NZ	2.32	0.62
1:2:205:U:H2'	1:2:206:A:H8	1.64	0.62
1:2:424:C:O2'	1:2:426:G:OP1	2.13	0.62
1:2:1591:C:H2'	1:2:1592:A:C8	2.34	0.62
1:2:1727:G:H2'	1:2:1728:A:C8	2.35	0.62
35:A:2661:G:H2'	35:A:2662:G:H8	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:LL:69:ARG:HG2	46:LL:69:ARG:HH11	1.63	0.62
50:LP:121:VAL:HG21	50:LP:131:GLU:HG3	1.81	0.62
53:LS:166:LEU:H	53:LS:166:LEU:HD12	1.64	0.62
1:2:531:C:O2'	26:Sd:62:THR:O	2.15	0.62
17:SZ:29:HIS:HB2	17:SZ:41:ARG:HA	1.81	0.62
35:A:1020:G:H2'	35:A:1021:G:C8	2.34	0.62
35:A:1340:G:H2'	35:A:1341:U:C6	2.33	0.62
46:LL:177:ASP:OD1	46:LL:177:ASP:N	2.32	0.62
62:Lb:88:ASP:O	62:Lb:121:ARG:NH2	2.32	0.62
5:SR:195:ASP:N	5:SR:195:ASP:OD1	2.31	0.62
9:ST:69:LEU:O	9:ST:99:GLY:HA3	1.99	0.62
10:SU:34:LEU:HD12	10:SU:37:GLU:HB2	1.80	0.62
29:SM:52:PHE:C	29:SM:53:ASN:HD22	2.08	0.62
35:A:286:U:H2'	35:A:287:G:C8	2.34	0.62
35:A:394:G:N1	35:A:397:A:OP2	2.32	0.62
35:A:1231:A:H1'	35:A:1278:A:H61	1.64	0.62
35:A:1574:C:H2'	35:A:1576:G:C8	2.33	0.62
35:A:1896:A:H61	35:A:2339:C:N4	1.97	0.62
40:LF:226:GLU:OE2	40:LF:246:ARG:NH2	2.26	0.62
40:LF:316:ASN:HD22	40:LF:319:LYS:HE3	1.64	0.62
44:LJ:144:GLU:OE2	71:Lk:36:ARG:NH1	2.32	0.62
68:Lh:52:VAL:HG22	68:Lh:66:VAL:HG22	1.80	0.62
73:Lm:5:ILE:HD11	73:Lm:52:TYR:HD2	1.63	0.62
73:Lm:32:ASN:OD1	73:Lm:33:LYS:N	2.32	0.62
1:2:858:G:OP1	10:SU:116:ARG:NH1	2.22	0.62
1:2:1163:A:O2'	8:SB:166:ARG:NH1	2.30	0.62
9:ST:2:LYS:HB2	9:ST:108:VAL:HG12	1.82	0.62
12:SW:168:ARG:HG2	12:SW:169:PRO:HD2	1.81	0.62
29:SM:19:ARG:HH12	29:SM:32:ARG:NE	1.97	0.62
35:A:107:A:OP1	48:LN:39:ARG:NH1	2.30	0.62
35:A:299:G:H22	71:Lk:30:LYS:HE2	1.63	0.62
35:A:1214:U:OP2	55:LU:137:ARG:NH2	2.33	0.62
35:A:1592:G:OP1	69:Li:58:ARG:NH2	2.33	0.62
35:A:1720:U:OP2	54:LT:120:TYR:OH	2.09	0.62
35:A:2697:A:H2'	35:A:2698:G:C8	2.35	0.62
44:LJ:146:LYS:NZ	44:LJ:173:MET:SD	2.71	0.62
45:LK:4:ILE:N	55:LU:142:GLN:OE1	2.30	0.62
1:2:1188:G:N2	22:SJ:74:GLU:OE1	2.32	0.62
1:2:1409:G:N1	1:2:1412:G:OP2	2.32	0.62
7:SS:54:TYR:HD1	26:Sd:15:ASN:HB3	1.63	0.62
7:SS:160:VAL:HG13	7:SS:169:ILE:HD13	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14: SX:81: HIS:O	14: SX:83: THR:HG22	2.00	0.62
1:2:136: C:H2'	1:2:137: U:H5	1.65	0.62
1:2:319: U:H4'	1:2:323: A:C8	2.35	0.62
1:2:1060: U:H3'	1:2:1061: A:H5''	1.82	0.62
7: SS:22: LYS:HG3	7: SS:23: LEU:HD23	1.80	0.62
35: A:1601: U:OP1	54: LT:42: ARG:NH2	2.27	0.62
36: B:89: G:N2	36: B:92: A:OP2	2.33	0.62
63: Lc:35: ALA:O	63: Lc:41: HIS:ND1	2.32	0.62
1:2:130: C:H1'	1:2:134: U:H5'	1.81	0.62
23: Sa:49: GLU:OE1	23: Sa:49: GLU:N	2.33	0.62
35: A:3151: U:OP1	39: LE:128: LYS:NZ	2.23	0.62
39: LE:10: ARG:NH2	39: LE:263: SER:O	2.33	0.62
1:2:575: C:N4	25: Sc:65: ASN:OD1	2.33	0.62
1:2:1235: C:O2	31: SN:138: ARG:NH2	2.31	0.62
16: SY:17: PRO:HG3	28: Sf:28: PRO:HG3	1.81	0.62
34: AA:50: ILE:HD11	34: AA:83: LEU:HD11	1.82	0.62
35: A:103: G:OP1	48: LN:70: ARG:NE	2.32	0.62
35: A:289: A:H2'	35: A:290: G:H8	1.65	0.62
35: A:2696: A:N7	35: A:2758: A:N6	2.48	0.62
35: A:3016: A:H2'	35: A:3017: A:H8	1.63	0.62
47: LM:9: MET:HG3	47: LM:10: ARG:H	1.65	0.62
82: n:53: G:H2'	82: n:54: A:C8	2.34	0.62
1:2:150: U:C2	1:2:165: G:N2	2.68	0.62
35: A:1060: U:H2'	35: A:1061: A:C8	2.35	0.62
35: A:2714: G:H2'	35: A:2751: G:H21	1.65	0.62
58: LX:18: PRO:HA	58: LX:51: ALA:HA	1.82	0.62
58: LX:96: GLU:OE2	59: LY:24: GLY:N	2.33	0.62
1:2:1218: G:H22	1:2:1444: A:P	2.22	0.61
9: ST:7: TYR:HD2	9: ST:10: ASN:HB2	1.65	0.61
24: Sb:55: ASP:OD1	24: Sb:56: HIS:N	2.32	0.61
35: A:3165: A:H2'	35: A:3166: C:C6	2.35	0.61
69: Li:11: ASN:O	69: Li:18: ASN:ND2	2.33	0.61
1:2:482: U:H2'	1:2:483: A:H8	1.65	0.61
1:2:886: U:OP1	3: SQ:214: LYS:NZ	2.29	0.61
3: SQ:29: TRP:CD1	3: SQ:45: LYS:HD3	2.35	0.61
11: SV:37: LYS:H	11: SV:59: ARG:H	1.48	0.61
35: A:1616: U:H2'	35: A:1617: G:C8	2.35	0.61
35: A:2895: G:O2'	75: Lo:100: TYR:O	2.19	0.61
46: LL:52: LEU:HB3	46: LL:136: PHE:HB2	1.82	0.61
46: LL:207: GLU:OE1	46: LL:207: GLU:N	2.31	0.61
55: LU:77: VAL:HG11	55: LU:106: LEU:HD12	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:m:16:U:O2'	81:m:17:U:H3'	2.00	0.61
1:2:1022:C:O2'	1:2:1125:A:N1	2.33	0.61
1:2:1160:A:H2'	1:2:1161:C:C6	2.35	0.61
1:2:1236:A:N3	31:SN:136:LYS:NZ	2.44	0.61
9:ST:57:ASP:HA	9:ST:106:LEU:HA	1.80	0.61
13:SC:54:TYR:O	13:SC:69:THR:OG1	2.16	0.61
32:SO:192:PHE:HB3	32:SO:223:TRP:CZ3	2.35	0.61
46:LL:184:LYS:HG2	46:LL:190:VAL:HG13	1.82	0.61
1:2:336:G:O6	11:SV:5:ARG:NE	2.30	0.61
1:2:628:G:N1	1:2:970:A:OP2	2.22	0.61
1:2:1054:U:H2'	1:2:1055:U:C6	2.35	0.61
15:SD:53:THR:OG1	15:SD:54:ARG:NH2	2.32	0.61
54:LT:157:GLU:HA	54:LT:160:GLU:HG2	1.82	0.61
81:m:9:A:O4'	81:m:46:G:H1'	2.00	0.61
11:SV:25:ARG:HB2	11:SV:28:GLU:OE1	2.01	0.61
35:A:691:A:OP1	40:LF:46:LYS:NZ	2.33	0.61
35:A:2502:A:O2'	35:A:2503:G:OP1	2.19	0.61
35:A:3009:G:N2	39:LE:15:GLY:O	2.28	0.61
40:LF:74:ILE:HD12	40:LF:75:PRO:CD	2.30	0.61
47:LM:101:ASN:HD21	47:LM:130:VAL:HG13	1.65	0.61
50:LP:56:LYS:NZ	50:LP:145:ASP:OD2	2.33	0.61
56:LV:89:LEU:HD22	56:LV:91:LEU:HD11	1.82	0.61
35:A:874:U:N3	35:A:2978:U:OP1	2.31	0.61
35:A:2213:A:H2'	35:A:2214:A:C8	2.35	0.61
35:A:3340:G:H3'	35:A:3341:U:H5''	1.82	0.61
38:LD:242:ARG:NH1	38:LD:243:THR:O	2.34	0.61
45:LK:110:LYS:HD2	45:LK:128:VAL:HG21	1.83	0.61
50:LP:153:ASP:OD1	50:LP:155:VAL:HG12	2.00	0.61
79:Ls:26:LEU:HB2	79:Ls:44:MET:HE1	1.83	0.61
1:2:1456:C:H5''	1:2:1457:C:H5''	1.82	0.61
3:SQ:149:GLN:NE2	3:SQ:154:SER:HB3	2.15	0.61
7:SS:79:ASP:HB3	7:SS:82:TYR:HB2	1.83	0.61
35:A:65:A:H1'	35:A:77:A:H1'	1.82	0.61
38:LD:5:ILE:HG12	38:LD:8:GLN:HG3	1.83	0.61
5:SR:140:ARG:HH21	5:SR:228:ASN:HD21	1.48	0.61
7:SS:139:VAL:HG13	7:SS:150:PRO:HG2	1.81	0.61
37:C:134:G:OP1	60:LZ:56:ARG:NH1	2.33	0.61
37:C:135:G:OP2	60:LZ:56:ARG:NH2	2.33	0.61
46:LL:76:MET:O	46:LL:80:SER:OG	2.14	0.61
46:LL:140:THR:HG21	46:LL:148:VAL:HG21	1.82	0.61
77:Lq:35:LEU:HD12	77:Lq:36:PHE:H	1.64	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:332:U:O4	11:SV:172:ARG:NH2	2.33	0.61
1:2:783:G:H8	26:Sd:12:VAL:HG22	1.66	0.61
1:2:953:G:H2'	1:2:954:G:H8	1.65	0.61
1:2:1597:A:C8	29:SM:14:TYR:HD2	2.19	0.61
24:Sb:114:GLU:OE1	24:Sb:117:ARG:NH2	2.22	0.61
34:AA:102:THR:HG22	34:AA:103:ARG:H	1.65	0.61
35:A:784:A:H5'	53:LS:69:ARG:HH22	1.66	0.61
35:A:1267:U:H3'	35:A:1268:G:H8	1.66	0.61
36:B:60:G:H2'	36:B:61:G:H8	1.65	0.61
54:LT:98:ARG:NH2	54:LT:130:ASN:OD1	2.29	0.61
70:Lj:77:PRO:HD2	70:Lj:80:LEU:HD12	1.83	0.61
80:z:390:THR:OG1	80:z:393:GLN:OE1	2.18	0.61
35:A:999:G:N3	35:A:1002:A:N6	2.49	0.61
79:Ls:23:CYS:HG	79:Ls:74:SER:HG	1.49	0.61
35:A:1238:C:N4	35:A:1245:A:OP2	2.34	0.60
35:A:1595:U:O2'	35:A:1606:U:O2	2.19	0.60
35:A:2448:G:H1	35:A:2498:U:H3	1.47	0.60
39:LE:221:THR:O	39:LE:334:ARG:NH1	2.34	0.60
46:LL:56:GLU:OE1	46:LL:56:GLU:N	2.34	0.60
1:2:818:C:O2'	1:2:819:G:OP1	2.18	0.60
1:2:848:C:H2'	1:2:849:C:C6	2.36	0.60
1:2:1081:A:O2'	1:2:1083:G:N7	2.28	0.60
1:2:1273:G:O2'	1:2:1430:U:OP2	2.17	0.60
1:2:1580:C:H2'	1:2:1581:C:C6	2.35	0.60
35:A:835:G:O2'	35:A:857:G:N2	2.27	0.60
35:A:1420:C:OP2	40:LF:193:LYS:NZ	2.25	0.60
38:LD:70:ARG:HE	38:LD:72:ARG:NH2	1.99	0.60
39:LE:41:VAL:HA	39:LE:185:GLY:HA3	1.82	0.60
41:LG:150:LEU:O	41:LG:151:GLN:NE2	2.34	0.60
1:2:1229:G:N1	15:SD:47:GLU:OE2	2.33	0.60
1:2:1735:U:OP1	58:LX:32:ARG:NH2	2.34	0.60
1:2:1785:U:OP1	17:SZ:136:ARG:NH1	2.27	0.60
14:SX:87:ARG:HH21	14:SX:104:HIS:CE1	2.20	0.60
16:SY:147:SER:O	16:SY:151:ASN:ND2	2.34	0.60
35:A:1616:U:H2'	35:A:1617:G:H8	1.66	0.60
35:A:3163:A:H2'	35:A:3164:C:C6	2.35	0.60
42:LH:88:SER:N	42:LH:176:PHE:O	2.30	0.60
1:2:336:G:O2'	1:2:338:C:OP1	2.18	0.60
1:2:918:U:H2'	1:2:919:A:H8	1.66	0.60
6:SA:67:ASN:O	6:SA:70:THR:OG1	2.17	0.60
8:SB:43:PHE:HD1	8:SB:44:ASN:N	1.99	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:SW:18:PRO:O	12:SW:23:ARG:NH2	2.33	0.60
12:SW:108:ARG:HH12	12:SW:110:GLN:HE21	1.49	0.60
35:A:2406:C:H2'	35:A:2407:C:C6	2.37	0.60
41:LG:126:GLU:OE2	41:LG:128:GLU:HB2	2.00	0.60
45:LK:72:LYS:O	45:LK:75:VAL:HG12	2.02	0.60
48:LN:138:VAL:HG13	70:Lj:119:LYS:HZ3	1.65	0.60
62:Lb:87:LEU:HD11	62:Lb:127:ASN:HB3	1.82	0.60
74:Ln:25:GLN:HB3	80:z:389:VAL:HG11	1.83	0.60
1:2:1063:U:H2'	1:2:1064:G:C8	2.36	0.60
1:2:1477:G:H5'	21:SI:45:MET:HB3	1.83	0.60
26:Sd:15:ASN:OD1	26:Sd:20:ARG:HG2	2.01	0.60
32:SO:127:ARG:HA	32:SO:150:TRP:HB2	1.82	0.60
35:A:1572:U:O2'	35:A:1573:G:O5'	2.19	0.60
35:A:1667:A:H2'	35:A:1668:G:C8	2.37	0.60
78:Lr:49:ARG:HG3	78:Lr:55:TRP:CE2	2.36	0.60
1:2:63:G:O2'	1:2:170:U:OP1	2.20	0.60
1:2:844:A:H2'	1:2:845:G:H8	1.66	0.60
3:SQ:144:ARG:HD3	3:SQ:208:GLN:HB3	1.83	0.60
25:Sc:78:LYS:HG3	25:Sc:79:ASN:OD1	2.01	0.60
26:Sd:2:SER:N	26:Sd:39:GLU:OE2	2.35	0.60
28:Sf:42:ASN:ND2	28:Sf:57:GLU:OE1	2.35	0.60
35:A:612:U:H2'	35:A:613:G:H8	1.66	0.60
35:A:1263:A:H4'	35:A:1264:G:H5''	1.84	0.60
35:A:1323:G:HO2'	55:LU:2:ALA:N	1.99	0.60
35:A:2881:C:OP1	39:LE:11:HIS:NE2	2.35	0.60
65:Le:24:THR:HG22	65:Le:91:SER:HB3	1.84	0.60
72:Ll:66:TYR:OH	72:Ll:73:ARG:NH2	2.34	0.60
1:2:332:U:OP1	11:SV:31:ARG:NE	2.30	0.60
19:SG:28:PHE:HA	19:SG:55:THR:HG21	1.84	0.60
35:A:1861:G:O2'	35:A:3066:U:OP1	2.19	0.60
35:A:2720:G:OP1	53:LS:180:ARG:NH2	2.33	0.60
35:A:3017:A:H2'	35:A:3018:C:H6	1.65	0.60
55:LU:130:GLU:OE1	55:LU:130:GLU:N	2.27	0.60
1:2:329:G:H2'	1:2:330:G:H8	1.65	0.60
1:2:400:A:H4'	1:2:401:A:C5'	2.32	0.60
1:2:490:C:N4	1:2:496:G:O6	2.35	0.60
13:SC:30:ALA:HA	13:SC:38:LYS:HB3	1.84	0.60
27:Se:7:SER:OG	27:Se:10:ARG:O	2.19	0.60
32:SO:281:TYR:CE1	32:SO:284:ALA:HB3	2.37	0.60
35:A:507:U:H2'	35:A:508:U:C6	2.36	0.60
35:A:856:G:OP1	54:LT:92:GLN:NE2	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1244:A:O2'	35:A:1247:U:OP2	2.19	0.60
35:A:1427:U:OP2	63:Lc:4:ARG:NH2	2.29	0.60
35:A:1699:A:O2'	73:Lm:3:ARG:NH2	2.35	0.60
35:A:1899:G:O2'	35:A:2334:U:O4	2.20	0.60
35:A:2211:U:H3	35:A:2234:G:H1	1.48	0.60
35:A:2502:A:H2'	35:A:2503:G:C8	2.37	0.60
35:A:2872:A:N6	80:z:432:GLN:OE1	2.31	0.60
37:C:103:G:OP2	37:C:105:A:O2'	2.19	0.60
3:SQ:129:THR:OG1	3:SQ:130:SER:N	2.35	0.60
7:SS:100:ARG:NH2	7:SS:121:TYR:O	2.34	0.60
35:A:494:G:H2'	35:A:495:G:H8	1.66	0.60
40:LF:155:ASP:OD1	40:LF:155:ASP:N	2.35	0.60
55:LU:6:GLU:HG3	55:LU:30:PHE:CE1	2.37	0.60
55:LU:82:ASP:OD1	55:LU:87:THR:OG1	2.18	0.60
59:LY:9:SER:HA	59:LY:52:THR:HG23	1.82	0.60
63:Lc:94:ALA:HA	63:Lc:121:VAL:HG23	1.84	0.60
84:E:38:UNK:O	84:E:40:UNK:N	2.35	0.60
7:SS:36:HIS:CD2	7:SS:85:GLY:HA3	2.37	0.60
21:SI:38:LYS:NZ	21:SI:43:ASN:O	2.24	0.60
25:Sc:19:ARG:O	25:Sc:23:ARG:HG2	2.01	0.60
35:A:1277:C:O2'	35:A:1278:A:H8	1.85	0.60
35:A:2452:G:N2	35:A:2494:A:N1	2.50	0.60
36:B:4:U:H2'	36:B:5:G:C8	2.37	0.60
39:LE:290:ASP:O	39:LE:293:ASN:ND2	2.33	0.60
40:LF:102:PRO:HB2	40:LF:104:LYS:HE3	1.83	0.60
45:LK:23:ARG:HH11	45:LK:23:ARG:HG3	1.66	0.60
66:Lf:36:ILE:HD12	66:Lf:59:ILE:HD11	1.84	0.60
1:2:826:U:H2'	1:2:827:C:C6	2.37	0.59
9:ST:67:VAL:CG2	9:ST:99:GLY:HA2	2.32	0.59
23:Sa:74:GLN:NE2	23:Sa:83:TRP:O	2.34	0.59
36:B:6:C:O2'	41:LG:50:ARG:NH2	2.35	0.59
40:LF:132:ALA:HA	40:LF:148:ILE:HD11	1.82	0.59
44:LJ:75:ILE:HG12	50:LP:18:VAL:HG23	1.85	0.59
1:2:1592:A:H2'	1:2:1593:A:H8	1.68	0.59
1:2:1688:U:O2'	1:2:1689:A:OP1	2.20	0.59
20:SH:41:ARG:HG3	20:SH:85:PHE:CZ	2.37	0.59
22:SJ:87:HIS:HB3	22:SJ:89:ARG:HH12	1.66	0.59
32:SO:206:PRO:HG2	32:SO:247:PRO:HA	1.84	0.59
35:A:254:A:H2'	35:A:255:A:C8	2.37	0.59
35:A:1281:G:H2'	35:A:1282:G:C8	2.34	0.59
55:LU:99:ARG:NH2	55:LU:126:VAL:O	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:496:G:H2'	1:2:497:G:H8	1.67	0.59
2:SP:41:ARG:HD3	2:SP:45:VAL:HB	1.83	0.59
3:SQ:112:SER:HA	27:Se:68:TYR:OH	2.02	0.59
3:SQ:122:GLU:OE2	3:SQ:213:ARG:NH1	2.36	0.59
35:A:737:G:H2'	35:A:738:A:C8	2.37	0.59
35:A:1190:A:O2'	35:A:1193:A:OP2	2.09	0.59
35:A:1283:C:H2'	35:A:1284:C:C6	2.38	0.59
35:A:2683:U:H2'	35:A:2684:C:C6	2.38	0.59
35:A:2988:C:O2	39:LE:266:ARG:NH2	2.33	0.59
39:LE:212:ASN:HD21	39:LE:354:VAL:H	1.50	0.59
1:2:448:C:OP2	7:SS:49:ARG:NH2	2.34	0.59
1:2:521:A:H4'	26:Sd:36:SER:HB3	1.84	0.59
1:2:877:G:N2	16:SY:110:ASP:OD2	2.34	0.59
1:2:918:U:H2'	1:2:919:A:C8	2.38	0.59
20:SH:101:LEU:O	20:SH:104:ASN:ND2	2.35	0.59
32:SO:103:PHE:CE1	32:SO:138:GLY:HA2	2.36	0.59
35:A:1054:A:H5''	35:A:2637:A:H61	1.66	0.59
35:A:1103:A:H5''	43:LI:158:LYS:HD2	1.84	0.59
35:A:2599:U:OP1	50:LP:70:ASN:ND2	2.35	0.59
35:A:2882:U:H2'	35:A:2883:U:C6	2.37	0.59
39:LE:239:PRO:O	39:LE:242:THR:OG1	2.19	0.59
50:LP:143:ARG:HD2	70:Lj:92:LEU:HD23	1.84	0.59
57:LW:19:VAL:O	57:LW:23:THR:HG22	2.01	0.59
1:2:65:A:O2'	1:2:66:U:OP1	2.18	0.59
8:SB:43:PHE:CD1	8:SB:44:ASN:N	2.71	0.59
8:SB:168:VAL:O	8:SB:172:ILE:HG13	2.03	0.59
36:B:71:G:H2'	36:B:72:A:C8	2.37	0.59
46:LL:32:ARG:NH1	46:LL:32:ARG:HA	2.17	0.59
56:LV:49:GLN:HA	56:LV:52:MET:HE2	1.82	0.59
1:2:1142:A:H2'	1:2:1143:A:C8	2.37	0.59
12:SW:34:PHE:O	12:SW:110:GLN:NE2	2.35	0.59
41:LG:21:ARG:O	41:LG:25:GLU:HG3	2.03	0.59
48:LN:43:ALA:HB2	48:LN:51:LEU:HD12	1.85	0.59
82:n:53:G:H2'	82:n:54:A:H8	1.65	0.59
1:2:195:G:H2'	1:2:196:G:C8	2.38	0.59
1:2:1603:U:H2'	1:2:1604:U:H6	1.68	0.59
10:SU:28:GLU:HB2	10:SU:38:LEU:HD11	1.83	0.59
56:LV:4:SER:O	56:LV:5:HIS:ND1	2.36	0.59
57:LW:77:LYS:HG2	57:LW:81:LYS:HE2	1.84	0.59
81:m:54:U:H4'	81:m:55:U:OP1	2.02	0.59
1:2:699:U:O4	1:2:739:G:O6	2.20	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1689:A:H1'	1:2:1712:A:H61	1.68	0.59
12:SW:41:GLU:O	12:SW:45:ILE:HG12	2.03	0.59
35:A:643:U:O2'	35:A:1153:A:N1	2.35	0.59
35:A:2796:G:N7	77:Lq:63:LYS:NZ	2.40	0.59
35:A:3092:C:H2'	58:LX:12:ARG:HH21	1.67	0.59
1:2:187:G:H22	1:2:197:A:H2'	1.68	0.59
32:SO:266:ASP:CG	32:SO:267:PRO:HD3	2.26	0.59
35:A:314:U:H2'	35:A:315:C:C6	2.38	0.59
35:A:1277:C:O2'	35:A:1278:A:O5'	2.21	0.59
35:A:2218:G:H2'	35:A:2219:A:H8	1.67	0.59
35:A:2768:U:H2'	35:A:2769:A:H8	1.68	0.59
36:B:109:G:H2'	36:B:110:G:H8	1.68	0.59
1:2:1381:U:H1'	1:2:1516:A:N6	2.17	0.59
1:2:1387:G:N7	19:SG:44:LYS:NZ	2.45	0.59
1:2:1583:A:H1'	1:2:1585:U:C2	2.38	0.59
1:2:1673:G:OP1	9:ST:94:ARG:NH2	2.30	0.59
35:A:313:A:H2'	35:A:314:U:C6	2.38	0.59
35:A:806:A:OP1	40:LF:64:SER:OG	2.18	0.59
35:A:1022:U:H2'	35:A:1023:C:C6	2.37	0.59
35:A:3160:U:H2'	35:A:3161:C:C6	2.38	0.59
43:LI:110:ARG:HH21	53:LS:3:ILE:HD12	1.68	0.59
1:2:474:A:OP1	12:SW:145:SER:OG	2.12	0.58
1:2:728:U:H2'	1:2:729:G:C8	2.37	0.58
1:2:838:G:H2'	1:2:839:U:C6	2.37	0.58
7:SS:259:GLN:OE1	7:SS:259:GLN:N	2.36	0.58
32:SO:117:LYS:NZ	32:SO:159:ASN:OD1	2.23	0.58
35:A:259:C:H2'	35:A:260:C:C6	2.38	0.58
35:A:1084:A:H2'	35:A:1085:A:C8	2.38	0.58
35:A:1553:U:H4'	35:A:1554:U:H5'	1.85	0.58
35:A:2569:A:O2'	35:A:2570:U:H3'	2.03	0.58
45:LK:17:THR:HB	45:LK:28:VAL:HG12	1.85	0.58
82:n:20:A:N6	82:n:57:G:O2'	2.36	0.58
7:SS:230:GLU:HG2	7:SS:233:LYS:HB3	1.84	0.58
33:SL:60:GLU:OE1	33:SL:60:GLU:N	2.36	0.58
35:A:1493:G:C8	74:Ln:13:MET:HE1	2.38	0.58
39:LE:368:GLY:O	59:LY:17:ARG:NH1	2.36	0.58
54:LT:99:LEU:HD21	54:LT:103:ARG:NH2	2.18	0.58
58:LX:106:LYS:O	58:LX:106:LYS:HD2	2.03	0.58
62:Lb:22:LYS:NZ	62:Lb:132:SER:O	2.31	0.58
1:2:554:C:N4	1:2:571:G:O6	2.36	0.58
1:2:1174:C:OP2	20:SH:141:THR:OG1	2.17	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1222:C:H2'	1:2:1223:A:C8	2.37	0.58
1:2:1482:C:P	1:2:1521:G:H22	2.26	0.58
3:SQ:127:VAL:HG21	3:SQ:177:GLN:HE21	1.69	0.58
4:SE:118:GLU:OE1	4:SE:118:GLU:N	2.26	0.58
7:SS:70:VAL:HG13	7:SS:90:ILE:HD11	1.86	0.58
18:SF:25:GLY:HA3	18:SF:64:ASP:HB2	1.83	0.58
20:SH:60:GLU:OE1	20:SH:60:GLU:N	2.36	0.58
35:A:503:C:H2'	35:A:504:A:H8	1.67	0.58
35:A:1257:C:N4	35:A:1262:G:OP1	2.32	0.58
73:Lm:7:ASP:OD1	73:Lm:10:GLN:N	2.28	0.58
74:Ln:10:LYS:O	74:Ln:13:MET:HB2	2.03	0.58
1:2:821:U:O4	1:2:852:C:N3	2.35	0.58
3:SQ:32:ILE:HD11	3:SQ:46:THR:HB	1.85	0.58
27:Se:64:LEU:HD12	27:Se:65:PRO:HD2	1.85	0.58
35:A:315:C:OP2	71:Lk:28:TYR:OH	2.17	0.58
35:A:1747:G:O2'	73:Lm:53:THR:OG1	2.21	0.58
45:LK:7:GLU:OE2	45:LK:54:LYS:NZ	2.26	0.58
79:Ls:18:THR:HA	79:Ls:84:VAL:HG23	1.85	0.58
1:2:168:A:H5'	9:ST:137:ARG:HB2	1.85	0.58
1:2:786:C:OP1	7:SS:240:LYS:NZ	2.32	0.58
1:2:1738:U:H2'	1:2:1739:C:C6	2.38	0.58
35:A:178:U:H2'	35:A:179:C:H6	1.69	0.58
35:A:571:U:H2'	35:A:572:A:C8	2.38	0.58
35:A:2351:U:H2'	35:A:2352:A:H8	1.68	0.58
35:A:2442:G:H1	35:A:2505:U:H3	1.52	0.58
35:A:2854:U:OP2	46:LL:3:ARG:NH2	2.31	0.58
40:LF:144:LYS:HD3	40:LF:144:LYS:C	2.29	0.58
45:LK:86:TYR:CZ	45:LK:151:VAL:HB	2.38	0.58
51:LQ:62:THR:HG22	51:LQ:65:ASN:H	1.68	0.58
62:Lb:11:ALA:HB3	62:Lb:80:LEU:HD22	1.86	0.58
1:2:6:G:N7	5:SR:205:ARG:NH1	2.51	0.58
1:2:753:A:OP2	7:SS:187:ARG:NE	2.33	0.58
1:2:765:G:N7	12:SW:149:ARG:NH2	2.42	0.58
1:2:1008:G:H2'	1:2:1009:U:C6	2.38	0.58
1:2:1045:C:H2'	1:2:1046:G:H8	1.68	0.58
9:ST:147:LEU:HB3	9:ST:151:ASP:HB2	1.83	0.58
10:SU:143:LEU:HD12	10:SU:147:ASN:HB3	1.86	0.58
26:Sd:15:ASN:HD21	26:Sd:20:ARG:HE	1.51	0.58
35:A:251:G:H5'	35:A:253:A:H1'	1.85	0.58
35:A:371:G:N1	35:A:374:A:OP2	2.37	0.58
35:A:1110:U:H2'	35:A:1111:U:C6	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1222:G:O2'	35:A:1223:A:OP1	2.21	0.58
35:A:1252:A:H2'	35:A:1253:U:C5	2.39	0.58
35:A:1565:G:H2'	35:A:1566:A:O4'	2.04	0.58
48:LN:165:SER:O	48:LN:169:THR:OG1	2.20	0.58
80:z:376:ARG:HD2	80:z:379:THR:HG22	1.86	0.58
12:SW:78:ARG:HH12	12:SW:82:ARG:HD3	1.67	0.58
35:A:118:U:O4	35:A:148:G:N2	2.37	0.58
35:A:1083:G:H2'	35:A:1084:A:C8	2.37	0.58
35:A:2768:U:H2'	35:A:2769:A:C8	2.39	0.58
35:A:2771:U:H3'	35:A:2772:C:O2	2.04	0.58
42:LH:142:ASP:OD1	42:LH:143:LYS:N	2.36	0.58
81:m:18:G:O2'	81:m:57:G:O6	2.21	0.58
1:2:1204:A:N3	29:SM:10:HIS:NE2	2.46	0.58
1:2:1296:A:OP1	2:SP:138:TYR:OH	2.13	0.58
13:SC:26:ASP:O	13:SC:39:ASN:ND2	2.36	0.58
17:SZ:81:VAL:HB	17:SZ:115:ILE:HG12	1.85	0.58
19:SG:57:LEU:O	19:SG:61:ILE:HG13	2.04	0.58
19:SG:107:SER:HB2	19:SG:119:LEU:HD23	1.85	0.58
21:SI:18:TYR:CD2	21:SI:135:ILE:HG21	2.38	0.58
25:Sc:42:PRO:O	25:Sc:79:ASN:ND2	2.36	0.58
48:LN:48:PRO:HA	48:LN:137:GLN:HB3	1.86	0.58
54:LT:115:ILE:HG13	54:LT:119:LEU:HD23	1.85	0.58
1:2:939:A:H2'	1:2:940:A:C8	2.38	0.58
3:SQ:207:LEU:HB3	3:SQ:210:ILE:HD11	1.86	0.58
8:SB:68:ILE:HG13	8:SB:88:PRO:HB3	1.85	0.58
9:ST:8:PRO:HD3	9:ST:112:VAL:HG22	1.84	0.58
10:SU:17:GLU:HB3	10:SU:46:ILE:HB	1.86	0.58
21:SI:11:ALA:O	21:SI:15:ILE:HG13	2.03	0.58
35:A:664:U:H2'	35:A:665:A:H8	1.69	0.58
48:LN:47:ALA:O	48:LN:137:GLN:NE2	2.37	0.58
55:LU:44:PHE:CE1	56:LV:153:PRO:HG3	2.38	0.58
72:Ll:21:ARG:HD2	72:Ll:37:CYS:SG	2.44	0.58
84:E:27:UNK:HA	84:E:200:UNK:HA	1.86	0.58
1:2:1344:A:H2'	1:2:1345:A:C8	2.38	0.58
6:SA:27:ARG:HB3	13:SC:58:GLN:NE2	2.18	0.58
15:SD:136:ILE:HA	15:SD:139:HIS:NE2	2.17	0.58
17:SZ:19:ILE:HB	17:SZ:83:ILE:HD13	1.86	0.58
20:SH:17:LEU:HD12	20:SH:22:VAL:HG21	1.85	0.58
35:A:358:G:N2	35:A:361:A:OP2	2.34	0.58
35:A:1348:U:H5''	35:A:1349:G:OP1	2.03	0.58
35:A:2383:C:OP2	51:LQ:85:ARG:NH2	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:3159:C:H2'	35:A:3160:U:C6	2.39	0.58
39:LE:10:ARG:NH1	39:LE:11:HIS:O	2.37	0.58
49:LO:17:VAL:HG11	49:LO:74:ARG:HB3	1.86	0.58
67:Lg:4:LEU:HD22	67:Lg:91:THR:HG22	1.86	0.58
70:Lj:116:TYR:O	70:Lj:118:ILE:N	2.37	0.58
1:2:6:G:H3'	5:SR:205:ARG:HH22	1.69	0.57
1:2:76:A:N6	1:2:80:A:O2'	2.37	0.57
1:2:140:A:N6	1:2:281:G:OP1	2.36	0.57
1:2:336:G:H2'	1:2:338:C:H5	1.69	0.57
1:2:932:U:OP2	3:SQ:155:TYR:OH	2.09	0.57
1:2:1488:G:O2'	1:2:1494:C:O2	2.20	0.57
1:2:1586:A:H1'	1:2:1611:A:N6	2.18	0.57
7:SS:246:LEU:HB3	7:SS:250:GLU:HB2	1.86	0.57
32:SO:214:ALA:HB1	32:SO:240:VAL:HG21	1.86	0.57
35:A:1015:U:O2'	35:A:1017:C:OP2	2.17	0.57
35:A:2585:G:N7	44:LJ:47:SER:OG	2.36	0.57
35:A:3016:A:H2'	35:A:3017:A:C8	2.39	0.57
40:LF:23:PRO:HB3	40:LF:259:ASP:HB3	1.86	0.57
40:LF:328:ASN:ND2	43:LI:182:ASP:OD2	2.37	0.57
43:LI:165:ASP:OD1	43:LI:166:ASN:N	2.36	0.57
48:LN:64:LYS:HG3	63:Lc:69:TRP:CD1	2.39	0.57
73:Lm:5:ILE:HD11	73:Lm:52:TYR:CD2	2.38	0.57
79:Ls:95:ILE:HG22	79:Ls:100:LEU:HA	1.85	0.57
81:m:48:C:H5'	81:m:49:G:H5'	1.85	0.57
1:2:220:A:H5''	1:2:832:U:H1'	1.85	0.57
1:2:1064:G:O2'	3:SQ:204:ILE:O	2.22	0.57
2:SP:79:ARG:NH1	2:SP:164:ASN:O	2.34	0.57
3:SQ:2:ALA:N	17:SZ:48:VAL:O	2.38	0.57
8:SB:41:LYS:HG3	8:SB:67:PRO:HB3	1.85	0.57
16:SY:20:ARG:HH21	24:Sb:56:HIS:HB3	1.69	0.57
21:SI:18:TYR:HD2	21:SI:135:ILE:HG21	1.68	0.57
26:Sd:78:SER:OG	26:Sd:81:GLU:OE1	2.17	0.57
32:SO:21:THR:OG1	32:SO:69:GLN:O	2.19	0.57
32:SO:68:VAL:HG12	32:SO:84:SER:HB2	1.86	0.57
35:A:627:U:H2'	35:A:628:A:C8	2.39	0.57
35:A:1392:G:OP1	67:Lg:125:ARG:NH1	2.36	0.57
35:A:3302:U:H3	35:A:3312:U:H3	1.51	0.57
1:2:849:C:H2'	1:2:850:A:C8	2.39	0.57
1:2:929:A:OP1	1:2:931:C:N4	2.33	0.57
1:2:1450:U:O2'	29:SM:7:TRP:O	2.22	0.57
3:SQ:133:TYR:HE1	3:SQ:217:LEU:HD21	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:SA:7:LYS:NZ	22:SJ:113:ASP:OD2	2.38	0.57
18:SF:16:ALA:HB2	18:SF:72:GLY:HA3	1.86	0.57
22:SJ:90:TYR:C	22:SJ:91:ILE:HD12	2.28	0.57
35:A:1243:G:N2	35:A:1271:A:OP1	2.38	0.57
35:A:1412:G:OP1	67:Lg:105:ARG:NH1	2.34	0.57
35:A:2344:U:H2'	35:A:2345:A:H8	1.68	0.57
35:A:2407:C:H2'	35:A:2408:U:C6	2.39	0.57
35:A:2618:G:O2'	35:A:2865:U:OP1	2.12	0.57
47:LM:110:ILE:HG22	47:LM:111:ASP:H	1.67	0.57
47:LM:139:THR:HG22	47:LM:140:ARG:HD2	1.86	0.57
1:2:52:U:H2'	1:2:53:G:H8	1.70	0.57
1:2:320:U:H3'	1:2:321:C:H2'	1.85	0.57
1:2:647:G:N2	1:2:687:G:H1	1.96	0.57
1:2:836:U:H3'	1:2:837:G:C8	2.40	0.57
1:2:1132:A:H2'	1:2:1133:A:H8	1.70	0.57
1:2:1171:A:OP1	34:AA:25:LYS:NZ	2.31	0.57
10:SU:133:THR:HG21	10:SU:154:LEU:HB3	1.86	0.57
35:A:117:U:O2'	35:A:119:U:OP2	2.14	0.57
35:A:120:G:N2	44:LJ:126:SER:O	2.37	0.57
35:A:1132:C:H2'	35:A:1133:A:H8	1.69	0.57
41:LG:53:VAL:HG22	41:LG:62:CYS:SG	2.44	0.57
1:2:133:U:C2	1:2:202:A:H5'	2.40	0.57
1:2:1172:G:H2'	1:2:1173:C:C6	2.39	0.57
1:2:1693:A:O2'	1:2:1694:A:O4'	2.20	0.57
8:SB:188:LYS:HG3	8:SB:192:GLU:OE2	2.04	0.57
21:SI:52:GLY:HA2	21:SI:55:TYR:HD2	1.68	0.57
35:A:8:C:H2'	35:A:9:U:C6	2.39	0.57
35:A:439:C:H3'	35:A:440:A:H8	1.68	0.57
35:A:620:U:H4'	52:LR:167:ARG:NH2	2.19	0.57
35:A:1721:U:O4	54:LT:128:LYS:NZ	2.36	0.57
35:A:2709:C:H2'	35:A:2710:C:C6	2.40	0.57
36:B:70:U:H2'	36:B:71:G:H8	1.68	0.57
39:LE:214:MET:HE1	39:LE:281:LYS:HB2	1.86	0.57
51:LQ:186:ALA:O	51:LQ:187:GLU:HG2	2.05	0.57
61:La:32:SER:HA	61:La:49:PRO:HA	1.86	0.57
1:2:136:C:H2'	1:2:137:U:C5	2.39	0.57
1:2:205:U:C2	1:2:206:A:C8	2.92	0.57
1:2:358:U:H2'	1:2:360:A:H8	1.70	0.57
1:2:406:U:H2'	1:2:407:A:C8	2.39	0.57
1:2:600:U:H2'	1:2:601:A:H8	1.70	0.57
1:2:1677:C:OP1	11:SV:42:ARG:NH1	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:SW:18:PRO:HB2	12:SW:19:TYR:CD1	2.39	0.57
35:A:297:G:OP2	35:A:297:G:N2	2.37	0.57
35:A:565:U:H2'	35:A:566:G:H8	1.68	0.57
36:B:61:G:OP1	41:LG:276:LYS:NZ	2.25	0.57
38:LD:134:VAL:HG12	38:LD:150:LEU:HA	1.85	0.57
79:Ls:91:GLN:HB3	79:Ls:103:MET:HG2	1.85	0.57
1:2:352:A:H4'	1:2:353:A:O5'	2.03	0.57
1:2:732:G:O3'	1:2:734:A:N6	2.37	0.57
32:SO:106:HIS:CD2	32:SO:126:SER:HB2	2.40	0.57
34:AA:84:GLU:OE2	34:AA:91:PRO:HG3	2.03	0.57
35:A:1284:C:H2'	35:A:1285:G:C8	2.40	0.57
40:LF:359:LEU:HA	55:LU:8:GLN:OE1	2.05	0.57
42:LH:55:LEU:HD21	42:LH:66:THR:HG22	1.85	0.57
43:LI:102:VAL:HG13	43:LI:126:LEU:HG	1.87	0.57
50:LP:192:LYS:O	50:LP:196:THR:HG23	2.04	0.57
56:LV:107:GLU:OE1	56:LV:110:LYS:NZ	2.38	0.57
1:2:653:C:H5'	1:2:654:C:C5	2.39	0.57
1:2:1555:A:P	4:SE:47:ARG:HE	2.28	0.57
35:A:263:C:H2'	35:A:264:G:O4'	2.05	0.57
35:A:2160:G:H2'	35:A:2161:G:H8	1.69	0.57
35:A:2723:U:OP1	56:LV:87:LYS:HD3	2.04	0.57
54:LT:13:SER:HG	54:LT:38:ARG:HH12	1.51	0.57
67:Lg:86:THR:HG23	67:Lg:115:LEU:HD22	1.86	0.57
68:Lh:16:TYR:CD1	68:Lh:25:PRO:HA	2.40	0.57
69:Li:11:ASN:OD1	69:Li:18:ASN:ND2	2.37	0.57
79:Ls:101:SER:C	79:Ls:102:LEU:HD23	2.29	0.57
1:2:514:G:H2'	1:2:515:A:H8	1.70	0.57
20:SH:18:LEU:HD13	20:SH:35:ILE:HD13	1.87	0.57
35:A:2615:G:H2'	35:A:2616:C:H6	1.69	0.57
35:A:2655:U:OP2	77:Lq:3:ASN:N	2.31	0.57
40:LF:39:PHE:HE1	40:LF:236:LEU:HG	1.69	0.57
45:LK:90:MET:HE1	45:LK:161:LEU:HD23	1.87	0.57
53:LS:165:ILE:HD11	53:LS:172:PHE:HB3	1.86	0.57
54:LT:32:ILE:HG12	54:LT:44:LEU:HD13	1.87	0.57
67:Lg:81:ASP:O	67:Lg:84:THR:OG1	2.21	0.57
73:Lm:43:PHE:CE2	73:Lm:65:LEU:HD23	2.40	0.57
1:2:402:C:OP1	7:SS:3:ARG:NH1	2.38	0.57
1:2:1202:A:H2'	1:2:1203:A:H5''	1.86	0.57
1:2:1331:A:H61	6:SA:161:GLY:CA	2.18	0.57
1:2:1426:C:H3'	1:2:1427:A:H4'	1.86	0.57
25:Sc:69:ARG:NH2	25:Sc:116:ASP:OD2	2.23	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:439:C:OP2	35:A:440:A:N6	2.37	0.57
35:A:2684:C:H2'	35:A:2685:C:H6	1.68	0.57
66:Lf:20:LEU:HD11	66:Lf:32:ALA:HB2	1.87	0.57
1:2:327:U:H2'	1:2:328:A:H8	1.69	0.56
1:2:649:U:H2'	1:2:650:U:C6	2.40	0.56
6:SA:40:ARG:HH12	22:SJ:110:PRO:HD3	1.70	0.56
8:SB:121:ILE:HG21	8:SB:132:VAL:HG11	1.86	0.56
12:SW:106:GLU:O	12:SW:111:THR:OG1	2.23	0.56
33:SL:54:LEU:HD12	33:SL:55:VAL:H	1.69	0.56
47:LM:106:ILE:HD11	47:LM:125:MET:HE3	1.87	0.56
3:SQ:32:ILE:HG13	3:SQ:96:LEU:HD21	1.87	0.56
13:SC:71:GLU:H	13:SC:71:GLU:CD	2.10	0.56
35:A:1288:U:H2'	35:A:1289:G:H8	1.69	0.56
35:A:2724:U:OP1	56:LV:78:LYS:NZ	2.32	0.56
35:A:3232:G:C6	35:A:3256:G:C6	2.92	0.56
36:B:39:C:O2'	47:LM:43:GLN:OE1	2.19	0.56
45:LK:27:VAL:HG21	45:LK:78:MET:HG3	1.86	0.56
82:n:66:C:H2'	82:n:67:G:H8	1.70	0.56
1:2:322:G:O2'	1:2:323:A:OP2	2.22	0.56
1:2:814:A:H3'	54:LT:166:ASN:HD21	1.70	0.56
1:2:1556:A:C5	1:2:1560:U:C2	2.93	0.56
1:2:1564:U:H2'	1:2:1565:C:C6	2.40	0.56
1:2:1794:A:H1'	27:Se:79:ILE:HD12	1.87	0.56
5:SR:223:GLY:HA2	23:Sa:23:ILE:HB	1.86	0.56
9:ST:175:ILE:HG21	9:ST:178:LEU:HD13	1.86	0.56
14:SX:71:LEU:HD12	14:SX:88:ARG:NE	2.21	0.56
15:SD:58:LEU:HD12	15:SD:125:ASN:H	1.70	0.56
15:SD:86:VAL:HG22	15:SD:140:PHE:HZ	1.70	0.56
17:SZ:103:ARG:NH1	27:Se:49:ALA:HA	2.20	0.56
18:SF:57:LEU:H	18:SF:57:LEU:HD12	1.69	0.56
26:Sd:83:LYS:HD3	26:Sd:96:LEU:HD22	1.87	0.56
35:A:1260:A:H2'	35:A:1261:G:N3	2.19	0.56
35:A:1277:C:HO2'	35:A:1278:A:H8	1.54	0.56
35:A:1404:G:N2	35:A:1407:A:OP2	2.37	0.56
35:A:1571:A:H2'	35:A:1572:U:H4'	1.86	0.56
35:A:1577:G:H2'	35:A:1578:C:C6	2.40	0.56
35:A:2660:G:O3'	35:A:2749:G:N2	2.38	0.56
35:A:3092:C:H2'	58:LX:12:ARG:NH2	2.20	0.56
35:A:3159:C:H2'	35:A:3160:U:H6	1.70	0.56
35:A:3233:C:H2'	35:A:3234:A:C8	2.40	0.56
47:LM:84:LEU:HD21	47:LM:163:PHE:HE1	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:LS:81:VAL:HB	53:LS:101:VAL:HG22	1.87	0.56
72:LI:64:MET:HG2	72:LI:67:LEU:HB3	1.87	0.56
80:z:424:THR:OG1	80:z:425:HIS:ND1	2.36	0.56
1:2:86:A:H2'	1:2:87:C:H6	1.70	0.56
1:2:199:G:H2'	1:2:200:A:C8	2.40	0.56
1:2:687:G:H5'	24:Sb:119:LYS:HE3	1.86	0.56
3:SQ:175:GLU:HG3	3:SQ:193:ILE:HG22	1.86	0.56
20:SH:18:LEU:HD21	20:SH:74:GLN:HE22	1.69	0.56
32:SO:70:ASP:OD2	32:SO:113:VAL:N	2.31	0.56
35:A:528:U:H2'	35:A:529:A:C8	2.40	0.56
35:A:785:G:N7	63:Lc:77:LYS:NZ	2.46	0.56
35:A:1229:G:H2'	35:A:1230:G:H8	1.70	0.56
35:A:1729:A:OP2	65:Le:27:TYR:N	2.37	0.56
35:A:1948:G:C2	35:A:2099:A:C2	2.94	0.56
35:A:2406:C:H2'	35:A:2407:C:H6	1.70	0.56
41:LG:64:ILE:HG23	41:LG:75:LEU:HB2	1.86	0.56
44:LJ:45:ASN:ND2	60:LZ:26:VAL:HG23	2.21	0.56
46:LL:35:ASP:OD2	46:LL:88:ARG:NH2	2.38	0.56
56:LV:78:LYS:HD3	56:LV:87:LYS:HE2	1.85	0.56
56:LV:116:ARG:HG3	56:LV:128:LEU:HD21	1.86	0.56
82:n:66:C:H2'	82:n:67:G:C8	2.41	0.56
1:2:61:A:O2'	1:2:62:A:O4'	2.22	0.56
1:2:150:U:H2'	1:2:151:G:C8	2.40	0.56
1:2:919:A:H2'	1:2:920:U:C6	2.41	0.56
1:2:1590:G:H2'	1:2:1591:C:C6	2.40	0.56
2:SP:117:GLU:HG2	5:SR:40:LYS:HG3	1.85	0.56
3:SQ:29:TRP:HD1	3:SQ:45:LYS:HD3	1.69	0.56
4:SE:86:VAL:HG12	4:SE:88:GLU:H	1.69	0.56
16:SY:55:ARG:HH22	28:Sf:51:GLN:NE2	2.01	0.56
32:SO:274:LEU:HD23	32:SO:313:TRP:HE1	1.70	0.56
34:AA:50:ILE:O	34:AA:54:VAL:HG23	2.04	0.56
35:A:718:G:OP1	63:Lc:117:ARG:NH2	2.35	0.56
35:A:1112:A:N3	35:A:1370:G:O2'	2.39	0.56
35:A:1861:G:H1'	35:A:3066:U:H5''	1.88	0.56
35:A:2101:C:O2'	35:A:2102:U:H6	1.88	0.56
42:LH:64:LEU:HD11	42:LH:76:LEU:HD22	1.86	0.56
46:LL:176:LEU:HD23	46:LL:180:GLU:HG2	1.88	0.56
1:2:330:G:OP2	11:SV:172:ARG:NH1	2.36	0.56
1:2:706:A:N6	1:2:730:G:OP1	2.39	0.56
1:2:765:G:C6	12:SW:149:ARG:HG2	2.40	0.56
1:2:1348:A:H2'	1:2:1349:G:O4'	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:SE:85:ILE:HD13	4:SE:89:MET:HE3	1.87	0.56
20:SH:3:LEU:HA	34:AA:82:HIS:CE1	2.40	0.56
22:SJ:21:LYS:HA	22:SJ:94:GLU:HA	1.86	0.56
23:Sa:16:LYS:HG2	23:Sa:23:ILE:HD13	1.88	0.56
27:Se:90:GLU:N	27:Se:90:GLU:OE1	2.36	0.56
32:SO:243:LEU:HD12	32:SO:252:LEU:HD11	1.86	0.56
34:AA:52:LYS:HG3	34:AA:53:GLU:HG3	1.87	0.56
35:A:315:C:H2'	35:A:316:U:C6	2.41	0.56
35:A:596:C:OP1	43:LI:37:ASN:ND2	2.38	0.56
35:A:1039:U:H2'	35:A:1040:A:C8	2.40	0.56
35:A:1277:C:C2	35:A:1278:A:C8	2.93	0.56
35:A:1410:U:H4'	67:Lg:75:LEU:HD11	1.86	0.56
40:LF:265:GLU:OE1	40:LF:265:GLU:N	2.30	0.56
44:LJ:98:ARG:HD2	44:LJ:189:LEU:O	2.05	0.56
63:Lc:114:GLY:O	63:Lc:137:LYS:NZ	2.35	0.56
71:Lk:56:ARG:HA	71:Lk:59:ASP:HB2	1.88	0.56
1:2:143:G:H2'	1:2:144:U:C6	2.41	0.56
1:2:1341:A:H2'	1:2:1342:C:H6	1.69	0.56
7:SS:149:TYR:N	7:SS:150:PRO:HD3	2.21	0.56
12:SW:92:LYS:HD3	12:SW:94:ASP:H	1.69	0.56
18:SF:73:GLY:H	18:SF:76:SER:HG	1.51	0.56
19:SG:34:LEU:O	19:SG:38:ILE:HG22	2.06	0.56
21:SI:104:VAL:O	21:SI:108:LEU:HB2	2.05	0.56
27:Se:24:VAL:HG13	27:Se:72:HIS:O	2.06	0.56
32:SO:281:TYR:CE2	32:SO:287:PRO:HD3	2.40	0.56
33:SL:11:LYS:O	33:SL:31:GLU:N	2.35	0.56
35:A:271:C:O2	71:Lk:82:ARG:NH2	2.37	0.56
35:A:299:G:N2	71:Lk:30:LYS:HE2	2.20	0.56
35:A:874:U:OP2	35:A:1907:C:O2'	2.20	0.56
35:A:1030:A:H2'	35:A:1031:C:C6	2.41	0.56
35:A:2344:U:H2'	35:A:2345:A:C8	2.41	0.56
36:B:11:A:N1	36:B:67:G:O2'	2.35	0.56
44:LJ:98:ARG:HH11	44:LJ:98:ARG:HG3	1.71	0.56
44:LJ:158:ASP:HB2	44:LJ:159:PRO:HD3	1.88	0.56
47:LM:7:ASN:O	47:LM:7:ASN:ND2	2.38	0.56
56:LV:126:VAL:HG23	56:LV:127:GLN:H	1.69	0.56
81:m:21:A:N6	81:m:46:G:H2'	2.21	0.56
1:2:329:G:H5''	11:SV:98:LYS:HB3	1.88	0.56
1:2:447:U:H2'	1:2:448:C:O4'	2.06	0.56
1:2:1586:A:H1'	1:2:1611:A:H61	1.70	0.56
6:SA:190:ARG:HH12	6:SA:195:SER:HB3	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:SZ:103:ARG:HH12	27:Se:52:ASP:HB2	1.70	0.56
19:SG:51:ALA:O	19:SG:54:THR:OG1	2.24	0.56
28:Sf:34:ASP:OD1	28:Sf:43:ILE:HG12	2.04	0.56
28:Sf:73:LEU:HD12	28:Sf:79:PHE:CD2	2.41	0.56
35:A:154:U:OP2	70:Lj:103:LYS:NZ	2.28	0.56
35:A:389:A:OP1	52:LR:4:TYR:OH	2.22	0.56
35:A:1942:U:P	54:LT:74:ARG:HH21	2.29	0.56
35:A:2656:A:C8	35:A:2658:G:C8	2.93	0.56
35:A:2661:G:H2'	35:A:2662:G:C8	2.41	0.56
35:A:3234:A:H2	35:A:3253:G:H22	1.54	0.56
40:LF:181:VAL:HG22	40:LF:202:ARG:O	2.06	0.56
50:LP:186:GLY:O	50:LP:190:THR:HG22	2.05	0.56
63:Lc:82:ILE:O	63:Lc:87:ARG:NH2	2.39	0.56
2:SP:50:VAL:HG22	19:SG:109:LEU:HD21	1.88	0.56
2:SP:92:HIS:HD1	2:SP:202:TYR:HH	1.52	0.56
4:SE:106:GLU:OE1	4:SE:108:ARG:NH2	2.36	0.56
13:SC:71:GLU:OE1	13:SC:71:GLU:N	2.22	0.56
32:SO:167:VAL:HG22	32:SO:183:LEU:HD21	1.88	0.56
35:A:255:A:H2'	35:A:256:G:C8	2.39	0.56
35:A:1290:A:H2'	35:A:1291:A:C8	2.41	0.56
35:A:1341:U:H2'	35:A:1342:C:C6	2.41	0.56
40:LF:58:HIS:HA	40:LF:90:PHE:CE1	2.41	0.56
44:LJ:219:ASP:OD1	44:LJ:220:ALA:N	2.38	0.56
65:Le:76:GLU:OE1	65:Le:76:GLU:N	2.39	0.56
1:2:307:G:OP1	14:SX:90:TYR:OH	2.21	0.56
1:2:327:U:H2'	1:2:328:A:C8	2.41	0.56
1:2:496:G:H2'	1:2:497:G:C8	2.40	0.56
1:2:1205:C:O2	29:SM:17:GLY:N	2.33	0.56
1:2:1486:G:H2'	1:2:1487:A:C8	2.40	0.56
1:2:1609:U:OP1	18:SF:76:SER:N	2.36	0.56
35:A:1369:A:H5''	63:Lc:21:ARG:HH11	1.71	0.56
35:A:1667:A:H2'	35:A:1668:G:H8	1.70	0.56
35:A:3017:A:H2'	35:A:3018:C:C6	2.41	0.56
65:Le:22:LYS:HG3	65:Le:93:LEU:HD12	1.87	0.56
1:2:97:C:O2	1:2:425:A:O2'	2.24	0.55
1:2:1027:A:OP1	1:2:1789:G:O2'	2.23	0.55
1:2:1307:U:H3	1:2:1318:G:H21	1.54	0.55
19:SG:27:ASP:OD2	32:SO:38:ARG:NH2	2.39	0.55
35:A:507:U:H2'	35:A:508:U:H6	1.72	0.55
35:A:620:U:OP1	52:LR:167:ARG:NH1	2.37	0.55
35:A:1090:G:H2'	35:A:1091:A:H8	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1314:C:H5'	51:LQ:17:GLY:HA3	1.88	0.55
35:A:1896:A:N6	35:A:2339:C:H42	2.02	0.55
35:A:2366:C:H2'	35:A:2367:A:H8	1.71	0.55
36:B:19:C:H2'	36:B:20:A:H8	1.71	0.55
71:Lk:66:GLU:CD	71:Lk:91:ASN:HD21	2.13	0.55
79:Ls:112:ASP:OD1	79:Ls:112:ASP:N	2.36	0.55
1:2:313:U:H4'	1:2:314:C:O5'	2.06	0.55
1:2:1657:U:H5'	1:2:1658:G:H5''	1.88	0.55
8:SB:135:ASP:O	8:SB:139:ASN:ND2	2.36	0.55
14:SX:74:THR:HG22	14:SX:122:ILE:HG12	1.88	0.55
35:A:1786:G:H2'	35:A:1787:A:C8	2.41	0.55
35:A:3154:C:H1'	35:A:3156:U:H1'	1.88	0.55
35:A:3186:A:OP1	55:LU:154:HIS:ND1	2.29	0.55
38:LD:118:GLU:OE2	38:LD:156:LYS:NZ	2.38	0.55
39:LE:35:ASP:OD2	39:LE:37:ARG:NH1	2.39	0.55
46:LL:215:GLU:OE1	46:LL:215:GLU:N	2.38	0.55
49:LO:47:ASP:OD1	49:LO:48:GLY:N	2.39	0.55
65:Le:100:ILE:HG22	65:Le:101:LEU:HD22	1.89	0.55
17:SZ:16:VAL:O	17:SZ:30:VAL:HA	2.06	0.55
29:SM:19:ARG:HH22	29:SM:32:ARG:HE	1.53	0.55
35:A:253:A:H2'	35:A:254:A:C8	2.41	0.55
52:LR:120:ASN:N	52:LR:120:ASN:OD1	2.39	0.55
60:LZ:58:ASP:N	60:LZ:58:ASP:OD1	2.36	0.55
68:Lh:32:ILE:HG22	68:Lh:34:GLY:H	1.72	0.55
1:2:300:A:H2'	1:2:301:A:C8	2.41	0.55
1:2:487:G:C6	1:2:501:U:C2	2.95	0.55
1:2:1399:C:O2'	1:2:1400:A:O5'	2.22	0.55
10:SU:48:GLU:OE2	10:SU:49:ILE:N	2.39	0.55
17:SZ:17:ALA:N	17:SZ:80:HIS:O	2.39	0.55
19:SG:20:TYR:CD2	19:SG:38:ILE:HD11	2.41	0.55
22:SJ:42:VAL:HG21	22:SJ:55:PRO:HG3	1.87	0.55
35:A:158:G:N2	35:A:264:G:H1'	2.22	0.55
38:LD:113:VAL:HG23	38:LD:134:VAL:HG23	1.88	0.55
40:LF:44:LYS:HB3	40:LF:47:ARG:HH11	1.70	0.55
1:2:1001:A:OP1	82:n:38:A:O2'	2.24	0.55
1:2:1767:G:OP1	1:2:1770:U:H4'	2.07	0.55
9:ST:27:PHE:CE1	9:ST:36:VAL:HG21	2.41	0.55
35:A:801:A:N6	48:LN:19:GLN:HE22	2.05	0.55
35:A:2543:U:H2'	35:A:2544:U:C6	2.42	0.55
43:LI:150:LYS:NZ	43:LI:244:ASN:O	2.31	0.55
51:LQ:8:VAL:O	51:LQ:118:VAL:HG22	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:175:G:N1	1:2:266:A:OP1	2.28	0.55
1:2:1158:C:O2'	1:2:1581:C:OP2	2.23	0.55
1:2:1235:C:H5'	31:SN:146:SER:HA	1.88	0.55
2:SP:69:ASN:ND2	5:SR:248:SER:OG	2.40	0.55
5:SR:152:HIS:CD2	5:SR:174:ARG:HE	2.25	0.55
40:LF:129:THR:HG21	40:LF:248:VAL:HB	1.88	0.55
81:m:23:A:H2'	81:m:24:G:H8	1.72	0.55
1:2:461:G:H2'	1:2:462:G:H8	1.72	0.55
1:2:469:C:H2'	1:2:470:A:O4'	2.06	0.55
1:2:1534:G:N7	34:AA:74:SER:N	2.54	0.55
1:2:1592:A:H2'	1:2:1593:A:C8	2.41	0.55
6:SA:29:LEU:HB3	6:SA:34:TYR:HB2	1.89	0.55
6:SA:71:LEU:O	6:SA:75:LYS:HG2	2.07	0.55
17:SZ:114:ARG:HH11	27:Se:62:TYR:HE1	1.55	0.55
32:SO:89:LEU:HB3	32:SO:103:PHE:HD2	1.71	0.55
32:SO:172:ALA:HB2	32:SO:202:LEU:HD13	1.88	0.55
35:A:92:G:O2'	85:A:3401:3HE:O2	2.18	0.55
35:A:656:A:H2'	35:A:657:A:H8	1.72	0.55
35:A:1267:U:H3'	35:A:1268:G:C8	2.42	0.55
35:A:1895:A:O2'	35:A:3053:G:H4'	2.06	0.55
35:A:2569:A:H1'	35:A:2570:U:H5'	1.88	0.55
35:A:3165:A:H2'	35:A:3166:C:H6	1.69	0.55
50:LP:114:ARG:NH1	50:LP:157:LYS:HG2	2.22	0.55
51:LQ:56:ASP:OD1	51:LQ:60:LYS:NZ	2.39	0.55
56:LV:112:ASN:HB2	56:LV:128:LEU:HD22	1.87	0.55
58:LX:84:SER:HA	58:LX:94:TYR:HB3	1.88	0.55
63:Lc:34:MET:HE1	63:Lc:45:MET:HE2	1.89	0.55
77:Lq:46:LYS:HZ1	77:Lq:55:LYS:HD3	1.71	0.55
1:2:823:G:H2'	1:2:824:G:O4'	2.06	0.55
1:2:843:U:O4	1:2:844:A:N6	2.40	0.55
1:2:1041:G:H2'	1:2:1042:G:C8	2.41	0.55
2:SP:88:LYS:HD2	2:SP:201:LEU:HG	1.89	0.55
6:SA:32:GLU:OE1	6:SA:32:GLU:N	2.40	0.55
17:SZ:19:ILE:HG23	17:SZ:28:VAL:HG12	1.89	0.55
35:A:542:G:O6	35:A:550:A:N6	2.39	0.55
35:A:780:A:H5'	53:LS:160:GLY:O	2.07	0.55
35:A:2133:U:O4	35:A:2147:A:H2	1.90	0.55
35:A:2430:A:H2'	35:A:2431:C:C6	2.42	0.55
35:A:2988:C:OP1	51:LQ:68:ARG:NH1	2.32	0.55
36:B:4:U:H2'	36:B:5:G:H8	1.70	0.55
40:LF:144:LYS:HD3	40:LF:144:LYS:O	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:LN:183:ARG:HA	48:LN:186:ARG:HH11	1.72	0.55
1:2:1164:G:P	8:SB:166:ARG:HH22	2.29	0.55
1:2:1339:C:O2'	1:2:1341:A:N7	2.39	0.55
1:2:1462:G:N7	20:SH:143:ARG:NH2	2.55	0.55
1:2:1533:C:OP2	34:AA:77:ARG:NH2	2.37	0.55
1:2:1638:G:H2'	1:2:1639:C:O4'	2.07	0.55
18:SF:22:VAL:HG11	18:SF:92:TYR:HB2	1.89	0.55
21:SI:113:ILE:HD12	21:SI:128:GLY:HA2	1.87	0.55
35:A:242:C:O2'	35:A:243:G:OP2	2.22	0.55
35:A:266:A:H62	71:Lk:29:LYS:HD3	1.71	0.55
35:A:638:C:N4	35:A:639:G:O6	2.40	0.55
35:A:1564:U:H3'	35:A:1565:G:C8	2.42	0.55
35:A:1740:U:H4'	35:A:1741:A:H5'	1.87	0.55
35:A:3217:C:C4	35:A:3220:G:H1'	2.42	0.55
39:LE:187:SER:N	39:LE:190:GLU:OE2	2.33	0.55
52:LR:116:HIS:HB3	52:LR:149:VAL:HB	1.89	0.55
62:Lb:11:ALA:HA	62:Lb:83:THR:HG23	1.88	0.55
66:Lf:25:PHE:CD2	66:Lf:65:LYS:HD3	2.42	0.55
78:Lr:49:ARG:HG3	78:Lr:55:TRP:CZ2	2.42	0.55
1:2:196:G:O2'	1:2:197:A:OP1	2.23	0.55
1:2:1057:U:O2	1:2:1061:A:N6	2.40	0.55
1:2:1410:A:H5''	18:SF:118:ILE:HG23	1.88	0.55
3:SQ:137:ILE:HG22	3:SQ:215:VAL:HG12	1.89	0.55
18:SF:60:PHE:HE1	18:SF:89:LEU:HD13	1.71	0.55
21:SI:138:GLN:HA	21:SI:141:GLU:HG2	1.89	0.55
25:Sc:13:ARG:O	25:Sc:17:VAL:HG22	2.07	0.55
35:A:269:G:P	50:LP:44:ARG:HH12	2.29	0.55
35:A:1945:A:H2'	35:A:1946:A:C8	2.42	0.55
35:A:2974:U:H2'	35:A:2975:U:C6	2.42	0.55
38:LD:54:ARG:HG2	38:LD:56:ALA:H	1.72	0.55
38:LD:242:ARG:NH2	38:LD:245:LEU:O	2.35	0.55
40:LF:205:PRO:HG2	40:LF:225:VAL:HG22	1.89	0.55
41:LG:156:GLY:HA2	41:LG:181:PRO:HD3	1.89	0.55
47:LM:87:LYS:HG2	47:LM:88:GLU:O	2.07	0.55
63:Lc:39:HIS:O	63:Lc:41:HIS:N	2.40	0.55
77:Lq:96:GLU:HG2	77:Lq:97:LYS:H	1.71	0.55
81:m:1:G:H2'	81:m:2:G:H8	1.70	0.55
1:2:585:A:H2'	1:2:586:G:H8	1.72	0.54
18:SF:49:TYR:HB3	18:SF:53:LEU:HD23	1.88	0.54
20:SH:4:VAL:HG22	34:AA:82:HIS:CD2	2.41	0.54
23:Sa:78:LEU:HD12	23:Sa:79:LEU:HD12	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1211:U:H2'	35:A:1212:A:C8	2.42	0.54
35:A:1279:C:H2'	35:A:1280:C:C6	2.42	0.54
35:A:1534:A:H2'	35:A:1535:A:C8	2.41	0.54
35:A:1747:G:HO2'	73:Lm:53:THR:HG1	1.49	0.54
37:C:95:G:O2'	72:Ll:81:GLY:O	2.24	0.54
45:LK:10:ILE:HG13	45:LK:10:ILE:O	2.07	0.54
69:Li:5:VAL:HG21	69:Li:32:ALA:N	2.22	0.54
71:Lk:63:ASN:O	71:Lk:64:SER:OG	2.23	0.54
82:n:52:G:H2'	82:n:53:G:H8	1.72	0.54
1:2:1085:G:OP1	5:SR:161:LYS:NZ	2.39	0.54
1:2:1436:A:OP1	6:SA:27:ARG:NH2	2.40	0.54
2:SP:191:ARG:O	2:SP:191:ARG:NH1	2.33	0.54
4:SE:87:PRO:HA	4:SE:90:ILE:HG12	1.89	0.54
32:SO:278:PHE:CE2	32:SO:287:PRO:HD2	2.43	0.54
35:A:620:U:O2	68:Lh:60:ARG:NH2	2.40	0.54
35:A:821:U:H2'	35:A:822:G:H8	1.72	0.54
35:A:2129:U:H2'	35:A:2130:G:C8	2.41	0.54
35:A:2576:G:H2'	35:A:2577:C:C6	2.42	0.54
36:B:24:A:H2'	36:B:25:G:C8	2.41	0.54
67:Lg:14:THR:HG22	67:Lg:15:LYS:H	1.72	0.54
81:m:27:G:N2	81:m:43:U:O2	2.23	0.54
84:E:90:UNK:O	84:E:94:UNK:N	2.40	0.54
1:2:228:G:O6	1:2:834:G:H1'	2.06	0.54
1:2:1210:C:H2'	1:2:1211:A:H8	1.72	0.54
8:SB:136:ALA:O	8:SB:140:THR:HG23	2.08	0.54
22:SJ:33:GLN:O	22:SJ:36:ASN:ND2	2.39	0.54
24:Sb:69:LEU:HD11	24:Sb:72:CYS:HB3	1.90	0.54
35:A:53:G:P	72:Ll:48:ASN:HB2	2.47	0.54
35:A:783:A:OP1	63:Lc:115:LYS:NZ	2.36	0.54
35:A:1000:C:N3	35:A:1045:C:N4	2.55	0.54
35:A:1817:G:H2'	35:A:1818:U:C6	2.42	0.54
35:A:2615:G:H2'	35:A:2616:C:C6	2.42	0.54
35:A:2772:C:H4'	35:A:2773:C:C5'	2.37	0.54
35:A:3322:A:H2'	35:A:3323:A:C8	2.42	0.54
60:LZ:86:VAL:O	60:LZ:120:LYS:HB3	2.07	0.54
69:Li:5:VAL:HG22	69:Li:6:THR:N	2.22	0.54
70:Lj:66:VAL:HG12	70:Lj:80:LEU:HD11	1.88	0.54
1:2:776:G:O6	26:Sd:11:LYS:NZ	2.40	0.54
1:2:1474:G:H2'	1:2:1475:A:C8	2.41	0.54
1:2:1490:C:H4'	1:2:1491:U:H5'	1.88	0.54
8:SB:129:PRO:HA	8:SB:132:VAL:HG12	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:SW:57:ARG:O	12:SW:61:THR:HG23	2.07	0.54
32:SO:195:HIS:CD2	32:SO:199:ILE:HG12	2.42	0.54
35:A:655:C:H5''	67:Lg:26:HIS:HB3	1.88	0.54
35:A:1057:A:OP1	43:LI:98:LYS:NZ	2.36	0.54
35:A:2986:U:H2'	35:A:2987:A:H8	1.73	0.54
52:LR:43:LYS:O	52:LR:43:LYS:HD3	2.07	0.54
71:Lk:29:LYS:HE2	71:Lk:32:ALA:HB3	1.90	0.54
71:Lk:57:LEU:O	71:Lk:61:ILE:HG23	2.07	0.54
1:2:86:A:H2'	1:2:87:C:C6	2.42	0.54
1:2:625:C:H2'	1:2:626:U:C6	2.43	0.54
2:SP:163:ASN:O	2:SP:169:SER:OG	2.24	0.54
8:SB:184:PHE:HD1	8:SB:185:ARG:HB2	1.73	0.54
8:SB:195:ALA:O	8:SB:199:ILE:HG23	2.07	0.54
10:SU:28:GLU:OE1	10:SU:35:LYS:HA	2.08	0.54
16:SY:83:GLU:OE1	16:SY:83:GLU:N	2.27	0.54
35:A:92:G:OP1	77:Lq:46:LYS:NZ	2.41	0.54
35:A:689:U:O4	40:LF:209:TYR:OH	2.19	0.54
35:A:969:C:O2'	64:Ld:18:ARG:NH2	2.35	0.54
35:A:1147:G:OP1	67:Lg:47:ARG:NH1	2.41	0.54
35:A:1763:U:O4	35:A:1766:G:H1'	2.07	0.54
35:A:2255:A:H4'	35:A:2256:A:OP1	2.08	0.54
35:A:2740:A:H2'	35:A:2741:C:O4'	2.08	0.54
43:LI:100:ARG:O	43:LI:104:GLN:HG2	2.07	0.54
48:LN:15:ARG:HH11	48:LN:15:ARG:HG3	1.72	0.54
50:LP:135:VAL:HG11	50:LP:151:ILE:HG21	1.88	0.54
79:Ls:135:MET:HA	79:Ls:135:MET:HE3	1.90	0.54
1:2:56:U:OP1	1:2:403:G:N1	2.24	0.54
1:2:575:C:H41	25:Sc:65:ASN:CG	2.14	0.54
1:2:607:G:H5'	1:2:613:G:N2	2.22	0.54
1:2:628:G:OP1	16:SY:124:ARG:NH1	2.27	0.54
1:2:638:U:O3'	10:SU:112:ARG:NH2	2.40	0.54
1:2:1555:A:OP1	4:SE:47:ARG:NE	2.30	0.54
9:ST:85:ARG:O	9:ST:87:ARG:NH1	2.32	0.54
18:SF:97:VAL:HG12	18:SF:98:ASP:OD1	2.08	0.54
19:SG:69:ILE:O	19:SG:74:GLN:NE2	2.41	0.54
20:SH:30:TYR:O	20:SH:33:THR:HG22	2.08	0.54
23:Sa:20:THR:OG1	23:Sa:22:ARG:HG2	2.06	0.54
35:A:1193:A:OP1	51:LQ:49:ARG:NH2	2.38	0.54
35:A:1666:G:H2'	35:A:1667:A:H8	1.72	0.54
38:LD:80:GLU:OE2	78:Lr:73:THR:HG22	2.08	0.54
45:LK:85:GLY:O	45:LK:187:ILE:HG13	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:LM:90:GLN:HE21	47:LM:170:ASP:C	2.15	0.54
65:Le:74:ASN:OD1	65:Le:74:ASN:N	2.40	0.54
77:Lq:16:THR:OG1	77:Lq:77:CYS:SG	2.66	0.54
1:2:477:A:H2'	1:2:478:A:H8	1.73	0.54
10:SU:114:ARG:O	10:SU:117:THR:HG22	2.07	0.54
19:SG:20:TYR:CE2	19:SG:38:ILE:HD11	2.42	0.54
35:A:179:C:H2'	35:A:180:C:H6	1.71	0.54
35:A:2683:U:H2'	35:A:2684:C:H6	1.73	0.54
36:B:91:G:H2'	36:B:92:A:H8	1.73	0.54
45:LK:90:MET:HG2	45:LK:181:VAL:HA	1.90	0.54
79:Ls:90:TYR:HD2	79:Ls:102:LEU:HD12	1.73	0.54
79:Ls:92:LEU:HD12	79:Ls:93:LEU:H	1.71	0.54
81:m:18:G:H1'	81:m:55:U:C2	2.42	0.54
1:2:891:A:H2'	1:2:892:A:H8	1.73	0.54
1:2:1132:A:H2'	1:2:1133:A:C8	2.43	0.54
1:2:1535:U:H4'	1:2:1536:G:O5'	2.07	0.54
13:SC:15:LEU:HD21	13:SC:55:VAL:HG11	1.88	0.54
26:Sd:38:ASP:OD1	26:Sd:39:GLU:N	2.41	0.54
32:SO:218:GLY:O	32:SO:236:ALA:N	2.39	0.54
35:A:540:U:H2'	35:A:541:U:C6	2.43	0.54
35:A:1523:U:OP2	35:A:1604:G:O2'	2.25	0.54
35:A:2969:A:N7	38:LD:215:ASN:ND2	2.56	0.54
43:LI:234:GLU:CD	43:LI:234:GLU:H	2.14	0.54
46:LL:140:THR:OG1	46:LL:141:LYS:N	2.41	0.54
52:LR:30:ARG:NH1	52:LR:31:GLU:OE1	2.41	0.54
56:LV:17:ARG:NH2	56:LV:23:GLY:O	2.39	0.54
75:Lo:96:CYS:HA	75:Lo:121:LEU:HD13	1.89	0.54
1:2:225:A:P	1:2:225:A:H8	2.31	0.54
1:2:475:A:P	12:SW:126:ARG:HH21	2.31	0.54
1:2:1471:A:O2'	1:2:1472:C:OP1	2.19	0.54
1:2:1483:A:OP1	18:SF:71:GLY:N	2.33	0.54
1:2:1756:A:H5''	1:2:1757:G:OP2	2.08	0.54
5:SR:245:ASP:OD1	5:SR:246:GLU:N	2.40	0.54
7:SS:80:THR:HG23	7:SS:81:THR:HG23	1.89	0.54
35:A:1011:A:H2'	35:A:1012:G:H8	1.73	0.54
35:A:1720:U:P	54:LT:110:ARG:HH12	2.31	0.54
35:A:2148:U:H2'	35:A:2149:A:C8	2.43	0.54
35:A:2164:A:OP1	38:LD:8:GLN:NE2	2.38	0.54
35:A:2273:G:O2'	35:A:2311:G:O6	2.26	0.54
35:A:2824:G:H2'	35:A:2825:C:H6	1.72	0.54
35:A:2844:C:H42	35:A:2898:G:N2	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:LH:66:THR:HB	42:LH:76:LEU:HD23	1.90	0.54
44:LJ:91:PHE:O	44:LJ:95:ASN:HB2	2.08	0.54
45:LK:7:GLU:O	45:LK:8:GLN:NE2	2.38	0.54
84:E:53:UNK:O	84:E:55:UNK:N	2.40	0.54
1:2:196:G:HO2'	1:2:197:A:P	2.30	0.54
1:2:333:A:C5	11:SV:49:ARG:HD2	2.42	0.54
1:2:884:A:H2'	1:2:885:G:C8	2.43	0.54
1:2:1203:A:H61	1:2:1553:G:H1'	1.74	0.54
7:SS:54:TYR:CD1	26:Sd:15:ASN:HB3	2.42	0.54
10:SU:91:ILE:HG12	10:SU:129:LEU:HD23	1.89	0.54
13:SC:14:TYR:CG	13:SC:35:ILE:HD11	2.43	0.54
15:SD:81:ASP:HB2	15:SD:85:LYS:HB2	1.89	0.54
31:SN:118:ARG:HB2	31:SN:131:PHE:CD2	2.42	0.54
35:A:107:A:O2'	35:A:324:A:N3	2.39	0.54
35:A:428:A:H2'	35:A:429:U:C6	2.42	0.54
35:A:952:A:P	64:Ld:18:ARG:HH22	2.30	0.54
35:A:1352:A:N7	67:Lg:88:HIS:NE2	2.54	0.54
35:A:2739:A:OP1	64:Ld:38:LYS:NZ	2.41	0.54
44:LJ:162:LEU:HD23	50:LP:7:LEU:HD11	1.90	0.54
55:LU:141:LYS:HA	55:LU:144:LEU:HD12	1.90	0.54
66:Lf:79:ARG:HH11	66:Lf:89:LEU:HD21	1.73	0.54
68:Lh:49:ILE:HD11	68:Lh:71:VAL:HG22	1.89	0.54
72:Ll:27:PHE:HA	72:Ll:34:CYS:HA	1.89	0.54
1:2:325:G:H4'	14:SX:83:THR:HG21	1.90	0.53
12:SW:92:LYS:NZ	12:SW:94:ASP:HB3	2.23	0.53
13:SC:38:LYS:HD3	13:SC:41:TYR:CD1	2.43	0.53
19:SG:66:VAL:HG13	19:SG:69:ILE:HD12	1.90	0.53
32:SO:129:LYS:HA	32:SO:150:TRP:HA	1.91	0.53
35:A:696:C:OP2	40:LF:119:ARG:NH2	2.34	0.53
35:A:1438:U:OP1	40:LF:76:ARG:NH2	2.40	0.53
35:A:1740:U:OP1	69:Li:55:SER:OG	2.21	0.53
35:A:1817:G:H2'	35:A:1818:U:H6	1.73	0.53
44:LJ:71:VAL:HG12	50:LP:21:PHE:CZ	2.43	0.53
48:LN:136:GLU:HG3	70:Lj:119:LYS:HZ1	1.73	0.53
62:Lb:41:ALA:HB2	62:Lb:77:TYR:CE1	2.44	0.53
62:Lb:120:GLU:OE2	62:Lb:121:ARG:HG2	2.08	0.53
1:2:227:U:O2'	1:2:834:G:N2	2.39	0.53
1:2:247:A:H4'	14:SX:37:ASN:OD1	2.08	0.53
1:2:264:G:H3'	1:2:265:A:H5'	1.90	0.53
1:2:480:G:H2'	1:2:481:A:C8	2.43	0.53
1:2:553:G:H3'	1:2:554:C:H2'	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:SQ:129:THR:OG1	3:SQ:179:SER:O	2.24	0.53
6:SA:24:PHE:CE1	6:SA:28:GLU:HG3	2.43	0.53
13:SC:38:LYS:HD3	13:SC:41:TYR:CE1	2.44	0.53
22:SJ:82:TYR:HB3	29:SM:52:PHE:HB3	1.90	0.53
35:A:210:U:C2	35:A:230:U:H4'	2.43	0.53
35:A:243:G:OP1	70:Lj:115:LYS:NZ	2.29	0.53
35:A:573:C:H2'	35:A:574:U:C6	2.42	0.53
35:A:677:A:OP1	53:LS:89:ASP:HB3	2.08	0.53
35:A:1258:U:H2'	35:A:1259:A:H3'	1.90	0.53
41:LG:290:ILE:O	41:LG:295:GLY:N	2.41	0.53
68:Lh:26:ASN:HA	68:Lh:88:ASN:ND2	2.23	0.53
73:Lm:14:LEU:HD21	73:Lm:52:TYR:CG	2.44	0.53
1:2:230:C:O2'	1:2:231:U:O4'	2.22	0.53
1:2:451:A:N6	1:2:453:U:O2	2.41	0.53
1:2:749:U:H5''	24:Sb:83:ILE:HG12	1.90	0.53
1:2:895:G:H21	17:SZ:38:THR:HG21	1.74	0.53
1:2:1247:U:H2'	1:2:1248:C:H6	1.73	0.53
1:2:1540:G:OP1	20:SH:40:ARG:NH1	2.34	0.53
4:SE:84:ILE:HD12	4:SE:85:ILE:H	1.73	0.53
10:SU:67:LEU:HD13	10:SU:94:ALA:HB2	1.90	0.53
11:SV:101:ILE:HD13	11:SV:168:CYS:HB2	1.90	0.53
12:SW:112:GLN:HG3	12:SW:148:VAL:HG21	1.90	0.53
17:SZ:102:LEU:HD11	27:Se:53:LEU:HD11	1.91	0.53
24:Sb:90:THR:O	24:Sb:94:LEU:HB2	2.08	0.53
29:SM:4:GLU:OE2	29:SM:7:TRP:HB2	2.09	0.53
31:SN:140:TYR:HB2	31:SN:149:LYS:NZ	2.23	0.53
35:A:118:U:O2	35:A:121:A:H5'	2.08	0.53
35:A:1083:G:H2'	35:A:1084:A:H8	1.74	0.53
35:A:2512:C:H2'	35:A:2513:U:C6	2.44	0.53
37:C:128:U:P	37:C:129:C:H41	2.31	0.53
44:LJ:143:ILE:HG23	44:LJ:175:VAL:HG11	1.90	0.53
54:LT:103:ARG:NH1	54:LT:124:TYR:OH	2.41	0.53
56:LV:56:PHE:HE2	56:LV:78:LYS:HG3	1.74	0.53
63:Lc:73:LEU:HG	63:Lc:109:TYR:CG	2.42	0.53
66:Lf:77:ARG:HD2	66:Lf:89:LEU:HD13	1.90	0.53
1:2:153:G:H2'	1:2:154:G:H8	1.74	0.53
1:2:1529:C:O2'	21:SI:12:GLN:OE1	2.26	0.53
2:SP:148:ASP:OD1	2:SP:149:LEU:N	2.41	0.53
2:SP:175:TYR:CD2	2:SP:199:PRO:HB3	2.43	0.53
4:SE:115:TYR:N	4:SE:118:GLU:OE2	2.36	0.53
7:SS:45:ILE:HA	7:SS:61:VAL:HG11	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:SS:125:LYS:HE3	7:SS:157:ASN:HB2	1.89	0.53
16:SY:78:ASN:OD1	16:SY:80:LEU:HD13	2.08	0.53
16:SY:91:LEU:HB3	16:SY:122:ILE:HG12	1.91	0.53
22:SJ:53:LYS:HB2	22:SJ:92:ASP:HB3	1.90	0.53
24:Sb:101:TYR:HB3	24:Sb:112:ASP:HB2	1.89	0.53
35:A:825:U:OP1	38:LD:21:ARG:NH1	2.42	0.53
35:A:1001:G:O2'	35:A:1041:U:OP2	2.25	0.53
35:A:1352:A:H1'	35:A:1353:U:C5	2.44	0.53
35:A:1834:U:OP2	74:Ln:10:LYS:NZ	2.41	0.53
35:A:2570:U:H5''	35:A:2573:G:C6	2.42	0.53
35:A:2654:C:OP2	77:Lq:2:VAL:N	2.41	0.53
35:A:2931:C:H2'	35:A:2932:U:O4'	2.09	0.53
43:LI:48:ASN:ND2	43:LI:182:ASP:OD2	2.40	0.53
1:2:1:U:O4	12:SW:53:ARG:NH1	2.41	0.53
1:2:143:G:H2'	1:2:144:U:H6	1.74	0.53
1:2:156:A:H2'	1:2:157:A:O4'	2.08	0.53
1:2:333:A:C8	11:SV:49:ARG:HB3	2.44	0.53
1:2:1108:G:H4'	1:2:1109:G:H5''	1.89	0.53
1:2:1546:G:OP1	20:SH:123:ARG:NH2	2.30	0.53
1:2:1775:U:OP1	76:Lp:11:ARG:NH2	2.38	0.53
8:SB:148:ARG:O	8:SB:148:ARG:HD3	2.08	0.53
14:SX:29:LYS:O	14:SX:29:LYS:NZ	2.35	0.53
15:SD:70:ASN:OD1	15:SD:71:ILE:N	2.41	0.53
17:SZ:78:ALA:HB2	17:SZ:111:ARG:HB2	1.89	0.53
35:A:1104:G:H2'	35:A:1105:A:H8	1.74	0.53
35:A:1181:U:H2'	51:LQ:122:GLN:NE2	2.22	0.53
37:C:82:U:C4	37:C:83:C:H5	2.25	0.53
38:LD:7:ASN:OD1	38:LD:8:GLN:N	2.41	0.53
43:LI:160:ARG:HD2	43:LI:203:TRP:CD1	2.43	0.53
55:LU:48:LEU:HD23	56:LV:151:LEU:HD13	1.91	0.53
62:Lb:10:VAL:O	62:Lb:83:THR:OG1	2.25	0.53
1:2:129:U:H5'	1:2:264:G:N1	2.24	0.53
1:2:849:C:H2'	1:2:850:A:H8	1.72	0.53
1:2:1160:A:H2'	1:2:1161:C:H6	1.73	0.53
1:2:1603:U:H2'	1:2:1604:U:C6	2.44	0.53
7:SS:122:LYS:NZ	7:SS:143:ASP:OD2	2.42	0.53
9:ST:32:ILE:HD11	9:ST:63:MET:SD	2.49	0.53
32:SO:47:LEU:HD13	32:SO:54:PHE:CE1	2.44	0.53
35:A:540:U:H2'	35:A:541:U:H6	1.73	0.53
35:A:1108:U:H2'	35:A:1109:U:C6	2.44	0.53
35:A:1168:U:H2'	35:A:1169:A:H8	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1785:U:H2'	35:A:1786:G:C8	2.44	0.53
35:A:2282:U:OP1	35:A:2973:G:O2'	2.26	0.53
35:A:3164:C:O2'	35:A:3165:A:O5'	2.27	0.53
37:C:9:A:H2'	37:C:10:A:C8	2.44	0.53
51:LQ:61:ALA:HA	51:LQ:70:PRO:HD2	1.88	0.53
55:LU:5:LYS:HB3	55:LU:63:GLN:HE21	1.74	0.53
77:Lq:65:THR:O	77:Lq:87:ARG:NH1	2.42	0.53
1:2:827:C:H2'	1:2:828:U:C6	2.44	0.53
1:2:1079:U:H2'	1:2:1080:U:C6	2.44	0.53
3:SQ:97:LEU:HB3	3:SQ:232:HIS:CE1	2.43	0.53
17:SZ:25:ASP:OD1	17:SZ:26:THR:N	2.42	0.53
20:SH:41:ARG:HH21	21:SI:45:MET:HA	1.73	0.53
31:SN:140:TYR:HB2	31:SN:149:LYS:HZ1	1.74	0.53
32:SO:109:ASP:OD1	32:SO:109:ASP:N	2.41	0.53
35:A:31:C:C4	35:A:32:U:C4	2.96	0.53
35:A:990:U:H4'	56:LV:100:LYS:HB3	1.91	0.53
35:A:1471:U:H2'	35:A:1472:U:C6	2.42	0.53
35:A:1597:C:H2'	35:A:1598:G:C8	2.41	0.53
35:A:2696:A:H2'	35:A:2697:A:C8	2.44	0.53
48:LN:128:ARG:HE	70:Lj:114:ARG:NH1	2.06	0.53
50:LP:103:GLU:OE2	50:LP:165:THR:HG21	2.09	0.53
1:2:1382:A:O2'	1:2:1383:G:OP1	2.22	0.53
1:2:1459:C:H5''	20:SH:131:LEU:HD21	1.90	0.53
5:SR:212:LYS:NZ	5:SR:212:LYS:HB3	2.23	0.53
35:A:120:G:N7	44:LJ:128:LYS:HD3	2.23	0.53
35:A:1659:U:H2'	35:A:1660:C:C6	2.44	0.53
35:A:1715:A:N7	65:Le:84:LEU:HD12	2.23	0.53
35:A:2243:A:N7	38:LD:245:LEU:HD22	2.23	0.53
35:A:2554:A:H3'	69:Li:91:ARG:NH2	2.24	0.53
35:A:3004:C:O2'	39:LE:99:LEU:O	2.23	0.53
37:C:143:U:OP1	50:LP:38:ARG:NH2	2.42	0.53
71:Lk:5:THR:HG23	71:Lk:7:ILE:H	1.73	0.53
84:E:129:UNK:O	84:E:131:UNK:N	2.42	0.53
1:2:187:G:N2	1:2:197:A:H2'	2.23	0.53
1:2:539:G:O2'	1:2:540:G:OP2	2.23	0.53
1:2:699:U:O4	1:2:733:A:N6	2.42	0.53
1:2:1682:U:O4	1:2:1720:G:N2	2.42	0.53
4:SE:16:SER:OG	4:SE:20:VAL:O	2.26	0.53
10:SU:17:GLU:HA	10:SU:20:VAL:HG22	1.90	0.53
10:SU:40:PRO:HB3	54:LT:185:LEU:HD21	1.91	0.53
32:SO:149:ASP:HB3	32:SO:174:ASN:C	2.33	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:261:U:H2'	35:A:262:U:C6	2.44	0.53
35:A:792:G:H2'	35:A:793:C:H6	1.74	0.53
35:A:1448:U:OP1	52:LR:82:ARG:NH2	2.40	0.53
35:A:1680:G:O6	35:A:1688:U:O4	2.27	0.53
35:A:2261:G:O2'	35:A:2263:C:N4	2.41	0.53
36:B:59:U:H2'	36:B:60:G:H8	1.74	0.53
54:LT:148:ASP:N	54:LT:148:ASP:OD1	2.39	0.53
60:LZ:46:TYR:CD1	70:Lj:75:TYR:HB3	2.44	0.53
70:Lj:58:ILE:O	70:Lj:62:GLN:HG2	2.09	0.53
79:Ls:108:ASP:N	79:Ls:108:ASP:OD1	2.40	0.53
1:2:55:A:OP1	26:Sd:112:LYS:NZ	2.33	0.53
1:2:176:C:H2'	1:2:177:U:C6	2.44	0.53
1:2:1373:C:H2'	1:2:1374:C:C6	2.44	0.53
1:2:1489:U:OP2	6:SA:9:ARG:NH1	2.42	0.53
6:SA:94:ARG:HG2	6:SA:94:ARG:HH11	1.74	0.53
15:SD:62:LEU:HD23	15:SD:90:LYS:HE3	1.91	0.53
25:Sc:73:ARG:NH1	25:Sc:84:THR:HG23	2.22	0.53
31:SN:102:VAL:HG13	31:SN:104:SER:H	1.73	0.53
35:A:493:U:OP2	35:A:494:G:N1	2.42	0.53
35:A:1022:U:H2'	35:A:1023:C:H6	1.73	0.53
36:B:72:A:O2'	36:B:74:C:OP1	2.18	0.53
50:LP:165:THR:HG23	50:LP:168:GLY:H	1.73	0.53
1:2:278:U:OP1	1:2:279:G:N2	2.41	0.52
1:2:953:G:H2'	1:2:954:G:C8	2.43	0.52
1:2:1690:G:H2'	1:2:1691:A:C8	2.43	0.52
6:SA:134:CYS:SG	6:SA:135:GLU:N	2.81	0.52
12:SW:18:PRO:C	12:SW:19:TYR:HD1	2.17	0.52
32:SO:123:ILE:HG22	32:SO:133:VAL:HG12	1.91	0.52
33:SL:12:VAL:HG22	33:SL:52:ASP:H	1.73	0.52
35:A:290:G:H5''	50:LP:98:LEU:HD13	1.90	0.52
35:A:432:G:H2'	35:A:433:A:H8	1.74	0.52
35:A:440:A:N7	35:A:441:U:O2'	2.42	0.52
35:A:2176:U:OP1	38:LD:54:ARG:NH2	2.42	0.52
35:A:2679:A:O2'	47:LM:52:TYR:OH	2.27	0.52
35:A:2904:U:H2'	35:A:2905:U:C6	2.43	0.52
35:A:2955:U:OP2	35:A:2977:G:N1	2.36	0.52
36:B:33:U:C2	41:LG:207:TYR:CD1	2.97	0.52
36:B:112:G:H2'	36:B:113:C:H6	1.70	0.52
37:C:13:A:H1'	52:LR:120:ASN:HD22	1.74	0.52
39:LE:284:ARG:NH1	39:LE:293:ASN:O	2.42	0.52
39:LE:383:LEU:HD22	39:LE:385:LYS:HE3	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:LR:13:LYS:HG2	52:LR:152:GLU:OE1	2.08	0.52
54:LT:99:LEU:O	54:LT:103:ARG:HG3	2.09	0.52
1:2:647:G:N2	1:2:687:G:H22	2.07	0.52
1:2:1392:U:H2'	1:2:1393:C:H6	1.75	0.52
10:SU:24:PHE:HE2	10:SU:41:LEU:HD11	1.74	0.52
11:SV:3:ILE:H	11:SV:3:ILE:HD12	1.73	0.52
32:SO:25:THR:HG21	32:SO:295:SER:HA	1.92	0.52
35:A:2543:U:H2'	35:A:2544:U:H6	1.73	0.52
35:A:2795:U:OP1	77:Lq:63:LYS:N	2.36	0.52
36:B:7:G:H5''	41:LG:22:ARG:HD3	1.90	0.52
51:LQ:27:LEU:HD12	51:LQ:101:ARG:HB2	1.91	0.52
68:Lh:35:VAL:HG11	68:Lh:41:ALA:HB2	1.90	0.52
69:Li:5:VAL:HG22	69:Li:6:THR:H	1.75	0.52
82:n:9:G:O2'	82:n:10:A:N7	2.40	0.52
1:2:691:C:H2'	1:2:692:C:C6	2.44	0.52
1:2:781:U:N3	1:2:782:U:O2	2.42	0.52
1:2:842:C:H2'	1:2:843:U:O4'	2.09	0.52
1:2:995:A:H2'	1:2:996:U:O4'	2.10	0.52
1:2:1656:U:O2'	35:A:2292:U:O2'	2.21	0.52
6:SA:31:GLU:OE1	6:SA:31:GLU:N	2.30	0.52
18:SF:32:ASN:N	18:SF:67:VAL:O	2.27	0.52
35:A:1100:U:H2'	35:A:1101:G:C8	2.43	0.52
35:A:1886:A:O2'	39:LE:226:PHE:O	2.28	0.52
41:LG:59:ASP:OD1	41:LG:60:ILE:N	2.42	0.52
60:LZ:56:ARG:O	60:LZ:61:LYS:NZ	2.39	0.52
65:Le:12:GLN:H	65:Le:12:GLN:CD	2.18	0.52
82:n:16:U:O2'	82:n:18:G:H5'	2.09	0.52
1:2:366:A:OP1	1:2:758:U:O2'	2.22	0.52
1:2:751:G:C2	1:2:752:A:C5	2.98	0.52
1:2:853:G:H2'	1:2:854:U:H6	1.74	0.52
8:SB:200:ASN:HB3	8:SB:205:SER:HB3	1.91	0.52
16:SY:119:GLU:OE2	16:SY:141:TYR:OH	2.19	0.52
25:Sc:68:ILE:CD1	30:Sg:6:GLY:HA2	2.39	0.52
34:AA:50:ILE:HG23	34:AA:51:LEU:HD22	1.91	0.52
35:A:156:G:N2	48:LN:91:ARG:HH22	2.08	0.52
35:A:745:C:H2'	35:A:746:A:H8	1.73	0.52
35:A:1098:A:OP2	56:LV:129:LYS:HA	2.09	0.52
35:A:2433:U:H3'	35:A:2434:U:H2'	1.92	0.52
35:A:2656:A:N7	35:A:2658:G:C8	2.77	0.52
36:B:47:C:H2'	36:B:48:U:C6	2.44	0.52
36:B:70:U:H2'	36:B:71:G:C8	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:C:39:G:O2'	37:C:105:A:N1	2.40	0.52
40:LF:205:PRO:HB3	40:LF:247:PHE:CE2	2.45	0.52
42:LH:10:TYR:HD2	67:Lg:88:HIS:CE1	2.28	0.52
46:LL:24:ARG:NE	82:n:64:A:OP2	2.37	0.52
46:LL:160:PRO:O	46:LL:163:GLN:NE2	2.41	0.52
79:Ls:104:ASN:OD1	79:Ls:106:ASP:N	2.39	0.52
1:2:132:U:O2'	1:2:136:C:N4	2.43	0.52
1:2:150:U:H2'	1:2:151:G:H8	1.74	0.52
1:2:800:U:H2'	1:2:801:G:C8	2.45	0.52
1:2:1430:U:O2'	1:2:1431:C:OP1	2.20	0.52
6:SA:209:ILE:O	19:SG:20:TYR:OH	2.24	0.52
20:SH:41:ARG:NH2	21:SI:46:PRO:HD3	2.24	0.52
33:SL:40:ILE:HG13	33:SL:41:VAL:H	1.74	0.52
35:A:900:G:H1'	35:A:1589:A:N6	2.25	0.52
35:A:2367:A:H2'	35:A:2368:A:C8	2.45	0.52
35:A:3303:G:C6	35:A:3305:A:C2	2.97	0.52
45:LK:114:VAL:HB	45:LK:124:ARG:HB2	1.91	0.52
47:LM:101:ASN:OD1	47:LM:131:MET:N	2.38	0.52
1:2:28:A:H2'	1:2:29:U:C6	2.45	0.52
3:SQ:86:LEU:HD23	3:SQ:100:PHE:HA	1.91	0.52
23:Sa:17:CYS:HB2	23:Sa:56:SER:HB2	1.90	0.52
24:Sb:18:GLU:OE1	24:Sb:18:GLU:HA	2.10	0.52
26:Sd:20:ARG:NH1	26:Sd:74:LEU:HD21	2.24	0.52
26:Sd:55:VAL:HA	26:Sd:75:VAL:HA	1.92	0.52
34:AA:92:ILE:HD11	34:AA:102:THR:OG1	2.10	0.52
35:A:561:C:H2'	35:A:562:C:C6	2.45	0.52
35:A:1252:A:H2'	35:A:1253:U:C4	2.45	0.52
35:A:2432:A:H2	50:LP:125:SER:HB2	1.75	0.52
35:A:2662:G:H2'	35:A:2663:G:H8	1.73	0.52
35:A:2667:A:H2'	35:A:2668:U:O4'	2.10	0.52
35:A:2837:A:H2'	35:A:2845:A:C2	2.45	0.52
35:A:2880:U:O2	39:LE:250:ALA:HB3	2.09	0.52
35:A:3006:A:H2'	35:A:3007:U:O4'	2.10	0.52
35:A:3338:C:H2'	35:A:3339:A:H8	1.74	0.52
41:LG:41:LYS:HB2	56:LV:68:THR:O	2.09	0.52
44:LJ:77:GLN:HE21	44:LJ:167:PRO:HG2	1.75	0.52
46:LL:55:ASN:O	46:LL:55:ASN:ND2	2.42	0.52
50:LP:31:ARG:NH2	50:LP:124:ASP:OD2	2.37	0.52
57:LW:80:THR:HG21	57:LW:95:PHE:CD2	2.45	0.52
59:LY:49:ILE:HB	59:LY:52:THR:OG1	2.09	0.52
1:2:151:G:N3	9:ST:13:GLN:NE2	2.57	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1201:G:N2	1:2:1600:A:OP2	2.42	0.52
5:SR:95:ARG:HH12	5:SR:119:LYS:HG2	1.74	0.52
11:SV:46:VAL:HG22	11:SV:54:LYS:HB3	1.90	0.52
12:SW:126:ARG:HD3	30:Sg:33:ARG:HE	1.75	0.52
15:SD:130:THR:HG23	15:SD:133:LEU:H	1.74	0.52
24:Sb:34:ILE:O	24:Sb:38:LEU:HD13	2.08	0.52
32:SO:258:THR:O	32:SO:275:ARG:NH1	2.38	0.52
35:A:754:G:H2'	35:A:755:A:C8	2.38	0.52
35:A:2218:G:H2'	35:A:2219:A:C8	2.43	0.52
35:A:2588:U:OP1	44:LJ:48:ARG:NH2	2.30	0.52
1:2:1085:G:N2	1:2:1088:A:OP2	2.35	0.52
1:2:1216:C:HO2'	1:2:1217:A:P	2.32	0.52
5:SR:140:ARG:NE	23:Sa:10:GLU:OE2	2.43	0.52
20:SH:79:TYR:O	20:SH:80:LYS:HG2	2.10	0.52
33:SL:9:LEU:HB3	33:SL:33:LEU:HD13	1.90	0.52
35:A:364:G:OP2	72:Ll:52:LYS:NZ	2.36	0.52
35:A:411:U:H2'	35:A:412:G:H8	1.75	0.52
35:A:656:A:H2'	35:A:657:A:C8	2.44	0.52
35:A:3331:U:H2'	35:A:3332:U:C6	2.45	0.52
48:LN:50:PRO:HB3	48:LN:138:VAL:HG23	1.92	0.52
77:Lq:23:HIS:HA	77:Lq:73:GLU:O	2.09	0.52
1:2:928:U:H4'	1:2:929:A:O5'	2.10	0.52
1:2:1252:C:H41	31:SN:98:VAL:HG21	1.74	0.52
8:SB:40:ILE:HG23	8:SB:42:LEU:HG	1.92	0.52
33:SL:54:LEU:HD12	33:SL:55:VAL:N	2.24	0.52
34:AA:57:TYR:CE1	34:AA:68:ARG:HD2	2.45	0.52
35:A:490:C:H2'	35:A:492:C:N4	2.24	0.52
35:A:970:A:H2'	35:A:971:G:C8	2.45	0.52
35:A:1126:G:OP2	46:LL:14:ASN:ND2	2.43	0.52
35:A:1211:U:H2'	35:A:1212:A:H8	1.74	0.52
35:A:1460:A:H2'	35:A:1461:A:H8	1.75	0.52
35:A:1631:C:H5''	35:A:1632:A:H5''	1.91	0.52
35:A:1942:U:OP2	54:LT:74:ARG:NH2	2.43	0.52
35:A:3167:A:H2'	35:A:3168:A:H8	1.75	0.52
36:B:2:G:N2	36:B:119:U:O2	2.38	0.52
43:LI:234:GLU:O	43:LI:237:ASN:ND2	2.34	0.52
45:LK:48:VAL:HG11	45:LK:52:LEU:HD23	1.92	0.52
47:LM:110:ILE:HD13	47:LM:116:TYR:HB2	1.91	0.52
77:Lq:10:THR:HG21	77:Lq:72:LEU:HD12	1.91	0.52
80:z:378:ILE:HD12	80:z:383:ARG:HG3	1.91	0.52
81:m:65:C:H2'	81:m:66:A:H8	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:57:G:OP1	26:Sd:112:LYS:NZ	2.32	0.52
1:2:524:U:H1'	1:2:527:A:N7	2.25	0.52
1:2:541:A:O2'	1:2:542:A:OP1	2.22	0.52
1:2:691:C:H2'	1:2:692:C:H6	1.75	0.52
1:2:1543:A:H1'	1:2:1569:A:N1	2.25	0.52
23:Sa:73:ALA:HB1	23:Sa:79:LEU:HD13	1.92	0.52
31:SN:135:HIS:HE1	31:SN:140:TYR:HB3	1.75	0.52
34:AA:39:ALA:N	34:AA:70:LYS:O	2.36	0.52
35:A:546:C:H4'	35:A:547:G:C4	2.45	0.52
35:A:700:C:H2'	35:A:701:G:H8	1.74	0.52
35:A:798:G:OP1	63:Lc:33:GLY:N	2.43	0.52
35:A:1055:A:N3	36:B:81:U:O2'	2.42	0.52
35:A:2502:A:C6	35:A:2503:G:C6	2.98	0.52
35:A:2631:U:H2'	35:A:2632:G:C8	2.45	0.52
35:A:3294:A:OP2	39:LE:126:LYS:NZ	2.33	0.52
37:C:21:C:OP1	40:LF:193:LYS:NZ	2.41	0.52
38:LD:118:GLU:HB2	38:LD:125:ALA:HB3	1.91	0.52
46:LL:3:ARG:NH1	46:LL:63:GLU:OE1	2.43	0.52
71:Lk:56:ARG:O	71:Lk:60:LEU:HG	2.10	0.52
82:n:11:C:H2'	82:n:12:G:C8	2.45	0.52
1:2:867:G:OP2	16:SY:3:ARG:NH1	2.43	0.51
1:2:1142:A:H5''	27:Se:2:PRO:HB3	1.92	0.51
1:2:1478:G:H2'	1:2:1479:A:H8	1.75	0.51
1:2:1514:U:H5''	1:2:1515:A:O4'	2.10	0.51
2:SP:98:ILE:HD11	2:SP:116:LYS:HE2	1.92	0.51
2:SP:121:VAL:HG23	2:SP:141:ILE:HG21	1.92	0.51
8:SB:191:ALA:HB3	34:AA:98:GLN:HE22	1.75	0.51
10:SU:36:ALA:HA	10:SU:39:ARG:HB3	1.91	0.51
15:SD:54:ARG:NH2	31:SN:129:GLY:HA2	2.24	0.51
18:SF:86:ALA:O	18:SF:90:VAL:HG23	2.09	0.51
35:A:175:C:C2	35:A:244:G:N2	2.78	0.51
35:A:607:A:OP1	42:LH:26:ARG:NH1	2.35	0.51
35:A:1026:A:H2'	35:A:1027:A:C8	2.45	0.51
35:A:1071:U:O2'	35:A:1072:G:O5'	2.27	0.51
35:A:1877:U:H5''	35:A:1878:G:O5'	2.10	0.51
35:A:2152:A:H2'	35:A:2153:U:H6	1.75	0.51
35:A:2242:A:H5''	38:LD:244:GLY:HA3	1.92	0.51
48:LN:133:PRO:O	48:LN:135:ALA:N	2.43	0.51
52:LR:136:ILE:O	52:LR:137:ASN:ND2	2.43	0.51
1:2:815:G:P	54:LT:163:ARG:HH22	2.31	0.51
1:2:932:U:H4'	1:2:933:A:O4'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1216:C:O2'	1:2:1217:A:O5'	2.16	0.51
1:2:1235:C:H2'	1:2:1236:A:O4'	2.09	0.51
1:2:1254:U:OP2	15:SD:46:ARG:NH2	2.38	0.51
1:2:1433:G:H2'	1:2:1434:U:O4'	2.10	0.51
11:SV:106:ALA:HB2	11:SV:165:LEU:HG	1.93	0.51
13:SC:49:LEU:HB3	13:SC:55:VAL:HG22	1.91	0.51
14:SX:85:VAL:HG22	14:SX:108:PRO:HB3	1.92	0.51
35:A:705:A:C6	63:Lc:113:LEU:HD23	2.46	0.51
35:A:763:G:O2'	35:A:764:U:OP1	2.28	0.51
35:A:1203:A:H2'	35:A:1204:A:C8	2.45	0.51
35:A:1460:A:H2'	35:A:1461:A:C8	2.45	0.51
35:A:1580:A:H5''	35:A:2522:G:N2	2.25	0.51
35:A:3358:U:H2'	35:A:3359:A:H8	1.75	0.51
36:B:59:U:H2'	36:B:60:G:C8	2.46	0.51
42:LH:13:GLU:OE2	67:Lg:88:HIS:HA	2.09	0.51
73:Lm:77:ARG:HB3	73:Lm:77:ARG:NH1	2.24	0.51
1:2:961:U:H2'	1:2:962:C:C6	2.45	0.51
1:2:1392:U:H2'	1:2:1393:C:C6	2.44	0.51
1:2:1393:C:H5''	32:SO:281:TYR:CD1	2.45	0.51
8:SB:221:ALA:O	8:SB:225:ARG:HG2	2.11	0.51
35:A:366:A:O2'	80:z:415:ARG:NH1	2.43	0.51
35:A:727:G:OP2	35:A:742:G:N2	2.35	0.51
35:A:2631:U:H2'	35:A:2632:G:H8	1.75	0.51
35:A:3163:A:N6	35:A:3288:G:C6	2.79	0.51
37:C:139:U:H2'	37:C:140:G:H8	1.75	0.51
39:LE:117:ARG:NH2	39:LE:175:LYS:O	2.43	0.51
41:LG:107:ARG:NH2	41:LG:116:ASP:HB2	2.25	0.51
1:2:52:U:H2'	1:2:53:G:C8	2.45	0.51
1:2:67:A:O3'	1:2:68:A:H3'	2.10	0.51
1:2:1531:G:H21	21:SI:48:GLN:CD	2.17	0.51
1:2:1642:G:H5'	76:Lp:1:MET:HB3	1.93	0.51
14:SX:57:LYS:HG2	14:SX:131:ILE:HD12	1.92	0.51
17:SZ:128:LYS:O	27:Se:22:ARG:NH2	2.44	0.51
20:SH:41:ARG:HH21	21:SI:46:PRO:HD3	1.75	0.51
35:A:151:A:OP1	50:LP:147:ARG:NH2	2.42	0.51
35:A:300:G:H2'	35:A:301:G:H8	1.76	0.51
35:A:446:U:O2	35:A:488:U:N3	2.40	0.51
35:A:612:U:H2'	35:A:613:G:C8	2.45	0.51
35:A:671:U:H2'	35:A:672:A:H8	1.76	0.51
35:A:1231:A:O3'	35:A:1264:G:N2	2.38	0.51
35:A:1245:A:H3'	35:A:1246:G:H8	1.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1471:U:H2'	35:A:1472:U:H6	1.76	0.51
35:A:1494:U:O2	35:A:1521:G:N1	2.26	0.51
35:A:1941:C:H2'	35:A:1942:U:C6	2.44	0.51
35:A:2514:U:OP2	44:LJ:68:ARG:NE	2.42	0.51
36:B:60:G:H4'	41:LG:273:ARG:HH22	1.75	0.51
45:LK:10:ILE:HG22	45:LK:72:LYS:HG2	1.93	0.51
45:LK:133:THR:OG1	45:LK:147:SER:OG	2.26	0.51
50:LP:191:TRP:NE1	50:LP:195:ASN:OD1	2.43	0.51
56:LV:8:ARG:HH21	56:LV:15:PHE:HD2	1.59	0.51
72:Ll:54:LYS:O	72:Ll:58:THR:HG23	2.10	0.51
1:2:390:G:H2'	1:2:391:A:C8	2.46	0.51
1:2:1241:G:H2'	1:2:1242:A:O4'	2.09	0.51
2:SP:163:ASN:OD1	2:SP:165:ARG:HG2	2.11	0.51
4:SE:33:PHE:HE2	4:SE:112:LEU:HD13	1.75	0.51
12:SW:92:LYS:HZ3	12:SW:94:ASP:HB3	1.75	0.51
14:SX:56:LYS:HE2	14:SX:57:LYS:HE3	1.91	0.51
15:SD:87:PRO:HA	15:SD:140:PHE:CE1	2.45	0.51
17:SZ:17:ALA:HA	17:SZ:30:VAL:HG22	1.93	0.51
17:SZ:86:THR:HG21	17:SZ:90:ARG:HE	1.75	0.51
22:SJ:48:HIS:CE1	22:SJ:99:ILE:HD11	2.45	0.51
35:A:429:U:H2'	35:A:430:U:H6	1.76	0.51
35:A:693:A:O2'	40:LF:233:LEU:O	2.27	0.51
35:A:1037:C:H2'	35:A:1038:C:H6	1.76	0.51
35:A:1225:A:H2'	35:A:1226:G:O4'	2.10	0.51
35:A:1321:G:O4'	55:LU:115:ARG:NH1	2.43	0.51
35:A:2760:C:C4	77:Lq:63:LYS:HE3	2.45	0.51
35:A:3182:G:H2'	35:A:3183:A:C8	2.45	0.51
38:LD:225:ILE:HG21	38:LD:234:LYS:HA	1.92	0.51
47:LM:88:GLU:OE2	47:LM:90:GLN:HB3	2.09	0.51
51:LQ:139:GLY:O	51:LQ:143:THR:HG23	2.11	0.51
51:LQ:188:SER:O	51:LQ:192:LYS:HG3	2.11	0.51
79:Ls:65:PHE:HE2	79:Ls:144:GLU:HB2	1.75	0.51
1:2:1315:U:P	1:2:1328:G:H1	2.33	0.51
1:2:1425:A:H2'	1:2:1426:C:C6	2.45	0.51
1:2:1536:G:H5'	34:AA:35:ARG:HG3	1.92	0.51
7:SS:117:GLU:OE1	7:SS:117:GLU:N	2.33	0.51
10:SU:142:TYR:O	24:Sb:42:GLN:NE2	2.43	0.51
32:SO:255:ALA:HB2	32:SO:292:LEU:HD11	1.91	0.51
35:A:1154:A:OP1	35:A:1155:C:N4	2.39	0.51
35:A:1415:U:H2'	35:A:1416:C:O4'	2.11	0.51
35:A:1863:G:N1	35:A:1866:C:OP2	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:2285:C:H3'	35:A:2286:U:H2'	1.93	0.51
35:A:2961:G:H2'	35:A:2962:U:C6	2.46	0.51
36:B:19:C:H2'	36:B:20:A:C8	2.45	0.51
36:B:60:G:H2'	36:B:61:G:C8	2.44	0.51
37:C:57:C:H4'	37:C:63:G:N7	2.26	0.51
43:LI:185:ILE:O	43:LI:189:ILE:HG22	2.11	0.51
44:LJ:213:LYS:HE2	44:LJ:213:LYS:HA	1.92	0.51
48:LN:106:GLN:HB3	71:Lk:18:THR:OG1	2.11	0.51
1:2:1063:U:C2	1:2:1064:G:C8	2.99	0.51
1:2:1098:U:OP1	5:SR:159:THR:OG1	2.21	0.51
7:SS:39:ARG:O	7:SS:40:GLU:HG2	2.11	0.51
8:SB:143:ARG:NE	8:SB:214:LYS:HZ1	2.09	0.51
9:ST:159:ARG:NE	9:ST:170:THR:OG1	2.42	0.51
35:A:1440:G:P	80:z:419:ARG:HH22	2.33	0.51
35:A:2599:U:H2'	35:A:2600:C:H6	1.75	0.51
35:A:2710:C:H2'	35:A:2711:C:C6	2.45	0.51
54:LT:95:TRP:CZ2	54:LT:99:LEU:HD22	2.44	0.51
1:2:1118:G:P	76:Lp:21:ARG:HH22	2.34	0.51
1:2:1280:C:H2'	1:2:1281:G:H8	1.75	0.51
3:SQ:153:HIS:CD2	3:SQ:155:TYR:HD1	2.29	0.51
6:SA:160:SER:OG	6:SA:161:GLY:N	2.44	0.51
12:SW:62:ARG:NH1	12:SW:68:LYS:HD3	2.24	0.51
12:SW:108:ARG:HH12	12:SW:110:GLN:NE2	2.08	0.51
19:SG:44:LYS:HG2	19:SG:48:ASN:HD21	1.75	0.51
25:Sc:68:ILE:HD11	30:Sg:6:GLY:HA2	1.92	0.51
35:A:950:G:N1	35:A:1368:U:OP2	2.28	0.51
35:A:1232:C:P	35:A:1264:G:H1	2.33	0.51
35:A:1341:U:H2'	35:A:1342:C:H6	1.76	0.51
35:A:1523:U:OP1	35:A:1607:U:N3	2.42	0.51
35:A:2095:G:H2'	35:A:2096:A:H8	1.76	0.51
35:A:2443:A:H2'	35:A:2444:C:C6	2.45	0.51
35:A:2700:G:N2	35:A:2755:C:C4	2.78	0.51
35:A:2790:A:OP1	53:LS:180:ARG:HD2	2.11	0.51
35:A:3119:U:H4'	75:Lo:104:PRO:HG2	1.93	0.51
37:C:150:G:OP1	60:LZ:27:ARG:NH2	2.44	0.51
42:LH:102:ASN:H	42:LH:105:TYR:HB3	1.75	0.51
46:LL:87:LEU:HD12	46:LL:138:VAL:HG12	1.91	0.51
72:Ll:18:LEU:HD11	74:Ln:12:LYS:HE2	1.92	0.51
1:2:341:A:H2'	1:2:342:C:C6	2.46	0.51
1:2:1256:A:H4'	1:2:1257:U:O4'	2.11	0.51
2:SP:98:ILE:HG21	2:SP:102:PHE:HD1	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:SQ:139:ALA:HB2	3:SQ:172:LEU:HD11	1.93	0.51
9:ST:175:ILE:HG22	9:ST:178:LEU:HB2	1.93	0.51
16:SY:62:GLN:HG3	16:SY:65:VAL:HG12	1.92	0.51
16:SY:106:ARG:CZ	16:SY:106:ARG:HB2	2.41	0.51
35:A:312:C:H2'	35:A:313:A:C8	2.45	0.51
35:A:1340:G:H2'	35:A:1341:U:H6	1.75	0.51
35:A:1348:U:O2'	35:A:1349:G:H5''	2.11	0.51
35:A:2217:U:H2'	35:A:2218:G:H8	1.76	0.51
35:A:2538:U:H4'	35:A:2543:U:C2	2.46	0.51
35:A:2622:C:H42	46:LL:113:GLN:HE22	1.57	0.51
35:A:3316:A:N6	39:LE:124:LYS:HB2	2.26	0.51
38:LD:149:ARG:HD3	38:LD:150:LEU:O	2.11	0.51
65:Le:77:LEU:HD21	65:Le:90:VAL:HG12	1.93	0.51
73:Lm:62:ALA:O	73:Lm:66:ILE:HD12	2.10	0.51
81:m:27:G:H2'	81:m:28:U:C6	2.46	0.51
1:2:12:U:H2'	1:2:13:C:H6	1.73	0.51
1:2:12:U:O2'	1:2:1299:G:H1'	2.10	0.51
1:2:388:G:O6	1:2:410:A:N6	2.43	0.51
1:2:603:U:H2'	1:2:604:A:C8	2.45	0.51
1:2:874:C:H2'	1:2:875:G:C8	2.46	0.51
1:2:1118:G:OP1	76:Lp:21:ARG:NH2	2.44	0.51
1:2:1167:G:H2'	1:2:1168:U:H6	1.76	0.51
1:2:1481:C:C5	21:SI:79:LEU:HD11	2.46	0.51
1:2:1650:U:H2'	1:2:1651:A:C8	2.46	0.51
2:SP:155:PHE:O	23:Sa:60:ARG:NH2	2.43	0.51
3:SQ:156:ALA:HB3	3:SQ:161:ILE:HD11	1.92	0.51
11:SV:153:GLU:HG2	11:SV:156:VAL:HG22	1.93	0.51
22:SJ:100:VAL:O	22:SJ:104:THR:HG23	2.11	0.51
27:Se:45:VAL:HG11	27:Se:53:LEU:HD11	1.91	0.51
35:A:264:G:OP1	71:Lk:34:SER:HB2	2.10	0.51
35:A:594:U:H2'	35:A:609:G:O6	2.11	0.51
35:A:1064:A:H4'	35:A:1065:A:O5'	2.10	0.51
35:A:3256:G:C6	35:A:3257:C:C4	2.99	0.51
39:LE:358:TRP:HB3	59:LY:1:MET:HE1	1.92	0.51
42:LH:87:THR:HG22	42:LH:89:THR:H	1.74	0.51
47:LM:43:GLN:NE2	47:LM:71:VAL:HG22	2.26	0.51
52:LR:126:ARG:HA	52:LR:140:GLU:HA	1.92	0.51
65:Le:16:LEU:HD23	65:Le:98:SER:HA	1.93	0.51
73:Lm:76:ASN:OD1	73:Lm:77:ARG:N	2.44	0.51
1:2:92:A:P	1:2:398:G:H22	2.32	0.50
1:2:320:U:H2'	1:2:321:C:C2	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1437:U:H2'	1:2:1438:G:H8	1.75	0.50
1:2:1511:U:H2'	1:2:1512:G:C8	2.46	0.50
12:SW:32:GLY:HA3	30:Sg:40:TYR:CD1	2.46	0.50
32:SO:13:LEU:HB3	32:SO:45:TRP:CZ3	2.47	0.50
35:A:689:U:N3	40:LF:227:THR:OG1	2.43	0.50
35:A:787:G:OP1	53:LS:148:GLU:N	2.44	0.50
35:A:824:C:C2	35:A:902:G:N2	2.79	0.50
35:A:1174:G:H21	51:LQ:87:MET:HE2	1.75	0.50
35:A:1695:U:O2'	35:A:1749:A:N1	2.31	0.50
35:A:3296:A:H2'	35:A:3297:U:C6	2.46	0.50
37:C:94:C:H5''	72:Ll:76:ASN:HD21	1.75	0.50
41:LG:208:MET:HE1	41:LG:226:TYR:CD2	2.46	0.50
61:La:53:ASP:OD2	61:La:110:HIS:ND1	2.44	0.50
62:Lb:106:GLN:HA	62:Lb:109:GLU:OE1	2.11	0.50
67:Lg:23:ASP:OD1	67:Lg:23:ASP:N	2.43	0.50
78:Lr:84:ARG:O	78:Lr:88:GLU:HG2	2.11	0.50
79:Ls:103:MET:HE3	79:Ls:107:GLY:HA2	1.92	0.50
1:2:298:C:H5''	7:SS:38:LEU:HB2	1.93	0.50
1:2:813:U:O2'	54:LT:163:ARG:NH1	2.43	0.50
1:2:1459:C:N4	20:SH:139:LYS:HE3	2.26	0.50
4:SE:53:PRO:HB3	4:SE:83:MET:HE1	1.93	0.50
15:SD:86:VAL:H	15:SD:87:PRO:CD	2.24	0.50
17:SZ:13:VAL:HG13	17:SZ:77:THR:H	1.76	0.50
18:SF:60:PHE:CE1	18:SF:89:LEU:HD22	2.45	0.50
21:SI:95:ASP:N	21:SI:95:ASP:OD1	2.44	0.50
32:SO:110:VAL:HA	32:SO:126:SER:HA	1.93	0.50
35:A:174:C:H2'	35:A:175:C:C6	2.45	0.50
35:A:215:G:OP1	61:La:12:ARG:NH1	2.37	0.50
35:A:1231:A:H5''	35:A:1232:C:O4'	2.12	0.50
35:A:2586:G:O6	44:LJ:242:ALA:N	2.42	0.50
38:LD:80:GLU:HG3	78:Lr:66:GLY:HA2	1.93	0.50
50:LP:94:TYR:CZ	50:LP:96:ARG:HB2	2.46	0.50
62:Lb:17:ARG:NH2	62:Lb:18:TYR:OH	2.45	0.50
66:Lf:17:HIS:CG	66:Lf:69:TYR:HD2	2.29	0.50
1:2:486:G:C6	1:2:501:U:C2	2.99	0.50
1:2:638:U:H1'	10:SU:112:ARG:HH21	1.76	0.50
1:2:948:G:H2'	1:2:949:C:C6	2.46	0.50
1:2:1305:U:H5''	1:2:1306:C:C5	2.47	0.50
1:2:1524:A:H2'	1:2:1525:A:H8	1.73	0.50
1:2:1630:U:O2'	1:2:1764:C:O2'	2.25	0.50
6:SA:59:LEU:HD22	6:SA:66:ILE:HD12	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SB:140:THR:HA	8:SB:214:LYS:HD3	1.93	0.50
19:SG:51:ALA:O	19:SG:55:THR:HG23	2.12	0.50
31:SN:132:LEU:H	31:SN:132:LEU:HD12	1.77	0.50
35:A:173:G:H21	35:A:246:U:H1'	1.75	0.50
35:A:1419:A:H5''	40:LF:193:LYS:NZ	2.19	0.50
35:A:2630:C:C5	56:LV:4:SER:HB3	2.46	0.50
35:A:3343:G:H2'	35:A:3344:A:C2	2.47	0.50
41:LG:204:VAL:O	41:LG:208:MET:HG2	2.12	0.50
46:LL:91:VAL:HG11	46:LL:129:VAL:HG12	1.92	0.50
57:LW:50:LEU:HD12	57:LW:50:LEU:O	2.10	0.50
82:n:54:A:H2	82:n:58:A:H62	1.60	0.50
1:2:640:U:H2'	1:2:641:G:O4'	2.12	0.50
1:2:867:G:H5'	16:SY:4:MET:HE3	1.93	0.50
1:2:1439:C:H2'	1:2:1440:C:H6	1.76	0.50
2:SP:157:ASP:OD2	23:Sa:32:VAL:HG21	2.10	0.50
3:SQ:97:LEU:HB3	3:SQ:232:HIS:ND1	2.26	0.50
12:SW:118:LEU:HD21	12:SW:157:ASP:HA	1.93	0.50
13:SC:28:ASN:CG	29:SM:7:TRP:HE1	2.20	0.50
18:SF:90:VAL:HG22	18:SF:105:LEU:HD21	1.94	0.50
32:SO:12:THR:HG22	32:SO:311:ARG:HG2	1.93	0.50
35:A:156:G:H22	48:LN:91:ARG:NH1	2.08	0.50
35:A:597:G:H2'	35:A:598:A:C8	2.43	0.50
35:A:873:C:H3'	35:A:874:U:H4'	1.93	0.50
35:A:1037:C:H2'	35:A:1038:C:C6	2.46	0.50
35:A:1307:G:O2'	35:A:1308:A:OP2	2.28	0.50
35:A:1492:G:N7	74:Ln:2:ALA:N	2.59	0.50
35:A:1497:C:O2'	35:A:1602:A:N3	2.42	0.50
35:A:2535:A:H2'	35:A:2536:A:O4'	2.10	0.50
35:A:2546:C:H2'	35:A:2547:A:C8	2.45	0.50
35:A:2681:U:OP2	47:LM:51:ARG:NH2	2.42	0.50
35:A:2824:G:H2'	35:A:2825:C:C6	2.47	0.50
39:LE:188:ILE:O	39:LE:192:VAL:HG12	2.10	0.50
41:LG:22:ARG:HB3	41:LG:28:THR:HG22	1.93	0.50
50:LP:39:ALA:HB3	50:LP:61:ILE:HG22	1.93	0.50
54:LT:172:ARG:O	54:LT:175:GLN:HG3	2.12	0.50
56:LV:79:MET:HB2	56:LV:84:TYR:HE1	1.76	0.50
67:Lg:19:ARG:HD3	67:Lg:28:VAL:HG12	1.94	0.50
74:Ln:23:LEU:HD11	74:Ln:35:ILE:HG22	1.94	0.50
1:2:214:G:N2	1:2:252:U:O4	2.44	0.50
1:2:591:A:H2'	1:2:592:A:H8	1.77	0.50
1:2:701:U:H2'	1:2:702:G:H8	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1146:G:H2'	1:2:1147:A:C8	2.46	0.50
1:2:1327:C:H4'	6:SA:157:LEU:O	2.11	0.50
1:2:1595:U:H5	1:2:1596:C:C4	2.29	0.50
5:SR:162:CYS:SG	5:SR:212:LYS:HE3	2.52	0.50
8:SB:81:ARG:HD2	8:SB:82:PHE:CE2	2.47	0.50
10:SU:154:LEU:O	10:SU:186:PRO:HD2	2.11	0.50
11:SV:39:GLY:HA2	11:SV:61:GLU:HG3	1.92	0.50
18:SF:51:PRO:HG2	18:SF:85:ILE:HD11	1.92	0.50
35:A:105:C:H2'	35:A:106:A:H8	1.77	0.50
35:A:171:G:H2'	35:A:172:G:H8	1.76	0.50
35:A:541:U:H2'	35:A:542:G:C8	2.46	0.50
35:A:945:C:H2'	35:A:946:U:C6	2.46	0.50
35:A:2234:G:H2'	35:A:2235:C:H6	1.77	0.50
35:A:2705:A:N6	56:LV:47:SER:O	2.38	0.50
35:A:3346:U:O4	35:A:3347:A:N6	2.45	0.50
39:LE:212:ASN:ND2	39:LE:353:GLU:HA	2.26	0.50
42:LH:13:GLU:OE1	67:Lg:90:LYS:NZ	2.29	0.50
56:LV:68:THR:HG22	56:LV:69:LYS:H	1.76	0.50
72:Ll:82:SER:O	72:Ll:82:SER:OG	2.22	0.50
1:2:190:C:H41	11:SV:137:LYS:HE3	1.76	0.50
1:2:946:U:H2'	1:2:947:U:C6	2.46	0.50
1:2:1236:A:H2'	1:2:1237:G:C8	2.47	0.50
5:SR:79:GLU:OE2	5:SR:186:LYS:HG2	2.12	0.50
7:SS:100:ARG:NH2	7:SS:118:GLU:O	2.38	0.50
9:ST:163:THR:HB	9:ST:168:THR:HG22	1.94	0.50
21:SI:51:GLU:OE1	21:SI:51:GLU:N	2.36	0.50
27:Se:7:SER:OG	27:Se:7:SER:O	2.29	0.50
31:SN:116:LYS:HE2	31:SN:116:LYS:HA	1.93	0.50
35:A:129:U:H2'	35:A:130:A:C8	2.47	0.50
35:A:610:G:C8	40:LF:312:VAL:HG21	2.47	0.50
35:A:938:C:O2	35:A:2813:A:O2'	2.29	0.50
35:A:1621:A:H2'	35:A:1622:U:C6	2.46	0.50
35:A:2357:A:H2'	35:A:2358:A:H8	1.76	0.50
35:A:3297:U:H2'	35:A:3298:C:H6	1.76	0.50
36:B:99:G:H4'	43:LI:128:LYS:NZ	2.26	0.50
37:C:10:A:H2'	37:C:11:C:C6	2.47	0.50
48:LN:66:ASN:OD1	63:Lc:128:ARG:NH2	2.45	0.50
50:LP:58:GLY:HA3	50:LP:142:ILE:HD11	1.92	0.50
61:La:59:VAL:O	61:La:64:LYS:HD3	2.12	0.50
77:Lq:75:VAL:O	77:Lq:78:LYS:NZ	2.27	0.50
1:2:520:A:H2'	1:2:521:A:C8	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1149:G:N2	1:2:1766:A:OP1	2.44	0.50
1:2:1365:C:H5''	18:SF:28:LEU:HD22	1.94	0.50
3:SQ:145:LYS:HG2	3:SQ:149:GLN:HE21	1.77	0.50
10:SU:24:PHE:CE2	10:SU:41:LEU:HD11	2.47	0.50
10:SU:44:LYS:HD3	10:SU:63:PRO:HB3	1.93	0.50
11:SV:110:ARG:HD3	11:SV:121:LEU:HD12	1.92	0.50
19:SG:62:GLN:HA	19:SG:62:GLN:OE1	2.12	0.50
30:Sg:47:VAL:O	30:Sg:50:VAL:HG23	2.11	0.50
35:A:13:A:H5''	35:A:13:A:H8	1.77	0.50
35:A:173:G:N2	35:A:246:U:H1'	2.27	0.50
35:A:561:C:H2'	35:A:562:C:H6	1.77	0.50
35:A:787:G:H2'	35:A:788:C:C6	2.46	0.50
35:A:911:C:N4	38:LD:3:ARG:HD3	2.26	0.50
35:A:2102:U:H2'	35:A:2103:U:C6	2.47	0.50
35:A:2684:C:H2'	35:A:2685:C:C6	2.46	0.50
37:C:9:A:H2'	37:C:10:A:H8	1.77	0.50
39:LE:165:GLN:OE1	39:LE:168:LYS:NZ	2.27	0.50
40:LF:145:ILE:HD13	40:LF:150:LEU:HD22	1.94	0.50
50:LP:54:LYS:O	50:LP:56:LYS:N	2.43	0.50
51:LQ:143:THR:HG21	51:LQ:150:GLU:CD	2.37	0.50
52:LR:29:THR:HA	52:LR:87:SER:OG	2.11	0.50
55:LU:128:GLU:OE1	55:LU:129:ILE:N	2.45	0.50
82:n:3:C:H2'	82:n:4:G:H8	1.77	0.50
1:2:50:C:OP1	1:2:423:G:N2	2.45	0.50
1:2:884:A:H4'	3:SQ:124:ASN:ND2	2.27	0.50
1:2:1775:U:H2'	1:2:1776:A:C8	2.47	0.50
5:SR:108:ASN:O	5:SR:141:ARG:NH2	2.45	0.50
9:ST:31:ARG:HD3	9:ST:68:LEU:HD11	1.93	0.50
20:SH:91:ASP:OD2	20:SH:94:ASP:N	2.34	0.50
22:SJ:61:LYS:HB2	22:SJ:86:ILE:HB	1.92	0.50
26:Sd:103:ALA:O	26:Sd:108:ARG:NH2	2.43	0.50
35:A:792:G:H2'	35:A:793:C:C6	2.46	0.50
39:LE:93:VAL:HG13	39:LE:102:LEU:HD22	1.93	0.50
48:LN:119:TYR:O	48:LN:123:ILE:HG23	2.12	0.50
50:LP:103:GLU:O	50:LP:106:VAL:HG12	2.12	0.50
63:Lc:74:ASN:OD1	63:Lc:115:LYS:N	2.36	0.50
74:Ln:43:ASN:HB3	74:Ln:46:ARG:NH1	2.26	0.50
77:Lq:72:LEU:HD11	77:Lq:83:LEU:HD21	1.94	0.50
84:E:61:UNK:O	84:E:63:UNK:N	2.44	0.50
1:2:404:G:H2'	1:2:405:C:C6	2.47	0.50
1:2:473:A:OP1	12:SW:44:ARG:NH1	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:603:U:H2'	1:2:604:A:H8	1.76	0.50
1:2:841:U:H2'	1:2:842:C:C6	2.47	0.50
1:2:1227:A:N6	1:2:1256:A:H2'	2.25	0.50
1:2:1236:A:H2'	1:2:1237:G:H8	1.75	0.50
8:SB:196:GLU:O	8:SB:200:ASN:ND2	2.45	0.50
12:SW:48:GLN:O	12:SW:52:ILE:HG13	2.12	0.50
12:SW:73:GLY:O	12:SW:77:ILE:HG13	2.12	0.50
12:SW:110:GLN:OE1	12:SW:126:ARG:HB2	2.12	0.50
16:SY:23:PRO:HD2	16:SY:26:PHE:HB2	1.94	0.50
16:SY:83:GLU:H	16:SY:83:GLU:CD	2.16	0.50
32:SO:90:ARG:HH21	32:SO:99:THR:HG21	1.77	0.50
32:SO:211:ILE:HB	32:SO:225:LEU:HD23	1.94	0.50
35:A:228:U:H5''	61:La:8:VAL:HG21	1.92	0.50
35:A:598:A:P	43:LI:41:ARG:HH12	2.35	0.50
35:A:1492:G:OP1	72:Ll:14:LYS:NZ	2.45	0.50
35:A:2208:A:C2	35:A:2236:G:N1	2.80	0.50
35:A:2844:C:N4	35:A:2898:G:H22	2.10	0.50
40:LF:216:VAL:HA	40:LF:227:THR:HG21	1.93	0.50
49:LO:32:LEU:HD11	49:LO:94:TRP:CG	2.47	0.50
57:LW:97:SER:HA	57:LW:103:TYR:HD1	1.77	0.50
1:2:29:U:H2'	1:2:30:G:H8	1.76	0.49
1:2:736:C:H2'	1:2:737:A:C8	2.47	0.49
1:2:1484:G:H2'	1:2:1485:C:H6	1.77	0.49
5:SR:236:PRO:O	23:Sa:33:GLN:NE2	2.35	0.49
13:SC:32:HIS:CD2	13:SC:33:GLU:H	2.30	0.49
21:SI:108:LEU:CD2	21:SI:113:ILE:HB	2.42	0.49
35:A:207:U:H2'	35:A:208:C:H6	1.77	0.49
35:A:2335:G:N2	35:A:2339:C:O2'	2.44	0.49
38:LD:54:ARG:HD2	38:LD:58:LEU:HD21	1.94	0.49
40:LF:196:ASN:ND2	61:La:11:ASP:OD1	2.41	0.49
41:LG:36:LEU:O	41:LG:48:LYS:HD2	2.12	0.49
41:LG:99:TYR:OH	41:LG:168:ASP:OD2	2.27	0.49
49:LO:66:THR:HG22	49:LO:99:TRP:CZ3	2.47	0.49
62:Lb:31:GLU:OE1	62:Lb:31:GLU:N	2.40	0.49
62:Lb:43:VAL:HG11	62:Lb:80:LEU:HD11	1.93	0.49
79:Ls:116:PRO:HG3	79:Ls:147:ALA:HB3	1.93	0.49
1:2:153:G:H2'	1:2:154:G:C8	2.47	0.49
1:2:861:U:OP1	16:SY:64:ARG:NH1	2.28	0.49
1:2:1221:A:H2'	1:2:1222:C:C6	2.47	0.49
1:2:1590:G:H2'	1:2:1591:C:H6	1.76	0.49
9:ST:38:GLY:HA2	9:ST:41:VAL:HG22	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:Sa:70:ASN:HB3	23:Sa:83:TRP:HB2	1.93	0.49
24:Sb:104:LEU:HD13	24:Sb:122:SER:O	2.12	0.49
32:SO:20:VAL:HG11	32:SO:310:ILE:HG12	1.93	0.49
35:A:123:A:C6	35:A:150:A:C5	2.99	0.49
35:A:670:C:P	53:LS:147:ARG:HH22	2.35	0.49
35:A:1914:G:N2	54:LT:81:ARG:O	2.38	0.49
35:A:2279:A:N7	35:A:2288:G:C8	2.80	0.49
35:A:2355:G:H5'	52:LR:139:TYR:CE1	2.47	0.49
35:A:2808:A:OP1	79:Ls:51:5CT:NZ	2.45	0.49
36:B:12:U:OP2	36:B:68:C:O2'	2.28	0.49
38:LD:127:ALA:HB2	38:LD:134:VAL:HG13	1.94	0.49
49:LO:72:LEU:HD21	49:LO:76:ALA:HB3	1.94	0.49
1:2:291:G:H2'	1:2:292:U:C5	2.47	0.49
1:2:1173:C:H2'	1:2:1174:C:C6	2.47	0.49
5:SR:95:ARG:HG3	5:SR:95:ARG:O	2.11	0.49
7:SS:10:LYS:O	7:SS:13:ALA:N	2.45	0.49
8:SB:135:ASP:HA	8:SB:138:THR:HG22	1.94	0.49
20:SH:70:VAL:HG13	20:SH:74:GLN:NE2	2.24	0.49
21:SI:28:LEU:HA	21:SI:111:ILE:HD11	1.94	0.49
32:SO:169:ILE:HG12	32:SO:181:TRP:HB2	1.94	0.49
32:SO:223:TRP:HA	32:SO:230:ALA:HA	1.94	0.49
32:SO:281:TYR:CD2	32:SO:287:PRO:HD3	2.47	0.49
35:A:149:U:P	50:LP:49:ARG:HH12	2.34	0.49
35:A:591:G:N2	35:A:612:U:OP1	2.31	0.49
35:A:970:A:H2'	35:A:971:G:H8	1.77	0.49
35:A:1251:A:C5	35:A:1252:A:H1'	2.46	0.49
35:A:2298:U:O2'	35:A:2299:A:H5'	2.12	0.49
35:A:3357:U:H2'	35:A:3358:U:C6	2.47	0.49
35:A:3359:A:H2'	35:A:3360:C:C6	2.47	0.49
38:LD:108:PRO:HG2	78:Lr:86:LEU:HD13	1.93	0.49
39:LE:35:ASP:HA	39:LE:184:ASN:OD1	2.11	0.49
39:LE:332:ARG:H	39:LE:332:ARG:HD3	1.78	0.49
40:LF:98:ARG:HG2	40:LF:99:MET:O	2.11	0.49
81:m:50:C:O2'	81:m:51:A:OP1	2.29	0.49
1:2:14:C:H2'	1:2:15:U:C6	2.47	0.49
1:2:153:G:C6	1:2:162:A:C6	3.00	0.49
1:2:819:G:H4'	1:2:820:U:O5'	2.12	0.49
1:2:829:A:H2'	1:2:830:U:C5	2.48	0.49
1:2:1187:U:H2'	1:2:1188:G:H8	1.77	0.49
1:2:1277:G:H2'	1:2:1278:G:O4'	2.12	0.49
1:2:1501:C:H2'	1:2:1502:G:C8	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1789:G:OP1	27:Se:17:HIS:NE2	2.29	0.49
5:SR:78:ASP:HB2	5:SR:104:VAL:HG12	1.93	0.49
7:SS:168:LYS:HD3	7:SS:169:ILE:H	1.77	0.49
8:SB:182:ALA:O	8:SB:186:ASN:ND2	2.45	0.49
12:SW:41:GLU:OE1	12:SW:41:GLU:N	2.39	0.49
21:SI:66:TYR:CD2	21:SI:132:LEU:HD23	2.47	0.49
25:Sc:74:VAL:HG11	25:Sc:104:LEU:HD11	1.93	0.49
31:SN:119:ARG:HG3	31:SN:132:LEU:HD13	1.93	0.49
35:A:786:A:H4'	35:A:787:G:H5'	1.94	0.49
35:A:1011:A:H2'	35:A:1012:G:C8	2.48	0.49
35:A:1064:A:H5''	35:A:1066:G:O4'	2.13	0.49
35:A:1099:A:H2'	35:A:1100:U:C6	2.46	0.49
35:A:1547:G:OP1	50:LP:108:ARG:NH2	2.38	0.49
35:A:1560:G:O2'	35:A:1561:G:H5'	2.13	0.49
35:A:1801:U:H2'	35:A:1802:C:C6	2.47	0.49
35:A:2243:A:OP1	38:LD:247:ARG:NH2	2.46	0.49
35:A:2514:U:H4'	35:A:2515:A:OP1	2.12	0.49
35:A:2748:A:C2	41:LG:36:LEU:HG	2.47	0.49
35:A:2904:U:H2'	35:A:2905:U:H6	1.77	0.49
35:A:3049:A:H4'	39:LE:364:LYS:HD2	1.94	0.49
35:A:3298:C:C2	35:A:3299:A:C8	3.00	0.49
36:B:120:C:HO2'	36:B:121:U:C5'	2.23	0.49
43:LI:25:GLN:OE1	43:LI:25:GLN:HA	2.12	0.49
48:LN:186:ARG:HA	48:LN:189:GLU:OE2	2.13	0.49
49:LO:38:ILE:HA	49:LO:44:VAL:HG12	1.93	0.49
57:LW:88:GLN:N	57:LW:88:GLN:OE1	2.46	0.49
61:La:31:LEU:HB3	61:La:101:PRO:HG3	1.93	0.49
81:m:1:G:H2'	81:m:2:G:C8	2.47	0.49
81:m:65:C:O2'	81:m:66:A:OP1	2.29	0.49
1:2:1396:U:H2'	1:2:1397:U:C6	2.47	0.49
1:2:1588:G:C5	1:2:1589:C:C5	3.00	0.49
2:SP:84:ARG:NH2	2:SP:200:ASP:O	2.45	0.49
6:SA:137:VAL:HB	6:SA:151:LYS:HG2	1.95	0.49
6:SA:210:GLU:OE1	19:SG:19:ARG:NH1	2.34	0.49
8:SB:93:LEU:HD22	8:SB:172:ILE:HG23	1.94	0.49
24:Sb:20:THR:HG21	24:Sb:22:LYS:HZ3	1.77	0.49
35:A:317:A:C6	35:A:318:A:C6	3.01	0.49
35:A:1508:C:OP1	52:LR:127:ARG:NH1	2.26	0.49
35:A:1815:U:H4'	35:A:1816:A:O5'	2.12	0.49
35:A:2655:U:C5	77:Lq:4:VAL:HG12	2.47	0.49
35:A:3027:A:H2'	35:A:3028:G:C8	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:B:121:U:H1'	41:LG:268:GLU:OE2	2.12	0.49
37:C:26:U:H2'	37:C:27:U:C6	2.47	0.49
38:LD:53:GLY:O	38:LD:192:LYS:HE2	2.13	0.49
39:LE:67:PHE:CE2	58:LX:88:ARG:HB2	2.47	0.49
47:LM:100:GLY:HA3	47:LM:154:THR:OG1	2.13	0.49
50:LP:180:PHE:O	50:LP:184:LYS:HG3	2.13	0.49
51:LQ:113:ASP:N	51:LQ:113:ASP:OD1	2.45	0.49
60:LZ:138:ARG:HG2	60:LZ:138:ARG:HH11	1.78	0.49
1:2:499:U:H5''	1:2:500:C:C5	2.46	0.49
1:2:689:G:H2'	1:2:690:G:H8	1.77	0.49
1:2:1087:A:H2'	1:2:1088:A:C8	2.48	0.49
12:SW:129:ILE:HG23	12:SW:134:ILE:HG21	1.94	0.49
13:SC:42:VAL:O	13:SC:46:LEU:HD23	2.13	0.49
35:A:712:G:H2'	35:A:713:U:C6	2.47	0.49
35:A:1000:C:C2	35:A:1045:C:N4	2.80	0.49
35:A:1497:C:H2'	35:A:1498:A:H8	1.76	0.49
35:A:1503:A:C4	35:A:1504:A:C8	3.01	0.49
35:A:2883:U:H2'	35:A:2884:C:H6	1.77	0.49
35:A:2995:A:O2'	35:A:2996:U:H5''	2.13	0.49
40:LF:286:VAL:HA	40:LF:289:ILE:HD12	1.93	0.49
40:LF:294:GLU:H	40:LF:294:GLU:CD	2.21	0.49
48:LN:50:PRO:HG3	70:Lj:118:ILE:HD12	1.94	0.49
55:LU:73:LYS:HD2	55:LU:75:PHE:CZ	2.47	0.49
61:La:39:LEU:HD22	61:La:43:TYR:HE2	1.78	0.49
1:2:406:U:H2'	1:2:407:A:H8	1.77	0.49
1:2:407:A:H2'	1:2:408:C:C6	2.48	0.49
1:2:1173:C:H2'	1:2:1174:C:H6	1.78	0.49
1:2:1486:G:H2'	1:2:1487:A:H8	1.76	0.49
1:2:1609:U:H2'	1:2:1610:G:O4'	2.13	0.49
1:2:1693:A:H2'	1:2:1694:A:H8	1.76	0.49
1:2:1739:C:H2'	1:2:1740:A:H8	1.77	0.49
4:SE:41:VAL:HG13	4:SE:84:ILE:HG12	1.95	0.49
9:ST:37:ASP:HB3	9:ST:39:GLU:OE1	2.12	0.49
14:SX:45:PRO:HD2	14:SX:60:PHE:CE2	2.48	0.49
21:SI:61:VAL:O	21:SI:65:ILE:HG13	2.13	0.49
22:SJ:33:GLN:OE1	22:SJ:110:PRO:HG2	2.13	0.49
22:SJ:58:LEU:HB2	22:SJ:88:LYS:HB3	1.94	0.49
23:Sa:78:LEU:O	23:Sa:79:LEU:HD12	2.12	0.49
31:SN:120:GLU:HB3	31:SN:128:ALA:HA	1.95	0.49
32:SO:21:THR:N	32:SO:36:ALA:O	2.43	0.49
34:AA:88:ILE:HG23	34:AA:89:ILE:HG12	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:178:U:H2'	35:A:179:C:C6	2.47	0.49
35:A:1571:A:H2'	35:A:1572:U:C4'	2.43	0.49
35:A:2499:U:H2'	35:A:2500:A:C8	2.47	0.49
35:A:2538:U:O2'	35:A:2541:U:O4	2.31	0.49
36:B:53:U:H4'	47:LM:8:PRO:HB2	1.94	0.49
41:LG:111:GLN:HG3	41:LG:116:ASP:OD2	2.13	0.49
43:LI:78:GLU:OE1	43:LI:79:ALA:N	2.42	0.49
69:Li:87:GLU:OE2	69:Li:91:ARG:HD2	2.13	0.49
70:Lj:113:GLN:NE2	70:Lj:114:ARG:O	2.41	0.49
1:2:93:A:H4'	1:2:94:U:OP2	2.12	0.49
1:2:461:G:H2'	1:2:462:G:C8	2.47	0.49
1:2:513:U:H5'	12:SW:133:HIS:CE1	2.47	0.49
1:2:551:G:H2'	1:2:552:G:C8	2.47	0.49
1:2:1187:U:H2'	1:2:1188:G:C8	2.48	0.49
1:2:1281:G:C6	1:2:1282:U:C4	3.00	0.49
1:2:1331:A:H61	6:SA:161:GLY:HA2	1.78	0.49
1:2:1799:U:H5	3:SQ:117:TRP:CD2	2.29	0.49
2:SP:175:TYR:HE1	2:SP:195:TRP:CE3	2.30	0.49
5:SR:180:ALA:HB1	5:SR:184:VAL:HG13	1.93	0.49
8:SB:41:LYS:HD2	8:SB:69:PHE:HB2	1.94	0.49
8:SB:102:ARG:HG3	8:SB:103:ASN:ND2	2.27	0.49
11:SV:101:ILE:HD12	11:SV:184:LEU:HD21	1.95	0.49
23:Sa:36:VAL:HB	23:Sa:51:VAL:HG22	1.95	0.49
25:Sc:53:VAL:HG23	25:Sc:72:VAL:HB	1.95	0.49
35:A:632:G:H2'	35:A:633:C:C6	2.48	0.49
35:A:937:G:H5''	63:Lc:29:PRO:HA	1.95	0.49
35:A:1054:A:H5''	35:A:2637:A:N6	2.28	0.49
35:A:1132:C:H2'	35:A:1133:A:C8	2.48	0.49
35:A:1881:A:H2'	35:A:1882:G:H8	1.76	0.49
35:A:2366:C:H2'	35:A:2367:A:C8	2.48	0.49
35:A:3167:A:H2'	35:A:3168:A:C8	2.48	0.49
35:A:3199:G:OP1	49:LO:8:LYS:NZ	2.27	0.49
40:LF:264:SER:OG	40:LF:265:GLU:OE1	2.31	0.49
52:LR:43:LYS:HD3	52:LR:43:LYS:C	2.38	0.49
53:LS:122:ILE:HG23	53:LS:126:GLN:HB2	1.95	0.49
69:Li:25:THR:OG1	69:Li:29:ILE:O	2.31	0.49
82:n:25:C:C2	82:n:26:G:C8	3.01	0.49
1:2:152:U:H4'	9:ST:14:LYS:HD3	1.95	0.49
1:2:390:G:H2'	1:2:391:A:H8	1.78	0.49
1:2:1299:G:O3'	5:SR:99:LYS:NZ	2.46	0.49
1:2:1548:G:N1	1:2:1564:U:C4	2.81	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:SR:56:ILE:HG23	5:SR:61:LEU:HB2	1.94	0.49
11:SV:172:ARG:NE	11:SV:175:GLN:HG3	2.28	0.49
20:SH:41:ARG:NH2	21:SI:44:GLU:O	2.46	0.49
26:Sd:56:SER:O	26:Sd:74:LEU:N	2.45	0.49
35:A:11:A:H2'	35:A:12:A:C8	2.48	0.49
35:A:307:A:H2'	35:A:308:A:C8	2.48	0.49
35:A:439:C:H4'	35:A:495:G:C8	2.47	0.49
35:A:445:G:H2'	35:A:446:U:H4'	1.93	0.49
35:A:528:U:H2'	35:A:529:A:H8	1.78	0.49
35:A:662:U:H2'	35:A:663:C:C6	2.48	0.49
35:A:1570:U:O4	35:A:1573:G:N2	2.46	0.49
35:A:1942:U:H2'	35:A:1943:C:O4'	2.13	0.49
35:A:2722:U:H2'	35:A:2723:U:H6	1.78	0.49
35:A:3198:U:H1'	45:LK:21:LYS:HB2	1.94	0.49
35:A:3359:A:H2'	35:A:3360:C:H6	1.77	0.49
39:LE:89:VAL:HG11	39:LE:195:ALA:HB1	1.94	0.49
40:LF:140:HIS:CD2	40:LF:247:PHE:H	2.31	0.49
41:LG:103:LEU:HB3	41:LG:247:ILE:CD1	2.43	0.49
43:LI:190:THR:O	43:LI:190:THR:OG1	2.31	0.49
52:LR:125:GLN:O	52:LR:141:SER:N	2.41	0.49
62:Lb:10:VAL:HG21	62:Lb:87:LEU:HD13	1.94	0.49
64:Ld:32:LEU:HD22	64:Ld:35:VAL:HG11	1.95	0.49
70:Lj:5:LYS:HD2	70:Lj:7:TYR:HE2	1.78	0.49
1:2:907:A:H1'	1:2:997:G:O2'	2.13	0.49
1:2:1196:A:H4'	1:2:1197:C:H5''	1.93	0.49
1:2:1393:C:H5''	32:SO:281:TYR:HD1	1.78	0.49
11:SV:4:SER:HB2	11:SV:24:LYS:HE2	1.94	0.49
35:A:1798:A:H2'	35:A:1799:A:C8	2.48	0.49
35:A:2662:G:H2'	35:A:2663:G:C8	2.48	0.49
39:LE:57:VAL:HG22	39:LE:73:VAL:HG22	1.95	0.49
40:LF:259:ASP:OD1	40:LF:260:GLN:N	2.46	0.49
47:LM:103:GLY:HA3	47:LM:128:TYR:CD1	2.48	0.49
1:2:140:A:N3	1:2:140:A:H5''	2.28	0.48
1:2:551:G:H5'	1:2:581:U:C2	2.48	0.48
1:2:886:U:C2	1:2:887:A:C8	3.01	0.48
1:2:901:G:H3'	1:2:902:G:H8	1.77	0.48
1:2:1434:U:H2'	1:2:1436:A:H5''	1.95	0.48
1:2:1584:G:C5	18:SF:14:LYS:HE2	2.48	0.48
2:SP:198:MET:HG3	2:SP:200:ASP:H	1.78	0.48
4:SE:96:ILE:HB	4:SE:120:SER:HB2	1.95	0.48
6:SA:34:TYR:OH	6:SA:37:VAL:HG23	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:SA:161:GLY:O	6:SA:164:VAL:HG12	2.13	0.48
7:SS:125:LYS:H	7:SS:142:HIS:CD2	2.31	0.48
11:SV:104:ILE:N	11:SV:165:LEU:O	2.41	0.48
18:SF:44:LEU:HB3	18:SF:78:VAL:HG11	1.94	0.48
18:SF:82:ARG:NH2	18:SF:113:ASP:OD2	2.38	0.48
35:A:655:C:C2	35:A:1441:G:N2	2.81	0.48
35:A:772:U:H2'	35:A:773:G:C8	2.48	0.48
35:A:1562:C:H2'	35:A:1563:C:C6	2.48	0.48
35:A:1763:U:O5'	54:LT:43:LYS:NZ	2.45	0.48
35:A:1764:U:H3'	35:A:1765:U:H4'	1.94	0.48
35:A:1794:G:O2'	35:A:1796:G:N2	2.46	0.48
35:A:3294:A:H2'	35:A:3295:A:O4'	2.13	0.48
48:LN:85:LEU:HD22	48:LN:120:GLN:OE1	2.13	0.48
49:LO:32:LEU:HD11	49:LO:94:TRP:CD1	2.47	0.48
51:LQ:109:PRO:HB2	51:LQ:111:PRO:HD2	1.95	0.48
55:LU:5:LYS:HB3	55:LU:63:GLN:NE2	2.28	0.48
60:LZ:107:VAL:HA	60:LZ:126:LEU:HA	1.94	0.48
62:Lb:89:VAL:O	62:Lb:89:VAL:HG12	2.12	0.48
81:m:23:A:H2'	81:m:24:G:C8	2.48	0.48
1:2:129:U:H5'	1:2:264:G:C6	2.47	0.48
1:2:1003:A:O2'	1:2:1005:A:N7	2.41	0.48
1:2:1164:G:H2'	1:2:1165:G:H8	1.78	0.48
10:SU:139:ARG:HH11	10:SU:139:ARG:HG3	1.77	0.48
14:SX:10:GLU:CG	14:SX:11:ARG:N	2.76	0.48
17:SZ:134:GLY:HA2	27:Se:27:SER:HB2	1.95	0.48
32:SO:54:PHE:CD2	32:SO:312:VAL:HG11	2.48	0.48
35:A:952:A:H4'	35:A:968:G:N2	2.27	0.48
35:A:1595:U:C2	35:A:1596:C:C5	3.01	0.48
35:A:1596:C:H2'	35:A:1597:C:C6	2.47	0.48
35:A:1657:C:O2'	35:A:1797:A:OP2	2.25	0.48
35:A:2367:A:H2'	35:A:2368:A:H8	1.79	0.48
35:A:3127:A:H2'	35:A:3128:G:O4'	2.13	0.48
36:B:60:G:H4'	41:LG:273:ARG:NH2	2.28	0.48
46:LL:92:HIS:HB2	46:LL:94:PHE:HE1	1.78	0.48
51:LQ:54:TYR:OH	51:LQ:73:PHE:O	2.27	0.48
1:2:458:G:P	26:Sd:105:ARG:HH22	2.36	0.48
1:2:1201:G:H21	1:2:1600:A:H5'	1.77	0.48
1:2:1588:G:C6	1:2:1589:C:C4	3.01	0.48
1:2:1732:A:H2'	1:2:1733:C:C6	2.49	0.48
4:SE:115:TYR:HB2	4:SE:118:GLU:OE1	2.13	0.48
5:SR:142:GLY:N	5:SR:153:SER:O	2.37	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:ST:200:ALA:O	9:ST:203:GLU:HG3	2.14	0.48
20:SH:91:ASP:HB3	20:SH:94:ASP:O	2.13	0.48
34:AA:103:ARG:HB2	34:AA:105:THR:HG23	1.95	0.48
35:A:75:G:H5'	48:LN:58:VAL:CG1	2.39	0.48
35:A:170:G:H2'	35:A:171:G:C8	2.49	0.48
35:A:776:U:H5	35:A:2719:U:O2	1.96	0.48
35:A:2115:G:H22	35:A:2120:A:H1'	1.78	0.48
35:A:2373:A:N3	35:A:2824:G:O2'	2.36	0.48
35:A:2877:G:H2'	35:A:2878:G:H8	1.77	0.48
35:A:3007:U:H2'	35:A:3008:A:C8	2.48	0.48
38:LD:204:MET:SD	38:LD:209:HIS:HB2	2.54	0.48
48:LN:87:ALA:HB1	48:LN:97:VAL:HG11	1.94	0.48
53:LS:67:ILE:HG23	53:LS:81:VAL:HG11	1.95	0.48
71:Lk:35:ASN:OD1	71:Lk:36:ARG:N	2.46	0.48
1:2:959:U:H6	16:SY:61:THR:HG1	1.59	0.48
1:2:1036:A:H2'	1:2:1037:C:C6	2.48	0.48
1:2:1159:C:O2'	18:SF:140:LYS:NZ	2.47	0.48
1:2:1252:C:H1'	31:SN:133:ALA:HB2	1.95	0.48
1:2:1606:C:H2'	1:2:1607:G:C8	2.49	0.48
1:2:1757:G:O2'	35:A:2255:A:O2'	2.25	0.48
18:SF:82:ARG:NH1	18:SF:116:LEU:HD21	2.28	0.48
26:Sd:86:GLU:HA	26:Sd:86:GLU:OE1	2.13	0.48
34:AA:55:PRO:O	34:AA:103:ARG:HD2	2.13	0.48
35:A:129:U:H2'	35:A:130:A:H8	1.78	0.48
35:A:1544:G:O2'	35:A:2167:A:H1'	2.14	0.48
35:A:2118:C:H2'	35:A:2119:A:O4'	2.13	0.48
35:A:2447:A:H2'	35:A:2448:G:H8	1.79	0.48
35:A:2848:G:OP1	75:Lo:100:TYR:OH	2.24	0.48
35:A:3279:A:O2'	35:A:3280:U:H5'	2.13	0.48
36:B:39:C:N3	47:LM:70:THR:OG1	2.38	0.48
39:LE:36:ASP:OD1	39:LE:37:ARG:N	2.46	0.48
46:LL:50:VAL:HG13	46:LL:167:LEU:HD13	1.96	0.48
49:LO:72:LEU:HD11	49:LO:81:VAL:HG23	1.95	0.48
56:LV:68:THR:HG22	56:LV:69:LYS:N	2.29	0.48
56:LV:132:PRO:O	56:LV:134:GLN:NE2	2.32	0.48
62:Lb:90:GLU:HA	62:Lb:93:LYS:HE3	1.96	0.48
63:Lc:123:VAL:H	63:Lc:143:GLY:HA3	1.79	0.48
79:Ls:24:SER:O	79:Ls:27:ARG:NH2	2.45	0.48
1:2:585:A:H2'	1:2:586:G:C8	2.48	0.48
1:2:698:U:O4'	10:SU:107:ARG:NH2	2.46	0.48
2:SP:206:ASP:N	2:SP:206:ASP:OD1	2.45	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:SQ:103:MET:O	3:SQ:214:LYS:HB2	2.13	0.48
3:SQ:106:THR:HG23	3:SQ:109:LYS:H	1.79	0.48
3:SQ:114:VAL:HA	3:SQ:142:PHE:HE2	1.78	0.48
7:SS:36:HIS:CE1	7:SS:85:GLY:HA3	2.48	0.48
14:SX:10:GLU:CG	14:SX:11:ARG:H	2.26	0.48
35:A:39:A:H61	35:A:42:C:H3'	1.78	0.48
35:A:51:A:C4	35:A:52:A:C8	3.02	0.48
35:A:100:A:H2'	35:A:101:G:N3	2.28	0.48
35:A:175:C:H2'	35:A:176:G:C8	2.48	0.48
35:A:915:A:O2'	35:A:917:A:OP1	2.24	0.48
35:A:1868:G:HO2'	35:A:2118:C:HO2'	1.57	0.48
35:A:2708:C:H2'	35:A:2709:C:H6	1.78	0.48
35:A:2991:A:O2'	35:A:3309:G:N7	2.47	0.48
35:A:3228:C:HO2'	35:A:3229:G:P	2.36	0.48
35:A:3232:G:H2'	35:A:3233:C:H6	1.79	0.48
36:B:20:A:H2'	36:B:21:G:H8	1.78	0.48
42:LH:7:PRO:HG2	42:LH:10:TYR:CE1	2.47	0.48
47:LM:19:LEU:HD21	47:LM:79:ILE:HG21	1.94	0.48
47:LM:141:ARG:O	47:LM:145:LYS:HE2	2.13	0.48
50:LP:163:GLY:O	50:LP:172:ARG:NH1	2.44	0.48
51:LQ:142:SER:HB3	51:LQ:147:TRP:HB2	1.96	0.48
56:LV:95:HIS:C	56:LV:96:ILE:HD13	2.38	0.48
58:LX:13:ILE:HG23	58:LX:85:TRP:CD1	2.49	0.48
70:Lj:5:LYS:HD2	70:Lj:7:TYR:CE2	2.49	0.48
71:Lk:2:THR:OG1	71:Lk:3:VAL:N	2.47	0.48
82:n:58:A:H2'	82:n:60:A:OP2	2.13	0.48
1:2:30:G:H4'	25:Sc:131:SER:OG	2.14	0.48
1:2:388:G:C6	1:2:410:A:C6	3.02	0.48
1:2:708:C:H4'	1:2:730:G:C6	2.49	0.48
1:2:1146:G:C6	1:2:1147:A:C6	3.02	0.48
1:2:1151:A:H2'	1:2:1152:A:H8	1.78	0.48
1:2:1170:G:C2	1:2:1171:A:C8	3.01	0.48
1:2:1179:G:H21	1:2:1460:A:H62	1.61	0.48
6:SA:40:ARG:HH12	22:SJ:110:PRO:CD	2.25	0.48
8:SB:192:GLU:O	8:SB:196:GLU:HG2	2.14	0.48
12:SW:84:GLY:HA3	12:SW:150:LEU:HD13	1.95	0.48
32:SO:278:PHE:O	32:SO:280:GLY:N	2.46	0.48
32:SO:294:TRP:CZ3	32:SO:301:LEU:HB2	2.49	0.48
35:A:179:C:H2'	35:A:180:C:C6	2.49	0.48
35:A:947:G:H5''	67:Lg:55:ILE:HB	1.95	0.48
35:A:1184:A:H2'	35:A:1185:C:C6	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1805:C:H2'	35:A:1806:A:H8	1.79	0.48
35:A:2881:C:H2'	35:A:2882:U:C6	2.48	0.48
36:B:14:U:C4	36:B:67:G:N2	2.82	0.48
55:LU:73:LYS:HB3	55:LU:128:GLU:OE2	2.14	0.48
81:m:65:C:H2'	81:m:66:A:C8	2.48	0.48
1:2:48:G:C6	1:2:432:G:C2	3.01	0.48
1:2:292:U:H2'	1:2:293:U:C6	2.48	0.48
1:2:640:U:O2'	1:2:641:G:OP1	2.30	0.48
1:2:753:A:OP1	7:SS:186:GLY:HA3	2.14	0.48
1:2:836:U:H3'	1:2:837:G:H8	1.79	0.48
22:SJ:80:GLU:OE2	29:SM:54:LYS:HD2	2.14	0.48
35:A:439:C:H3'	35:A:440:A:C8	2.48	0.48
35:A:573:C:H2'	35:A:574:U:H6	1.78	0.48
35:A:728:G:H5''	53:LS:43:PRO:HB2	1.95	0.48
35:A:1279:C:H2'	35:A:1280:C:H6	1.78	0.48
35:A:1637:A:H1'	35:A:1709:C:O2'	2.14	0.48
35:A:2129:U:H2'	35:A:2130:G:H8	1.78	0.48
35:A:2617:U:O3'	46:LL:116:ARG:NH2	2.43	0.48
35:A:3115:C:OP1	45:LK:62:ARG:NH2	2.45	0.48
35:A:3338:C:H2'	35:A:3339:A:C8	2.48	0.48
36:B:99:G:O2'	43:LI:128:LYS:NZ	2.47	0.48
37:C:156:U:H2'	37:C:157:U:C6	2.48	0.48
43:LI:165:ASP:OD1	43:LI:167:ALA:N	2.31	0.48
49:LO:20:VAL:HG21	49:LO:90:VAL:HG21	1.95	0.48
49:LO:28:SER:HB3	49:LO:53:VAL:HG22	1.95	0.48
56:LV:119:ALA:HB3	56:LV:126:VAL:HG12	1.96	0.48
69:Li:3:GLN:NE2	69:Li:30:LEU:O	2.47	0.48
81:m:52:G:H22	81:m:62:C:H1'	1.79	0.48
84:E:139:UNK:O	84:E:143:UNK:N	2.46	0.48
1:2:202:A:H8	1:2:202:A:O5'	1.97	0.48
1:2:340:U:O4	1:2:341:A:N6	2.47	0.48
1:2:512:A:H2'	1:2:513:U:O4'	2.13	0.48
1:2:783:G:C8	26:Sd:12:VAL:HG22	2.47	0.48
1:2:956:C:OP1	1:2:1072:C:O2'	2.31	0.48
1:2:1645:G:HO2'	35:A:2259:A:H61	1.62	0.48
21:SI:79:LEU:HD12	21:SI:79:LEU:O	2.13	0.48
31:SN:135:HIS:CE1	31:SN:140:TYR:HB3	2.49	0.48
35:A:750:G:C2	35:A:751:A:C8	3.01	0.48
35:A:911:C:H5''	38:LD:15:ILE:HD13	1.96	0.48
35:A:1088:U:H4'	64:Ld:54:LEU:HD11	1.94	0.48
35:A:1298:C:O3'	75:Lo:113:ARG:NH1	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1580:A:H5''	35:A:2522:G:C2	2.48	0.48
35:A:3380:U:H5'	39:LE:316:GLU:OE2	2.14	0.48
39:LE:46:PHE:CZ	39:LE:84:VAL:HG13	2.49	0.48
39:LE:110:LEU:HD12	39:LE:114:VAL:HG13	1.96	0.48
40:LF:329:PRO:HB3	43:LI:41:ARG:NH2	2.27	0.48
55:LU:129:ILE:HD11	55:LU:134:ASP:HB2	1.96	0.48
56:LV:40:VAL:HG12	56:LV:98:HIS:HA	1.95	0.48
57:LW:19:VAL:HG12	57:LW:105:LEU:HD22	1.96	0.48
1:2:30:G:C6	1:2:597:G:C6	3.02	0.48
1:2:687:G:OP1	24:Sb:118:ARG:NH2	2.46	0.48
1:2:990:C:H2'	1:2:991:G:O4'	2.13	0.48
1:2:1218:G:N2	1:2:1444:A:OP2	2.44	0.48
1:2:1546:G:H2'	1:2:1547:A:C8	2.48	0.48
1:2:1688:U:HO2'	1:2:1689:A:P	2.37	0.48
1:2:1775:U:P	76:Lp:11:ARG:HH12	2.37	0.48
10:SU:139:ARG:HG3	10:SU:139:ARG:NH1	2.29	0.48
25:Sc:68:ILE:HD12	30:Sg:7:SER:H	1.78	0.48
25:Sc:132:LEU:HD23	25:Sc:132:LEU:HA	1.78	0.48
35:A:209:A:H4'	35:A:211:A:C8	2.49	0.48
35:A:976:U:H2'	35:A:977:C:O4'	2.14	0.48
35:A:1242:G:C2	35:A:1270:A:H1'	2.48	0.48
35:A:2197:C:H4'	35:A:2198:A:H5'	1.95	0.48
35:A:2525:G:H1	44:LJ:41:GLN:NE2	2.11	0.48
35:A:2558:U:C2	38:LD:69:TYR:CD2	3.02	0.48
35:A:2770:G:H2'	35:A:2771:U:C6	2.49	0.48
35:A:3295:A:OP2	39:LE:126:LYS:N	2.47	0.48
37:C:47:C:O2'	37:C:62:C:OP2	2.29	0.48
37:C:67:U:H2'	37:C:68:G:H8	1.79	0.48
50:LP:173:GLY:O	50:LP:183:THR:OG1	2.32	0.48
1:2:331:A:H4'	11:SV:31:ARG:O	2.14	0.48
1:2:767:U:O4'	12:SW:139:GLN:NE2	2.47	0.48
1:2:1608:U:OP1	18:SF:15:SER:OG	2.27	0.48
1:2:1628:U:H2'	1:2:1629:G:C8	2.48	0.48
7:SS:148:ARG:O	7:SS:168:LYS:NZ	2.46	0.48
8:SB:205:SER:HG	8:SB:207:THR:HG1	1.61	0.48
26:Sd:27:VAL:HG21	26:Sd:35:VAL:HG11	1.96	0.48
35:A:180:C:H2'	35:A:181:U:C6	2.49	0.48
35:A:361:A:O3'	72:Ll:45:ARG:NH2	2.46	0.48
35:A:370:U:H4'	35:A:404:G:H5'	1.95	0.48
35:A:1174:G:O2'	51:LQ:21:SER:OG	2.28	0.48
35:A:1501:U:O2'	35:A:1502:C:H5'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:2250:G:O6	35:A:2267:C:N4	2.46	0.48
35:A:2502:A:HO2'	35:A:2503:G:P	2.35	0.48
35:A:2516:U:O2'	35:A:2595:A:N6	2.45	0.48
35:A:3095:U:H5''	58:LX:86:ARG:HD3	1.95	0.48
35:A:3173:G:C2	68:Lh:96:ALA:HB2	2.49	0.48
43:LI:221:LYS:HB2	43:LI:227:GLY:HA3	1.95	0.48
45:LK:9:GLN:HB3	45:LK:52:LEU:HD11	1.96	0.48
47:LM:16:LYS:HE3	47:LM:130:VAL:HG21	1.96	0.48
55:LU:137:ARG:HB3	55:LU:139:TYR:CE2	2.48	0.48
1:2:409:C:N4	1:2:410:A:H62	2.11	0.47
1:2:980:G:H4'	1:2:1776:A:H4'	1.96	0.47
1:2:1147:A:H2'	1:2:1148:C:C6	2.49	0.47
1:2:1229:G:N2	1:2:1255:G:O2'	2.32	0.47
1:2:1691:A:H2'	1:2:1692:G:C8	2.49	0.47
11:SV:52:ASN:N	11:SV:52:ASN:OD1	2.47	0.47
27:Se:51:ARG:HH12	33:SL:38:ARG:HD3	1.79	0.47
35:A:21:G:H22	37:C:138:A:H2	1.61	0.47
35:A:385:A:H2'	35:A:386:A:C8	2.50	0.47
35:A:1033:U:H2'	35:A:1034:U:O4'	2.14	0.47
35:A:1652:G:C2	35:A:1804:A:C2	3.02	0.47
35:A:1797:A:C6	35:A:1798:A:C6	3.03	0.47
35:A:2510:U:H2'	35:A:2511:A:H8	1.79	0.47
35:A:2581:U:H2'	35:A:2582:C:H6	1.79	0.47
35:A:2786:G:OP1	77:Lq:38:GLN:N	2.41	0.47
35:A:2786:G:H5''	77:Lq:38:GLN:HB2	1.96	0.47
43:LI:116:PHE:O	43:LI:199:ASN:ND2	2.47	0.47
52:LR:31:GLU:OE1	52:LR:31:GLU:HA	2.13	0.47
53:LS:83:VAL:O	53:LS:103:ALA:HA	2.14	0.47
55:LU:17:GLU:OE1	55:LU:17:GLU:N	2.47	0.47
79:Ls:135:MET:N	79:Ls:151:LYS:O	2.40	0.47
1:2:204:G:H2'	1:2:205:U:O4'	2.15	0.47
1:2:762:A:P	12:SW:79:ARG:HH22	2.37	0.47
1:2:895:G:H1	1:2:917:U:H3	1.62	0.47
4:SE:85:ILE:HA	4:SE:89:MET:HE2	1.95	0.47
6:SA:24:PHE:CE1	13:SC:65:TYR:HD2	2.31	0.47
11:SV:6:ASP:N	11:SV:6:ASP:OD1	2.44	0.47
25:Sc:68:ILE:O	25:Sc:70:LYS:NZ	2.36	0.47
35:A:268:A:C4	50:LP:12:ARG:HG2	2.50	0.47
35:A:671:U:H2'	35:A:672:A:C8	2.49	0.47
35:A:924:G:O2'	35:A:2809:C:O2	2.29	0.47
35:A:2402:A:O2'	35:A:2403:G:OP2	2.31	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:2722:U:H2'	35:A:2723:U:C6	2.49	0.47
35:A:2761:G:OP1	77:Lq:67:LYS:NZ	2.45	0.47
35:A:2930:A:H2'	35:A:2931:C:C6	2.49	0.47
35:A:3228:C:H5''	49:LO:137:LYS:NZ	2.29	0.47
39:LE:143:GLY:HA2	39:LE:146:ARG:NH1	2.28	0.47
39:LE:312:VAL:HG12	39:LE:313:HIS:ND1	2.29	0.47
61:La:50:ILE:HD12	61:La:106:ILE:HD11	1.96	0.47
82:n:3:C:H2'	82:n:4:G:C8	2.49	0.47
82:n:22:G:N7	82:n:46:G:O6	2.47	0.47
1:2:44:U:OP2	1:2:437:A:N6	2.46	0.47
1:2:701:U:H2'	1:2:702:G:C8	2.48	0.47
2:SP:111:ILE:O	2:SP:112:THR:OG1	2.30	0.47
5:SR:237:VAL:HG13	5:SR:242:ILE:HD11	1.96	0.47
35:A:725:G:O6	35:A:746:A:N6	2.47	0.47
35:A:727:G:N2	53:LS:139:ILE:HB	2.29	0.47
35:A:1203:A:OP2	35:A:1301:A:N6	2.42	0.47
35:A:2720:G:H22	35:A:2736:A:H2	1.63	0.47
35:A:3210:A:C6	35:A:3211:C:C4	3.02	0.47
35:A:3269:U:H4'	35:A:3270:U:O5'	2.13	0.47
46:LL:192:ASP:OD1	46:LL:193:ASP:N	2.47	0.47
48:LN:57:VAL:HG23	48:LN:115:ARG:HD2	1.96	0.47
65:Le:81:VAL:HG12	65:Le:83:LYS:HG2	1.97	0.47
72:Ll:60:GLY:HA2	72:Ll:64:MET:CE	2.44	0.47
74:Ln:10:LYS:HA	74:Ln:13:MET:HG3	1.96	0.47
79:Ls:65:PHE:CE2	79:Ls:144:GLU:HB2	2.48	0.47
1:2:359:A:H1'	25:Sc:38:PHE:CD2	2.49	0.47
1:2:867:G:OP1	16:SY:3:ARG:HA	2.14	0.47
1:2:1114:G:O2'	1:2:1130:G:O6	2.32	0.47
1:2:1144:U:H2'	1:2:1145:U:O2	2.14	0.47
1:2:1307:U:H3	1:2:1318:G:N2	2.12	0.47
1:2:1523:G:OP2	1:2:1523:G:N2	2.31	0.47
2:SP:30:GLN:OE1	2:SP:149:LEU:HB3	2.14	0.47
6:SA:23:GLU:OE2	13:SC:60:SER:HA	2.15	0.47
7:SS:36:HIS:CG	7:SS:85:GLY:HA3	2.49	0.47
8:SB:80:LYS:HG3	8:SB:83:ARG:HH21	1.78	0.47
8:SB:111:VAL:HA	8:SB:114:ILE:HG22	1.96	0.47
13:SC:48:SER:O	13:SC:52:LYS:HG2	2.14	0.47
15:SD:79:ALA:HA	15:SD:85:LYS:HB3	1.95	0.47
16:SY:71:ILE:H	16:SY:71:ILE:HD12	1.79	0.47
32:SO:255:ALA:CB	32:SO:292:LEU:HD11	2.45	0.47
35:A:312:C:C2	35:A:2778:G:C2	3.03	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1444:G:H2'	35:A:1445:U:O4'	2.14	0.47
35:A:1895:A:HO2'	35:A:3053:G:H4'	1.78	0.47
35:A:3267:A:H2'	42:LH:69:PHE:CZ	2.50	0.47
39:LE:283:TYR:CE2	39:LE:325:LYS:HB2	2.50	0.47
41:LG:178:ASN:HA	41:LG:183:TRP:CG	2.49	0.47
41:LG:194:LEU:O	41:LG:197:SER:OG	2.32	0.47
42:LH:7:PRO:HG2	42:LH:10:TYR:HE1	1.79	0.47
46:LL:32:ARG:HA	46:LL:32:ARG:CZ	2.44	0.47
58:LX:135:VAL:HG11	59:LY:26:SER:HB3	1.97	0.47
71:Lk:18:THR:OG1	71:Lk:18:THR:O	2.33	0.47
81:m:18:G:H21	81:m:58:A:H61	1.63	0.47
1:2:184:C:H2'	1:2:185:U:C6	2.49	0.47
1:2:380:U:H3	12:SW:5:PRO:HB3	1.79	0.47
1:2:399:A:H4'	7:SS:3:ARG:HB2	1.96	0.47
1:2:400:A:H4'	1:2:401:A:O5'	2.14	0.47
1:2:1477:G:H2'	1:2:1478:G:H8	1.80	0.47
5:SR:58:LEU:HD21	5:SR:236:PRO:HG3	1.96	0.47
8:SB:188:LYS:HG2	8:SB:193:THR:HB	1.96	0.47
11:SV:26:LYS:HG3	11:SV:29:LEU:HD23	1.96	0.47
21:SI:40:SER:HB3	21:SI:43:ASN:OD1	2.15	0.47
35:A:995:U:H2'	35:A:996:A:H8	1.78	0.47
35:A:1176:C:H2'	35:A:1177:G:N2	2.29	0.47
35:A:1646:G:N2	35:A:1808:G:H1'	2.30	0.47
35:A:2641:U:OP2	56:LV:10:ARG:NH2	2.48	0.47
35:A:2943:G:H2'	35:A:2944:U:O4'	2.14	0.47
35:A:3295:A:H2'	35:A:3296:A:C8	2.50	0.47
37:C:117:C:H2'	37:C:118:C:H6	1.80	0.47
39:LE:233:TRP:CD1	39:LE:265:ALA:HB1	2.50	0.47
51:LQ:106:GLU:HG2	51:LQ:147:TRP:CZ2	2.49	0.47
65:Le:69:TYR:O	65:Le:71:GLN:NE2	2.47	0.47
1:2:65:A:HO2'	1:2:66:U:P	2.36	0.47
1:2:657:U:OP1	1:2:677:G:N1	2.27	0.47
1:2:1551:U:H2'	1:2:1552:U:H6	1.79	0.47
2:SP:103:THR:HG23	2:SP:106:SER:OG	2.15	0.47
3:SQ:35:PRO:HA	3:SQ:232:HIS:CD2	2.49	0.47
3:SQ:113:MET:HG2	3:SQ:209:ASN:OD1	2.14	0.47
4:SE:83:MET:HB3	4:SE:116:LEU:CD1	2.44	0.47
6:SA:103:GLU:OE2	6:SA:173:ARG:NE	2.37	0.47
8:SB:112:ARG:HD2	8:SB:116:HIS:NE2	2.29	0.47
20:SH:73:MET:O	20:SH:76:PRO:HD3	2.14	0.47
20:SH:102:ALA:O	20:SH:105:VAL:HG12	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:SL:52:ASP:OD1	33:SL:53:ILE:N	2.47	0.47
35:A:408:A:N6	37:C:15:G:H1'	2.29	0.47
35:A:1355:A:H4'	35:A:1356:U:O5'	2.12	0.47
35:A:1497:C:H2'	35:A:1498:A:C8	2.50	0.47
35:A:2573:G:H2'	35:A:2574:G:H8	1.78	0.47
35:A:2770:G:H5''	77:Lq:79:THR:HG23	1.96	0.47
36:B:99:G:H4'	43:LI:128:LYS:HZ1	1.79	0.47
41:LG:261:THR:HG22	41:LG:264:GLN:HG3	1.95	0.47
46:LL:193:ASP:OD1	46:LL:194:GLY:N	2.42	0.47
53:LS:106:PHE:HB2	53:LS:111:ARG:NH1	2.26	0.47
58:LX:5:GLY:HA3	58:LX:106:LYS:O	2.15	0.47
1:2:36:C:H2'	1:2:37:U:C6	2.50	0.47
1:2:244:A:OP1	7:SS:155:LYS:NZ	2.31	0.47
1:2:304:U:O2	14:SX:69:LYS:NZ	2.35	0.47
1:2:327:U:H1'	14:SX:10:GLU:CD	2.39	0.47
1:2:745:U:O4	10:SU:104:ARG:NH1	2.46	0.47
1:2:939:A:P	16:SY:114:ARG:HH22	2.37	0.47
1:2:1216:C:O2'	1:2:1217:A:H3'	2.15	0.47
1:2:1220:C:H2'	1:2:1221:A:H8	1.79	0.47
1:2:1341:A:H2'	1:2:1342:C:C6	2.49	0.47
1:2:1501:C:H2'	1:2:1502:G:H8	1.80	0.47
1:2:1586:A:H2'	1:2:1587:A:O4'	2.15	0.47
7:SS:222:LEU:C	7:SS:224:ASN:H	2.22	0.47
8:SB:66:GLN:O	8:SB:68:ILE:HG12	2.14	0.47
9:ST:78:THR:HG22	9:ST:79:LYS:H	1.79	0.47
9:ST:122:GLU:C	9:ST:124:LEU:H	2.22	0.47
13:SC:81:ASN:CG	15:SD:37:VAL:HB	2.39	0.47
22:SJ:68:ARG:NH2	22:SJ:77:LYS:HA	2.30	0.47
32:SO:242:SER:HB2	32:SO:292:LEU:HD12	1.97	0.47
33:SL:8:THR:HG23	33:SL:56:LEU:HB2	1.96	0.47
35:A:273:A:H2'	35:A:274:G:H8	1.79	0.47
35:A:640:U:H2'	35:A:641:C:C6	2.49	0.47
35:A:760:G:N2	35:A:770:G:C4	2.83	0.47
35:A:1268:G:O2'	35:A:1269:U:O2	2.33	0.47
35:A:1488:G:C2	35:A:1489:A:C8	3.02	0.47
35:A:1525:G:H5'	35:A:1830:G:OP2	2.14	0.47
35:A:1567:U:H1'	35:A:1573:G:H1	1.80	0.47
35:A:1729:A:N6	78:Lr:42:CYS:HA	2.29	0.47
35:A:2158:A:N7	35:A:2160:G:C2	2.83	0.47
35:A:2177:G:OP2	38:LD:128:ARG:NH1	2.48	0.47
35:A:2492:C:H5''	35:A:2493:U:C6	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:2939:G:OP2	39:LE:3:HIS:HD2	1.97	0.47
35:A:3049:A:C5	39:LE:75:ALA:HB2	2.50	0.47
35:A:3096:C:H2'	35:A:3097:C:C6	2.50	0.47
36:B:40:C:O2	47:LM:72:ARG:NE	2.44	0.47
36:B:59:U:C2	36:B:60:G:C8	3.03	0.47
36:B:109:G:H2'	36:B:110:G:C8	2.48	0.47
37:C:26:U:O2'	40:LF:51:ALA:O	2.31	0.47
40:LF:300:ARG:NH2	53:LS:38:ARG:O	2.36	0.47
43:LI:82:LYS:HE3	43:LI:82:LYS:HB3	1.73	0.47
44:LJ:231:LYS:HD3	44:LJ:231:LYS:HA	1.67	0.47
48:LN:56:PRO:HG3	48:LN:74:GLY:O	2.15	0.47
48:LN:92:THR:HG21	70:Lj:111:PHE:HB3	1.96	0.47
53:LS:148:GLU:OE1	53:LS:151:ARG:HD3	2.14	0.47
53:LS:148:GLU:O	53:LS:151:ARG:HG2	2.14	0.47
55:LU:132:THR:HG23	55:LU:144:LEU:HD13	1.96	0.47
57:LW:101:ASN:HA	57:LW:103:TYR:CZ	2.50	0.47
60:LZ:51:VAL:HG11	70:Lj:62:GLN:HB3	1.96	0.47
68:Lh:73:ARG:HD2	68:Lh:82:ARG:NE	2.30	0.47
76:Lp:1:MET:HE2	76:Lp:5:TRP:HB2	1.97	0.47
1:2:153:G:C5	1:2:162:A:C6	3.03	0.47
1:2:934:C:N3	1:2:1077:C:H4'	2.30	0.47
1:2:1477:G:H2'	1:2:1478:G:C8	2.50	0.47
1:2:1513:G:H1'	1:2:1518:C:O2	2.15	0.47
4:SE:53:PRO:CB	4:SE:83:MET:HE1	2.45	0.47
4:SE:80:MET:HE2	4:SE:80:MET:HB2	1.83	0.47
9:ST:52:ILE:HG13	9:ST:111:LEU:CD2	2.44	0.47
33:SL:19:THR:HG22	33:SL:20:GLY:H	1.80	0.47
35:A:71:A:C2	35:A:313:A:H1'	2.50	0.47
35:A:96:G:H5'	48:LN:15:ARG:NH1	2.29	0.47
35:A:1627:U:N3	35:A:1817:G:O6	2.48	0.47
35:A:1653:G:H2'	35:A:1654:A:H8	1.79	0.47
35:A:2493:U:OP1	84:E:204:UNK:HA	2.15	0.47
35:A:2568:C:O2'	35:A:2569:A:O4'	2.25	0.47
35:A:2581:U:H2'	35:A:2582:C:C6	2.50	0.47
40:LF:281:ILE:HG13	53:LS:125:ASP:HB3	1.97	0.47
41:LG:285:ARG:CZ	41:LG:285:ARG:HB2	2.44	0.47
45:LK:4:ILE:HD11	55:LU:143:PHE:CE1	2.49	0.47
51:LQ:23:VAL:O	51:LQ:27:LEU:HD23	2.14	0.47
62:Lb:70:PRO:HG3	62:Lb:115:LYS:HB2	1.96	0.47
70:Lj:100:VAL:HG22	70:Lj:104:GLN:HB3	1.97	0.47
82:n:58:A:H4'	82:n:59:A:OP1	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:15:U:H2'	1:2:16:G:O4'	2.15	0.47
1:2:610:G:O2'	1:2:613:G:O2'	2.20	0.47
1:2:705:U:H2'	1:2:706:A:C5	2.50	0.47
1:2:1388:A:C6	1:2:1412:G:C6	3.02	0.47
1:2:1732:A:H2'	1:2:1733:C:H6	1.79	0.47
1:2:1799:U:H5	3:SQ:117:TRP:CE2	2.32	0.47
2:SP:139:VAL:HG22	2:SP:139:VAL:O	2.15	0.47
7:SS:35:PRO:HB2	7:SS:143:ASP:OD1	2.15	0.47
9:ST:13:GLN:O	9:ST:14:LYS:HG2	2.15	0.47
15:SD:27:ALA:HB2	15:SD:132:GLU:HB3	1.97	0.47
17:SZ:47:LYS:HG3	17:SZ:62:LEU:HB3	1.96	0.47
35:A:745:C:H2'	35:A:746:A:C8	2.50	0.47
35:A:1104:G:H2'	35:A:1105:A:C8	2.50	0.47
35:A:1240:A:H61	35:A:1244:A:H2'	1.79	0.47
35:A:1495:U:H2'	35:A:1842:A:C2	2.50	0.47
35:A:1615:C:H2'	35:A:1616:U:C6	2.50	0.47
35:A:1915:A:H2'	35:A:1916:U:C6	2.50	0.47
35:A:3044:G:H4'	39:LE:13:HIS:HB2	1.96	0.47
35:A:3107:U:H2'	35:A:3108:G:C8	2.49	0.47
47:LM:38:GLU:OE1	47:LM:44:THR:HA	2.14	0.47
50:LP:68:ARG:HA	50:LP:98:LEU:HD21	1.95	0.47
53:LS:102:ALA:HB3	53:LS:127:LEU:HD22	1.97	0.47
73:Lm:41:THR:HG22	73:Lm:43:PHE:HE1	1.80	0.47
1:2:326:G:H2'	1:2:327:U:C6	2.49	0.47
1:2:532:U:H4'	26:Sd:66:GLY:HA2	1.96	0.47
1:2:645:C:H2'	1:2:646:C:C6	2.50	0.47
2:SP:188:LEU:HD21	2:SP:195:TRP:CD1	2.50	0.47
7:SS:112:HIS:NE2	7:SS:237:SER:OG	2.46	0.47
7:SS:128:LYS:HA	7:SS:156:VAL:HG23	1.96	0.47
7:SS:161:LYS:NZ	7:SS:171:ASP:OD2	2.44	0.47
12:SW:18:PRO:HB2	12:SW:19:TYR:CE1	2.50	0.47
17:SZ:28:VAL:HG11	17:SZ:101:ALA:HB1	1.97	0.47
20:SH:62:THR:O	20:SH:66:LEU:HD23	2.14	0.47
23:Sa:4:ASP:OD1	23:Sa:4:ASP:N	2.46	0.47
26:Sd:20:ARG:HD2	26:Sd:74:LEU:HG	1.97	0.47
35:A:19:U:H2'	35:A:20:A:C8	2.50	0.47
35:A:595:G:H2'	35:A:596:C:H6	1.80	0.47
35:A:797:U:O2	48:LN:12:ASN:ND2	2.48	0.47
35:A:1381:A:H2'	35:A:1382:G:H8	1.80	0.47
35:A:2554:A:H3'	69:Li:91:ARG:CZ	2.45	0.47
35:A:2558:U:C4	38:LD:69:TYR:HE2	2.33	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:2597:U:H2'	35:A:2598:G:H8	1.79	0.47
35:A:2794:G:O2'	35:A:2795:U:OP2	2.31	0.47
35:A:2986:U:H2'	35:A:2987:A:C8	2.50	0.47
35:A:3242:G:N7	39:LE:150:ARG:NH1	2.63	0.47
35:A:3278:C:H2'	35:A:3278:C:O2	2.13	0.47
41:LG:79:TYR:O	41:LG:82:GLU:HG2	2.14	0.47
45:LK:23:ARG:NH1	45:LK:23:ARG:HG3	2.28	0.47
47:LM:9:MET:CG	47:LM:10:ARG:H	2.25	0.47
61:La:99:LEU:HD13	61:La:104:LEU:HD21	1.96	0.47
71:Lk:4:LYS:HA	71:Lk:12:ASN:HB3	1.97	0.47
80:z:424:THR:HG1	80:z:425:HIS:CE1	2.32	0.47
1:2:174:U:H2'	1:2:175:G:O4'	2.14	0.46
1:2:331:A:H2'	1:2:332:U:C6	2.51	0.46
1:2:477:A:OP2	30:Sg:28:LYS:NZ	2.34	0.46
1:2:827:C:H2'	1:2:828:U:H6	1.80	0.46
1:2:872:G:H2'	1:2:873:U:O4'	2.14	0.46
1:2:900:A:C4	1:2:901:G:C8	3.02	0.46
1:2:1163:A:O3'	8:SB:166:ARG:NH2	2.42	0.46
1:2:1477:G:C6	1:2:1531:G:C6	3.03	0.46
3:SQ:180:THR:HG22	3:SQ:183:GLN:CD	2.40	0.46
9:ST:7:TYR:CE2	9:ST:9:VAL:HB	2.49	0.46
21:SI:10:ALA:HB3	21:SI:13:ASP:OD2	2.15	0.46
23:Sa:78:LEU:HD12	23:Sa:79:LEU:CD1	2.45	0.46
35:A:80:G:H2'	35:A:81:C:C6	2.50	0.46
35:A:120:G:N2	44:LJ:126:SER:OG	2.48	0.46
35:A:991:G:C6	35:A:1059:G:C6	3.03	0.46
35:A:1447:G:N7	52:LR:25:SER:OG	2.43	0.46
35:A:1447:G:O2'	35:A:2355:G:O6	2.27	0.46
35:A:1746:U:H2'	35:A:1747:G:H8	1.81	0.46
35:A:1815:U:H1'	35:A:1816:A:OP2	2.14	0.46
35:A:2196:C:H2'	35:A:2242:A:H61	1.80	0.46
35:A:2225:U:H4'	77:Lq:36:PHE:HE2	1.81	0.46
35:A:2266:U:H2'	35:A:2267:C:C6	2.50	0.46
35:A:2502:A:H2'	35:A:2503:G:H8	1.78	0.46
35:A:2525:G:HO2'	35:A:2526:C:P	2.30	0.46
35:A:2681:U:O2'	47:LM:20:ASN:ND2	2.48	0.46
36:B:28:C:H2'	36:B:29:C:O4'	2.15	0.46
43:LI:44:ILE:HG12	43:LI:180:SER:HB3	1.97	0.46
44:LJ:160:ILE:O	44:LJ:164:VAL:HG13	2.16	0.46
47:LM:27:GLY:O	47:LM:31:THR:HG23	2.15	0.46
49:LO:35:ILE:HD13	49:LO:44:VAL:HG21	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:LP:94:TYR:OH	50:LP:96:ARG:HD3	2.14	0.46
57:LW:39:ASP:OD1	57:LW:40:HIS:ND1	2.35	0.46
58:LX:10:LYS:HB2	58:LX:125:LEU:HD22	1.97	0.46
59:LY:47:ARG:HD3	59:LY:58:HIS:ND1	2.30	0.46
66:Lf:17:HIS:HB2	66:Lf:69:TYR:HB3	1.97	0.46
69:Li:67:LYS:HA	69:Li:70:LYS:NZ	2.29	0.46
78:Lr:49:ARG:NE	78:Lr:51:ALA:O	2.48	0.46
1:2:211:U:H5''	14:SX:20:PHE:CD1	2.50	0.46
1:2:1234:A:H4'	31:SN:145:HIS:HE1	1.80	0.46
1:2:1292:G:H21	2:SP:111:ILE:HD11	1.79	0.46
1:2:1520:U:H4'	1:2:1523:G:N2	2.30	0.46
1:2:1604:U:C4	1:2:1605:G:N7	2.83	0.46
3:SQ:141:ALA:HB1	3:SQ:207:LEU:HD13	1.97	0.46
5:SR:172:ALA:HB1	5:SR:176:SER:OG	2.16	0.46
11:SV:159:GLN:HE21	11:SV:166:TYR:N	2.05	0.46
15:SD:54:ARG:HH22	31:SN:129:GLY:HA2	1.80	0.46
35:A:709:A:OP1	53:LS:179:ARG:NH1	2.42	0.46
35:A:991:G:C5	35:A:1059:G:C6	3.03	0.46
35:A:2563:G:H5''	44:LJ:27:THR:HB	1.97	0.46
35:A:2918:G:C2	35:A:2919:A:N7	2.83	0.46
35:A:2972:G:H2'	35:A:2973:G:H8	1.80	0.46
35:A:3095:U:H2'	35:A:3096:C:C6	2.51	0.46
35:A:3281:U:H2'	35:A:3282:U:C6	2.49	0.46
39:LE:369:ARG:HH21	39:LE:370:PHE:HE2	1.62	0.46
46:LL:70:ILE:HG12	81:m:53:G:H4'	1.97	0.46
48:LN:63:VAL:HG22	63:Lc:128:ARG:NH1	2.31	0.46
1:2:489:C:H3'	1:2:492:A:N6	2.30	0.46
1:2:809:A:H2'	1:2:810:G:C8	2.51	0.46
1:2:947:U:H2'	1:2:948:G:H8	1.79	0.46
1:2:1221:A:H2'	1:2:1222:C:H6	1.81	0.46
1:2:1546:G:H2'	1:2:1547:A:H8	1.80	0.46
1:2:1546:G:P	20:SH:123:ARG:HH21	2.36	0.46
1:2:1636:C:O2	1:2:1765:A:N6	2.46	0.46
4:SE:90:ILE:HD11	4:SE:112:LEU:HG	1.96	0.46
5:SR:99:LYS:HB2	5:SR:117:THR:HG22	1.97	0.46
8:SB:99:MET:O	8:SB:104:ASN:ND2	2.49	0.46
13:SC:46:LEU:O	13:SC:50:THR:HG23	2.16	0.46
16:SY:86:GLU:HA	16:SY:89:TYR:HB3	1.97	0.46
35:A:993:G:N3	35:A:2637:A:H2'	2.30	0.46
35:A:1580:A:H4'	35:A:1581:C:H5'	1.98	0.46
35:A:1740:U:H1'	35:A:1741:A:H2	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:2198:A:C5	35:A:2199:G:C8	3.03	0.46
35:A:2412:G:H2'	35:A:2413:A:C8	2.49	0.46
35:A:3232:G:C6	35:A:3256:G:C5	3.03	0.46
35:A:3305:A:H2'	35:A:3306:U:O4'	2.15	0.46
36:B:52:G:H2'	36:B:53:U:C6	2.51	0.46
41:LG:211:LEU:HD23	41:LG:211:LEU:HA	1.71	0.46
48:LN:7:LEU:O	63:Lc:49:HIS:NE2	2.47	0.46
53:LS:120:GLU:OE1	53:LS:130:ARG:NH2	2.44	0.46
71:Lk:55:ARG:O	71:Lk:56:ARG:HB3	2.14	0.46
1:2:447:U:O2'	1:2:448:C:OP1	2.29	0.46
1:2:809:A:C6	1:2:810:G:C6	3.04	0.46
1:2:1701:A:N7	1:2:1702:A:N6	2.63	0.46
6:SA:93:ASP:HB3	6:SA:96:LEU:HD23	1.95	0.46
9:ST:10:ASN:ND2	9:ST:125:THR:O	2.48	0.46
9:ST:62:PRO:HG2	9:ST:83:CYS:SG	2.56	0.46
18:SF:22:VAL:HG22	18:SF:65:ILE:HG12	1.98	0.46
19:SG:27:ASP:CG	19:SG:30:THR:HG23	2.40	0.46
20:SH:23:ASP:OD1	20:SH:24:GLY:N	2.48	0.46
29:SM:36:LEU:HD12	29:SM:36:LEU:HA	1.79	0.46
32:SO:51:ASP:OD1	32:SO:52:GLN:N	2.47	0.46
35:A:432:G:H2'	35:A:433:A:C8	2.50	0.46
35:A:986:U:H2'	35:A:987:U:H6	1.79	0.46
35:A:998:A:H2'	35:A:999:G:H8	1.80	0.46
35:A:1100:U:OP2	43:LI:196:LYS:NZ	2.42	0.46
35:A:1126:G:C6	35:A:1133:A:C6	3.04	0.46
35:A:1857:C:O2	69:Li:4:ARG:HB3	2.15	0.46
35:A:3175:U:H4'	35:A:3176:G:H5'	1.97	0.46
35:A:3353:G:C4	35:A:3356:G:C8	3.03	0.46
36:B:37:G:N2	36:B:41:G:N3	2.64	0.46
36:B:110:G:H2'	36:B:111:U:C6	2.50	0.46
38:LD:114:SER:O	38:LD:165:VAL:HG12	2.15	0.46
41:LG:197:SER:HB2	41:LG:202:GLY:HA3	1.96	0.46
45:LK:70:THR:O	45:LK:74:LEU:HD22	2.16	0.46
46:LL:211:ARG:CZ	46:LL:211:ARG:HB2	2.45	0.46
48:LN:162:ASN:HB2	48:LN:164:GLU:CD	2.41	0.46
53:LS:57:ILE:HG13	53:LS:58:ASN:OD1	2.14	0.46
81:m:5:C:H2'	81:m:6:G:H8	1.79	0.46
1:2:91:G:OP1	1:2:397:A:N6	2.49	0.46
1:2:213:A:H2'	1:2:214:G:O4'	2.16	0.46
1:2:753:A:N7	7:SS:187:ARG:NH2	2.64	0.46
1:2:1390:U:C6	19:SG:3:ARG:HG3	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1466:G:O2'	1:2:1602:C:OP1	2.29	0.46
1:2:1482:C:P	1:2:1521:G:H1	2.39	0.46
3:SQ:13:LYS:HB3	3:SQ:13:LYS:HE2	1.77	0.46
5:SR:67:GLN:OE1	5:SR:67:GLN:N	2.39	0.46
15:SD:76:GLU:HA	15:SD:88:LEU:HD11	1.98	0.46
15:SD:131:ASP:OD1	15:SD:132:GLU:N	2.49	0.46
19:SG:27:ASP:OD1	19:SG:27:ASP:C	2.59	0.46
22:SJ:64:LYS:HA	22:SJ:82:TYR:O	2.16	0.46
35:A:50:U:H2'	35:A:51:A:H8	1.80	0.46
35:A:767:U:C2	35:A:768:C:C5	3.02	0.46
35:A:1765:U:H2'	35:A:1766:G:H8	1.80	0.46
35:A:1913:A:N3	35:A:2120:A:H2'	2.31	0.46
35:A:2877:G:H2'	35:A:2878:G:C8	2.50	0.46
35:A:3006:A:C2	35:A:3141:A:C4	3.04	0.46
35:A:3068:U:OP1	54:LT:59:SER:N	2.38	0.46
38:LD:117:GLU:OE2	38:LD:121:GLY:N	2.33	0.46
39:LE:199:PHE:O	39:LE:200:GLU:HG2	2.15	0.46
47:LM:14:ILE:HG23	47:LM:129:VAL:HG13	1.98	0.46
1:2:151:G:C2	1:2:152:U:C4	3.04	0.46
1:2:221:A:H5''	1:2:833:U:O2'	2.14	0.46
1:2:224:C:O2'	1:2:225:A:OP1	2.29	0.46
1:2:521:A:H2'	1:2:522:U:C6	2.51	0.46
1:2:555:A:N3	1:2:555:A:H2'	2.30	0.46
1:2:959:U:H6	16:SY:61:THR:OG1	1.99	0.46
1:2:1234:A:C4'	31:SN:145:HIS:HE1	2.29	0.46
1:2:1579:U:H2'	1:2:1580:C:C6	2.51	0.46
10:SU:124:LYS:NZ	10:SU:127:GLU:OE1	2.42	0.46
14:SX:75:VAL:HG23	14:SX:119:VAL:HA	1.98	0.46
17:SZ:20:TYR:HE1	17:SZ:84:ARG:NH2	2.14	0.46
20:SH:17:LEU:HB3	20:SH:18:LEU:HD12	1.98	0.46
33:SL:60:GLU:H	33:SL:60:GLU:CD	2.23	0.46
35:A:12:A:H2'	35:A:13:A:C8	2.50	0.46
35:A:20:A:H2'	35:A:21:G:C8	2.50	0.46
35:A:67:A:N6	35:A:271:C:O2'	2.46	0.46
35:A:75:G:O2'	48:LN:70:ARG:NH2	2.49	0.46
35:A:156:G:H22	48:LN:91:ARG:HH22	1.63	0.46
35:A:417:A:H2'	35:A:418:A:C8	2.50	0.46
35:A:824:C:C2	35:A:902:G:C2	3.04	0.46
35:A:1046:A:O2'	35:A:1048:A:OP2	2.22	0.46
35:A:1178:G:N3	35:A:1328:C:O2'	2.44	0.46
35:A:1940:G:O2'	35:A:3362:A:O2'	2.27	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:2200:U:C2	35:A:2201:G:C8	3.03	0.46
35:A:2310:U:H2'	35:A:2311:G:C8	2.51	0.46
35:A:2328:U:H2'	35:A:2329:C:C6	2.50	0.46
35:A:2781:U:H2'	35:A:2782:U:C6	2.51	0.46
35:A:3205:G:OP2	35:A:3206:C:N4	2.48	0.46
35:A:3292:A:N6	35:A:3293:U:O4	2.49	0.46
36:B:39:C:H4'	47:LM:44:THR:HG23	1.98	0.46
39:LE:86:VAL:HG22	39:LE:162:VAL:HG12	1.97	0.46
41:LG:65:ILE:CG2	41:LG:72:ASP:HB3	2.46	0.46
41:LG:211:LEU:HB3	41:LG:219:PHE:HB2	1.98	0.46
43:LI:74:SER:HB2	56:LV:141:VAL:O	2.15	0.46
44:LJ:133:LYS:HG3	44:LJ:142:LEU:HD11	1.97	0.46
50:LP:175:ASN:OD1	50:LP:176:LYS:N	2.49	0.46
56:LV:14:MET:HE3	56:LV:14:MET:HB2	1.84	0.46
1:2:258:C:O2	11:SV:178:ARG:NH1	2.49	0.46
1:2:560:U:H2'	1:2:561:G:C8	2.46	0.46
1:2:779:U:OP2	1:2:780:A:N6	2.49	0.46
1:2:1210:C:H2'	1:2:1211:A:C8	2.50	0.46
1:2:1530:C:H2'	1:2:1531:G:H8	1.80	0.46
1:2:1555:A:OP2	4:SE:47:ARG:NH2	2.45	0.46
1:2:1615:C:OP1	33:SL:18:ARG:NH2	2.49	0.46
1:2:1667:A:H2'	1:2:1668:G:H8	1.81	0.46
3:SQ:189:ILE:HB	3:SQ:190:PRO:HD3	1.97	0.46
6:SA:21:LEU:HD23	6:SA:21:LEU:HA	1.78	0.46
8:SB:52:GLU:OE2	8:SB:53:VAL:N	2.49	0.46
24:Sb:20:THR:HG21	24:Sb:22:LYS:NZ	2.30	0.46
25:Sc:46:SER:OG	25:Sc:78:LYS:NZ	2.49	0.46
26:Sd:41:ARG:HH21	26:Sd:53:ASP:HA	1.81	0.46
32:SO:274:LEU:HD12	32:SO:275:ARG:H	1.80	0.46
35:A:62:A:N3	50:LP:189:LYS:NZ	2.64	0.46
35:A:75:G:H5'	48:LN:59:ARG:O	2.16	0.46
35:A:99:A:H1'	35:A:281:G:N7	2.30	0.46
35:A:246:U:H2'	35:A:247:C:C5	2.50	0.46
35:A:550:A:H2'	35:A:551:A:C8	2.51	0.46
35:A:1636:U:O2'	62:Lb:79:HIS:ND1	2.42	0.46
35:A:1666:G:H2'	35:A:1667:A:C8	2.50	0.46
35:A:2430:A:H2'	35:A:2431:C:H6	1.80	0.46
35:A:2532:U:H2'	35:A:2533:G:C8	2.51	0.46
35:A:2586:G:C6	44:LJ:241:LYS:HB2	2.51	0.46
36:B:74:C:H2'	36:B:75:G:C8	2.51	0.46
37:C:104:A:C8	37:C:105:A:C8	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:LF:327:LEU:HD12	43:LI:181:ILE:HG21	1.98	0.46
41:LG:17:GLN:NE2	56:LV:22:HIS:O	2.41	0.46
41:LG:95:TRP:CH2	41:LG:161:GLY:HA2	2.51	0.46
41:LG:205:SER:O	41:LG:208:MET:HB2	2.15	0.46
43:LI:90:LYS:HG2	43:LI:95:ILE:HD11	1.98	0.46
46:LL:123:HIS:C	46:LL:123:HIS:CD2	2.93	0.46
46:LL:200:LEU:HD12	46:LL:213:PHE:CD2	2.50	0.46
65:Le:18:ILE:HG13	65:Le:81:VAL:O	2.16	0.46
81:m:40:C:H2'	81:m:41:A:H8	1.80	0.46
1:2:522:U:O2'	26:Sd:60:PHE:O	2.33	0.46
1:2:556:A:O2'	1:2:589:C:O2'	2.31	0.46
1:2:566:C:OP1	30:Sg:5:HIS:HB3	2.15	0.46
1:2:625:C:H2'	1:2:626:U:H6	1.80	0.46
1:2:846:G:H5'	1:2:847:A:OP2	2.16	0.46
8:SB:117:THR:HG21	8:SB:194:LEU:HD22	1.97	0.46
15:SD:86:VAL:O	15:SD:88:LEU:N	2.47	0.46
15:SD:136:ILE:HA	15:SD:139:HIS:CE1	2.51	0.46
32:SO:42:LEU:O	32:SO:60:SER:HA	2.16	0.46
32:SO:183:LEU:HD23	32:SO:183:LEU:H	1.81	0.46
32:SO:274:LEU:HD23	32:SO:313:TRP:NE1	2.31	0.46
35:A:108:A:H4'	35:A:323:A:H2	1.81	0.46
35:A:1288:U:H2'	35:A:1289:G:C8	2.50	0.46
35:A:1342:C:H2'	35:A:1343:A:H8	1.80	0.46
35:A:1378:U:H2'	35:A:1379:G:H8	1.81	0.46
35:A:1493:G:N7	74:Ln:13:MET:HE1	2.30	0.46
35:A:1506:A:H1'	35:A:1848:G:O6	2.16	0.46
35:A:2552:C:H2'	65:Le:50:VAL:HG11	1.98	0.46
35:A:3008:A:N6	35:A:3139:A:N6	2.64	0.46
35:A:3066:U:H2'	35:A:3067:C:H6	1.81	0.46
35:A:3232:G:H2'	35:A:3233:C:C6	2.50	0.46
35:A:3296:A:H2'	35:A:3297:U:H6	1.81	0.46
39:LE:312:VAL:HG23	39:LE:364:LYS:HB2	1.98	0.46
40:LF:116:ASN:OD1	40:LF:116:ASN:C	2.59	0.46
41:LG:105:ILE:O	41:LG:109:THR:HG22	2.16	0.46
41:LG:289:LYS:NZ	46:LL:207:GLU:OE2	2.30	0.46
43:LI:202:LEU:HD13	43:LI:205:PHE:CZ	2.50	0.46
56:LV:79:MET:HB2	56:LV:84:TYR:CE1	2.50	0.46
65:Le:63:SER:O	65:Le:63:SER:OG	2.34	0.46
82:n:9:G:C2	82:n:46:G:C5	3.03	0.46
1:2:152:U:O2	9:ST:4:ASN:ND2	2.28	0.46
1:2:997:G:H2'	1:2:998:A:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1431:C:C5'	1:2:1432:U:H5'	2.44	0.46
1:2:1586:A:C4	1:2:1611:A:C6	3.04	0.46
26:Sd:58:PHE:CE1	26:Sd:72:PHE:HB3	2.50	0.46
31:SN:136:LYS:HD2	31:SN:136:LYS:N	2.30	0.46
35:A:137:G:H2'	35:A:138:U:C6	2.51	0.46
35:A:153:U:H4'	35:A:158:G:H4'	1.97	0.46
35:A:385:A:H2'	35:A:386:A:H8	1.81	0.46
35:A:504:A:N6	35:A:588:G:O6	2.49	0.46
35:A:810:A:H2'	35:A:811:U:C6	2.51	0.46
35:A:831:G:O2'	35:A:1864:A:N3	2.36	0.46
35:A:1262:G:H5''	35:A:1263:A:OP2	2.15	0.46
35:A:1339:C:H2'	35:A:1340:G:H8	1.81	0.46
35:A:1697:A:H2'	35:A:1698:C:O4'	2.16	0.46
35:A:1728:G:H5''	35:A:1730:G:O4'	2.16	0.46
35:A:3050:U:O2'	59:LY:16:GLY:O	2.34	0.46
36:B:25:G:H2'	36:B:26:C:C6	2.51	0.46
37:C:6:U:H2'	37:C:7:U:C6	2.51	0.46
37:C:57:C:OP2	72:LL:68:LYS:NZ	2.48	0.46
46:LL:51:HIS:CD2	46:LL:168:SER:HB3	2.50	0.46
46:LL:109:ASP:OD1	46:LL:110:ARG:N	2.48	0.46
55:LU:109:ASP:OD1	55:LU:113:ARG:NH1	2.47	0.46
69:Li:41:ARG:HA	69:Li:56:THR:HG22	1.98	0.46
69:Li:71:THR:OG1	69:Li:72:VAL:N	2.48	0.46
1:2:86:A:H5'	26:Sd:120:GLY:HA2	1.98	0.46
1:2:323:A:OP2	11:SV:10:LYS:NZ	2.38	0.46
1:2:330:G:C6	1:2:331:A:C5	3.04	0.46
1:2:1048:G:O3'	28:Sf:69:GLY:HA3	2.15	0.46
1:2:1476:C:H2'	1:2:1477:G:H8	1.80	0.46
1:2:1608:U:OP1	18:SF:14:LYS:HB3	2.15	0.46
2:SP:84:ARG:NE	2:SP:203:PHE:O	2.48	0.46
3:SQ:127:VAL:HG11	3:SQ:176:VAL:HG11	1.97	0.46
7:SS:23:LEU:HB3	12:SW:3:ARG:HH21	1.81	0.46
16:SY:93:LYS:HE2	16:SY:93:LYS:HB2	1.74	0.46
28:Sf:81:ARG:HD3	28:Sf:82:LYS:H	1.81	0.46
32:SO:299:GLN:HG2	32:SO:300:THR:HG23	1.98	0.46
34:AA:80:LEU:HD23	34:AA:80:LEU:HA	1.75	0.46
35:A:196:G:N1	35:A:199:A:OP2	2.49	0.46
35:A:761:A:N3	35:A:771:A:H1'	2.31	0.46
35:A:999:G:H2'	35:A:1000:C:C6	2.51	0.46
35:A:1719:G:N7	54:LT:121:HIS:HE1	2.14	0.46
35:A:2158:A:C8	35:A:2160:G:C4	3.03	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:2545:C:H2'	35:A:2546:C:C6	2.51	0.46
35:A:2659:G:C2	35:A:2712:U:O2	2.69	0.46
35:A:3255:U:H2'	35:A:3256:G:H8	1.81	0.46
35:A:3358:U:H2'	35:A:3359:A:C8	2.51	0.46
37:C:142:C:H2'	37:C:143:U:C6	2.51	0.46
39:LE:41:VAL:HG22	39:LE:186:GLY:H	1.81	0.46
41:LG:195:LEU:O	41:LG:199:ILE:HG13	2.16	0.46
45:LK:151:VAL:HA	45:LK:154:VAL:HG12	1.97	0.46
49:LO:104:ALA:O	49:LO:107:GLU:HG3	2.15	0.46
56:LV:26:HIS:CE1	56:LV:29:THR:HG23	2.51	0.46
58:LX:40:LYS:HG3	58:LX:57:MET:HG3	1.98	0.46
1:2:43:A:C6	1:2:44:U:N3	2.83	0.45
1:2:130:C:H2'	1:2:133:U:O2'	2.15	0.45
1:2:161:U:P	9:ST:87:ARG:HH12	2.38	0.45
1:2:181:A:H8	1:2:182:A:C8	2.34	0.45
1:2:821:U:C2	1:2:852:C:O2	2.69	0.45
1:2:864:U:OP1	28:Sf:26:GLN:NE2	2.44	0.45
1:2:1751:C:H2'	1:2:1752:U:C6	2.51	0.45
2:SP:41:ARG:HH11	2:SP:45:VAL:HB	1.80	0.45
3:SQ:121:ILE:HD12	3:SQ:161:ILE:HD12	1.98	0.45
6:SA:179:GLN:H	6:SA:179:GLN:CD	2.23	0.45
8:SB:77:TYR:HA	8:SB:83:ARG:HG2	1.97	0.45
10:SU:98:ILE:HG12	10:SU:121:VAL:HG21	1.98	0.45
18:SF:26:LYS:HD3	18:SF:26:LYS:HA	1.65	0.45
19:SG:13:SER:O	19:SG:17:ILE:HG13	2.17	0.45
21:SI:11:ALA:HA	21:SI:63:ARG:NH1	2.30	0.45
21:SI:28:LEU:HD21	21:SI:54:PHE:CD1	2.51	0.45
24:Sb:55:ASP:C	24:Sb:57:ARG:H	2.23	0.45
33:SL:19:THR:HG22	33:SL:20:GLY:N	2.31	0.45
35:A:180:C:H2'	35:A:181:U:H6	1.81	0.45
35:A:1119:C:H2'	35:A:1120:A:H8	1.81	0.45
35:A:1242:G:H5''	35:A:1243:G:OP2	2.17	0.45
35:A:1621:A:H2'	35:A:1622:U:H6	1.80	0.45
35:A:2445:A:H8	35:A:2445:A:O5'	1.99	0.45
46:LL:71:CYS:SG	46:LL:72:ALA:N	2.89	0.45
51:LQ:143:THR:HG21	51:LQ:150:GLU:OE1	2.16	0.45
63:Lc:79:TRP:CZ2	63:Lc:121:VAL:HG13	2.51	0.45
63:Lc:125:VAL:HB	63:Lc:145:VAL:HG12	1.99	0.45
77:Lq:12:CYS:HB2	77:Lq:23:HIS:CE1	2.50	0.45
79:Ls:18:THR:HG22	79:Ls:84:VAL:H	1.81	0.45
81:m:43:U:H2'	81:m:44:U:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:108:A:H2'	1:2:109:G:H8	1.78	0.45
1:2:299:A:P	7:SS:30:ARG:HH22	2.39	0.45
1:2:609:U:H4'	1:2:610:G:O5'	2.16	0.45
1:2:1118:G:H2'	1:2:1119:G:O4'	2.17	0.45
1:2:1420:C:P	29:SM:54:LYS:HZ3	2.40	0.45
1:2:1476:C:H2'	1:2:1477:G:C8	2.51	0.45
1:2:1476:C:H5''	21:SI:44:GLU:CD	2.41	0.45
1:2:1566:U:H5''	20:SH:39:GLY:N	2.27	0.45
7:SS:18:TRP:O	7:SS:51:ARG:NH1	2.47	0.45
9:ST:57:ASP:HB3	9:ST:106:LEU:HD23	1.97	0.45
11:SV:80:GLY:C	11:SV:102:VAL:HG23	2.40	0.45
18:SF:10:PHE:O	18:SF:87:LYS:NZ	2.48	0.45
23:Sa:79:LEU:CD2	23:Sa:82:VAL:HG11	2.46	0.45
26:Sd:23:PHE:CE1	26:Sd:73:GLY:HA3	2.51	0.45
28:Sf:47:PHE:CE2	28:Sf:49:HIS:HB2	2.52	0.45
35:A:175:C:N3	35:A:244:G:N2	2.65	0.45
35:A:589:A:H1'	35:A:1337:A:H5''	1.97	0.45
35:A:770:G:P	48:LN:171:ARG:HH21	2.38	0.45
35:A:784:A:H5'	53:LS:69:ARG:NH2	2.31	0.45
35:A:929:A:H2'	35:A:930:U:C6	2.51	0.45
35:A:1709:C:H2'	35:A:1710:C:H6	1.80	0.45
35:A:1729:A:C6	78:Lr:42:CYS:HA	2.51	0.45
36:B:27:A:H2'	36:B:28:C:C6	2.51	0.45
39:LE:17:LEU:HD11	39:LE:233:TRP:HH2	1.81	0.45
40:LF:329:PRO:HB2	43:LI:45:LEU:HD13	1.97	0.45
41:LG:6:ASP:N	41:LG:6:ASP:OD1	2.48	0.45
47:LM:9:MET:O	47:LM:10:ARG:HG2	2.17	0.45
53:LS:165:ILE:CD1	53:LS:172:PHE:HB3	2.45	0.45
57:LW:22:PRO:HB2	57:LW:28:PHE:HB2	1.96	0.45
63:Lc:132:LYS:O	63:Lc:136:GLU:HG2	2.15	0.45
65:Le:23:TYR:C	65:Le:23:TYR:CD1	2.94	0.45
65:Le:43:ILE:HB	65:Le:90:VAL:HG13	1.97	0.45
1:2:100:A:HO2'	1:2:101:U:P	2.39	0.45
1:2:978:A:H2'	1:2:979:A:O4'	2.17	0.45
3:SQ:114:VAL:HA	3:SQ:142:PHE:CE2	2.51	0.45
6:SA:178:ARG:HG3	6:SA:179:GLN:OE1	2.15	0.45
8:SB:65:ARG:O	8:SB:65:ARG:HG2	2.15	0.45
20:SH:122:HIS:O	20:SH:126:ARG:HG2	2.17	0.45
32:SO:61:PHE:HB3	32:SO:92:TRP:CE3	2.52	0.45
35:A:785:G:O4'	53:LS:92:ARG:NH2	2.49	0.45
35:A:1411:C:OP1	67:Lg:98:HIS:N	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1578:C:H2'	35:A:1579:C:C6	2.51	0.45
35:A:2397:A:N6	35:A:2869:U:O2'	2.50	0.45
35:A:2545:C:H2'	35:A:2546:C:H6	1.82	0.45
35:A:2651:G:H5''	35:A:2652:U:O4'	2.17	0.45
35:A:3159:C:H4'	35:A:3395:G:C4	2.52	0.45
35:A:3192:U:H2'	35:A:3193:C:C6	2.51	0.45
35:A:3321:C:H2'	35:A:3322:A:H8	1.81	0.45
38:LD:62:VAL:HG22	38:LD:73:GLU:HG3	1.98	0.45
39:LE:45:SER:OG	39:LE:46:PHE:N	2.49	0.45
39:LE:85:VAL:HG22	39:LE:202:THR:HG22	1.99	0.45
43:LI:189:ILE:HG23	43:LI:190:THR:HG23	1.98	0.45
50:LP:159:ARG:NH2	50:LP:164:LEU:O	2.48	0.45
55:LU:8:GLN:NE2	55:LU:10:ILE:HD11	2.32	0.45
65:Le:17:VAL:HG23	65:Le:98:SER:HB3	1.99	0.45
79:Ls:72:ASP:C	79:Ls:72:ASP:OD1	2.59	0.45
1:2:886:U:H2'	1:2:887:A:O4'	2.17	0.45
1:2:916:U:C4	1:2:917:U:C4	3.05	0.45
1:2:1318:G:OP1	19:SG:67:ARG:NH2	2.43	0.45
1:2:1587:A:H2'	1:2:1588:G:H8	1.82	0.45
1:2:1712:A:H3'	1:2:1713:G:H8	1.80	0.45
1:2:1787:C:H2'	1:2:1788:G:H8	1.81	0.45
6:SA:103:GLU:O	6:SA:107:PHE:HD1	1.99	0.45
6:SA:119:ALA:HB3	6:SA:152:PHE:CD2	2.52	0.45
9:ST:73:ILE:C	9:ST:73:ILE:HD12	2.42	0.45
10:SU:162:ILE:HD11	10:SU:169:PHE:HE2	1.82	0.45
21:SI:89:ARG:HB3	21:SI:90:PRO:HD2	1.98	0.45
35:A:54:C:HO2'	35:A:1547:G:HO2'	1.63	0.45
35:A:550:A:H2'	35:A:551:A:H8	1.81	0.45
35:A:2104:A:OP1	54:LT:78:TYR:OH	2.26	0.45
35:A:2138:A:C4	72:Ll:3:LYS:HB3	2.51	0.45
37:C:99:C:OP1	60:LZ:53:HIS:NE2	2.44	0.45
40:LF:233:LEU:HD23	40:LF:233:LEU:HA	1.86	0.45
41:LG:55:PHE:HD1	41:LG:60:ILE:HG12	1.81	0.45
44:LJ:98:ARG:HG3	44:LJ:98:ARG:NH1	2.29	0.45
46:LL:211:ARG:HG2	46:LL:212:GLU:OE2	2.16	0.45
49:LO:99:TRP:CD1	49:LO:99:TRP:C	2.95	0.45
52:LR:129:THR:OG1	52:LR:139:TYR:HB2	2.16	0.45
53:LS:58:ASN:C	53:LS:60:PRO:HD3	2.41	0.45
65:Le:15:ALA:O	65:Le:19:LYS:HG3	2.17	0.45
74:Ln:16:ALA:HB1	74:Ln:42:ARG:NH2	2.31	0.45
82:n:52:G:H2'	82:n:53:G:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:n:61:C:H2'	82:n:62:C:C6	2.52	0.45
1:2:1063:U:N3	1:2:1064:G:N7	2.63	0.45
1:2:1254:U:H2'	1:2:1255:G:C8	2.51	0.45
1:2:1374:C:H2'	1:2:1375:A:C8	2.52	0.45
3:SQ:55:LYS:HE3	3:SQ:55:LYS:HB3	1.80	0.45
5:SR:37:PRO:HB2	5:SR:43:ARG:HG3	1.98	0.45
9:ST:61:PHE:CE1	9:ST:96:SER:HB3	2.51	0.45
13:SC:32:HIS:ND1	13:SC:35:ILE:HB	2.31	0.45
14:SX:14:GLN:OE1	14:SX:14:GLN:HA	2.16	0.45
22:SJ:43:LYS:HG3	22:SJ:44:ASN:N	2.31	0.45
26:Sd:21:LYS:HB2	26:Sd:75:VAL:HG13	1.99	0.45
26:Sd:53:ASP:OD2	26:Sd:79:VAL:HG13	2.16	0.45
32:SO:242:SER:C	32:SO:243:LEU:HD22	2.42	0.45
35:A:63:A:N3	35:A:78:U:O2'	2.39	0.45
35:A:151:A:C6	35:A:152:U:C4	3.04	0.45
35:A:435:C:H2'	35:A:436:A:C8	2.52	0.45
35:A:491:A:H5''	42:LH:112:THR:HB	1.97	0.45
35:A:658:G:N2	40:LF:93:MET:O	2.35	0.45
35:A:772:U:H2'	35:A:773:G:H8	1.82	0.45
35:A:1182:A:H2'	35:A:1183:C:C6	2.52	0.45
35:A:1243:G:H1'	35:A:1271:A:H1'	1.98	0.45
35:A:1258:U:H1'	35:A:1260:A:C8	2.51	0.45
35:A:1594:A:O2'	35:A:1614:C:O2	2.33	0.45
35:A:2277:C:H5'	35:A:2317:A:H4'	1.99	0.45
35:A:2506:U:H2'	35:A:2507:C:C6	2.52	0.45
35:A:2761:G:N1	35:A:2795:U:H3'	2.31	0.45
35:A:2778:G:C2	35:A:2779:A:N7	2.85	0.45
35:A:3094:A:H2'	35:A:3095:U:C6	2.51	0.45
44:LJ:107:GLU:OE1	44:LJ:108:ARG:N	2.50	0.45
45:LK:117:PHE:CE1	45:LK:165:CYS:HB2	2.52	0.45
54:LT:153:LYS:O	54:LT:157:GLU:HG3	2.17	0.45
56:LV:28:SER:O	56:LV:32:LYS:HG2	2.16	0.45
56:LV:39:ILE:HD12	56:LV:102:ARG:HD3	1.99	0.45
56:LV:90:ASN:C	56:LV:91:LEU:HD23	2.41	0.45
59:LY:28:ILE:HD12	59:LY:28:ILE:N	2.31	0.45
1:2:936:G:OP1	1:2:1074:G:N2	2.33	0.45
1:2:1178:G:C6	1:2:1179:G:C5	3.05	0.45
1:2:1674:C:H2'	1:2:1675:C:C6	2.51	0.45
11:SV:164:ARG:O	11:SV:165:LEU:HD23	2.16	0.45
35:A:613:G:H2'	35:A:614:C:C6	2.52	0.45
35:A:679:U:O2'	35:A:788:C:O2	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1224:C:H2'	35:A:1225:A:C8	2.52	0.45
35:A:1342:C:H2'	35:A:1343:A:C8	2.52	0.45
35:A:2597:U:O2'	50:LP:126:THR:HG22	2.16	0.45
35:A:2681:U:H2'	35:A:2682:C:H6	1.80	0.45
35:A:2916:U:H2'	35:A:2917:G:H8	1.81	0.45
40:LF:39:PHE:HD2	40:LF:242:ALA:HB2	1.81	0.45
46:LL:110:ARG:HH21	82:n:74:C:H3'	1.81	0.45
46:LL:188:GLY:O	46:LL:213:PHE:HB3	2.17	0.45
48:LN:57:VAL:HG23	48:LN:115:ARG:CD	2.46	0.45
51:LQ:62:THR:O	51:LQ:66:LYS:HD3	2.16	0.45
58:LX:104:ASN:C	58:LX:104:ASN:OD1	2.60	0.45
1:2:182:A:H2'	1:2:183:U:C5	2.52	0.45
1:2:445:A:N3	1:2:446:A:C8	2.85	0.45
1:2:623:A:O2'	1:2:624:G:OP1	2.22	0.45
1:2:1202:A:N6	1:2:1457:C:O5'	2.50	0.45
1:2:1462:G:OP2	20:SH:143:ARG:NH1	2.49	0.45
1:2:1573:A:H4'	1:2:1574:G:O5'	2.17	0.45
1:2:1674:C:H2'	1:2:1675:C:H6	1.82	0.45
1:2:1776:A:H2'	1:2:1777:G:H8	1.81	0.45
4:SE:64:LYS:NZ	4:SE:73:PRO:HG3	2.32	0.45
6:SA:61:GLU:OE2	6:SA:64:ARG:NH1	2.46	0.45
12:SW:94:ASP:OD1	12:SW:95:TYR:N	2.50	0.45
15:SD:29:LYS:O	15:SD:33:ARG:HG3	2.16	0.45
15:SD:62:LEU:HD13	15:SD:75:VAL:HG11	1.99	0.45
19:SG:34:LEU:HD23	19:SG:38:ILE:HG21	1.98	0.45
35:A:1781:C:H2'	35:A:1782:U:C6	2.51	0.45
35:A:2266:U:OP1	82:n:24:G:O2'	2.35	0.45
35:A:2795:U:O2	35:A:2800:G:O2'	2.27	0.45
36:B:16:U:H2'	36:B:17:A:C8	2.52	0.45
39:LE:34:LYS:HA	39:LE:34:LYS:HD2	1.78	0.45
39:LE:274:SER:O	39:LE:275:ARG:NH1	2.41	0.45
51:LQ:169:ALA:HB3	51:LQ:170:LYS:HZ2	1.81	0.45
57:LW:59:ASP:C	57:LW:59:ASP:OD1	2.59	0.45
62:Lb:11:ALA:CB	62:Lb:80:LEU:HD22	2.47	0.45
81:m:40:C:H2'	81:m:41:A:C8	2.50	0.45
1:2:129:U:OP1	1:2:264:G:N2	2.50	0.45
1:2:172:C:N4	1:2:173:A:H62	2.14	0.45
1:2:575:C:H41	25:Sc:65:ASN:ND2	2.15	0.45
1:2:613:G:H5'	1:2:1099:U:O2	2.17	0.45
1:2:708:C:H5''	1:2:709:C:OP1	2.17	0.45
1:2:888:U:H2'	1:2:889:U:C6	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:999:U:H2'	1:2:1000:C:O4'	2.17	0.45
1:2:1229:G:H2'	1:2:1255:G:N2	2.32	0.45
1:2:1548:G:H2'	1:2:1549:C:C6	2.52	0.45
1:2:1776:A:H2'	1:2:1777:G:C8	2.52	0.45
7:SS:73:ASP:OD2	7:SS:145:ARG:NH2	2.49	0.45
10:SU:143:LEU:HD11	10:SU:149:ILE:HG13	1.99	0.45
17:SZ:45:GLY:HA2	17:SZ:54:GLU:HG2	1.99	0.45
18:SF:122:ARG:C	18:SF:123:ARG:HD2	2.41	0.45
19:SG:75:GLU:OE1	19:SG:75:GLU:N	2.45	0.45
20:SH:41:ARG:HG3	20:SH:85:PHE:HZ	1.80	0.45
21:SI:42:GLY:HA2	21:SI:84:LYS:HD3	1.99	0.45
21:SI:130:ARG:O	21:SI:134:ARG:HG3	2.16	0.45
32:SO:121:MET:SD	32:SO:141:LEU:HD21	2.56	0.45
34:AA:93:SER:HB3	34:AA:100:ILE:HD13	1.98	0.45
35:A:592:A:H5'	42:LH:17:ALA:O	2.17	0.45
35:A:916:G:C8	38:LD:205:ASN:ND2	2.82	0.45
35:A:1245:A:H3'	35:A:1246:G:H5''	1.99	0.45
35:A:1375:G:O6	63:Lc:10:LYS:NZ	2.41	0.45
35:A:2234:G:H2'	35:A:2235:C:C6	2.52	0.45
35:A:2499:U:H2'	35:A:2500:A:H8	1.82	0.45
35:A:2524:A:C8	44:LJ:46:LEU:HD21	2.51	0.45
36:B:20:A:H2'	36:B:21:G:C8	2.52	0.45
47:LM:108:GLU:CD	47:LM:122:ILE:HG23	2.41	0.45
48:LN:160:GLN:OE1	48:LN:160:GLN:HA	2.16	0.45
55:LU:6:GLU:HG3	55:LU:30:PHE:HE1	1.80	0.45
68:Lh:30:ILE:HD12	68:Lh:98:VAL:HG21	1.99	0.45
73:Lm:9:LYS:HD2	73:Lm:9:LYS:HA	1.82	0.45
78:Lr:44:LYS:HB3	78:Lr:46:THR:HG23	1.99	0.45
1:2:119:A:H1'	1:2:397:A:C5	2.52	0.45
1:2:141:U:O2	1:2:141:U:H2'	2.16	0.45
1:2:555:A:H3'	1:2:555:A:OP2	2.17	0.45
1:2:882:U:H2'	1:2:883:C:C6	2.51	0.45
1:2:1346:A:C8	1:2:1370:U:C4	3.05	0.45
1:2:1504:G:H2'	1:2:1505:A:C8	2.52	0.45
1:2:1564:U:H2'	1:2:1565:C:H6	1.81	0.45
1:2:1565:C:H5''	20:SH:41:ARG:HG2	1.97	0.45
1:2:1727:G:H2'	1:2:1728:A:H8	1.81	0.45
2:SP:74:VAL:HG13	2:SP:118:PRO:HB3	1.99	0.45
4:SE:34:VAL:O	4:SE:42:ARG:HG2	2.17	0.45
7:SS:15:PRO:HG2	7:SS:18:TRP:CE2	2.52	0.45
7:SS:205:PHE:HD2	7:SS:221:ARG:CZ	2.29	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:ST:10:ASN:ND2	9:ST:127:THR:O	2.45	0.45
22:SJ:37:VAL:HA	22:SJ:40:ASN:HD21	1.81	0.45
22:SJ:96:PRO:O	22:SJ:100:VAL:HG23	2.16	0.45
24:Sb:75:ILE:HD11	24:Sb:93:LEU:HD11	1.98	0.45
25:Sc:43:PHE:O	25:Sc:78:LYS:NZ	2.48	0.45
32:SO:248:ASN:ND2	32:SO:297:ASP:O	2.49	0.45
32:SO:267:PRO:HG2	32:SO:269:TYR:HB3	1.98	0.45
34:AA:12:LYS:HB2	81:m:41:A:H5''	1.99	0.45
35:A:665:A:H2	48:LN:12:ASN:ND2	2.15	0.45
35:A:713:U:O2'	35:A:754:G:OP1	2.31	0.45
35:A:765:C:C4	48:LN:183:ARG:HD3	2.52	0.45
35:A:914:A:C6	38:LD:204:MET:HE2	2.51	0.45
35:A:951:A:O3'	64:Ld:18:ARG:NH2	2.50	0.45
35:A:1385:C:O2'	42:LH:2:THR:HG23	2.17	0.45
35:A:2611:U:H2'	35:A:2612:U:C6	2.52	0.45
35:A:2675:C:N4	47:LM:22:SER:OG	2.49	0.45
35:A:2883:U:H2'	35:A:2884:C:C6	2.51	0.45
35:A:3105:U:C2	35:A:3106:A:C8	3.04	0.45
35:A:3189:G:H2'	35:A:3190:C:C6	2.52	0.45
35:A:3259:U:H5''	35:A:3261:C:H5	1.81	0.45
35:A:3295:A:H2'	35:A:3296:A:H8	1.82	0.45
35:A:3343:G:H21	35:A:3362:A:H2	1.62	0.45
35:A:3371:G:H2'	35:A:3372:A:H8	1.82	0.45
35:A:3385:U:H2'	35:A:3386:G:O4'	2.16	0.45
36:B:91:G:H2'	36:B:92:A:C8	2.52	0.45
37:C:94:C:H5''	72:Ll:76:ASN:ND2	2.32	0.45
39:LE:19:ARG:HB2	39:LE:232:ARG:NH2	2.32	0.45
41:LG:40:HIS:CE1	56:LV:69:LYS:HB3	2.52	0.45
41:LG:200:PHE:HB3	41:LG:237:GLU:HG3	1.99	0.45
44:LJ:140:VAL:HG21	50:LP:3:ALA:HB2	1.99	0.45
44:LJ:161:GLU:OE2	50:LP:26:ARG:NH1	2.25	0.45
47:LM:122:ILE:HD13	47:LM:122:ILE:HA	1.86	0.45
59:LY:13:ILE:HD11	59:LY:31:PHE:C	2.42	0.45
69:Li:97:GLU:O	69:Li:100:ILE:HG22	2.16	0.45
81:m:30:G:H2'	81:m:31:A:H8	1.82	0.45
82:n:10:A:H61	82:n:25:C:H42	1.65	0.45
1:2:142:G:N7	9:ST:177:ARG:NH2	2.64	0.45
1:2:855:A:C2	1:2:857:U:H1'	2.52	0.45
1:2:1168:U:C2	1:2:1169:G:C8	3.05	0.45
1:2:1249:U:H2'	1:2:1250:U:C6	2.52	0.45
1:2:1477:G:C6	1:2:1531:G:N1	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1667:A:H2'	1:2:1668:G:C8	2.52	0.45
1:2:1787:C:H2'	1:2:1788:G:C8	2.52	0.45
2:SP:51:GLY:HA3	19:SG:113:LEU:HD21	1.99	0.45
3:SQ:186:SER:O	3:SQ:190:PRO:HD3	2.16	0.45
4:SE:32:ASP:HA	4:SE:35:LYS:NZ	2.31	0.45
4:SE:84:ILE:HD12	4:SE:114:HIS:O	2.17	0.45
10:SU:99:LEU:O	10:SU:112:ARG:NH1	2.47	0.45
19:SG:59:LYS:O	19:SG:63:LYS:HG3	2.17	0.45
32:SO:172:ALA:HB3	32:SO:202:LEU:HD22	1.99	0.45
34:AA:35:ARG:HG2	34:AA:36:ALA:O	2.17	0.45
35:A:195:U:H2'	35:A:196:G:O4'	2.17	0.45
35:A:283:G:OP1	77:Lq:45:ARG:NH2	2.46	0.45
35:A:565:U:H2'	35:A:566:G:C8	2.50	0.45
35:A:649:A:OP2	35:A:2868:U:O2'	2.35	0.45
35:A:1019:G:OP1	35:A:1035:G:O2'	2.35	0.45
35:A:1353:U:C5	42:LH:9:TRP:HA	2.52	0.45
35:A:1813:A:O2'	35:A:1816:A:N3	2.45	0.45
35:A:1827:C:H2'	35:A:1828:A:C8	2.51	0.45
35:A:1945:A:H2'	35:A:1946:A:H8	1.81	0.45
35:A:2357:A:H2'	35:A:2358:A:C8	2.52	0.45
35:A:2978:U:O2'	35:A:2979:U:H5'	2.17	0.45
35:A:3242:G:O6	39:LE:150:ARG:NH1	2.50	0.45
35:A:3288:G:C4	35:A:3289:G:C8	3.04	0.45
37:C:144:G:H5'	50:LP:57:GLN:OE1	2.16	0.45
44:LJ:112:GLU:O	44:LJ:116:VAL:HG12	2.17	0.45
45:LK:41:ILE:HD12	45:LK:71:VAL:HB	1.98	0.45
48:LN:188:ARG:HD3	48:LN:188:ARG:N	2.32	0.45
49:LO:33:ALA:CB	49:LO:46:ILE:HD12	2.47	0.45
50:LP:135:VAL:CG1	50:LP:142:ILE:HG21	2.46	0.45
55:LU:8:GLN:HE21	55:LU:10:ILE:HD11	1.81	0.45
59:LY:4:GLU:HB2	59:LY:13:ILE:HB	1.99	0.45
63:Lc:19:LYS:HB3	63:Lc:25:HIS:HB2	1.98	0.45
63:Lc:138:ILE:HG21	63:Lc:145:VAL:HG13	1.98	0.45
70:Lj:24:LEU:HB3	70:Lj:51:ILE:HG12	1.98	0.45
81:m:18:G:H21	81:m:58:A:N6	2.14	0.45
1:2:179:A:N7	1:2:180:A:H1'	2.33	0.44
1:2:258:C:H2'	1:2:259:U:C6	2.52	0.44
1:2:475:A:OP2	12:SW:126:ARG:NH2	2.44	0.44
1:2:1330:G:O2'	19:SG:6:THR:HG21	2.17	0.44
1:2:1393:C:H2'	1:2:1394:G:H8	1.82	0.44
1:2:1556:A:H8	4:SE:40:ARG:NH2	2.15	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1682:U:OP1	9:ST:31:ARG:NH1	2.37	0.44
1:2:1783:C:H2'	1:2:1784:C:C6	2.52	0.44
3:SQ:160:HIS:HD2	3:SQ:205:PHE:HD2	1.63	0.44
4:SE:68:PRO:HG2	4:SE:71:GLU:HB3	1.98	0.44
9:ST:57:ASP:CG	9:ST:98:ARG:HD2	2.42	0.44
10:SU:126:LEU:O	10:SU:130:VAL:HG22	2.16	0.44
11:SV:113:PHE:CE1	11:SV:121:LEU:HD21	2.51	0.44
12:SW:157:ASP:C	12:SW:157:ASP:OD1	2.60	0.44
25:Sc:77:ILE:HD13	25:Sc:77:ILE:HA	1.85	0.44
27:Se:40:ALA:O	27:Se:68:TYR:HB2	2.17	0.44
35:A:229:G:C6	35:A:230:U:C4	3.05	0.44
35:A:1498:A:H2'	35:A:1499:C:C6	2.51	0.44
35:A:2437:G:H1	35:A:2510:U:H3	1.65	0.44
35:A:2730:G:H4'	53:LS:184:PHE:CD2	2.52	0.44
35:A:2998:U:H2'	35:A:2999:U:C6	2.52	0.44
35:A:3107:U:H2'	35:A:3108:G:H8	1.82	0.44
49:LO:60:LEU:HD13	55:LU:152:LEU:HD11	1.98	0.44
51:LQ:18:ARG:O	51:LQ:22:VAL:HG23	2.16	0.44
53:LS:132:PRO:HD2	53:LS:135:GLN:HE22	1.81	0.44
55:LU:42:TRP:CD1	55:LU:53:LYS:HD3	2.52	0.44
68:Lh:67:MET:HE1	68:Lh:90:PRO:HD3	1.99	0.44
73:Lm:11:PHE:O	73:Lm:15:THR:HG23	2.17	0.44
77:Lq:99:GLN:H	77:Lq:99:GLN:HG3	1.65	0.44
84:E:200:UNK:O	84:E:208:UNK:N	2.50	0.44
1:2:502:U:H2'	1:2:503:G:O4'	2.17	0.44
1:2:835:U:H3'	1:2:837:G:O6	2.17	0.44
1:2:1203:A:C4	1:2:1556:A:C2	3.05	0.44
1:2:1597:A:N7	29:SM:14:TYR:HD2	2.15	0.44
8:SB:68:ILE:HG21	8:SB:88:PRO:HG3	1.98	0.44
8:SB:127:GLN:OE1	8:SB:127:GLN:N	2.47	0.44
24:Sb:53:ILE:HB	24:Sb:60:LYS:HB2	2.00	0.44
29:SM:53:ASN:HD22	29:SM:53:ASN:N	2.14	0.44
32:SO:214:ALA:HB2	32:SO:220:ILE:HG23	1.99	0.44
35:A:357:A:O4'	40:LF:81:GLY:HA3	2.18	0.44
35:A:653:A:C2	35:A:1443:G:C5	3.06	0.44
35:A:1254:C:H5	35:A:1263:A:H5''	1.82	0.44
35:A:2736:A:H2'	35:A:2737:C:O4'	2.18	0.44
36:B:52:G:O2'	36:B:53:U:OP1	2.32	0.44
38:LD:104:LEU:HD12	38:LD:158:ILE:HD11	1.99	0.44
39:LE:56:ILE:HD12	39:LE:356:LEU:HD22	2.00	0.44
40:LF:23:PRO:CB	40:LF:259:ASP:HB3	2.46	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:LI:236:ILE:HG13	43:LI:240:VAL:HG23	2.00	0.44
44:LJ:67:ILE:HD12	44:LJ:237:ILE:HB	2.00	0.44
44:LJ:139:VAL:HG13	44:LJ:199:ALA:HB2	1.98	0.44
45:LK:176:LEU:HD12	75:Lo:86:ALA:HB1	1.98	0.44
47:LM:20:ASN:ND2	47:LM:68:HIS:HB3	2.32	0.44
57:LW:32:SER:HA	57:LW:35:LYS:HG2	1.99	0.44
79:Ls:150:PHE:CD1	79:Ls:150:PHE:C	2.95	0.44
81:m:5:C:H2'	81:m:6:G:C8	2.51	0.44
1:2:29:U:H2'	1:2:30:G:C8	2.52	0.44
1:2:209:U:H2'	1:2:210:A:C8	2.53	0.44
1:2:624:G:H2'	1:2:625:C:C6	2.53	0.44
1:2:815:G:P	54:LT:163:ARG:HH12	2.37	0.44
1:2:912:U:H4'	1:2:913:G:O5'	2.17	0.44
1:2:954:G:C4	1:2:955:A:C8	3.05	0.44
1:2:961:U:H2'	1:2:962:C:H6	1.81	0.44
1:2:968:U:O3'	1:2:1032:G:N2	2.50	0.44
1:2:1484:G:H2'	1:2:1485:C:C6	2.51	0.44
5:SR:185:LYS:O	5:SR:189:GLN:HG3	2.18	0.44
8:SB:20:PHE:CZ	8:SB:22:PRO:HG3	2.52	0.44
8:SB:52:GLU:OE2	8:SB:53:VAL:HG12	2.18	0.44
11:SV:195:ARG:NH2	14:SX:11:ARG:HA	2.27	0.44
35:A:506:U:OP2	40:LF:319:LYS:HD2	2.17	0.44
35:A:563:U:H2'	35:A:564:G:H8	1.81	0.44
35:A:1305:U:O2	39:LE:257:PRO:HB3	2.17	0.44
35:A:1324:U:H5'	55:LU:2:ALA:HA	1.99	0.44
35:A:2297:U:O2	35:A:2920:U:H5'	2.18	0.44
35:A:2352:A:H5''	52:LR:83:TRP:O	2.17	0.44
35:A:2407:C:C2	35:A:2408:U:C5	3.05	0.44
35:A:2765:C:OP1	63:Lc:55:LYS:NZ	2.39	0.44
35:A:2946:A:H5''	35:A:2947:G:H5'	1.99	0.44
35:A:3113:A:C2	35:A:3122:A:C5	3.05	0.44
35:A:3170:A:C2	35:A:3281:U:C2	3.05	0.44
35:A:3232:G:C5	35:A:3256:G:C6	3.05	0.44
36:B:8:G:P	41:LG:33:ARG:HH21	2.41	0.44
36:B:22:A:H1'	41:LG:272:TYR:CZ	2.52	0.44
39:LE:144:ILE:H	39:LE:144:ILE:HD12	1.82	0.44
40:LF:319:LYS:HB3	40:LF:319:LYS:HE2	1.80	0.44
45:LK:118:LEU:HD21	45:LK:177:ASP:OD2	2.17	0.44
55:LU:60:SER:OG	55:LU:62:ASN:OD1	2.27	0.44
59:LY:8:PHE:CD1	59:LY:46:PRO:HG3	2.51	0.44
67:Lg:86:THR:HG23	67:Lg:115:LEU:CD2	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:Lr:30:GLU:HA	78:Lr:33:GLN:HG2	1.99	0.44
79:Ls:69:LYS:HE3	79:Ls:69:LYS:HB2	1.77	0.44
80:z:378:ILE:HD11	80:z:383:ARG:HE	1.82	0.44
1:2:91:G:H2'	1:2:92:A:O4'	2.18	0.44
1:2:555:A:N7	1:2:590:C:O2'	2.51	0.44
1:2:772:G:H21	1:2:774:A:H1'	1.83	0.44
1:2:982:U:H2'	1:2:983:A:C8	2.51	0.44
1:2:1446:A:OP1	31:SN:85:TYR:OH	2.30	0.44
7:SS:60:GLU:O	7:SS:64:ILE:HG12	2.18	0.44
7:SS:222:LEU:HD23	7:SS:222:LEU:O	2.18	0.44
8:SB:92:ARG:NH2	8:SB:169:ASN:OD1	2.50	0.44
8:SB:216:GLU:OE1	8:SB:217:LEU:N	2.50	0.44
16:SY:47:PRO:HD2	16:SY:86:GLU:HG3	1.98	0.44
17:SZ:48:VAL:HG21	17:SZ:59:ALA:HB2	1.99	0.44
35:A:767:U:O5'	48:LN:186:ARG:NH2	2.29	0.44
35:A:995:U:H4'	35:A:2636:A:H5''	1.98	0.44
35:A:2437:G:N2	35:A:2510:U:O2	2.40	0.44
35:A:2532:U:H2'	35:A:2533:G:H8	1.82	0.44
35:A:3164:C:O2'	35:A:3165:A:H8	1.77	0.44
35:A:3183:A:H2'	35:A:3184:A:H8	1.81	0.44
35:A:3192:U:OP1	51:LQ:176:LYS:NZ	2.51	0.44
46:LL:31:ILE:HA	46:LL:66:GLU:OE2	2.17	0.44
53:LS:157:PRO:HA	53:LS:186:VAL:HG12	1.98	0.44
65:Le:22:LYS:HB3	65:Le:94:GLU:OE1	2.16	0.44
73:Lm:27:ILE:HD13	73:Lm:27:ILE:HA	1.80	0.44
79:Ls:149:SER:OG	79:Ls:150:PHE:N	2.50	0.44
1:2:472:U:H5''	12:SW:11:THR:HG23	2.00	0.44
1:2:780:A:C2	26:Sd:8:ARG:HD2	2.52	0.44
1:2:884:A:H2'	1:2:885:G:H8	1.82	0.44
1:2:1451:C:OP1	29:SM:12:ARG:NH1	2.35	0.44
1:2:1482:C:H1'	18:SF:74:HIS:CD2	2.52	0.44
1:2:1565:C:OP1	20:SH:41:ARG:HG2	2.17	0.44
1:2:1676:U:OP1	11:SV:44:HIS:ND1	2.40	0.44
1:2:1686:C:H2'	1:2:1687:U:C6	2.52	0.44
1:2:1691:A:H2'	1:2:1692:G:N7	2.33	0.44
16:SY:54:LEU:HD23	16:SY:60:VAL:HG11	1.99	0.44
17:SZ:84:ARG:NH1	17:SZ:120:PRO:HD3	2.33	0.44
19:SG:81:LYS:O	19:SG:84:TYR:HB3	2.17	0.44
20:SH:41:ARG:CZ	21:SI:38:LYS:HD2	2.48	0.44
26:Sd:9:THR:HG22	26:Sd:25:VAL:HG23	2.00	0.44
34:AA:49:ARG:HH21	34:AA:53:GLU:CD	2.25	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:135:C:C2	70:Lj:94:LYS:HB2	2.52	0.44
35:A:602:A:H2'	35:A:603:A:C4	2.52	0.44
35:A:899:U:H2'	35:A:900:G:H8	1.82	0.44
35:A:1862:U:H3	35:A:1868:G:H1	1.65	0.44
35:A:2221:G:N2	35:A:2224:A:OP2	2.46	0.44
35:A:3073:A:H2'	35:A:3074:G:O4'	2.17	0.44
35:A:3297:U:O3'	52:LR:74:LYS:NZ	2.46	0.44
38:LD:26:ALA:HB1	38:LD:28:LYS:HE2	2.00	0.44
39:LE:41:VAL:CG2	39:LE:186:GLY:H	2.30	0.44
39:LE:128:LYS:O	39:LE:131:THR:OG1	2.31	0.44
43:LI:224:ILE:HD13	55:LU:39:SER:HB2	1.99	0.44
46:LL:24:ARG:HE	82:n:64:A:P	2.39	0.44
46:LL:163:GLN:H	46:LL:163:GLN:CD	2.25	0.44
48:LN:8:PRO:HB3	53:LS:164:ARG:O	2.18	0.44
62:Lb:68:ILE:O	62:Lb:115:LYS:NZ	2.36	0.44
67:Lg:65:PHE:HB2	67:Lg:72:LYS:HD3	2.00	0.44
72:Ll:66:TYR:CD1	72:Ll:66:TYR:C	2.96	0.44
81:m:54:U:O2'	81:m:56:C:H5''	2.16	0.44
1:2:256:A:H2'	1:2:257:A:O4'	2.17	0.44
1:2:743:U:C4	1:2:809:A:C6	3.06	0.44
1:2:1178:G:C6	1:2:1462:G:C6	3.05	0.44
1:2:1347:U:OP2	22:SJ:23:ARG:NH1	2.51	0.44
1:2:1685:G:C6	1:2:1717:G:C6	3.06	0.44
3:SQ:138:PHE:O	3:SQ:213:ARG:N	2.51	0.44
4:SE:20:VAL:HG12	4:SE:25:LEU:HB3	1.98	0.44
5:SR:246:GLU:C	5:SR:246:GLU:OE1	2.61	0.44
7:SS:125:LYS:H	7:SS:142:HIS:HD2	1.64	0.44
11:SV:20:GLN:HA	11:SV:20:GLN:OE1	2.17	0.44
13:SC:56:LYS:HD3	13:SC:57:THR:N	2.33	0.44
17:SZ:64:ALA:HB3	17:SZ:104:ALA:HB3	2.00	0.44
18:SF:100:GLN:NE2	32:SO:57:PRO:O	2.37	0.44
21:SI:105:LEU:HD22	21:SI:122:ARG:HD3	1.99	0.44
21:SI:134:ARG:HB3	21:SI:134:ARG:HH11	1.83	0.44
23:Sa:38:LYS:O	23:Sa:46:ILE:HG22	2.18	0.44
26:Sd:15:ASN:HD21	26:Sd:20:ARG:NE	2.14	0.44
32:SO:129:LYS:HG2	32:SO:149:ASP:C	2.43	0.44
32:SO:201:THR:HG23	32:SO:243:LEU:HD23	1.99	0.44
35:A:110:G:OP2	48:LN:73:ARG:NH2	2.45	0.44
35:A:297:G:O6	50:LP:12:ARG:NH1	2.51	0.44
35:A:599:C:OP1	40:LF:332:LYS:NZ	2.34	0.44
35:A:619:A:OP1	52:LR:167:ARG:NH1	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1105:A:H2'	35:A:1106:G:C8	2.52	0.44
35:A:1283:C:H2'	35:A:1284:C:C5	2.53	0.44
35:A:1467:A:H1'	35:A:1469:C:OP2	2.17	0.44
35:A:1590:G:C2	35:A:1591:G:C8	3.06	0.44
35:A:2213:A:N7	35:A:2232:A:N6	2.66	0.44
35:A:2315:G:C2	35:A:2316:G:N7	2.86	0.44
36:B:120:C:H2'	41:LG:265:TYR:CE1	2.52	0.44
37:C:43:A:H2'	37:C:44:A:C8	2.53	0.44
37:C:118:C:H2'	37:C:119:C:C6	2.53	0.44
39:LE:180:GLU:O	39:LE:181:ILE:HD13	2.17	0.44
41:LG:94:ASN:OD1	41:LG:94:ASN:C	2.61	0.44
42:LH:34:LEU:HD23	42:LH:34:LEU:HA	1.77	0.44
45:LK:10:ILE:HG21	45:LK:75:VAL:HG11	1.99	0.44
47:LM:45:PRO:HA	47:LM:69:VAL:HG12	1.99	0.44
48:LN:9:ILE:HD13	48:LN:9:ILE:HA	1.80	0.44
63:Lc:75:LEU:HG	63:Lc:114:GLY:HA2	1.98	0.44
1:2:23:G:OP1	12:SW:14:THR:HG21	2.18	0.44
1:2:127:G:C6	1:2:179:A:C6	3.06	0.44
1:2:446:A:C6	1:2:447:U:C4	3.05	0.44
1:2:734:A:N3	1:2:734:A:H2'	2.32	0.44
1:2:891:A:H2'	1:2:892:A:C8	2.51	0.44
1:2:1091:A:H4'	1:2:1092:A:O4'	2.18	0.44
1:2:1525:A:H2'	1:2:1526:A:C8	2.53	0.44
1:2:1585:U:H5''	18:SF:134:ALA:HB3	1.98	0.44
1:2:1590:G:OP1	21:SI:91:TYR:HB2	2.17	0.44
10:SU:58:LEU:HG	10:SU:88:ARG:HD2	1.99	0.44
12:SW:58:ASP:C	12:SW:58:ASP:OD1	2.60	0.44
14:SX:93:TYR:HB2	14:SX:100:TYR:CE2	2.53	0.44
18:SF:115:THR:O	18:SF:115:THR:OG1	2.34	0.44
23:Sa:27:ASP:O	23:Sa:29:HIS:N	2.51	0.44
30:Sg:20:LYS:HD3	30:Sg:20:LYS:C	2.43	0.44
32:SO:59:ARG:NH1	32:SO:95:ALA:O	2.50	0.44
35:A:245:U:O2'	35:A:246:U:O4'	2.33	0.44
35:A:347:G:N7	72:Ll:55:ARG:NH1	2.66	0.44
35:A:422:A:C2	35:A:2363:A:H4'	2.53	0.44
35:A:860:G:N7	38:LD:181:LYS:HB3	2.33	0.44
35:A:1032:C:H2'	35:A:1033:U:C6	2.51	0.44
35:A:1577:G:H2'	35:A:1578:C:H6	1.83	0.44
35:A:2419:A:H2'	35:A:2420:C:C6	2.53	0.44
35:A:2812:C:H2'	35:A:2813:A:C8	2.53	0.44
35:A:3018:C:C4	35:A:3019:U:C4	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:C:111:A:O2'	37:C:112:U:H5''	2.18	0.44
38:LD:57:PRO:HG2	38:LD:78:ALA:HB3	2.00	0.44
41:LG:261:THR:HG22	41:LG:264:GLN:OE1	2.18	0.44
50:LP:98:LEU:HA	50:LP:101:THR:HG22	1.99	0.44
53:LS:134:GLY:O	53:LS:137:THR:OG1	2.23	0.44
60:LZ:40:LEU:HD23	60:LZ:40:LEU:HA	1.87	0.44
75:Lo:103:LEU:HD13	75:Lo:121:LEU:HD11	1.99	0.44
1:2:271:A:C2	1:2:285:G:C6	3.06	0.44
1:2:518:A:H1'	1:2:534:A:H61	1.83	0.44
1:2:915:A:C5	1:2:916:U:C4	3.05	0.44
1:2:1061:A:OP1	1:2:1061:A:H4'	2.16	0.44
1:2:1310:U:H2'	1:2:1311:U:C6	2.53	0.44
1:2:1347:U:O2	1:2:1347:U:H2'	2.17	0.44
1:2:1483:A:H2'	1:2:1484:G:C8	2.53	0.44
1:2:1555:A:O3'	4:SE:44:ARG:NH2	2.41	0.44
3:SQ:58:SER:O	3:SQ:62:LYS:HG2	2.18	0.44
3:SQ:87:ARG:HD2	3:SQ:101:HIS:ND1	2.33	0.44
9:ST:46:LYS:HE3	9:ST:46:LYS:HB3	1.73	0.44
18:SF:40:GLU:HG3	18:SF:41:PRO:HA	2.00	0.44
23:Sa:28:ASP:OD2	23:Sa:31:SER:HB3	2.18	0.44
30:Sg:9:ALA:O	30:Sg:10:ARG:HG2	2.17	0.44
32:SO:281:TYR:CG	32:SO:281:TYR:O	2.70	0.44
35:A:1411:C:H2'	35:A:1412:G:H8	1.81	0.44
35:A:1628:C:O4'	35:A:1814:A:N6	2.51	0.44
35:A:1855:U:H2'	35:A:1856:C:H6	1.82	0.44
35:A:2152:A:H2'	35:A:2153:U:C6	2.53	0.44
35:A:2213:A:N3	35:A:2601:A:O2'	2.42	0.44
35:A:2515:A:H2'	35:A:2516:U:O4'	2.18	0.44
35:A:3066:U:H2'	35:A:3067:C:C6	2.52	0.44
35:A:3339:A:N6	35:A:3366:G:O6	2.51	0.44
43:LI:107:ARG:HH21	43:LI:115:THR:HG23	1.81	0.44
43:LI:160:ARG:HD2	43:LI:203:TRP:NE1	2.32	0.44
44:LJ:219:ASP:O	44:LJ:223:ALA:N	2.51	0.44
48:LN:126:PHE:HD2	70:Lj:115:LYS:HE2	1.83	0.44
52:LR:95:LEU:HD23	52:LR:95:LEU:HA	1.81	0.44
53:LS:5:HIS:CE1	53:LS:9:GLN:HG3	2.53	0.44
53:LS:176:ARG:HA	53:LS:182:LYS:O	2.18	0.44
54:LT:132:PHE:CE2	54:LT:138:LEU:HD13	2.52	0.44
56:LV:56:PHE:CE2	56:LV:78:LYS:HG3	2.52	0.44
66:Lf:16:LEU:N	66:Lf:69:TYR:O	2.51	0.44
69:Li:10:ARG:O	69:Li:12:PRO:HD3	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:Lm:8:ILE:HD12	73:Lm:8:ILE:H	1.83	0.44
1:2:17:C:H2'	1:2:18:C:H6	1.83	0.44
1:2:80:A:H4'	1:2:81:G:OP2	2.18	0.44
1:2:173:A:C6	1:2:174:U:C5	3.06	0.44
1:2:490:C:H41	1:2:498:G:H21	1.65	0.44
1:2:1429:G:H2'	1:2:1430:U:C6	2.53	0.44
1:2:1534:G:OP2	20:SH:57:ARG:NH2	2.46	0.44
1:2:1739:C:H2'	1:2:1740:A:C8	2.52	0.44
3:SQ:66:VAL:HG22	17:SZ:34:SER:HA	2.00	0.44
7:SS:255:ARG:HA	7:SS:258:GLN:HG3	1.98	0.44
11:SV:38:ILE:HD12	11:SV:94:ASN:OD1	2.18	0.44
15:SD:134:SER:O	15:SD:137:MET:HE3	2.18	0.44
17:SZ:60:ALA:HB1	17:SZ:101:ALA:HB2	1.98	0.44
26:Sd:15:ASN:ND2	26:Sd:22:GLN:OE1	2.50	0.44
35:A:596:C:H2'	35:A:597:G:O4'	2.18	0.44
35:A:1281:G:O2'	35:A:1282:G:H5'	2.18	0.44
35:A:1290:A:H2'	35:A:1291:A:H8	1.82	0.44
35:A:1471:U:H4'	54:LT:3:ASN:OD1	2.17	0.44
35:A:1679:A:C2	35:A:1680:G:C8	3.06	0.44
35:A:1902:G:H2'	35:A:1903:U:O4'	2.18	0.44
35:A:2389:C:H2'	35:A:2390:A:C8	2.53	0.44
35:A:2553:U:C2	69:Li:95:ILE:HD12	2.53	0.44
35:A:2629:U:C2	35:A:2630:C:C5	3.06	0.44
35:A:3064:U:H2'	35:A:3065:G:H8	1.82	0.44
51:LQ:22:VAL:O	51:LQ:26:GLN:HG2	2.18	0.44
60:LZ:88:MET:HB3	60:LZ:88:MET:HE2	1.55	0.44
60:LZ:100:LYS:HB2	60:LZ:100:LYS:HE3	1.68	0.44
60:LZ:137:ASN:OD1	60:LZ:137:ASN:C	2.61	0.44
65:Le:22:LYS:HA	65:Le:22:LYS:HD2	1.77	0.44
66:Lf:11:GLU:OE1	66:Lf:11:GLU:HA	2.17	0.44
68:Lh:37:THR:HG23	68:Lh:40:ASP:H	1.83	0.44
69:Li:97:GLU:OE1	69:Li:97:GLU:HA	2.18	0.44
81:m:56:C:H3'	81:m:57:G:H8	1.83	0.44
82:n:25:C:H2'	82:n:26:G:O4'	2.18	0.44
1:2:6:G:C8	5:SR:205:ARG:NH2	2.86	0.43
1:2:71:A:N1	1:2:81:G:C6	2.86	0.43
1:2:85:A:N3	1:2:148:A:O2'	2.51	0.43
1:2:119:A:H1'	1:2:397:A:C4	2.53	0.43
1:2:300:A:C6	1:2:301:A:C6	3.06	0.43
1:2:388:G:H5''	1:2:425:A:N6	2.33	0.43
1:2:445:A:H2'	1:2:446:A:H8	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:751:G:H2'	1:2:752:A:H8	1.82	0.43
1:2:788:A:C5	7:SS:19:LEU:HD13	2.53	0.43
1:2:968:U:H2'	1:2:969:C:O4'	2.18	0.43
1:2:1117:U:H2'	1:2:1118:G:C8	2.52	0.43
1:2:1280:C:H2'	1:2:1281:G:C8	2.53	0.43
1:2:1796:C:O4'	27:Se:5:ARG:HD3	2.18	0.43
4:SE:64:LYS:HE2	4:SE:64:LYS:HA	2.00	0.43
8:SB:42:LEU:HD22	8:SB:47:SER:HB3	2.00	0.43
12:SW:113:VAL:HG21	12:SW:129:ILE:HD11	2.00	0.43
13:SC:32:HIS:CG	13:SC:33:GLU:H	2.36	0.43
13:SC:60:SER:O	13:SC:63:TYR:HB2	2.18	0.43
25:Sc:68:ILE:CD1	30:Sg:7:SER:H	2.30	0.43
26:Sd:12:VAL:HA	26:Sd:23:PHE:HB3	1.99	0.43
26:Sd:99:LYS:HD2	26:Sd:100:VAL:O	2.18	0.43
35:A:167:U:H2'	35:A:168:U:C6	2.52	0.43
35:A:245:U:H2'	35:A:246:U:N1	2.32	0.43
35:A:317:A:H2'	35:A:318:A:C8	2.53	0.43
35:A:729:C:H2'	35:A:730:C:H6	1.82	0.43
35:A:817:A:N3	72:Ll:11:ARG:HB2	2.32	0.43
35:A:947:G:H2'	35:A:948:C:C6	2.52	0.43
35:A:1064:A:C2	35:A:1066:G:C6	3.06	0.43
35:A:1169:A:C6	35:A:1170:A:C6	3.06	0.43
35:A:1486:G:H21	69:Li:6:THR:HG22	1.83	0.43
35:A:1821:U:C5	69:Li:67:LYS:HE2	2.53	0.43
35:A:2767:U:H2'	35:A:2768:U:C6	2.53	0.43
35:A:2884:C:H1'	35:A:2939:G:N2	2.33	0.43
35:A:3228:C:OP1	49:LO:137:LYS:NZ	2.45	0.43
35:A:3257:C:H2'	35:A:3258:U:C6	2.53	0.43
39:LE:13:HIS:CD2	39:LE:15:GLY:H	2.35	0.43
41:LG:64:ILE:CG2	41:LG:75:LEU:HB2	2.48	0.43
42:LH:14:ASP:OD1	42:LH:14:ASP:N	2.51	0.43
52:LR:25:SER:O	52:LR:29:THR:HG22	2.17	0.43
63:Lc:77:LYS:HA	63:Lc:80:THR:HG23	1.99	0.43
81:m:19:G:H21	81:m:56:C:H41	1.66	0.43
81:m:19:G:H5'	81:m:57:G:H22	1.83	0.43
1:2:780:A:H5'	1:2:781:U:C5	2.53	0.43
1:2:807:A:C6	1:2:808:U:C4	3.05	0.43
1:2:1042:G:H2'	1:2:1043:A:H8	1.83	0.43
1:2:1247:U:H2'	1:2:1248:C:C6	2.51	0.43
2:SP:22:THR:HG22	2:SP:169:SER:HB2	2.00	0.43
5:SR:134:LEU:HD12	5:SR:134:LEU:HA	1.81	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:SR:143:TYR:OH	5:SR:149:GLY:O	2.30	0.43
7:SS:44:LEU:HD13	7:SS:70:VAL:HG11	1.99	0.43
13:SC:11:ILE:HD13	13:SC:35:ILE:HD13	2.00	0.43
13:SC:13:GLN:HA	13:SC:80:LEU:HD11	2.01	0.43
18:SF:52:LEU:HA	18:SF:55:VAL:HG22	2.00	0.43
20:SH:36:LYS:HB3	20:SH:102:ALA:HA	2.00	0.43
24:Sb:89:TRP:O	24:Sb:93:LEU:HD23	2.18	0.43
25:Sc:38:PHE:CD1	25:Sc:38:PHE:C	2.95	0.43
29:SM:10:HIS:CG	29:SM:11:PRO:HD2	2.53	0.43
32:SO:266:ASP:OD2	32:SO:267:PRO:HD3	2.18	0.43
35:A:198:A:C6	35:A:219:A:C6	3.06	0.43
35:A:638:C:P	67:Lg:21:HIS:HE2	2.39	0.43
35:A:860:G:C8	38:LD:181:LYS:HB3	2.53	0.43
35:A:945:C:H2'	35:A:946:U:H6	1.82	0.43
35:A:1029:G:H2'	35:A:1030:A:C8	2.53	0.43
35:A:1646:G:O2'	35:A:1647:A:OP2	2.34	0.43
35:A:1868:G:H2'	35:A:1869:C:C6	2.53	0.43
35:A:2737:C:H4'	56:LV:68:THR:CG2	2.43	0.43
35:A:3088:G:H2'	35:A:3089:C:C6	2.53	0.43
35:A:3270:U:C4	42:LH:46:ARG:HD3	2.53	0.43
37:C:65:A:C4	37:C:66:A:C8	3.05	0.43
37:C:131:A:H2'	37:C:132:G:H8	1.83	0.43
39:LE:136:LYS:HG2	39:LE:144:ILE:HD11	2.00	0.43
40:LF:67:THR:HG23	40:LF:73:ARG:HD3	2.00	0.43
40:LF:181:VAL:HG11	40:LF:223:PRO:C	2.42	0.43
40:LF:206:LEU:HB3	40:LF:248:VAL:HG22	2.00	0.43
43:LI:202:LEU:HD13	43:LI:205:PHE:HZ	1.81	0.43
52:LR:141:SER:O	52:LR:143:PRO:HD3	2.18	0.43
54:LT:183:ALA:HA	54:LT:186:LYS:HB2	2.00	0.43
63:Lc:75:LEU:O	63:Lc:78:LEU:HB3	2.18	0.43
77:Lq:9:LYS:HB2	77:Lq:9:LYS:HE2	1.77	0.43
81:m:29:U:H2'	81:m:30:G:C8	2.53	0.43
1:2:208:U:H2'	1:2:209:U:C6	2.54	0.43
1:2:329:G:H2'	1:2:330:G:C8	2.48	0.43
1:2:399:A:C4	1:2:401:A:C8	3.06	0.43
1:2:602:U:H2'	1:2:603:U:C6	2.53	0.43
1:2:947:U:H2'	1:2:948:G:C8	2.53	0.43
1:2:1058:U:O2'	1:2:1059:U:OP1	2.34	0.43
1:2:1226:A:H4'	1:2:1227:A:OP1	2.18	0.43
1:2:1275:A:N1	1:2:1438:G:C4	2.86	0.43
1:2:1652:C:H2'	1:2:1653:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:SS:140:VAL:HG12	7:SS:146:THR:HG23	1.99	0.43
7:SS:156:VAL:HG13	7:SS:157:ASN:HD22	1.83	0.43
9:ST:23:ARG:HH12	9:ST:42:GLY:HA2	1.83	0.43
11:SV:23:LYS:O	11:SV:25:ARG:NH1	2.51	0.43
14:SX:29:LYS:C	14:SX:30:ARG:HG2	2.44	0.43
15:SD:27:ALA:HA	15:SD:30:VAL:HB	2.00	0.43
15:SD:50:LYS:N	15:SD:50:LYS:HD3	2.34	0.43
16:SY:64:ARG:HH21	16:SY:70:LYS:HZ1	1.66	0.43
21:SI:7:ARG:HH11	21:SI:67:MET:HE2	1.83	0.43
26:Sd:2:SER:HB3	26:Sd:5:VAL:CG1	2.48	0.43
35:A:800:G:O6	40:LF:104:LYS:NZ	2.40	0.43
35:A:945:C:O2'	35:A:1406:A:H1'	2.18	0.43
35:A:986:U:H2'	35:A:987:U:C6	2.53	0.43
35:A:1021:G:C6	35:A:1022:U:C4	3.06	0.43
35:A:1120:A:H2'	35:A:1121:U:H6	1.80	0.43
35:A:1141:C:O2'	35:A:1153:A:N3	2.44	0.43
35:A:1817:G:C4	35:A:1818:U:C5	3.06	0.43
35:A:2176:U:H5''	38:LD:54:ARG:NH2	2.33	0.43
35:A:2208:A:H8	35:A:2208:A:OP2	2.01	0.43
35:A:3038:U:O2	58:LX:9:THR:HG21	2.19	0.43
35:A:3350:C:O2'	35:A:3351:U:OP1	2.31	0.43
41:LG:235:SER:O	41:LG:239:ILE:HG12	2.18	0.43
44:LJ:206:GLU:OE1	44:LJ:206:GLU:N	2.46	0.43
51:LQ:186:ALA:C	51:LQ:188:SER:H	2.27	0.43
53:LS:127:LEU:HD12	53:LS:127:LEU:O	2.18	0.43
56:LV:54:HIS:CE1	56:LV:55:LYS:HG2	2.54	0.43
73:Lm:27:ILE:HD13	73:Lm:41:THR:HG23	2.01	0.43
73:Lm:43:PHE:N	73:Lm:43:PHE:CD1	2.86	0.43
79:Ls:116:PRO:O	79:Ls:121:GLY:HA3	2.19	0.43
1:2:29:U:O2'	1:2:30:G:H5'	2.18	0.43
1:2:65:A:O2'	1:2:66:U:P	2.76	0.43
1:2:732:G:H2'	1:2:733:A:O4'	2.18	0.43
1:2:778:G:C8	1:2:783:G:C2	3.07	0.43
1:2:894:U:H2'	1:2:895:G:C8	2.53	0.43
1:2:1044:U:H2'	1:2:1045:C:C6	2.53	0.43
1:2:1281:G:C4	1:2:1428:G:N2	2.86	0.43
1:2:1445:G:N2	31:SN:87:THR:OG1	2.52	0.43
1:2:1714:A:H2'	1:2:1715:G:C8	2.54	0.43
2:SP:42:PRO:HD3	19:SG:105:GLN:NE2	2.19	0.43
2:SP:142:PRO:HB3	23:Sa:34:ILE:HD11	1.99	0.43
5:SR:69:ILE:HG13	5:SR:133:LYS:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:SR:167:VAL:HG11	5:SR:214:ALA:HA	2.00	0.43
11:SV:79:ALA:HB1	11:SV:164:ARG:HH11	1.83	0.43
12:SW:64:GLU:HG2	12:SW:65:LYS:HG2	2.00	0.43
17:SZ:39:ILE:HD11	17:SZ:74:VAL:HG21	2.00	0.43
32:SO:38:ARG:HG2	32:SO:67:ILE:HG21	1.99	0.43
35:A:816:A:C8	35:A:905:U:O4	2.71	0.43
35:A:1574:C:H3'	35:A:1575:A:H5''	2.00	0.43
35:A:1700:G:H5'	73:Lm:3:ARG:HH21	1.82	0.43
35:A:1762:C:H2'	35:A:1763:U:H4'	2.00	0.43
35:A:1765:U:H2'	35:A:1766:G:C8	2.53	0.43
35:A:3215:A:C5'	49:LO:121:MET:HE1	2.49	0.43
44:LJ:55:TYR:CZ	44:LJ:56:VAL:HG23	2.53	0.43
44:LJ:128:LYS:HD2	44:LJ:129:PRO:HD2	2.00	0.43
47:LM:43:GLN:HE21	47:LM:71:VAL:HG22	1.82	0.43
56:LV:56:PHE:CD1	56:LV:56:PHE:C	2.94	0.43
57:LW:80:THR:O	57:LW:84:LEU:HG	2.18	0.43
71:Lk:20:MET:HE2	71:Lk:20:MET:HB3	1.81	0.43
73:Lm:12:LEU:HD12	73:Lm:16:ARG:NH2	2.33	0.43
73:Lm:43:PHE:CD2	73:Lm:65:LEU:HD23	2.52	0.43
1:2:602:U:H2'	1:2:603:U:H6	1.83	0.43
1:2:859:A:C6	16:SY:73:ARG:HD3	2.54	0.43
1:2:885:G:H2'	1:2:886:U:C6	2.54	0.43
1:2:1163:A:H2'	1:2:1164:G:O4'	2.17	0.43
1:2:1251:U:HO2'	1:2:1252:C:P	2.41	0.43
1:2:1366:U:H5'	18:SF:30:LYS:NZ	2.34	0.43
1:2:1439:C:H2'	1:2:1440:C:C6	2.53	0.43
1:2:1540:G:C6	1:2:1541:G:C6	3.06	0.43
3:SQ:143:THR:O	3:SQ:208:GLN:NE2	2.48	0.43
5:SR:135:SER:O	5:SR:137:ILE:HG23	2.19	0.43
6:SA:141:LYS:NZ	6:SA:179:GLN:O	2.45	0.43
10:SU:74:GLN:NE2	10:SU:92:PHE:HB2	2.33	0.43
17:SZ:63:ALA:O	17:SZ:67:VAL:HG12	2.18	0.43
23:Sa:46:ILE:HG13	23:Sa:47:PRO:HD2	1.99	0.43
35:A:77:A:H5'	48:LN:100:ARG:NH1	2.34	0.43
35:A:130:A:H2'	35:A:131:C:C6	2.53	0.43
35:A:168:U:H2'	35:A:169:U:C6	2.53	0.43
35:A:211:A:OP1	40:LF:220:ARG:HD2	2.18	0.43
35:A:928:C:H2'	35:A:929:A:C8	2.54	0.43
35:A:1258:U:H1'	35:A:1260:A:N7	2.34	0.43
35:A:1366:A:C2	35:A:1367:G:C4	3.05	0.43
35:A:1635:G:N2	35:A:1638:A:OP2	2.46	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1795:U:OP2	38:LD:50:HIS:NE2	2.49	0.43
35:A:2383:C:P	51:LQ:85:ARG:HH22	2.42	0.43
35:A:2558:U:C2	38:LD:69:TYR:HD2	2.35	0.43
35:A:2585:G:N3	35:A:2585:G:H2'	2.33	0.43
35:A:3298:C:C4	35:A:3299:A:N7	2.87	0.43
39:LE:90:VAL:HA	39:LE:103:THR:O	2.19	0.43
39:LE:262:TRP:CD1	39:LE:262:TRP:H	2.36	0.43
41:LG:40:HIS:CE1	41:LG:42:ALA:HB3	2.54	0.43
41:LG:41:LYS:H	56:LV:69:LYS:HA	1.84	0.43
44:LJ:211:LEU:O	44:LJ:215:VAL:HG23	2.19	0.43
56:LV:84:TYR:CD2	64:Ld:23:LYS:HD3	2.54	0.43
57:LW:58:GLU:CD	57:LW:60:GLY:H	2.26	0.43
58:LX:71:LYS:HB3	58:LX:71:LYS:HE3	1.68	0.43
58:LX:96:GLU:HB3	59:LY:21:PHE:HE1	1.83	0.43
63:Lc:126:LYS:HB3	63:Lc:148:ILE:HD13	2.00	0.43
65:Le:39:SER:HB2	65:Le:91:SER:OG	2.19	0.43
1:2:155:U:H5''	1:2:156:A:OP2	2.19	0.43
1:2:1229:G:C6	1:2:1255:G:C6	3.07	0.43
1:2:1721:A:O2'	9:ST:64:LYS:NZ	2.52	0.43
5:SR:214:ALA:O	5:SR:218:ILE:HG23	2.18	0.43
8:SB:140:THR:HG21	8:SB:175:LEU:HD21	2.00	0.43
12:SW:132:ARG:NH2	26:Sd:65:GLY:HA2	2.32	0.43
16:SY:4:MET:HG3	16:SY:5:HIS:CD2	2.54	0.43
19:SG:38:ILE:HG21	19:SG:38:ILE:HD13	1.73	0.43
29:SM:7:TRP:CD1	29:SM:8:PHE:HB2	2.54	0.43
30:Sg:37:ARG:O	30:Sg:41:THR:HG23	2.18	0.43
35:A:226:C:H2'	35:A:227:G:O4'	2.18	0.43
35:A:270:U:H2'	35:A:271:C:H6	1.84	0.43
35:A:1088:U:C2	35:A:1089:G:C8	3.07	0.43
35:A:1120:A:H2'	35:A:1121:U:C6	2.53	0.43
35:A:1224:C:H2'	35:A:1225:A:H8	1.84	0.43
35:A:1282:G:H2'	35:A:1283:C:C6	2.54	0.43
35:A:1381:A:C2	35:A:1426:C:C2	3.07	0.43
35:A:1941:C:H2'	35:A:1942:U:H6	1.82	0.43
35:A:2261:G:H21	35:A:2262:A:N6	2.17	0.43
35:A:2656:A:C5	35:A:2658:G:C8	3.07	0.43
35:A:3146:G:H2'	35:A:3147:G:C8	2.53	0.43
40:LF:138:ARG:HH21	40:LF:240:PRO:CD	2.26	0.43
40:LF:188:ARG:O	40:LF:193:LYS:HE2	2.18	0.43
41:LG:211:LEU:HD22	41:LG:215:ASP:HB3	2.00	0.43
43:LI:84:VAL:HG21	43:LI:136:TYR:HD2	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:LN:15:ARG:HG3	48:LN:15:ARG:NH1	2.34	0.43
59:LY:8:PHE:CE1	59:LY:46:PRO:HG3	2.54	0.43
61:La:97:ILE:H	61:La:97:ILE:HD12	1.83	0.43
66:Lf:6:ASP:O	66:Lf:77:ARG:NE	2.51	0.43
66:Lf:20:LEU:HD12	66:Lf:67:VAL:HG21	2.00	0.43
82:n:23:C:H2'	82:n:24:G:C8	2.53	0.43
84:E:47:UNK:O	84:E:148:UNK:HA	2.18	0.43
1:2:17:C:H2'	1:2:18:C:C6	2.54	0.43
1:2:605:A:OP2	1:2:606:A:O2'	2.31	0.43
1:2:1176:G:C6	1:2:1464:G:C6	3.06	0.43
1:2:1451:C:P	29:SM:12:ARG:HH12	2.39	0.43
1:2:1555:A:O2'	4:SE:82:ASN:ND2	2.29	0.43
3:SQ:127:VAL:HG21	3:SQ:177:GLN:NE2	2.31	0.43
11:SV:150:ALA:C	11:SV:152:ILE:H	2.26	0.43
21:SI:45:MET:SD	21:SI:46:PRO:HD2	2.58	0.43
27:Se:45:VAL:HB	27:Se:49:ALA:HB3	2.01	0.43
32:SO:108:SER:OG	32:SO:128:ASP:N	2.51	0.43
34:AA:94:LYS:HE2	34:AA:101:TYR:OH	2.17	0.43
35:A:40:A:O2'	35:A:937:G:O6	2.29	0.43
35:A:72:C:H1'	48:LN:61:PRO:O	2.18	0.43
35:A:127:G:H2'	35:A:128:G:H8	1.83	0.43
35:A:241:G:H2'	35:A:241:G:N3	2.33	0.43
35:A:364:G:O6	72:Ll:56:ARG:NE	2.43	0.43
35:A:1190:A:H2'	35:A:1190:A:N3	2.34	0.43
35:A:1307:G:C2	51:LQ:60:LYS:HD3	2.53	0.43
35:A:1564:U:O4	35:A:1576:G:O6	2.37	0.43
37:C:53:A:C4	37:C:54:A:C8	3.07	0.43
47:LM:65:ILE:HD13	47:LM:65:ILE:HA	1.77	0.43
55:LU:81:TYR:HE1	55:LU:88:HIS:HB2	1.83	0.43
55:LU:90:MET:HE3	55:LU:92:LYS:HD2	2.00	0.43
60:LZ:70:GLU:OE2	80:z:376:ARG:N	2.52	0.43
65:Le:18:ILE:HD11	65:Le:81:VAL:HG13	2.00	0.43
1:2:128:U:H4'	1:2:131:C:H41	1.84	0.43
1:2:336:G:H5'	14:SX:130:PRO:O	2.19	0.43
1:2:380:U:H4'	12:SW:2:PRO:HD2	2.01	0.43
1:2:913:G:C6	3:SQ:11:LYS:HG2	2.53	0.43
1:2:1393:C:H2'	1:2:1394:G:C8	2.54	0.43
1:2:1603:U:C2	1:2:1604:U:C5	3.07	0.43
1:2:1642:G:H2'	1:2:1643:U:H6	1.83	0.43
3:SQ:29:TRP:CE2	3:SQ:47:LEU:HD21	2.53	0.43
3:SQ:133:TYR:CE1	3:SQ:217:LEU:HD21	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:SQ:171:ILE:HD13	3:SQ:196:GLU:HG2	2.01	0.43
9:ST:35:GLU:HA	9:ST:50:PHE:O	2.19	0.43
9:ST:64:LYS:HB2	9:ST:97:VAL:HB	2.00	0.43
9:ST:142:ARG:HG3	9:ST:147:LEU:HB2	2.00	0.43
9:ST:163:THR:OG1	9:ST:165:GLY:O	2.37	0.43
10:SU:61:PHE:HA	10:SU:93:LEU:O	2.18	0.43
13:SC:1:MET:CE	13:SC:44:LYS:HB2	2.49	0.43
31:SN:107:LYS:HD2	31:SN:117:LEU:HB2	2.01	0.43
32:SO:216:LYS:HB3	32:SO:239:GLU:OE1	2.19	0.43
35:A:209:A:H4'	35:A:211:A:N7	2.33	0.43
35:A:279:U:H2'	35:A:280:U:C6	2.53	0.43
35:A:649:A:H2'	35:A:650:C:C6	2.54	0.43
35:A:1029:G:H2'	35:A:1030:A:H8	1.83	0.43
35:A:1355:A:OP1	35:A:1355:A:H2'	2.19	0.43
35:A:2137:U:C6	35:A:2141:U:C4	3.06	0.43
35:A:2748:A:C8	35:A:2749:G:H1'	2.54	0.43
35:A:2936:A:H2'	35:A:2937:G:C8	2.54	0.43
35:A:3038:U:H2'	35:A:3039:C:O4'	2.19	0.43
35:A:3150:A:OP1	39:LE:132:LYS:HB2	2.18	0.43
35:A:3372:A:C6	35:A:3373:U:C4	3.07	0.43
36:B:107:C:H2'	36:B:108:A:C8	2.54	0.43
41:LG:29:ASP:OD1	41:LG:32:GLN:HB3	2.19	0.43
44:LJ:213:LYS:O	44:LJ:213:LYS:HD3	2.18	0.43
46:LL:131:ILE:HD13	46:LL:131:ILE:HA	1.78	0.43
47:LM:111:ASP:C	47:LM:112:LEU:HD23	2.44	0.43
56:LV:48:ILE:CG2	56:LV:94:GLU:HG3	2.42	0.43
60:LZ:61:LYS:HE3	60:LZ:61:LYS:HB2	1.79	0.43
62:Lb:25:ILE:HA	62:Lb:43:VAL:HG12	2.00	0.43
63:Lc:73:LEU:HG	63:Lc:109:TYR:CB	2.49	0.43
63:Lc:85:ASP:OD1	63:Lc:86:LYS:HG2	2.19	0.43
73:Lm:43:PHE:N	73:Lm:43:PHE:HD1	2.17	0.43
79:Ls:110:LYS:HG3	79:Ls:112:ASP:OD1	2.19	0.43
81:m:27:G:H2'	81:m:28:U:H6	1.84	0.43
81:m:50:C:H6	81:m:50:C:H2'	1.60	0.43
1:2:208:U:H2'	1:2:209:U:H6	1.84	0.43
1:2:481:A:H2'	1:2:482:U:C6	2.54	0.43
1:2:513:U:H2'	1:2:514:G:H8	1.81	0.43
1:2:816:G:N7	54:LT:170:ARG:NH2	2.39	0.43
1:2:819:G:C5	1:2:853:G:N1	2.87	0.43
1:2:1045:C:H2'	1:2:1046:G:C8	2.52	0.43
1:2:1494:C:H2'	1:2:1495:C:C6	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1545:A:H2'	1:2:1546:G:H8	1.83	0.43
1:2:1556:A:P	4:SE:44:ARG:HH21	2.41	0.43
1:2:1584:G:N7	18:SF:14:LYS:HE2	2.34	0.43
1:2:1633:A:H4'	1:2:1634:C:H5''	2.00	0.43
8:SB:171:ALA:O	8:SB:175:LEU:HG	2.18	0.43
10:SU:102:PRO:HD3	10:SU:112:ARG:HD3	2.00	0.43
19:SG:72:LYS:HA	19:SG:72:LYS:HD2	1.81	0.43
24:Sb:104:LEU:HB2	24:Sb:124:LYS:O	2.18	0.43
29:SM:19:ARG:HH12	29:SM:32:ARG:HE	1.65	0.43
29:SM:49:ASP:OD1	29:SM:50:ILE:N	2.51	0.43
30:Sg:55:ARG:HA	30:Sg:55:ARG:HD2	1.87	0.43
31:SN:130:VAL:HG11	31:SN:143:LYS:HB3	2.00	0.43
32:SO:70:ASP:OD1	32:SO:83:ALA:HB3	2.18	0.43
32:SO:258:THR:O	32:SO:258:THR:HG23	2.19	0.43
35:A:282:G:H2'	35:A:286:U:C6	2.53	0.43
35:A:352:A:N1	35:A:365:A:H5''	2.34	0.43
35:A:541:U:H2'	35:A:542:G:H8	1.82	0.43
35:A:970:A:P	64:Ld:18:ARG:HG2	2.59	0.43
35:A:1630:U:O5'	35:A:1813:A:N6	2.50	0.43
35:A:1696:A:H2'	35:A:1697:A:C8	2.54	0.43
35:A:1886:A:O4'	35:A:3307:A:H5'	2.19	0.43
35:A:2160:G:H2'	35:A:2161:G:C8	2.50	0.43
35:A:2282:U:O2	35:A:2310:U:H4'	2.18	0.43
35:A:2328:U:H2'	35:A:2329:C:H6	1.84	0.43
35:A:2986:U:C2	35:A:2987:A:C8	3.07	0.43
35:A:3051:U:H2'	35:A:3052:G:H8	1.84	0.43
35:A:3306:U:H2'	35:A:3307:A:H5''	2.00	0.43
44:LJ:248:LYS:HE2	44:LJ:248:LYS:HB3	1.69	0.43
66:Lf:10:ARG:HD2	66:Lf:12:TYR:OH	2.19	0.43
1:2:225:A:P	1:2:225:A:C8	3.11	0.43
1:2:830:U:H2'	1:2:831:U:C6	2.54	0.43
1:2:1008:G:H2'	1:2:1009:U:H6	1.82	0.43
1:2:1055:U:C4	1:2:1056:U:C4	3.06	0.43
1:2:1164:G:H2'	1:2:1165:G:C8	2.53	0.43
1:2:1459:C:H5'	4:SE:126:VAL:HG22	2.01	0.43
1:2:1574:G:H5''	1:2:1575:G:OP1	2.19	0.43
1:2:1580:C:H2'	1:2:1581:C:H6	1.80	0.43
4:SE:107:ILE:HA	4:SE:111:MET:SD	2.59	0.43
7:SS:174:LYS:HE3	7:SS:174:LYS:HB3	1.77	0.43
12:SW:153:GLU:H	12:SW:153:GLU:CD	2.27	0.43
16:SY:87:ASP:OD1	16:SY:87:ASP:N	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Sc:56:LYS:HE2	25:Sc:96:VAL:O	2.19	0.43
26:Sd:44:LEU:HA	26:Sd:44:LEU:HD23	1.73	0.43
31:SN:141:CYS:SG	31:SN:144:CYS:N	2.85	0.43
35:A:512:U:H2'	35:A:513:G:H8	1.83	0.43
35:A:709:A:N3	35:A:2787:G:O2'	2.50	0.43
35:A:948:C:H2'	35:A:949:C:H6	1.84	0.43
35:A:1641:U:O2'	35:A:1642:A:H3'	2.19	0.43
35:A:1942:U:OP2	54:LT:74:ARG:NE	2.52	0.43
35:A:2224:A:H5'	71:Lk:74:LYS:NZ	2.34	0.43
35:A:2689:A:N3	35:A:2689:A:H2'	2.33	0.43
35:A:2899:C:O2'	35:A:2901:G:OP2	2.21	0.43
35:A:3069:G:C2	35:A:3070:A:C8	3.07	0.43
35:A:3182:G:N1	35:A:3189:G:OP1	2.47	0.43
36:B:107:C:H2'	36:B:108:A:H8	1.82	0.43
37:C:6:U:H2'	37:C:7:U:H6	1.84	0.43
37:C:27:U:H4'	40:LF:51:ALA:HB3	2.01	0.43
39:LE:301:THR:HG22	39:LE:302:LYS:N	2.34	0.43
41:LG:29:ASP:OD1	41:LG:29:ASP:O	2.37	0.43
41:LG:64:ILE:HD11	41:LG:144:VAL:HG11	2.00	0.43
50:LP:143:ARG:HD3	50:LP:152:CYS:SG	2.59	0.43
51:LQ:142:SER:HB3	51:LQ:147:TRP:CB	2.49	0.43
52:LR:60:PHE:HB3	52:LR:64:ASN:HB3	2.00	0.43
53:LS:58:ASN:O	53:LS:60:PRO:HD3	2.19	0.43
56:LV:118:GLU:O	56:LV:122:GLN:HG2	2.19	0.43
57:LW:57:THR:HB	57:LW:64:THR:HG23	2.00	0.43
60:LZ:96:LYS:HG3	60:LZ:107:VAL:CG2	2.49	0.43
74:Ln:16:ALA:HB1	74:Ln:42:ARG:HH21	1.82	0.43
1:2:37:U:O2'	1:2:770:A:N1	2.45	0.42
1:2:754:A:C2	1:2:793:A:H2'	2.53	0.42
1:2:967:A:H2'	1:2:968:U:C6	2.54	0.42
1:2:1228:G:OP2	15:SD:45:LEU:HD23	2.19	0.42
1:2:1401:A:OP1	19:SG:56:HIS:NE2	2.41	0.42
1:2:1532:U:OP2	34:AA:77:ARG:NH1	2.51	0.42
1:2:1548:G:H2'	1:2:1549:C:H6	1.84	0.42
6:SA:221:SER:HB3	32:SO:193:ILE:HD12	2.01	0.42
8:SB:55:ASP:O	8:SB:59:VAL:HG13	2.19	0.42
14:SX:28:SER:C	14:SX:30:ARG:H	2.27	0.42
18:SF:50:GLU:OE2	18:SF:112:TYR:OH	2.34	0.42
21:SI:131:ASP:O	21:SI:135:ILE:HG22	2.19	0.42
25:Sc:53:VAL:HG12	25:Sc:100:ASP:H	1.84	0.42
32:SO:85:TRP:HA	32:SO:109:ASP:HB3	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:SO:192:PHE:N	32:SO:192:PHE:CD1	2.87	0.42
35:A:254:A:C6	35:A:255:A:C6	3.06	0.42
35:A:313:A:H2'	35:A:314:U:H6	1.81	0.42
35:A:506:U:H2'	35:A:507:U:O4'	2.19	0.42
35:A:964:G:OP2	35:A:1115:G:N1	2.39	0.42
35:A:1167:U:P	68:Lh:73:ARG:HH22	2.41	0.42
35:A:1295:G:H2'	35:A:1296:C:C6	2.53	0.42
35:A:1403:C:OP1	67:Lg:11:LYS:NZ	2.47	0.42
35:A:1818:U:C4	35:A:1819:U:C4	3.07	0.42
35:A:2173:U:H2'	35:A:2174:G:C8	2.53	0.42
35:A:2278:C:H2'	35:A:2279:A:H5''	2.01	0.42
35:A:2526:C:H2'	35:A:2527:G:H8	1.84	0.42
35:A:2794:G:C4	85:A:3401:3HE:H18	2.53	0.42
35:A:2824:G:C4	35:A:2825:C:C5	3.07	0.42
35:A:3200:G:H2'	35:A:3201:C:C6	2.54	0.42
36:B:89:G:N2	36:B:93:C:N3	2.67	0.42
37:C:139:U:H2'	37:C:140:G:C8	2.54	0.42
38:LD:44:ILE:HD11	38:LD:85:GLY:HA2	2.00	0.42
38:LD:134:VAL:HG12	38:LD:151:PRO:HD3	2.01	0.42
38:LD:147:ARG:HG3	38:LD:157:VAL:HG12	2.01	0.42
55:LU:10:ILE:HD13	55:LU:60:SER:HB3	2.01	0.42
61:La:51:ARG:HG2	61:La:52:ARG:H	1.83	0.42
65:Le:58:TYR:O	65:Le:62:LEU:HD23	2.19	0.42
66:Lf:36:ILE:CD1	66:Lf:59:ILE:HD11	2.49	0.42
73:Lm:4:GLU:C	73:Lm:5:ILE:HD13	2.44	0.42
81:m:22:G:N7	81:m:46:G:O6	2.52	0.42
1:2:190:C:N4	11:SV:137:LYS:HE3	2.33	0.42
1:2:803:A:H4'	1:2:804:A:O5'	2.19	0.42
1:2:868:G:O6	1:2:960:U:O4	2.36	0.42
1:2:1003:A:H1'	1:2:1005:A:N7	2.34	0.42
1:2:1142:A:H2'	1:2:1143:A:H8	1.84	0.42
1:2:1773:C:OP1	76:Lp:3:ALA:HB3	2.19	0.42
9:ST:21:GLU:O	9:ST:25:ARG:HG3	2.19	0.42
9:ST:164:LYS:HD2	9:ST:167:LYS:NZ	2.34	0.42
11:SV:42:ARG:NH1	11:SV:59:ARG:HH21	2.17	0.42
13:SC:64:TYR:C	13:SC:65:TYR:HD1	2.27	0.42
15:SD:86:VAL:CG1	15:SD:87:PRO:HD3	2.49	0.42
32:SO:22:SER:CB	32:SO:70:ASP:HA	2.50	0.42
32:SO:248:ASN:OD1	32:SO:249:ARG:N	2.50	0.42
35:A:243:G:C6	35:A:244:G:C5	3.07	0.42
35:A:316:U:O2	71:Lk:30:LYS:HD3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:756:U:H2'	35:A:757:C:C6	2.54	0.42
35:A:973:A:P	53:LS:12:ARG:HH21	2.42	0.42
35:A:991:G:O2'	56:LV:41:ASP:OD2	2.30	0.42
35:A:1019:G:H2'	35:A:1020:G:C4'	2.49	0.42
35:A:1260:A:H2'	35:A:1261:G:C2	2.55	0.42
35:A:1529:A:P	35:A:1592:G:H22	2.43	0.42
35:A:2222:A:H2'	35:A:2223:A:C8	2.54	0.42
35:A:2884:C:C2	35:A:2885:C:C5	3.07	0.42
46:LL:138:VAL:HG21	46:LL:148:VAL:CG1	2.50	0.42
56:LV:6:GLY:N	56:LV:9:SER:OG	2.52	0.42
57:LW:100:THR:O	57:LW:101:ASN:HB2	2.19	0.42
1:2:36:C:H2'	1:2:37:U:H6	1.84	0.42
1:2:77:U:H1'	1:2:78:A:OP2	2.20	0.42
1:2:245:U:N3	1:2:248:U:OP2	2.50	0.42
1:2:412:A:O2'	1:2:413:U:H5'	2.19	0.42
1:2:486:G:O2'	1:2:487:G:O5'	2.34	0.42
1:2:816:G:H2'	1:2:817:A:H8	1.85	0.42
1:2:948:G:H2'	1:2:949:C:H6	1.84	0.42
1:2:1086:A:H2'	1:2:1087:A:C8	2.54	0.42
1:2:1305:U:H5''	1:2:1306:C:H5	1.83	0.42
3:SQ:110:LEU:HD12	3:SQ:110:LEU:HA	1.80	0.42
7:SS:67:GLN:HE22	26:Sd:85:PHE:HZ	1.67	0.42
7:SS:69:HIS:ND1	26:Sd:17:LEU:HA	2.34	0.42
8:SB:159:ALA:HB3	8:SB:225:ARG:HA	2.02	0.42
9:ST:169:TYR:HE1	9:ST:171:LYS:HE2	1.84	0.42
9:ST:215:ARG:HA	9:ST:215:ARG:HD3	1.70	0.42
10:SU:14:THR:HB	10:SU:17:GLU:OE2	2.19	0.42
13:SC:17:GLN:HG2	13:SC:18:GLU:CD	2.44	0.42
19:SG:75:GLU:HA	19:SG:78:ARG:HB2	2.01	0.42
21:SI:58:ALA:HA	21:SI:61:VAL:HG22	2.01	0.42
22:SJ:43:LYS:O	22:SJ:47:GLN:NE2	2.53	0.42
25:Sc:15:LEU:HA	25:Sc:15:LEU:HD23	1.84	0.42
32:SO:263:PHE:HE1	32:SO:270:LEU:HD12	1.83	0.42
35:A:108:A:O2'	35:A:109:A:H2'	2.20	0.42
35:A:753:C:C2	35:A:754:G:C8	3.07	0.42
35:A:1178:G:O2'	68:Lh:75:HIS:NE2	2.46	0.42
35:A:1717:U:H2'	35:A:1718:G:C8	2.55	0.42
35:A:2160:G:C2	35:A:2161:G:C5	3.07	0.42
35:A:2186:U:H5'	35:A:2314:U:OP2	2.20	0.42
35:A:2570:U:H5''	35:A:2573:G:C5	2.54	0.42
35:A:2603:G:C6	35:A:2604:U:C4	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:3154:C:O2	35:A:3156:U:H1'	2.19	0.42
35:A:3275:U:O4'	68:Lh:66:VAL:HG21	2.18	0.42
38:LD:180:LEU:HD22	78:Lr:18:TYR:HB3	2.00	0.42
39:LE:303:LYS:NZ	39:LE:371:GLN:OE1	2.53	0.42
44:LJ:178:ALA:HB2	44:LJ:218:ILE:HG23	2.02	0.42
50:LP:203:ARG:HA	50:LP:203:ARG:HD3	1.88	0.42
77:Lq:17:CYS:O	77:Lq:19:LYS:HG2	2.19	0.42
81:m:19:G:N2	81:m:57:G:O6	2.51	0.42
83:D:7:A:H2'	83:D:8:A:H8	1.84	0.42
1:2:4:C:OP2	5:SR:200:SER:OG	2.34	0.42
1:2:590:C:OP1	30:Sg:43:ARG:NH1	2.47	0.42
1:2:1424:A:H2'	1:2:1425:A:O4'	2.19	0.42
1:2:1439:C:C2	1:2:1440:C:C5	3.07	0.42
1:2:1543:A:H1'	1:2:1569:A:C6	2.54	0.42
2:SP:2:SER:OG	2:SP:3:LEU:N	2.51	0.42
3:SQ:137:ILE:CD1	3:SQ:172:LEU:HB3	2.49	0.42
3:SQ:220:GLN:OE1	3:SQ:220:GLN:N	2.39	0.42
5:SR:95:ARG:HH12	5:SR:119:LYS:CG	2.32	0.42
10:SU:138:LYS:O	10:SU:139:ARG:HG3	2.20	0.42
12:SW:83:VAL:O	12:SW:107:ARG:HD3	2.19	0.42
15:SD:62:LEU:HG	15:SD:63:VAL:O	2.18	0.42
15:SD:128:ALA:O	15:SD:133:LEU:HD13	2.19	0.42
20:SH:18:LEU:CD2	20:SH:74:GLN:HE22	2.33	0.42
32:SO:62:LYS:HE3	32:SO:62:LYS:HB3	1.89	0.42
35:A:108:A:H4'	35:A:323:A:C2	2.54	0.42
35:A:114:A:H2'	35:A:115:A:O4'	2.19	0.42
35:A:176:G:N1	35:A:243:G:C6	2.86	0.42
35:A:208:C:H2'	35:A:209:A:O4'	2.19	0.42
35:A:532:A:H2'	35:A:555:U:O4	2.20	0.42
35:A:871:U:H2'	35:A:872:U:C6	2.54	0.42
35:A:1140:G:C6	35:A:1141:C:N4	2.88	0.42
35:A:1180:A:C6	35:A:1182:A:C5	3.07	0.42
35:A:1242:G:H2'	35:A:1270:A:C2	2.54	0.42
35:A:1472:U:H2'	35:A:1473:G:C8	2.54	0.42
35:A:1680:G:C5	35:A:1681:U:C5	3.07	0.42
35:A:2144:A:H1'	35:A:2281:A:H61	1.85	0.42
35:A:2225:U:H2'	35:A:2226:U:C6	2.53	0.42
35:A:2989:U:H2'	35:A:2990:G:O4'	2.19	0.42
35:A:3191:G:C6	35:A:3202:G:C6	3.07	0.42
36:B:41:G:N2	36:B:45:A:C4	2.87	0.42
43:LI:118:LYS:HB2	43:LI:195:PHE:CE2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:LJ:90:THR:HG23	44:LJ:214:LEU:HD21	2.01	0.42
47:LM:9:MET:CG	47:LM:10:ARG:N	2.82	0.42
57:LW:10:LYS:HE2	57:LW:10:LYS:HB2	1.91	0.42
58:LX:3:GLY:HA3	58:LX:126:TRP:HH2	1.84	0.42
61:La:69:LYS:HB3	61:La:83:ASP:OD2	2.18	0.42
61:La:119:ILE:HG23	61:La:124:GLY:HA3	2.01	0.42
1:2:204:G:C2	1:2:264:G:C2	3.07	0.42
1:2:268:C:O2'	1:2:269:G:H5'	2.20	0.42
1:2:381:C:O2'	1:2:755:A:N1	2.43	0.42
1:2:740:A:O2'	1:2:741:C:O4'	2.31	0.42
1:2:867:G:O6	1:2:962:C:N4	2.52	0.42
1:2:1448:G:C6	1:2:1449:U:C4	3.07	0.42
1:2:1563:C:H2'	1:2:1564:U:H6	1.84	0.42
1:2:1633:A:H2	5:SR:89:GLN:HG2	1.84	0.42
1:2:1743:U:H2'	1:2:1744:A:H8	1.84	0.42
2:SP:142:PRO:HG3	23:Sa:32:VAL:HB	2.01	0.42
5:SR:35:TRP:HE1	5:SR:65:GLU:CD	2.28	0.42
8:SB:43:PHE:O	8:SB:44:ASN:C	2.62	0.42
8:SB:124:LEU:HA	34:AA:58:ARG:HD3	2.01	0.42
13:SC:26:ASP:OD1	13:SC:27:PHE:N	2.53	0.42
14:SX:72:THR:HA	14:SX:124:THR:HA	2.00	0.42
16:SY:54:LEU:HB3	16:SY:60:VAL:HB	2.02	0.42
18:SF:38:LEU:HD11	21:SI:10:ALA:HA	2.02	0.42
21:SI:28:LEU:HD21	21:SI:54:PHE:CE1	2.54	0.42
25:Sc:87:VAL:HA	25:Sc:124:VAL:HG22	2.02	0.42
29:SM:44:ARG:HB3	29:SM:44:ARG:CZ	2.50	0.42
32:SO:9:LEU:HA	32:SO:313:TRP:CD1	2.54	0.42
35:A:577:C:OP1	43:LI:142:SER:OG	2.37	0.42
35:A:604:G:H2'	35:A:605:U:C6	2.54	0.42
35:A:646:A:C2	35:A:2375:G:C2	3.08	0.42
35:A:1335:C:H2'	35:A:1336:U:H6	1.84	0.42
35:A:1386:A:OP2	67:Lg:80:LYS:NZ	2.37	0.42
35:A:1605:A:H4'	35:A:1607:U:C5	2.55	0.42
35:A:1686:U:O4	57:LW:82:LYS:HE2	2.19	0.42
35:A:2389:C:OP1	52:LR:66:SER:N	2.37	0.42
35:A:3115:C:H1'	35:A:3117:C:H41	1.85	0.42
36:B:110:G:P	41:LG:279:LYS:HD3	2.59	0.42
37:C:145:U:H2'	37:C:146:U:C6	2.54	0.42
39:LE:256:HIS:HA	39:LE:257:PRO:C	2.44	0.42
41:LG:267:ALA:O	41:LG:271:LYS:HG3	2.20	0.42
42:LH:12:SER:HB3	42:LH:14:ASP:OD1	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:LM:20:ASN:OD1	47:LM:21:ILE:N	2.52	0.42
50:LP:70:ASN:HB3	50:LP:92:LEU:O	2.20	0.42
53:LS:71:LEU:HD11	53:LS:99:THR:HG21	2.00	0.42
58:LX:32:ARG:HB2	58:LX:64:LYS:HG2	2.01	0.42
69:Li:3:GLN:OE1	69:Li:29:ILE:HD12	2.19	0.42
1:2:6:G:O5'	5:SR:205:ARG:NH2	2.53	0.42
1:2:6:G:P	5:SR:205:ARG:HH21	2.42	0.42
1:2:184:C:H2'	1:2:185:U:H6	1.84	0.42
1:2:780:A:H5'	1:2:781:U:H5	1.84	0.42
1:2:1282:U:H2'	1:2:1283:U:C6	2.55	0.42
1:2:1330:G:H2'	1:2:1331:A:O4'	2.20	0.42
1:2:1492:A:H2'	1:2:1493:A:O4'	2.18	0.42
3:SQ:81:PHE:HB2	3:SQ:109:LYS:HB2	2.01	0.42
3:SQ:91:VAL:HA	3:SQ:96:LEU:HA	2.02	0.42
5:SR:222:TYR:OH	23:Sa:11:LEU:O	2.36	0.42
11:SV:61:GLU:O	11:SV:78:ILE:HD12	2.19	0.42
11:SV:135:LYS:HD3	11:SV:135:LYS:HA	1.85	0.42
12:SW:113:VAL:HG21	12:SW:129:ILE:CD1	2.50	0.42
13:SC:24:LYS:HE2	13:SC:24:LYS:HB3	1.80	0.42
13:SC:62:GLN:NE2	29:SM:23:VAL:O	2.50	0.42
19:SG:50:ILE:O	19:SG:54:THR:HG23	2.20	0.42
20:SH:28:ILE:HG21	20:SH:61:LEU:CD1	2.49	0.42
24:Sb:111:MET:SD	24:Sb:115:GLU:HG2	2.60	0.42
27:Se:71:LEU:HD23	27:Se:73:TYR:OH	2.19	0.42
32:SO:21:THR:O	32:SO:291:SER:HB3	2.20	0.42
32:SO:278:PHE:CZ	32:SO:287:PRO:HD2	2.54	0.42
35:A:80:G:H2'	35:A:81:C:H6	1.84	0.42
35:A:293:C:H2'	35:A:294:U:O4'	2.20	0.42
35:A:1046:A:H2'	35:A:1049:C:C5	2.54	0.42
35:A:1135:A:OP2	64:Ld:5:LYS:NZ	2.41	0.42
35:A:1308:A:H1'	35:A:1311:G:OP1	2.20	0.42
35:A:1524:A:O2'	35:A:1526:U:OP2	2.33	0.42
35:A:1525:G:C8	35:A:1829:G:C5	3.08	0.42
35:A:2324:A:H5''	35:A:2325:G:OP2	2.19	0.42
35:A:2711:C:O2	35:A:2744:U:H4'	2.19	0.42
35:A:3049:A:C5	35:A:3050:U:C5	3.07	0.42
37:C:29:U:H2'	37:C:30:C:H6	1.84	0.42
39:LE:13:HIS:HD2	39:LE:16:PHE:CD2	2.37	0.42
39:LE:283:TYR:CZ	39:LE:325:LYS:HB2	2.55	0.42
43:LI:41:ARG:HH11	43:LI:41:ARG:HG3	1.85	0.42
47:LM:18:VAL:HG22	47:LM:70:THR:HG23	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:LS:133:LYS:HB3	53:LS:135:GLN:OE1	2.20	0.42
64:Ld:47:LEU:HA	64:Ld:47:LEU:HD23	1.68	0.42
69:Li:67:LYS:O	69:Li:71:THR:HG22	2.20	0.42
73:Lm:26:LYS:NZ	73:Lm:28:ASN:OD1	2.44	0.42
73:Lm:35:GLY:O	73:Lm:36:LYS:HD3	2.19	0.42
81:m:6:G:H2'	81:m:7:U:H6	1.83	0.42
82:n:11:C:H2'	82:n:12:G:H8	1.83	0.42
1:2:195:G:H2'	1:2:196:G:H8	1.83	0.42
1:2:200:A:H2'	1:2:201:G:O4'	2.19	0.42
1:2:514:G:H2'	1:2:515:A:C8	2.53	0.42
1:2:1071:U:H2'	1:2:1072:C:C6	2.54	0.42
1:2:1212:G:C2	1:2:1213:G:C8	3.07	0.42
1:2:1487:A:H2'	1:2:1488:G:C8	2.55	0.42
1:2:1553:G:O2'	1:2:1555:A:N7	2.49	0.42
8:SB:120:ILE:O	8:SB:124:LEU:HD23	2.20	0.42
11:SV:107:THR:HG23	11:SV:108:PRO:HD3	2.02	0.42
12:SW:80:LEU:O	12:SW:83:VAL:HG12	2.19	0.42
13:SC:3:MET:CE	13:SC:41:TYR:HB3	2.47	0.42
13:SC:81:ASN:ND2	15:SD:37:VAL:O	2.46	0.42
14:SX:10:GLU:HG3	14:SX:11:ARG:H	1.85	0.42
15:SD:62:LEU:HD21	15:SD:72:ILE:HG12	2.01	0.42
20:SH:45:LEU:HD21	20:SH:81:ILE:HD12	2.01	0.42
21:SI:22:LEU:HB3	21:SI:55:TYR:HD1	1.85	0.42
22:SJ:43:LYS:HD3	22:SJ:47:GLN:HE22	1.84	0.42
35:A:156:G:O2'	35:A:157:A:H4'	2.20	0.42
35:A:618:C:H2'	35:A:619:A:O4'	2.19	0.42
35:A:665:A:H1'	48:LN:14:PHE:CE2	2.55	0.42
35:A:952:A:C2	35:A:1114:U:H4'	2.54	0.42
35:A:1072:G:C5	35:A:1087:G:C2	3.08	0.42
35:A:1239:C:N4	35:A:1244:A:H3'	2.35	0.42
35:A:1620:U:H4'	37:C:125:U:O4	2.19	0.42
35:A:2112:U:H4'	35:A:2113:A:O4'	2.19	0.42
35:A:2117:A:O2'	35:A:3080:G:O2'	2.20	0.42
35:A:2359:C:H4'	35:A:2399:A:H4'	2.01	0.42
35:A:2631:U:H4'	35:A:2697:A:H2	1.85	0.42
35:A:2853:A:H2'	35:A:2854:U:O4'	2.20	0.42
35:A:2985:C:H2'	35:A:2986:U:O4'	2.20	0.42
35:A:3086:A:OP1	39:LE:367:LYS:NZ	2.50	0.42
39:LE:28:ARG:HH12	39:LE:30:LYS:HE2	1.85	0.42
44:LJ:238:LEU:HD23	44:LJ:242:ALA:HB1	2.01	0.42
48:LN:47:ALA:HB1	48:LN:48:PRO:CD	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:LP:99:ARG:HG2	50:LP:130:PHE:CE1	2.55	0.42
51:LQ:118:VAL:HG12	55:LU:165:TYR:CD1	2.55	0.42
55:LU:90:MET:HE1	55:LU:110:MET:SD	2.60	0.42
57:LW:98:THR:O	57:LW:99:LYS:HG2	2.20	0.42
62:Lb:29:HIS:HB2	62:Lb:40:HIS:O	2.19	0.42
69:Li:67:LYS:HA	69:Li:70:LYS:HZ3	1.84	0.42
82:n:21:A:N6	82:n:46:G:H1'	2.35	0.42
1:2:115:G:H5'	14:SX:129:ARG:HD3	2.01	0.42
1:2:1005:A:H2'	1:2:1006:C:C6	2.54	0.42
1:2:1172:G:H2'	1:2:1173:C:H6	1.83	0.42
1:2:1388:A:H4'	1:2:1389:C:O5'	2.20	0.42
2:SP:158:VAL:HG22	23:Sa:69:LEU:HD23	2.01	0.42
3:SQ:207:LEU:CB	3:SQ:210:ILE:HD11	2.47	0.42
7:SS:90:ILE:HG23	7:SS:99:PHE:HB2	2.02	0.42
7:SS:159:THR:OG1	7:SS:227:VAL:HG13	2.20	0.42
8:SB:142:PRO:O	8:SB:167:ARG:HG2	2.20	0.42
9:ST:49:VAL:HG13	9:ST:114:VAL:HG23	2.01	0.42
12:SW:114:TYR:CE1	12:SW:121:SER:HA	2.54	0.42
15:SD:62:LEU:HD21	15:SD:72:ILE:HG23	2.01	0.42
18:SF:34:SER:OG	18:SF:35:PRO:HD2	2.20	0.42
20:SH:105:VAL:HG13	20:SH:106:GLU:OE2	2.19	0.42
35:A:20:A:OP2	70:Lj:90:ARG:NH2	2.32	0.42
35:A:85:A:H61	35:A:99:A:H3'	1.84	0.42
35:A:708:G:N2	35:A:710:A:H3'	2.35	0.42
35:A:729:C:H2'	35:A:730:C:C6	2.55	0.42
35:A:987:U:H2'	35:A:988:U:C6	2.55	0.42
35:A:1139:G:O6	64:Ld:10:HIS:NE2	2.51	0.42
35:A:1194:G:H2'	35:A:1195:A:C8	2.55	0.42
35:A:1559:A:H5'	60:LZ:34:LEU:HD12	2.00	0.42
35:A:1603:A:OP1	54:LT:38:ARG:NH2	2.36	0.42
35:A:1725:C:H2'	35:A:1726:C:C6	2.54	0.42
35:A:1741:A:H2'	35:A:1742:U:H5'	2.01	0.42
35:A:1750:A:C4	35:A:1752:A:C8	3.08	0.42
35:A:2178:A:H3'	38:LD:132:ASN:HD21	1.85	0.42
35:A:2383:C:H5'	51:LQ:71:PHE:CE2	2.55	0.42
35:A:3213:A:H8	35:A:3213:A:O5'	2.03	0.42
38:LD:94:ALA:O	38:LD:102:LEU:HD11	2.19	0.42
39:LE:320:ASP:N	39:LE:320:ASP:OD1	2.49	0.42
40:LF:177:ASP:OD1	40:LF:180:LYS:NZ	2.52	0.42
43:LI:184:LEU:HD12	43:LI:184:LEU:O	2.20	0.42
45:LK:173:ARG:NH1	75:Lo:125:LYS:O	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:LL:47:PRO:HB3	46:LL:171:TRP:CH2	2.55	0.42
49:LO:113:THR:HG22	49:LO:116:GLU:CD	2.45	0.42
51:LQ:125:ARG:HG3	51:LQ:129:LEU:HD12	2.01	0.42
52:LR:176:ILE:HD13	52:LR:176:ILE:HA	1.86	0.42
54:LT:23:TRP:CE3	54:LT:51:VAL:HG22	2.55	0.42
56:LV:84:TYR:HB2	64:Ld:24:PRO:HD3	2.01	0.42
58:LX:89:ASP:C	58:LX:89:ASP:OD1	2.62	0.42
59:LY:58:HIS:CD2	59:LY:58:HIS:C	2.98	0.42
60:LZ:46:TYR:HD1	70:Lj:75:TYR:HB3	1.82	0.42
60:LZ:57:LEU:HD23	60:LZ:57:LEU:O	2.20	0.42
60:LZ:90:ALA:O	60:LZ:120:LYS:NZ	2.52	0.42
67:Lg:103:LYS:O	67:Lg:106:VAL:HG22	2.20	0.42
71:Lk:8:ALA:O	71:Lk:13:LYS:HD3	2.20	0.42
79:Ls:104:ASN:CG	79:Ls:105:MET:N	2.77	0.42
79:Ls:104:ASN:HB3	79:Ls:108:ASP:OD1	2.20	0.42
1:2:16:G:H2'	1:2:17:C:C6	2.55	0.42
1:2:96:G:N2	1:2:426:G:O5'	2.53	0.42
1:2:129:U:P	1:2:264:G:H22	2.42	0.42
1:2:133:U:C4	1:2:201:G:H4'	2.55	0.42
1:2:645:C:H2'	1:2:646:C:H6	1.85	0.42
1:2:1167:G:H2'	1:2:1168:U:C6	2.55	0.42
1:2:1223:A:C4	1:2:1224:A:C8	3.08	0.42
1:2:1697:G:H1	1:2:1704:U:H3	1.66	0.42
7:SS:69:HIS:CD2	7:SS:69:HIS:N	2.87	0.42
11:SV:89:GLU:O	11:SV:93:THR:HG23	2.19	0.42
19:SG:33:ARG:HD2	32:SO:85:TRP:CE3	2.55	0.42
20:SH:41:ARG:NH1	21:SI:38:LYS:HD2	2.34	0.42
21:SI:143:ASP:OD1	21:SI:144:GLU:N	2.53	0.42
26:Sd:89:TYR:O	26:Sd:93:ARG:HB2	2.19	0.42
32:SO:89:LEU:HB3	32:SO:103:PHE:CD2	2.52	0.42
32:SO:158:PRO:HD2	32:SO:208:GLY:HA2	2.02	0.42
33:SL:10:ALA:HB1	33:SL:30:VAL:HG12	2.01	0.42
35:A:516:A:H2'	35:A:517:G:H8	1.84	0.42
35:A:873:C:H5''	35:A:874:U:O5'	2.20	0.42
35:A:1239:C:H2'	35:A:1240:A:C8	2.54	0.42
35:A:1265:U:H2'	35:A:1266:G:H8	1.85	0.42
35:A:1269:U:OP1	35:A:1273:A:N6	2.52	0.42
35:A:1414:G:C6	35:A:1415:U:C4	3.07	0.42
35:A:1752:A:C4	35:A:1753:G:C8	3.07	0.42
35:A:2550:U:C5	38:LD:40:TYR:CZ	3.08	0.42
35:A:3139:A:H2'	35:A:3140:G:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:3191:G:C6	35:A:3202:G:N1	2.88	0.42
35:A:3322:A:H2'	35:A:3323:A:H8	1.83	0.42
37:C:83:C:H42	61:La:52:ARG:NH2	2.18	0.42
41:LG:178:ASN:HA	41:LG:183:TRP:CD2	2.54	0.42
41:LG:182:GLY:HA2	41:LG:194:LEU:HD23	2.02	0.42
44:LJ:83:ASP:OD1	44:LJ:83:ASP:C	2.63	0.42
45:LK:86:TYR:HA	45:LK:186:PHE:HA	2.01	0.42
46:LL:210:ILE:HA	46:LL:217:PHE:CE1	2.54	0.42
47:LM:23:VAL:O	47:LM:65:ILE:HG23	2.19	0.42
48:LN:2:ALA:HB3	63:Lc:41:HIS:CE1	2.55	0.42
62:Lb:5:LEU:HD23	62:Lb:5:LEU:HA	1.82	0.42
1:2:179:A:C5	1:2:180:A:H1'	2.54	0.42
1:2:290:G:H2'	1:2:291:G:C8	2.55	0.42
1:2:294:C:C2	1:2:295:A:C8	3.08	0.42
1:2:697:C:O2'	1:2:698:U:OP1	2.30	0.42
1:2:901:G:H3'	1:2:902:G:C8	2.53	0.42
1:2:979:A:C4	1:2:980:G:C8	3.08	0.42
1:2:1043:A:H2'	1:2:1044:U:C6	2.55	0.42
1:2:1409:G:N2	1:2:1411:A:C8	2.88	0.42
1:2:1456:C:OP1	1:2:1457:C:H2'	2.20	0.42
1:2:1525:A:H2'	1:2:1526:A:O4'	2.20	0.42
1:2:1700:C:H4'	1:2:1701:A:N7	2.35	0.42
5:SR:235:LEU:HD21	23:Sa:54:ALA:HB2	2.02	0.42
6:SA:134:CYS:N	6:SA:157:LEU:HD21	2.34	0.42
10:SU:157:LYS:NZ	10:SU:158:ASP:HB2	2.35	0.42
11:SV:46:VAL:CG2	11:SV:54:LYS:HB3	2.49	0.42
15:SD:86:VAL:H	15:SD:87:PRO:HD3	1.85	0.42
18:SF:129:PHE:HE2	22:SJ:78:THR:HA	1.85	0.42
20:SH:118:LYS:HE2	20:SH:118:LYS:HB2	1.76	0.42
34:AA:39:ALA:C	34:AA:41:ILE:H	2.28	0.42
35:A:60:A:C8	35:A:327:A:C6	3.08	0.42
35:A:725:G:H2'	35:A:726:G:O4'	2.19	0.42
35:A:1088:U:H2'	35:A:1089:G:C8	2.54	0.42
35:A:1509:A:H8	35:A:1509:A:O5'	2.02	0.42
35:A:1648:A:H2'	35:A:1649:U:O4'	2.20	0.42
35:A:2635:A:H4'	35:A:2636:A:N3	2.35	0.42
35:A:2703:A:H61	41:LG:26:GLY:HA2	1.84	0.42
35:A:3017:A:C4	35:A:3018:C:C5	3.07	0.42
35:A:3303:G:C5	35:A:3305:A:C2	3.08	0.42
35:A:3339:A:C6	35:A:3366:G:C6	3.07	0.42
40:LF:150:LEU:HD21	40:LF:172:VAL:HG12	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:LH:100:LYS:HD3	42:LH:137:ASP:OD2	2.20	0.42
45:LK:94:TYR:CD2	45:LK:98:PRO:HA	2.54	0.42
50:LP:94:TYR:CE2	50:LP:96:ARG:HB2	2.55	0.42
52:LR:52:LEU:HD23	52:LR:52:LEU:HA	1.89	0.42
52:LR:138:LYS:HD2	52:LR:140:GLU:OE2	2.20	0.42
57:LW:90:ARG:O	57:LW:92:TRP:N	2.53	0.42
65:Le:51:LEU:HD22	69:Li:91:ARG:HG3	2.02	0.42
66:Lf:25:PHE:N	66:Lf:25:PHE:CD1	2.88	0.42
77:Lq:88:CYS:SG	77:Lq:91:PHE:HB2	2.60	0.42
1:2:43:A:C2	1:2:378:A:C5	3.08	0.41
1:2:166:C:OP1	9:ST:131:LYS:NZ	2.33	0.41
1:2:305:C:H2'	1:2:306:U:C6	2.55	0.41
1:2:449:C:O2'	1:2:450:U:H5'	2.20	0.41
1:2:472:U:H2'	1:2:473:A:C8	2.54	0.41
1:2:534:A:N3	1:2:534:A:H2'	2.35	0.41
1:2:1272:U:O4	1:2:1431:C:H2'	2.20	0.41
1:2:1579:U:H2'	1:2:1580:C:H6	1.85	0.41
1:2:1649:G:H2'	1:2:1650:U:C6	2.55	0.41
2:SP:122:ILE:HA	2:SP:144:ILE:O	2.19	0.41
6:SA:80:ALA:O	6:SA:83:THR:HG22	2.19	0.41
7:SS:168:LYS:HD3	7:SS:169:ILE:N	2.34	0.41
8:SB:62:VAL:O	8:SB:89:ILE:HG23	2.20	0.41
8:SB:194:LEU:HD23	8:SB:198:LEU:HD13	2.01	0.41
9:ST:7:TYR:HB2	9:ST:124:LEU:HD12	2.01	0.41
11:SV:43:ILE:HG12	11:SV:57:ALA:HA	2.01	0.41
12:SW:89:ASP:OD1	12:SW:89:ASP:N	2.51	0.41
18:SF:122:ARG:O	18:SF:123:ARG:HD2	2.20	0.41
22:SJ:22:ILE:HG22	22:SJ:118:VAL:HA	2.00	0.41
25:Sc:130:VAL:HG21	25:Sc:143:PRO:HD3	2.02	0.41
31:SN:135:HIS:C	31:SN:136:LYS:HD2	2.45	0.41
31:SN:145:HIS:ND1	31:SN:146:SER:N	2.66	0.41
35:A:197:G:N2	35:A:372:A:C8	2.87	0.41
35:A:199:A:C4	35:A:201:A:C8	3.08	0.41
35:A:207:U:H2'	35:A:208:C:C6	2.54	0.41
35:A:235:A:H2'	35:A:236:G:C8	2.56	0.41
35:A:503:C:C2	35:A:504:A:C8	3.08	0.41
35:A:572:A:C5	35:A:573:C:C5	3.08	0.41
35:A:594:U:OP2	35:A:609:G:N1	2.40	0.41
35:A:716:A:H1'	35:A:718:G:OP2	2.20	0.41
35:A:735:A:H2'	35:A:736:A:O4'	2.20	0.41
35:A:911:C:H42	38:LD:3:ARG:HD3	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:953:G:OP1	64:Ld:12:GLN:NE2	2.47	0.41
35:A:1305:U:C2	39:LE:257:PRO:HB3	2.54	0.41
35:A:1379:G:C6	35:A:1428:A:C2	3.08	0.41
35:A:1604:G:H4'	35:A:1835:A:H4'	2.02	0.41
35:A:1660:C:H2'	35:A:1661:G:H8	1.85	0.41
35:A:1689:U:H5''	54:LT:61:SER:HB3	2.02	0.41
35:A:1771:C:H2'	35:A:1772:U:O4'	2.20	0.41
35:A:1829:G:H5''	35:A:1830:G:H5'	2.02	0.41
35:A:2610:G:H2'	35:A:2611:U:O4'	2.20	0.41
35:A:3182:G:H2'	35:A:3183:A:H8	1.83	0.41
35:A:3343:G:N2	35:A:3362:A:H2	2.17	0.41
36:B:13:A:OP2	36:B:67:G:N2	2.51	0.41
40:LF:259:ASP:OD1	40:LF:259:ASP:C	2.63	0.41
47:LM:55:ARG:NH1	47:LM:55:ARG:HB2	2.35	0.41
49:LO:102:LYS:HB2	49:LO:102:LYS:HE2	1.79	0.41
54:LT:161:ALA:O	54:LT:165:LYS:HG2	2.21	0.41
60:LZ:62:VAL:O	60:LZ:86:VAL:HG13	2.20	0.41
77:Lq:78:LYS:HA	77:Lq:78:LYS:HD3	1.80	0.41
1:2:185:U:H2'	1:2:186:C:C6	2.55	0.41
1:2:515:A:H2'	1:2:516:G:O4'	2.20	0.41
1:2:975:C:OP1	16:SY:112:LYS:NZ	2.50	0.41
1:2:1497:U:C4	1:2:1511:U:C2	3.08	0.41
1:2:1499:G:O6	1:2:1509:C:N4	2.53	0.41
1:2:1531:G:C2	1:2:1532:U:C5	3.08	0.41
1:2:1588:G:O2'	1:2:1589:C:OP1	2.32	0.41
1:2:1662:G:H2'	1:2:1663:G:H8	1.84	0.41
5:SR:58:LEU:HA	23:Sa:12:TYR:CE1	2.54	0.41
6:SA:31:GLU:HG3	6:SA:107:PHE:CE2	2.54	0.41
10:SU:38:LEU:HA	10:SU:41:LEU:HD23	2.02	0.41
10:SU:139:ARG:HG2	24:Sb:53:ILE:HD13	2.01	0.41
11:SV:159:GLN:HE22	11:SV:166:TYR:HB2	1.85	0.41
15:SD:86:VAL:HG22	15:SD:140:PHE:CZ	2.53	0.41
15:SD:124:LYS:C	15:SD:126:TRP:H	2.28	0.41
24:Sb:15:ASN:HD21	24:Sb:71:LYS:HG3	1.85	0.41
26:Sd:104:SER:O	26:Sd:108:ARG:HB2	2.19	0.41
35:A:508:U:H2'	35:A:509:U:C6	2.56	0.41
35:A:1030:A:H2'	35:A:1031:C:H6	1.83	0.41
35:A:1254:C:C5	35:A:1263:A:H5''	2.54	0.41
35:A:2416:U:H2'	35:A:2417:U:C6	2.55	0.41
35:A:2536:A:C4	35:A:2537:U:N3	2.87	0.41
35:A:2539:C:H4'	35:A:2540:A:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:2655:U:H4'	35:A:2656:A:O4'	2.20	0.41
35:A:2829:U:C4	35:A:2830:G:N7	2.88	0.41
35:A:2964:G:H5'	35:A:2965:U:OP2	2.20	0.41
35:A:3089:C:H2'	35:A:3090:U:O4'	2.20	0.41
35:A:3109:G:H21	45:LK:156:GLN:NE2	2.18	0.41
39:LE:215:ILE:HG21	39:LE:282:ILE:HD11	2.03	0.41
41:LG:34:LYS:HA	56:LV:27:LEU:HD11	2.02	0.41
45:LK:150:SER:O	45:LK:154:VAL:HG12	2.20	0.41
48:LN:110:ASP:C	48:LN:110:ASP:OD1	2.63	0.41
49:LO:76:ALA:HB1	49:LO:80:THR:HG23	2.02	0.41
51:LQ:169:ALA:HB3	51:LQ:170:LYS:NZ	2.36	0.41
54:LT:47:ASN:OD1	54:LT:49:THR:OG1	2.31	0.41
56:LV:151:LEU:HD23	56:LV:151:LEU:HA	1.73	0.41
79:Ls:87:ARG:HG3	79:Ls:139:ILE:HG13	2.02	0.41
79:Ls:134:LEU:HD23	79:Ls:134:LEU:HA	1.92	0.41
81:m:50:C:O2'	81:m:51:A:P	2.78	0.41
1:2:419:G:H2'	1:2:420:A:O4'	2.21	0.41
1:2:699:U:HO2'	1:2:700:C:H6	1.68	0.41
1:2:755:A:H2'	1:2:756:A:O4'	2.20	0.41
1:2:756:A:H3'	1:2:757:A:H8	1.85	0.41
1:2:887:A:C4	1:2:888:U:C5	3.09	0.41
1:2:1049:U:H2'	1:2:1050:G:H8	1.85	0.41
1:2:1170:G:N1	1:2:1574:G:C2	2.88	0.41
1:2:1473:U:OP2	8:SB:190:ILE:HG22	2.20	0.41
1:2:1520:U:H4'	1:2:1523:G:H21	1.85	0.41
13:SC:87:VAL:O	13:SC:89:GLY:N	2.52	0.41
18:SF:38:LEU:HD11	21:SI:10:ALA:CA	2.51	0.41
26:Sd:23:PHE:HE2	26:Sd:75:VAL:HG12	1.86	0.41
32:SO:146:GLY:HA3	32:SO:181:TRP:CZ2	2.56	0.41
33:SL:44:VAL:HG11	33:SL:48:VAL:HG11	2.02	0.41
35:A:65:A:OP1	50:LP:176:LYS:NZ	2.45	0.41
35:A:92:G:OP2	35:A:93:C:H5''	2.20	0.41
35:A:1065:A:N1	64:Ld:26:THR:HG23	2.36	0.41
35:A:1200:A:H5'	35:A:1201:C:OP1	2.20	0.41
35:A:1447:G:O6	52:LR:25:SER:OG	2.38	0.41
35:A:1639:C:OP1	69:Li:52:GLN:HB3	2.19	0.41
35:A:1941:C:C2	35:A:1942:U:C5	3.08	0.41
35:A:2178:A:H5''	38:LD:132:ASN:ND2	2.35	0.41
35:A:2691:A:C6	35:A:2702:A:N6	2.88	0.41
35:A:2706:G:H2'	35:A:2707:C:C6	2.55	0.41
35:A:3303:G:H4'	35:A:3304:U:OP1	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:3374:U:H2'	35:A:3378:C:H41	1.85	0.41
37:C:63:G:N3	37:C:63:G:H2'	2.36	0.41
43:LI:83:LEU:HD13	43:LI:188:ILE:O	2.20	0.41
44:LJ:75:ILE:HD13	44:LJ:75:ILE:HA	1.91	0.41
58:LX:27:ASP:OD1	58:LX:29:SER:OG	2.33	0.41
60:LZ:120:LYS:HE3	60:LZ:120:LYS:HB2	1.73	0.41
63:Lc:61:PHE:N	63:Lc:61:PHE:CD1	2.86	0.41
69:Li:5:VAL:CG2	69:Li:6:THR:H	2.32	0.41
1:2:30:G:H2'	1:2:31:C:C6	2.56	0.41
1:2:176:C:N4	1:2:266:A:OP2	2.54	0.41
1:2:704:C:N4	1:2:734:A:H61	2.18	0.41
1:2:954:G:C6	1:2:955:A:C5	3.07	0.41
1:2:1149:G:C2	1:2:1151:A:C8	3.08	0.41
1:2:1275:A:C2	1:2:1438:G:C4	3.09	0.41
1:2:1354:G:C6	1:2:1372:U:C4	3.08	0.41
1:2:1475:A:C6	1:2:1476:C:C4	3.08	0.41
1:2:1529:C:H2'	1:2:1530:C:C6	2.54	0.41
1:2:1693:A:HO2'	1:2:1694:A:H8	1.68	0.41
2:SP:107:PHE:HB3	2:SP:139:VAL:HG11	2.01	0.41
8:SB:157:ARG:HG3	8:SB:224:ASN:HD22	1.86	0.41
13:SC:44:LYS:HE3	13:SC:47:GLN:OE1	2.20	0.41
14:SX:10:GLU:HG2	14:SX:11:ARG:N	2.36	0.41
14:SX:25:VAL:HB	14:SX:27:THR:HG23	2.03	0.41
33:SL:10:ALA:HA	33:SL:32:PHE:HA	2.02	0.41
35:A:19:U:H4'	50:LP:138:GLN:HG2	2.02	0.41
35:A:117:U:O2	44:LJ:138:HIS:HE1	2.04	0.41
35:A:269:G:H5'	50:LP:120:TRP:HB3	2.01	0.41
35:A:340:C:H2'	35:A:341:G:O4'	2.20	0.41
35:A:784:A:OP2	53:LS:69:ARG:NH1	2.31	0.41
35:A:1020:G:C2	35:A:1021:G:C5	3.08	0.41
35:A:1090:G:C2	35:A:1091:A:N7	2.87	0.41
35:A:1468:A:O2'	35:A:1469:C:H5'	2.20	0.41
35:A:1472:U:H2'	35:A:1473:G:H8	1.84	0.41
35:A:2193:U:O4	35:A:2243:A:N6	2.54	0.41
35:A:2219:A:OP2	71:Lk:68:ARG:NH1	2.53	0.41
35:A:2375:G:N2	35:A:2377:G:C8	2.88	0.41
35:A:2432:A:N6	35:A:2598:G:O6	2.53	0.41
35:A:2552:C:OP1	69:Li:102:LYS:NZ	2.49	0.41
35:A:2900:A:C4	35:A:2901:G:C8	3.08	0.41
35:A:3007:U:H2'	35:A:3008:A:H8	1.85	0.41
35:A:3181:C:H2'	35:A:3182:G:C8	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:B:68:C:H2'	36:B:69:C:C6	2.55	0.41
39:LE:112:ASP:O	39:LE:116:ARG:HG3	2.19	0.41
39:LE:312:VAL:HG12	39:LE:313:HIS:HD1	1.85	0.41
42:LH:8:LYS:O	42:LH:8:LYS:HD2	2.20	0.41
55:LU:94:ILE:HG21	55:LU:105:THR:HG21	2.02	0.41
56:LV:45:ASN:OD1	56:LV:48:ILE:HG22	2.19	0.41
60:LZ:103:TYR:O	60:LZ:105:VAL:N	2.53	0.41
61:La:111:LEU:HB3	61:La:116:LYS:HE3	2.03	0.41
68:Lh:88:ASN:OD1	68:Lh:88:ASN:N	2.53	0.41
68:Lh:89:LEU:HD23	68:Lh:89:LEU:HA	1.94	0.41
73:Lm:5:ILE:HD13	73:Lm:5:ILE:N	2.34	0.41
75:Lo:115:CYS:SG	75:Lo:118:THR:HG22	2.60	0.41
76:Lp:2:ARG:HB3	76:Lp:5:TRP:CD1	2.56	0.41
1:2:556:A:N3	1:2:590:C:H1'	2.35	0.41
1:2:651:G:H2'	1:2:652:G:C8	2.55	0.41
1:2:1208:A:H4'	1:2:1270:G:P	2.60	0.41
1:2:1231:U:OP1	1:2:1259:U:H1'	2.20	0.41
1:2:1290:U:H2'	1:2:1291:G:N3	2.36	0.41
1:2:1430:U:O2'	1:2:1431:C:H5'	2.21	0.41
2:SP:74:VAL:HG12	2:SP:96:THR:OG1	2.20	0.41
3:SQ:29:TRP:CZ3	3:SQ:47:LEU:HD11	2.55	0.41
4:SE:35:LYS:H	4:SE:35:LYS:HG2	1.66	0.41
6:SA:71:LEU:O	6:SA:74:GLN:HG2	2.19	0.41
6:SA:123:VAL:HG12	6:SA:134:CYS:SG	2.61	0.41
13:SC:60:SER:O	13:SC:60:SER:OG	2.34	0.41
16:SY:3:ARG:HD2	16:SY:3:ARG:N	2.35	0.41
20:SH:25:ASN:OD1	20:SH:25:ASN:N	2.51	0.41
20:SH:107:SER:HA	20:SH:110:ARG:NH2	2.35	0.41
24:Sb:72:CYS:HB2	24:Sb:129:VAL:HG12	2.01	0.41
25:Sc:7:ARG:HG3	25:Sc:7:ARG:HH11	1.86	0.41
26:Sd:40:LEU:HD13	26:Sd:60:PHE:CZ	2.56	0.41
28:Sf:8:LEU:HD23	28:Sf:8:LEU:HA	1.74	0.41
32:SO:300:THR:HG22	32:SO:314:GLN:HB2	2.03	0.41
35:A:150:A:C6	35:A:151:A:C5	3.08	0.41
35:A:265:A:P	35:A:265:A:H8	2.43	0.41
35:A:316:U:O2'	71:Lk:30:LYS:HD2	2.20	0.41
35:A:707:U:HO2'	35:A:754:G:HO2'	1.67	0.41
35:A:752:C:C2	35:A:753:C:C5	3.08	0.41
35:A:950:G:C2	35:A:1370:G:O6	2.73	0.41
35:A:992:A:O2'	35:A:993:G:H5'	2.20	0.41
35:A:1091:A:O2'	35:A:1092:C:H5'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1093:A:OP1	56:LV:116:ARG:NH2	2.52	0.41
35:A:1140:G:H2'	35:A:1141:C:C6	2.56	0.41
35:A:1150:A:H2	35:A:2379:U:O2	2.03	0.41
35:A:2096:A:H2'	35:A:2097:U:C6	2.55	0.41
35:A:2107:A:C5	35:A:2108:C:C4	3.08	0.41
35:A:2183:A:H2'	35:A:2184:U:O4'	2.20	0.41
35:A:2526:C:O5'	35:A:2526:C:H6	2.04	0.41
35:A:3206:C:H4'	55:LU:157:GLN:OE1	2.20	0.41
35:A:3215:A:H5'	49:LO:121:MET:HE1	2.02	0.41
35:A:3254:G:H2'	35:A:3255:U:C6	2.55	0.41
35:A:3331:U:H2'	35:A:3332:U:H6	1.84	0.41
36:B:1:G:H1'	41:LG:266:ALA:HA	2.01	0.41
36:B:3:U:H2'	36:B:4:U:H6	1.86	0.41
39:LE:48:GLY:O	39:LE:335:ILE:HD12	2.21	0.41
43:LI:203:TRP:CD1	43:LI:204:PRO:HD2	2.56	0.41
45:LK:71:VAL:HA	45:LK:74:LEU:HD23	2.01	0.41
46:LL:69:ARG:HG2	46:LL:69:ARG:NH1	2.31	0.41
47:LM:15:GLU:HG2	47:LM:132:ASN:HD21	1.85	0.41
47:LM:79:ILE:HG22	47:LM:127:PHE:CE2	2.56	0.41
52:LR:107:LEU:HD22	52:LR:152:GLU:HG3	2.03	0.41
54:LT:160:GLU:O	54:LT:163:ARG:HB2	2.20	0.41
62:Lb:116:LYS:HE3	62:Lb:116:LYS:HB2	1.69	0.41
63:Lc:98:THR:O	63:Lc:98:THR:OG1	2.31	0.41
82:n:37:A:H2'	82:n:38:A:O4'	2.20	0.41
1:2:205:U:N3	1:2:206:A:N7	2.69	0.41
1:2:330:G:C6	1:2:331:A:C6	3.08	0.41
1:2:396:G:O6	11:SV:26:LYS:HE3	2.21	0.41
1:2:401:A:O2'	1:2:402:C:H4'	2.21	0.41
1:2:435:C:H5'	25:Sc:50:LYS:HE3	2.02	0.41
1:2:600:U:H2'	1:2:601:A:C8	2.52	0.41
1:2:1061:A:H2'	1:2:1062:A:H5'	2.03	0.41
1:2:1315:U:H5''	1:2:1329:A:C2	2.55	0.41
1:2:1486:G:N2	1:2:1487:A:C4	2.88	0.41
1:2:1579:U:O2'	18:SF:139:GLN:HA	2.20	0.41
1:2:1797:A:N6	27:Se:84:VAL:HB	2.36	0.41
5:SR:144:TRP:CZ2	24:Sb:97:ARG:HD2	2.56	0.41
8:SB:48:PHE:CD2	8:SB:67:PRO:HA	2.55	0.41
8:SB:90:ILE:O	8:SB:94:THR:HG23	2.21	0.41
12:SW:78:ARG:NH1	12:SW:82:ARG:HD3	2.33	0.41
14:SX:53:TYR:C	14:SX:53:TYR:CD1	2.98	0.41
14:SX:100:TYR:HE1	24:Sb:80:ASN:OD1	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:SH:28:ILE:HG22	20:SH:58:ALA:HA	2.02	0.41
21:SI:38:LYS:NZ	21:SI:44:GLU:HA	2.36	0.41
22:SJ:107:THR:C	22:SJ:108:ILE:HD12	2.45	0.41
27:Se:45:VAL:HG21	27:Se:53:LEU:HD12	2.02	0.41
35:A:213:A:N6	35:A:228:U:O4'	2.54	0.41
35:A:494:G:H2'	35:A:495:G:C8	2.52	0.41
35:A:776:U:OP1	64:Ld:41:ARG:NE	2.54	0.41
35:A:821:U:H2'	35:A:822:G:C8	2.54	0.41
35:A:836:A:OP1	78:Lr:4:ARG:HG2	2.21	0.41
35:A:1159:A:O2'	35:A:1160:C:H5'	2.21	0.41
35:A:1222:G:C4	35:A:1285:G:C6	3.09	0.41
35:A:1223:A:H8	35:A:1223:A:OP2	2.03	0.41
35:A:1562:C:O2'	35:A:1563:C:P	2.78	0.41
35:A:2312:A:O2'	35:A:2315:G:N3	2.44	0.41
35:A:2609:A:H2'	35:A:2610:G:C8	2.56	0.41
35:A:3011:A:C8	39:LE:13:HIS:HE1	2.38	0.41
36:B:34:C:H5''	36:B:35:C:OP2	2.21	0.41
36:B:84:A:H2'	36:B:85:G:C8	2.55	0.41
37:C:12:A:P	52:LR:3:ARG:HH21	2.44	0.41
39:LE:53:MET:HA	39:LE:77:THR:HA	2.03	0.41
41:LG:119:TYR:CZ	41:LG:135:VAL:HG23	2.56	0.41
42:LH:43:LEU:HD23	42:LH:43:LEU:HA	1.88	0.41
43:LI:84:VAL:HG11	43:LI:127:LEU:HD11	2.03	0.41
45:LK:152:GLU:H	45:LK:152:GLU:CD	2.13	0.41
46:LL:138:VAL:HG21	46:LL:148:VAL:HG11	2.01	0.41
47:LM:28:ASP:HB3	47:LM:32:ARG:HH21	1.85	0.41
55:LU:24:LEU:HD23	56:LV:146:ASN:HB3	2.03	0.41
56:LV:6:GLY:O	56:LV:9:SER:OG	2.32	0.41
58:LX:93:LEU:HA	59:LY:20:LEU:O	2.20	0.41
61:La:87:LYS:N	61:La:95:VAL:O	2.54	0.41
64:Ld:52:LYS:HE3	64:Ld:52:LYS:HB2	1.85	0.41
70:Lj:31:LEU:HD21	70:Lj:43:LYS:HG2	2.01	0.41
73:Lm:44:LYS:HA	73:Lm:52:TYR:O	2.20	0.41
78:Lr:29:LEU:HD22	78:Lr:69:TYR:CD2	2.56	0.41
81:m:24:G:C6	81:m:25:C:C4	3.08	0.41
84:E:119:UNK:C	84:E:121:UNK:N	2.81	0.41
1:2:394:C:C4	1:2:404:G:N2	2.89	0.41
1:2:706:A:H2'	1:2:707:A:C4	2.56	0.41
1:2:1151:A:H2'	1:2:1152:A:C8	2.56	0.41
1:2:1175:U:H2'	1:2:1176:G:C8	2.56	0.41
2:SP:164:ASN:O	2:SP:170:ILE:HD11	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:SQ:109:LYS:O	3:SQ:112:SER:OG	2.29	0.41
7:SS:36:HIS:NE2	7:SS:85:GLY:HA3	2.35	0.41
7:SS:160:VAL:CG1	7:SS:169:ILE:HD13	2.51	0.41
7:SS:196:VAL:HG22	7:SS:209:HIS:O	2.19	0.41
10:SU:91:ILE:HD12	10:SU:92:PHE:H	1.85	0.41
10:SU:99:LEU:HD13	10:SU:116:ARG:HG2	2.03	0.41
12:SW:55:ALA:O	12:SW:59:LEU:HD23	2.20	0.41
15:SD:88:LEU:HD22	15:SD:90:LYS:NZ	2.36	0.41
18:SF:129:PHE:CE2	22:SJ:78:THR:HA	2.55	0.41
21:SI:40:SER:CB	21:SI:96:ALA:HA	2.47	0.41
24:Sb:106:THR:HB	24:Sb:122:SER:O	2.21	0.41
29:SM:19:ARG:HH12	29:SM:32:ARG:CD	2.32	0.41
32:SO:106:HIS:CG	32:SO:126:SER:HB2	2.56	0.41
32:SO:197:SER:HB3	32:SO:217:ASP:HB3	2.02	0.41
35:A:246:U:H2'	35:A:247:C:C6	2.56	0.41
35:A:284:A:C2	35:A:306:A:H1'	2.56	0.41
35:A:411:U:H2'	35:A:412:G:C8	2.55	0.41
35:A:584:G:H2'	35:A:585:A:H8	1.85	0.41
35:A:1066:G:H2'	35:A:1067:U:C6	2.56	0.41
35:A:1265:U:C2	35:A:1277:C:C2	3.09	0.41
35:A:1278:A:C4	35:A:1279:C:C6	3.09	0.41
35:A:1445:U:H5''	35:A:1446:A:OP2	2.21	0.41
35:A:1760:A:H5''	35:A:1761:C:H5	1.86	0.41
35:A:1784:G:H2'	35:A:1785:U:O4'	2.20	0.41
35:A:2152:A:C6	35:A:2185:G:C6	3.09	0.41
35:A:2423:U:H2'	35:A:2424:A:C8	2.55	0.41
35:A:2573:G:H2'	35:A:2574:G:C8	2.56	0.41
35:A:2708:C:H2'	35:A:2709:C:C6	2.56	0.41
35:A:2786:G:C6	35:A:2787:G:N7	2.89	0.41
35:A:2914:G:N3	35:A:2934:A:H2	2.19	0.41
35:A:3113:A:H2'	35:A:3114:A:O4'	2.21	0.41
35:A:3320:A:H2'	35:A:3321:C:C6	2.56	0.41
36:B:11:A:C8	41:LG:18:THR:HG23	2.56	0.41
36:B:40:C:O2	47:LM:72:ARG:NH2	2.53	0.41
36:B:79:A:H2'	36:B:80:G:O4'	2.21	0.41
37:C:6:U:C2	37:C:7:U:C5	3.08	0.41
37:C:49:G:OP1	70:Lj:45:LYS:HB2	2.21	0.41
39:LE:60:LEU:HD11	39:LE:62:ARG:HG2	2.03	0.41
41:LG:115:LEU:O	41:LG:118:THR:N	2.43	0.41
43:LI:110:ARG:HE	53:LS:3:ILE:CD1	2.33	0.41
43:LI:130:ILE:HD12	43:LI:134:VAL:HG11	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:LM:32:ARG:HD3	47:LM:119:SER:O	2.21	0.41
48:LN:110:ASP:O	48:LN:114:GLN:HG2	2.21	0.41
48:LN:180:ARG:HD3	71:Lk:11:LEU:HD11	2.01	0.41
49:LO:113:THR:N	49:LO:116:GLU:OE1	2.31	0.41
52:LR:33:ALA:HB1	52:LR:117:ILE:HG12	2.02	0.41
79:Ls:31:PHE:HE2	79:Ls:64:ILE:HG21	1.85	0.41
1:2:28:A:H2'	1:2:29:U:H6	1.85	0.41
1:2:209:U:H2'	1:2:210:A:H8	1.85	0.41
1:2:279:G:C6	1:2:281:G:C5	3.09	0.41
1:2:293:U:O2'	7:SS:133:LYS:HD3	2.21	0.41
1:2:473:A:H4'	1:2:768:C:O2	2.21	0.41
1:2:1217:A:H2	13:SC:27:PHE:HB3	1.85	0.41
1:2:1545:A:H4'	20:SH:127:HIS:HE1	1.86	0.41
1:2:1689:A:H2'	1:2:1690:G:C5	2.55	0.41
1:2:1783:C:OP2	76:Lp:1:MET:HB2	2.20	0.41
1:2:1799:U:C5	3:SQ:117:TRP:CE2	3.09	0.41
5:SR:180:ALA:HB2	5:SR:198:THR:HG21	2.02	0.41
11:SV:78:ILE:HD11	11:SV:179:CYS:SG	2.61	0.41
13:SC:44:LYS:HA	13:SC:44:LYS:HD2	1.92	0.41
14:SX:19:ILE:HD12	14:SX:19:ILE:HA	1.93	0.41
14:SX:92:HIS:HB2	14:SX:103:ARG:HD2	2.02	0.41
35:A:775:A:C6	35:A:777:U:O4	2.73	0.41
35:A:967:A:C4	35:A:968:G:C8	3.09	0.41
35:A:1270:A:HO2'	35:A:1271:A:P	2.38	0.41
35:A:1334:U:H5''	43:LI:206:LYS:HB3	2.03	0.41
35:A:1338:C:H4'	67:Lg:60:ASN:HD22	1.85	0.41
35:A:1591:G:H1'	35:A:1799:A:N1	2.35	0.41
35:A:2095:G:H2'	35:A:2096:A:C8	2.55	0.41
35:A:2183:A:O2'	38:LD:236:GLY:N	2.44	0.41
35:A:2673:A:H5''	47:LM:95:ASN:OD1	2.21	0.41
35:A:3043:C:H5'	39:LE:9:PRO:HG2	2.03	0.41
35:A:3161:C:H2'	35:A:3162:C:C6	2.55	0.41
35:A:3314:A:H5''	39:LE:174:LYS:HE2	2.03	0.41
36:B:37:G:C2	36:B:41:G:C2	3.09	0.41
36:B:61:G:H2'	36:B:62:U:H6	1.86	0.41
37:C:34:U:O2'	37:C:35:C:OP2	2.34	0.41
37:C:156:U:H2'	37:C:157:U:H6	1.84	0.41
44:LJ:101:THR:OG1	44:LJ:104:GLU:HG2	2.20	0.41
45:LK:7:GLU:C	45:LK:8:GLN:HE21	2.26	0.41
46:LL:13:LYS:HB3	46:LL:13:LYS:HE2	1.93	0.41
46:LL:45:GLU:OE2	46:LL:141:LYS:NZ	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:LX:15:LEU:HD22	58:LX:51:ALA:HB3	2.02	0.41
62:Lb:26:VAL:HG23	62:Lb:89:VAL:CG1	2.46	0.41
71:Lk:57:LEU:HD12	71:Lk:57:LEU:HA	1.64	0.41
74:Ln:36:ARG:HB2	74:Ln:37:TYR:HD1	1.86	0.41
74:Ln:42:ARG:HE	74:Ln:42:ARG:HB3	1.72	0.41
81:m:54:U:O2'	81:m:57:G:OP2	2.32	0.41
1:2:92:A:OP2	1:2:398:G:N1	2.50	0.41
1:2:329:G:N3	1:2:330:G:C8	2.89	0.41
1:2:586:G:H2'	1:2:587:C:C6	2.55	0.41
1:2:767:U:C5	12:SW:143:ILE:HD13	2.56	0.41
1:2:833:U:H5'	1:2:834:G:H5''	2.02	0.41
1:2:901:G:C6	1:2:902:G:C6	3.08	0.41
1:2:932:U:OP1	3:SQ:155:TYR:HE2	2.04	0.41
1:2:959:U:O2	1:2:959:U:H2'	2.19	0.41
1:2:1024:U:H5	1:2:1027:A:N1	2.19	0.41
1:2:1120:U:H2'	1:2:1121:C:C6	2.56	0.41
1:2:1173:C:OP1	20:SH:132:ARG:NH2	2.49	0.41
1:2:1188:G:C6	1:2:1198:G:C6	3.09	0.41
1:2:1227:A:C8	1:2:1229:G:N2	2.89	0.41
1:2:1229:G:C6	1:2:1255:G:C5	3.09	0.41
1:2:1315:U:OP1	1:2:1328:G:N2	2.34	0.41
1:2:1478:G:C4	1:2:1479:A:C8	3.08	0.41
1:2:1544:U:O4	1:2:1545:A:N6	2.54	0.41
1:2:1605:G:C6	1:2:1606:C:C4	3.09	0.41
2:SP:58:VAL:O	2:SP:62:ARG:HG3	2.21	0.41
2:SP:150:ASP:OD1	2:SP:150:ASP:C	2.64	0.41
3:SQ:88:VAL:HA	3:SQ:98:THR:HA	2.03	0.41
3:SQ:123:ALA:HB2	3:SQ:165:ARG:HG3	2.02	0.41
3:SQ:137:ILE:HD12	3:SQ:172:LEU:HB3	2.03	0.41
3:SQ:179:SER:HB2	3:SQ:183:GLN:HG2	2.03	0.41
7:SS:19:LEU:HD21	7:SS:108:ARG:HD2	2.02	0.41
8:SB:217:LEU:O	8:SB:220:VAL:HG12	2.20	0.41
14:SX:124:THR:CG2	14:SX:141:LYS:HB3	2.51	0.41
15:SD:27:ALA:CB	15:SD:132:GLU:HB3	2.50	0.41
16:SY:102:LEU:HD11	16:SY:112:LYS:HA	2.01	0.41
16:SY:102:LEU:HD23	16:SY:102:LEU:HA	1.84	0.41
17:SZ:16:VAL:HG23	17:SZ:18:ARG:HG3	2.03	0.41
19:SG:14:LYS:O	19:SG:18:GLU:HG3	2.21	0.41
21:SI:15:ILE:HD13	21:SI:60:SER:HA	2.03	0.41
21:SI:24:ARG:NH1	21:SI:25:GLN:HG3	2.28	0.41
21:SI:44:GLU:O	21:SI:45:MET:HE2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:SI:66:TYR:CD1	21:SI:66:TYR:C	2.99	0.41
21:SI:110:LYS:HD2	21:SI:110:LYS:C	2.46	0.41
21:SI:131:ASP:HA	21:SI:134:ARG:HG3	2.02	0.41
22:SJ:34:LEU:HD21	22:SJ:89:ARG:HG2	2.02	0.41
32:SO:98:GLU:OE1	32:SO:98:GLU:N	2.53	0.41
32:SO:308:ASN:O	32:SO:308:ASN:ND2	2.54	0.41
34:AA:85:LYS:HE3	34:AA:86:GLU:HG3	2.03	0.41
35:A:100:A:O2'	35:A:101:G:H5'	2.21	0.41
35:A:254:A:H2'	35:A:255:A:H8	1.81	0.41
35:A:268:A:C5	50:LP:12:ARG:HG2	2.55	0.41
35:A:607:A:P	42:LH:26:ARG:HH12	2.42	0.41
35:A:799:G:P	63:Lc:32:ARG:HH11	2.43	0.41
35:A:1013:G:H2'	35:A:1014:U:C6	2.55	0.41
35:A:1055:A:H5''	36:B:100:C:O2'	2.20	0.41
35:A:1357:G:H2'	35:A:1358:C:C6	2.56	0.41
35:A:1598:G:H2'	35:A:1599:G:H8	1.86	0.41
35:A:1905:G:O6	39:LE:241:LYS:NZ	2.50	0.41
35:A:2106:A:H2'	35:A:2107:A:H8	1.86	0.41
35:A:2526:C:H2'	35:A:2527:G:C8	2.56	0.41
35:A:2648:G:OP1	46:LL:24:ARG:NH2	2.54	0.41
35:A:2724:U:OP2	35:A:2726:C:N4	2.54	0.41
35:A:3023:U:H2'	35:A:3024:A:H8	1.86	0.41
35:A:3095:U:H2'	35:A:3096:C:H6	1.86	0.41
35:A:3156:U:H3'	35:A:3157:U:H5''	2.02	0.41
35:A:3301:U:H1'	35:A:3314:A:C2	2.55	0.41
36:B:61:G:H2'	36:B:62:U:C6	2.56	0.41
37:C:43:A:H2'	37:C:44:A:H8	1.84	0.41
37:C:151:C:O2'	37:C:153:U:OP2	2.24	0.41
38:LD:57:PRO:C	38:LD:58:LEU:HD23	2.46	0.41
39:LE:108:GLU:HG3	39:LE:137:TYR:CD2	2.55	0.41
40:LF:313:LEU:HD23	40:LF:315:LYS:HE2	2.02	0.41
41:LG:103:LEU:HB3	41:LG:247:ILE:HD11	2.02	0.41
44:LJ:134:TYR:HB3	44:LJ:190:VAL:HG11	2.02	0.41
46:LL:27:PRO:HG3	46:LL:123:HIS:C	2.46	0.41
50:LP:61:ILE:HD11	50:LP:133:ILE:HG12	2.02	0.41
50:LP:135:VAL:HG13	50:LP:142:ILE:HG21	2.03	0.41
51:LQ:177:LYS:HE2	51:LQ:177:LYS:HB3	1.84	0.41
52:LR:131:ARG:HG3	52:LR:137:ASN:OD1	2.21	0.41
53:LS:42:ALA:HB2	53:LS:133:LYS:HG2	2.03	0.41
54:LT:24:LEU:HG	54:LT:32:ILE:HD13	2.02	0.41
55:LU:29:ILE:HG21	55:LU:40:ARG:HB2	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:LW:93:ILE:HA	57:LW:106:ALA:O	2.20	0.41
58:LX:59:MET:HE3	58:LX:59:MET:HB3	1.85	0.41
62:Lb:14:VAL:HG22	62:Lb:79:HIS:O	2.21	0.41
62:Lb:99:GLU:HA	62:Lb:102:GLU:OE1	2.21	0.41
67:Lg:19:ARG:HG2	67:Lg:20:HIS:N	2.36	0.41
67:Lg:55:ILE:HD12	67:Lg:55:ILE:HA	1.84	0.41
68:Lh:69:GLY:HA3	68:Lh:85:PHE:HA	2.02	0.41
71:Lk:16:LYS:HE2	71:Lk:16:LYS:HB2	1.58	0.41
73:Lm:35:GLY:C	73:Lm:36:LYS:HD3	2.46	0.41
73:Lm:61:LYS:HE3	73:Lm:61:LYS:HB3	1.76	0.41
79:Ls:19:TYR:CD1	79:Ls:19:TYR:C	2.98	0.41
79:Ls:103:MET:CE	79:Ls:107:GLY:HA2	2.50	0.41
84:E:200:UNK:N	84:E:208:UNK:O	2.53	0.41
1:2:151:G:N1	1:2:164:A:C6	2.89	0.41
1:2:446:A:C4	1:2:447:U:C5	3.09	0.41
1:2:710:U:H5'	1:2:711:U:H2'	2.02	0.41
1:2:843:U:C4	1:2:844:A:N7	2.89	0.41
1:2:1144:U:H2'	1:2:1145:U:C2	2.56	0.41
1:2:1402:G:H2'	1:2:1403:C:C6	2.56	0.41
5:SR:188:LEU:HD23	5:SR:188:LEU:HA	1.77	0.41
6:SA:113:LEU:HD11	6:SA:117:ARG:HB3	2.03	0.41
6:SA:151:LYS:C	6:SA:152:PHE:CD1	2.98	0.41
9:ST:115:LYS:HE3	9:ST:115:LYS:HB3	1.93	0.41
13:SC:57:THR:HA	13:SC:65:TYR:O	2.21	0.41
18:SF:48:VAL:O	18:SF:51:PRO:HD2	2.21	0.41
20:SH:108:LYS:HD2	20:SH:108:LYS:HA	1.90	0.41
27:Se:39:MET:HG2	27:Se:70:LYS:HE2	2.02	0.41
35:A:256:G:H2'	35:A:257:U:C6	2.56	0.41
35:A:950:G:C2	35:A:1370:G:C6	3.09	0.41
35:A:1005:G:C6	35:A:1006:A:N7	2.89	0.41
35:A:1015:U:N3	35:A:1035:G:C6	2.89	0.41
35:A:1048:A:H2'	46:LL:22:TYR:CZ	2.55	0.41
35:A:1238:C:H2'	35:A:1239:C:C6	2.56	0.41
35:A:1339:C:H2'	35:A:1340:G:C8	2.55	0.41
35:A:1375:G:C2	35:A:1376:C:C5	3.09	0.41
35:A:1532:C:H2'	35:A:1533:U:C6	2.56	0.41
35:A:1564:U:N3	35:A:1576:G:N1	2.69	0.41
35:A:1686:U:OP1	57:LW:42:LYS:NZ	2.54	0.41
35:A:1817:G:C2	35:A:1818:U:C5	3.09	0.41
35:A:1939:G:C6	35:A:1940:G:C5	3.08	0.41
35:A:2111:G:HI'	59:LY:44:LYS:HD2	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:2578:U:H2'	35:A:2579:G:O4'	2.21	0.41
35:A:2697:A:C2	35:A:2698:G:C5	3.09	0.41
35:A:2706:G:C4	35:A:2707:C:C5	3.09	0.41
35:A:2830:G:H2'	35:A:2831:G:H8	1.86	0.41
35:A:2927:C:H2'	35:A:2928:C:C6	2.55	0.41
35:A:3197:G:C2	35:A:3199:G:C4	3.09	0.41
35:A:3350:C:HO2'	35:A:3351:U:P	2.44	0.41
35:A:3369:G:OP2	59:LY:61:LYS:HE3	2.20	0.41
37:C:13:A:C6	37:C:14:C:C4	3.09	0.41
37:C:70:G:C2	37:C:87:G:N3	2.89	0.41
39:LE:103:THR:HG21	39:LE:147:GLU:HG3	2.01	0.41
39:LE:158:VAL:HG12	39:LE:191:LYS:HD2	2.02	0.41
40:LF:129:THR:CG2	40:LF:248:VAL:HB	2.50	0.41
40:LF:294:GLU:CD	40:LF:294:GLU:N	2.79	0.41
48:LN:122:LYS:HD2	70:Lj:120:ALA:HB2	2.03	0.41
53:LS:23:ASN:CG	53:LS:26:LEU:H	2.28	0.41
58:LX:109:MET:HE2	58:LX:109:MET:HB3	1.87	0.41
71:Lk:54:GLU:HG2	71:Lk:90:MET:HE3	2.02	0.41
1:2:78:A:C8	9:ST:154:ARG:HB3	2.56	0.40
1:2:153:G:C4	1:2:162:A:N1	2.89	0.40
1:2:564:G:N1	1:2:580:A:OP2	2.47	0.40
1:2:989:U:H3'	1:2:990:C:H6	1.86	0.40
1:2:1001:A:H2'	1:2:1002:G:C8	2.56	0.40
1:2:1188:G:O2'	1:2:1430:U:OP1	2.33	0.40
1:2:1446:A:N7	1:2:1448:G:C5	2.89	0.40
1:2:1450:U:H2'	1:2:1451:C:C6	2.56	0.40
1:2:1528:U:OP1	8:SB:109:LYS:HG3	2.21	0.40
1:2:1534:G:O2'	1:2:1535:U:O2	2.25	0.40
1:2:1567:U:C5	1:2:1568:C:C4	3.09	0.40
1:2:1737:G:H2'	1:2:1738:U:O4'	2.21	0.40
1:2:1770:U:H2'	1:2:1771:U:C6	2.56	0.40
2:SP:30:GLN:HA	2:SP:149:LEU:O	2.21	0.40
7:SS:66:MET:SD	7:SS:78:THR:OG1	2.79	0.40
10:SU:12:ALA:HA	10:SU:13:PRO:HD3	1.82	0.40
10:SU:14:THR:O	10:SU:18:LEU:HG	2.21	0.40
11:SV:84:HIS:HE2	11:SV:97:THR:HG1	1.63	0.40
12:SW:49:LEU:HD13	12:SW:104:PHE:HE1	1.85	0.40
13:SC:64:TYR:HD2	13:SC:66:TYR:OH	2.04	0.40
17:SZ:26:THR:HG21	17:SZ:60:ALA:HB2	2.01	0.40
23:Sa:85:TYR:O	28:Sf:6:ASP:N	2.54	0.40
24:Sb:53:ILE:HD13	24:Sb:53:ILE:HA	1.83	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:Se:64:LEU:HD12	27:Se:64:LEU:HA	1.87	0.40
28:Sf:31:TYR:C	28:Sf:48:SER:HG	2.29	0.40
30:Sg:20:LYS:HD3	30:Sg:21:VAL:C	2.46	0.40
32:SO:133:VAL:HG22	32:SO:142:ALA:HB3	2.02	0.40
35:A:69:C:H2'	35:A:70:A:O4'	2.21	0.40
35:A:579:G:C6	35:A:580:C:C4	3.09	0.40
35:A:589:A:H8	35:A:590:G:C8	2.39	0.40
35:A:626:U:H2'	35:A:627:U:O4'	2.21	0.40
35:A:661:G:H4'	35:A:662:U:C6	2.56	0.40
35:A:1076:C:H4'	64:Ld:38:LYS:HG2	2.04	0.40
35:A:1194:G:H8	35:A:1194:G:O5'	2.04	0.40
35:A:1336:U:H2'	35:A:1337:A:C8	2.56	0.40
35:A:1709:C:H2'	35:A:1710:C:C6	2.55	0.40
35:A:1844:C:O2	72:Ll:9:GLY:HA2	2.21	0.40
35:A:1902:G:H8	35:A:1902:G:O5'	2.04	0.40
35:A:2155:G:H2'	35:A:2156:C:C6	2.55	0.40
35:A:2427:U:H2'	35:A:2428:U:C6	2.55	0.40
35:A:3010:U:O2'	35:A:3011:A:H2'	2.22	0.40
35:A:3061:G:C6	35:A:3083:G:C6	3.09	0.40
35:A:3228:C:H4'	35:A:3229:G:O5'	2.22	0.40
37:C:121:U:H2'	37:C:122:U:C6	2.56	0.40
39:LE:43:LEU:HD12	39:LE:203:VAL:HG11	2.04	0.40
40:LF:343:LYS:HE2	40:LF:343:LYS:HB3	1.72	0.40
41:LG:77:ALA:O	41:LG:108:ARG:NH1	2.54	0.40
43:LI:79:ALA:N	56:LV:138:SER:HB3	2.36	0.40
44:LJ:122:LYS:HA	44:LJ:125:ALA:HB3	2.03	0.40
47:LM:132:ASN:OD1	47:LM:132:ASN:C	2.63	0.40
50:LP:187:ARG:HH22	50:LP:188:ARG:NH2	2.19	0.40
53:LS:63:SER:OG	53:LS:90:ASP:HB2	2.20	0.40
53:LS:171:LYS:H	53:LS:171:LYS:HG2	1.61	0.40
54:LT:69:SER:OG	54:LT:75:HIS:CD2	2.74	0.40
61:La:53:ASP:HB3	61:La:110:HIS:HB2	2.02	0.40
73:Lm:12:LEU:O	73:Lm:16:ARG:HG3	2.21	0.40
1:2:139:C:N4	1:2:175:G:O2'	2.54	0.40
1:2:391:A:C6	1:2:407:A:N6	2.89	0.40
1:2:815:G:H21	54:LT:162:ARG:NH2	2.19	0.40
1:2:817:A:C5	1:2:818:C:C4	3.10	0.40
1:2:861:U:O2'	24:Sb:56:HIS:O	2.33	0.40
1:2:946:U:H2'	1:2:947:U:H6	1.85	0.40
8:SB:80:LYS:HG3	8:SB:83:ARG:NH2	2.35	0.40
18:SF:87:LYS:HB3	18:SF:87:LYS:HE2	1.78	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:SG:58:MET:HA	19:SG:58:MET:HE3	2.02	0.40
32:SO:22:SER:OG	32:SO:70:ASP:HA	2.21	0.40
32:SO:122:ILE:HB	32:SO:134:TRP:HB2	2.02	0.40
32:SO:173:GLY:H	32:SO:199:ILE:HD12	1.87	0.40
35:A:70:A:N1	35:A:313:A:O2'	2.51	0.40
35:A:165:A:H2'	35:A:166:C:C6	2.57	0.40
35:A:244:G:H2'	35:A:245:U:C6	2.56	0.40
35:A:266:A:OP1	50:LP:5:LYS:NZ	2.41	0.40
35:A:436:A:H2'	35:A:437:G:O4'	2.20	0.40
35:A:877:C:O2'	35:A:880:G:H1'	2.21	0.40
35:A:1090:G:N3	35:A:1091:A:C8	2.89	0.40
35:A:1684:U:C2	35:A:1685:C:C6	3.09	0.40
35:A:2148:U:O2'	38:LD:182:ALA:HB2	2.22	0.40
35:A:2232:A:H2'	35:A:2233:A:C8	2.56	0.40
35:A:2544:U:H2'	35:A:2545:C:C6	2.56	0.40
35:A:2599:U:C2	35:A:2600:C:C6	3.09	0.40
35:A:2617:U:O2'	46:LL:116:ARG:NH2	2.54	0.40
35:A:2884:C:C2	35:A:2939:G:N1	2.89	0.40
35:A:2953:U:H2'	35:A:2954:U:H2'	2.03	0.40
35:A:2966:G:H5''	38:LD:220:GLY:HA3	2.03	0.40
35:A:3075:G:H2'	35:A:3076:C:C6	2.56	0.40
35:A:3110:C:H1'	45:LK:156:GLN:OE1	2.21	0.40
35:A:3200:G:H2'	35:A:3201:C:H6	1.87	0.40
44:LJ:245:LYS:HB2	44:LJ:245:LYS:HE2	1.75	0.40
52:LR:107:LEU:HD22	52:LR:152:GLU:CG	2.52	0.40
63:Lc:76:ASP:OD1	63:Lc:77:LYS:N	2.49	0.40
67:Lg:44:ARG:O	67:Lg:46:PHE:N	2.53	0.40
68:Lh:32:ILE:HD12	68:Lh:32:ILE:N	2.35	0.40
70:Lj:38:ARG:CZ	70:Lj:38:ARG:HB2	2.51	0.40
70:Lj:45:LYS:HB3	70:Lj:45:LYS:HE2	1.92	0.40
81:m:8:U:C2	81:m:15:G:O6	2.74	0.40
1:2:9:U:N3	1:2:12:U:OP2	2.53	0.40
1:2:168:A:C6	1:2:169:A:C6	3.10	0.40
1:2:258:C:H2'	1:2:259:U:H6	1.86	0.40
1:2:522:U:OP1	26:Sd:37:LYS:HG2	2.20	0.40
1:2:523:G:H5'	26:Sd:60:PHE:O	2.21	0.40
1:2:624:G:OP1	1:2:624:G:C8	2.74	0.40
1:2:692:C:H2'	1:2:693:U:C6	2.56	0.40
2:SP:198:MET:SD	2:SP:199:PRO:HD2	2.62	0.40
6:SA:94:ARG:HG2	6:SA:94:ARG:NH1	2.36	0.40
7:SS:158:ASP:OD2	7:SS:174:LYS:NZ	2.52	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:ST:156:PHE:N	9:ST:156:PHE:CD1	2.89	0.40
9:ST:208:TYR:CD1	9:ST:208:TYR:C	3.00	0.40
12:SW:112:GLN:O	12:SW:116:LEU:HG	2.22	0.40
24:Sb:106:THR:HA	24:Sb:123:GLY:HA3	2.04	0.40
26:Sd:37:LYS:NZ	26:Sd:58:PHE:HA	2.36	0.40
35:A:126:U:OP1	50:LP:144:ARG:NH1	2.47	0.40
35:A:616:G:H2'	35:A:617:G:C8	2.56	0.40
35:A:1069:C:H2'	35:A:1070:U:C6	2.56	0.40
35:A:1556:C:C5'	35:A:2169:G:H22	2.34	0.40
35:A:1874:A:O2'	35:A:1875:G:H5'	2.21	0.40
35:A:2216:G:H22	35:A:2229:A:H2	1.66	0.40
35:A:2327:U:H2'	35:A:2328:U:H6	1.86	0.40
35:A:2347:U:H2'	35:A:2348:A:O4'	2.22	0.40
35:A:2424:A:N6	38:LD:230:VAL:HG11	2.29	0.40
35:A:2503:G:C6	35:A:2504:U:C4	3.08	0.40
35:A:2507:C:H2'	35:A:2508:U:H6	1.86	0.40
35:A:2689:A:C8	35:A:2702:A:N6	2.90	0.40
35:A:2876:C:H2'	35:A:2877:G:O4'	2.21	0.40
35:A:3191:G:H2'	35:A:3192:U:C6	2.56	0.40
35:A:3205:G:P	35:A:3206:C:H41	2.44	0.40
37:C:23:U:O5'	37:C:23:U:H6	2.04	0.40
37:C:152:G:H2'	37:C:153:U:O4'	2.21	0.40
39:LE:19:ARG:HB2	39:LE:232:ARG:HH21	1.86	0.40
39:LE:89:VAL:HG11	39:LE:195:ALA:CB	2.51	0.40
40:LF:286:VAL:HG11	53:LS:31:LYS:HD3	2.04	0.40
41:LG:141:PRO:HB2	41:LG:172:TYR:HB2	2.02	0.40
41:LG:178:ASN:OD1	41:LG:178:ASN:C	2.65	0.40
45:LK:86:TYR:CE1	45:LK:151:VAL:HB	2.57	0.40
46:LL:31:ILE:O	46:LL:32:ARG:HD2	2.22	0.40
49:LO:39:ILE:HG12	55:LU:72:VAL:HG12	2.03	0.40
55:LU:106:LEU:HD23	55:LU:106:LEU:C	2.46	0.40
58:LX:6:ALA:HB2	58:LX:126:TRP:CZ2	2.56	0.40
1:2:176:C:H2'	1:2:177:U:H6	1.85	0.40
1:2:470:A:H2	12:SW:8:TYR:CE2	2.39	0.40
1:2:494:U:H3'	1:2:495:C:H3'	2.02	0.40
1:2:698:U:C2	1:2:741:C:O2	2.74	0.40
1:2:710:U:H2'	1:2:729:G:N7	2.36	0.40
1:2:821:U:C4	1:2:852:C:N3	2.90	0.40
1:2:934:C:H1'	27:Se:11:ASN:OD1	2.21	0.40
1:2:1077:C:H2'	1:2:1078:C:H6	1.86	0.40
1:2:1145:U:H5	1:2:1633:A:N1	2.19	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1227:A:H8	15:SD:43:ARG:O	2.05	0.40
1:2:1250:U:O2'	31:SN:134:ASN:O	2.39	0.40
1:2:1471:A:N6	1:2:1538:U:C2	2.90	0.40
1:2:1477:G:H5''	21:SI:45:MET:O	2.21	0.40
1:2:1537:C:H6	1:2:1537:C:H2'	1.69	0.40
2:SP:55:GLU:HA	2:SP:58:VAL:HG12	2.03	0.40
5:SR:60:SER:O	5:SR:60:SER:OG	2.39	0.40
5:SR:152:HIS:CD2	5:SR:174:ARG:HH21	2.39	0.40
6:SA:75:LYS:NZ	13:SC:14:TYR:OH	2.51	0.40
8:SB:46:TRP:HH2	8:SB:119:ASP:OD1	2.04	0.40
8:SB:60:ASP:OD1	8:SB:60:ASP:N	2.36	0.40
9:ST:123:GLY:C	9:ST:124:LEU:HD22	2.47	0.40
12:SW:93:LEU:O	12:SW:96:VAL:HG23	2.21	0.40
19:SG:56:HIS:O	19:SG:60:ARG:HG3	2.21	0.40
19:SG:91:LEU:O	19:SG:93:LEU:N	2.55	0.40
20:SH:92:ILE:HD12	20:SH:92:ILE:HA	1.86	0.40
24:Sb:41:MET:CG	24:Sb:129:VAL:HG11	2.51	0.40
31:SN:139:LEU:HB2	31:SN:150:VAL:CG2	2.51	0.40
32:SO:44:SER:OG	32:SO:59:ARG:HB3	2.21	0.40
35:A:43:A:N6	35:A:2803:A:C5	2.90	0.40
35:A:300:G:H2'	35:A:301:G:C8	2.55	0.40
35:A:777:U:HO2'	35:A:2719:U:HO2'	1.68	0.40
35:A:1128:U:H2'	35:A:1129:A:O4'	2.22	0.40
35:A:1146:C:H2'	35:A:1147:G:H8	1.86	0.40
35:A:1259:A:H2	35:A:1280:C:O2	2.05	0.40
35:A:1694:U:C4	35:A:1753:G:N2	2.89	0.40
35:A:2180:G:H2'	35:A:2181:C:C6	2.57	0.40
35:A:2585:G:C6	60:LZ:24:LEU:HD23	2.56	0.40
35:A:2654:C:O3'	77:Lq:98:LYS:NZ	2.43	0.40
35:A:2675:C:OP2	35:A:2676:A:O2'	2.32	0.40
36:B:45:A:H2'	36:B:46:A:H8	1.87	0.40
38:LD:46:LYS:HD3	38:LD:46:LYS:HA	1.80	0.40
39:LE:158:VAL:CG1	39:LE:191:LYS:HD2	2.51	0.40
41:LG:226:TYR:CE1	41:LG:231:ILE:HD12	2.55	0.40
43:LI:156:ILE:HD12	43:LI:161:VAL:HG21	2.04	0.40
45:LK:90:MET:HG2	45:LK:181:VAL:CA	2.51	0.40
47:LM:12:LEU:HD12	47:LM:131:MET:HB3	2.04	0.40
49:LO:105:GLN:HE21	49:LO:109:ARG:NH2	2.20	0.40
51:LQ:103:LYS:HE2	51:LQ:103:LYS:HB3	1.70	0.40
53:LS:155:MET:CE	53:LS:163:PRO:HA	2.47	0.40
57:LW:101:ASN:HA	57:LW:103:TYR:OH	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:Ls:87:ARG:NH1	82:n:16:U:O4'	2.54	0.40
1:2:178:U:H4'	1:2:179:A:H5'	2.04	0.40
1:2:514:G:N3	1:2:515:A:C8	2.90	0.40
1:2:689:G:C4	1:2:690:G:C8	3.10	0.40
1:2:741:C:H2'	1:2:742:U:C6	2.56	0.40
1:2:888:U:H2'	1:2:889:U:H6	1.85	0.40
1:2:902:G:O2'	1:2:907:A:N6	2.54	0.40
1:2:979:A:H4'	1:2:1786:G:N2	2.37	0.40
1:2:1006:C:O2'	17:SZ:136:ARG:O	2.38	0.40
1:2:1103:U:H2'	1:2:1104:U:H6	1.86	0.40
1:2:1128:C:C2	1:2:1129:U:C6	3.09	0.40
1:2:1202:A:H3'	1:2:1202:A:N3	2.37	0.40
1:2:1539:G:H4'	20:SH:40:ARG:CZ	2.52	0.40
1:2:1550:A:N1	1:2:1562:G:C6	2.89	0.40
1:2:1550:A:C6	1:2:1562:G:C6	3.09	0.40
1:2:1611:A:C5	1:2:1612:U:C5	3.09	0.40
1:2:1693:A:C6	1:2:1709:C:N4	2.90	0.40
2:SP:88:LYS:NZ	2:SP:201:LEU:O	2.51	0.40
9:ST:3:LEU:HG	9:ST:111:LEU:HD11	2.04	0.40
9:ST:143:LYS:HD2	9:ST:143:LYS:HA	1.74	0.40
12:SW:18:PRO:C	12:SW:19:TYR:CD1	2.99	0.40
19:SG:106:THR:O	19:SG:110:VAL:HG23	2.21	0.40
20:SH:72:ILE:HD13	20:SH:72:ILE:N	2.37	0.40
21:SI:113:ILE:HA	21:SI:128:GLY:HA3	2.02	0.40
28:Sf:72:LYS:HZ2	28:Sf:72:LYS:HB3	1.87	0.40
34:AA:21:LYS:O	34:AA:24:LYS:NZ	2.55	0.40
35:A:40:A:C2	63:Lc:40:HIS:CE1	3.09	0.40
35:A:90:C:C4	35:A:91:G:N7	2.89	0.40
35:A:449:U:O2	35:A:450:G:N2	2.54	0.40
35:A:595:G:H2'	35:A:596:C:C6	2.56	0.40
35:A:659:G:H2'	35:A:1432:C:H42	1.87	0.40
35:A:896:A:H5'	38:LD:183:GLY:HA2	2.03	0.40
35:A:978:G:C6	35:A:1104:G:C6	3.09	0.40
35:A:999:G:O2'	35:A:1000:C:H5'	2.22	0.40
35:A:1047:A:N3	35:A:2633:U:O2'	2.49	0.40
35:A:1263:A:N3	35:A:1263:A:H2'	2.37	0.40
35:A:1693:C:O2'	35:A:1772:U:O2'	2.32	0.40
35:A:1813:A:H2'	35:A:1814:A:C8	2.57	0.40
35:A:1841:A:C6	35:A:1848:G:C2	3.10	0.40
35:A:2342:U:O3'	35:A:3088:G:N2	2.54	0.40
35:A:2364:G:H22	35:A:2396:G:H1'	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:3091:A:O2'	35:A:3093:C:H2'	2.20	0.40
35:A:3243:A:OP1	51:LQ:159:LYS:NZ	2.49	0.40
36:B:56:A:H4'	47:LM:152:HIS:HB2	2.03	0.40
37:C:23:U:P	61:La:16:ARG:HE	2.45	0.40
39:LE:159:ARG:HD2	39:LE:180:GLU:OE1	2.21	0.40
40:LF:300:ARG:NE	53:LS:39:ARG:HA	2.36	0.40
42:LH:3:ALA:HB2	67:Lg:77:ALA:HB2	2.03	0.40
42:LH:23:LYS:HA	42:LH:23:LYS:HD3	1.94	0.40
42:LH:91:VAL:HG21	42:LH:149:ILE:HD13	2.04	0.40
48:LN:124:ILE:HG12	70:Lj:117:ALA:HB3	2.04	0.40
49:LO:47:ASP:OD2	49:LO:78:THR:HG23	2.21	0.40
52:LR:90:PHE:HD1	52:LR:90:PHE:HA	1.72	0.40
56:LV:136:ARG:HD2	56:LV:139:ARG:HH22	1.86	0.40
71:Lk:59:ASP:HA	71:Lk:62:ARG:HG2	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	SP	204/206 (99%)	188 (92%)	16 (8%)	0	100	100
3	SQ	222/232 (96%)	208 (94%)	14 (6%)	0	100	100
4	SE	115/117 (98%)	108 (94%)	7 (6%)	0	100	100
5	SR	214/216 (99%)	207 (97%)	6 (3%)	1 (0%)	24	58
6	SA	220/222 (99%)	209 (95%)	11 (5%)	0	100	100
7	SS	256/258 (99%)	236 (92%)	20 (8%)	0	100	100
8	SB	204/206 (99%)	193 (95%)	11 (5%)	0	100	100
9	ST	226/228 (99%)	216 (96%)	10 (4%)	0	100	100
10	SU	182/184 (99%)	173 (95%)	8 (4%)	1 (0%)	24	58

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
11	SV	183/187 (98%)	174 (95%)	9 (5%)	0	100	100
12	SW	182/184 (99%)	177 (97%)	5 (3%)	0	100	100
13	SC	90/92 (98%)	86 (96%)	4 (4%)	0	100	100
14	SX	140/142 (99%)	125 (89%)	15 (11%)	0	100	100
15	SD	119/121 (98%)	106 (89%)	12 (10%)	1 (1%)	16	48
16	SY	148/150 (99%)	138 (93%)	10 (7%)	0	100	100
17	SZ	125/127 (98%)	121 (97%)	4 (3%)	0	100	100
18	SF	139/141 (99%)	134 (96%)	5 (4%)	0	100	100
19	SG	117/125 (94%)	110 (94%)	7 (6%)	0	100	100
20	SH	143/145 (99%)	140 (98%)	3 (2%)	0	100	100
21	SI	141/143 (99%)	138 (98%)	3 (2%)	0	100	100
22	SJ	98/100 (98%)	97 (99%)	1 (1%)	0	100	100
23	Sa	85/87 (98%)	80 (94%)	5 (6%)	0	100	100
24	Sb	127/129 (98%)	120 (94%)	7 (6%)	0	100	100
25	Sc	142/144 (99%)	137 (96%)	5 (4%)	0	100	100
26	Sd	132/134 (98%)	126 (96%)	6 (4%)	0	100	100
27	Se	95/97 (98%)	94 (99%)	1 (1%)	0	100	100
28	Sf	79/81 (98%)	75 (95%)	4 (5%)	0	100	100
29	SM	51/53 (96%)	50 (98%)	1 (2%)	0	100	100
30	Sg	55/57 (96%)	46 (84%)	9 (16%)	0	100	100
31	SN	71/73 (97%)	61 (86%)	10 (14%)	0	100	100
32	SO	310/312 (99%)	289 (93%)	21 (7%)	0	100	100
33	SL	61/63 (97%)	58 (95%)	3 (5%)	0	100	100
34	AA	91/102 (89%)	78 (86%)	12 (13%)	1 (1%)	11	42
38	LD	249/251 (99%)	231 (93%)	18 (7%)	0	100	100
39	LE	384/386 (100%)	364 (95%)	20 (5%)	0	100	100
40	LF	359/361 (99%)	344 (96%)	15 (4%)	0	100	100
41	LG	292/294 (99%)	281 (96%)	11 (4%)	0	100	100
42	LH	163/175 (93%)	152 (93%)	11 (7%)	0	100	100
43	LI	220/222 (99%)	213 (97%)	7 (3%)	0	100	100
44	LJ	231/233 (99%)	222 (96%)	9 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
45	LK	189/191 (99%)	181 (96%)	8 (4%)	0	100	100
46	LL	216/218 (99%)	202 (94%)	13 (6%)	1 (0%)	24	58
47	LM	167/169 (99%)	159 (95%)	8 (5%)	0	100	100
48	LN	191/193 (99%)	174 (91%)	16 (8%)	1 (0%)	24	58
49	LO	134/136 (98%)	129 (96%)	5 (4%)	0	100	100
50	LP	201/203 (99%)	189 (94%)	12 (6%)	0	100	100
51	LQ	195/197 (99%)	190 (97%)	5 (3%)	0	100	100
52	LR	181/183 (99%)	168 (93%)	13 (7%)	0	100	100
53	LS	183/185 (99%)	168 (92%)	14 (8%)	1 (0%)	24	58
54	LT	186/188 (99%)	183 (98%)	3 (2%)	0	100	100
55	LU	169/171 (99%)	158 (94%)	11 (6%)	0	100	100
56	LV	157/159 (99%)	150 (96%)	7 (4%)	0	100	100
57	LW	98/100 (98%)	86 (88%)	12 (12%)	0	100	100
58	LX	134/136 (98%)	131 (98%)	3 (2%)	0	100	100
59	LY	63/65 (97%)	59 (94%)	4 (6%)	0	100	100
60	LZ	119/121 (98%)	112 (94%)	7 (6%)	0	100	100
61	La	123/125 (98%)	122 (99%)	1 (1%)	0	100	100
62	Lb	133/135 (98%)	130 (98%)	3 (2%)	0	100	100
63	Lc	146/148 (99%)	134 (92%)	11 (8%)	1 (1%)	18	52
64	Ld	56/58 (97%)	50 (89%)	6 (11%)	0	100	100
65	Le	94/96 (98%)	94 (100%)	0	0	100	100
66	Lf	107/109 (98%)	102 (95%)	5 (5%)	0	100	100
67	Lg	125/127 (98%)	120 (96%)	5 (4%)	0	100	100
68	Lh	104/106 (98%)	102 (98%)	2 (2%)	0	100	100
69	Li	110/112 (98%)	107 (97%)	3 (3%)	0	100	100
70	Lj	117/119 (98%)	112 (96%)	3 (3%)	2 (2%)	7	33
71	Lk	97/99 (98%)	90 (93%)	7 (7%)	0	100	100
72	Ll	79/81 (98%)	74 (94%)	5 (6%)	0	100	100
73	Lm	75/77 (97%)	73 (97%)	2 (3%)	0	100	100
74	Ln	48/50 (96%)	47 (98%)	1 (2%)	0	100	100
75	Lo	50/52 (96%)	49 (98%)	1 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
76	Lp	23/25 (92%)	23 (100%)	0	0	100	100
77	Lq	101/103 (98%)	93 (92%)	8 (8%)	0	100	100
78	Lr	89/91 (98%)	83 (93%)	6 (7%)	0	100	100
79	Ls	140/157 (89%)	129 (92%)	11 (8%)	0	100	100
80	z	55/588 (9%)	53 (96%)	2 (4%)	0	100	100
All	All	11120/11853 (94%)	10531 (95%)	579 (5%)	10 (0%)	49	78

All (10) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
34	AA	40	VAL
48	LN	47	ALA
15	SD	86	VAL
63	Lc	40	HIS
5	SR	174	ARG
46	LL	24	ARG
70	Lj	117	ALA
70	Lj	118	ILE
10	SU	135	ILE
53	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	
2	SP	170/173 (98%)	170 (100%)	0	100	100
3	SQ	200/205 (98%)	200 (100%)	0	100	100
4	SE	95/98 (97%)	95 (100%)	0	100	100
5	SR	175/175 (100%)	175 (100%)	0	100	100
6	SA	182/182 (100%)	182 (100%)	0	100	100
7	SS	220/220 (100%)	219 (100%)	1 (0%)	81	84
8	SB	172/173 (99%)	171 (99%)	1 (1%)	78	83

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	ST	189/195 (97%)	187 (99%)	2 (1%)	65	77
10	SU	163/165 (99%)	162 (99%)	1 (1%)	78	83
11	SV	148/149 (99%)	148 (100%)	0	100	100
12	SW	156/157 (99%)	156 (100%)	0	100	100
13	SC	78/85 (92%)	78 (100%)	0	100	100
14	SX	126/127 (99%)	126 (100%)	0	100	100
15	SD	88/98 (90%)	88 (100%)	0	100	100
16	SY	127/127 (100%)	127 (100%)	0	100	100
17	SZ	90/96 (94%)	90 (100%)	0	100	100
18	SF	117/117 (100%)	117 (100%)	0	100	100
19	SG	101/113 (89%)	101 (100%)	0	100	100
20	SH	127/128 (99%)	127 (100%)	0	100	100
21	SI	115/115 (100%)	113 (98%)	2 (2%)	53	72
22	SJ	93/93 (100%)	93 (100%)	0	100	100
23	Sa	71/74 (96%)	71 (100%)	0	100	100
24	Sb	110/110 (100%)	110 (100%)	0	100	100
25	Sc	119/119 (100%)	117 (98%)	2 (2%)	53	72
26	Sd	102/112 (91%)	101 (99%)	1 (1%)	68	78
27	Se	82/83 (99%)	82 (100%)	0	100	100
28	Sf	70/70 (100%)	69 (99%)	1 (1%)	59	75
29	SM	47/47 (100%)	47 (100%)	0	100	100
30	Sg	48/49 (98%)	48 (100%)	0	100	100
31	SN	56/63 (89%)	55 (98%)	1 (2%)	51	72
32	SO	250/257 (97%)	248 (99%)	2 (1%)	73	80
33	SL	55/56 (98%)	55 (100%)	0	100	100
34	AA	76/83 (92%)	76 (100%)	0	100	100
38	LD	190/193 (98%)	190 (100%)	0	100	100
39	LE	321/322 (100%)	319 (99%)	2 (1%)	78	83
40	LF	288/288 (100%)	288 (100%)	0	100	100
41	LG	241/243 (99%)	239 (99%)	2 (1%)	73	80
42	LH	139/154 (90%)	139 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
43	LI	186/186 (100%)	185 (100%)	1 (0%)	81	84
44	LJ	187/191 (98%)	187 (100%)	0	100	100
45	LK	168/171 (98%)	168 (100%)	0	100	100
46	LL	185/185 (100%)	184 (100%)	1 (0%)	81	84
47	LM	145/147 (99%)	144 (99%)	1 (1%)	76	81
48	LN	154/154 (100%)	154 (100%)	0	100	100
49	LO	107/107 (100%)	104 (97%)	3 (3%)	38	65
50	LP	175/175 (100%)	174 (99%)	1 (1%)	78	83
51	LQ	160/160 (100%)	159 (99%)	1 (1%)	78	83
52	LR	138/145 (95%)	137 (99%)	1 (1%)	76	81
53	LS	150/150 (100%)	150 (100%)	0	100	100
54	LT	152/153 (99%)	152 (100%)	0	100	100
55	LU	155/155 (100%)	154 (99%)	1 (1%)	78	83
56	LV	135/136 (99%)	134 (99%)	1 (1%)	76	81
57	LW	87/87 (100%)	87 (100%)	0	100	100
58	LX	104/104 (100%)	104 (100%)	0	100	100
59	LY	54/57 (95%)	54 (100%)	0	100	100
60	LZ	104/105 (99%)	104 (100%)	0	100	100
61	La	108/108 (100%)	108 (100%)	0	100	100
62	Lb	112/115 (97%)	111 (99%)	1 (1%)	70	79
63	Lc	117/118 (99%)	116 (99%)	1 (1%)	70	79
64	Ld	46/46 (100%)	45 (98%)	1 (2%)	45	69
65	Le	81/81 (100%)	81 (100%)	0	100	100
66	Lf	92/96 (96%)	91 (99%)	1 (1%)	65	77
67	Lg	108/109 (99%)	108 (100%)	0	100	100
68	Lh	90/90 (100%)	90 (100%)	0	100	100
69	Li	95/95 (100%)	95 (100%)	0	100	100
70	Lj	104/104 (100%)	104 (100%)	0	100	100
71	Lk	80/81 (99%)	80 (100%)	0	100	100
72	Ll	67/67 (100%)	67 (100%)	0	100	100
73	Lm	68/68 (100%)	67 (98%)	1 (2%)	57	74

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
74	Ln	45/45 (100%)	45 (100%)	0	100	100
75	Lo	45/47 (96%)	44 (98%)	1 (2%)	45	69
76	Lp	22/23 (96%)	22 (100%)	0	100	100
77	Lq	87/88 (99%)	86 (99%)	1 (1%)	65	77
78	Lr	71/71 (100%)	71 (100%)	0	100	100
79	Ls	118/132 (89%)	118 (100%)	0	100	100
80	z	52/523 (10%)	51 (98%)	1 (2%)	50	71
All	All	9351/9989 (94%)	9314 (100%)	37 (0%)	81	85

All (37) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
7	SS	227	VAL
8	SB	93	LEU
9	ST	68	LEU
9	ST	105	ASP
10	SU	158	ASP
21	SI	36	ILE
21	SI	108	LEU
25	Sc	89	ASN
25	Sc	100	ASP
26	Sd	27	VAL
28	Sf	43	ILE
31	SN	115	THR
32	SO	109	ASP
32	SO	309	VAL
39	LE	214	MET
39	LE	319	ASN
41	LG	153	THR
41	LG	209	GLU
43	LI	183	ASP
46	LL	102	MET
47	LM	65	ILE
49	LO	12	TRP
49	LO	35	ILE
49	LO	80	THR
50	LP	183	THR
51	LQ	62	THR
52	LR	120	ASN
55	LU	45	LEU

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Mol	Chain	Res	Type
56	LV	127	GLN
62	Lb	86	THR
63	Lc	101	VAL
64	Ld	54	LEU
66	Lf	46	THR
73	Lm	69	LEU
75	Lo	118	THR
77	Lq	100	LYS
80	z	379	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (101) such sidechains are listed below:

Mol	Chain	Res	Type
2	SP	69	ASN
3	SQ	124	ASN
3	SQ	149	GLN
3	SQ	177	GLN
5	SR	89	GLN
6	SA	101	GLN
6	SA	159	HIS
7	SS	67	GLN
7	SS	98	ASN
7	SS	157	ASN
7	SS	216	ASN
8	SB	79	ASN
8	SB	103	ASN
8	SB	200	ASN
9	ST	22	HIS
9	ST	80	ASN
9	ST	139	ASN
9	ST	201	GLN
11	SV	64	ASN
11	SV	103	GLN
11	SV	159	GLN
12	SW	131	GLN
13	SC	58	GLN
14	SX	106	ASN
14	SX	110	HIS
15	SD	84	ASN
16	SY	62	GLN
18	SF	62	ASN
18	SF	93	HIS

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Mol	Chain	Res	Type
18	SF	94	GLN
19	SG	105	GLN
20	SH	74	GLN
20	SH	75	ASN
20	SH	127	HIS
21	SI	129	GLN
22	SJ	33	GLN
22	SJ	36	ASN
22	SJ	47	GLN
24	Sb	15	ASN
25	Sc	99	ASN
26	Sd	63	GLN
26	Sd	107	GLN
27	Se	8	ASN
29	SM	53	ASN
32	SO	101	GLN
32	SO	195	HIS
34	AA	38	HIS
34	AA	82	HIS
38	LD	24	GLN
38	LD	132	ASN
39	LE	13	HIS
39	LE	224	HIS
39	LE	279	ASN
40	LF	5	GLN
40	LF	316	ASN
40	LF	361	HIS
41	LG	57	ASN
41	LG	151	GLN
43	LI	52	GLN
43	LI	64	GLN
43	LI	194	HIS
43	LI	200	ASN
44	LJ	95	ASN
46	LL	59	GLN
46	LL	112	GLN
46	LL	113	GLN
47	LM	62	ASN
47	LM	68	HIS
48	LN	19	GLN
48	LN	103	ASN
50	LP	70	ASN

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Mol	Chain	Res	Type
50	LP	86	ASN
50	LP	87	GLN
50	LP	138	GLN
50	LP	182	ASN
51	LQ	42	ASN
52	LR	92	GLN
52	LR	116	HIS
52	LR	137	ASN
53	LS	5	HIS
54	LT	66	HIS
55	LU	63	GLN
56	LV	112	ASN
58	LX	132	ASN
62	Lb	36	HIS
62	Lb	122	HIS
63	Lc	44	ASN
65	Le	36	GLN
65	Le	71	GLN
65	Le	75	ASN
66	Lf	43	HIS
68	Lh	17	GLN
68	Lh	24	ASN
68	Lh	26	ASN
68	Lh	106	ASN
69	Li	69	HIS
70	Lj	108	GLN
72	Ll	13	ASN
72	Ll	76	ASN
75	Lo	90	ASN
80	z	402	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	2	1768/1800 (98%)	447 (25%)	60 (3%)
35	A	3180/3394 (93%)	560 (17%)	38 (1%)
36	B	120/121 (99%)	13 (10%)	2 (1%)
37	C	157/158 (99%)	25 (15%)	1 (0%)
81	m	75/76 (98%)	27 (36%)	0
82	n	74/75 (98%)	18 (24%)	0
83	D	9/10 (90%)	4 (44%)	1 (11%)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
All	All	5383/5634 (95%)	1094 (20%)	102 (1%)

All (1094) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	2	2	A
1	2	4	C
1	2	25	C
1	2	26	A
1	2	43	A
1	2	45	U
1	2	46	A
1	2	47	A
1	2	53	G
1	2	56	U
1	2	57	G
1	2	59	C
1	2	61	A
1	2	62	A
1	2	65	A
1	2	66	U
1	2	67	A
1	2	68	A
1	2	69	G
1	2	72	A
1	2	75	U
1	2	78	A
1	2	80	A
1	2	81	G
1	2	101	U
1	2	104	A
1	2	111	U
1	2	114	C
1	2	116	U
1	2	124	A
1	2	126	A
1	2	127	G
1	2	129	U
1	2	130	C
1	2	131	C
1	2	132	U
1	2	133	U

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Mol	Chain	Res	Type
1	2	134	U
1	2	135	A
1	2	136	C
1	2	138	A
1	2	140	A
1	2	142	G
1	2	145	A
1	2	153	G
1	2	155	U
1	2	158	U
1	2	166	C
1	2	176	C
1	2	178	U
1	2	179	A
1	2	180	A
1	2	182	A
1	2	184	C
1	2	186	C
1	2	188	A
1	2	189	C
1	2	191	C
1	2	193	U
1	2	195	G
1	2	197	A
1	2	216	U
1	2	217	A
1	2	218	A
1	2	223	U
1	2	224	C
1	2	225	A
1	2	227	U
1	2	230	C
1	2	233	C
1	2	234	G
1	2	237	C
1	2	239	C
1	2	240	U
1	2	250	C
1	2	257	A
1	2	260	U
1	2	265	A
1	2	266	A

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Mol	Chain	Res	Type
1	2	272	U
1	2	276	C
1	2	278	U
1	2	280	U
1	2	287	G
1	2	299	A
1	2	313	U
1	2	314	C
1	2	316	A
1	2	321	C
1	2	322	G
1	2	323	A
1	2	330	G
1	2	333	A
1	2	337	G
1	2	338	C
1	2	352	A
1	2	353	A
1	2	359	A
1	2	361	C
1	2	370	A
1	2	373	G
1	2	380	U
1	2	388	G
1	2	394	C
1	2	395	U
1	2	397	A
1	2	400	A
1	2	401	A
1	2	402	C
1	2	404	G
1	2	405	C
1	2	416	A
1	2	417	A
1	2	418	G
1	2	419	G
1	2	423	G
1	2	424	C
1	2	425	A
1	2	426	G
1	2	434	G
1	2	435	C

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Mol	Chain	Res	Type
1	2	437	A
1	2	439	U
1	2	444	C
1	2	445	A
1	2	446	A
1	2	447	U
1	2	448	C
1	2	460	A
1	2	461	G
1	2	468	A
1	2	484	C
1	2	485	A
1	2	487	G
1	2	489	C
1	2	491	C
1	2	492	A
1	2	494	U
1	2	496	G
1	2	498	G
1	2	500	C
1	2	501	U
1	2	502	U
1	2	506	A
1	2	507	U
1	2	510	G
1	2	515	A
1	2	517	U
1	2	518	A
1	2	538	A
1	2	539	G
1	2	540	G
1	2	541	A
1	2	542	A
1	2	554	C
1	2	555	A
1	2	556	A
1	2	557	G
1	2	558	U
1	2	559	C
1	2	565	C
1	2	568	G
1	2	578	U

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Mol	Chain	Res	Type
1	2	579	A
1	2	594	A
1	2	595	G
1	2	606	A
1	2	609	U
1	2	610	G
1	2	611	U
1	2	619	A
1	2	620	A
1	2	623	A
1	2	624	G
1	2	636	A
1	2	638	U
1	2	639	U
1	2	640	U
1	2	641	G
1	2	651	G
1	2	653	C
1	2	654	C
1	2	655	G
1	2	656	G
1	2	657	U
1	2	677	G
1	2	678	A
1	2	682	C
1	2	683	C
1	2	684	A
1	2	687	G
1	2	693	U
1	2	694	U
1	2	696	C
1	2	697	C
1	2	698	U
1	2	700	C
1	2	703	G
1	2	705	U
1	2	706	A
1	2	707	A
1	2	708	C
1	2	709	C
1	2	710	U
1	2	711	U

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Mol	Chain	Res	Type
1	2	712	G
1	2	713	A
1	2	727	U
1	2	728	U
1	2	730	G
1	2	731	C
1	2	732	G
1	2	733	A
1	2	734	A
1	2	738	G
1	2	740	A
1	2	742	U
1	2	743	U
1	2	745	U
1	2	756	A
1	2	765	G
1	2	769	A
1	2	771	A
1	2	774	A
1	2	775	G
1	2	780	A
1	2	782	U
1	2	783	G
1	2	787	G
1	2	789	A
1	2	804	A
1	2	809	A
1	2	812	A
1	2	813	U
1	2	814	A
1	2	815	G
1	2	816	G
1	2	817	A
1	2	819	G
1	2	820	U
1	2	821	U
1	2	822	U
1	2	833	U
1	2	835	U
1	2	837	G
1	2	840	U
1	2	841	U

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Mol	Chain	Res	Type
1	2	846	G
1	2	847	A
1	2	851	U
1	2	852	C
1	2	853	G
1	2	855	A
1	2	857	U
1	2	863	A
1	2	876	G
1	2	881	A
1	2	886	U
1	2	899	G
1	2	902	G
1	2	904	G
1	2	913	G
1	2	929	A
1	2	933	A
1	2	935	U
1	2	942	G
1	2	951	A
1	2	960	U
1	2	966	A
1	2	988	A
1	2	993	A
1	2	1004	U
1	2	1024	U
1	2	1025	A
1	2	1026	A
1	2	1028	C
1	2	1039	A
1	2	1053	G
1	2	1059	U
1	2	1061	A
1	2	1063	U
1	2	1066	C
1	2	1076	A
1	2	1080	U
1	2	1081	A
1	2	1082	C
1	2	1092	A
1	2	1093	A
1	2	1096	C

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Mol	Chain	Res	Type
1	2	1097	U
1	2	1100	G
1	2	1113	A
1	2	1138	A
1	2	1143	A
1	2	1158	C
1	2	1159	C
1	2	1160	A
1	2	1164	G
1	2	1167	G
1	2	1170	G
1	2	1185	U
1	2	1194	A
1	2	1196	A
1	2	1199	G
1	2	1200	G
1	2	1202	A
1	2	1214	U
1	2	1217	A
1	2	1218	G
1	2	1227	A
1	2	1229	G
1	2	1231	U
1	2	1234	A
1	2	1235	C
1	2	1241	G
1	2	1244	A
1	2	1245	G
1	2	1246	C
1	2	1252	C
1	2	1257	U
1	2	1263	G
1	2	1274	C
1	2	1275	A
1	2	1284	C
1	2	1285	U
1	2	1286	U
1	2	1301	U
1	2	1307	U
1	2	1308	G
1	2	1314	U
1	2	1315	U

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Mol	Chain	Res	Type
1	2	1318	G
1	2	1321	A
1	2	1322	A
1	2	1344	A
1	2	1345	A
1	2	1346	A
1	2	1347	U
1	2	1348	A
1	2	1349	G
1	2	1360	A
1	2	1361	U
1	2	1363	U
1	2	1370	U
1	2	1371	A
1	2	1372	U
1	2	1373	C
1	2	1381	U
1	2	1382	A
1	2	1383	G
1	2	1388	A
1	2	1390	U
1	2	1398	U
1	2	1399	C
1	2	1400	A
1	2	1402	G
1	2	1413	U
1	2	1414	U
1	2	1415	U
1	2	1427	A
1	2	1431	C
1	2	1432	U
1	2	1433	G
1	2	1436	A
1	2	1446	A
1	2	1448	G
1	2	1458	G
1	2	1459	C
1	2	1460	A
1	2	1466	G
1	2	1469	A
1	2	1471	A
1	2	1472	C

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Mol	Chain	Res	Type
1	2	1473	U
1	2	1474	G
1	2	1478	G
1	2	1490	C
1	2	1492	A
1	2	1496	U
1	2	1506	G
1	2	1514	U
1	2	1516	A
1	2	1520	U
1	2	1521	G
1	2	1523	G
1	2	1524	A
1	2	1528	U
1	2	1534	G
1	2	1536	G
1	2	1537	C
1	2	1540	G
1	2	1543	A
1	2	1545	A
1	2	1557	U
1	2	1558	U
1	2	1559	A
1	2	1569	A
1	2	1570	A
1	2	1574	G
1	2	1575	G
1	2	1576	A
1	2	1583	A
1	2	1584	G
1	2	1589	C
1	2	1590	G
1	2	1600	A
1	2	1601	G
1	2	1614	A
1	2	1634	C
1	2	1635	A
1	2	1637	C
1	2	1655	A
1	2	1656	U
1	2	1657	U
1	2	1658	G

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Mol	Chain	Res	Type
1	2	1680	G
1	2	1681	A
1	2	1688	U
1	2	1689	A
1	2	1690	G
1	2	1692	G
1	2	1693	A
1	2	1699	G
1	2	1700	C
1	2	1701	A
1	2	1709	C
1	2	1711	C
1	2	1715	G
1	2	1717	G
1	2	1731	A
1	2	1755	A
1	2	1757	G
1	2	1759	C
1	2	1760	G
1	2	1762	A
1	2	1766	A
1	2	1767	G
1	2	1769	U
1	2	1780	G
1	2	1782	A
1	2	1783	C
1	2	1792	G
1	2	1793	G
1	2	1794	A
1	2	1795	U
1	2	1796	C
1	2	1799	U
35	A	13	A
35	A	14	U
35	A	26	A
35	A	40	A
35	A	43	A
35	A	49	A
35	A	59	G
35	A	60	A
35	A	65	A
35	A	66	A

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Mol	Chain	Res	Type
35	A	73	C
35	A	77	A
35	A	92	G
35	A	99	A
35	A	110	G
35	A	111	C
35	A	116	A
35	A	117	U
35	A	121	A
35	A	122	A
35	A	135	C
35	A	136	G
35	A	150	A
35	A	156	G
35	A	157	A
35	A	166	C
35	A	173	G
35	A	176	G
35	A	187	A
35	A	190	U
35	A	191	U
35	A	200	C
35	A	210	U
35	A	211	A
35	A	213	A
35	A	218	G
35	A	219	A
35	A	239	G
35	A	241	G
35	A	242	C
35	A	243	G
35	A	247	C
35	A	249	U
35	A	250	U
35	A	251	G
35	A	252	U
35	A	253	A
35	A	257	U
35	A	269	G
35	A	283	G
35	A	286	U
35	A	295	A

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Mol	Chain	Res	Type
35	A	305	U
35	A	329	U
35	A	330	G
35	A	339	C
35	A	350	C
35	A	351	A
35	A	362	U
35	A	376	G
35	A	395	A
35	A	398	A
35	A	401	U
35	A	402	A
35	A	403	C
35	A	420	G
35	A	421	G
35	A	422	A
35	A	438	A
35	A	440	A
35	A	441	U
35	A	442	G
35	A	443	G
35	A	445	G
35	A	446	U
35	A	447	U
35	A	448	U
35	A	449	U
35	A	450	G
35	A	451	U
35	A	487	U
35	A	488	U
35	A	489	U
35	A	490	C
35	A	491	A
35	A	492	C
35	A	494	G
35	A	521	A
35	A	523	A
35	A	533	A
35	A	535	G
35	A	543	C
35	A	544	C
35	A	546	C

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Mol	Chain	Res	Type
35	A	547	G
35	A	548	G
35	A	549	U
35	A	557	A
35	A	559	A
35	A	560	G
35	A	579	G
35	A	592	A
35	A	604	G
35	A	609	G
35	A	611	A
35	A	620	U
35	A	621	A
35	A	622	A
35	A	637	C
35	A	638	C
35	A	649	A
35	A	677	A
35	A	681	U
35	A	683	U
35	A	691	A
35	A	705	A
35	A	712	G
35	A	716	A
35	A	720	A
35	A	721	G
35	A	742	G
35	A	764	U
35	A	765	C
35	A	766	U
35	A	767	U
35	A	776	U
35	A	779	G
35	A	781	G
35	A	785	G
35	A	806	A
35	A	817	A
35	A	830	A
35	A	848	A
35	A	849	C
35	A	850	U
35	A	861	C

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Mol	Chain	Res	Type
35	A	874	U
35	A	879	U
35	A	896	A
35	A	907	G
35	A	908	G
35	A	914	A
35	A	916	G
35	A	917	A
35	A	923	C
35	A	924	G
35	A	937	G
35	A	944	C
35	A	959	C
35	A	960	U
35	A	962	A
35	A	967	A
35	A	974	G
35	A	982	C
35	A	1001	G
35	A	1002	A
35	A	1010	G
35	A	1018	G
35	A	1019	G
35	A	1020	G
35	A	1024	G
35	A	1025	A
35	A	1028	U
35	A	1033	U
35	A	1036	A
35	A	1041	U
35	A	1047	A
35	A	1049	C
35	A	1063	G
35	A	1064	A
35	A	1065	A
35	A	1072	G
35	A	1081	U
35	A	1087	G
35	A	1093	A
35	A	1094	U
35	A	1095	U
35	A	1097	G

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Mol	Chain	Res	Type
35	A	1098	A
35	A	1102	A
35	A	1103	A
35	A	1104	G
35	A	1117	G
35	A	1131	G
35	A	1159	A
35	A	1160	C
35	A	1177	G
35	A	1180	A
35	A	1181	U
35	A	1192	C
35	A	1193	A
35	A	1196	C
35	A	1201	C
35	A	1209	G
35	A	1217	A
35	A	1220	U
35	A	1222	G
35	A	1223	A
35	A	1227	C
35	A	1232	C
35	A	1234	G
35	A	1235	U
35	A	1236	G
35	A	1237	G
35	A	1238	C
35	A	1239	C
35	A	1240	A
35	A	1241	U
35	A	1242	G
35	A	1243	G
35	A	1245	A
35	A	1246	G
35	A	1248	C
35	A	1249	G
35	A	1252	A
35	A	1253	U
35	A	1258	U
35	A	1262	G
35	A	1263	A
35	A	1264	G

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Mol	Chain	Res	Type
35	A	1265	U
35	A	1269	U
35	A	1270	A
35	A	1271	A
35	A	1272	C
35	A	1274	A
35	A	1278	A
35	A	1279	C
35	A	1282	G
35	A	1284	C
35	A	1287	A
35	A	1295	G
35	A	1307	G
35	A	1308	A
35	A	1309	U
35	A	1330	A
35	A	1331	U
35	A	1349	G
35	A	1352	A
35	A	1354	G
35	A	1355	A
35	A	1356	U
35	A	1357	G
35	A	1386	A
35	A	1392	G
35	A	1399	A
35	A	1400	G
35	A	1419	A
35	A	1434	G
35	A	1437	C
35	A	1446	A
35	A	1475	A
35	A	1481	A
35	A	1482	A
35	A	1483	G
35	A	1503	A
35	A	1508	C
35	A	1527	C
35	A	1536	G
35	A	1549	U
35	A	1556	C
35	A	1559	A

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Mol	Chain	Res	Type
35	A	1560	G
35	A	1563	C
35	A	1564	U
35	A	1567	U
35	A	1568	U
35	A	1569	U
35	A	1573	G
35	A	1574	C
35	A	1575	A
35	A	1576	G
35	A	1580	A
35	A	1587	A
35	A	1588	A
35	A	1589	A
35	A	1606	U
35	A	1629	U
35	A	1639	C
35	A	1642	A
35	A	1643	A
35	A	1645	U
35	A	1646	G
35	A	1657	C
35	A	1683	A
35	A	1688	U
35	A	1696	A
35	A	1717	U
35	A	1718	G
35	A	1724	U
35	A	1725	C
35	A	1741	A
35	A	1742	U
35	A	1750	A
35	A	1751	G
35	A	1762	C
35	A	1763	U
35	A	1764	U
35	A	1765	U
35	A	1766	G
35	A	1770	G
35	A	1775	G
35	A	1779	C
35	A	1780	G

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Mol	Chain	Res	Type
35	A	1797	A
35	A	1808	G
35	A	1815	U
35	A	1816	A
35	A	1817	G
35	A	1819	U
35	A	1820	U
35	A	1821	U
35	A	1839	A
35	A	1840	U
35	A	1841	A
35	A	1842	A
35	A	1845	G
35	A	1846	C
35	A	1849	C
35	A	1866	C
35	A	1867	A
35	A	1878	G
35	A	1880	U
35	A	1881	A
35	A	1906	G
35	A	1943	C
35	A	1953	G
35	A	1954	G
35	A	2101	C
35	A	2102	U
35	A	2111	G
35	A	2113	A
35	A	2121	G
35	A	2122	G
35	A	2126	A
35	A	2131	A
35	A	2140	U
35	A	2144	A
35	A	2158	A
35	A	2169	G
35	A	2206	G
35	A	2207	A
35	A	2210	G
35	A	2223	A
35	A	2244	A
35	A	2246	G

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Mol	Chain	Res	Type
35	A	2249	G
35	A	2255	A
35	A	2256	A
35	A	2272	G
35	A	2273	G
35	A	2274	U
35	A	2281	A
35	A	2282	U
35	A	2286	U
35	A	2307	G
35	A	2309	A
35	A	2310	U
35	A	2313	A
35	A	2314	U
35	A	2315	G
35	A	2318	U
35	A	2325	G
35	A	2334	U
35	A	2335	G
35	A	2336	U
35	A	2356	A
35	A	2372	A
35	A	2373	A
35	A	2374	C
35	A	2375	G
35	A	2385	G
35	A	2387	A
35	A	2388	U
35	A	2393	G
35	A	2394	G
35	A	2397	A
35	A	2402	A
35	A	2403	G
35	A	2404	A
35	A	2411	U
35	A	2412	G
35	A	2418	G
35	A	2419	A
35	A	2434	U
35	A	2437	G
35	A	2438	A
35	A	2446	U

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Mol	Chain	Res	Type
35	A	2451	G
35	A	2494	A
35	A	2496	C
35	A	2498	U
35	A	2501	U
35	A	2502	A
35	A	2503	G
35	A	2514	U
35	A	2515	A
35	A	2522	G
35	A	2526	C
35	A	2532	U
35	A	2538	U
35	A	2540	A
35	A	2541	U
35	A	2542	U
35	A	2543	U
35	A	2549	G
35	A	2552	C
35	A	2561	A
35	A	2569	A
35	A	2570	U
35	A	2571	U
35	A	2572	C
35	A	2573	G
35	A	2585	G
35	A	2593	A
35	A	2594	C
35	A	2606	G
35	A	2607	G
35	A	2614	G
35	A	2619	G
35	A	2636	A
35	A	2648	G
35	A	2652	U
35	A	2655	U
35	A	2656	A
35	A	2664	C
35	A	2672	G
35	A	2674	A
35	A	2677	G
35	A	2681	U

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Mol	Chain	Res	Type
35	A	2689	A
35	A	2691	A
35	A	2694	A
35	A	2696	A
35	A	2704	A
35	A	2713	U
35	A	2714	G
35	A	2719	U
35	A	2720	G
35	A	2728	G
35	A	2729	U
35	A	2737	C
35	A	2749	G
35	A	2753	G
35	A	2762	A
35	A	2773	C
35	A	2777	G
35	A	2778	G
35	A	2780	A
35	A	2796	G
35	A	2799	A
35	A	2800	G
35	A	2801	A
35	A	2802	A
35	A	2803	A
35	A	2810	C
35	A	2816	G
35	A	2817	A
35	A	2818	U
35	A	2842	U
35	A	2845	A
35	A	2847	A
35	A	2849	C
35	A	2867	C
35	A	2871	G
35	A	2872	A
35	A	2875	U
35	A	2876	C
35	A	2887	A
35	A	2889	C
35	A	2899	C
35	A	2900	A

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Mol	Chain	Res	Type
35	A	2923	U
35	A	2935	U
35	A	2936	A
35	A	2942	C
35	A	2947	G
35	A	2955	U
35	A	2957	G
35	A	2964	G
35	A	2971	A
35	A	2983	C
35	A	2996	U
35	A	2997	G
35	A	3012	A
35	A	3030	G
35	A	3056	U
35	A	3057	U
35	A	3059	G
35	A	3074	G
35	A	3078	U
35	A	3079	U
35	A	3086	A
35	A	3092	C
35	A	3093	C
35	A	3094	A
35	A	3101	G
35	A	3109	G
35	A	3119	U
35	A	3129	A
35	A	3130	A
35	A	3131	U
35	A	3142	A
35	A	3143	C
35	A	3153	U
35	A	3154	C
35	A	3155	U
35	A	3156	U
35	A	3157	U
35	A	3165	A
35	A	3170	A
35	A	3173	G
35	A	3174	A
35	A	3176	G

Continued on next page...

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Mol	Chain	Res	Type
35	A	3179	U
35	A	3181	C
35	A	3187	A
35	A	3196	U
35	A	3198	U
35	A	3199	G
35	A	3207	U
35	A	3210	A
35	A	3217	C
35	A	3218	A
35	A	3219	G
35	A	3222	U
35	A	3229	G
35	A	3239	G
35	A	3243	A
35	A	3245	A
35	A	3247	G
35	A	3259	U
35	A	3263	G
35	A	3270	U
35	A	3273	A
35	A	3276	G
35	A	3281	U
35	A	3287	U
35	A	3289	G
35	A	3294	A
35	A	3295	A
35	A	3304	U
35	A	3316	A
35	A	3318	G
35	A	3331	U
35	A	3334	U
35	A	3335	A
35	A	3341	U
35	A	3345	G
35	A	3351	U
35	A	3352	U
35	A	3355	U
35	A	3363	U
35	A	3369	G
35	A	3375	A
35	A	3378	C

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Mol	Chain	Res	Type
35	A	3382	U
35	A	3386	G
35	A	3389	U
35	A	3390	G
36	B	7	G
36	B	10	C
36	B	22	A
36	B	26	C
36	B	35	C
36	B	39	C
36	B	42	A
36	B	53	U
36	B	65	G
36	B	74	C
36	B	102	A
36	B	112	G
36	B	121	U
37	C	23	U
37	C	34	U
37	C	35	C
37	C	48	A
37	C	59	A
37	C	62	C
37	C	63	G
37	C	80	A
37	C	81	U
37	C	82	U
37	C	83	C
37	C	86	U
37	C	87	G
37	C	90	U
37	C	91	C
37	C	95	G
37	C	97	A
37	C	104	A
37	C	106	C
37	C	112	U
37	C	125	U
37	C	126	A
37	C	138	A
37	C	148	G
37	C	152	G

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Mol	Chain	Res	Type
81	m	2	G
81	m	8	U
81	m	9	A
81	m	14	A
81	m	16	U
81	m	18	G
81	m	19	G
81	m	21	A
81	m	46	G
81	m	48	C
81	m	49	G
81	m	50	C
81	m	51	A
81	m	52	G
81	m	53	G
81	m	54	U
81	m	55	U
81	m	57	G
81	m	58	A
81	m	59	A
81	m	60	U
81	m	61	C
81	m	62	C
81	m	66	A
81	m	68	G
81	m	69	A
81	m	74	C
82	n	9	G
82	n	11	C
82	n	14	A
82	n	16	U
82	n	19	G
82	n	21	A
82	n	22	G
82	n	29	G
82	n	44	A
82	n	46	G
82	n	47	U
82	n	48	C
82	n	57	G
82	n	59	A
82	n	61	C

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Mol	Chain	Res	Type
82	n	63	G
82	n	64	A
82	n	76	A
83	D	3	U
83	D	6	G
83	D	7	A
83	D	8	A

All (102) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	2	65	A
1	2	68	A
1	2	77	U
1	2	80	A
1	2	100	A
1	2	130	C
1	2	139	C
1	2	141	U
1	2	178	U
1	2	196	G
1	2	215	A
1	2	217	A
1	2	224	C
1	2	279	G
1	2	313	U
1	2	322	G
1	2	352	A
1	2	387	A
1	2	393	C
1	2	400	A
1	2	447	U
1	2	539	G
1	2	541	A
1	2	555	A
1	2	609	U
1	2	639	U
1	2	640	U
1	2	696	C
1	2	697	C
1	2	705	U
1	2	711	U

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Mol	Chain	Res	Type
1	2	755	A
1	2	768	C
1	2	803	A
1	2	818	C
1	2	819	G
1	2	912	U
1	2	928	U
1	2	1023	A
1	2	1226	A
1	2	1245	G
1	2	1251	U
1	2	1256	A
1	2	1273	G
1	2	1274	C
1	2	1344	A
1	2	1362	U
1	2	1382	A
1	2	1399	C
1	2	1430	U
1	2	1471	A
1	2	1535	U
1	2	1536	G
1	2	1557	U
1	2	1573	A
1	2	1588	G
1	2	1633	A
1	2	1636	C
1	2	1655	A
1	2	1688	U
35	A	13	A
35	A	186	U
35	A	241	G
35	A	282	G
35	A	637	C
35	A	719	U
35	A	763	G
35	A	849	C
35	A	873	C
35	A	916	G
35	A	1064	A
35	A	1097	G
35	A	1222	G

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Mol	Chain	Res	Type
35	A	1307	G
35	A	1348	U
35	A	1355	A
35	A	1562	C
35	A	1572	U
35	A	1815	U
35	A	1820	U
35	A	2112	U
35	A	2255	A
35	A	2495	C
35	A	2501	U
35	A	2502	A
35	A	2513	U
35	A	2514	U
35	A	2525	G
35	A	2531	C
35	A	2537	U
35	A	2541	U
35	A	3078	U
35	A	3218	A
35	A	3228	C
35	A	3269	U
35	A	3275	U
35	A	3303	G
35	A	3350	C
36	B	52	G
36	B	120	C
37	C	85	G
83	D	7	A

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

1 non-standard protein/DNA/RNA residue 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
79	5CT	Ls	51	79	13,14,15	0.72	0	8,15,17	1.76	2 (25%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
79	5CT	Ls	51	79	-	1/13/14/16	-

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
79	Ls	51	5CT	C4-C3-C2	-3.76	105.54	113.47
79	Ls	51	5CT	C1-NZ-CE	-2.35	108.24	113.38

There are no chirality outliers.

All (1) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
79	Ls	51	5CT	C2-C3-C4-N1

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
79	Ls	51	5CT	1	0

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	$\# Z > 2$
85	3HE	A	3401	-	21,21,21	0.60	0	23,30,30	0.87	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
85	3HE	A	3401	-	-	0/8/36/36	0/2/2/2

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 3 short contacts:

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

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
11	SV	1
82	n	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	SV	123:LYS	C	135:LYS	N	20.35
1	n	16:U	O3'	18:G	P	2.12

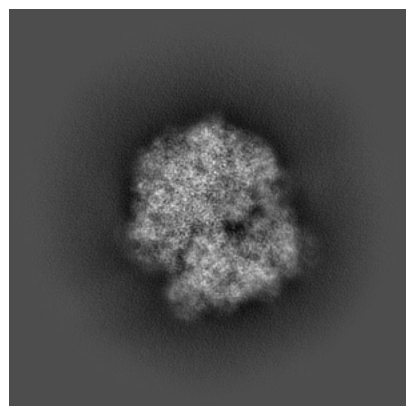
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-42525. These allow visual inspection of the internal detail of the map and identification of artifacts.

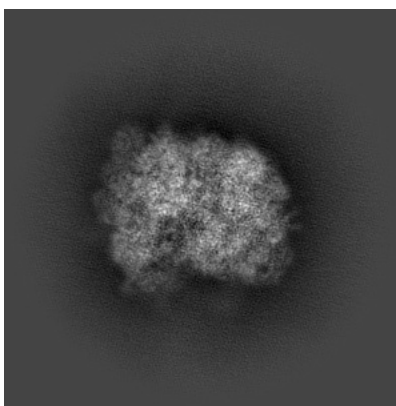
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

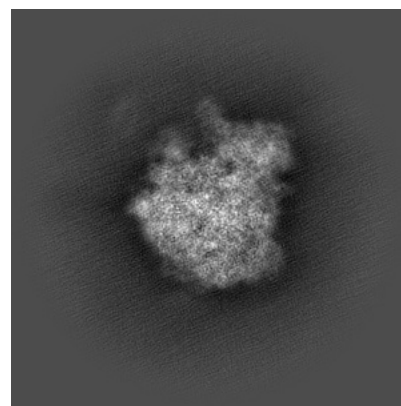
6.1.1 Primary map



X

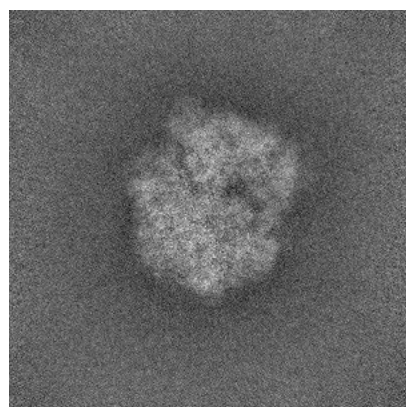


Y

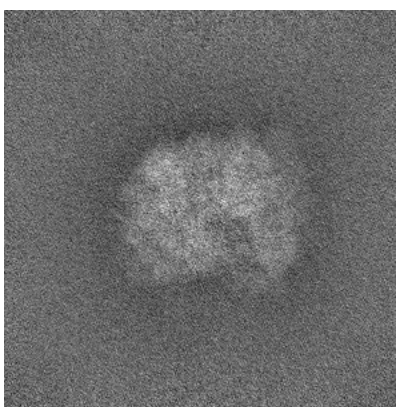


Z

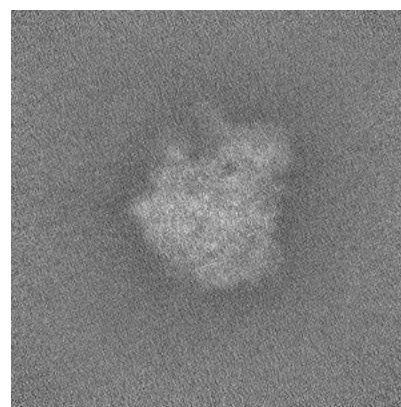
6.1.2 Raw map



X



Y

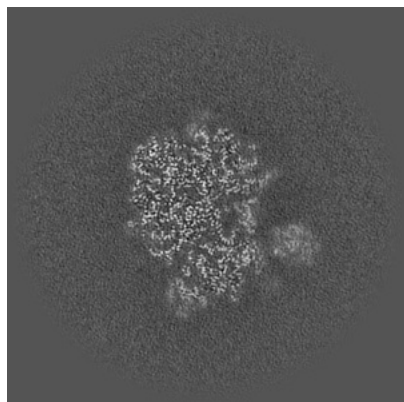


Z

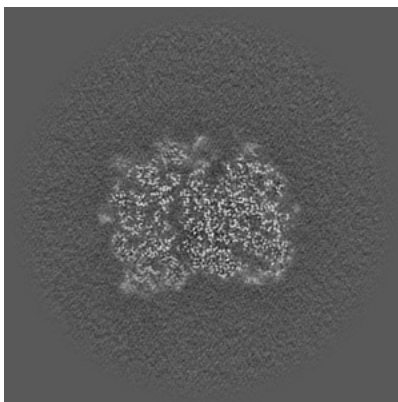
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

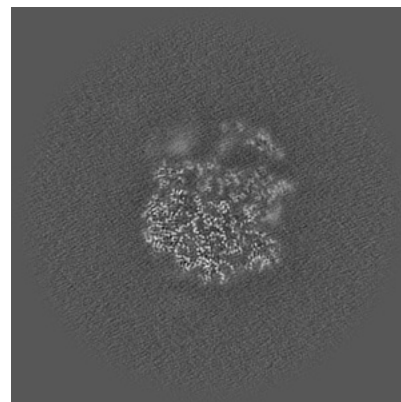
6.2.1 Primary map



X Index: 324

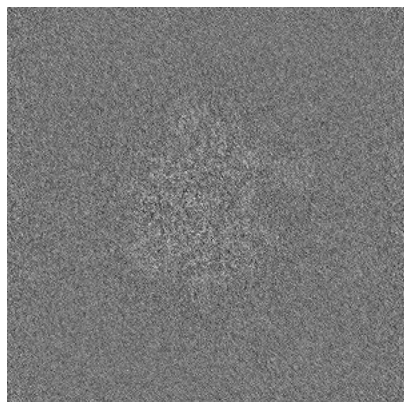


Y Index: 324

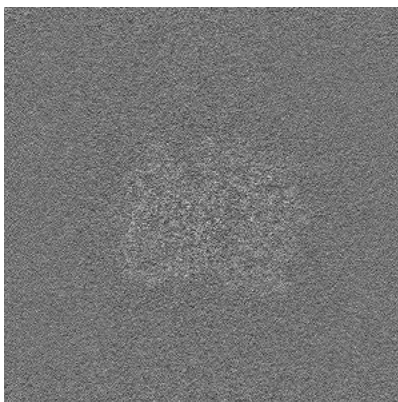


Z Index: 324

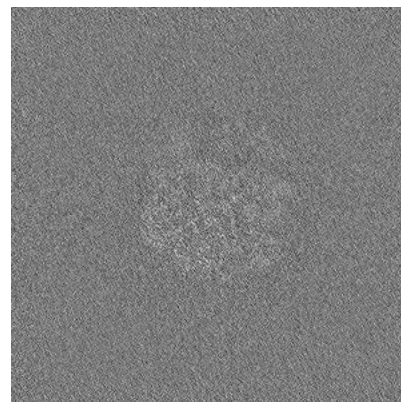
6.2.2 Raw map



X Index: 324



Y Index: 324

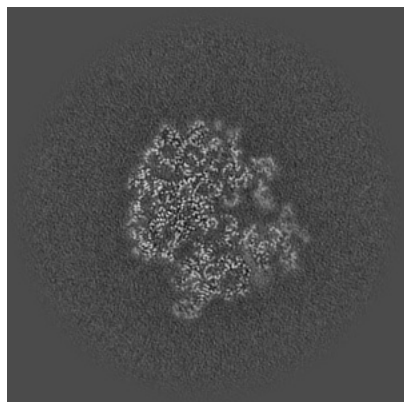


Z Index: 324

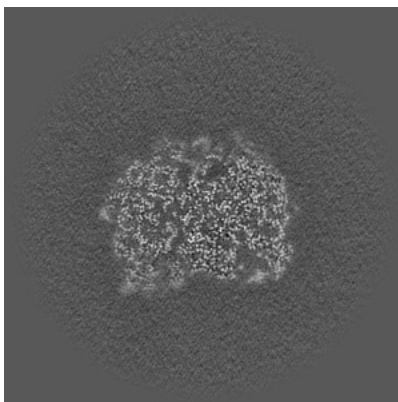
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

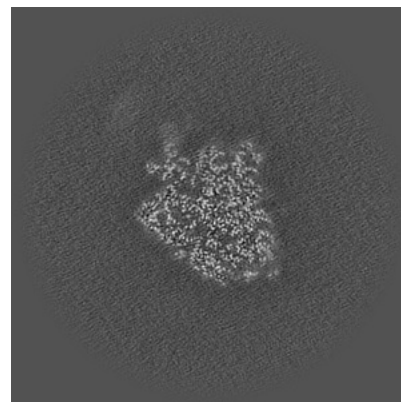
6.3.1 Primary map



X Index: 343

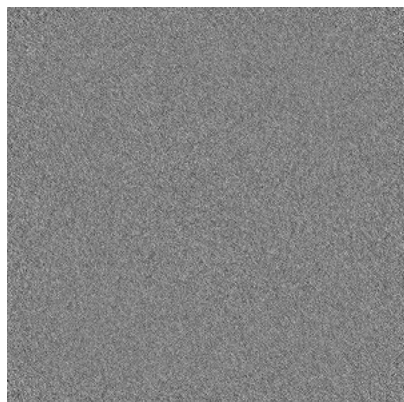


Y Index: 319

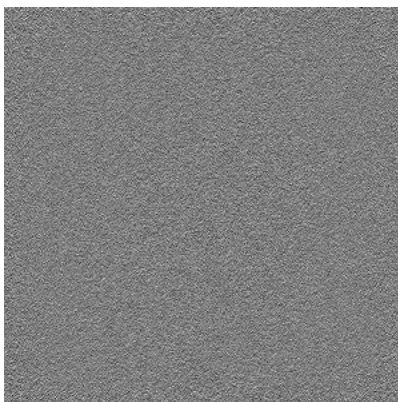


Z Index: 366

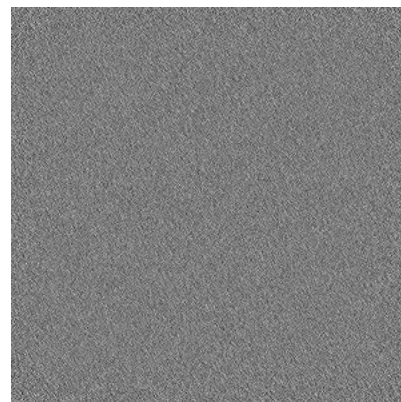
6.3.2 Raw map



X Index: 0



Y Index: 0

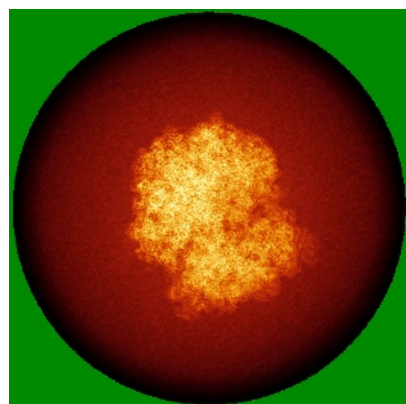


Z Index: 0

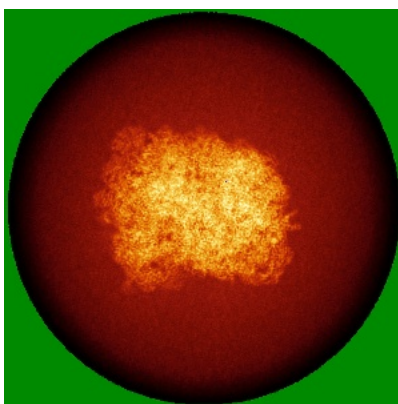
The images above show the largest variance slices of the map in three orthogonal directions.

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

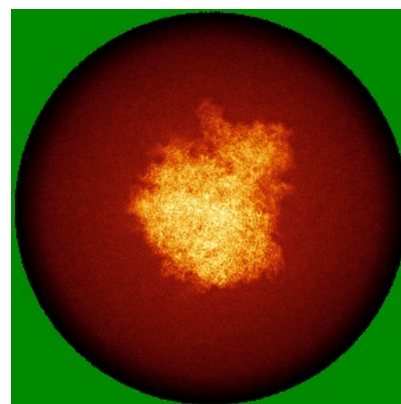
6.4.1 Primary map



X

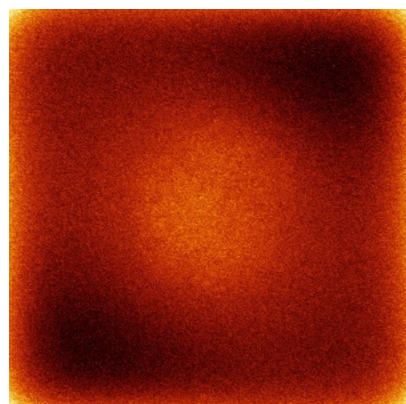


Y

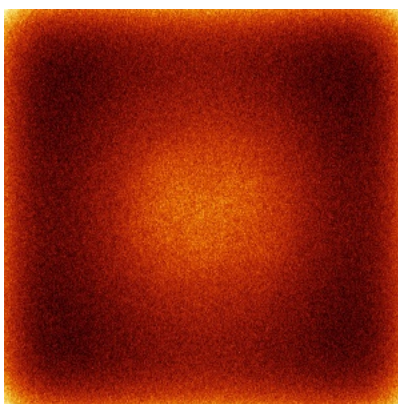


Z

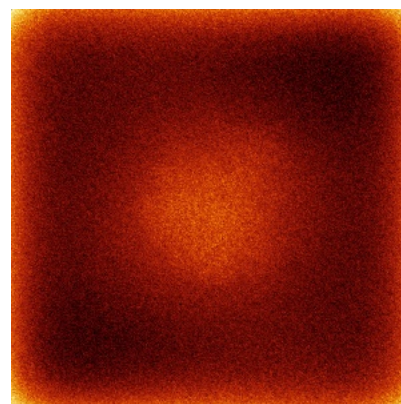
6.4.2 Raw map



X



Y

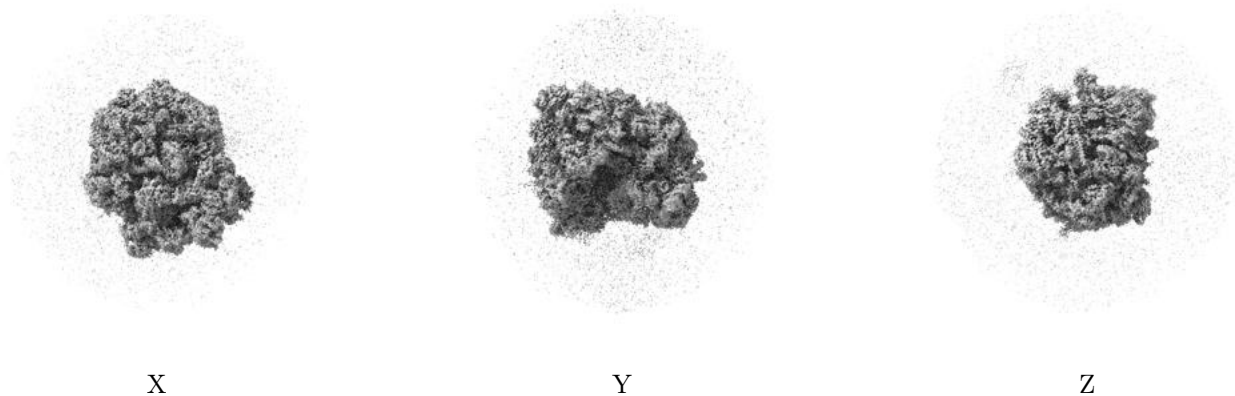


Z

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.

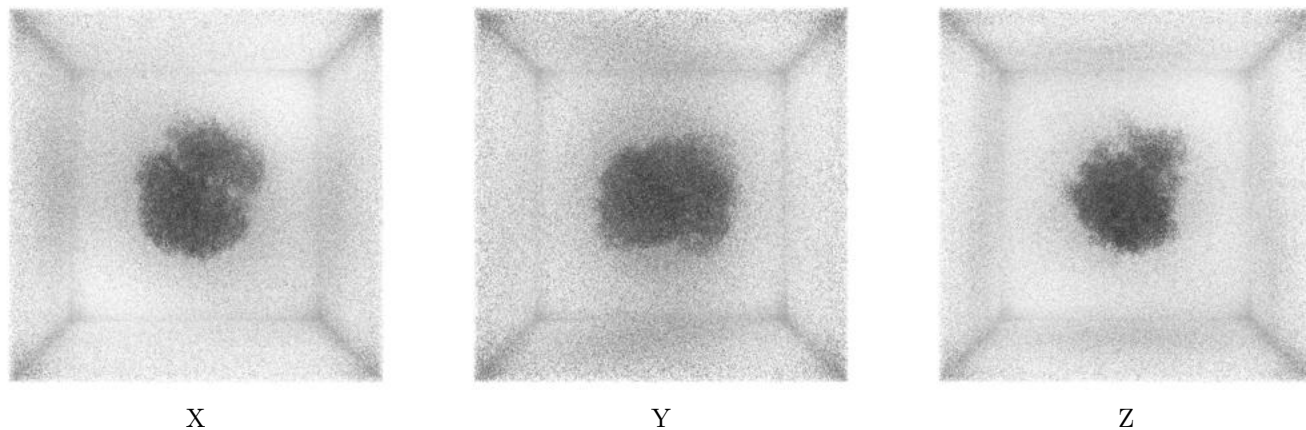
6.5 Orthogonal surface views [i](#)

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.

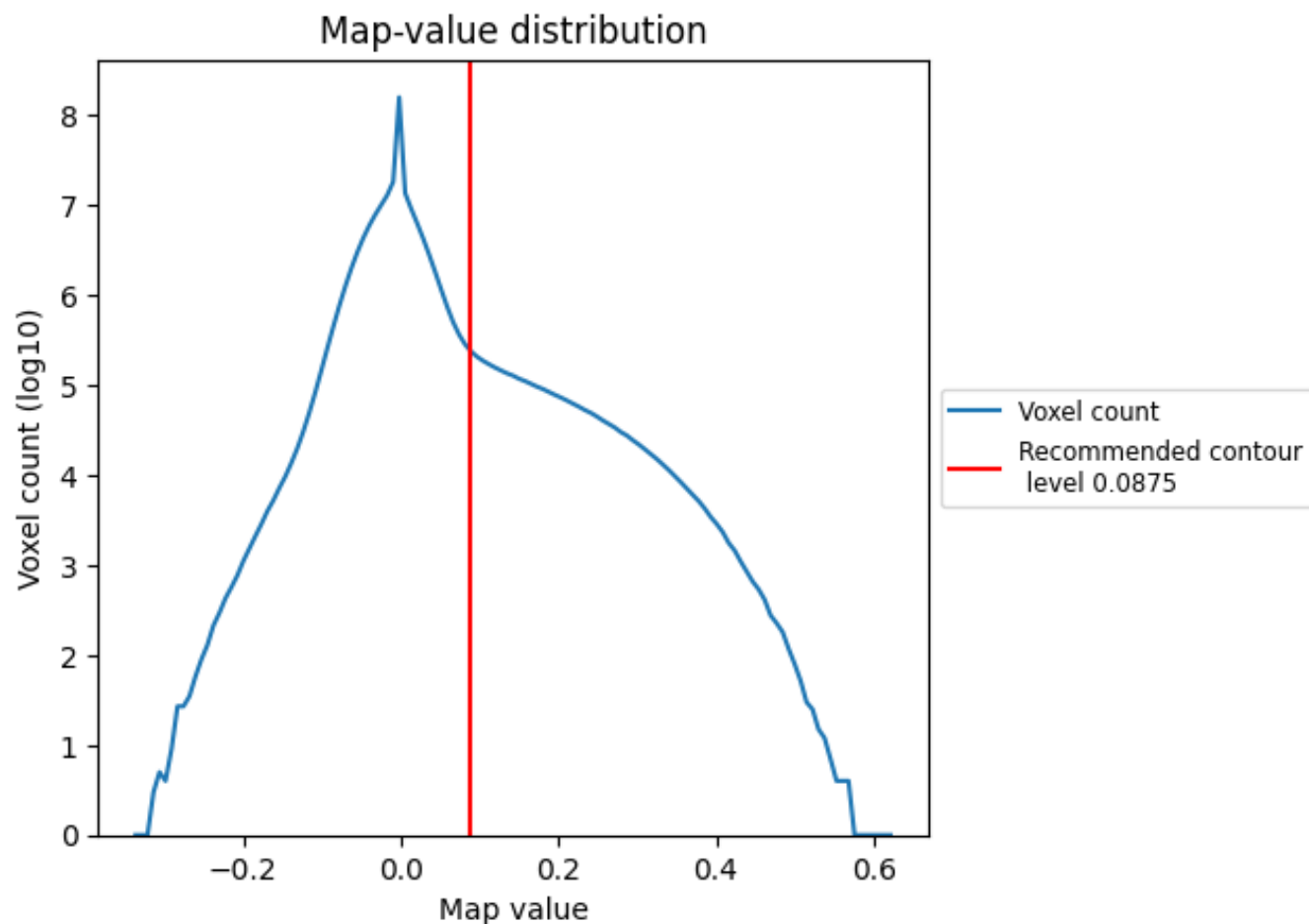
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

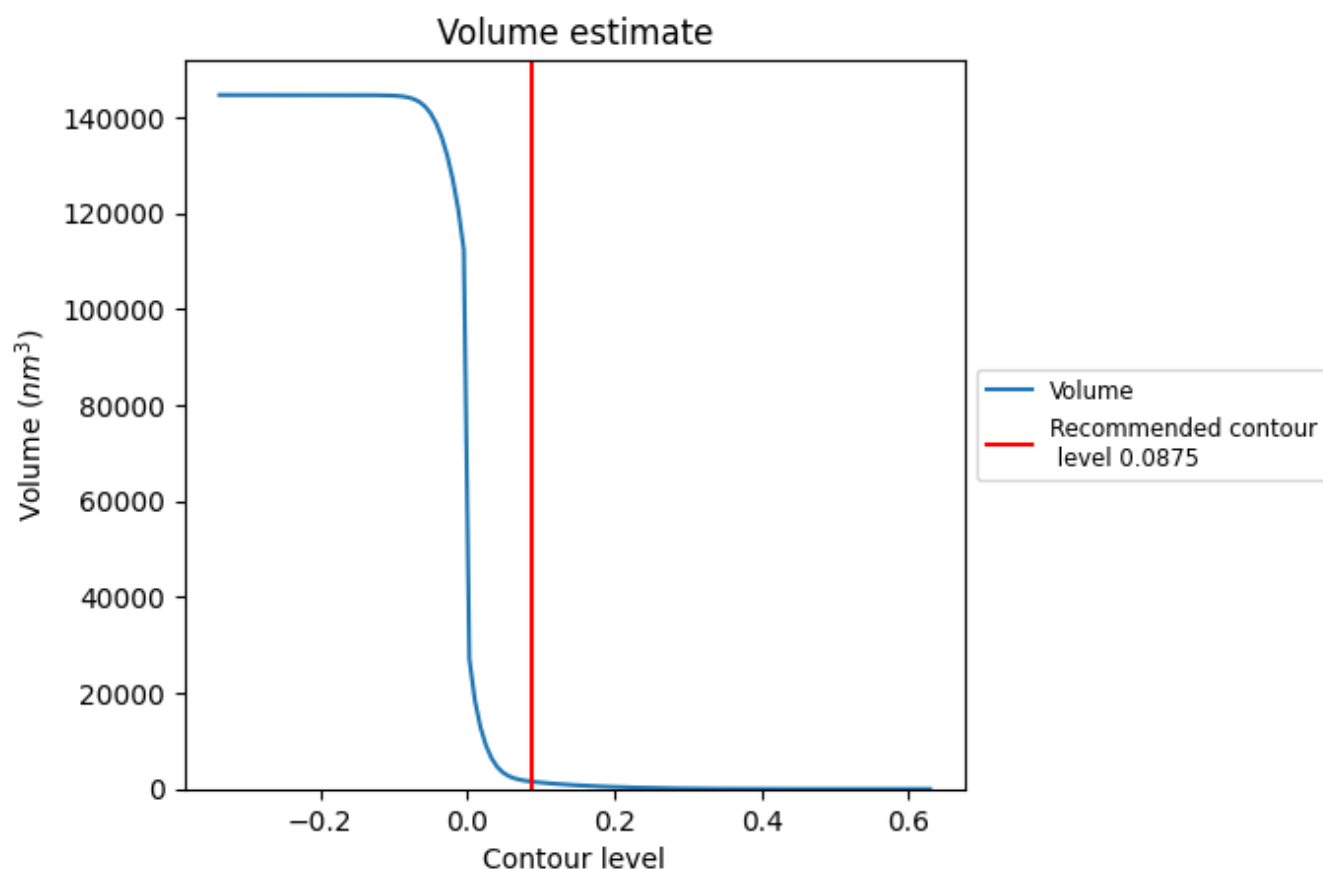
This section contains the results of statistical analysis of the map.

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.

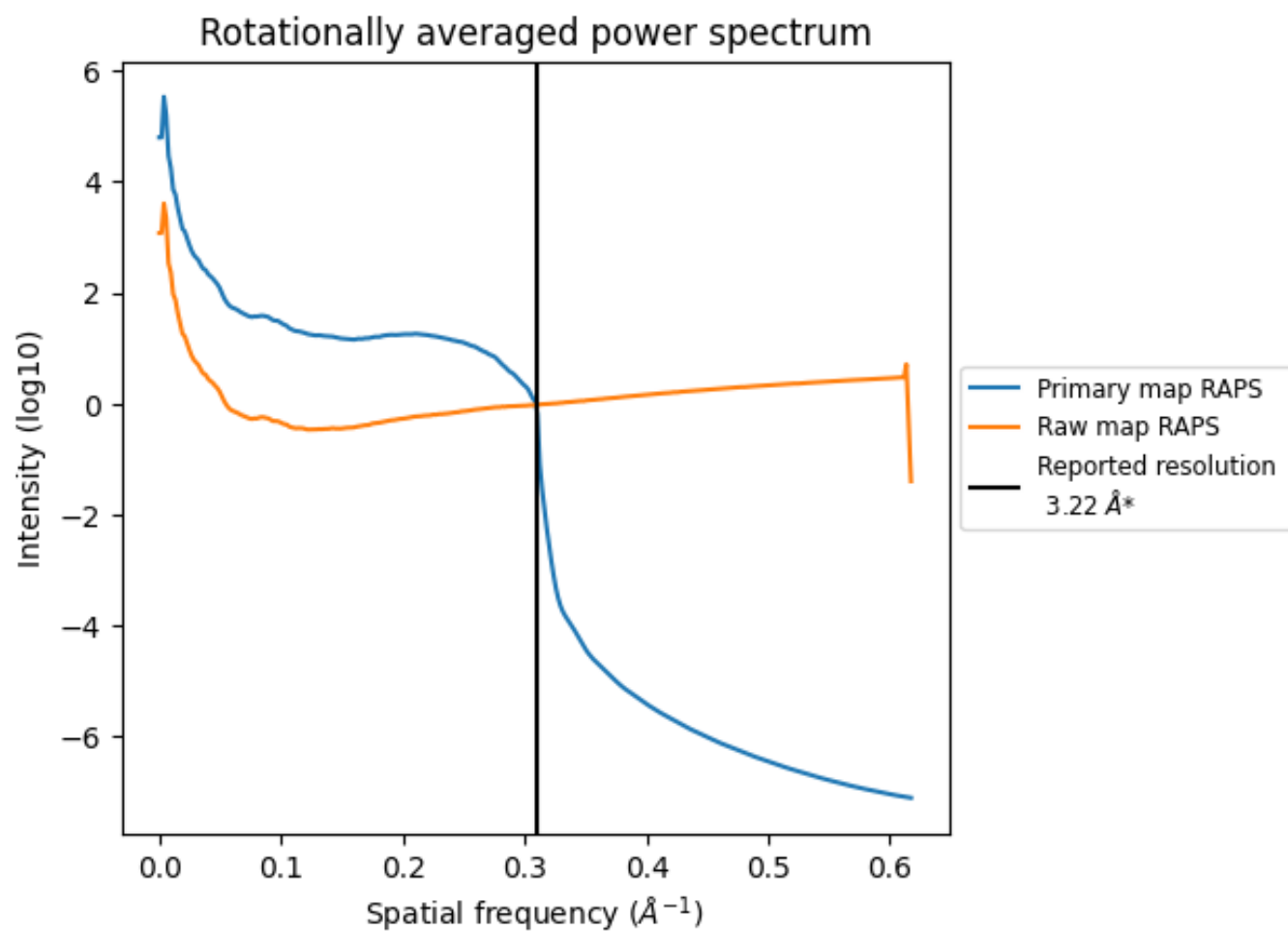
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1531 nm³; this corresponds to an approximate mass of 1383 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 ⓘ

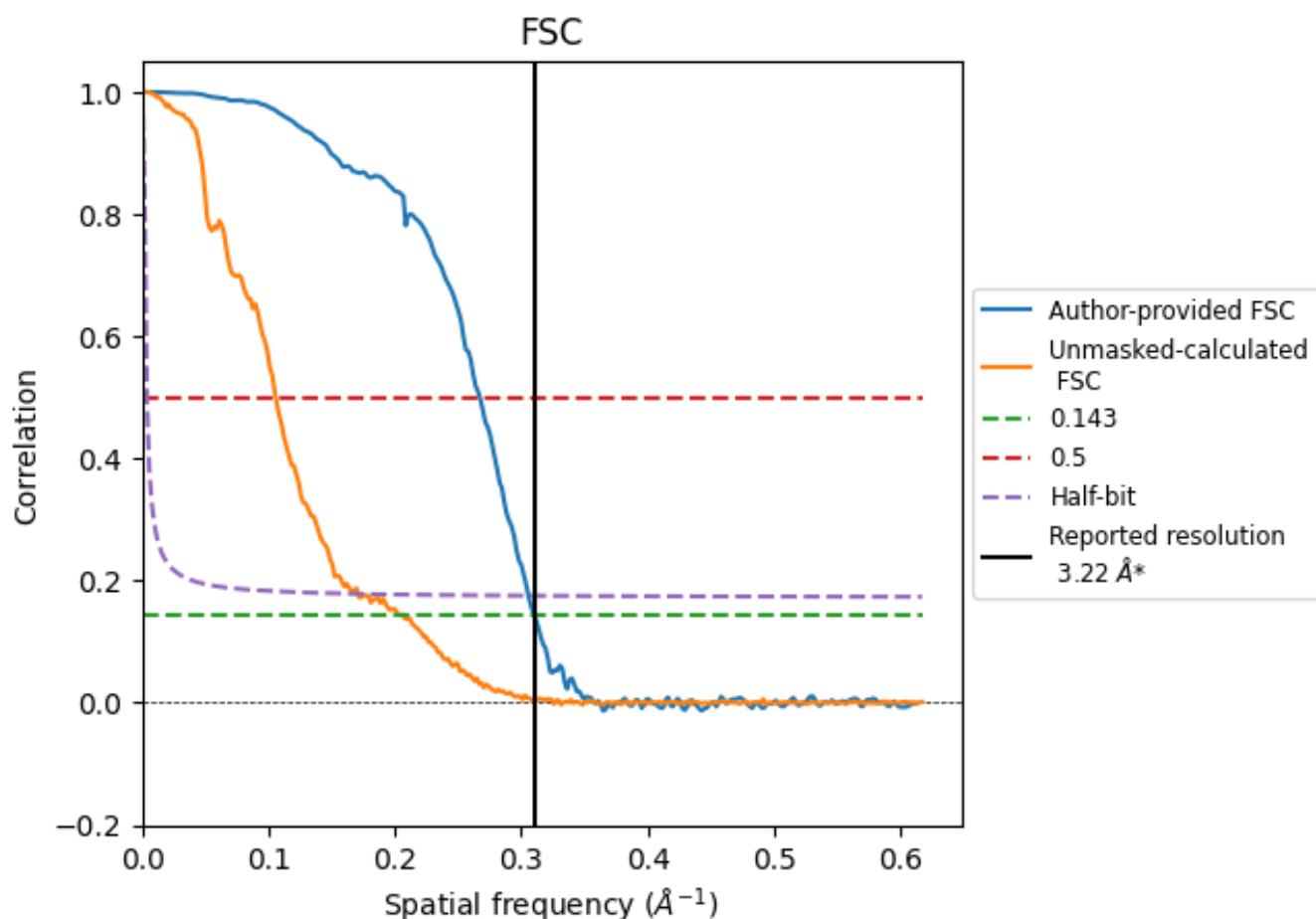


*Reported resolution corresponds to spatial frequency of 0.311 $\text{\AA}^{-1}$

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 0.311 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

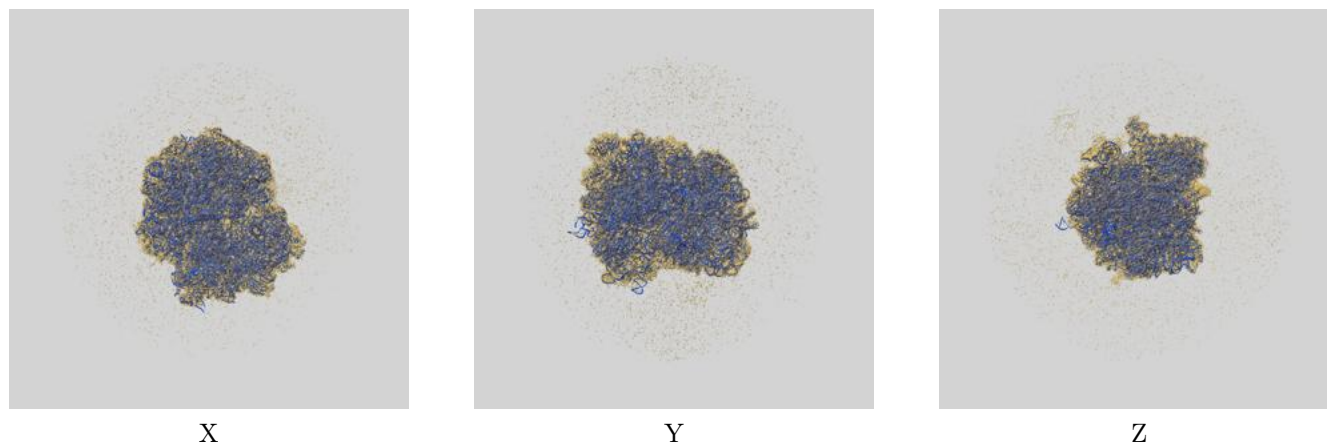
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.22	-	-
Author-provided FSC curve	3.22	3.74	3.27
Unmasked-calculated*	4.85	9.47	5.85

*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 4.85 differs from the reported value 3.22 by more than 10 %

9 Map-model fit [i](#)

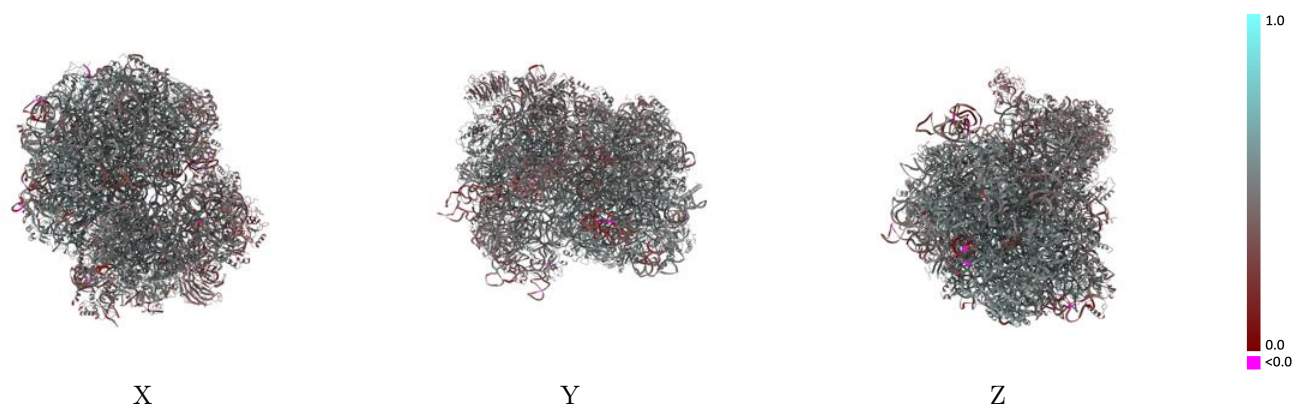
This section contains information regarding the fit between EMDB map EMD-42525 and PDB model 8UT0. Per-residue inclusion information can be found in [section 3](#) on [page 20](#).

9.1 Map-model overlay [i](#)



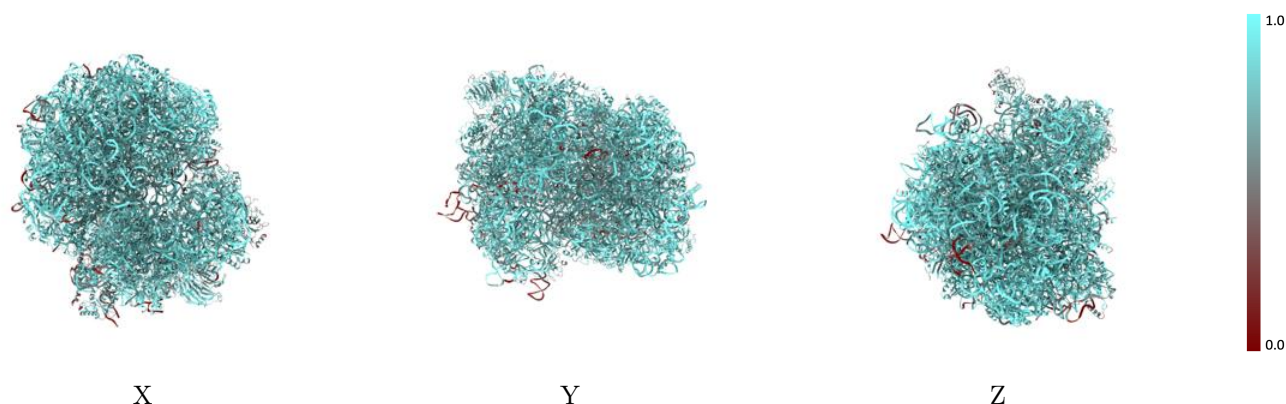
The images above show the 3D surface view of the map at the recommended contour level 0.0875 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



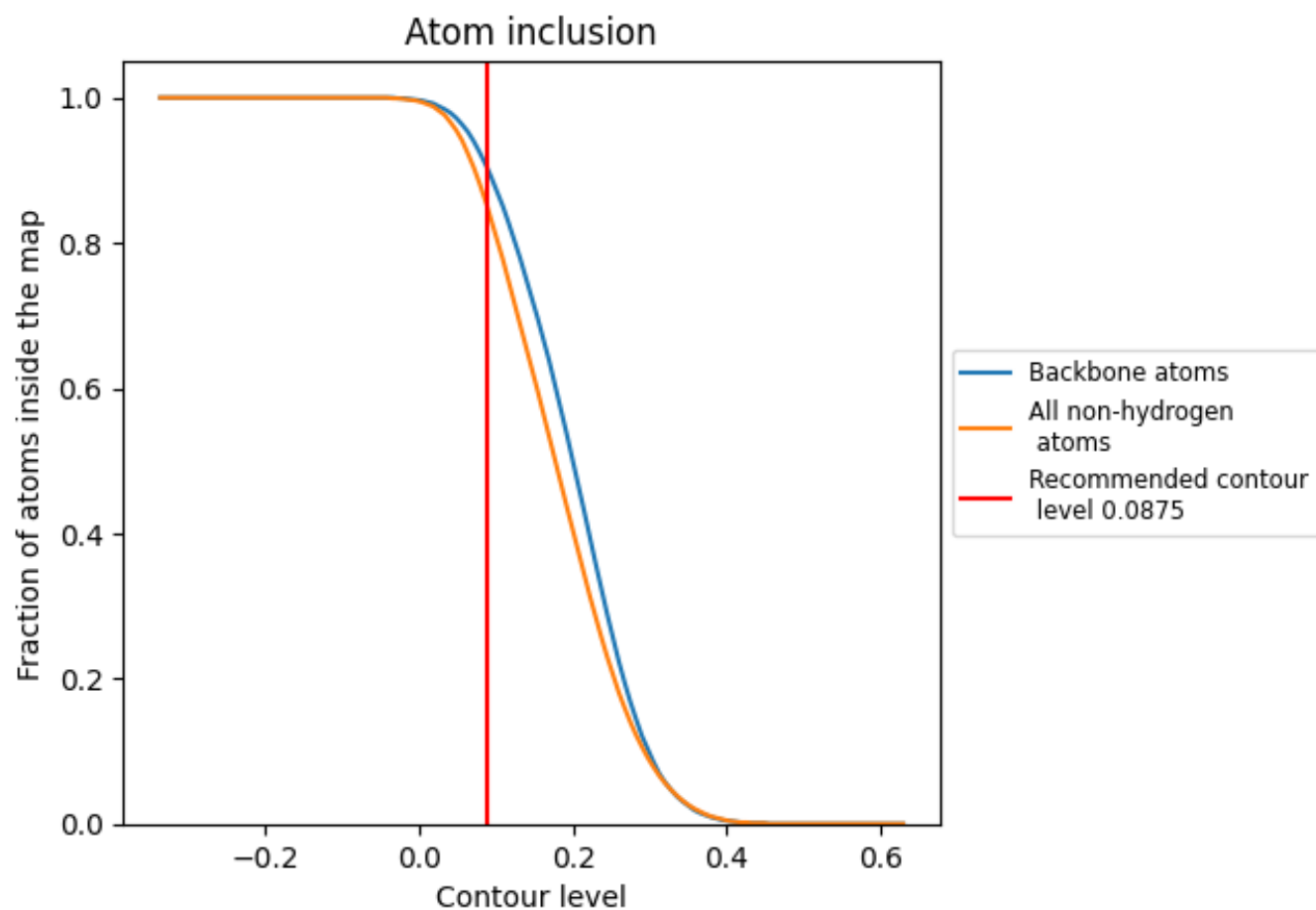
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



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

9.4 Atom inclusion [i](#)



At the recommended contour level, 90% of all backbone atoms, 85% 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	 0.8530	 0.4730
2	 0.8450	 0.4340
A	 0.9010	 0.4750
AA	 0.6400	 0.4220
B	 0.9520	 0.4600
C	 0.9390	 0.5020
D	 0.9110	 0.4860
E	 0.8600	 0.4560
LD	 0.8300	 0.5460
LE	 0.8680	 0.5260
LF	 0.8760	 0.5310
LG	 0.8340	 0.4450
LH	 0.8530	 0.5010
LI	 0.8530	 0.5110
LJ	 0.8140	 0.4870
LK	 0.8370	 0.5030
LL	 0.7960	 0.5050
LM	 0.7770	 0.4490
LN	 0.8510	 0.5030
LO	 0.8630	 0.5000
LP	 0.8550	 0.5350
LQ	 0.8550	 0.5210
LR	 0.8640	 0.5360
LS	 0.8620	 0.5150
LT	 0.8190	 0.5110
LU	 0.8380	 0.5140
LV	 0.8190	 0.5020
LW	 0.8170	 0.4740
LX	 0.7760	 0.5250
LY	 0.8380	 0.5390
LZ	 0.8540	 0.5340
La	 0.8940	 0.5420
Lb	 0.8740	 0.5130
Lc	 0.8720	 0.5170
Ld	 0.7720	 0.4920



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Chain	Atom inclusion	Q-score
Le	 0.8620	 0.5100
Lf	 0.8620	 0.5190
Lg	 0.8610	 0.5460
Lh	 0.8500	 0.5440
Li	 0.8310	 0.5290
Lj	 0.8800	 0.5300
Lk	 0.7920	 0.4610
Ll	 0.9030	 0.5570
Lm	 0.8280	 0.5030
Ln	 0.9040	 0.5580
Lo	 0.8310	 0.5370
Lp	 0.5480	 0.4930
Lq	 0.8100	 0.4980
Lr	 0.8010	 0.5430
Ls	 0.6590	 0.4950
SA	 0.7580	 0.4660
SB	 0.7050	 0.4290
SC	 0.8310	 0.4390
SD	 0.5530	 0.2860
SE	 0.7620	 0.4310
SF	 0.7910	 0.4420
SG	 0.7850	 0.4390
SH	 0.7890	 0.4460
SI	 0.8060	 0.4300
SJ	 0.7520	 0.4340
SL	 0.7150	 0.4370
SM	 0.8590	 0.4830
SN	 0.5560	 0.3040
SO	 0.7630	 0.3940
SP	 0.8380	 0.4860
SQ	 0.7510	 0.4650
SR	 0.8260	 0.5180
SS	 0.8140	 0.4960
ST	 0.7730	 0.4350
SU	 0.7720	 0.4520
SV	 0.7720	 0.4740
SW	 0.8180	 0.4810
SX	 0.8030	 0.5080
SY	 0.8170	 0.5020
SZ	 0.7740	 0.4770
Sa	 0.8620	 0.5140
Sb	 0.8440	 0.5310

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Chain	Atom inclusion	Q-score
Sc	 0.7810	 0.5350
Sd	 0.8010	 0.4560
Se	 0.8420	 0.5050
Sf	 0.8290	 0.4820
Sg	 0.7630	 0.4830
m	 0.8410	 0.3990
n	 0.8410	 0.4460
z	 0.7630	 0.4980