



Full wwPDB EM Validation Report ⓘ

Mar 6, 2026 – 04:29 PM UTC

PDB ID : 6XU6 / pdb_00006xu6
EMDB ID : EMD-10622
Title : Drosophila melanogaster Testis 80S ribosome
Authors : Hopes, T.; Agapiou, M.; Norris, K.; McCarthy, C.G.P.; OConnell, M.J.;
Fontana, J.; Aspden, J.L.
Deposited on : 2020-01-17
Resolution : 3.50 Å(reported)
Based on initial model : 4V6W

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the 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

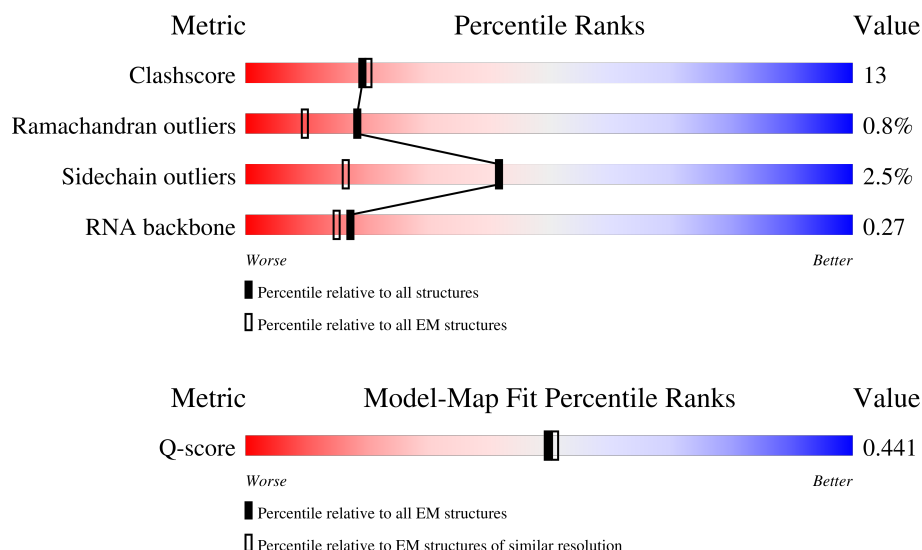
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.50 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.



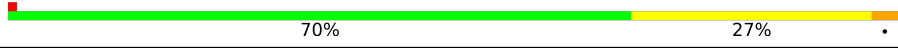
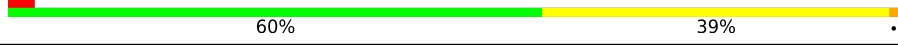
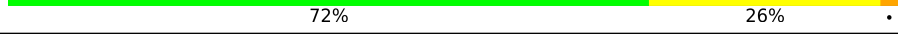
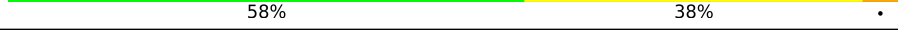
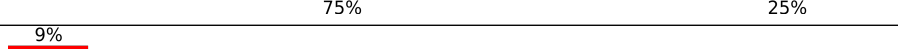
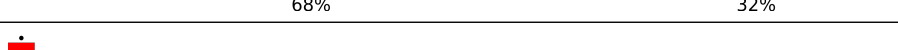
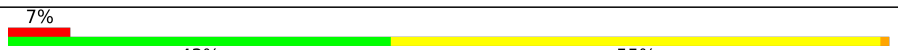
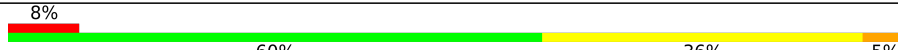
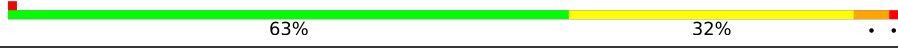
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	13950 (3.00 - 4.00)

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

Mol	Chain	Length	Quality of chain
1	AA	218	
2	CA	253	
3	AB	220	

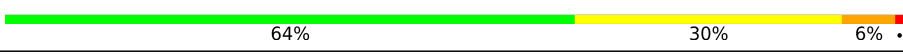
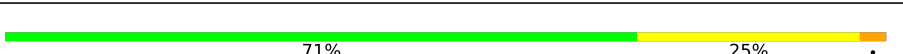
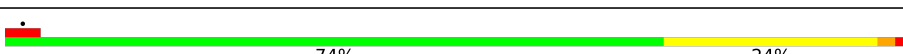
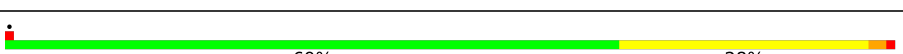
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Mol	Chain	Length	Quality of chain
4	CB	414	
5	AC	227	
6	CC	392	
7	Ag	318	
8	AU	102	
9	AX	143	
10	AM	119	
11	Ad	52	
12	AN	150	
13	AL	155	
14	AR	120	
15	AP	124	
16	AV	82	
17	AY	126	
18	AZ	74	
19	Aa	107	
20	Ab	84	
21	AD	227	
22	Ae	58	
23	Af	80	
24	AJ	181	
25	Ca	149	
26	CN	203	
27	CI	217	
28	CD	290	

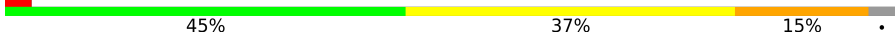
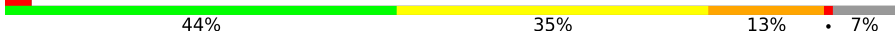
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Mol	Chain	Length	Quality of chain
29	CQ	187	
30	CR	203	
31	CS	173	
32	CT	158	
33	CP	185	
34	CX	120	
35	CY	131	
36	CZ	134	
37	Cr	134	
38	Ch	123	
39	Cb	75	
40	Cc	100	
41	Ce	132	
42	Cf	157	
43	Ci	113	
44	Ck	70	
45	Cl	50	
46	Cm	52	
47	Cn	25	
48	Cp	91	
49	Co	104	
50	CJ	182	
51	CH	190	
52	CE	228	
53	CG	241	

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Mol	Chain	Length	Quality of chain
54	A9	30	
55	A7	120	
56	A8	123	
57	Cz	217	
58	B2	1995	
59	A5	3974	
60	AE	261	
61	AG	231	
62	AH	194	
63	AI	207	
64	AQ	148	
65	CO	205	
66	CL	210	
67	CV	134	
68	CM	159	
69	DA	370	
70	AK	90	
71	AT	143	
72	AF	189	
73	AO	127	
74	Ac	62	
75	AW	129	
76	CW	58	
77	Cg	103	
78	CU	96	

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Mol	Chain	Length	Quality of chain
79	Cj	87	 52% 39% 9%
80	CF	223	 74% 23% •
81	Cd	108	 55% 39% 6%
82	AS	134	 54% 46% •

2 Entry composition

There are 82 unique types of molecules in this entry. The entry contains 219765 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
1	AA	218	Total	C	N	O	S	0	0
			1737	1113	298	321	5		

- Molecule 2 is a protein called 60S ribosomal protein L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	CA	253	Total	C	N	O	S	0	0
			1935	1206	395	326	8		

- Molecule 3 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	AB	220	Total	C	N	O	S	0	0
			1798	1138	328	324	8		

- Molecule 4 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	CB	414	Total	C	N	O	S	0	0
			3287	2083	621	565	18		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
5	AC	227	Total	C	N	O	S	0	0
			1746	1126	302	311	7		

- Molecule 6 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	CC	392	Total	C	N	O	S	0	0
			3109	1959	622	522	6		

- Molecule 7 is a protein called Guanine nucleotide-binding protein subunit beta-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	Ag	318	Total	C	N	O	S	0	0
			2511	1577	444	480	10		

- Molecule 8 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	AU	102	Total	C	N	O	S	0	0
			815	505	161	145	4		

- Molecule 9 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	AX	143	Total	C	N	O	S	0	0
			1131	712	226	191	2		

- Molecule 10 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	AM	119	Total	C	N	O	S	0	0
			924	582	165	171	6		

- Molecule 11 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	Ad	52	Total	C	N	O	S	0	0
			433	269	87	72	5		

- Molecule 12 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	AN	150	Total	C	N	O	S	0	0
			1202	767	229	203	3		

- Molecule 13 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	AL	155	Total	C	N	O	S	0	0
			1274	803	254	211	6		

- Molecule 14 is a protein called 40S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	AR	120	Total	C	N	O	S	0	0
			981	618	183	176	4		

- Molecule 15 is a protein called GEO07301p1.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	AP	124	Total	C	N	O	S	0	0
			1016	652	189	169	6		

- Molecule 16 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	AV	82	Total	C	N	O	S	0	0
			617	373	114	125	5		

There are 13 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AV	2	GLN	GLU	conflict	UNP O76927
AV	8	PHE	ASN	conflict	UNP O76927
AV	25	GLY	HIS	conflict	UNP O76927
AV	32	ILE	VAL	conflict	UNP O76927
AV	34	MET	LEU	conflict	UNP O76927
AV	35	ASN	SER	conflict	UNP O76927
AV	36	VAL	ILE	conflict	UNP O76927
AV	58	ALA	GLU	conflict	UNP O76927
AV	68	SER	CYS	conflict	UNP O76927
AV	70	LEU	VAL	conflict	UNP O76927
AV	75	ALA	LYS	conflict	UNP O76927
AV	79	VAL	ILE	conflict	UNP O76927
AV	80	SER	THR	conflict	UNP O76927

- Molecule 17 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	AY	126	Total	C	N	O	S	0	0
			1016	644	196	171	5		

- Molecule 18 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms				AltConf	Trace
18	AZ	74	Total	C	N	O	0	0
			608	390	112	106		

- Molecule 19 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	Aa	107	Total	C	N	O	S	0	0
			867	539	182	140	6		

- Molecule 20 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	Ab	84	Total	C	N	O	S	0	0
			653	412	123	110	8		

- Molecule 21 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	AD	227	Total	C	N	O	S	0	0
			1782	1127	319	326	10		

- Molecule 22 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms				AltConf	Trace
22	Ae	58	Total	C	N	O	0	0
			469	289	105	75		

- Molecule 23 is a protein called Ubiquitin-40S ribosomal protein S27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	Af	80	Total	C	N	O	S	0	0
			659	417	128	109	5		

- Molecule 24 is a protein called 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	AJ	181	Total	C	N	O	S	0	0
			1503	957	298	247	1		

- Molecule 25 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	Ca	149	Total	C	N	O	S	0	0
			1204	769	242	189	4		

- Molecule 26 is a protein called 60S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	CN	203	Total	C	N	O	S	0	0
			1710	1072	362	271	5		

- Molecule 27 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	CI	217	Total	C	N	O	S	0	0
			1785	1125	343	304	13		

- Molecule 28 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	CD	290	Total	C	N	O	S	0	0
			2334	1471	434	423	6		

- Molecule 29 is a protein called 60S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	CQ	187	Total	C	N	O	S	0	0
			1518	957	306	251	4		

- Molecule 30 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	CR	203	Total	C	N	O	S	0	0
			1683	1047	350	277	9		

- Molecule 31 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	CS	173	Total	C	N	O	S	0	0
			1454	935	275	240	4		

- Molecule 32 is a protein called RE62581p.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	CT	158	Total	C	N	O	S	0	0
			1297	829	253	212	3		

- Molecule 33 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	CP	185	Total	C	N	O	S	0	0
			1505	928	305	263	9		

- Molecule 34 is a protein called IP17216p.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	CX	120	Total	C	N	O	S	0	0
			984	625	192	165	2		

- Molecule 35 is a protein called GEO07453p1.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	CY	131	Total	C	N	O	S	0	0
			1078	676	224	176	2		

- Molecule 36 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	CZ	134	Total	C	N	O	S	0	0
			1115	723	209	180	3		

- Molecule 37 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms				AltConf	Trace
37	Cr	134	Total	C	N	O	0	0
			1051	670	205	176		

- Molecule 38 is a protein called FI02809p.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Ch	123	Total	C	N	O	S	0	0
			1015	646	202	164	3		

- Molecule 39 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	Cb	75	Total	C	N	O	S	0	0
			619	378	133	107	1		

- Molecule 40 is a protein called RE25263p.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	Cc	100	Total	C	N	O	S	0	0
			770	486	132	147	5		

- Molecule 41 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	Ce	132	Total	C	N	O	S	0	0
			1110	698	230	177	5		

- Molecule 42 is a protein called GEO07455p1.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	Cf	157	Total	C	N	O	S	0	0
			1244	781	255	203	5		

- Molecule 43 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	Ci	113	Total	C	N	O	S	0	0
			934	585	193	153	3		

- Molecule 44 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	Ck	70	Total	C	N	O	S	0	0
			576	366	108	100	2		

- Molecule 45 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms				AltConf	Trace
45	Cl	50	Total	C	N	O	0	0
			437	276	98	63		

- Molecule 46 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	Cm	52	Total	C	N	O	S	0	0
			429	267	89	67	6		

- Molecule 47 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	Cn	25	Total	C	N	O	S	0	0
			236	143	63	27	3		

- Molecule 48 is a protein called 60S ribosomal protein L37a.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	Cp	91	Total	C	N	O	S	0	0
			710	441	140	122	7		

- Molecule 49 is a protein called TA01007p.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	Co	104	Total	C	N	O	S	0	0
			874	548	180	138	8		

- Molecule 50 is a protein called 60S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	CJ	182	Total	C	N	O	S	0	0
			1468	926	278	258	6		

- Molecule 51 is a protein called 60S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	CH	190	Total	C	N	O	S	0	0
			1499	947	265	278	9		

- Molecule 52 is a protein called Ribosomal protein L6, isoform A.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	CE	228	Total	C	N	O	S	0	0
			1845	1185	351	305	4		

- Molecule 53 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	CG	241	Total	C	N	O	S	0	0
			1936	1237	368	327	4		

- Molecule 54 is a RNA chain called 2S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	A9	30	Total	C	N	O	P	0	0
			639	286	111	213	29		

- Molecule 55 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	A7	120	Total	C	N	O	P	0	0
			2554	1141	456	838	119		

- Molecule 56 is a RNA chain called 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	A8	123	Total	C	N	O	P	0	0
			2621	1173	474	852	122		

- Molecule 57 is a protein called 60S ribosomal protein L10a-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	Cz	217	Total	C	N	O	S	0	0
			1702	1084	303	305	10		

- Molecule 58 is a RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	B2	1936	Total	C	N	O	P	0	0
			39355	17526	6780	13114	1935		

- Molecule 59 is a RNA chain called 28S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	A5	3707	Total	C	N	O	P	0	0
			77175	34473	13566	25431	3705		

There are 10 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A5	1301	A	U	conflict	GB NR_133562.1

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Chain	Residue	Modelled	Actual	Comment	Reference
A5	1319	A	U	conflict	GB NR_133562.1
A5	1320	U	G	conflict	GB NR_133562.1
A5	1321	G	U	conflict	GB NR_133562.1
A5	1322	U	G	conflict	GB NR_133562.1
A5	1686	A	-	insertion	GB NR_133562.1
A5	1710	G	-	insertion	GB NR_133562.1
A5	2158A	C	-	insertion	GB NR_133562.1
A5	2279	C	G	conflict	GB NR_133562.1
A5	3569	C	-	insertion	GB NR_133562.1

- Molecule 60 is a protein called 40S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	AE	261	Total	C	N	O	S	0	0
			2054	1314	380	353	7		

- Molecule 61 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	AG	231	Total	C	N	O	S	0	0
			1866	1172	372	315	7		

- Molecule 62 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	AH	194	Total	C	N	O	S	0	0
			1566	1006	278	281	1		

- Molecule 63 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	AI	207	Total	C	N	O	S	0	0
			1665	1037	329	296	3		

- Molecule 64 is a protein called 40S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	AQ	148	Total	C	N	O	S	0	0
			1183	753	223	204	3		

- Molecule 65 is a protein called 60S ribosomal protein L13a.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	CO	205	Total	C	N	O	S	0	0
			1668	1063	331	268	6		

- Molecule 66 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	CL	210	Total	C	N	O	S	0	0
			1695	1066	342	284	3		

- Molecule 67 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	CV	134	Total	C	N	O	S	0	0
			998	629	190	173	6		

- Molecule 68 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	CM	159	Total	C	N	O	S	0	0
			1302	826	256	218	2		

- Molecule 69 is a protein called LP04564p.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	DA	350	Total	C	N	O	S	0	0
			2756	1730	483	525	18		

- Molecule 70 is a protein called 40S ribosomal protein S10b.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	AK	90	Total	C	N	O	S	0	0
			760	500	130	127	3		

- Molecule 71 is a protein called 40S ribosomal protein S19a.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	AT	132	Total	C	N	O	S	0	0
			1041	659	200	179	3		

- Molecule 72 is a protein called 40S ribosomal protein S5a.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	AF	189	Total	C	N	O	S	0	0
			1490	929	284	268	9		

- Molecule 73 is a protein called 40S ribosomal protein S14a.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	AO	127	Total	C	N	O	S	0	0
			953	587	185	177	4		

- Molecule 74 is a protein called 40S ribosomal protein S28.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	Ac	62	Total	C	N	O	S	0	0
			498	307	100	89	2		

- Molecule 75 is a protein called 40S ribosomal protein S15Aa.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	AW	129	Total	C	N	O	S	0	0
			1028	656	189	176	7		

- Molecule 76 is a protein called 60S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	CW	58	Total	C	N	O	S	0	0
			483	314	89	76	4		

- Molecule 77 is a protein called RH48056p.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	Cg	103	Total	C	N	O	S	0	0
			844	525	176	138	5		

- Molecule 78 is a protein called Ribosomal protein L22-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	CU	96	Total	C	N	O	S	0	0
			811	531	137	139	4		

- Molecule 79 is a protein called Probable 60S ribosomal protein L37-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	Cj	87	Total	C	N	O	S	0	0
			696	422	154	115	5		

- Molecule 80 is a protein called 60S ribosomal protein L7.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	CF	223	Total	C	N	O	S	0	0
			1869	1199	363	304	3		

- Molecule 81 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	Cd	108	Total	C	N	O	S	0	0
			899	559	177	161	2		

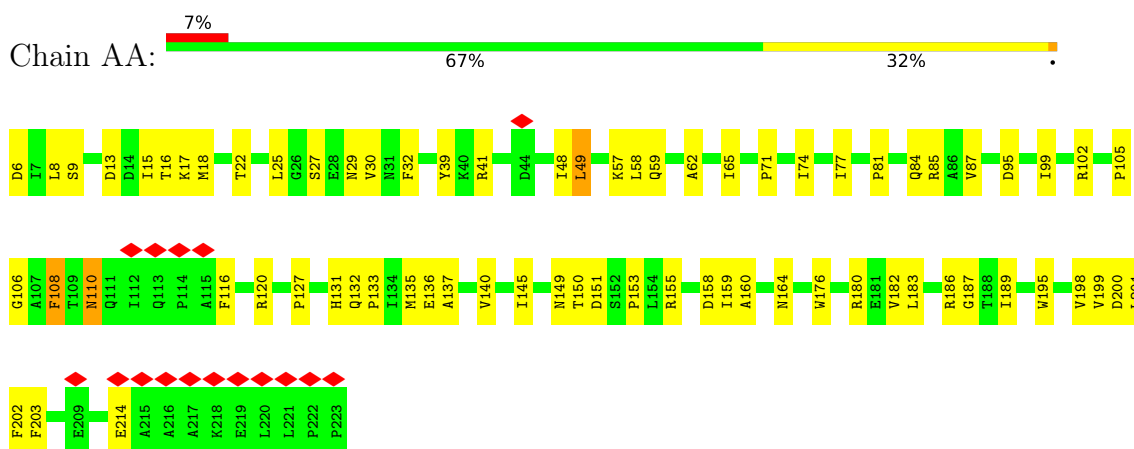
- Molecule 82 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	AS	134	Total	C	N	O	S	0	0
			1101	691	214	193	3		

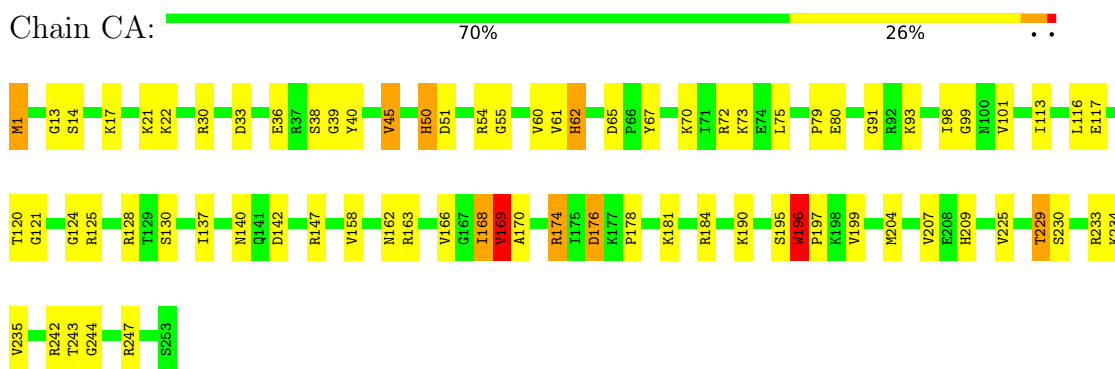
3 Residue-property plots

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

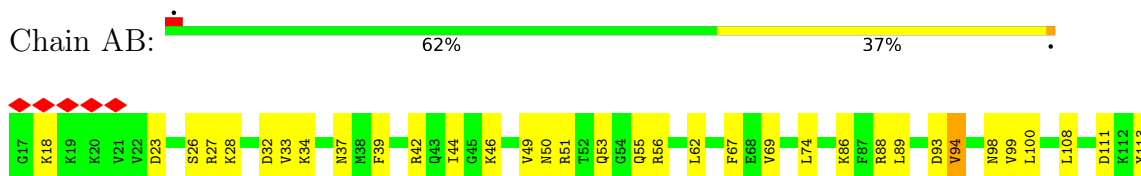
- Molecule 1: 40S ribosomal protein SA



- Molecule 2: 60S ribosomal protein L8



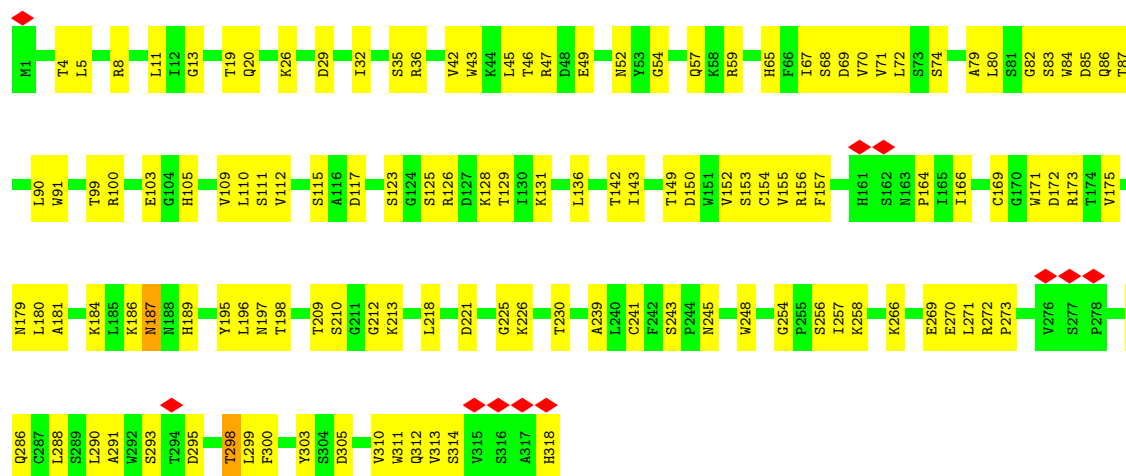
- Molecule 3: 40S ribosomal protein S3a





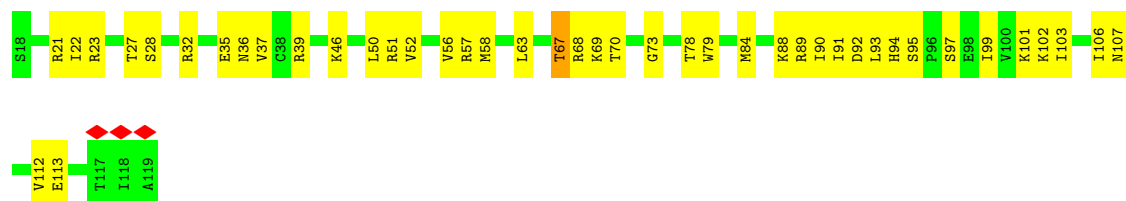
• Molecule 7: Guanine nucleotide-binding protein subunit beta-like protein

Chain Ag: 60% 39%



• Molecule 8: 40S ribosomal protein S20

Chain AU: 58% 41%



• Molecule 9: 40S ribosomal protein S23

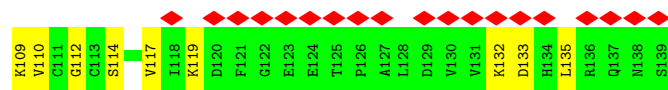
Chain AX: 74% 25%



• Molecule 10: 40S ribosomal protein S12

Chain AM: 41% 72% 26%

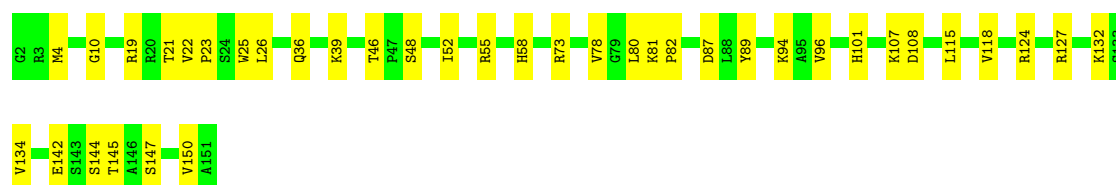
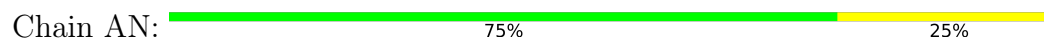




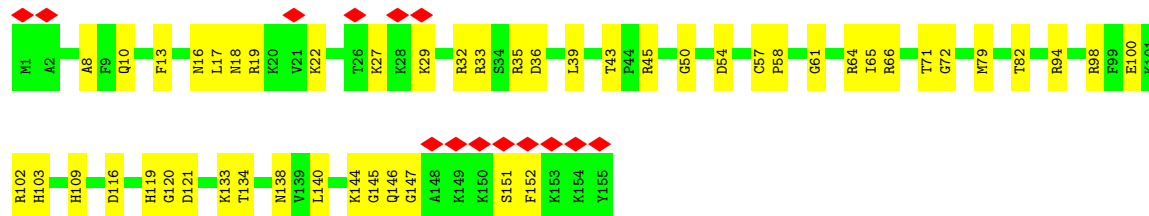
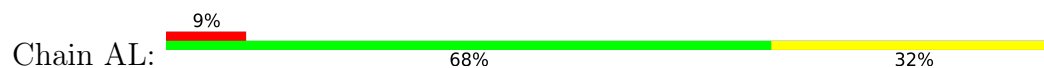
- Molecule 11: 40S ribosomal protein S29



- Molecule 12: 40S ribosomal protein S13



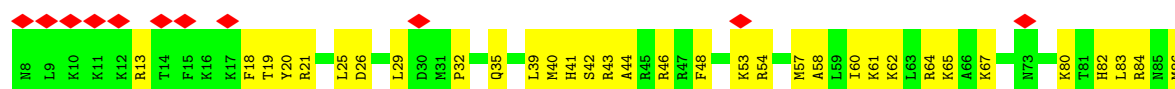
- Molecule 13: 40S ribosomal protein S11

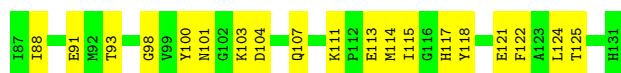


- Molecule 14: 40S ribosomal protein S17



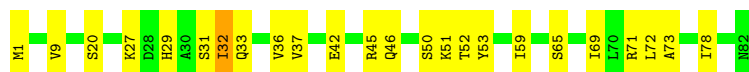
- Molecule 15: GEO07301p1





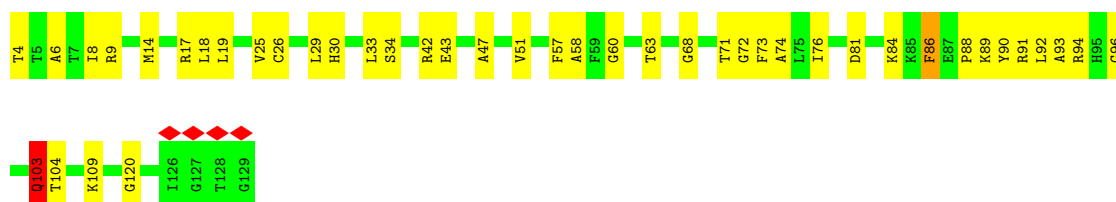
- Molecule 16: 40S ribosomal protein S21

Chain AV: 71% 28%



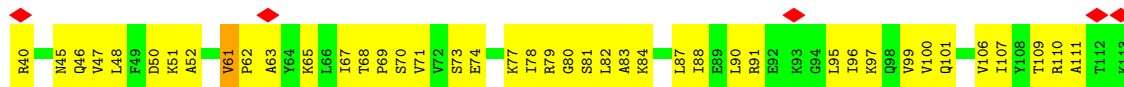
- Molecule 17: 40S ribosomal protein S24

Chain AY: 66% 33%



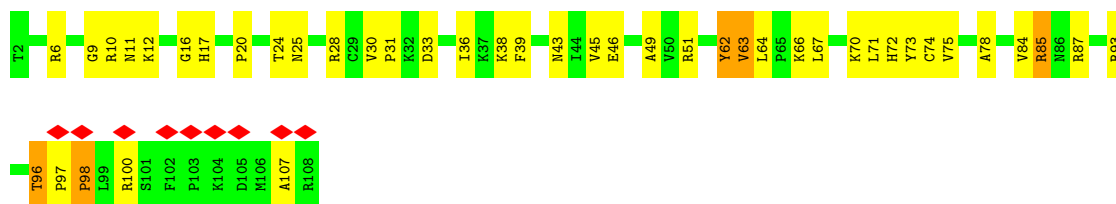
- Molecule 18: 40S ribosomal protein S25

Chain AZ: 7% 43% 55%



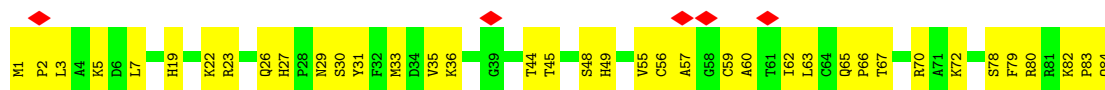
- Molecule 19: 40S ribosomal protein S26

Chain Aa: 8% 60% 36% 5%



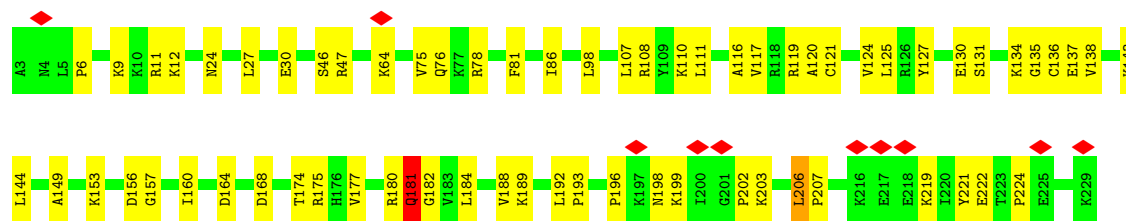
- Molecule 20: 40S ribosomal protein S27

Chain Ab: 6% 55% 45%

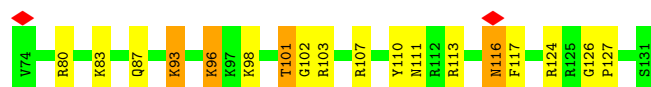


- Molecule 21: 40S ribosomal protein S3

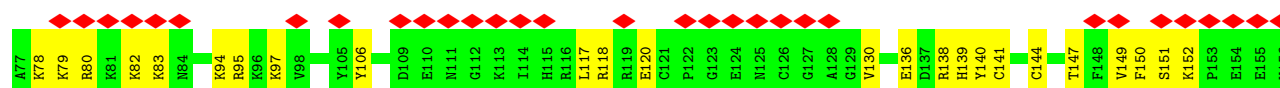
Chain AD: 71% 28%



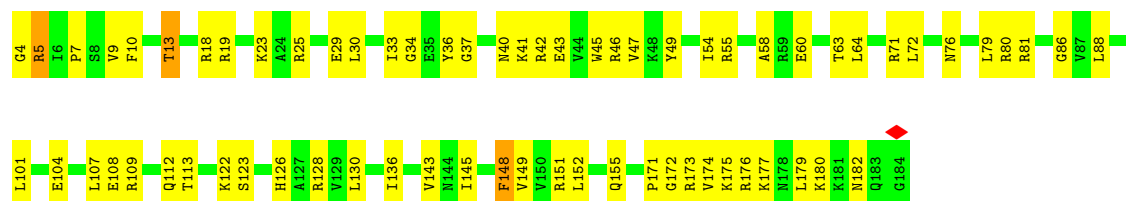
- Molecule 22: 40S ribosomal protein S30



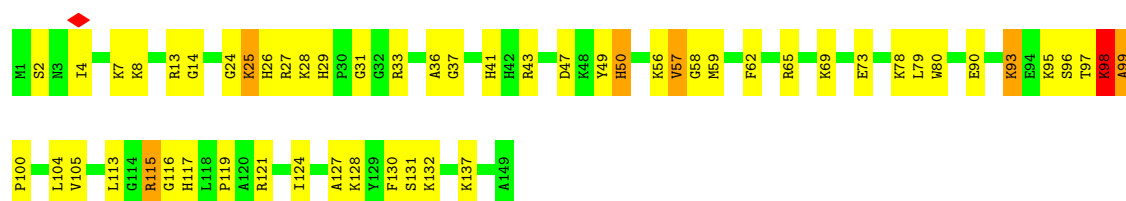
- Molecule 23: Ubiquitin-40S ribosomal protein S27a



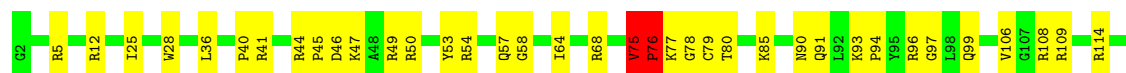
- Molecule 24: 40S ribosomal protein S9

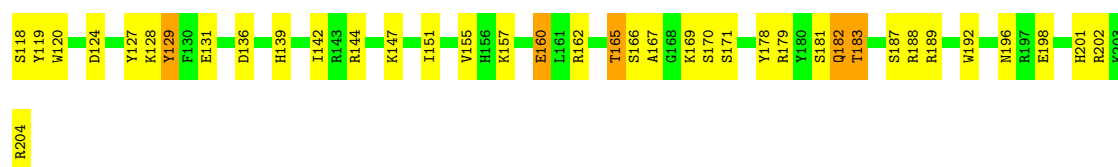


- Molecule 25: 60S ribosomal protein L27a

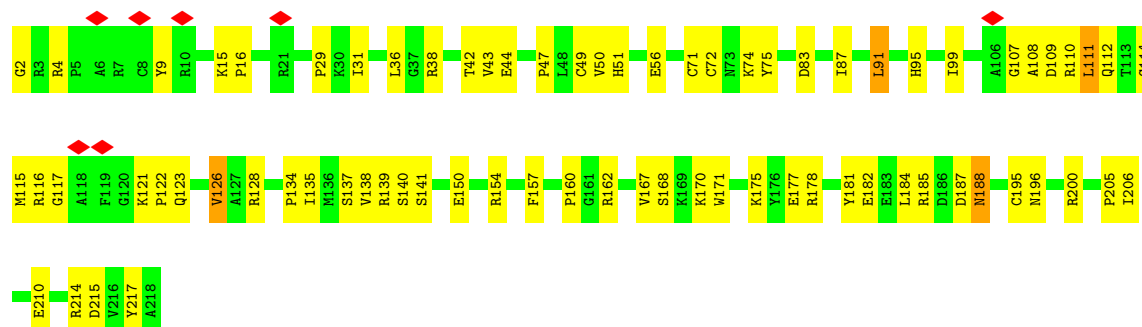


- Molecule 26: 60S ribosomal protein L15





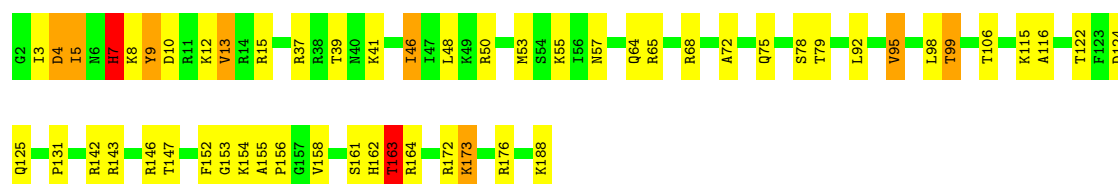
- Molecule 27: 60S ribosomal protein L10



- Molecule 28: 60S ribosomal protein L5

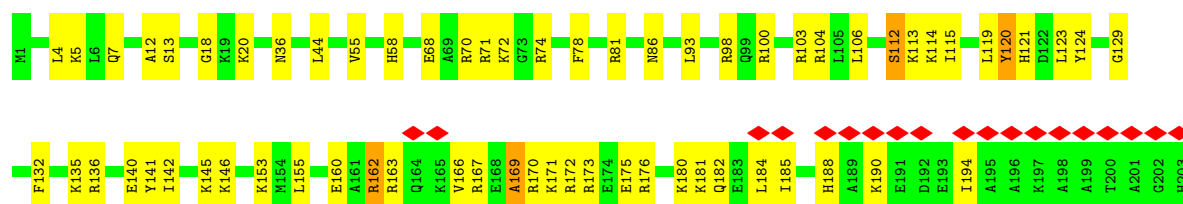


- Molecule 29: 60S ribosomal protein L18

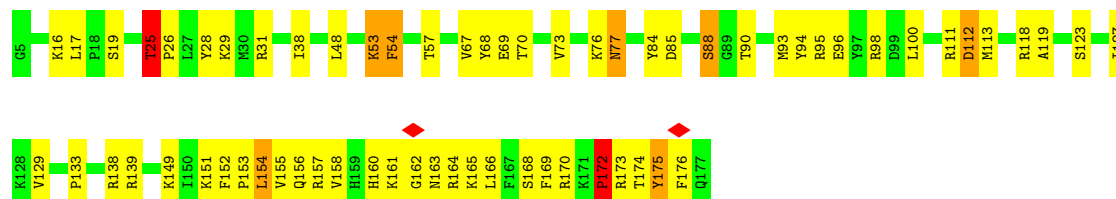


- Molecule 30: 60S ribosomal protein L19

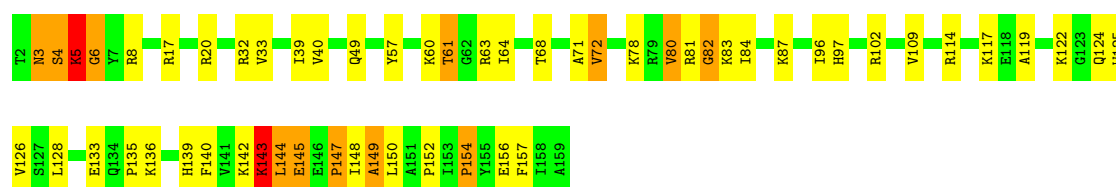




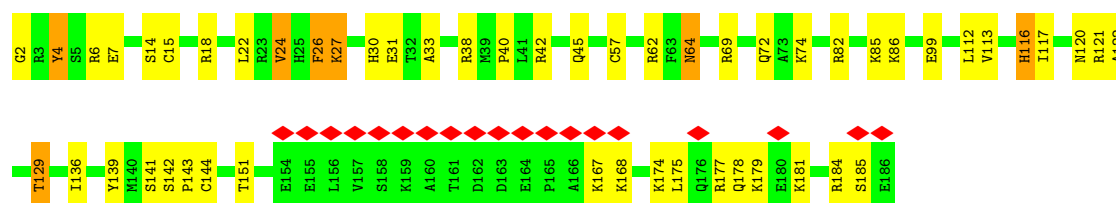
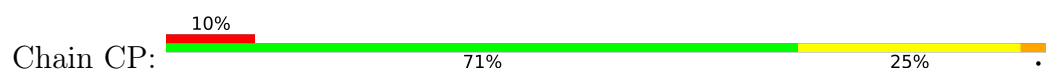
• Molecule 31: 60S ribosomal protein L18a



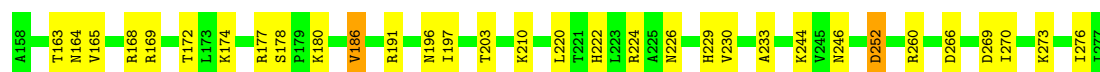
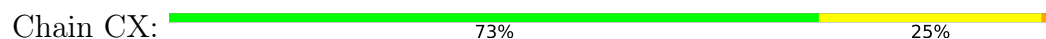
• Molecule 32: RE62581p



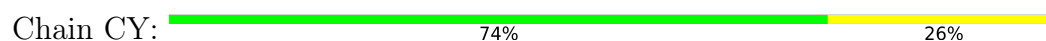
• Molecule 33: 60S ribosomal protein L17



• Molecule 34: IP17216p

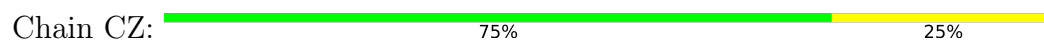


• Molecule 35: GEO07453p1

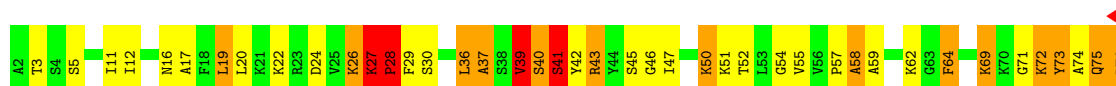




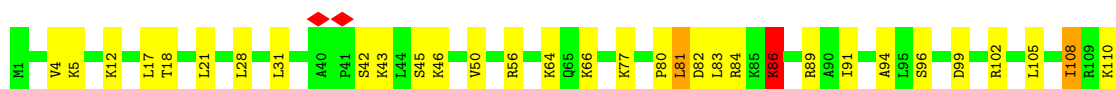
- Molecule 36: 60S ribosomal protein L27



- Molecule 37: 60S ribosomal protein L28



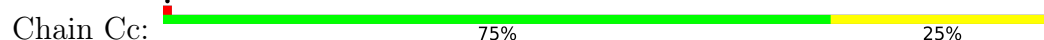
- Molecule 38: FI02809p



- Molecule 39: 60S ribosomal protein L29

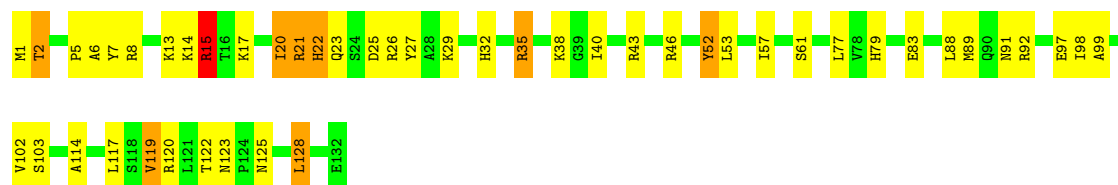


- Molecule 40: RE25263p

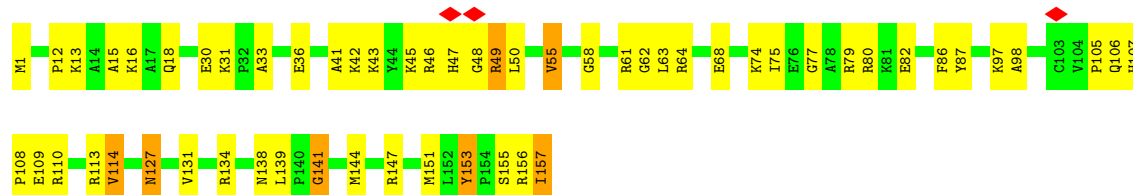


- Molecule 41: 60S ribosomal protein L32

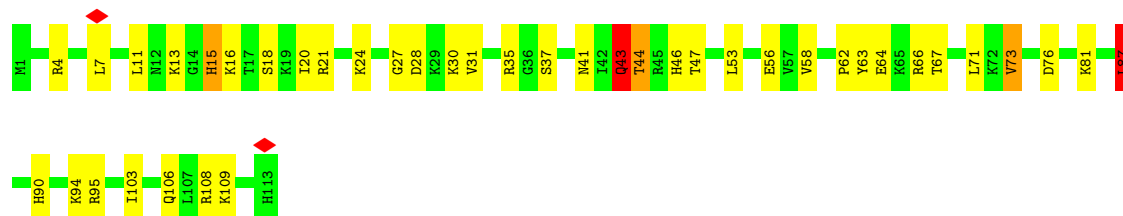




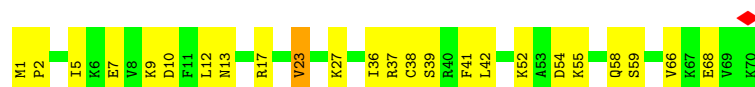
• Molecule 42: GEO07455p1



• Molecule 43: 60S ribosomal protein L36



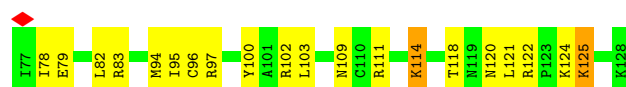
• Molecule 44: 60S ribosomal protein L38



• Molecule 45: 60S ribosomal protein L39

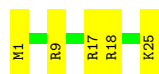


• Molecule 46: Ubiquitin-60S ribosomal protein L40



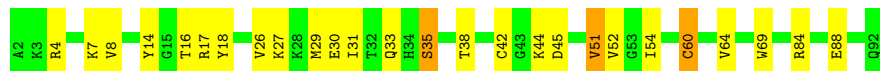
- Molecule 47: 60S ribosomal protein L41

Chain Cn:  80% 20%



- Molecule 48: 60S ribosomal protein L37a

Chain Cp:  71% 25% .



- Molecule 49: TA01007p

Chain Co:  73% 26% .



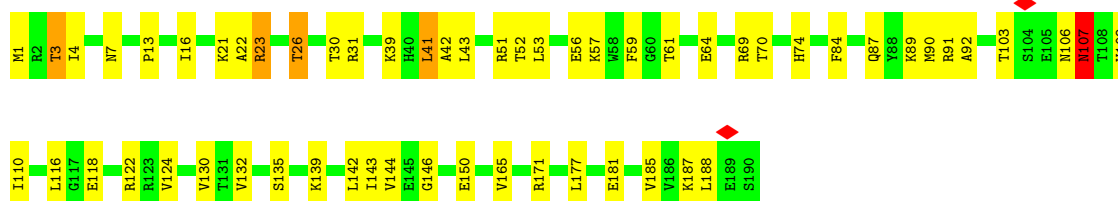
- Molecule 50: 60S ribosomal protein L11

Chain CJ:  74% 24% ..



- Molecule 51: 60S ribosomal protein L9

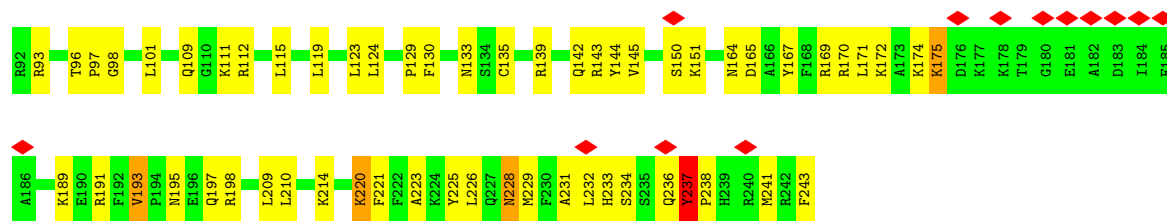
Chain CH:  69% 28% ..



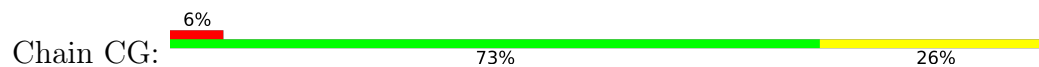
- Molecule 52: Ribosomal protein L6, isoform A

Chain CE:  6% 58% 38% .

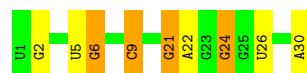




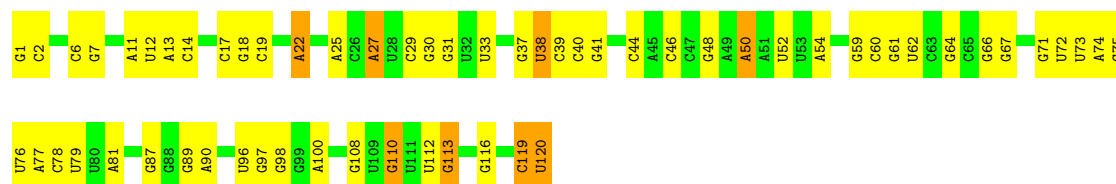
• Molecule 53: 60S ribosomal protein L7a



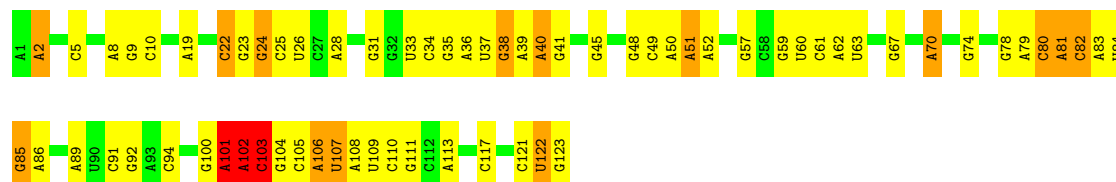
• Molecule 54: 2S ribosomal RNA



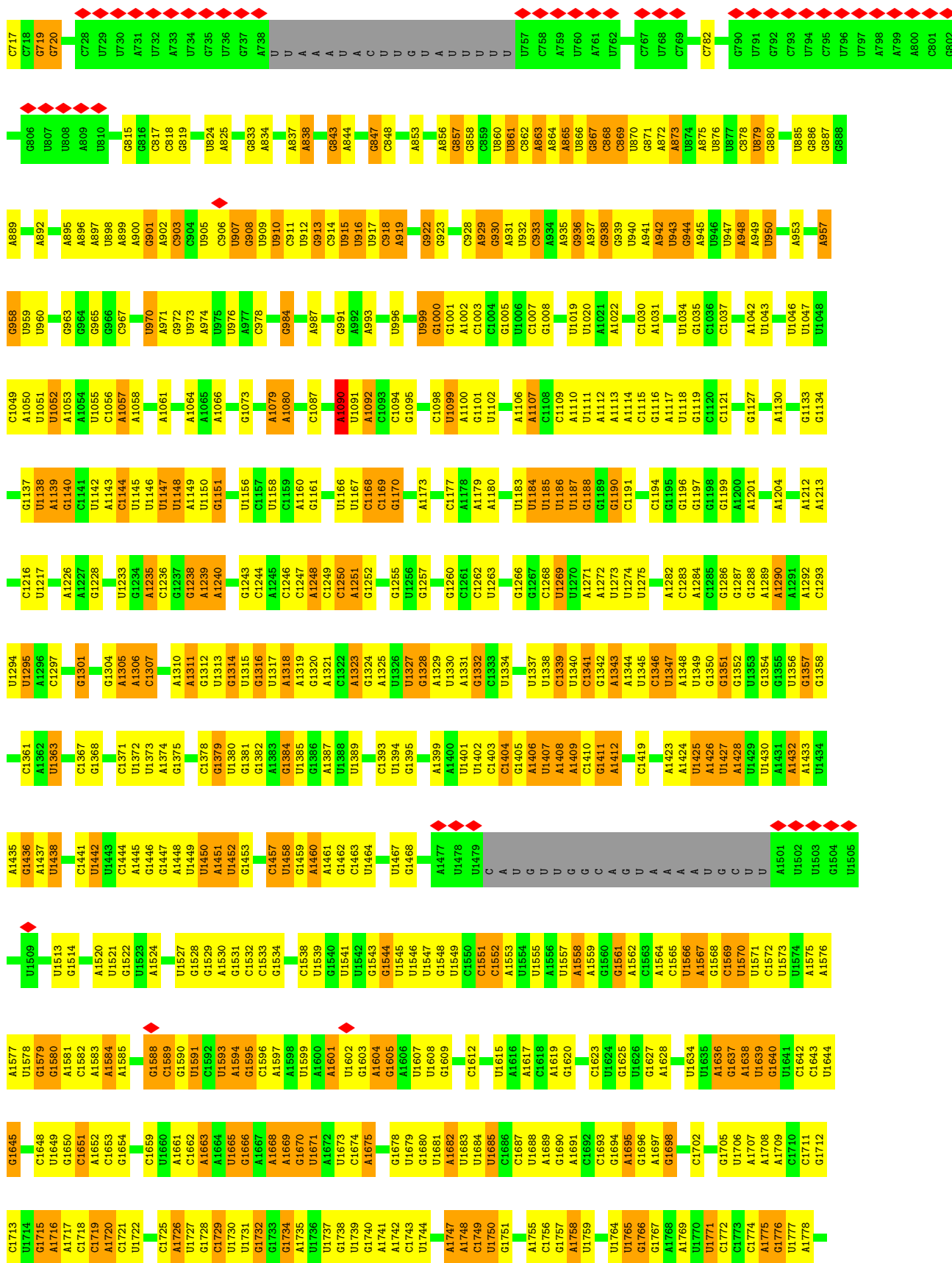
• Molecule 55: 5S ribosomal RNA



• Molecule 56: 5.8S ribosomal RNA

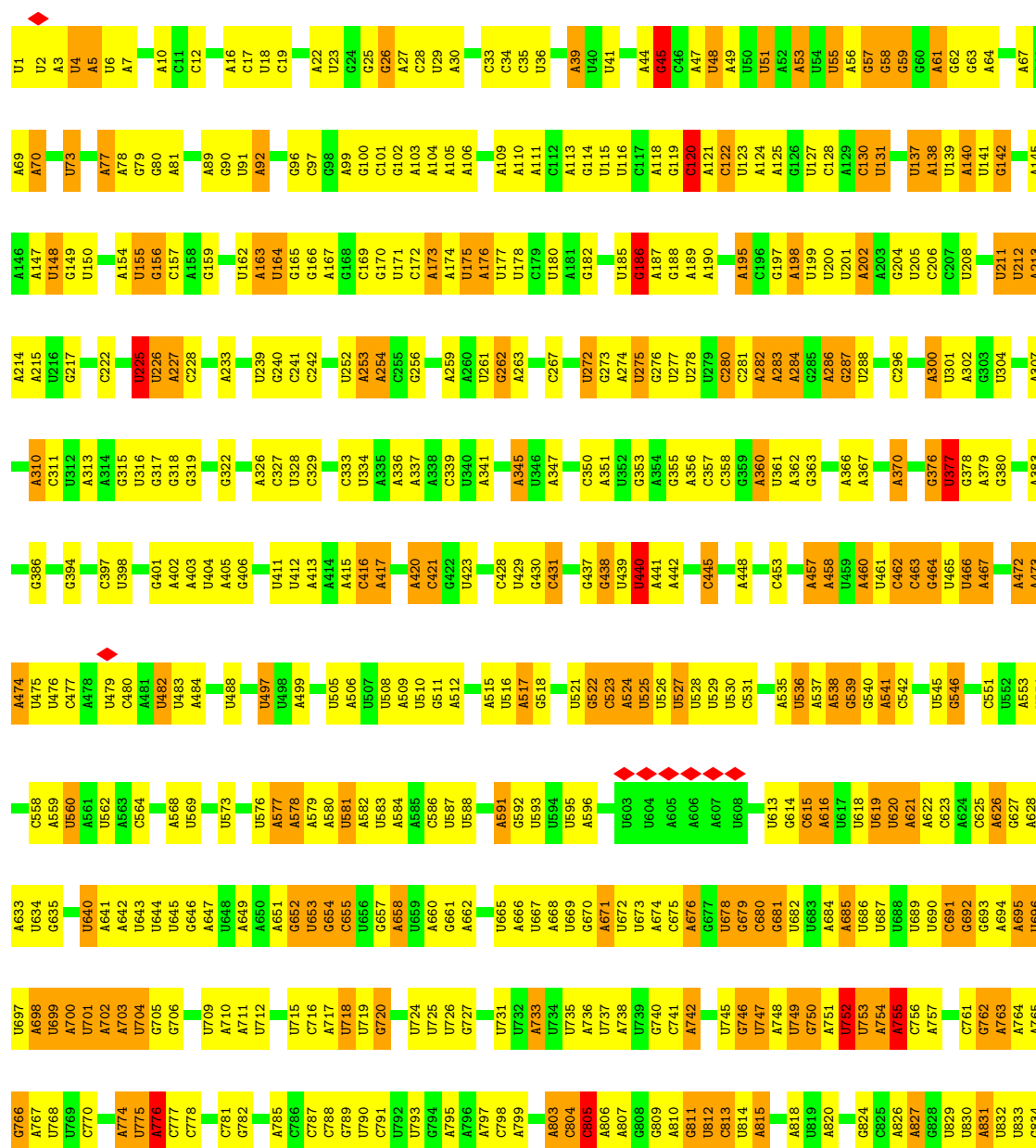


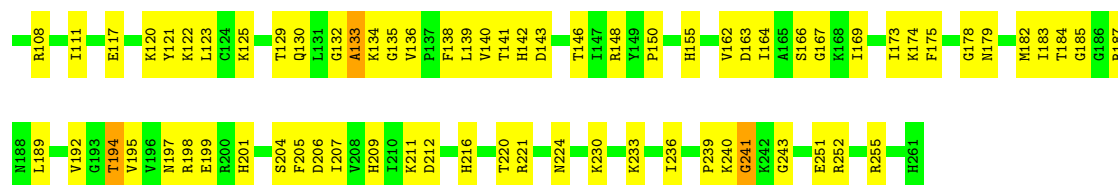
• Molecule 57: 60S ribosomal protein L10a-2





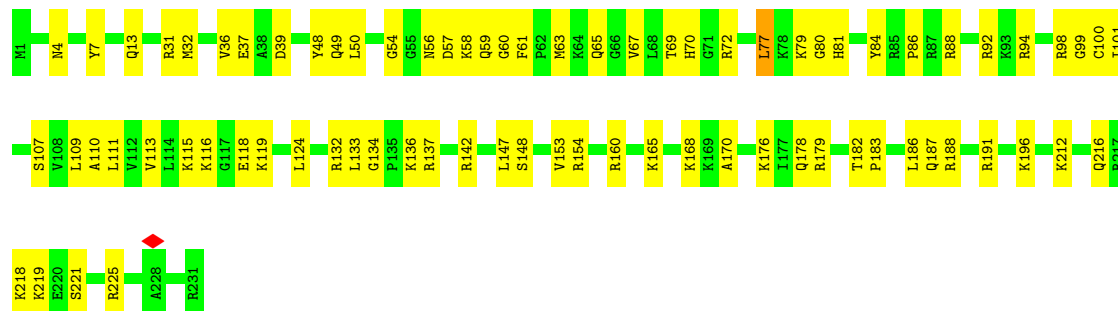
• Molecule 59: 28S ribosomal RNA





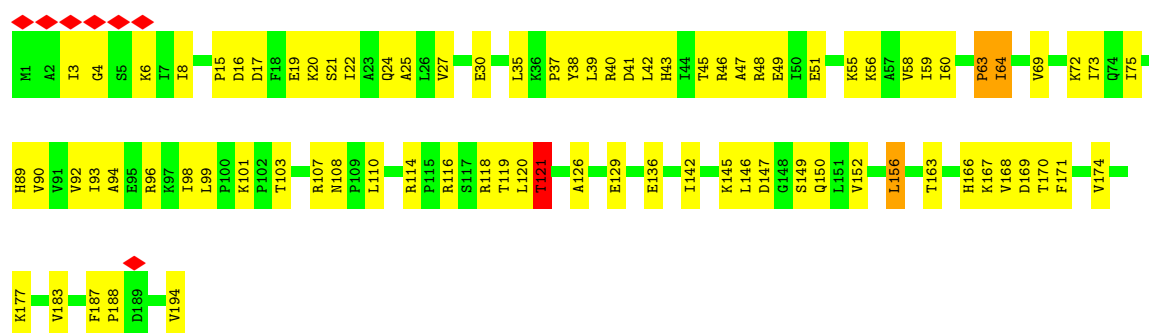
• Molecule 61: 40S ribosomal protein S6

Chain AG: 67% 33%



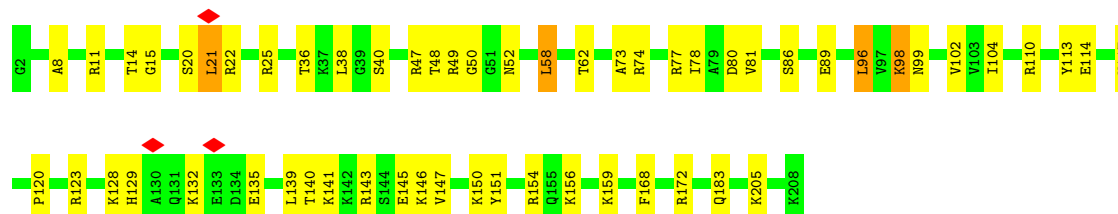
• Molecule 62: 40S ribosomal protein S7

Chain AH: 57% 41%



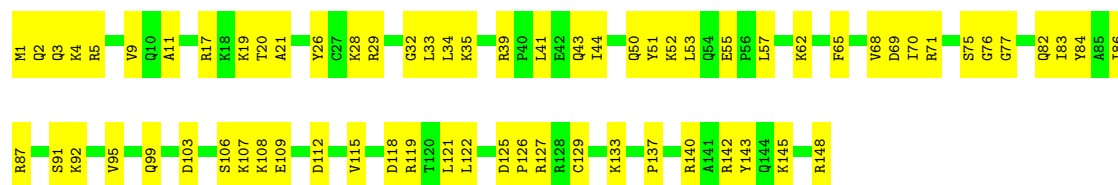
• Molecule 63: 40S ribosomal protein S8

Chain AI: 72% 26%

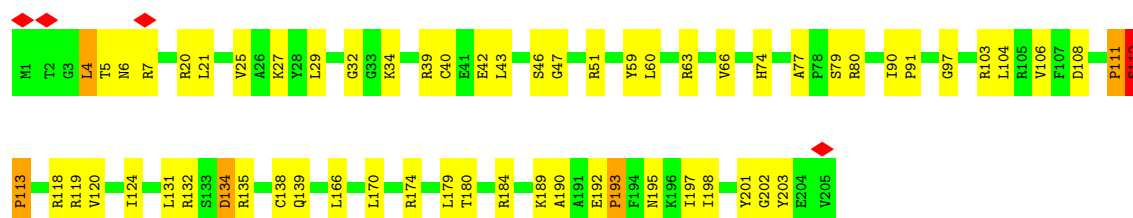


• Molecule 64: 40S ribosomal protein S16

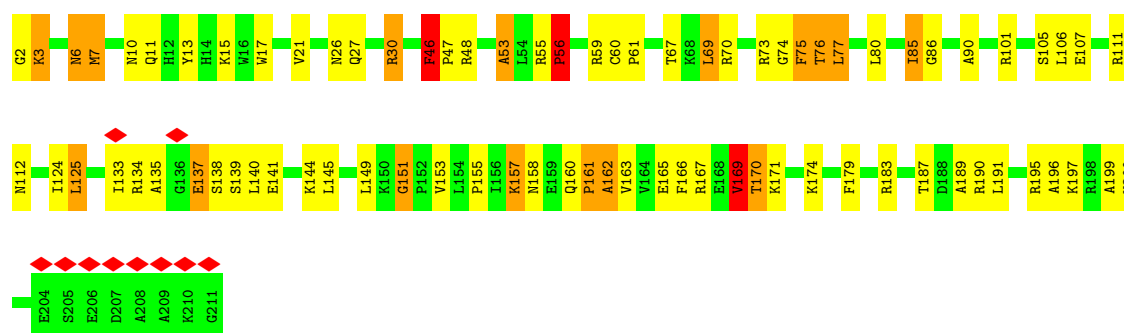
Chain AQ: 54% 46%



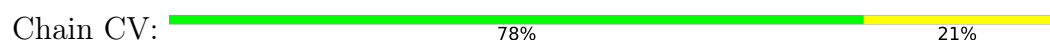
- Molecule 65: 60S ribosomal protein L13a



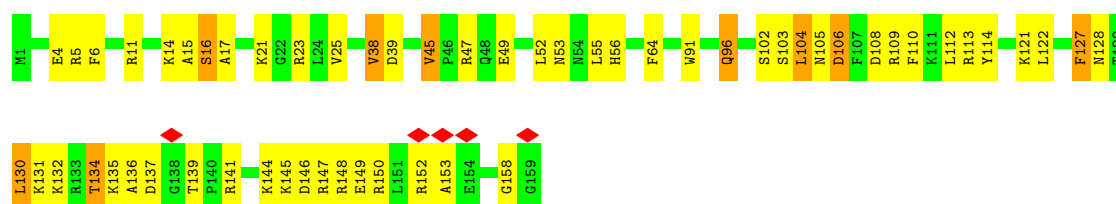
- Molecule 66: 60S ribosomal protein L13



- Molecule 67: 60S ribosomal protein L23

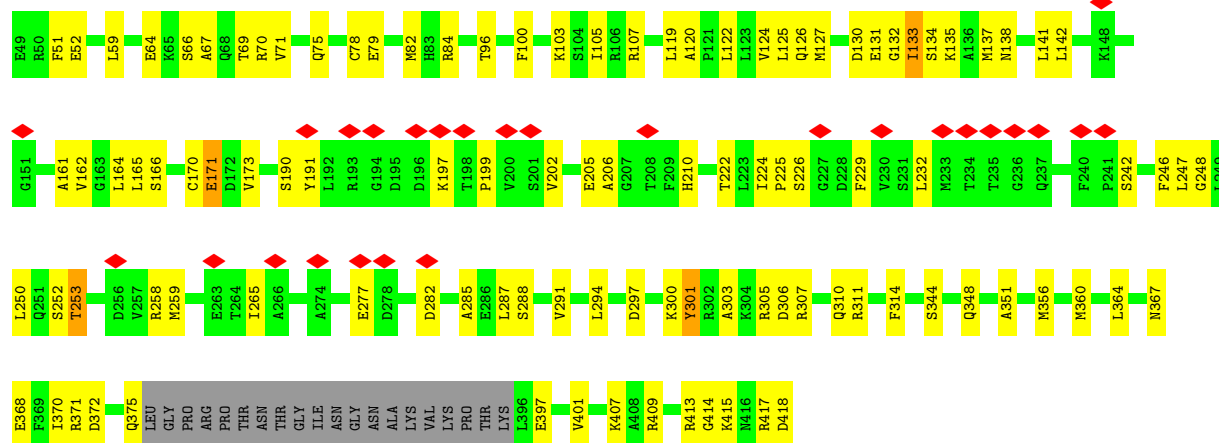


- Molecule 68: 60S ribosomal protein L14



- Molecule 69: LP04564p

Chain DA: 



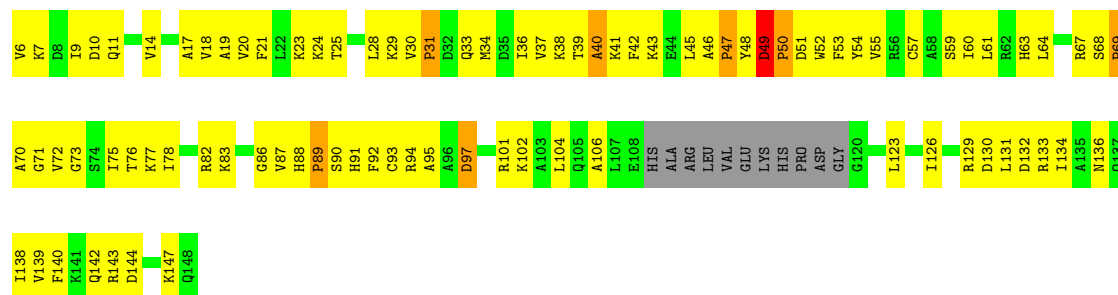
- Molecule 70: 40S ribosomal protein S10b

Chain AK: 



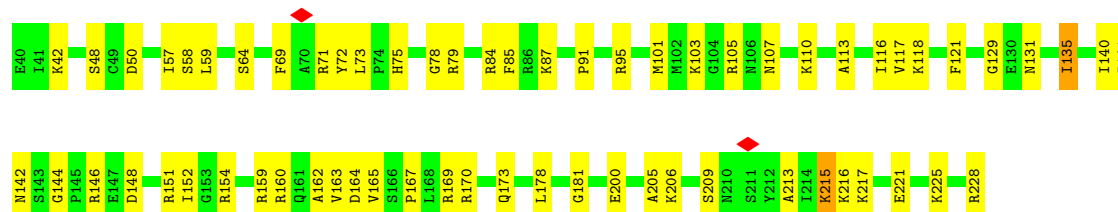
- Molecule 71: 40S ribosomal protein S19a

Chain AT: 



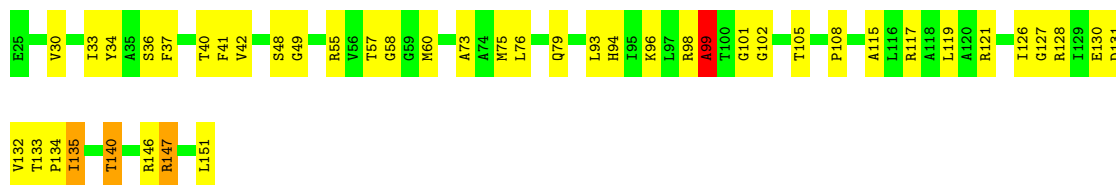
- Molecule 72: 40S ribosomal protein S5a

Chain AF: 



- Molecule 73: 40S ribosomal protein S14a

Chain AO:  65% 31% ..



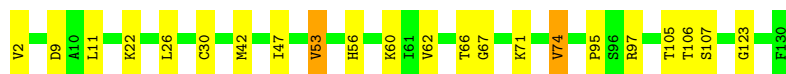
- Molecule 74: 40S ribosomal protein S28

Chain Ac:  55% 42% .



- Molecule 75: 40S ribosomal protein S15Aa

Chain AW:  83% 16% .



- Molecule 76: 60S ribosomal protein L24

Chain CW:  86% 10% ..



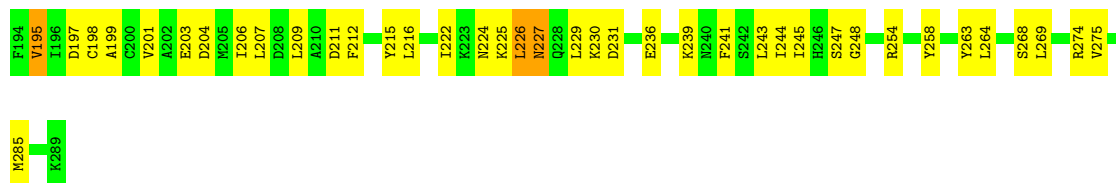
- Molecule 77: RH48056p

Chain Cg:  76% 22% .



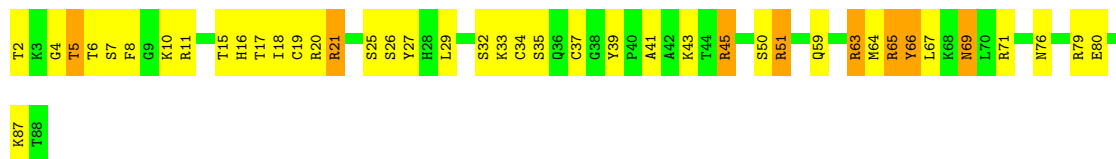
- Molecule 78: Ribosomal protein L22-like protein

Chain CU:  59% 38% .



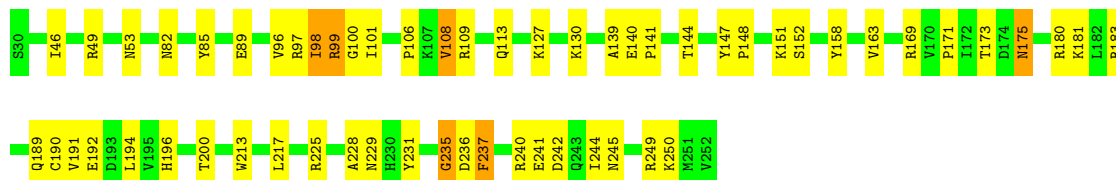
- Molecule 79: Probable 60S ribosomal protein L37-B

Chain Cj:  52% 39% 9%



- Molecule 80: 60S ribosomal protein L7

Chain CF:  74% 23% .



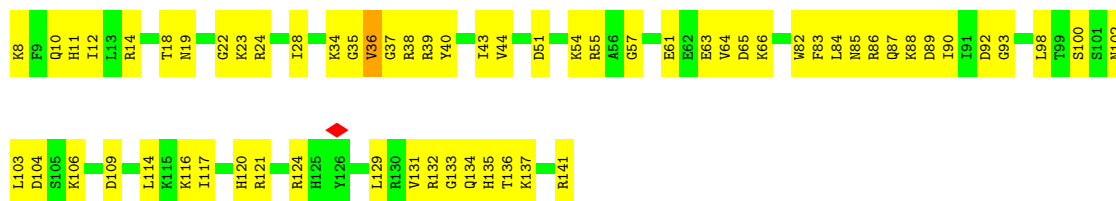
- Molecule 81: 60S ribosomal protein L31

Chain Cd:  55% 39% 6%



- Molecule 82: 40S ribosomal protein S18

Chain AS:  54% 46% .



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	46878	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	80	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON II (4k x 4k)	Depositor
Maximum map value	0.459	Depositor
Minimum map value	-0.223	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.014	Depositor
Recommended contour level	0.025	Depositor
Map size ($\text{\AA}$)	426.00003, 426.00003, 426.00003	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.065, 1.065, 1.065	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	AA	0.46	0/1777	0.75	1/2422 (0.0%)
2	CA	1.31	5/1970 (0.3%)	1.17	7/2635 (0.3%)
3	AB	0.52	0/1825	0.76	2/2448 (0.1%)
4	CB	1.20	4/3356 (0.1%)	1.15	11/4494 (0.2%)
5	AC	0.64	0/1785	0.81	2/2415 (0.1%)
6	CC	1.21	0/3163	1.15	14/4253 (0.3%)
7	Ag	0.26	0/2574	0.53	0/3506
8	AU	0.37	0/825	0.60	0/1111
9	AX	0.78	0/1152	0.95	0/1540
10	AM	0.28	0/937	0.79	3/1260 (0.2%)
11	Ad	0.46	0/443	0.82	0/589
12	AN	0.75	0/1225	0.79	2/1641 (0.1%)
13	AL	0.77	0/1296	0.88	1/1725 (0.1%)
14	AR	0.36	0/993	0.71	2/1333 (0.2%)
15	AP	0.32	0/1036	0.71	0/1383
16	AV	0.57	0/622	0.73	0/835
17	AY	0.42	0/1032	0.84	2/1373 (0.1%)
18	AZ	0.31	0/616	0.73	0/826
19	Aa	0.78	0/883	1.10	6/1184 (0.5%)
20	Ab	0.49	0/668	0.78	0/898
21	AD	0.35	0/1808	0.69	0/2427
22	Ae	0.43	0/475	0.96	4/625 (0.6%)
23	Af	0.27	0/672	0.78	2/887 (0.2%)
24	AJ	0.51	0/1526	0.82	2/2037 (0.1%)
25	Ca	1.37	1/1235 (0.1%)	1.27	13/1640 (0.8%)
26	CN	1.46	3/1750 (0.2%)	1.25	5/2335 (0.2%)
27	CI	0.65	0/1827	0.82	1/2447 (0.0%)
28	CD	0.68	0/2379	0.83	6/3196 (0.2%)
29	CQ	1.24	1/1544 (0.1%)	1.16	9/2069 (0.4%)
30	CR	0.99	1/1703 (0.1%)	0.92	2/2255 (0.1%)
31	CS	1.02	0/1491	1.13	2/1998 (0.1%)
32	CT	1.06	1/1326 (0.1%)	1.21	10/1773 (0.6%)
33	CP	1.30	2/1529 (0.1%)	1.11	4/2042 (0.2%)
34	CX	0.90	0/1001	0.96	3/1348 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	CY	0.99	0/1094	0.92	0/1456
36	CZ	0.72	0/1141	0.76	1/1517 (0.1%)
37	Cr	1.09	0/1069	1.36	12/1432 (0.8%)
38	Ch	0.84	0/1024	0.90	2/1353 (0.1%)
39	Cb	0.97	0/628	1.11	3/832 (0.4%)
40	Cc	0.89	0/779	0.76	0/1048
41	Ce	1.49	5/1132 (0.4%)	1.31	10/1508 (0.7%)
42	Cf	1.15	1/1270 (0.1%)	1.22	6/1696 (0.4%)
43	Ci	0.82	1/944 (0.1%)	1.12	7/1250 (0.6%)
44	Ck	0.69	0/583	0.86	1/774 (0.1%)
45	Cl	1.23	0/445	1.31	5/589 (0.8%)
46	Cm	0.70	0/435	0.92	2/575 (0.3%)
47	Cn	1.40	0/237	1.31	1/300 (0.3%)
48	Cp	1.29	0/719	1.04	0/954
49	Co	0.93	0/887	1.09	0/1162
50	CJ	0.51	0/1494	0.84	4/2001 (0.2%)
51	CH	0.79	0/1519	0.90	4/2042 (0.2%)
52	CE	0.76	1/1883 (0.1%)	1.11	11/2514 (0.4%)
53	CG	0.71	0/1968	0.85	2/2637 (0.1%)
54	A9	1.04	0/714	0.74	1/1112 (0.1%)
55	A7	1.00	0/2854	0.66	0/4447
56	A8	1.34	0/2932	0.99	11/4568 (0.2%)
57	Cz	0.25	0/1727	0.65	0/2308
58	B2	0.75	0/43887	0.63	5/68161 (0.0%)
59	A5	1.32	20/86239 (0.0%)	0.92	101/134149 (0.1%)
60	AE	0.54	0/2096	0.76	2/2819 (0.1%)
61	AG	0.37	0/1891	0.65	0/2519
62	AH	0.44	0/1593	0.76	3/2145 (0.1%)
63	AI	0.69	0/1689	0.88	2/2250 (0.1%)
64	AQ	0.36	0/1202	0.87	4/1608 (0.2%)
65	CO	1.21	0/1700	1.06	6/2277 (0.3%)
66	CL	1.02	1/1726 (0.1%)	1.30	15/2308 (0.6%)
67	CV	1.18	0/1014	1.00	2/1362 (0.1%)
68	CM	0.81	0/1326	1.01	6/1780 (0.3%)
69	DA	0.44	0/2800	0.76	4/3765 (0.1%)
70	AK	0.33	0/786	0.79	3/1064 (0.3%)
71	AT	0.38	0/1060	0.98	10/1421 (0.7%)
72	AF	0.43	1/1510 (0.1%)	0.78	2/2026 (0.1%)
73	AO	0.67	0/965	0.97	3/1295 (0.2%)
74	Ac	0.42	0/502	0.76	0/670
75	AW	0.80	0/1046	0.87	1/1402 (0.1%)
76	CW	1.12	0/495	1.02	0/658
77	Cg	1.23	0/855	1.04	2/1142 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
78	CU	0.53	0/828	0.82	0/1110
79	Cj	0.84	0/706	1.16	0/929
80	CF	1.24	1/1905 (0.1%)	1.07	4/2553 (0.2%)
81	Cd	0.41	0/914	0.54	0/1229
82	AS	0.23	0/1118	0.69	2/1498 (0.1%)
All	All	1.04	49/235775 (0.0%)	0.88	376/345165 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	AA	0	2
2	CA	0	3
3	AB	0	2
4	CB	0	11
5	AC	0	1
6	CC	0	11
9	AX	0	1
11	Ad	0	1
13	AL	0	2
17	AY	0	1
19	Aa	0	5
21	AD	0	2
22	Ae	0	3
24	AJ	0	2
25	Ca	0	4
26	CN	0	8
27	CI	0	4
28	CD	0	4
29	CQ	0	8
30	CR	0	5
31	CS	0	10
32	CT	0	11
33	CP	0	2
35	CY	0	3
36	CZ	0	1
37	Cr	0	20
38	Ch	0	4
39	Cb	0	4
40	Cc	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
41	Ce	0	5
42	Cf	0	5
43	Ci	0	6
44	Ck	0	1
46	Cm	0	2
48	Cp	0	2
49	Co	0	3
50	CJ	0	3
51	CH	0	2
52	CE	0	13
53	CG	0	4
59	A5	0	1
60	AE	0	3
61	AG	0	1
62	AH	0	4
63	AI	0	5
64	AQ	0	2
65	CO	0	6
66	CL	0	15
67	CV	0	1
68	CM	0	6
69	DA	0	2
71	AT	0	2
73	AO	0	6
74	Ac	0	1
75	AW	0	1
76	CW	0	2
77	Cg	0	1
78	CU	0	1
80	CF	0	2
81	Cd	0	1
All	All	0	245

All (49) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
59	A5	1382	U	O3'-P	7.72	1.72	1.61
72	AF	165	VAL	C-N	-6.98	1.23	1.33
26	CN	183	THR	CA-CB	-6.52	1.42	1.53
59	A5	1382	U	C3'-O3'	6.50	1.51	1.42
41	Ce	46	ARG	CB-CG	-6.21	1.33	1.52
66	CL	10	ASN	CA-CB	-6.18	1.45	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	Ce	52	TYR	CB-CG	-6.16	1.38	1.51
43	Ci	90	HIS	CA-C	-6.11	1.44	1.52
41	Ce	35	ARG	CG-CD	-6.03	1.34	1.52
4	CB	39	LYS	C-N	6.00	1.47	1.33
59	A5	1383	A	P-O5'	5.98	1.68	1.59
4	CB	319	GLY	C-N	-5.92	1.23	1.33
33	CP	38	ARG	C-N	-5.92	1.16	1.33
2	CA	196	TRP	CB-CG	-5.84	1.32	1.50
59	A5	811	G	C2-N3	-5.83	1.21	1.32
41	Ce	52	TYR	CD2-CE2	-5.82	1.21	1.38
59	A5	805	C	N1-C2	-5.80	1.28	1.40
59	A5	1383	A	O5'-C5'	5.78	1.51	1.42
30	CR	120	TYR	CB-CG	-5.77	1.39	1.51
26	CN	129	TYR	CB-CG	-5.73	1.39	1.51
59	A5	3728	A	C5-C6	-5.70	1.29	1.41
59	A5	1197	A	O3'-P	5.66	1.69	1.61
32	CT	4	SER	CA-C	5.59	1.55	1.52
59	A5	39	A	C2'-C1'	-5.53	1.45	1.53
59	A5	3403	G	C5-C4	-5.52	1.27	1.38
59	A5	1366	G	C5-C6	-5.50	1.31	1.42
59	A5	362	A	C5-C6	-5.49	1.30	1.41
2	CA	174	ARG	CB-CG	-5.47	1.36	1.52
59	A5	2516	U	N3-C4	-5.38	1.27	1.38
25	Ca	57	VAL	CB-CG1	-5.37	1.34	1.52
4	CB	320	PHE	C-N	-5.30	1.28	1.33
52	CE	220	LYS	CG-CD	-5.29	1.36	1.52
26	CN	106	VAL	CB-CG2	-5.29	1.35	1.52
2	CA	207	VAL	CB-CG2	-5.27	1.35	1.52
42	Cf	127	ASN	CB-CG	-5.24	1.39	1.52
29	CQ	3	ILE	CB-CG2	-5.22	1.35	1.52
2	CA	169	VAL	CB-CG1	-5.19	1.35	1.52
2	CA	199	VAL	CB-CG2	-5.17	1.35	1.52
59	A5	1126	A	N7-C5	-5.12	1.29	1.39
4	CB	259	PRO	CB-CG	-5.12	1.31	1.51
59	A5	2740	C	N1-C2	-5.08	1.29	1.40
59	A5	1680	U	P-OP1	-5.07	1.38	1.49
59	A5	2734	A	C5-C6	-5.06	1.30	1.41
33	CP	136	ILE	C-N	-5.06	1.24	1.32
59	A5	45	G	P-OP2	-5.04	1.38	1.49
41	Ce	46	ARG	CG-CD	-5.04	1.37	1.52
80	CF	108	VAL	CB-CG1	-5.02	1.35	1.52
59	A5	1676	A	N9-C8	-5.01	1.27	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
59	A5	1734	G	C5-C6	-5.01	1.32	1.42

All (376) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
56	A8	100	G	OP2-P-O3'	-13.81	66.58	108.00
52	CE	237	TYR	N-CA-C	11.07	127.63	109.58
32	CT	144	LEU	CA-C-N	10.20	140.05	121.70
32	CT	144	LEU	C-N-CA	10.20	140.05	121.70
44	Ck	59	SER	N-CA-C	9.80	124.51	111.28
26	CN	183	THR	N-CA-C	9.46	127.47	107.70
71	AT	47	PRO	CA-N-CD	-9.33	98.94	112.00
71	AT	31	PRO	CA-N-CD	-8.89	99.55	112.00
71	AT	69	PRO	CA-N-CD	-8.88	99.57	112.00
71	AT	50	PRO	CA-N-CD	-8.87	99.59	112.00
4	CB	324	GLY	N-CA-C	8.85	121.61	110.29
59	A5	1712	C	C4'-C3'-O3'	8.82	126.23	113.00
59	A5	839	A	P-O3'-C3'	8.71	133.27	120.20
25	Ca	47	ASP	CA-C-N	8.66	137.29	121.70
25	Ca	47	ASP	C-N-CA	8.66	137.29	121.70
2	CA	195	SER	CA-C-N	8.54	142.63	121.80
2	CA	195	SER	C-N-CA	8.54	142.63	121.80
25	Ca	98	LYS	CA-C-N	8.51	137.02	121.70
25	Ca	98	LYS	C-N-CA	8.51	137.02	121.70
64	AQ	129	CYS	CA-C-N	8.50	135.09	121.83
64	AQ	129	CYS	C-N-CA	8.50	135.09	121.83
22	Ae	116	ASN	CA-C-N	8.33	136.69	121.70
22	Ae	116	ASN	C-N-CA	8.33	136.69	121.70
56	A8	101	A	O5'-P-OP2	8.31	132.93	108.00
70	AK	54	GLY	CA-C-N	8.31	136.65	121.70
70	AK	54	GLY	C-N-CA	8.31	136.65	121.70
59	A5	3591	A	P-O3'-C3'	8.30	132.65	120.20
56	A8	106	A	O3'-P-O5'	8.28	116.42	104.00
71	AT	89	PRO	CA-N-CD	-8.23	99.97	111.50
29	CQ	152	PHE	CA-C-N	8.12	136.33	121.70
29	CQ	152	PHE	C-N-CA	8.12	136.33	121.70
24	AJ	5	ARG	CA-C-N	8.12	136.32	121.70
24	AJ	5	ARG	C-N-CA	8.12	136.32	121.70
19	Aa	63	VAL	CA-C-N	8.01	132.85	120.60
19	Aa	63	VAL	C-N-CA	8.01	132.85	120.60
73	AO	99	ALA	CA-C-N	7.78	135.70	121.70
73	AO	99	ALA	C-N-CA	7.78	135.70	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	CC	195	GLY	CA-C-N	7.74	135.63	121.70
6	CC	195	GLY	C-N-CA	7.74	135.63	121.70
19	Aa	9	GLY	N-CA-C	-7.58	103.31	110.21
32	CT	149	ALA	CA-C-N	7.58	135.34	121.70
32	CT	149	ALA	C-N-CA	7.58	135.34	121.70
59	A5	774	A	OP1-P-O3'	-7.56	85.32	108.00
59	A5	1383	A	C4'-C3'-O3'	7.37	124.05	113.00
59	A5	1367	A	P-O3'-C3'	7.35	131.22	120.20
28	CD	188	LYS	CA-C-N	7.34	134.91	121.70
28	CD	188	LYS	C-N-CA	7.34	134.91	121.70
69	DA	401	VAL	N-CA-C	-7.32	105.64	112.96
59	A5	3677	U	O5'-C5'-C4'	7.30	122.65	111.70
67	CV	68	GLY	CA-C-N	7.23	144.47	121.98
67	CV	68	GLY	C-N-CA	7.23	144.47	121.98
6	CC	364	GLU	CA-C-N	7.11	134.50	121.70
6	CC	364	GLU	C-N-CA	7.11	134.50	121.70
59	A5	2750	A	C2'-C3'-O3'	7.08	120.13	109.50
10	AM	39	VAL	CA-C-N	7.03	134.36	121.70
10	AM	39	VAL	C-N-CA	7.03	134.36	121.70
59	A5	1382	U	C4'-C3'-O3'	7.03	123.54	113.00
39	Cb	38	LYS	CA-C-N	7.01	134.32	121.70
39	Cb	38	LYS	C-N-CA	7.01	134.32	121.70
59	A5	1801	U	O4'-C1'-N1	7.00	119.00	108.50
26	CN	183	THR	CB-CA-C	-6.99	100.40	111.17
59	A5	1689	G	N9-C1'-C2'	6.97	122.45	112.00
59	A5	3591	A	C4'-C3'-O3'	6.96	119.84	109.40
34	CX	186	VAL	CA-C-N	6.93	143.63	127.00
34	CX	186	VAL	C-N-CA	6.93	143.63	127.00
2	CA	196	TRP	CA-CB-CG	6.92	126.75	113.60
26	CN	76	PRO	CA-C-N	6.91	134.74	121.54
26	CN	76	PRO	C-N-CA	6.91	134.74	121.54
66	CL	74	GLY	N-CA-C	6.91	129.55	113.18
51	CH	106	ASN	CA-C-N	6.88	134.09	121.70
51	CH	106	ASN	C-N-CA	6.88	134.09	121.70
56	A8	103	C	O4'-C1'-N1	6.82	118.73	108.50
59	A5	809	G	OP2-P-O3'	6.81	128.43	108.00
30	CR	129	GLY	N-CA-C	-6.79	97.08	113.18
4	CB	234	ARG	NE-CZ-NH2	6.77	125.30	119.20
59	A5	755	A	O4'-C1'-N9	6.77	118.65	108.50
41	Ce	128	LEU	CA-C-N	6.75	133.84	121.70
41	Ce	128	LEU	C-N-CA	6.75	133.84	121.70
59	A5	3473	C	OP1-P-OP2	-6.68	99.54	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
43	Ci	31	VAL	CA-C-N	6.67	133.71	121.70
43	Ci	31	VAL	C-N-CA	6.67	133.71	121.70
59	A5	2750	A	P-O3'-C3'	6.67	130.20	120.20
31	CS	54	PHE	N-CA-C	6.67	118.71	110.91
59	A5	3677	U	N1-C1'-C2'	6.66	124.00	114.00
41	Ce	53	LEU	CA-C-N	6.66	135.06	121.48
41	Ce	53	LEU	C-N-CA	6.66	135.06	121.48
37	Cr	26	LYS	N-CA-C	6.66	124.98	110.80
59	A5	3351	A	O5'-P-OP2	-6.65	88.06	108.00
69	DA	301	TYR	CA-CB-CG	6.61	125.80	113.90
59	A5	1108	G	C4-N9-C1'	6.58	146.25	126.50
1	AA	199	VAL	N-CA-C	-6.55	106.08	111.91
32	CT	143	LYS	CA-C-N	6.51	133.98	121.54
32	CT	143	LYS	C-N-CA	6.51	133.98	121.54
6	CC	72	THR	CA-C-N	6.51	133.41	121.70
6	CC	72	THR	C-N-CA	6.51	133.41	121.70
37	Cr	58	ALA	CA-C-N	6.50	133.41	121.70
37	Cr	58	ALA	C-N-CA	6.50	133.41	121.70
59	A5	1382	U	O3'-P-O5'	6.46	113.68	104.00
42	Cf	16	LYS	CA-C-N	6.44	133.30	121.70
42	Cf	16	LYS	C-N-CA	6.44	133.30	121.70
43	Ci	73	VAL	N-CA-C	-6.44	107.59	113.71
59	A5	58	G	C5'-C4'-O4'	-6.43	100.15	109.80
59	A5	3676	C	O3'-P-O5'	6.43	113.65	104.00
5	AC	39	ASP	CA-C-N	6.43	133.28	121.70
5	AC	39	ASP	C-N-CA	6.43	133.28	121.70
39	Cb	39	PHE	N-CA-C	6.40	128.91	111.00
59	A5	3627	C	C4'-C3'-O3'	6.38	118.98	109.40
45	Cl	47	THR	CA-C-N	-6.38	109.36	121.54
45	Cl	47	THR	C-N-CA	-6.38	109.36	121.54
56	A8	103	C	N1-C1'-C2'	6.36	121.54	112.00
45	Cl	2	ALA	CA-C-N	6.36	133.68	121.54
45	Cl	2	ALA	C-N-CA	6.36	133.68	121.54
52	CE	65	SER	CA-C-N	6.36	133.14	121.70
52	CE	65	SER	C-N-CA	6.36	133.14	121.70
32	CT	144	LEU	N-CA-C	6.29	124.20	110.80
59	A5	1718	G	C2'-C3'-O3'	6.27	123.11	113.70
6	CC	78	ARG	CB-CG-CD	-6.27	96.87	111.30
66	CL	163	VAL	CA-C-N	6.27	132.99	121.70
66	CL	163	VAL	C-N-CA	6.27	132.99	121.70
33	CP	27	LYS	CA-CB-CG	6.27	126.64	114.10
68	CM	153	ALA	CA-C-N	6.27	132.98	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
68	CM	153	ALA	C-N-CA	6.27	132.98	121.70
46	Cm	78	ILE	CA-C-N	6.25	129.08	120.39
46	Cm	78	ILE	C-N-CA	6.25	129.08	120.39
59	A5	1383	A	P-O5'-C5'	6.25	130.28	120.90
59	A5	3594	A	O5'-P-OP1	-6.25	89.24	108.00
33	CP	4	TYR	CA-C-O	-6.23	111.60	120.51
37	Cr	82	VAL	CA-C-N	6.22	133.66	122.46
37	Cr	82	VAL	C-N-CA	6.22	133.66	122.46
59	A5	3418	U	N1-C1'-C2'	6.22	121.34	112.00
64	AQ	3	GLN	CA-C-N	6.22	132.89	121.70
64	AQ	3	GLN	C-N-CA	6.22	132.89	121.70
59	A5	3676	C	C4'-C3'-O3'	6.21	122.31	113.00
59	A5	1332	C	O5'-P-OP2	-6.20	89.40	108.00
43	Ci	43	GLN	CA-C-N	6.20	133.38	121.54
43	Ci	43	GLN	C-N-CA	6.20	133.38	121.54
58	B2	1949	A	P-O3'-C3'	6.18	129.47	120.20
56	A8	102	A	O5'-P-OP2	-6.18	89.46	108.00
56	A8	107	U	O5'-C5'-C4'	6.18	120.77	111.50
17	AY	103	GLN	CA-C-N	6.16	132.80	121.70
17	AY	103	GLN	C-N-CA	6.16	132.80	121.70
33	CP	136	ILE	CG1-CB-CG2	-6.16	92.22	110.70
34	CX	186	VAL	C-N-CD	-6.16	107.05	120.60
23	Af	151	SER	CA-C-N	6.14	132.75	121.70
23	Af	151	SER	C-N-CA	6.14	132.75	121.70
59	A5	2782	A	O4'-C1'-N9	6.09	117.64	108.50
59	A5	774	A	OP2-P-O3'	6.08	126.24	108.00
53	CG	41	PRO	CA-C-N	6.07	132.63	121.70
53	CG	41	PRO	C-N-CA	6.07	132.63	121.70
59	A5	3472	A	P-O3'-C3'	6.05	129.27	120.20
59	A5	2492	A	C2'-C3'-O3'	6.04	122.76	113.70
6	CC	314	ARG	CA-C-N	6.00	130.88	122.36
6	CC	314	ARG	C-N-CA	6.00	130.88	122.36
59	A5	1382	U	C5'-C4'-O4'	-5.99	100.82	109.80
66	CL	161	PRO	N-CA-C	5.98	124.80	112.47
71	AT	94	ARG	CA-C-N	5.98	132.96	121.54
71	AT	94	ARG	C-N-CA	5.98	132.96	121.54
73	AO	140	THR	N-CA-C	5.97	118.03	108.41
77	Cg	3	GLN	CA-C-N	-5.96	112.81	122.82
77	Cg	3	GLN	C-N-CA	-5.96	112.81	122.82
59	A5	1688	A	O3'-P-O5'	5.95	112.93	104.00
80	CF	237	PHE	N-CA-C	5.95	123.47	110.80
59	A5	3808	A	P-O3'-C3'	5.92	129.08	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
59	A5	300	A	C2'-C3'-O3'	5.91	122.56	113.70
80	CF	98	ILE	N-CA-C	-5.89	107.76	113.53
29	CQ	116	ALA	CA-C-N	5.89	132.29	121.70
29	CQ	116	ALA	C-N-CA	5.89	132.29	121.70
2	CA	174	ARG	CG-CD-NE	-5.87	99.09	112.00
29	CQ	173	LYS	CA-CB-CG	5.87	125.84	114.10
69	DA	190	SER	CA-C-N	5.86	132.74	121.54
69	DA	190	SER	C-N-CA	5.86	132.74	121.54
42	Cf	153	TYR	CA-C-N	5.86	141.06	127.00
42	Cf	153	TYR	C-N-CA	5.86	141.06	127.00
4	CB	254	ILE	CA-CB-CG2	5.86	120.45	110.50
33	CP	26	PHE	CA-CB-CG	5.84	119.64	113.80
19	Aa	107	ALA	CA-C-N	5.84	132.21	121.70
19	Aa	107	ALA	C-N-CA	5.84	132.21	121.70
32	CT	82	GLY	N-CA-C	-5.83	96.40	113.30
65	CO	113	PRO	N-CA-C	5.83	124.48	112.47
59	A5	58	G	C3'-C2'-O2'	5.82	119.44	110.70
62	AH	63	PRO	CA-C-N	5.80	132.87	122.13
62	AH	63	PRO	C-N-CA	5.80	132.87	122.13
56	A8	102	A	O3'-P-O5'	5.80	112.70	104.00
2	CA	230	SER	N-CA-C	5.78	117.67	110.91
59	A5	3485	U	N1-C1'-C2'	5.78	122.67	114.00
59	A5	120	C	O4'-C1'-N1	5.77	116.85	108.20
59	A5	3844	U	O4'-C1'-N1	5.77	116.85	108.20
28	CD	267	ARG	CA-C-N	5.75	132.06	121.70
28	CD	267	ARG	C-N-CA	5.75	132.06	121.70
37	Cr	36	LEU	CA-CB-CG	5.75	136.42	116.30
59	A5	1801	U	C4'-C3'-O3'	5.72	121.58	113.00
82	AS	89	ASP	CA-C-N	5.71	131.98	121.70
82	AS	89	ASP	C-N-CA	5.71	131.98	121.70
58	B2	1956	U	C2'-C3'-O3'	5.71	118.06	109.50
59	A5	776	A	OP2-P-O3'	-5.71	90.87	108.00
4	CB	129	ALA	CA-C-N	5.71	131.98	121.70
4	CB	129	ALA	C-N-CA	5.71	131.98	121.70
25	Ca	93	LYS	CA-C-N	5.71	131.97	121.70
25	Ca	93	LYS	C-N-CA	5.71	131.97	121.70
29	CQ	7	HIS	CA-C-N	5.71	132.44	121.54
29	CQ	7	HIS	C-N-CA	5.71	132.44	121.54
25	Ca	116	GLY	N-CA-C	5.70	126.70	113.18
10	AM	61	GLU	N-CA-C	-5.70	107.33	114.56
13	AL	134	THR	N-CA-C	-5.69	105.61	113.18
59	A5	26	G	O4'-C1'-N9	5.68	116.73	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
59	A5	1382	U	C5'-C4'-C3'	5.68	124.53	116.00
59	A5	1723	G	OP2-P-O3'	-5.68	90.97	108.00
56	A8	103	C	P-O5'-C5'	5.67	129.40	120.90
66	CL	169	VAL	CA-C-N	5.66	131.89	121.70
66	CL	169	VAL	C-N-CA	5.66	131.89	121.70
27	CI	107	GLY	N-CA-C	5.66	126.59	113.18
59	A5	440	U	C4'-C3'-O3'	5.65	121.48	113.00
59	A5	1197	A	C4'-C3'-O3'	5.65	117.88	109.40
66	CL	162	ALA	CA-C-N	5.65	131.87	121.70
66	CL	162	ALA	C-N-CA	5.65	131.87	121.70
50	CJ	102	GLU	CA-C-N	5.63	131.83	121.70
50	CJ	102	GLU	C-N-CA	5.63	131.83	121.70
59	A5	58	G	O4'-C1'-N9	5.62	116.94	108.50
75	AW	30	CYS	N-CA-C	5.62	117.49	110.91
12	AN	58	HIS	CA-C-N	5.61	131.79	121.70
12	AN	58	HIS	C-N-CA	5.61	131.79	121.70
37	Cr	41	SER	CA-C-N	5.60	132.24	121.54
37	Cr	41	SER	C-N-CA	5.60	132.24	121.54
59	A5	804	C	OP1-P-O3'	-5.59	91.22	108.00
58	B2	1090	A	N9-C1'-C2'	5.59	122.39	114.00
59	A5	640	U	C2'-C3'-O3'	5.59	117.89	109.50
58	B2	1849	U	P-O3'-C3'	5.58	128.57	120.20
59	A5	752	U	OP1-P-O3'	5.58	124.73	108.00
59	A5	1383	A	C5'-C4'-C3'	5.57	124.36	116.00
66	CL	135	ALA	CA-C-N	5.57	131.73	121.70
66	CL	135	ALA	C-N-CA	5.57	131.73	121.70
4	CB	323	TYR	CA-CB-CG	5.57	123.92	113.90
59	A5	1382	U	OP1-P-O3'	5.57	124.69	108.00
28	CD	259	LYS	CA-C-N	5.56	131.71	121.70
28	CD	259	LYS	C-N-CA	5.56	131.71	121.70
59	A5	3708	U	C2'-C3'-O3'	5.55	117.83	109.50
52	CE	26	LEU	CA-C-N	5.55	131.69	121.70
52	CE	26	LEU	C-N-CA	5.55	131.69	121.70
4	CB	325	GLU	CA-CB-CG	5.54	125.18	114.10
59	A5	1382	U	OP2-P-O3'	-5.54	91.39	108.00
59	A5	747	U	O5'-P-OP1	5.50	124.49	108.00
59	A5	2016	U	O4'-C1'-N1	5.49	116.44	108.20
50	CJ	160	HIS	N-CA-C	5.49	126.38	111.00
59	A5	1180	U	O3'-P-O5'	5.49	112.23	104.00
25	Ca	50	HIS	CB-CA-C	-5.47	104.36	111.15
30	CR	120	TYR	CA-CB-CG	-5.46	104.06	113.90
59	A5	1113	A	O5'-P-OP1	-5.46	91.61	108.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
68	CM	134	THR	CA-C-N	5.46	131.54	121.70
68	CM	134	THR	C-N-CA	5.46	131.54	121.70
32	CT	80	VAL	N-CA-C	-5.45	98.01	109.34
59	A5	186	G	P-O3'-C3'	5.44	128.36	120.20
29	CQ	9	TYR	N-CA-C	-5.44	95.78	111.00
4	CB	335	GLY	N-CA-C	5.43	126.06	113.18
59	A5	3714	U	C2-N1-C1'	5.43	134.00	117.70
45	Cl	42	ARG	CB-CG-CD	5.43	123.78	111.30
6	CC	116	ARG	CG-CD-NE	5.42	123.93	112.00
25	Ca	99	ALA	N-CA-C	5.41	126.15	111.00
37	Cr	76	ARG	CA-C-N	5.41	139.97	127.00
37	Cr	76	ARG	C-N-CA	5.41	139.97	127.00
59	A5	1006	A	N9-C1'-C2'	5.40	120.10	112.00
66	CL	86	GLY	N-CA-C	-5.40	97.64	113.30
31	CS	172	PRO	N-CA-C	5.39	123.58	112.47
2	CA	1	MET	CB-CG-SD	5.39	128.87	112.70
59	A5	1181	A	O4'-C1'-N9	5.38	116.28	108.20
59	A5	1198	U	C5'-C4'-C3'	5.38	124.07	116.00
50	CJ	103	ASN	N-CA-C	5.38	126.06	111.00
6	CC	94	ALA	CA-C-N	5.37	131.80	121.54
6	CC	94	ALA	C-N-CA	5.37	131.80	121.54
68	CM	49	GLU	CA-C-N	-5.37	112.49	121.94
68	CM	49	GLU	C-N-CA	-5.37	112.49	121.94
47	Cn	9	ARG	NE-CZ-NH2	5.37	124.03	119.20
59	A5	3753	A	O4'-C1'-N9	5.37	116.55	108.50
59	A5	53	A	O5'-P-OP1	-5.36	91.92	108.00
80	CF	217	LEU	CA-C-N	-5.36	113.25	123.32
80	CF	217	LEU	C-N-CA	-5.36	113.25	123.32
6	CC	197	GLY	N-CA-C	-5.35	100.49	113.18
72	AF	215	LYS	CA-C-N	5.35	131.76	121.54
72	AF	215	LYS	C-N-CA	5.35	131.76	121.54
66	CL	2	GLY	CA-C-N	5.34	131.74	121.54
66	CL	2	GLY	C-N-CA	5.34	131.74	121.54
71	AT	97	ASP	N-CA-C	5.34	117.53	111.02
52	CE	174	LYS	CA-C-N	5.34	131.74	121.54
52	CE	174	LYS	C-N-CA	5.34	131.74	121.54
59	A5	1323	C	OP1-P-O3'	-5.34	91.98	108.00
59	A5	2205	G	O5'-P-OP2	-5.33	92.00	108.00
66	CL	7	MET	CG-SD-CE	-5.33	89.17	100.90
59	A5	296	C	O5'-P-OP1	-5.32	92.03	108.00
14	AR	94	ASP	CA-C-N	5.32	131.28	121.70
14	AR	94	ASP	C-N-CA	5.32	131.28	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	CB	254	ILE	N-CA-CB	-5.32	105.45	112.36
41	Ce	7	TYR	CA-CB-CG	5.32	123.47	113.90
59	A5	225	U	C2'-C3'-O3'	5.31	117.47	109.50
59	A5	1798	A	O4'-C1'-N9	5.31	116.46	108.50
4	CB	175	GLN	CA-CB-CG	-5.31	103.49	114.10
38	Ch	86	LYS	N-CA-C	5.28	119.21	112.87
59	A5	377	U	N1-C1'-C2'	5.28	119.92	112.00
59	A5	3593	A	OP1-P-O3'	5.28	123.82	108.00
65	CO	5	THR	CA-C-N	5.28	129.12	122.16
65	CO	5	THR	C-N-CA	5.28	129.12	122.16
65	CO	6	ASN	N-CA-C	-5.28	98.89	108.65
52	CE	38	MET	CA-C-N	5.27	128.07	120.38
52	CE	38	MET	C-N-CA	5.27	128.07	120.38
65	CO	197	ILE	N-CA-C	-5.27	107.69	112.96
41	Ce	6	ALA	CA-C-N	5.25	131.56	121.54
41	Ce	6	ALA	C-N-CA	5.25	131.56	121.54
59	A5	2545	A	N9-C1'-C2'	5.25	119.87	112.00
56	A8	107	U	OP1-P-OP2	5.24	135.33	119.60
32	CT	144	LEU	CA-CB-CG	5.24	134.65	116.30
65	CO	63	ARG	CB-CG-CD	-5.24	99.25	111.30
42	Cf	62	GLY	CA-C-N	-5.23	112.41	120.88
42	Cf	62	GLY	C-N-CA	-5.23	112.41	120.88
59	A5	2205	G	O5'-P-OP1	5.23	123.69	108.00
59	A5	1688	A	P-O3'-C3'	5.23	128.04	120.20
59	A5	1383	A	O5'-C5'-C4'	5.22	119.33	111.50
22	Ae	93	LYS	CA-C-N	5.20	131.47	121.54
22	Ae	93	LYS	C-N-CA	5.20	131.47	121.54
52	CE	193	VAL	CA-C-N	5.20	139.48	127.00
52	CE	193	VAL	C-N-CA	5.20	139.48	127.00
2	CA	62	HIS	N-CA-C	5.19	117.53	108.76
36	CZ	120	VAL	N-CA-C	-5.19	107.77	112.96
71	AT	49	ASP	CA-C-N	5.19	126.21	120.45
71	AT	49	ASP	C-N-CA	5.19	126.21	120.45
59	A5	752	U	O3'-P-O5'	-5.18	96.24	104.00
59	A5	2771	G	OP2-P-O3'	-5.15	92.56	108.00
59	A5	300	A	P-O3'-C3'	5.14	127.91	120.20
59	A5	777	C	O3'-P-O5'	5.14	111.71	104.00
41	Ce	40	ILE	CA-C-N	-5.14	114.28	122.66
41	Ce	40	ILE	C-N-CA	-5.14	114.28	122.66
3	AB	119	LYS	CA-C-N	5.13	131.34	121.54
3	AB	119	LYS	C-N-CA	5.13	131.34	121.54
59	A5	2489	G	N9-C1'-C2'	-5.13	106.31	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
59	A5	3677	U	P-O5'-C5'	5.12	128.59	120.90
26	CN	76	PRO	N-CA-C	5.12	123.02	112.47
43	Ci	87	LEU	CA-C-N	5.12	130.91	121.70
43	Ci	87	LEU	C-N-CA	5.12	130.91	121.70
59	A5	1607	A	OP2-P-O3'	5.11	123.34	108.00
51	CH	139	LYS	CA-C-N	5.11	130.07	122.82
51	CH	139	LYS	C-N-CA	5.11	130.07	122.82
59	A5	1180	U	C2'-C3'-O3'	5.11	121.36	113.70
66	CL	56	PRO	N-CA-C	5.10	122.98	112.47
58	B2	1250	C	C2'-C3'-O3'	5.10	121.35	113.70
59	A5	440	U	C2-N1-C1'	5.09	132.99	117.70
59	A5	3499	G	O5'-P-OP2	-5.09	92.73	108.00
25	Ca	57	VAL	CA-C-N	-5.09	111.44	121.41
25	Ca	57	VAL	C-N-CA	-5.09	111.44	121.41
59	A5	1115	A	C4'-C3'-O3'	5.09	120.63	113.00
59	A5	3676	C	O5'-C5'-C4'	5.08	119.13	111.50
70	AK	55	LEU	CA-CB-CG	5.08	134.09	116.30
19	Aa	11	ASN	N-CA-C	5.07	117.36	111.02
59	A5	3591	A	O4'-C1'-N9	5.07	115.80	108.20
56	A8	107	U	O5'-P-OP2	-5.07	92.80	108.00
59	A5	1712	C	P-O3'-C3'	-5.07	112.60	120.20
4	CB	55	HIS	N-CA-C	5.06	121.57	110.80
63	AI	141	LYS	CA-C-N	5.06	131.20	121.54
63	AI	141	LYS	C-N-CA	5.06	131.20	121.54
59	A5	3593	A	N1-C6-N6	-5.05	103.44	118.60
41	Ce	15	ARG	CG-CD-NE	5.05	123.11	112.00
59	A5	58	G	C4-N9-C1'	-5.04	111.36	126.50
59	A5	2796	G	N9-C1'-C2'	5.04	121.57	114.00
54	A9	21	G	C2'-C3'-O3'	5.04	121.26	113.70
37	Cr	81	THR	N-CA-C	-5.04	104.72	111.02
60	AE	194	THR	CA-C-N	5.04	131.04	121.97
60	AE	194	THR	C-N-CA	5.04	131.04	121.97
59	A5	420	A	O4'-C1'-N9	5.04	116.06	108.50
29	CQ	13	VAL	N-CA-CB	-5.04	105.77	112.26
25	Ca	24	GLY	CA-C-N	5.03	131.16	121.54
25	Ca	24	GLY	C-N-CA	5.03	131.16	121.54
59	A5	3762	G	N9-C1'-C2'	5.03	121.55	114.00
59	A5	3473	C	P-O5'-C5'	5.03	128.45	120.90
38	Ch	108	ILE	CB-CA-C	-5.02	103.05	111.29
62	AH	64	ILE	N-CA-C	5.02	119.73	108.88
59	A5	1516	A	O4'-C1'-N9	-5.02	100.67	108.20
37	Cr	26	LYS	CA-C-O	-5.02	113.33	120.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
59	A5	3418	U	O4'-C1'-N1	5.02	116.02	108.50
59	A5	3697	A	P-O3'-C3'	5.01	127.71	120.20
6	CC	78	ARG	CG-CD-NE	5.00	123.01	112.00

There are no chirality outliers.

All (245) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
59	A5	2489	G	Sidechain
1	AA	108	PHE	Peptide
1	AA	29	ASN	Peptide
3	AB	119	LYS	Peptide
3	AB	180	SER	Peptide
5	AC	240	LYS	Peptide
21	AD	181	GLN	Peptide
21	AD	196	PRO	Peptide
60	AE	133	ALA	Peptide
60	AE	240	LYS	Peptide
60	AE	241	GLY	Peptide
61	AG	99	GLY	Peptide
62	AH	121	THR	Peptide
62	AH	156	LEU	Peptide
62	AH	187	PHE	Peptide
62	AH	64	ILE	Peptide
63	AI	21	LEU	Peptide
63	AI	22	ARG	Peptide
63	AI	49	ARG	Peptide
63	AI	8	ALA	Peptide
63	AI	98	LYS	Peptide
24	AJ	148	PHE	Peptide
24	AJ	9	VAL	Peptide
13	AL	116	ASP	Peptide
13	AL	152	PHE	Peptide
73	AO	102	GLY	Peptide
73	AO	127	GLY	Peptide
73	AO	140	THR	Peptide
73	AO	147	ARG	Peptide
73	AO	98	ARG	Peptide
73	AO	99	ALA	Peptide
64	AQ	19	LYS	Peptide
64	AQ	9	VAL	Peptide
71	AT	86	GLY	Peptide

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Mol	Chain	Res	Type	Group
71	AT	88	HIS	Peptide
75	AW	9	ASP	Peptide
9	AX	29	LYS	Peptide
17	AY	86	PHE	Peptide
19	Aa	10	ARG	Peptide
19	Aa	46	GLU	Peptide
19	Aa	62	TYR	Peptide
19	Aa	85	ARG	Peptide
19	Aa	98	PRO	Peptide
74	Ac	18	GLY	Peptide
11	Ad	33	LYS	Peptide
22	Ae	101	THR	Peptide
22	Ae	113	ARG	Peptide
22	Ae	96	LYS	Peptide
2	CA	13	GLY	Peptide
2	CA	196	TRP	Peptide
2	CA	229	THR	Peptide
4	CB	165	HIS	Peptide
4	CB	17	TYR	Peptide
4	CB	270	GLY	Peptide
4	CB	292	HIS	Peptide
4	CB	294	LYS	Peptide
4	CB	310	THR	Peptide
4	CB	311	ASP	Peptide
4	CB	325	GLU	Peptide
4	CB	33	PRO	Peptide
4	CB	374	MET	Peptide
4	CB	54	THR	Peptide
6	CC	105	PHE	Peptide
6	CC	17	ASN	Peptide
6	CC	203	ARG	Peptide
6	CC	204	ARG	Peptide
6	CC	267	PHE	Peptide
6	CC	297	LYS	Peptide
6	CC	315	SER	Peptide
6	CC	316	VAL	Peptide
6	CC	64	GLN	Peptide
6	CC	88	HIS	Peptide
6	CC	92	GLN	Peptide
28	CD	188	LYS	Peptide
28	CD	19	LYS	Peptide
28	CD	223	PHE	Peptide

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Mol	Chain	Res	Type	Group
28	CD	271	LYS	Peptide
52	CE	175	LYS	Peptide
52	CE	226	LEU	Peptide
52	CE	228	ASN	Peptide
52	CE	23	ASN	Peptide
52	CE	237	TYR	Peptide
52	CE	60	VAL	Peptide
52	CE	69	TYR	Peptide
52	CE	70	PRO	Peptide
52	CE	71	THR	Peptide
52	CE	73	THR	Peptide
52	CE	80	SER	Peptide
52	CE	81	LYS	Peptide
52	CE	83	ASN	Peptide
80	CF	235	GLY	Peptide
80	CF	99	ARG	Peptide
53	CG	43	ASN	Peptide
53	CG	48	GLN	Peptide
53	CG	83	PRO	Peptide
53	CG	86	HIS	Peptide
51	CH	107	ASN	Peptide
51	CH	22	ALA	Peptide
27	CI	111	LEU	Peptide
27	CI	114	GLY	Peptide
27	CI	15	LYS	Peptide
27	CI	74	LYS	Peptide
50	CJ	102	GLU	Peptide
50	CJ	159	GLN	Peptide
50	CJ	96	GLU	Peptide
66	CL	124	ILE	Peptide
66	CL	151	GLY	Peptide
66	CL	157	LYS	Peptide
66	CL	158	ASN	Peptide
66	CL	160	GLN	Peptide
66	CL	162	ALA	Peptide
66	CL	169	VAL	Peptide
66	CL	170	THR	Peptide
66	CL	46	PHE	Peptide
66	CL	53	ALA	Peptide
66	CL	56	PRO	Peptide
66	CL	6	ASN	Peptide
66	CL	69	LEU	Peptide

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Mol	Chain	Res	Type	Group
66	CL	75	PHE	Peptide
66	CL	85	ILE	Peptide
68	CM	103	SER	Peptide
68	CM	106	ASP	Peptide
68	CM	127	PHE	Peptide
68	CM	134	THR	Peptide
68	CM	16	SER	Peptide
68	CM	96	GLN	Peptide
26	CN	124	ASP	Peptide
26	CN	182	GLN	Peptide
26	CN	28	TRP	Peptide
26	CN	75	VAL	Peptide
26	CN	76	PRO	Peptide
26	CN	78	GLY	Peptide
26	CN	79	CYS	Peptide
26	CN	97	GLY	Peptide
65	CO	111	PRO	Peptide
65	CO	112	SER	Peptide
65	CO	192	GLU	Peptide
65	CO	32	GLY	Peptide
65	CO	4	LEU	Peptide
65	CO	59	TYR	Peptide
33	CP	141	SER	Peptide
33	CP	7	GLU	Peptide
29	CQ	12	LYS	Peptide
29	CQ	153	GLY	Peptide
29	CQ	163	THR	Peptide
29	CQ	5	ILE	Peptide
29	CQ	55	LYS	Peptide
29	CQ	72	ALA	Peptide
29	CQ	8	LYS	Peptide
29	CQ	9	TYR	Peptide
30	CR	112	SER	Peptide
30	CR	121	HIS	Peptide
30	CR	140	GLU	Peptide
30	CR	162	ARG	Peptide
30	CR	169	ALA	Peptide
31	CS	118	ARG	Peptide
31	CS	138	ARG	Peptide
31	CS	17	LEU	Peptide
31	CS	172	PRO	Peptide
31	CS	19	SER	Peptide

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Mol	Chain	Res	Type	Group
31	CS	25	THR	Peptide
31	CS	53	LYS	Peptide
31	CS	57	THR	Peptide
31	CS	67	VAL	Peptide
31	CS	88	SER	Peptide
32	CT	139	HIS	Peptide
32	CT	143	LYS	Peptide
32	CT	145	GLU	Peptide
32	CT	147	PRO	Peptide
32	CT	154	PRO	Peptide
32	CT	156	GLU	Peptide
32	CT	157	PHE	Peptide
32	CT	3	ASN	Peptide
32	CT	5	LYS	Peptide
32	CT	6	GLY	Peptide
32	CT	83	LYS	Peptide
78	CU	226	LEU	Peptide
67	CV	44	GLY	Peptide
76	CW	16	GLY	Peptide
76	CW	25	ASP	Peptide
35	CY	2	LYS	Peptide
35	CY	64	GLY	Peptide
35	CY	83	GLU	Peptide
36	CZ	31	ASP	Peptide
25	Ca	115	ARG	Peptide
25	Ca	14	GLY	Peptide
25	Ca	58	GLY	Peptide
25	Ca	98	LYS	Peptide
39	Cb	19	ASN	Peptide
39	Cb	21	ILE	Peptide
39	Cb	38	LYS	Peptide
39	Cb	50	ASN	Peptide
40	Cc	37	THR	Peptide
81	Cd	39	ALA	Peptide
41	Ce	123	ASN	Peptide
41	Ce	13	LYS	Peptide
41	Ce	14	LYS	Peptide
41	Ce	20	ILE	Peptide
41	Ce	5	PRO	Peptide
42	Cf	107	HIS	Peptide
42	Cf	108	PRO	Peptide
42	Cf	141	GLY	Peptide

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Mol	Chain	Res	Type	Group
42	Cf	155	SER	Peptide
42	Cf	49	ARG	Peptide
77	Cg	4	ARG	Peptide
38	Ch	42	SER	Peptide
38	Ch	43	LYS	Peptide
38	Ch	86	LYS	Peptide
38	Ch	94	ALA	Peptide
43	Ci	15	HIS	Peptide
43	Ci	21	ARG	Peptide
43	Ci	4	ARG	Peptide
43	Ci	7	LEU	Peptide
43	Ci	73	VAL	Peptide
43	Ci	87	LEU	Peptide
44	Ck	58	GLN	Peptide
46	Cm	114	LYS	Peptide
46	Cm	125	LYS	Peptide
49	Co	26	TYR	Peptide
49	Co	30	LYS	Peptide
49	Co	46	GLN	Peptide
48	Cp	14	TYR	Peptide
48	Cp	60	CYS	Peptide
37	Cr	107	ARG	Peptide
37	Cr	126	LYS	Peptide
37	Cr	22	LYS	Peptide
37	Cr	24	ASP	Peptide
37	Cr	26	LYS	Peptide
37	Cr	27	LYS	Peptide
37	Cr	28	PRO	Peptide
37	Cr	37	ALA	Peptide
37	Cr	41	SER	Peptide
37	Cr	43	ARG	Peptide
37	Cr	45	SER	Peptide
37	Cr	46	GLY	Peptide
37	Cr	50	LYS	Peptide
37	Cr	57	PRO	Peptide
37	Cr	64	PHE	Peptide
37	Cr	69	LYS	Peptide
37	Cr	71	GLY	Peptide
37	Cr	79	LYS	Peptide
37	Cr	81	THR	Peptide
37	Cr	83	ARG	Peptide
69	DA	132	GLY	Peptide

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Mol	Chain	Res	Type	Group
69	DA	171	GLU	Peptide

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	AA	1737	0	1750	51	0
2	CA	1935	0	2036	53	0
3	AB	1798	0	1867	60	0
4	CB	3287	0	3432	102	0
5	AC	1746	0	1827	53	0
6	CC	3109	0	3298	85	0
7	Ag	2511	0	2438	85	0
8	AU	815	0	871	35	0
9	AX	1131	0	1190	25	0
10	AM	924	0	960	24	0
11	Ad	433	0	424	20	0
12	AN	1202	0	1291	28	0
13	AL	1274	0	1351	41	0
14	AR	981	0	1038	33	0
15	AP	1016	0	1085	100	0
16	AV	617	0	613	17	0
17	AY	1016	0	1073	29	0
18	AZ	608	0	658	54	0
19	Aa	867	0	920	25	0
20	Ab	653	0	680	28	0
21	AD	1782	0	1862	43	0
22	Ae	469	0	503	15	0
23	Af	659	0	695	22	0
24	AJ	1503	0	1620	46	0
25	Ca	1204	0	1260	40	0
26	CN	1710	0	1777	53	0
27	CI	1785	0	1805	56	0
28	CD	2334	0	2354	73	0
29	CQ	1518	0	1626	35	0
30	CR	1683	0	1827	55	0
31	CS	1454	0	1503	47	0
32	CT	1297	0	1364	36	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
33	CP	1505	0	1556	47	0
34	CX	984	0	1058	25	0
35	CY	1078	0	1159	21	0
36	CZ	1115	0	1199	27	0
37	Cr	1051	0	1148	50	0
38	Ch	1015	0	1163	31	0
39	Cb	619	0	650	14	0
40	Cc	770	0	802	19	0
41	Ce	1110	0	1181	32	0
42	Cf	1244	0	1316	54	0
43	Ci	934	0	1029	26	0
44	Ck	576	0	634	16	0
45	Cl	437	0	483	9	0
46	Cm	429	0	472	15	0
47	Cn	236	0	286	3	0
48	Cp	710	0	756	21	0
49	Co	874	0	956	16	0
50	CJ	1468	0	1507	39	0
51	CH	1499	0	1569	37	0
52	CE	1845	0	1981	74	0
53	CG	1936	0	2103	39	0
54	A9	639	0	321	8	0
55	A7	2554	0	1295	35	0
56	A8	2621	0	1318	33	0
57	Cz	1702	0	1814	67	0
58	B2	39355	0	19519	865	0
59	A5	77175	0	38072	894	0
60	AE	2054	0	2165	73	0
61	AG	1866	0	2029	60	0
62	AH	1566	0	1664	61	0
63	AI	1665	0	1746	39	0
64	AQ	1183	0	1255	54	0
65	CO	1668	0	1783	41	0
66	CL	1695	0	1790	55	0
67	CV	998	0	1046	16	0
68	CM	1302	0	1388	55	0
69	DA	2756	0	2737	68	0
70	AK	760	0	757	20	0
71	AT	1041	0	1064	401	0
72	AF	1490	0	1548	57	0
73	AO	953	0	988	27	0
74	Ac	498	0	525	23	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
75	AW	1028	0	1071	16	0
76	CW	483	0	510	3	0
77	Cg	844	0	924	13	0
78	CU	811	0	838	26	0
79	Cj	696	0	722	52	0
80	CF	1869	0	1980	41	0
81	Cd	899	0	923	74	0
82	AS	1101	0	1129	332	0
All	All	219765	0	162927	4341	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 13.

All (4341) 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)
71:AT:42:PHE:CG	71:AT:83:LYS:HD3	1.28	1.64
15:AP:114:MET:HG2	82:AS:117:ILE:CD1	1.15	1.62
71:AT:42:PHE:CD2	71:AT:83:LYS:HD3	1.25	1.61
71:AT:83:LYS:HD2	71:AT:93:CYS:SG	1.37	1.60
58:B2:1750:U:C5	82:AS:124:ARG:NH2	1.71	1.55
71:AT:42:PHE:CD2	71:AT:83:LYS:CD	1.83	1.54
58:B2:1783:U:H5'	71:AT:92:PHE:CE2	1.44	1.53
71:AT:29:LYS:CD	71:AT:106:ALA:HA	1.34	1.51
18:AZ:47:VAL:CG2	82:AS:23:LYS:HG3	1.42	1.46
58:B2:1695:A:H1'	82:AS:83:PHE:CZ	1.49	1.46
15:AP:114:MET:CG	82:AS:117:ILE:HD12	1.47	1.45
58:B2:1715:G:C8	71:AT:67:ARG:NH2	1.84	1.45
71:AT:29:LYS:HD2	71:AT:106:ALA:CA	1.43	1.45
71:AT:42:PHE:CE2	71:AT:93:CYS:CB	1.80	1.44
58:B2:1738:G:C2'	82:AS:86:ARG:HH21	1.28	1.42
71:AT:70:ALA:N	71:AT:123:LEU:CD1	1.82	1.41
59:A5:1017:A:C8	79:Cj:15:THR:HG23	1.56	1.41
71:AT:83:LYS:CD	71:AT:93:CYS:SG	2.07	1.41
58:B2:1715:G:N7	71:AT:67:ARG:NE	1.68	1.38
58:B2:1715:G:O5'	71:AT:78:ILE:HD13	1.20	1.35
58:B2:1715:G:C6	71:AT:67:ARG:HG3	1.63	1.34
71:AT:50:PRO:HA	71:AT:53:PHE:CD2	1.62	1.33
58:B2:1715:G:C5	71:AT:67:ARG:NE	1.96	1.33
58:B2:1749:C:H1'	82:AS:120:HIS:CD2	1.63	1.33
58:B2:1738:G:H2'	82:AS:86:ARG:NH2	1.41	1.32

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:A5:3614:U:H5''	81:Cd:75:ARG:CZ	1.57	1.32
59:A5:3614:U:C5'	81:Cd:75:ARG:NH2	1.91	1.31
18:AZ:47:VAL:HG21	82:AS:23:LYS:CG	1.26	1.31
71:AT:126:ILE:CG2	71:AT:131:LEU:HG	1.58	1.31
58:B2:1669:A:O2'	71:AT:48:TYR:CE2	1.81	1.30
58:B2:1738:G:C2'	82:AS:86:ARG:NH2	1.89	1.30
71:AT:126:ILE:HG21	71:AT:131:LEU:CG	1.60	1.30
58:B2:1695:A:C1'	82:AS:83:PHE:CZ	2.14	1.30
58:B2:1740:G:C5'	82:AS:88:LYS:HB2	1.60	1.30
71:AT:42:PHE:CE2	71:AT:83:LYS:CD	2.16	1.29
58:B2:1715:G:C5'	71:AT:78:ILE:HD13	1.62	1.28
71:AT:70:ALA:H	71:AT:123:LEU:CD1	1.40	1.28
71:AT:45:LEU:HD21	82:AS:38:ARG:CG	1.64	1.28
58:B2:1716:A:OP1	71:AT:78:ILE:HG22	1.32	1.27
58:B2:1749:C:H1'	82:AS:120:HIS:NE2	1.48	1.27
71:AT:42:PHE:CD2	71:AT:83:LYS:NZ	2.01	1.27
58:B2:1653:C:P	82:AS:141:ARG:HG3	1.73	1.27
58:B2:1782:G:O2'	71:AT:92:PHE:HZ	1.01	1.27
58:B2:1783:U:C5'	71:AT:92:PHE:CE2	2.14	1.27
58:B2:1445:A:H4'	71:AT:133:ARG:NH1	1.49	1.26
71:AT:23:LYS:HA	71:AT:28:LEU:CD2	1.65	1.26
71:AT:42:PHE:CD2	71:AT:83:LYS:CE	2.16	1.26
15:AP:21:ARG:CA	82:AS:90:ILE:O	1.84	1.25
58:B2:1750:U:C6	82:AS:124:ARG:NH2	2.03	1.25
59:A5:3614:U:OP2	81:Cd:75:ARG:NH2	1.69	1.25
71:AT:126:ILE:HG21	71:AT:131:LEU:CD1	1.65	1.25
58:B2:1739:U:O2'	82:AS:86:ARG:HD3	1.27	1.25
18:AZ:47:VAL:O	82:AS:55:ARG:NH2	1.66	1.24
71:AT:70:ALA:N	71:AT:123:LEU:HD11	1.42	1.23
15:AP:114:MET:CG	82:AS:117:ILE:CD1	2.09	1.23
58:B2:1715:G:O5'	71:AT:78:ILE:CD1	1.88	1.21
58:B2:1695:A:C1'	82:AS:83:PHE:HZ	1.47	1.21
58:B2:1715:G:OP1	71:AT:78:ILE:HD11	1.38	1.21
58:B2:1715:G:C6	71:AT:67:ARG:CG	2.21	1.20
58:B2:1653:C:O5'	82:AS:141:ARG:CD	1.87	1.20
58:B2:1715:G:N7	71:AT:67:ARG:CZ	2.03	1.19
71:AT:49:ASP:HB3	71:AT:50:PRO:CD	1.71	1.18
15:AP:111:LYS:CB	82:AS:116:LYS:HZ1	1.54	1.18
71:AT:70:ALA:CA	71:AT:123:LEU:CD1	2.20	1.18
58:B2:1750:U:C5	82:AS:124:ARG:CZ	2.26	1.17
71:AT:126:ILE:CG2	71:AT:131:LEU:CG	2.21	1.16

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:1758:A:O5'	82:AS:39:ARG:NH2	1.77	1.15
58:B2:1669:A:O2'	71:AT:48:TYR:CD2	1.97	1.15
58:B2:1758:A:H1'	82:AS:85:ASN:OD1	1.43	1.15
71:AT:42:PHE:CE2	71:AT:83:LYS:HD2	1.77	1.15
59:A5:1017:A:H8	79:Cj:15:THR:CG2	1.59	1.15
58:B2:1738:G:C3'	82:AS:86:ARG:NH2	2.09	1.14
59:A5:3950:A:OP1	81:Cd:28:LYS:NZ	1.81	1.14
58:B2:1715:G:N7	71:AT:67:ARG:NH2	1.89	1.14
58:B2:1716:A:OP1	71:AT:78:ILE:CG2	1.96	1.14
71:AT:23:LYS:HA	71:AT:28:LEU:HD21	1.20	1.13
58:B2:1445:A:C4'	71:AT:133:ARG:HH12	1.61	1.13
58:B2:1739:U:O2'	82:AS:86:ARG:CD	1.97	1.12
58:B2:1757:G:H1'	82:AS:84:LEU:O	1.48	1.12
18:AZ:47:VAL:HB	82:AS:23:LYS:HA	1.15	1.12
71:AT:70:ALA:CA	71:AT:123:LEU:HD11	1.77	1.11
58:B2:1749:C:C1'	82:AS:120:HIS:CD2	2.33	1.11
58:B2:1715:G:P	71:AT:78:ILE:CD1	2.39	1.11
58:B2:1715:G:C8	71:AT:67:ARG:CZ	2.31	1.11
15:AP:111:LYS:HB2	82:AS:116:LYS:HZ1	1.12	1.10
15:AP:21:ARG:HA	82:AS:90:ILE:O	0.94	1.10
58:B2:1670:G:H4'	71:AT:52:TRP:NE1	1.66	1.10
71:AT:70:ALA:HB3	71:AT:123:LEU:CD1	1.81	1.10
71:AT:33:GLN:HG2	71:AT:36:ILE:HD12	1.32	1.10
18:AZ:51:LYS:HZ1	82:AS:8:LYS:HD3	1.01	1.10
59:A5:1017:A:C8	79:Cj:15:THR:CG2	2.33	1.10
71:AT:144:ASP:HA	71:AT:147:LYS:HG3	1.32	1.10
58:B2:1696:G:O3'	71:AT:41:LYS:CE	2.00	1.09
71:AT:42:PHE:HD2	71:AT:83:LYS:NZ	1.43	1.09
15:AP:21:ARG:O	82:AS:92:ASP:C	1.94	1.09
58:B2:1750:U:H5	82:AS:124:ARG:NH2	1.17	1.09
58:B2:1653:C:OP1	82:AS:141:ARG:HG3	1.51	1.09
71:AT:70:ALA:HB3	71:AT:123:LEU:HD13	1.14	1.09
71:AT:50:PRO:HA	71:AT:53:PHE:CE2	1.87	1.08
58:B2:1697:A:P	71:AT:41:LYS:CE	2.41	1.08
15:AP:21:ARG:NH1	82:AS:90:ILE:HD13	1.66	1.08
58:B2:1695:A:H3'	82:AS:82:TRP:CH2	1.89	1.08
18:AZ:47:VAL:CG2	82:AS:23:LYS:CG	2.06	1.08
71:AT:29:LYS:CE	71:AT:106:ALA:HA	1.77	1.08
71:AT:59:SER:O	71:AT:63:HIS:CD2	2.07	1.08
56:A8:91:C:H5''	79:Cj:76:ASN:HD21	1.18	1.07
59:A5:3614:U:C5'	81:Cd:75:ARG:HH22	1.53	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:1740:G:H5'	82:AS:88:LYS:CB	1.84	1.07
58:B2:1750:U:C5	82:AS:124:ARG:NE	2.23	1.06
56:A8:91:C:H5''	79:Cj:76:ASN:ND2	1.70	1.06
71:AT:42:PHE:HE2	71:AT:93:CYS:HB3	0.90	1.06
71:AT:6:VAL:HG21	71:AT:136:ASN:OD1	1.54	1.06
71:AT:49:ASP:CB	71:AT:50:PRO:HD3	1.85	1.06
71:AT:70:ALA:CB	71:AT:123:LEU:CD1	2.33	1.05
58:B2:1740:G:H4'	82:AS:88:LYS:HG3	1.36	1.05
58:B2:1783:U:OP1	71:AT:92:PHE:CD2	2.01	1.05
71:AT:20:VAL:CG1	71:AT:24:LYS:HE3	1.87	1.05
58:B2:1693:C:N4	71:AT:101:ARG:HH12	1.53	1.04
18:AZ:51:LYS:NZ	82:AS:8:LYS:HD3	1.71	1.04
71:AT:70:ALA:N	71:AT:123:LEU:HD12	1.56	1.04
71:AT:76:THR:HG22	71:AT:97:ASP:OD2	1.54	1.04
58:B2:1445:A:C4'	71:AT:129:ARG:CD	2.36	1.03
58:B2:1750:U:C4	82:AS:129:LEU:HD21	1.94	1.03
71:AT:126:ILE:HG21	71:AT:131:LEU:HG	1.20	1.03
58:B2:1445:A:C4'	71:AT:129:ARG:HD3	1.88	1.03
58:B2:1653:C:O5'	82:AS:141:ARG:CG	2.07	1.03
59:A5:3614:U:H5''	81:Cd:75:ARG:NH2	1.57	1.02
58:B2:1445:A:H4'	71:AT:129:ARG:HD3	1.40	1.02
58:B2:1730:U:O2'	82:AS:24:ARG:NH2	1.93	1.02
71:AT:42:PHE:CG	71:AT:83:LYS:CD	2.25	1.02
50:CJ:123:LYS:NZ	82:AS:10:GLN:NE2	2.08	1.01
59:A5:3614:U:P	81:Cd:75:ARG:NH2	2.33	1.01
71:AT:31:PRO:O	71:AT:34:MET:HG2	1.59	1.01
71:AT:45:LEU:HD21	82:AS:38:ARG:CB	1.90	1.01
71:AT:42:PHE:HE2	71:AT:93:CYS:CB	1.32	1.00
58:B2:1740:G:H4'	82:AS:88:LYS:CG	1.91	1.00
71:AT:70:ALA:CB	71:AT:123:LEU:HD13	1.91	1.00
71:AT:83:LYS:HD2	71:AT:93:CYS:CB	1.92	1.00
58:B2:1758:A:P	82:AS:39:ARG:HH21	1.84	0.99
71:AT:45:LEU:HD21	82:AS:38:ARG:HG2	1.42	0.99
58:B2:1758:A:C1'	82:AS:85:ASN:OD1	2.09	0.99
71:AT:20:VAL:HG12	71:AT:24:LYS:HE3	1.44	0.99
58:B2:1651:C:OP1	82:AS:129:LEU:HD11	1.60	0.99
58:B2:1669:A:C2'	71:AT:48:TYR:HE2	1.75	0.99
58:B2:1750:U:H4'	82:AS:133:GLY:HA2	1.44	0.99
59:A5:1700:U:H4'	81:Cd:43:ILE:HD11	1.44	0.99
71:AT:42:PHE:CE2	71:AT:83:LYS:NZ	2.26	0.99
58:B2:1653:C:O5'	82:AS:141:ARG:HG3	1.61	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:AT:136:ASN:O	71:AT:140:PHE:CD2	2.14	0.98
15:AP:21:ARG:CZ	82:AS:90:ILE:CD1	2.29	0.98
58:B2:1697:A:P	71:AT:41:LYS:HE3	2.00	0.98
27:CI:2:GLY:N	27:CI:123:GLN:HE22	1.58	0.98
59:A5:2200:A:OP1	81:Cd:41:ARG:NH2	1.96	0.98
58:B2:1740:G:H5''	82:AS:88:LYS:HD3	1.42	0.98
58:B2:1715:G:C5'	71:AT:78:ILE:CD1	2.42	0.97
18:AZ:47:VAL:HB	82:AS:23:LYS:CA	1.94	0.97
58:B2:1715:G:P	71:AT:78:ILE:HD11	2.02	0.97
58:B2:1653:C:P	82:AS:141:ARG:CG	2.53	0.97
71:AT:70:ALA:C	71:AT:123:LEU:HD11	1.88	0.97
71:AT:29:LYS:HD2	71:AT:106:ALA:CB	1.94	0.97
58:B2:1445:A:H4'	71:AT:129:ARG:CD	1.93	0.97
71:AT:61:LEU:HD22	71:AT:132:ASP:OD2	1.62	0.97
58:B2:1669:A:C2'	71:AT:48:TYR:CE2	2.48	0.96
71:AT:70:ALA:H	71:AT:123:LEU:HD12	0.82	0.96
58:B2:1740:G:C5'	82:AS:88:LYS:CB	2.41	0.96
71:AT:42:PHE:CD1	71:AT:83:LYS:HD3	2.01	0.96
71:AT:45:LEU:HD11	82:AS:38:ARG:CD	1.95	0.96
71:AT:144:ASP:HA	71:AT:147:LYS:CG	1.95	0.96
58:B2:1696:G:O3'	71:AT:41:LYS:HE3	1.64	0.96
71:AT:61:LEU:CD2	71:AT:132:ASP:OD2	2.14	0.95
71:AT:45:LEU:HD11	82:AS:38:ARG:HD2	1.47	0.95
71:AT:126:ILE:HG21	71:AT:131:LEU:HD12	1.46	0.95
58:B2:1726:A:H3'	82:AS:23:LYS:HD3	1.48	0.95
15:AP:20:TYR:O	82:AS:90:ILE:O	1.83	0.95
58:B2:1649:U:H1'	82:AS:135:HIS:CD2	2.00	0.95
58:B2:1750:U:C6	82:AS:124:ARG:CZ	2.46	0.95
58:B2:1715:G:C8	71:AT:67:ARG:NE	2.33	0.95
59:A5:3614:U:H5'	81:Cd:75:ARG:HH22	1.31	0.95
71:AT:33:GLN:CG	71:AT:36:ILE:HD12	1.96	0.95
58:B2:1739:U:C2'	82:AS:86:ARG:HD3	1.74	0.94
71:AT:39:THR:OG1	71:AT:43:LYS:NZ	2.01	0.94
71:AT:23:LYS:CA	71:AT:28:LEU:HD21	1.97	0.94
58:B2:1715:G:H8	71:AT:67:ARG:NH2	1.55	0.94
15:AP:20:TYR:O	82:AS:90:ILE:C	2.11	0.94
15:AP:114:MET:HG2	82:AS:117:ILE:HD11	1.44	0.94
58:B2:1695:A:H1'	82:AS:83:PHE:CE1	2.01	0.94
15:AP:111:LYS:CB	82:AS:116:LYS:NZ	2.31	0.93
59:A5:3614:U:H5''	81:Cd:75:ARG:NH1	1.82	0.93
58:B2:1649:U:C1'	82:AS:135:HIS:CD2	2.51	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:1758:A:OP2	82:AS:39:ARG:HB2	1.67	0.93
71:AT:48:TYR:O	71:AT:49:ASP:OD1	1.87	0.93
15:AP:21:ARG:O	82:AS:92:ASP:CA	2.17	0.93
71:AT:50:PRO:CA	71:AT:53:PHE:HD2	1.82	0.92
58:B2:1740:G:O3'	82:AS:88:LYS:CD	2.17	0.92
58:B2:1693:C:OP1	71:AT:102:LYS:CE	2.16	0.92
58:B2:1738:G:C3'	82:AS:86:ARG:HH22	1.79	0.92
58:B2:1750:U:H5	82:AS:124:ARG:CZ	1.72	0.92
58:B2:1783:U:OP1	71:AT:92:PHE:HD2	1.43	0.92
71:AT:45:LEU:CD2	82:AS:38:ARG:HG2	1.98	0.92
58:B2:1740:G:H5'	82:AS:88:LYS:HB2	0.93	0.92
71:AT:23:LYS:HA	71:AT:28:LEU:HD23	1.49	0.92
58:B2:1739:U:O2'	82:AS:87:GLN:N	2.03	0.91
58:B2:1783:U:C5'	71:AT:92:PHE:CD2	2.53	0.91
71:AT:50:PRO:CA	71:AT:53:PHE:CD2	2.50	0.91
15:AP:21:ARG:NH2	82:AS:88:LYS:O	2.03	0.91
15:AP:111:LYS:CG	82:AS:116:LYS:HZ1	1.81	0.91
71:AT:29:LYS:CD	71:AT:106:ALA:CA	2.18	0.91
58:B2:1715:G:H5'	71:AT:78:ILE:HD13	1.48	0.91
15:AP:122:PHE:HE1	82:AS:117:ILE:HG22	1.33	0.91
71:AT:33:GLN:HG2	71:AT:36:ILE:CD1	2.01	0.90
58:B2:1715:G:O6	71:AT:67:ARG:HG3	1.69	0.90
18:AZ:47:VAL:CB	82:AS:23:LYS:HG3	2.02	0.90
71:AT:40:ALA:HB1	71:AT:83:LYS:HZ3	1.34	0.90
58:B2:1693:C:H41	71:AT:101:ARG:NH1	1.69	0.90
58:B2:1695:A:C3'	82:AS:82:TRP:CH2	2.16	0.90
58:B2:1758:A:P	82:AS:39:ARG:NH2	2.41	0.90
58:B2:1445:A:H8	71:AT:129:ARG:HH12	1.18	0.90
79:Cj:79:ARG:O	79:Cj:80:GLU:HG3	1.70	0.90
59:A5:3614:U:O5'	81:Cd:75:ARG:NH2	2.04	0.90
71:AT:71:GLY:O	71:AT:75:ILE:HG13	1.71	0.90
58:B2:1715:G:OP1	71:AT:78:ILE:CD1	2.20	0.89
58:B2:1653:C:O5'	82:AS:141:ARG:HD2	1.72	0.89
58:B2:1750:U:H4'	82:AS:133:GLY:CA	2.01	0.89
15:AP:111:LYS:HB2	82:AS:116:LYS:NZ	1.86	0.89
18:AZ:47:VAL:CB	82:AS:23:LYS:HA	2.03	0.89
18:AZ:51:LYS:HZ1	82:AS:8:LYS:CD	1.86	0.88
58:B2:1749:C:C1'	82:AS:120:HIS:NE2	2.35	0.88
71:AT:39:THR:O	71:AT:40:ALA:CB	2.20	0.88
71:AT:136:ASN:O	71:AT:140:PHE:HD2	1.51	0.88
71:AT:45:LEU:HD21	82:AS:38:ARG:HB3	1.54	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:A5:1120:A:H61	79:Cj:15:THR:HG21	1.38	0.87
71:AT:50:PRO:HA	71:AT:53:PHE:HD2	1.19	0.87
71:AT:17:ALA:O	71:AT:21:PHE:CD2	2.28	0.87
58:B2:1693:C:H41	71:AT:101:ARG:HH12	0.91	0.87
58:B2:1671:U:O4'	71:AT:52:TRP:HH2	1.50	0.87
64:AQ:43:GLN:O	71:AT:10:ASP:CG	2.18	0.87
58:B2:1738:G:C5'	82:AS:121:ARG:NH1	2.34	0.86
71:AT:49:ASP:HB3	71:AT:50:PRO:HD3	0.90	0.86
58:B2:1696:G:O3'	71:AT:41:LYS:HE2	1.75	0.86
18:AZ:47:VAL:C	82:AS:55:ARG:HH21	1.83	0.86
50:CJ:123:LYS:HZ3	82:AS:10:GLN:CD	1.83	0.86
58:B2:1693:C:OP1	71:AT:102:LYS:HE3	1.74	0.86
58:B2:1695:A:H1'	82:AS:83:PHE:HZ	0.88	0.86
59:A5:1700:U:O2'	81:Cd:43:ILE:HD13	1.76	0.86
4:CB:234:ARG:HH21	4:CB:271:GLN:HA	1.41	0.85
58:B2:1739:U:C6	82:AS:86:ARG:NH1	2.40	0.85
71:AT:126:ILE:HG22	71:AT:131:LEU:HB2	1.57	0.85
58:B2:1669:A:C1'	71:AT:48:TYR:HE2	1.90	0.85
58:B2:1757:G:OP1	71:AT:38:LYS:HE3	1.77	0.85
59:A5:3614:U:C5'	81:Cd:75:ARG:CZ	2.39	0.85
59:A5:3614:U:P	81:Cd:75:ARG:HH22	1.96	0.85
58:B2:1649:U:C4'	82:AS:135:HIS:HD2	1.90	0.84
58:B2:1715:G:C6	71:AT:67:ARG:HG2	2.10	0.84
71:AT:37:VAL:HG12	71:AT:39:THR:H	1.42	0.84
15:AP:21:ARG:NH2	82:AS:88:LYS:HB3	1.92	0.84
58:B2:1715:G:N1	71:AT:67:ARG:HG2	1.93	0.84
71:AT:45:LEU:HD21	82:AS:38:ARG:CD	2.06	0.84
58:B2:1715:G:H5'	71:AT:78:ILE:HG21	1.57	0.84
58:B2:1740:G:O3'	82:AS:88:LYS:HD2	1.77	0.84
64:AQ:44:ILE:HA	71:AT:10:ASP:OD1	1.78	0.84
58:B2:1697:A:OP1	71:AT:41:LYS:HE3	1.76	0.83
58:B2:1649:U:O4'	82:AS:135:HIS:CD2	2.32	0.83
15:AP:21:ARG:CZ	82:AS:90:ILE:HD13	2.02	0.83
71:AT:57:CYS:O	71:AT:61:LEU:HG	1.78	0.83
58:B2:1650:G:O5'	82:AS:137:LYS:HG2	1.79	0.83
58:B2:1650:G:P	82:AS:137:LYS:HG2	2.19	0.83
71:AT:144:ASP:HA	71:AT:147:LYS:CD	2.08	0.83
58:B2:1669:A:HO2'	71:AT:48:TYR:HE2	1.16	0.83
15:AP:122:PHE:CE1	82:AS:117:ILE:HG22	2.13	0.83
58:B2:1715:G:N7	71:AT:67:ARG:HE	1.08	0.82
58:B2:1653:C:C5'	82:AS:141:ARG:CG	2.56	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:AT:18:VAL:HA	71:AT:21:PHE:HD2	1.43	0.82
58:B2:1750:U:C6	82:AS:124:ARG:NE	2.45	0.82
71:AT:126:ILE:CG2	71:AT:131:LEU:CD1	2.54	0.82
59:A5:1017:A:N7	79:Cj:15:THR:HG23	1.94	0.82
58:B2:1696:G:C8	82:AS:82:TRP:CH2	2.68	0.82
58:B2:1738:G:O3'	82:AS:86:ARG:NH2	2.12	0.82
58:B2:1738:G:H5''	82:AS:121:ARG:NH1	1.93	0.81
71:AT:45:LEU:CD2	82:AS:38:ARG:CG	2.50	0.81
71:AT:126:ILE:HG22	71:AT:131:LEU:CB	2.10	0.81
71:AT:136:ASN:HB3	71:AT:140:PHE:HE2	1.44	0.81
15:AP:20:TYR:CE2	82:AS:90:ILE:HG21	2.14	0.81
71:AT:129:ARG:O	71:AT:133:ARG:HD2	1.80	0.81
56:A8:67:G:O2'	79:Cj:87:LYS:NZ	2.13	0.81
58:B2:1740:G:C5'	82:AS:88:LYS:HD3	2.11	0.81
71:AT:39:THR:O	71:AT:40:ALA:HB2	1.80	0.81
58:B2:1669:A:H1'	71:AT:48:TYR:HE2	1.46	0.81
58:B2:1650:G:OP2	82:AS:137:LYS:HG3	1.80	0.80
59:A5:3950:A:P	81:Cd:28:LYS:HZ2	2.03	0.80
15:AP:21:ARG:HH21	82:AS:90:ILE:HG12	1.47	0.80
56:A8:67:G:C5'	79:Cj:87:LYS:HG3	2.11	0.80
71:AT:21:PHE:O	71:AT:25:THR:HG23	1.80	0.80
58:B2:1445:A:C8	71:AT:129:ARG:NH1	2.48	0.80
71:AT:20:VAL:HG11	71:AT:24:LYS:HE3	1.64	0.80
58:B2:1445:A:O5'	71:AT:129:ARG:HD2	1.81	0.80
58:B2:1715:G:N1	71:AT:67:ARG:CG	2.43	0.80
71:AT:59:SER:O	71:AT:63:HIS:HD2	1.58	0.80
64:AQ:43:GLN:O	71:AT:10:ASP:OD1	1.99	0.80
71:AT:126:ILE:HG23	71:AT:131:LEU:HG	1.60	0.80
59:A5:3948:U:OP1	81:Cd:25:HIS:CE1	2.35	0.79
79:Cj:51:ARG:H	79:Cj:51:ARG:HE	1.28	0.79
58:B2:1671:U:O4	71:AT:82:ARG:NH1	2.15	0.79
58:B2:1695:A:O4'	82:AS:83:PHE:CZ	2.34	0.79
58:B2:1750:U:C4'	82:AS:133:GLY:HA2	2.13	0.79
18:AZ:47:VAL:HG12	82:AS:55:ARG:CZ	2.13	0.79
58:B2:1697:A:OP1	71:AT:41:LYS:CE	2.30	0.79
58:B2:1757:G:P	71:AT:38:LYS:HZ1	2.05	0.79
71:AT:42:PHE:CE2	71:AT:93:CYS:HB3	1.78	0.79
58:B2:1739:U:O5'	82:AS:86:ARG:NH2	2.07	0.79
50:CJ:123:LYS:CE	82:AS:10:GLN:NE2	2.45	0.78
27:CI:51:HIS:HD1	27:CI:137:SER:HG	1.28	0.78
58:B2:1320:G:H1	58:B2:1339:C:H42	1.30	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:1738:G:H2'	82:AS:86:ARG:HH21	1.11	0.78
50:CJ:123:LYS:HZ1	82:AS:10:GLN:NE2	1.80	0.78
58:B2:1445:A:C4'	71:AT:129:ARG:HD2	2.13	0.78
58:B2:1653:C:C5'	82:AS:141:ARG:HG3	2.12	0.78
58:B2:1653:C:H6	82:AS:141:ARG:HD2	1.48	0.78
58:B2:1758:A:O5'	82:AS:39:ARG:CZ	2.25	0.78
58:B2:1669:A:H1'	71:AT:48:TYR:CE2	2.19	0.77
59:A5:595:U:H3	59:A5:614:G:H1	1.30	0.77
15:AP:117:HIS:CE1	82:AS:114:LEU:HD11	2.19	0.77
58:B2:1445:A:O4'	71:AT:129:ARG:CD	2.27	0.77
59:A5:2625:G:H21	59:A5:2649:A:H8	1.31	0.77
58:B2:1750:U:H6	82:AS:124:ARG:NH2	1.81	0.77
71:AT:29:LYS:HD2	71:AT:106:ALA:HA	0.77	0.77
31:CS:176:PHE:HB2	59:A5:3753:A:H4'	1.67	0.77
71:AT:129:ARG:HB3	71:AT:133:ARG:CD	2.06	0.77
58:B2:1740:G:C4'	82:AS:88:LYS:HB2	2.14	0.77
42:Cf:80:ARG:NH1	59:A5:1396:A:N7	2.33	0.76
71:AT:129:ARG:HB3	71:AT:133:ARG:HD2	1.66	0.76
58:B2:1734:G:O5'	71:AT:87:VAL:HG21	1.83	0.76
71:AT:76:THR:CG2	71:AT:97:ASP:OD2	2.33	0.76
4:CB:336:CYS:HG	59:A5:3583:C:HO2'	1.34	0.76
58:B2:1435:A:H61	58:B2:1570:U:H3	1.32	0.76
59:A5:3950:A:H1'	81:Cd:28:LYS:O	1.85	0.76
59:A5:3704:A:H1'	59:A5:3857:G:H22	1.51	0.76
59:A5:3593:A:N7	81:Cd:75:ARG:NH1	2.33	0.76
59:A5:3593:A:H3'	81:Cd:35:PHE:CE2	2.21	0.75
58:B2:1695:A:C6	82:AS:82:TRP:CB	2.68	0.75
71:AT:51:ASP:O	71:AT:55:VAL:HG21	1.85	0.75
58:B2:1697:A:OP1	71:AT:41:LYS:NZ	2.15	0.75
71:AT:42:PHE:CE2	71:AT:83:LYS:HD3	1.98	0.75
6:CC:78:ARG:NH2	59:A5:3346:G:OP1	2.20	0.75
33:CP:30:HIS:HB3	33:CP:62:ARG:HH21	1.51	0.75
43:Cl:16:LYS:HZ1	66:CL:105:SER:HA	1.52	0.75
58:B2:1695:A:C2	82:AS:82:TRP:CG	2.59	0.75
58:B2:1715:G:C2	71:AT:67:ARG:HG2	2.22	0.75
58:B2:1740:G:H5''	82:AS:88:LYS:CD	2.17	0.75
58:B2:1758:A:C5'	82:AS:39:ARG:HH21	2.00	0.75
71:AT:17:ALA:O	71:AT:21:PHE:CE2	2.40	0.75
25:Ca:65:ARG:NH2	59:A5:3309:A:O2'	2.20	0.74
37:Cr:50:LYS:HB3	37:Cr:72:LYS:HG2	1.69	0.74
71:AT:131:LEU:HD23	71:AT:134:ILE:HD12	1.66	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:CB:63:PRO:HG3	4:CB:357:ARG:HH11	1.52	0.74
43:CI:35:ARG:NH2	59:A5:166:G:OP2	2.21	0.74
58:B2:1695:A:C6	82:AS:82:TRP:HB2	2.21	0.74
58:B2:1740:G:O3'	82:AS:88:LYS:HD3	1.88	0.74
71:AT:20:VAL:O	71:AT:24:LYS:HG3	1.88	0.74
59:A5:28:C:H4'	79:Cj:59:GLN:HG3	1.70	0.74
71:AT:126:ILE:CG2	71:AT:131:LEU:HD12	2.16	0.74
71:AT:23:LYS:CA	71:AT:28:LEU:CD2	2.56	0.74
71:AT:144:ASP:CA	71:AT:147:LYS:HG3	2.17	0.74
24:AJ:37:GLY:H	24:AJ:128:ARG:HE	1.34	0.74
59:A5:111:A:H61	66:CL:73:ARG:HH22	1.32	0.74
18:AZ:47:VAL:HG12	82:AS:55:ARG:NH2	2.02	0.73
59:A5:3782:A:H61	59:A5:3829:U:H3	1.34	0.73
6:CC:46:LEU:HD13	6:CC:116:ARG:HE	1.52	0.73
18:AZ:48:LEU:HG	18:AZ:50:ASP:H	1.52	0.73
31:CS:157:ARG:NH1	59:A5:3754:C:OP2	2.22	0.73
59:A5:3950:A:P	81:Cd:28:LYS:NZ	2.62	0.73
58:B2:1696:G:C1'	82:AS:82:TRP:HZ3	2.01	0.73
58:B2:1696:G:C8	82:AS:82:TRP:CZ3	2.77	0.73
59:A5:3710:U:O2'	59:A5:3849:A:N6	2.21	0.73
79:Cj:65:ARG:NE	79:Cj:65:ARG:O	2.22	0.73
4:CB:55:HIS:HB2	59:A5:3585:A:H1'	1.71	0.73
58:B2:1715:G:C5	71:AT:67:ARG:CG	2.70	0.73
71:AT:45:LEU:HD11	82:AS:38:ARG:HD3	1.69	0.73
42:Cf:157:ILE:HG13	52:CE:93:ARG:HE	1.52	0.73
58:B2:1693:C:C5	71:AT:101:ARG:NH1	2.57	0.73
59:A5:3892:A:N6	59:A5:3962:A:N7	2.36	0.73
71:AT:68:SER:HB2	71:AT:69:PRO:CD	2.18	0.73
11:Ad:16:GLN:HE22	11:Ad:27:ARG:HH21	1.37	0.73
58:B2:1695:A:C2	82:AS:82:TRP:CD1	2.72	0.73
15:AP:21:ARG:O	82:AS:93:GLY:N	2.22	0.73
58:B2:1738:G:H3'	82:AS:86:ARG:HH22	1.54	0.73
59:A5:377:U:O2'	79:Cj:16:HIS:HD2	1.70	0.73
58:B2:1740:G:C4'	82:AS:88:LYS:CG	2.66	0.72
58:B2:1739:U:P	82:AS:86:ARG:HH22	2.12	0.72
58:B2:1782:G:O2'	71:AT:92:PHE:CZ	1.91	0.72
71:AT:49:ASP:CB	71:AT:50:PRO:CD	2.53	0.72
71:AT:45:LEU:CD2	82:AS:38:ARG:HB3	2.19	0.72
71:AT:72:VAL:HA	71:AT:75:ILE:HD12	1.71	0.72
18:AZ:46:GLN:NE2	82:AS:22:GLY:O	2.23	0.72
58:B2:1671:U:O4'	71:AT:52:TRP:CH2	2.38	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:1749:C:O3'	82:AS:120:HIS:CD2	2.43	0.72
59:A5:211:U:H3'	59:A5:212:U:H4'	1.70	0.72
71:AT:50:PRO:C	71:AT:53:PHE:HD2	1.98	0.72
58:B2:1739:U:P	82:AS:86:ARG:NH2	2.63	0.71
15:AP:21:ARG:NH1	82:AS:90:ILE:CD1	2.43	0.71
58:B2:1696:G:N9	82:AS:82:TRP:CZ3	2.58	0.71
59:A5:3614:U:P	81:Cd:75:ARG:HH21	2.13	0.71
59:A5:2517:A:HO2'	79:Cj:2:THR:N	1.87	0.71
73:AO:30:VAL:HG12	73:AO:94:HIS:HB2	1.73	0.71
19:Aa:98:PRO:HB3	19:Aa:100:ARG:HE	1.56	0.71
71:AT:33:GLN:CB	71:AT:36:ILE:HD12	2.19	0.71
2:CA:62:HIS:HB3	2:CA:73:LYS:HA	1.71	0.71
32:CT:135:PRO:HB3	80:CF:89:GLU:HB2	1.71	0.71
48:Cp:52:VAL:HG21	59:A5:2106:C:H4'	1.71	0.71
58:B2:1650:G:P	82:AS:137:LYS:CG	2.78	0.71
81:Cd:88:ARG:NH1	81:Cd:100:TYR:OH	2.24	0.71
58:B2:1696:G:H1'	82:AS:82:TRP:HZ3	1.55	0.71
58:B2:1783:U:H5''	71:AT:92:PHE:CD2	2.26	0.71
33:CP:174:LYS:O	59:A5:3776:A:N6	2.24	0.70
59:A5:3898:C:O3'	81:Cd:23:THR:CG2	2.39	0.70
73:AO:99:ALA:HB3	73:AO:101:GLY:H	1.53	0.70
41:Ce:38:LYS:NZ	59:A5:1145:C:OP1	2.24	0.70
58:B2:1649:U:C4'	82:AS:135:HIS:CD2	2.75	0.70
58:B2:1738:G:C3'	82:AS:86:ARG:HH21	1.84	0.70
59:A5:345:A:OP1	66:CL:30:ARG:NH2	2.24	0.70
29:CQ:154:LYS:HE2	29:CQ:156:PRO:HG3	1.73	0.70
59:A5:3614:U:C5'	81:Cd:75:ARG:NH1	2.52	0.70
65:CO:39:ARG:HD2	65:CO:42:GLU:HG3	1.73	0.70
7:Ag:109:VAL:HA	7:Ag:125:SER:HB2	1.73	0.70
58:B2:244:A:H62	58:B2:916:U:H3'	1.56	0.70
71:AT:60:ILE:CG2	71:AT:64:LEU:HG	2.21	0.70
58:B2:1432:A:N7	58:B2:1435:A:N6	2.38	0.70
77:Cg:44:CYS:SG	77:Cg:45:GLY:N	2.64	0.70
71:AT:89:PRO:HD2	71:AT:91:HIS:NE2	2.07	0.70
13:AL:66:ARG:NH1	58:B2:111:A:O2'	2.25	0.70
20:Ab:2:PRO:HB2	75:AW:22:LYS:HE2	1.73	0.70
58:B2:1740:G:H4'	82:AS:88:LYS:CB	2.21	0.70
59:A5:3950:A:N3	81:Cd:28:LYS:HA	2.07	0.70
25:Ca:4:ILE:HA	25:Ca:7:LYS:HG3	1.73	0.69
58:B2:1740:G:N2	58:B2:1756:C:N3	2.40	0.69
69:DA:199:PRO:HB2	69:DA:202:VAL:HB	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:AT:126:ILE:CG2	71:AT:131:LEU:CB	2.68	0.69
71:AT:136:ASN:HB3	71:AT:140:PHE:CE2	2.27	0.69
71:AT:143:ARG:O	71:AT:147:LYS:HG3	1.92	0.69
3:AB:229:SER:HB3	53:CG:268:GLN:HB2	1.73	0.69
58:B2:148:G:N3	61:AG:13:GLN:NE2	2.39	0.69
58:B2:193:U:H5''	58:B2:919:A:H61	1.57	0.69
58:B2:1716:A:P	71:AT:78:ILE:CG2	2.79	0.69
15:AP:21:ARG:NH2	82:AS:90:ILE:HG12	1.44	0.69
18:AZ:48:LEU:HD13	82:AS:11:HIS:NE2	2.07	0.69
44:Ck:1:MET:HG3	44:Ck:42:LEU:HB3	1.74	0.69
31:CS:164:ARG:HD3	42:Cf:43:LYS:HA	1.74	0.69
59:A5:460:A:OP1	59:A5:541:A:N6	2.24	0.69
71:AT:70:ALA:C	71:AT:123:LEU:CD1	2.58	0.69
28:CD:94:ASN:HB2	28:CD:97:ALA:H	1.57	0.69
59:A5:868:A:N6	59:A5:871:A:N7	2.41	0.69
43:Ci:56:GLU:HG2	53:CG:239:ARG:HH22	1.57	0.69
52:CE:171:LEU:HD12	52:CE:172:LYS:HB2	1.73	0.69
59:A5:579:A:O2'	59:A5:633:A:N6	2.25	0.69
59:A5:1912:G:H4'	59:A5:1927:U:H5''	1.75	0.69
71:AT:29:LYS:CE	71:AT:106:ALA:CA	2.59	0.69
71:AT:63:HIS:ND1	71:AT:67:ARG:HD2	2.08	0.69
17:AY:90:TYR:HB3	58:B2:533:A:H4'	1.75	0.69
58:B2:1695:A:C8	82:AS:83:PHE:CE1	2.80	0.69
71:AT:38:LYS:O	71:AT:43:LYS:HD2	1.92	0.69
28:CD:215:ASP:HB2	28:CD:218:SER:HB3	1.74	0.69
37:Cr:69:LYS:NZ	37:Cr:104:SER:OG	2.25	0.69
58:B2:1653:C:H6	82:AS:141:ARG:CD	2.06	0.69
61:AG:57:ASP:HA	61:AG:107:SER:H	1.58	0.69
4:CB:247:GLY:HA2	59:A5:2205:G:H5'	1.74	0.68
42:Cf:134:ARG:NH1	59:A5:1379:U:OP1	2.26	0.68
58:B2:1445:A:H4'	71:AT:129:ARG:HD2	1.72	0.68
59:A5:2839:A:H61	59:A5:2877:G:H21	1.41	0.68
61:AG:118:GLU:HG3	61:AG:119:LYS:HG3	1.74	0.68
5:AC:43:TRP:HB2	5:AC:54:ARG:HE	1.58	0.68
50:CJ:123:LYS:NZ	82:AS:10:GLN:CD	2.47	0.68
59:A5:137:U:O2	59:A5:140:A:N6	2.25	0.68
4:CB:301:ASN:H	4:CB:304:SER:HB3	1.57	0.68
57:Cz:179:LEU:HA	57:Cz:182:ASN:HB2	1.75	0.68
58:B2:1715:G:H5'	71:AT:78:ILE:CD1	2.15	0.68
59:A5:1115:A:O2'	59:A5:2516:U:O2	2.11	0.68
71:AT:45:LEU:CD1	82:AS:38:ARG:HD2	2.22	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:1649:U:O4'	82:AS:135:HIS:HD2	1.77	0.68
58:B2:1758:A:O4'	82:AS:39:ARG:NH2	2.27	0.68
71:AT:59:SER:C	71:AT:63:HIS:HD2	2.01	0.68
59:A5:1910:C:H1'	59:A5:2130:G:H5''	1.76	0.68
26:CN:144:ARG:NH2	59:A5:130:C:OP1	2.25	0.68
17:AY:14:MET:SD	58:B2:865:A:N6	2.66	0.68
26:CN:91:GLN:O	26:CN:93:LYS:NZ	2.27	0.68
59:A5:866:C:N3	59:A5:868:A:N6	2.42	0.68
6:CC:14:THR:H	6:CC:18:GLU:HB3	1.59	0.68
15:AP:111:LYS:CG	82:AS:116:LYS:NZ	2.53	0.68
58:B2:1446:G:H1	58:B2:1539:U:H1'	1.59	0.68
5:AC:153:TRP:HZ3	5:AC:161:HIS:HB2	1.59	0.68
56:A8:67:G:H5'	79:Cj:87:LYS:HG3	1.74	0.68
59:A5:674:A:N6	59:A5:748:A:N1	2.42	0.68
71:AT:18:VAL:HA	71:AT:21:PHE:CD2	2.29	0.68
7:Ag:105:HIS:HB2	7:Ag:109:VAL:HG22	1.75	0.67
26:CN:187:SER:OG	26:CN:188:ARG:N	2.19	0.67
58:B2:1649:U:C1'	82:AS:135:HIS:HD2	2.03	0.67
59:A5:937:G:H1'	59:A5:967:C:H42	1.58	0.67
59:A5:3755:A:N3	68:CM:14:LYS:NZ	2.42	0.67
67:CV:90:ARG:HE	67:CV:96:ILE:HD12	1.58	0.67
72:AF:151:ARG:HH22	74:Ac:17:THR:HB	1.58	0.67
52:CE:175:LYS:HE2	59:A5:539:G:H3'	1.77	0.67
71:AT:68:SER:HB2	71:AT:69:PRO:HD2	1.76	0.67
15:AP:121:GLU:HB3	82:AS:120:HIS:H	1.57	0.67
26:CN:53:TYR:O	26:CN:54:ARG:NH1	2.26	0.67
59:A5:3377:A:H2	59:A5:3382:G:H1	1.42	0.67
15:AP:111:LYS:HG2	82:AS:116:LYS:NZ	2.09	0.67
37:Cr:16:ASN:HB3	37:Cr:19:LEU:HB3	1.77	0.67
55:A7:12:U:H4'	55:A7:67:G:H21	1.60	0.67
58:B2:1134:G:H1	58:B2:1158:U:H3	1.43	0.67
69:DA:64:GLU:O	69:DA:70:ARG:NH1	2.28	0.67
79:Cj:19:CYS:SG	79:Cj:26:SER:OG	2.52	0.67
58:B2:1262:C:OP1	82:AS:134:GLN:HG2	1.94	0.67
58:B2:1741:A:P	82:AS:88:LYS:HD2	2.35	0.67
15:AP:21:ARG:NH2	82:AS:90:ILE:CG1	2.31	0.67
48:Cp:4:ARG:NH1	59:A5:1037:A:OP2	2.26	0.67
77:Cg:87:GLU:OE2	77:Cg:91:ARG:NH2	2.27	0.67
15:AP:21:ARG:NH1	15:AP:39:LEU:O	2.28	0.67
28:CD:223:PHE:H	55:A7:48:G:H4'	1.60	0.67
33:CP:177:ARG:HG3	59:A5:3838:A:H61	1.59	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:A8:91:C:C5'	79:Cj:76:ASN:HD21	2.02	0.67
71:AT:20:VAL:HG12	71:AT:24:LYS:CE	2.23	0.67
71:AT:45:LEU:HD21	82:AS:38:ARG:HD2	1.76	0.67
6:CC:148:ASP:N	6:CC:148:ASP:OD1	2.24	0.67
17:AY:60:GLY:HA3	17:AY:73:PHE:H	1.60	0.67
40:Cc:11:LEU:HB3	40:Cc:13:SER:H	1.60	0.67
71:AT:17:ALA:C	71:AT:21:PHE:CE2	2.73	0.67
28:CD:21:ARG:NH1	55:A7:110:G:O6	2.28	0.66
58:B2:1693:C:H5	71:AT:101:ARG:NH1	1.94	0.66
59:A5:2268:G:N3	59:A5:2473:C:N4	2.43	0.66
72:AF:73:LEU:HG	72:AF:75:HIS:H	1.60	0.66
79:Cj:51:ARG:H	79:Cj:51:ARG:NE	1.91	0.66
58:B2:149:U:H3	58:B2:159:A:H61	1.41	0.66
59:A5:3610:A:H5'	81:Cd:72:LYS:O	1.94	0.66
6:CC:269:THR:HG23	6:CC:272:LYS:H	1.60	0.66
33:CP:175:LEU:HB3	33:CP:179:LYS:HD2	1.76	0.66
41:Ce:25:ASP:OD1	41:Ce:25:ASP:N	2.28	0.66
59:A5:3898:C:O2'	81:Cd:116:THR:HG22	1.96	0.66
15:AP:21:ARG:HG3	82:AS:93:GLY:HA2	1.77	0.66
57:Cz:164:CYS:SG	59:A5:2840:A:N6	2.68	0.66
58:B2:353:U:H4'	63:AI:14:THR:HG22	1.76	0.66
2:CA:140:ASN:ND2	2:CA:142:ASP:O	2.29	0.66
12:AN:19:ARG:HE	12:AN:22:VAL:HG11	1.60	0.66
15:AP:121:GLU:HB3	82:AS:120:HIS:N	2.10	0.66
50:CJ:123:LYS:HZ1	82:AS:10:GLN:HE22	1.42	0.66
58:B2:901:G:O5'	58:B2:944:G:N2	2.28	0.66
16:AV:33:GLN:HE21	16:AV:52:THR:HG1	1.43	0.66
58:B2:1750:U:H6	82:AS:124:ARG:CZ	2.08	0.66
18:AZ:47:VAL:HG21	82:AS:23:LYS:HG3	0.66	0.66
58:B2:1757:G:OP1	71:AT:38:LYS:CE	2.44	0.66
35:CY:12:ARG:NH2	59:A5:355:G:O6	2.29	0.66
58:B2:1715:G:C5	71:AT:67:ARG:CD	2.79	0.66
59:A5:3716:C:N3	59:A5:3762:G:N1	2.44	0.66
64:AQ:33:LEU:HD21	64:AQ:35:LYS:HE2	1.78	0.66
27:CI:38:ARG:HG3	27:CI:83:ASP:HB2	1.78	0.65
43:CI:44:THR:HG23	43:CI:46:HIS:H	1.60	0.65
58:B2:1653:C:H5''	82:AS:141:ARG:CG	2.24	0.65
63:AI:62:THR:HG22	63:AI:77:ARG:HA	1.77	0.65
63:AI:78:ILE:HA	63:AI:104:ILE:HG22	1.78	0.65
1:AA:71:PRO:HB2	1:AA:95:ASP:HB2	1.76	0.65
31:CS:174:THR:OG1	31:CS:175:TYR:N	2.27	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:Cl:21:ARG:NH1	56:A8:51:A:OP1	2.30	0.65
59:A5:2199:A:OP1	81:Cd:44:LYS:HE2	1.96	0.65
4:CB:152:LYS:NZ	59:A5:3809:U:O4	2.29	0.65
13:AL:27:LYS:HG3	13:AL:29:LYS:H	1.59	0.65
46:Cm:96:CYS:SG	46:Cm:97:ARG:N	2.70	0.65
56:A8:28:A:H5''	66:CL:26:ASN:HB3	1.78	0.65
71:AT:51:ASP:O	71:AT:55:VAL:CG2	2.43	0.65
13:AL:65:ILE:O	58:B2:251:G:N2	2.29	0.65
41:Ce:88:LEU:O	41:Ce:91:ASN:ND2	2.29	0.65
71:AT:45:LEU:CD2	82:AS:38:ARG:CB	2.71	0.65
4:CB:116:ARG:NH1	59:A5:3889:U:OP1	2.28	0.65
7:Ag:49:GLU:HB3	7:Ag:52:ASN:H	1.61	0.65
30:CR:68:GLU:HA	30:CR:71:ARG:HD3	1.76	0.65
50:CJ:123:LYS:NZ	82:AS:12:ILE:O	2.25	0.65
58:B2:1650:G:OP2	82:AS:137:LYS:CG	2.44	0.65
59:A5:1689:G:N2	59:A5:1690:U:O4	2.28	0.65
23:Af:138:ARG:HG3	23:Af:149:VAL:HG13	1.77	0.65
59:A5:554:U:H3	59:A5:658:A:H61	1.43	0.65
59:A5:3791:A:H62	68:CM:144:LYS:HE2	1.61	0.65
64:AQ:125:ASP:HB3	64:AQ:127:ARG:HG3	1.79	0.65
78:CU:224:ASN:ND2	78:CU:227:ASN:OD1	2.30	0.65
10:AM:63:PHE:HB3	10:AM:69:LYS:HD2	1.79	0.65
71:AT:29:LYS:O	71:AT:54:TYR:OH	2.13	0.65
71:AT:69:PRO:HD2	71:AT:69:PRO:O	1.94	0.65
71:AT:83:LYS:HD3	71:AT:93:CYS:SG	2.03	0.65
4:CB:224:LYS:NZ	59:A5:3584:C:OP2	2.28	0.65
51:CH:1:MET:HE3	51:CH:3:THR:HB	1.77	0.65
58:B2:1137:G:O2'	58:B2:1139:A:N6	2.30	0.65
58:B2:1719:C:N4	71:AT:82:ARG:NH1	2.43	0.65
58:B2:1783:U:H5'	71:AT:92:PHE:CZ	2.23	0.65
2:CA:54:ARG:NH2	59:A5:2554:U:OP1	2.29	0.65
59:A5:2129:C:H4'	59:A5:2130:G:H4'	1.78	0.65
28:CD:36:LEU:O	28:CD:48:LYS:NZ	2.29	0.64
30:CR:106:LEU:O	30:CR:120:TYR:OH	2.15	0.64
41:Ce:1:MET:O	59:A5:762:G:N2	2.30	0.64
58:B2:1740:G:C3'	82:AS:88:LYS:HD3	2.27	0.64
71:AT:20:VAL:HG12	71:AT:24:LYS:HG3	1.78	0.64
15:AP:21:ARG:O	82:AS:92:ASP:HA	1.95	0.64
69:DA:418:ASP:OD1	69:DA:418:ASP:N	2.29	0.64
71:AT:131:LEU:CD2	71:AT:134:ILE:HD12	2.27	0.64
8:AU:50:LEU:HB3	8:AU:93:LEU:HD22	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:Ci:16:LYS:HG2	43:Ci:18:SER:H	1.60	0.64
50:CJ:57:LYS:HB3	50:CJ:70:ASN:HA	1.79	0.64
59:A5:90:G:O2'	59:A5:102:G:O6	2.15	0.64
59:A5:1697:U:O2'	81:Cd:36:LYS:NZ	2.26	0.64
72:AF:87:LYS:O	72:AF:95:ARG:NH2	2.31	0.64
26:CN:96:ARG:NH2	59:A5:34:C:O2'	2.30	0.64
58:B2:1445:A:H4'	71:AT:133:ARG:HH12	0.67	0.64
59:A5:73:U:O2'	59:A5:105:A:O2'	2.15	0.64
64:AQ:34:LEU:HA	64:AQ:70:ILE:HB	1.79	0.64
4:CB:217:ILE:HD11	4:CB:347:LEU:HD13	1.80	0.64
24:AJ:42:ARG:HG2	24:AJ:45:TRP:HD1	1.62	0.64
32:CT:142:LYS:HB3	32:CT:144:LEU:HD23	1.78	0.64
58:B2:127:U:H5''	58:B2:176:U:H5'	1.79	0.64
58:B2:1589:C:O2'	58:B2:1590:G:N3	2.29	0.64
58:B2:1696:G:C1'	82:AS:82:TRP:CZ3	2.81	0.64
58:B2:1758:A:H5'	82:AS:37:GLY:N	2.12	0.64
58:B2:159:A:H3'	58:B2:160:G:H21	1.62	0.64
58:B2:1738:G:H2'	82:AS:86:ARG:CZ	2.22	0.64
58:B2:494:C:H2'	58:B2:505:G:H22	1.63	0.64
58:B2:1739:U:C2'	82:AS:86:ARG:CD	2.43	0.64
58:B2:1758:A:O5'	82:AS:39:ARG:NE	2.20	0.64
5:AC:161:HIS:HB3	5:AC:203:GLU:HB3	1.78	0.64
7:Ag:79:ALA:HB3	7:Ag:91:TRP:HB2	1.80	0.64
31:CS:170:ARG:HG3	59:A5:3758:G:H5''	1.79	0.64
35:CY:20:GLN:NE2	56:A8:22:C:O2	2.31	0.64
40:Cc:77:THR:OG1	40:Cc:78:ASN:N	2.29	0.64
52:CE:109:GLN:NE2	59:A5:3844:U:O4	2.29	0.64
52:CE:234:SER:O	68:CM:109:ARG:NH2	2.31	0.64
52:CE:236:GLN:NE2	68:CM:104:LEU:O	2.28	0.64
58:B2:1739:U:C6	82:AS:86:ARG:CZ	2.78	0.64
21:AD:180:ARG:NH1	21:AD:180:ARG:O	2.31	0.64
29:CQ:65:ARG:HH21	59:A5:872:A:H2'	1.63	0.64
31:CS:25:THR:HG22	31:CS:26:PRO:HD3	1.80	0.64
59:A5:1909:U:O2	59:A5:2132:A:N6	2.31	0.64
59:A5:2268:G:N2	59:A5:2473:C:N3	2.44	0.64
71:AT:42:PHE:HD2	71:AT:83:LYS:CE	1.82	0.64
71:AT:83:LYS:HD2	71:AT:93:CYS:HB2	1.77	0.64
74:Ac:13:VAL:HA	74:Ac:26:VAL:HG12	1.80	0.64
2:CA:30:ARG:NH2	2:CA:33:ASP:OD2	2.30	0.64
4:CB:77:THR:OG1	4:CB:335:GLY:O	2.17	0.64
13:AL:36:ASP:OD1	13:AL:36:ASP:N	2.31	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:1782:G:C2'	71:AT:92:PHE:CZ	2.81	0.64
59:A5:2062:A:H4'	59:A5:2063:A:H5''	1.79	0.64
71:AT:46:ALA:HB1	71:AT:47:PRO:CD	2.28	0.64
2:CA:244:GLY:HA3	59:A5:2620:C:H5''	1.80	0.63
44:Ck:1:MET:N	59:A5:2061:G:O2'	2.31	0.63
58:B2:663:A:H5''	58:B2:690:U:H5'	1.80	0.63
58:B2:1306:A:N7	70:AK:53:ARG:NH1	2.46	0.63
58:B2:1757:G:N3	82:AS:84:LEU:O	2.31	0.63
59:A5:1138:C:O2'	59:A5:3346:G:O2'	2.16	0.63
59:A5:1516:A:H4'	59:A5:1517:A:H5''	1.79	0.63
59:A5:3699:U:H3	59:A5:3863:G:H22	1.45	0.63
2:CA:247:ARG:NH1	58:B2:1099:U:O2'	2.32	0.63
8:AU:32:ARG:NH1	8:AU:35:GLU:OE2	2.32	0.63
23:Af:82:LYS:HZ2	58:B2:1272:A:H5'	1.64	0.63
23:Af:139:HIS:H	23:Af:150:PHE:HB2	1.62	0.63
58:B2:1589:C:O2	58:B2:1590:G:N2	2.31	0.63
58:B2:1726:A:C3'	82:AS:23:LYS:HD3	2.27	0.63
59:A5:3739:U:O2'	59:A5:3741:A:N7	2.29	0.63
71:AT:131:LEU:HD23	71:AT:134:ILE:CD1	2.27	0.63
80:CF:190:CYS:SG	80:CF:191:VAL:N	2.71	0.63
3:AB:114:ARG:HH21	73:AO:135:ILE:HD12	1.62	0.63
4:CB:95:THR:OG1	4:CB:98:GLY:O	2.15	0.63
22:Ae:116:ASN:HB2	22:Ae:117:PHE:HB2	1.81	0.63
29:CQ:173:LYS:NZ	59:A5:92:A:OP2	2.32	0.63
41:Ce:23:GLN:HG2	41:Ce:26:ARG:HD3	1.80	0.63
15:AP:21:ARG:CB	82:AS:90:ILE:HG22	2.00	0.63
43:Ci:94:LYS:NZ	59:A5:327:C:OP1	2.32	0.63
58:B2:1295:U:H3	58:B2:1648:C:H5	1.47	0.63
58:B2:1314:G:N3	58:B2:1316:G:N1	2.46	0.63
58:B2:1444:C:H2'	71:AT:129:ARG:NE	2.12	0.63
59:A5:3208:A:N1	59:A5:3212:A:N6	2.47	0.63
79:Cj:79:ARG:O	79:Cj:80:GLU:CG	2.44	0.63
81:Cd:25:HIS:HA	81:Cd:80:ARG:HG3	1.79	0.63
10:AM:109:LYS:HG3	58:B2:1311:A:H62	1.62	0.63
59:A5:1595:G:OP1	59:A5:1598:A:O2'	2.17	0.63
59:A5:2235:G:O2'	59:A5:2249:A:N6	2.32	0.63
59:A5:3950:A:O5'	81:Cd:28:LYS:HE3	1.98	0.63
71:AT:70:ALA:CB	71:AT:123:LEU:HD12	2.22	0.63
8:AU:56:VAL:HB	8:AU:90:ILE:HB	1.79	0.63
25:Ca:56:LYS:NZ	59:A5:3297:C:OP1	2.31	0.63
27:CI:99:ILE:HD13	27:CI:123:GLN:HB2	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:CT:133:GLU:HB3	80:CF:130:LYS:HB2	1.79	0.63
58:B2:834:A:OP1	60:AE:187:ARG:NH1	2.32	0.63
58:B2:1750:U:N3	82:AS:129:LEU:HD21	2.14	0.63
58:B2:1771:U:OP1	64:AQ:148:ARG:NH1	2.32	0.63
15:AP:41:HIS:HA	82:AS:88:LYS:NZ	2.14	0.63
31:CS:127:ILE:HG22	32:CT:154:PRO:HG2	1.81	0.63
48:Cp:38:THR:HA	48:Cp:45:ASP:HA	1.81	0.63
59:A5:3350:U:H6	59:A5:3350:U:H5'	1.64	0.63
71:AT:42:PHE:CE2	71:AT:83:LYS:CE	2.66	0.63
13:AL:147:GLY:HA3	13:AL:151:SER:HB2	1.79	0.62
31:CS:164:ARG:NH1	59:A5:3759:G:OP2	2.31	0.62
40:Cc:99:PRO:HG2	40:Cc:105:ILE:HG22	1.81	0.62
59:A5:2090:U:O2'	59:A5:2479:A:OP1	2.17	0.62
59:A5:3687:A:N6	59:A5:3693:G:O2'	2.32	0.62
58:B2:1168:C:O2'	58:B2:1170:G:OP1	2.15	0.62
59:A5:370:A:H61	59:A5:383:A:H5''	1.64	0.62
24:AJ:47:VAL:HG21	24:AJ:107:LEU:HD21	1.81	0.62
59:A5:1698:A:C2	81:Cd:70:TRP:HZ3	2.16	0.62
59:A5:3898:C:O3'	81:Cd:23:THR:HG23	1.99	0.62
60:AE:87:MET:HE2	60:AE:123:LEU:HB2	1.81	0.62
71:AT:31:PRO:O	71:AT:31:PRO:HD2	1.98	0.62
73:AO:33:ILE:HG12	73:AO:42:VAL:HG12	1.80	0.62
3:AB:125:GLU:OE2	3:AB:216:ARG:NH1	2.32	0.62
12:AN:127:ARG:NH2	58:B2:637:U:OP1	2.33	0.62
26:CN:192:TRP:O	26:CN:196:ASN:ND2	2.22	0.62
51:CH:42:ALA:O	59:A5:3728:A:N6	2.32	0.62
58:B2:1445:A:C5'	71:AT:129:ARG:HD2	2.29	0.62
58:B2:1513:U:H5''	58:B2:1514:G:H5'	1.81	0.62
59:A5:3591:A:O2'	59:A5:3620:G:N1	2.32	0.62
64:AQ:84:TYR:OH	72:AF:75:HIS:ND1	2.33	0.62
71:AT:17:ALA:HB1	71:AT:21:PHE:HE2	1.63	0.62
71:AT:76:THR:HG22	71:AT:97:ASP:CG	2.25	0.62
3:AB:129:GLU:OE1	3:AB:139:ARG:NH2	2.32	0.62
27:CI:56:GLU:OE2	55:A7:89:G:N2	2.33	0.62
36:CZ:24:ILE:HD12	36:CZ:87:ALA:HB3	1.82	0.62
37:Cr:112:GLN:HG3	59:A5:1592:U:H5	1.65	0.62
52:CE:71:THR:H	52:CE:72:LYS:HG2	1.64	0.62
58:B2:1740:G:C4'	82:AS:88:LYS:HD3	2.28	0.62
71:AT:129:ARG:HA	71:AT:133:ARG:HG3	1.80	0.62
4:CB:311:ASP:OD1	4:CB:312:LYS:NZ	2.32	0.62
7:Ag:150:ASP:OD2	14:AR:23:ARG:NH2	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AM:71:LEU:HD22	23:Af:106:TYR:HD2	1.63	0.62
17:AY:91:ARG:HG2	17:AY:94:ARG:HH12	1.64	0.62
26:CN:169:LYS:NZ	59:A5:67:A:OP1	2.25	0.62
28:CD:49:TYR:H	28:CD:66:TYR:HB3	1.64	0.62
56:A8:67:G:C5'	79:Cj:87:LYS:CG	2.52	0.62
59:A5:2576:A:OP1	69:DA:305:ARG:NH2	2.33	0.62
59:A5:3010:U:H3	59:A5:3107:G:H1	1.48	0.62
71:AT:136:ASN:C	71:AT:140:PHE:HD2	2.07	0.62
2:CA:117:GLU:HG2	2:CA:124:GLY:H	1.65	0.62
64:AQ:11:ALA:HB1	64:AQ:26:TYR:HB3	1.80	0.62
68:CM:137:ASP:HB2	68:CM:141:ARG:HD2	1.81	0.62
6:CC:142:SER:O	6:CC:142:SER:OG	2.16	0.62
31:CS:155:VAL:HG22	68:CM:5:ARG:HG2	1.82	0.62
50:CJ:44:VAL:O	50:CJ:47:GLN:NE2	2.32	0.62
58:B2:1756:C:O2'	82:AS:82:TRP:O	2.17	0.62
59:A5:3728:A:N7	59:A5:3729:A:O2'	2.33	0.62
67:CV:123:LYS:NZ	67:CV:127:ASP:OD2	2.32	0.62
15:AP:20:TYR:CD2	82:AS:90:ILE:HG21	2.34	0.62
52:CE:170:ARG:N	59:A5:3841:C:OP2	2.32	0.62
58:B2:1759:U:OP1	82:AS:35:GLY:N	2.32	0.62
62:AH:4:GLY:HA2	62:AH:24:GLN:HG3	1.82	0.62
68:CM:128:ASN:HA	68:CM:130:LEU:HD23	1.81	0.62
71:AT:50:PRO:HD2	71:AT:51:ASP:N	2.15	0.62
72:AF:200:GLU:HG2	72:AF:213:ALA:HB3	1.82	0.62
4:CB:218:ASP:OD2	4:CB:348:ARG:NH1	2.33	0.62
7:Ag:42:VAL:HG13	7:Ag:57:GLN:HB2	1.81	0.62
7:Ag:169:CYS:HA	7:Ag:175:VAL:HG12	1.81	0.62
45:Cl:44:TRP:O	45:Cl:48:LYS:NZ	2.31	0.62
58:B2:1731:U:C5	82:AS:28:ILE:HG12	2.35	0.62
59:A5:120:C:N4	59:A5:282:A:O2'	2.33	0.62
27:Cl:4:ARG:NH1	27:Cl:9:TYR:OH	2.33	0.61
30:CR:141:TYR:HB3	30:CR:145:LYS:HD2	1.82	0.61
57:Cz:157:PHE:HB3	57:Cz:167:VAL:HG11	1.82	0.61
58:B2:1445:A:O5'	71:AT:129:ARG:NH1	2.28	0.61
71:AT:61:LEU:CD2	71:AT:132:ASP:CG	2.73	0.61
71:AT:64:LEU:HD21	71:AT:123:LEU:HD12	1.80	0.61
71:AT:126:ILE:HG22	71:AT:126:ILE:O	2.00	0.61
2:CA:21:LYS:HD3	59:A5:1024:U:H5''	1.82	0.61
15:AP:20:TYR:C	82:AS:90:ILE:O	2.44	0.61
25:Ca:93:LYS:HB2	25:Ca:95:LYS:HG2	1.83	0.61
29:CQ:142:ARG:NH1	59:A5:873:U:OP2	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:A5:1881:C:OP2	77:Cg:8:ARG:NH1	2.33	0.61
59:A5:2256:G:H21	59:A5:3936:A:H8	1.47	0.61
71:AT:34:MET:CE	71:AT:50:PRO:HB3	2.30	0.61
4:CB:229:LYS:O	4:CB:234:ARG:NH1	2.33	0.61
5:AC:133:ALA:O	5:AC:137:ALA:N	2.32	0.61
6:CC:116:ARG:NH2	59:A5:990:U:O2'	2.34	0.61
33:CP:74:LYS:NZ	59:A5:3884:A:OP1	2.28	0.61
58:B2:1741:A:P	82:AS:88:LYS:CD	2.88	0.61
59:A5:70:A:OP1	59:A5:164:U:N3	2.34	0.61
3:AB:28:LYS:NZ	3:AB:50:ASN:OD1	2.32	0.61
4:CB:54:THR:O	4:CB:54:THR:OG1	2.12	0.61
24:AJ:64:LEU:O	24:AJ:71:ARG:NH1	2.32	0.61
37:Cr:75:GLN:NE2	37:Cr:78:ALA:O	2.33	0.61
71:AT:23:LYS:HG2	71:AT:28:LEU:CD2	2.30	0.61
71:AT:61:LEU:HD21	71:AT:132:ASP:OD2	2.00	0.61
15:AP:113:GLU:OE2	82:AS:116:LYS:HD2	1.99	0.61
42:Cf:114:VAL:HG11	59:A5:3848:U:H5'	1.83	0.61
52:CE:42:ARG:NH1	59:A5:699:U:O2	2.33	0.61
59:A5:3761:U:O2'	59:A5:3765:A:N6	2.33	0.61
7:Ag:46:THR:H	7:Ag:54:GLY:HA2	1.65	0.61
15:AP:32:PRO:HB3	15:AP:35:GLN:HB2	1.83	0.61
31:CS:29:LYS:HD3	32:CT:149:ALA:HB2	1.83	0.61
38:Ch:122:LYS:HG3	66:CL:149:LEU:HB2	1.82	0.61
40:Cc:10:ALA:N	40:Cc:109:GLU:OE2	2.34	0.61
46:Cm:100:TYR:O	59:A5:3427:G:O2'	2.19	0.61
52:CE:233:HIS:NE2	59:A5:3766:U:O4	2.31	0.61
58:B2:66:C:N4	61:AG:134:GLY:O	2.34	0.61
59:A5:170:G:N2	59:A5:278:U:O2	2.34	0.61
59:A5:678:U:O4	59:A5:742:A:N6	2.33	0.61
30:CR:112:SER:OG	30:CR:113:LYS:N	2.32	0.61
32:CT:78:LYS:NZ	59:A5:3256:U:OP1	2.34	0.61
58:B2:222:C:O2	58:B2:922:G:N1	2.34	0.61
58:B2:274:G:N7	61:AG:188:ARG:NH1	2.49	0.61
58:B2:492:G:H21	58:B2:508:C:H41	1.47	0.61
59:A5:2215:G:O2'	59:A5:2712:U:O4	2.14	0.61
73:AO:34:TYR:HB3	73:AO:41:PHE:HB2	1.81	0.61
1:AA:176:TRP:HE1	1:AA:202:PHE:H	1.48	0.61
27:CI:44:GLU:OE2	27:CI:185:ARG:NH1	2.34	0.61
58:B2:1670:G:OP2	71:AT:43:LYS:NZ	2.34	0.61
59:A5:122:C:H1'	59:A5:159:G:H22	1.65	0.61
59:A5:3948:U:OP2	81:Cd:80:ARG:NH2	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:CB:151:ARG:NH1	59:A5:3800:G:O6	2.33	0.61
7:Ag:83:SER:OG	7:Ag:84:TRP:N	2.34	0.61
15:AP:125:THR:O	58:B2:1271:A:N6	2.34	0.61
19:Aa:20:PRO:HA	19:Aa:31:PRO:HA	1.83	0.61
21:AD:75:VAL:HA	21:AD:78:ARG:HB3	1.83	0.61
27:CI:47:PRO:HD2	27:CI:141:SER:HA	1.83	0.61
48:Cp:7:LYS:O	48:Cp:27:LYS:NZ	2.34	0.61
58:B2:1080:A:OP1	58:B2:1972:G:N2	2.34	0.61
58:B2:1551:C:N4	58:B2:1559:A:OP2	2.34	0.61
59:A5:473:A:N6	59:A5:527:U:O4	2.33	0.61
7:Ag:171:TRP:O	14:AR:23:ARG:NH1	2.32	0.61
7:Ag:218:LEU:HA	7:Ag:230:THR:HA	1.83	0.61
38:Ch:81:LEU:HA	38:Ch:84:ARG:HD3	1.83	0.61
58:B2:139:U:H2'	58:B2:140:G:H8	1.66	0.61
58:B2:213:G:OP1	58:B2:215:C:N4	2.34	0.61
58:B2:1319:A:N3	58:B2:1341:C:N4	2.49	0.61
72:AF:181:GLY:HA3	72:AF:213:ALA:HB2	1.81	0.61
6:CC:239:ASN:HB3	6:CC:242:LYS:HG2	1.83	0.60
52:CE:27:LYS:NZ	59:A5:652:G:O6	2.34	0.60
58:B2:1445:A:P	71:AT:129:ARG:HD2	2.40	0.60
59:A5:873:U:O2'	59:A5:874:G:N7	2.27	0.60
63:AI:73:ALA:O	63:AI:74:ARG:NH1	2.34	0.60
58:B2:507:C:O2	58:B2:509:C:N4	2.34	0.60
58:B2:1749:C:H1'	82:AS:120:HIS:CE1	2.30	0.60
58:B2:1882:C:N4	58:B2:1900:U:OP2	2.34	0.60
59:A5:186:G:O4'	59:A5:262:G:N2	2.34	0.60
59:A5:1717:A:O2'	81:Cd:67:LYS:NZ	2.33	0.60
59:A5:2127:C:O5'	59:A5:2130:G:N2	2.34	0.60
70:AK:78:ARG:NH1	70:AK:84:PRO:O	2.34	0.60
29:CQ:57:ASN:HA	29:CQ:143:ARG:HD3	1.82	0.60
34:CX:178:SER:O	34:CX:180:LYS:NZ	2.35	0.60
37:Cr:20:LEU:HD21	59:A5:1663:G:H21	1.66	0.60
53:CG:122:ILE:HA	53:CG:126:LYS:HB2	1.82	0.60
58:B2:449:C:N4	58:B2:465:A:N7	2.48	0.60
58:B2:1187:U:N3	58:B2:1188:G:N7	2.48	0.60
59:A5:462:C:N4	59:A5:464:G:N3	2.49	0.60
59:A5:3649:C:O2'	59:A5:3651:C:N4	2.31	0.60
4:CB:394:LYS:O	4:CB:398:LYS:N	2.32	0.60
13:AL:45:ARG:NH2	58:B2:932:U:O2'	2.35	0.60
14:AR:92:GLU:HG3	14:AR:96:ILE:HG12	1.82	0.60
14:AR:107:LYS:HE3	14:AR:113:ASN:HA	1.81	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:Co:34:GLY:O	49:Co:39:ARG:NH1	2.35	0.60
57:Cz:139:SER:HB3	57:Cz:141:GLN:HE21	1.67	0.60
59:A5:2155:A:H2	59:A5:2169:U:H3	1.48	0.60
59:A5:3831:C:H2'	59:A5:3832:A:H8	1.67	0.60
59:A5:3927:C:O2	63:AI:129:HIS:NE2	2.34	0.60
63:AI:120:PRO:O	63:AI:123:ARG:NH1	2.35	0.60
69:DA:125:LEU:HG	69:DA:370:ILE:HD11	1.83	0.60
4:CB:294:LYS:HD3	4:CB:298:VAL:HG21	1.83	0.60
44:Ck:54:ASP:N	44:Ck:54:ASP:OD1	2.33	0.60
52:CE:38:MET:HB3	59:A5:698:A:H62	1.66	0.60
57:Cz:27:GLY:HA3	59:A5:2863:U:H5'	1.83	0.60
58:B2:1262:C:OP1	82:AS:134:GLN:HB3	2.02	0.60
58:B2:1580:G:O2'	58:B2:1603:G:N2	2.33	0.60
59:A5:564:C:H42	59:A5:647:A:H61	1.47	0.60
59:A5:2627:G:OP2	59:A5:2650:G:O2'	2.20	0.60
6:CC:318:ARG:NH2	80:CF:158:TYR:O	2.33	0.60
14:AR:65:GLN:HG2	14:AR:74:GLN:HE22	1.66	0.60
42:Cf:80:ARG:NE	42:Cf:82:GLU:OE1	2.32	0.60
56:A8:67:G:H5''	79:Cj:87:LYS:CG	1.88	0.60
59:A5:3859:C:N3	59:A5:3860:A:N6	2.50	0.60
20:Ab:80:ARG:NH2	20:Ab:83:PRO:O	2.35	0.60
59:A5:1228:C:H42	59:A5:1249:A:H61	1.50	0.60
3:AB:137:LEU:HB3	3:AB:222:LYS:HB3	1.83	0.60
5:AC:48:LYS:HD2	5:AC:256:LEU:HD22	1.84	0.60
58:B2:957:A:H3'	58:B2:958:G:H4'	1.83	0.60
58:B2:1740:G:H4'	82:AS:88:LYS:HB2	1.84	0.60
59:A5:2167:G:O2'	79:Cj:6:THR:HG22	2.01	0.60
4:CB:220:VAL:HG13	4:CB:278:THR:HG22	1.84	0.60
15:AP:46:ARG:NH2	58:B2:1744:U:OP2	2.35	0.60
27:CI:91:LEU:HD13	27:CI:135:ILE:HG23	1.83	0.60
33:CP:122:ALA:HB3	33:CP:143:PRO:HB2	1.84	0.60
53:CG:146:ASN:ND2	59:A5:156:G:N7	2.48	0.60
58:B2:334:G:H5''	63:AI:98:LYS:HB3	1.83	0.60
58:B2:546:A:O2'	58:B2:548:G:N2	2.34	0.60
58:B2:713:A:N6	62:AH:110:LEU:O	2.35	0.60
59:A5:983:U:H5''	59:A5:984:U:H5''	1.83	0.60
59:A5:2161:G:O2'	79:Cj:5:THR:HG22	2.02	0.60
59:A5:3313:U:H4'	66:CL:197:LYS:HD2	1.83	0.60
6:CC:36:ARG:NH1	59:A5:824:G:OP1	2.35	0.60
7:Ag:155:VAL:O	7:Ag:156:ARG:NH1	2.35	0.60
13:AL:102:ARG:NH1	58:B2:312:G:OP1	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:CN:108:ARG:NH2	59:A5:59:G:O2'	2.31	0.60
32:CT:119:ALA:HA	32:CT:122:LYS:HG2	1.82	0.60
37:Cr:41:SER:OG	37:Cr:42:TYR:N	2.32	0.60
51:CH:103:THR:OG1	51:CH:107:ASN:O	2.20	0.60
58:B2:1272:A:HO2'	58:B2:1297:C:HO2'	1.50	0.60
59:A5:171:U:O2'	59:A5:276:G:N2	2.35	0.60
59:A5:1531:U:OP2	65:CO:135:ARG:NH1	2.34	0.60
59:A5:3415:U:H3	59:A5:3471:A:H61	1.50	0.60
3:AB:44:ILE:HD12	3:AB:69:VAL:HG11	1.84	0.59
8:AU:57:ARG:NH2	58:B2:1576:A:OP1	2.30	0.59
26:CN:75:VAL:HG21	26:CN:80:THR:HG22	1.84	0.59
28:CD:269:ASN:O	55:A7:59:G:O2'	2.20	0.59
58:B2:1457:C:O2	58:B2:1459:G:N2	2.35	0.59
69:DA:372:ASP:O	69:DA:375:GLN:NE2	2.33	0.59
80:CF:231:TYR:HA	80:CF:235:GLY:HA2	1.83	0.59
1:AA:145:ILE:HG12	1:AA:159:ILE:H	1.68	0.59
4:CB:33:PRO:O	4:CB:186:ASN:ND2	2.35	0.59
58:B2:1695:A:N1	82:AS:82:TRP:CG	2.56	0.59
59:A5:712:U:H3	59:A5:724:U:H3	1.49	0.59
59:A5:2067:C:H42	59:A5:2085:G:H1	1.47	0.59
72:AF:42:LYS:NZ	72:AF:50:ASP:OD1	2.35	0.59
1:AA:155:ARG:NH2	58:B2:1169:C:O2	2.36	0.59
13:AL:27:LYS:HE2	13:AL:29:LYS:HD3	1.84	0.59
23:Af:94:LYS:HE2	58:B2:1318:A:H5'	1.84	0.59
32:CT:143:LYS:HG2	32:CT:147:PRO:HA	1.83	0.59
44:Ck:17:ARG:NH2	44:Ck:38:CYS:SG	2.75	0.59
58:B2:58:U:O2'	58:B2:456:A:N3	2.35	0.59
58:B2:1695:A:N6	82:AS:82:TRP:HB2	2.18	0.59
58:B2:1758:A:OP1	82:AS:36:VAL:HA	2.02	0.59
59:A5:1017:A:H8	79:Cj:15:THR:HG21	1.58	0.59
59:A5:1811:A:N6	59:A5:1859:U:O5'	2.34	0.59
63:AI:110:ARG:NH2	63:AI:168:PHE:O	2.33	0.59
71:AT:23:LYS:HG2	71:AT:28:LEU:HD22	1.84	0.59
72:AF:69:PHE:HB3	72:AF:71:ARG:HE	1.67	0.59
2:CA:242:ARG:NH1	2:CA:243:THR:O	2.35	0.59
4:CB:155:ARG:NH2	59:A5:3800:G:OP2	2.35	0.59
7:Ag:26:LYS:NZ	7:Ag:74:SER:O	2.35	0.59
28:CD:182:GLY:HA3	28:CD:194:VAL:HG11	1.84	0.59
30:CR:114:LYS:O	30:CR:146:LYS:NZ	2.34	0.59
37:Cr:51:LYS:NZ	37:Cr:107:ARG:O	2.35	0.59
48:Cp:16:THR:O	48:Cp:16:THR:OG1	2.18	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:Co:33:LYS:HB3	49:Co:38:ARG:HG2	1.84	0.59
51:CH:118:GLU:OE1	51:CH:122:ARG:NH2	2.35	0.59
53:CG:63:PRO:HD2	53:CG:66:ILE:HD12	1.85	0.59
58:B2:947:U:O2'	75:AW:56:HIS:O	2.17	0.59
58:B2:1066:A:N3	58:B2:1970:U:O2'	2.36	0.59
69:DA:138:ASN:HB2	69:DA:162:VAL:HG23	1.84	0.59
69:DA:252:SER:OG	69:DA:253:THR:N	2.35	0.59
6:CC:306:ARG:HH12	59:A5:1183:U:H3	1.50	0.59
18:AZ:47:VAL:HB	82:AS:23:LYS:CB	2.32	0.59
23:Af:79:LYS:H	58:B2:1639:U:H5	1.51	0.59
30:CR:162:ARG:HH21	30:CR:163:ARG:HH12	1.51	0.59
52:CE:20:HIS:ND1	52:CE:31:LEU:O	2.35	0.59
58:B2:67:A:H8	58:B2:82:G:H21	1.50	0.59
58:B2:1269:U:O2	58:B2:1650:G:N1	2.32	0.59
59:A5:118:A:N1	59:A5:284:A:O2'	2.35	0.59
69:DA:105:ILE:HG21	69:DA:141:LEU:HB3	1.85	0.59
80:CF:99:ARG:NH1	80:CF:141:PRO:O	2.35	0.59
4:CB:66:LYS:HE2	67:CV:11:GLY:HA3	1.84	0.59
4:CB:286:ARG:NH2	4:CB:304:SER:O	2.35	0.59
6:CC:175:ARG:HB2	59:A5:227:A:N6	2.17	0.59
17:AY:88:PRO:O	17:AY:92:LEU:N	2.35	0.59
20:Ab:23:ARG:HH22	62:AH:194:VAL:HA	1.67	0.59
27:CI:2:GLY:N	27:CI:123:GLN:NE2	2.41	0.59
42:Cf:113:ARG:NH1	59:A5:3706:U:OP1	2.36	0.59
43:CI:76:ASP:OD1	43:CI:76:ASP:N	2.35	0.59
52:CE:112:ARG:O	52:CE:133:ASN:ND2	2.35	0.59
57:Cz:97:LYS:HE3	59:A5:2874:A:H5''	1.85	0.59
58:B2:122:G:OP1	60:AE:75:LYS:NZ	2.34	0.59
58:B2:405:A:H5''	63:AI:25:ARG:HA	1.83	0.59
58:B2:1715:G:N1	71:AT:67:ARG:HG3	2.11	0.59
59:A5:1698:A:C2	81:Cd:70:TRP:CZ3	2.90	0.59
69:DA:170:CYS:SG	69:DA:171:GLU:N	2.76	0.59
2:CA:117:GLU:OE2	2:CA:163:ARG:NH2	2.35	0.59
23:Af:130:VAL:HG21	23:Af:141:CYS:HB2	1.85	0.59
39:Cb:38:LYS:NZ	59:A5:1289:C:O2	2.34	0.59
58:B2:889:A:N3	75:AW:105:THR:OG1	2.34	0.59
58:B2:1739:U:H6	82:AS:86:ARG:HH12	1.50	0.59
64:AQ:52:LYS:HB2	72:AF:73:LEU:HD13	1.85	0.59
2:CA:33:ASP:OD1	2:CA:33:ASP:N	2.32	0.59
3:AB:88:ARG:NH2	58:B2:1007:C:OP1	2.36	0.59
4:CB:43:LEU:HB3	4:CB:183:ILE:HG21	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:Ag:299:LEU:HB3	7:Ag:311:TRP:HB2	1.84	0.59
19:Aa:85:ARG:O	19:Aa:87:ARG:NH1	2.35	0.59
27:CI:139:ARG:NH1	27:CI:195:CYS:SG	2.75	0.59
33:CP:40:PRO:HA	33:CP:113:VAL:HA	1.85	0.59
53:CG:95:THR:O	53:CG:99:LYS:NZ	2.31	0.59
53:CG:114:ALA:HA	53:CG:117:LEU:HB2	1.85	0.59
11:Ad:16:GLN:HE22	11:Ad:27:ARG:NH2	1.99	0.59
12:AN:132:LYS:NZ	58:B2:1051:U:OP1	2.35	0.59
27:CI:150:GLU:O	27:CI:154:ARG:NH1	2.36	0.59
35:CY:10:SER:HB3	35:CY:13:LYS:HB2	1.84	0.59
42:Cf:80:ARG:HH22	59:A5:1396:A:H62	1.48	0.59
54:A9:24:G:H5'	59:A5:4:U:H3	1.68	0.59
58:B2:1590:G:H1	58:B2:1593:U:H5''	1.67	0.59
58:B2:1650:G:O3'	58:B2:1750:U:N3	2.36	0.59
59:A5:3757:U:H2'	59:A5:3758:G:H21	1.67	0.59
62:AH:49:GLU:HG2	62:AH:58:VAL:HG22	1.84	0.59
72:AF:91:PRO:O	72:AF:95:ARG:NH1	2.36	0.59
19:Aa:25:ASN:OD1	19:Aa:25:ASN:N	2.35	0.59
36:CZ:114:ARG:NH1	59:A5:1941:A:O2'	2.36	0.59
59:A5:577:A:N6	59:A5:634:U:O4	2.36	0.59
59:A5:1499:C:O5'	59:A5:1500:G:N2	2.35	0.59
60:AE:51:ARG:HB3	60:AE:111:ILE:HD11	1.84	0.59
60:AE:206:ASP:OD1	60:AE:206:ASP:N	2.36	0.59
15:AP:114:MET:HG2	82:AS:117:ILE:HD12	0.59	0.58
20:Ab:56:CYS:SG	20:Ab:57:ALA:N	2.75	0.58
57:Cz:24:LYS:NZ	57:Cz:28:PHE:O	2.36	0.58
58:B2:280:U:O2'	58:B2:286:A:N1	2.36	0.58
58:B2:1121:C:HO2'	75:AW:2:VAL:N	2.00	0.58
58:B2:1739:U:O2'	82:AS:86:ARG:HD2	1.98	0.58
59:A5:2933:A:N6	59:A5:2982:U:OP1	2.36	0.58
72:AF:48:SER:OG	72:AF:131:ASN:ND2	2.36	0.58
4:CB:395:ASP:HA	4:CB:398:LYS:HB2	1.85	0.58
6:CC:7:ARG:NH1	37:Cr:3:THR:OG1	2.34	0.58
26:CN:12:ARG:NH2	59:A5:286:A:OP2	2.34	0.58
42:Cf:46:ARG:HE	42:Cf:49:ARG:HH21	1.50	0.58
46:Cm:125:LYS:NZ	59:A5:3430:G:N7	2.43	0.58
50:CJ:34:SER:OG	50:CJ:35:GLY:N	2.36	0.58
58:B2:987:A:HO2'	58:B2:1003:C:HO2'	1.50	0.58
59:A5:182:G:H1	59:A5:267:C:H42	1.50	0.58
69:DA:371:ARG:NH1	69:DA:375:GLN:O	2.36	0.58
71:AT:60:ILE:HG22	71:AT:64:LEU:HG	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:CF:108:VAL:HG13	80:CF:139:ALA:HA	1.85	0.58
2:CA:65:ASP:HB2	2:CA:70:LYS:HG2	1.83	0.58
3:AB:128:VAL:HG12	3:AB:172:THR:HG23	1.84	0.58
3:AB:228:VAL:HA	3:AB:231:LEU:HB3	1.84	0.58
15:AP:84:ARG:HH22	15:AP:101:ASN:HA	1.68	0.58
15:AP:113:GLU:HG2	82:AS:116:LYS:HZ2	1.68	0.58
58:B2:1689:A:OP1	71:AT:77:LYS:NZ	2.32	0.58
58:B2:1757:G:H5''	82:AS:39:ARG:HB3	1.84	0.58
60:AE:183:ILE:HG23	60:AE:224:ASN:HB3	1.86	0.58
65:CO:40:CYS:H	65:CO:108:ASP:HA	1.68	0.58
3:AB:185:LYS:O	3:AB:185:LYS:NZ	2.35	0.58
21:AD:78:ARG:NH1	21:AD:78:ARG:O	2.36	0.58
49:Co:31:GLU:OE1	49:Co:38:ARG:NH1	2.35	0.58
58:B2:137:C:H1'	58:B2:138:U:H4'	1.85	0.58
58:B2:1549:U:H3	58:B2:1561:G:H22	1.52	0.58
58:B2:1865:G:OP1	61:AG:94:ARG:NH2	2.36	0.58
66:CL:46:PHE:HB3	66:CL:48:ARG:H	1.68	0.58
69:DA:205:GLU:HG2	69:DA:210:HIS:HB2	1.85	0.58
1:AA:15:ILE:HD12	1:AA:18:MET:HB3	1.84	0.58
5:AC:244:LEU:O	16:AV:33:GLN:NE2	2.36	0.58
19:Aa:33:ASP:OD1	19:Aa:33:ASP:N	2.34	0.58
26:CN:85:LYS:HE2	59:A5:48:U:H5''	1.86	0.58
29:CQ:10:ASP:OD1	29:CQ:10:ASP:N	2.36	0.58
34:CX:168:ARG:NH1	59:A5:1862:U:O4	2.34	0.58
58:B2:1984:G:OP2	73:AO:146:ARG:NH2	2.34	0.58
61:AG:61:PHE:HD2	61:AG:72:ARG:HH12	1.49	0.58
67:CV:33:GLY:O	67:CV:35:LYS:NZ	2.37	0.58
73:AO:57:THR:OG1	73:AO:58:GLY:N	2.35	0.58
7:Ag:19:THR:HA	7:Ag:288:LEU:HB3	1.85	0.58
20:Ab:26:GLN:NE2	58:B2:950:U:OP2	2.37	0.58
33:CP:142:SER:OG	59:A5:1689:G:O6	2.22	0.58
35:CY:39:ARG:HE	35:CY:45:ARG:HA	1.69	0.58
35:CY:121:ARG:NH2	59:A5:200:U:OP2	2.35	0.58
43:Ci:37:SER:OG	43:Ci:37:SER:O	2.19	0.58
49:Co:8:ARG:HG3	49:Co:10:THR:HG23	1.85	0.58
58:B2:123:A:O3'	60:AE:148:ARG:NH1	2.37	0.58
59:A5:287:G:N2	59:A5:288:U:O4	2.33	0.58
59:A5:867:U:H3'	59:A5:868:A:H8	1.69	0.58
66:CL:56:PRO:HG3	66:CL:75:PHE:H	1.67	0.58
67:CV:16:ILE:HD11	67:CV:57:VAL:H	1.69	0.58
71:AT:83:LYS:NZ	71:AT:93:CYS:HB3	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:AT:129:ARG:CB	71:AT:133:ARG:CD	2.69	0.58
79:Cj:51:ARG:HE	79:Cj:51:ARG:N	2.00	0.58
1:AA:57:LYS:HE2	1:AA:159:ILE:HD12	1.85	0.58
1:AA:176:TRP:HZ2	1:AA:201:LEU:HB3	1.69	0.58
4:CB:238:LYS:HG2	59:A5:3412:U:H5''	1.84	0.58
55:A7:22:A:H1'	55:A7:120:U:H1'	1.86	0.58
58:B2:1301:G:O2'	58:B2:1328:G:O6	2.21	0.58
58:B2:1758:A:H5'	82:AS:37:GLY:H	1.68	0.58
58:B2:1881:A:N6	58:B2:1900:U:OP1	2.37	0.58
62:AH:96:ARG:HB2	62:AH:98:ILE:HG23	1.84	0.58
71:AT:49:ASP:O	71:AT:53:PHE:HE2	1.87	0.58
15:AP:122:PHE:CD1	82:AS:117:ILE:O	2.56	0.58
27:CI:171:TRP:HD1	27:CI:178:ARG:HG3	1.69	0.58
28:CD:28:THR:O	59:A5:3235:A:N6	2.34	0.58
30:CR:176:ARG:O	30:CR:180:LYS:NZ	2.37	0.58
51:CH:87:GLN:HB2	51:CH:185:VAL:HG22	1.85	0.58
57:Cz:135:PRO:HA	57:Cz:156:LYS:HE3	1.83	0.58
58:B2:645:C:O2'	62:AH:116:ARG:NH2	2.36	0.58
58:B2:1680:G:H3'	58:B2:1707:A:H61	1.69	0.58
58:B2:1739:U:H6	82:AS:86:ARG:NH1	1.95	0.58
59:A5:3374:U:OP1	59:A5:3376:C:N4	2.36	0.58
64:AQ:32:GLY:O	64:AQ:62:LYS:NZ	2.33	0.58
66:CL:138:SER:HB3	66:CL:141:GLU:HB2	1.86	0.58
68:CM:16:SER:OG	68:CM:17:ALA:N	2.35	0.58
69:DA:222:THR:HG23	69:DA:344:SER:HB3	1.84	0.58
80:CF:97:ARG:NH2	80:CF:100:GLY:O	2.37	0.58
19:Aa:6:ARG:NH2	58:B2:1177:C:OP2	2.37	0.58
23:Af:144:CYS:SG	23:Af:147:THR:OG1	2.60	0.58
30:CR:160:GLU:OE1	30:CR:163:ARG:NH1	2.37	0.58
52:CE:119:LEU:HD22	52:CE:139:ARG:HH22	1.69	0.58
58:B2:139:U:OP2	61:AG:179:ARG:NH2	2.37	0.58
58:B2:901:G:O4'	58:B2:944:G:N2	2.35	0.58
58:B2:908:G:N7	58:B2:933:C:N4	2.52	0.58
58:B2:1188:G:O2'	75:AW:74:VAL:O	2.22	0.58
59:A5:753:U:H1'	59:A5:754:A:H8	1.68	0.58
59:A5:2090:U:O4	59:A5:2091:A:N6	2.36	0.58
71:AT:45:LEU:HD22	82:AS:38:ARG:HG2	1.83	0.58
15:AP:21:ARG:NH2	82:AS:88:LYS:CB	2.67	0.58
15:AP:111:LYS:HB2	15:AP:114:MET:HE3	1.84	0.58
27:CI:162:ARG:NH2	59:A5:1509:A:OP1	2.36	0.58
37:Cr:30:SER:N	37:Cr:39:VAL:O	2.34	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:Cf:13:LYS:NZ	42:Cf:18:GLN:O	2.32	0.58
58:B2:647:U:H5''	62:AH:120:LEU:HD22	1.86	0.58
58:B2:1307:C:H5'	70:AK:53:ARG:HG3	1.86	0.58
58:B2:1694:G:N2	58:B2:1697:A:OP2	2.33	0.58
58:B2:1884:G:N2	58:B2:1903:G:N3	2.52	0.58
71:AT:138:ILE:O	71:AT:142:GLN:HG3	2.03	0.58
1:AA:48:ILE:HG21	14:AR:102:THR:HB	1.86	0.57
28:CD:195:HIS:O	28:CD:199:ILE:N	2.31	0.57
32:CT:125:TRP:NE1	59:A5:1308:U:O2	2.37	0.57
35:CY:51:ARG:NH2	35:CY:71:VAL:O	2.37	0.57
36:CZ:48:ARG:NH2	59:A5:1943:C:OP1	2.37	0.57
71:AT:37:VAL:HG12	71:AT:39:THR:N	2.14	0.57
73:AO:75:MET:O	73:AO:79:GLN:N	2.37	0.57
2:CA:67:TYR:HE1	59:A5:2919:A:H62	1.51	0.57
4:CB:317:MET:HE2	59:A5:3903:U:H5''	1.86	0.57
5:AC:192:VAL:HG11	5:AC:216:LEU:HD11	1.85	0.57
6:CC:381:ARG:HD3	6:CC:384:LEU:HD12	1.85	0.57
14:AR:77:GLU:HB3	14:AR:81:ARG:HH21	1.69	0.57
32:CT:39:ILE:HG12	32:CT:63:ARG:HG2	1.85	0.57
58:B2:1248:A:OP2	64:AQ:148:ARG:NH2	2.38	0.57
58:B2:1758:A:OP2	82:AS:39:ARG:CB	2.47	0.57
71:AT:17:ALA:HB1	71:AT:21:PHE:CE2	2.39	0.57
71:AT:30:VAL:HG13	71:AT:34:MET:HG3	1.86	0.57
78:CU:199:ALA:HB1	78:CU:285:MET:HE1	1.86	0.57
78:CU:227:ASN:OD1	78:CU:227:ASN:N	2.38	0.57
3:AB:67:PHE:N	3:AB:89:LEU:O	2.34	0.57
4:CB:234:ARG:NH2	4:CB:271:GLN:HA	2.15	0.57
7:Ag:291:ALA:HB3	7:Ag:300:PHE:HB2	1.85	0.57
8:AU:57:ARG:HE	58:B2:1575:A:H4'	1.69	0.57
12:AN:73:ARG:NH2	58:B2:945:A:O2'	2.36	0.57
20:Ab:55:VAL:HG12	20:Ab:63:LEU:HB2	1.86	0.57
28:CD:77:ALA:O	28:CD:108:ARG:NH1	2.38	0.57
35:CY:132:LYS:NZ	59:A5:253:A:N3	2.52	0.57
38:Ch:96:SER:O	38:Ch:99:ASP:N	2.37	0.57
40:Cc:78:ASN:N	40:Cc:78:ASN:OD1	2.36	0.57
47:Cn:17:ARG:NH1	58:B2:1204:A:OP1	2.37	0.57
52:CE:144:TYR:OH	59:A5:546:G:O2'	2.20	0.57
58:B2:1750:U:C4	82:AS:129:LEU:CD2	2.78	0.57
59:A5:415:A:H4'	59:A5:416:C:H3'	1.86	0.57
59:A5:3929:U:O4	63:AI:172:ARG:NH2	2.35	0.57
61:AG:221:SER:OG	61:AG:225:ARG:NH2	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:AK:54:GLY:HA2	70:AK:55:LEU:HG	1.85	0.57
71:AT:34:MET:HE3	71:AT:50:PRO:HB3	1.85	0.57
3:AB:231:LEU:HD12	3:AB:234:LEU:HD22	1.86	0.57
24:AJ:177:LYS:NZ	58:B2:544:C:OP1	2.37	0.57
25:Ca:73:GLU:OE1	59:A5:855:A:O2'	2.22	0.57
35:CY:23:SER:O	35:CY:75:ARG:NH1	2.37	0.57
36:CZ:64:LYS:NZ	59:A5:2125:G:N7	2.52	0.57
57:Cz:32:VAL:HA	57:Cz:208:SER:HA	1.86	0.57
58:B2:44:U:OP2	58:B2:442:A:N6	2.36	0.57
58:B2:1426:A:N7	58:B2:1579:G:N2	2.44	0.57
58:B2:1693:C:OP1	71:AT:102:LYS:HE2	2.02	0.57
60:AE:251:GLU:OE2	60:AE:255:ARG:NH1	2.36	0.57
61:AG:133:LEU:HD11	61:AG:160:ARG:HD3	1.85	0.57
19:Aa:16:GLY:O	19:Aa:17:HIS:ND1	2.37	0.57
21:AD:30:GLU:HA	70:AK:59:GLN:HE22	1.70	0.57
43:Ci:11:LEU:HB2	66:CL:189:ALA:HB2	1.87	0.57
58:B2:519:A:N1	58:B2:546:A:O2'	2.33	0.57
58:B2:641:U:O2'	58:B2:1190:G:O2'	2.20	0.57
59:A5:401:G:N1	59:A5:404:U:OP2	2.34	0.57
59:A5:1223:G:N2	59:A5:1254:U:O2	2.38	0.57
74:Ac:18:GLY:HA2	74:Ac:22:GLN:HA	1.87	0.57
4:CB:104:ASN:HB3	59:A5:3682:U:H5'	1.86	0.57
18:AZ:47:VAL:CG2	82:AS:23:LYS:CB	2.80	0.57
51:CH:171:ARG:NH2	59:A5:3430:G:OP2	2.32	0.57
52:CE:50:LYS:HE2	52:CE:52:SER:H	1.68	0.57
57:Cz:103:LEU:HD12	57:Cz:105:LYS:HE2	1.86	0.57
4:CB:172:LYS:NZ	59:A5:3955:U:OP1	2.35	0.57
15:AP:43:ARG:NH2	58:B2:1748:A:O5'	2.37	0.57
20:Ab:70:ARG:NH1	58:B2:1137:G:OP1	2.38	0.57
29:CQ:68:ARG:NH1	59:A5:871:A:OP1	2.26	0.57
33:CP:42:ARG:NH1	33:CP:45:GLN:OE1	2.37	0.57
42:Cf:58:GLY:HA2	42:Cf:144:MET:HE2	1.86	0.57
57:Cz:191:VAL:HA	57:Cz:194:LEU:HD13	1.86	0.57
58:B2:978:C:O2	58:B2:1008:G:N2	2.30	0.57
59:A5:97:C:OP2	59:A5:3296:C:O2'	2.20	0.57
59:A5:2836:A:N6	59:A5:2881:U:O2'	2.36	0.57
59:A5:2853:A:N6	59:A5:2863:U:O4	2.37	0.57
68:CM:139:THR:HA	68:CM:141:ARG:H	1.68	0.57
6:CC:358:ALA:O	6:CC:362:ASN:ND2	2.38	0.57
7:Ag:298:THR:HA	7:Ag:312:GLN:HA	1.87	0.57
8:AU:70:THR:HG23	58:B2:1367:C:H1'	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:CR:106:LEU:HB3	30:CR:120:TYR:HE1	1.68	0.57
52:CE:150:SER:OG	52:CE:151:LYS:N	2.38	0.57
52:CE:171:LEU:O	59:A5:3839:A:N6	2.37	0.57
57:Cz:142:GLU:HG2	57:Cz:144:MET:H	1.69	0.57
58:B2:67:A:H3'	61:AG:160:ARG:HH22	1.69	0.57
58:B2:861:U:N3	58:B2:865:A:N3	2.53	0.57
58:B2:1777:U:H2'	58:B2:1778:A:H8	1.69	0.57
59:A5:3924:U:O2	59:A5:3930:A:N6	2.38	0.57
70:AK:44:ILE:HA	70:AK:48:GLN:HE22	1.70	0.57
4:CB:223:THR:O	4:CB:343:ARG:NH2	2.36	0.57
15:AP:101:ASN:N	15:AP:101:ASN:OD1	2.37	0.57
18:AZ:101:GLN:HA	18:AZ:106:VAL:HG12	1.87	0.57
21:AD:11:ARG:NH1	58:B2:1682:A:OP2	2.37	0.57
37:Cr:75:GLN:HG3	37:Cr:77:PRO:HA	1.85	0.57
52:CE:37:GLN:O	52:CE:42:ARG:NH1	2.37	0.57
58:B2:1235:A:N6	58:B2:1822:U:O4	2.38	0.57
59:A5:1706:G:H1'	59:A5:1754:U:H3	1.69	0.57
71:AT:40:ALA:CB	71:AT:95:ALA:HA	2.35	0.57
72:AF:42:LYS:HZ1	72:AF:48:SER:HB2	1.69	0.57
2:CA:225:VAL:HB	2:CA:229:THR:HG21	1.87	0.57
4:CB:50:LYS:NZ	59:A5:3584:C:OP1	2.36	0.57
6:CC:200:ARG:NH2	59:A5:358:C:OP2	2.32	0.57
10:AM:106:LYS:HE3	10:AM:110:VAL:HG21	1.87	0.57
10:AM:108:ARG:HB3	10:AM:110:VAL:HG23	1.86	0.57
13:AL:17:LEU:O	13:AL:19:ARG:NH1	2.37	0.57
21:AD:46:SER:OG	21:AD:47:ARG:NH2	2.38	0.57
25:Ca:69:LYS:NZ	59:A5:861:C:OP1	2.34	0.57
26:CN:12:ARG:NH1	59:A5:286:A:N7	2.53	0.57
27:CI:29:PRO:HB2	27:CI:31:ILE:HD12	1.87	0.57
35:CY:50:ARG:NH2	35:CY:53:ASP:OD2	2.34	0.57
49:Co:61:LYS:NZ	59:A5:3328:G:N7	2.44	0.57
52:CE:48:LYS:NZ	59:A5:681:G:O4'	2.38	0.57
52:CE:112:ARG:NH1	52:CE:228:ASN:O	2.38	0.57
58:B2:88:G:N2	58:B2:456:A:O2'	2.37	0.57
58:B2:124:U:H5'	60:AE:134:LYS:HE3	1.85	0.57
59:A5:462:C:H2'	59:A5:463:C:H3'	1.85	0.57
59:A5:925:C:H42	59:A5:974:G:H1	1.53	0.57
59:A5:3407:U:OP2	59:A5:3476:G:N2	2.38	0.57
5:AC:162:THR:OG1	5:AC:163:VAL:N	2.34	0.56
28:CD:222:GLN:OE1	55:A7:30:G:N2	2.37	0.56
33:CP:4:TYR:CZ	33:CP:18:ARG:HG3	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:Ci:28:ASP:OD1	43:Ci:28:ASP:N	2.37	0.56
58:B2:1462:G:N2	58:B2:1527:U:O2'	2.36	0.56
59:A5:1947:G:N2	59:A5:1950:A:OP2	2.37	0.56
60:AE:66:MET:SD	60:AE:78:THR:OG1	2.62	0.56
71:AT:19:ALA:HB2	71:AT:55:VAL:HG22	1.86	0.56
80:CF:152:SER:OG	80:CF:249:ARG:NH2	2.38	0.56
9:AX:107:ARG:HB2	9:AX:112:VAL:HG12	1.87	0.56
13:AL:82:THR:HG22	13:AL:109:HIS:HA	1.86	0.56
22:Ae:101:THR:OG1	22:Ae:102:GLY:N	2.38	0.56
23:Af:95:ARG:NH2	58:B2:1320:G:N7	2.47	0.56
27:CI:71:CYS:SG	27:CI:72:CYS:N	2.77	0.56
28:CD:119:TYR:OH	28:CD:139:PRO:O	2.23	0.56
35:CY:13:LYS:NZ	59:A5:353:G:OP2	2.31	0.56
50:CJ:63:ARG:NH1	69:DA:170:CYS:SG	2.78	0.56
56:A8:79:A:O2'	56:A8:80:C:O4'	2.23	0.56
58:B2:548:G:OP1	58:B2:549:A:N6	2.33	0.56
69:DA:125:LEU:HD21	69:DA:356:MET:HG3	1.87	0.56
1:AA:85:ARG:NE	1:AA:203:PHE:O	2.37	0.56
7:Ag:67:ILE:HB	7:Ag:83:SER:HB2	1.86	0.56
7:Ag:258:LYS:HG3	7:Ag:270:GLU:HG3	1.88	0.56
9:AX:107:ARG:NH2	58:B2:18:C:O2'	2.38	0.56
14:AR:77:GLU:HG3	14:AR:81:ARG:HE	1.70	0.56
21:AD:11:ARG:NH2	58:B2:1681:U:OP1	2.38	0.56
33:CP:121:ARG:NH1	59:A5:429:U:O2'	2.35	0.56
36:CZ:99:ASP:OD1	36:CZ:99:ASP:N	2.36	0.56
40:Cc:55:LEU:HD11	77:Cg:90:VAL:HG23	1.87	0.56
43:Ci:64:GLU:HA	43:Ci:67:THR:HG22	1.88	0.56
52:CE:119:LEU:HB2	52:CE:139:ARG:HH12	1.71	0.56
58:B2:63:G:O2'	58:B2:167:U:OP1	2.22	0.56
58:B2:303:C:H5''	60:AE:38:LEU:HB2	1.87	0.56
58:B2:337:U:OP2	63:AI:183:GLN:NE2	2.38	0.56
58:B2:974:A:H5''	73:AO:134:PRO:HB3	1.87	0.56
58:B2:1247:C:O2'	58:B2:1772:C:OP1	2.23	0.56
58:B2:1653:C:OP1	82:AS:141:ARG:CG	2.40	0.56
59:A5:439:U:O2'	59:A5:440:U:O3'	2.21	0.56
59:A5:474:A:N6	59:A5:524:A:O4'	2.35	0.56
59:A5:711:A:H2	59:A5:725:U:H3	1.54	0.56
59:A5:764:A:OP1	59:A5:766:G:N1	2.33	0.56
59:A5:1458:G:N3	59:A5:1485:A:O2'	2.38	0.56
61:AG:136:LYS:NZ	61:AG:176:LYS:O	2.36	0.56
65:CO:108:ASP:OD1	65:CO:108:ASP:N	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:DA:206:ALA:HA	69:DA:210:HIS:HB3	1.87	0.56
71:AT:129:ARG:CA	71:AT:133:ARG:CD	2.83	0.56
73:AO:93:LEU:H	73:AO:126:ILE:HG22	1.71	0.56
73:AO:131:ASP:OD1	73:AO:131:ASP:N	2.38	0.56
82:AS:34:LYS:HB3	82:AS:100:SER:HB3	1.86	0.56
6:CC:87:THR:O	6:CC:87:THR:OG1	2.22	0.56
42:Cf:36:GLU:HA	68:CM:23:ARG:HH12	1.71	0.56
50:CJ:16:PRO:HB2	55:A7:52:U:H4'	1.86	0.56
58:B2:1384:G:N1	58:B2:1387:A:OP2	2.36	0.56
61:AG:70:HIS:O	61:AG:98:ARG:NH1	2.38	0.56
63:AI:143:ARG:HG3	63:AI:145:GLU:HB2	1.86	0.56
64:AQ:17:ARG:HA	64:AQ:21:ALA:HB3	1.87	0.56
69:DA:297:ASP:O	69:DA:307:ARG:NH1	2.38	0.56
78:CU:231:ASP:OD1	78:CU:231:ASP:N	2.39	0.56
4:CB:7:SER:OG	4:CB:8:ALA:N	2.34	0.56
8:AU:95:SER:HB2	8:AU:99:ILE:HD12	1.88	0.56
15:AP:122:PHE:CE1	82:AS:117:ILE:CG2	2.87	0.56
20:Ab:7:LEU:HD21	75:AW:26:LEU:HD12	1.86	0.56
34:CX:226:ASN:ND2	54:A9:5:U:OP1	2.37	0.56
43:CI:53:LEU:HD12	53:CG:181:LYS:HD3	1.88	0.56
58:B2:1146:U:H6	58:B2:1147:U:H3	1.53	0.56
59:A5:902:A:H2'	59:A5:903:A:H8	1.70	0.56
59:A5:1226:G:O6	59:A5:1249:A:N6	2.38	0.56
59:A5:3303:G:N2	59:A5:3320:C:O2	2.37	0.56
59:A5:3372:C:N4	59:A5:3377:A:O2'	2.38	0.56
59:A5:3581:G:N2	59:A5:3631:C:O2	2.39	0.56
64:AQ:52:LYS:HB3	64:AQ:87:ARG:HH21	1.70	0.56
69:DA:259:MET:HE1	69:DA:310:GLN:HA	1.87	0.56
16:AV:42:GLU:OE2	16:AV:45:ARG:NH2	2.38	0.56
28:CD:221:ARG:HH12	55:A7:31:G:H5'	1.71	0.56
42:Cf:64:ARG:NH2	59:A5:1363:G:OP2	2.39	0.56
48:Cp:18:TYR:H	59:A5:2510:A:H61	1.54	0.56
49:Co:101:MET:SD	50:CJ:68:ARG:NH2	2.78	0.56
58:B2:1292:A:OP1	58:B2:1648:C:N4	2.39	0.56
59:A5:1702:G:H1	59:A5:1715:G:H1	1.53	0.56
59:A5:2587:U:H1'	59:A5:2588:G:H5''	1.88	0.56
69:DA:253:THR:O	69:DA:258:ARG:NH2	2.39	0.56
71:AT:83:LYS:NZ	71:AT:93:CYS:CB	2.69	0.56
2:CA:124:GLY:O	2:CA:128:ARG:NH1	2.39	0.56
3:AB:55:GLN:O	3:AB:56:ARG:NH1	2.39	0.56
6:CC:217:ASP:OD1	6:CC:220:LEU:N	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:Ag:32:ILE:HA	7:Ag:42:VAL:HA	1.86	0.56
15:AP:114:MET:HE2	82:AS:117:ILE:HD13	1.87	0.56
28:CD:25:GLU:OE1	28:CD:27:LYS:NZ	2.33	0.56
30:CR:20:LYS:NZ	59:A5:2191:G:N7	2.53	0.56
35:CY:53:ASP:OD1	35:CY:110:LYS:N	2.31	0.56
42:Cf:86:PHE:O	42:Cf:156:ARG:NH2	2.38	0.56
45:Cl:45:ARG:HG2	45:Cl:46:ARG:HH11	1.71	0.56
58:B2:1638:A:O2'	58:B2:1640:G:N7	2.34	0.56
58:B2:1749:C:O4'	82:AS:120:HIS:CD2	2.58	0.56
59:A5:472:A:N6	59:A5:528:U:O4	2.39	0.56
59:A5:3477:A:H5''	59:A5:3478:G:H5'	1.87	0.56
66:CL:26:ASN:OD1	66:CL:26:ASN:N	2.38	0.56
71:AT:50:PRO:CA	71:AT:53:PHE:CE2	2.77	0.56
81:Cd:87:ARG:HD2	81:Cd:99:LEU:HD13	1.87	0.56
17:AY:19:LEU:HD21	60:AE:64:ILE:HG12	1.88	0.56
19:Aa:36:ILE:HD12	19:Aa:78:ALA:HB3	1.88	0.56
20:Ab:19:HIS:HB3	20:Ab:22:LYS:H	1.69	0.56
49:Co:33:LYS:HA	49:Co:35:ALA:H	1.71	0.56
51:CH:89:LYS:HB2	51:CH:181:GLU:HB2	1.88	0.56
58:B2:601:U:H4'	58:B2:603:G:H4'	1.87	0.56
58:B2:1445:A:O4'	71:AT:129:ARG:HD3	1.94	0.56
59:A5:1700:U:O2'	81:Cd:43:ILE:CD1	2.52	0.56
59:A5:1717:A:H62	59:A5:1718:G:H21	1.52	0.56
59:A5:1951:C:OP2	77:Cg:74:ARG:NH2	2.37	0.56
59:A5:3695:G:H5'	59:A5:3970:A:H3'	1.87	0.56
59:A5:3861:A:N7	59:A5:3862:A:N6	2.46	0.56
60:AE:88:ASP:OD1	60:AE:122:LYS:NZ	2.37	0.56
71:AT:63:HIS:ND1	71:AT:67:ARG:CD	2.68	0.56
79:Cj:17:THR:CG2	79:Cj:29:LEU:HD21	2.36	0.56
6:CC:56:ALA:HB3	56:A8:26:U:H4'	1.88	0.56
15:AP:29:LEU:HD23	15:AP:91:GLU:HA	1.88	0.56
28:CD:15:ARG:NH1	59:A5:3221:A:OP2	2.38	0.56
41:Ce:52:TYR:HB3	59:A5:445:C:H4'	1.87	0.56
53:CG:117:LEU:HA	53:CG:120:LYS:HG2	1.88	0.56
57:Cz:35:GLN:HE22	57:Cz:213:PRO:HB3	1.71	0.56
57:Cz:56:LYS:NZ	57:Cz:181:GLN:O	2.39	0.56
58:B2:815:G:OP1	58:B2:817:C:N4	2.39	0.56
58:B2:1143:A:N6	58:B2:1149:A:OP2	2.39	0.56
58:B2:1425:U:H3	58:B2:1580:G:H21	1.54	0.56
59:A5:591:A:N6	59:A5:620:U:O4	2.39	0.56
59:A5:700:A:N6	59:A5:736:A:N1	2.48	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:CL:155:PRO:O	66:CL:157:LYS:NZ	2.33	0.56
70:AK:3:MET:O	70:AK:8:ARG:NH1	2.39	0.56
71:AT:64:LEU:CD2	71:AT:69:PRO:HA	2.36	0.56
12:AN:10:GLY:HA3	58:B2:1042:A:H5''	1.86	0.56
17:AY:42:ARG:HH21	17:AY:57:PHE:H	1.54	0.56
28:CD:176:SER:OG	28:CD:177:VAL:N	2.39	0.56
36:CZ:91:SER:O	36:CZ:94:LYS:NZ	2.38	0.56
52:CE:195:ASN:HD21	52:CE:197:GLN:HB3	1.70	0.56
59:A5:174:A:O3'	66:CL:134:ARG:NH1	2.39	0.56
59:A5:1216:A:N1	59:A5:1262:C:O2'	2.36	0.56
59:A5:2584:G:H22	59:A5:2615:C:H42	1.54	0.56
62:AH:89:HIS:HD2	62:AH:170:THR:HG21	1.71	0.56
64:AQ:108:LYS:NZ	64:AQ:108:LYS:O	2.39	0.56
65:CO:91:PRO:HG2	65:CO:97:GLY:HA3	1.88	0.56
66:CL:138:SER:OG	66:CL:139:SER:N	2.38	0.56
2:CA:51:ASP:HB3	2:CA:54:ARG:HB2	1.87	0.55
4:CB:10:ARG:NH1	59:A5:3415:U:OP1	2.39	0.55
4:CB:261:ARG:HB2	65:CO:66:VAL:HG21	1.88	0.55
7:Ag:87:THR:HA	7:Ag:103:GLU:HA	1.88	0.55
13:AL:22:LYS:NZ	58:B2:211:U:OP1	2.39	0.55
16:AV:71:ARG:HB3	20:Ab:5:LYS:HE3	1.87	0.55
25:Ca:13:ARG:NH2	59:A5:811:G:OP2	2.37	0.55
26:CN:181:SER:OG	26:CN:182:GLN:N	2.38	0.55
41:Ce:17:LYS:NZ	59:A5:776:A:OP2	2.28	0.55
59:A5:1434:U:O2'	59:A5:1501:A:N1	2.37	0.55
59:A5:3918:A:H2	59:A5:3935:G:H21	1.54	0.55
71:AT:46:ALA:HB1	71:AT:47:PRO:HD3	1.88	0.55
71:AT:61:LEU:HD22	71:AT:132:ASP:CG	2.30	0.55
7:Ag:71:VAL:HG23	7:Ag:80:LEU:HD13	1.87	0.55
32:CT:3:ASN:ND2	32:CT:4:SER:O	2.39	0.55
41:Ce:22:HIS:N	41:Ce:52:TYR:OH	2.33	0.55
48:Cp:84:ARG:NH1	48:Cp:84:ARG:O	2.37	0.55
50:CJ:150:LYS:NZ	59:A5:3195:G:OP1	2.39	0.55
58:B2:1885:U:H2'	58:B2:1886:G:H8	1.71	0.55
59:A5:3948:U:OP1	81:Cd:25:HIS:HE1	1.89	0.55
69:DA:297:ASP:HB3	69:DA:307:ARG:HE	1.71	0.55
72:AF:228:ARG:NH2	74:Ac:59:ARG:O	2.39	0.55
9:AX:9:THR:HG22	58:B2:640:U:H4'	1.89	0.55
26:CN:49:ARG:NH1	59:A5:119:G:OP1	2.38	0.55
27:CI:47:PRO:O	27:CI:178:ARG:NH2	2.39	0.55
38:Ch:77:LYS:NZ	59:A5:131:U:OP2	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:Cz:60:ARG:NH1	57:Cz:151:VAL:O	2.35	0.55
58:B2:92:A:O2'	60:AE:4:GLY:O	2.24	0.55
58:B2:1679:U:H2'	58:B2:1680:G:H8	1.71	0.55
59:A5:198:A:N3	59:A5:254:A:N6	2.54	0.55
59:A5:2651:G:O2'	59:A5:2689:G:O6	2.19	0.55
60:AE:34:GLY:H	60:AE:83:PRO:HG2	1.72	0.55
71:AT:45:LEU:CD1	82:AS:38:ARG:CD	2.79	0.55
77:Cg:71:THR:OG1	77:Cg:72:VAL:N	2.36	0.55
14:AR:52:GLY:O	14:AR:56:HIS:ND1	2.40	0.55
14:AR:76:GLU:OE1	14:AR:80:ARG:NH2	2.40	0.55
15:AP:117:HIS:CE1	82:AS:114:LEU:CD1	2.88	0.55
17:AY:86:PHE:O	60:AE:63:LYS:NZ	2.36	0.55
26:CN:41:ARG:HH12	59:A5:12:C:H5''	1.71	0.55
39:Cb:76:LEU:HD22	59:A5:1293:A:H5'	1.88	0.55
58:B2:256:C:O2	60:AE:130:GLN:NE2	2.39	0.55
59:A5:2063:A:H5'	59:A5:2065:A:H4'	1.88	0.55
66:CL:59:ARG:HH22	66:CL:111:ARG:HE	1.54	0.55
82:AS:51:ASP:HB2	82:AS:54:LYS:HG3	1.89	0.55
13:AL:33:ARG:HH21	58:B2:253:A:H5''	1.71	0.55
15:AP:122:PHE:CE1	82:AS:117:ILE:O	2.59	0.55
19:Aa:67:LEU:HD21	73:AO:108:PRO:HD2	1.87	0.55
25:Ca:90:GLU:HA	25:Ca:93:LYS:HE2	1.89	0.55
27:CI:108:ALA:HB1	27:CI:110:ARG:HH21	1.71	0.55
58:B2:1740:G:C5'	82:AS:88:LYS:CD	2.81	0.55
59:A5:699:U:H3	59:A5:738:A:H61	1.54	0.55
59:A5:2053:A:O2'	59:A5:2055:G:N7	2.38	0.55
59:A5:3760:A:O2'	59:A5:3762:G:O4'	2.22	0.55
60:AE:199:GLU:OE2	60:AE:201:HIS:NE2	2.40	0.55
72:AF:169:ARG:HG3	72:AF:173:GLN:HG2	1.87	0.55
2:CA:130:SER:O	2:CA:130:SER:OG	2.24	0.55
23:Af:82:LYS:NZ	58:B2:1271:A:O2'	2.40	0.55
52:CE:232:LEU:O	59:A5:3768:C:N4	2.40	0.55
53:CG:148:VAL:HG22	53:CG:208:ALA:HB2	1.87	0.55
57:Cz:133:LYS:NZ	59:A5:2844:G:OP2	2.39	0.55
59:A5:2118:U:H4'	77:Cg:77:GLY:H	1.72	0.55
59:A5:2646:U:H3	59:A5:2650:G:H22	1.52	0.55
59:A5:3223:A:H61	59:A5:3236:A:H62	1.54	0.55
65:CO:180:THR:HG22	68:CM:127:PHE:HZ	1.72	0.55
6:CC:287:MET:HE2	6:CC:290:THR:HA	1.89	0.55
7:Ag:126:ARG:O	7:Ag:128:LYS:NZ	2.40	0.55
29:CQ:164:ARG:HH21	59:A5:981:C:H5''	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:CX:210:LYS:NZ	59:A5:1766:U:O4	2.35	0.55
58:B2:1112:A:HO2'	58:B2:1968:C:HO2'	1.52	0.55
58:B2:1445:A:N1	58:B2:1538:C:N4	2.54	0.55
59:A5:2:U:OP1	59:A5:5:A:N6	2.37	0.55
69:DA:205:GLU:OE1	69:DA:210:HIS:ND1	2.34	0.55
2:CA:93:LYS:NZ	59:A5:2993:G:OP1	2.39	0.55
3:AB:124:ILE:HG23	3:AB:164:VAL:HG13	1.89	0.55
27:CI:47:PRO:HB2	27:CI:178:ARG:HH12	1.70	0.55
27:CI:210:GLU:OE2	27:CI:214:ARG:NE	2.38	0.55
57:Cz:31:THR:OG1	57:Cz:33:GLU:OE2	2.25	0.55
58:B2:342:G:OP2	58:B2:343:A:N6	2.37	0.55
59:A5:1930:G:H1	59:A5:1937:G:H1	1.55	0.55
59:A5:2771:G:O2'	59:A5:3513:A:N6	2.40	0.55
62:AH:149:SER:OG	62:AH:150:GLN:N	2.36	0.55
69:DA:226:SER:HA	69:DA:229:PHE:HD2	1.72	0.55
72:AF:164:ASP:OD1	72:AF:164:ASP:N	2.38	0.55
80:CF:183:ARG:HG3	80:CF:189:GLN:HB3	1.89	0.55
6:CC:193:ARG:HD2	6:CC:197:GLY:HA3	1.88	0.55
6:CC:299:GLU:O	6:CC:303:LYS:NZ	2.35	0.55
20:Ab:23:ARG:NH1	62:AH:194:VAL:OXT	2.39	0.55
41:Ce:43:ARG:NH2	59:A5:788:C:OP1	2.40	0.55
50:CJ:118:ILE:HG13	50:CJ:124:TYR:HD1	1.71	0.55
58:B2:1740:G:C4'	82:AS:88:LYS:HG3	2.25	0.55
59:A5:1880:A:O2'	59:A5:2008:U:O2	2.25	0.55
59:A5:2268:G:O2'	59:A5:2474:A:N1	2.39	0.55
65:CO:203:TYR:OH	68:CM:96:GLN:O	2.21	0.55
71:AT:136:ASN:C	71:AT:140:PHE:CD2	2.82	0.55
79:Cj:69:ASN:OD1	79:Cj:69:ASN:N	2.40	0.55
15:AP:114:MET:CB	82:AS:117:ILE:HD12	2.29	0.55
53:CG:258:LEU:HG	53:CG:262:LYS:HD3	1.89	0.55
59:A5:863:U:OP1	66:CL:183:ARG:NH1	2.37	0.55
59:A5:2072:C:OP1	78:CU:274:ARG:NH1	2.39	0.55
3:AB:198:LYS:O	3:AB:202:LYS:NZ	2.39	0.54
4:CB:212:GLY:N	4:CB:215:GLU:OE2	2.40	0.54
7:Ag:245:ASN:ND2	7:Ag:295:ASP:O	2.40	0.54
8:AU:97:SER:O	8:AU:101:LYS:NZ	2.35	0.54
15:AP:113:GLU:CG	82:AS:116:LYS:HZ2	2.20	0.54
17:AY:14:MET:HE2	17:AY:25:VAL:HG12	1.89	0.54
28:CD:52:ILE:HD13	55:A7:6:C:H4'	1.88	0.54
29:CQ:163:THR:O	29:CQ:163:THR:OG1	2.22	0.54
58:B2:996:U:OP2	69:DA:311:ARG:NH1	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:1552:C:N4	58:B2:1558:A:OP2	2.40	0.54
58:B2:1564:A:O3'	64:AQ:2:GLN:NE2	2.40	0.54
58:B2:1740:G:C4'	82:AS:88:LYS:CD	2.86	0.54
59:A5:619:U:O2'	59:A5:621:A:N6	2.40	0.54
71:AT:29:LYS:CD	71:AT:106:ALA:N	2.67	0.54
71:AT:45:LEU:CD2	82:AS:38:ARG:O	2.55	0.54
74:Ac:34:GLN:NE2	74:Ac:35:ASN:OD1	2.40	0.54
82:AS:40:TYR:HA	82:AS:43:ILE:HB	1.88	0.54
3:AB:37:ASN:HD21	3:AB:185:LYS:HE2	1.72	0.54
4:CB:234:ARG:HG3	4:CB:272:LYS:HB2	1.89	0.54
15:AP:117:HIS:HE1	82:AS:114:LEU:HD11	1.68	0.54
21:AD:107:LEU:HD12	21:AD:124:VAL:HG21	1.88	0.54
52:CE:87:HIS:ND1	59:A5:755:A:N7	2.56	0.54
58:B2:1314:G:O5'	58:B2:1343:A:N6	2.40	0.54
59:A5:2882:A:OP2	59:A5:2884:C:N4	2.40	0.54
59:A5:3464:G:H21	59:A5:3467:A:P	2.31	0.54
59:A5:3801:A:N1	59:A5:3807:G:O2'	2.37	0.54
15:AP:84:ARG:NH2	58:B2:1645:G:O2'	2.41	0.54
15:AP:98:GLY:HA2	15:AP:107:GLN:HA	1.89	0.54
23:Af:120:GLU:OE2	23:Af:130:VAL:N	2.40	0.54
28:CD:217:GLU:HA	28:CD:220:LYS:HB2	1.89	0.54
28:CD:273:LEU:HD12	55:A7:61:G:H5'	1.89	0.54
38:Ch:110:LYS:NZ	59:A5:116:U:OP1	2.38	0.54
44:Ck:37:ARG:HA	44:Ck:42:LEU:HG	1.89	0.54
57:Cz:213:PRO:HG2	59:A5:2886:C:H5'	1.89	0.54
58:B2:1445:A:C4'	71:AT:133:ARG:NH1	2.38	0.54
59:A5:1931:C:N4	59:A5:1935:G:OP2	2.40	0.54
22:Ae:83:LYS:NZ	58:B2:574:C:O2	2.35	0.54
29:CQ:154:LYS:HD3	29:CQ:163:THR:HG23	1.89	0.54
35:CY:21:ALA:O	35:CY:26:ARG:NH1	2.39	0.54
39:Cb:55:GLU:OE1	39:Cb:55:GLU:N	2.40	0.54
57:Cz:54:LYS:NZ	57:Cz:154:THR:OG1	2.41	0.54
58:B2:222:C:N4	58:B2:238:C:OP2	2.32	0.54
58:B2:239:G:OP2	58:B2:918:C:O2'	2.24	0.54
58:B2:1306:A:H62	58:B2:1350:G:H22	1.56	0.54
59:A5:546:G:N2	59:A5:3843:U:OP2	2.39	0.54
59:A5:709:U:H3	59:A5:727:G:H1	1.54	0.54
59:A5:1529:C:O3'	65:CO:20:ARG:NH1	2.40	0.54
59:A5:1711:C:H3'	59:A5:1712:C:C6	2.42	0.54
62:AH:168:VAL:HA	62:AH:171:PHE:HB2	1.89	0.54
71:AT:42:PHE:CD1	71:AT:83:LYS:HB3	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CA:55:GLY:HA3	2:CA:174:ARG:HH21	1.70	0.54
8:AU:78:THR:OG1	8:AU:79:TRP:N	2.40	0.54
9:AX:88:ASP:OD1	9:AX:88:ASP:N	2.40	0.54
15:AP:80:LYS:NZ	58:B2:1327:U:OP1	2.40	0.54
17:AY:17:ARG:O	60:AE:94:LYS:NZ	2.40	0.54
21:AD:153:LYS:NZ	58:B2:1615:U:OP1	2.40	0.54
31:CS:76:LYS:NZ	31:CS:100:LEU:O	2.40	0.54
31:CS:93:MET:SD	59:A5:1428:G:O2'	2.64	0.54
37:Cr:43:ARG:HB3	59:A5:1593:U:C4	2.43	0.54
37:Cr:58:ALA:HB1	37:Cr:64:PHE:HB2	1.88	0.54
42:Cf:68:GLU:OE2	59:A5:782:G:N2	2.41	0.54
52:CE:38:MET:HA	52:CE:42:ARG:HH12	1.73	0.54
58:B2:277:U:O4	61:AG:187:GLN:NE2	2.34	0.54
58:B2:1601:A:N6	58:B2:1605:G:OP2	2.41	0.54
58:B2:1653:C:N4	82:AS:137:LYS:O	2.33	0.54
59:A5:986:A:H4'	59:A5:987:G:H5'	1.88	0.54
59:A5:1286:U:O4	59:A5:1298:A:N6	2.40	0.54
71:AT:49:ASP:O	71:AT:53:PHE:CE2	2.61	0.54
3:AB:206:ARG:HH22	58:B2:1144:C:H1'	1.73	0.54
6:CC:118:VAL:HB	6:CC:123:ARG:HE	1.72	0.54
8:AU:57:ARG:HA	8:AU:89:ARG:HG3	1.89	0.54
11:Ad:19:ARG:NH1	58:B2:1685:U:OP1	2.41	0.54
27:CI:196:ASN:N	27:CI:196:ASN:OD1	2.41	0.54
39:Cb:42:ASN:ND2	59:A5:1289:C:N3	2.55	0.54
42:Cf:1:MET:N	59:A5:645:U:OP1	2.39	0.54
58:B2:1441:C:O2	58:B2:1544:G:N1	2.39	0.54
58:B2:1654:G:OP2	82:AS:141:ARG:HD3	2.08	0.54
58:B2:1665:U:H3'	58:B2:1666:G:H8	1.73	0.54
58:B2:1670:G:H4'	71:AT:52:TRP:CD1	2.38	0.54
59:A5:195:A:N6	59:A5:256:G:O6	2.40	0.54
59:A5:1788:G:N2	59:A5:1791:A:OP2	2.34	0.54
68:CM:15:ALA:HA	68:CM:55:LEU:HA	1.89	0.54
1:AA:8:LEU:HA	1:AA:59:GLN:HE22	1.73	0.54
14:AR:28:PHE:HA	14:AR:31:ASN:HB2	1.89	0.54
15:AP:26:ASP:N	15:AP:26:ASP:OD1	2.38	0.54
15:AP:117:HIS:ND1	15:AP:121:GLU:OE1	2.32	0.54
21:AD:127:TYR:HA	21:AD:130:GLU:HB2	1.89	0.54
24:AJ:43:GLU:OE2	24:AJ:46:ARG:NH1	2.41	0.54
41:Ce:17:LYS:HZ3	59:A5:775:U:P	2.30	0.54
55:A7:87:G:N2	55:A7:90:A:OP2	2.31	0.54
57:Cz:25:LYS:HZ1	57:Cz:211:GLY:HA2	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:1405:G:H2'	58:B2:1406:A:C8	2.43	0.54
58:B2:1670:G:C4'	71:AT:52:TRP:NE1	2.46	0.54
59:A5:176:A:H1'	59:A5:272:U:H3	1.71	0.54
59:A5:815:A:O2'	66:CL:11:GLN:OE1	2.20	0.54
70:AK:29:ALA:HB3	70:AK:40:ASN:HB3	1.89	0.54
71:AT:50:PRO:O	71:AT:53:PHE:HD2	1.90	0.54
72:AF:59:LEU:HD12	72:AF:141:ILE:HG22	1.90	0.54
4:CB:128:LYS:HG3	59:A5:3868:G:H5'	1.90	0.54
15:AP:53:LYS:HE3	15:AP:54:ARG:HB2	1.89	0.54
27:CI:49:CYS:O	27:CI:168:SER:OG	2.24	0.54
28:CD:29:ASP:OD2	28:CD:32:ALA:N	2.40	0.54
52:CE:111:LYS:NZ	59:A5:3776:A:OP2	2.36	0.54
57:Cz:6:SER:HA	57:Cz:214:GLN:HG2	1.89	0.54
58:B2:363:U:O2'	58:B2:365:A:OP1	2.26	0.54
58:B2:1460:A:OP2	58:B2:1528:G:N2	2.41	0.54
59:A5:676:A:H2	59:A5:746:G:H22	1.55	0.54
71:AT:129:ARG:HA	71:AT:133:ARG:NE	2.23	0.54
3:AB:113:TYR:HA	3:AB:116:MET:HE2	1.89	0.54
3:AB:206:ARG:NH2	58:B2:1144:C:O2	2.40	0.54
14:AR:96:ILE:O	14:AR:117:LEU:N	2.41	0.54
17:AY:8:ILE:HG23	17:AY:29:LEU:H	1.73	0.54
29:CQ:39:THR:O	29:CQ:39:THR:OG1	2.18	0.54
30:CR:98:ARG:NH1	30:CR:132:PHE:O	2.41	0.54
34:CX:177:ARG:NH1	54:A9:9:C:O2'	2.41	0.54
35:CY:52:ASP:HB3	35:CY:110:LYS:HD3	1.89	0.54
51:CH:23:ARG:NH2	59:A5:3726:U:O2'	2.41	0.54
51:CH:52:THR:OG1	51:CH:53:LEU:N	2.41	0.54
58:B2:1446:G:N7	58:B2:1447:G:N2	2.56	0.54
59:A5:717:A:H1'	59:A5:720:G:H22	1.72	0.54
59:A5:1978:G:N2	59:A5:2097:U:O2	2.41	0.54
59:A5:2269:A:N6	59:A5:2270:G:N3	2.55	0.54
59:A5:3530:A:O2'	59:A5:3804:U:O4	2.23	0.54
59:A5:3712:G:H1'	59:A5:3775:A:C5	2.43	0.54
59:A5:3775:A:H1'	59:A5:3777:U:H5'	1.89	0.54
62:AH:41:ASP:N	62:AH:41:ASP:OD1	2.39	0.54
6:CC:326:ARG:HH21	6:CC:329:ILE:HD13	1.72	0.54
10:AM:52:ARG:HH22	10:AM:78:GLU:HG3	1.73	0.54
12:AN:108:ASP:OD1	58:B2:965:G:O2'	2.22	0.54
20:Ab:56:CYS:HB3	20:Ab:59:CYS:HB2	1.89	0.54
24:AJ:145:ILE:HG23	58:B2:479:A:H5'	1.89	0.54
24:AJ:176:ARG:O	24:AJ:180:LYS:NZ	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:CT:49:GLN:NE2	59:A5:3287:C:O2	2.41	0.54
40:Cc:22:MET:HA	40:Cc:27:TYR:HE2	1.72	0.54
58:B2:125:C:O2	61:AG:196:LYS:NZ	2.41	0.54
58:B2:132:A:H5'	58:B2:177:U:H5''	1.90	0.54
58:B2:1468:G:O6	58:B2:1520:A:N6	2.41	0.54
59:A5:1139:U:O2'	59:A5:2780:A:N1	2.36	0.54
61:AG:80:GLY:O	61:AG:81:HIS:ND1	2.41	0.54
64:AQ:84:TYR:HH	72:AF:75:HIS:HD1	1.51	0.54
69:DA:131:GLU:OE2	69:DA:135:LYS:N	2.39	0.54
81:Cd:93:GLU:O	81:Cd:95:SER:OG	2.26	0.54
2:CA:229:THR:O	2:CA:229:THR:OG1	2.22	0.53
4:CB:268:ARG:NH2	59:A5:2770:C:O2'	2.41	0.53
4:CB:305:THR:OG1	4:CB:306:GLU:N	2.41	0.53
24:AJ:123:SER:HB2	24:AJ:126:HIS:HB3	1.90	0.53
30:CR:70:ARG:HH22	59:A5:2178:U:H5''	1.72	0.53
31:CS:73:VAL:HA	31:CS:100:LEU:HD23	1.90	0.53
53:CG:159:LEU:HB3	53:CG:209:LEU:HB2	1.90	0.53
58:B2:638:A:N6	58:B2:1056:C:O2'	2.41	0.53
58:B2:999:U:O2	58:B2:1000:G:O2'	2.24	0.53
58:B2:1378:C:H2'	58:B2:1379:G:C8	2.43	0.53
58:B2:1670:G:O6	58:B2:1720:A:N6	2.41	0.53
58:B2:1687:C:O2'	58:B2:1711:C:O2	2.23	0.53
59:A5:671:A:H2	59:A5:750:G:H22	1.56	0.53
59:A5:704:U:O4	59:A5:733:A:N6	2.40	0.53
61:AG:57:ASP:O	61:AG:60:GLY:N	2.36	0.53
72:AF:151:ARG:NE	74:Ac:23:CYS:SG	2.80	0.53
1:AA:102:ARG:NH2	58:B2:1408:A:OP1	2.41	0.53
20:Ab:30:SER:OG	20:Ab:31:TYR:N	2.39	0.53
33:CP:42:ARG:NH2	33:CP:99:GLU:OE2	2.41	0.53
40:Cc:77:THR:HG1	40:Cc:78:ASN:N	2.05	0.53
42:Cf:43:LYS:NZ	42:Cf:77:GLY:O	2.41	0.53
58:B2:660:G:OP1	58:B2:701:G:N2	2.40	0.53
58:B2:1734:G:C5'	71:AT:87:VAL:HG21	2.38	0.53
59:A5:1075:G:O2'	59:A5:2207:A:OP1	2.20	0.53
59:A5:1418:A:OP2	59:A5:1516:A:N6	2.39	0.53
59:A5:3763:U:O4	65:CO:118:ARG:NH1	2.42	0.53
60:AE:194:THR:N	60:AE:211:LYS:O	2.36	0.53
71:AT:61:LEU:HD21	71:AT:132:ASP:CG	2.33	0.53
6:CC:269:THR:OG1	6:CC:270:TRP:N	2.41	0.53
16:AV:59:ILE:HG22	16:AV:65:SER:HB2	1.89	0.53
30:CR:115:ILE:HG23	30:CR:119:LEU:HB3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:CH:130:VAL:HG22	51:CH:146:GLY:HA3	1.91	0.53
57:Cz:58:ILE:HG23	57:Cz:153:SER:HB2	1.89	0.53
58:B2:526:A:N1	58:B2:541:U:N3	2.51	0.53
58:B2:1680:G:N2	58:B2:1705:G:O2'	2.41	0.53
58:B2:1731:U:C4	82:AS:28:ILE:HG12	2.42	0.53
58:B2:1750:U:O4	82:AS:129:LEU:HD21	2.06	0.53
59:A5:691:C:O2	59:A5:692:G:N2	2.41	0.53
59:A5:2071:A:OP1	78:CU:274:ARG:NH2	2.41	0.53
63:AI:20:SER:OG	63:AI:21:LEU:N	2.36	0.53
72:AF:144:GLY:O	72:AF:146:ARG:NH1	2.40	0.53
1:AA:108:PHE:HA	1:AA:116:PHE:HZ	1.72	0.53
6:CC:370:PHE:O	6:CC:374:ALA:N	2.40	0.53
24:AJ:81:ARG:NH2	58:B2:844:A:OP1	2.39	0.53
24:AJ:173:ARG:NH1	58:B2:544:C:OP2	2.36	0.53
25:Ca:31:GLY:O	25:Ca:41:HIS:NE2	2.32	0.53
26:CN:162:ARG:O	59:A5:33:C:O2'	2.25	0.53
26:CN:189:ARG:HH12	59:A5:35:C:H5	1.55	0.53
30:CR:169:ALA:O	30:CR:172:ARG:NH1	2.42	0.53
53:CG:192:LYS:NZ	59:A5:155:U:O4	2.34	0.53
57:Cz:110:PHE:HB3	57:Cz:135:PRO:HB3	1.90	0.53
58:B2:68:C:H41	61:AG:168:LYS:HE2	1.73	0.53
58:B2:1775:A:O2'	72:AF:79:ARG:NE	2.41	0.53
59:A5:1:U:O2'	59:A5:6:U:O4	2.26	0.53
2:CA:117:GLU:OE1	2:CA:121:GLY:N	2.40	0.53
5:AC:149:ARG:NH1	16:AV:1:MET:SD	2.82	0.53
8:AU:28:SER:HB3	8:AU:112:VAL:HA	1.89	0.53
11:Ad:34:TYR:HB3	11:Ad:36:LEU:HG	1.91	0.53
14:AR:6:THR:OG1	14:AR:7:LYS:N	2.41	0.53
17:AY:109:LYS:NZ	58:B2:464:G:OP1	2.41	0.53
18:AZ:40:ARG:NH2	58:B2:1729:C:OP1	2.42	0.53
25:Ca:59:MET:O	29:CQ:172:ARG:NH1	2.42	0.53
27:CI:51:HIS:ND1	27:CI:137:SER:OG	2.32	0.53
42:Cf:31:LYS:HG2	42:Cf:33:ALA:H	1.72	0.53
42:Cf:106:GLN:NE2	59:A5:770:C:OP1	2.39	0.53
52:CE:241:MET:HE2	52:CE:243:PHE:HA	1.91	0.53
58:B2:136:A:H62	58:B2:271:A:H61	1.56	0.53
58:B2:546:A:OP2	58:B2:551:C:N4	2.41	0.53
58:B2:843:G:O2'	58:B2:873:A:N6	2.41	0.53
58:B2:1693:C:H5	71:AT:101:ARG:HH11	1.55	0.53
58:B2:1771:U:H5''	64:AQ:148:ARG:HD3	1.90	0.53
67:CV:60:MET:HE3	67:CV:78:PRO:HB3	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:CW:39:SER:HA	76:CW:42:MET:HE2	1.91	0.53
78:CU:239:LYS:HD2	78:CU:241:PHE:HB2	1.91	0.53
40:Cc:22:MET:HE3	40:Cc:85:CYS:HB3	1.91	0.53
41:Ce:97:GLU:HG2	41:Ce:122:THR:HB	1.90	0.53
58:B2:185:G:H5'	63:AI:147:VAL:HG11	1.91	0.53
58:B2:1669:A:C1'	71:AT:48:TYR:CE2	2.76	0.53
59:A5:225:U:H4'	59:A5:226:U:H5'	1.89	0.53
59:A5:417:A:O2'	59:A5:421:C:O2'	2.24	0.53
59:A5:2615:C:O2'	69:DA:301:TYR:O	2.27	0.53
59:A5:3244:U:O2'	59:A5:3275:G:O2'	2.25	0.53
62:AH:145:LYS:HB2	62:AH:149:SER:HB3	1.90	0.53
63:AI:36:THR:O	63:AI:36:THR:OG1	2.26	0.53
11:Ad:14:TYR:OH	58:B2:1747:A:N6	2.42	0.53
15:AP:83:LEU:HG	15:AP:86:MET:HE1	1.90	0.53
18:AZ:61:VAL:HG13	18:AZ:62:PRO:HD3	1.91	0.53
34:CX:191:ARG:O	34:CX:196:ASN:ND2	2.42	0.53
42:Cf:42:LYS:HE3	68:CM:102:SER:HB2	1.91	0.53
47:Cn:1:MET:HB2	58:B2:1833:C:H4'	1.91	0.53
58:B2:887:G:N2	75:AW:107:SER:OG	2.41	0.53
59:A5:2933:A:N1	59:A5:2985:U:N3	2.52	0.53
59:A5:3193:C:H2'	59:A5:3194:A:H8	1.73	0.53
59:A5:3921:A:N6	59:A5:3931:C:H42	2.07	0.53
62:AH:19:GLU:HG2	62:AH:47:ALA:HB3	1.90	0.53
71:AT:39:THR:O	71:AT:40:ALA:HB3	2.07	0.53
4:CB:65:SER:OG	4:CB:66:LYS:N	2.42	0.53
6:CC:116:ARG:NH1	6:CC:117:LYS:O	2.42	0.53
21:AD:174:THR:O	21:AD:175:ARG:NE	2.41	0.53
24:AJ:60:GLU:O	24:AJ:63:THR:OG1	2.27	0.53
25:Ca:96:SER:HA	25:Ca:121:ARG:HH22	1.73	0.53
28:CD:73:ARG:NH2	55:A7:113:G:O2'	2.42	0.53
33:CP:181:LYS:NZ	59:A5:3777:U:O5'	2.42	0.53
44:Ck:39:SER:OG	59:A5:2141:A:OP1	2.27	0.53
49:Co:97:ARG:NH1	49:Co:100:GLN:OE1	2.40	0.53
52:CE:57:LYS:NZ	59:A5:1588:A:N3	2.42	0.53
52:CE:123:LEU:HB2	52:CE:139:ARG:HH11	1.73	0.53
58:B2:1740:G:C5'	82:AS:88:LYS:CG	2.87	0.53
59:A5:51:U:H5''	66:CL:15:LYS:HG3	1.91	0.53
59:A5:3686:A:OP1	59:A5:3866:U:O2'	2.27	0.53
66:CL:138:SER:OG	66:CL:140:LEU:N	2.40	0.53
68:CM:145:LYS:HD2	68:CM:148:ARG:HB2	1.91	0.53
69:DA:126:GLN:HG2	69:DA:127:MET:HG2	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:AT:144:ASP:HA	71:AT:147:LYS:CE	2.38	0.53
79:Cj:79:ARG:C	79:Cj:80:GLU:HG3	2.34	0.53
1:AA:183:LEU:HA	1:AA:187:GLY:HA3	1.90	0.53
6:CC:131:ILE:O	6:CC:134:SER:OG	2.26	0.53
15:AP:61:LYS:HD2	15:AP:64:ARG:HG3	1.90	0.53
21:AD:116:ALA:HB1	21:AD:119:ARG:HB3	1.91	0.53
25:Ca:78:LYS:O	25:Ca:80:TRP:N	2.39	0.53
30:CR:78:PHE:HA	30:CR:81:ARG:HD2	1.91	0.53
35:CY:87:ARG:NH2	59:A5:411:U:O3'	2.42	0.53
51:CH:135:SER:HB2	51:CH:143:ILE:HG13	1.91	0.53
53:CG:266:LEU:HB3	53:CG:270:GLN:HE22	1.74	0.53
58:B2:1653:C:H5''	82:AS:141:ARG:HG3	1.84	0.53
59:A5:137:U:O2'	59:A5:140:A:N6	2.42	0.53
59:A5:829:U:O2'	59:A5:988:C:O2	2.27	0.53
59:A5:902:A:H2'	59:A5:903:A:C8	2.43	0.53
82:AS:14:ARG:NH1	82:AS:18:THR:O	2.41	0.53
1:AA:158:ASP:OD1	1:AA:158:ASP:N	2.41	0.53
5:AC:254:ASP:OD1	5:AC:254:ASP:N	2.39	0.53
18:AZ:67:ILE:HD12	18:AZ:87:LEU:HD11	1.91	0.53
18:AZ:97:LYS:N	18:AZ:109:THR:O	2.37	0.53
21:AD:135:GLY:HA2	21:AD:157:GLY:HA3	1.91	0.53
26:CN:99:GLN:OE1	26:CN:118:SER:OG	2.25	0.53
33:CP:64:ASN:H	33:CP:64:ASN:HD22	1.57	0.53
43:Ci:13:LYS:NZ	59:A5:77:A:OP1	2.39	0.53
51:CH:51:ARG:NH2	59:A5:592:G:OP1	2.35	0.53
52:CE:59:LYS:HB3	52:CE:63:LYS:HD3	1.91	0.53
56:A8:79:A:H5''	56:A8:81:A:H61	1.73	0.53
59:A5:140:A:H2'	59:A5:142:G:C8	2.43	0.53
59:A5:2070:G:H1	59:A5:2082:U:H3	1.58	0.53
59:A5:3948:U:OP1	81:Cd:25:HIS:NE2	2.42	0.53
68:CM:105:ASN:N	68:CM:108:ASP:OD2	2.42	0.53
80:CF:106:PRO:HA	80:CF:109:ARG:HB3	1.90	0.53
1:AA:151:ASP:N	1:AA:151:ASP:OD1	2.42	0.52
15:AP:82:HIS:HA	15:AP:100:TYR:HB3	1.92	0.52
26:CN:144:ARG:NH2	59:A5:142:G:OP1	2.42	0.52
28:CD:10:LYS:O	28:CD:10:LYS:NZ	2.38	0.52
32:CT:81:ARG:NH2	59:A5:1167:A:O2'	2.29	0.52
43:Ci:62:PRO:O	43:Ci:66:ARG:NE	2.39	0.52
48:Cp:17:ARG:NH1	59:A5:1060:G:OP1	2.42	0.52
58:B2:490:A:H2'	58:B2:491:G:H8	1.74	0.52
58:B2:631:C:N4	58:B2:1057:A:OP1	2.36	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:A5:706:G:N2	59:A5:731:U:O2	2.42	0.52
59:A5:2739:A:H61	59:A5:2755:G:H1	1.57	0.52
62:AH:55:LYS:NZ	62:AH:56:LYS:O	2.37	0.52
62:AH:72:LYS:HG3	62:AH:73:ILE:HG23	1.91	0.52
62:AH:107:ARG:HG2	62:AH:108:ASN:H	1.74	0.52
66:CL:153:VAL:HG13	66:CL:155:PRO:HD3	1.90	0.52
73:AO:96:LYS:HB3	73:AO:132:VAL:HG12	1.91	0.52
78:CU:285:MET:SD	78:CU:285:MET:N	2.69	0.52
82:AS:54:LYS:NZ	82:AS:63:GLU:OE1	2.41	0.52
3:AB:161:GLN:HA	3:AB:164:VAL:HB	1.89	0.52
4:CB:277:ARG:NH1	59:A5:3582:A:OP1	2.42	0.52
5:AC:45:PRO:HB3	5:AC:51:ARG:HA	1.90	0.52
6:CC:304:VAL:HG21	29:CQ:131:PRO:HG2	1.92	0.52
37:Cr:127:PRO:O	37:Cr:131:LYS:NZ	2.39	0.52
53:CG:78:ARG:NE	53:CG:247:LEU:O	2.34	0.52
56:A8:67:G:H5'	79:Cj:87:LYS:CG	2.32	0.52
58:B2:274:G:N1	58:B2:291:C:O2	2.43	0.52
58:B2:386:C:OP1	60:AE:10:LYS:NZ	2.40	0.52
59:A5:3610:A:H5'	81:Cd:72:LYS:C	2.35	0.52
63:AI:132:LYS:HD2	63:AI:135:GLU:H	1.75	0.52
71:AT:6:VAL:HG12	71:AT:7:LYS:N	2.24	0.52
71:AT:139:VAL:HA	71:AT:142:GLN:HB2	1.90	0.52
15:AP:121:GLU:HG2	82:AS:120:HIS:HB2	1.90	0.52
16:AV:71:ARG:NH2	20:Ab:1:MET:SD	2.83	0.52
18:AZ:88:ILE:HA	18:AZ:91:ARG:HG3	1.91	0.52
20:Ab:55:VAL:HB	20:Ab:60:ALA:HA	1.92	0.52
28:CD:267:ARG:O	28:CD:271:LYS:NZ	2.40	0.52
30:CR:136:ARG:HG3	59:A5:2471:A:H8	1.74	0.52
37:Cr:107:ARG:O	37:Cr:109:ASP:N	2.43	0.52
50:CJ:5:THR:HA	55:A7:19:C:H4'	1.91	0.52
58:B2:1260:G:HO2'	58:B2:1735:A:HO2'	1.53	0.52
58:B2:1650:G:OP1	82:AS:135:HIS:C	2.53	0.52
59:A5:709:U:H2'	59:A5:710:A:H8	1.75	0.52
71:AT:87:VAL:O	71:AT:87:VAL:HG12	2.09	0.52
71:AT:144:ASP:CA	71:AT:147:LYS:HE3	2.33	0.52
78:CU:204:ASP:OD1	78:CU:204:ASP:N	2.40	0.52
5:AC:117:ASN:N	5:AC:117:ASN:OD1	2.41	0.52
6:CC:332:ASN:ND2	80:CF:192:GLU:OE2	2.43	0.52
13:AL:13:PHE:O	58:B2:253:A:N6	2.43	0.52
13:AL:94:ARG:NH2	58:B2:880:G:OP1	2.42	0.52
21:AD:81:PHE:HB3	21:AD:86:ILE:HD11	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:CX:197:ILE:HD13	34:CX:229:HIS:HB3	1.91	0.52
40:Cc:77:THR:OG1	40:Cc:78:ASN:OD1	2.28	0.52
42:Cf:134:ARG:HH21	59:A5:660:A:H5'	1.74	0.52
44:Ck:27:LYS:NZ	44:Ck:68:GLU:OE1	2.42	0.52
50:CJ:56:SER:N	50:CJ:74:ALA:O	2.42	0.52
52:CE:169:ARG:NH1	59:A5:538:A:OP2	2.42	0.52
58:B2:1328:G:N2	58:B2:1644:U:O2	2.41	0.52
58:B2:1719:C:H42	71:AT:82:ARG:NH1	2.07	0.52
59:A5:315:G:OP2	59:A5:315:G:N2	2.32	0.52
59:A5:510:U:H2'	59:A5:511:G:H8	1.73	0.52
59:A5:1179:U:H5'	59:A5:1192:A:C4	2.44	0.52
59:A5:2167:G:N2	79:Cj:5:THR:O	2.43	0.52
59:A5:3017:U:O2'	59:A5:3101:A:N1	2.37	0.52
59:A5:3755:A:N6	68:CM:91:TRP:O	2.43	0.52
60:AE:204:SER:OG	60:AE:205:PHE:N	2.41	0.52
69:DA:142:LEU:HD13	69:DA:162:VAL:HG21	1.91	0.52
70:AK:28:HIS:H	70:AK:41:LEU:HD13	1.75	0.52
71:AT:144:ASP:HA	71:AT:147:LYS:HE3	1.90	0.52
81:Cd:94:ASP:N	81:Cd:94:ASP:OD1	2.42	0.52
7:Ag:243:SER:OG	7:Ag:245:ASN:OD1	2.26	0.52
15:AP:114:MET:CG	82:AS:117:ILE:HD11	2.18	0.52
27:CI:75:TYR:CZ	27:CI:154:ARG:HD3	2.45	0.52
30:CR:180:LYS:HG3	30:CR:181:LYS:HG3	1.91	0.52
58:B2:71:G:H1	58:B2:78:A:H5'	1.75	0.52
58:B2:1240:A:OP1	58:B2:1961:A:N6	2.32	0.52
58:B2:1268:C:O2'	58:B2:1652:A:N6	2.43	0.52
59:A5:438:G:N2	59:A5:2763:U:OP2	2.40	0.52
59:A5:1392:A:O2'	59:A5:1542:C:O2'	2.18	0.52
59:A5:2829:G:N1	59:A5:2889:C:O2	2.43	0.52
59:A5:3818:G:N2	59:A5:3820:C:OP1	2.36	0.52
60:AE:121:TYR:HA	60:AE:163:ASP:HA	1.92	0.52
71:AT:59:SER:C	71:AT:63:HIS:CD2	2.80	0.52
78:CU:243:LEU:HB3	78:CU:245:ILE:HD11	1.92	0.52
2:CA:233:ARG:NH1	2:CA:233:ARG:O	2.43	0.52
5:AC:241:GLU:HG2	5:AC:242:MET:H	1.74	0.52
7:Ag:19:THR:HG22	7:Ag:288:LEU:HD23	1.91	0.52
14:AR:28:PHE:H	58:B2:1584:A:H2	1.58	0.52
19:Aa:38:LYS:O	19:Aa:71:LEU:N	2.40	0.52
27:CI:95:HIS:CG	27:CI:128:ARG:HE	2.27	0.52
48:Cp:4:ARG:NH2	59:A5:1038:G:N7	2.53	0.52
49:Co:36:GLN:OE1	49:Co:40:ARG:NH2	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:720:G:N2	58:B2:782:C:OP2	2.43	0.52
4:CB:252:ALA:HB1	59:A5:3478:G:N3	2.24	0.52
16:AV:37:VAL:HA	16:AV:50:SER:HA	1.91	0.52
30:CR:81:ARG:NH2	59:A5:2483:A:OP2	2.43	0.52
36:CZ:114:ARG:HH22	59:A5:1941:A:H4'	1.75	0.52
58:B2:1564:A:H2'	58:B2:1566:U:H4'	1.91	0.52
58:B2:1715:G:C5	71:AT:67:ARG:HG2	2.41	0.52
59:A5:1447:C:OP2	59:A5:1479:G:N2	2.43	0.52
59:A5:3728:A:H8	59:A5:3729:A:H4'	1.75	0.52
59:A5:3814:U:H2'	59:A5:3815:G:H8	1.75	0.52
69:DA:134:SER:HB3	69:DA:137:MET:HE2	1.91	0.52
71:AT:6:VAL:HG21	71:AT:136:ASN:CG	2.33	0.52
71:AT:23:LYS:CB	71:AT:28:LEU:HD21	2.40	0.52
3:AB:53:GLN:HB2	3:AB:56:ARG:HB2	1.91	0.52
6:CC:9:LEU:HD22	6:CC:24:ASN:HB3	1.91	0.52
14:AR:44:LYS:NZ	58:B2:1579:G:OP2	2.39	0.52
25:Ca:29:HIS:CE1	25:Ca:33:ARG:HG2	2.45	0.52
27:CI:16:PRO:HG2	59:A5:1259:A:H5''	1.91	0.52
30:CR:5:LYS:HG3	59:A5:1714:U:H5''	1.91	0.52
37:Cr:79:LYS:HA	37:Cr:80:ASN:ND2	2.24	0.52
52:CE:164:ASN:HB2	52:CE:167:TYR:HB2	1.92	0.52
58:B2:113:G:N1	58:B2:252:A:N7	2.58	0.52
58:B2:444:U:O4'	58:B2:470:G:N2	2.43	0.52
59:A5:701:U:H2'	59:A5:702:A:H8	1.73	0.52
59:A5:803:A:H5''	59:A5:2739:A:H5''	1.92	0.52
59:A5:1343:A:N3	59:A5:3358:U:O2'	2.43	0.52
59:A5:1984:U:H3	59:A5:2089:A:H2	1.58	0.52
64:AQ:4:LYS:NZ	64:AQ:5:ARG:O	2.40	0.52
3:AB:33:VAL:HA	3:AB:99:VAL:HG22	1.90	0.52
5:AC:63:GLU:HA	5:AC:66:LEU:HD12	1.92	0.52
6:CC:195:GLY:HA3	6:CC:197:GLY:H	1.75	0.52
17:AY:120:GLY:O	58:B2:84:A:O2'	2.28	0.52
18:AZ:73:SER:OG	18:AZ:79:ARG:O	2.28	0.52
18:AZ:81:SER:HA	18:AZ:84:LYS:HE2	1.92	0.52
34:CX:172:THR:O	34:CX:174:LYS:NZ	2.43	0.52
39:Cb:35:MET:HB2	39:Cb:40:LEU:HD11	1.90	0.52
42:Cf:55:VAL:HG22	42:Cf:74:LYS:HB3	1.91	0.52
45:Cl:27:VAL:O	45:Cl:33:ASN:ND2	2.42	0.52
52:CE:40:LYS:O	52:CE:42:ARG:NH2	2.42	0.52
58:B2:1411:G:H2'	58:B2:1412:A:H4'	1.91	0.52
59:A5:318:G:N2	59:A5:334:U:O2	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:A5:2685:G:O2'	59:A5:2688:U:OP2	2.27	0.52
60:AE:117:GLU:HA	60:AE:120:LYS:HG2	1.92	0.52
62:AH:163:THR:O	62:AH:166:HIS:NE2	2.43	0.52
71:AT:29:LYS:NZ	71:AT:106:ALA:C	2.67	0.52
71:AT:42:PHE:HE2	71:AT:83:LYS:NZ	1.97	0.52
78:CU:207:LEU:HD12	78:CU:269:LEU:HD13	1.92	0.52
5:AC:189:SER:OG	5:AC:190:ALA:O	2.27	0.52
28:CD:205:ALA:HB2	28:CD:236:LEU:HD22	1.91	0.52
28:CD:242:LYS:HA	28:CD:245:GLN:HE21	1.72	0.52
29:CQ:122:THR:OG1	29:CQ:124:ASP:OD1	2.27	0.52
31:CS:160:HIS:NE2	31:CS:163:ASN:HA	2.24	0.52
31:CS:169:PHE:O	65:CO:118:ARG:NH2	2.42	0.52
37:Cr:62:LYS:NZ	37:Cr:126:LYS:O	2.41	0.52
50:CJ:80:ARG:NE	55:A7:40:C:O2	2.42	0.52
53:CG:95:THR:HG23	53:CG:96:THR:HG23	1.91	0.52
57:Cz:58:ILE:HD12	57:Cz:153:SER:HB3	1.92	0.52
57:Cz:72:GLN:HB2	57:Cz:144:MET:HE1	1.91	0.52
58:B2:110:U:H3	58:B2:308:G:H1	1.58	0.52
58:B2:275:U:H3'	58:B2:276:A:C8	2.45	0.52
58:B2:880:G:OP2	58:B2:880:G:N2	2.36	0.52
58:B2:1450:U:O4	58:B2:1451:A:N6	2.43	0.52
58:B2:1717:A:H4'	71:AT:92:PHE:CE1	2.44	0.52
59:A5:888:A:H61	59:A5:901:U:H3	1.58	0.52
59:A5:2065:A:H3'	59:A5:2066:G:C8	2.45	0.52
63:AI:113:TYR:O	63:AI:117:TYR:N	2.43	0.52
68:CM:25:VAL:HG12	68:CM:45:VAL:HG11	1.91	0.52
68:CM:39:ASP:OD2	68:CM:47:ARG:NE	2.39	0.52
71:AT:11:GLN:HA	71:AT:14:VAL:HB	1.91	0.52
4:CB:374:MET:O	59:A5:3621:A:O2'	2.27	0.51
18:AZ:71:VAL:HA	18:AZ:74:GLU:HB2	1.92	0.51
52:CE:101:LEU:HD13	52:CE:145:VAL:HG21	1.92	0.51
58:B2:486:A:N6	58:B2:515:U:O4	2.42	0.51
58:B2:1423:A:H62	58:B2:1607:U:H2'	1.75	0.51
59:A5:709:U:H2'	59:A5:710:A:C8	2.44	0.51
59:A5:1196:A:N1	59:A5:1197:A:N6	2.58	0.51
59:A5:2485:A:O2'	63:AI:89:GLU:OE1	2.27	0.51
59:A5:3780:G:N1	59:A5:3831:C:O2	2.33	0.51
71:AT:83:LYS:CD	71:AT:93:CYS:CB	2.72	0.51
1:AA:186:ARG:NE	16:AV:46:GLN:O	2.43	0.51
7:Ag:243:SER:HB2	7:Ag:248:TRP:HE3	1.75	0.51
28:CD:158:ARG:NH2	55:A7:46:C:OP2	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:CP:62:ARG:NH1	59:A5:431:C:OP1	2.43	0.51
55:A7:75:G:N2	55:A7:76:U:O4	2.36	0.51
58:B2:498:U:O2'	58:B2:502:C:N3	2.39	0.51
59:A5:120:C:H5''	59:A5:283:A:H2	1.74	0.51
59:A5:417:A:HO2'	59:A5:421:C:HO2'	1.55	0.51
59:A5:763:A:H5'	59:A5:764:A:H5''	1.92	0.51
62:AH:99:LEU:HB2	62:AH:114:ARG:HG3	1.93	0.51
64:AQ:57:LEU:HA	64:AQ:65:PHE:HE2	1.75	0.51
72:AF:141:ILE:O	72:AF:146:ARG:NH1	2.44	0.51
80:CF:180:ARG:HD2	80:CF:181:LYS:HE2	1.91	0.51
4:CB:41:VAL:HG22	4:CB:187:GLY:HA3	1.91	0.51
6:CC:46:LEU:HB3	6:CC:116:ARG:HD2	1.91	0.51
13:AL:103:HIS:ND1	58:B2:356:C:O2	2.43	0.51
14:AR:28:PHE:O	14:AR:32:LYS:N	2.37	0.51
29:CQ:64:GLN:O	29:CQ:68:ARG:N	2.35	0.51
37:Cr:42:TYR:HE2	37:Cr:43:ARG:HH11	1.58	0.51
47:Cn:25:LYS:HD2	59:A5:2239:C:H5''	1.93	0.51
52:CE:189:LYS:HA	52:CE:191:ARG:HH22	1.75	0.51
58:B2:67:A:O2'	58:B2:69:A:N7	2.40	0.51
58:B2:1427:U:O2	58:B2:1575:A:N6	2.43	0.51
58:B2:1601:A:N6	58:B2:1605:G:O4'	2.43	0.51
59:A5:661:G:O6	59:A5:662:A:N6	2.43	0.51
59:A5:1036:A:OP2	59:A5:1057:G:N2	2.41	0.51
59:A5:2582:C:H2'	59:A5:2584:G:C8	2.46	0.51
67:CV:69:LYS:HG2	67:CV:70:PRO:HD2	1.92	0.51
70:AK:35:LEU:HD11	70:AK:40:ASN:HA	1.93	0.51
78:CU:264:LEU:O	78:CU:268:SER:N	2.43	0.51
80:CF:242:ASP:O	80:CF:245:ASN:ND2	2.44	0.51
5:AC:155:ASN:OD1	5:AC:155:ASN:N	2.40	0.51
24:AJ:174:VAL:HG21	58:B2:521:U:H5	1.74	0.51
28:CD:126:THR:OG1	28:CD:128:GLU:OE2	2.24	0.51
52:CE:38:MET:HG2	59:A5:699:U:C2	2.45	0.51
56:A8:35:G:N3	56:A8:101:A:N6	2.58	0.51
58:B2:1357:G:H2'	58:B2:1358:G:H8	1.76	0.51
58:B2:1551:C:N4	58:B2:1559:A:N7	2.59	0.51
59:A5:615:C:H2'	59:A5:616:A:H8	1.75	0.51
62:AH:17:ASP:HA	62:AH:20:LYS:HB3	1.92	0.51
71:AT:20:VAL:O	71:AT:24:LYS:N	2.43	0.51
72:AF:178:LEU:HA	72:AF:213:ALA:HB1	1.92	0.51
4:CB:132:LYS:NZ	59:A5:3867:A:OP1	2.38	0.51
6:CC:116:ARG:NH1	59:A5:990:U:O3'	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:Ag:100:ARG:HH22	7:Ag:136:LEU:HD22	1.75	0.51
7:Ag:149:THR:N	7:Ag:172:ASP:OD2	2.39	0.51
21:AD:110:LYS:HD3	21:AD:120:ALA:HB1	1.93	0.51
33:CP:2:GLY:O	33:CP:18:ARG:NH2	2.44	0.51
55:A7:38:U:N3	55:A7:41:G:OP2	2.39	0.51
58:B2:557:G:H2'	58:B2:558:A:H8	1.74	0.51
58:B2:1290:A:O2'	58:B2:1293:C:N4	2.43	0.51
58:B2:1650:G:OP1	82:AS:135:HIS:HB3	2.10	0.51
59:A5:1450:U:H4'	59:A5:1451:G:H5'	1.92	0.51
59:A5:3614:U:C5'	81:Cd:75:ARG:HH12	2.24	0.51
69:DA:124:VAL:HG22	69:DA:133:ILE:HG22	1.92	0.51
76:CW:25:ASP:HB2	76:CW:27:LYS:HG2	1.92	0.51
1:AA:120:ARG:HH22	5:AC:250:GLN:HB2	1.75	0.51
9:AX:130:LEU:HD23	9:AX:133:LEU:HD12	1.92	0.51
26:CN:46:ASP:OD1	26:CN:46:ASP:N	2.26	0.51
41:Ce:8:ARG:NH2	59:A5:542:C:O2'	2.44	0.51
41:Ce:79:HIS:N	41:Ce:83:GLU:OE1	2.42	0.51
59:A5:3789:U:OP2	68:CM:150:ARG:NH2	2.44	0.51
63:AI:151:TYR:HA	63:AI:154:ARG:HB2	1.93	0.51
69:DA:368:GLU:O	69:DA:372:ASP:N	2.43	0.51
71:AT:20:VAL:CG1	71:AT:24:LYS:CE	2.76	0.51
71:AT:47:PRO:HD2	71:AT:47:PRO:O	2.10	0.51
6:CC:163:LYS:HA	6:CC:218:GLU:HB2	1.93	0.51
10:AM:99:CYS:SG	10:AM:106:LYS:NZ	2.84	0.51
19:Aa:45:VAL:HB	19:Aa:49:ALA:HB3	1.93	0.51
26:CN:49:ARG:NH2	59:A5:157:C:OP2	2.43	0.51
33:CP:6:ARG:HE	33:CP:116:HIS:HB3	1.76	0.51
36:CZ:48:ARG:NH2	59:A5:1944:C:OP1	2.44	0.51
36:CZ:107:LYS:HG3	59:A5:1926:A:H1'	1.92	0.51
44:Ck:9:LYS:O	44:Ck:13:ASN:N	2.43	0.51
52:CE:129:PRO:HG3	52:CE:209:LEU:HD23	1.92	0.51
58:B2:642:G:N1	58:B2:1052:U:OP2	2.28	0.51
62:AH:22:ILE:HD12	62:AH:25:ALA:HB3	1.93	0.51
67:CV:92:ASP:OD1	67:CV:92:ASP:N	2.32	0.51
78:CU:226:LEU:O	78:CU:230:LYS:NZ	2.43	0.51
3:AB:145:PHE:HB2	3:AB:211:HIS:HB3	1.91	0.51
8:AU:22:ILE:N	8:AU:93:LEU:O	2.42	0.51
12:AN:23:PRO:HG2	12:AN:26:LEU:HB2	1.93	0.51
24:AJ:23:LYS:HE3	58:B2:563:A:H5''	1.91	0.51
27:CI:182:GLU:OE1	27:CI:185:ARG:NH2	2.43	0.51
28:CD:207:TYR:OH	28:CD:222:GLN:NE2	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:CR:4:LEU:HB3	30:CR:7:GLN:HB2	1.91	0.51
45:CI:3:ALA:O	59:A5:2149:G:O2'	2.28	0.51
51:CH:13:PRO:HD2	51:CH:16:ILE:HD11	1.91	0.51
57:Cz:58:ILE:HG22	57:Cz:60:ARG:H	1.76	0.51
59:A5:1020:A:N3	59:A5:1111:C:O2'	2.42	0.51
59:A5:1604:G:OP1	80:CF:169:ARG:NH1	2.44	0.51
64:AQ:1:MET:O	64:AQ:2:GLN:NE2	2.41	0.51
9:AX:3:LYS:NZ	58:B2:620:U:OP2	2.44	0.51
18:AZ:97:LYS:HG3	18:AZ:111:ALA:HA	1.93	0.51
31:CS:93:MET:HE2	31:CS:113:MET:HE1	1.91	0.51
36:CZ:89:ASP:HB3	36:CZ:116:LYS:HE2	1.91	0.51
59:A5:1702:G:OP1	81:CD:47:ARG:NH2	2.44	0.51
59:A5:1718:G:H2'	59:A5:1719:G:C8	2.46	0.51
59:A5:2804:U:H3	59:A5:3135:G:H1	1.59	0.51
59:A5:3712:G:O3'	59:A5:3850:A:N6	2.44	0.51
60:AE:166:SER:OG	60:AE:167:GLY:N	2.40	0.51
63:AI:38:LEU:HD13	63:AI:96:LEU:HD21	1.93	0.51
71:AT:17:ALA:C	71:AT:21:PHE:HE2	2.16	0.51
71:AT:50:PRO:C	71:AT:53:PHE:CD2	2.85	0.51
80:CF:49:ARG:O	80:CF:53:ASN:N	2.43	0.51
3:AB:94:VAL:HA	3:AB:99:VAL:HA	1.93	0.51
9:AX:9:THR:O	9:AX:9:THR:OG1	2.23	0.51
12:AN:10:GLY:HA2	58:B2:1160:A:H4'	1.92	0.51
12:AN:52:ILE:HG22	12:AN:55:ARG:HH21	1.76	0.51
15:AP:20:TYR:CZ	82:AS:90:ILE:HG21	2.46	0.51
22:Ae:111:ASN:ND2	58:B2:511:G:O5'	2.44	0.51
23:Af:117:LEU:HD23	23:Af:118:ARG:HG2	1.93	0.51
31:CS:166:LEU:HD12	65:CO:124:ILE:HD13	1.91	0.51
58:B2:910:U:N3	58:B2:933:C:O2	2.44	0.51
58:B2:1649:U:C1'	82:AS:135:HIS:NE2	2.74	0.51
58:B2:1731:U:H5	82:AS:24:ARG:HE	1.59	0.51
59:A5:2797:A:H2'	59:A5:2798:C:C6	2.46	0.51
59:A5:3790:A:N7	68:CM:147:ARG:NH2	2.59	0.51
61:AG:147:LEU:HD23	61:AG:153:VAL:HG12	1.93	0.51
62:AH:114:ARG:HH11	62:AH:119:THR:HB	1.75	0.51
65:CO:29:LEU:HD11	65:CO:104:LEU:HD13	1.93	0.51
65:CO:138:CYS:SG	65:CO:139:GLN:N	2.84	0.51
9:AX:39:ASN:O	9:AX:79:LYS:NZ	2.43	0.50
28:CD:152:ARG:HD3	59:A5:3195:G:H5'	1.93	0.50
33:CP:27:LYS:HB2	59:A5:1689:G:P	2.51	0.50
42:Cf:105:PRO:HA	42:Cf:110:ARG:HB2	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:CJ:96:GLU:O	50:CJ:98:GLU:N	2.44	0.50
58:B2:1248:A:N6	58:B2:1808:G:O6	2.43	0.50
60:AE:87:MET:HE1	60:AE:236:ILE:HD13	1.94	0.50
63:AI:154:ARG:O	63:AI:156:LYS:NZ	2.44	0.50
64:AQ:127:ARG:NH1	72:AF:78:GLY:O	2.43	0.50
71:AT:126:ILE:CG2	71:AT:126:ILE:O	2.59	0.50
5:AC:91:LYS:HB2	5:AC:216:LEU:HD23	1.93	0.50
9:AX:88:ASP:HB3	58:B2:576:G:H4'	1.93	0.50
25:Ca:28:LYS:NZ	59:A5:1001:A:H5'	2.27	0.50
26:CN:198:GLU:HB2	66:CL:21:VAL:HA	1.94	0.50
37:Cr:5:SER:OG	37:Cr:42:TYR:OH	2.21	0.50
53:CG:116:LYS:O	53:CG:120:LYS:N	2.37	0.50
53:CG:165:ASP:OD1	54:A9:26:U:O2'	2.29	0.50
53:CG:180:ARG:HH21	53:CG:236:GLU:HA	1.77	0.50
56:A8:102:A:H4'	56:A8:103:C:H5'	1.94	0.50
59:A5:2267:U:H3	59:A5:2474:A:H61	1.59	0.50
59:A5:2847:G:H22	59:A5:2870:C:H42	1.59	0.50
59:A5:3933:G:C8	78:CU:225:LYS:HD3	2.46	0.50
64:AQ:112:ASP:N	64:AQ:112:ASP:OD1	2.40	0.50
66:CL:187:THR:HA	66:CL:190:ARG:HB2	1.93	0.50
2:CA:50:HIS:CG	48:Cp:51:VAL:HG11	2.47	0.50
3:AB:37:ASN:HB3	3:AB:236:GLY:H	1.76	0.50
4:CB:189:SER:OG	4:CB:192:ASP:OD2	2.30	0.50
30:CR:20:LYS:NZ	59:A5:2190:A:N7	2.45	0.50
40:Cc:22:MET:HE1	40:Cc:87:LYS:HE2	1.92	0.50
58:B2:585:G:H5''	58:B2:586:U:H5'	1.93	0.50
58:B2:1367:C:H2'	58:B2:1368:G:H8	1.77	0.50
58:B2:1662:C:OP1	58:B2:1732:G:O2'	2.29	0.50
58:B2:1758:A:C4'	82:AS:39:ARG:HH21	2.23	0.50
59:A5:466:U:O4	59:A5:467:A:N6	2.44	0.50
59:A5:812:U:H2'	59:A5:813:C:C6	2.47	0.50
59:A5:2844:G:O6	59:A5:2845:G:N2	2.45	0.50
59:A5:3357:C:H42	59:A5:3396:A:H61	1.58	0.50
61:AG:183:PRO:HA	61:AG:186:LEU:HD23	1.92	0.50
6:CC:198:THR:HG22	6:CC:203:ARG:HG2	1.92	0.50
13:AL:79:MET:HE3	58:B2:352:G:H5'	1.94	0.50
20:Ab:49:HIS:HA	20:Ab:70:ARG:HA	1.93	0.50
20:Ab:67:THR:H	58:B2:957:A:N6	2.10	0.50
26:CN:155:VAL:HG12	59:A5:62:G:H4'	1.93	0.50
33:CP:178:GLN:HB2	33:CP:184:ARG:HD2	1.94	0.50
51:CH:7:ASN:OD1	51:CH:7:ASN:N	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:720:G:N2	58:B2:817:C:O2	2.38	0.50
58:B2:1607:U:H4'	64:AQ:126:PRO:HG2	1.94	0.50
58:B2:1661:A:N6	58:B2:1766:G:O6	2.44	0.50
58:B2:1690:G:H5''	71:AT:71:GLY:HA3	1.94	0.50
59:A5:3898:C:O3'	81:Cd:23:THR:HG21	2.10	0.50
64:AQ:62:LYS:HD2	64:AQ:65:PHE:HB2	1.93	0.50
71:AT:60:ILE:HG23	71:AT:64:LEU:HG	1.92	0.50
81:Cd:24:ILE:HD12	81:Cd:49:PHE:CD2	2.47	0.50
82:AS:104:ASP:OD1	82:AS:104:ASP:N	2.45	0.50
2:CA:176:ASP:OD1	2:CA:176:ASP:N	2.43	0.50
3:AB:142:CYS:HA	3:AB:215:ILE:HA	1.94	0.50
6:CC:245:PRO:HB2	59:A5:1624:G:H4'	1.94	0.50
9:AX:1:MET:N	58:B2:1191:C:H41	2.10	0.50
10:AM:52:ARG:HH21	10:AM:80:GLN:HG3	1.77	0.50
20:Ab:36:LYS:O	20:Ab:78:SER:OG	2.26	0.50
21:AD:136:CYS:N	21:AD:156:ASP:O	2.43	0.50
24:AJ:42:ARG:HG2	24:AJ:45:TRP:CD1	2.46	0.50
27:CI:171:TRP:HB2	27:CI:178:ARG:HA	1.92	0.50
30:CR:115:ILE:HD12	30:CR:119:LEU:HD23	1.93	0.50
33:CP:14:SER:OG	33:CP:15:CYS:N	2.43	0.50
50:CJ:160:HIS:NE2	55:A7:54:A:N3	2.58	0.50
51:CH:69:ARG:NE	59:A5:3648:A:OP1	2.44	0.50
54:A9:2:G:C2	56:A8:122:U:H1'	2.45	0.50
59:A5:1802:U:H5'	59:A5:1803:C:H4'	1.93	0.50
59:A5:1888:A:H4'	59:A5:2151:A:H4'	1.93	0.50
59:A5:3599:U:O4	59:A5:3609:A:N6	2.36	0.50
59:A5:3789:U:H5	68:CM:150:ARG:HH22	1.60	0.50
64:AQ:34:LEU:HD22	64:AQ:41:LEU:HD22	1.94	0.50
69:DA:222:THR:HG21	69:DA:348:GLN:HG3	1.93	0.50
71:AT:45:LEU:CD2	82:AS:38:ARG:HD2	2.42	0.50
2:CA:14:SER:HA	2:CA:17:LYS:HE2	1.93	0.50
7:Ag:164:PRO:HB2	7:Ag:180:LEU:HB2	1.92	0.50
11:Ad:31:ILE:HG13	11:Ad:40:ARG:HB3	1.94	0.50
19:Aa:98:PRO:O	58:B2:1993:U:N3	2.37	0.50
30:CR:166:VAL:HA	30:CR:169:ALA:HB3	1.93	0.50
30:CR:172:ARG:HA	30:CR:175:GLU:HG2	1.94	0.50
31:CS:156:GLN:O	68:CM:5:ARG:NH2	2.44	0.50
37:Cr:97:LEU:HD21	37:Cr:122:LEU:HD11	1.92	0.50
38:Ch:82:ASP:OD1	38:Ch:82:ASP:N	2.43	0.50
46:Cm:97:ARG:NH1	46:Cm:122:ARG:HH21	2.10	0.50
50:CJ:100:ARG:HA	50:CJ:180:LEU:HB3	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:1257:G:N1	58:B2:1767:G:OP2	2.41	0.50
58:B2:1750:U:O2	82:AS:136:THR:OG1	2.17	0.50
58:B2:1778:A:H2	72:AF:107:ASN:HD21	1.59	0.50
74:Ac:11:MET:SD	74:Ac:11:MET:N	2.85	0.50
78:CU:254:ARG:O	78:CU:258:TYR:N	2.44	0.50
81:Cd:15:ASN:N	81:Cd:15:ASN:OD1	2.43	0.50
2:CA:117:GLU:HB2	2:CA:162:ASN:HB2	1.94	0.50
2:CA:196:TRP:CE3	2:CA:197:PRO:HD2	2.47	0.50
7:Ag:11:LEU:HD21	7:Ag:54:GLY:H	1.77	0.50
15:AP:41:HIS:CA	82:AS:88:LYS:NZ	2.72	0.50
50:CJ:62:VAL:HG12	50:CJ:67:ILE:HG12	1.94	0.50
52:CE:165:ASP:N	52:CE:165:ASP:OD1	2.42	0.50
57:Cz:33:GLU:N	57:Cz:207:LYS:O	2.44	0.50
58:B2:1675:A:N1	58:B2:1782:G:N2	2.58	0.50
58:B2:1758:A:P	82:AS:37:GLY:H	2.35	0.50
59:A5:120:C:H5''	59:A5:283:A:C2	2.47	0.50
59:A5:2070:G:H22	59:A5:2082:U:H3	1.58	0.50
59:A5:3212:A:O2'	59:A5:3213:C:O4'	2.29	0.50
67:CV:82:ILE:HG13	67:CV:83:ARG:HG2	1.92	0.50
71:AT:17:ALA:CB	71:AT:21:PHE:HE2	2.25	0.50
71:AT:89:PRO:HD2	71:AT:91:HIS:CE1	2.47	0.50
82:AS:18:THR:OG1	82:AS:19:ASN:N	2.45	0.50
4:CB:231:VAL:HG11	4:CB:251:VAL:HG23	1.93	0.50
7:Ag:112:VAL:HG13	7:Ag:123:SER:HB3	1.94	0.50
12:AN:89:TYR:OH	12:AN:150:VAL:O	2.29	0.50
26:CN:127:TYR:OH	59:A5:1787:C:OP1	2.23	0.50
37:Cr:41:SER:OG	37:Cr:43:ARG:N	2.45	0.50
43:Ci:81:LYS:NZ	59:A5:2599:G:O6	2.27	0.50
56:A8:8:A:H2'	56:A8:9:G:H8	1.77	0.50
59:A5:737:U:O4	59:A5:738:A:N6	2.44	0.50
59:A5:1084:A:OP2	79:Cj:4:GLY:HA3	2.11	0.50
61:AG:37:GLU:OE1	61:AG:39:ASP:N	2.41	0.50
61:AG:63:MET:HG3	61:AG:100:CYS:H	1.76	0.50
68:CM:144:LYS:O	68:CM:148:ARG:N	2.44	0.50
71:AT:47:PRO:HG2	71:AT:53:PHE:HZ	1.77	0.50
3:AB:227:ASP:OD1	3:AB:229:SER:OG	2.29	0.50
4:CB:94:GLU:OE1	4:CB:158:LYS:NZ	2.33	0.50
5:AC:166:LYS:HD2	75:AW:95:PRO:HA	1.93	0.50
15:AP:84:ARG:HG3	58:B2:1749:C:H42	1.76	0.50
21:AD:9:LYS:HA	21:AD:12:LYS:HE2	1.94	0.50
25:Ca:105:VAL:HG21	25:Ca:128:LYS:HG3	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:CR:135:LYS:N	59:A5:2264:G:OP1	2.41	0.50
42:Cf:153:TYR:OH	59:A5:546:G:O2'	2.23	0.50
49:Co:50:GLY:O	59:A5:2799:U:O2'	2.27	0.50
58:B2:216:U:O4'	58:B2:930:G:N2	2.45	0.50
58:B2:1758:A:C4'	82:AS:39:ARG:NH2	2.75	0.50
62:AH:108:ASN:OD1	62:AH:108:ASN:N	2.44	0.50
72:AF:135:ILE:HG23	72:AF:205:ALA:HB2	1.94	0.50
80:CF:53:ASN:OD1	80:CF:189:GLN:NE2	2.36	0.50
5:AC:56:GLY:O	5:AC:59:LYS:NZ	2.39	0.49
26:CN:36:LEU:HD13	26:CN:109:ARG:HD3	1.94	0.49
48:Cp:84:ARG:HH12	48:Cp:88:GLU:HB3	1.76	0.49
51:CH:26:THR:O	51:CH:26:THR:OG1	2.25	0.49
58:B2:857:G:H1	58:B2:868:C:H42	1.59	0.49
58:B2:1604:A:O2'	58:B2:1607:U:OP1	2.24	0.49
58:B2:1900:U:H2'	58:B2:1901:A:H8	1.77	0.49
59:A5:3547:U:OP2	59:A5:3670:G:N2	2.44	0.49
61:AG:67:VAL:HG12	61:AG:69:THR:H	1.76	0.49
69:DA:96:THR:O	69:DA:100:PHE:N	2.44	0.49
69:DA:164:LEU:HD11	69:DA:351:ALA:HB1	1.94	0.49
78:CU:201:VAL:HG11	78:CU:209:LEU:HD21	1.93	0.49
1:AA:17:LYS:HE3	1:AA:180:ARG:HH22	1.77	0.49
2:CA:45:VAL:HB	2:CA:61:VAL:HG22	1.94	0.49
13:AL:35:ARG:HH22	13:AL:61:GLY:H	1.59	0.49
18:AZ:47:VAL:CG1	82:AS:23:LYS:HG3	2.42	0.49
23:Af:95:ARG:NH1	58:B2:1320:G:O6	2.45	0.49
25:Ca:130:PHE:CD2	66:CL:179:PHE:HB2	2.47	0.49
28:CD:126:THR:HG22	28:CD:196:ARG:HD3	1.94	0.49
29:CQ:79:THR:HA	29:CQ:99:THR:HG23	1.95	0.49
57:Cz:90:LEU:HG	57:Cz:119:GLN:HE22	1.77	0.49
58:B2:203:G:H1	58:B2:268:C:H42	1.60	0.49
58:B2:574:C:N4	58:B2:584:G:O2'	2.45	0.49
58:B2:1381:G:N2	58:B2:1409:A:O4'	2.43	0.49
58:B2:1741:A:OP1	82:AS:88:LYS:HD2	2.12	0.49
59:A5:763:A:N6	59:A5:767:A:O2'	2.45	0.49
64:AQ:133:LYS:HE2	64:AQ:142:ARG:HH21	1.77	0.49
71:AT:69:PRO:CD	71:AT:69:PRO:O	2.59	0.49
82:AS:61:GLU:HA	82:AS:64:VAL:HG22	1.93	0.49
1:AA:85:ARG:HH12	14:AR:82:ASP:HA	1.77	0.49
2:CA:40:TYR:HA	2:CA:91:GLY:HA3	1.92	0.49
4:CB:393:LYS:HG3	4:CB:397:LEU:HD22	1.94	0.49
17:AY:30:HIS:O	17:AY:68:GLY:N	2.44	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:AJ:171:PRO:HD2	24:AJ:176:ARG:HD2	1.93	0.49
55:A7:77:A:N3	59:A5:1210:A:O2'	2.43	0.49
58:B2:656:U:O4'	58:B2:705:G:N2	2.45	0.49
58:B2:869:C:H2'	58:B2:870:U:H6	1.78	0.49
59:A5:1446:A:H2'	59:A5:1492:C:H41	1.77	0.49
59:A5:1473:U:O2'	59:A5:1475:A:N7	2.43	0.49
62:AH:35:LEU:HA	62:AH:38:TYR:HD2	1.78	0.49
66:CL:105:SER:OG	66:CL:107:GLU:OE1	2.26	0.49
69:DA:75:GLN:HA	69:DA:78:CYS:HB2	1.94	0.49
2:CA:178:PRO:HD2	48:Cp:26:VAL:HG22	1.94	0.49
3:AB:108:LEU:HB2	3:AB:216:ARG:HA	1.94	0.49
8:AU:35:GLU:HB3	8:AU:39:ARG:HH21	1.77	0.49
9:AX:73:GLN:OE1	9:AX:80:LYS:NZ	2.45	0.49
11:Ad:16:GLN:NE2	11:Ad:27:ARG:NH2	2.61	0.49
13:AL:133:LYS:NZ	58:B2:329:U:OP1	2.42	0.49
27:CI:217:TYR:OH	28:CD:297:THR:OG1	2.27	0.49
28:CD:189:SER:O	28:CD:189:SER:OG	2.30	0.49
39:Cb:59:ARG:HB3	39:Cb:63:ARG:HH12	1.76	0.49
42:Cf:49:ARG:HB2	59:A5:3714:U:C6	2.47	0.49
48:Cp:44:LYS:NZ	59:A5:2040:A:OP1	2.45	0.49
58:B2:465:A:H3'	58:B2:466:G:H8	1.76	0.49
58:B2:1715:G:C6	71:AT:67:ARG:NE	2.68	0.49
59:A5:2932:C:N4	59:A5:2982:U:O3'	2.43	0.49
61:AG:187:GLN:HG3	61:AG:191:ARG:HH22	1.78	0.49
65:CO:46:SER:OG	65:CO:47:GLY:N	2.45	0.49
71:AT:139:VAL:HG22	71:AT:142:GLN:OE1	2.12	0.49
1:AA:108:PHE:O	5:AC:72:LYS:NZ	2.46	0.49
4:CB:56:ILE:HD12	4:CB:368:ILE:HA	1.93	0.49
4:CB:175:GLN:NE2	59:A5:3887:U:O5'	2.45	0.49
4:CB:237:THR:HG21	4:CB:251:VAL:HG22	1.94	0.49
9:AX:83:ALA:HA	9:AX:120:PHE:HB2	1.94	0.49
10:AM:132:LYS:HA	10:AM:135:LEU:HB2	1.94	0.49
12:AN:78:VAL:HG23	12:AN:80:LEU:HD23	1.94	0.49
12:AN:144:SER:OG	12:AN:145:THR:N	2.44	0.49
22:Ae:103:ARG:NH2	58:B2:482:A:O3'	2.45	0.49
27:CI:50:VAL:HG22	27:CI:167:VAL:HG12	1.95	0.49
37:Cr:119:SER:O	37:Cr:123:ARG:N	2.44	0.49
42:Cf:49:ARG:HB3	52:CE:231:ALA:HA	1.93	0.49
42:Cf:50:LEU:HG	59:A5:3714:U:C4	2.47	0.49
50:CJ:163:THR:N	50:CJ:166:ASP:OD2	2.38	0.49
57:Cz:69:GLY:HA2	57:Cz:73:HIS:HB2	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:1144:C:N4	58:B2:1148:U:OP2	2.45	0.49
58:B2:1316:G:N2	58:B2:1343:A:N7	2.61	0.49
59:A5:2584:G:H22	59:A5:2615:C:N4	2.10	0.49
68:CM:145:LYS:HA	68:CM:148:ARG:HB2	1.93	0.49
70:AK:14:TYR:O	70:AK:18:GLU:N	2.45	0.49
71:AT:45:LEU:CG	82:AS:38:ARG:HD2	2.43	0.49
81:Cd:27:ALA:HB2	81:Cd:79:PHE:HD1	1.77	0.49
13:AL:16:ASN:HD22	13:AL:18:ASN:CG	2.20	0.49
24:AJ:112:GLN:HG2	24:AJ:128:ARG:HA	1.93	0.49
25:Ca:49:TYR:O	25:Ca:50:HIS:ND1	2.45	0.49
44:Ck:7:GLU:OE1	44:Ck:10:ASP:N	2.43	0.49
57:Cz:68:LEU:HD13	57:Cz:112:ALA:HA	1.95	0.49
58:B2:943:U:O3'	62:AH:118:ARG:NH2	2.46	0.49
59:A5:186:G:H5'	59:A5:263:A:H61	1.78	0.49
59:A5:522:G:O2'	59:A5:525:U:OP1	2.27	0.49
60:AE:11:ARG:NE	60:AE:25:GLY:O	2.45	0.49
73:AO:48:SER:OG	73:AO:49:GLY:N	2.45	0.49
4:CB:323:TYR:CD1	4:CB:341:LYS:HG3	2.47	0.49
7:Ag:196:LEU:HA	7:Ag:212:GLY:HA2	1.93	0.49
20:Ab:66:PRO:HA	58:B2:957:A:C6	2.47	0.49
22:Ae:107:ARG:NH1	58:B2:483:A:OP1	2.40	0.49
26:CN:58:GLY:H	26:CN:142:ILE:HD11	1.76	0.49
27:CI:115:MET:HB2	59:A5:3150:G:H2'	1.93	0.49
58:B2:188:C:O4'	58:B2:196:G:N2	2.43	0.49
58:B2:1143:A:N7	58:B2:1144:C:N4	2.61	0.49
58:B2:1715:G:P	71:AT:78:ILE:HD12	2.44	0.49
58:B2:1739:U:H6	82:AS:86:ARG:CZ	2.26	0.49
62:AH:8:ILE:HG13	62:AH:43:HIS:HA	1.94	0.49
78:CU:222:ILE:N	78:CU:224:ASN:OD1	2.46	0.49
1:AA:132:GLN:NE2	1:AA:136:GLU:OE1	2.45	0.49
2:CA:113:ILE:HD11	2:CA:116:LEU:HD22	1.93	0.49
4:CB:100:ARG:HH11	59:A5:3680:A:H4'	1.77	0.49
15:AP:118:TYR:N	15:AP:121:GLU:OE2	2.45	0.49
16:AV:27:LYS:O	16:AV:29:HIS:ND1	2.42	0.49
35:CY:39:ARG:NH2	35:CY:45:ARG:O	2.39	0.49
52:CE:220:LYS:HG3	68:CM:110:PHE:HB3	1.94	0.49
55:A7:12:U:OP2	55:A7:67:G:O2'	2.27	0.49
56:A8:24:G:N2	59:A5:363:G:O2'	2.41	0.49
58:B2:912:U:O4	58:B2:931:A:N6	2.44	0.49
58:B2:1687:C:N3	58:B2:1705:G:N2	2.61	0.49
59:A5:805:C:H2'	59:A5:806:A:C8	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:A5:889:G:H2'	59:A5:890:C:C2	2.48	0.49
59:A5:3793:U:H3	59:A5:3818:G:H1'	1.78	0.49
66:CL:77:LEU:HA	66:CL:80:LEU:HD12	1.94	0.49
78:CU:198:CYS:HB3	78:CU:244:ILE:HG12	1.94	0.49
78:CU:222:ILE:HB	78:CU:229:LEU:HB3	1.95	0.49
80:CF:225:ARG:HD2	80:CF:235:GLY:HA3	1.93	0.49
6:CC:211:LEU:HD23	6:CC:253:VAL:HG23	1.95	0.49
18:AZ:47:VAL:C	82:AS:55:ARG:NH2	2.57	0.49
30:CR:136:ARG:HG3	59:A5:2471:A:H2'	1.95	0.49
41:Ce:89:MET:N	41:Ce:89:MET:SD	2.85	0.49
58:B2:1381:G:N2	58:B2:1409:A:OP2	2.46	0.49
59:A5:1237:G:H8	59:A5:1240:A:H8	1.61	0.49
68:CM:5:ARG:HA	68:CM:11:ARG:HH12	1.77	0.49
71:AT:45:LEU:CD2	82:AS:38:ARG:CD	2.87	0.49
71:AT:83:LYS:HZ1	71:AT:93:CYS:HB3	1.77	0.49
4:CB:82:PRO:HD3	4:CB:171:ILE:HD11	1.95	0.49
13:AL:71:THR:OG1	13:AL:72:GLY:N	2.44	0.49
21:AD:144:LEU:HD21	21:AD:184:LEU:HD11	1.94	0.49
41:Ce:20:ILE:HG23	41:Ce:32:HIS:HB2	1.94	0.49
52:CE:59:LYS:HA	52:CE:62:ILE:HB	1.95	0.49
59:A5:137:U:O2'	59:A5:138:A:O4'	2.31	0.49
59:A5:3790:A:H2	59:A5:3822:C:H41	1.61	0.49
65:CO:21:LEU:HD23	65:CO:43:LEU:HD11	1.95	0.49
71:AT:39:THR:HG22	71:AT:53:PHE:HE1	1.77	0.49
71:AT:68:SER:CB	71:AT:69:PRO:CD	2.85	0.49
15:AP:58:ALA:O	15:AP:62:LYS:N	2.46	0.48
21:AD:24:ASN:HA	21:AD:27:LEU:HB2	1.93	0.48
25:Ca:62:PHE:O	59:A5:322:G:O2'	2.31	0.48
26:CN:94:PRO:O	59:A5:307:A:O2'	2.23	0.48
30:CR:171:LYS:HD3	30:CR:173:ARG:HE	1.78	0.48
31:CS:77:ASN:OD1	31:CS:77:ASN:N	2.34	0.48
33:CP:27:LYS:HZ3	33:CP:30:HIS:CE1	2.31	0.48
59:A5:2835:G:N2	59:A5:2839:A:OP2	2.44	0.48
3:AB:34:LYS:NZ	3:AB:98:ASN:OD1	2.45	0.48
11:Ad:7:TRP:O	58:B2:1642:C:O2'	2.22	0.48
21:AD:76:GLN:HG2	21:AD:86:ILE:HD13	1.95	0.48
24:AJ:72:LEU:O	24:AJ:76:ASN:ND2	2.46	0.48
25:Ca:27:ARG:NH2	59:A5:1139:U:OP2	2.46	0.48
27:CI:4:ARG:HG2	27:CI:9:TYR:HE2	1.78	0.48
27:CI:170:LYS:NZ	27:CI:175:LYS:O	2.46	0.48
37:Cr:93:SER:HB3	37:Cr:96:LYS:HB3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:Ce:99:ALA:HB3	41:Ce:102:VAL:HG23	1.95	0.48
42:Cf:41:ALA:HB3	68:CM:21:LYS:HE2	1.93	0.48
52:CE:59:LYS:HD2	52:CE:63:LYS:HA	1.95	0.48
57:Cz:83:ASP:OD1	57:Cz:83:ASP:N	2.47	0.48
58:B2:238:C:N4	58:B2:239:G:O6	2.46	0.48
58:B2:1444:C:H2'	71:AT:129:ARG:HE	1.77	0.48
58:B2:1771:U:H4'	64:AQ:145:LYS:HB2	1.94	0.48
59:A5:91:U:H2'	59:A5:92:A:C8	2.48	0.48
59:A5:167:A:H61	59:A5:280:C:H42	1.60	0.48
59:A5:1268:A:N6	59:A5:3169:A:OP2	2.44	0.48
59:A5:3898:C:O2'	81:Cd:116:THR:CG2	2.60	0.48
60:AE:129:THR:O	60:AE:129:THR:OG1	2.29	0.48
2:CA:196:TRP:HE3	2:CA:197:PRO:HD2	1.78	0.48
4:CB:341:LYS:HB3	4:CB:342:LYS:HE2	1.94	0.48
17:AY:18:LEU:O	60:AE:94:LYS:NZ	2.45	0.48
26:CN:201:HIS:O	26:CN:204:ARG:NE	2.45	0.48
27:CI:157:PHE:O	59:A5:3385:G:N2	2.34	0.48
33:CP:26:PHE:CZ	33:CP:142:SER:HA	2.48	0.48
33:CP:64:ASN:HD22	33:CP:64:ASN:N	2.09	0.48
33:CP:174:LYS:HE3	59:A5:3848:U:C4	2.49	0.48
46:Cm:79:GLU:O	46:Cm:83:ARG:N	2.46	0.48
57:Cz:63:MET:HG2	57:Cz:108:ASP:HB2	1.95	0.48
58:B2:122:G:H21	60:AE:146:THR:HG21	1.77	0.48
59:A5:2179:G:N1	59:A5:2182:G:OP2	2.46	0.48
71:AT:50:PRO:CD	71:AT:51:ASP:N	2.76	0.48
72:AF:152:ILE:O	72:AF:154:ARG:NH2	2.46	0.48
3:AB:215:ILE:O	3:AB:217:LYS:N	2.43	0.48
7:Ag:90:LEU:O	7:Ag:99:THR:N	2.43	0.48
7:Ag:173:ARG:HA	7:Ag:195:TYR:HA	1.95	0.48
15:AP:40:MET:HE1	15:AP:115:ILE:HB	1.94	0.48
27:CI:51:HIS:HB3	27:CI:134:PRO:HB3	1.95	0.48
38:Ch:17:LEU:O	38:Ch:21:LEU:N	2.46	0.48
53:CG:231:PHE:O	53:CG:235:HIS:N	2.47	0.48
58:B2:231:G:N2	58:B2:234:A:OP2	2.44	0.48
58:B2:1668:A:N6	58:B2:1722:U:O4	2.46	0.48
58:B2:1734:G:O5'	71:AT:87:VAL:CG2	2.58	0.48
59:A5:1687:U:H5	59:A5:2735:A:H62	1.60	0.48
60:AE:73:ASP:HA	60:AE:164:ILE:HD12	1.95	0.48
64:AQ:17:ARG:NE	64:AQ:21:ALA:O	2.40	0.48
70:AK:60:PHE:HB3	70:AK:65:TYR:HA	1.95	0.48
1:AA:127:PRO:HB2	1:AA:153:PRO:HG2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AC:65:TYR:OH	5:AC:145:VAL:O	2.29	0.48
21:AD:168:ASP:HB3	21:AD:203:LYS:HE2	1.95	0.48
31:CS:153:PRO:HB3	68:CM:6:PHE:CD1	2.47	0.48
53:CG:70:ARG:HE	54:A9:24:G:H8	1.62	0.48
57:Cz:149:GLU:OE2	57:Cz:154:THR:OG1	2.28	0.48
58:B2:1294:U:O4	58:B2:1648:C:N4	2.32	0.48
58:B2:1404:C:H3'	58:B2:1405:G:H8	1.78	0.48
59:A5:1479:G:N2	59:A5:1480:U:O4	2.45	0.48
59:A5:3730:G:H22	68:CM:4:GLU:HG2	1.78	0.48
60:AE:86:TYR:OH	60:AE:182:MET:SD	2.69	0.48
61:AG:31:ARG:HG2	61:AG:101:ILE:HG12	1.95	0.48
63:AI:114:GLU:HG2	63:AI:120:PRO:HB3	1.95	0.48
73:AO:55:ARG:O	73:AO:55:ARG:NH1	2.39	0.48
7:Ag:210:SER:OG	7:Ag:218:LEU:O	2.30	0.48
8:AU:23:ARG:HA	8:AU:92:ASP:HA	1.96	0.48
13:AL:64:ARG:HH21	58:B2:252:A:H61	1.60	0.48
13:AL:121:ASP:HB3	13:AL:145:GLY:HA2	1.95	0.48
18:AZ:48:LEU:HD13	82:AS:11:HIS:CE1	2.48	0.48
22:Ae:111:ASN:HD21	58:B2:511:G:P	2.36	0.48
24:AJ:4:GLY:HA3	24:AJ:5:ARG:HA	1.67	0.48
27:CI:187:ASP:OD1	27:CI:187:ASP:N	2.38	0.48
44:Ck:9:LYS:HA	44:Ck:12:LEU:HD12	1.95	0.48
45:Cl:43:HIS:HB2	45:Cl:46:ARG:HB2	1.95	0.48
49:Co:66:ILE:HD11	49:Co:83:LEU:HD22	1.95	0.48
58:B2:647:U:OP2	62:AH:101:LYS:NZ	2.36	0.48
58:B2:1262:C:OP1	82:AS:134:GLN:CG	2.61	0.48
59:A5:749:U:OP2	59:A5:752:U:N3	2.46	0.48
59:A5:1521:G:O6	59:A5:2744:C:O2'	2.29	0.48
59:A5:2616:G:O2'	69:DA:300:LYS:O	2.25	0.48
61:AG:36:VAL:N	61:AG:50:LEU:O	2.40	0.48
62:AH:169:ASP:OD1	62:AH:169:ASP:N	2.46	0.48
64:AQ:50:GLN:HA	64:AQ:53:LEU:HD12	1.94	0.48
69:DA:413:ARG:O	69:DA:417:ARG:NH1	2.37	0.48
81:Cd:41:ARG:NE	81:Cd:45:GLU:OE2	2.35	0.48
3:AB:228:VAL:HG11	53:CG:269:LYS:HD2	1.96	0.48
6:CC:7:ARG:HH22	37:Cr:3:THR:HG23	1.79	0.48
11:Ad:19:ARG:HD3	11:Ad:32:ARG:HH21	1.79	0.48
13:AL:144:LYS:HG2	13:AL:146:GLN:HB3	1.95	0.48
23:Af:78:LYS:HA	58:B2:1634:U:H4'	1.96	0.48
23:Af:150:PHE:HA	23:Af:152:LYS:HE2	1.96	0.48
24:AJ:148:PHE:O	58:B2:847:G:N2	2.42	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Ca:96:SER:OG	25:Ca:98:LYS:O	2.25	0.48
26:CN:144:ARG:HD2	38:Ch:102:ARG:HH12	1.79	0.48
49:Co:56:PHE:HA	59:A5:3334:A:H5'	1.96	0.48
56:A8:67:G:H5''	79:Cj:87:LYS:HD2	1.04	0.48
56:A8:70:A:N6	56:A8:82:C:O4'	2.46	0.48
58:B2:1406:A:N6	58:B2:1407:U:O2'	2.46	0.48
58:B2:1741:A:OP1	82:AS:88:LYS:NZ	2.47	0.48
59:A5:458:A:N6	59:A5:762:G:O5'	2.47	0.48
59:A5:1105:U:O2'	59:A5:1110:G:O3'	2.29	0.48
65:CO:79:SER:HB2	65:CO:106:VAL:HG12	1.96	0.48
66:CL:144:LYS:HD2	66:CL:145:LEU:HG	1.96	0.48
69:DA:66:SER:OG	69:DA:67:ALA:N	2.47	0.48
7:Ag:273:PRO:HB3	7:Ag:303:TYR:HE2	1.78	0.48
8:AU:37:VAL:HG11	8:AU:112:VAL:HG11	1.96	0.48
22:Ae:93:LYS:O	22:Ae:96:LYS:NZ	2.37	0.48
27:CI:162:ARG:NH2	31:CS:88:SER:OG	2.46	0.48
30:CR:115:ILE:HD11	30:CR:142:ILE:HG23	1.96	0.48
31:CS:172:PRO:HB3	59:A5:3758:G:N1	2.28	0.48
58:B2:274:G:N3	58:B2:292:G:N2	2.61	0.48
58:B2:450:A:H1'	58:B2:533:A:H5'	1.96	0.48
58:B2:490:A:H2'	58:B2:491:G:C8	2.48	0.48
58:B2:521:U:H2'	58:B2:522:G:C8	2.48	0.48
58:B2:1457:C:H5''	58:B2:1458:U:H2'	1.95	0.48
58:B2:1757:G:N3	82:AS:85:ASN:HA	2.29	0.48
59:A5:1447:C:H42	59:A5:1470:C:H42	1.60	0.48
59:A5:3017:U:O2'	59:A5:3102:C:O2	2.32	0.48
60:AE:132:GLY:N	60:AE:136:VAL:O	2.43	0.48
61:AG:165:LYS:H	61:AG:170:ALA:HB2	1.77	0.48
62:AH:58:VAL:HB	62:AH:90:VAL:HG12	1.95	0.48
70:AK:58:GLU:HB3	70:AK:67:TRP:HA	1.96	0.48
71:AT:129:ARG:HA	71:AT:133:ARG:CD	2.44	0.48
5:AC:100:ARG:NH1	58:B2:1235:A:O5'	2.41	0.48
16:AV:69:ILE:O	16:AV:73:ALA:N	2.46	0.48
26:CN:192:TRP:HE3	26:CN:196:ASN:HD21	1.62	0.48
27:CI:140:SER:OG	27:CI:141:SER:N	2.44	0.48
31:CS:95:ARG:NH2	59:A5:1427:G:O2'	2.46	0.48
42:Cf:48:GLY:HA3	52:CE:238:PRO:HG3	1.96	0.48
58:B2:15:U:O2	58:B2:1228:G:N2	2.47	0.48
58:B2:226:C:N4	58:B2:237:U:O4	2.36	0.48
58:B2:369:G:OP2	58:B2:382:G:N1	2.42	0.48
58:B2:409:G:OP1	61:AG:88:ARG:NH2	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:1467:U:H2'	58:B2:1468:G:C8	2.48	0.48
58:B2:1715:G:C6	71:AT:67:ARG:CD	2.93	0.48
58:B2:1758:A:O4'	82:AS:85:ASN:OD1	2.32	0.48
59:A5:3014:G:H2'	59:A5:3015:A:C8	2.49	0.48
59:A5:3826:A:OP1	68:CM:121:LYS:NZ	2.46	0.48
64:AQ:55:GLU:OE1	64:AQ:119:ARG:NH1	2.47	0.48
64:AQ:137:PRO:HD3	64:AQ:143:TYR:HD1	1.79	0.48
74:Ac:17:THR:OG1	74:Ac:65:ARG:NH2	2.47	0.48
4:CB:173:GLN:NE2	4:CB:342:LYS:HD3	2.29	0.48
6:CC:299:GLU:OE1	59:A5:1564:G:N2	2.37	0.48
8:AU:46:LYS:HE3	8:AU:51:ARG:H	1.78	0.48
21:AD:64:LYS:NZ	70:AK:88:VAL:O	2.45	0.48
27:CI:44:GLU:HA	27:CI:171:TRP:HH2	1.78	0.48
31:CS:28:TYR:HB3	32:CT:152:PRO:HD3	1.95	0.48
31:CS:156:GLN:NE2	68:CM:53:ASN:OD1	2.47	0.48
34:CX:169:ARG:NH2	59:A5:1804:A:OP2	2.46	0.48
36:CZ:100:LEU:HD22	36:CZ:106:ARG:HG3	1.96	0.48
53:CG:144:GLY:O	53:CG:147:THR:OG1	2.32	0.48
58:B2:167:U:O4	58:B2:293:A:N6	2.47	0.48
58:B2:1312:G:N1	58:B2:1345:U:O2'	2.47	0.48
58:B2:1367:C:H2'	58:B2:1368:G:C8	2.48	0.48
59:A5:1723:G:O2'	59:A5:2187:U:O4	2.28	0.48
62:AH:59:ILE:HG23	62:AH:93:ILE:HB	1.96	0.48
81:Cd:26:LEU:HD22	81:Cd:81:ILE:HD11	1.96	0.48
6:CC:381:ARG:HE	59:A5:686:U:H4'	1.77	0.47
33:CP:184:ARG:HA	59:A5:3851:U:H5''	1.96	0.47
50:CJ:4:VAL:HG12	50:CJ:6:LYS:HB3	1.94	0.47
57:Cz:68:LEU:O	57:Cz:113:SER:OG	2.32	0.47
58:B2:152:U:H4'	61:AG:59:GLN:HB3	1.95	0.47
58:B2:492:G:N7	58:B2:506:G:N1	2.61	0.47
58:B2:1783:U:C5'	71:AT:92:PHE:HE2	1.78	0.47
59:A5:536:U:N3	59:A5:537:A:N7	2.62	0.47
59:A5:1909:U:N3	59:A5:2133:A:N7	2.46	0.47
61:AG:58:LYS:HA	61:AG:59:GLN:HA	1.61	0.47
64:AQ:103:ASP:HB3	64:AQ:106:SER:HB3	1.95	0.47
71:AT:40:ALA:HB1	71:AT:83:LYS:NZ	2.18	0.47
80:CF:200:THR:O	80:CF:200:THR:OG1	2.29	0.47
3:AB:118:LYS:HA	3:AB:118:LYS:HD2	1.64	0.47
3:AB:230:LYS:O	3:AB:234:LEU:N	2.45	0.47
17:AY:9:ARG:NH1	58:B2:863:A:OP2	2.45	0.47
24:AJ:108:GLU:HA	24:AJ:113:THR:HG21	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:CR:72:LYS:O	30:CR:74:ARG:NH1	2.46	0.47
42:Cf:12:PRO:HA	42:Cf:15:ALA:HB3	1.95	0.47
59:A5:627:G:H2'	59:A5:628:A:C8	2.49	0.47
59:A5:3339:U:O2'	59:A5:3341:C:OP1	2.32	0.47
59:A5:3695:G:O2'	59:A5:3696:C:O4'	2.31	0.47
60:AE:72:VAL:HB	60:AE:77:ARG:HG3	1.96	0.47
69:DA:162:VAL:O	69:DA:166:SER:OG	2.30	0.47
71:AT:34:MET:CE	71:AT:50:PRO:CB	2.92	0.47
2:CA:137:ILE:HD11	2:CA:147:ARG:HE	1.78	0.47
29:CQ:106:THR:HG21	59:A5:826:A:H3'	1.96	0.47
33:CP:178:GLN:OE1	59:A5:3850:A:O2'	2.26	0.47
51:CH:57:LYS:HE3	51:CH:64:GLU:HB3	1.96	0.47
52:CE:90:ASN:OD1	52:CE:90:ASN:N	2.48	0.47
52:CE:115:LEU:HD11	52:CE:124:LEU:HD22	1.96	0.47
58:B2:179:A:H3'	58:B2:180:A:C8	2.49	0.47
58:B2:598:C:H2'	58:B2:599:A:C8	2.48	0.47
59:A5:3712:G:H21	59:A5:3775:A:H62	1.62	0.47
64:AQ:95:VAL:O	64:AQ:99:GLN:N	2.47	0.47
71:AT:17:ALA:C	71:AT:21:PHE:CD2	2.92	0.47
5:AC:117:ASN:HA	5:AC:201:GLY:HA3	1.97	0.47
5:AC:258:LYS:NZ	5:AC:260:THR:O	2.47	0.47
6:CC:385:LEU:HA	6:CC:388:ARG:HE	1.79	0.47
7:Ag:221:ASP:O	7:Ag:225:GLY:N	2.46	0.47
18:AZ:69:PRO:HB3	18:AZ:84:LYS:HG2	1.96	0.47
18:AZ:79:ARG:HB3	18:AZ:83:ALA:HB2	1.95	0.47
21:AD:117:VAL:HA	21:AD:121:CYS:HB2	1.97	0.47
22:Ae:87:GLN:O	58:B2:570:G:O2'	2.32	0.47
23:Af:79:LYS:O	23:Af:80:ARG:NE	2.48	0.47
24:AJ:122:LYS:NZ	58:B2:484:C:O3'	2.47	0.47
26:CN:136:ASP:OD2	26:CN:139:HIS:N	2.46	0.47
26:CN:160:GLU:HB3	26:CN:165:THR:HG23	1.96	0.47
41:Ce:21:ARG:HG3	41:Ce:35:ARG:H	1.79	0.47
42:Cf:46:ARG:HA	52:CE:238:PRO:HD3	1.96	0.47
58:B2:119:U:H2'	58:B2:120:U:H6	1.80	0.47
58:B2:903:C:N3	58:B2:938:G:H2'	2.30	0.47
59:A5:274:A:N6	59:A5:275:U:O2	2.48	0.47
59:A5:920:G:H1	59:A5:979:U:H3	1.60	0.47
59:A5:3098:A:OP1	59:A5:3101:A:N6	2.47	0.47
59:A5:3293:G:O2'	59:A5:3327:U:O4	2.24	0.47
59:A5:3688:A:O3'	59:A5:3690:A:N6	2.44	0.47
61:AG:50:LEU:HD12	61:AG:111:LEU:HB3	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:AQ:52:LYS:HE3	64:AQ:119:ARG:HD2	1.96	0.47
64:AQ:91:SER:HB3	64:AQ:121:LEU:HD23	1.96	0.47
69:DA:119:LEU:HA	69:DA:122:LEU:HB2	1.95	0.47
4:CB:66:LYS:HD3	4:CB:66:LYS:HA	1.65	0.47
4:CB:134:SER:O	4:CB:134:SER:OG	2.32	0.47
7:Ag:131:LYS:HG2	7:Ag:142:THR:HG23	1.96	0.47
7:Ag:181:ALA:HB3	7:Ag:184:LYS:HD3	1.95	0.47
8:AU:69:LYS:HB3	58:B2:1367:C:H4'	1.96	0.47
9:AX:124:LYS:HG2	9:AX:129:SER:HA	1.97	0.47
12:AN:36:GLN:HA	12:AN:39:LYS:HB3	1.97	0.47
19:Aa:51:ARG:NH1	74:Ac:37:GLN:OE1	2.47	0.47
22:Ae:110:TYR:OH	24:AJ:34:GLY:N	2.47	0.47
28:CD:161:GLY:O	28:CD:165:GLY:N	2.43	0.47
28:CD:217:GLU:O	28:CD:221:ARG:N	2.44	0.47
42:Cf:110:ARG:HH11	59:A5:3846:U:H5	1.62	0.47
58:B2:410:C:O2'	61:AG:92:ARG:O	2.25	0.47
58:B2:942:A:N1	62:AH:96:ARG:HB3	2.29	0.47
58:B2:1405:G:H2'	58:B2:1406:A:H8	1.79	0.47
58:B2:1882:C:H1'	58:B2:1904:G:H1	1.79	0.47
59:A5:1496:U:H2'	59:A5:1497:G:H8	1.79	0.47
59:A5:3569:C:OP2	59:A5:3571:C:N4	2.47	0.47
72:AF:113:ALA:HA	72:AF:116:ILE:HG22	1.97	0.47
79:Cj:27:TYR:C	79:Cj:27:TYR:CD2	2.93	0.47
3:AB:194:ASP:O	3:AB:198:LYS:NZ	2.38	0.47
3:AB:200:ILE:HG21	3:AB:213:VAL:HG21	1.96	0.47
31:CS:172:PRO:HB3	59:A5:3758:G:H1	1.79	0.47
34:CX:168:ARG:NH2	59:A5:1860:A:N7	2.62	0.47
38:Ch:46:LYS:O	38:Ch:50:VAL:N	2.37	0.47
52:CE:35:LYS:HD2	52:CE:35:LYS:HA	1.55	0.47
59:A5:173:A:N3	59:A5:274:A:N6	2.63	0.47
59:A5:891:U:O4	59:A5:892:A:N6	2.47	0.47
59:A5:3822:C:H3'	59:A5:3823:G:H8	1.79	0.47
4:CB:121:ASN:OD1	59:A5:3870:A:OP2	2.33	0.47
5:AC:96:GLN:OE1	58:B2:10:G:O2'	2.28	0.47
7:Ag:20:GLN:HB3	7:Ag:70:VAL:HG22	1.97	0.47
7:Ag:129:THR:OG1	7:Ag:143:ILE:O	2.31	0.47
8:AU:99:ILE:O	8:AU:102:LYS:NZ	2.37	0.47
13:AL:66:ARG:NH2	58:B2:114:G:N7	2.62	0.47
17:AY:51:VAL:HG21	17:AY:76:ILE:HD13	1.97	0.47
21:AD:138:VAL:HG12	21:AD:188:VAL:HG23	1.97	0.47
23:Af:136:GLU:OE2	23:Af:138:ARG:NH2	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:Af:140:TYR:OH	58:B2:1338:U:O2	2.30	0.47
26:CN:166:SER:OG	26:CN:167:ALA:N	2.46	0.47
28:CD:265:LYS:HA	28:CD:266:LYS:HA	1.63	0.47
29:CQ:5:ILE:HG21	29:CQ:7:HIS:CE1	2.50	0.47
29:CQ:92:LEU:HD21	29:CQ:95:VAL:HB	1.95	0.47
30:CR:106:LEU:HB3	30:CR:120:TYR:CE1	2.49	0.47
30:CR:166:VAL:HG12	30:CR:169:ALA:HB3	1.96	0.47
36:CZ:38:PHE:CE1	36:CZ:40:HIS:HB3	2.50	0.47
37:Cr:72:LYS:HB2	59:A5:488:U:H5''	1.96	0.47
37:Cr:76:ARG:HB3	37:Cr:78:ALA:H	1.80	0.47
39:Cb:38:LYS:HZ1	59:A5:1289:C:H1'	1.80	0.47
48:Cp:30:GLU:HA	48:Cp:33:GLN:HG2	1.97	0.47
52:CE:220:LYS:HD2	68:CM:109:ARG:N	2.30	0.47
57:Cz:49:PHE:HB3	57:Cz:159:MET:HE3	1.97	0.47
58:B2:214:G:N2	58:B2:249:U:O4	2.48	0.47
58:B2:568:U:H2'	58:B2:569:G:H8	1.80	0.47
58:B2:719:G:H22	58:B2:818:C:H2'	1.80	0.47
58:B2:1552:C:H2'	58:B2:1553:A:H8	1.79	0.47
58:B2:1731:U:C6	82:AS:28:ILE:HG12	2.48	0.47
58:B2:1749:C:C2'	82:AS:120:HIS:NE2	2.78	0.47
58:B2:1931:G:H2'	58:B2:1932:A:O4'	2.14	0.47
59:A5:517:A:H2'	59:A5:518:G:C8	2.49	0.47
59:A5:1418:A:N3	59:A5:3387:C:O2'	2.41	0.47
59:A5:1700:U:H4'	81:Cd:43:ILE:CD1	2.31	0.47
59:A5:3353:C:H2'	59:A5:3354:U:H6	1.80	0.47
59:A5:3745:U:H2'	59:A5:3746:A:C8	2.50	0.47
59:A5:3771:A:H3'	59:A5:3772:U:H4'	1.96	0.47
59:A5:3797:G:H22	59:A5:3813:C:H1'	1.78	0.47
62:AH:20:LYS:HG2	62:AH:24:GLN:HE22	1.80	0.47
68:CM:145:LYS:O	68:CM:149:GLU:N	2.48	0.47
69:DA:103:LYS:O	69:DA:107:ARG:N	2.48	0.47
71:AT:33:GLN:HB3	71:AT:36:ILE:HD12	1.96	0.47
71:AT:73:GLY:O	71:AT:77:LYS:HG3	2.15	0.47
71:AT:104:LEU:HD22	71:AT:123:LEU:O	2.14	0.47
71:AT:126:ILE:CG2	71:AT:131:LEU:HB2	2.35	0.47
72:AF:159:ARG:HD3	72:AF:160:ARG:HD2	1.97	0.47
78:CU:211:ASP:OD1	78:CU:211:ASP:N	2.47	0.47
81:Cd:20:ARG:NH1	81:Cd:54:MET:SD	2.88	0.47
2:CA:79:PRO:HA	2:CA:169:VAL:HA	1.96	0.47
9:AX:66:ILE:O	9:AX:68:LYS:NZ	2.37	0.47
10:AM:112:GLY:O	58:B2:1314:G:O2'	2.31	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AN:87:ASP:N	12:AN:87:ASP:OD1	2.47	0.47
12:AN:142:GLU:HB2	12:AN:145:THR:HG22	1.97	0.47
13:AL:54:ASP:OD1	13:AL:57:CYS:N	2.48	0.47
13:AL:65:ILE:HG21	13:AL:140:LEU:HD11	1.97	0.47
17:AY:43:GLU:O	17:AY:47:ALA:N	2.46	0.47
30:CR:58:HIS:NE2	59:A5:3602:U:OP1	2.36	0.47
58:B2:68:C:O2'	58:B2:70:C:OP2	2.31	0.47
58:B2:138:U:O2'	58:B2:271:A:N3	2.44	0.47
58:B2:488:A:H1'	58:B2:513:A:H2	1.80	0.47
58:B2:872:A:OP2	60:AE:108:ARG:NH1	2.48	0.47
58:B2:1749:C:O3'	82:AS:120:HIS:NE2	2.48	0.47
59:A5:934:U:H2'	59:A5:935:A:C8	2.50	0.47
59:A5:1745:G:HO2'	59:A5:1746:A:H8	1.62	0.47
62:AH:167:LYS:O	62:AH:170:THR:OG1	2.28	0.47
1:AA:133:PRO:O	1:AA:137:ALA:N	2.47	0.47
2:CA:1:MET:HB3	59:A5:3141:A:P	2.54	0.47
3:AB:23:ASP:O	3:AB:26:SER:OG	2.31	0.47
15:AP:21:ARG:CG	82:AS:93:GLY:HA2	2.45	0.47
15:AP:44:ALA:O	15:AP:48:PHE:N	2.44	0.47
15:AP:64:ARG:NH1	15:AP:91:GLU:O	2.47	0.47
21:AD:98:LEU:HD12	21:AD:192:LEU:HD22	1.97	0.47
28:CD:235:ASP:OD1	28:CD:235:ASP:N	2.43	0.47
37:Cr:50:LYS:O	37:Cr:72:LYS:NZ	2.31	0.47
39:Cb:6:ASN:OD1	39:Cb:6:ASN:N	2.48	0.47
42:Cf:43:LYS:HE3	42:Cf:79:ARG:HD3	1.97	0.47
52:CE:89:ARG:NH1	52:CE:91:THR:OG1	2.47	0.47
58:B2:496:C:H2'	58:B2:497:A:C8	2.50	0.47
58:B2:1717:A:H4'	71:AT:92:PHE:HE1	1.80	0.47
58:B2:1757:G:OP1	71:AT:38:LYS:NZ	2.47	0.47
59:A5:652:G:N2	59:A5:654:G:H3'	2.30	0.47
59:A5:1007:A:H61	59:A5:1134:G:H22	1.63	0.47
59:A5:1965:A:OP1	77:Cg:48:LYS:NZ	2.43	0.47
59:A5:2017:A:N6	59:A5:2018:C:O2	2.47	0.47
59:A5:2848:A:O2'	59:A5:2883:C:O2'	2.29	0.47
59:A5:3317:U:H2'	59:A5:3318:A:O4'	2.15	0.47
59:A5:3552:G:O2'	67:CV:9:THR:O	2.30	0.47
60:AE:102:VAL:HG11	60:AE:239:PRO:HD3	1.97	0.47
60:AE:197:ASN:O	60:AE:209:HIS:N	2.44	0.47
61:AG:79:LYS:HB2	61:AG:86:PRO:HG3	1.96	0.47
61:AG:142:ARG:HG3	61:AG:148:SER:HA	1.96	0.47
62:AH:51:GLU:HA	62:AH:56:LYS:HA	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:DA:242:SER:OG	69:DA:246:PHE:N	2.48	0.47
69:DA:414:GLY:HA2	69:DA:417:ARG:HB2	1.96	0.47
71:AT:39:THR:HG1	71:AT:43:LYS:NZ	2.06	0.47
75:AW:53:VAL:HG13	75:AW:60:LYS:HB2	1.97	0.47
80:CF:175:ASN:OD1	80:CF:175:ASN:N	2.33	0.47
1:AA:149:ASN:ND2	1:AA:164:ASN:O	2.48	0.47
5:AC:98:GLN:OE1	5:AC:103:GLN:NE2	2.47	0.47
5:AC:173:SER:OG	58:B2:14:C:OP1	2.32	0.47
12:AN:96:VAL:HG21	12:AN:147:SER:HA	1.97	0.47
18:AZ:99:VAL:HG23	18:AZ:100:VAL:HG23	1.97	0.47
31:CS:94:TYR:OH	31:CS:96:GLU:OE2	2.28	0.47
31:CS:95:ARG:NH1	31:CS:112:ASP:OD2	2.48	0.47
32:CT:122:LYS:NZ	32:CT:124:GLN:O	2.37	0.47
38:Ch:115:PRO:HB3	59:A5:180:U:H4'	1.97	0.47
41:Ce:103:SER:OG	59:A5:1630:G:OP1	2.25	0.47
53:CG:61:ARG:NH2	59:A5:2917:A:O5'	2.47	0.47
59:A5:169:C:N4	59:A5:170:G:O6	2.47	0.47
59:A5:213:A:H2'	59:A5:214:A:C8	2.49	0.47
59:A5:996:C:H5''	66:CL:3:LYS:HE2	1.96	0.47
59:A5:1922:A:N1	59:A5:1923:A:N6	2.63	0.47
82:AS:98:LEU:HD13	82:AS:102:ASN:HB2	1.97	0.47
4:CB:304:SER:OG	4:CB:305:THR:N	2.47	0.46
6:CC:222:LYS:HA	6:CC:225:ARG:HD3	1.97	0.46
32:CT:80:VAL:O	32:CT:82:GLY:HA2	2.15	0.46
37:Cr:98:LYS:HZ3	52:CE:72:LYS:HB3	1.80	0.46
38:Ch:89:ARG:NH1	56:A8:36:A:OP2	2.41	0.46
50:CJ:123:LYS:CE	82:AS:10:GLN:HE21	2.26	0.46
58:B2:504:A:H2'	58:B2:505:G:H8	1.79	0.46
58:B2:1739:U:C6	82:AS:86:ARG:NH2	2.83	0.46
58:B2:1875:G:O2'	58:B2:1876:U:O5'	2.30	0.46
59:A5:3533:U:O2'	59:A5:3968:C:O2'	2.31	0.46
59:A5:3741:A:C6	59:A5:3743:U:H1'	2.50	0.46
66:CL:15:LYS:H	66:CL:17:TRP:CD1	2.33	0.46
70:AK:6:ALA:O	70:AK:10:ALA:N	2.47	0.46
71:AT:31:PRO:O	71:AT:31:PRO:CD	2.63	0.46
71:AT:55:VAL:O	71:AT:55:VAL:HG12	2.13	0.46
71:AT:126:ILE:HD13	71:AT:131:LEU:HD11	1.97	0.46
79:Cj:4:GLY:O	79:Cj:6:THR:N	2.47	0.46
81:Cd:15:ASN:O	81:Cd:17:VAL:HG23	2.15	0.46
2:CA:38:SER:OG	2:CA:39:GLY:N	2.47	0.46
6:CC:331:LEU:HG	80:CF:191:VAL:HG21	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:Ag:5:LEU:HD11	7:Ag:313:VAL:HG22	1.97	0.46
7:Ag:11:LEU:HD22	7:Ag:43:TRP:HZ3	1.79	0.46
7:Ag:13:GLY:O	7:Ag:59:ARG:NH2	2.48	0.46
13:AL:16:ASN:HB3	13:AL:18:ASN:HD21	1.81	0.46
15:AP:57:MET:HA	15:AP:60:ILE:HD12	1.97	0.46
25:Ca:137:LYS:NZ	59:A5:869:A:OP2	2.40	0.46
27:CI:188:ASN:OD1	27:CI:188:ASN:N	2.47	0.46
30:CR:13:SER:O	30:CR:13:SER:OG	2.25	0.46
34:CX:244:LYS:HB3	34:CX:260:ARG:HH21	1.81	0.46
34:CX:266:ASP:OD2	34:CX:269:ASP:N	2.45	0.46
52:CE:97:PRO:HA	52:CE:98:GLY:HA2	1.54	0.46
55:A7:79:U:O2'	59:A5:1268:A:N3	2.49	0.46
57:Cz:90:LEU:HD11	57:Cz:124:LEU:HD22	1.96	0.46
58:B2:948:A:O2'	58:B2:1050:A:N6	2.48	0.46
58:B2:1715:G:C5'	71:AT:78:ILE:HG21	2.37	0.46
58:B2:1731:U:H5	82:AS:24:ARG:NE	2.13	0.46
58:B2:1739:U:H6	82:AS:86:ARG:NH2	2.13	0.46
59:A5:699:U:H3	59:A5:738:A:N6	2.13	0.46
59:A5:2599:G:N1	59:A5:2602:A:OP2	2.47	0.46
59:A5:3308:A:H5''	59:A5:3309:A:H5''	1.96	0.46
59:A5:3373:G:O2'	59:A5:3379:A:N6	2.44	0.46
59:A5:3925:G:N2	59:A5:3929:U:O2	2.41	0.46
60:AE:9:LEU:HD12	60:AE:30:ARG:HD2	1.96	0.46
61:AG:7:TYR:HB2	61:AG:124:LEU:HD23	1.97	0.46
63:AI:36:THR:HA	63:AI:58:LEU:HA	1.96	0.46
1:AA:77:ILE:HG22	1:AA:99:ILE:HB	1.96	0.46
8:AU:63:LEU:HB2	8:AU:84:MET:HB3	1.97	0.46
17:AY:104:THR:O	17:AY:104:THR:OG1	2.29	0.46
26:CN:147:LYS:HE2	26:CN:147:LYS:HB3	1.68	0.46
27:CI:177:GLU:O	27:CI:181:TYR:N	2.48	0.46
27:CI:184:LEU:HB3	27:CI:200:ARG:HH22	1.81	0.46
28:CD:17:GLN:HB3	32:CT:20:ARG:HB3	1.97	0.46
31:CS:111:ARG:NH2	59:A5:1538:U:O2'	2.48	0.46
32:CT:87:LYS:HZ2	59:A5:3260:G:H1	1.63	0.46
43:CI:13:LYS:HZ1	43:CI:15:HIS:HB2	1.80	0.46
58:B2:1636:A:H4'	58:B2:1637:G:H3'	1.98	0.46
59:A5:1406:G:H4'	59:A5:1407:C:H5''	1.96	0.46
61:AG:54:GLY:N	61:AG:110:ALA:O	2.48	0.46
62:AH:147:ASP:OD1	62:AH:147:ASP:N	2.41	0.46
1:AA:198:VAL:HG13	1:AA:200:ASP:H	1.81	0.46
8:AU:57:ARG:NH1	8:AU:88:LYS:O	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:Ad:54:LYS:NZ	58:B2:1612:C:OP1	2.35	0.46
12:AN:4:MET:HG2	58:B2:953:A:H5'	1.96	0.46
19:Aa:96:THR:HG23	19:Aa:97:PRO:HD3	1.96	0.46
24:AJ:54:ILE:O	24:AJ:58:ALA:N	2.48	0.46
28:CD:44:TYR:HB3	32:CT:33:VAL:HG23	1.98	0.46
36:CZ:28:THR:O	36:CZ:28:THR:OG1	2.30	0.46
42:Cf:98:ALA:O	42:Cf:113:ARG:NE	2.48	0.46
46:Cm:103:LEU:HD12	46:Cm:121:LEU:HD11	1.96	0.46
50:CJ:100:ARG:HG2	50:CJ:180:LEU:HD23	1.97	0.46
56:A8:40:A:O2'	79:Cj:59:GLN:HG2	2.16	0.46
58:B2:355:G:OP1	58:B2:356:C:O2'	2.26	0.46
58:B2:1184:U:H3	75:AW:71:LYS:HG2	1.79	0.46
58:B2:1319:A:N1	58:B2:1340:U:N3	2.63	0.46
58:B2:1695:A:O4'	82:AS:83:PHE:HZ	1.79	0.46
59:A5:2037:C:O2'	59:A5:2038:A:OP2	2.31	0.46
59:A5:3949:U:O2'	59:A5:3952:C:OP2	2.32	0.46
60:AE:212:ASP:OD1	60:AE:216:HIS:N	2.48	0.46
82:AS:65:ASP:OD1	82:AS:65:ASP:N	2.48	0.46
2:CA:181:LYS:HB2	2:CA:184:ARG:HG3	1.98	0.46
3:AB:131:LYS:HA	3:AB:137:LEU:HA	1.96	0.46
4:CB:226:LYS:H	4:CB:273:GLY:HA3	1.81	0.46
10:AM:103:LYS:HD3	10:AM:107:PRO:HD2	1.97	0.46
15:AP:21:ARG:N	82:AS:90:ILE:O	2.46	0.46
26:CN:144:ARG:HD2	38:Ch:102:ARG:HH22	1.80	0.46
28:CD:178:LYS:HG2	28:CD:188:LYS:HE2	1.97	0.46
43:Ci:30:LYS:HE2	43:Ci:30:LYS:HB2	1.75	0.46
43:Ci:108:ARG:HH11	43:Ci:109:LYS:H	1.63	0.46
52:CE:220:LYS:O	52:CE:225:TYR:HB3	2.15	0.46
57:Cz:42:ASP:OD2	57:Cz:45:LYS:NZ	2.47	0.46
57:Cz:107:TYR:OH	57:Cz:133:LYS:O	2.28	0.46
57:Cz:175:LYS:HG3	57:Cz:177:ASP:H	1.80	0.46
58:B2:151:G:N2	61:AG:60:GLY:O	2.37	0.46
58:B2:284:G:OP2	58:B2:285:U:O2'	2.29	0.46
58:B2:489:C:H2'	58:B2:490:A:C8	2.51	0.46
58:B2:1591:U:H6	58:B2:1591:U:H5''	1.81	0.46
59:A5:147:A:H3'	59:A5:148:U:H4'	1.96	0.46
59:A5:968:U:O4	59:A5:969:A:N6	2.49	0.46
60:AE:32:SER:OG	60:AE:79:ASP:OD2	2.33	0.46
6:CC:292:LEU:HD12	6:CC:295:LEU:HD12	1.97	0.46
21:AD:127:TYR:O	21:AD:131:SER:N	2.39	0.46
26:CN:57:GLN:HA	26:CN:58:GLY:HA2	1.73	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:CN:108:ARG:HH22	59:A5:59:G:HO2'	1.61	0.46
30:CR:12:ALA:HB1	30:CR:18:GLY:HA2	1.98	0.46
31:CS:77:ASN:HB3	31:CS:98:ARG:HG2	1.97	0.46
34:CX:203:THR:HG22	34:CX:276:ILE:HG23	1.96	0.46
46:Cm:114:LYS:HD3	59:A5:1514:U:H5''	1.98	0.46
53:CG:93:ASP:OD1	53:CG:93:ASP:N	2.47	0.46
58:B2:1248:A:O2'	58:B2:1813:U:N3	2.49	0.46
59:A5:80:G:H3'	66:CL:73:ARG:HG3	1.98	0.46
59:A5:2769:G:N2	59:A5:3519:C:O2	2.36	0.46
59:A5:3720:A:H62	65:CO:118:ARG:HH11	1.63	0.46
69:DA:360:MET:O	69:DA:364:LEU:N	2.41	0.46
71:AT:39:THR:OG1	71:AT:43:LYS:CE	2.63	0.46
74:Ac:8:ALA:O	74:Ac:52:LEU:N	2.49	0.46
9:AX:41:PHE:O	9:AX:43:GLY:N	2.47	0.46
14:AR:96:ILE:HB	14:AR:117:LEU:HG	1.97	0.46
15:AP:21:ARG:CZ	82:AS:88:LYS:HB3	2.44	0.46
17:AY:26:CYS:O	17:AY:72:GLY:N	2.49	0.46
20:Ab:82:LYS:HD2	20:Ab:82:LYS:HA	1.82	0.46
24:AJ:109:ARG:NH2	24:AJ:155:GLN:OE1	2.46	0.46
26:CN:68:ARG:HD2	26:CN:128:LYS:HB2	1.97	0.46
26:CN:202:ARG:HD3	66:CL:27:GLN:HB3	1.97	0.46
28:CD:113:LEU:HD22	39:Cb:76:LEU:HB2	1.98	0.46
58:B2:1749:C:C4'	82:AS:120:HIS:HD2	2.28	0.46
59:A5:687:U:H3	59:A5:695:A:H2	1.64	0.46
59:A5:793:U:O2'	59:A5:1367:A:N1	2.39	0.46
59:A5:3142:G:H2'	59:A5:3143:U:O4'	2.15	0.46
71:AT:68:SER:HB2	71:AT:69:PRO:HD3	1.96	0.46
73:AO:57:THR:HG22	73:AO:60:MET:HE3	1.98	0.46
2:CA:120:THR:HA	2:CA:162:ASN:HB3	1.97	0.46
3:AB:42:ARG:NH2	3:AB:236:GLY:O	2.48	0.46
4:CB:303:ALA:HA	4:CB:368:ILE:HD12	1.97	0.46
20:Ab:35:VAL:O	20:Ab:44:THR:OG1	2.29	0.46
28:CD:226:TYR:HB3	28:CD:231:ILE:HB	1.98	0.46
31:CS:85:ASP:HB2	31:CS:123:SER:HB2	1.97	0.46
31:CS:164:ARG:HB2	42:Cf:43:LYS:HD3	1.98	0.46
33:CP:30:HIS:O	33:CP:62:ARG:NH2	2.49	0.46
36:CZ:4:ILE:HG23	36:CZ:5:MET:HB2	1.98	0.46
58:B2:240:U:OP1	58:B2:917:U:O2'	2.34	0.46
58:B2:1649:U:H1'	82:AS:135:HIS:NE2	2.30	0.46
58:B2:1783:U:H2'	58:B2:1784:G:H8	1.80	0.46
59:A5:1712:C:H5	59:A5:1713:U:H6	1.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:214:GLU:O	14:AR:83:ASN:ND2	2.49	0.46
6:CC:239:ASN:HD22	6:CC:240:LEU:N	2.14	0.46
28:CD:234:ASP:OD1	28:CD:234:ASP:N	2.42	0.46
58:B2:1332:G:H5''	58:B2:1334:U:H5	1.81	0.46
58:B2:1603:G:OP1	58:B2:1604:A:N6	2.33	0.46
59:A5:577:A:H1'	59:A5:635:G:N2	2.31	0.46
59:A5:3728:A:O2'	68:CM:4:GLU:OE1	2.27	0.46
59:A5:3960:U:H5'	81:Cd:20:ARG:NH2	2.31	0.46
69:DA:130:ASP:N	69:DA:130:ASP:OD1	2.49	0.46
80:CF:169:ARG:HD2	80:CF:213:TRP:CD1	2.51	0.46
1:AA:30:VAL:HA	1:AA:150:THR:HB	1.98	0.46
6:CC:370:PHE:HA	6:CC:373:VAL:HG12	1.97	0.46
7:Ag:4:THR:OG1	7:Ag:269:GLU:OE1	2.32	0.46
7:Ag:35:SER:OG	7:Ag:36:ARG:N	2.49	0.46
8:AU:51:ARG:HH22	58:B2:1558:A:H1'	1.81	0.46
12:AN:107:LYS:HB3	12:AN:107:LYS:HE2	1.66	0.46
15:AP:113:GLU:CG	82:AS:116:LYS:NZ	2.79	0.46
17:AY:81:ASP:HA	17:AY:84:LYS:HB2	1.98	0.46
27:CI:95:HIS:HB2	27:CI:126:VAL:HG12	1.96	0.46
52:CE:130:PHE:HA	52:CE:135:CYS:H	1.81	0.46
58:B2:55:A:H3'	58:B2:408:G:H22	1.80	0.46
58:B2:1533:C:H2'	58:B2:1534:G:C8	2.51	0.46
58:B2:1649:U:H4'	82:AS:135:HIS:HD2	1.77	0.46
58:B2:1689:A:P	71:AT:77:LYS:HZ1	2.37	0.46
58:B2:1750:U:H4'	82:AS:133:GLY:HA3	1.90	0.46
63:AI:38:LEU:HD12	63:AI:38:LEU:HA	1.79	0.46
64:AQ:75:SER:OG	64:AQ:76:GLY:N	2.49	0.46
65:CO:7:ARG:HD2	65:CO:34:LYS:HE3	1.98	0.46
71:AT:30:VAL:CG1	71:AT:31:PRO:HD2	2.46	0.46
71:AT:70:ALA:O	71:AT:123:LEU:CD1	2.64	0.46
75:AW:11:LEU:HD12	75:AW:74:VAL:HB	1.98	0.46
79:Cj:34:CYS:SG	79:Cj:37:CYS:SG	3.08	0.46
79:Cj:45:ARG:O	79:Cj:45:ARG:NE	2.49	0.46
1:AA:6:ASP:OD1	1:AA:6:ASP:N	2.48	0.45
1:AA:81:PRO:HA	1:AA:84:GLN:HB2	1.98	0.45
5:AC:45:PRO:HG3	5:AC:54:ARG:HD2	1.98	0.45
10:AM:59:LEU:HD22	10:AM:69:LYS:HB2	1.97	0.45
23:Af:138:ARG:HH22	58:B2:1323:A:H1'	1.80	0.45
29:CQ:75:GLN:HB3	29:CQ:78:SER:HB2	1.98	0.45
32:CT:126:VAL:HB	32:CT:128:LEU:HG	1.98	0.45
38:Ch:28:LEU:HD12	38:Ch:50:VAL:HG13	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Ch:81:LEU:HD12	56:A8:37:U:C2	2.50	0.45
58:B2:136:A:C6	58:B2:139:U:H1'	2.51	0.45
58:B2:1808:G:H4'	74:Ac:16:ARG:HH21	1.81	0.45
58:B2:1942:G:O2'	59:A5:2681:A:O2'	2.24	0.45
59:A5:1459:A:N6	59:A5:1463:C:OP2	2.49	0.45
59:A5:1634:A:N3	59:A5:1660:G:O2'	2.49	0.45
59:A5:3802:U:C2	65:CO:111:PRO:HB3	2.51	0.45
60:AE:183:ILE:HG21	60:AE:220:THR:HG21	1.97	0.45
60:AE:197:ASN:HB3	60:AE:209:HIS:HB2	1.97	0.45
61:AG:58:LYS:O	61:AG:72:ARG:NH2	2.49	0.45
61:AG:218:LYS:O	61:AG:221:SER:OG	2.29	0.45
75:AW:106:THR:HA	75:AW:123:GLY:HA3	1.97	0.45
79:Cj:51:ARG:NE	79:Cj:51:ARG:N	2.61	0.45
7:Ag:86:GLN:HA	7:Ag:109:VAL:HG23	1.98	0.45
11:Ad:12:ARG:NE	11:Ad:18:SER:OG	2.38	0.45
15:AP:62:LYS:HA	15:AP:65:LYS:HG2	1.98	0.45
23:Af:83:LYS:NZ	58:B2:1271:A:O2'	2.48	0.45
24:AJ:76:ASN:HA	24:AJ:79:LEU:HD12	1.96	0.45
25:Ca:98:LYS:HG3	66:CL:166:PHE:CZ	2.51	0.45
30:CR:124:TYR:OH	59:A5:2034:U:OP2	2.30	0.45
33:CP:174:LYS:HD2	42:Cf:109:GLU:HB3	1.98	0.45
34:CX:246:ASN:HB3	59:A5:1766:U:H1'	1.98	0.45
40:Cc:46:VAL:HB	40:Cc:71:VAL:HG12	1.97	0.45
45:Cl:48:LYS:HA	45:Cl:48:LYS:HD2	1.70	0.45
52:CE:59:LYS:HA	52:CE:63:LYS:H	1.81	0.45
58:B2:353:U:O2'	58:B2:358:A:O2'	2.33	0.45
58:B2:1650:G:OP1	82:AS:135:HIS:CA	2.65	0.45
58:B2:1670:G:H4'	71:AT:52:TRP:HE1	1.70	0.45
59:A5:2069:U:H3	59:A5:2083:G:H22	1.65	0.45
59:A5:2531:A:H2'	59:A5:2532:U:C6	2.51	0.45
60:AE:192:VAL:HG23	60:AE:243:GLY:HA3	1.98	0.45
60:AE:207:ILE:HG22	60:AE:221:ARG:HG2	1.96	0.45
64:AQ:115:VAL:HA	64:AQ:118:ASP:HB3	1.98	0.45
65:CO:170:LEU:O	65:CO:174:ARG:N	2.45	0.45
81:Cd:62:ASP:HB3	81:Cd:104:THR:HA	1.98	0.45
4:CB:80:GLU:HB3	4:CB:326:VAL:HG13	1.98	0.45
5:AC:242:MET:HB3	5:AC:244:LEU:HD22	1.97	0.45
10:AM:50:ASP:OD1	10:AM:50:ASP:N	2.49	0.45
14:AR:96:ILE:HA	14:AR:116:GLY:HA2	1.98	0.45
19:Aa:28:ARG:HG3	73:AO:147:ARG:HA	1.98	0.45
22:Ae:126:GLY:HA2	22:Ae:127:PRO:HD3	1.78	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:CD:208:MET:O	28:CD:212:GLU:N	2.49	0.45
49:Co:31:GLU:HG2	59:A5:3298:U:H4'	1.99	0.45
57:Cz:35:GLN:HG3	59:A5:2886:C:H1'	1.98	0.45
58:B2:1354:G:O2'	58:B2:1640:G:O2'	2.32	0.45
59:A5:1662:U:H2'	59:A5:1663:G:H8	1.81	0.45
59:A5:2827:G:H2'	59:A5:2828:A:H8	1.81	0.45
59:A5:3720:A:H62	65:CO:118:ARG:NH1	2.15	0.45
60:AE:130:GLN:HB3	60:AE:138:PHE:HD2	1.80	0.45
66:CL:139:SER:O	66:CL:139:SER:OG	2.34	0.45
69:DA:161:ALA:O	69:DA:165:LEU:N	2.39	0.45
74:Ac:16:ARG:HD2	74:Ac:22:GLN:HB3	1.98	0.45
81:Cd:108:VAL:HG21	81:Cd:114:LEU:HD11	1.98	0.45
1:AA:186:ARG:HB2	16:AV:46:GLN:HB3	1.97	0.45
4:CB:313:SER:OG	4:CB:314:ILE:N	2.48	0.45
5:AC:97:LYS:HA	58:B2:10:G:H21	1.82	0.45
6:CC:328:LEU:HD23	6:CC:328:LEU:HA	1.74	0.45
7:Ag:254:GLY:HA2	7:Ag:286:GLN:HB2	1.98	0.45
8:AU:21:ARG:HA	8:AU:94:HIS:HA	1.99	0.45
8:AU:67:THR:OG1	8:AU:68:ARG:N	2.48	0.45
15:AP:13:ARG:NH1	15:AP:18:PHE:O	2.50	0.45
19:Aa:39:PHE:HB3	19:Aa:70:LYS:HD3	1.97	0.45
27:CI:206:ILE:O	27:CI:210:GLU:N	2.48	0.45
30:CR:182:GLN:H	30:CR:182:GLN:HG3	1.59	0.45
34:CX:270:ILE:HG23	34:CX:273:LYS:HE2	1.98	0.45
36:CZ:41:ALA:HB2	36:CZ:77:TYR:HE1	1.81	0.45
46:Cm:111:ARG:HD2	59:A5:3655:U:H5''	1.97	0.45
58:B2:176:U:H5''	58:B2:177:U:H2'	1.97	0.45
59:A5:370:A:N6	59:A5:383:A:H5''	2.30	0.45
59:A5:1577:A:H61	59:A5:1582:U:H3	1.63	0.45
59:A5:2835:G:N2	59:A5:2837:A:N7	2.64	0.45
59:A5:3898:C:OP1	81:Cd:29:ARG:NH1	2.45	0.45
60:AE:104:ASP:OD1	60:AE:105:VAL:N	2.48	0.45
62:AH:126:ALA:HA	62:AH:129:GLU:HG2	1.99	0.45
63:AI:135:GLU:O	63:AI:139:LEU:N	2.50	0.45
71:AT:71:GLY:O	71:AT:75:ILE:CG1	2.54	0.45
72:AF:118:LYS:HD2	72:AF:121:PHE:HD2	1.80	0.45
72:AF:148:ASP:HB3	72:AF:163:VAL:HA	1.97	0.45
6:CC:376:LYS:O	6:CC:376:LYS:NZ	2.49	0.45
7:Ag:69:ASP:HB3	7:Ag:111:SER:HA	1.99	0.45
16:AV:31:SER:OG	16:AV:32:ILE:N	2.47	0.45
19:Aa:84:VAL:HG13	58:B2:1992:A:H62	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Ae:80:ARG:HG3	58:B2:575:A:H5'	1.99	0.45
35:CY:70:VAL:HG22	35:CY:82:VAL:HG22	1.99	0.45
55:A7:17:C:H2'	55:A7:18:G:C8	2.51	0.45
58:B2:620:U:H5'	58:B2:1188:G:N1	2.32	0.45
58:B2:640:U:O2'	58:B2:1191:C:OP1	2.28	0.45
58:B2:1304:G:H1'	58:B2:1305:A:C8	2.52	0.45
58:B2:1715:G:C3'	71:AT:78:ILE:HG21	2.46	0.45
58:B2:1881:A:O2'	58:B2:1907:G:N1	2.37	0.45
59:A5:171:U:H1'	59:A5:276:G:H22	1.80	0.45
59:A5:173:A:H2'	59:A5:174:A:C8	2.52	0.45
59:A5:560:U:C2	59:A5:653:U:H1'	2.51	0.45
59:A5:1800:U:N3	59:A5:1803:C:N3	2.64	0.45
65:CO:190:ALA:HB1	68:CM:122:LEU:HD13	1.99	0.45
79:Cj:27:TYR:C	79:Cj:27:TYR:HD2	2.24	0.45
1:AA:57:LYS:NZ	1:AA:160:ALA:O	2.45	0.45
1:AA:58:LEU:O	1:AA:62:ALA:N	2.45	0.45
3:AB:86:LYS:NZ	73:AO:130:GLU:OE2	2.45	0.45
32:CT:5:LYS:HA	32:CT:6:GLY:HA2	1.80	0.45
36:CZ:116:LYS:O	36:CZ:119:SER:OG	2.34	0.45
37:Cr:72:LYS:O	37:Cr:74:ALA:N	2.49	0.45
38:Ch:118:LYS:HG3	66:CL:48:ARG:NH1	2.31	0.45
46:Cm:95:ILE:N	46:Cm:122:ARG:O	2.49	0.45
58:B2:63:G:H5'	58:B2:293:A:H61	1.82	0.45
58:B2:1452:U:N3	58:B2:1453:G:O6	2.50	0.45
58:B2:1650:G:O5'	82:AS:137:LYS:CG	2.59	0.45
58:B2:1654:G:OP2	82:AS:141:ARG:CD	2.65	0.45
59:A5:581:U:O4	59:A5:582:A:N6	2.50	0.45
59:A5:1420:A:H61	59:A5:1514:U:H3	1.64	0.45
59:A5:3788:G:C2	68:CM:150:ARG:HD2	2.51	0.45
62:AH:37:PRO:HA	62:AH:40:ARG:HE	1.80	0.45
62:AH:60:ILE:HB	62:AH:92:VAL:HA	1.98	0.45
68:CM:144:LYS:HD2	68:CM:147:ARG:HD3	1.99	0.45
79:Cj:11:ARG:HG3	79:Cj:11:ARG:O	2.16	0.45
82:AS:103:LEU:HA	82:AS:106:LYS:HB2	1.99	0.45
4:CB:217:ILE:HB	4:CB:284:ILE:HD11	1.99	0.45
6:CC:151:SER:O	6:CC:151:SER:OG	2.35	0.45
7:Ag:198:THR:HG21	7:Ag:239:ALA:HA	1.97	0.45
8:AU:102:LYS:HG3	8:AU:103:ILE:HD12	1.99	0.45
13:AL:16:ASN:ND2	13:AL:18:ASN:OD1	2.36	0.45
19:Aa:12:LYS:HE3	19:Aa:12:LYS:HB2	1.84	0.45
38:Ch:66:LYS:HG2	56:A8:94:C:H5'	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:Cc:50:SER:OG	40:Cc:51:ASN:OD1	2.32	0.45
48:Cp:31:ILE:O	48:Cp:35:SER:OG	2.34	0.45
53:CG:70:ARG:NH2	54:A9:24:G:N7	2.49	0.45
58:B2:1079:A:O2'	58:B2:1980:U:O2	2.34	0.45
58:B2:1765:U:O2	72:AF:103:LYS:NZ	2.36	0.45
58:B2:1948:A:H2'	58:B2:1949:A:C8	2.51	0.45
59:A5:716:C:H5''	59:A5:717:A:C5	2.52	0.45
59:A5:735:U:H2'	59:A5:736:A:C8	2.51	0.45
59:A5:1207:G:O2'	59:A5:1266:A:N6	2.50	0.45
59:A5:2847:G:N3	59:A5:2871:G:N2	2.65	0.45
59:A5:2910:C:O2	59:A5:3126:C:N4	2.50	0.45
59:A5:3695:G:O6	59:A5:3864:C:N4	2.49	0.45
59:A5:3729:A:OP1	59:A5:3730:G:N2	2.36	0.45
59:A5:3815:G:H3'	59:A5:3816:A:H8	1.80	0.45
60:AE:21:ASP:OD1	60:AE:21:ASP:N	2.49	0.45
61:AG:48:TYR:HD2	61:AG:113:VAL:HG21	1.82	0.45
66:CL:60:CYS:HB3	66:CL:70:ARG:H	1.80	0.45
71:AT:129:ARG:HA	71:AT:133:ARG:CG	2.47	0.45
72:AF:117:VAL:O	72:AF:121:PHE:N	2.49	0.45
73:AO:40:THR:O	73:AO:57:THR:OG1	2.28	0.45
2:CA:80:GLU:HA	2:CA:170:ALA:HB2	1.99	0.45
4:CB:320:PHE:HB3	4:CB:323:TYR:HB2	1.99	0.45
6:CC:302:ARG:HD2	59:A5:1564:G:C2	2.51	0.45
13:AL:8:ALA:O	13:AL:10:GLN:NE2	2.48	0.45
17:AY:14:MET:SD	58:B2:867:G:N1	2.89	0.45
21:AD:111:LEU:HD21	21:AD:177:VAL:HG21	1.99	0.45
25:Ca:2:SER:HA	59:A5:992:U:H5''	1.97	0.45
27:CI:215:ASP:N	27:CI:215:ASP:OD1	2.49	0.45
29:CQ:4:ASP:OD2	80:CF:109:ARG:NH2	2.49	0.45
30:CR:166:VAL:O	30:CR:170:ARG:N	2.50	0.45
31:CS:16:LYS:HB2	31:CS:54:PHE:CE2	2.52	0.45
41:Ce:15:ARG:NH1	41:Ce:17:LYS:O	2.50	0.45
58:B2:152:U:O2'	58:B2:154:A:N7	2.38	0.45
58:B2:557:G:H2'	58:B2:558:A:C8	2.51	0.45
58:B2:885:U:H2'	58:B2:886:G:H8	1.82	0.45
58:B2:1805:U:OP2	72:AF:87:LYS:NZ	2.33	0.45
59:A5:522:G:H2'	59:A5:523:C:H4'	1.98	0.45
59:A5:626:A:H2'	59:A5:627:G:H8	1.82	0.45
59:A5:2824:U:O2'	59:A5:2895:U:O2	2.28	0.45
59:A5:3429:A:H2'	59:A5:3431:C:H5''	1.98	0.45
61:AG:116:LYS:NZ	61:AG:119:LYS:O	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:AQ:11:ALA:HB2	64:AQ:28:LYS:HB3	1.98	0.45
69:DA:51:PHE:O	69:DA:84:ARG:NH2	2.50	0.45
69:DA:120:ALA:HB1	69:DA:165:LEU:HD11	1.98	0.45
71:AT:30:VAL:CG1	71:AT:31:PRO:CD	2.95	0.45
71:AT:76:THR:CG2	71:AT:97:ASP:CG	2.88	0.45
72:AF:57:ILE:HD12	72:AF:58:SER:HA	1.98	0.45
74:Ac:6:VAL:HG13	74:Ac:54:LEU:HB3	1.98	0.45
79:Cj:41:ALA:C	79:Cj:43:LYS:H	2.24	0.45
79:Cj:63:ARG:HD2	79:Cj:65:ARG:HG2	1.99	0.45
81:Cd:61:ILE:HA	81:Cd:103:VAL:HG13	1.99	0.45
2:CA:204:MET:H	2:CA:204:MET:HG3	1.62	0.45
5:AC:252:TYR:HB3	5:AC:255:PHE:HD2	1.82	0.45
14:AR:10:LYS:NZ	58:B2:1403:C:O3'	2.49	0.45
14:AR:16:ILE:HD11	14:AR:54:VAL:HG11	1.99	0.45
19:Aa:93:ARG:NH2	58:B2:1166:U:OP2	2.49	0.45
29:CQ:115:LYS:HE3	29:CQ:115:LYS:HB3	1.62	0.45
37:Cr:16:ASN:OD1	37:Cr:17:ALA:N	2.49	0.45
41:Ce:35:ARG:HD3	41:Ce:35:ARG:HA	1.72	0.45
42:Cf:1:MET:HE3	42:Cf:1:MET:HB3	1.89	0.45
48:Cp:51:VAL:HG12	48:Cp:52:VAL:H	1.82	0.45
51:CH:41:LEU:HD13	51:CH:41:LEU:HA	1.77	0.45
56:A8:8:A:H2'	56:A8:9:G:C8	2.51	0.45
58:B2:251:G:H2'	58:B2:252:A:C6	2.52	0.45
58:B2:1882:C:O2	58:B2:1904:G:N1	2.50	0.45
59:A5:172:C:H2'	59:A5:173:A:H8	1.82	0.45
59:A5:517:A:H2'	59:A5:518:G:H8	1.82	0.45
59:A5:694:A:H2'	59:A5:695:A:C4	2.52	0.45
59:A5:1803:C:H5''	59:A5:1864:U:H3	1.81	0.45
59:A5:1899:C:H42	59:A5:2144:A:H61	1.64	0.45
59:A5:2847:G:N2	59:A5:2882:A:O2'	2.50	0.45
60:AE:133:ALA:HB3	60:AE:138:PHE:CG	2.51	0.45
4:CB:58:ARG:NH2	4:CB:365:LEU:HB3	2.32	0.45
6:CC:120:VAL:HA	6:CC:123:ARG:HD3	1.99	0.45
7:Ag:8:ARG:HB2	7:Ag:310:VAL:HG13	1.99	0.45
10:AM:54:ALA:O	10:AM:80:GLN:NE2	2.50	0.45
10:AM:98:LEU:HB3	10:AM:110:VAL:HG13	1.99	0.45
14:AR:42:PRO:HB3	21:AD:206:LEU:HG	1.98	0.45
18:AZ:47:VAL:CB	82:AS:23:LYS:CB	2.94	0.45
24:AJ:151:ARG:NH2	58:B2:847:G:O4'	2.50	0.45
33:CP:185:SER:OG	59:A5:3852:A:OP1	2.26	0.45
58:B2:222:C:O2'	58:B2:922:G:N2	2.43	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:1272:A:O2'	58:B2:1297:C:O2'	2.29	0.45
59:A5:1388:C:H5''	65:CO:27:LYS:HD2	1.99	0.45
59:A5:1680:U:H2'	59:A5:1681:G:C8	2.51	0.45
59:A5:2933:A:H62	59:A5:2982:U:H5''	1.82	0.45
59:A5:2992:A:O2'	59:A5:2993:G:O4'	2.31	0.45
60:AE:125:LYS:O	60:AE:142:HIS:N	2.50	0.45
62:AH:15:PRO:HA	62:AH:16:ASP:HA	1.55	0.45
64:AQ:44:ILE:CA	71:AT:10:ASP:OD1	2.57	0.45
69:DA:247:LEU:HD11	69:DA:287:LEU:HA	1.99	0.45
71:AT:47:PRO:CG	71:AT:53:PHE:HZ	2.30	0.45
71:AT:61:LEU:HD21	71:AT:132:ASP:OD1	2.17	0.45
71:AT:129:ARG:CB	71:AT:133:ARG:HD2	2.38	0.45
80:CF:46:ILE:HD13	80:CF:46:ILE:HA	1.85	0.45
3:AB:39:PHE:HB3	3:AB:74:LEU:HB3	1.99	0.44
3:AB:100:LEU:HD21	3:AB:235:HIS:HB2	1.99	0.44
4:CB:179:HIS:CD2	4:CB:344:ILE:HG12	2.51	0.44
18:AZ:47:VAL:CB	82:AS:23:LYS:CG	2.78	0.44
18:AZ:79:ARG:HA	18:AZ:79:ARG:HD2	1.71	0.44
25:Ca:78:LYS:C	25:Ca:80:TRP:H	2.25	0.44
25:Ca:93:LYS:HA	25:Ca:93:LYS:HD3	1.73	0.44
28:CD:150:LEU:HD23	28:CD:150:LEU:HA	1.76	0.44
32:CT:68:THR:OG1	32:CT:71:ALA:O	2.35	0.44
33:CP:82:ARG:NH2	59:A5:1690:U:OP1	2.32	0.44
51:CH:92:ALA:HA	51:CH:177:LEU:HA	1.98	0.44
58:B2:67:A:OP2	58:B2:82:G:N2	2.49	0.44
59:A5:3767:G:C5	59:A5:3768:C:H2'	2.52	0.44
61:AG:4:ASN:HB3	61:AG:110:ALA:HA	1.98	0.44
61:AG:79:LYS:HA	61:AG:80:GLY:HA2	1.64	0.44
72:AF:215:LYS:HB3	72:AF:216:LYS:H	1.68	0.44
3:AB:18:LYS:HB2	3:AB:18:LYS:HE3	1.86	0.44
26:CN:64:ILE:O	26:CN:129:TYR:HB2	2.17	0.44
26:CN:171:SER:O	26:CN:171:SER:OG	2.35	0.44
28:CD:284:ALA:O	28:CD:288:ALA:N	2.48	0.44
32:CT:64:ILE:HG23	32:CT:72:VAL:HG13	1.99	0.44
33:CP:174:LYS:HE3	59:A5:3848:U:N3	2.32	0.44
39:Cb:62:GLU:OE1	39:Cb:62:GLU:N	2.45	0.44
42:Cf:151:MET:HE2	42:Cf:153:TYR:HB3	1.99	0.44
57:Cz:35:GLN:HA	57:Cz:165:LEU:HB2	1.98	0.44
58:B2:439:G:N2	58:B2:442:A:OP2	2.47	0.44
58:B2:547:G:OP2	58:B2:548:G:N2	2.42	0.44
58:B2:575:A:H61	58:B2:584:G:H1'	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:1716:A:O2'	71:AT:92:PHE:CE1	2.67	0.44
58:B2:1782:G:OP1	71:AT:90:SER:OG	2.27	0.44
59:A5:613:U:H2'	59:A5:614:G:C8	2.52	0.44
59:A5:703:A:H2'	59:A5:704:U:C5	2.52	0.44
59:A5:827:A:N1	59:A5:853:G:O2'	2.42	0.44
59:A5:1575:U:H3	59:A5:1584:A:H61	1.65	0.44
59:A5:1811:A:N6	59:A5:1860:A:OP1	2.50	0.44
60:AE:134:LYS:HA	60:AE:135:GLY:HA2	1.64	0.44
61:AG:77:LEU:HD13	61:AG:84:TYR:HB2	1.99	0.44
67:CV:71:GLU:O	67:CV:75:LYS:NZ	2.35	0.44
69:DA:79:GLU:HA	69:DA:82:MET:HB2	1.99	0.44
72:AF:209:SER:O	72:AF:215:LYS:NZ	2.50	0.44
78:CU:195:VAL:HG22	78:CU:197:ASP:HB2	1.99	0.44
1:AA:105:PRO:HA	1:AA:106:GLY:HA2	1.56	0.44
3:AB:142:CYS:SG	3:AB:143:ILE:N	2.90	0.44
3:AB:207:ILE:O	58:B2:1151:G:O2'	2.35	0.44
13:AL:144:LYS:HE3	13:AL:146:GLN:HB3	1.99	0.44
17:AY:58:ALA:HA	17:AY:74:ALA:HA	1.98	0.44
18:AZ:79:ARG:HE	18:AZ:82:LEU:HG	1.83	0.44
18:AZ:100:VAL:HB	18:AZ:107:ILE:H	1.82	0.44
20:Ab:29:ASN:OD1	20:Ab:29:ASN:N	2.37	0.44
21:AD:6:PRO:HD2	58:B2:1682:A:H2'	1.98	0.44
21:AD:108:ARG:HA	21:AD:111:LEU:HD23	1.98	0.44
21:AD:134:LYS:HB2	21:AD:193:PRO:HD3	1.98	0.44
24:AJ:179:LEU:HA	24:AJ:182:ASN:HD21	1.81	0.44
33:CP:69:ARG:NH2	59:A5:2767:U:H1'	2.33	0.44
46:Cm:109:ASN:OD1	46:Cm:109:ASN:N	2.48	0.44
58:B2:217:A:H62	58:B2:915:U:H5	1.65	0.44
58:B2:1833:C:H2'	58:B2:1834:G:C8	2.52	0.44
59:A5:482:U:H3	59:A5:518:G:H22	1.63	0.44
59:A5:1908:A:OP1	59:A5:2134:A:N6	2.50	0.44
62:AH:142:ILE:HG12	62:AH:152:VAL:HG22	2.00	0.44
63:AI:146:LYS:HG3	63:AI:147:VAL:HG23	1.99	0.44
69:DA:197:LYS:HZ2	69:DA:197:LYS:HG2	1.58	0.44
71:AT:38:LYS:HD3	71:AT:43:LYS:O	2.18	0.44
72:AF:151:ARG:HB2	72:AF:162:ALA:HB2	1.98	0.44
73:AO:128:ARG:HD3	73:AO:128:ARG:HA	1.83	0.44
74:Ac:13:VAL:N	74:Ac:48:GLU:OE2	2.50	0.44
80:CF:144:THR:OG1	80:CF:240:ARG:NH1	2.44	0.44
82:AS:40:TYR:HB3	82:AS:44:VAL:HG22	2.00	0.44
1:AA:65:ILE:HG21	1:AA:182:VAL:HG12	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AB:195:SER:HA	3:AB:198:LYS:HD2	1.99	0.44
5:AC:134:ILE:HD11	22:Ae:124:ARG:HH22	1.82	0.44
6:CC:5:ASN:ND2	59:A5:497:U:O3'	2.51	0.44
7:Ag:189:HIS:CD2	21:AD:224:PRO:HB3	2.52	0.44
7:Ag:256:SER:HA	7:Ag:272:ARG:HA	1.99	0.44
10:AM:133:ASP:N	10:AM:133:ASP:OD1	2.48	0.44
18:AZ:90:LEU:HD22	18:AZ:95:LEU:HD11	1.99	0.44
28:CD:104:LEU:O	28:CD:108:ARG:N	2.49	0.44
41:Ce:77:LEU:HA	41:Ce:77:LEU:HD12	1.78	0.44
41:Ce:89:MET:HB2	41:Ce:89:MET:HE2	1.55	0.44
42:Cf:127:ASN:ND2	59:A5:1541:A:N3	2.66	0.44
43:Ci:103:ILE:HA	43:Ci:106:GLN:HB2	2.00	0.44
58:B2:279:G:N2	58:B2:288:C:O4'	2.50	0.44
58:B2:1653:C:H2'	58:B2:1654:G:H8	1.82	0.44
58:B2:1740:G:C3'	82:AS:88:LYS:CD	2.91	0.44
59:A5:1480:U:H2'	59:A5:1481:G:C8	2.52	0.44
59:A5:1930:G:N2	59:A5:1938:C:O2	2.50	0.44
59:A5:2835:G:O2'	59:A5:2881:U:O4	2.30	0.44
59:A5:3682:U:OP1	59:A5:3808:A:N6	2.50	0.44
60:AE:93:GLU:C	60:AE:96:GLY:H	2.25	0.44
67:CV:107:ASN:HD21	67:CV:111:GLU:HB3	1.83	0.44
71:AT:29:LYS:HD2	71:AT:106:ALA:HB2	1.93	0.44
71:AT:40:ALA:HB2	71:AT:95:ALA:HA	1.98	0.44
72:AF:167:PRO:HA	72:AF:170:ARG:HB2	1.99	0.44
79:Cj:21:ARG:HD2	79:Cj:39:TYR:HA	1.99	0.44
82:AS:22:GLY:O	82:AS:55:ARG:NH2	2.49	0.44
1:AA:65:ILE:HD11	1:AA:74:ILE:HG21	1.99	0.44
3:AB:174:ILE:HD12	3:AB:200:ILE:HD13	2.00	0.44
5:AC:91:LYS:HD3	5:AC:93:MET:HE2	2.00	0.44
6:CC:344:LEU:HD23	6:CC:344:LEU:HA	1.89	0.44
7:Ag:32:ILE:HG23	7:Ag:72:LEU:HD11	2.00	0.44
7:Ag:110:LEU:HB2	7:Ag:125:SER:HA	2.00	0.44
7:Ag:293:SER:OG	7:Ag:295:ASP:OD1	2.31	0.44
9:AX:54:LYS:NZ	9:AX:91:LEU:O	2.42	0.44
18:AZ:62:PRO:HA	18:AZ:63:ALA:HA	1.66	0.44
24:Aj:175:LYS:O	24:Aj:179:LEU:N	2.50	0.44
30:CR:155:LEU:HA	30:CR:155:LEU:HD23	1.83	0.44
38:Ch:45:SER:O	38:Ch:45:SER:OG	2.27	0.44
44:Ck:23:VAL:HG13	44:Ck:66:VAL:HA	2.00	0.44
55:A7:12:U:O4'	55:A7:108:G:N2	2.51	0.44
56:A8:102:A:O3'	56:A8:103:C:H3'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:220:A:OP2	58:B2:221:C:N4	2.51	0.44
58:B2:1374:A:H4'	58:B2:1375:G:H5'	1.98	0.44
58:B2:1720:A:N6	71:AT:82:ARG:NH1	2.65	0.44
59:A5:973:G:H2'	59:A5:974:G:H8	1.82	0.44
59:A5:1346:C:O2'	59:A5:3397:U:O2'	2.18	0.44
61:AG:188:ARG:HG2	61:AG:191:ARG:HH21	1.82	0.44
62:AH:45:THR:HG23	62:AH:63:PRO:HG3	2.00	0.44
71:AT:40:ALA:HB1	71:AT:95:ALA:HA	1.99	0.44
72:AF:85:PHE:HA	74:Ac:47:ARG:NH2	2.32	0.44
4:CB:394:LYS:O	4:CB:397:LEU:N	2.48	0.44
11:Ad:26:ASN:OD1	11:Ad:39:CYS:SG	2.75	0.44
14:AR:96:ILE:HD12	14:AR:117:LEU:HD12	1.98	0.44
18:AZ:45:ASN:HB2	18:AZ:78:ILE:H	1.82	0.44
25:Ca:36:ALA:HA	25:Ca:37:GLY:HA2	1.70	0.44
25:Ca:99:ALA:HA	25:Ca:100:PRO:HD3	1.95	0.44
28:CD:16:TYR:O	55:A7:11:A:N6	2.44	0.44
33:CP:167:LYS:HG3	42:Cf:105:PRO:HG3	1.99	0.44
37:Cr:75:GLN:OE1	37:Cr:83:ARG:NH1	2.51	0.44
39:Cb:4:SER:OG	59:A5:1332:C:OP1	2.36	0.44
50:CJ:12:PRO:HB2	50:CJ:14:LYS:HE2	2.00	0.44
51:CH:84:PHE:CZ	51:CH:187:LYS:HD2	2.53	0.44
53:CG:209:LEU:HD23	53:CG:209:LEU:HA	1.72	0.44
58:B2:15:U:H2'	58:B2:16:G:O4'	2.18	0.44
58:B2:71:G:N1	58:B2:79:A:OP2	2.47	0.44
58:B2:1739:U:H4'	82:AS:86:ARG:HD2	1.09	0.44
58:B2:1741:A:P	82:AS:88:LYS:HD3	2.55	0.44
58:B2:1777:U:H3	58:B2:1803:A:H2	1.65	0.44
58:B2:1808:G:H21	74:Ac:19:SER:HA	1.82	0.44
59:A5:484:A:N6	59:A5:515:A:N1	2.59	0.44
59:A5:674:A:H61	59:A5:748:A:H61	1.66	0.44
59:A5:3209:G:H5'	59:A5:3211:A:H2	1.82	0.44
59:A5:3258:C:H2'	59:A5:3260:G:C8	2.52	0.44
59:A5:3890:G:C6	59:A5:3892:A:H5'	2.53	0.44
59:A5:3895:A:H2'	59:A5:3896:G:C8	2.53	0.44
62:AH:42:LEU:HD11	62:AH:69:VAL:HG13	1.99	0.44
63:AI:81:VAL:HG12	63:AI:102:VAL:HG22	1.99	0.44
69:DA:250:LEU:HD22	69:DA:314:PHE:HE2	1.83	0.44
75:AW:66:THR:OG1	75:AW:67:GLY:N	2.51	0.44
81:Cd:25:HIS:HE1	81:Cd:27:ALA:HB3	1.83	0.44
3:AB:28:LYS:HA	3:AB:50:ASN:HA	1.99	0.44
4:CB:63:PRO:O	4:CB:65:SER:N	2.44	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:CB:108:GLN:HB3	4:CB:137:TRP:CD1	2.52	0.44
6:CC:41:ASN:OD1	59:A5:1666:A:O2'	2.36	0.44
6:CC:222:LYS:HE2	6:CC:225:ARG:HH12	1.83	0.44
20:Ab:33:MET:HE3	20:Ab:48:SER:HA	1.99	0.44
28:CD:221:ARG:NH1	55:A7:30:G:O2'	2.51	0.44
35:CY:23:SER:O	35:CY:23:SER:OG	2.36	0.44
50:CJ:92:LEU:HB3	50:CJ:97:TYR:HB3	2.00	0.44
55:A7:96:U:O2'	80:CF:140:GLU:OE1	2.35	0.44
57:Cz:57:HIS:HE1	57:Cz:181:GLN:HB2	1.82	0.44
57:Cz:128:LEU:HD13	57:Cz:134:PHE:HA	1.99	0.44
58:B2:71:G:H3'	58:B2:72:A:C8	2.53	0.44
58:B2:1350:G:C5	58:B2:1351:G:H1'	2.53	0.44
64:AQ:51:TYR:HB3	72:AF:72:TYR:HB3	1.99	0.44
71:AT:34:MET:HE2	71:AT:50:PRO:HB3	1.99	0.44
71:AT:83:LYS:CD	71:AT:93:CYS:HB2	2.46	0.44
73:AO:36:SER:OG	73:AO:37:PHE:O	2.32	0.44
77:Cg:40:THR:OG1	77:Cg:41:VAL:N	2.51	0.44
2:CA:116:LEU:O	2:CA:125:ARG:N	2.50	0.44
4:CB:249:ARG:HE	4:CB:249:ARG:HB3	1.56	0.44
5:AC:51:ARG:NH1	5:AC:255:PHE:O	2.51	0.44
7:Ag:197:ASN:HD21	7:Ag:213:LYS:HG3	1.82	0.44
8:AU:52:VAL:HG13	8:AU:91:ILE:HG23	2.00	0.44
8:AU:101:LYS:HD3	8:AU:101:LYS:HA	1.74	0.44
24:AJ:13:THR:HG23	24:AJ:49:TYR:HD2	1.82	0.44
27:CI:121:LYS:HB3	27:CI:121:LYS:HE2	1.76	0.44
29:CQ:147:THR:HG23	59:A5:987:G:OP1	2.18	0.44
33:CP:33:ALA:HB1	33:CP:117:ILE:HG12	1.99	0.44
38:Ch:46:LYS:HB3	38:Ch:46:LYS:HE3	1.70	0.44
39:Cb:61:ASN:HA	39:Cb:64:ILE:HG12	2.00	0.44
55:A7:1:G:N1	55:A7:119:C:O2	2.51	0.44
58:B2:1238:G:C6	69:DA:407:LYS:HG3	2.52	0.44
58:B2:1651:C:OP2	82:AS:137:LYS:HD2	2.17	0.44
58:B2:1731:U:C5	82:AS:24:ARG:NE	2.85	0.44
59:A5:109:A:H2'	59:A5:110:A:H8	1.83	0.44
59:A5:511:G:H2'	59:A5:512:A:C8	2.53	0.44
59:A5:1680:U:H2'	59:A5:1681:G:H8	1.83	0.44
60:AE:94:LYS:HA	60:AE:95:THR:HA	1.63	0.44
71:AT:40:ALA:CB	71:AT:83:LYS:HZ3	2.19	0.44
1:AA:131:HIS:HB2	1:AA:135:MET:HE1	2.00	0.44
4:CB:17:TYR:OH	59:A5:3581:G:OP1	2.20	0.44
5:AC:60:SER:HB3	5:AC:63:GLU:HG3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AC:241:GLU:N	5:AC:241:GLU:OE1	2.47	0.44
6:CC:116:ARG:HD3	6:CC:117:LYS:N	2.32	0.44
12:AN:25:TRP:CZ3	20:Ab:84:GLN:HB3	2.53	0.44
12:AN:94:LYS:HB2	12:AN:94:LYS:HE3	1.71	0.44
17:AY:89:LYS:HA	17:AY:92:LEU:HB3	2.00	0.44
20:Ab:27:HIS:CE1	62:AH:194:VAL:HG11	2.53	0.44
21:AD:219:LYS:HZ3	21:AD:221:TYR:HB2	1.83	0.44
27:CI:110:ARG:HD3	59:A5:3502:A:N7	2.33	0.44
31:CS:164:ARG:CZ	42:Cf:42:LYS:HB2	2.48	0.44
32:CT:143:LYS:O	32:CT:145:GLU:HB3	2.18	0.44
36:CZ:51:ARG:HB2	36:CZ:65:LYS:HD2	2.00	0.44
36:CZ:92:PHE:CG	36:CZ:116:LYS:HD3	2.53	0.44
40:Cc:51:ASN:OD1	40:Cc:51:ASN:N	2.48	0.44
40:Cc:95:SER:O	40:Cc:95:SER:OG	2.34	0.44
42:Cf:61:ARG:HE	42:Cf:61:ARG:HB2	1.55	0.44
57:Cz:33:GLU:HB2	57:Cz:207:LYS:HE3	2.00	0.44
57:Cz:48:ARG:HA	57:Cz:48:ARG:HD2	1.79	0.44
58:B2:1561:G:H2'	58:B2:1562:A:C8	2.53	0.44
58:B2:1649:U:H4'	82:AS:135:HIS:CD2	2.50	0.44
58:B2:1711:C:H3'	58:B2:1712:G:H8	1.83	0.44
58:B2:1806:A:N1	58:B2:1807:C:N4	2.65	0.44
59:A5:990:U:H2'	59:A5:991:A:C8	2.52	0.44
59:A5:2127:C:H41	59:A5:2130:G:H1'	1.83	0.44
59:A5:3161:U:O2'	59:A5:3290:A:O2'	2.36	0.44
64:AQ:32:GLY:HA2	64:AQ:69:ASP:HA	2.00	0.44
2:CA:98:ILE:HA	2:CA:166:VAL:HG13	1.99	0.43
3:AB:93:ASP:O	3:AB:100:LEU:N	2.50	0.43
15:AP:67:LYS:NZ	15:AP:93:THR:OG1	2.41	0.43
26:CN:119:TYR:CZ	26:CN:131:GLU:HG2	2.53	0.43
28:CD:297:THR:OG1	28:CD:297:THR:O	2.34	0.43
58:B2:1087:C:O3'	69:DA:409:ARG:NH2	2.51	0.43
58:B2:1090:A:O2'	58:B2:1092:A:N7	2.50	0.43
58:B2:1138:U:H2'	58:B2:1140:G:H5''	1.99	0.43
58:B2:1588:G:OP1	58:B2:1595:G:N1	2.51	0.43
58:B2:1697:A:C5	58:B2:1698:G:H1'	2.52	0.43
59:A5:360:A:H8	59:A5:360:A:H5'	1.82	0.43
59:A5:718:U:H1'	59:A5:720:G:C6	2.53	0.43
59:A5:1708:G:N2	59:A5:1753:G:H5''	2.33	0.43
59:A5:2093:U:N3	59:A5:2096:C:OP2	2.51	0.43
59:A5:3591:A:H1'	59:A5:3592:C:OP1	2.18	0.43
61:AG:109:LEU:HD23	61:AG:109:LEU:HA	1.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:AH:17:ASP:O	62:AH:21:SER:N	2.41	0.43
71:AT:20:VAL:HG12	71:AT:24:LYS:CG	2.45	0.43
81:Cd:39:ALA:HB2	81:Cd:77:THR:OG1	2.18	0.43
2:CA:190:LYS:HE3	2:CA:190:LYS:HB3	1.71	0.43
5:AC:86:LYS:HD2	5:AC:87:ASP:H	1.82	0.43
7:Ag:65:HIS:HB3	7:Ag:85:ASP:N	2.33	0.43
9:AX:93:TYR:HA	9:AX:142:ARG:HH22	1.82	0.43
10:AM:93:GLY:HA2	10:AM:114:SER:HA	2.00	0.43
13:AL:32:ARG:NH1	13:AL:50:GLY:O	2.51	0.43
14:AR:31:ASN:HA	14:AR:34:ILE:HG12	1.99	0.43
14:AR:32:LYS:O	14:AR:47:ARG:NH2	2.36	0.43
18:AZ:79:ARG:HH21	18:AZ:80:GLY:H	1.66	0.43
19:Aa:36:ILE:HB	19:Aa:73:TYR:HB2	2.00	0.43
26:CN:75:VAL:HA	26:CN:76:PRO:HD3	1.76	0.43
26:CN:157:LYS:HB2	59:A5:61:A:H4'	2.00	0.43
27:CI:36:LEU:HA	27:CI:36:LEU:HD23	1.77	0.43
30:CR:120:TYR:O	30:CR:123:LEU:N	2.50	0.43
35:CY:38:LEU:HD23	35:CY:38:LEU:HA	1.82	0.43
36:CZ:106:ARG:O	36:CZ:110:ARG:N	2.41	0.43
37:Cr:55:VAL:O	37:Cr:117:ARG:NH1	2.50	0.43
38:Ch:18:THR:HA	38:Ch:21:LEU:HB3	1.99	0.43
38:Ch:86:LYS:NZ	56:A8:38:G:OP1	2.52	0.43
42:Cf:46:ARG:HG2	42:Cf:47:HIS:H	1.83	0.43
48:Cp:29:MET:HG2	48:Cp:69:TRP:CE3	2.54	0.43
58:B2:41:A:H61	58:B2:471:U:H3	1.67	0.43
58:B2:66:C:C2	61:AG:133:LEU:HD22	2.52	0.43
58:B2:147:U:O2'	61:AG:132:ARG:NH2	2.51	0.43
58:B2:1344:A:C8	70:AK:4:PRO:HB3	2.53	0.43
58:B2:1670:G:H22	58:B2:1721:C:H1'	1.83	0.43
59:A5:99:A:C5	59:A5:100:G:H1'	2.53	0.43
59:A5:651:A:OP2	80:CF:151:LYS:NZ	2.43	0.43
59:A5:1358:U:H1'	59:A5:1359:G:C8	2.53	0.43
59:A5:2822:C:H1'	59:A5:2897:G:C2	2.53	0.43
59:A5:3943:G:H4'	59:A5:3944:A:H8	1.83	0.43
59:A5:3950:A:C1'	81:Cd:28:LYS:O	2.60	0.43
61:AG:187:GLN:H	61:AG:187:GLN:HG2	1.60	0.43
62:AH:94:ALA:O	62:AH:96:ARG:NH1	2.44	0.43
63:AI:48:THR:OG1	63:AI:52:ASN:O	2.30	0.43
64:AQ:35:LYS:HD2	64:AQ:71:ARG:HE	1.83	0.43
68:CM:110:PHE:O	68:CM:114:TYR:N	2.50	0.43
68:CM:131:LYS:HA	68:CM:135:LYS:HD3	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:CW:25:ASP:HB2	76:CW:26:GLY:H	1.65	0.43
79:Cj:17:THR:HG23	79:Cj:29:LEU:HD21	1.99	0.43
1:AA:41:ARG:NH1	58:B2:1156:U:OP1	2.51	0.43
19:Aa:74:CYS:SG	19:Aa:75:VAL:N	2.91	0.43
25:Ca:26:HIS:CE1	59:A5:811:G:H22	2.35	0.43
41:Ce:61:SER:OG	59:A5:1646:U:OP2	2.29	0.43
42:Cf:61:ARG:NH2	42:Cf:63:LEU:O	2.44	0.43
53:CG:242:TRP:NE1	53:CG:244:GLY:HA3	2.33	0.43
57:Cz:160:LYS:HE2	59:A5:2843:G:H1'	2.00	0.43
57:Cz:206:VAL:O	57:Cz:214:GLN:N	2.51	0.43
58:B2:65:A:OP2	61:AG:178:GLN:NE2	2.44	0.43
61:AG:32:MET:HB3	61:AG:65:GLN:HG2	1.99	0.43
66:CL:85:ILE:HD12	66:CL:90:ALA:HB2	1.99	0.43
68:CM:146:ASP:HA	68:CM:158:GLY:HA3	1.99	0.43
71:AT:63:HIS:ND1	71:AT:67:ARG:NE	2.64	0.43
80:CF:250:LYS:HB2	80:CF:250:LYS:HE3	1.71	0.43
6:CC:9:LEU:HD23	6:CC:9:LEU:HA	1.83	0.43
7:Ag:45:LEU:HA	7:Ag:54:GLY:HA2	2.00	0.43
7:Ag:241:CYS:HB3	7:Ag:290:LEU:HD22	2.00	0.43
8:AU:58:MET:HG2	8:AU:88:LYS:HE3	2.00	0.43
16:AV:36:VAL:O	16:AV:51:LYS:N	2.48	0.43
19:Aa:24:THR:OG1	19:Aa:72:HIS:O	2.22	0.43
24:AJ:88:LEU:HD23	24:AJ:88:LEU:HA	1.91	0.43
30:CR:44:LEU:HD23	30:CR:44:LEU:HA	1.87	0.43
32:CT:136:LYS:N	80:CF:89:GLU:OE1	2.51	0.43
33:CP:18:ARG:O	59:A5:406:G:H4'	2.18	0.43
37:Cr:40:SER:O	37:Cr:40:SER:OG	2.32	0.43
48:Cp:29:MET:HE2	48:Cp:29:MET:HB2	1.78	0.43
50:CJ:123:LYS:HE3	82:AS:10:GLN:NE2	2.27	0.43
51:CH:39:LYS:NZ	59:A5:3724:U:O4	2.43	0.43
53:CG:43:ASN:O	53:CG:45:GLY:N	2.51	0.43
58:B2:355:G:H5'	58:B2:355:G:C8	2.53	0.43
58:B2:1463:C:O2	58:B2:1527:U:O2'	2.32	0.43
58:B2:1665:U:O2'	72:AF:105:ARG:NH1	2.51	0.43
58:B2:1948:A:N1	58:B2:1949:A:N6	2.66	0.43
59:A5:1593:U:H6	59:A5:1593:U:H2'	1.58	0.43
59:A5:2519:U:O2'	59:A5:3509:U:H5'	2.17	0.43
59:A5:2687:A:N3	59:A5:3492:G:O2'	2.51	0.43
5:AC:179:ILE:N	5:AC:206:TYR:O	2.48	0.43
11:Ad:41:GLN:HG3	58:B2:1625:G:H1'	1.99	0.43
24:AJ:101:LEU:HD23	24:AJ:101:LEU:HA	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:CS:161:LYS:HA	31:CS:162:GLY:HA2	1.61	0.43
36:CZ:48:ARG:HH21	36:CZ:69:LYS:HD2	1.83	0.43
37:Cr:79:LYS:HB3	37:Cr:79:LYS:HE3	1.85	0.43
37:Cr:97:LEU:HA	37:Cr:100:LEU:HB2	2.00	0.43
38:Ch:4:VAL:O	38:Ch:56:ARG:NH1	2.44	0.43
41:Ce:17:LYS:HA	41:Ce:17:LYS:HD2	1.78	0.43
42:Cf:1:MET:HB3	59:A5:645:U:H5'	2.01	0.43
42:Cf:97:LYS:NZ	59:A5:3707:G:OP2	2.49	0.43
42:Cf:141:GLY:O	59:A5:781:C:O2'	2.30	0.43
51:CH:90:MET:HB2	51:CH:142:LEU:HB2	1.99	0.43
52:CE:71:THR:N	52:CE:72:LYS:HG2	2.33	0.43
58:B2:914:C:O2'	58:B2:915:U:O2	2.30	0.43
58:B2:1436:G:H2'	58:B2:1437:A:C8	2.52	0.43
58:B2:1566:U:O2'	58:B2:1569:C:OP1	2.36	0.43
59:A5:653:U:H2'	59:A5:654:G:C8	2.54	0.43
59:A5:1806:G:H22	59:A5:1860:A:H2	1.67	0.43
61:AG:49:GLN:HB2	61:AG:115:LYS:HB3	2.00	0.43
63:AI:156:LYS:O	63:AI:159:LYS:NZ	2.36	0.43
64:AQ:29:ARG:HA	64:AQ:68:VAL:HA	1.99	0.43
69:DA:250:LEU:HB3	69:DA:294:LEU:HD22	2.01	0.43
71:AT:83:LYS:CE	71:AT:93:CYS:CB	2.96	0.43
2:CA:30:ARG:O	2:CA:163:ARG:NH1	2.35	0.43
2:CA:140:ASN:HD21	2:CA:142:ASP:HB2	1.83	0.43
3:AB:49:VAL:HG21	3:AB:62:LEU:HG	1.99	0.43
5:AC:51:ARG:HH22	5:AC:258:LYS:HZ2	1.66	0.43
5:AC:153:TRP:CZ3	5:AC:161:HIS:HB2	2.45	0.43
5:AC:237:ASP:OD1	5:AC:237:ASP:N	2.50	0.43
7:Ag:65:HIS:CE1	7:Ag:84:TRP:HE3	2.36	0.43
7:Ag:68:SER:OG	7:Ag:110:LEU:O	2.36	0.43
7:Ag:115:SER:OG	7:Ag:117:ASP:OD1	2.34	0.43
7:Ag:257:ILE:HB	7:Ag:271:LEU:HB2	2.00	0.43
15:AP:21:ARG:HG3	82:AS:90:ILE:HA	1.78	0.43
23:Af:95:ARG:O	23:Af:97:LYS:NZ	2.46	0.43
32:CT:87:LYS:NZ	59:A5:3260:G:H22	2.17	0.43
32:CT:148:ILE:HA	32:CT:150:LEU:HD12	2.00	0.43
40:Cc:31:TYR:CZ	40:Cc:56:ARG:HG3	2.54	0.43
50:CJ:141:ARG:HG3	50:CJ:162:LEU:HD21	2.01	0.43
51:CH:4:ILE:HG12	51:CH:59:PHE:HE1	1.83	0.43
52:CE:210:LEU:O	52:CE:214:LYS:HG2	2.18	0.43
55:A7:17:C:H2'	55:A7:18:G:H8	1.83	0.43
55:A7:29:C:O2'	55:A7:50:A:N1	2.44	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:Cz:127:GLY:HA2	57:Cz:130:LYS:HE2	2.00	0.43
58:B2:492:G:H21	58:B2:508:C:N4	2.16	0.43
58:B2:1306:A:N6	58:B2:1350:G:H22	2.15	0.43
58:B2:1437:A:N1	58:B2:1569:C:H1'	2.33	0.43
58:B2:1442:U:O2	58:B2:1543:G:N2	2.52	0.43
58:B2:1716:A:P	71:AT:78:ILE:HG23	2.56	0.43
58:B2:1783:U:H5'	71:AT:92:PHE:HE2	1.28	0.43
58:B2:1812:C:H5'	58:B2:1813:U:OP2	2.19	0.43
59:A5:172:C:H2'	59:A5:173:A:C8	2.53	0.43
59:A5:1289:C:H2'	59:A5:1290:U:C6	2.54	0.43
59:A5:1603:A:H2'	59:A5:1604:G:C8	2.53	0.43
59:A5:3921:A:N6	59:A5:3922:G:O6	2.50	0.43
60:AE:175:PHE:HE1	60:AE:198:ARG:HD2	1.84	0.43
62:AH:17:ASP:HA	62:AH:20:LYS:HE3	2.00	0.43
62:AH:174:VAL:HA	62:AH:177:LYS:HB2	2.00	0.43
63:AI:80:ASP:OD1	63:AI:80:ASP:N	2.51	0.43
68:CM:148:ARG:HD2	68:CM:152:ARG:HH12	1.83	0.43
69:DA:134:SER:OG	69:DA:137:MET:N	2.47	0.43
72:AF:225:LYS:NZ	74:Ac:56:GLU:OE1	2.50	0.43
1:AA:180:ARG:HA	1:AA:195:TRP:CZ2	2.54	0.43
4:CB:82:PRO:HB2	4:CB:170:LEU:HD12	2.01	0.43
4:CB:95:THR:HG22	59:A5:3802:U:H4'	2.01	0.43
4:CB:280:ILE:HD13	4:CB:280:ILE:HG21	1.87	0.43
6:CC:46:LEU:HD13	6:CC:116:ARG:NE	2.27	0.43
10:AM:71:LEU:HD13	23:Af:106:TYR:HB3	2.00	0.43
12:AN:124:ARG:NH1	58:B2:636:G:OP1	2.51	0.43
13:AL:39:LEU:HA	13:AL:39:LEU:HD23	1.77	0.43
13:AL:119:HIS:HA	13:AL:120:GLY:HA2	1.76	0.43
20:Ab:65:GLN:OE1	20:Ab:72:LYS:O	2.37	0.43
25:Ca:119:PRO:HA	59:A5:869:A:H4'	2.01	0.43
28:CD:258:LYS:NZ	28:CD:261:SER:OG	2.39	0.43
28:CD:277:GLN:H	28:CD:277:GLN:HG2	1.49	0.43
53:CG:59:PHE:O	59:A5:2917:A:O2'	2.32	0.43
55:A7:11:A:H4'	55:A7:13:A:C8	2.53	0.43
57:Cz:36:ILE:HD11	57:Cz:201:VAL:HG11	2.00	0.43
58:B2:187:A:N6	58:B2:196:G:O2'	2.49	0.43
58:B2:1649:U:C3'	82:AS:135:HIS:HD2	2.32	0.43
58:B2:1717:A:C4'	71:AT:92:PHE:HE1	2.31	0.43
59:A5:105:A:H2'	59:A5:106:A:O4'	2.19	0.43
59:A5:505:U:O4	59:A5:506:A:N6	2.51	0.43
59:A5:887:U:H2'	59:A5:888:A:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:A5:1898:C:H2'	59:A5:1899:C:C6	2.54	0.43
59:A5:2837:A:H2'	59:A5:2838:U:H2'	2.00	0.43
60:AE:173:ILE:HG22	60:AE:230:LYS:HE3	1.99	0.43
64:AQ:99:GLN:HG3	64:AQ:107:LYS:HG3	2.01	0.43
69:DA:415:LYS:HB3	69:DA:415:LYS:HE2	1.73	0.43
5:AC:90:LEU:HD13	5:AC:192:VAL:HG13	2.01	0.43
5:AC:154:GLY:HA3	75:AW:97:ARG:HD2	2.00	0.43
11:Ad:19:ARG:HB2	11:Ad:32:ARG:HH21	1.83	0.43
18:AZ:47:VAL:HG11	82:AS:23:LYS:O	2.18	0.43
32:CT:61:THR:HG21	59:A5:1272:G:H21	1.84	0.43
37:Cr:72:LYS:HB3	37:Cr:73:TYR:H	1.36	0.43
38:Ch:118:LYS:HG3	66:CL:48:ARG:HH12	1.83	0.43
42:Cf:45:LYS:HE2	42:Cf:45:LYS:HB2	1.59	0.43
42:Cf:147:ARG:HH21	65:CO:4:LEU:HA	1.83	0.43
51:CH:110:ILE:HG22	51:CH:124:VAL:H	1.83	0.43
58:B2:713:A:H61	62:AH:110:LEU:N	2.17	0.43
58:B2:1403:C:O2'	58:B2:1594:A:N6	2.52	0.43
59:A5:376:G:N2	59:A5:379:A:OP2	2.40	0.43
59:A5:1260:A:H2'	59:A5:1261:A:H8	1.84	0.43
59:A5:1687:U:H5'	59:A5:1690:U:H1'	2.01	0.43
59:A5:2824:U:O2	59:A5:2895:U:N3	2.51	0.43
60:AE:178:GLY:H	60:AE:179:ASN:HD22	1.67	0.43
65:CO:60:LEU:HA	65:CO:74:HIS:CE1	2.54	0.43
65:CO:77:ALA:HB3	65:CO:80:ARG:HG2	2.01	0.43
71:AT:23:LYS:CA	71:AT:28:LEU:HD23	2.34	0.43
72:AF:140:ILE:HD12	72:AF:140:ILE:HA	1.82	0.43
79:Cj:17:THR:HG21	79:Cj:29:LEU:HD21	2.01	0.43
1:AA:84:GLN:HA	1:AA:87:VAL:HG12	2.00	0.43
3:AB:131:LYS:HB2	3:AB:137:LEU:HD13	2.00	0.43
7:Ag:5:LEU:HD23	7:Ag:311:TRP:HB3	2.00	0.43
7:Ag:153:SER:OG	7:Ag:154:CYS:N	2.52	0.43
24:AJ:36:TYR:OH	24:AJ:108:GLU:OE2	2.36	0.43
24:AJ:130:LEU:HB3	24:AJ:136:ILE:HD11	1.99	0.43
26:CN:44:ARG:NH1	26:CN:120:TRP:O	2.49	0.43
28:CD:178:LYS:HA	28:CD:188:LYS:HE2	2.00	0.43
31:CS:165:LYS:HB2	59:A5:3758:G:H1'	2.00	0.43
37:Cr:58:ALA:H	37:Cr:59:ALA:HA	1.83	0.43
38:Ch:12:LYS:O	38:Ch:64:LYS:NZ	2.52	0.43
41:Ce:27:TYR:HB3	41:Ce:29:LYS:HG2	2.01	0.43
51:CH:30:THR:OG1	51:CH:31:ARG:N	2.51	0.43
52:CE:70:PRO:HB2	52:CE:72:LYS:H	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:Cz:11:TYR:HB3	57:Cz:217:TYR:HB2	2.00	0.43
57:Cz:111:LEU:HD22	57:Cz:141:GLN:HG2	2.01	0.43
58:B2:192:A:N6	58:B2:224:A:O3'	2.46	0.43
58:B2:325:U:H3'	58:B2:326:U:H2'	2.01	0.43
58:B2:611:U:O4	58:B2:612:A:N6	2.51	0.43
59:A5:6:U:H2'	59:A5:7:A:C8	2.53	0.43
59:A5:508:U:H2'	59:A5:509:A:C8	2.54	0.43
59:A5:695:A:H2'	59:A5:696:U:H6	1.84	0.43
59:A5:1662:U:H2'	59:A5:1663:G:C8	2.53	0.43
59:A5:3925:G:OP2	63:AI:172:ARG:NH2	2.51	0.43
68:CM:145:LYS:HD2	68:CM:145:LYS:HA	1.79	0.43
69:DA:282:ASP:OD1	69:DA:282:ASP:N	2.40	0.43
69:DA:417:ARG:HD2	73:AO:151:LEU:HG	1.99	0.43
71:AT:34:MET:HE2	71:AT:50:PRO:CB	2.48	0.43
72:AF:57:ILE:HA	72:AF:58:SER:HA	1.75	0.43
2:CA:204:MET:HE2	59:A5:1114:A:N1	2.34	0.43
4:CB:47:ILE:HB	4:CB:84:MET:HE3	1.99	0.43
4:CB:323:TYR:CD1	4:CB:341:LYS:HA	2.54	0.43
7:Ag:243:SER:HB2	7:Ag:248:TRP:CE3	2.54	0.43
25:Ca:25:LYS:H	25:Ca:25:LYS:HG3	1.41	0.43
26:CN:5:ARG:NH2	53:CG:153:GLU:OE1	2.52	0.43
31:CS:164:ARG:HA	42:Cf:79:ARG:NE	2.34	0.43
37:Cr:36:LEU:HD23	37:Cr:54:GLY:HA2	2.01	0.43
45:Cl:26:TRP:CZ3	56:A8:49:C:H2'	2.53	0.43
51:CH:91:ARG:HD2	51:CH:91:ARG:HA	1.80	0.43
58:B2:226:C:OP2	58:B2:228:A:N6	2.52	0.43
58:B2:1042:A:O2'	58:B2:1133:G:N2	2.50	0.43
59:A5:175:U:H2'	59:A5:176:A:C4	2.53	0.43
59:A5:1234:G:N2	59:A5:1245:C:O2	2.52	0.43
59:A5:3538:G:N2	59:A5:3679:C:O2	2.45	0.43
61:AG:212:LYS:O	61:AG:216:GLN:N	2.50	0.43
63:AI:205:LYS:HA	63:AI:205:LYS:HD2	1.90	0.43
68:CM:25:VAL:HB	68:CM:38:VAL:HG13	2.01	0.43
78:CU:212:PHE:O	78:CU:216:LEU:HB3	2.19	0.43
1:AA:6:ASP:OD1	1:AA:9:SER:OG	2.26	0.42
5:AC:85:LEU:HD22	5:AC:113:ILE:HG22	2.00	0.42
7:Ag:72:LEU:HA	7:Ag:72:LEU:HD23	1.82	0.42
8:AU:27:THR:HG23	8:AU:113:GLU:HB2	2.00	0.42
9:AX:24:ASP:HB3	9:AX:27:TYR:HB2	2.01	0.42
11:Ad:10:HIS:CE1	11:Ad:12:ARG:HA	2.54	0.42
12:AN:46:THR:HG1	12:AN:48:SER:HG	1.66	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AR:71:ILE:HG23	14:AR:73:LEU:H	1.84	0.42
17:AY:33:LEU:HG	17:AY:34:SER:HB2	2.01	0.42
19:Aa:49:ALA:HB2	73:AO:117:ARG:HH21	1.84	0.42
22:Ae:98:LYS:HA	22:Ae:98:LYS:HD3	1.85	0.42
25:Ca:97:THR:HG23	25:Ca:98:LYS:HG2	2.01	0.42
28:CD:12:TYR:OH	59:A5:3220:U:OP1	2.28	0.42
41:Ce:2:THR:HG21	41:Ce:120:ARG:HB2	2.01	0.42
42:Cf:75:ILE:HG21	42:Cf:87:TYR:CE2	2.54	0.42
43:Cl:20:ILE:HG12	66:CL:106:LEU:HD22	2.01	0.42
46:Cm:97:ARG:NE	46:Cm:122:ARG:HE	2.15	0.42
52:CE:220:LYS:HE2	68:CM:110:PHE:HB2	2.00	0.42
57:Cz:36:ILE:HD13	57:Cz:204:LEU:HD13	2.01	0.42
58:B2:50:C:H2'	58:B2:429:C:H41	1.84	0.42
58:B2:1461:A:H61	58:B2:1528:G:H1'	1.84	0.42
58:B2:1521:U:H2'	58:B2:1522:G:C8	2.54	0.42
59:A5:689:U:O2'	59:A5:692:G:O6	2.28	0.42
59:A5:776:A:N6	59:A5:1640:U:H1'	2.34	0.42
59:A5:937:G:H22	59:A5:966:U:H1'	1.83	0.42
59:A5:3928:A:C2	59:A5:3929:U:H1'	2.54	0.42
63:AI:11:ARG:NE	63:AI:15:GLY:O	2.52	0.42
66:CL:200:LYS:HA	66:CL:200:LYS:HD2	1.79	0.42
5:AC:193:PRO:HB3	5:AC:223:THR:HG21	2.01	0.42
6:CC:348:LYS:HA	6:CC:351:VAL:HB	2.00	0.42
8:AU:57:ARG:CZ	8:AU:89:ARG:HH21	2.32	0.42
11:Ad:20:CYS:SG	11:Ad:27:ARG:NH1	2.92	0.42
11:Ad:31:ILE:HB	11:Ad:38:ILE:HG22	2.00	0.42
15:AP:19:THR:OG1	15:AP:20:TYR:N	2.52	0.42
25:Ca:124:ILE:HD13	66:CL:169:VAL:HB	2.01	0.42
27:CI:36:LEU:O	27:CI:87:ILE:N	2.51	0.42
28:CD:229:LEU:HD12	28:CD:231:ILE:HD11	2.01	0.42
29:CQ:156:PRO:HB3	29:CQ:188:LYS:HD2	2.00	0.42
30:CR:113:LYS:HD3	30:CR:113:LYS:HA	1.92	0.42
30:CR:115:ILE:HA	30:CR:115:ILE:HD13	1.85	0.42
30:CR:167:ARG:HA	30:CR:170:ARG:HG2	2.01	0.42
31:CS:149:LYS:H	31:CS:149:LYS:HG2	1.50	0.42
33:CP:120:ASN:HB3	33:CP:121:ARG:H	1.69	0.42
37:Cr:27:LYS:HB2	59:A5:1595:G:C8	2.54	0.42
39:Cb:70:LYS:HZ2	39:Cb:70:LYS:HG2	1.49	0.42
44:Ck:52:LYS:HA	44:Ck:55:LYS:HD3	2.00	0.42
51:CH:132:VAL:HG22	51:CH:144:VAL:HG22	2.01	0.42
55:A7:27:A:H61	55:A7:52:U:H3	1.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:Cz:139:SER:O	57:Cz:139:SER:OG	2.32	0.42
58:B2:1106:A:H2'	58:B2:1107:A:O4'	2.18	0.42
58:B2:1552:C:H41	58:B2:1557:U:H5'	1.83	0.42
59:A5:790:U:H2'	59:A5:791:C:C6	2.54	0.42
59:A5:2843:G:H2'	59:A5:2844:G:C8	2.54	0.42
65:CO:166:LEU:HG	65:CO:170:LEU:HD13	2.02	0.42
69:DA:191:TYR:CD1	69:DA:248:GLY:HA3	2.54	0.42
69:DA:285:ALA:O	69:DA:288:SER:OG	2.36	0.42
71:AT:9:ILE:HG22	71:AT:10:ASP:N	2.34	0.42
71:AT:89:PRO:O	71:AT:91:HIS:CD2	2.73	0.42
78:CU:215:TYR:HB3	78:CU:263:TYR:CE2	2.54	0.42
3:AB:143:ILE:HD11	3:AB:216:ARG:HH11	1.84	0.42
6:CC:386:ALA:HA	6:CC:390:LYS:HG3	2.00	0.42
7:Ag:257:ILE:N	7:Ag:271:LEU:O	2.52	0.42
8:AU:106:ILE:HD12	8:AU:107:ASN:HA	2.01	0.42
9:AX:105:PHE:CE2	9:AX:112:VAL:HG22	2.55	0.42
27:CI:160:PRO:HD3	59:A5:3386:U:H5''	2.01	0.42
31:CS:154:LEU:HD13	31:CS:154:LEU:HA	1.70	0.42
32:CT:8:ARG:NH1	59:A5:3288:C:O2	2.52	0.42
32:CT:57:TYR:HA	32:CT:60:LYS:HD2	2.02	0.42
34:CX:252:ASP:OD1	34:CX:252:ASP:N	2.47	0.42
41:Ce:98:ILE:H	41:Ce:98:ILE:HG13	1.58	0.42
41:Ce:125:ASN:HA	41:Ce:128:LEU:HD12	2.01	0.42
50:CJ:169:LYS:O	50:CJ:173:GLN:N	2.47	0.42
52:CE:198:ARG:HE	52:CE:198:ARG:HB2	1.54	0.42
53:CG:38:GLU:O	53:CG:40:ARG:NH1	2.52	0.42
58:B2:150:G:H21	61:AG:56:ASN:ND2	2.17	0.42
58:B2:166:A:OP1	61:AG:137:ARG:NH1	2.52	0.42
58:B2:1094:C:H2'	58:B2:1095:G:H8	1.85	0.42
58:B2:1438:U:H3	58:B2:1568:G:H1'	1.83	0.42
59:A5:1326:A:O2'	59:A5:1611:G:O3'	2.37	0.42
59:A5:1701:C:H5''	81:Cd:47:ARG:HH22	1.85	0.42
59:A5:3012:A:H2	59:A5:3105:A:H2'	1.84	0.42
59:A5:3788:G:H21	59:A5:3824:C:H41	1.66	0.42
72:AF:58:SER:HB2	74:Ac:51:ILE:HG13	2.00	0.42
72:AF:142:ASN:ND2	72:AF:206:LYS:O	2.51	0.42
82:AS:98:LEU:HB2	82:AS:103:LEU:HB2	2.02	0.42
6:CC:180:TRP:CD1	6:CC:183:ILE:HD11	2.54	0.42
6:CC:293:SER:OG	37:Cr:43:ARG:NH1	2.52	0.42
7:Ag:29:ASP:OD1	7:Ag:47:ARG:NH1	2.52	0.42
9:AX:11:ARG:HD2	58:B2:356:C:H5'	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AN:101:HIS:ND1	58:B2:1037:C:O2'	2.51	0.42
29:CQ:48:LEU:HD12	29:CQ:48:LEU:HA	1.84	0.42
31:CS:152:PHE:CE1	31:CS:154:LEU:HB2	2.55	0.42
33:CP:85:LYS:HE3	33:CP:85:LYS:HB2	1.72	0.42
34:CX:220:LEU:HD23	34:CX:220:LEU:HA	1.86	0.42
46:Cm:79:GLU:HB3	46:Cm:82:LEU:HB2	2.00	0.42
46:Cm:124:LYS:NZ	59:A5:3429:A:OP2	2.45	0.42
59:A5:996:C:H1'	66:CL:6:ASN:ND2	2.34	0.42
59:A5:2826:A:H2'	59:A5:2827:G:H8	1.84	0.42
59:A5:2836:A:N7	59:A5:2871:G:H5'	2.33	0.42
59:A5:3745:U:H2'	59:A5:3746:A:H8	1.83	0.42
63:AI:47:ARG:HE	63:AI:47:ARG:HB2	1.55	0.42
63:AI:128:LYS:HE2	63:AI:128:LYS:HB2	1.85	0.42
66:CL:165:GLU:HB2	66:CL:167:ARG:HH11	1.84	0.42
70:AK:15:LEU:HD13	70:AK:21:ILE:HD13	2.02	0.42
70:AK:53:ARG:HD3	70:AK:53:ARG:HA	1.80	0.42
71:AT:45:LEU:HD23	82:AS:38:ARG:O	2.20	0.42
74:Ac:11:MET:HE2	74:Ac:11:MET:HB2	1.90	0.42
79:Cj:4:GLY:HA2	79:Cj:8:PHE:HE2	1.84	0.42
80:CF:109:ARG:O	80:CF:113:GLN:HG3	2.19	0.42
3:AB:173:ASP:O	3:AB:177:ASN:ND2	2.50	0.42
3:AB:225:ARG:HD2	3:AB:225:ARG:HA	1.70	0.42
4:CB:119:TYR:OH	4:CB:129:ALA:N	2.49	0.42
4:CB:141:LEU:HB2	4:CB:145:SER:HB2	2.01	0.42
7:Ag:305:ASP:N	7:Ag:305:ASP:OD1	2.52	0.42
12:AN:81:LYS:HD2	12:AN:81:LYS:HA	1.91	0.42
14:AR:9:VAL:HG23	14:AR:50:ILE:HA	2.01	0.42
18:AZ:51:LYS:HE2	18:AZ:51:LYS:HB2	1.90	0.42
24:Aj:86:GLY:HA2	24:Aj:152:LEU:HD22	2.02	0.42
25:Ca:131:SER:OG	25:Ca:132:LYS:N	2.53	0.42
28:CD:136:ASP:OD1	28:CD:136:ASP:N	2.52	0.42
28:CD:139:PRO:HB3	59:A5:1293:A:H1'	2.02	0.42
29:CQ:46:ILE:H	29:CQ:46:ILE:HG13	1.72	0.42
29:CQ:122:THR:OG1	29:CQ:125:GLN:OE1	2.23	0.42
30:CR:74:ARG:HA	30:CR:74:ARG:HD3	1.85	0.42
30:CR:153:LYS:HD3	30:CR:153:LYS:HA	1.85	0.42
32:CT:140:PHE:HB3	80:CF:85:TYR:HA	2.00	0.42
33:CP:175:LEU:HD22	33:CP:178:GLN:HE21	1.84	0.42
34:CX:178:SER:O	34:CX:178:SER:OG	2.35	0.42
36:CZ:76:ASN:OD1	36:CZ:77:TYR:N	2.53	0.42
38:Ch:84:ARG:NH2	59:A5:22:A:OP1	2.38	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:Cf:30:GLU:H	42:Cf:30:GLU:HG2	1.55	0.42
44:Ck:2:PRO:HA	59:A5:2060:A:H2	1.85	0.42
52:CE:93:ARG:NH1	52:CE:142:GLN:O	2.37	0.42
52:CE:221:PHE:HD1	52:CE:221:PHE:HA	1.74	0.42
57:Cz:205:HIS:CD2	57:Cz:215:ARG:HG2	2.55	0.42
58:B2:257:U:H3	60:AE:132:GLY:HA3	1.84	0.42
58:B2:366:C:N4	58:B2:367:G:O6	2.53	0.42
58:B2:398:C:O2'	58:B2:399:C:O4'	2.35	0.42
58:B2:402:A:O3'	63:AI:50:GLY:HA2	2.19	0.42
58:B2:485:A:H2'	58:B2:486:A:C8	2.54	0.42
58:B2:907:U:O2'	58:B2:938:G:O6	2.27	0.42
58:B2:1426:A:H2'	58:B2:1428:A:C8	2.55	0.42
58:B2:1464:U:O4	58:B2:1524:A:N6	2.52	0.42
59:A5:440:U:O4	59:A5:442:A:N6	2.53	0.42
59:A5:1714:U:H2'	59:A5:1715:G:C8	2.55	0.42
59:A5:2267:U:O2	59:A5:2268:G:O2'	2.33	0.42
60:AE:139:LEU:HB2	60:AE:150:PRO:HG3	2.02	0.42
65:CO:111:PRO:HB2	65:CO:112:SER:HB2	2.02	0.42
65:CO:190:ALA:HB3	65:CO:193:PRO:HB3	2.02	0.42
66:CL:76:THR:HB	66:CL:101:ARG:HB3	2.01	0.42
66:CL:196:ALA:HA	66:CL:199:ALA:HB3	2.00	0.42
69:DA:66:SER:HB3	69:DA:69:THR:OG1	2.18	0.42
71:AT:6:VAL:CG1	71:AT:7:LYS:N	2.83	0.42
73:AO:75:MET:HG2	73:AO:79:GLN:HG2	2.02	0.42
74:Ac:6:VAL:HG11	74:Ac:57:SER:HB3	2.02	0.42
82:AS:11:HIS:HA	82:AS:57:GLY:HA2	2.02	0.42
6:CC:7:ARG:HG2	37:Cr:76:ARG:HD2	2.02	0.42
6:CC:37:PRO:HG3	37:Cr:11:ILE:HG23	2.00	0.42
6:CC:191:ARG:HE	59:A5:1629:C:H41	1.68	0.42
7:Ag:285:PRO:HB3	7:Ag:305:ASP:HB3	2.02	0.42
12:AN:107:LYS:NZ	58:B2:967:C:OP1	2.36	0.42
15:AP:21:ARG:CG	82:AS:90:ILE:O	2.68	0.42
26:CN:47:LYS:HD3	26:CN:50:ARG:HD2	2.02	0.42
27:CI:38:ARG:NE	27:CI:83:ASP:OD2	2.49	0.42
28:CD:224:SER:OG	28:CD:225:ARG:N	2.53	0.42
40:Cc:61:GLU:HG2	40:Cc:71:VAL:HG21	2.01	0.42
48:Cp:42:CYS:SG	48:Cp:60:CYS:HB2	2.60	0.42
50:CJ:153:SER:OG	50:CJ:154:GLY:N	2.53	0.42
51:CH:116:LEU:HA	51:CH:116:LEU:HD23	1.80	0.42
58:B2:104:A:N7	58:B2:313:C:N4	2.47	0.42
58:B2:259:G:H2'	58:B2:260:A:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:1150:U:H3'	58:B2:1151:G:C8	2.55	0.42
58:B2:1251:A:O3'	72:AF:169:ARG:NH2	2.52	0.42
58:B2:1608:U:O2'	58:B2:1609:G:O4'	2.30	0.42
59:A5:277:U:H2'	59:A5:278:U:C2	2.54	0.42
59:A5:757:A:O2'	59:A5:3843:U:OP1	2.35	0.42
60:AE:185:GLY:H	60:AE:189:LEU:HB2	1.85	0.42
62:AH:3:ILE:HG23	62:AH:27:VAL:HG21	2.02	0.42
64:AQ:39:ARG:HB2	64:AQ:43:GLN:HG3	2.02	0.42
72:AF:217:LYS:O	72:AF:221:GLU:HG3	2.19	0.42
77:Cg:99:LYS:HA	77:Cg:99:LYS:HD3	1.79	0.42
4:CB:229:LYS:HB3	4:CB:230:GLY:H	1.69	0.42
5:AC:97:LYS:NZ	58:B2:1233:U:O2'	2.41	0.42
6:CC:302:ARG:NH2	59:A5:1564:G:OP1	2.53	0.42
6:CC:385:LEU:HA	6:CC:388:ARG:HG2	2.02	0.42
10:AM:90:LYS:HA	10:AM:90:LYS:HD2	1.80	0.42
11:Ad:21:CYS:SG	11:Ad:39:CYS:HB2	2.60	0.42
17:AY:17:ARG:HA	17:AY:17:ARG:HD3	1.75	0.42
21:AD:78:ARG:HA	70:AK:22:VAL:HG11	2.01	0.42
25:Ca:98:LYS:HA	66:CL:170:THR:HG21	2.02	0.42
25:Ca:104:LEU:HD12	25:Ca:127:ALA:HB2	2.01	0.42
26:CN:25:ILE:HD13	53:CG:76:GLN:HG2	2.01	0.42
28:CD:268:TRP:CD1	55:A7:120:U:H3	2.38	0.42
36:CZ:98:LYS:HE2	36:CZ:98:LYS:HB2	1.82	0.42
43:Ci:24:LYS:HD3	43:Ci:27:GLY:HA2	2.01	0.42
52:CE:37:GLN:HG3	52:CE:38:MET:H	1.85	0.42
57:Cz:43:PRO:O	57:Cz:48:ARG:NH1	2.52	0.42
58:B2:180:A:H61	58:B2:202:U:H3	1.68	0.42
58:B2:252:A:O2'	58:B2:254:C:OP2	2.38	0.42
58:B2:913:G:H1	58:B2:928:C:H42	1.65	0.42
59:A5:1341:G:N2	59:A5:1344:A:OP2	2.39	0.42
59:A5:1719:G:H5'	81:Cd:70:TRP:O	2.20	0.42
60:AE:141:THR:OG1	60:AE:143:ASP:OD1	2.28	0.42
80:CF:99:ARG:HH11	80:CF:99:ARG:HD3	1.54	0.42
1:AA:22:THR:HB	1:AA:25:LEU:HD23	2.02	0.42
1:AA:110:ASN:H	1:AA:116:PHE:HE1	1.66	0.42
4:CB:4:ARG:HD2	4:CB:4:ARG:HA	1.70	0.42
4:CB:58:ARG:HH22	4:CB:365:LEU:HD23	1.85	0.42
5:AC:184:GLY:N	5:AC:204:ASP:OD2	2.45	0.42
6:CC:123:ARG:HH12	59:A5:831:A:H2	1.66	0.42
6:CC:350:THR:HA	6:CC:353:LYS:HG2	2.01	0.42
10:AM:38:LEU:HD13	10:AM:97:GLY:HA3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AL:65:ILE:HG13	13:AL:140:LEU:HD21	2.02	0.42
18:AZ:95:LEU:HD12	18:AZ:96:ILE:HG23	2.02	0.42
24:AJ:25:ARG:HH21	58:B2:1:A:N6	2.18	0.42
32:CT:32:ARG:HH12	32:CT:97:HIS:HA	1.85	0.42
32:CT:142:LYS:HE3	80:CF:82:ASN:HD21	1.83	0.42
39:Cb:53:ARG:HG3	59:A5:1302:U:H4'	2.01	0.42
49:Co:21:HIS:CD2	49:Co:72:CYS:HA	2.54	0.42
51:CH:41:LEU:HB3	51:CH:43:LEU:HD22	2.02	0.42
57:Cz:107:TYR:CE2	57:Cz:110:PHE:HB2	2.55	0.42
58:B2:912:U:H2'	58:B2:913:G:H4'	2.00	0.42
58:B2:1650:G:H3'	82:AS:137:LYS:HD3	2.00	0.42
58:B2:1663:A:OP1	58:B2:1764:U:O2'	2.34	0.42
58:B2:1737:U:C5	82:AS:132:ARG:NH2	2.88	0.42
59:A5:1466:A:C5	59:A5:1467:A:H1'	2.55	0.42
59:A5:2903:U:H2'	59:A5:2904:U:C6	2.55	0.42
59:A5:3699:U:H3	59:A5:3863:G:N2	2.15	0.42
59:A5:3837:A:O2'	59:A5:3839:A:OP2	2.26	0.42
62:AH:119:THR:HG23	62:AH:121:THR:H	1.84	0.42
66:CL:133:ILE:HG13	66:CL:134:ARG:HG2	2.01	0.42
3:AB:27:ARG:O	3:AB:51:ARG:N	2.46	0.42
3:AB:32:ASP:HA	3:AB:46:LYS:HD3	2.01	0.42
3:AB:34:LYS:HD2	3:AB:42:ARG:HB2	2.02	0.42
4:CB:243:LYS:HB3	4:CB:243:LYS:HE2	1.88	0.42
5:AC:114:GLY:HA3	5:AC:120:ILE:HD12	2.02	0.42
5:AC:184:GLY:O	24:AJ:55:ARG:NH1	2.49	0.42
8:AU:32:ARG:O	8:AU:36:ASN:N	2.53	0.42
8:AU:57:ARG:HD3	8:AU:89:ARG:HE	1.82	0.42
8:AU:106:ILE:HA	8:AU:107:ASN:HA	1.86	0.42
13:AL:35:ARG:NH2	13:AL:61:GLY:H	2.18	0.42
14:AR:67:ARG:HH22	58:B2:1406:A:P	2.43	0.42
16:AV:51:LYS:HE3	16:AV:78:ILE:HD11	2.01	0.42
24:AJ:104:GLU:HA	24:AJ:107:LEU:HD12	2.01	0.42
27:CI:109:ASP:HB3	27:CI:112:GLN:HG3	2.02	0.42
30:CR:184:LEU:O	30:CR:188:HIS:N	2.47	0.42
31:CS:151:LYS:HG2	68:CM:6:PHE:CD1	2.54	0.42
31:CS:175:TYR:HB2	59:A5:3729:A:OP2	2.20	0.42
36:CZ:77:TYR:CD2	40:Cc:39:ARG:HD3	2.54	0.42
38:Ch:5:LYS:NZ	56:A8:85:G:O5'	2.45	0.42
41:Ce:114:ALA:HB1	41:Ce:119:VAL:HG22	2.01	0.42
43:Ci:87:LEU:HA	43:Ci:87:LEU:HD23	1.83	0.42
50:CJ:92:LEU:HD23	50:CJ:92:LEU:HA	1.89	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:CH:7:ASN:HB3	51:CH:56:GLU:HG3	2.01	0.42
52:CE:220:LYS:NZ	68:CM:106:ASP:O	2.35	0.42
53:CG:88:PHE:HB3	53:CG:164:HIS:HB2	2.02	0.42
57:Cz:203:SER:HB2	57:Cz:215:ARG:HH21	1.85	0.42
58:B2:306:A:H2'	58:B2:307:U:O4'	2.20	0.42
58:B2:558:A:H2'	58:B2:565:G:H21	1.84	0.42
59:A5:679:G:H1	59:A5:741:C:H42	1.66	0.42
59:A5:868:A:C2	59:A5:870:U:H5''	2.55	0.42
59:A5:2282:U:OP1	59:A5:2461:A:O2'	2.37	0.42
59:A5:2872:U:OP2	59:A5:2875:A:N6	2.53	0.42
63:AI:147:VAL:HA	63:AI:150:LYS:HB2	2.02	0.42
65:CO:180:THR:O	65:CO:184:ARG:N	2.52	0.42
68:CM:132:LYS:HD2	68:CM:132:LYS:HA	1.75	0.42
71:AT:6:VAL:CG2	71:AT:136:ASN:OD1	2.45	0.42
6:CC:172:ILE:HD12	6:CC:175:ARG:HH21	1.85	0.42
19:Aa:62:TYR:HD2	19:Aa:64:LEU:HD23	1.84	0.42
21:AD:219:LYS:HZ3	21:AD:222:GLU:H	1.68	0.42
28:CD:213:GLU:OE1	28:CD:213:GLU:N	2.49	0.42
30:CR:181:LYS:HA	30:CR:184:LEU:HG	2.01	0.42
31:CS:153:PRO:HA	68:CM:6:PHE:HA	2.02	0.42
41:Ce:88:LEU:HD13	41:Ce:117:LEU:HD22	2.02	0.42
51:CH:91:ARG:NH1	51:CH:91:ARG:O	2.53	0.42
57:Cz:149:GLU:HA	57:Cz:152:LYS:HB3	2.02	0.42
58:B2:1142:U:H2'	58:B2:1143:A:H8	1.85	0.42
58:B2:1774:C:H5''	64:AQ:140:ARG:CZ	2.50	0.42
59:A5:741:C:H2'	59:A5:742:A:O4'	2.20	0.42
59:A5:1193:A:O4'	59:A5:1309:U:O2'	2.31	0.42
59:A5:1980:G:H2'	59:A5:1981:A:O4'	2.20	0.42
59:A5:3754:C:H5''	59:A5:3756:A:N7	2.35	0.42
59:A5:3894:C:H42	59:A5:3961:G:H1	1.68	0.42
61:AG:32:MET:HE3	61:AG:63:MET:HG2	2.01	0.42
62:AH:146:LEU:HD12	75:AW:42:MET:HG2	2.02	0.42
71:AT:18:VAL:CA	71:AT:21:PHE:HD2	2.23	0.42
72:AF:225:LYS:HA	72:AF:225:LYS:HD2	1.83	0.42
5:AC:62:GLU:O	5:AC:66:LEU:N	2.53	0.41
14:AR:86:PRO:HA	14:AR:87:ALA:HA	1.64	0.41
15:AP:21:ARG:HD2	82:AS:90:ILE:O	2.17	0.41
18:AZ:52:ALA:HB3	18:AZ:77:LYS:HZ2	1.85	0.41
25:Ca:117:HIS:ND1	59:A5:869:A:OP2	2.52	0.41
29:CQ:4:ASP:HB2	80:CF:101:ILE:HG12	2.02	0.41
31:CS:69:GLU:H	31:CS:69:GLU:HG3	1.72	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Ch:84:ARG:HH11	38:Ch:84:ARG:HD2	1.67	0.41
38:Ch:105:LEU:HD22	38:Ch:108:ILE:HD11	2.02	0.41
48:Cp:45:ASP:OD1	48:Cp:45:ASP:N	2.47	0.41
51:CH:150:GLU:OE1	59:A5:3645:U:O2'	2.30	0.41
52:CE:45:TYR:HE1	52:CE:47:LEU:HD12	1.84	0.41
58:B2:223:A:N7	58:B2:225:G:N1	2.68	0.41
59:A5:163:A:H62	59:A5:337:A:H62	1.67	0.41
59:A5:310:A:H2'	59:A5:311:C:O4'	2.20	0.41
59:A5:457:A:H2	59:A5:458:A:H62	1.68	0.41
59:A5:724:U:H2'	59:A5:725:U:C6	2.55	0.41
59:A5:748:A:H5'	59:A5:752:U:C4	2.55	0.41
59:A5:1405:U:OP2	65:CO:51:ARG:NH2	2.51	0.41
59:A5:2625:G:N2	59:A5:2649:A:H8	2.08	0.41
60:AE:75:LYS:HE2	60:AE:75:LYS:HB3	1.92	0.41
62:AH:46:ARG:HH12	62:AH:48:ARG:HB2	1.85	0.41
65:CO:179:LEU:HA	65:CO:179:LEU:HD23	1.85	0.41
66:CL:56:PRO:HB3	66:CL:75:PHE:CD1	2.55	0.41
68:CM:104:LEU:HD21	68:CM:112:LEU:HD12	2.01	0.41
69:DA:277:GLU:OE2	69:DA:277:GLU:N	2.53	0.41
80:CF:228:ALA:C	80:CF:229:ASN:HD22	2.28	0.41
80:CF:244:ILE:HD12	80:CF:244:ILE:HA	1.85	0.41
82:AS:106:LYS:HA	82:AS:109:ASP:HB2	2.00	0.41
6:CC:158:SER:OG	6:CC:159:ASP:N	2.53	0.41
7:Ag:105:HIS:CE1	7:Ag:131:LYS:HG3	2.55	0.41
7:Ag:157:PHE:HA	7:Ag:166:ILE:HA	2.02	0.41
7:Ag:179:ASN:HB2	7:Ag:186:LYS:HD2	2.01	0.41
14:AR:17:ILE:HD11	14:AR:54:VAL:HB	2.03	0.41
15:AP:20:TYR:CD1	82:AS:90:ILE:HB	2.55	0.41
21:AD:143:LYS:HD2	21:AD:181:GLN:HB3	2.03	0.41
21:AD:164:ASP:N	58:B2:1419:C:O2	2.52	0.41
24:AJ:175:LYS:HA	24:AJ:175:LYS:HD2	1.79	0.41
28:CD:130:PHE:HD1	28:CD:130:PHE:HA	1.68	0.41
28:CD:290:VAL:O	28:CD:294:GLN:N	2.40	0.41
29:CQ:37:ARG:NH1	59:A5:1562:U:OP2	2.52	0.41
30:CR:115:ILE:HG23	30:CR:115:ILE:HD12	1.89	0.41
30:CR:120:TYR:O	30:CR:124:TYR:N	2.34	0.41
51:CH:70:THR:HG21	59:A5:3656:A:N1	2.35	0.41
58:B2:102:A:H1'	58:B2:313:C:H42	1.84	0.41
58:B2:150:G:H2'	58:B2:151:G:H8	1.85	0.41
59:A5:397:C:H2'	59:A5:398:U:H6	1.85	0.41
59:A5:1577:A:N1	59:A5:1581:G:N2	2.66	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:A5:1719:G:O2'	81:Cd:70:TRP:HE3	2.03	0.41
59:A5:3256:U:OP2	59:A5:3258:C:N4	2.53	0.41
59:A5:3921:A:H61	59:A5:3931:C:H42	1.67	0.41
59:A5:3943:G:H4'	59:A5:3944:A:C8	2.55	0.41
60:AE:87:MET:HE3	60:AE:87:MET:HB3	1.85	0.41
62:AH:6:LYS:HA	62:AH:6:LYS:HD3	1.75	0.41
65:CO:132:ARG:NH2	65:CO:134:ASP:OD2	2.53	0.41
81:Cd:21:GLU:HG2	81:Cd:82:ARG:HH21	1.85	0.41
4:CB:394:LYS:HD3	4:CB:394:LYS:HA	1.80	0.41
5:AC:97:LYS:HD3	5:AC:106:ARG:HH22	1.85	0.41
7:Ag:226:LYS:HD2	7:Ag:226:LYS:HA	1.85	0.41
13:AL:64:ARG:HH21	58:B2:252:A:N6	2.18	0.41
15:AP:88:ILE:H	15:AP:117:HIS:H	1.68	0.41
24:AJ:18:ARG:HB3	24:AJ:19:ARG:HD2	2.02	0.41
26:CN:45:PRO:HG2	53:CG:171:LEU:HD21	2.02	0.41
35:CY:12:ARG:HH11	35:CY:12:ARG:HD2	1.69	0.41
37:Cr:47:ILE:H	37:Cr:47:ILE:HG12	1.57	0.41
38:Ch:31:LEU:HD13	38:Ch:46:LYS:HB2	2.01	0.41
56:A8:2:A:N1	59:A5:2764:A:O2'	2.45	0.41
58:B2:273:C:H42	58:B2:294:C:H42	1.68	0.41
58:B2:403:G:H21	60:AE:5:PRO:HD3	1.85	0.41
58:B2:1783:U:H2'	58:B2:1784:G:C8	2.55	0.41
59:A5:627:G:H2'	59:A5:628:A:H8	1.84	0.41
59:A5:689:U:N3	59:A5:693:G:O6	2.54	0.41
59:A5:1717:A:N6	59:A5:1718:G:N3	2.68	0.41
59:A5:3193:C:H2'	59:A5:3194:A:C8	2.53	0.41
59:A5:3547:U:P	59:A5:3670:G:H22	2.43	0.41
59:A5:3686:A:H3'	59:A5:3687:A:C2	2.55	0.41
59:A5:3711:G:H4'	59:A5:3712:G:H5''	2.01	0.41
59:A5:3754:C:H4'	68:CM:56:HIS:ND1	2.36	0.41
59:A5:3787:A:H2'	59:A5:3788:G:O4'	2.21	0.41
63:AI:40:SER:O	63:AI:40:SER:OG	2.30	0.41
66:CL:171:LYS:HB3	66:CL:174:LYS:HE3	2.03	0.41
67:CV:111:GLU:HA	67:CV:131:ARG:HG2	2.02	0.41
71:AT:129:ARG:C	71:AT:133:ARG:HD2	2.43	0.41
81:Cd:88:ARG:HB2	81:Cd:100:TYR:CE1	2.56	0.41
2:CA:234:LYS:HB2	2:CA:234:LYS:HE3	1.79	0.41
3:AB:119:LYS:O	3:AB:121:GLN:N	2.53	0.41
4:CB:317:MET:HE2	4:CB:317:MET:HB3	1.91	0.41
6:CC:175:ARG:NH1	59:A5:225:U:O5'	2.51	0.41
10:AM:39:VAL:H	10:AM:40:HIS:HA	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:Ad:12:ARG:HB2	11:Ad:18:SER:H	1.86	0.41
15:AP:84:ARG:HG3	58:B2:1749:C:N4	2.36	0.41
18:AZ:61:VAL:HG23	18:AZ:67:ILE:HD13	2.01	0.41
24:AJ:80:ARG:HH12	60:AE:252:ARG:HD3	1.85	0.41
25:Ca:115:ARG:NH1	59:A5:855:A:OP2	2.51	0.41
28:CD:22:ARG:HE	28:CD:28:THR:HG23	1.86	0.41
28:CD:129:GLU:O	28:CD:131:ASN:N	2.49	0.41
28:CD:158:ARG:N	55:A7:46:C:OP1	2.36	0.41
30:CR:103:ARG:NH1	59:A5:2036:G:OP2	2.50	0.41
31:CS:31:ARG:NH1	31:CS:129:VAL:O	2.49	0.41
43:CI:95:ARG:NH1	59:A5:318:G:OP1	2.53	0.41
57:Cz:23:LYS:HE3	57:Cz:172:VAL:HG11	2.02	0.41
58:B2:182:C:O2	58:B2:201:G:N2	2.53	0.41
58:B2:348:C:H2'	58:B2:349:A:H8	1.84	0.41
58:B2:879:U:OP2	58:B2:880:G:N1	2.54	0.41
59:A5:522:G:O2'	59:A5:525:U:H5''	2.21	0.41
59:A5:3589:G:H2'	59:A5:3590:C:H6	1.85	0.41
64:AQ:62:LYS:HD2	64:AQ:62:LYS:HA	1.93	0.41
65:CO:34:LYS:H	65:CO:103:ARG:HD3	1.84	0.41
68:CM:136:ALA:HA	68:CM:137:ASP:HA	1.85	0.41
72:AF:75:HIS:CD2	72:AF:110:LYS:HZ2	2.38	0.41
72:AF:146:ARG:HA	72:AF:170:ARG:HD2	2.02	0.41
72:AF:151:ARG:NH1	72:AF:152:ILE:O	2.50	0.41
4:CB:19:LYS:O	4:CB:271:GLN:N	2.53	0.41
6:CC:98:MET:H	6:CC:98:MET:HG2	1.52	0.41
6:CC:204:ARG:HG2	6:CC:205:ILE:H	1.86	0.41
7:Ag:99:THR:OG1	7:Ag:100:ARG:N	2.52	0.41
10:AM:117:VAL:HG13	10:AM:119:LYS:HD3	2.02	0.41
14:AR:56:HIS:HE1	58:B2:1583:A:H2'	1.85	0.41
19:Aa:43:ASN:HA	19:Aa:66:LYS:HG2	2.02	0.41
21:AD:149:ALA:N	58:B2:1363:U:OP1	2.53	0.41
28:CD:211:LEU:HA	28:CD:211:LEU:HD23	1.82	0.41
32:CT:114:ARG:HA	32:CT:117:LYS:HB3	2.02	0.41
46:Cm:94:MET:HB3	46:Cm:121:LEU:HD12	2.02	0.41
50:CJ:102:GLU:HA	50:CJ:104:PHE:N	2.35	0.41
58:B2:1346:C:H5''	58:B2:1347:U:H5	1.84	0.41
58:B2:1740:G:H5''	82:AS:88:LYS:CB	2.46	0.41
59:A5:170:G:N7	59:A5:171:U:N3	2.67	0.41
59:A5:1106:A:H5''	59:A5:1110:G:H4'	2.02	0.41
59:A5:1800:U:O4	59:A5:1803:C:N4	2.53	0.41
60:AE:36:HIS:CG	60:AE:85:GLY:HA3	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:AE:162:VAL:HG22	60:AE:169:ILE:HG22	2.03	0.41
65:CO:195:ASN:HA	65:CO:198:ILE:HG22	2.02	0.41
71:AT:87:VAL:O	71:AT:87:VAL:CG1	2.68	0.41
71:AT:129:ARG:CA	71:AT:133:ARG:HD2	2.51	0.41
79:Cj:63:ARG:O	79:Cj:64:MET:C	2.64	0.41
1:AA:39:TYR:H	1:AA:49:LEU:HA	1.86	0.41
1:AA:140:VAL:HG13	5:AC:70:PRO:HG2	2.03	0.41
1:AA:189:ILE:HG12	1:AA:195:TRP:CH2	2.56	0.41
4:CB:93:ILE:HD11	4:CB:100:ARG:HH21	1.85	0.41
4:CB:234:ARG:HE	4:CB:271:GLN:CA	2.34	0.41
6:CC:36:ARG:HH21	6:CC:38:ASP:CG	2.29	0.41
11:Ad:17:GLY:HA2	11:Ad:18:SER:HA	1.56	0.41
14:AR:94:ASP:H	14:AR:95:ILE:HA	1.84	0.41
15:AP:124:LEU:HD13	15:AP:124:LEU:HA	1.93	0.41
18:AZ:47:VAL:CB	82:AS:23:LYS:CA	2.81	0.41
20:Ab:2:PRO:HG2	20:Ab:3:LEU:HD12	2.02	0.41
26:CN:75:VAL:O	26:CN:77:LYS:N	2.43	0.41
30:CR:104:ARG:HH11	30:CR:104:ARG:HD3	1.65	0.41
34:CX:226:ASN:HB2	34:CX:229:HIS:CE1	2.55	0.41
35:CY:74:TYR:OH	56:A8:74:G:OP2	2.35	0.41
37:Cr:117:ARG:HG3	41:Ce:89:MET:SD	2.60	0.41
38:Ch:80:PRO:HD2	38:Ch:83:LEU:HD12	2.01	0.41
40:Cc:17:ARG:O	40:Cc:20:LEU:N	2.52	0.41
44:Ck:41:PHE:HD1	44:Ck:41:PHE:HA	1.76	0.41
57:Cz:149:GLU:O	57:Cz:154:THR:OG1	2.39	0.41
58:B2:14:C:O2'	58:B2:627:A:N1	2.49	0.41
58:B2:444:U:OP1	58:B2:471:U:O2'	2.27	0.41
58:B2:913:G:H22	58:B2:929:A:H1'	1.86	0.41
58:B2:936:G:N1	58:B2:938:G:N7	2.68	0.41
58:B2:1452:U:O4	58:B2:1532:C:N4	2.54	0.41
58:B2:1549:U:H1'	58:B2:1567:A:C6	2.55	0.41
59:A5:55:U:OP1	59:A5:57:G:N1	2.54	0.41
59:A5:202:A:N1	59:A5:233:A:O2'	2.43	0.41
59:A5:930:U:H2'	59:A5:931:A:C8	2.55	0.41
59:A5:2925:C:H41	59:A5:2993:G:N2	2.19	0.41
59:A5:2932:C:N4	59:A5:2933:A:N7	2.68	0.41
59:A5:3000:G:H2'	59:A5:3001:A:O4'	2.20	0.41
59:A5:3307:A:H2'	59:A5:3308:A:C8	2.55	0.41
59:A5:3579:C:H42	59:A5:3632:G:H1	1.68	0.41
60:AE:233:LYS:HA	60:AE:233:LYS:HD2	1.77	0.41
61:AG:154:ARG:HD2	61:AG:154:ARG:HA	1.76	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:AH:51:GLU:HB3	62:AH:56:LYS:HG3	2.03	0.41
65:CO:189:LYS:HD2	65:CO:189:LYS:HA	1.84	0.41
67:CV:45:ILE:HD12	67:CV:45:ILE:HG23	1.88	0.41
69:DA:224:ILE:HD12	69:DA:225:PRO:HD2	2.02	0.41
71:AT:60:ILE:HA	71:AT:63:HIS:HB2	2.02	0.41
71:AT:83:LYS:CE	71:AT:93:CYS:HB2	2.51	0.41
71:AT:126:ILE:HG23	71:AT:130:ASP:CB	2.51	0.41
74:Ac:30:PHE:HD2	74:Ac:33:GLU:HB3	1.84	0.41
4:CB:341:LYS:HD3	4:CB:341:LYS:H	1.86	0.41
4:CB:407:ALA:O	4:CB:411:ALA:N	2.53	0.41
6:CC:79:ILE:HG21	6:CC:99:CYS:SG	2.60	0.41
7:Ag:100:ARG:HH12	7:Ag:136:LEU:HD22	1.85	0.41
8:AU:50:LEU:HD12	8:AU:93:LEU:HD13	2.02	0.41
28:CD:178:LYS:HE2	28:CD:178:LYS:HB3	1.76	0.41
28:CD:267:ARG:NH2	28:CD:270:ALA:H	2.19	0.41
29:CQ:155:ALA:HB3	29:CQ:158:VAL:HG22	2.02	0.41
30:CR:36:ASN:OD1	30:CR:36:ASN:N	2.41	0.41
33:CP:168:LYS:HE3	33:CP:168:LYS:HB2	1.92	0.41
34:CX:222:HIS:HE1	34:CX:224:ARG:HD2	1.84	0.41
35:CY:120:GLU:HG3	35:CY:124:LYS:HE3	2.03	0.41
36:CZ:14:LEU:HA	36:CZ:14:LEU:HD23	1.77	0.41
37:Cr:28:PRO:HG2	37:Cr:29:PHE:CE2	2.56	0.41
37:Cr:119:SER:OG	37:Cr:120:ALA:N	2.53	0.41
43:CI:44:THR:HG23	43:CI:47:THR:H	1.85	0.41
50:CJ:141:ARG:CZ	50:CJ:159:GLN:HE22	2.34	0.41
52:CE:123:LEU:HB3	52:CE:139:ARG:HD2	2.02	0.41
58:B2:460:C:H3'	58:B2:461:G:H8	1.85	0.41
58:B2:1185:U:H3'	58:B2:1186:U:H4'	2.03	0.41
58:B2:1395:G:H1	58:B2:1404:C:H42	1.67	0.41
58:B2:1651:C:OP1	82:AS:136:THR:OG1	2.38	0.41
58:B2:1811:C:N4	58:B2:1812:C:N3	2.69	0.41
59:A5:1031:G:O2'	59:A5:2180:A:N3	2.49	0.41
59:A5:1914:U:H3	59:A5:1921:U:H3	1.69	0.41
59:A5:2645:C:H2'	59:A5:2646:U:O4'	2.21	0.41
62:AH:152:VAL:HB	62:AH:183:VAL:HG12	2.03	0.41
66:CL:3:LYS:HE2	66:CL:3:LYS:HB2	1.65	0.41
67:CV:43:HIS:HB2	67:CV:60:MET:O	2.21	0.41
71:AT:138:ILE:O	71:AT:142:GLN:N	2.52	0.41
77:Cg:20:ARG:HB2	77:Cg:32:TYR:CD1	2.56	0.41
80:CF:98:ILE:HG21	80:CF:98:ILE:HD13	1.70	0.41
81:Cd:108:VAL:HG22	81:Cd:109:SER:H	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:CB:172:LYS:HB3	4:CB:172:LYS:HE2	1.83	0.41
9:AX:6:GLY:O	13:AL:98:ARG:NE	2.44	0.41
9:AX:11:ARG:HB2	13:AL:100:GLU:HG3	2.01	0.41
17:AY:93:ALA:HA	17:AY:96:GLY:HA3	2.03	0.41
17:AY:103:GLN:HE21	17:AY:103:GLN:HB2	1.62	0.41
24:AJ:29:GLU:HG3	24:AJ:41:LYS:HD3	2.02	0.41
25:Ca:43:ARG:HH11	25:Ca:43:ARG:HD3	1.72	0.41
27:CI:116:ARG:HA	27:CI:117:GLY:HA2	1.88	0.41
32:CT:17:ARG:HA	32:CT:17:ARG:HD2	1.65	0.41
33:CP:42:ARG:HH11	33:CP:42:ARG:HD3	1.71	0.41
34:CX:229:HIS:O	34:CX:233:ALA:N	2.51	0.41
48:Cp:8:VAL:HG13	59:A5:2242:C:H5''	2.03	0.41
49:Co:24:THR:HG22	49:Co:25:GLN:H	1.85	0.41
52:CE:93:ARG:H	52:CE:93:ARG:HG2	1.71	0.41
53:CG:111:SER:HB3	53:CG:114:ALA:HB3	2.03	0.41
57:Cz:58:ILE:HD11	57:Cz:152:LYS:HE2	2.03	0.41
58:B2:1758:A:O3'	82:AS:35:GLY:C	2.64	0.41
58:B2:1941:A:O2'	59:A5:2668:C:O2'	2.32	0.41
59:A5:578:A:O2'	59:A5:579:A:O4'	2.24	0.41
59:A5:1247:U:H2'	59:A5:1248:A:C8	2.55	0.41
59:A5:2927:U:H2'	59:A5:2928:G:C8	2.55	0.41
59:A5:3568:A:H4'	59:A5:3569:C:H5''	2.01	0.41
62:AH:177:LYS:HA	62:AH:177:LYS:HD2	1.90	0.41
64:AQ:83:ILE:HG22	64:AQ:87:ARG:HH12	1.85	0.41
65:CO:34:LYS:HA	65:CO:103:ARG:HB3	2.03	0.41
71:AT:30:VAL:HG12	71:AT:31:PRO:HD2	2.03	0.41
78:CU:236:GLU:N	78:CU:244:ILE:O	2.54	0.41
1:AA:189:ILE:HD12	1:AA:189:ILE:HA	1.93	0.41
4:CB:49:TYR:HH	4:CB:166:SER:HG	1.67	0.41
4:CB:169:ARG:H	4:CB:169:ARG:HG3	1.67	0.41
6:CC:5:ASN:OD1	6:CC:6:ALA:N	2.49	0.41
6:CC:80:PRO:O	6:CC:94:ALA:N	2.34	0.41
7:Ag:314:SER:HB2	7:Ag:318:HIS:CE1	2.56	0.41
9:AX:5:ARG:N	58:B2:1191:C:OP2	2.51	0.41
9:AX:34:THR:HG22	9:AX:37:LYS:HD2	2.03	0.41
10:AM:61:GLU:OE1	10:AM:61:GLU:N	2.54	0.41
15:AP:21:ARG:NH2	82:AS:88:LYS:C	2.76	0.41
17:AY:4:THR:HG23	17:AY:6:ALA:H	1.85	0.41
18:AZ:68:THR:HG23	18:AZ:70:SER:H	1.86	0.41
21:AD:198:ASN:OD1	21:AD:199:LYS:N	2.51	0.41
24:AJ:29:GLU:O	24:AJ:33:ILE:HG12	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:CN:114:ARG:NH1	26:CN:151:ILE:O	2.43	0.41
26:CN:182:GLN:HA	26:CN:183:THR:HA	2.01	0.41
27:CI:42:THR:OG1	27:CI:43:VAL:N	2.53	0.41
27:CI:121:LYS:HA	27:CI:122:PRO:HD3	1.93	0.41
28:CD:37:THR:H	28:CD:37:THR:HG23	1.67	0.41
28:CD:51:LEU:N	28:CD:145:PHE:O	2.54	0.41
31:CS:158:VAL:HA	68:CM:53:ASN:HD22	1.85	0.41
33:CP:24:VAL:HG13	33:CP:86:LYS:HG3	2.01	0.41
34:CX:163:THR:HG22	34:CX:164:ASN:H	1.86	0.41
34:CX:169:ARG:HH21	59:A5:1804:A:H5'	1.86	0.41
34:CX:229:HIS:HE2	54:A9:6:G:P	2.44	0.41
36:CZ:51:ARG:NH2	59:A5:2122:G:N7	2.68	0.41
36:CZ:85:TYR:OH	77:Cg:97:GLU:OE2	2.35	0.41
37:Cr:37:ALA:O	37:Cr:39:VAL:N	2.50	0.41
38:Ch:122:LYS:HD2	66:CL:151:GLY:H	1.86	0.41
42:Cf:49:ARG:NH1	59:A5:3768:C:H41	2.19	0.41
49:Co:66:ILE:HG13	49:Co:83:LEU:HD13	2.03	0.41
50:CJ:101:ARG:HA	50:CJ:179:ILE:HG22	2.02	0.41
52:CE:119:LEU:HD13	52:CE:139:ARG:CZ	2.51	0.41
58:B2:346:A:O2'	63:AI:86:SER:O	2.28	0.41
58:B2:984:G:N2	58:B2:1003:C:N3	2.68	0.41
58:B2:1725:C:O2'	58:B2:1731:U:N3	2.54	0.41
58:B2:1776:G:O2'	58:B2:1802:G:O6	2.31	0.41
58:B2:1802:G:H4'	72:AF:101:MET:HE1	2.02	0.41
59:A5:510:U:H2'	59:A5:511:G:C8	2.54	0.41
59:A5:973:G:H2'	59:A5:974:G:C8	2.56	0.41
59:A5:1605:U:H2'	59:A5:1606:G:C8	2.56	0.41
59:A5:1951:C:N4	77:Cg:73:SER:OG	2.54	0.41
59:A5:2264:G:H1	59:A5:2477:C:H42	1.69	0.41
59:A5:3585:A:H8	59:A5:3585:A:H5'	1.85	0.41
59:A5:3713:C:H6	59:A5:3713:C:H2'	1.67	0.41
59:A5:3797:G:N1	59:A5:3813:C:O2	2.53	0.41
62:AH:16:ASP:O	62:AH:20:LYS:N	2.49	0.41
64:AQ:77:GLY:HA3	64:AQ:82:GLN:HB2	2.03	0.41
64:AQ:92:LYS:HG2	64:AQ:122:LEU:HD23	2.02	0.41
66:CL:75:PHE:HD1	66:CL:75:PHE:HA	1.78	0.41
66:CL:75:PHE:HE1	66:CL:112:ASN:HB3	1.86	0.41
70:AK:22:VAL:HG13	70:AK:64:HIS:HB3	2.03	0.41
72:AF:64:SER:O	72:AF:64:SER:OG	2.37	0.41
73:AO:73:ALA:HA	73:AO:76:LEU:HB2	2.02	0.41
73:AO:121:ARG:HH22	74:Ac:58:GLU:HA	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:CF:101:ILE:HD12	80:CF:101:ILE:HA	1.82	0.41
80:CF:196:HIS:O	80:CF:200:THR:OG1	2.38	0.41
3:AB:221:LEU:H	3:AB:221:LEU:HG	1.68	0.41
7:Ag:266:LYS:HB3	7:Ag:266:LYS:HE2	1.79	0.41
13:AL:58:PRO:HD3	13:AL:138:ASN:ND2	2.35	0.41
24:AJ:172:GLY:HA3	24:AJ:176:ARG:HG2	2.02	0.41
28:CD:53:VAL:HG22	28:CD:62:VAL:HG22	2.02	0.41
28:CD:226:TYR:HA	28:CD:231:ILE:HD12	2.03	0.41
30:CR:100:ARG:NH2	59:A5:1975:C:O3'	2.54	0.41
34:CX:260:ARG:NH1	59:A5:1893:C:OP1	2.54	0.41
42:Cf:41:ALA:HA	42:Cf:42:LYS:HD3	2.02	0.41
50:CJ:115:GLN:OE1	59:A5:3206:A:N3	2.54	0.41
51:CH:187:LYS:HA	51:CH:188:LEU:HA	1.67	0.41
52:CE:82:ALA:O	52:CE:84:PHE:N	2.54	0.41
53:CG:64:LYS:N	59:A5:1801:U:O2'	2.36	0.41
58:B2:172:G:O2'	58:B2:173:C:O5'	2.37	0.41
58:B2:333:A:H2'	58:B2:334:G:O4'	2.21	0.41
58:B2:548:G:H4'	58:B2:549:A:C8	2.55	0.41
58:B2:1651:C:P	82:AS:136:THR:OG1	2.79	0.41
59:A5:680:C:N4	59:A5:681:G:O6	2.54	0.41
59:A5:1689:G:C8	59:A5:1689:G:H5''	2.56	0.41
59:A5:2811:G:H22	59:A5:3128:U:H3	1.69	0.41
61:AG:219:LYS:H	61:AG:219:LYS:HG2	1.72	0.41
67:CV:77:MET:HE2	67:CV:77:MET:HB3	1.77	0.41
69:DA:52:GLU:HA	69:DA:84:ARG:HH12	1.86	0.41
69:DA:303:ALA:HB3	69:DA:306:ASP:HB2	2.03	0.41
72:AF:118:LYS:HD2	72:AF:118:LYS:HA	1.89	0.41
79:Cj:7:SER:HA	79:Cj:10:LYS:HD2	2.01	0.41
81:Cd:39:ALA:N	81:Cd:74:ILE:O	2.54	0.41
7:Ag:82:GLY:HA3	7:Ag:112:VAL:HG21	2.03	0.40
8:AU:73:GLY:H	58:B2:1286:G:H4'	1.86	0.40
13:AL:64:ARG:NH1	58:B2:113:G:O2'	2.54	0.40
13:AL:94:ARG:HA	13:AL:94:ARG:HD3	1.83	0.40
16:AV:20:SER:O	16:AV:20:SER:OG	2.25	0.40
26:CN:178:TYR:HB3	26:CN:179:ARG:NH2	2.36	0.40
31:CS:168:SER:O	65:CO:120:VAL:HB	2.21	0.40
57:Cz:70:ASP:OD1	57:Cz:70:ASP:N	2.54	0.40
57:Cz:101:LYS:NZ	59:A5:2872:U:O4	2.50	0.40
58:B2:221:C:O2'	58:B2:923:G:N1	2.51	0.40
58:B2:222:C:H1'	58:B2:922:G:H1	1.85	0.40
58:B2:958:G:H1	58:B2:1043:U:H3	1.68	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:970:U:H2'	58:B2:971:A:C8	2.56	0.40
58:B2:1268:C:O2	82:AS:137:LYS:NZ	2.54	0.40
58:B2:1715:G:C4	71:AT:67:ARG:NE	2.73	0.40
58:B2:1758:A:C5'	82:AS:39:ARG:NH2	2.71	0.40
59:A5:935:A:H2'	59:A5:936:U:C6	2.56	0.40
59:A5:1331:G:H2'	59:A5:1332:C:C6	2.56	0.40
59:A5:1969:A:N7	59:A5:2110:A:H5''	2.36	0.40
59:A5:3820:C:N4	68:CM:147:ARG:HD2	2.36	0.40
60:AE:16:LYS:HE3	60:AE:16:LYS:HB2	1.88	0.40
60:AE:155:HIS:CE1	60:AE:174:LYS:HE2	2.56	0.40
61:AG:77:LEU:H	61:AG:77:LEU:HG	1.57	0.40
62:AH:30:GLU:HG3	62:AH:39:LEU:HB2	2.01	0.40
64:AQ:86:ILE:H	64:AQ:86:ILE:HG12	1.70	0.40
64:AQ:106:SER:HA	64:AQ:109:GLU:HG3	2.03	0.40
66:CL:195:ARG:O	66:CL:199:ALA:N	2.50	0.40
69:DA:291:VAL:HG13	69:DA:314:PHE:HD2	1.85	0.40
75:AW:47:ILE:HD13	75:AW:47:ILE:HG21	1.86	0.40
78:CU:203:GLU:OE2	78:CU:206:ILE:N	2.54	0.40
79:Cj:4:GLY:C	79:Cj:6:THR:N	2.78	0.40
81:Cd:27:ALA:O	81:Cd:31:HIS:HB2	2.21	0.40
1:AA:49:LEU:H	1:AA:49:LEU:HG	1.67	0.40
2:CA:30:ARG:HH21	2:CA:72:ARG:NH1	2.20	0.40
2:CA:204:MET:SD	2:CA:209:HIS:HB2	2.61	0.40
3:AB:184:LEU:HD23	3:AB:187:LEU:HB3	2.02	0.40
4:CB:339:GLY:HA3	4:CB:343:ARG:HG3	2.03	0.40
9:AX:121:LYS:HB3	9:AX:121:LYS:HE2	1.85	0.40
20:Ab:33:MET:HB2	20:Ab:79:PHE:HB2	2.03	0.40
21:AD:137:GLU:N	21:AD:189:LYS:O	2.54	0.40
21:AD:199:LYS:HD3	21:AD:199:LYS:HA	1.72	0.40
25:Ca:113:LEU:HD23	25:Ca:113:LEU:HA	1.90	0.40
30:CR:185:ILE:HG12	62:AH:41:ASP:HB3	2.02	0.40
30:CR:190:LYS:HD2	30:CR:194:ILE:HG12	2.03	0.40
33:CP:129:THR:HG23	33:CP:139:TYR:CD1	2.56	0.40
37:Cr:126:LYS:HE3	37:Cr:126:LYS:HB3	1.79	0.40
44:Ck:23:VAL:HB	44:Ck:36:ILE:HG22	2.04	0.40
51:CH:21:LYS:HD3	51:CH:21:LYS:HA	1.93	0.40
58:B2:554:U:H3	58:B2:600:A:H61	1.69	0.40
58:B2:637:U:O2'	59:A5:1046:A:OP1	2.40	0.40
58:B2:838:A:N3	60:AE:12:LEU:HB3	2.37	0.40
58:B2:861:U:C2	58:B2:865:A:H1'	2.55	0.40
58:B2:1114:A:OP1	58:B2:1984:G:O2'	2.38	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:1239:A:O2'	58:B2:1240:A:OP1	2.39	0.40
58:B2:1731:U:C4	82:AS:28:ILE:HG21	2.56	0.40
58:B2:1795:U:H2'	58:B2:1796:C:C6	2.56	0.40
59:A5:483:U:H2'	59:A5:484:A:C8	2.56	0.40
59:A5:867:U:H3'	59:A5:868:A:C8	2.53	0.40
59:A5:1173:U:H2'	59:A5:1174:G:O4'	2.21	0.40
59:A5:1790:A:H8	59:A5:1790:A:OP2	2.04	0.40
59:A5:3540:G:HO2'	59:A5:3541:A:H8	1.68	0.40
59:A5:3789:U:H2'	59:A5:3790:A:H8	1.85	0.40
60:AE:143:ASP:OD1	60:AE:143:ASP:N	2.46	0.40
60:AE:184:THR:O	60:AE:184:THR:OG1	2.32	0.40
66:CL:191:LEU:HB2	66:CL:195:ARG:NH1	2.36	0.40
71:AT:33:GLN:HB3	71:AT:36:ILE:HB	2.03	0.40
79:Cj:66:TYR:HD2	79:Cj:66:TYR:HA	1.40	0.40
82:AS:121:ARG:HB2	82:AS:131:VAL:HB	2.04	0.40
1:AA:27:SER:OG	1:AA:150:THR:OG1	2.31	0.40
2:CA:22:LYS:HE2	2:CA:22:LYS:HB2	2.00	0.40
2:CA:36:GLU:HG2	2:CA:91:GLY:HA2	2.02	0.40
4:CB:217:ILE:HG22	4:CB:282:LYS:HB2	2.04	0.40
4:CB:286:ARG:NH1	4:CB:301:ASN:O	2.54	0.40
4:CB:322:HIS:O	4:CB:342:LYS:NZ	2.37	0.40
6:CC:82:VAL:H	6:CC:82:VAL:HG23	1.68	0.40
6:CC:137:PRO:HD3	37:Cr:76:ARG:NH1	2.37	0.40
6:CC:204:ARG:HH22	59:A5:1626:A:H62	1.70	0.40
6:CC:376:LYS:HA	6:CC:376:LYS:HD2	1.79	0.40
7:Ag:209:THR:O	7:Ag:209:THR:OG1	2.37	0.40
10:AM:66:PRO:HA	10:AM:69:LYS:HG2	2.03	0.40
15:AP:13:ARG:HH12	15:AP:25:LEU:HD23	1.87	0.40
15:AP:42:SER:N	58:B2:1741:A:OP2	2.46	0.40
15:AP:61:LYS:HD2	15:AP:61:LYS:HA	1.83	0.40
15:AP:103:LYS:HD2	15:AP:104:ASP:H	1.86	0.40
18:AZ:65:LYS:HB3	18:AZ:110:ARG:HG2	2.03	0.40
33:CP:26:PHE:O	33:CP:30:HIS:ND1	2.55	0.40
38:Ch:86:LYS:HE2	79:Cj:66:TYR:CE1	2.56	0.40
41:Ce:92:ARG:NH1	52:CE:75:VAL:HG11	2.37	0.40
44:Ck:52:LYS:HA	44:Ck:55:LYS:HB2	2.03	0.40
45:Cl:49:LEU:HD23	45:Cl:49:LEU:HA	1.79	0.40
50:CJ:3:ALA:HB2	55:A7:18:G:H21	1.87	0.40
52:CE:223:ALA:H	52:CE:225:TYR:HD2	1.68	0.40
57:Cz:107:TYR:O	59:A5:2846:A:N6	2.49	0.40
58:B2:256:C:O2'	58:B2:257:U:OP1	2.33	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:1034:U:H2'	58:B2:1035:G:C8	2.56	0.40
58:B2:1543:G:H2'	58:B2:1544:G:C8	2.56	0.40
58:B2:1807:C:H6	72:AF:84:ARG:HG3	1.87	0.40
59:A5:45:G:H4'	59:A5:2788:U:H2'	2.03	0.40
59:A5:654:G:H2'	59:A5:655:C:O4'	2.21	0.40
59:A5:3363:G:H22	59:A5:3389:C:N4	2.19	0.40
59:A5:3555:U:O4	59:A5:3568:A:O2'	2.32	0.40
59:A5:3702:G:N2	59:A5:3859:C:N3	2.69	0.40
60:AE:41:SER:O	60:AE:41:SER:OG	2.39	0.40
60:AE:51:ARG:HD2	60:AE:51:ARG:HA	1.90	0.40
66:CL:13:TYR:HA	66:CL:17:TRP:CD1	2.56	0.40
66:CL:125:LEU:HD22	66:CL:137:GLU:H	1.85	0.40
81:Cd:60:ARG:HD2	81:Cd:100:TYR:CE2	2.56	0.40
81:Cd:93:GLU:O	81:Cd:93:GLU:HG3	2.21	0.40
1:AA:13:ASP:O	1:AA:16:THR:OG1	2.33	0.40
1:AA:182:VAL:HG23	1:AA:183:LEU:HG	2.04	0.40
2:CA:98:ILE:HA	2:CA:99:GLY:HA2	1.83	0.40
2:CA:168:ILE:H	2:CA:168:ILE:HG22	1.60	0.40
4:CB:17:TYR:HA	4:CB:19:LYS:H	1.87	0.40
6:CC:265:ASP:O	6:CC:274:SER:OG	2.25	0.40
7:Ag:128:LYS:HA	7:Ag:152:VAL:HG23	2.03	0.40
12:AN:21:THR:OG1	62:AH:136:GLU:OE1	2.30	0.40
16:AV:53:TYR:OH	16:AV:72:LEU:O	2.32	0.40
24:AJ:30:LEU:HD23	24:AJ:30:LEU:HA	1.92	0.40
24:AJ:80:ARG:HA	24:AJ:80:ARG:HD3	1.95	0.40
27:CI:9:TYR:OH	27:CI:99:ILE:HG13	2.21	0.40
28:CD:118:LEU:HD12	28:CD:139:PRO:HG2	2.03	0.40
29:CQ:15:ARG:HB2	59:A5:1174:G:H5'	2.03	0.40
29:CQ:41:LYS:HA	29:CQ:41:LYS:HD3	1.85	0.40
29:CQ:162:HIS:HA	59:A5:980:A:H5''	2.02	0.40
33:CP:112:LEU:HA	33:CP:151:THR:O	2.20	0.40
33:CP:177:ARG:HA	33:CP:181:LYS:HG3	2.04	0.40
36:CZ:38:PHE:HB3	59:A5:2024:U:H5''	2.03	0.40
37:Cr:80:ASN:HB2	37:Cr:83:ARG:N	2.37	0.40
43:CI:63:TYR:HA	43:CI:66:ARG:HE	1.85	0.40
52:CE:88:LYS:HD2	52:CE:88:LYS:HA	1.87	0.40
52:CE:143:ARG:HD3	52:CE:143:ARG:HA	1.66	0.40
53:CG:46:ILE:HG22	59:A5:2994:C:C2	2.56	0.40
53:CG:212:VAL:HA	53:CG:217:LYS:HZ3	1.85	0.40
57:Cz:168:ALA:N	59:A5:2844:G:O2'	2.55	0.40
58:B2:150:G:H2'	58:B2:151:G:C8	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:857:G:O6	58:B2:868:C:N4	2.54	0.40
58:B2:999:U:H1'	58:B2:1000:G:H4'	2.03	0.40
58:B2:1049:C:N4	58:B2:1050:A:N1	2.70	0.40
58:B2:1304:G:N2	58:B2:1636:A:N3	2.69	0.40
58:B2:1425:U:H2'	58:B2:1579:G:C2	2.57	0.40
58:B2:1695:A:C8	82:AS:83:PHE:HE1	2.33	0.40
59:A5:684:A:H2'	59:A5:685:A:C4	2.57	0.40
59:A5:1031:G:H2'	59:A5:1032:G:O4'	2.21	0.40
65:CO:40:CYS:HA	65:CO:43:LEU:HD23	2.03	0.40
71:AT:30:VAL:HG13	71:AT:31:PRO:CD	2.52	0.40
71:AT:46:ALA:CB	71:AT:47:PRO:CD	2.99	0.40
72:AF:152:ILE:HD12	74:Ac:20:GLN:HB2	2.03	0.40
78:CU:247:SER:OG	78:CU:248:GLY:N	2.53	0.40
82:AS:63:GLU:HA	82:AS:66:LYS:HE2	2.03	0.40
6:CC:113:ARG:HG3	59:A5:814:U:OP1	2.22	0.40
7:Ag:187:ASN:HD22	7:Ag:187:ASN:HA	1.57	0.40
12:AN:81:LYS:HD2	12:AN:82:PRO:HD2	2.03	0.40
12:AN:115:LEU:HA	12:AN:118:VAL:HG12	2.04	0.40
18:AZ:70:SER:O	18:AZ:74:GLU:N	2.53	0.40
21:AD:125:LEU:HD12	21:AD:125:LEU:HA	1.93	0.40
21:AD:219:LYS:HE2	21:AD:221:TYR:HD2	1.87	0.40
22:Ae:103:ARG:NH1	58:B2:481:U:OP1	2.55	0.40
25:Ca:8:LYS:NZ	59:A5:995:G:OP1	2.48	0.40
29:CQ:50:ARG:HG2	29:CQ:53:MET:HE2	2.03	0.40
29:CQ:146:ARG:HH11	29:CQ:146:ARG:HD2	1.75	0.40
32:CT:102:ARG:HA	32:CT:102:ARG:HD2	1.83	0.40
33:CP:57:CYS:HB2	33:CP:72:GLN:HB2	2.03	0.40
33:CP:179:LYS:HZ1	33:CP:184:ARG:HH12	1.68	0.40
43:Ci:43:GLN:HB3	43:Ci:44:THR:H	1.63	0.40
46:Cm:102:ARG:HH21	59:A5:3428:A:P	2.44	0.40
50:CJ:98:GLU:OE1	50:CJ:178:ILE:N	2.35	0.40
51:CH:3:THR:H	51:CH:3:THR:HG22	1.66	0.40
51:CH:70:THR:O	51:CH:74:HIS:N	2.53	0.40
57:Cz:30:GLU:HB3	57:Cz:210:MET:HE2	2.03	0.40
57:Cz:128:LEU:O	57:Cz:132:GLY:N	2.38	0.40
58:B2:149:U:O2'	61:AG:4:ASN:OD1	2.35	0.40
58:B2:492:G:N2	58:B2:507:C:O2'	2.45	0.40
58:B2:869:C:H2'	58:B2:870:U:C6	2.55	0.40
58:B2:1269:U:H1'	58:B2:1650:G:H22	1.85	0.40
58:B2:1452:U:H2'	58:B2:1453:G:C8	2.56	0.40
58:B2:1776:G:OP2	64:AQ:127:ARG:NE	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B2:1887:A:N6	58:B2:1898:G:O6	2.55	0.40
59:A5:692:G:H8	59:A5:693:G:C8	2.39	0.40
59:A5:1549:A:H2'	59:A5:1550:U:C6	2.56	0.40
62:AH:101:LYS:HB2	62:AH:101:LYS:HE3	1.78	0.40
65:CO:201:TYR:OH	68:CM:113:ARG:NH2	2.54	0.40
69:DA:232:LEU:HD13	69:DA:232:LEU:HA	1.85	0.40
69:DA:265:ILE:HD13	69:DA:265:ILE:HA	1.94	0.40
71:AT:9:ILE:CG2	71:AT:10:ASP:N	2.85	0.40
73:AO:115:ALA:O	73:AO:119:LEU:N	2.46	0.40
80:CF:127:LYS:HE2	80:CF:127:LYS:HB3	1.83	0.40
80:CF:147:TYR:HA	80:CF:148:PRO:HD3	1.90	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	AA	216/218 (99%)	187 (87%)	28 (13%)	1 (0%)	24	57
2	CA	251/253 (99%)	214 (85%)	36 (14%)	1 (0%)	30	62
3	AB	218/220 (99%)	178 (82%)	38 (17%)	2 (1%)	14	47
4	CB	412/414 (100%)	339 (82%)	68 (16%)	5 (1%)	10	41
5	AC	225/227 (99%)	198 (88%)	27 (12%)	0	100	100
6	CC	390/392 (100%)	323 (83%)	65 (17%)	2 (0%)	24	57
7	Ag	316/318 (99%)	276 (87%)	40 (13%)	0	100	100
8	AU	100/102 (98%)	92 (92%)	8 (8%)	0	100	100
9	AX	141/143 (99%)	117 (83%)	23 (16%)	1 (1%)	18	51
10	AM	117/119 (98%)	93 (80%)	24 (20%)	0	100	100
11	Ad	50/52 (96%)	28 (56%)	21 (42%)	1 (2%)	6	32

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
12	AN	148/150 (99%)	138 (93%)	10 (7%)	0	100	100
13	AL	153/155 (99%)	125 (82%)	28 (18%)	0	100	100
14	AR	118/120 (98%)	105 (89%)	13 (11%)	0	100	100
15	AP	122/124 (98%)	102 (84%)	20 (16%)	0	100	100
16	AV	80/82 (98%)	65 (81%)	15 (19%)	0	100	100
17	AY	124/126 (98%)	102 (82%)	22 (18%)	0	100	100
18	AZ	72/74 (97%)	65 (90%)	7 (10%)	0	100	100
19	Aa	105/107 (98%)	78 (74%)	26 (25%)	1 (1%)	12	44
20	Ab	82/84 (98%)	63 (77%)	19 (23%)	0	100	100
21	AD	225/227 (99%)	191 (85%)	30 (13%)	4 (2%)	6	34
22	Ae	56/58 (97%)	38 (68%)	18 (32%)	0	100	100
23	Af	78/80 (98%)	62 (80%)	16 (20%)	0	100	100
24	AJ	179/181 (99%)	148 (83%)	28 (16%)	3 (2%)	7	35
25	Ca	147/149 (99%)	118 (80%)	27 (18%)	2 (1%)	9	38
26	CN	201/203 (99%)	159 (79%)	40 (20%)	2 (1%)	12	44
27	CI	215/217 (99%)	182 (85%)	32 (15%)	1 (0%)	24	57
28	CD	288/290 (99%)	244 (85%)	43 (15%)	1 (0%)	36	67
29	CQ	185/187 (99%)	164 (89%)	21 (11%)	0	100	100
30	CR	201/203 (99%)	179 (89%)	22 (11%)	0	100	100
31	CS	171/173 (99%)	121 (71%)	43 (25%)	7 (4%)	2	19
32	CT	156/158 (99%)	128 (82%)	26 (17%)	2 (1%)	9	39
33	CP	183/185 (99%)	153 (84%)	30 (16%)	0	100	100
34	CX	118/120 (98%)	95 (80%)	22 (19%)	1 (1%)	16	49
35	CY	129/131 (98%)	115 (89%)	14 (11%)	0	100	100
36	CZ	132/134 (98%)	113 (86%)	18 (14%)	1 (1%)	16	49
37	Cr	132/134 (98%)	95 (72%)	31 (24%)	6 (4%)	2	17
38	Ch	121/123 (98%)	108 (89%)	13 (11%)	0	100	100
39	Cb	73/75 (97%)	57 (78%)	15 (20%)	1 (1%)	9	38
40	Cc	98/100 (98%)	92 (94%)	6 (6%)	0	100	100
41	Ce	130/132 (98%)	112 (86%)	15 (12%)	3 (2%)	5	30
42	Cf	155/157 (99%)	121 (78%)	32 (21%)	2 (1%)	9	39

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
43	Ci	111/113 (98%)	82 (74%)	27 (24%)	2 (2%)	6	34
44	Ck	68/70 (97%)	61 (90%)	7 (10%)	0	100	100
45	Cl	48/50 (96%)	37 (77%)	11 (23%)	0	100	100
46	Cm	50/52 (96%)	38 (76%)	12 (24%)	0	100	100
47	Cn	23/25 (92%)	23 (100%)	0	0	100	100
48	Cp	89/91 (98%)	78 (88%)	11 (12%)	0	100	100
49	Co	102/104 (98%)	77 (76%)	22 (22%)	3 (3%)	3	26
50	CJ	180/182 (99%)	148 (82%)	31 (17%)	1 (1%)	21	54
51	CH	188/190 (99%)	162 (86%)	23 (12%)	3 (2%)	7	36
52	CE	226/228 (99%)	167 (74%)	55 (24%)	4 (2%)	6	34
53	CG	239/241 (99%)	207 (87%)	31 (13%)	1 (0%)	30	62
57	Cz	215/217 (99%)	196 (91%)	19 (9%)	0	100	100
60	AE	259/261 (99%)	217 (84%)	40 (15%)	2 (1%)	16	49
61	AG	229/231 (99%)	207 (90%)	22 (10%)	0	100	100
62	AH	192/194 (99%)	156 (81%)	35 (18%)	1 (0%)	24	57
63	AI	205/207 (99%)	157 (77%)	47 (23%)	1 (0%)	24	57
64	AQ	146/148 (99%)	123 (84%)	23 (16%)	0	100	100
65	CO	203/205 (99%)	172 (85%)	27 (13%)	4 (2%)	6	32
66	CL	208/210 (99%)	147 (71%)	49 (24%)	12 (6%)	1	13
67	CV	132/134 (98%)	120 (91%)	12 (9%)	0	100	100
68	CM	157/159 (99%)	130 (83%)	26 (17%)	1 (1%)	21	54
69	DA	346/370 (94%)	308 (89%)	37 (11%)	1 (0%)	36	67
70	AK	88/90 (98%)	72 (82%)	16 (18%)	0	100	100
71	AT	128/143 (90%)	100 (78%)	26 (20%)	2 (2%)	7	36
72	AF	187/189 (99%)	145 (78%)	41 (22%)	1 (0%)	24	57
73	AO	125/127 (98%)	100 (80%)	25 (20%)	0	100	100
74	Ac	60/62 (97%)	51 (85%)	9 (15%)	0	100	100
75	AW	127/129 (98%)	116 (91%)	11 (9%)	0	100	100
76	CW	56/58 (97%)	47 (84%)	7 (12%)	2 (4%)	2	22
77	Cg	101/103 (98%)	88 (87%)	13 (13%)	0	100	100
78	CU	94/96 (98%)	71 (76%)	23 (24%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
79	Cj	83/87 (95%)	67 (81%)	14 (17%)	2 (2%)	4	29
80	CF	221/223 (99%)	191 (86%)	26 (12%)	4 (2%)	6	34
81	Cd	106/108 (98%)	92 (87%)	14 (13%)	0	100	100
82	AS	132/134 (98%)	116 (88%)	16 (12%)	0	100	100
All	All	11937/12128 (98%)	9952 (83%)	1888 (16%)	97 (1%)	18	49

All (97) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	CA	196	TRP
3	AB	120	TRP
25	Ca	79	LEU
63	AI	99	ASN
65	CO	112	SER
65	CO	113	PRO
66	CL	3	LYS
66	CL	77	LEU
71	AT	40	ALA
1	AA	32	PHE
4	CB	34	LYS
4	CB	312	LYS
6	CC	6	ALA
6	CC	93	GLY
28	CD	20	PHE
32	CT	5	LYS
32	CT	84	ILE
37	Cr	28	PRO
37	Cr	73	TYR
41	Ce	21	ARG
43	Ci	44	THR
49	Co	27	LYS
49	Co	30	LYS
50	CJ	97	TYR
60	AE	241	GLY
66	CL	53	ALA
66	CL	76	THR
79	Cj	5	THR
80	CF	171	PRO
80	CF	236	ASP
9	AX	88	ASP
21	AD	202	PRO

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Mol	Chain	Res	Type
31	CS	119	ALA
31	CS	139	ARG
31	CS	175	TYR
37	Cr	27	LYS
66	CL	7	MET
66	CL	161	PRO
68	CM	104	LEU
79	Cj	25	SER
19	Aa	63	VAL
25	Ca	25	LYS
26	CN	165	THR
31	CS	53	LYS
31	CS	173	ARG
37	Cr	40	SER
37	Cr	72	LYS
39	Cb	24	PRO
41	Ce	15	ARG
41	Ce	22	HIS
49	Co	29	SER
51	CH	23	ARG
52	CE	21	PRO
52	CE	229	MET
53	CG	168	PRO
65	CO	202	GLY
66	CL	125	LEU
80	CF	173	THR
80	CF	237	PHE
4	CB	375	GLY
11	Ad	40	ARG
21	AD	181	GLN
21	AD	182	GLY
24	AJ	7	PRO
26	CN	40	PRO
31	CS	68	TYR
31	CS	133	PRO
43	Ci	43	GLN
51	CH	107	ASN
52	CE	60	VAL
69	DA	133	ILE
76	CW	25	ASP
4	CB	64	GLY
24	AJ	10	PHE

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Mol	Chain	Res	Type
37	Cr	39	VAL
42	Cf	138	ASN
60	AE	195	VAL
65	CO	193	PRO
66	CL	61	PRO
24	AJ	149	VAL
36	CZ	97	PRO
72	AF	129	GLY
21	AD	207	PRO
42	Cf	139	LEU
51	CH	109	VAL
52	CE	61	PRO
71	AT	49	ASP
3	AB	224	PRO
34	CX	165	VAL
66	CL	47	PRO
66	CL	56	PRO
4	CB	63	PRO
66	CL	46	PHE
66	CL	55	ARG
76	CW	26	GLY
62	AH	188	PRO
27	CI	205	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	AA	190/190 (100%)	188 (99%)	2 (1%)	65	74
2	CA	195/195 (100%)	185 (95%)	10 (5%)	21	48
3	AB	199/199 (100%)	196 (98%)	3 (2%)	57	71
4	CB	349/349 (100%)	342 (98%)	7 (2%)	48	67
5	AC	188/188 (100%)	182 (97%)	6 (3%)	34	59
6	CC	323/323 (100%)	312 (97%)	11 (3%)	32	57

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
7	Ag	280/280 (100%)	278 (99%)	2 (1%)	76	78
8	AU	95/95 (100%)	94 (99%)	1 (1%)	65	74
9	AX	116/116 (100%)	113 (97%)	3 (3%)	40	62
10	AM	104/104 (100%)	103 (99%)	1 (1%)	68	75
11	Ad	45/45 (100%)	44 (98%)	1 (2%)	45	65
12	AN	130/130 (100%)	129 (99%)	1 (1%)	73	77
13	AL	138/138 (100%)	137 (99%)	1 (1%)	76	78
14	AR	108/108 (100%)	107 (99%)	1 (1%)	70	76
15	AP	111/111 (100%)	111 (100%)	0	100	100
16	AV	67/67 (100%)	65 (97%)	2 (3%)	36	60
17	AY	105/106 (99%)	102 (97%)	3 (3%)	37	60
18	AZ	67/67 (100%)	66 (98%)	1 (2%)	57	71
19	Aa	94/94 (100%)	92 (98%)	2 (2%)	47	66
20	Ab	72/72 (100%)	70 (97%)	2 (3%)	38	61
21	AD	192/192 (100%)	190 (99%)	2 (1%)	68	75
22	Ae	47/47 (100%)	47 (100%)	0	100	100
23	Af	70/70 (100%)	70 (100%)	0	100	100
24	AJ	161/161 (100%)	158 (98%)	3 (2%)	50	68
25	Ca	122/122 (100%)	121 (99%)	1 (1%)	73	77
26	CN	174/174 (100%)	169 (97%)	5 (3%)	37	60
27	CI	187/187 (100%)	182 (97%)	5 (3%)	39	62
28	CD	241/241 (100%)	237 (98%)	4 (2%)	53	70
29	CQ	164/164 (100%)	154 (94%)	10 (6%)	17	43
30	CR	176/176 (100%)	173 (98%)	3 (2%)	53	70
31	CS	156/156 (100%)	147 (94%)	9 (6%)	18	44
32	CT	137/137 (100%)	132 (96%)	5 (4%)	31	57
33	CP	160/160 (100%)	153 (96%)	7 (4%)	25	51
34	CX	106/106 (100%)	103 (97%)	3 (3%)	38	61
35	CY	116/116 (100%)	110 (95%)	6 (5%)	21	47
36	CZ	121/121 (100%)	120 (99%)	1 (1%)	73	77
37	Cr	112/112 (100%)	105 (94%)	7 (6%)	16	42

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
38	Ch	112/112 (100%)	110 (98%)	2 (2%)	51	69
39	Cb	67/67 (100%)	64 (96%)	3 (4%)	24	50
40	Cc	84/84 (100%)	84 (100%)	0	100	100
41	Ce	120/120 (100%)	117 (98%)	3 (2%)	42	63
42	Cf	123/123 (100%)	119 (97%)	4 (3%)	33	58
43	Ci	100/100 (100%)	97 (97%)	3 (3%)	36	60
44	Ck	65/65 (100%)	63 (97%)	2 (3%)	35	59
45	Cl	45/45 (100%)	44 (98%)	1 (2%)	45	65
46	Cm	48/48 (100%)	46 (96%)	2 (4%)	26	52
47	Cn	23/23 (100%)	22 (96%)	1 (4%)	26	51
48	Cp	74/74 (100%)	70 (95%)	4 (5%)	20	46
49	Co	94/94 (100%)	93 (99%)	1 (1%)	65	74
50	CJ	155/155 (100%)	154 (99%)	1 (1%)	78	79
51	CH	169/169 (100%)	163 (96%)	6 (4%)	31	57
52	CE	197/197 (100%)	194 (98%)	3 (2%)	57	71
53	CG	210/210 (100%)	205 (98%)	5 (2%)	43	64
57	Cz	190/190 (100%)	189 (100%)	1 (0%)	81	80
60	AE	220/220 (100%)	218 (99%)	2 (1%)	70	76
61	AG	200/200 (100%)	198 (99%)	2 (1%)	68	75
62	AH	175/175 (100%)	171 (98%)	4 (2%)	44	64
63	AI	175/175 (100%)	172 (98%)	3 (2%)	53	70
64	AQ	122/122 (100%)	121 (99%)	1 (1%)	73	77
65	CO	175/175 (100%)	170 (97%)	5 (3%)	37	60
66	CL	173/173 (100%)	169 (98%)	4 (2%)	44	64
67	CV	101/101 (100%)	98 (97%)	3 (3%)	36	60
68	CM	138/138 (100%)	133 (96%)	5 (4%)	31	57
69	DA	294/310 (95%)	288 (98%)	6 (2%)	48	67
70	AK	81/81 (100%)	81 (100%)	0	100	100
71	AT	107/116 (92%)	107 (100%)	0	100	100
72	AF	160/160 (100%)	159 (99%)	1 (1%)	78	79
73	AO	98/98 (100%)	95 (97%)	3 (3%)	35	59

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
74	Ac	54/54 (100%)	52 (96%)	2 (4%)	30	56
75	AW	113/113 (100%)	110 (97%)	3 (3%)	39	62
76	CW	52/52 (100%)	50 (96%)	2 (4%)	29	55
77	Cg	95/95 (100%)	88 (93%)	7 (7%)	13	37
78	CU	90/90 (100%)	87 (97%)	3 (3%)	33	58
79	Cj	71/71 (100%)	56 (79%)	15 (21%)	1	6
80	CF	197/197 (100%)	192 (98%)	5 (2%)	42	63
81	Cd	100/100 (100%)	93 (93%)	7 (7%)	14	39
82	AS	120/120 (100%)	119 (99%)	1 (1%)	73	77
All	All	10405/10431 (100%)	10148 (98%)	257 (2%)	42	63

All (257) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	AA	49	LEU
1	AA	110	ASN
2	CA	45	VAL
2	CA	50	HIS
2	CA	60	VAL
2	CA	75	LEU
2	CA	101	VAL
2	CA	158	VAL
2	CA	168	ILE
2	CA	169	VAL
2	CA	176	ASP
2	CA	235	VAL
3	AB	94	VAL
3	AB	111	ASP
3	AB	221	LEU
4	CB	87	VAL
4	CB	141	LEU
4	CB	205	ILE
4	CB	234	ARG
4	CB	305	THR
4	CB	346	THR
4	CB	365	LEU
5	AC	95	VAL
5	AC	105	THR
5	AC	185	THR

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Mol	Chain	Res	Type
5	AC	213	THR
5	AC	237	ASP
5	AC	260	THR
6	CC	30	VAL
6	CC	57	VAL
6	CC	70	TRP
6	CC	72	THR
6	CC	103	ARG
6	CC	110	THR
6	CC	148	ASP
6	CC	235	VAL
6	CC	239	ASN
6	CC	269	THR
6	CC	314	ARG
7	Ag	187	ASN
7	Ag	298	THR
8	AU	67	THR
9	AX	70	VAL
9	AX	85	VAL
9	AX	125	VAL
10	AM	84	ILE
11	Ad	16	GLN
12	AN	134	VAL
13	AL	43	THR
14	AR	85	VAL
16	AV	9	VAL
16	AV	32	ILE
17	AY	63	THR
17	AY	71	THR
17	AY	103	GLN
18	AZ	61	VAL
19	Aa	30	VAL
19	Aa	96	THR
20	Ab	45	THR
20	Ab	62	ILE
21	AD	160	ILE
21	AD	206	LEU
24	AJ	13	THR
24	AJ	40	ASN
24	AJ	143	VAL
25	Ca	57	VAL
26	CN	75	VAL

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Mol	Chain	Res	Type
26	CN	76	PRO
26	CN	90	ASN
26	CN	160	GLU
26	CN	170	SER
27	CI	91	LEU
27	CI	111	LEU
27	CI	126	VAL
27	CI	138	VAL
27	CI	188	ASN
28	CD	17	GLN
28	CD	126	THR
28	CD	130	PHE
28	CD	144	CYS
29	CQ	4	ASP
29	CQ	7	HIS
29	CQ	13	VAL
29	CQ	46	ILE
29	CQ	95	VAL
29	CQ	98	LEU
29	CQ	99	THR
29	CQ	161	SER
29	CQ	163	THR
29	CQ	176	ARG
30	CR	55	VAL
30	CR	86	ASN
30	CR	93	LEU
31	CS	25	THR
31	CS	38	ILE
31	CS	48	LEU
31	CS	70	THR
31	CS	77	ASN
31	CS	84	TYR
31	CS	90	THR
31	CS	112	ASP
31	CS	154	LEU
32	CT	40	VAL
32	CT	61	THR
32	CT	72	VAL
32	CT	96	ILE
32	CT	109	VAL
33	CP	22	LEU
33	CP	24	VAL

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Mol	Chain	Res	Type
33	CP	31	GLU
33	CP	64	ASN
33	CP	116	HIS
33	CP	129	THR
33	CP	144	CYS
34	CX	186	VAL
34	CX	230	VAL
34	CX	252	ASP
35	CY	49	ILE
35	CY	55	VAL
35	CY	61	HIS
35	CY	79	VAL
35	CY	80	VAL
35	CY	99	ILE
36	CZ	68	VAL
37	Cr	12	ILE
37	Cr	19	LEU
37	Cr	39	VAL
37	Cr	52	THR
37	Cr	75	GLN
37	Cr	80	ASN
37	Cr	115	LEU
38	Ch	81	LEU
38	Ch	91	ILE
39	Cb	37	VAL
39	Cb	57	VAL
39	Cb	76	LEU
41	Ce	2	THR
41	Ce	57	ILE
41	Ce	119	VAL
42	Cf	55	VAL
42	Cf	114	VAL
42	Cf	131	VAL
42	Cf	157	ILE
43	Ci	41	ASN
43	Ci	58	VAL
43	Ci	71	LEU
44	Ck	5	ILE
44	Ck	23	VAL
45	Cl	27	VAL
46	Cm	118	THR
46	Cm	120	ASN

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Mol	Chain	Res	Type
47	Cn	18	ARG
48	Cp	35	SER
48	Cp	51	VAL
48	Cp	54	ILE
48	Cp	64	VAL
49	Co	2	VAL
50	CJ	107	THR
51	CH	3	THR
51	CH	26	THR
51	CH	41	LEU
51	CH	61	THR
51	CH	107	ASN
51	CH	165	VAL
52	CE	96	THR
52	CE	193	VAL
52	CE	237	TYR
53	CG	55	ASP
53	CG	74	VAL
53	CG	85	ILE
53	CG	205	THR
53	CG	210	THR
57	Cz	158	GLN
60	AE	12	LEU
60	AE	140	VAL
61	AG	77	LEU
61	AG	182	THR
62	AH	75	ILE
62	AH	103	THR
62	AH	121	THR
62	AH	156	LEU
63	AI	58	LEU
63	AI	96	LEU
63	AI	140	THR
64	AQ	20	THR
65	CO	25	VAL
65	CO	90	ILE
65	CO	119	ARG
65	CO	131	LEU
65	CO	134	ASP
66	CL	30	ARG
66	CL	67	THR
66	CL	69	LEU

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Mol	Chain	Res	Type
66	CL	137	GLU
67	CV	42	VAL
67	CV	43	HIS
67	CV	101	ASN
68	CM	38	VAL
68	CM	45	VAL
68	CM	52	LEU
68	CM	64	PHE
68	CM	130	LEU
69	DA	59	LEU
69	DA	71	VAL
69	DA	173	VAL
69	DA	253	THR
69	DA	367	ASN
69	DA	397	GLU
72	AF	135	ILE
73	AO	105	THR
73	AO	133	THR
73	AO	135	ILE
74	Ac	22	GLN
74	Ac	41	ASN
75	AW	53	VAL
75	AW	62	VAL
75	AW	74	VAL
76	CW	20	THR
76	CW	30	THR
77	Cg	4	ARG
77	Cg	6	THR
77	Cg	7	LEU
77	Cg	38	ASN
77	Cg	40	THR
77	Cg	54	ILE
77	Cg	75	THR
78	CU	195	VAL
78	CU	227	ASN
78	CU	275	VAL
79	Cj	18	ILE
79	Cj	20	ARG
79	Cj	21	ARG
79	Cj	32	SER
79	Cj	33	LYS
79	Cj	35	SER

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Mol	Chain	Res	Type
79	Cj	45	ARG
79	Cj	50	SER
79	Cj	51	ARG
79	Cj	63	ARG
79	Cj	65	ARG
79	Cj	66	TYR
79	Cj	67	LEU
79	Cj	69	ASN
79	Cj	71	ARG
80	CF	96	VAL
80	CF	163	VAL
80	CF	175	ASN
80	CF	194	LEU
80	CF	241	GLU
81	Cd	15	ASN
81	Cd	24	ILE
81	Cd	31	HIS
81	Cd	62	ASP
81	Cd	85	LEU
81	Cd	103	VAL
81	Cd	116	THR
82	AS	36	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (88) such sidechains are listed below:

Mol	Chain	Res	Type
1	AA	31	ASN
1	AA	111	GLN
2	CA	19	HIS
2	CA	106	GLN
4	CB	167	GLN
4	CB	258	HIS
4	CB	327	ASN
6	CC	264	ASN
6	CC	281	ASN
6	CC	332	ASN
6	CC	372	ASN
7	Ag	57	GLN
7	Ag	65	HIS
7	Ag	182	ASN
7	Ag	188	ASN
7	Ag	189	HIS

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Mol	Chain	Res	Type
8	AU	43	ASN
9	AX	15	ASN
9	AX	92	ASN
10	AM	53	GLN
10	AM	89	HIS
10	AM	134	HIS
12	AN	13	GLN
13	AL	10	GLN
13	AL	91	HIS
17	AY	23	GLN
17	AY	37	ASN
17	AY	64	ASN
22	Ae	87	GLN
22	Ae	109	GLN
26	CN	57	GLN
27	CI	14	ASN
28	CD	94	ASN
28	CD	191	ASN
28	CD	203	HIS
29	CQ	75	GLN
30	CR	134	ASN
30	CR	143	HIS
31	CS	159	HIS
32	CT	70	HIS
32	CT	134	GLN
33	CP	64	ASN
33	CP	80	GLN
34	CX	164	ASN
35	CY	3	GLN
35	CY	18	HIS
36	CZ	131	GLN
39	Cb	29	HIS
39	Cb	42	ASN
39	Cb	43	GLN
42	Cf	107	HIS
42	Cf	142	HIS
43	Ci	60	HIS
46	Cm	87	GLN
50	CJ	103	ASN
50	CJ	145	ASN
50	CJ	181	ASN
51	CH	40	HIS

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Mol	Chain	Res	Type
51	CH	74	HIS
51	CH	107	ASN
52	CE	83	ASN
57	Cz	205	HIS
60	AE	112	HIS
60	AE	197	ASN
61	AG	65	GLN
63	AI	162	GLN
65	CO	172	HIS
66	CL	20	HIS
66	CL	27	GLN
66	CL	112	ASN
68	CM	34	ASN
69	DA	275	HIS
69	DA	310	GLN
70	AK	59	GLN
71	AT	63	HIS
71	AT	85	ASN
72	AF	172	ASN
79	Cj	16	HIS
79	Cj	30	GLN
79	Cj	76	ASN
80	CF	102	ASN
80	CF	187	GLN
80	CF	229	ASN
81	Cd	25	HIS
81	Cd	113	ASN
82	AS	10	GLN
82	AS	102	ASN
82	AS	135	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
54	A9	29/30 (96%)	6 (20%)	1 (3%)
55	A7	119/120 (99%)	30 (25%)	1 (0%)
56	A8	122/123 (99%)	53 (43%)	5 (4%)
58	B2	1788/1995 (89%)	673 (37%)	37 (2%)
59	A5	3561/3974 (89%)	1379 (38%)	108 (3%)
All	All	5619/6242 (90%)	2141 (38%)	152 (2%)

All (2141) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
54	A9	6	G
54	A9	9	C
54	A9	21	G
54	A9	22	A
54	A9	24	G
54	A9	30	A
55	A7	2	C
55	A7	7	G
55	A7	14	C
55	A7	22	A
55	A7	25	A
55	A7	27	A
55	A7	33	U
55	A7	37	G
55	A7	38	U
55	A7	39	C
55	A7	44	C
55	A7	50	A
55	A7	60	C
55	A7	62	U
55	A7	64	G
55	A7	66	G
55	A7	71	G
55	A7	72	U
55	A7	73	U
55	A7	74	A
55	A7	78	C
55	A7	81	A
55	A7	97	G
55	A7	98	G
55	A7	100	A
55	A7	110	G
55	A7	112	U
55	A7	113	G
55	A7	116	G
55	A7	120	U
56	A8	2	A
56	A8	5	C
56	A8	10	C
56	A8	19	A
56	A8	22	C
56	A8	23	G
56	A8	24	G

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Mol	Chain	Res	Type
56	A8	25	C
56	A8	31	G
56	A8	33	U
56	A8	34	C
56	A8	38	G
56	A8	39	A
56	A8	40	A
56	A8	41	G
56	A8	45	G
56	A8	48	G
56	A8	50	A
56	A8	51	A
56	A8	52	A
56	A8	57	G
56	A8	59	G
56	A8	60	U
56	A8	61	C
56	A8	62	A
56	A8	63	U
56	A8	70	A
56	A8	78	G
56	A8	80	C
56	A8	81	A
56	A8	82	C
56	A8	83	A
56	A8	84	U
56	A8	85	G
56	A8	86	A
56	A8	89	A
56	A8	92	G
56	A8	101	A
56	A8	102	A
56	A8	103	C
56	A8	104	G
56	A8	105	C
56	A8	106	A
56	A8	107	U
56	A8	108	A
56	A8	109	U
56	A8	110	C
56	A8	111	G
56	A8	113	A

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Mol	Chain	Res	Type
56	A8	117	C
56	A8	121	C
56	A8	122	U
56	A8	123	G
58	B2	2	U
58	B2	4	C
58	B2	16	G
58	B2	17	C
58	B2	25	U
58	B2	26	A
58	B2	27	U
58	B2	34	G
58	B2	36	C
58	B2	38	C
58	B2	41	A
58	B2	42	G
58	B2	43	A
58	B2	45	U
58	B2	46	A
58	B2	47	A
58	B2	50	C
58	B2	57	G
58	B2	60	U
58	B2	63	G
58	B2	65	A
58	B2	66	C
58	B2	68	C
58	B2	69	A
58	B2	73	A
58	B2	74	U
58	B2	75	U
58	B2	76	A
58	B2	77	A
58	B2	80	G
58	B2	82	G
58	B2	83	A
58	B2	84	A
58	B2	86	C
58	B2	93	A
58	B2	94	G
58	B2	96	C
58	B2	99	A

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Mol	Chain	Res	Type
58	B2	103	U
58	B2	104	A
58	B2	110	U
58	B2	113	G
58	B2	114	G
58	B2	115	U
58	B2	124	U
58	B2	125	C
58	B2	126	G
58	B2	136	A
58	B2	137	C
58	B2	138	U
58	B2	139	U
58	B2	141	G
58	B2	142	A
58	B2	143	U
58	B2	147	U
58	B2	150	G
58	B2	153	A
58	B2	155	U
58	B2	156	U
58	B2	157	C
58	B2	167	U
58	B2	172	G
58	B2	173	C
58	B2	174	A
58	B2	176	U
58	B2	177	U
58	B2	178	A
58	B2	183	A
58	B2	184	U
58	B2	185	G
58	B2	188	C
58	B2	190	U
58	B2	191	U
58	B2	193	U
58	B2	194	G
58	B2	196	G
58	B2	200	U
58	B2	214	G
58	B2	215	C
58	B2	216	U

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Mol	Chain	Res	Type
58	B2	221	C
58	B2	224	A
58	B2	226	C
58	B2	227	G
58	B2	233	A
58	B2	235	G
58	B2	236	A
58	B2	238	C
58	B2	242	A
58	B2	245	U
58	B2	246	U
58	B2	249	U
58	B2	250	U
58	B2	251	G
58	B2	252	A
58	B2	253	A
58	B2	254	C
58	B2	255	U
58	B2	257	U
58	B2	258	A
58	B2	259	G
58	B2	260	A
58	B2	265	A
58	B2	266	U
58	B2	267	G
58	B2	270	G
58	B2	276	A
58	B2	279	G
58	B2	281	C
58	B2	283	U
58	B2	284	G
58	B2	285	U
58	B2	289	G
58	B2	290	A
58	B2	291	C
58	B2	292	G
58	B2	293	A
58	B2	294	C
58	B2	302	U
58	B2	304	A
58	B2	313	C
58	B2	314	C

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Mol	Chain	Res	Type
58	B2	315	C
58	B2	316	U
58	B2	318	U
58	B2	319	C
58	B2	321	A
58	B2	324	U
58	B2	325	U
58	B2	326	U
58	B2	327	G
58	B2	338	C
58	B2	341	G
58	B2	342	G
58	B2	343	A
58	B2	352	G
58	B2	355	G
58	B2	357	A
58	B2	364	A
58	B2	365	A
58	B2	366	C
58	B2	375	A
58	B2	376	G
58	B2	379	U
58	B2	382	G
58	B2	385	U
58	B2	386	C
58	B2	392	A
58	B2	395	G
58	B2	399	C
58	B2	402	A
58	B2	405	A
58	B2	407	C
58	B2	409	G
58	B2	412	A
58	B2	421	A
58	B2	422	A
58	B2	423	G
58	B2	426	A
58	B2	428	G
58	B2	429	C
58	B2	431	G
58	B2	439	G
58	B2	440	U

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Mol	Chain	Res	Type
58	B2	444	U
58	B2	449	C
58	B2	450	A
58	B2	453	C
58	B2	464	G
58	B2	466	G
58	B2	473	A
58	B2	482	A
58	B2	489	C
58	B2	490	A
58	B2	501	C
58	B2	506	G
58	B2	507	C
58	B2	509	C
58	B2	510	U
58	B2	511	G
58	B2	512	U
58	B2	513	A
58	B2	514	A
58	B2	515	U
58	B2	516	U
58	B2	517	G
58	B2	519	A
58	B2	521	U
58	B2	522	G
58	B2	523	A
58	B2	527	C
58	B2	529	C
58	B2	531	U
58	B2	541	U
58	B2	542	A
58	B2	544	C
58	B2	546	A
58	B2	547	G
58	B2	548	G
58	B2	549	A
58	B2	550	C
58	B2	553	A
58	B2	554	U
58	B2	557	G
58	B2	559	G
58	B2	562	C

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Mol	Chain	Res	Type
58	B2	564	A
58	B2	565	G
58	B2	573	C
58	B2	576	G
58	B2	585	G
58	B2	587	A
58	B2	588	A
58	B2	593	A
58	B2	600	A
58	B2	602	A
58	B2	603	G
58	B2	605	G
58	B2	613	A
58	B2	614	A
58	B2	617	U
58	B2	618	G
58	B2	619	U
58	B2	627	A
58	B2	628	A
58	B2	631	C
58	B2	632	G
58	B2	637	U
58	B2	642	G
58	B2	643	A
58	B2	646	U
58	B2	647	U
58	B2	648	G
58	B2	655	A
58	B2	656	U
58	B2	702	U
58	B2	705	G
58	B2	706	U
58	B2	713	A
58	B2	714	U
58	B2	715	U
58	B2	716	A
58	B2	717	C
58	B2	719	G
58	B2	720	G
58	B2	819	G
58	B2	824	U
58	B2	825	A

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Mol	Chain	Res	Type
58	B2	833	G
58	B2	837	A
58	B2	838	A
58	B2	843	G
58	B2	847	G
58	B2	848	C
58	B2	853	A
58	B2	856	A
58	B2	857	G
58	B2	858	G
58	B2	860	U
58	B2	861	U
58	B2	862	C
58	B2	863	A
58	B2	864	A
58	B2	865	A
58	B2	866	U
58	B2	867	G
58	B2	868	C
58	B2	869	C
58	B2	871	G
58	B2	873	A
58	B2	875	A
58	B2	876	U
58	B2	878	C
58	B2	879	U
58	B2	892	A
58	B2	895	A
58	B2	896	A
58	B2	897	A
58	B2	898	U
58	B2	899	A
58	B2	900	A
58	B2	901	G
58	B2	902	A
58	B2	903	C
58	B2	905	U
58	B2	906	C
58	B2	907	U
58	B2	908	G
58	B2	909	U
58	B2	910	U

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Mol	Chain	Res	Type
58	B2	911	C
58	B2	913	G
58	B2	915	U
58	B2	916	U
58	B2	918	C
58	B2	919	A
58	B2	922	G
58	B2	929	A
58	B2	930	G
58	B2	933	C
58	B2	935	A
58	B2	936	G
58	B2	937	A
58	B2	938	G
58	B2	939	G
58	B2	940	U
58	B2	941	A
58	B2	942	A
58	B2	943	U
58	B2	944	G
58	B2	949	A
58	B2	950	U
58	B2	957	A
58	B2	958	G
58	B2	959	U
58	B2	960	U
58	B2	963	G
58	B2	970	U
58	B2	972	G
58	B2	973	U
58	B2	976	U
58	B2	984	G
58	B2	991	G
58	B2	993	A
58	B2	999	U
58	B2	1000	G
58	B2	1001	G
58	B2	1002	A
58	B2	1005	G
58	B2	1019	U
58	B2	1020	U
58	B2	1022	A

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Mol	Chain	Res	Type
58	B2	1031	A
58	B2	1047	U
58	B2	1052	U
58	B2	1053	A
58	B2	1055	U
58	B2	1057	A
58	B2	1058	A
58	B2	1061	A
58	B2	1064	A
58	B2	1073	G
58	B2	1079	A
58	B2	1080	A
58	B2	1090	A
58	B2	1091	U
58	B2	1092	A
58	B2	1098	C
58	B2	1099	U
58	B2	1100	A
58	B2	1101	G
58	B2	1102	U
58	B2	1107	A
58	B2	1109	C
58	B2	1110	A
58	B2	1111	U
58	B2	1113	A
58	B2	1115	C
58	B2	1116	G
58	B2	1117	A
58	B2	1118	U
58	B2	1119	G
58	B2	1127	G
58	B2	1130	A
58	B2	1138	U
58	B2	1139	A
58	B2	1140	G
58	B2	1144	C
58	B2	1145	U
58	B2	1147	U
58	B2	1148	U
58	B2	1151	G
58	B2	1161	G
58	B2	1167	U

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Mol	Chain	Res	Type
58	B2	1168	C
58	B2	1169	C
58	B2	1170	G
58	B2	1173	A
58	B2	1179	A
58	B2	1180	A
58	B2	1183	U
58	B2	1184	U
58	B2	1185	U
58	B2	1186	U
58	B2	1187	U
58	B2	1188	G
58	B2	1190	G
58	B2	1194	C
58	B2	1196	G
58	B2	1197	G
58	B2	1199	G
58	B2	1201	A
58	B2	1212	A
58	B2	1213	A
58	B2	1216	C
58	B2	1217	U
58	B2	1226	A
58	B2	1235	A
58	B2	1236	C
58	B2	1238	G
58	B2	1240	A
58	B2	1243	G
58	B2	1244	C
58	B2	1246	C
58	B2	1248	A
58	B2	1249	C
58	B2	1251	A
58	B2	1252	G
58	B2	1255	G
58	B2	1263	U
58	B2	1266	G
58	B2	1269	U
58	B2	1273	U
58	B2	1274	U
58	B2	1275	U
58	B2	1282	A

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Mol	Chain	Res	Type
58	B2	1283	C
58	B2	1284	A
58	B2	1287	G
58	B2	1288	G
58	B2	1289	A
58	B2	1290	A
58	B2	1295	U
58	B2	1301	G
58	B2	1305	A
58	B2	1306	A
58	B2	1307	C
58	B2	1310	A
58	B2	1311	A
58	B2	1313	U
58	B2	1314	G
58	B2	1315	U
58	B2	1316	G
58	B2	1317	U
58	B2	1318	A
58	B2	1321	A
58	B2	1323	A
58	B2	1324	G
58	B2	1325	A
58	B2	1327	U
58	B2	1328	G
58	B2	1329	A
58	B2	1330	U
58	B2	1332	G
58	B2	1337	U
58	B2	1339	C
58	B2	1341	C
58	B2	1342	G
58	B2	1343	A
58	B2	1346	C
58	B2	1347	U
58	B2	1348	A
58	B2	1349	U
58	B2	1351	G
58	B2	1352	G
58	B2	1356	U
58	B2	1357	G
58	B2	1361	C

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Mol	Chain	Res	Type
58	B2	1363	U
58	B2	1371	C
58	B2	1372	U
58	B2	1373	U
58	B2	1379	G
58	B2	1380	U
58	B2	1382	G
58	B2	1384	G
58	B2	1385	U
58	B2	1389	U
58	B2	1393	C
58	B2	1394	U
58	B2	1399	A
58	B2	1401	U
58	B2	1402	U
58	B2	1404	C
58	B2	1406	A
58	B2	1407	U
58	B2	1408	A
58	B2	1409	A
58	B2	1410	C
58	B2	1411	G
58	B2	1412	A
58	B2	1424	A
58	B2	1425	U
58	B2	1426	A
58	B2	1427	U
58	B2	1428	A
58	B2	1430	U
58	B2	1432	A
58	B2	1433	A
58	B2	1436	G
58	B2	1438	U
58	B2	1442	U
58	B2	1448	A
58	B2	1449	U
58	B2	1450	U
58	B2	1451	A
58	B2	1452	U
58	B2	1457	C
58	B2	1458	U
58	B2	1460	A

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Mol	Chain	Res	Type
58	B2	1529	G
58	B2	1530	A
58	B2	1531	G
58	B2	1541	U
58	B2	1544	G
58	B2	1545	U
58	B2	1546	U
58	B2	1547	U
58	B2	1548	G
58	B2	1551	C
58	B2	1552	C
58	B2	1555	U
58	B2	1558	A
58	B2	1561	G
58	B2	1565	C
58	B2	1566	U
58	B2	1567	A
58	B2	1569	C
58	B2	1570	U
58	B2	1571	U
58	B2	1572	C
58	B2	1573	U
58	B2	1577	A
58	B2	1578	U
58	B2	1579	G
58	B2	1580	G
58	B2	1581	A
58	B2	1582	C
58	B2	1584	A
58	B2	1585	A
58	B2	1588	G
58	B2	1589	C
58	B2	1591	U
58	B2	1593	U
58	B2	1594	A
58	B2	1595	G
58	B2	1596	C
58	B2	1597	A
58	B2	1599	U
58	B2	1601	A
58	B2	1602	U
58	B2	1604	A

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Mol	Chain	Res	Type
58	B2	1605	G
58	B2	1617	A
58	B2	1619	A
58	B2	1620	G
58	B2	1623	C
58	B2	1627	G
58	B2	1628	A
58	B2	1636	A
58	B2	1637	G
58	B2	1638	A
58	B2	1639	U
58	B2	1640	G
58	B2	1643	C
58	B2	1645	G
58	B2	1651	C
58	B2	1659	C
58	B2	1663	A
58	B2	1665	U
58	B2	1666	G
58	B2	1668	A
58	B2	1669	A
58	B2	1670	G
58	B2	1671	U
58	B2	1673	U
58	B2	1674	C
58	B2	1675	A
58	B2	1678	G
58	B2	1682	A
58	B2	1683	U
58	B2	1684	U
58	B2	1685	U
58	B2	1688	U
58	B2	1691	A
58	B2	1695	A
58	B2	1698	G
58	B2	1702	C
58	B2	1706	U
58	B2	1708	A
58	B2	1709	A
58	B2	1713	C
58	B2	1715	G
58	B2	1716	A

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Mol	Chain	Res	Type
58	B2	1718	C
58	B2	1719	C
58	B2	1720	A
58	B2	1726	A
58	B2	1727	U
58	B2	1728	G
58	B2	1729	C
58	B2	1732	G
58	B2	1734	G
58	B2	1742	A
58	B2	1743	C
58	B2	1747	A
58	B2	1748	A
58	B2	1749	C
58	B2	1750	U
58	B2	1751	G
58	B2	1755	A
58	B2	1758	A
58	B2	1765	U
58	B2	1766	G
58	B2	1769	A
58	B2	1771	U
58	B2	1775	A
58	B2	1776	G
58	B2	1782	G
58	B2	1788	C
58	B2	1789	A
58	B2	1790	U
58	B2	1793	A
58	B2	1794	C
58	B2	1797	G
58	B2	1811	C
58	B2	1812	C
58	B2	1813	U
58	B2	1814	G
58	B2	1815	C
58	B2	1816	C
58	B2	1817	C
58	B2	1822	U
58	B2	1823	A
58	B2	1824	C
58	B2	1825	A

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Mol	Chain	Res	Type
58	B2	1826	C
58	B2	1827	A
58	B2	1830	G
58	B2	1831	C
58	B2	1834	G
58	B2	1848	U
58	B2	1849	U
58	B2	1850	G
58	B2	1851	A
58	B2	1865	G
58	B2	1873	A
58	B2	1874	C
58	B2	1875	G
58	B2	1876	U
58	B2	1882	C
58	B2	1886	G
58	B2	1903	G
58	B2	1905	U
58	B2	1906	U
58	B2	1907	G
58	B2	1909	U
58	B2	1911	C
58	B2	1912	G
58	B2	1926	A
58	B2	1930	U
58	B2	1942	G
58	B2	1949	A
58	B2	1950	A
58	B2	1952	G
58	B2	1955	G
58	B2	1956	U
58	B2	1957	A
58	B2	1961	A
58	B2	1962	G
58	B2	1964	U
58	B2	1965	U
58	B2	1975	G
58	B2	1977	A
58	B2	1978	C
58	B2	1986	A
58	B2	1987	G
58	B2	1988	G

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Mol	Chain	Res	Type
58	B2	1989	A
58	B2	1991	C
58	B2	1992	A
58	B2	1994	U
58	B2	1995	A
59	A5	3	A
59	A5	4	U
59	A5	5	A
59	A5	10	A
59	A5	16	A
59	A5	17	C
59	A5	18	U
59	A5	19	C
59	A5	23	U
59	A5	25	G
59	A5	26	G
59	A5	27	A
59	A5	30	A
59	A5	36	U
59	A5	39	A
59	A5	41	U
59	A5	44	A
59	A5	45	G
59	A5	47	A
59	A5	48	U
59	A5	49	A
59	A5	51	U
59	A5	53	A
59	A5	55	U
59	A5	56	A
59	A5	57	G
59	A5	58	G
59	A5	59	G
59	A5	61	A
59	A5	63	G
59	A5	64	A
59	A5	69	A
59	A5	70	A
59	A5	73	U
59	A5	77	A
59	A5	78	A
59	A5	79	G

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Mol	Chain	Res	Type
59	A5	81	A
59	A5	89	A
59	A5	92	A
59	A5	96	G
59	A5	101	C
59	A5	103	A
59	A5	104	A
59	A5	113	A
59	A5	114	G
59	A5	115	U
59	A5	120	C
59	A5	121	A
59	A5	122	C
59	A5	123	U
59	A5	124	A
59	A5	125	A
59	A5	127	U
59	A5	128	C
59	A5	130	C
59	A5	131	U
59	A5	137	U
59	A5	138	A
59	A5	139	U
59	A5	140	A
59	A5	141	U
59	A5	142	G
59	A5	145	A
59	A5	148	U
59	A5	149	G
59	A5	150	U
59	A5	154	A
59	A5	155	U
59	A5	156	G
59	A5	162	U
59	A5	163	A
59	A5	164	U
59	A5	165	G
59	A5	173	A
59	A5	176	A
59	A5	177	U
59	A5	178	U
59	A5	185	U

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Mol	Chain	Res	Type
59	A5	186	G
59	A5	187	A
59	A5	188	G
59	A5	189	A
59	A5	190	A
59	A5	195	A
59	A5	197	G
59	A5	198	A
59	A5	199	U
59	A5	201	U
59	A5	202	A
59	A5	204	G
59	A5	205	U
59	A5	206	C
59	A5	208	U
59	A5	211	U
59	A5	212	U
59	A5	213	A
59	A5	215	A
59	A5	217	G
59	A5	222	C
59	A5	225	U
59	A5	226	U
59	A5	227	A
59	A5	228	C
59	A5	239	U
59	A5	240	G
59	A5	241	C
59	A5	242	C
59	A5	252	U
59	A5	253	A
59	A5	254	A
59	A5	259	A
59	A5	261	U
59	A5	262	G
59	A5	273	G
59	A5	275	U
59	A5	280	C
59	A5	281	C
59	A5	282	A
59	A5	283	A
59	A5	284	A

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Mol	Chain	Res	Type
59	A5	286	A
59	A5	287	G
59	A5	301	U
59	A5	302	A
59	A5	304	U
59	A5	310	A
59	A5	313	A
59	A5	317	G
59	A5	319	G
59	A5	326	A
59	A5	328	U
59	A5	329	C
59	A5	333	C
59	A5	336	A
59	A5	339	C
59	A5	341	A
59	A5	345	A
59	A5	347	A
59	A5	350	C
59	A5	351	A
59	A5	356	A
59	A5	357	C
59	A5	360	A
59	A5	361	U
59	A5	366	A
59	A5	367	A
59	A5	370	A
59	A5	376	G
59	A5	377	U
59	A5	378	G
59	A5	380	G
59	A5	386	G
59	A5	394	G
59	A5	402	A
59	A5	403	A
59	A5	405	A
59	A5	412	U
59	A5	413	A
59	A5	416	C
59	A5	417	A
59	A5	420	A
59	A5	421	C

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Mol	Chain	Res	Type
59	A5	423	U
59	A5	428	C
59	A5	430	G
59	A5	431	C
59	A5	437	G
59	A5	438	G
59	A5	440	U
59	A5	441	A
59	A5	445	C
59	A5	448	A
59	A5	453	C
59	A5	457	A
59	A5	458	A
59	A5	460	A
59	A5	461	U
59	A5	462	C
59	A5	464	G
59	A5	465	U
59	A5	466	U
59	A5	467	A
59	A5	472	A
59	A5	473	A
59	A5	474	A
59	A5	475	U
59	A5	476	U
59	A5	477	C
59	A5	479	U
59	A5	480	C
59	A5	482	U
59	A5	497	U
59	A5	499	A
59	A5	516	U
59	A5	517	A
59	A5	521	U
59	A5	522	G
59	A5	523	C
59	A5	524	A
59	A5	525	U
59	A5	526	U
59	A5	527	U
59	A5	529	U
59	A5	530	U

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Mol	Chain	Res	Type
59	A5	531	C
59	A5	535	A
59	A5	536	U
59	A5	538	A
59	A5	539	G
59	A5	540	G
59	A5	541	A
59	A5	545	U
59	A5	546	G
59	A5	551	C
59	A5	553	A
59	A5	558	C
59	A5	559	A
59	A5	560	U
59	A5	562	U
59	A5	568	A
59	A5	569	U
59	A5	573	U
59	A5	576	U
59	A5	577	A
59	A5	578	A
59	A5	580	A
59	A5	581	U
59	A5	583	U
59	A5	584	A
59	A5	586	C
59	A5	587	U
59	A5	588	U
59	A5	591	A
59	A5	593	U
59	A5	596	A
59	A5	616	A
59	A5	618	U
59	A5	619	U
59	A5	620	U
59	A5	621	A
59	A5	622	A
59	A5	623	C
59	A5	625	C
59	A5	626	A
59	A5	632	A
59	A5	640	U

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Mol	Chain	Res	Type
59	A5	641	A
59	A5	642	A
59	A5	643	U
59	A5	644	U
59	A5	646	G
59	A5	649	A
59	A5	652	G
59	A5	653	U
59	A5	654	G
59	A5	655	C
59	A5	657	G
59	A5	658	A
59	A5	665	U
59	A5	666	A
59	A5	667	U
59	A5	668	A
59	A5	669	U
59	A5	670	G
59	A5	671	A
59	A5	672	U
59	A5	673	U
59	A5	675	C
59	A5	676	A
59	A5	678	U
59	A5	679	G
59	A5	680	C
59	A5	681	G
59	A5	682	U
59	A5	685	A
59	A5	690	U
59	A5	691	C
59	A5	692	G
59	A5	695	A
59	A5	696	U
59	A5	697	U
59	A5	698	A
59	A5	699	U
59	A5	700	A
59	A5	701	U
59	A5	702	A
59	A5	703	A
59	A5	704	U

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Mol	Chain	Res	Type
59	A5	705	G
59	A5	715	U
59	A5	718	U
59	A5	719	U
59	A5	720	G
59	A5	726	U
59	A5	733	A
59	A5	740	G
59	A5	742	A
59	A5	745	U
59	A5	746	G
59	A5	747	U
59	A5	749	U
59	A5	750	G
59	A5	751	A
59	A5	752	U
59	A5	753	U
59	A5	754	A
59	A5	755	A
59	A5	756	C
59	A5	761	C
59	A5	762	G
59	A5	763	A
59	A5	765	A
59	A5	766	G
59	A5	768	U
59	A5	774	A
59	A5	775	U
59	A5	776	A
59	A5	778	C
59	A5	785	A
59	A5	787	C
59	A5	789	G
59	A5	795	A
59	A5	797	A
59	A5	798	C
59	A5	799	A
59	A5	803	A
59	A5	804	C
59	A5	805	C
59	A5	807	A
59	A5	810	A

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Mol	Chain	Res	Type
59	A5	812	U
59	A5	813	C
59	A5	815	A
59	A5	818	A
59	A5	820	A
59	A5	827	A
59	A5	830	U
59	A5	831	A
59	A5	832	U
59	A5	833	U
59	A5	834	G
59	A5	838	U
59	A5	839	A
59	A5	840	U
59	A5	841	A
59	A5	842	A
59	A5	848	A
59	A5	849	U
59	A5	858	U
59	A5	859	A
59	A5	860	A
59	A5	861	C
59	A5	862	U
59	A5	866	C
59	A5	868	A
59	A5	869	A
59	A5	870	U
59	A5	871	A
59	A5	872	A
59	A5	873	U
59	A5	877	A
59	A5	879	U
59	A5	882	U
59	A5	888	A
59	A5	892	A
59	A5	894	U
59	A5	895	U
59	A5	896	A
59	A5	897	U
59	A5	899	G
59	A5	901	U
59	A5	902	A

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Mol	Chain	Res	Type
59	A5	909	A
59	A5	912	A
59	A5	917	G
59	A5	928	U
59	A5	929	A
59	A5	930	U
59	A5	931	A
59	A5	966	U
59	A5	967	C
59	A5	968	U
59	A5	969	A
59	A5	979	U
59	A5	980	A
59	A5	985	G
59	A5	986	A
59	A5	999	U
59	A5	1001	A
59	A5	1005	G
59	A5	1006	A
59	A5	1007	A
59	A5	1008	A
59	A5	1012	G
59	A5	1013	G
59	A5	1016	A
59	A5	1017	A
59	A5	1022	A
59	A5	1024	U
59	A5	1031	G
59	A5	1032	G
59	A5	1034	U
59	A5	1037	A
59	A5	1049	C
59	A5	1052	U
59	A5	1061	A
59	A5	1064	G
59	A5	1067	A
59	A5	1074	U
59	A5	1079	U
59	A5	1080	G
59	A5	1081	C
59	A5	1084	A
59	A5	1087	G

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Mol	Chain	Res	Type
59	A5	1089	U
59	A5	1090	U
59	A5	1094	A
59	A5	1095	G
59	A5	1096	A
59	A5	1097	A
59	A5	1099	U
59	A5	1100	G
59	A5	1103	U
59	A5	1106	A
59	A5	1107	G
59	A5	1108	G
59	A5	1111	C
59	A5	1114	A
59	A5	1115	A
59	A5	1116	G
59	A5	1120	A
59	A5	1121	A
59	A5	1122	U
59	A5	1123	C
59	A5	1124	G
59	A5	1125	A
59	A5	1126	A
59	A5	1132	U
59	A5	1133	A
59	A5	1135	U
59	A5	1137	G
59	A5	1141	G
59	A5	1144	C
59	A5	1145	C
59	A5	1146	U
59	A5	1153	G
59	A5	1155	U
59	A5	1159	C
59	A5	1160	U
59	A5	1162	A
59	A5	1167	A
59	A5	1178	U
59	A5	1179	U
59	A5	1180	U
59	A5	1181	A
59	A5	1182	A

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Mol	Chain	Res	Type
59	A5	1183	U
59	A5	1193	A
59	A5	1194	A
59	A5	1197	A
59	A5	1198	U
59	A5	1199	C
59	A5	1202	A
59	A5	1207	G
59	A5	1215	A
59	A5	1223	G
59	A5	1226	G
59	A5	1227	C
59	A5	1228	C
59	A5	1229	U
59	A5	1230	U
59	A5	1231	A
59	A5	1232	G
59	A5	1233	G
59	A5	1234	G
59	A5	1240	A
59	A5	1242	G
59	A5	1245	C
59	A5	1247	U
59	A5	1248	A
59	A5	1249	A
59	A5	1254	U
59	A5	1258	C
59	A5	1260	A
59	A5	1262	C
59	A5	1263	U
59	A5	1268	A
59	A5	1270	G
59	A5	1271	G
59	A5	1276	G
59	A5	1277	A
59	A5	1278	A
59	A5	1279	C
59	A5	1281	U
59	A5	1284	A
59	A5	1288	U
59	A5	1289	C
59	A5	1290	U

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Mol	Chain	Res	Type
59	A5	1291	U
59	A5	1293	A
59	A5	1294	U
59	A5	1295	A
59	A5	1296	U
59	A5	1297	G
59	A5	1300	G
59	A5	1301	A
59	A5	1307	G
59	A5	1308	U
59	A5	1309	U
59	A5	1310	A
59	A5	1311	U
59	A5	1316	U
59	A5	1317	A
59	A5	1321	G
59	A5	1324	C
59	A5	1325	C
59	A5	1326	A
59	A5	1330	G
59	A5	1331	G
59	A5	1332	C
59	A5	1335	C
59	A5	1342	U
59	A5	1343	A
59	A5	1345	G
59	A5	1348	G
59	A5	1353	G
59	A5	1357	C
59	A5	1358	U
59	A5	1359	G
59	A5	1360	U
59	A5	1367	A
59	A5	1368	A
59	A5	1369	C
59	A5	1370	C
59	A5	1373	A
59	A5	1374	C
59	A5	1375	G
59	A5	1376	U
59	A5	1383	A
59	A5	1384	C

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Mol	Chain	Res	Type
59	A5	1385	G
59	A5	1387	G
59	A5	1390	C
59	A5	1391	A
59	A5	1393	A
59	A5	1394	U
59	A5	1395	U
59	A5	1396	A
59	A5	1397	A
59	A5	1398	C
59	A5	1400	A
59	A5	1405	U
59	A5	1407	C
59	A5	1411	U
59	A5	1413	C
59	A5	1415	A
59	A5	1416	U
59	A5	1420	A
59	A5	1424	G
59	A5	1427	G
59	A5	1428	G
59	A5	1432	C
59	A5	1435	A
59	A5	1436	A
59	A5	1437	A
59	A5	1438	A
59	A5	1442	C
59	A5	1443	A
59	A5	1447	C
59	A5	1449	G
59	A5	1451	G
59	A5	1452	A
59	A5	1453	U
59	A5	1454	C
59	A5	1458	G
59	A5	1459	A
59	A5	1460	A
59	A5	1461	G
59	A5	1463	C
59	A5	1465	A
59	A5	1468	U
59	A5	1470	C

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Mol	Chain	Res	Type
59	A5	1477	G
59	A5	1478	A
59	A5	1480	U
59	A5	1481	G
59	A5	1482	U
59	A5	1483	G
59	A5	1484	U
59	A5	1485	A
59	A5	1486	A
59	A5	1492	C
59	A5	1500	G
59	A5	1502	A
59	A5	1510	G
59	A5	1514	U
59	A5	1516	A
59	A5	1517	A
59	A5	1520	U
59	A5	1522	G
59	A5	1523	A
59	A5	1524	U
59	A5	1531	U
59	A5	1532	A
59	A5	1540	U
59	A5	1541	A
59	A5	1546	U
59	A5	1547	A
59	A5	1555	G
59	A5	1558	A
59	A5	1559	A
59	A5	1564	G
59	A5	1565	A
59	A5	1566	U
59	A5	1567	G
59	A5	1570	U
59	A5	1572	A
59	A5	1575	U
59	A5	1576	U
59	A5	1578	C
59	A5	1580	U
59	A5	1581	G
59	A5	1591	U
59	A5	1592	U

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Mol	Chain	Res	Type
59	A5	1593	U
59	A5	1594	U
59	A5	1595	G
59	A5	1596	A
59	A5	1597	A
59	A5	1598	A
59	A5	1607	A
59	A5	1609	U
59	A5	1613	A
59	A5	1614	A
59	A5	1620	A
59	A5	1621	A
59	A5	1627	U
59	A5	1628	G
59	A5	1633	G
59	A5	1640	U
59	A5	1641	U
59	A5	1658	G
59	A5	1662	U
59	A5	1667	U
59	A5	1668	U
59	A5	1671	U
59	A5	1672	A
59	A5	1675	G
59	A5	1678	C
59	A5	1679	U
59	A5	1680	U
59	A5	1687	U
59	A5	1688	A
59	A5	1689	G
59	A5	1690	U
59	A5	1692	G
59	A5	1693	C
59	A5	1695	A
59	A5	1696	A
59	A5	1697	U
59	A5	1705	U
59	A5	1706	G
59	A5	1709	A
59	A5	1711	C
59	A5	1712	C
59	A5	1713	U

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Mol	Chain	Res	Type
59	A5	1714	U
59	A5	1716	G
59	A5	1723	G
59	A5	1724	A
59	A5	1725	A
59	A5	1726	G
59	A5	1728	G
59	A5	1731	G
59	A5	1736	G
59	A5	1737	U
59	A5	1738	U
59	A5	1740	C
59	A5	1741	G
59	A5	1743	G
59	A5	1745	G
59	A5	1746	A
59	A5	1751	U
59	A5	1754	U
59	A5	1763	A
59	A5	1770	C
59	A5	1772	G
59	A5	1774	C
59	A5	1779	G
59	A5	1781	U
59	A5	1782	C
59	A5	1783	A
59	A5	1784	A
59	A5	1785	G
59	A5	1786	G
59	A5	1787	C
59	A5	1789	A
59	A5	1794	G
59	A5	1795	A
59	A5	1796	A
59	A5	1797	A
59	A5	1798	A
59	A5	1799	U
59	A5	1800	U
59	A5	1801	U
59	A5	1802	U
59	A5	1803	C
59	A5	1804	A

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Mol	Chain	Res	Type
59	A5	1805	A
59	A5	1806	G
59	A5	1807	U
59	A5	1808	A
59	A5	1809	A
59	A5	1810	A
59	A5	1812	C
59	A5	1813	A
59	A5	1861	A
59	A5	1862	U
59	A5	1863	U
59	A5	1865	U
59	A5	1866	G
59	A5	1867	A
59	A5	1871	A
59	A5	1872	A
59	A5	1873	A
59	A5	1877	A
59	A5	1879	U
59	A5	1880	A
59	A5	1881	C
59	A5	1887	C
59	A5	1889	A
59	A5	1907	U
59	A5	1908	A
59	A5	1909	U
59	A5	1910	C
59	A5	1911	C
59	A5	1912	G
59	A5	1913	U
59	A5	1914	U
59	A5	1921	U
59	A5	1922	A
59	A5	1925	U
59	A5	1927	U
59	A5	1928	G
59	A5	1930	G
59	A5	1933	U
59	A5	1934	C
59	A5	1935	G
59	A5	1936	U
59	A5	1937	G

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Mol	Chain	Res	Type
59	A5	1941	A
59	A5	1943	C
59	A5	1944	C
59	A5	1945	U
59	A5	1954	G
59	A5	1955	A
59	A5	1956	A
59	A5	1957	C
59	A5	1958	G
59	A5	1959	A
59	A5	1960	C
59	A5	1961	C
59	A5	1968	A
59	A5	1969	A
59	A5	1970	G
59	A5	1975	C
59	A5	1976	G
59	A5	1981	A
59	A5	1984	U
59	A5	1987	G
59	A5	1988	A
59	A5	1989	A
59	A5	1994	U
59	A5	1995	U
59	A5	1996	U
59	A5	2000	U
59	A5	2001	U
59	A5	2003	U
59	A5	2005	U
59	A5	2009	A
59	A5	2010	U
59	A5	2011	A
59	A5	2016	U
59	A5	2018	C
59	A5	2019	U
59	A5	2020	A
59	A5	2027	A
59	A5	2029	G
59	A5	2030	U
59	A5	2031	C
59	A5	2032	U
59	A5	2033	U

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Mol	Chain	Res	Type
59	A5	2037	C
59	A5	2038	A
59	A5	2044	A
59	A5	2049	G
59	A5	2054	U
59	A5	2055	G
59	A5	2056	G
59	A5	2059	U
59	A5	2061	G
59	A5	2062	A
59	A5	2063	A
59	A5	2064	G
59	A5	2065	A
59	A5	2066	G
59	A5	2071	A
59	A5	2072	C
59	A5	2075	A
59	A5	2076	U
59	A5	2078	C
59	A5	2079	U
59	A5	2082	U
59	A5	2086	U
59	A5	2088	G
59	A5	2089	A
59	A5	2092	U
59	A5	2093	U
59	A5	2094	U
59	A5	2095	U
59	A5	2101	C
59	A5	2102	G
59	A5	2106	C
59	A5	2110	A
59	A5	2113	A
59	A5	2114	U
59	A5	2122	G
59	A5	2125	G
59	A5	2126	A
59	A5	2127	C
59	A5	2128	A
59	A5	2129	C
59	A5	2130	G
59	A5	2131	C

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Mol	Chain	Res	Type
59	A5	2132	A
59	A5	2134	A
59	A5	2135	C
59	A5	2136	U
59	A5	2137	U
59	A5	2142	A
59	A5	2150	U
59	A5	2155	A
59	A5	2156	U
59	A5	2158	U
59	A5	2159	C
59	A5	2162	C
59	A5	2163	A
59	A5	2166	U
59	A5	2167	G
59	A5	2171	U
59	A5	2173	C
59	A5	2174	A
59	A5	2182	G
59	A5	2183	A
59	A5	2185	U
59	A5	2187	U
59	A5	2194	G
59	A5	2195	A
59	A5	2196	U
59	A5	2197	A
59	A5	2200	A
59	A5	2201	U
59	A5	2202	A
59	A5	2205	G
59	A5	2216	A
59	A5	2217	A
59	A5	2219	U
59	A5	2220	C
59	A5	2222	G
59	A5	2223	C
59	A5	2238	A
59	A5	2239	C
59	A5	2249	A
59	A5	2251	G
59	A5	2255	G
59	A5	2264	G

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Mol	Chain	Res	Type
59	A5	2268	G
59	A5	2269	A
59	A5	2273	A
59	A5	2466	C
59	A5	2467	A
59	A5	2468	A
59	A5	2469	U
59	A5	2470	U
59	A5	2471	A
59	A5	2472	A
59	A5	2473	C
59	A5	2474	A
59	A5	2476	U
59	A5	2480	U
59	A5	2490	G
59	A5	2491	C
59	A5	2492	A
59	A5	2493	C
59	A5	2494	G
59	A5	2496	A
59	A5	2500	G
59	A5	2501	G
59	A5	2504	A
59	A5	2505	A
59	A5	2510	A
59	A5	2513	G
59	A5	2518	A
59	A5	2519	U
59	A5	2521	A
59	A5	2523	A
59	A5	2524	A
59	A5	2527	A
59	A5	2537	A
59	A5	2539	G
59	A5	2542	C
59	A5	2545	A
59	A5	2548	G
59	A5	2549	G
59	A5	2552	G
59	A5	2553	U
59	A5	2554	U
59	A5	2556	A

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Mol	Chain	Res	Type
59	A5	2562	U
59	A5	2570	C
59	A5	2573	C
59	A5	2583	U
59	A5	2585	A
59	A5	2586	A
59	A5	2587	U
59	A5	2588	G
59	A5	2591	A
59	A5	2603	U
59	A5	2619	U
59	A5	2622	A
59	A5	2623	C
59	A5	2624	G
59	A5	2627	G
59	A5	2628	G
59	A5	2633	A
59	A5	2634	A
59	A5	2636	U
59	A5	2641	C
59	A5	2646	U
59	A5	2650	G
59	A5	2651	G
59	A5	2654	G
59	A5	2655	C
59	A5	2657	A
59	A5	2659	A
59	A5	2660	U
59	A5	2663	C
59	A5	2664	U
59	A5	2673	A
59	A5	2674	A
59	A5	2676	U
59	A5	2677	A
59	A5	2684	C
59	A5	2685	G
59	A5	2686	C
59	A5	2687	A
59	A5	2688	U
59	A5	2691	A
59	A5	2693	G
59	A5	2694	G

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Mol	Chain	Res	Type
59	A5	2696	U
59	A5	2702	A
59	A5	2703	G
59	A5	2705	U
59	A5	2709	U
59	A5	2712	U
59	A5	2714	U
59	A5	2717	C
59	A5	2723	A
59	A5	2726	A
59	A5	2733	G
59	A5	2742	G
59	A5	2749	G
59	A5	2750	A
59	A5	2751	A
59	A5	2752	C
59	A5	2753	G
59	A5	2754	G
59	A5	2757	U
59	A5	2759	G
59	A5	2763	U
59	A5	2766	U
59	A5	2769	G
59	A5	2771	G
59	A5	2775	A
59	A5	2779	A
59	A5	2780	A
59	A5	2781	G
59	A5	2782	A
59	A5	2783	C
59	A5	2784	C
59	A5	2789	U
59	A5	2790	G
59	A5	2793	C
59	A5	2794	U
59	A5	2796	G
59	A5	2797	A
59	A5	2800	C
59	A5	2801	U
59	A5	2807	G
59	A5	2812	U
59	A5	2813	G

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Mol	Chain	Res	Type
59	A5	2815	A
59	A5	2821	A
59	A5	2824	U
59	A5	2825	A
59	A5	2828	A
59	A5	2831	U
59	A5	2832	G
59	A5	2833	U
59	A5	2834	A
59	A5	2836	A
59	A5	2837	A
59	A5	2838	U
59	A5	2839	A
59	A5	2840	A
59	A5	2842	U
59	A5	2843	G
59	A5	2847	G
59	A5	2869	U
59	A5	2870	C
59	A5	2876	U
59	A5	2877	G
59	A5	2880	A
59	A5	2881	U
59	A5	2888	A
59	A5	2891	C
59	A5	2899	U
59	A5	2900	U
59	A5	2901	C
59	A5	2905	A
59	A5	2908	U
59	A5	2909	A
59	A5	2915	U
59	A5	2917	A
59	A5	2919	A
59	A5	2920	U
59	A5	2925	C
59	A5	2927	U
59	A5	2989	G
59	A5	2991	A
59	A5	2992	A
59	A5	2994	C
59	A5	2995	U

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Mol	Chain	Res	Type
59	A5	2996	U
59	A5	2997	C
59	A5	2998	U
59	A5	2999	U
59	A5	3000	G
59	A5	3002	U
59	A5	3003	C
59	A5	3004	A
59	A5	3005	A
59	A5	3011	C
59	A5	3013	C
59	A5	3103	U
59	A5	3109	A
59	A5	3112	A
59	A5	3115	C
59	A5	3117	A
59	A5	3118	U
59	A5	3123	G
59	A5	3125	A
59	A5	3134	G
59	A5	3135	G
59	A5	3137	A
59	A5	3138	G
59	A5	3144	U
59	A5	3151	G
59	A5	3158	A
59	A5	3164	C
59	A5	3166	C
59	A5	3167	A
59	A5	3168	A
59	A5	3169	A
59	A5	3170	U
59	A5	3174	A
59	A5	3177	G
59	A5	3183	G
59	A5	3184	U
59	A5	3188	A
59	A5	3189	A
59	A5	3190	G
59	A5	3204	G
59	A5	3206	A
59	A5	3208	A

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Mol	Chain	Res	Type
59	A5	3209	G
59	A5	3210	A
59	A5	3211	A
59	A5	3212	A
59	A5	3213	C
59	A5	3220	U
59	A5	3221	A
59	A5	3223	A
59	A5	3226	A
59	A5	3228	A
59	A5	3231	G
59	A5	3234	A
59	A5	3235	A
59	A5	3236	A
59	A5	3237	U
59	A5	3239	C
59	A5	3241	G
59	A5	3246	G
59	A5	3252	G
59	A5	3259	A
59	A5	3260	G
59	A5	3261	U
59	A5	3274	A
59	A5	3279	A
59	A5	3285	G
59	A5	3287	C
59	A5	3288	C
59	A5	3294	A
59	A5	3301	U
59	A5	3303	G
59	A5	3304	U
59	A5	3305	U
59	A5	3309	A
59	A5	3310	G
59	A5	3311	A
59	A5	3312	G
59	A5	3328	G
59	A5	3331	A
59	A5	3332	G
59	A5	3333	A
59	A5	3334	A
59	A5	3337	G

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Mol	Chain	Res	Type
59	A5	3341	C
59	A5	3342	C
59	A5	3346	G
59	A5	3348	G
59	A5	3349	A
59	A5	3350	U
59	A5	3354	U
59	A5	3368	C
59	A5	3374	U
59	A5	3377	A
59	A5	3385	G
59	A5	3390	U
59	A5	3391	U
59	A5	3392	U
59	A5	3393	U
59	A5	3394	U
59	A5	3395	G
59	A5	3396	A
59	A5	3400	U
59	A5	3403	G
59	A5	3404	A
59	A5	3405	U
59	A5	3408	C
59	A5	3418	U
59	A5	3419	A
59	A5	3421	C
59	A5	3430	G
59	A5	3431	C
59	A5	3443	A
59	A5	3444	G
59	A5	3455	U
59	A5	3456	U
59	A5	3458	A
59	A5	3465	C
59	A5	3466	A
59	A5	3467	A
59	A5	3468	G
59	A5	3469	G
59	A5	3473	C
59	A5	3474	G
59	A5	3477	A
59	A5	3478	G

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Mol	Chain	Res	Type
59	A5	3482	G
59	A5	3486	U
59	A5	3489	A
59	A5	3491	C
59	A5	3497	G
59	A5	3499	G
59	A5	3502	A
59	A5	3511	U
59	A5	3514	C
59	A5	3516	C
59	A5	3520	U
59	A5	3521	A
59	A5	3527	A
59	A5	3530	A
59	A5	3531	C
59	A5	3532	G
59	A5	3535	G
59	A5	3546	A
59	A5	3547	U
59	A5	3554	G
59	A5	3556	A
59	A5	3558	U
59	A5	3563	G
59	A5	3568	A
59	A5	3569	C
59	A5	3582	A
59	A5	3585	A
59	A5	3590	C
59	A5	3591	A
59	A5	3592	C
59	A5	3593	A
59	A5	3594	A
59	A5	3602	U
59	A5	3604	G
59	A5	3607	C
59	A5	3608	G
59	A5	3609	A
59	A5	3610	A
59	A5	3612	A
59	A5	3613	G
59	A5	3614	U
59	A5	3620	G

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Mol	Chain	Res	Type
59	A5	3621	A
59	A5	3626	A
59	A5	3627	C
59	A5	3628	G
59	A5	3633	U
59	A5	3637	A
59	A5	3643	C
59	A5	3650	G
59	A5	3652	C
59	A5	3654	C
59	A5	3656	A
59	A5	3658	G
59	A5	3659	G
59	A5	3660	U
59	A5	3664	A
59	A5	3665	U
59	A5	3674	G
59	A5	3675	A
59	A5	3676	C
59	A5	3677	U
59	A5	3678	G
59	A5	3684	A
59	A5	3686	A
59	A5	3687	A
59	A5	3688	A
59	A5	3689	U
59	A5	3690	A
59	A5	3693	G
59	A5	3696	C
59	A5	3697	A
59	A5	3698	A
59	A5	3699	U
59	A5	3701	U
59	A5	3702	G
59	A5	3709	A
59	A5	3710	U
59	A5	3711	G
59	A5	3712	G
59	A5	3713	C
59	A5	3715	U
59	A5	3716	C
59	A5	3718	A

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Mol	Chain	Res	Type
59	A5	3719	A
59	A5	3720	A
59	A5	3722	C
59	A5	3725	U
59	A5	3727	A
59	A5	3728	A
59	A5	3729	A
59	A5	3730	G
59	A5	3732	U
59	A5	3734	A
59	A5	3742	C
59	A5	3743	U
59	A5	3751	C
59	A5	3752	G
59	A5	3753	A
59	A5	3754	C
59	A5	3756	A
59	A5	3757	U
59	A5	3758	G
59	A5	3759	G
59	A5	3760	A
59	A5	3762	G
59	A5	3763	U
59	A5	3764	G
59	A5	3765	A
59	A5	3766	U
59	A5	3767	G
59	A5	3768	C
59	A5	3769	C
59	A5	3771	A
59	A5	3772	U
59	A5	3773	G
59	A5	3774	U
59	A5	3775	A
59	A5	3776	A
59	A5	3777	U
59	A5	3778	U
59	A5	3779	U
59	A5	3785	A
59	A5	3789	U
59	A5	3791	A
59	A5	3794	U

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Mol	Chain	Res	Type
59	A5	3795	G
59	A5	3796	G
59	A5	3798	A
59	A5	3801	A
59	A5	3802	U
59	A5	3803	C
59	A5	3805	U
59	A5	3806	C
59	A5	3807	G
59	A5	3808	A
59	A5	3809	U
59	A5	3811	A
59	A5	3814	U
59	A5	3818	G
59	A5	3819	C
59	A5	3820	C
59	A5	3821	G
59	A5	3822	C
59	A5	3823	G
59	A5	3824	C
59	A5	3837	A
59	A5	3838	A
59	A5	3839	A
59	A5	3840	G
59	A5	3841	C
59	A5	3842	A
59	A5	3843	U
59	A5	3844	U
59	A5	3845	A
59	A5	3846	U
59	A5	3847	U
59	A5	3848	U
59	A5	3849	A
59	A5	3850	A
59	A5	3856	U
59	A5	3860	A
59	A5	3861	A
59	A5	3862	A
59	A5	3867	A
59	A5	3868	G
59	A5	3869	A
59	A5	3870	A

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Mol	Chain	Res	Type
59	A5	3877	G
59	A5	3878	U
59	A5	3887	U
59	A5	3889	U
59	A5	3890	G
59	A5	3891	U
59	A5	3892	A
59	A5	3894	C
59	A5	3901	G
59	A5	3909	A
59	A5	3912	U
59	A5	3914	G
59	A5	3916	U
59	A5	3918	A
59	A5	3919	G
59	A5	3923	C
59	A5	3924	U
59	A5	3925	G
59	A5	3926	C
59	A5	3927	C
59	A5	3928	A
59	A5	3929	U
59	A5	3932	U
59	A5	3933	G
59	A5	3934	C
59	A5	3935	G
59	A5	3937	U
59	A5	3942	U
59	A5	3946	G
59	A5	3949	U
59	A5	3952	C
59	A5	3955	U
59	A5	3956	U
59	A5	3957	G
59	A5	3958	C
59	A5	3961	G
59	A5	3962	A
59	A5	3963	U
59	A5	3964	G
59	A5	3969	G

All (152) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
54	A9	21	G
55	A7	119	C
56	A8	33	U
56	A8	38	G
56	A8	59	G
56	A8	106	A
56	A8	109	U
58	B2	1	A
58	B2	2	U
58	B2	172	G
58	B2	248	G
58	B2	250	U
58	B2	251	G
58	B2	256	C
58	B2	278	G
58	B2	378	G
58	B2	381	C
58	B2	422	A
58	B2	488	A
58	B2	511	G
58	B2	563	A
58	B2	878	C
58	B2	899	A
58	B2	948	A
58	B2	959	U
58	B2	1030	C
58	B2	1046	U
58	B2	1091	U
58	B2	1138	U
58	B2	1186	U
58	B2	1239	A
58	B2	1250	C
58	B2	1310	A
58	B2	1331	A
58	B2	1448	A
58	B2	1547	U
58	B2	1591	U
58	B2	1594	A
58	B2	1673	U
58	B2	1765	U
58	B2	1849	U
58	B2	1881	A
58	B2	1949	A

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Mol	Chain	Res	Type
58	B2	1956	U
59	A5	17	C
59	A5	26	G
59	A5	29	U
59	A5	44	A
59	A5	57	G
59	A5	58	G
59	A5	69	A
59	A5	120	C
59	A5	123	U
59	A5	130	C
59	A5	163	A
59	A5	175	U
59	A5	186	G
59	A5	188	G
59	A5	225	U
59	A5	272	U
59	A5	286	A
59	A5	300	A
59	A5	316	U
59	A5	360	A
59	A5	457	A
59	A5	463	C
59	A5	580	A
59	A5	615	C
59	A5	620	U
59	A5	640	U
59	A5	641	A
59	A5	667	U
59	A5	671	A
59	A5	752	U
59	A5	795	A
59	A5	839	A
59	A5	872	A
59	A5	979	U
59	A5	1095	G
59	A5	1096	A
59	A5	1137	G
59	A5	1160	U
59	A5	1178	U
59	A5	1179	U
59	A5	1182	A

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Mol	Chain	Res	Type
59	A5	1231	A
59	A5	1277	A
59	A5	1306	G
59	A5	1310	A
59	A5	1324	C
59	A5	1368	A
59	A5	1374	C
59	A5	1382	U
59	A5	1394	U
59	A5	1546	U
59	A5	1594	U
59	A5	1596	A
59	A5	1608	G
59	A5	1627	U
59	A5	1640	U
59	A5	1689	G
59	A5	1713	U
59	A5	1736	G
59	A5	1784	A
59	A5	1793	C
59	A5	1794	G
59	A5	1798	A
59	A5	1801	U
59	A5	1879	U
59	A5	1956	A
59	A5	1958	G
59	A5	1960	C
59	A5	2001	U
59	A5	2002	C
59	A5	2037	C
59	A5	2126	A
59	A5	2129	C
59	A5	2155	A
59	A5	2162	C
59	A5	2166	U
59	A5	2750	A
59	A5	2752	C
59	A5	2781	G
59	A5	2796	G
59	A5	2868	A
59	A5	2904	U
59	A5	2919	A

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Mol	Chain	Res	Type
59	A5	2990	C
59	A5	2993	G
59	A5	3017	U
59	A5	3235	A
59	A5	3236	A
59	A5	3309	A
59	A5	3362	G
59	A5	3514	C
59	A5	3567	A
59	A5	3568	A
59	A5	3591	A
59	A5	3593	A
59	A5	3627	C
59	A5	3675	A
59	A5	3677	U
59	A5	3697	A
59	A5	3708	U
59	A5	3714	U
59	A5	3719	A
59	A5	3759	G
59	A5	3808	A
59	A5	3844	U
59	A5	3890	G
59	A5	3891	U
59	A5	3961	G

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
59	A5	2
58	B2	2
79	Cj	1
33	CP	1
26	CN	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A5	2896:U	O3'	2897:G	P	6.34
1	B2	1236:C	O3'	1237:G	P	6.15
1	B2	1817:C	O3'	1818:U	P	4.73
1	Cj	29:LEU	C	30:GLN	N	4.63
1	A5	2819:A	O3'	2820:G	P	3.28
1	CP	38:ARG	C	39:MET	N	1.16
1	CN	40:PRO	C	41:ARG	N	1.08

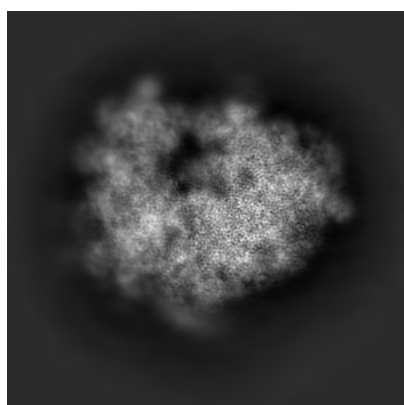
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-10622. These allow visual inspection of the internal detail of the map and identification of artifacts.

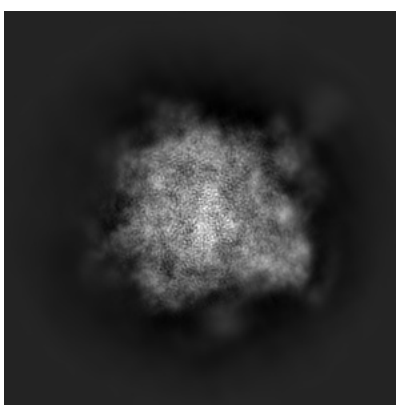
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

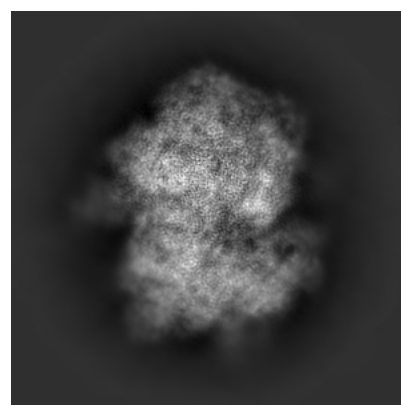
6.1.1 Primary map



X



Y

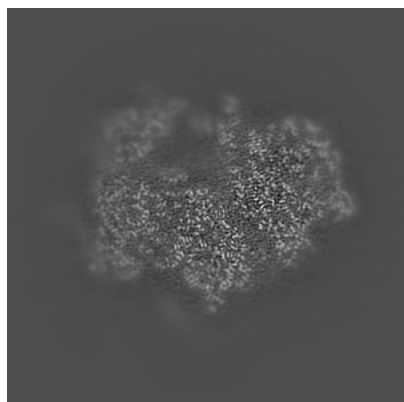


Z

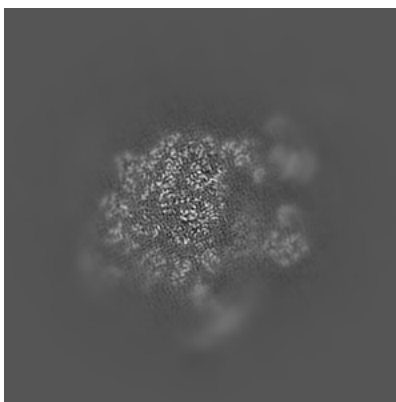
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

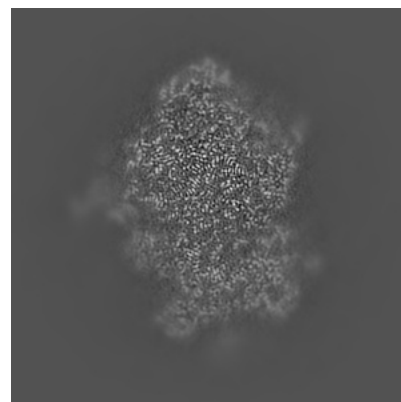
6.2.1 Primary map



X Index: 200



Y Index: 200

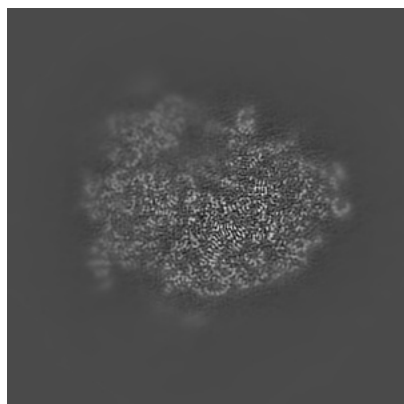


Z Index: 200

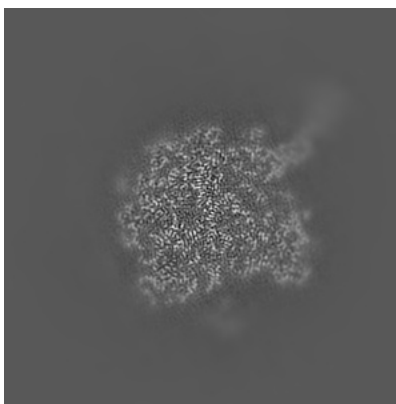
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

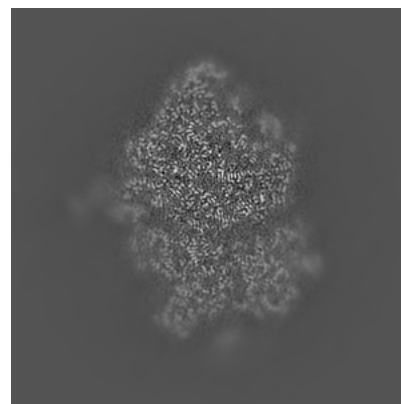
6.3.1 Primary map



X Index: 182



Y Index: 233

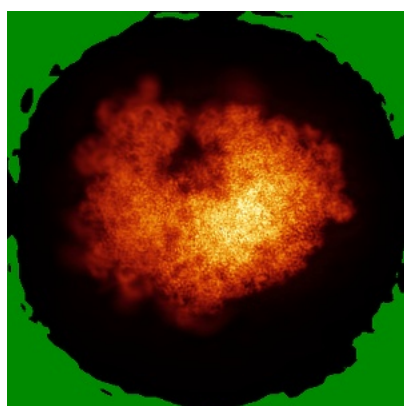


Z Index: 195

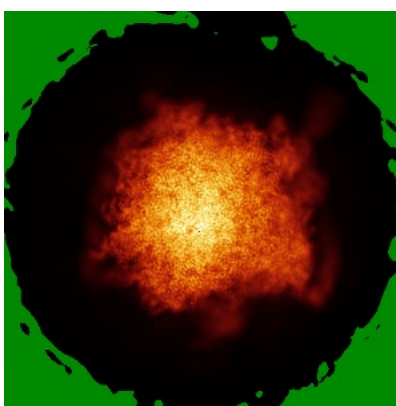
The images above show the largest variance slices of the map in three orthogonal directions.

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

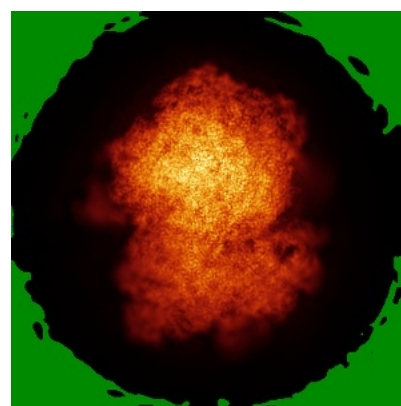
6.4.1 Primary map



X



Y

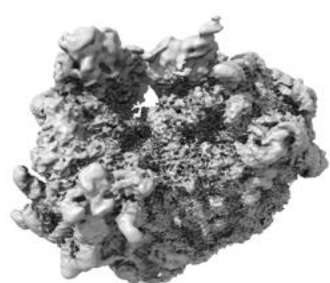


Z

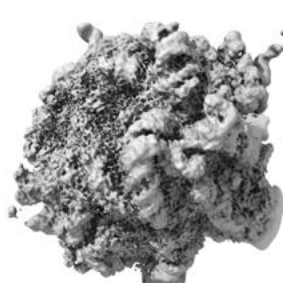
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

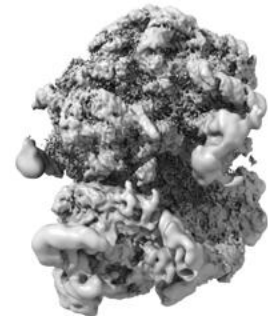
6.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.025. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

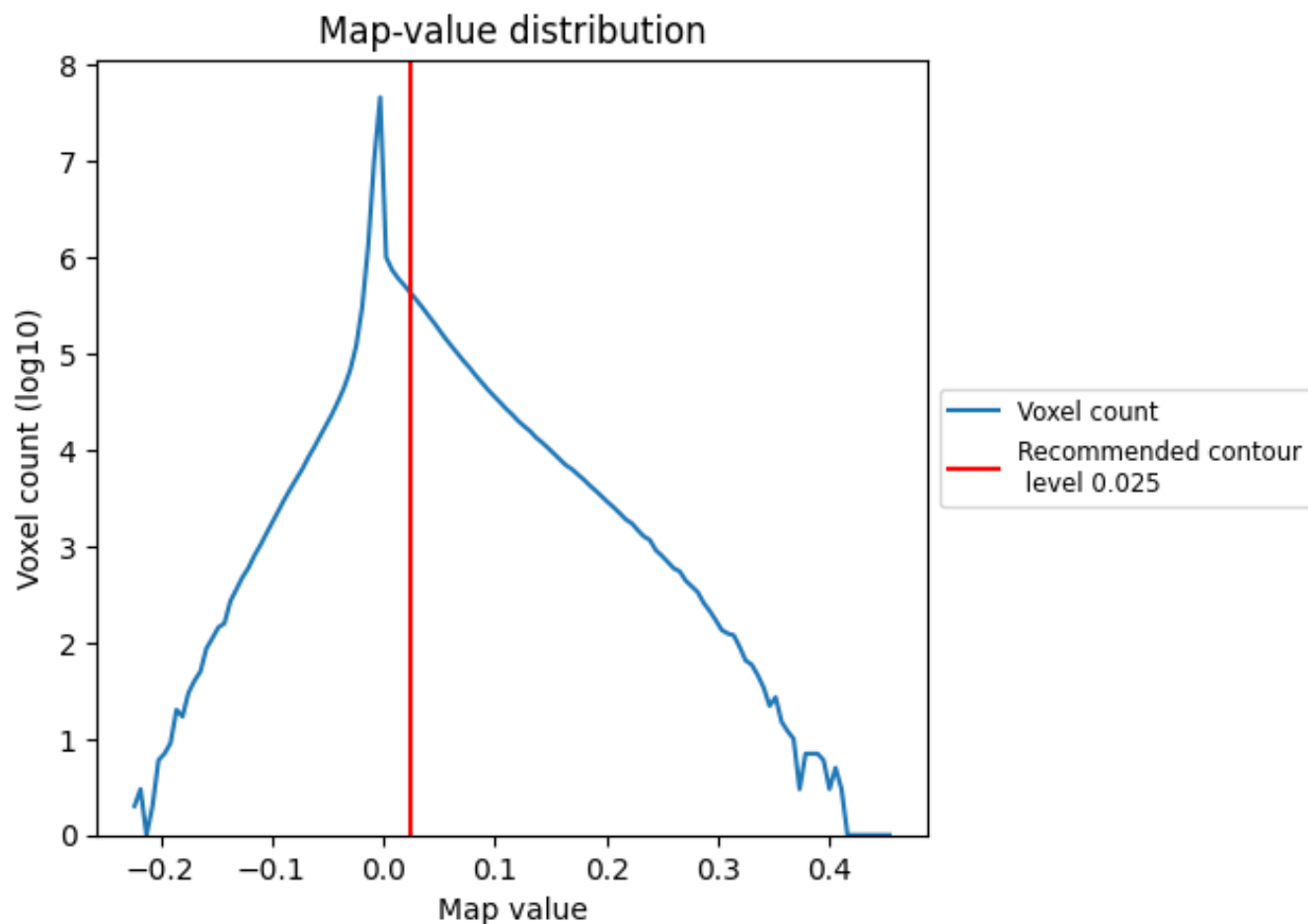
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

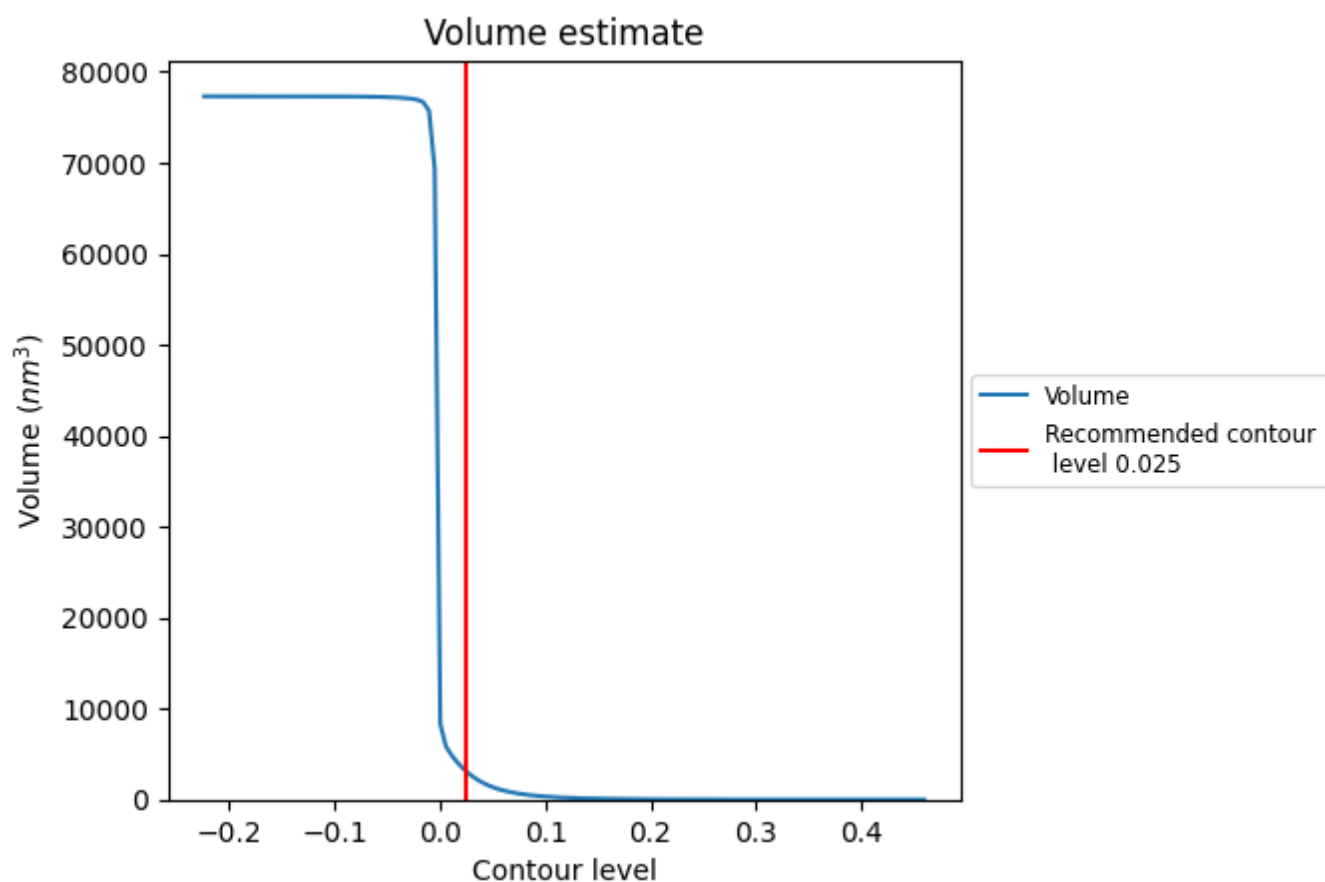
This section contains the results of statistical analysis of the map.

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.

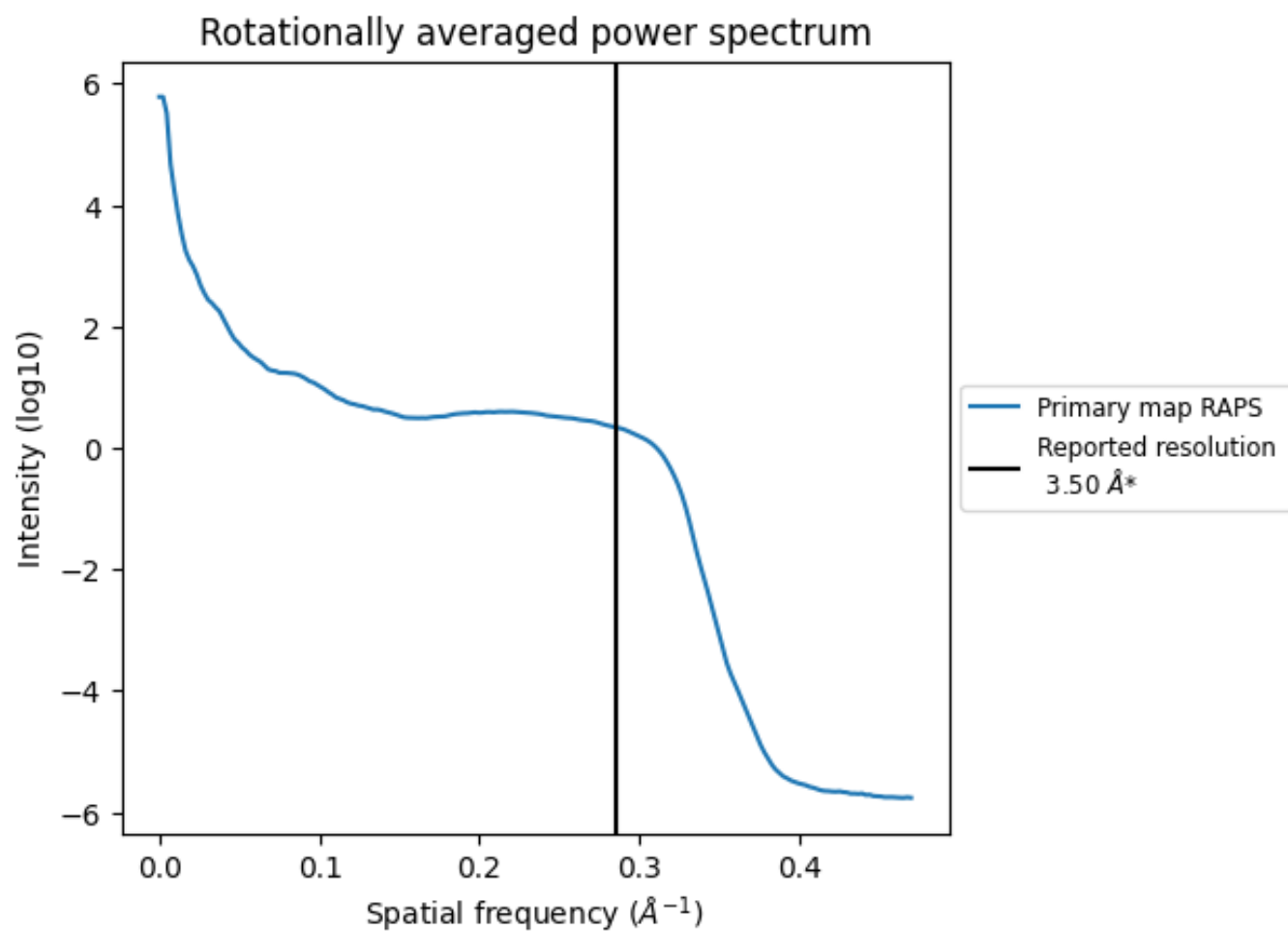
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 3140 nm³; this corresponds to an approximate mass of 2836 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 ⓘ

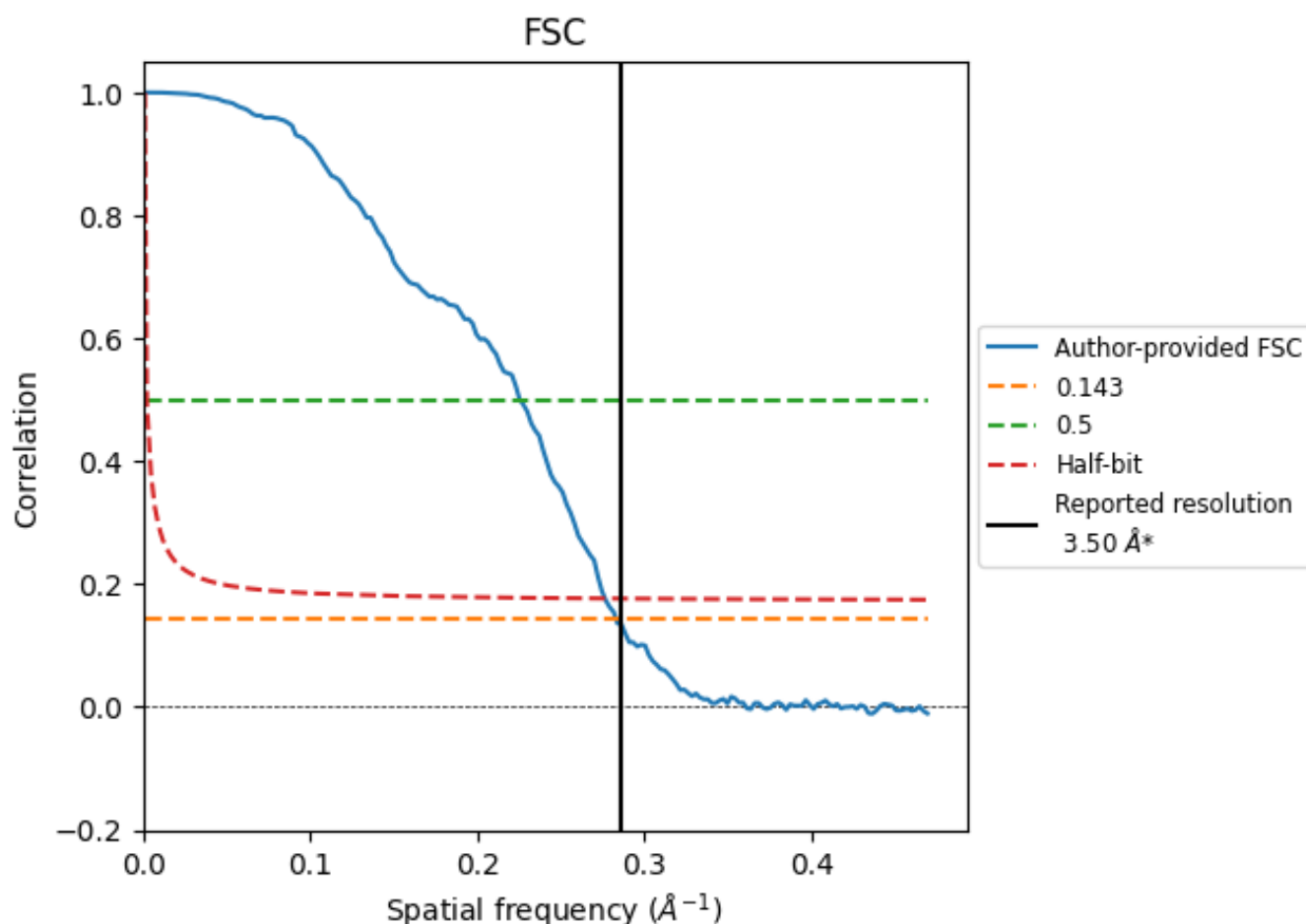


*Reported resolution corresponds to spatial frequency of 0.286 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.286 Å⁻¹

8.2 Resolution estimates [i](#)

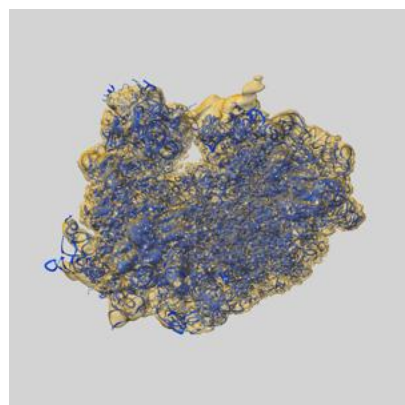
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.50	-	-
Author-provided FSC curve	3.53	4.43	3.62
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

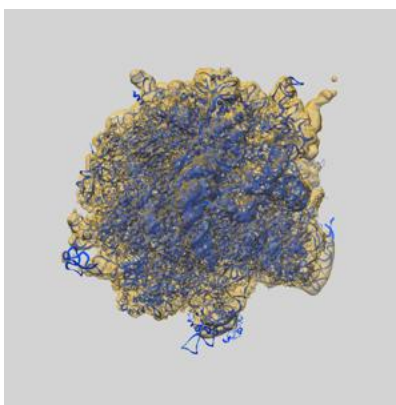
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-10622 and PDB model 6XU6. Per-residue inclusion information can be found in [section 3](#) on [page 20](#).

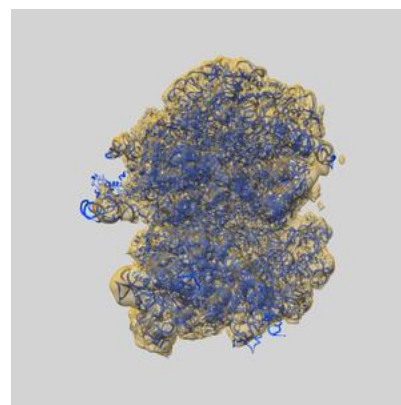
9.1 Map-model overlay [i](#)



X



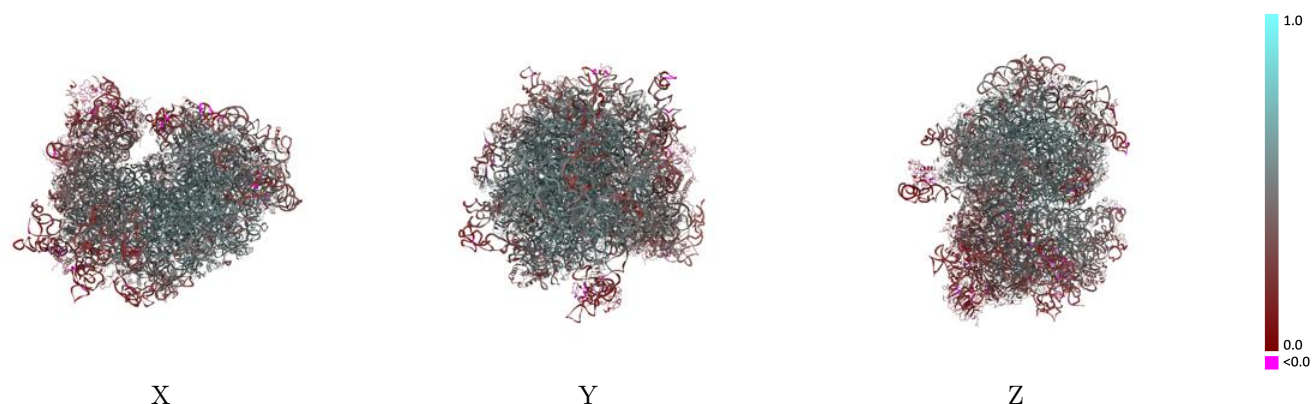
Y



Z

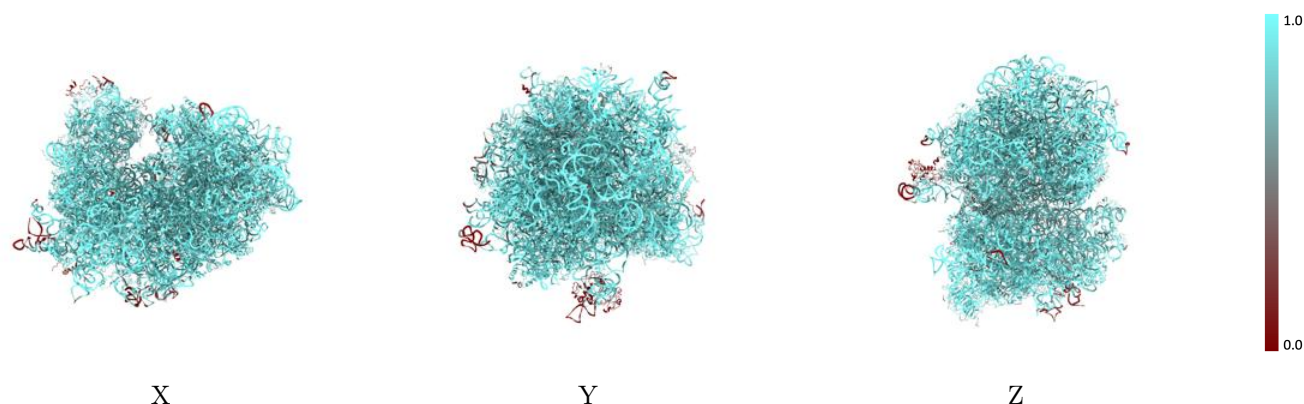
The images above show the 3D surface view of the map at the recommended contour level 0.025 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



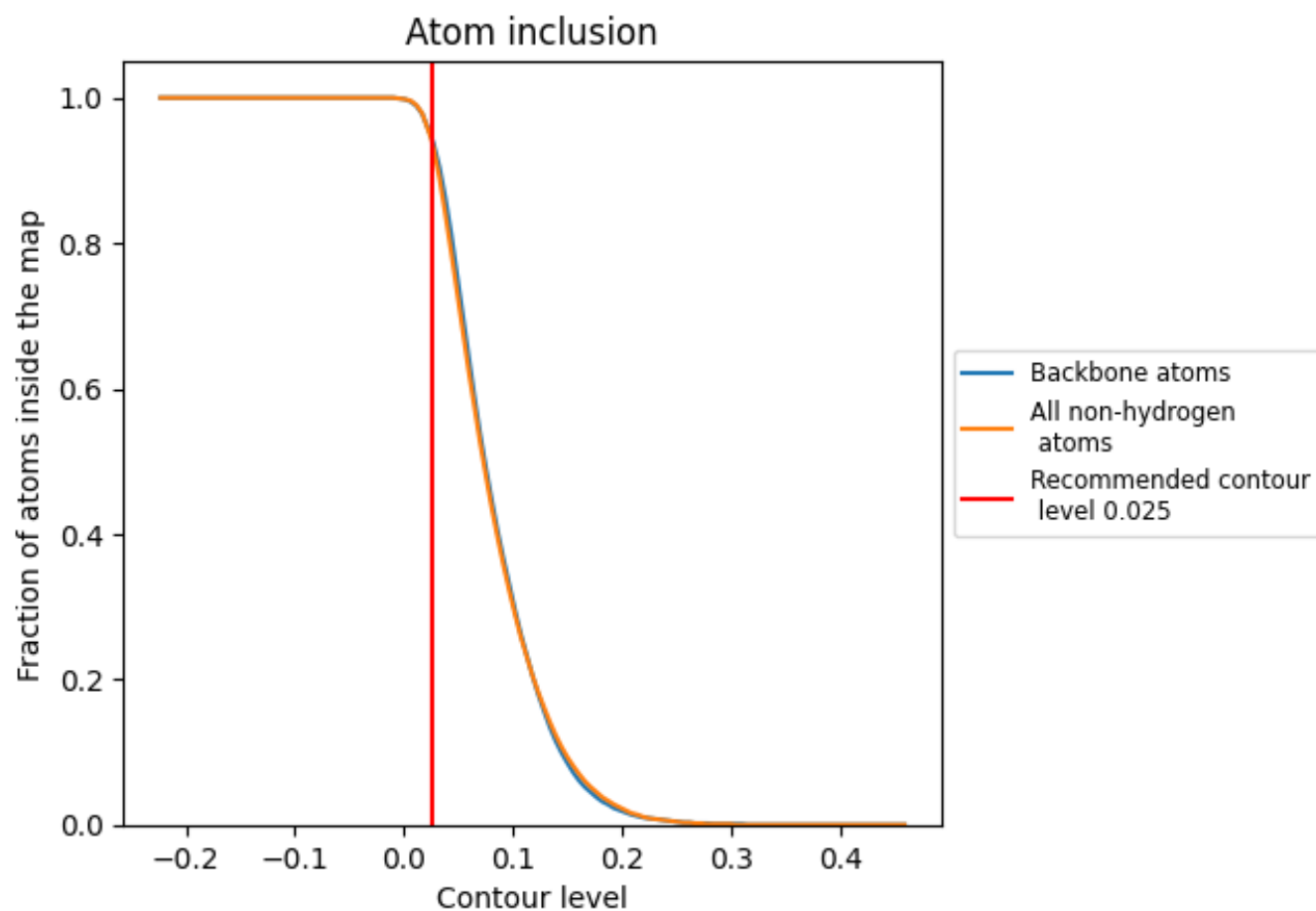
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.025).

9.4 Atom inclusion [i](#)



At the recommended contour level, 95% of all backbone atoms, 94% 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 (0.025) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9440	 0.4410
A5	 0.9640	 0.4840
A7	 0.9990	 0.4850
A8	 0.9870	 0.5210
A9	 0.9940	 0.4940
AA	 0.8870	 0.3470
AB	 0.9190	 0.4380
AC	 0.9360	 0.4480
AD	 0.8880	 0.2990
AE	 0.9630	 0.4490
AF	 0.9160	 0.2840
AG	 0.9540	 0.3220
AH	 0.9030	 0.3240
AI	 0.9390	 0.4290
AJ	 0.9450	 0.3940
AK	 0.9340	 0.2060
AL	 0.8610	 0.4770
AM	 0.5280	 0.1170
AN	 0.9620	 0.5010
AO	 0.9670	 0.4680
AP	 0.8310	 0.2200
AQ	 0.9470	 0.2530
AR	 0.9110	 0.2830
AS	 0.9310	 0.2540
AT	 0.9130	 0.2040
AU	 0.9270	 0.2790
AV	 0.9520	 0.4260
AW	 0.9770	 0.5070
AX	 0.9350	 0.5100
AY	 0.9360	 0.3400
AZ	 0.8780	 0.2170
Aa	 0.8890	 0.4820
Ab	 0.9080	 0.3750
Ac	 0.9080	 0.3330
Ad	 0.9690	 0.3290



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Chain	Atom inclusion	Q-score
Ae	 0.9310	 0.3510
Af	 0.5690	 0.1060
Ag	 0.9310	 0.1580
B2	 0.9700	 0.3840
CA	 0.9710	 0.5730
CB	 0.9560	 0.5360
CC	 0.9660	 0.5180
CD	 0.9700	 0.4290
CE	 0.8890	 0.3810
CF	 0.9920	 0.5550
CG	 0.9070	 0.4440
CH	 0.9580	 0.4830
CI	 0.8790	 0.4360
CJ	 0.9260	 0.3830
CL	 0.9140	 0.4660
CM	 0.9270	 0.4120
CN	 0.9830	 0.5740
CO	 0.9610	 0.5380
CP	 0.8780	 0.5160
CQ	 0.9790	 0.5650
CR	 0.8830	 0.4670
CS	 0.9550	 0.5180
CT	 0.9640	 0.5210
CU	 0.9420	 0.3730
CV	 0.9770	 0.5750
CW	 0.9810	 0.5670
CX	 0.9630	 0.5110
CY	 0.9830	 0.5240
CZ	 0.9640	 0.4670
Ca	 0.9790	 0.5580
Cb	 0.9670	 0.4480
Cc	 0.9640	 0.4970
Cd	 0.9180	 0.4220
Ce	 0.9740	 0.5700
Cf	 0.9480	 0.4770
Cg	 0.9830	 0.5590
Ch	 0.9700	 0.5100
Ci	 0.9360	 0.4540
Cj	 0.9130	 0.4700
Ck	 0.9500	 0.4440
Cl	 0.9760	 0.5700
Cm	 0.9640	 0.4880

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Chain	Atom inclusion	Q-score
Cn	 0.9670	 0.5820
Co	 0.9470	 0.5330
Cp	 0.9690	 0.5670
Cr	 0.9060	 0.4720
Cz	 0.2310	 0.0950
DA	 0.7690	 0.4250