



Full wwPDB EM Validation Report ⓘ

Mar 12, 2026 – 05:48 PM UTC

PDB ID : 9AXT / pdb_00009axt
EMDB ID : EMD-43972
Title : Non-translating S. pombe ribosome
Authors : Gluc, M.; Gemin, O.; Purdy, M.; Mattei, S.; Jomaa, A.
Deposited on : 2024-03-06
Resolution : 2.40 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

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

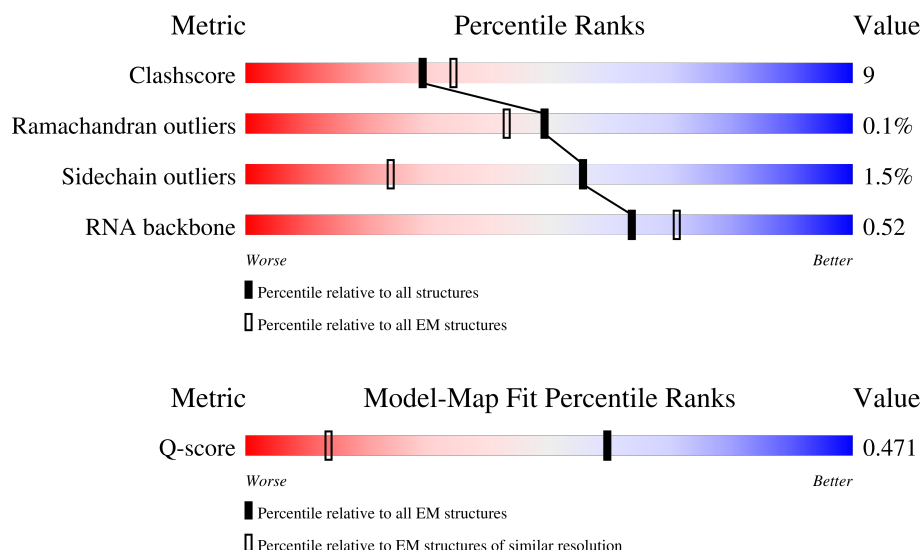
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 2.40 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	5628 (1.90 - 2.90)

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	1842	52% 36% 46% 11% 7%
2	AD	292	27% 50% 20% 30%
3	AE	252	54% 64% 21% 14%

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Mol	Chain	Length	Quality of chain
4	AF	253	
5	AG	249	
6	AH	262	
7	AI	203	
8	AJ	239	
9	AK	195	
10	AL	200	
11	AM	192	
12	AN	147	
13	AO	152	
14	AP	145	
15	AQ	151	
16	AR	139	
17	AS	154	
18	AT	140	
19	AU	131	
20	AV	152	
21	AW	144	
22	Aa	118	
23	Ab	87	
24	Ac	130	
25	Ad	143	
26	Ae	134	
27	Af	89	
28	Ag	119	

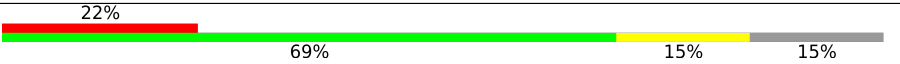
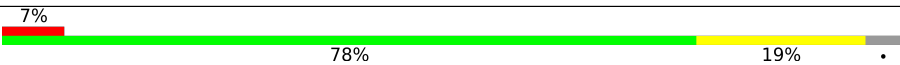
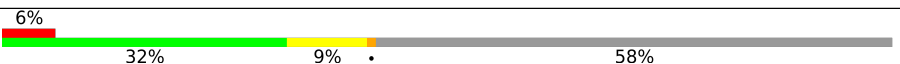
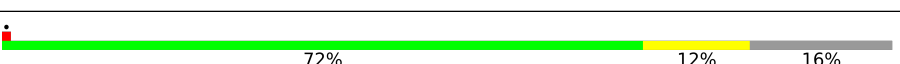
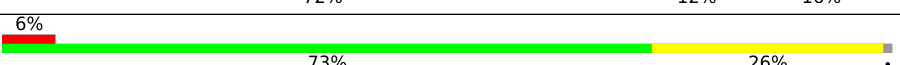
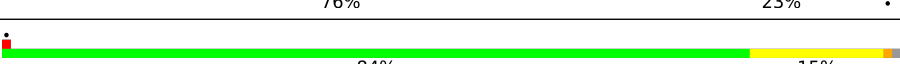
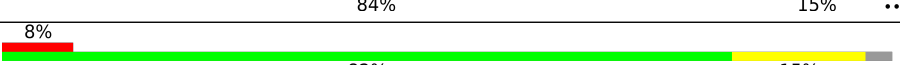
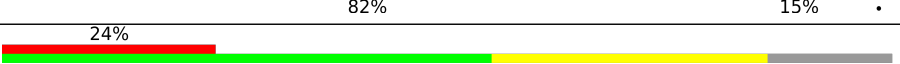
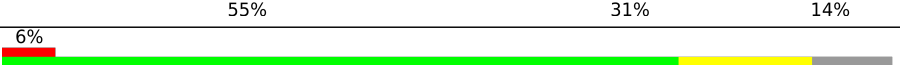
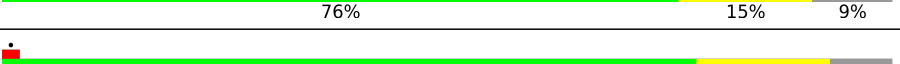
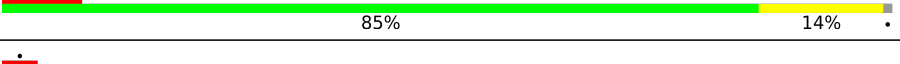
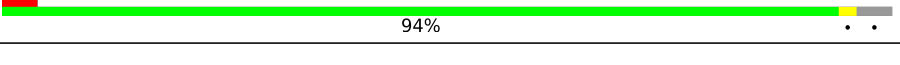
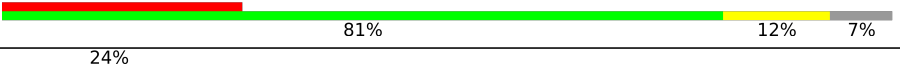
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Mol	Chain	Length	Quality of chain
29	Ah	83	
30	Ai	68	
31	Aj	56	
32	Ak	61	
33	B0	106	
34	B1	94	
35	B2	3498	
36	B3	246	
37	B4	165	
38	BN	253	
39	BO	388	
40	BP	363	
41	BQ	294	
42	BR	195	
43	BS	251	
44	BT	259	
45	BU	189	
46	BV	221	
47	BW	174	
48	BX	208	
49	BY	134	
50	BZ	201	
51	Ba	197	
52	Bb	187	
53	Bc	187	

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Mol	Chain	Length	Quality of chain
54	Bd	193	
55	Be	176	
56	Bf	160	
57	Bg	117	
58	Bh	139	
59	Bi	149	
60	Bj	141	
61	Bk	126	
62	Bl	136	
63	Bm	148	
64	Bn	61	
65	Bo	109	
66	Bp	113	
67	Bq	127	
68	Br	108	
69	Bs	111	
70	Bt	122	
71	Bu	99	
72	Bv	91	
73	Bw	74	
74	Bx	51	
75	By	134	

2 Entry composition [i](#)

There are 76 unique types of molecules in this entry. The entry contains 194719 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
1	AA	1705	Total	C	N	O	P	0	0
			36359	16255	6470	11929	1705		

- Molecule 2 is a protein called Small ribosomal subunit protein uS2A.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	AD	205	Total	C	N	O	S	0	0
			1602	1016	294	287	5		

- Molecule 3 is a protein called Small ribosomal subunit protein eS1B.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	AE	216	Total	C	N	O	S	0	0
			1733	1093	319	316	5		

- Molecule 4 is a protein called Small ribosomal subunit protein uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	AF	216	Total	C	N	O	S	0	0
			1660	1072	289	292	7		

- Molecule 5 is a protein called Small ribosomal subunit protein uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	AG	216	Total	C	N	O	S	0	0
			1701	1080	308	305	8		

- Molecule 6 is a protein called Small ribosomal subunit protein eS4C.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	AH	261	Total	C	N	O	S	0	0
			2083	1330	391	356	6		

- Molecule 7 is a protein called Small ribosomal subunit protein uS7A.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	AI	203	Total	C	N	O	S	0	0
			1559	972	291	290	6		

- Molecule 8 is a protein called Small ribosomal subunit protein eS6B.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	AJ	221	Total	C	N	O	S	0	0
			1784	1123	352	302	7		

- Molecule 9 is a protein called Small ribosomal subunit protein eS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	AK	193	Total	C	N	O	S	0	0
			1530	967	284	276	3		

- Molecule 10 is a protein called Small ribosomal subunit protein eS8B.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	AL	188	Total	C	N	O	S	0	0
			1506	936	303	264	3		

- Molecule 11 is a protein called Small ribosomal subunit protein uS4B.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	AM	178	Total	C	N	O	S	0	0
			1462	928	291	241	2		

- Molecule 12 is a protein called Small ribosomal subunit protein eS10B.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	AN	92	Total	C	N	O	S	0	0
			748	484	132	130	2		

- Molecule 13 is a protein called Small ribosomal subunit protein uS17A.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	AO	143	Total	C	N	O	S	0	0
			1164	743	222	196	3		

- Molecule 14 is a protein called Small ribosomal subunit protein eS12A.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	AP	121	Total	C	N	O	S	0	0
			884	549	151	177	7		

- Molecule 15 is a protein called Small ribosomal subunit protein uS15.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	AQ	150	Total	C	N	O	S	0	0
			1184	754	222	204	4		

- Molecule 16 is a protein called Small ribosomal subunit protein uS11B.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	AR	128	Total	C	N	O	S	0	0
			949	587	184	174	4		

- Molecule 17 is a protein called Small ribosomal subunit protein uS19B.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	AS	119	Total	C	N	O	S	0	0
			954	608	179	163	4		

- Molecule 18 is a protein called Small ribosomal subunit protein uS9A.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	AT	140	Total	C	N	O	S	0	0
			1082	688	203	186	5		

- Molecule 19 is a protein called Small ribosomal subunit protein eS17A.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	AU	118	Total	C	N	O	S	0	0
			972	606	185	179	2		

- Molecule 20 is a protein called Small ribosomal subunit protein uS13B.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	AV	141	Total	C	N	O	S	0	0
			1144	714	222	204	4		

- Molecule 21 is a protein called Small ribosomal subunit protein eS19A.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	AW	142	Total	C	N	O	S	0	0
			1119	699	212	205	3		

- Molecule 22 is a protein called Small ribosomal subunit protein uS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	Aa	101	Total	C	N	O	S	0	0
			815	511	156	146	2		

- Molecule 23 is a protein called Small ribosomal subunit protein eS21.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	Ab	87	Total	C	N	O	S	0	0
			672	411	122	135	4		

- Molecule 24 is a protein called Small ribosomal subunit protein uS8A.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	Ac	129	Total	C	N	O	S	0	0
			1028	649	196	179	4		

- Molecule 25 is a protein called Small ribosomal subunit protein uS12A.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	Ad	142	Total	C	N	O	S	0	0
			1095	692	214	187	2		

- Molecule 26 is a protein called Small ribosomal subunit protein eS24A.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	Ae	133	Total	C	N	O	S	0	0
			1078	672	217	185	4		

- Molecule 27 is a protein called Small ribosomal subunit protein eS25A.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	Af	69	Total	C	N	O	S	0	0
			551	350	103	97	1		

- Molecule 28 is a protein called Small ribosomal subunit protein eS26B.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	Ag	97	Total	C	N	O	S	0	0
			795	491	167	132	5		

- Molecule 29 is a protein called Small ribosomal subunit protein eS27.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	Ah	81	Total	C	N	O	S	0	0
			619	388	114	108	9		

- Molecule 30 is a protein called Small ribosomal subunit protein eS28A.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	Ai	63	Total	C	N	O	S	0	0
			498	308	99	90	1		

- Molecule 31 is a protein called Small ribosomal subunit protein uS14.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	Aj	53	Total	C	N	O	S	0	0
			447	282	91	73	1		

- Molecule 32 is a protein called Small ribosomal subunit protein eS30B.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Ak	60	Total	C	N	O	S	0	0
			475	296	99	78	2		

- Molecule 33 is a protein called Large ribosomal subunit protein eL42.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	B0	93	Total	C	N	O	S	0	0
			758	479	152	122	5		

- Molecule 34 is a protein called Large ribosomal subunit protein eL43A.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	B1	93	Total	C	N	O	S	0	0
			718	442	147	123	6		

- Molecule 35 is a RNA chain called 28S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	B2	3212	Total	C	N	O	P	0	0
			68676	30687	12377	22400	3212		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
36	B3	119	Total	C	N	O	P	0	0
			2539	1133	454	833	119		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
37	B4	157	Total	C	N	O	P	0	0
			3332	1491	583	1101	157		

- Molecule 38 is a protein called Large ribosomal subunit protein uL2C.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	BN	248	Total	C	N	O	S	0	0
			1872	1166	377	324	5		

- Molecule 39 is a protein called Large ribosomal subunit protein uL3A.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	BO	384	Total	C	N	O	S	0	0
			3050	1929	576	535	10		

- Molecule 40 is a protein called Large ribosomal subunit protein uL4A.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	BP	362	Total	C	N	O	S	0	0
			2799	1768	538	490	3		

- Molecule 41 is a protein called Large ribosomal subunit protein uL18B.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	BQ	287	Total	C	N	O	S	0	0
			2312	1461	410	437	4		

- Molecule 42 is a protein called Large ribosomal subunit protein eL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	BR	162	Total	C	N	O	S	0	0
			1251	802	231	215	3		

- Molecule 43 is a protein called Large ribosomal subunit protein uL30C.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	BS	233	Total	C	N	O	S	0	0
			1897	1211	349	334	3		

- Molecule 44 is a protein called Large ribosomal subunit protein eL8.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	BT	229	Total	C	N	O	S	0	0
			1772	1135	325	309	3		

- Molecule 45 is a protein called Large ribosomal subunit protein uL6B.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	BU	168	Total	C	N	O	S	0	0
			1319	828	244	242	5		

- Molecule 46 is a protein called Large ribosomal subunit protein uL16A.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	BV	191	Total	C	N	O	S	0	0
			1549	982	291	270	6		

- Molecule 47 is a protein called Large ribosomal subunit protein uL5A.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	BW	167	Total	C	N	O	S	0	0
			1346	854	252	235	5		

- Molecule 48 is a protein called Large ribosomal subunit protein eL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	BX	207	Total	C	N	O	S	0	0
			1654	1034	329	290	1		

- Molecule 49 is a protein called Large ribosomal subunit protein eL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	BY	130	Total	C	N	O	S	0	0
			1038	662	198	174	4		

- Molecule 50 is a protein called Large ribosomal subunit protein eL15B.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	BZ	200	Total	C	N	O	S	0	0
			1676	1050	348	275	3		

- Molecule 51 is a protein called Large ribosomal subunit protein uL13A.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	Ba	196	Total	C	N	O	S	0	0
			1545	991	294	256	4		

- Molecule 52 is a protein called Large ribosomal subunit protein uL22A.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	Bb	152	Total	C	N	O	S	0	0
			1212	770	229	210	3		

- Molecule 53 is a protein called Large ribosomal subunit protein eL18B.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	Bc	186	Total	C	N	O		0	0
			1487	937	300	250			

- Molecule 54 is a protein called Large ribosomal subunit protein eL19B.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	Bd	157	Total	C	N	O	S	0	0
			1301	809	275	212	5		

- Molecule 55 is a protein called Large ribosomal subunit protein eL20A.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	Be	173	Total	C	N	O	S	0	0
			1423	916	268	234	5		

- Molecule 56 is a protein called Large ribosomal subunit protein eL21B.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	Bf	159	Total	C	N	O	S	0	0
			1286	810	247	226	3		

- Molecule 57 is a protein called Large ribosomal subunit protein eL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	Bg	99	Total	C	N	O	S	0	0
			798	518	138	142			

- Molecule 58 is a protein called Large ribosomal subunit protein uL14B.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	Bh	134	Total	C	N	O	S	0	0
			999	630	184	177	8		

- Molecule 59 is a protein called Large ribosomal subunit protein eL24B.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	Bi	63	Total	C	N	O	S	0	0
			523	336	102	82	3		

- Molecule 60 is a protein called Large ribosomal subunit protein uL23A.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	Bj	118	Total	C	N	O	S	0	0
			947	605	175	166	1		

- Molecule 61 is a protein called Large ribosomal subunit protein uL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	Bk	125	Total	C	N	O	S	0	0
			998	622	201	173	2		

- Molecule 62 is a protein called Large ribosomal subunit protein eL27A.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	Bl	135	Total	C	N	O	S	0	0
			1078	698	200	178	2		

- Molecule 63 is a protein called Large ribosomal subunit protein uL15B.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	Bm	147	Total	C	N	O	S	0	0
			1171	740	235	194	2		

- Molecule 64 is a protein called Large ribosomal subunit protein eL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	Bn	59	Total	C	N	O		0	0
			495	299	112	84			

- Molecule 65 is a protein called Large ribosomal subunit protein eL30A.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	Bo	94	Total	C	N	O	S	0	0
			705	450	121	130	4		

- Molecule 66 is a protein called Large ribosomal subunit protein eL31.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	Bp	103	Total	C	N	O	S	0	0
			857	538	167	149	3		

- Molecule 67 is a protein called Large ribosomal subunit protein eL32A.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	Bq	118	Total	C	N	O	S	0	0
			944	591	191	157	5		

- Molecule 68 is a protein called Large ribosomal subunit protein eL33A.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	Br	104	Total	C	N	O	S	0	0
			831	531	160	137	3		

- Molecule 69 is a protein called Large ribosomal subunit protein eL34B.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	Bs	106	Total	C	N	O	S	0	0
			858	538	176	142	2		

- Molecule 70 is a protein called Large ribosomal subunit protein uL29.

Mol	Chain	Residues	Atoms				AltConf	Trace
70	Bt	121	Total	C	N	O	0	0
			999	629	194	176		

- Molecule 71 is a protein called Large ribosomal subunit protein eL36B.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	Bu	95	Total	C	N	O	S	0	0
			759	472	159	127	1		

- Molecule 72 is a protein called Large ribosomal subunit protein eL37B.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	Bv	82	Total	C	N	O	S	0	0
			652	399	140	106	7		

- Molecule 73 is a protein called Large ribosomal subunit protein eL38A.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	Bw	69	Total	C	N	O	S	0	0
			560	355	103	101	1		

- Molecule 74 is a protein called Large ribosomal subunit protein eL39.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	Bx	50	Total	C	N	O	S	0	0
			436	273	98	64	1		

- Molecule 75 is a protein called Large ribosomal subunit protein eL28.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	By	134	Total	C	N	O	S	0	0
			1039	646	204	187	2		

- Molecule 76 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
76	Ag	1	Total	Zn	0
			1	1	
76	Ah	1	Total	Zn	0
			1	1	
76	Aj	1	Total	Zn	0
			1	1	

Continued on next page...

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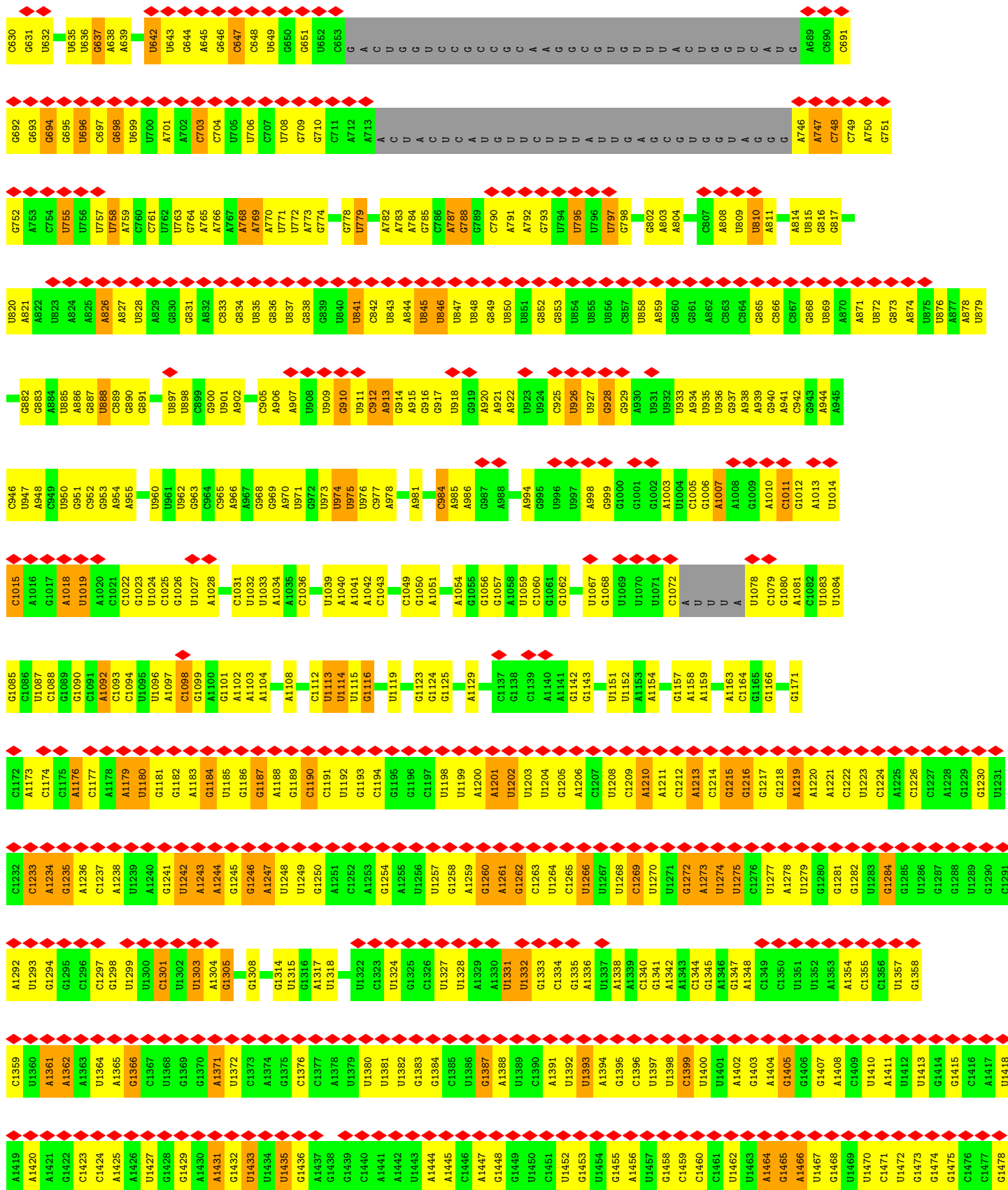
Mol	Chain	Residues	Atoms		AltConf
76	B0	1	Total 1	Zn 1	0
76	B1	1	Total 1	Zn 1	0
76	Bv	1	Total 1	Zn 1	0

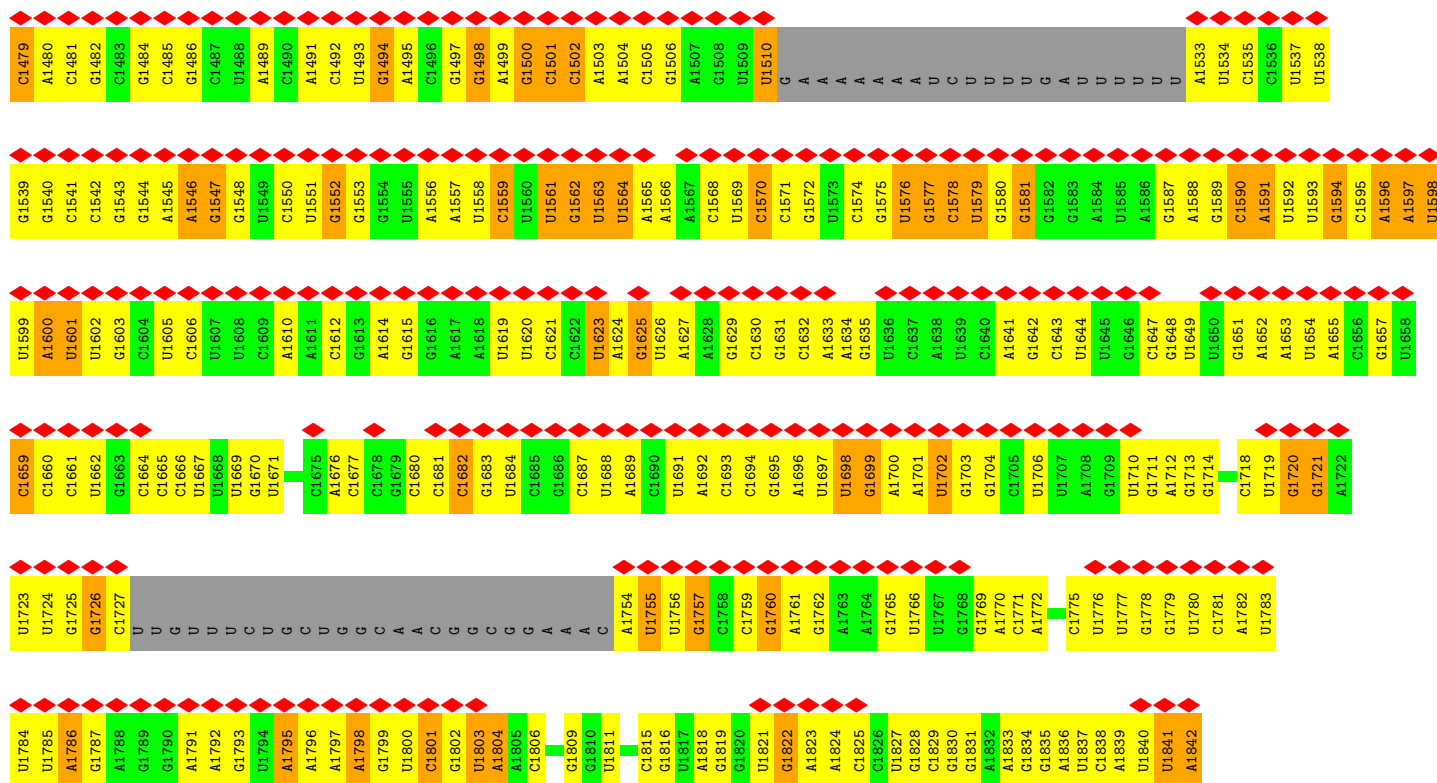
3 Residue-property plots

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

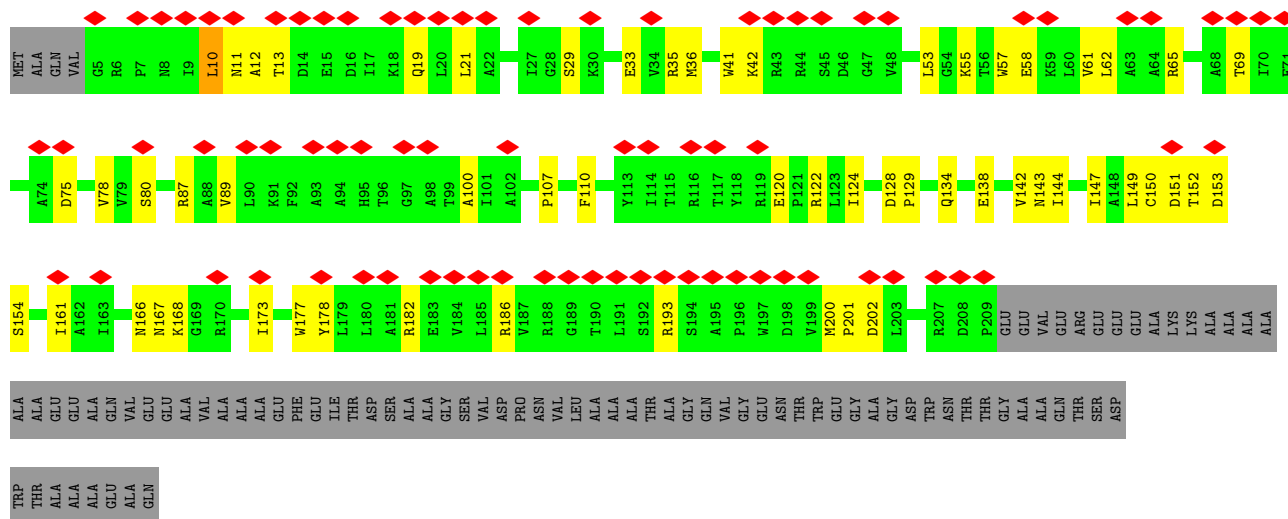
• Molecule 1: 18S ribosomal RNA





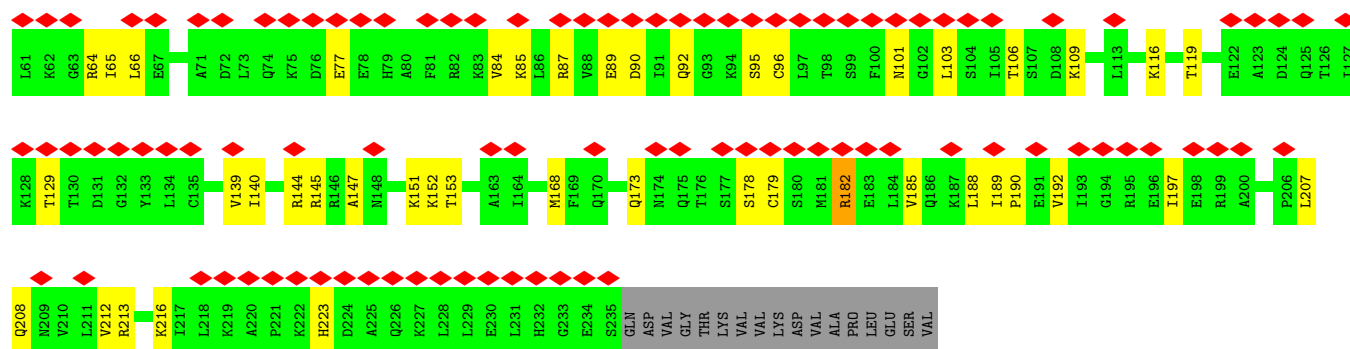


• Molecule 2: Small ribosomal subunit protein uS2A

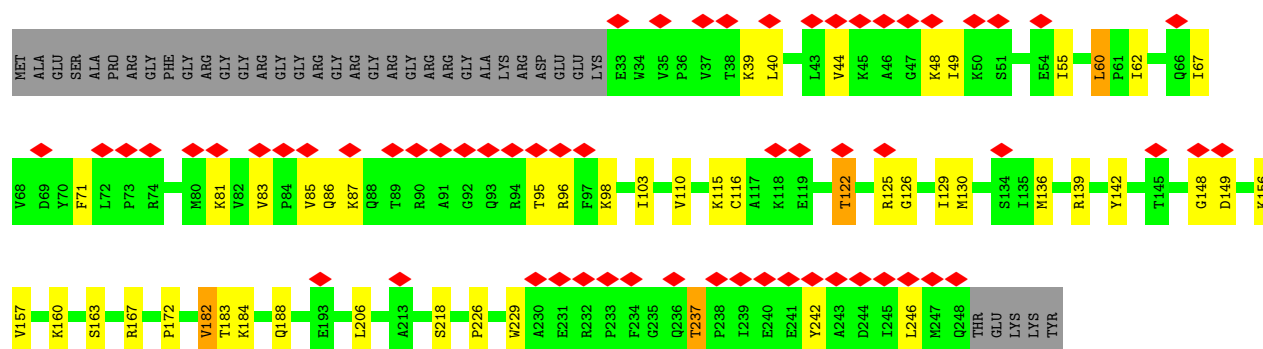


• Molecule 3: Small ribosomal subunit protein eS1B





• Molecule 4: Small ribosomal subunit protein uS5

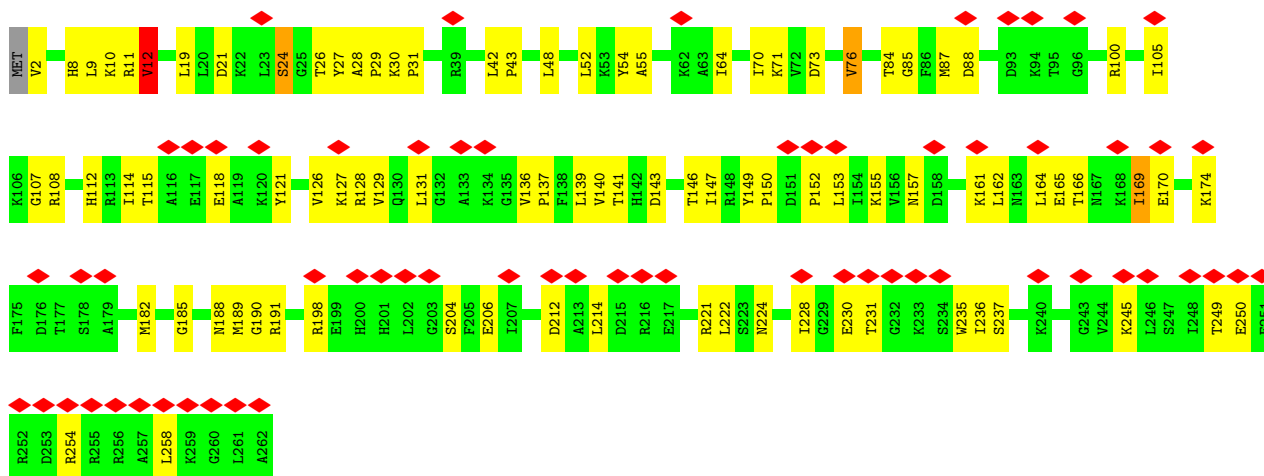


• Molecule 5: Small ribosomal subunit protein uS3



• Molecule 6: Small ribosomal subunit protein eS4C

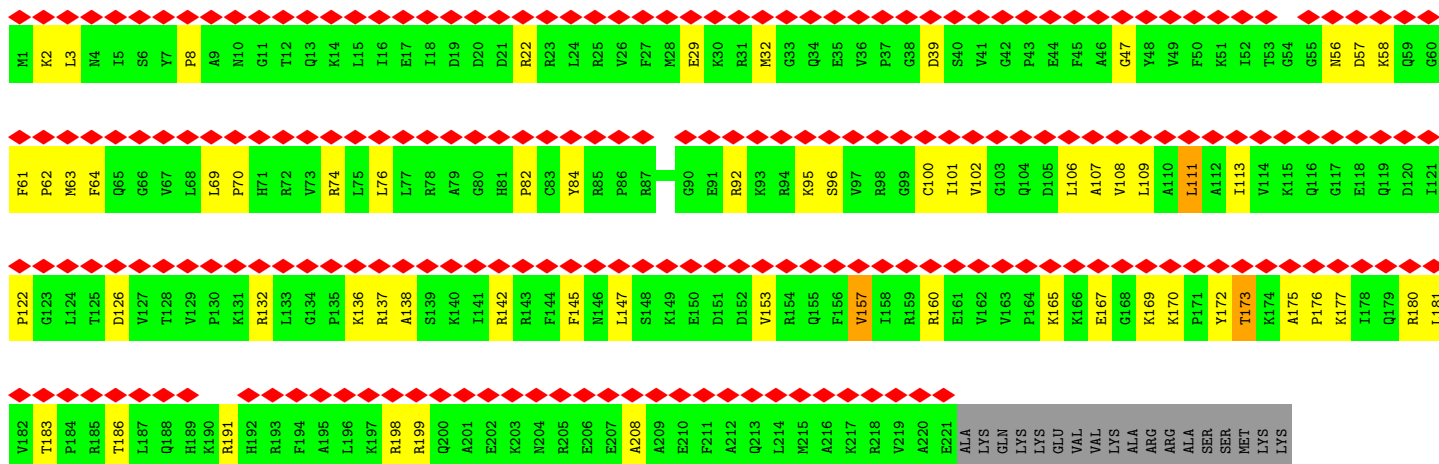




- Molecule 7: Small ribosomal subunit protein uS7A

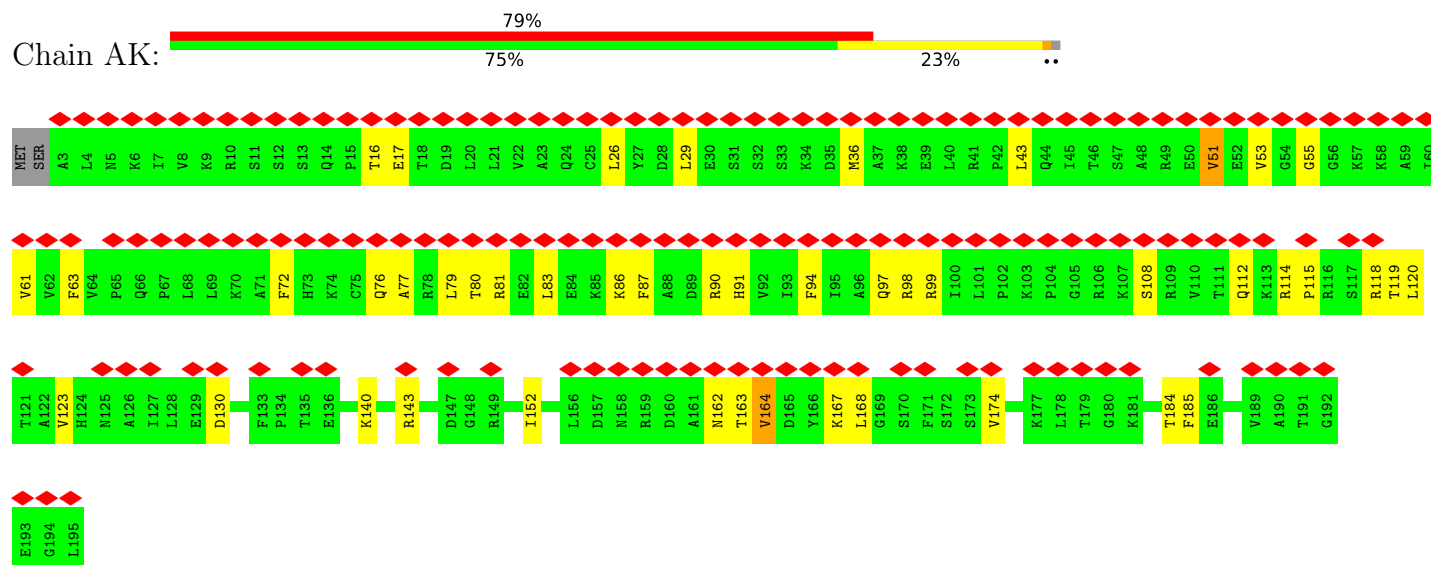


- Molecule 8: Small ribosomal subunit protein eS6B



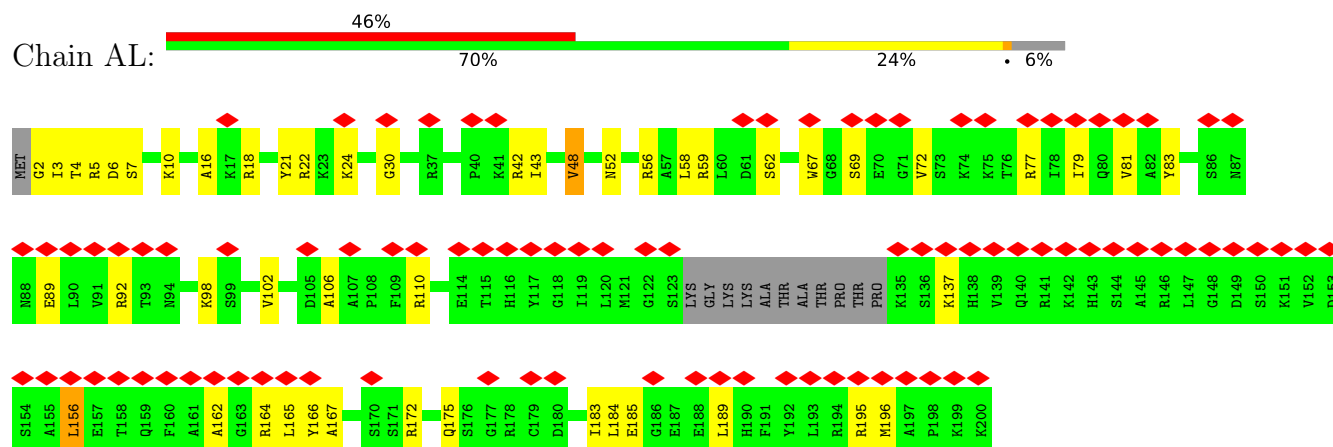
- Molecule 9: Small ribosomal subunit protein eS7

Chain AK:



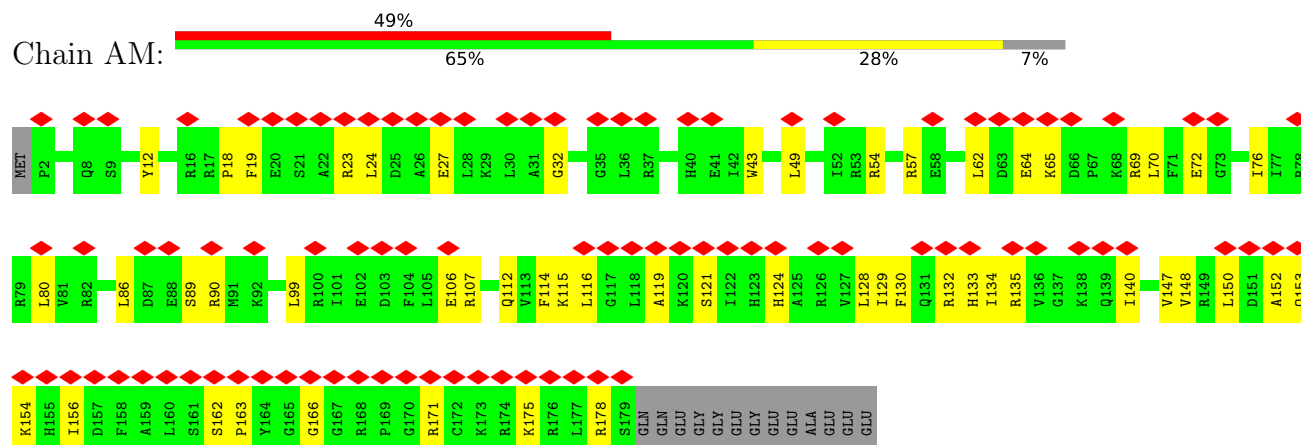
- Molecule 10: Small ribosomal subunit protein eS8B

Chain AL:



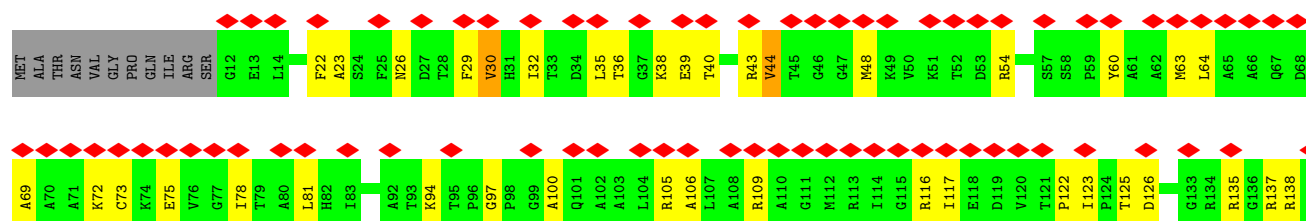
- Molecule 11: Small ribosomal subunit protein uS4B

Chain AM:



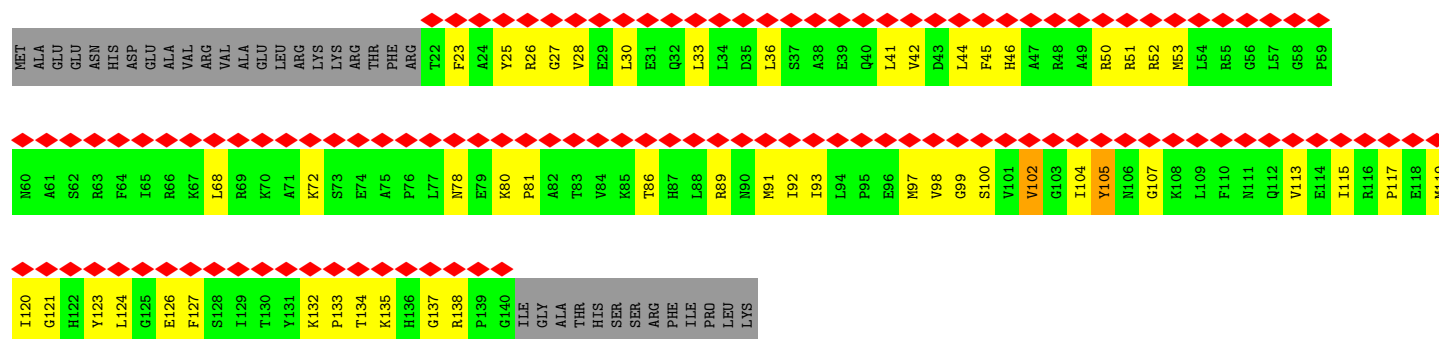
- Molecule 12: Small ribosomal subunit protein eS10B

Chain AR: 



• Molecule 17: Small ribosomal subunit protein uS19B

Chain AS: 



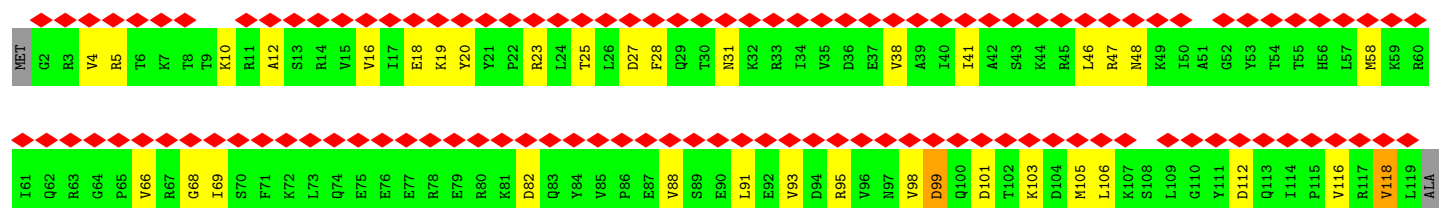
• Molecule 18: Small ribosomal subunit protein uS9A

Chain AT: 



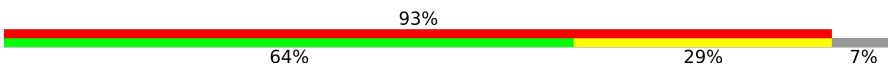
• Molecule 19: Small ribosomal subunit protein eS17A

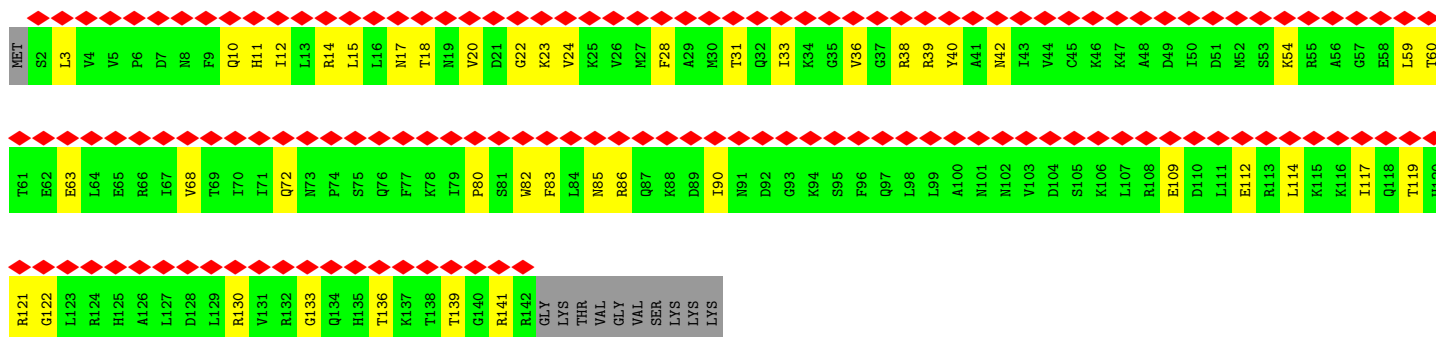
Chain AU: 



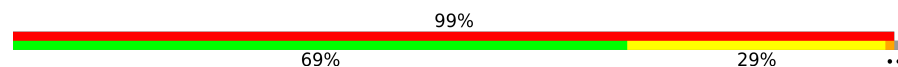
PRO
ALA
PRO
GLN
GLU
ARG
PHE
ARG
ARG
GLN

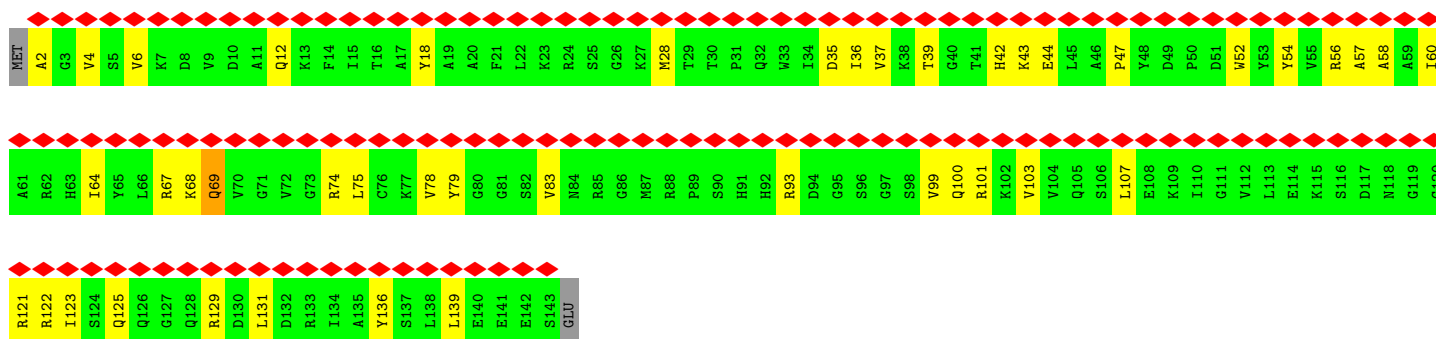
• Molecule 20: Small ribosomal subunit protein uS13B

Chain AV: 



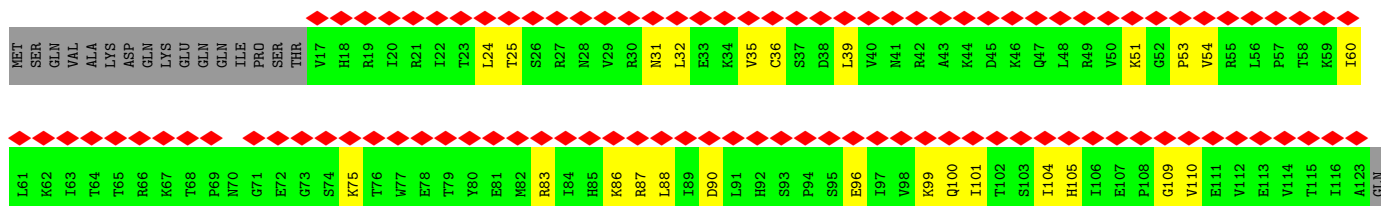
• Molecule 21: Small ribosomal subunit protein eS19A

Chain AW: 



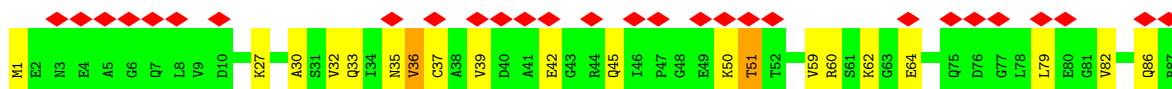
• Molecule 22: Small ribosomal subunit protein uS10

Chain Aa: 

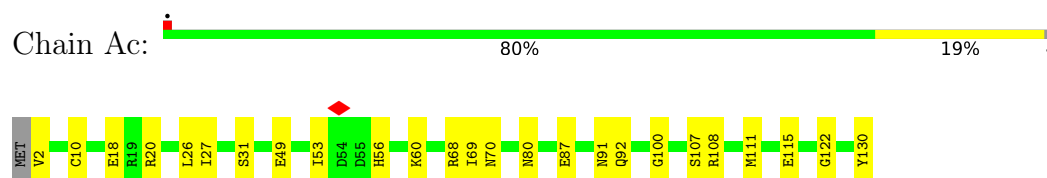


• Molecule 23: Small ribosomal subunit protein eS21

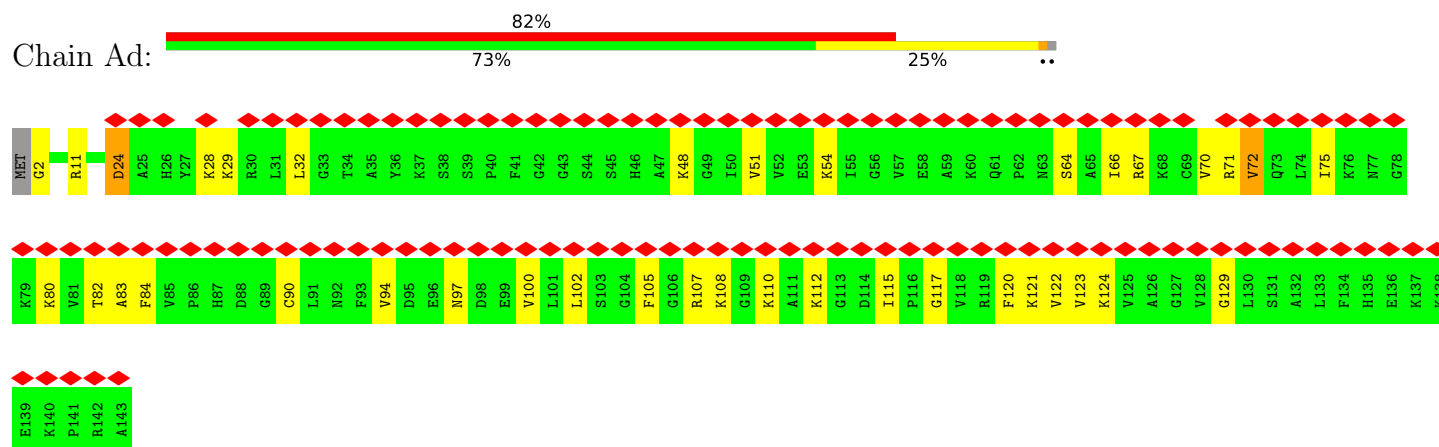
Chain Ab: 



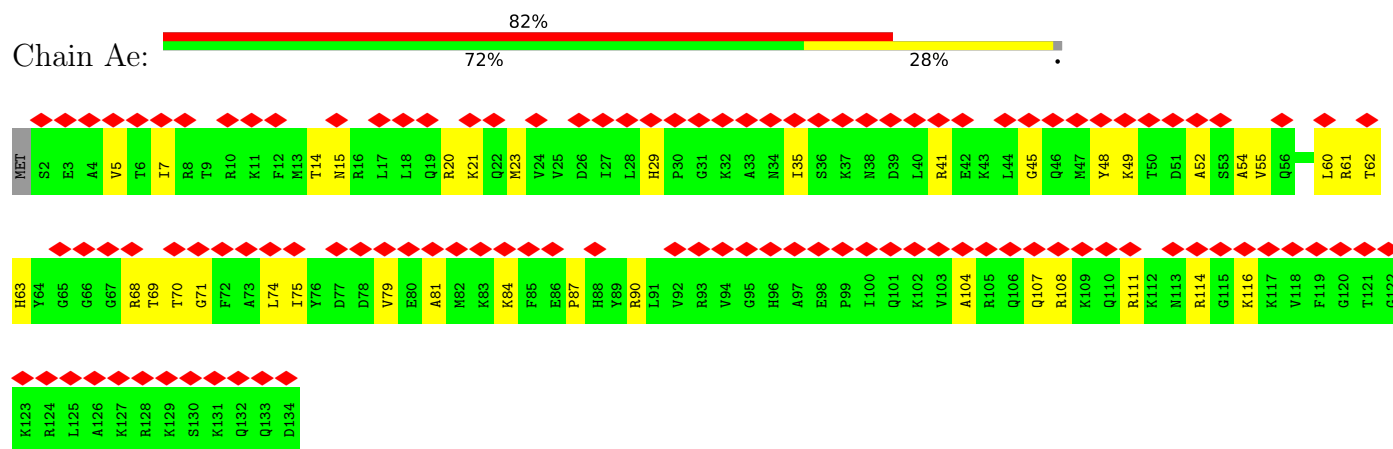
- Molecule 24: Small ribosomal subunit protein uS8A



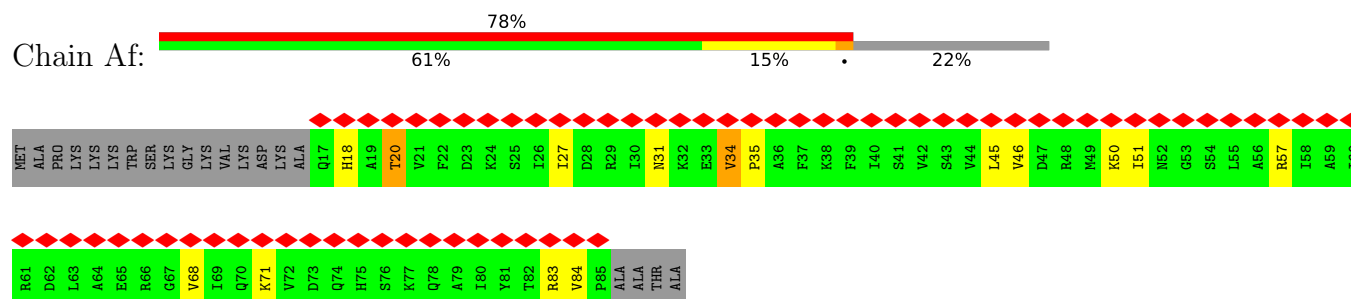
- Molecule 25: Small ribosomal subunit protein uS12A



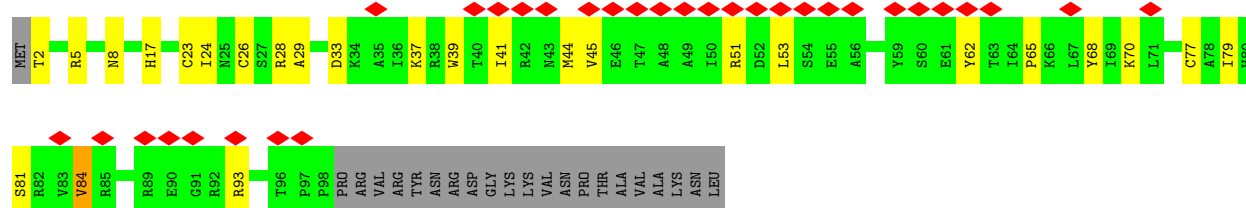
- Molecule 26: Small ribosomal subunit protein eS24A



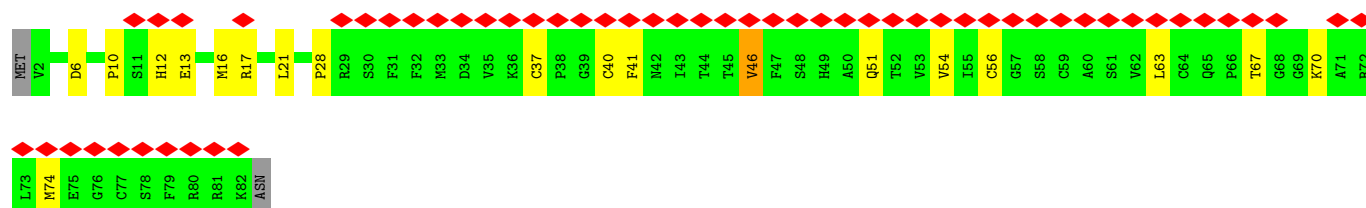
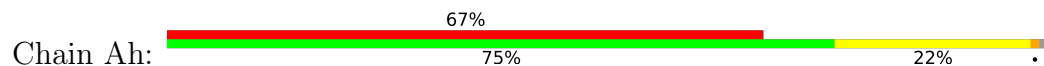
- Molecule 27: Small ribosomal subunit protein eS25A



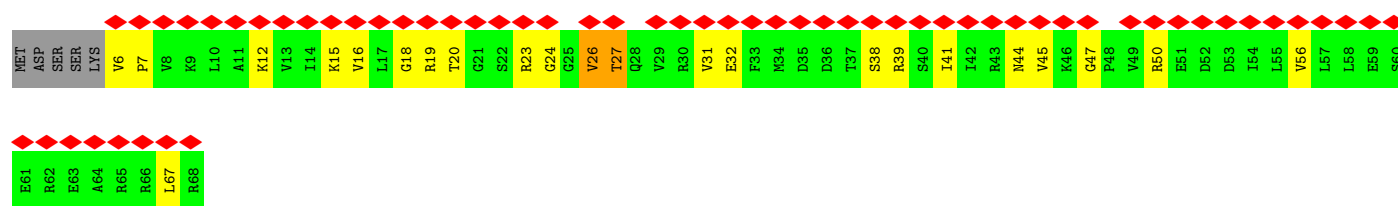
- Molecule 28: Small ribosomal subunit protein eS26B



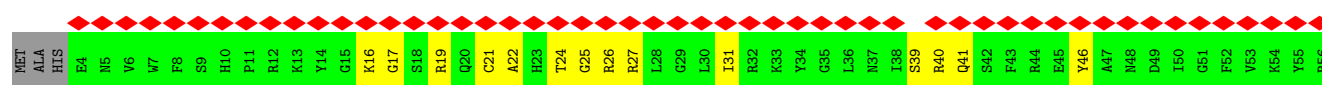
- Molecule 29: Small ribosomal subunit protein eS27



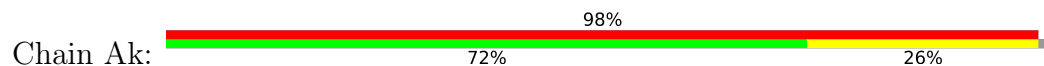
- Molecule 30: Small ribosomal subunit protein eS28A



- Molecule 31: Small ribosomal subunit protein uS14



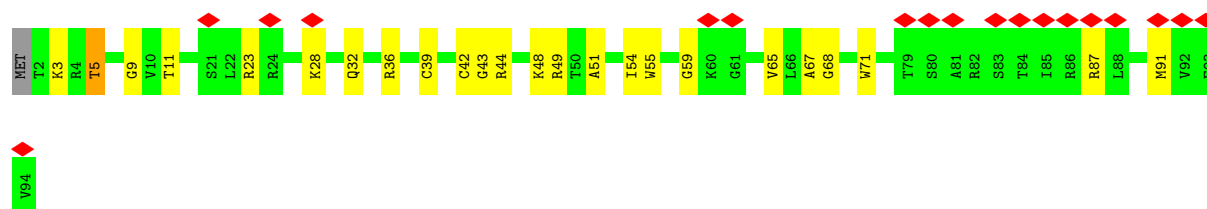
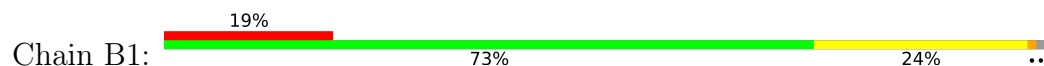
- Molecule 32: Small ribosomal subunit protein eS30B



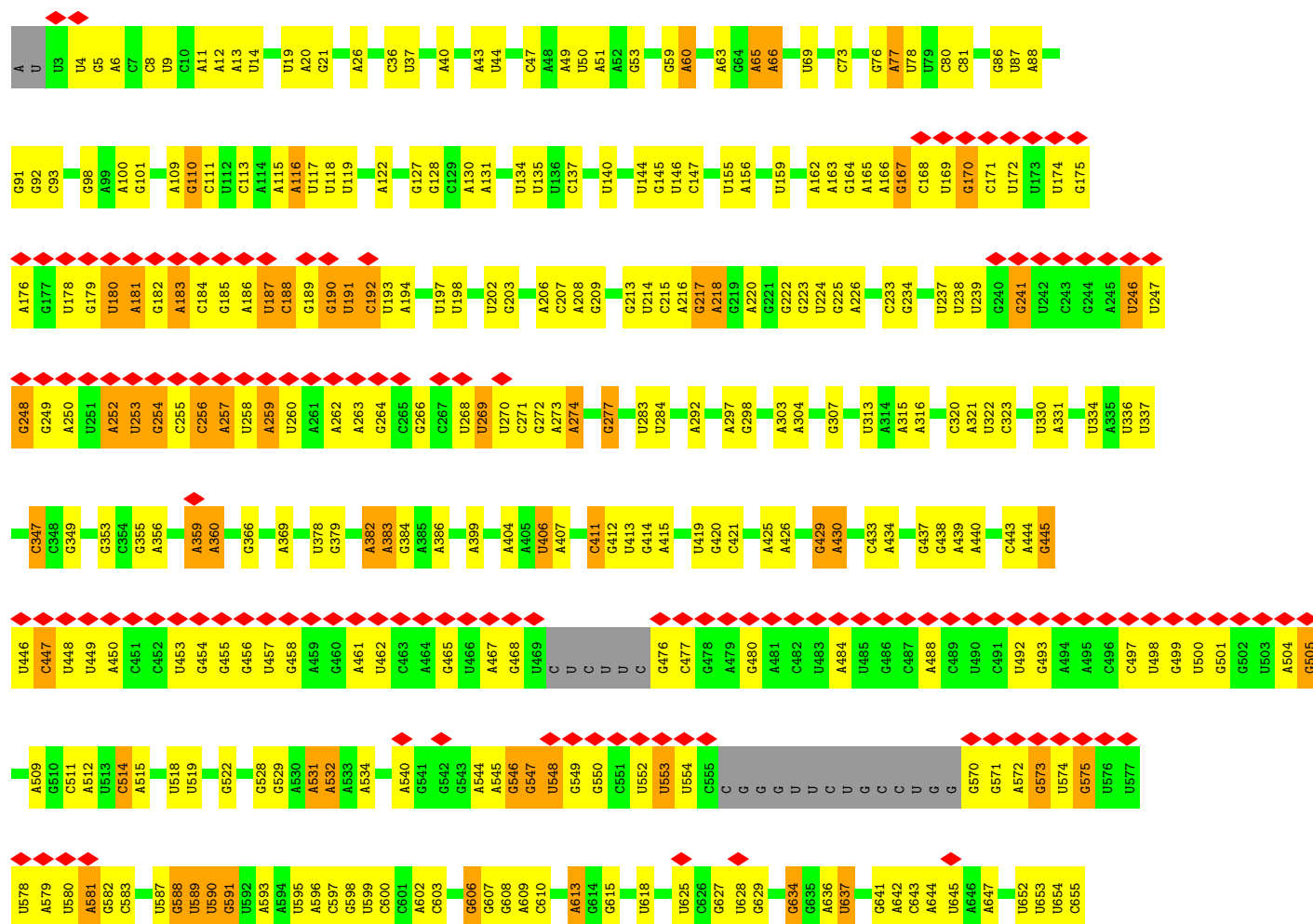
- Molecule 33: Large ribosomal subunit protein eL42



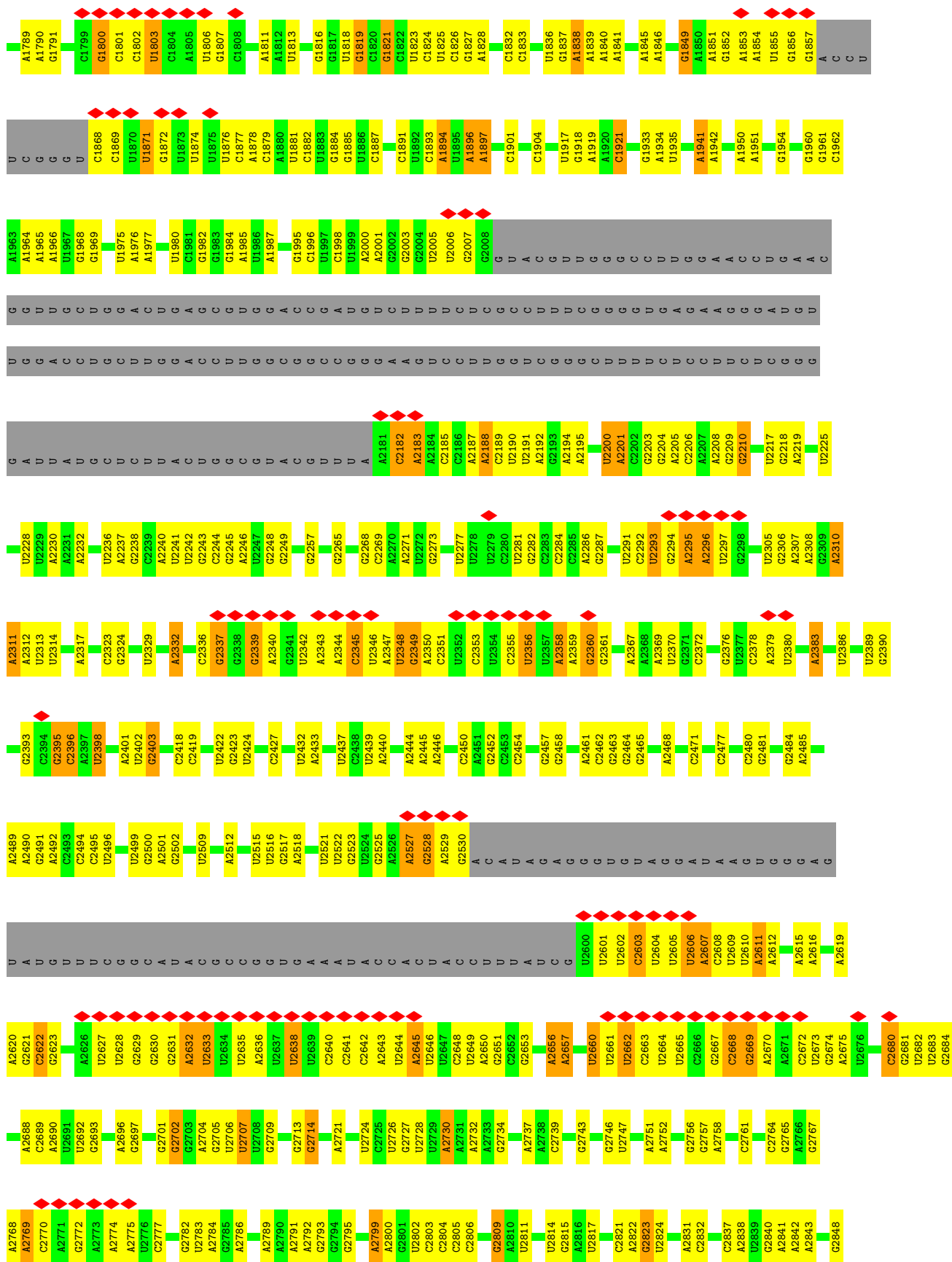
• Molecule 34: Large ribosomal subunit protein eL43A



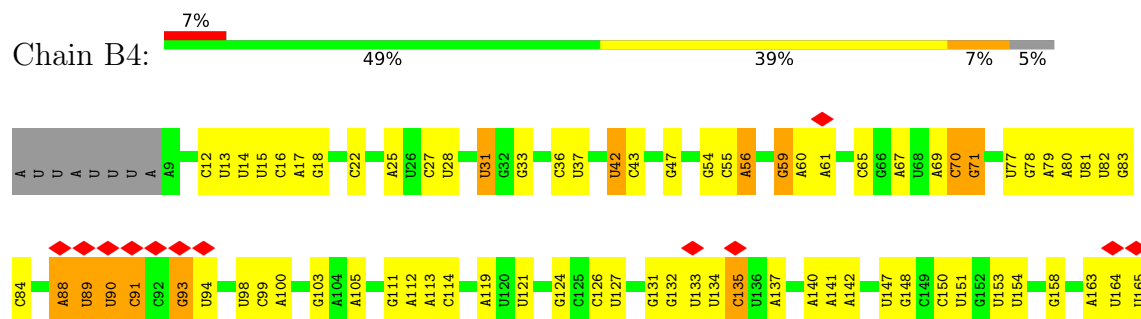
• Molecule 35: 28S ribosomal RNA



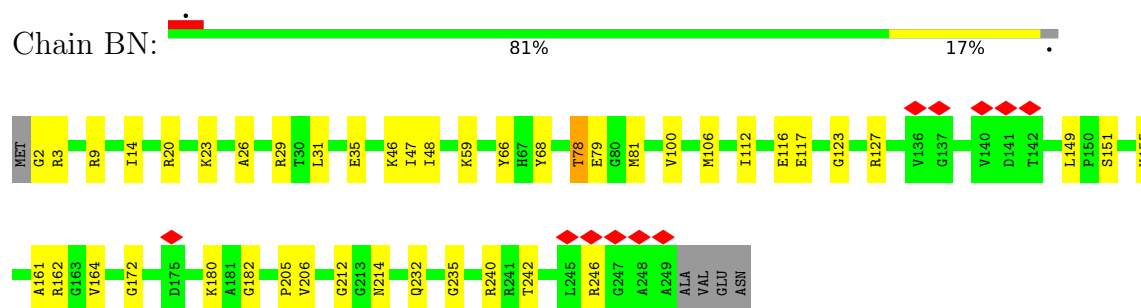




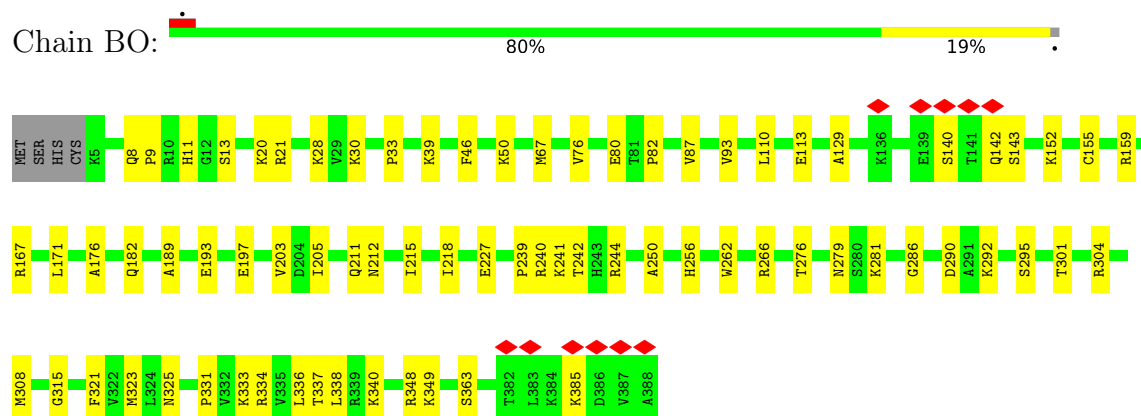
- Molecule 37: 5.8S ribosomal RNA



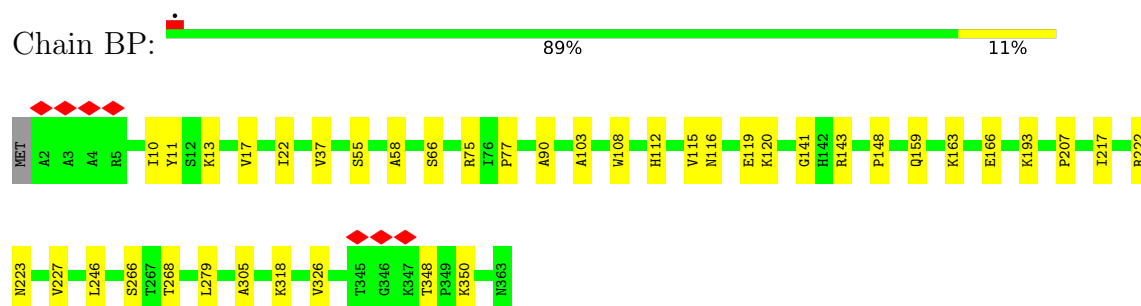
- Molecule 38: Large ribosomal subunit protein uL2C



- Molecule 39: Large ribosomal subunit protein uL3A

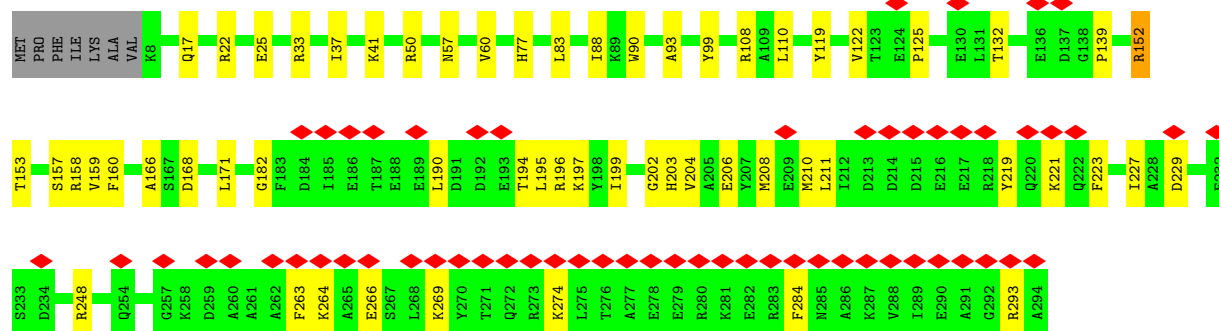


- Molecule 40: Large ribosomal subunit protein uL4A



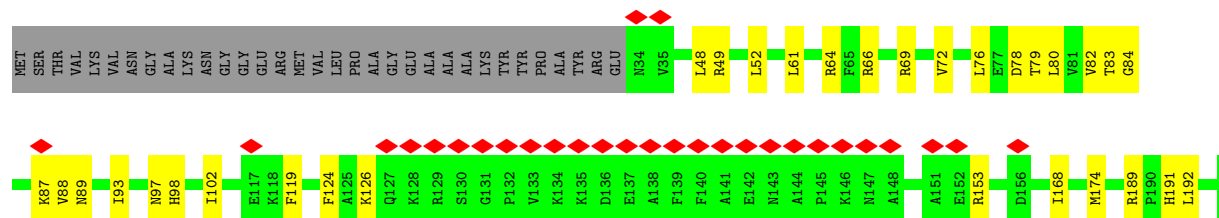
- Molecule 41: Large ribosomal subunit protein uL18B

Chain BQ: 



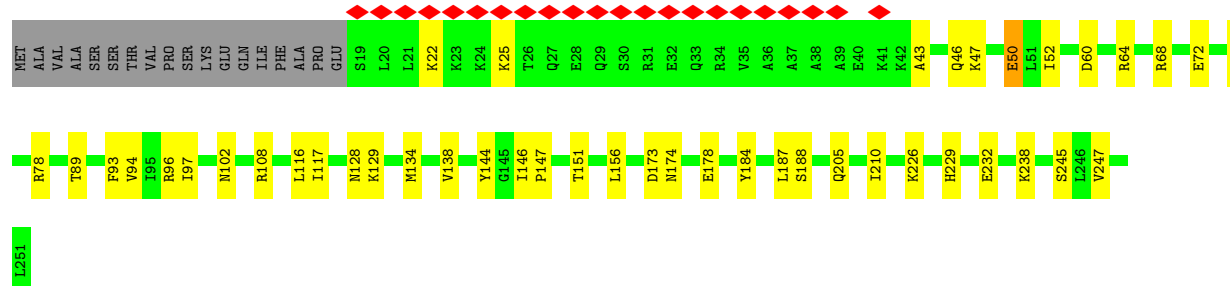
- Molecule 42: Large ribosomal subunit protein eL6

Chain BR: 



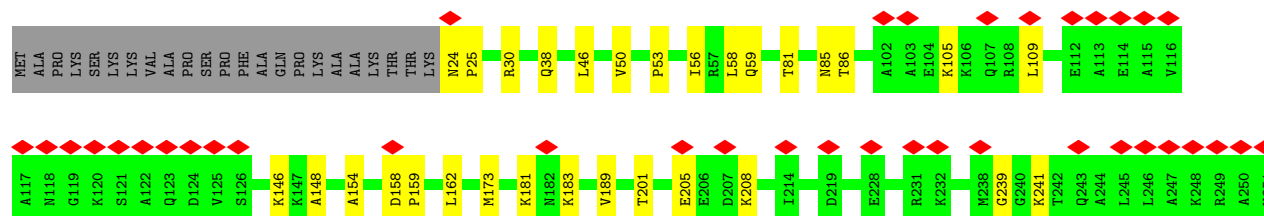
- Molecule 43: Large ribosomal subunit protein uL30C

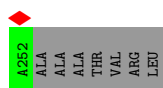
Chain BS: 



- Molecule 44: Large ribosomal subunit protein eL8

Chain BT: 





- Molecule 45: Large ribosomal subunit protein uL6B

Chain BU: 



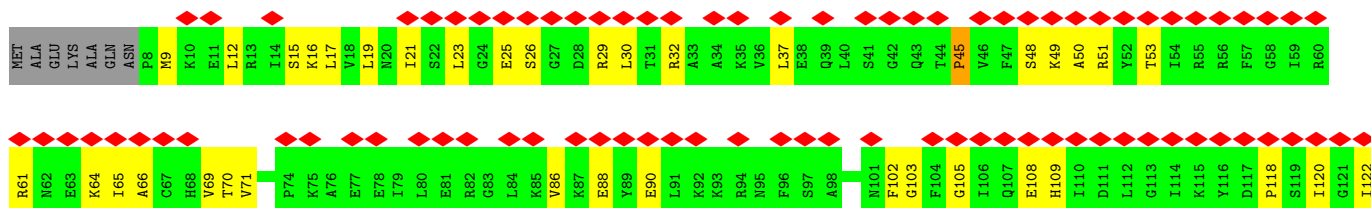
- Molecule 46: Large ribosomal subunit protein uL16A

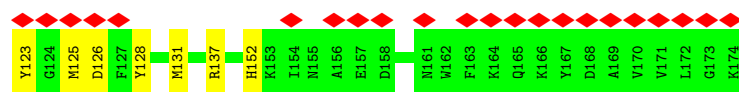
Chain BV: 



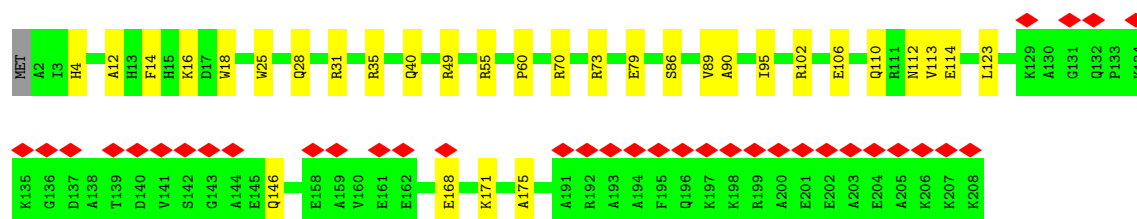
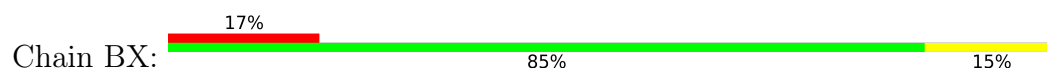
- Molecule 47: Large ribosomal subunit protein uL5A

Chain BW: 

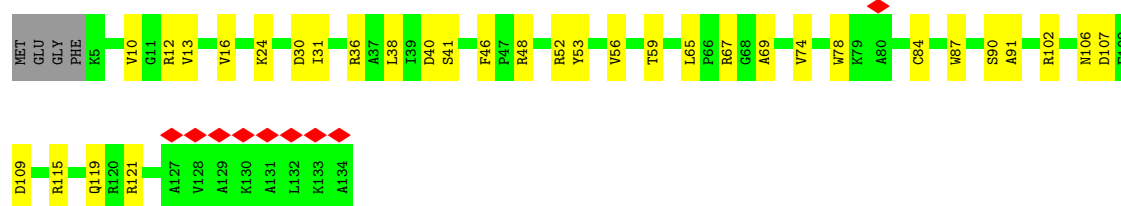
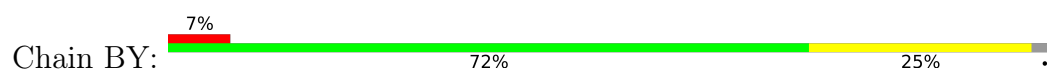




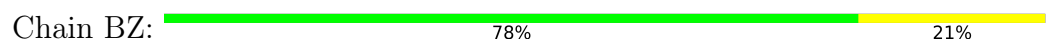
- Molecule 48: Large ribosomal subunit protein eL13



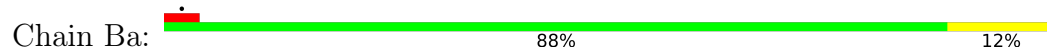
- Molecule 49: Large ribosomal subunit protein eL14



- Molecule 50: Large ribosomal subunit protein eL15B

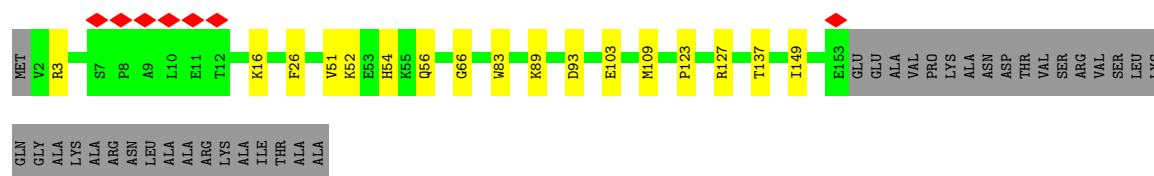


- Molecule 51: Large ribosomal subunit protein uL13A

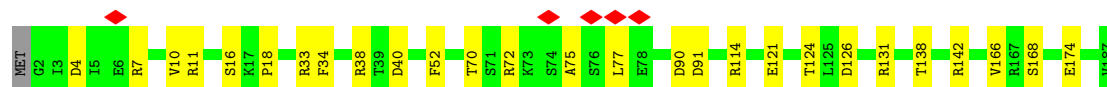
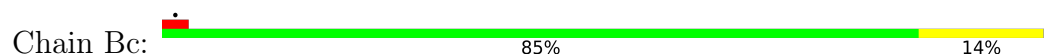


- Molecule 52: Large ribosomal subunit protein uL22A

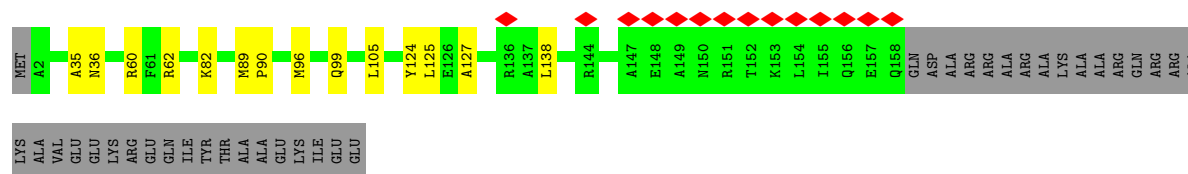
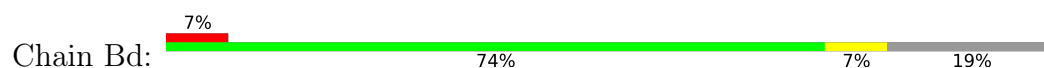




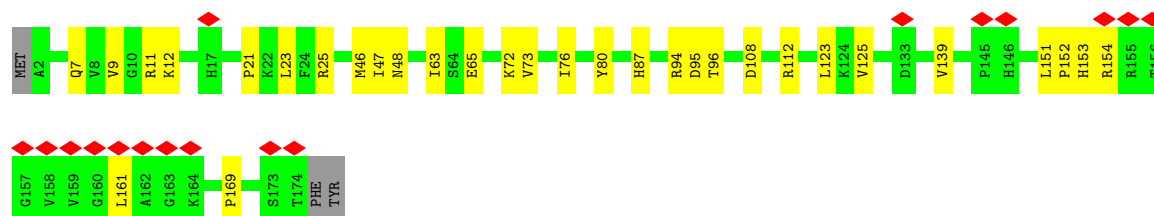
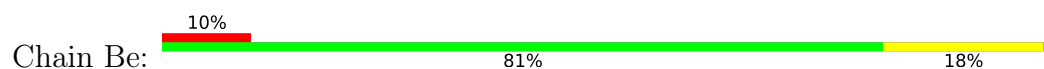
- Molecule 53: Large ribosomal subunit protein eL18B



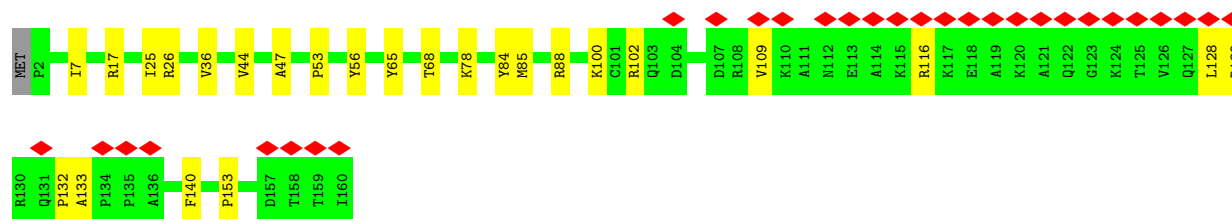
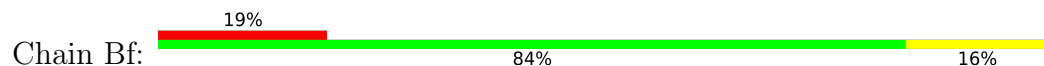
- Molecule 54: Large ribosomal subunit protein eL19B



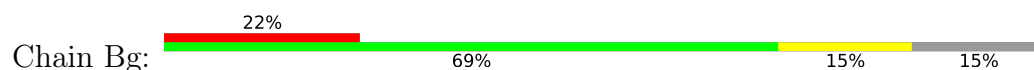
- Molecule 55: Large ribosomal subunit protein eL20A



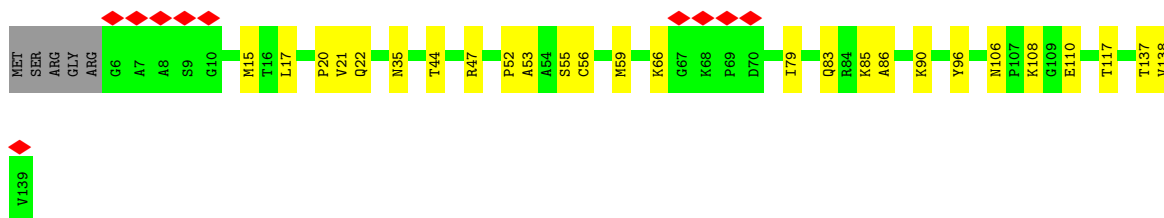
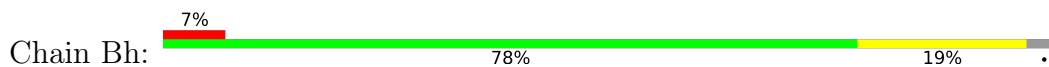
- Molecule 56: Large ribosomal subunit protein eL21B



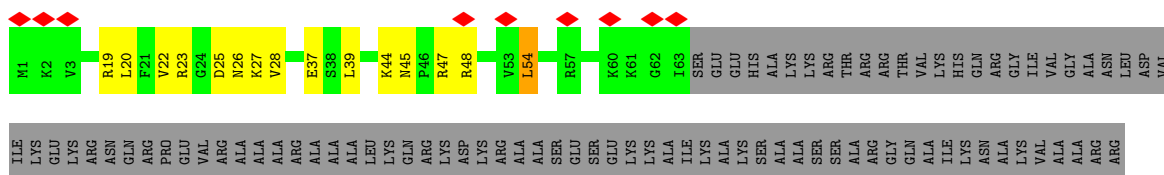
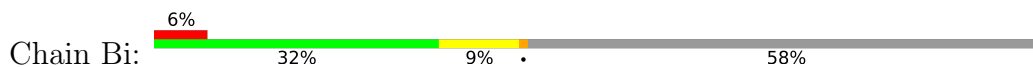
- Molecule 57: Large ribosomal subunit protein eL22



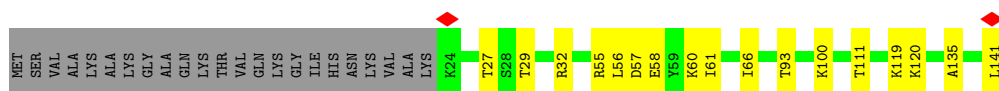
- Molecule 58: Large ribosomal subunit protein uL14B



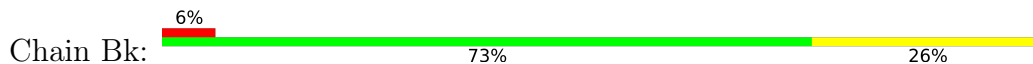
- Molecule 59: Large ribosomal subunit protein eL24B



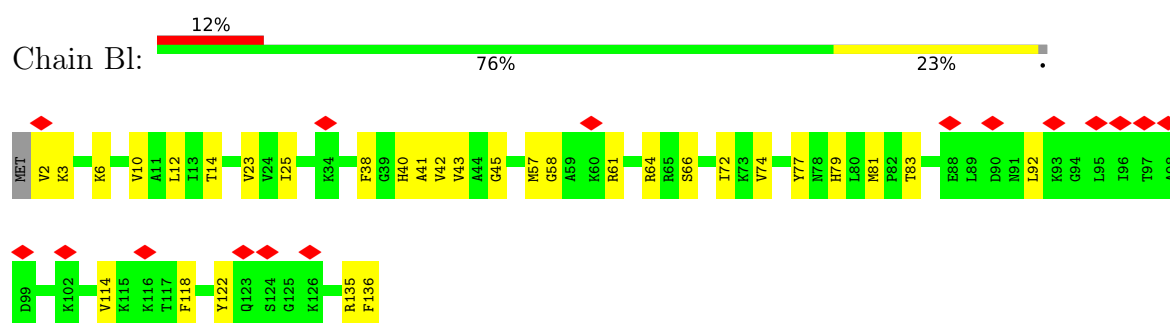
- Molecule 60: Large ribosomal subunit protein uL23A



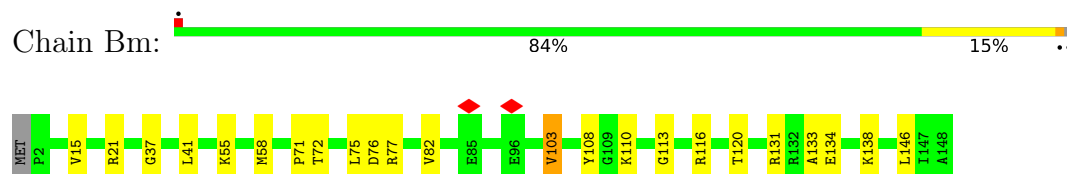
- Molecule 61: Large ribosomal subunit protein uL24



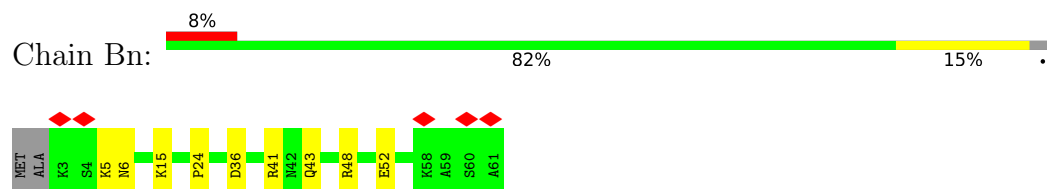
- Molecule 62: Large ribosomal subunit protein eL27A



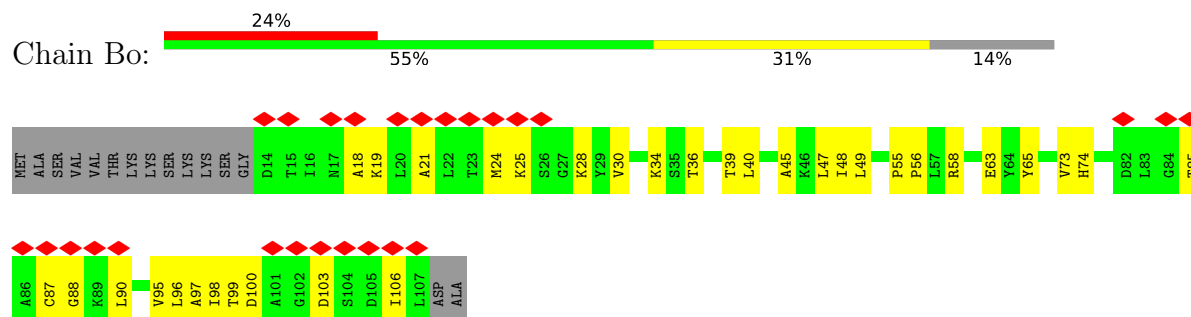
- Molecule 63: Large ribosomal subunit protein uL15B



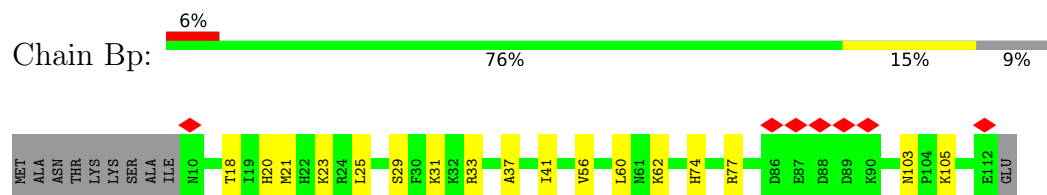
- Molecule 64: Large ribosomal subunit protein eL29



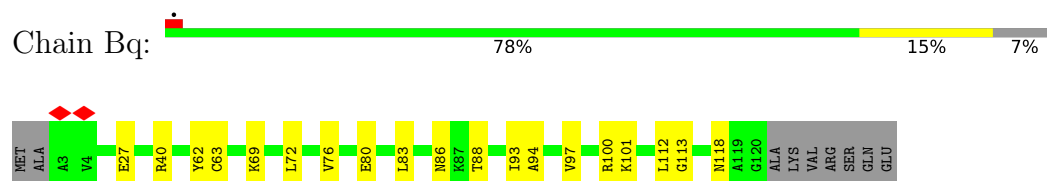
- Molecule 65: Large ribosomal subunit protein eL30A



- Molecule 66: Large ribosomal subunit protein eL31



- Molecule 67: Large ribosomal subunit protein eL32A



- Molecule 68: Large ribosomal subunit protein eL33A

Chain Br:  76% 20% .



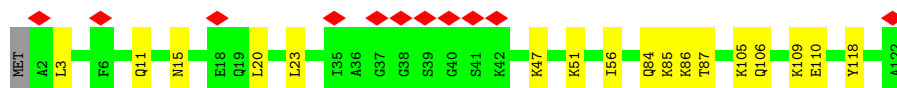
- Molecule 69: Large ribosomal subunit protein eL34B

Chain Bs:  84% 12% 5%

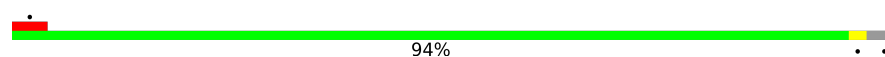


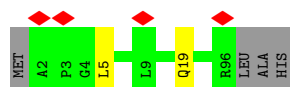
- Molecule 70: Large ribosomal subunit protein uL29

Chain Bt:  9% 85% 14%



- Molecule 71: Large ribosomal subunit protein eL36B

Chain Bu:  94%



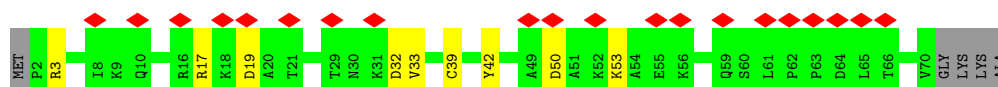
- Molecule 72: Large ribosomal subunit protein eL37B

Chain Bv:  78% 12% 10%



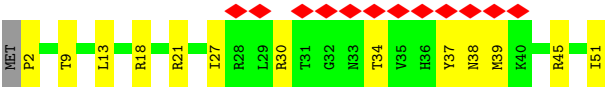
- Molecule 73: Large ribosomal subunit protein eL38A

Chain Bw:  27% 81% 12% 7%

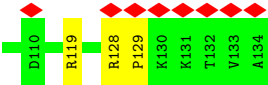
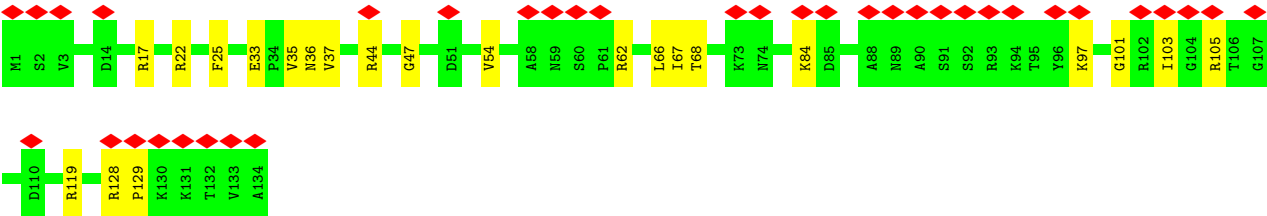
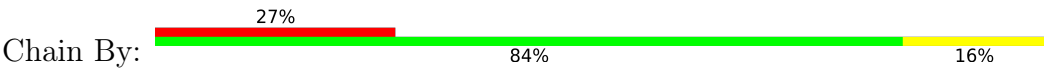


- Molecule 74: Large ribosomal subunit protein eL39

Chain Bx:  24% 73% 25%



• Molecule 75: Large ribosomal subunit protein eL28



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	73376	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	600	Depositor
Maximum defocus (nm)	1600	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	2.236	Depositor
Minimum map value	-1.145	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.080	Depositor
Recommended contour level	0.26	Depositor
Map size (Å)	424.96, 424.96, 424.96	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.83, 0.83, 0.83	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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	0.08	0/40661	0.22	0/63326
2	AD	0.12	0/1635	0.34	0/2228
3	AE	0.11	0/1756	0.31	0/2358
4	AF	0.11	0/1695	0.28	0/2297
5	AG	0.09	0/1726	0.25	0/2316
6	AH	0.11	0/2125	0.31	0/2858
7	AI	0.10	0/1577	0.27	0/2123
8	AJ	0.10	0/1815	0.27	0/2428
9	AK	0.12	0/1554	0.32	0/2091
10	AL	0.08	0/1534	0.24	0/2050
11	AM	0.13	0/1487	0.32	0/1990
12	AN	0.10	0/769	0.31	0/1043
13	AO	0.10	0/1190	0.27	0/1602
14	AP	0.08	0/892	0.27	0/1208
15	AQ	0.80	2/1208 (0.2%)	0.97	5/1624 (0.3%)
16	AR	0.09	0/961	0.28	0/1293
17	AS	0.12	0/973	0.37	0/1307
18	AT	0.09	0/1100	0.25	0/1474
19	AU	0.10	0/983	0.34	0/1318
20	AV	0.09	0/1158	0.26	0/1552
21	AW	0.07	0/1139	0.23	0/1531
22	Aa	0.08	0/826	0.26	0/1114
23	Ab	0.06	0/680	0.20	0/918
24	Ac	0.08	0/1042	0.21	0/1399
25	Ad	0.09	0/1115	0.27	0/1489
26	Ae	0.12	0/1093	0.29	0/1453
27	Af	0.09	0/558	0.27	0/750
28	Ag	0.08	0/808	0.24	0/1083
29	Ah	0.34	1/630 (0.2%)	0.52	1/845 (0.1%)
30	Ai	0.10	0/500	0.26	0/669
31	Aj	0.09	0/458	0.26	0/610
32	Ak	0.07	0/482	0.24	0/639

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	B0	0.10	0/772	0.23	0/1025
34	B1	0.09	0/727	0.27	0/973
35	B2	0.10	0/76871	0.25	5/119827 (0.0%)
36	B3	0.09	0/2838	0.22	0/4422
37	B4	0.09	0/3723	0.23	0/5796
38	BN	0.08	0/1910	0.25	0/2575
39	BO	0.08	0/3116	0.23	0/4190
40	BP	0.08	0/2852	0.22	0/3850
41	BQ	0.08	0/2361	0.22	0/3173
42	BR	0.10	0/1275	0.28	0/1719
43	BS	0.09	0/1929	0.22	0/2583
44	BT	0.09	0/1801	0.22	0/2430
45	BU	0.07	0/1330	0.22	0/1789
46	BV	0.07	0/1579	0.21	0/2115
47	BW	0.52	2/1369 (0.1%)	0.58	4/1830 (0.2%)
48	BX	0.08	0/1686	0.21	0/2267
49	BY	0.06	0/1054	0.16	0/1413
50	BZ	0.08	0/1717	0.22	0/2306
51	Ba	0.09	0/1575	0.24	0/2109
52	Bb	0.08	0/1237	0.23	0/1661
53	Bc	0.07	0/1511	0.23	0/2021
54	Bd	0.07	0/1320	0.18	0/1757
55	Be	0.08	0/1458	0.22	0/1961
56	Bf	0.08	0/1314	0.22	0/1771
57	Bg	0.10	0/812	0.28	0/1090
58	Bh	0.10	0/1015	0.27	0/1369
59	Bi	0.07	0/534	0.22	0/709
60	Bj	0.09	0/963	0.26	0/1296
61	Bk	0.07	0/1008	0.19	0/1341
62	Bl	0.07	0/1101	0.22	0/1477
63	Bm	0.09	0/1200	0.22	0/1611
64	Bn	0.06	0/503	0.19	0/664
65	Bo	0.13	0/714	0.33	0/961
66	Bp	0.06	0/872	0.19	0/1172
67	Bq	0.08	0/958	0.21	0/1278
68	Br	0.50	2/853 (0.2%)	1.02	3/1146 (0.3%)
69	Bs	0.11	0/870	0.26	0/1165
70	Bt	0.07	0/1008	0.21	0/1340
71	Bu	0.06	0/766	0.18	0/1017
72	Bv	0.08	0/666	0.24	0/881
73	Bw	0.11	0/566	0.27	0/757
74	Bx	0.09	0/447	0.31	0/597
75	By	0.07	0/1053	0.21	0/1414

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
All	All	0.12	7/209364 (0.0%)	0.27	18/307834 (0.0%)

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
15	AQ	61	PRO	CG-CD	-24.01	0.69	1.50
47	BW	45	PRO	CG-CD	-17.74	0.90	1.50
68	Br	59	PRO	CB-CG	-11.22	0.93	1.49
15	AQ	61	PRO	CB-CG	11.20	2.05	1.49
29	Ah	10	PRO	CG-CD	-6.59	1.28	1.50
68	Br	59	PRO	CG-CD	-5.75	1.31	1.50
47	BW	45	PRO	N-CD	5.16	1.54	1.47

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
15	AQ	61	PRO	N-CD-CG	-26.75	63.07	103.20
68	Br	59	PRO	CB-CG-CD	23.09	179.98	106.10
15	AQ	61	PRO	CA-CB-CG	-19.31	67.80	104.50
47	BW	45	PRO	N-CD-CG	-17.52	76.92	103.20
68	Br	59	PRO	N-CD-CG	-17.04	77.63	103.20
68	Br	59	PRO	CA-CB-CG	-16.00	74.11	104.50
15	AQ	61	PRO	N-CA-CB	-12.93	89.67	103.25
35	B2	3362	C	OP1-P-O3'	-11.65	73.06	108.00
29	Ah	10	PRO	N-CD-CG	-10.37	87.65	103.20
35	B2	3362	C	OP2-P-O3'	-10.31	77.07	108.00
35	B2	3363	C	O5'-P-OP1	-8.99	81.02	108.00
47	BW	45	PRO	CA-CB-CG	-8.72	87.93	104.50
35	B2	3363	C	OP1-P-OP2	8.33	144.59	119.60
15	AQ	61	PRO	CB-CG-CD	-8.27	79.64	106.10
47	BW	45	PRO	CA-N-CD	-7.28	101.80	112.00
15	AQ	61	PRO	CA-N-CD	-6.48	102.93	112.00
47	BW	45	PRO	N-CA-CB	-5.79	95.78	103.42
35	B2	3363	C	O5'-P-OP2	-5.35	91.95	108.00

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	AA	36359	0	18308	752	0
2	AD	1602	0	1625	40	0
3	AE	1733	0	1816	34	0
4	AF	1660	0	1736	35	0
5	AG	1701	0	1777	51	0
6	AH	2083	0	2192	63	0
7	AI	1559	0	1624	46	0
8	AJ	1784	0	1879	44	0
9	AK	1530	0	1609	31	0
10	AL	1506	0	1538	37	0
11	AM	1462	0	1562	39	0
12	AN	748	0	735	16	0
13	AO	1164	0	1201	26	0
14	AP	884	0	872	12	0
15	AQ	1184	0	1252	31	0
16	AR	949	0	986	35	0
17	AS	954	0	993	46	0
18	AT	1082	0	1142	34	0
19	AU	972	0	1011	25	0
20	AV	1144	0	1197	37	0
21	AW	1119	0	1130	30	0
22	Aa	815	0	876	18	0
23	Ab	672	0	660	17	0
24	Ac	1028	0	1080	19	0
25	Ad	1095	0	1149	29	0
26	Ae	1078	0	1133	26	0
27	Af	551	0	583	16	0
28	Ag	795	0	832	20	0
29	Ah	619	0	635	12	0
30	Ai	498	0	539	17	0
31	Aj	447	0	443	17	0
32	Ak	475	0	517	11	0
33	B0	758	0	815	13	0
34	B1	718	0	751	20	0
35	B2	68676	0	34523	1023	0
36	B3	2539	0	1283	43	0
37	B4	3332	0	1684	59	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	BN	1872	0	1917	35	0
39	BO	3050	0	3125	53	0
40	BP	2799	0	2925	27	0
41	BQ	2312	0	2272	39	0
42	BR	1251	0	1337	24	0
43	BS	1897	0	1984	29	0
44	BT	1772	0	1866	19	0
45	BU	1319	0	1389	32	0
46	BV	1549	0	1591	35	0
47	BW	1346	0	1397	31	0
48	BX	1654	0	1705	23	0
49	BY	1038	0	1115	20	0
50	BZ	1676	0	1712	31	0
51	Ba	1545	0	1641	19	0
52	Bb	1212	0	1239	13	0
53	Bc	1487	0	1597	17	0
54	Bd	1301	0	1393	11	0
55	Be	1423	0	1488	23	0
56	Bf	1286	0	1310	20	0
57	Bg	798	0	834	10	0
58	Bh	999	0	1047	18	0
59	Bi	523	0	555	8	0
60	Bj	947	0	1012	11	0
61	Bk	998	0	1090	25	0
62	Bl	1078	0	1154	22	0
63	Bm	1171	0	1215	17	0
64	Bn	495	0	504	9	0
65	Bo	705	0	746	24	0
66	Bp	857	0	891	11	0
67	Bq	944	0	1005	12	0
68	Br	831	0	858	14	0
69	Bs	858	0	925	10	0
70	Bt	999	0	1092	13	0
71	Bu	759	0	840	2	0
72	Bv	652	0	663	10	0
73	Bw	560	0	608	5	0
74	Bx	436	0	463	14	0
75	By	1039	0	1092	15	0
76	Ag	1	0	0	0	0
76	Ah	1	0	0	0	0
76	Aj	1	0	0	0	0
76	B0	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
76	B1	1	0	0	0	0
76	Bv	1	0	0	0	0
All	All	194719	0	143285	3089	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 9.

All (3089) 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)
1:AA:127:A:H62	1:AA:294:G:H21	1.09	1.00
35:B2:787:G:H1	35:B2:804:A:H61	1.07	0.97
1:AA:127:A:H62	1:AA:294:G:N2	1.65	0.94
37:B4:132:G:H1	37:B4:137:A:H61	0.98	0.93
1:AA:1719:U:H3	1:AA:1765:G:H1	1.15	0.92
1:AA:1192:U:H3	1:AA:1484:G:H1	1.06	0.92
17:AS:53:MET:HE3	17:AS:92:ILE:HG12	1.53	0.91
1:AA:1537:U:H3	1:AA:1552:G:H1	1.18	0.90
37:B4:132:G:H1	37:B4:137:A:N6	1.70	0.88
1:AA:1049:C:HO2'	24:Ac:2:VAL:N	1.73	0.87
1:AA:127:A:N6	1:AA:294:G:H21	1.72	0.86
1:AA:1204:U:H3	1:AA:1215:G:H1	1.23	0.85
1:AA:882:G:H1	1:AA:976:U:H3	1.24	0.84
34:B1:39:CYS:HB3	34:B1:42:CYS:SG	2.17	0.84
33:B0:24:ARG:HH21	33:B0:75:VAL:HA	1.42	0.84
1:AA:706:U:H3	1:AA:752:G:H1	0.86	0.83
35:B2:787:G:H1	35:B2:804:A:N6	1.76	0.83
1:AA:1706:U:H3	1:AA:1778:G:H1	1.27	0.81
35:B2:2355:C:H2'	35:B2:2356:U:H4'	1.63	0.81
1:AA:40:A:H61	1:AA:470:G:H1	1.26	0.81
16:AR:38:LYS:HG3	16:AR:39:GLU:HG2	1.63	0.81
1:AA:1718:C:H42	1:AA:1766:U:H3	1.22	0.81
35:B2:406:U:H5''	52:Bb:3:ARG:HD2	1.63	0.81
1:AA:1415:G:N2	1:AA:1423:C:O2	2.11	0.80
4:AF:172:PRO:HG2	11:AM:57:ARG:HE	1.47	0.79
35:B2:167:G:H1	35:B2:268:U:H3	1.28	0.79
75:By:101:GLY:HA2	75:By:105:ARG:HG3	1.65	0.79
35:B2:3259:C:H3'	35:B2:3260:A:H5''	1.65	0.78
45:BU:160:LYS:HE3	45:BU:179:VAL:HG22	1.64	0.78
1:AA:1079:C:H2'	1:AA:1080:G:H8	1.48	0.77
4:AF:39:LYS:HE2	4:AF:246:LEU:HD13	1.66	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BP:112:HIS:HB3	50:BZ:201:ARG:HB3	1.67	0.76
9:AK:168:LEU:HD12	9:AK:185:PHE:HB2	1.65	0.76
1:AA:631:G:H21	1:AA:986:A:H62	1.33	0.76
1:AA:915:A:H3'	1:AA:916:G:H21	1.50	0.75
35:B2:680:C:H2'	35:B2:681:A:H8	1.52	0.75
1:AA:483:A:H2'	1:AA:484:A:C8	2.22	0.75
35:B2:1260:G:H2'	35:B2:1261:G:C8	2.22	0.75
35:B2:2393:G:N2	35:B2:2393:G:OP2	2.19	0.74
1:AA:67:A:H62	1:AA:84:G:H21	1.35	0.74
7:AI:50:HIS:HD2	7:AI:85:LYS:HG2	1.51	0.74
17:AS:102:VAL:HG12	17:AS:113:VAL:HG21	1.69	0.74
1:AA:1393:U:H2'	1:AA:1394:A:H8	1.51	0.74
1:AA:472:C:H41	1:AA:599:C:H41	1.35	0.74
1:AA:558:A:O2'	1:AA:559:A:O5'	2.06	0.74
1:AA:886:A:H2'	1:AA:887:G:C8	2.23	0.74
61:Bk:59:ARG:HB2	61:Bk:102:LYS:HG3	1.70	0.74
1:AA:29:U:H3	1:AA:600:G:H1	1.35	0.74
35:B2:745:G:OP1	63:Bm:116:ARG:NH2	2.19	0.73
1:AA:632:U:OP2	1:AA:984:C:N4	2.22	0.73
1:AA:1714:G:O6	1:AA:1770:A:N1	2.22	0.73
17:AS:92:ILE:HD12	17:AS:121:GLY:HA2	1.69	0.73
7:AI:50:HIS:O	18:AT:111:ARG:NH1	2.21	0.73
19:AU:58:MET:HA	19:AU:58:MET:HE3	1.69	0.73
6:AH:140:VAL:HG12	6:AH:146:THR:HG22	1.71	0.72
17:AS:81:PRO:HD2	17:AS:100:SER:HA	1.71	0.72
35:B2:745:G:N2	35:B2:745:G:OP2	2.22	0.72
1:AA:1198:U:H4'	17:AS:137:GLY:HA3	1.70	0.72
36:B3:1:G:C8	41:BQ:264:LYS:HG2	2.24	0.72
17:AS:126:GLU:OE1	20:AV:121:ARG:NH1	2.22	0.72
41:BQ:211:LEU:HB3	41:BQ:219:TYR:HB2	1.72	0.72
60:Bj:56:LEU:HD23	60:Bj:60:LYS:HB3	1.72	0.71
18:AT:17:ALA:HB1	18:AT:62:ILE:HD11	1.71	0.71
1:AA:790:C:OP2	1:AA:791:A:N6	2.22	0.71
65:Bo:47:LEU:HD23	65:Bo:98:ILE:HD12	1.72	0.71
69:Bs:66:SER:OG	69:Bs:69:GLN:OE1	2.08	0.71
35:B2:455:G:H22	35:B2:498:U:H3	1.38	0.71
1:AA:1444:A:H2'	1:AA:1445:A:H8	1.55	0.71
35:B2:2281:U:H5''	35:B2:2282:G:H5'	1.71	0.71
61:Bk:112:LYS:NZ	61:Bk:116:ASP:OD1	2.23	0.71
1:AA:1591:A:OP1	17:AS:50:ARG:NH2	2.20	0.70
19:AU:106:LEU:HB3	19:AU:112:ASP:HA	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:3245:G:O2'	39:BO:129:ALA:O	2.09	0.70
47:BW:108:GLU:HA	47:BW:122:ILE:HD11	1.72	0.70
1:AA:1714:G:H1	1:AA:1770:A:H2	1.39	0.70
35:B2:1268:G:O6	35:B2:1282:A:N1	2.24	0.70
7:AI:197:ARG:HA	7:AI:200:LYS:HD2	1.73	0.70
35:B2:2204:G:OP1	35:B2:2206:C:N4	2.25	0.70
1:AA:1397:U:O2	1:AA:1399:C:N4	2.25	0.70
1:AA:1682:C:H2'	1:AA:1683:G:H8	1.55	0.70
41:BQ:83:LEU:HB3	41:BQ:88:ILE:HB	1.73	0.70
1:AA:1259:A:H2'	1:AA:1260:G:H3'	1.73	0.70
15:AQ:72:MET:HE3	15:AQ:75:LEU:HD11	1.72	0.70
42:BR:84:GLY:HA3	42:BR:89:ASN:HD21	1.56	0.70
6:AH:105:ILE:HD11	6:AH:245:LYS:H	1.57	0.70
1:AA:1827:U:H2'	1:AA:1828:G:H8	1.56	0.70
11:AM:114:PHE:HB3	11:AM:115:LYS:HE2	1.74	0.70
19:AU:103:LYS:HD3	19:AU:116:VAL:HG11	1.72	0.69
32:Ak:27:PRO:O	32:Ak:29:GLN:NE2	2.23	0.69
12:AN:68:LEU:HD13	12:AN:73:VAL:HG13	1.73	0.69
35:B2:3369:A:H62	42:BR:153:ARG:HD2	1.55	0.69
37:B4:60:A:OP1	74:Bx:21:ARG:NH2	2.23	0.69
42:BR:61:LEU:HD11	42:BR:102:ILE:HG13	1.74	0.69
1:AA:1473:G:H21	17:AS:107:GLY:HA2	1.56	0.69
35:B2:1655:G:N2	35:B2:1656:G:O6	2.25	0.69
43:BS:22:LYS:HA	43:BS:25:LYS:HE2	1.73	0.69
1:AA:168:A:H5'	8:AJ:137:ARG:HG3	1.73	0.69
44:BT:205:GLU:HA	44:BT:208:LYS:HD3	1.74	0.69
47:BW:19:LEU:HB2	47:BW:125:MET:HE1	1.74	0.69
5:AG:31:LEU:HD22	5:AG:36:TYR:HB2	1.73	0.69
7:AI:164:ASN:HD22	7:AI:165:VAL:H	1.38	0.69
30:Ai:16:VAL:HG22	30:Ai:18:GLY:H	1.57	0.69
35:B2:3375:U:O4	42:BR:66:ARG:NH1	2.24	0.69
38:BN:106:MET:HE1	38:BN:112:ILE:HG21	1.75	0.69
1:AA:1486:G:O2'	1:AA:1643:C:OP1	2.11	0.68
30:Ai:39:ARG:HG2	30:Ai:41:ILE:HD11	1.75	0.68
35:B2:1080:A:HO2'	35:B2:2727:G:HO2'	1.34	0.68
1:AA:145:A:H61	1:AA:171:A:H61	1.42	0.68
4:AF:48:LYS:HG3	4:AF:242:TYR:CE2	2.28	0.68
1:AA:1216:G:H1	31:Aj:31:ILE:HG23	1.58	0.68
20:AV:114:LEU:HD11	20:AV:121:ARG:HB2	1.76	0.68
35:B2:1268:G:N1	35:B2:1282:A:C2	2.60	0.68
35:B2:928:A:H5'	38:BN:182:GLY:HA2	1.76	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:250:A:H2'	35:B2:252:A:H5''	1.76	0.67
35:B2:1259:A:N6	35:B2:1312:U:O4	2.24	0.67
1:AA:1704:G:H1	1:AA:1780:U:H3	1.41	0.67
8:AJ:57:ASP:HA	8:AJ:106:LEU:HA	1.76	0.67
1:AA:901:U:H2'	1:AA:902:A:H8	1.59	0.67
63:Bm:103:VAL:HG13	63:Bm:108:TYR:HB2	1.76	0.67
53:Bc:72:ARG:HB2	53:Bc:75:ALA:HB2	1.76	0.67
1:AA:797:U:O4	26:Ae:49:LYS:NZ	2.22	0.67
1:AA:1254:G:N1	1:AA:1266:U:O4	2.28	0.67
1:AA:1199:U:H2'	1:AA:1200:A:H2'	1.77	0.67
1:AA:1684:U:H1'	1:AA:1822:G:H21	1.60	0.67
27:Af:68:VAL:O	27:Af:83:ARG:NH1	2.27	0.67
31:Aj:17:GLY:H	31:Aj:27:ARG:HH12	1.43	0.67
35:B2:1696:G:H2'	35:B2:1697:G:C8	2.29	0.67
35:B2:3043:C:OP1	39:BO:244:ARG:NH2	2.27	0.67
17:AS:52:ARG:HG3	17:AS:53:MET:HE2	1.76	0.67
1:AA:1682:C:H2'	1:AA:1683:G:C8	2.30	0.67
1:AA:1713:G:H2'	1:AA:1714:G:H8	1.59	0.67
35:B2:1103:U:H3	35:B2:1119:G:H1	1.41	0.67
51:Ba:6:LYS:HG2	51:Ba:7:VAL:HG23	1.77	0.67
1:AA:105:A:OP2	1:AA:311:C:N4	2.29	0.66
1:AA:1491:A:H62	1:AA:1577:G:H22	1.42	0.66
70:Bt:84:GLN:HE21	70:Bt:86:LYS:HE2	1.61	0.66
1:AA:357:C:H5''	10:AL:16:ALA:HB2	1.76	0.66
1:AA:40:A:N6	1:AA:470:G:H1	1.91	0.66
1:AA:928:G:N2	35:B2:2296:A:O2'	2.28	0.66
10:AL:83:TYR:OH	13:AO:11:ARG:O	2.11	0.66
35:B2:741:G:HO2'	35:B2:781:C:HO2'	1.42	0.66
55:Be:7:GLN:HB3	55:Be:63:ILE:HD11	1.77	0.66
1:AA:156:A:H61	1:AA:422:G:N2	1.93	0.66
35:B2:680:C:H2'	35:B2:681:A:C8	2.30	0.66
75:By:67:ILE:HG12	75:By:84:LYS:HG2	1.77	0.66
35:B2:505:G:H1	35:B2:644:A:H2	1.41	0.66
35:B2:717:A:H5''	61:Bk:5:ARG:NH2	2.10	0.66
1:AA:566:U:H3	1:AA:583:A:H62	1.44	0.66
35:B2:2976:C:OP2	39:BO:8:GLN:NE2	2.28	0.66
46:BV:47:PRO:HD2	46:BV:141:LYS:HA	1.76	0.66
1:AA:841:U:H2'	1:AA:842:C:H6	1.61	0.66
1:AA:1718:C:OP1	10:AL:59:ARG:NH2	2.29	0.65
16:AR:44:VAL:HG11	16:AR:69:ALA:HB2	1.77	0.65
35:B2:1223:C:N4	35:B2:1332:A:O2'	2.29	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:By:35:VAL:HG13	75:By:47:GLY:HA3	1.79	0.65
8:Aj:132:ARG:O	8:Aj:160:ARG:NH2	2.30	0.65
35:B2:716:G:OP1	35:B2:716:G:N2	2.28	0.65
35:B2:3248:U:OP1	35:B2:3497:G:N1	2.28	0.65
44:BT:53:PRO:HD2	44:BT:56:ILE:HD12	1.77	0.65
1:AA:631:G:N2	1:AA:986:A:H62	1.93	0.65
1:AA:1713:G:H2'	1:AA:1714:G:C8	2.32	0.65
35:B2:1650:C:H2'	35:B2:1651:A:H8	1.61	0.65
45:BU:77:ASN:HD21	45:BU:149:LEU:HB3	1.61	0.65
1:AA:1221:A:N1	1:AA:1596:A:N6	2.43	0.65
3:AE:32:ILE:HG12	3:AE:96:CYS:HB2	1.79	0.65
7:AI:178:ASN:OD1	7:AI:183:SER:OG	2.14	0.65
3:AE:144:ARG:HB2	3:AE:208:GLN:HB3	1.79	0.65
6:AH:128:ARG:HG2	6:AH:140:VAL:HG22	1.79	0.65
35:B2:1527:G:N2	35:B2:1527:G:OP2	2.28	0.65
35:B2:3000:U:H2'	35:B2:3002:G:H1'	1.79	0.65
1:AA:1079:C:H2'	1:AA:1080:G:C8	2.30	0.65
7:AI:198:VAL:O	7:AI:202:ASN:ND2	2.29	0.65
35:B2:1597:G:OP2	35:B2:1597:G:N2	2.29	0.65
35:B2:2356:U:HO2'	35:B2:2360:G:H1	1.43	0.65
35:B2:3247:U:O2'	35:B2:3497:G:N2	2.30	0.65
70:Bt:11:GLN:HE21	70:Bt:15:ASN:HD21	1.42	0.65
1:AA:175:G:N2	1:AA:177:U:O4	2.29	0.65
35:B2:1289:U:N3	35:B2:1292:G:N1	2.44	0.65
35:B2:2336:C:H5''	35:B2:2337:G:H4'	1.79	0.65
40:BP:37:VAL:HG21	40:BP:246:LEU:HD21	1.79	0.65
7:AI:58:LYS:HB2	7:AI:61:ARG:HB2	1.79	0.65
17:AS:113:VAL:HG11	17:AS:124:LEU:HD21	1.78	0.65
35:B2:2653:G:N2	44:BT:38:GLN:O	2.29	0.65
50:BZ:159:ARG:HB2	50:BZ:164:LEU:HB2	1.78	0.65
35:B2:1607:U:OP1	37:B4:135:C:N4	2.30	0.65
45:BU:92:LEU:HB2	45:BU:140:ASP:HB3	1.78	0.65
1:AA:631:G:H21	1:AA:986:A:N6	1.94	0.65
1:AA:1481:C:H2'	1:AA:1482:G:H8	1.61	0.65
44:BT:81:THR:HG21	44:BT:181:LYS:HG2	1.78	0.65
42:BR:49:ARG:NH2	42:BR:98:HIS:O	2.30	0.64
1:AA:910:G:OP1	3:AE:49:ASN:ND2	2.31	0.64
1:AA:910:G:H21	16:AR:40:THR:HG21	1.61	0.64
1:AA:1699:G:H1	1:AA:1785:U:H3	1.43	0.64
5:AG:20:TYR:OH	5:AG:42:ARG:NH1	2.30	0.64
35:B2:1951:A:H61	35:B2:2427:C:H42	1.45	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:873:G:OP2	1:AA:873:G:N2	2.30	0.64
10:AL:89:GLU:OE2	10:AL:92:ARG:NH2	2.30	0.64
29:Ah:37:CYS:HB3	29:Ah:40:CYS:HB3	1.79	0.64
35:B2:366:G:N2	35:B2:369:A:OP2	2.26	0.64
35:B2:3045:G:N2	35:B2:3045:G:OP2	2.26	0.64
1:AA:1605:U:O3'	20:AV:39:ARG:NH2	2.31	0.64
10:AL:172:ARG:HE	10:AL:175:GLN:HG3	1.63	0.64
24:Ac:108:ARG:HB2	24:Ac:111:MET:HE1	1.79	0.64
47:BW:53:THR:HB	47:BW:61:ARG:HB2	1.77	0.64
35:B2:856:C:H5''	38:BN:20:ARG:HD3	1.79	0.64
35:B2:1289:U:O4	35:B2:1292:G:N2	2.30	0.64
65:Bo:30:VAL:HG12	65:Bo:97:ALA:HB3	1.78	0.64
1:AA:1503:A:H4'	18:AT:68:GLY:HA2	1.79	0.64
35:B2:445:G:H1	35:B2:647:A:H61	1.46	0.64
35:B2:1254:A:N6	35:B2:3212:G:N1	2.46	0.64
35:B2:1742:G:H22	35:B2:1781:G:H22	1.45	0.64
35:B2:2606:U:O2'	35:B2:2607:A:O5'	2.14	0.64
1:AA:901:U:O2'	16:AR:123:ILE:O	2.15	0.64
1:AA:1284:G:H21	1:AA:1468:G:H5'	1.62	0.64
1:AA:1632:C:H2'	1:AA:1633:A:H8	1.63	0.64
9:AK:76:GLN:O	9:AK:80:THR:OG1	2.15	0.64
35:B2:655:C:H2'	35:B2:656:A:H8	1.62	0.64
1:AA:1402:A:HO2'	1:AA:1403:G:H8	1.45	0.64
1:AA:909:U:N3	1:AA:910:G:O6	2.31	0.63
1:AA:1683:G:HO2'	1:AA:1823:A:HO2'	1.46	0.63
42:BR:79:THR:HG22	42:BR:97:ASN:HA	1.80	0.63
1:AA:1210:A:N7	1:AA:1299:U:O2'	2.29	0.63
5:AG:8:SER:H	5:AG:11:ARG:HH21	1.44	0.63
26:Ae:55:VAL:HG22	26:Ae:75:ILE:HG22	1.80	0.63
35:B2:1300:U:N3	35:B2:1303:C:OP2	2.26	0.63
35:B2:1661:A:N1	35:B2:1872:G:O6	2.30	0.63
35:B2:3259:C:O2'	35:B2:3260:A:OP1	2.17	0.63
38:BN:116:GLU:HG2	38:BN:123:GLY:H	1.63	0.63
1:AA:535:U:OP1	11:AM:132:ARG:NH1	2.30	0.63
1:AA:1781:C:H2'	1:AA:1782:A:C8	2.33	0.63
35:B2:1017:U:H2'	35:B2:1018:U:H6	1.61	0.63
36:B3:7:G:OP1	41:BQ:33:ARG:NH1	2.30	0.63
35:B2:1150:C:H2'	35:B2:1151:A:H8	1.64	0.63
3:AE:190:PRO:HG2	3:AE:192:VAL:HG23	1.80	0.63
1:AA:124:G:H21	6:AH:146:THR:HG21	1.64	0.63
1:AA:550:U:H1'	1:AA:599:C:H1'	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:656:A:H2'	35:B2:657:A:C8	2.34	0.63
35:B2:1599:A:H1'	35:B2:1600:C:H5	1.64	0.63
35:B2:3268:U:O4	51:Ba:102:HIS:NE2	2.32	0.63
1:AA:1546:A:OP2	21:AW:93:ARG:NH2	2.31	0.63
35:B2:2702:G:H5'	38:BN:232:GLN:HB3	1.81	0.63
1:AA:902:A:H5''	16:AR:122:PRO:HB2	1.80	0.62
35:B2:2881:G:N2	63:Bm:58:MET:SD	2.72	0.62
42:BR:49:ARG:NH1	68:Br:108:VAL:O	2.33	0.62
51:Ba:66:ASN:HB3	51:Ba:69:ARG:HG2	1.79	0.62
1:AA:951:G:OP1	1:AA:1090:G:N2	2.28	0.62
1:AA:1688:U:H2'	1:AA:1689:A:C8	2.33	0.62
6:AH:11:ARG:O	6:AH:12:VAL:HB	1.99	0.62
28:Ag:23:CYS:SG	28:Ag:24:ILE:N	2.72	0.62
35:B2:1531:C:H2'	35:B2:1532:A:H8	1.65	0.62
35:B2:3261:U:H2'	35:B2:3262:G:H8	1.63	0.62
35:B2:3377:G:H2'	35:B2:3378:A:C8	2.34	0.62
35:B2:1660:A:H2'	35:B2:1661:A:C8	2.34	0.62
36:B3:16:U:H2'	36:B3:17:A:H8	1.65	0.62
1:AA:1691:U:H2'	1:AA:1692:A:C8	2.33	0.62
1:AA:646:G:H1	1:AA:697:C:H42	1.46	0.62
1:AA:1397:U:O2'	1:AA:1400:U:O4	2.18	0.62
5:AG:164:GLN:HA	5:AG:167:VAL:HG22	1.82	0.62
7:AI:15:ASN:ND2	18:AT:50:LEU:O	2.33	0.62
11:AM:62:LEU:O	11:AM:69:ARG:NH1	2.33	0.62
35:B2:414:G:OP1	35:B2:1449:U:O2'	2.18	0.62
35:B2:727:C:H2'	35:B2:728:G:H8	1.64	0.62
35:B2:997:A:H5''	48:BX:4:HIS:HB3	1.81	0.62
35:B2:1962:C:O2	39:BO:240:ARG:NH2	2.31	0.62
55:Be:9:VAL:HG22	55:Be:25:ARG:HG3	1.81	0.62
1:AA:1314:G:N2	1:AA:1317:A:OP2	2.28	0.62
1:AA:106:A:N6	1:AA:311:C:O2	2.33	0.62
1:AA:560:G:OP1	32:Ak:56:ARG:NH1	2.32	0.62
1:AA:841:U:H2'	1:AA:842:C:C6	2.34	0.62
35:B2:63:A:N3	35:B2:78:U:O2'	2.28	0.62
35:B2:529:G:OP2	35:B2:529:G:N2	2.24	0.62
1:AA:694:G:H2'	1:AA:695:G:C8	2.35	0.62
1:AA:1397:U:H1'	1:AA:1399:C:H41	1.64	0.62
35:B2:2632:A:H1'	35:B2:2640:C:H42	1.64	0.62
59:Bi:20:LEU:HD21	59:Bi:28:VAL:HG13	1.81	0.62
1:AA:1778:G:H2'	1:AA:1779:G:H8	1.63	0.62
35:B2:188:C:N3	35:B2:190:G:N2	2.47	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:2339:G:H2'	35:B2:2340:A:H8	1.65	0.62
1:AA:328:G:OP1	13:AO:131:THR:OG1	2.16	0.61
2:AD:149:LEU:O	2:AD:167:ASN:ND2	2.33	0.61
3:AE:145:ARG:HH12	3:AE:152:LYS:HA	1.64	0.61
34:B1:5:THR:HG21	34:B1:9:GLY:H	1.65	0.61
35:B2:100:A:H3'	35:B2:101:G:H21	1.65	0.61
35:B2:655:C:H2'	35:B2:656:A:C8	2.35	0.61
35:B2:3055:C:H2'	35:B2:3056:G:H8	1.64	0.61
1:AA:1152:U:OP2	25:Ad:110:LYS:NZ	2.33	0.61
3:AE:185:VAL:O	3:AE:189:ILE:HD12	1.99	0.61
6:AH:198:ARG:NH1	6:AH:206:GLU:OE2	2.32	0.61
22:Aa:101:ILE:O	22:Aa:105:HIS:ND1	2.33	0.61
35:B2:2445:A:H2'	35:B2:2446:A:H8	1.64	0.61
35:B2:2611:A:N1	35:B2:2689:C:N4	2.45	0.61
37:B4:111:G:OP2	37:B4:113:A:O2'	2.18	0.61
1:AA:944:A:OP2	1:AA:946:C:N4	2.33	0.61
6:AH:11:ARG:NH1	6:AH:21:ASP:OD1	2.32	0.61
18:AT:39:GLU:HA	18:AT:42:ARG:HH11	1.66	0.61
35:B2:65:A:H1'	35:B2:77:A:H1'	1.80	0.61
35:B2:1095:G:N2	35:B2:1129:G:O2'	2.33	0.61
35:B2:1207:C:H4'	51:Ba:90:PRO:HD3	1.82	0.61
65:Bo:49:LEU:HD23	65:Bo:74:HIS:HB2	1.81	0.61
1:AA:975:U:H5'	15:AQ:55:ARG:HD3	1.81	0.61
35:B2:831:G:O2'	48:BX:18:TRP:NE1	2.33	0.61
1:AA:310:G:OP1	13:AO:100:ARG:NH1	2.33	0.61
1:AA:1718:C:N4	1:AA:1766:U:H3	1.97	0.61
41:BQ:293:ARG:HD3	46:BV:210:LEU:HB3	1.82	0.61
46:BV:50:ILE:HG22	46:BV:152:LEU:HD12	1.83	0.61
1:AA:709:G:H2'	1:AA:710:G:C8	2.36	0.61
1:AA:1233:C:O2	1:AA:1466:A:N6	2.33	0.61
19:AU:41:ILE:HG21	19:AU:47:ARG:HB2	1.81	0.61
35:B2:1653:A:H2'	35:B2:1654:A:C8	2.36	0.61
35:B2:1663:C:O2'	35:B2:1857:G:N1	2.33	0.61
35:B2:3264:U:OP1	68:Br:64:LYS:NZ	2.21	0.61
35:B2:3306:C:H42	35:B2:3310:A:H5'	1.66	0.61
1:AA:1234:A:H5''	12:AN:44:LYS:HD2	1.83	0.61
25:Ad:107:ARG:H	25:Ad:112:LYS:HZ1	1.49	0.61
35:B2:3304:U:H3'	35:B2:3305:C:H3'	1.82	0.61
1:AA:910:G:H2'	1:AA:911:U:C6	2.35	0.61
29:Ah:40:CYS:SG	29:Ah:41:PHE:N	2.74	0.61
35:B2:304:A:N3	35:B2:307:G:O2'	2.29	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:3064:A:N7	38:BN:214:ASN:ND2	2.48	0.61
35:B2:3116:U:H5''	35:B2:3117:A:H2'	1.82	0.61
47:BW:53:THR:HG22	47:BW:61:ARG:HH11	1.65	0.61
1:AA:1361:A:O2'	1:AA:1362:A:OP1	2.19	0.61
8:AJ:198:ARG:HH12	8:AJ:199:ARG:HE	1.48	0.61
42:BR:168:ILE:HG23	42:BR:174:MET:HG3	1.83	0.61
46:BV:101:LYS:HE3	46:BV:102:MET:HE3	1.82	0.61
1:AA:1754:A:H5'	1:AA:1755:U:H5	1.66	0.61
6:AH:54:TYR:O	26:Ae:15:ASN:ND2	2.34	0.61
35:B2:3260:A:H4'	35:B2:3261:U:OP1	2.01	0.61
1:AA:883:G:OP1	15:AQ:121:ARG:NH1	2.32	0.60
1:AA:1011:C:N4	1:AA:1012:G:O6	2.34	0.60
1:AA:1589:G:H5'	17:AS:26:ARG:HH22	1.64	0.60
7:AI:62:LYS:O	7:AI:70:ARG:NH1	2.34	0.60
26:Ae:63:HIS:ND1	26:Ae:68:ARG:O	2.33	0.60
35:B2:2389:U:H2'	35:B2:2390:G:H8	1.66	0.60
35:B2:1840:A:H2'	35:B2:1841:A:H8	1.64	0.60
1:AA:15:U:O2'	1:AA:623:A:N6	2.32	0.60
1:AA:1578:C:O2'	1:AA:1612:C:N4	2.35	0.60
1:AA:1723:U:O4	1:AA:1762:G:N2	2.34	0.60
6:AH:182:MET:HE2	6:AH:190:GLY:HA2	1.84	0.60
7:AI:35:SER:O	7:AI:145:ARG:NH2	2.34	0.60
35:B2:2217:U:H2'	35:B2:2218:G:C8	2.37	0.60
35:B2:3267:A:H5''	35:B2:3268:U:H5'	1.82	0.60
37:B4:16:C:H2'	37:B4:17:A:H8	1.66	0.60
1:AA:645:A:H2	1:AA:698:G:H22	1.49	0.60
1:AA:898:U:H3	1:AA:960:U:H3	1.49	0.60
35:B2:2480:C:O2'	39:BO:266:ARG:NH2	2.29	0.60
35:B2:2525:G:H1	35:B2:2606:U:H3	1.49	0.60
37:B4:163:A:H2'	37:B4:164:U:C6	2.36	0.60
47:BW:12:LEU:HD11	47:BW:131:MET:HB3	1.83	0.60
20:AV:119:THR:OG1	20:AV:122:GLY:N	2.34	0.60
35:B2:1234:A:H2'	35:B2:1235:A:C8	2.37	0.60
35:B2:2225:U:OP2	35:B2:2230:A:N6	2.32	0.60
46:BV:40:ARG:H	46:BV:40:ARG:HD2	1.65	0.60
1:AA:1654:U:OP1	7:AI:147:ASN:ND2	2.35	0.60
2:AD:36:MET:HE1	2:AD:150:CYS:HB2	1.83	0.60
35:B2:224:U:O2	61:Bk:102:LYS:NZ	2.34	0.60
3:AE:87:ARG:NH2	3:AE:89:GLU:OE1	2.34	0.60
6:AH:31:PRO:HG3	6:AH:43:PRO:HG3	1.84	0.60
22:Aa:24:LEU:HB2	22:Aa:87:ARG:HB2	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BN:100:VAL:HG22	38:BN:164:VAL:HG22	1.83	0.60
63:Bm:37:GLY:HA2	63:Bm:41:LEU:HB2	1.84	0.60
1:AA:286:C:OP2	8:AJ:191:ARG:NH2	2.29	0.60
1:AA:460:G:OP1	26:Ae:108:ARG:NH2	2.35	0.60
11:AM:106:GLU:O	11:AM:112:GLN:NE2	2.35	0.60
35:B2:1525:A:N7	74:Bx:2:PRO:HB3	2.16	0.60
35:B2:1742:G:H1	35:B2:1781:G:H1	1.49	0.60
37:B4:71:G:H22	37:B4:105:A:H2	1.50	0.60
1:AA:1084:U:H2'	1:AA:1085:G:H8	1.66	0.60
1:AA:1506:G:H1	1:AA:1563:U:H5	1.49	0.60
37:B4:56:A:O2'	37:B4:59:G:N2	2.35	0.60
40:BP:141:GLY:O	40:BP:143:ARG:NH1	2.34	0.60
1:AA:556:G:OP2	1:AA:557:C:O2'	2.20	0.59
1:AA:1606:C:OP1	20:AV:39:ARG:NH2	2.35	0.59
1:AA:1180:U:OP1	7:AI:144:ARG:NH2	2.35	0.59
22:Aa:25:THR:HG23	22:Aa:86:LYS:HG2	1.83	0.59
35:B2:20:A:H2'	35:B2:21:G:C8	2.37	0.59
35:B2:1052:G:N1	35:B2:1065:U:O4	2.35	0.59
49:BY:53:TYR:O	55:Be:154:ARG:NH2	2.35	0.59
1:AA:332:G:H5''	10:AL:98:LYS:HG3	1.84	0.59
35:B2:832:G:H22	40:BP:103:ALA:HA	1.68	0.59
35:B2:2452:G:H22	35:B2:2484:G:H1'	1.68	0.59
1:AA:385:C:H2'	1:AA:386:G:H8	1.66	0.59
1:AA:1480:A:N7	17:AS:138:ARG:NH2	2.50	0.59
35:B2:1884:G:H5''	35:B2:1885:G:H5'	1.84	0.59
43:BS:60:ASP:O	43:BS:64:ARG:HG3	2.02	0.59
1:AA:450:U:O2'	6:AH:27:TYR:O	2.20	0.59
4:AF:62:ILE:HG23	4:AF:67:ILE:HD11	1.85	0.59
5:AG:36:TYR:HH	5:AG:39:CYS:HG	1.48	0.59
31:Aj:21:CYS:SG	31:Aj:22:ALA:N	2.75	0.59
31:Aj:24:THR:HG22	31:Aj:25:GLY:H	1.67	0.59
6:AH:165:GLU:HG2	6:AH:166:THR:HG23	1.84	0.59
35:B2:2933:A:O2'	46:BV:74:LYS:NZ	2.35	0.59
45:BU:41:ARG:NH1	45:BU:67:CYS:SG	2.66	0.59
1:AA:5:U:H2'	1:AA:6:G:H8	1.67	0.59
1:AA:643:U:H2'	1:AA:644:G:C8	2.38	0.59
1:AA:1691:U:H2'	1:AA:1692:A:H8	1.68	0.59
35:B2:2284:C:O2'	35:B2:2358:A:N3	2.32	0.59
35:B2:3119:U:O2	35:B2:3128:A:N7	2.35	0.59
1:AA:100:C:OP2	1:AA:381:A:O2'	2.21	0.59
1:AA:1212:C:OP1	22:Aa:75:LYS:NZ	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1683:G:H1	1:AA:1801:C:H1'	1.67	0.59
19:AU:18:GLU:HB3	19:AU:69:ILE:HD11	1.84	0.59
35:B2:1424:A:N6	35:B2:1452:A:O2'	2.36	0.59
35:B2:2792:A:H2'	35:B2:2793:G:H8	1.68	0.59
62:Bl:25:ILE:HA	62:Bl:43:VAL:HG12	1.85	0.59
1:AA:1781:C:H2'	1:AA:1782:A:H8	1.68	0.58
12:AN:55:LEU:HD21	12:AN:68:LEU:HB3	1.85	0.58
15:AQ:92:ILE:HG22	15:AQ:150:VAL:HB	1.84	0.58
35:B2:3324:G:H1	35:B2:3361:U:H3	1.51	0.58
57:Bg:14:ILE:HB	57:Bg:61:ILE:HG22	1.85	0.58
1:AA:1818:A:H2'	1:AA:1819:G:C8	2.38	0.58
1:AA:1818:A:H2'	1:AA:1819:G:H8	1.68	0.58
3:AE:47:LEU:O	3:AE:64:ARG:NH2	2.35	0.58
35:B2:187:U:H2'	35:B2:188:C:C6	2.39	0.58
35:B2:253:U:H3'	35:B2:254:G:C8	2.38	0.58
35:B2:2985:A:O2'	35:B2:3028:A:N3	2.32	0.58
75:By:62:ARG:HH12	75:By:128:ARG:HA	1.67	0.58
1:AA:408:C:O2'	8:Aj:92:ARG:O	2.19	0.58
5:AG:9:LYS:HG2	22:Aa:25:THR:HG21	1.86	0.58
35:B2:453:U:H2'	35:B2:454:G:H8	1.68	0.58
35:B2:1661:A:H2	35:B2:1872:G:H1	1.48	0.58
35:B2:2188:A:H2'	35:B2:2189:C:C6	2.39	0.58
47:BW:19:LEU:HD11	47:BW:69:VAL:HG22	1.84	0.58
1:AA:755:U:O2'	1:AA:757:U:OP2	2.17	0.58
1:AA:915:A:H3'	1:AA:916:G:N2	2.18	0.58
1:AA:1222:C:C2	31:Aj:16:LYS:HB2	2.39	0.58
13:AO:72:VAL:HG13	13:AO:81:ILE:HD12	1.86	0.58
18:AT:13:ALA:HB2	18:AT:69:GLY:HA3	1.85	0.58
35:B2:589:U:O2'	35:B2:590:U:OP1	2.21	0.58
49:BY:12:ARG:NH1	49:BY:59:THR:O	2.36	0.58
5:AG:93:VAL:HG11	5:AG:96:ARG:HB2	1.85	0.58
17:AS:52:ARG:NH1	17:AS:52:ARG:O	2.37	0.58
35:B2:1052:G:H2'	35:B2:1053:G:C8	2.38	0.58
35:B2:3081:U:H2'	35:B2:3082:A:H8	1.68	0.58
36:B3:85:U:H2'	36:B3:86:G:H8	1.68	0.58
1:AA:1502:C:O2	1:AA:1566:A:N6	2.36	0.58
15:AQ:72:MET:CE	15:AQ:75:LEU:HD11	2.34	0.58
35:B2:110:G:OP2	48:BX:73:ARG:NH2	2.34	0.58
36:B3:94:C:H2'	36:B3:95:A:H8	1.69	0.58
62:Bl:12:LEU:HB3	62:Bl:81:MET:HB3	1.86	0.58
1:AA:874:A:C6	15:AQ:73:ARG:HD2	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AJ:64:PHE:HE1	8:AJ:82:PRO:HD2	1.69	0.58
27:Af:27:ILE:O	27:Af:31:ASN:ND2	2.34	0.58
35:B2:246:U:O2'	35:B2:252:A:N1	2.31	0.58
35:B2:1225:G:H2'	35:B2:1226:A:C8	2.38	0.58
35:B2:2795:G:H5''	56:Bf:17:ARG:HG2	1.86	0.58
46:BV:36:LEU:HD13	46:BV:73:ASN:HB2	1.85	0.58
1:AA:169:A:OP1	8:AJ:180:ARG:NH2	2.37	0.58
1:AA:928:G:H1'	35:B2:2295:A:H1'	1.86	0.58
5:AG:25:GLU:OE1	31:Aj:46:TYR:OH	2.21	0.58
35:B2:3336:G:N2	35:B2:3336:G:OP2	2.33	0.58
57:Bg:31:GLU:HB2	57:Bg:61:ILE:HD11	1.85	0.58
1:AA:596:U:H4'	1:AA:598:G:H4'	1.86	0.58
1:AA:826:A:N6	9:AK:112:GLN:O	2.36	0.58
14:AP:64:LEU:HB3	14:AP:126:VAL:HB	1.86	0.58
35:B2:3111:C:H2'	35:B2:3112:A:H8	1.68	0.58
35:B2:3312:C:OP1	51:Ba:183:LYS:NZ	2.34	0.58
38:BN:116:GLU:HB2	38:BN:161:ALA:HB1	1.85	0.58
1:AA:852:G:H2'	1:AA:853:G:C8	2.38	0.57
1:AA:1486:G:OP2	18:AT:136:GLN:NE2	2.36	0.57
10:AL:67:TRP:CD1	10:AL:183:ILE:HD11	2.39	0.57
21:AW:83:VAL:HG21	21:AW:93:ARG:HB2	1.86	0.57
35:B2:415:A:C2	37:B4:25:A:H1'	2.39	0.57
35:B2:1072:A:O2'	46:BV:198:LYS:NZ	2.37	0.57
37:B4:17:A:H2'	37:B4:18:G:H8	1.68	0.57
37:B4:65:C:H4'	37:B4:71:G:N7	2.19	0.57
56:Bf:84:TYR:HB2	64:Bn:24:PRO:HD3	1.86	0.57
1:AA:1634:A:H2'	1:AA:1635:G:H8	1.70	0.57
35:B2:1670:G:N2	35:B2:1673:A:OP2	2.30	0.57
35:B2:1819:G:O2'	35:B2:1821:G:OP2	2.22	0.57
1:AA:505:U:H2'	1:AA:506:G:C8	2.39	0.57
1:AA:1220:A:O2'	1:AA:1475:G:O6	2.18	0.57
7:AI:164:ASN:ND2	7:AI:165:VAL:H	2.01	0.57
16:AR:23:ALA:HB1	16:AR:97:GLY:H	1.69	0.57
35:B2:2445:A:H2'	35:B2:2446:A:C8	2.38	0.57
35:B2:3257:C:H2'	35:B2:3258:G:H8	1.69	0.57
35:B2:528:G:OP1	43:BS:75:ARG:NH2	2.38	0.57
35:B2:531:A:OP2	43:BS:78:ARG:NH1	2.34	0.57
35:B2:1254:A:N6	35:B2:3212:G:C6	2.73	0.57
35:B2:3212:G:OP1	35:B2:3212:G:N2	2.32	0.57
35:B2:3338:A:H2'	35:B2:3339:A:C8	2.39	0.57
1:AA:153:G:H2'	1:AA:154:G:H8	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:135:U:O2'	35:B2:137:C:O2	2.17	0.57
35:B2:164:G:H2'	35:B2:165:A:H8	1.70	0.57
35:B2:1052:G:O2'	35:B2:1053:G:O4'	2.21	0.57
35:B2:1696:G:H2'	35:B2:1697:G:H8	1.68	0.57
37:B4:54:G:OP1	74:Bx:18:ARG:NH2	2.37	0.57
1:AA:1694:C:H2'	1:AA:1695:G:O4'	2.05	0.57
2:AD:65:ARG:NH2	23:Ab:37:CYS:O	2.34	0.57
28:Ag:51:ARG:NH1	30:Ai:38:SER:OG	2.38	0.57
35:B2:323:C:OP1	48:BX:102:ARG:NH2	2.35	0.57
35:B2:532:A:OP1	40:BP:350:LYS:NZ	2.34	0.57
35:B2:2949:U:H5''	46:BV:160:PRO:HG3	1.86	0.57
35:B2:3059:G:N2	35:B2:3062:A:OP2	2.26	0.57
35:B2:3338:A:H2'	35:B2:3339:A:H8	1.69	0.57
38:BN:26:ALA:HB3	38:BN:127:ARG:HH22	1.70	0.57
1:AA:1472:U:H2'	1:AA:1473:G:C8	2.40	0.57
10:AL:81:VAL:HA	10:AL:102:VAL:HG12	1.87	0.57
18:AT:94:VAL:HG22	18:AT:95:ASP:H	1.68	0.57
35:B2:1531:C:H2'	35:B2:1532:A:C8	2.38	0.57
35:B2:190:G:O2'	35:B2:191:U:O4'	2.11	0.57
35:B2:618:U:P	35:B2:634:G:H1	2.28	0.57
35:B2:2494:C:H2'	35:B2:2495:C:H6	1.70	0.57
70:Bt:11:GLN:NE2	70:Bt:15:ASN:HD21	2.02	0.57
1:AA:5:U:H2'	1:AA:6:G:C8	2.40	0.57
1:AA:1433:U:O2'	1:AA:1436:G:OP1	2.22	0.57
30:Ai:19:ARG:NH2	30:Ai:24:GLY:O	2.36	0.57
35:B2:359:A:N6	74:Bx:37:TYR:O	2.37	0.57
35:B2:656:A:H2'	35:B2:657:A:H8	1.68	0.57
35:B2:681:A:H2'	35:B2:682:A:C8	2.40	0.57
35:B2:2632:A:O2'	35:B2:2633:U:O4'	2.22	0.57
35:B2:3366:G:H2'	35:B2:3367:A:H5''	1.86	0.57
50:BZ:124:ASP:OD1	50:BZ:126:THR:N	2.32	0.57
1:AA:525:U:H3	1:AA:533:C:H42	1.51	0.57
1:AA:639:A:H5''	24:Ac:31:SER:HB3	1.86	0.57
35:B2:1650:C:H2'	35:B2:1651:A:C8	2.39	0.57
35:B2:2329:U:HO2'	38:BN:242:THR:H	1.51	0.57
45:BU:179:VAL:HG12	45:BU:180:SER:H	1.70	0.57
49:BY:16:VAL:HA	49:BY:56:VAL:HG12	1.87	0.57
1:AA:1472:U:H2'	1:AA:1473:G:H8	1.68	0.56
3:AE:84:VAL:HG22	3:AE:103:LEU:HD12	1.86	0.56
35:B2:413:U:H4'	35:B2:1450:C:H4'	1.87	0.56
42:BR:126:LYS:HE2	42:BR:126:LYS:HA	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Ae:48:TYR:C	26:Ae:49:LYS:HD3	2.30	0.56
35:B2:37:U:OP1	35:B2:966:G:N2	2.38	0.56
35:B2:674:A:OP2	35:B2:2963:U:O2'	2.23	0.56
35:B2:1396:G:H2'	35:B2:1397:A:C8	2.40	0.56
35:B2:2273:G:O2'	35:B2:2402:U:OP2	2.22	0.56
35:B2:3336:G:H2'	35:B2:3337:A:C8	2.41	0.56
64:Bn:48:ARG:O	64:Bn:52:GLU:HG2	2.05	0.56
1:AA:475:G:O2'	1:AA:782:A:N3	2.35	0.56
1:AA:1216:G:N1	31:Aj:31:ILE:HG23	2.20	0.56
1:AA:1393:U:H2'	1:AA:1394:A:C8	2.38	0.56
1:AA:1407:G:H21	1:AA:1431:A:H2	1.51	0.56
1:AA:1589:G:H5''	17:AS:46:HIS:HA	1.87	0.56
9:AK:63:PHE:HB3	9:AK:97:GLN:HB2	1.86	0.56
12:AN:31:LYS:HA	12:AN:38:PRO:HA	1.85	0.56
16:AR:63:MET:HE3	16:AR:106:ALA:HB2	1.88	0.56
30:Ai:45:VAL:HG22	30:Ai:47:GLY:H	1.69	0.56
36:B3:28:C:H1'	36:B3:54:A:H61	1.69	0.56
44:BT:85:ASN:OD1	44:BT:86:THR:N	2.39	0.56
58:Bh:44:THR:HG21	58:Bh:52:PRO:HB3	1.87	0.56
1:AA:133:U:O2'	1:AA:201:G:O2'	2.17	0.56
1:AA:1042:A:OP1	1:AA:1831:G:O2'	2.20	0.56
1:AA:1497:G:OP1	21:AW:44:GLU:N	2.32	0.56
6:AH:149:TYR:HE2	8:Aj:208:ALA:HA	1.70	0.56
35:B2:1268:G:H1	35:B2:1282:A:H2	1.45	0.56
35:B2:1954:G:O2'	35:B2:2422:U:O4	2.19	0.56
36:B3:82:G:H2'	36:B3:83:G:C8	2.40	0.56
1:AA:160:C:O2'	8:Aj:95:LYS:NZ	2.39	0.56
1:AA:387:G:HO2'	10:AL:21:TYR:HH	1.51	0.56
5:AG:74:LEU:HD11	12:AN:65:TYR:HB3	1.87	0.56
35:B2:203:G:N1	35:B2:206:A:OP2	2.34	0.56
35:B2:253:U:H3'	35:B2:254:G:H8	1.70	0.56
35:B2:369:A:O3'	72:Bv:45:ARG:NH2	2.38	0.56
58:Bh:106:ASN:OD1	58:Bh:110:GLU:N	2.38	0.56
63:Bm:71:PRO:HG2	63:Bm:108:TYR:HA	1.86	0.56
1:AA:922:A:O2'	1:AA:1012:G:O2'	2.17	0.56
20:AV:15:LEU:HD11	20:AV:68:VAL:HG11	1.88	0.56
35:B2:2832:C:O2'	64:Bn:36:ASP:OD1	2.21	0.56
35:B2:3040:G:O2'	35:B2:3043:C:OP2	2.20	0.56
35:B2:3459:U:H2'	35:B2:3460:A:H8	1.69	0.56
55:Be:108:ASP:OD1	55:Be:112:ARG:NH1	2.37	0.56
75:By:62:ARG:HH22	75:By:129:PRO:HD3	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1242:U:H3'	1:AA:1243:A:H8	1.71	0.56
6:AH:212:ASP:OD1	6:AH:214:LEU:N	2.39	0.56
31:Aj:24:THR:HG21	31:Aj:39:SER:HB3	1.86	0.56
32:Ak:49:ASN:ND2	32:Ak:56:ARG:O	2.39	0.56
35:B2:182:G:H22	35:B2:248:G:H1	1.53	0.56
35:B2:1116:G:N2	64:Bn:43:GLN:OE1	2.38	0.56
51:Ba:4:PHE:HE1	68:Br:32:LYS:HE3	1.70	0.56
1:AA:183:U:H2'	1:AA:184:C:C6	2.41	0.56
1:AA:1093:C:H2'	1:AA:1094:C:H6	1.70	0.56
2:AD:124:ILE:HG13	2:AD:144:ILE:HG21	1.88	0.56
10:AL:62:SER:HA	10:AL:77:ARG:HA	1.87	0.56
13:AO:51:VAL:HG23	13:AO:52:ASP:H	1.70	0.56
23:Ab:36:VAL:HG13	23:Ab:51:THR:HG23	1.87	0.56
35:B2:223:G:OP1	61:Bk:15:ARG:NH1	2.37	0.56
35:B2:1651:A:H2'	35:B2:1652:G:H8	1.70	0.56
35:B2:1700:G:O2'	35:B2:1742:G:N2	2.33	0.56
35:B2:2792:A:H2'	35:B2:2793:G:C8	2.41	0.56
35:B2:3435:U:H4'	35:B2:3436:A:H5'	1.87	0.56
1:AA:1348:A:H2	5:AG:165:PRO:HG3	1.71	0.56
1:AA:1625:G:N2	1:AA:1652:A:OP2	2.34	0.56
34:B1:11:THR:HG21	34:B1:23:ARG:HB3	1.86	0.56
35:B2:1826:C:H5''	69:Bs:38:LEU:HD11	1.87	0.56
35:B2:2439:U:H2'	35:B2:2440:A:H8	1.71	0.56
45:BU:19:VAL:HG11	45:BU:53:ILE:HD11	1.87	0.56
48:BX:171:LYS:O	63:Bm:138:LYS:NZ	2.33	0.56
52:Bb:52:LYS:NZ	52:Bb:52:LYS:HB3	2.21	0.56
1:AA:643:U:H2'	1:AA:644:G:H8	1.71	0.56
1:AA:1597:A:OP1	17:AS:123:TYR:OH	2.20	0.56
5:AG:107:LEU:HG	5:AG:124:VAL:HG21	1.88	0.56
8:AJ:122:PRO:HA	8:AJ:126:ASP:HB2	1.87	0.56
35:B2:356:A:N3	35:B2:360:A:O2'	2.39	0.56
35:B2:2383:A:N3	35:B2:3024:C:O2'	2.33	0.56
35:B2:2512:A:OP1	50:BZ:90:ASN:ND2	2.39	0.56
35:B2:3278:A:H2'	35:B2:3279:A:H8	1.70	0.56
35:B2:3403:U:H2'	35:B2:3404:G:C8	2.41	0.56
37:B4:17:A:H2'	37:B4:18:G:C8	2.40	0.56
1:AA:267:G:H5''	1:AA:268:A:H5''	1.86	0.55
1:AA:409:U:H2'	1:AA:410:A:H8	1.70	0.55
1:AA:534:C:O2'	26:Ae:63:HIS:O	2.24	0.55
1:AA:558:A:H2'	1:AA:559:A:C5	2.40	0.55
1:AA:1097:A:H1'	1:AA:1098:C:H5	1.70	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1543:G:N2	1:AA:1547:G:N7	2.54	0.55
8:AJ:198:ARG:NH1	8:AJ:199:ARG:HB2	2.21	0.55
15:AQ:61:PRO:HB2	15:AQ:66:ILE:HD11	1.88	0.55
35:B2:2495:C:H5'	35:B2:2714:G:H21	1.71	0.55
46:BV:52:LEU:HB2	46:BV:152:LEU:HD13	1.87	0.55
58:Bh:15:MET:HE2	58:Bh:55:SER:HB3	1.88	0.55
67:Bq:63:CYS:SG	67:Bq:69:LYS:NZ	2.78	0.55
1:AA:1022:C:H2'	1:AA:1023:G:H8	1.72	0.55
1:AA:1778:G:H2'	1:AA:1779:G:C8	2.40	0.55
5:AG:140:ILE:HG23	5:AG:184:LEU:HD21	1.89	0.55
6:AH:9:LEU:HB2	6:AH:30:LYS:HD3	1.86	0.55
10:AL:156:LEU:HD11	10:AL:165:LEU:HD21	1.87	0.55
11:AM:119:ALA:O	11:AM:124:HIS:ND1	2.39	0.55
35:B2:2516:U:H2'	35:B2:2517:G:H8	1.71	0.55
35:B2:2645:A:O2'	44:BT:38:GLN:NE2	2.40	0.55
35:B2:3160:U:H2'	35:B2:3161:G:H8	1.72	0.55
41:BQ:122:VAL:O	41:BQ:248:ARG:NH2	2.40	0.55
53:Bc:16:SER:O	53:Bc:33:ARG:NH2	2.37	0.55
55:Be:73:VAL:HG22	55:Be:94:ARG:HG2	1.89	0.55
1:AA:603:U:H2'	1:AA:604:A:H8	1.70	0.55
33:B0:2:VAL:N	33:B0:90:HIS:O	2.40	0.55
35:B2:984:A:H4'	35:B2:1000:G:N2	2.20	0.55
35:B2:1017:U:H2'	35:B2:1018:U:C6	2.40	0.55
35:B2:1291:A:H4'	35:B2:1310:C:H1'	1.89	0.55
35:B2:1536:G:N2	35:B2:1547:G:N7	2.49	0.55
43:BS:52:ILE:HD13	43:BS:188:SER:HB3	1.87	0.55
69:Bs:42:PRO:HB2	69:Bs:51:LEU:HD12	1.88	0.55
1:AA:1598:U:H1'	17:AS:126:GLU:HG2	1.88	0.55
1:AA:1776:U:C4	1:AA:1777:U:O4	2.60	0.55
8:AJ:76:LEU:HD21	8:AJ:92:ARG:HD3	1.88	0.55
35:B2:544:A:HO2'	35:B2:545:A:H8	1.55	0.55
35:B2:2638:U:H1'	35:B2:2641:C:H41	1.71	0.55
35:B2:2922:U:O2'	35:B2:2924:U:O4	2.24	0.55
50:BZ:183:SER:HB3	50:BZ:184:PRO:HD2	1.89	0.55
67:Bq:72:LEU:O	75:By:22:ARG:NH1	2.27	0.55
1:AA:1202:U:O2'	1:AA:1478:G:N7	2.34	0.55
1:AA:1481:C:H2'	1:AA:1482:G:C8	2.41	0.55
1:AA:1769:G:H2'	1:AA:1770:A:C8	2.41	0.55
4:AF:98:LYS:NZ	4:AF:116:CYS:SG	2.75	0.55
17:AS:102:VAL:HG12	17:AS:113:VAL:CG2	2.36	0.55
35:B2:980:C:O2'	53:Bc:11:ARG:NH1	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:1840:A:H2'	35:B2:1841:A:C8	2.41	0.55
35:B2:2003:G:H22	35:B2:2187:A:H2	1.53	0.55
35:B2:676:G:O2'	35:B2:1469:A:OP1	2.24	0.55
35:B2:1615:C:OP2	60:Bj:32:ARG:NH2	2.33	0.55
37:B4:132:G:N2	37:B4:137:A:N1	2.41	0.55
46:BV:15:LYS:HG3	46:BV:16:PRO:HD2	1.89	0.55
53:Bc:40:ASP:OD2	53:Bc:40:ASP:N	2.34	0.55
1:AA:1018:A:H4'	1:AA:1019:U:H5'	1.88	0.55
1:AA:1102:A:H5'	4:AF:163:SER:HB3	1.89	0.55
1:AA:1644:U:OP2	18:AT:129:HIS:NE2	2.29	0.55
3:AE:173:GLN:OE1	3:AE:173:GLN:N	2.38	0.55
20:AV:80:PRO:HB2	20:AV:82:TRP:HD1	1.70	0.55
28:Ag:23:CYS:HB3	28:Ag:28:ARG:H	1.71	0.55
29:Ah:74:MET:HE2	29:Ah:74:MET:HA	1.89	0.55
35:B2:944:G:OP2	38:BN:9:ARG:NH2	2.32	0.55
35:B2:2291:U:H2'	35:B2:2292:C:C6	2.42	0.55
35:B2:2746:G:O2'	35:B2:2891:G:O6	2.24	0.55
35:B2:2840:G:N2	35:B2:2843:A:OP2	2.34	0.55
35:B2:3288:G:H22	35:B2:3300:A:H1'	1.72	0.55
38:BN:149:LEU:HD11	38:BN:155:LYS:HE2	1.89	0.55
50:BZ:145:ASP:HB3	50:BZ:148:ILE:HG22	1.89	0.55
1:AA:147:A:OP2	1:AA:166:C:N4	2.40	0.55
35:B2:717:A:H5''	61:Bk:5:ARG:HH21	1.69	0.55
35:B2:3119:U:H2'	35:B2:3120:A:H8	1.71	0.55
68:Br:32:LYS:NZ	68:Br:33:ILE:O	2.39	0.55
1:AA:911:U:O2	16:AR:43:ARG:NH2	2.39	0.55
1:AA:1570:C:H1'	21:AW:12:GLN:HG3	1.89	0.55
8:AJ:69:LEU:HD22	8:AJ:70:PRO:HD2	1.88	0.55
30:Ai:38:SER:OG	30:Ai:39:ARG:N	2.40	0.55
35:B2:1520:G:H21	69:Bs:6:THR:HG22	1.72	0.55
40:BP:163:LYS:HB2	40:BP:166:GLU:HG3	1.89	0.55
1:AA:911:U:H5''	3:AE:23:PRO:HG2	1.88	0.55
2:AD:200:MET:HE2	2:AD:202:ASP:HB2	1.88	0.55
21:AW:35:ASP:HA	21:AW:52:TRP:HH2	1.71	0.55
27:Af:35:PRO:HA	27:Af:83:ARG:HE	1.71	0.55
35:B2:187:U:O2'	35:B2:241:G:O6	2.22	0.55
35:B2:2464:G:H2'	35:B2:2465:G:C8	2.42	0.55
35:B2:2494:C:H2'	35:B2:2495:C:C6	2.42	0.55
43:BS:43:ALA:O	43:BS:47:LYS:HG3	2.06	0.55
1:AA:1462:U:O2'	1:AA:1467:U:OP1	2.25	0.54
35:B2:497:C:H2'	35:B2:498:U:C6	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:681:A:H2'	35:B2:682:A:H8	1.72	0.54
35:B2:1159:U:H1'	35:B2:2923:G:H5'	1.88	0.54
35:B2:1701:G:H2'	35:B2:1702:A:H8	1.72	0.54
35:B2:3265:U:O2'	35:B2:3266:U:O2	2.22	0.54
35:B2:3297:C:H2'	35:B2:3299:U:C4	2.42	0.54
57:Bg:76:TYR:CZ	57:Bg:80:LYS:HD2	2.42	0.54
1:AA:340:G:O2'	10:AL:10:LYS:NZ	2.40	0.54
1:AA:968:G:H2'	1:AA:969:G:C8	2.43	0.54
3:AE:185:VAL:O	3:AE:188:LEU:N	2.40	0.54
10:AL:4:THR:OG1	10:AL:6:ASP:OD1	2.25	0.54
19:AU:99:ASP:N	19:AU:118:VAL:O	2.39	0.54
35:B2:1679:A:OP1	35:B2:1874:U:O2'	2.24	0.54
39:BO:171:LEU:HD21	39:BO:333:LYS:HB2	1.89	0.54
46:BV:89:VAL:HG22	46:BV:136:MET:HE2	1.89	0.54
1:AA:1119:U:O4	25:Ad:2:GLY:N	2.40	0.54
1:AA:1191:C:H42	1:AA:1485:C:H42	1.55	0.54
17:AS:28:VAL:HB	17:AS:33:LEU:HD21	1.88	0.54
35:B2:256:C:H3'	35:B2:257:A:C8	2.41	0.54
35:B2:277:G:H5''	50:BZ:14:LYS:HE2	1.89	0.54
62:Bl:14:THR:HB	69:Bs:86:LYS:HG3	1.88	0.54
35:B2:1140:U:H2'	35:B2:1141:C:C6	2.42	0.54
35:B2:2852:U:H4'	56:Bf:7:ILE:HB	1.88	0.54
43:BS:68:ARG:O	43:BS:72:GLU:HG2	2.08	0.54
46:BV:49:CYS:HB3	46:BV:168:SER:OG	2.07	0.54
55:Be:151:LEU:HD12	55:Be:152:PRO:HD2	1.89	0.54
1:AA:221:A:H62	1:AA:846:U:H3	1.55	0.54
1:AA:332:G:H2'	1:AA:333:G:H8	1.73	0.54
1:AA:938:A:H2'	1:AA:939:A:C8	2.42	0.54
1:AA:1633:A:H2'	1:AA:1634:A:C8	2.43	0.54
2:AD:182:ARG:HG2	2:AD:186:ARG:HD2	1.89	0.54
8:AJ:74:ARG:HG2	8:AJ:96:SER:HB3	1.89	0.54
9:AK:162:ASN:O	9:AK:163:THR:HG22	2.08	0.54
35:B2:709:G:OP2	48:BX:28:GLN:NE2	2.40	0.54
35:B2:2882:G:H2'	35:B2:2883:A:H8	1.73	0.54
35:B2:2942:A:H3'	35:B2:2943:G:H8	1.71	0.54
35:B2:3261:U:H2'	35:B2:3262:G:C8	2.43	0.54
43:BS:93:PHE:HB2	43:BS:147:PRO:HG3	1.88	0.54
61:Bk:76:LYS:HE2	61:Bk:78:LEU:HD12	1.89	0.54
1:AA:80:C:O2	8:AJ:177:LYS:NZ	2.41	0.54
2:AD:41:TRP:CG	2:AD:42:LYS:H	2.26	0.54
6:AH:152:PRO:O	6:AH:155:LYS:NZ	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AH:153:LEU:O	6:AH:174:LYS:NZ	2.40	0.54
9:AK:98:ARG:NH2	9:AK:130:ASP:OD2	2.40	0.54
10:AL:184:LEU:HB2	10:AL:189:LEU:HD23	1.89	0.54
17:AS:36:LEU:HD21	17:AS:41:LEU:HB2	1.89	0.54
35:B2:26:A:N3	35:B2:336:U:O2'	2.35	0.54
35:B2:1130:A:H5'	56:Bf:129:ARG:HG3	1.90	0.54
35:B2:2187:A:H2'	35:B2:2188:A:H5''	1.90	0.54
35:B2:3278:A:H2'	35:B2:3279:A:C8	2.43	0.54
1:AA:67:A:H62	1:AA:84:G:N2	2.02	0.54
1:AA:252:U:O2	13:AO:18:HIS:ND1	2.40	0.54
1:AA:906:A:H2'	1:AA:907:A:C8	2.43	0.54
1:AA:1294:G:OP1	5:AG:141:SER:OG	2.25	0.54
5:AG:174:THR:HG23	5:AG:187:LYS:HG2	1.88	0.54
5:AG:212:PRO:HB3	19:AU:19:LYS:HG3	1.89	0.54
7:AI:165:VAL:HG11	27:Af:46:VAL:HG21	1.90	0.54
35:B2:1318:A:H2'	35:B2:1319:U:H5''	1.90	0.54
35:B2:3112:A:H2'	35:B2:3113:A:C8	2.42	0.54
36:B3:110:G:H2'	36:B3:111:C:C6	2.43	0.54
45:BU:82:VAL:HG23	45:BU:83:THR:HG22	1.89	0.54
53:Bc:91:ASP:O	53:Bc:114:ARG:NH2	2.41	0.54
2:AD:62:LEU:HD22	23:Ab:79:LEU:HD22	1.89	0.54
26:Ae:61:ARG:C	26:Ae:69:THR:HG23	2.33	0.54
33:B0:46:LYS:HZ3	35:B2:44:U:H1'	1.73	0.54
35:B2:3249:U:N3	35:B2:3392:A:O2'	2.38	0.54
53:Bc:121:GLU:OE2	53:Bc:131:ARG:NH1	2.39	0.54
53:Bc:124:THR:OG1	53:Bc:126:ASP:OD1	2.24	0.54
1:AA:387:G:H2'	1:AA:388:A:C8	2.42	0.54
17:AS:127:PHE:CE2	20:AV:119:THR:HG22	2.43	0.54
35:B2:2521:U:H1'	50:BZ:125:ALA:HB2	1.89	0.54
35:B2:3286:U:H3	35:B2:3303:C:H1'	1.73	0.54
1:AA:795:U:O2'	26:Ae:7:ILE:O	2.19	0.54
1:AA:889:C:H2'	1:AA:890:G:C8	2.43	0.54
1:AA:1503:A:H2	1:AA:1648:G:H1'	1.72	0.54
13:AO:30:ARG:NH1	13:AO:45:ALA:O	2.40	0.54
35:B2:2501:A:H2'	35:B2:2502:G:H8	1.73	0.54
37:B4:16:C:H2'	37:B4:17:A:C8	2.42	0.54
44:BT:58:LEU:HD11	50:BZ:29:GLU:HG3	1.90	0.54
58:Bh:15:MET:HE1	58:Bh:56:CYS:HB2	1.89	0.54
62:Bl:23:VAL:HG12	62:Bl:45:GLY:HA3	1.90	0.54
1:AA:474:A:H2'	1:AA:475:G:H8	1.73	0.53
1:AA:968:G:H2'	1:AA:969:G:H8	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1497:G:H4'	21:AW:47:PRO:HA	1.89	0.53
1:AA:1779:G:H2'	1:AA:1780:U:H6	1.73	0.53
35:B2:468:G:H1	35:B2:484:A:H2	1.55	0.53
35:B2:1659:G:O2'	35:B2:1678:A:N1	2.39	0.53
35:B2:3211:C:O2'	35:B2:3213:C:N4	2.40	0.53
47:BW:48:SER:HB2	47:BW:66:ALA:HB3	1.90	0.53
50:BZ:33:MET:O	50:BZ:65:ARG:NH2	2.40	0.53
62:Bl:41:ALA:HB2	62:Bl:77:TYR:HE1	1.71	0.53
1:AA:1539:G:H2'	1:AA:1540:G:C8	2.44	0.53
2:AD:69:THR:HB	23:Ab:37:CYS:HB3	1.90	0.53
4:AF:156:LYS:NZ	24:Ac:91:ASN:O	2.34	0.53
13:AO:63:ILE:HD13	13:AO:125:CYS:HB3	1.89	0.53
35:B2:511:C:O2'	42:BR:78:ASP:OD2	2.27	0.53
35:B2:819:G:H2'	35:B2:820:C:H6	1.73	0.53
35:B2:919:G:H2'	35:B2:920:A:C8	2.43	0.53
35:B2:1588:A:O4'	35:B2:1593:A:N6	2.40	0.53
36:B3:12:U:OP2	36:B3:67:C:O2'	2.26	0.53
1:AA:156:A:N6	1:AA:421:G:O6	2.40	0.53
1:AA:1591:A:P	17:AS:50:ARG:HH21	2.30	0.53
21:AW:18:TYR:HB3	21:AW:58:ALA:HB1	1.90	0.53
28:Ag:37:LYS:N	28:Ag:37:LYS:HD3	2.22	0.53
35:B2:932:G:H1'	35:B2:1624:A:N6	2.23	0.53
35:B2:1040:U:O4	35:B2:1075:C:N4	2.40	0.53
35:B2:1627:G:OP1	69:Bs:58:ARG:NH2	2.40	0.53
35:B2:2645:A:O2'	35:B2:2646:U:O2	2.24	0.53
35:B2:2668:C:H5''	62:Bl:57:MET:HA	1.90	0.53
35:B2:3412:C:H2'	35:B2:3413:U:H6	1.73	0.53
49:BY:48:ARG:NH2	49:BY:69:ALA:O	2.34	0.53
62:Bl:42:VAL:HG22	62:Bl:74:VAL:HG22	1.90	0.53
2:AD:80:SER:HB3	2:AD:89:VAL:HG11	1.90	0.53
20:AV:60:THR:OG1	20:AV:63:GLU:OE1	2.25	0.53
35:B2:1079:A:N3	35:B2:2728:U:O2'	2.42	0.53
35:B2:1707:U:OP1	54:Bd:60:ARG:NH1	2.41	0.53
35:B2:2444:A:N6	35:B2:3078:C:O2	2.41	0.53
42:BR:83:THR:HB	42:BR:93:ILE:HA	1.89	0.53
55:Be:11:ARG:HB3	55:Be:23:LEU:HD23	1.91	0.53
58:Bh:59:MET:O	58:Bh:59:MET:HG3	2.08	0.53
1:AA:1598:U:OP2	1:AA:1600:A:O2'	2.21	0.53
20:AV:38:ARG:O	20:AV:42:ASN:ND2	2.32	0.53
35:B2:615:G:N2	35:B2:637:U:OP1	2.31	0.53
35:B2:1341:G:HO2'	35:B2:2468:A:HO2'	1.56	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:2248:G:H2'	35:B2:2249:G:H8	1.73	0.53
35:B2:2268:G:H2'	35:B2:2269:C:C6	2.44	0.53
35:B2:3205:G:N2	45:BU:154:GLN:OE1	2.38	0.53
35:B2:3429:G:OP1	39:BO:385:LYS:NZ	2.38	0.53
35:B2:3434:G:H22	35:B2:3470:G:H8	1.57	0.53
44:BT:158:ASP:HB3	44:BT:159:PRO:HD3	1.90	0.53
50:BZ:42:PRO:HG3	50:BZ:61:ILE:HG13	1.91	0.53
66:Bp:56:VAL:HG13	66:Bp:60:LEU:HD23	1.89	0.53
1:AA:1644:U:OP1	18:AT:135:GLN:NE2	2.40	0.53
2:AD:87:ARG:NH2	19:AU:82:ASP:HA	2.23	0.53
3:AE:90:ASP:OD1	3:AE:223:HIS:NE2	2.41	0.53
3:AE:144:ARG:NH1	3:AE:207:LEU:O	2.42	0.53
6:AH:157:ASN:ND2	6:AH:222:LEU:HD21	2.24	0.53
13:AO:128:LEU:HB2	13:AO:132:VAL:HB	1.90	0.53
35:B2:771:C:N3	53:Bc:142:ARG:NH2	2.53	0.53
35:B2:1120:U:H2'	35:B2:1121:G:H8	1.74	0.53
35:B2:2477:C:O2'	35:B2:3408:A:N1	2.39	0.53
47:BW:25:GLU:OE1	47:BW:29:ARG:NH2	2.41	0.53
47:BW:45:PRO:HA	47:BW:69:VAL:HG12	1.90	0.53
75:By:33:GLU:OE2	75:By:47:GLY:N	2.41	0.53
1:AA:644:G:H2'	1:AA:645:A:C8	2.43	0.53
1:AA:1332:U:O2	19:AU:4:VAL:HG11	2.09	0.53
1:AA:1435:U:H2'	1:AA:1436:G:H8	1.74	0.53
1:AA:1633:A:H2'	1:AA:1634:A:H8	1.73	0.53
1:AA:1803:U:O2	1:AA:1804:A:N6	2.41	0.53
4:AF:184:LYS:HG2	4:AF:188:GLN:NE2	2.23	0.53
12:AN:73:VAL:HG11	12:AN:89:ALA:HB2	1.91	0.53
35:B2:115:A:H2'	35:B2:273:A:H2'	1.89	0.53
35:B2:665:U:H2'	35:B2:666:C:C6	2.44	0.53
35:B2:714:A:OP2	48:BX:40:GLN:NE2	2.42	0.53
35:B2:1133:G:H2'	35:B2:1134:A:C8	2.43	0.53
35:B2:1438:G:N2	35:B2:1441:A:OP2	2.26	0.53
37:B4:14:U:H2'	37:B4:15:U:H6	1.74	0.53
47:BW:26:SER:HA	47:BW:30:LEU:HB2	1.91	0.53
70:Bt:106:GLN:O	70:Bt:110:GLU:HG3	2.08	0.53
1:AA:1574:C:OP2	27:Af:57:ARG:NH2	2.42	0.53
5:AG:35:GLY:HA3	5:AG:55:THR:HB	1.90	0.53
7:AI:79:GLY:HA2	7:AI:82:ASN:HB2	1.90	0.53
13:AO:14:GLN:HB3	13:AO:51:VAL:HG21	1.91	0.53
35:B2:802:G:H21	35:B2:803:A:H62	1.55	0.53
35:B2:2696:A:H2'	35:B2:2697:G:H8	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:B3:75:G:O2'	36:B3:99:G:O6	2.21	0.53
63:Bm:75:LEU:HG	63:Bm:113:GLY:HA2	1.89	0.53
1:AA:534:C:O2	26:Ae:62:THR:OG1	2.23	0.53
1:AA:973:U:O2'	15:AQ:55:ARG:NH1	2.42	0.53
17:AS:26:ARG:HG3	17:AS:44:LEU:HB2	1.91	0.53
17:AS:80:LYS:NZ	17:AS:115:ILE:O	2.42	0.53
33:B0:28:TYR:HB3	33:B0:69:VAL:HB	1.91	0.53
35:B2:1412:U:H2'	35:B2:1413:G:H8	1.74	0.53
35:B2:1825:U:H2'	35:B2:1826:C:H6	1.74	0.53
35:B2:2244:C:OP2	38:BN:240:ARG:NH2	2.42	0.53
37:B4:150:C:H2'	37:B4:151:U:C6	2.44	0.53
53:Bc:166:VAL:HG12	53:Bc:174:GLU:HG3	1.91	0.53
66:Bp:18:THR:OG1	66:Bp:77:ARG:NH1	2.37	0.53
1:AA:785:G:H21	1:AA:787:A:H1'	1.74	0.53
4:AF:226:PRO:HA	4:AF:229:TRP:CE2	2.43	0.53
10:AL:166:TYR:HE2	10:AL:196:MET:HE1	1.74	0.53
11:AM:124:HIS:O	11:AM:128:LEU:HB2	2.09	0.53
20:AV:130:ARG:HE	20:AV:136:THR:HG23	1.74	0.53
35:B2:457:U:H2'	35:B2:458:G:H8	1.73	0.53
35:B2:687:U:H2'	35:B2:688:C:C6	2.42	0.53
35:B2:1120:U:H2'	35:B2:1121:G:C8	2.44	0.53
35:B2:3055:C:H2'	35:B2:3056:G:C8	2.43	0.53
45:BU:29:LYS:HG2	45:BU:34:VAL:HG22	1.91	0.53
65:Bo:19:LYS:HB3	65:Bo:106:ILE:HG12	1.91	0.53
1:AA:109:A:H2'	1:AA:110:G:C8	2.44	0.52
1:AA:900:G:OP1	3:AE:216:LYS:NZ	2.34	0.52
1:AA:954:A:H2'	1:AA:955:A:C8	2.45	0.52
1:AA:962:U:H2'	1:AA:963:G:H8	1.74	0.52
9:AK:87:PHE:O	9:AK:90:ARG:NE	2.42	0.52
18:AT:41:LEU:HB3	18:AT:75:ILE:HD13	1.90	0.52
35:B2:977:C:H2'	35:B2:978:U:C6	2.44	0.52
45:BU:91:ARG:HH21	45:BU:93:VAL:HG22	1.74	0.52
60:Bj:135:ALA:HB1	60:Bj:141:LEU:HD13	1.91	0.52
5:AG:54:ALA:HB3	5:AG:60:VAL:HG21	1.91	0.52
11:AM:129:ILE:HD12	11:AM:130:PHE:N	2.24	0.52
27:Af:83:ARG:HH12	27:Af:84:VAL:HG13	1.72	0.52
35:B2:146:U:H2'	35:B2:147:C:C6	2.44	0.52
35:B2:760:C:H41	35:B2:762:U:H3	1.57	0.52
35:B2:2976:C:H2'	35:B2:2977:U:C6	2.45	0.52
35:B2:3112:A:H2'	35:B2:3113:A:H8	1.74	0.52
35:B2:3218:A:N3	45:BU:63:LYS:NZ	2.57	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:3314:U:OP2	49:BY:121:ARG:NH1	2.43	0.52
38:BN:3:ARG:HB2	38:BN:206:VAL:HG22	1.91	0.52
1:AA:12:U:H2'	1:AA:13:C:C6	2.44	0.52
1:AA:1394:A:H2'	1:AA:1395:G:C8	2.44	0.52
4:AF:142:TYR:OH	4:AF:148:GLY:O	2.27	0.52
11:AM:115:LYS:HE2	11:AM:115:LYS:N	2.24	0.52
28:Ag:77:CYS:O	28:Ag:81:SER:OG	2.24	0.52
35:B2:1036:U:H2'	35:B2:1037:G:H8	1.73	0.52
35:B2:2342:U:O2	35:B2:2350:A:N6	2.40	0.52
35:B2:3100:C:OP2	39:BO:28:LYS:NZ	2.39	0.52
36:B3:16:U:H2'	36:B3:17:A:C8	2.43	0.52
38:BN:46:LYS:HB2	38:BN:59:LYS:HB2	1.91	0.52
1:AA:541:A:O4'	1:AA:546:C:N4	2.42	0.52
1:AA:1158:A:H2'	1:AA:1159:A:C8	2.45	0.52
16:AR:109:ARG:HH12	30:AI:39:ARG:HH21	1.57	0.52
28:Ag:44:MET:HE2	28:Ag:65:PRO:HG2	1.91	0.52
35:B2:5:G:H2'	35:B2:6:A:H8	1.75	0.52
35:B2:3252:U:H2'	35:B2:3253:G:C8	2.44	0.52
35:B2:3366:G:OP2	42:BR:87:LYS:NZ	2.43	0.52
43:BS:108:ARG:NH1	53:Bc:4:ASP:OD1	2.42	0.52
65:Bo:48:ILE:HD11	65:Bo:73:VAL:HG13	1.90	0.52
1:AA:146:U:H2'	1:AA:147:A:H8	1.74	0.52
1:AA:566:U:O4	1:AA:583:A:N7	2.42	0.52
1:AA:649:U:H3	1:AA:693:G:H22	1.57	0.52
1:AA:1693:C:H2'	1:AA:1694:C:C6	2.45	0.52
13:AO:52:ASP:OD1	13:AO:110:PRO:HD3	2.08	0.52
21:AW:2:ALA:N	21:AW:136:TYR:HH	2.07	0.52
34:B1:36:ARG:NE	34:B1:48:LYS:HE2	2.25	0.52
35:B2:4:U:H2'	35:B2:5:G:C8	2.45	0.52
35:B2:714:A:O2'	35:B2:715:U:OP2	2.28	0.52
35:B2:787:G:N2	35:B2:804:A:N1	2.49	0.52
35:B2:1234:A:N3	35:B2:2950:U:O2'	2.35	0.52
35:B2:1466:C:O2'	35:B2:1468:G:OP2	2.27	0.52
35:B2:2348:U:H2'	35:B2:2349:G:C4	2.44	0.52
39:BO:292:LYS:HB3	39:BO:295:SER:HB2	1.92	0.52
54:Bd:99:GLN:NE2	54:Bd:127:ALA:O	2.38	0.52
1:AA:464:G:H4'	6:AH:26:THR:HG21	1.90	0.52
1:AA:871:A:N6	9:AK:99:ARG:O	2.42	0.52
18:AT:43:MET:SD	18:AT:43:MET:N	2.81	0.52
35:B2:2217:U:H2'	35:B2:2218:G:H8	1.74	0.52
35:B2:2657:A:H1'	44:BT:30:ARG:HB2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:2907:C:H2'	35:B2:2908:A:C8	2.44	0.52
37:B4:31:U:H5''	61:Bk:12:ARG:HG3	1.91	0.52
37:B4:90:U:O2'	37:B4:91:C:H5''	2.09	0.52
54:Bd:105:LEU:HD23	54:Bd:138:LEU:HD23	1.92	0.52
63:Bm:72:THR:HG22	63:Bm:110:LYS:HB3	1.92	0.52
1:AA:29:U:H2'	1:AA:30:G:C8	2.45	0.52
1:AA:128:G:N2	1:AA:178:A:N3	2.57	0.52
1:AA:133:U:HO2'	1:AA:201:G:HO2'	1.41	0.52
3:AE:106:THR:HG23	3:AE:109:LYS:H	1.74	0.52
8:AJ:198:ARG:NH1	8:AJ:199:ARG:HE	2.07	0.52
11:AM:135:ARG:HA	11:AM:140:ILE:HA	1.90	0.52
35:B2:117:U:OP2	50:BZ:2:GLY:N	2.43	0.52
35:B2:1701:G:H2'	35:B2:1702:A:C8	2.44	0.52
35:B2:1887:C:OP1	60:Bj:119:LYS:NZ	2.32	0.52
35:B2:3279:A:OP2	51:Ba:13:LYS:NZ	2.43	0.52
35:B2:3369:A:OP2	42:BR:64:ARG:NH1	2.42	0.52
1:AA:647:C:H2'	1:AA:648:C:C6	2.45	0.52
1:AA:886:A:H2'	1:AA:887:G:H8	1.72	0.52
1:AA:1503:A:H2'	1:AA:1504:A:C8	2.45	0.52
1:AA:1782:A:H2'	1:AA:1783:U:C6	2.45	0.52
6:AH:9:LEU:HD23	6:AH:28:ALA:HB3	1.91	0.52
14:AP:92:ILE:HG23	14:AP:93:LYS:H	1.75	0.52
15:AQ:147:SER:HB3	65:Bo:85:THR:HG23	1.92	0.52
16:AR:94:LYS:NZ	16:AR:123:ILE:HA	2.25	0.52
35:B2:456:G:H2'	35:B2:457:U:C6	2.44	0.52
35:B2:498:U:H2'	35:B2:499:G:C8	2.45	0.52
35:B2:1370:C:H2'	35:B2:1371:G:C8	2.45	0.52
35:B2:2305:U:H2'	35:B2:2306:G:H8	1.75	0.52
35:B2:2311:A:H2'	35:B2:2312:A:C8	2.45	0.52
35:B2:2622:C:H2'	35:B2:2623:G:C8	2.45	0.52
35:B2:3430:U:H5''	39:BO:308:MET:HE3	1.92	0.52
60:Bj:57:ASP:OD1	60:Bj:57:ASP:N	2.42	0.52
1:AA:275:U:H4'	1:AA:276:G:O5'	2.10	0.52
1:AA:327:U:O2'	13:AO:77:MET:SD	2.68	0.52
1:AA:645:A:H2'	1:AA:646:G:C8	2.45	0.52
1:AA:1230:G:O3'	1:AA:1261:A:N6	2.37	0.52
1:AA:1702:U:H2'	1:AA:1703:G:H8	1.75	0.52
11:AM:112:GLN:OE1	11:AM:153:GLN:NE2	2.40	0.52
21:AW:64:ILE:HD11	21:AW:121:ARG:HG3	1.92	0.52
35:B2:66:A:H61	35:B2:76:G:H1'	1.75	0.52
35:B2:613:A:H1'	35:B2:1368:A:H5''	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:1896:A:H1'	74:Bx:45:ARG:HH22	1.75	0.52
35:B2:2323:C:H2'	35:B2:2324:G:H8	1.75	0.52
35:B2:3217:U:H1'	35:B2:3218:A:H5''	1.90	0.52
37:B4:55:C:H1'	37:B4:69:A:H2'	1.91	0.52
1:AA:748:C:H2'	1:AA:749:C:H6	1.75	0.52
1:AA:1096:U:H2'	1:AA:1097:A:C8	2.45	0.52
1:AA:1538:U:H4'	21:AW:74:ARG:HH22	1.74	0.52
1:AA:1634:A:H2'	1:AA:1635:G:C8	2.45	0.52
14:AP:131:GLU:HB2	14:AP:136:LEU:HD22	1.92	0.52
15:AQ:148:ALA:HB2	65:Bo:90:LEU:HD11	1.92	0.52
35:B2:1450:C:H2'	35:B2:1451:G:C4	2.45	0.52
35:B2:3475:U:OP1	66:Bp:20:HIS:NE2	2.38	0.52
67:Bq:62:TYR:HB3	75:By:25:PHE:HD1	1.74	0.52
1:AA:463:A:H3'	1:AA:464:G:H8	1.74	0.51
15:AQ:28:ALA:HB3	15:AQ:66:ILE:HG21	1.92	0.51
17:AS:78:ASN:ND2	17:AS:80:LYS:O	2.43	0.51
35:B2:66:A:N6	35:B2:76:G:H1'	2.26	0.51
35:B2:117:U:O2'	35:B2:119:U:OP2	2.24	0.51
35:B2:1472:U:H4'	40:BP:90:ALA:HB3	1.92	0.51
35:B2:1827:G:H2'	35:B2:1828:A:C8	2.45	0.51
35:B2:1969:G:O2'	54:Bd:82:LYS:O	2.23	0.51
41:BQ:99:TYR:OH	41:BQ:168:ASP:OD2	2.22	0.51
1:AA:569:C:OP2	25:Ad:64:SER:OG	2.28	0.51
1:AA:1039:U:O2'	1:AA:1040:A:H5''	2.10	0.51
1:AA:1057:G:H22	1:AA:1092:A:H2	1.58	0.51
1:AA:1620:U:H2'	1:AA:1621:C:C6	2.45	0.51
4:AF:160:LYS:HE3	4:AF:163:SER:HA	1.92	0.51
9:AK:26:LEU:CD2	9:AK:43:LEU:HD12	2.41	0.51
18:AT:84:LYS:HA	18:AT:87:VAL:HG22	1.92	0.51
35:B2:1731:A:H2'	35:B2:1732:A:C8	2.45	0.51
35:B2:1746:U:H2'	35:B2:1747:A:H8	1.75	0.51
35:B2:3282:G:OP1	45:BU:24:ARG:NH1	2.43	0.51
35:B2:3361:U:H2'	35:B2:3362:C:H6	1.75	0.51
37:B4:15:U:H2'	37:B4:16:C:H6	1.74	0.51
38:BN:78:THR:OG1	38:BN:81:MET:SD	2.68	0.51
39:BO:76:VAL:HG12	39:BO:325:ASN:HA	1.92	0.51
72:Bv:25:ARG:HH11	74:Bx:51:ILE:HG13	1.76	0.51
73:Bw:17:ARG:NH2	73:Bw:19:ASP:OD1	2.43	0.51
1:AA:779:U:H3	1:AA:783:A:H62	1.59	0.51
10:AL:42:ARG:HD2	10:AL:59:ARG:HH22	1.74	0.51
12:AN:25:LYS:HD2	12:AN:59:TYR:HE1	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:2821:C:H3'	35:B2:2823:G:H21	1.75	0.51
61:Bk:65:ARG:NH2	61:Bk:83:ARG:O	2.43	0.51
68:Br:38:SER:OG	68:Br:40:GLU:OE1	2.29	0.51
1:AA:236:G:H2'	1:AA:237:G:C8	2.45	0.51
25:Ad:105:PHE:HB3	25:Ad:112:LYS:HE2	1.92	0.51
35:B2:87:U:OP1	53:Bc:168:SER:OG	2.24	0.51
35:B2:1332:A:H4'	35:B2:1333:A:H5'	1.92	0.51
35:B2:1568:A:H2'	35:B2:1569:A:C8	2.45	0.51
35:B2:2200:U:H4'	35:B2:2201:A:O5'	2.10	0.51
35:B2:2517:G:H2'	35:B2:2518:A:H8	1.76	0.51
35:B2:2814:U:H2'	35:B2:2815:G:C8	2.46	0.51
43:BS:173:ASP:OD1	43:BS:174:ASN:N	2.43	0.51
52:Bb:89:LYS:NZ	52:Bb:93:ASP:OD1	2.41	0.51
55:Be:11:ARG:HD2	55:Be:21:PRO:HG2	1.92	0.51
62:Bl:40:HIS:CD2	62:Bl:40:HIS:H	2.28	0.51
1:AA:603:U:H2'	1:AA:604:A:C8	2.44	0.51
1:AA:1537:U:O2	1:AA:1552:G:N2	2.32	0.51
3:AE:85:LYS:HE2	3:AE:101:ASN:HD22	1.76	0.51
7:AI:29:VAL:HG23	7:AI:109:GLN:HE21	1.74	0.51
8:AJ:84:TYR:CD1	8:AJ:95:LYS:HD2	2.45	0.51
18:AT:87:VAL:O	18:AT:99:LYS:HE3	2.11	0.51
26:Ae:104:ALA:HB3	26:Ae:107:GLN:HG2	1.93	0.51
35:B2:87:U:H2'	35:B2:88:A:C8	2.45	0.51
35:B2:820:C:H2'	35:B2:821:A:H8	1.75	0.51
35:B2:943:C:H42	38:BN:3:ARG:HD3	1.76	0.51
35:B2:1631:C:H2'	35:B2:1632:C:C6	2.45	0.51
35:B2:1701:G:HO2'	35:B2:1782:U:HO2'	1.58	0.51
35:B2:1746:U:H2'	35:B2:1747:A:C8	2.46	0.51
1:AA:169:A:N7	1:AA:171:A:N6	2.59	0.51
1:AA:628:C:H2'	1:AA:629:U:H6	1.76	0.51
1:AA:698:G:H2'	1:AA:699:U:C6	2.46	0.51
1:AA:1015:C:H41	1:AA:1018:A:H2'	1.74	0.51
17:AS:42:VAL:O	17:AS:50:ARG:HB2	2.10	0.51
21:AW:75:LEU:HD23	21:AW:100:GLN:HB3	1.92	0.51
35:B2:187:U:H2'	35:B2:188:C:C5	2.45	0.51
35:B2:2651:G:O2'	62:Bl:136:PHE:O	2.28	0.51
35:B2:3050:U:P	35:B2:3072:G:H22	2.34	0.51
1:AA:609:A:H4'	1:AA:610:G:H3'	1.91	0.51
8:AJ:70:PRO:HB3	8:AJ:101:ILE:HG13	1.93	0.51
35:B2:130:A:H2'	35:B2:131:A:C8	2.46	0.51
35:B2:1268:G:C6	35:B2:1282:A:N1	2.79	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:3290:A:H1'	35:B2:3299:U:H6	1.74	0.51
39:BO:20:LYS:NZ	39:BO:21:ARG:O	2.40	0.51
41:BQ:266:GLU:HA	41:BQ:269:LYS:HE2	1.92	0.51
46:BV:56:GLU:HA	46:BV:131:ILE:HG12	1.91	0.51
57:Bg:10:ASN:HB2	57:Bg:65:ALA:HB3	1.92	0.51
1:AA:29:U:H2'	1:AA:30:G:H8	1.75	0.51
1:AA:1702:U:H2'	1:AA:1703:G:C8	2.44	0.51
10:AL:167:ALA:HA	10:AL:183:ILE:HA	1.93	0.51
20:AV:12:ILE:HD13	47:BW:118:PRO:HD3	1.92	0.51
22:Aa:31:ASN:OD1	22:Aa:32:LEU:N	2.44	0.51
35:B2:19:U:H2'	35:B2:20:A:C8	2.46	0.51
35:B2:208:A:H2'	35:B2:209:G:H8	1.75	0.51
35:B2:1347:U:O4	55:Be:153:HIS:NE2	2.44	0.51
35:B2:2432:U:H2'	35:B2:2433:A:H8	1.75	0.51
35:B2:2769:A:O2'	47:BW:126:ASP:OD2	2.21	0.51
36:B3:4:U:H2'	36:B3:5:A:H8	1.76	0.51
40:BP:318:LYS:HB2	40:BP:326:VAL:HG21	1.92	0.51
1:AA:153:G:H2'	1:AA:154:G:C8	2.44	0.51
1:AA:1258:G:O4'	17:AS:86:THR:HA	2.11	0.51
1:AA:1473:G:H2'	1:AA:1474:G:C8	2.46	0.51
8:AJ:2:LYS:HB2	8:AJ:108:VAL:HG12	1.92	0.51
16:AR:30:VAL:HB	16:AR:44:VAL:HG13	1.93	0.51
17:AS:25:TYR:HD2	17:AS:26:ARG:HG2	1.76	0.51
21:AW:37:VAL:HG12	21:AW:39:THR:H	1.76	0.51
35:B2:1086:A:H5''	35:B2:2732:A:H61	1.75	0.51
35:B2:1975:U:O2'	35:B2:1987:A:N7	2.39	0.51
42:BR:189:ARG:HH22	55:Be:161:LEU:HG	1.76	0.51
43:BS:96:ARG:NH1	43:BS:116:LEU:O	2.40	0.51
1:AA:464:G:H2'	1:AA:465:G:H8	1.76	0.51
1:AA:1262:G:N2	1:AA:1265:C:OP2	2.44	0.51
19:AU:12:ALA:O	19:AU:16:VAL:HG12	2.11	0.51
35:B2:1012:A:H2'	35:B2:1013:U:O4'	2.10	0.51
35:B2:2358:A:H2'	35:B2:2359:A:C8	2.46	0.51
35:B2:3328:U:H4'	35:B2:3329:G:O5'	2.11	0.51
39:BO:67:MET:HE3	58:Bh:90:LYS:HB3	1.92	0.51
49:BY:24:LYS:HD3	49:BY:46:PHE:HD2	1.76	0.51
1:AA:815:U:H2'	1:AA:816:G:H8	1.75	0.50
1:AA:1593:U:H3	1:AA:1597:A:H62	1.59	0.50
2:AD:147:ILE:HG12	2:AD:161:ILE:HB	1.93	0.50
11:AM:80:LEU:HB3	11:AM:86:LEU:HB2	1.93	0.50
20:AV:39:ARG:HG2	20:AV:83:PHE:HE1	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:2432:U:H2'	35:B2:2433:A:C8	2.46	0.50
67:Bq:83:LEU:HD13	67:Bq:112:LEU:HG	1.93	0.50
1:AA:218:A:OP1	1:AA:845:U:O2'	2.29	0.50
1:AA:470:G:O2'	1:AA:472:C:OP1	2.29	0.50
1:AA:1387:G:O2'	21:AW:68:LYS:NZ	2.44	0.50
1:AA:1503:A:OP1	18:AT:68:GLY:N	2.43	0.50
16:AR:23:ALA:HB2	16:AR:100:ALA:HB2	1.92	0.50
21:AW:56:ARG:HG3	21:AW:103:VAL:HG11	1.93	0.50
34:B1:36:ARG:HE	34:B1:48:LYS:HE2	1.76	0.50
35:B2:457:U:H2'	35:B2:458:G:C8	2.44	0.50
35:B2:476:G:N2	35:B2:480:G:O6	2.43	0.50
35:B2:1825:U:H2'	35:B2:1826:C:C6	2.47	0.50
35:B2:1877:C:H2'	35:B2:1878:A:H8	1.76	0.50
35:B2:1941:A:H2'	35:B2:1942:A:H8	1.75	0.50
35:B2:3191:U:H2'	35:B2:3192:C:H6	1.77	0.50
45:BU:39:LEU:HD21	45:BU:74:ILE:HG21	1.93	0.50
1:AA:108:C:H2'	1:AA:109:A:H8	1.77	0.50
1:AA:516:U:H5''	11:AM:171:ARG:HG2	1.93	0.50
1:AA:766:A:OP1	6:AH:224:ASN:ND2	2.45	0.50
5:AG:82:ALA:O	5:AG:85:THR:OG1	2.25	0.50
31:Aj:17:GLY:H	31:Aj:27:ARG:NH1	2.09	0.50
35:B2:957:A:N6	38:BN:2:GLY:O	2.37	0.50
35:B2:1011:G:H1'	35:B2:1012:A:C8	2.47	0.50
35:B2:1396:G:H2'	35:B2:1397:A:H8	1.76	0.50
35:B2:3009:G:H5'	39:BO:9:PRO:HG3	1.93	0.50
36:B3:70:C:H2'	36:B3:71:G:H8	1.77	0.50
55:Be:76:ILE:HG12	55:Be:125:VAL:HG22	1.93	0.50
1:AA:1213:A:OP2	1:AA:1484:G:N2	2.44	0.50
1:AA:1274:U:O2'	1:AA:1275:U:O4'	2.29	0.50
1:AA:1727:C:O2	1:AA:1757:G:N2	2.39	0.50
8:AJ:136:LYS:HD2	8:AJ:176:PRO:HB2	1.92	0.50
9:AK:51:VAL:HG21	9:AK:174:VAL:HG22	1.93	0.50
15:AQ:94:LYS:HG2	15:AQ:118:ILE:HD13	1.93	0.50
30:Ai:19:ARG:HD2	30:Ai:27:THR:HG23	1.94	0.50
35:B2:1395:A:H2'	35:B2:1396:G:C8	2.47	0.50
35:B2:1608:C:O2'	35:B2:1609:G:N7	2.45	0.50
47:BW:125:MET:HE3	47:BW:126:ASP:N	2.26	0.50
49:BY:78:TRP:NE1	49:BY:84:CYS:SG	2.68	0.50
58:Bh:17:LEU:HD13	58:Bh:53:ALA:HB3	1.93	0.50
68:Br:51:CYS:HB3	68:Br:69:TRP:CE3	2.47	0.50
1:AA:1543:G:N7	21:AW:101:ARG:NH2	2.59	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AD:11:ASN:O	2:AD:57:TRP:NE1	2.44	0.50
2:AD:53:LEU:HD23	19:AU:105:MET:HE1	1.94	0.50
13:AO:99:LYS:O	25:Ad:11:ARG:NH2	2.38	0.50
17:AS:91:MET:SD	17:AS:91:MET:N	2.79	0.50
24:Ac:111:MET:SD	24:Ac:115:GLU:HG2	2.51	0.50
35:B2:180:U:H2'	35:B2:181:A:C8	2.47	0.50
35:B2:1163:C:H2'	35:B2:1164:A:H8	1.76	0.50
35:B2:1353:U:H2'	35:B2:1354:A:H8	1.76	0.50
35:B2:2517:G:H2'	35:B2:2518:A:C8	2.47	0.50
35:B2:3036:A:N7	39:BO:256:HIS:NE2	2.60	0.50
36:B3:28:C:OP1	47:BW:137:ARG:NH1	2.44	0.50
75:By:33:GLU:HG2	75:By:36:ASN:HB3	1.94	0.50
1:AA:815:U:C2	1:AA:816:G:C8	3.00	0.50
1:AA:1671:U:O2'	1:AA:1806:C:O2'	2.27	0.50
3:AE:27:LYS:NZ	3:AE:49:ASN:OD1	2.29	0.50
7:AI:154:THR:HG22	7:AI:158:ARG:HH11	1.76	0.50
23:Ab:59:VAL:HG13	23:Ab:64:GLU:HB2	1.94	0.50
35:B2:609:A:H2'	35:B2:610:C:C6	2.47	0.50
35:B2:1150:C:H2'	35:B2:1151:A:C8	2.44	0.50
35:B2:1728:U:OP1	69:Bs:28:ASN:ND2	2.43	0.50
35:B2:2516:U:H2'	35:B2:2517:G:C8	2.46	0.50
35:B2:2907:C:H2'	35:B2:2908:A:H8	1.77	0.50
37:B4:142:A:OP1	60:Bj:55:ARG:NH1	2.44	0.50
42:BR:69:ARG:NH2	49:BY:107:ASP:OD2	2.45	0.50
43:BS:94:VAL:HG13	43:BS:144:TYR:HB3	1.92	0.50
43:BS:151:THR:HG23	43:BS:247:VAL:HG11	1.94	0.50
53:Bc:34:PHE:CE1	53:Bc:38:ARG:HG3	2.47	0.50
55:Be:65:GLU:OE2	55:Be:72:LYS:NZ	2.44	0.50
1:AA:410:A:H2'	1:AA:411:C:H6	1.76	0.50
1:AA:751:G:H2'	1:AA:752:G:H8	1.75	0.50
1:AA:883:G:H1	1:AA:975:U:H3	1.59	0.50
1:AA:1569:U:O2'	18:AT:39:GLU:OE1	2.26	0.50
1:AA:1630:C:H2'	1:AA:1631:G:C8	2.47	0.50
8:AJ:57:ASP:OD1	8:AJ:61:PHE:N	2.45	0.50
8:AJ:100:CYS:SG	8:AJ:101:ILE:N	2.85	0.50
20:AV:80:PRO:HB2	20:AV:82:TRP:CD1	2.47	0.50
23:Ab:35:ASN:HD22	23:Ab:50:LYS:HD2	1.77	0.50
35:B2:1730:U:O2'	35:B2:1789:A:N1	2.39	0.50
35:B2:2339:G:H2'	35:B2:2340:A:C8	2.45	0.50
35:B2:2608:C:H2'	35:B2:2609:U:C6	2.46	0.50
35:B2:3165:G:C2	35:B2:3166:A:C8	3.00	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:3335:U:H3'	35:B2:3336:G:H21	1.75	0.50
43:BS:129:LYS:HB2	56:Bf:133:ALA:HB3	1.94	0.50
48:BX:86:SER:HB3	48:BX:89:VAL:HG23	1.94	0.50
63:Bm:131:ARG:HG2	63:Bm:131:ARG:HH11	1.76	0.50
1:AA:156:A:N6	1:AA:422:G:H21	2.09	0.50
1:AA:164:A:H2'	1:AA:165:G:H8	1.75	0.50
1:AA:1097:A:O2'	1:AA:1099:G:N7	2.43	0.50
8:AJ:102:VAL:HG23	8:AJ:106:LEU:HD22	1.94	0.50
17:AS:123:TYR:N	17:AS:126:GLU:OE2	2.34	0.50
28:Ag:45:VAL:HG11	28:Ag:53:LEU:HG	1.93	0.50
35:B2:2669:G:H2'	35:B2:2670:A:H8	1.76	0.50
35:B2:3361:U:H2'	35:B2:3362:C:C6	2.47	0.50
36:B3:70:C:H2'	36:B3:71:G:C8	2.47	0.50
58:Bh:137:THR:HG21	59:Bi:26:ASN:HB3	1.93	0.50
59:Bi:47:ARG:HD3	59:Bi:54:LEU:HB3	1.94	0.50
1:AA:98:C:H2'	1:AA:99:U:C6	2.47	0.50
1:AA:917:G:H1'	1:AA:922:A:N6	2.26	0.50
1:AA:1244:A:O4'	1:AA:1273:A:N6	2.44	0.50
1:AA:1841:U:H5'	1:AA:1842:A:H8	1.77	0.50
16:AR:32:ILE:HG23	16:AR:81:LEU:HD21	1.93	0.50
35:B2:711:G:H2'	35:B2:712:U:C6	2.47	0.50
35:B2:1183:G:N2	35:B2:1231:A:N1	2.55	0.50
35:B2:1301:A:HO2'	35:B2:1302:A:H8	1.59	0.50
36:B3:85:U:H2'	36:B3:86:G:C8	2.47	0.50
51:Ba:114:ASP:OD1	51:Ba:114:ASP:N	2.30	0.50
55:Be:12:LYS:HZ1	55:Be:48:ASN:HD22	1.59	0.50
1:AA:515:A:H5''	11:AM:163:PRO:HG2	1.93	0.49
1:AA:1056:G:H2'	1:AA:1057:G:C8	2.47	0.49
5:AG:194:GLU:O	5:AG:197:THR:OG1	2.26	0.49
25:Ad:54:LYS:HG3	25:Ad:70:VAL:HG12	1.94	0.49
29:Ah:12:HIS:CE1	29:Ah:16:MET:HE3	2.47	0.49
35:B2:2306:G:H2'	35:B2:2307:A:H8	1.76	0.49
36:B3:87:G:N2	36:B3:90:A:OP2	2.37	0.49
40:BP:141:GLY:HA2	75:By:17:ARG:HD2	1.93	0.49
64:Bn:41:ARG:HG3	64:Bn:41:ARG:HH11	1.75	0.49
69:Bs:96:GLU:OE1	69:Bs:96:GLU:HA	2.11	0.49
1:AA:385:C:H2'	1:AA:386:G:C8	2.46	0.49
5:AG:76:GLN:HA	5:AG:81:PHE:HB2	1.94	0.49
6:AH:137:PRO:HG2	6:AH:150:PRO:HD2	1.93	0.49
7:AI:164:ASN:HD22	7:AI:165:VAL:N	2.09	0.49
10:AL:167:ALA:HB2	10:AL:183:ILE:HG22	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AO:141:LYS:HD3	13:AO:144:GLU:HG3	1.94	0.49
26:Ae:60:LEU:HD23	26:Ae:71:GLY:HA3	1.94	0.49
35:B2:378:U:H4'	35:B2:412:G:H5'	1.93	0.49
35:B2:465:G:H1	35:B2:488:A:H1'	1.77	0.49
35:B2:2842:A:H2'	35:B2:2843:A:C8	2.46	0.49
35:B2:2976:C:OP1	39:BO:11:HIS:NE2	2.45	0.49
62:Bl:3:LYS:HD3	62:Bl:6:LYS:HG2	1.94	0.49
1:AA:182:A:H2'	1:AA:183:U:C6	2.47	0.49
1:AA:1371:A:N6	1:AA:1392:U:O4	2.45	0.49
1:AA:1693:C:H2'	1:AA:1694:C:H6	1.76	0.49
4:AF:126:GLY:O	4:AF:130:MET:HG2	2.11	0.49
7:AI:18:ILE:HG13	7:AI:18:ILE:O	2.10	0.49
12:AN:29:LEU:HD12	12:AN:30:PRO:HD2	1.93	0.49
35:B2:407:A:O2'	35:B2:411:C:O2'	2.28	0.49
35:B2:641:G:H2'	35:B2:642:A:C8	2.48	0.49
35:B2:1557:U:OP1	35:B2:1642:U:N3	2.46	0.49
35:B2:1617:U:H2'	35:B2:1618:A:H5''	1.94	0.49
35:B2:1968:G:N3	35:B2:2208:A:H2'	2.27	0.49
35:B2:2603:C:H2'	35:B2:2604:U:H6	1.77	0.49
35:B2:2863:U:H2'	35:B2:2864:G:H8	1.78	0.49
1:AA:1546:A:O2'	1:AA:1591:A:N3	2.45	0.49
1:AA:1837:U:OP2	28:Ag:5:ARG:NH2	2.44	0.49
35:B2:165:A:H2'	35:B2:166:A:H8	1.77	0.49
35:B2:744:U:OP1	35:B2:779:A:O2'	2.27	0.49
35:B2:1632:C:H2'	35:B2:1633:G:C8	2.48	0.49
35:B2:2674:G:OP2	35:B2:2675:A:O2'	2.24	0.49
45:BU:12:THR:HA	45:BU:52:THR:HA	1.93	0.49
1:AA:24:U:O4	1:AA:26:A:N6	2.45	0.49
1:AA:98:C:H1'	1:AA:429:G:H5'	1.95	0.49
1:AA:539:C:H2'	1:AA:540:G:O4'	2.13	0.49
1:AA:970:A:OP1	15:AQ:3:ARG:NH1	2.37	0.49
3:AE:43:VAL:HG22	3:AE:44:GLY:H	1.77	0.49
7:AI:11:SER:HB2	18:AT:50:LEU:HD21	1.94	0.49
19:AU:88:VAL:HG11	19:AU:91:LEU:HB3	1.94	0.49
25:Ad:72:VAL:HG11	25:Ad:102:LEU:HD11	1.93	0.49
35:B2:819:G:H2'	35:B2:820:C:C6	2.47	0.49
35:B2:847:G:OP2	72:Bv:31:LYS:NZ	2.45	0.49
35:B2:2682:U:H2'	35:B2:2683:U:H6	1.77	0.49
36:B3:12:U:H1'	36:B3:108:G:H21	1.77	0.49
45:BU:19:VAL:O	45:BU:48:LYS:NZ	2.32	0.49
61:Bk:49:VAL:HG21	61:Bk:79:LEU:HD21	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:Bm:146:LEU:HB2	71:Bu:5:LEU:HD22	1.95	0.49
1:AA:852:G:H2'	1:AA:853:G:H8	1.78	0.49
5:AG:210:LEU:HB2	19:AU:38:VAL:HG13	1.95	0.49
6:AH:42:LEU:O	6:AH:84:THR:OG1	2.30	0.49
10:AL:2:GLY:O	10:AL:24:LYS:NZ	2.36	0.49
35:B2:1078:A:H2'	35:B2:1081:C:C5	2.48	0.49
35:B2:1651:A:H2'	35:B2:1652:G:C8	2.47	0.49
35:B2:2495:C:H2'	35:B2:2496:U:H6	1.77	0.49
37:B4:55:C:O2'	37:B4:70:C:OP2	2.30	0.49
41:BQ:204:VAL:O	41:BQ:208:MET:HG2	2.12	0.49
46:BV:41:ALA:HB3	46:BV:139:ARG:HH22	1.78	0.49
1:AA:887:G:N2	1:AA:1062:G:H4'	2.28	0.49
8:AJ:173:THR:O	8:AJ:173:THR:OG1	2.26	0.49
12:AN:11:ILE:HG13	12:AN:42:VAL:HG12	1.95	0.49
32:Ak:14:VAL:O	32:Ak:18:THR:HG23	2.13	0.49
35:B2:2605:U:O2'	35:B2:2606:U:O5'	2.30	0.49
45:BU:19:VAL:HG23	45:BU:26:VAL:HG13	1.95	0.49
49:BY:106:ASN:ND2	49:BY:109:ASP:OD2	2.46	0.49
1:AA:916:G:N2	1:AA:916:G:OP2	2.45	0.49
1:AA:937:G:H2'	1:AA:938:A:H8	1.77	0.49
35:B2:2457:G:H2'	35:B2:2458:G:C8	2.48	0.49
35:B2:2767:G:C2	35:B2:2768:A:C8	3.00	0.49
35:B2:3433:U:H2'	35:B2:3434:G:O4'	2.12	0.49
37:B4:93:G:N1	61:Bk:111:ASP:OD2	2.45	0.49
37:B4:148:G:H22	50:BZ:112:ASN:HB3	1.78	0.49
59:Bi:45:ASN:HB3	59:Bi:48:ARG:HB2	1.94	0.49
1:AA:215:G:O2'	1:AA:245:U:O4	2.20	0.49
1:AA:1494:G:H2'	1:AA:1495:A:H8	1.78	0.49
1:AA:1829:C:H2'	1:AA:1830:G:C8	2.48	0.49
3:AE:151:LYS:HD2	3:AE:153:THR:HB	1.93	0.49
11:AM:72:GLU:O	11:AM:76:ILE:HG22	2.12	0.49
22:Aa:36:CYS:SG	22:Aa:53:PRO:HB3	2.53	0.49
25:Ad:124:LYS:HA	25:Ad:129:GLY:HA2	1.95	0.49
35:B2:1008:U:H2'	35:B2:1009:C:O4'	2.12	0.49
35:B2:1031:G:N3	35:B2:1034:A:N6	2.61	0.49
35:B2:1543:A:H2'	35:B2:1544:G:C8	2.47	0.49
35:B2:2994:C:O2	35:B2:3121:C:O2'	2.27	0.49
36:B3:23:A:N3	36:B3:118:C:O2'	2.43	0.49
44:BT:148:ALA:HA	44:BT:201:THR:HG22	1.94	0.49
50:BZ:120:TRP:HE1	50:BZ:123:GLN:HB3	1.77	0.49
1:AA:184:C:H2'	1:AA:185:C:C6	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:395:G:OP1	1:AA:1771:C:O2'	2.30	0.49
1:AA:1158:A:OP1	28:Ag:2:THR:OG1	2.30	0.49
3:AE:189:ILE:HD12	3:AE:189:ILE:H	1.78	0.49
4:AF:136:MET:SD	23:Ab:27:LYS:HG2	2.53	0.49
10:AL:3:ILE:O	10:AL:30:GLY:N	2.45	0.49
10:AL:162:ALA:O	35:B2:3453:U:N3	2.46	0.49
14:AP:71:CYS:HB2	14:AP:77:VAL:HG23	1.93	0.49
25:Ad:105:PHE:CE2	25:Ad:121:LYS:HB3	2.48	0.49
35:B2:2313:U:H2'	35:B2:2314:U:H6	1.78	0.49
35:B2:2356:U:O2'	35:B2:2360:G:N1	2.39	0.49
35:B2:3083:C:OP1	51:Ba:66:ASN:ND2	2.32	0.49
35:B2:3206:C:H2'	35:B2:3207:U:C6	2.48	0.49
37:B4:88:A:N3	37:B4:90:U:N3	2.61	0.49
38:BN:205:PRO:HG3	38:BN:212:GLY:HA3	1.95	0.49
55:Be:94:ARG:HG3	55:Be:139:VAL:HG13	1.95	0.49
1:AA:942:C:O2'	16:AR:126:ASP:OD2	2.28	0.48
1:AA:1698:U:H5'	1:AA:1699:G:H5''	1.94	0.48
1:AA:1829:C:H2'	1:AA:1830:G:H8	1.77	0.48
21:AW:35:ASP:OD1	21:AW:35:ASP:N	2.46	0.48
27:Af:34:VAL:HG13	27:Af:35:PRO:HD3	1.94	0.48
35:B2:514:C:H2'	35:B2:515:A:H8	1.77	0.48
35:B2:552:U:H2'	35:B2:553:U:H5''	1.94	0.48
35:B2:1506:U:H2'	35:B2:1507:G:H8	1.78	0.48
35:B2:2791:A:H2'	35:B2:2792:A:C8	2.47	0.48
35:B2:3303:C:H5''	49:BY:91:ALA:HB2	1.95	0.48
35:B2:3448:A:H2'	35:B2:3449:G:C8	2.48	0.48
37:B4:14:U:H2'	37:B4:15:U:C6	2.47	0.48
47:BW:88:GLU:HG3	47:BW:90:GLU:OE1	2.12	0.48
47:BW:109:HIS:ND1	47:BW:123:TYR:O	2.38	0.48
1:AA:1504:A:N3	1:AA:1647:C:O2'	2.40	0.48
5:AG:95:ASN:HB2	5:AG:98:LEU:HB2	1.95	0.48
6:AH:147:ILE:HD11	6:AH:162:LEU:HD21	1.95	0.48
20:AV:28:PHE:O	20:AV:31:THR:OG1	2.30	0.48
27:Af:35:PRO:HA	27:Af:83:ARG:NE	2.27	0.48
35:B2:4:U:H2'	35:B2:5:G:H8	1.78	0.48
35:B2:87:U:H2'	35:B2:88:A:H8	1.78	0.48
35:B2:170:G:H2'	35:B2:171:C:O4'	2.12	0.48
35:B2:249:G:OP2	35:B2:252:A:N6	2.26	0.48
35:B2:1839:A:H2'	35:B2:1840:A:C8	2.48	0.48
35:B2:3140:A:H4'	39:BO:13:SER:HB2	1.95	0.48
41:BQ:166:ALA:HB1	41:BQ:171:LEU:HD12	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:Bc:70:THR:HA	53:Bc:77:LEU:HD12	1.96	0.48
1:AA:1:U:O4	11:AM:54:ARG:NH2	2.44	0.48
1:AA:1023:G:H2'	1:AA:1024:U:C6	2.48	0.48
1:AA:1116:G:O6	24:Ac:92:GLN:NE2	2.46	0.48
1:AA:1242:U:H3'	1:AA:1243:A:C8	2.48	0.48
1:AA:1831:G:OP1	28:Ag:17:HIS:NE2	2.38	0.48
6:AH:100:ARG:NH2	6:AH:121:TYR:O	2.45	0.48
8:AJ:145:PHE:HB2	8:AJ:147:LEU:HD11	1.96	0.48
30:Ai:12:LYS:O	30:Ai:32:GLU:N	2.45	0.48
34:B1:49:ARG:HG3	34:B1:55:TRP:CZ2	2.48	0.48
35:B2:1262:A:H2	35:B2:1310:C:H42	1.60	0.48
36:B3:54:A:O2'	36:B3:55:A:H8	1.97	0.48
40:BP:159:GLN:HA	40:BP:217:ILE:HB	1.95	0.48
46:BV:85:PHE:HA	46:BV:140:THR:HG22	1.96	0.48
49:BY:36:ARG:HG2	49:BY:52:ARG:HG2	1.94	0.48
58:Bh:106:ASN:HD21	58:Bh:108:LYS:HB2	1.79	0.48
1:AA:156:A:H61	1:AA:422:G:H21	1.61	0.48
1:AA:1050:G:H2'	1:AA:1051:A:H8	1.79	0.48
1:AA:1213:A:HO2'	1:AA:1643:C:HO2'	1.53	0.48
6:AH:136:VAL:HB	6:AH:149:TYR:HE1	1.79	0.48
6:AH:254:ARG:O	6:AH:258:LEU:HD12	2.13	0.48
7:AI:78:ASN:O	7:AI:80:ARG:N	2.47	0.48
8:AJ:3:LEU:HD23	8:AJ:111:LEU:HD21	1.96	0.48
19:AU:20:TYR:HD2	19:AU:23:ARG:HD2	1.78	0.48
35:B2:1095:G:C2	56:Bf:109:VAL:HG22	2.48	0.48
35:B2:1649:C:OP1	73:Bw:42:TYR:OH	2.27	0.48
35:B2:3423:A:H2'	35:B2:3424:A:C8	2.48	0.48
45:BU:14:PRO:HD2	45:BU:17:VAL:HB	1.96	0.48
1:AA:50:C:H2'	1:AA:427:C:H41	1.78	0.48
1:AA:1187:G:H2'	1:AA:1188:A:H8	1.77	0.48
1:AA:1388:A:O2'	21:AW:122:ARG:NH1	2.47	0.48
5:AG:94:GLN:HG3	5:AG:95:ASN:HD22	1.79	0.48
7:AI:48:LEU:HD13	18:AT:43:MET:SD	2.53	0.48
11:AM:162:SER:O	11:AM:166:GLY:N	2.44	0.48
18:AT:49:ILE:HA	18:AT:57:PHE:HE2	1.77	0.48
21:AW:28:MET:HE2	21:AW:54:TYR:HD1	1.78	0.48
35:B2:50:U:H2'	35:B2:51:A:H8	1.79	0.48
35:B2:167:G:N2	35:B2:268:U:O2	2.35	0.48
35:B2:773:C:H2'	35:B2:774:C:C6	2.48	0.48
35:B2:1455:A:H2'	35:B2:1456:G:H8	1.78	0.48
37:B4:150:C:H2'	37:B4:151:U:H6	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BU:130:VAL:HG13	45:BU:144:ILE:HG23	1.96	0.48
1:AA:941:A:OP1	1:AA:1031:C:O2'	2.30	0.48
2:AD:110:PHE:HB3	2:AD:142:VAL:HG11	1.96	0.48
3:AE:44:GLY:HA3	16:AR:35:LEU:HD22	1.95	0.48
11:AM:107:ARG:NH2	11:AM:153:GLN:HE21	2.12	0.48
18:AT:79:ARG:HH12	18:AT:111:ARG:HD2	1.77	0.48
22:Aa:24:LEU:HD21	22:Aa:39:LEU:HD21	1.96	0.48
25:Ad:107:ARG:HB3	25:Ad:110:LYS:HB2	1.96	0.48
35:B2:1665:A:H8	62:Bl:64:ARG:NH2	2.11	0.48
35:B2:1998:C:OP1	35:B2:3447:U:O2'	2.27	0.48
35:B2:3102:A:H2'	35:B2:3103:U:O4'	2.14	0.48
67:Bq:93:ILE:O	67:Bq:118:ASN:ND2	2.42	0.48
70:Bt:11:GLN:HB3	70:Bt:15:ASN:HD22	1.78	0.48
1:AA:250:A:O2'	13:AO:34:ASP:O	2.21	0.48
1:AA:451:C:H5''	6:AH:29:PRO:HA	1.95	0.48
1:AA:1491:A:N6	1:AA:1579:U:H3	2.11	0.48
1:AA:1587:G:H2'	1:AA:1588:A:H8	1.78	0.48
5:AG:218:ILE:H	5:AG:218:ILE:HG13	1.53	0.48
9:AK:98:ARG:HD2	9:AK:123:VAL:HB	1.95	0.48
17:AS:68:LEU:HD13	17:AS:97:MET:HG2	1.96	0.48
18:AT:38:PRO:O	18:AT:42:ARG:NH1	2.47	0.48
35:B2:1002:A:H2'	35:B2:1003:G:C8	2.49	0.48
35:B2:1527:G:H2'	74:Bx:13:LEU:HD22	1.96	0.48
35:B2:1559:G:H5'	35:B2:1885:G:OP2	2.12	0.48
59:Bi:27:LYS:NZ	59:Bi:28:VAL:H	2.11	0.48
61:Bk:88:LYS:HE2	61:Bk:92:ALA:HB3	1.96	0.48
2:AD:110:PHE:HD2	2:AD:138:GLU:HB2	1.78	0.48
25:Ad:66:ILE:HD12	32:Ak:10:ARG:HD2	1.95	0.48
27:Af:20:THR:O	27:Af:20:THR:OG1	2.30	0.48
33:B0:63:LYS:NZ	35:B2:2856:G:N7	2.61	0.48
35:B2:2332:A:H5''	38:BN:242:THR:HB	1.94	0.48
1:AA:339:G:O6	10:AL:5:ARG:NE	2.44	0.48
1:AA:340:G:N2	1:AA:343:U:OP2	2.47	0.48
1:AA:836:G:H22	1:AA:866:C:H42	1.62	0.48
1:AA:1087:U:H2'	1:AA:1088:C:H6	1.78	0.48
1:AA:1754:A:H5'	1:AA:1755:U:C5	2.47	0.48
4:AF:139:ARG:HH21	23:Ab:1:MET:HE3	1.78	0.48
10:AL:69:SER:OG	10:AL:185:GLU:OE1	2.32	0.48
23:Ab:39:VAL:HG12	23:Ab:45:GLN:HB3	1.96	0.48
26:Ae:41:ARG:HG2	26:Ae:55:VAL:HG12	1.95	0.48
35:B2:320:C:H2'	35:B2:321:A:H8	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:347:C:OP1	35:B2:1414:G:O2'	2.29	0.48
35:B2:1035:A:N1	35:B2:1081:C:O2'	2.37	0.48
35:B2:2713:G:C8	35:B2:2960:U:H5''	2.49	0.48
35:B2:3011:U:H2'	35:B2:3012:G:H8	1.78	0.48
35:B2:3378:A:H2'	35:B2:3379:A:H8	1.78	0.48
63:Bm:75:LEU:HD11	63:Bm:133:ALA:HA	1.96	0.48
12:AN:61:TRP:HE3	31:Aj:22:ALA:HB3	1.79	0.48
26:Ae:54:ALA:HB2	26:Ae:79:VAL:HG13	1.96	0.48
35:B2:492:U:H2'	35:B2:493:G:H8	1.79	0.48
35:B2:595:U:H2'	35:B2:596:A:H8	1.79	0.48
35:B2:693:A:H2'	35:B2:694:U:H6	1.79	0.48
35:B2:1893:C:H5''	35:B2:1894:A:H5'	1.96	0.48
35:B2:2194:A:H2'	35:B2:2195:A:H8	1.79	0.48
35:B2:2265:G:N2	38:BN:117:GLU:OE2	2.47	0.48
41:BQ:190:LEU:HD21	41:BQ:195:LEU:HD22	1.96	0.48
44:BT:105:LYS:HE2	44:BT:109:LEU:HD11	1.95	0.48
45:BU:32:ARG:HD3	45:BU:147:ASN:HB3	1.94	0.48
1:AA:328:G:H2'	1:AA:329:G:H8	1.79	0.47
1:AA:876:U:H4'	15:AQ:20:ARG:HH22	1.77	0.47
4:AF:229:TRP:CE2	24:Ac:68:ARG:HD3	2.49	0.47
34:B1:42:CYS:SG	34:B1:43:GLY:N	2.86	0.47
35:B2:1353:U:H2'	35:B2:1354:A:C8	2.49	0.47
35:B2:1757:C:H2'	35:B2:1758:G:C8	2.48	0.47
35:B2:2191:U:H2'	35:B2:2192:A:C8	2.49	0.47
35:B2:2310:A:H2'	35:B2:2311:A:C8	2.49	0.47
39:BO:331:PRO:HD2	39:BO:334:ARG:HD2	1.96	0.47
41:BQ:60:VAL:HG23	41:BQ:93:ALA:HA	1.96	0.47
66:Bp:20:HIS:HB3	66:Bp:23:LYS:HE2	1.95	0.47
68:Br:43:GLN:HA	68:Br:46:LEU:HG	1.96	0.47
1:AA:200:G:O2'	1:AA:201:G:H8	1.97	0.47
1:AA:453:C:N4	1:AA:454:G:O6	2.47	0.47
1:AA:1190:C:H3'	20:AV:139:THR:HG21	1.97	0.47
1:AA:1564:U:H2'	21:AW:78:VAL:HG12	1.96	0.47
2:AD:57:TRP:O	2:AD:61:VAL:HG23	2.13	0.47
6:AH:141:THR:OG1	6:AH:143:ASP:OD1	2.32	0.47
6:AH:250:GLU:N	6:AH:250:GLU:OE1	2.48	0.47
9:AK:29:LEU:HD21	9:AK:79:LEU:HD22	1.95	0.47
15:AQ:64:ARG:HB3	15:AQ:64:ARG:NH1	2.29	0.47
35:B2:700:C:O2'	35:B2:704:U:OP1	2.31	0.47
35:B2:892:G:C5	38:BN:180:LYS:HB2	2.49	0.47
35:B2:991:C:H41	35:B2:2896:A:H5''	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:1044:G:H2'	35:B2:1045:G:C8	2.49	0.47
35:B2:1715:G:H2'	35:B2:1716:U:H6	1.79	0.47
35:B2:2418:C:H2'	35:B2:2419:C:H6	1.78	0.47
36:B3:16:U:H3	36:B3:62:G:H1	1.60	0.47
50:BZ:14:LYS:HA	50:BZ:19:ASN:HD22	1.80	0.47
66:Bp:21:MET:HE1	66:Bp:41:ILE:HG13	1.95	0.47
68:Br:46:LEU:HD11	68:Br:75:PRO:HD3	1.94	0.47
1:AA:820:U:O4	1:AA:821:A:N6	2.48	0.47
1:AA:858:U:H2'	1:AA:859:A:C8	2.48	0.47
1:AA:913:A:N1	1:AA:926:U:O2'	2.39	0.47
1:AA:942:C:O2'	16:AR:126:ASP:O	2.33	0.47
1:AA:1719:U:H3'	1:AA:1720:G:H8	1.78	0.47
8:AJ:170:LYS:O	8:AJ:172:TYR:N	2.47	0.47
10:AL:48:VAL:HG12	10:AL:52:ASN:HB2	1.96	0.47
35:B2:130:A:H2'	35:B2:131:A:H8	1.79	0.47
35:B2:692:C:H2'	35:B2:693:A:H8	1.79	0.47
35:B2:1115:G:H2'	35:B2:1116:G:H8	1.78	0.47
35:B2:1289:U:H2'	35:B2:1291:A:N7	2.29	0.47
35:B2:1535:U:H2'	35:B2:1536:G:C8	2.49	0.47
35:B2:1614:U:OP1	60:Bj:27:THR:OG1	2.32	0.47
35:B2:2372:C:N4	35:B2:2396:C:O4'	2.47	0.47
35:B2:3245:G:H2'	35:B2:3246:A:C8	2.49	0.47
37:B4:15:U:H2'	37:B4:16:C:C6	2.48	0.47
46:BV:189:GLU:HB3	46:BV:200:LEU:HB3	1.96	0.47
72:Bv:27:PHE:HA	72:Bv:34:CYS:HA	1.96	0.47
1:AA:17:C:H4'	1:AA:1125:G:C8	2.49	0.47
1:AA:27:U:H2'	1:AA:28:A:H8	1.78	0.47
1:AA:484:A:N7	1:AA:485:U:C4	2.82	0.47
1:AA:598:G:H2'	1:AA:599:C:C6	2.49	0.47
1:AA:706:U:O4	1:AA:752:G:O6	2.32	0.47
1:AA:1103:A:H2'	1:AA:1104:A:C8	2.49	0.47
1:AA:1669:U:H2'	1:AA:1670:G:C8	2.48	0.47
8:AJ:157:VAL:HG11	8:AJ:175:ALA:HB1	1.96	0.47
15:AQ:106:ARG:HG2	15:AQ:106:ARG:HH11	1.79	0.47
16:AR:60:TYR:O	16:AR:64:LEU:HG	2.14	0.47
30:Ai:12:LYS:N	30:Ai:32:GLU:O	2.39	0.47
35:B2:588:G:H2'	35:B2:589:U:O2	2.14	0.47
35:B2:866:U:H2'	35:B2:867:G:O4'	2.14	0.47
35:B2:1511:A:OP1	35:B2:3171:G:O2'	2.31	0.47
35:B2:1632:C:H5'	35:B2:1731:A:H1'	1.96	0.47
35:B2:2347:A:H3'	35:B2:2348:U:H6	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:2683:U:H2'	35:B2:2684:G:H8	1.79	0.47
35:B2:2815:G:H22	35:B2:2831:A:H2	1.63	0.47
35:B2:3003:G:H2'	35:B2:3004:U:C6	2.49	0.47
35:B2:3109:U:H2'	35:B2:3110:U:C6	2.49	0.47
39:BO:113:GLU:HB3	39:BO:176:ALA:HB2	1.97	0.47
46:BV:150:GLU:OE2	46:BV:153:ARG:NH2	2.35	0.47
56:Bf:44:VAL:HG22	56:Bf:53:PRO:HG2	1.96	0.47
73:Bw:17:ARG:NH2	73:Bw:39:CYS:SG	2.87	0.47
74:Bx:39:MET:N	74:Bx:39:MET:SD	2.87	0.47
1:AA:42:G:H1	1:AA:436:C:H42	1.61	0.47
1:AA:296:U:H2'	1:AA:297:C:H6	1.79	0.47
1:AA:1501:C:H4'	1:AA:1502:C:OP1	2.14	0.47
7:Al:59:ARG:HH22	30:Al:50:ARG:HH11	1.61	0.47
11:AM:121:SER:HB3	11:AM:124:HIS:HB2	1.96	0.47
15:AQ:80:LEU:HD23	65:Bo:25:LYS:NZ	2.29	0.47
18:AT:79:ARG:NH2	18:AT:111:ARG:O	2.48	0.47
29:Ah:13:GLU:O	29:Ah:17:ARG:HG2	2.14	0.47
35:B2:145:G:H2'	35:B2:146:U:C6	2.50	0.47
35:B2:2000:A:H2'	35:B2:2001:A:C8	2.50	0.47
35:B2:2194:A:H2'	35:B2:2195:A:C8	2.49	0.47
35:B2:3042:G:C2	39:BO:250:ALA:HB1	2.50	0.47
35:B2:3379:A:H2'	35:B2:3380:A:C8	2.49	0.47
36:B3:105:G:H5''	46:BV:202:LYS:HE2	1.96	0.47
37:B4:153:U:H2'	37:B4:154:U:C6	2.49	0.47
38:BN:29:ARG:NH1	38:BN:35:GLU:OE2	2.46	0.47
45:BU:42:VAL:HG21	45:BU:71:ALA:HB2	1.96	0.47
1:AA:917:G:H1'	1:AA:922:A:H61	1.80	0.47
2:AD:129:PRO:HG2	2:AD:154:SER:HB2	1.96	0.47
4:AF:44:VAL:HG13	4:AF:71:PHE:HE1	1.79	0.47
15:AQ:87:ASP:N	15:AQ:87:ASP:OD1	2.46	0.47
17:AS:102:VAL:H	17:AS:113:VAL:HG22	1.79	0.47
26:Ae:63:HIS:HE1	26:Ae:70:THR:HG23	1.80	0.47
35:B2:961:A:H2'	35:B2:962:U:C6	2.49	0.47
35:B2:1631:C:O2'	35:B2:1731:A:N3	2.46	0.47
35:B2:2527:A:H5'	35:B2:2528:G:OP2	2.15	0.47
37:B4:27:C:H2'	37:B4:28:U:C6	2.50	0.47
39:BO:140:SER:HB3	39:BO:142:GLN:OE1	2.14	0.47
59:Bi:23:ARG:NE	59:Bi:25:ASP:OD2	2.46	0.47
63:Bm:76:ASP:OD1	63:Bm:76:ASP:N	2.37	0.47
1:AA:174:U:H3	1:AA:269:A:H62	1.62	0.47
1:AA:635:U:O2'	1:AA:1119:U:OP1	2.32	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:938:A:H2'	1:AA:939:A:H8	1.80	0.47
1:AA:1243:A:O2'	1:AA:1244:A:H5'	2.14	0.47
1:AA:1269:C:H2'	1:AA:1270:U:C6	2.49	0.47
1:AA:1429:G:H21	1:AA:1431:A:H8	1.62	0.47
1:AA:1470:U:H2'	1:AA:1471:C:C6	2.49	0.47
1:AA:1478:G:H2'	1:AA:1478:G:N3	2.30	0.47
1:AA:1556:A:H1'	1:AA:1559:C:N4	2.29	0.47
1:AA:1576:U:H5	7:AI:165:VAL:HA	1.78	0.47
3:AE:77:GLU:OE2	28:Ag:62:TYR:HB2	2.15	0.47
4:AF:86:GLN:HG2	4:AF:95:THR:HB	1.97	0.47
5:AG:82:ALA:HB3	5:AG:85:THR:HG21	1.97	0.47
6:AH:249:THR:OG1	6:AH:250:GLU:OE1	2.30	0.47
7:AI:21:PHE:HD2	7:AI:24:PHE:HD2	1.63	0.47
18:AT:79:ARG:HH22	18:AT:111:ARG:HD2	1.80	0.47
34:B1:91:MET:HA	34:B1:91:MET:HE3	1.95	0.47
35:B2:53:G:OP2	72:Bv:48:ASN:ND2	2.43	0.47
35:B2:1007:C:H2'	35:B2:1008:U:C6	2.50	0.47
35:B2:1133:G:O2'	35:B2:1134:A:OP1	2.31	0.47
35:B2:1207:C:H2'	35:B2:1208:G:N2	2.28	0.47
35:B2:1700:G:H2'	35:B2:1701:G:H8	1.80	0.47
35:B2:1951:A:H61	35:B2:2427:C:N4	2.10	0.47
35:B2:2804:C:H2'	35:B2:2805:C:C6	2.49	0.47
35:B2:2914:A:C2	35:B2:2915:A:C8	3.02	0.47
35:B2:2975:U:H1'	39:BO:250:ALA:HB3	1.97	0.47
35:B2:3004:U:H2'	35:B2:3005:A:O4'	2.14	0.47
36:B3:9:C:OP1	56:Bf:26:ARG:HB2	2.15	0.47
37:B4:89:U:OP2	37:B4:90:U:H5'	2.15	0.47
39:BO:159:ARG:HG2	39:BO:182:GLN:HA	1.97	0.47
41:BQ:93:ALA:O	41:BQ:158:ARG:NH1	2.41	0.47
41:BQ:125:PRO:HB2	41:BQ:199:ILE:HG21	1.97	0.47
43:BS:60:ASP:OD2	43:BS:64:ARG:NH1	2.48	0.47
54:Bd:35:ALA:O	54:Bd:36:ASN:ND2	2.47	0.47
58:Bh:83:GLN:NE2	58:Bh:85:LYS:O	2.43	0.47
65:Bo:87:CYS:SG	65:Bo:96:LEU:HD21	2.55	0.47
70:Bt:3:LEU:HD11	70:Bt:23:LEU:HD11	1.96	0.47
1:AA:874:A:N1	15:AQ:73:ARG:HD2	2.30	0.47
6:AH:182:MET:HB2	6:AH:228:ILE:HD13	1.97	0.47
7:AI:140:VAL:HG12	7:AI:144:ARG:HB3	1.96	0.47
15:AQ:43:LYS:HB3	65:Bo:103:ASP:HB3	1.97	0.47
21:AW:125:GLN:HE22	21:AW:129:ARG:HH21	1.61	0.47
22:Aa:100:GLN:O	22:Aa:104:ILE:HG13	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Aj:31:ILE:HD12	31:Aj:31:ILE:O	2.15	0.47
35:B2:8:C:H2'	35:B2:9:U:C6	2.49	0.47
35:B2:93:C:C2	63:Bm:55:LYS:HE2	2.50	0.47
35:B2:297:A:H2'	35:B2:298:G:H8	1.80	0.47
35:B2:943:C:N4	38:BN:3:ARG:HD3	2.30	0.47
35:B2:2242:U:H2'	35:B2:2243:G:H8	1.79	0.47
35:B2:2761:C:OP2	35:B2:2782:G:N1	2.43	0.47
35:B2:2837:C:H2'	35:B2:2838:A:H8	1.78	0.47
41:BQ:182:GLY:HA3	41:BQ:194:THR:HG21	1.97	0.47
61:Bk:85:THR:HG22	61:Bk:95:PRO:HA	1.97	0.47
1:AA:407:G:H2'	1:AA:408:C:C6	2.50	0.47
1:AA:554:G:H2'	1:AA:555:G:C8	2.49	0.47
1:AA:815:U:H2'	1:AA:816:G:C8	2.50	0.47
2:AD:173:ILE:O	2:AD:177:TRP:HD1	1.98	0.47
4:AF:122:THR:HA	4:AF:125:ARG:HG2	1.96	0.47
6:AH:136:VAL:HB	6:AH:149:TYR:CE1	2.50	0.47
6:AH:185:GLY:HA2	6:AH:189:MET:HE3	1.96	0.47
35:B2:86:G:O2'	35:B2:98:G:O6	2.27	0.47
35:B2:1594:G:H1'	35:B2:1595:U:H5	1.80	0.47
35:B2:1725:C:H2'	35:B2:1726:U:H6	1.79	0.47
35:B2:1877:C:H2'	35:B2:1878:A:C8	2.50	0.47
35:B2:3202:A:H2'	35:B2:3203:C:O4'	2.15	0.47
1:AA:336:A:H2'	1:AA:337:G:C8	2.50	0.47
1:AA:772:U:H2'	1:AA:773:A:H8	1.79	0.47
1:AA:905:C:H2'	1:AA:906:A:H8	1.79	0.47
1:AA:1318:U:OP2	4:AF:96:ARG:NH1	2.48	0.47
1:AA:1687:C:H2'	1:AA:1688:U:C6	2.49	0.47
5:AG:36:TYR:OH	5:AG:39:CYS:SG	2.67	0.47
8:AJ:29:GLU:O	8:AJ:29:GLU:HG3	2.14	0.47
18:AT:27:LYS:HA	18:AT:32:PRO:HA	1.96	0.47
35:B2:322:U:H2'	35:B2:323:C:C6	2.50	0.47
35:B2:2662:U:H2'	35:B2:2663:C:O4'	2.14	0.47
35:B2:3171:G:H2'	35:B2:3172:C:C6	2.50	0.47
36:B3:39:C:O2	47:BW:70:THR:N	2.44	0.47
46:BV:33:ILE:HD11	46:BV:69:ARG:HH11	1.79	0.47
51:Ba:111:PRO:N	51:Ba:112:PRO:HD2	2.29	0.47
56:Bf:36:VAL:HG13	56:Bf:65:TYR:HA	1.96	0.47
60:Bj:100:LYS:HB2	60:Bj:100:LYS:HE3	1.75	0.47
1:AA:628:C:H2'	1:AA:629:U:C6	2.50	0.46
1:AA:748:C:H2'	1:AA:749:C:C6	2.50	0.46
6:AH:21:ASP:OD1	6:AH:21:ASP:N	2.47	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AJ:56:ASN:HD22	8:AJ:62:PRO:HA	1.80	0.46
19:AU:66:VAL:HG12	19:AU:68:GLY:H	1.80	0.46
25:Ad:51:VAL:HB	25:Ad:97:ASN:H	1.79	0.46
35:B2:1019:U:H2'	35:B2:1020:U:C6	2.50	0.46
35:B2:2680:C:N4	44:BT:239:GLY:HA3	2.30	0.46
35:B2:2756:G:H2'	35:B2:2757:G:H8	1.80	0.46
35:B2:3170:G:H2'	35:B2:3171:G:H8	1.80	0.46
35:B2:3262:G:H2'	35:B2:3263:A:H8	1.81	0.46
42:BR:72:VAL:HA	42:BR:82:VAL:HG12	1.96	0.46
43:BS:46:GLN:HG3	43:BS:50:GLU:OE2	2.14	0.46
48:BX:106:GLU:O	48:BX:110:GLN:HG2	2.14	0.46
56:Bf:85:MET:HB3	56:Bf:85:MET:HE2	1.81	0.46
58:Bh:35:ASN:HD21	58:Bh:66:LYS:HD3	1.79	0.46
1:AA:464:G:H2'	1:AA:465:G:C8	2.51	0.46
1:AA:1241:G:O2'	1:AA:1242:U:O4'	2.29	0.46
4:AF:229:TRP:CZ2	24:Ac:68:ARG:HD3	2.50	0.46
6:AH:161:LYS:HD2	6:AH:170:GLU:HB2	1.97	0.46
20:AV:20:VAL:HG22	20:AV:33:ILE:HD11	1.97	0.46
23:Ab:30:ALA:O	23:Ab:60:ARG:NH1	2.39	0.46
35:B2:36:C:H4'	35:B2:840:A:C2	2.50	0.46
35:B2:773:C:H2'	35:B2:774:C:H6	1.80	0.46
35:B2:1290:A:H1'	35:B2:1312:U:H1'	1.97	0.46
35:B2:1764:U:H1'	35:B2:1765:C:C6	2.51	0.46
35:B2:2271:A:O2'	38:BN:235:GLY:N	2.48	0.46
35:B2:2692:U:H2'	35:B2:2693:G:H8	1.80	0.46
35:B2:2977:U:H2'	35:B2:2978:U:C6	2.50	0.46
35:B2:3269:A:H2'	35:B2:3270:U:C6	2.50	0.46
61:Bk:115:LYS:O	61:Bk:119:VAL:HG23	2.15	0.46
62:Bl:92:LEU:HD22	62:Bl:114:VAL:HG22	1.97	0.46
1:AA:70:C:H2'	1:AA:71:A:H8	1.80	0.46
1:AA:773:A:H2'	1:AA:774:G:O4'	2.14	0.46
1:AA:937:G:H2'	1:AA:938:A:C8	2.51	0.46
1:AA:1623:U:O2	1:AA:1655:A:N6	2.48	0.46
17:AS:93:ILE:HG13	17:AS:120:ILE:HA	1.96	0.46
19:AU:93:VAL:O	19:AU:95:ARG:N	2.48	0.46
20:AV:59:LEU:HD12	20:AV:59:LEU:HA	1.76	0.46
28:Ag:39:TRP:CD1	28:Ag:70:LYS:HD2	2.50	0.46
35:B2:165:A:H2'	35:B2:166:A:C8	2.50	0.46
35:B2:1036:U:H2'	35:B2:1037:G:C8	2.50	0.46
35:B2:1800:G:N2	35:B2:1807:G:N3	2.63	0.46
35:B2:1818:U:H2'	35:B2:1819:G:C8	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:2525:G:H22	35:B2:2606:U:H3	1.61	0.46
35:B2:2603:C:H2'	35:B2:2604:U:C6	2.51	0.46
35:B2:2622:C:H2'	35:B2:2623:G:H8	1.79	0.46
35:B2:3196:C:HO2'	35:B2:3197:G:H8	1.63	0.46
1:AA:98:C:H2'	1:AA:99:U:H6	1.80	0.46
1:AA:296:U:H2'	1:AA:297:C:C6	2.50	0.46
1:AA:594:A:H5''	11:AM:24:LEU:HD11	1.98	0.46
1:AA:704:C:C4	9:AK:108:SER:HA	2.50	0.46
1:AA:1218:G:H21	1:AA:1641:A:H5''	1.80	0.46
1:AA:1503:A:C2	1:AA:1648:G:H1'	2.50	0.46
33:B0:87:ARG:NH2	35:B2:2856:G:OP2	2.40	0.46
35:B2:91:G:OP2	35:B2:93:C:N4	2.41	0.46
35:B2:889:G:H5'	35:B2:1696:G:O2'	2.15	0.46
35:B2:992:U:H4'	35:B2:995:G:C2	2.51	0.46
35:B2:1585:C:H2'	35:B2:1586:G:O4'	2.15	0.46
35:B2:1832:C:H2'	35:B2:1833:C:C6	2.51	0.46
37:B4:60:A:C2	37:B4:61:A:C8	3.04	0.46
39:BO:286:GLY:HA3	39:BO:321:PHE:CE1	2.50	0.46
41:BQ:37:ILE:HG23	41:BQ:50:ARG:HD3	1.98	0.46
47:BW:103:GLY:HA3	47:BW:128:TYR:HD1	1.81	0.46
48:BX:79:GLU:OE2	48:BX:112:ASN:ND2	2.44	0.46
67:Bq:94:ALA:HB3	67:Bq:97:VAL:HG23	1.96	0.46
1:AA:255:U:H2'	1:AA:256:A:C8	2.51	0.46
1:AA:1012:G:H2'	1:AA:1013:A:H8	1.80	0.46
1:AA:1619:U:H4'	18:AT:139:TYR:CE2	2.50	0.46
7:AI:138:VAL:HG12	30:AI:44:ASN:HB2	1.97	0.46
34:B1:44:ARG:HH21	34:B1:59:GLY:HA3	1.81	0.46
35:B2:349:G:C8	40:BP:193:LYS:HD3	2.51	0.46
35:B2:597:C:H2'	35:B2:598:G:H8	1.80	0.46
35:B2:693:A:H2'	35:B2:694:U:C6	2.50	0.46
35:B2:718:A:N1	37:B4:36:C:O2'	2.46	0.46
35:B2:737:A:H2'	35:B2:738:A:C8	2.50	0.46
35:B2:984:A:H5''	64:Bn:15:LYS:HD3	1.97	0.46
35:B2:1425:C:C5	67:Bq:100:ARG:HD3	2.51	0.46
35:B2:1878:A:H2'	35:B2:1879:C:H6	1.79	0.46
35:B2:2291:U:H2'	35:B2:2292:C:H6	1.80	0.46
35:B2:2621:G:N7	38:BN:66:TYR:OH	2.37	0.46
35:B2:3056:G:H2'	35:B2:3057:U:C6	2.50	0.46
43:BS:97:ILE:HB	43:BS:226:LYS:HE2	1.98	0.46
1:AA:369:A:OP1	1:AA:771:U:O2'	2.28	0.46
1:AA:695:G:H2'	1:AA:696:U:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1078:U:H1'	1:AA:1079:C:C6	2.51	0.46
1:AA:1080:G:H2'	1:AA:1081:A:H8	1.79	0.46
1:AA:1402:A:O2'	1:AA:1403:G:H8	1.99	0.46
1:AA:1602:U:H2'	1:AA:1603:G:C8	2.50	0.46
7:AI:29:VAL:HG11	7:AI:108:LEU:HD23	1.98	0.46
15:AQ:119:GLU:HA	15:AQ:122:ILE:HG22	1.97	0.46
17:AS:119:MET:HB3	20:AV:117:ILE:HG12	1.98	0.46
35:B2:546:G:H2'	35:B2:548:U:C5	2.51	0.46
35:B2:1532:A:H2'	35:B2:1533:U:C6	2.51	0.46
35:B2:1891:C:O2'	35:B2:1897:A:N1	2.44	0.46
35:B2:2958:G:C2	35:B2:2959:A:C8	3.03	0.46
37:B4:83:G:N7	74:Bx:30:ARG:NH1	2.59	0.46
48:BX:175:ALA:N	63:Bm:134:GLU:OE2	2.45	0.46
49:BY:115:ARG:O	49:BY:119:GLN:HG3	2.16	0.46
53:Bc:7:ARG:HB3	53:Bc:10:VAL:HG21	1.97	0.46
70:Bt:85:LYS:HA	70:Bt:85:LYS:HD2	1.68	0.46
1:AA:12:U:H2'	1:AA:13:C:H6	1.80	0.46
1:AA:419:A:H5'	1:AA:420:A:C8	2.51	0.46
1:AA:537:A:H3'	1:AA:538:A:H8	1.80	0.46
1:AA:994:A:H4'	1:AA:1828:G:N2	2.29	0.46
1:AA:1007:A:N7	1:AA:1027:U:O2	2.48	0.46
1:AA:1297:C:H2'	1:AA:1298:G:H8	1.80	0.46
1:AA:1318:U:H5'	4:AF:87:LYS:HD2	1.98	0.46
18:AT:106:LEU:O	18:AT:110:ASP:HB2	2.15	0.46
20:AV:12:ILE:HG22	20:AV:22:GLY:N	2.29	0.46
28:Ag:28:ARG:NH1	28:Ag:29:ALA:O	2.48	0.46
29:Ah:67:THR:OG1	29:Ah:70:LYS:O	2.32	0.46
35:B2:47:C:H5''	48:BX:16:LYS:HG2	1.96	0.46
35:B2:144:U:H2'	35:B2:145:G:H8	1.79	0.46
35:B2:216:A:N3	40:BP:223:ASN:ND2	2.64	0.46
35:B2:1309:A:H5''	35:B2:1310:C:C5	2.51	0.46
36:B3:4:U:H2'	36:B3:5:A:C8	2.50	0.46
1:AA:96:G:HO2'	1:AA:463:A:HO2'	1.63	0.46
1:AA:750:A:H2'	1:AA:751:G:C8	2.51	0.46
3:AE:64:ARG:HD2	16:AR:36:THR:HG21	1.96	0.46
7:AI:134:ARG:HD3	16:AR:54:ARG:HE	1.80	0.46
17:AS:23:PHE:HD1	17:AS:27:GLY:HA2	1.81	0.46
25:Ad:28:LYS:HE2	25:Ad:32:LEU:HD11	1.97	0.46
35:B2:315:A:H2'	35:B2:316:A:H8	1.80	0.46
35:B2:573:G:H2'	35:B2:574:U:H6	1.80	0.46
35:B2:1309:A:H5''	35:B2:1310:C:H5	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:1482:U:H5''	52:Bb:66:GLY:HA3	1.97	0.46
36:B3:119:U:H5''	41:BQ:263:PHE:HE1	1.80	0.46
37:B4:77:U:H2'	37:B4:78:G:O4'	2.15	0.46
1:AA:67:A:N6	1:AA:84:G:H21	2.10	0.46
1:AA:612:U:N3	25:Ad:24:ASP:OD2	2.49	0.46
1:AA:631:G:H1'	35:B2:878:A:N6	2.31	0.46
1:AA:758:U:H2'	1:AA:759:A:H8	1.81	0.46
1:AA:1087:U:H2'	1:AA:1088:C:C6	2.50	0.46
1:AA:1243:A:H2'	14:AP:119:VAL:HG11	1.97	0.46
15:AQ:63:VAL:HG21	15:AQ:71:ILE:HG12	1.97	0.46
17:AS:89:ARG:CZ	17:AS:104:ILE:HG21	2.46	0.46
34:B1:71:TRP:NE1	38:BN:172:GLY:O	2.48	0.46
35:B2:1170:G:O2'	43:BS:102:ASN:OD1	2.32	0.46
35:B2:1372:U:H2'	35:B2:1373:C:C6	2.51	0.46
35:B2:1599:A:H1'	35:B2:1600:C:C5	2.48	0.46
35:B2:2862:U:H2'	35:B2:2863:U:H6	1.81	0.46
35:B2:2910:G:N2	35:B2:2913:U:O2	2.36	0.46
35:B2:3342:G:H5'	35:B2:3345:G:H8	1.79	0.46
46:BV:93:PRO:HB2	46:BV:125:LEU:HB3	1.98	0.46
48:BX:90:ALA:HB1	48:BX:95:ILE:HB	1.98	0.46
50:BZ:99:ARG:HB3	50:BZ:167:ILE:HG12	1.98	0.46
61:Bk:34:LEU:HD22	61:Bk:38:LEU:HD23	1.97	0.46
61:Bk:55:ILE:HG22	61:Bk:105:ILE:HA	1.97	0.46
2:AD:120:GLU:OE1	2:AD:120:GLU:O	2.34	0.46
2:AD:128:ASP:HA	2:AD:167:ASN:HD21	1.80	0.46
6:AH:73:ASP:HA	6:AH:164:LEU:HD13	1.97	0.46
11:AM:12:TYR:HB2	11:AM:43:TRP:HB2	1.98	0.46
13:AO:56:PRO:HD3	13:AO:135:ASN:CG	2.41	0.46
35:B2:353:G:O2'	37:B4:33:G:N3	2.47	0.46
35:B2:492:U:H2'	35:B2:493:G:C8	2.51	0.46
35:B2:591:G:O4'	35:B2:593:A:H5'	2.16	0.46
35:B2:1094:A:O2'	35:B2:1095:G:OP2	2.34	0.46
35:B2:1268:G:N1	35:B2:1282:A:H2	2.06	0.46
35:B2:1370:C:H2'	35:B2:1371:G:H8	1.81	0.46
35:B2:3118:G:O2'	35:B2:3127:G:O6	2.32	0.46
35:B2:3369:A:N6	42:BR:153:ARG:HD2	2.28	0.46
35:B2:3441:G:O2'	35:B2:3443:A:OP1	2.30	0.46
65:Bo:28:LYS:HB2	65:Bo:100:ASP:HB3	1.97	0.46
1:AA:89:U:N3	1:AA:90:G:N7	2.64	0.45
1:AA:183:U:H2'	1:AA:184:C:H6	1.79	0.45
1:AA:1098:C:O2	24:Ac:20:ARG:NH1	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1176:A:H2'	1:AA:1177:C:C6	2.51	0.45
1:AA:1185:U:H2'	1:AA:1186:G:O4'	2.16	0.45
1:AA:1361:A:O2'	22:Aa:53:PRO:O	2.20	0.45
1:AA:1591:A:H2'	1:AA:1592:U:C6	2.51	0.45
1:AA:1595:C:H5'	1:AA:1596:A:N6	2.31	0.45
6:AH:52:LEU:HB3	6:AH:54:TYR:HD1	1.81	0.45
16:AR:63:MET:HE1	16:AR:105:ARG:HG2	1.97	0.45
16:AR:135:ARG:HB2	16:AR:138:ARG:HH21	1.80	0.45
35:B2:256:C:H3'	35:B2:257:A:H8	1.80	0.45
35:B2:321:A:H2'	35:B2:322:U:C6	2.52	0.45
35:B2:1783:G:H2'	35:B2:1784:U:H6	1.81	0.45
35:B2:1942:A:H4'	39:BO:227:GLU:HA	1.97	0.45
35:B2:1996:C:H42	35:B2:2195:A:H61	1.65	0.45
35:B2:2495:C:H2'	35:B2:2496:U:C6	2.52	0.45
35:B2:2841:A:C6	41:BQ:153:THR:HG21	2.52	0.45
39:BO:239:PRO:O	39:BO:242:THR:OG1	2.30	0.45
62:BL:57:MET:HG2	62:BL:61:ARG:HE	1.81	0.45
74:Bx:38:ASN:OD1	74:Bx:39:MET:N	2.49	0.45
1:AA:644:G:H1	1:AA:699:U:H3	1.63	0.45
1:AA:965:C:H2'	1:AA:966:A:C8	2.50	0.45
1:AA:994:A:H5'	1:AA:1829:C:H1'	1.98	0.45
1:AA:1059:U:H2'	1:AA:1060:C:C6	2.51	0.45
1:AA:1237:C:H2'	1:AA:1238:A:C8	2.50	0.45
1:AA:1533:A:H3'	1:AA:1534:U:C6	2.52	0.45
5:AG:177:VAL:HG13	5:AG:184:LEU:HB3	1.99	0.45
8:AJ:147:LEU:HD22	8:AJ:153:VAL:HG22	1.98	0.45
17:AS:89:ARG:HB2	17:AS:124:LEU:HB3	1.97	0.45
19:AU:28:PHE:HA	19:AU:31:ASN:HD21	1.80	0.45
35:B2:379:G:O2'	35:B2:404:A:N6	2.43	0.45
35:B2:820:C:H2'	35:B2:821:A:C8	2.51	0.45
35:B2:919:G:H2'	35:B2:920:A:H8	1.80	0.45
35:B2:970:C:O2	35:B2:2908:A:O2'	2.34	0.45
35:B2:1322:A:H2'	35:B2:1323:C:O4'	2.16	0.45
35:B2:2395:G:O2'	35:B2:2398:U:OP2	2.34	0.45
35:B2:2757:G:H2'	35:B2:2758:A:H8	1.80	0.45
35:B2:2863:U:H2'	35:B2:2864:G:C8	2.51	0.45
35:B2:2999:U:H2'	35:B2:3000:U:C6	2.52	0.45
35:B2:3371:U:H5	42:BR:124:PHE:HA	1.82	0.45
41:BQ:263:PHE:HA	41:BQ:266:GLU:HG2	1.97	0.45
47:BW:15:SER:OG	47:BW:16:LYS:HG2	2.16	0.45
47:BW:19:LEU:HD13	47:BW:37:LEU:HD22	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:By:66:LEU:HD21	75:By:103:ILE:HD11	1.98	0.45
1:AA:181:A:H2'	1:AA:182:A:C8	2.50	0.45
1:AA:593:C:H2'	1:AA:594:A:C8	2.52	0.45
1:AA:933:U:H2'	1:AA:934:A:H8	1.80	0.45
1:AA:962:U:H2'	1:AA:963:G:C8	2.52	0.45
1:AA:1305:G:N7	1:AA:1331:U:O2'	2.37	0.45
1:AA:1714:G:C6	1:AA:1770:A:N1	2.83	0.45
5:AG:129:MET:HE1	5:AG:135:GLY:HA2	1.97	0.45
11:AM:65:LYS:HA	11:AM:70:LEU:HD11	1.97	0.45
11:AM:124:HIS:CE1	11:AM:128:LEU:HD12	2.52	0.45
15:AQ:60:ILE:HG22	15:AQ:61:PRO:O	2.16	0.45
16:AR:72:LYS:O	16:AR:75:GLU:HG3	2.16	0.45
17:AS:132:LYS:HD3	17:AS:133:PRO:HD2	1.98	0.45
21:AW:78:VAL:HG23	21:AW:79:TYR:CD2	2.52	0.45
26:Ae:75:ILE:C	26:Ae:75:ILE:HD12	2.42	0.45
35:B2:518:U:H2'	35:B2:519:U:C6	2.50	0.45
35:B2:2240:A:H2'	35:B2:2241:U:H6	1.81	0.45
35:B2:2242:U:H2'	35:B2:2243:G:C8	2.51	0.45
35:B2:2313:U:H2'	35:B2:2314:U:C6	2.52	0.45
35:B2:3160:U:H2'	35:B2:3161:G:C8	2.50	0.45
35:B2:3288:G:H2'	35:B2:3289:G:H8	1.82	0.45
35:B2:3389:G:H3'	35:B2:3390:G:H8	1.81	0.45
51:Ba:160:ARG:HE	51:Ba:160:ARG:HB3	1.57	0.45
57:Bg:30:PHE:CZ	57:Bg:34:LEU:HD11	2.51	0.45
1:AA:697:C:N4	1:AA:698:G:O6	2.50	0.45
1:AA:1333:G:O2'	19:AU:10:LYS:NZ	2.49	0.45
1:AA:1648:G:H2'	1:AA:1649:U:C6	2.51	0.45
6:AH:131:LEU:HA	6:AH:137:PRO:HA	1.98	0.45
9:AK:77:ALA:O	9:AK:81:ARG:NH1	2.50	0.45
22:Aa:54:VAL:HB	22:Aa:88:LEU:HG	1.98	0.45
24:Ac:18:GLU:OE2	24:Ac:69:ILE:HB	2.17	0.45
35:B2:12:A:H2'	35:B2:13:A:C8	2.52	0.45
35:B2:943:C:H5''	38:BN:14:ILE:HD13	1.98	0.45
35:B2:1007:C:H2'	35:B2:1008:U:H6	1.80	0.45
35:B2:1033:G:O2'	35:B2:1073:U:OP2	2.28	0.45
35:B2:1064:C:O2'	35:B2:1065:U:O4'	2.25	0.45
35:B2:1137:G:H2'	35:B2:1138:U:C6	2.52	0.45
35:B2:1234:A:H2'	35:B2:1235:A:H8	1.79	0.45
35:B2:1265:G:OP2	35:B2:1266:U:H3'	2.16	0.45
35:B2:1290:A:O2'	35:B2:1311:C:O2'	2.31	0.45
35:B2:1762:U:O4'	54:Bd:96:MET:HG3	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:2662:U:H3	35:B2:2669:G:H1	1.64	0.45
35:B2:3256:C:H2'	35:B2:3257:C:C6	2.51	0.45
45:BU:32:ARG:HB2	45:BU:83:THR:HA	1.99	0.45
51:Ba:7:VAL:HG22	51:Ba:33:LYS:HE3	1.99	0.45
62:Bl:10:VAL:O	62:Bl:83:THR:OG1	2.24	0.45
1:AA:1113:U:H4'	1:AA:1114:U:O5'	2.16	0.45
1:AA:1208:U:H1'	18:AT:139:TYR:C	2.42	0.45
1:AA:1347:G:H3'	1:AA:1348:A:H8	1.80	0.45
1:AA:1503:A:H2'	1:AA:1504:A:H8	1.82	0.45
1:AA:1786:A:H3'	1:AA:1787:G:H8	1.81	0.45
6:AH:118:GLU:HG2	6:AH:121:TYR:HE1	1.81	0.45
8:AJ:102:VAL:HG21	8:AJ:109:LEU:HD21	1.98	0.45
11:AM:152:ALA:O	11:AM:156:ILE:HG13	2.16	0.45
12:AN:88:PRO:O	12:AN:91:HIS:NE2	2.49	0.45
13:AO:63:ILE:HG21	13:AO:137:LEU:HD11	1.99	0.45
35:B2:679:C:H2'	35:B2:680:C:C6	2.51	0.45
35:B2:863:G:O2'	35:B2:1919:A:N3	2.37	0.45
35:B2:1188:G:O2'	35:B2:1200:A:N3	2.44	0.45
35:B2:1823:U:H2'	35:B2:1824:C:C6	2.52	0.45
35:B2:2245:G:N7	38:BN:151:SER:OG	2.47	0.45
35:B2:2817:U:O2'	56:Bf:88:ARG:O	2.24	0.45
35:B2:3262:G:H2'	35:B2:3263:A:C8	2.51	0.45
35:B2:3360:G:H2'	35:B2:3361:U:H6	1.82	0.45
39:BO:152:LYS:HG2	39:BO:189:ALA:HA	1.99	0.45
49:BY:102:ARG:NH1	51:Ba:196:GLY:O	2.50	0.45
58:Bh:35:ASN:ND2	58:Bh:66:LYS:HB2	2.31	0.45
73:Bw:50:ASP:HB3	73:Bw:53:LYS:HG3	1.99	0.45
1:AA:27:U:H2'	1:AA:28:A:C8	2.52	0.45
1:AA:64:U:O2'	1:AA:168:A:N3	2.44	0.45
1:AA:213:U:H2'	1:AA:214:A:C8	2.51	0.45
1:AA:359:G:H2'	1:AA:360:G:C8	2.52	0.45
1:AA:531:U:H2'	1:AA:532:A:O4'	2.17	0.45
1:AA:569:C:H2'	1:AA:570:A:C8	2.52	0.45
1:AA:1592:U:OP2	17:AS:51:ARG:NE	2.42	0.45
1:AA:1605:U:O3'	1:AA:1606:C:H5'	2.17	0.45
5:AG:169:PHE:HB3	5:AG:197:THR:HG23	1.99	0.45
26:Ae:23:MET:HE3	26:Ae:23:MET:HB3	1.83	0.45
35:B2:359:A:OP1	74:Bx:34:THR:OG1	2.35	0.45
35:B2:438:G:H2'	35:B2:439:A:H8	1.81	0.45
35:B2:1537:A:C2	35:B2:1538:A:C8	3.05	0.45
35:B2:1780:G:N2	35:B2:1781:G:O6	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:2292:C:H2'	35:B2:2293:U:H5''	1.97	0.45
37:B4:13:U:H2'	37:B4:14:U:H6	1.81	0.45
39:BO:142:GLN:HG2	39:BO:143:SER:N	2.31	0.45
47:BW:50:ALA:HB2	47:BW:65:ILE:HD13	1.98	0.45
51:Ba:28:LEU:HD11	51:Ba:103:LEU:HB2	1.98	0.45
1:AA:407:G:H2'	1:AA:408:C:H6	1.81	0.45
1:AA:836:G:N2	1:AA:837:U:O4	2.50	0.45
1:AA:1184:G:H2'	1:AA:1185:U:C6	2.51	0.45
2:AD:134:GLN:NE2	2:AD:138:GLU:OE2	2.45	0.45
3:AE:32:ILE:HG21	3:AE:66:LEU:HD11	1.97	0.45
4:AF:125:ARG:HG3	4:AF:126:GLY:N	2.32	0.45
9:AK:114:ARG:HH22	9:AK:119:THR:HG23	1.80	0.45
24:Ac:87:GLU:O	24:Ac:91:ASN:ND2	2.34	0.45
35:B2:109:A:N1	35:B2:330:U:O2'	2.46	0.45
35:B2:182:G:O2'	35:B2:183:A:O5'	2.31	0.45
35:B2:467:A:H2'	35:B2:468:G:C8	2.51	0.45
35:B2:511:C:H2'	35:B2:512:A:H8	1.80	0.45
35:B2:550:G:H1	35:B2:575:G:H21	1.65	0.45
35:B2:978:U:H2'	35:B2:979:G:H8	1.80	0.45
35:B2:1003:G:H2'	35:B2:1004:A:C8	2.52	0.45
35:B2:1201:A:H2'	35:B2:1202:G:O4'	2.17	0.45
35:B2:1243:A:H2'	35:B2:1244:G:H8	1.81	0.45
35:B2:3163:C:H3'	54:Bd:62:ARG:HH22	1.81	0.45
36:B3:63:A:H5'	46:BV:206:LEU:HG	1.99	0.45
37:B4:140:A:H2'	37:B4:141:A:H8	1.80	0.45
47:BW:21:ILE:HD12	47:BW:21:ILE:O	2.17	0.45
47:BW:105:GLY:HA2	47:BW:126:ASP:HA	1.97	0.45
49:BY:87:TRP:O	49:BY:90:SER:OG	2.29	0.45
1:AA:15:U:H2'	1:AA:16:G:O4'	2.17	0.45
1:AA:472:C:N4	1:AA:599:C:H41	2.09	0.45
1:AA:554:G:H2'	1:AA:555:G:H8	1.82	0.45
1:AA:1216:G:OP2	31:Aj:26:ARG:NH1	2.49	0.45
1:AA:1491:A:H62	1:AA:1577:G:N2	2.13	0.45
1:AA:1578:C:O2'	1:AA:1581:G:O6	2.33	0.45
1:AA:1651:G:OP1	7:AI:50:HIS:NE2	2.50	0.45
1:AA:1792:A:H2'	1:AA:1793:G:C8	2.52	0.45
5:AG:34:GLU:HA	5:AG:56:HIS:HB2	1.98	0.45
7:AI:14:GLU:HG3	7:AI:20:LEU:HD23	1.99	0.45
8:AJ:169:LYS:HG3	8:AJ:170:LYS:HG2	1.98	0.45
16:AR:60:TYR:CE1	16:AR:64:LEU:HD21	2.52	0.45
35:B2:116:A:N6	35:B2:159:U:O2	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:641:G:H2'	35:B2:642:A:H8	1.82	0.45
35:B2:1311:C:O2'	35:B2:1312:U:O4'	2.29	0.45
35:B2:2803:C:H2'	35:B2:2804:C:H6	1.82	0.45
35:B2:3234:C:OP2	39:BO:30:LYS:HG3	2.17	0.45
35:B2:3378:A:H2'	35:B2:3379:A:C8	2.51	0.45
35:B2:3434:G:N2	35:B2:3470:G:H8	2.15	0.45
37:B4:147:U:H2'	37:B4:148:G:H8	1.82	0.45
40:BP:13:LYS:H	40:BP:13:LYS:HG3	1.54	0.45
54:Bd:89:MET:HE3	54:Bd:90:PRO:HD2	1.99	0.45
58:Bh:21:VAL:HG12	58:Bh:22:GLN:HG2	1.99	0.45
1:AA:187:G:N1	1:AA:198:A:N7	2.62	0.45
1:AA:887:G:H2'	1:AA:888:U:O4'	2.16	0.45
1:AA:1485:C:H5''	18:AT:136:GLN:HG2	1.98	0.45
1:AA:1626:U:H2'	1:AA:1627:A:C8	2.52	0.45
3:AE:92:GLN:O	3:AE:95:SER:OG	2.32	0.45
5:AG:162:SER:O	5:AG:166:ALA:HB3	2.16	0.45
6:AH:55:ALA:HB2	6:AH:64:ILE:HD12	1.99	0.45
10:AL:42:ARG:HG2	10:AL:58:LEU:HD12	1.98	0.45
15:AQ:83:GLU:HG2	15:AQ:84:LEU:HG	1.99	0.45
21:AW:64:ILE:HG23	21:AW:123:ILE:HB	1.98	0.45
35:B2:268:U:H2'	35:B2:269:U:C6	2.52	0.45
35:B2:437:G:H2'	35:B2:438:G:H8	1.81	0.45
35:B2:599:U:H2'	35:B2:600:C:C6	2.51	0.45
35:B2:634:G:OP2	40:BP:318:LYS:NZ	2.35	0.45
35:B2:1219:U:OP1	35:B2:1241:U:O2'	2.28	0.45
35:B2:1728:U:HO2'	35:B2:1813:U:HO2'	1.63	0.45
35:B2:1871:U:H2'	35:B2:1872:G:C8	2.52	0.45
37:B4:140:A:H2'	37:B4:141:A:C8	2.52	0.45
38:BN:23:LYS:HG3	38:BN:48:ILE:HD13	1.98	0.45
41:BQ:119:TYR:OH	41:BQ:139:PRO:O	2.26	0.45
41:BQ:197:LYS:O	41:BQ:202:GLY:N	2.47	0.45
49:BY:30:ASP:OD1	49:BY:31:ILE:N	2.49	0.45
49:BY:40:ASP:OD2	49:BY:41:SER:N	2.50	0.45
51:Ba:98:ALA:O	51:Ba:102:HIS:ND1	2.27	0.45
56:Bf:116:ARG:HB2	56:Bf:128:LEU:HD11	1.99	0.45
1:AA:587:C:O2'	1:AA:588:A:H8	2.00	0.45
1:AA:920:A:H5''	16:AR:54:ARG:HD3	1.99	0.45
1:AA:1194:C:O3'	1:AA:1206:A:N6	2.49	0.45
1:AA:1631:G:H2'	1:AA:1632:C:C6	2.52	0.45
1:AA:1688:U:H2'	1:AA:1689:A:H8	1.81	0.45
5:AG:192:LEU:HD12	5:AG:193:PRO:HD2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AW:42:HIS:HA	21:AW:83:VAL:HG22	1.99	0.45
22:Aa:96:GLU:O	22:Aa:99:LYS:HG3	2.17	0.45
25:Ad:51:VAL:HA	25:Ad:72:VAL:HG23	1.98	0.45
27:Af:45:LEU:HD13	27:Af:51:ILE:HD12	1.98	0.45
33:B0:71:ARG:HH12	35:B2:2863:U:H4'	1.82	0.45
35:B2:1148:G:OP1	64:Bn:6:ASN:ND2	2.50	0.45
35:B2:1665:A:O2'	35:B2:1666:C:N3	2.48	0.45
35:B2:2953:U:H2'	35:B2:2954:U:C6	2.52	0.45
35:B2:3351:U:H2'	35:B2:3352:A:C8	2.52	0.45
40:BP:266:SER:HA	40:BP:279:LEU:HD12	1.98	0.45
48:BX:55:ARG:NH1	48:BX:73:ARG:O	2.43	0.45
61:Bk:5:ARG:HD3	61:Bk:5:ARG:HA	1.68	0.45
70:Bt:20:LEU:HB2	70:Bt:56:ILE:HG21	1.98	0.45
1:AA:104:A:H4'	1:AA:106:A:C8	2.52	0.44
1:AA:213:U:H2'	1:AA:214:A:H8	1.81	0.44
1:AA:279:C:O2'	1:AA:280:U:H5'	2.17	0.44
1:AA:871:A:O2'	1:AA:872:U:H4'	2.17	0.44
1:AA:1022:C:H2'	1:AA:1023:G:C8	2.51	0.44
1:AA:1023:G:OP1	16:AR:137:ARG:NE	2.36	0.44
1:AA:1027:U:H4'	38:BN:246:ARG:HB3	1.98	0.44
1:AA:1499:A:N1	1:AA:1570:C:N4	2.65	0.44
6:AH:48:LEU:HD11	6:AH:70:ILE:HG12	1.98	0.44
11:AM:18:PRO:HG2	11:AM:19:PHE:CE2	2.52	0.44
11:AM:107:ARG:NH2	11:AM:153:GLN:NE2	2.65	0.44
20:AV:36:VAL:HG13	20:AV:40:TYR:HD2	1.83	0.44
20:AV:68:VAL:O	20:AV:72:GLN:HG2	2.17	0.44
25:Ad:67:ARG:HG3	25:Ad:115:ILE:HG13	1.99	0.44
32:Ak:56:ARG:NH1	32:Ak:58:ASN:O	2.47	0.44
35:B2:155:U:P	50:BZ:49:ARG:HH12	2.38	0.44
35:B2:438:G:H2'	35:B2:439:A:C8	2.52	0.44
35:B2:608:G:H2'	35:B2:609:A:H8	1.82	0.44
35:B2:665:U:OP1	63:Bm:21:ARG:NH1	2.45	0.44
35:B2:688:C:H2'	35:B2:689:U:C6	2.53	0.44
35:B2:1347:U:H3	55:Be:153:HIS:CD2	2.35	0.44
35:B2:1364:C:C2	35:B2:1365:C:C5	3.04	0.44
35:B2:1694:U:H2'	35:B2:1695:C:C6	2.52	0.44
35:B2:2343:A:H1'	35:B2:2350:A:C2	2.52	0.44
41:BQ:41:LYS:HB2	56:Bf:68:THR:O	2.17	0.44
51:Ba:110:PRO:HB2	51:Ba:112:PRO:HD2	1.99	0.44
1:AA:644:G:H2'	1:AA:645:A:H8	1.83	0.44
1:AA:809:U:H5''	1:AA:811:A:H62	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1561:U:H4'	1:AA:1562:G:H2'	2.00	0.44
2:AD:19:GLN:HG3	19:AU:91:LEU:HD13	1.99	0.44
8:AJ:165:LYS:NZ	8:AJ:167:GLU:OE1	2.35	0.44
16:AR:60:TYR:CE2	16:AR:64:LEU:HD11	2.52	0.44
17:AS:26:ARG:HH11	20:AV:90:ILE:HD13	1.81	0.44
30:AI:26:VAL:HG11	30:AI:67:LEU:HD23	1.98	0.44
35:B2:574:U:H2'	35:B2:575:G:C5	2.52	0.44
35:B2:574:U:H2'	35:B2:575:G:C4	2.52	0.44
35:B2:654:U:H2'	35:B2:655:C:C6	2.52	0.44
35:B2:690:A:OP1	50:BZ:200:TYR:OH	2.27	0.44
35:B2:892:G:O2'	35:B2:927:A:H4'	2.17	0.44
35:B2:2683:U:C2	35:B2:2684:G:C8	3.05	0.44
35:B2:2706:U:H2'	35:B2:2707:U:C6	2.53	0.44
35:B2:3040:G:H5'	35:B2:3042:G:N7	2.32	0.44
35:B2:3335:U:H3'	35:B2:3336:G:N2	2.32	0.44
37:B4:99:C:H2'	37:B4:100:A:C8	2.51	0.44
58:Bh:86:ALA:HA	58:Bh:96:TYR:HB3	1.99	0.44
1:AA:305:U:OP1	10:AL:22:ARG:NH2	2.47	0.44
1:AA:909:U:O2	16:AR:38:LYS:NZ	2.50	0.44
1:AA:1093:C:H2'	1:AA:1094:C:C6	2.50	0.44
1:AA:1504:A:H2'	1:AA:1505:C:C6	2.52	0.44
1:AA:1539:G:H2'	1:AA:1540:G:H8	1.81	0.44
2:AD:193:ARG:HG3	23:Ab:42:GLU:HA	1.99	0.44
5:AG:124:VAL:O	5:AG:128:VAL:HG22	2.16	0.44
7:AI:73:ASN:HA	7:AI:76:MET:HG3	1.99	0.44
9:AK:72:PHE:O	9:AK:76:GLN:HG2	2.18	0.44
12:AN:58:ARG:HG3	12:AN:60:ASN:OD1	2.18	0.44
13:AO:61:VAL:HG12	13:AO:126:ARG:NH1	2.32	0.44
15:AQ:55:ARG:HH22	29:Ah:51:GLN:NE2	2.15	0.44
28:Ag:26:CYS:SG	28:Ag:28:ARG:HB2	2.57	0.44
35:B2:1371:G:H2'	35:B2:1372:U:C6	2.52	0.44
40:BP:55:SER:HB3	40:BP:58:ALA:HB2	1.99	0.44
60:Bj:57:ASP:HB2	60:Bj:58:GLU:OE2	2.17	0.44
1:AA:180:A:H2'	1:AA:181:A:O4'	2.17	0.44
1:AA:763:U:H2'	1:AA:764:G:H8	1.82	0.44
1:AA:946:C:H5''	3:AE:116:LYS:HG2	1.99	0.44
1:AA:1471:C:H2'	1:AA:1472:U:H6	1.82	0.44
19:AU:5:ARG:HB2	19:AU:10:LYS:HE3	1.99	0.44
21:AW:67:ARG:NH2	21:AW:69:GLN:OE1	2.50	0.44
33:B0:72:LEU:HD12	33:B0:81:ASN:HD22	1.83	0.44
35:B2:217:G:C4	35:B2:237:U:H4'	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:433:C:H2'	35:B2:434:A:H8	1.83	0.44
35:B2:445:G:H1	35:B2:647:A:N6	2.13	0.44
35:B2:724:A:H2'	35:B2:725:U:C6	2.53	0.44
35:B2:1025:G:N3	35:B2:2732:A:H2'	2.33	0.44
35:B2:1735:A:H2'	35:B2:1736:A:C8	2.52	0.44
35:B2:2205:A:O2'	35:B2:3176:G:O2'	2.33	0.44
40:BP:116:ASN:HB2	40:BP:119:GLU:HG3	1.98	0.44
41:BQ:203:HIS:H	41:BQ:203:HIS:CD2	2.36	0.44
48:BX:49:ARG:O	48:BX:146:GLN:NE2	2.38	0.44
58:Bh:59:MET:HE2	58:Bh:79:ILE:HD11	1.98	0.44
1:AA:130:A:O2'	1:AA:131:C:O4'	2.35	0.44
1:AA:572:C:H3'	1:AA:573:A:H8	1.81	0.44
1:AA:764:G:H2'	1:AA:765:A:H8	1.83	0.44
1:AA:1173:A:N7	1:AA:1659:C:N4	2.66	0.44
1:AA:1472:U:OP1	1:AA:1595:C:N4	2.51	0.44
1:AA:1571:C:H2'	1:AA:1572:G:H8	1.82	0.44
1:AA:1669:U:H2'	1:AA:1670:G:H8	1.82	0.44
6:AH:169:ILE:HD12	6:AH:169:ILE:O	2.18	0.44
6:AH:230:GLU:OE1	6:AH:231:THR:N	2.44	0.44
8:AJ:183:THR:O	8:AJ:186:THR:HG22	2.17	0.44
16:AR:73:CYS:HB3	16:AR:78:ILE:HG23	1.98	0.44
20:AV:14:ARG:HD2	20:AV:17:ASN:HA	1.98	0.44
35:B2:420:G:H5'	52:Bb:26:PHE:HZ	1.82	0.44
35:B2:808:U:C2	35:B2:2814:U:H1'	2.53	0.44
35:B2:1964:A:H2'	35:B2:1965:A:C8	2.52	0.44
35:B2:2672:C:H2'	35:B2:2673:U:O4'	2.16	0.44
35:B2:3247:U:H3'	35:B2:3394:C:N3	2.32	0.44
46:BV:54:SER:H	46:BV:135:LEU:HD23	1.82	0.44
65:Bo:40:LEU:HD13	65:Bo:65:TYR:HB3	1.99	0.44
1:AA:45:U:O2'	1:AA:46:A:H2'	2.17	0.44
1:AA:570:A:H1'	32:Ak:14:VAL:HG23	2.00	0.44
1:AA:691:C:H2'	1:AA:692:G:C8	2.53	0.44
1:AA:761:C:O2'	24:Ac:122:GLY:N	2.50	0.44
1:AA:1292:A:H2'	1:AA:1293:U:O4'	2.17	0.44
5:AG:120:ALA:O	5:AG:124:VAL:HG22	2.17	0.44
6:AH:85:GLY:N	6:AH:88:ASP:OD2	2.51	0.44
6:AH:198:ARG:NH2	6:AH:206:GLU:OE1	2.51	0.44
7:AI:118:CYS:SG	7:AI:188:ALA:HB1	2.58	0.44
11:AM:86:LEU:HD13	11:AM:99:LEU:HD11	2.00	0.44
11:AM:154:LYS:H	11:AM:154:LYS:HG2	1.67	0.44
11:AM:175:LYS:HA	11:AM:178:ARG:HD2	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AO:35:VAL:HG11	13:AO:56:PRO:HB2	1.99	0.44
16:AR:117:ILE:CG2	28:Ag:44:MET:HG2	2.47	0.44
20:AV:117:ILE:HD12	20:AV:117:ILE:HA	1.85	0.44
32:Ak:39:LEU:O	32:Ak:43:ARG:HG2	2.17	0.44
35:B2:214:U:H2'	35:B2:215:C:H6	1.83	0.44
35:B2:1165:G:O2'	35:B2:2737:A:N3	2.37	0.44
35:B2:2306:G:H2'	35:B2:2307:A:C8	2.52	0.44
35:B2:2515:U:H2'	35:B2:2516:U:C6	2.52	0.44
35:B2:2682:U:H2'	35:B2:2683:U:C6	2.51	0.44
45:BU:83:THR:O	45:BU:83:THR:OG1	2.33	0.44
47:BW:102:PHE:CD1	47:BW:102:PHE:C	2.95	0.44
59:Bi:19:ARG:NH2	59:Bi:37:GLU:OE2	2.43	0.44
60:Bj:61:ILE:HD13	60:Bj:93:THR:HB	1.98	0.44
65:Bo:18:ALA:O	65:Bo:21:ALA:N	2.51	0.44
1:AA:387:G:H2'	1:AA:388:A:H8	1.82	0.44
1:AA:976:U:C2	1:AA:977:C:C5	3.06	0.44
1:AA:1424:C:H2'	1:AA:1425:A:H8	1.83	0.44
1:AA:1619:U:H4'	18:AT:139:TYR:CZ	2.53	0.44
4:AF:96:ARG:NH2	4:AF:116:CYS:SG	2.91	0.44
10:AL:92:ARG:NH1	35:B2:3445:A:O3'	2.51	0.44
13:AO:126:ARG:HG2	13:AO:127:PRO:N	2.31	0.44
21:AW:56:ARG:O	21:AW:60:ILE:HG12	2.18	0.44
35:B2:2370:U:OP1	35:B2:3068:G:O2'	2.25	0.44
35:B2:2683:U:OP1	44:BT:241:LYS:NZ	2.42	0.44
35:B2:3194:G:OP1	39:BO:279:ASN:ND2	2.40	0.44
39:BO:193:GLU:O	39:BO:197:GLU:HG2	2.17	0.44
41:BQ:90:TRP:NE1	41:BQ:229:ASP:OD2	2.48	0.44
47:BW:49:LYS:HE2	47:BW:64:LYS:HG2	2.00	0.44
48:BX:123:LEU:HD11	70:Bt:118:TYR:HB2	1.99	0.44
55:Be:80:TYR:CE1	55:Be:87:HIS:HB2	2.52	0.44
57:Bg:56:GLU:HG2	57:Bg:57:GLY:H	1.83	0.44
67:Bq:76:VAL:O	67:Bq:80:GLU:HG2	2.18	0.44
1:AA:57:G:OP2	26:Ae:116:LYS:HE3	2.18	0.44
1:AA:210:U:O4	1:AA:211:A:N6	2.51	0.44
1:AA:598:G:H2'	1:AA:599:C:H6	1.82	0.44
1:AA:768:A:H2'	1:AA:769:A:C8	2.53	0.44
1:AA:803:A:H2'	6:AH:19:LEU:HD22	1.98	0.44
1:AA:1691:U:O2	1:AA:1793:G:N2	2.40	0.44
4:AF:81:LYS:HB2	4:AF:206:LEU:HD23	1.99	0.44
5:AG:96:ARG:HH22	5:AG:103:GLN:HA	1.83	0.44
7:AI:50:HIS:HE1	7:AI:52:ALA:HB2	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AI:126:ARG:HA	7:AI:135:ARG:HG2	1.99	0.44
10:AL:77:ARG:HH21	10:AL:79:ILE:HD11	1.82	0.44
12:AN:55:LEU:HD23	12:AN:55:LEU:HA	1.73	0.44
15:AQ:85:PRO:HD2	15:AQ:88:LEU:HD23	1.98	0.44
17:AS:45:PHE:HB2	17:AS:50:ARG:HB3	2.00	0.44
25:Ad:82:THR:OG1	25:Ad:117:GLY:O	2.33	0.44
26:Ae:29:HIS:CG	26:Ae:35:ILE:HD11	2.53	0.44
29:Ah:46:VAL:HG23	29:Ah:54:VAL:HG21	1.99	0.44
35:B2:334:U:OP1	48:BX:31:ARG:NH1	2.43	0.44
35:B2:1246:U:H2'	35:B2:1247:C:C6	2.53	0.44
35:B2:1524:A:O2'	72:Bv:12:HIS:O	2.35	0.44
35:B2:1881:U:H2'	35:B2:1882:C:C6	2.53	0.44
35:B2:2500:G:H2'	35:B2:2501:A:C8	2.53	0.44
35:B2:2756:G:H2'	35:B2:2757:G:C8	2.52	0.44
35:B2:3281:A:H2	45:BU:58:TRP:HE1	1.66	0.44
35:B2:3284:G:H2'	35:B2:3284:G:N3	2.32	0.44
35:B2:3306:C:N4	35:B2:3310:A:H5'	2.33	0.44
35:B2:3389:G:H3'	35:B2:3390:G:C8	2.53	0.44
35:B2:3470:G:N3	35:B2:3470:G:H2'	2.33	0.44
40:BP:10:ILE:HD11	40:BP:22:ILE:HG13	2.00	0.44
44:BT:162:LEU:HD23	50:BZ:7:LEU:HD11	2.00	0.44
49:BY:13:VAL:O	49:BY:59:THR:OG1	2.27	0.44
56:Bf:25:ILE:HD11	56:Bf:47:ALA:HB3	2.00	0.44
68:Br:51:CYS:SG	68:Br:100:ARG:HB2	2.58	0.44
1:AA:206:U:H2'	1:AA:207:A:H8	1.83	0.44
1:AA:1204:U:H2'	1:AA:1205:G:C8	2.53	0.44
1:AA:1265:C:H2'	1:AA:1266:U:H5	1.82	0.44
1:AA:1571:C:H2'	1:AA:1572:G:C8	2.53	0.44
2:AD:186:ARG:NH2	2:AD:193:ARG:O	2.51	0.44
4:AF:125:ARG:O	4:AF:129:ILE:HG12	2.18	0.44
4:AF:182:VAL:HG21	4:AF:206:LEU:HD11	2.00	0.44
5:AG:139:VAL:HB	5:AG:187:LYS:HB2	2.00	0.44
6:AH:87:MET:HE1	6:AH:236:ILE:HD13	1.99	0.44
10:AL:7:SER:O	10:AL:18:ARG:NH1	2.50	0.44
17:AS:134:THR:OG1	17:AS:135:LYS:N	2.51	0.44
25:Ad:90:CYS:O	25:Ad:94:VAL:HG22	2.17	0.44
27:Af:71:LYS:HB2	27:Af:71:LYS:HE2	1.76	0.44
34:B1:28:LYS:O	34:B1:32:GLN:HG3	2.18	0.44
35:B2:11:A:H2'	35:B2:12:A:C8	2.53	0.44
35:B2:1490:A:N7	66:Bp:31:LYS:NZ	2.52	0.44
35:B2:1851:A:H2'	35:B2:1852:G:C8	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:2236:U:H2'	35:B2:2237:A:C8	2.53	0.44
35:B2:2802:U:H2'	35:B2:2803:C:H6	1.83	0.44
35:B2:3133:U:H5''	39:BO:348:ARG:HE	1.83	0.44
39:BO:211:GLN:HG3	39:BO:212:ASN:CG	2.42	0.44
42:BR:48:LEU:HD21	42:BR:78:ASP:HA	1.99	0.44
48:BX:110:GLN:HA	48:BX:113:VAL:HG22	2.00	0.44
51:Ba:175:LYS:HD3	51:Ba:175:LYS:HA	1.90	0.44
1:AA:332:G:H2'	1:AA:333:G:C8	2.51	0.43
1:AA:846:U:H2'	1:AA:847:U:C6	2.53	0.43
1:AA:1281:G:H2'	1:AA:1282:G:C8	2.53	0.43
1:AA:1498:G:OP2	21:AW:43:LYS:NZ	2.39	0.43
1:AA:1626:U:H2'	1:AA:1627:A:H8	1.83	0.43
1:AA:1653:A:H2'	1:AA:1654:U:O4'	2.17	0.43
4:AF:83:VAL:HG23	4:AF:98:LYS:HB3	2.00	0.43
11:AM:23:ARG:O	11:AM:27:GLU:HG3	2.18	0.43
15:AQ:151:ALA:HB1	65:Bo:88:GLY:HA2	1.99	0.43
20:AV:10:GLN:O	20:AV:11:HIS:ND1	2.51	0.43
35:B2:903:U:H2'	35:B2:904:U:C6	2.53	0.43
35:B2:2445:A:H5'	52:Bb:137:THR:HG23	1.99	0.43
37:B4:141:A:H2'	37:B4:142:A:C8	2.53	0.43
39:BO:33:PRO:HG2	39:BO:340:LYS:HB2	2.00	0.43
39:BO:39:LYS:H	39:BO:39:LYS:HG3	1.68	0.43
42:BR:52:LEU:HD22	42:BR:80:LEU:HD11	2.00	0.43
46:BV:79:ILE:HD12	46:BV:79:ILE:HA	1.87	0.43
55:Be:12:LYS:NZ	55:Be:48:ASN:HD22	2.16	0.43
1:AA:191:U:H3	10:AL:137:LYS:HD3	1.83	0.43
1:AA:328:G:O6	1:AA:347:A:N6	2.52	0.43
1:AA:427:C:O2	1:AA:430:C:N4	2.50	0.43
1:AA:1193:G:N3	1:AA:1212:C:O2'	2.47	0.43
1:AA:1249:U:H2'	1:AA:1250:G:C8	2.53	0.43
1:AA:1297:C:H2'	1:AA:1298:G:C8	2.52	0.43
1:AA:1631:G:H2'	1:AA:1632:C:H6	1.83	0.43
6:AH:9:LEU:HG	6:AH:10:LYS:H	1.83	0.43
12:AN:16:PHE:HE1	12:AN:73:VAL:HB	1.83	0.43
29:Ah:56:CYS:HB2	29:Ah:63:LEU:HD21	1.99	0.43
34:B1:48:LYS:HA	34:B1:48:LYS:HD2	1.68	0.43
35:B2:652:U:H2'	35:B2:653:U:C6	2.54	0.43
35:B2:696:U:H2'	35:B2:697:A:H8	1.83	0.43
35:B2:709:G:H5''	48:BX:35:ARG:HH12	1.83	0.43
35:B2:1335:A:O2'	35:B2:2979:C:O2	2.35	0.43
35:B2:1632:C:OP1	69:Bs:31:ARG:HD2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:1769:A:O4'	65:Bo:58:ARG:NH1	2.36	0.43
35:B2:2307:A:H2'	35:B2:2308:A:H8	1.84	0.43
35:B2:2440:A:H5''	52:Bb:83:TRP:O	2.18	0.43
35:B2:3244:C:H2'	35:B2:3245:G:H8	1.83	0.43
35:B2:3365:U:C2	35:B2:3366:G:C8	3.07	0.43
36:B3:12:U:H4'	36:B3:13:A:OP2	2.18	0.43
36:B3:59:U:H2'	36:B3:60:C:C6	2.53	0.43
45:BU:91:ARG:HH12	45:BU:139:LYS:HD3	1.83	0.43
57:Bg:40:VAL:HB	57:Bg:46:ASN:HB2	1.99	0.43
1:AA:308:C:H2'	1:AA:309:U:C6	2.53	0.43
1:AA:646:G:H2'	1:AA:647:C:H5''	2.00	0.43
1:AA:1151:U:H2'	1:AA:1152:U:C6	2.54	0.43
1:AA:1278:A:H2'	1:AA:1279:U:C6	2.53	0.43
1:AA:1629:G:H1	1:AA:1649:U:H3	1.67	0.43
1:AA:1795:A:H2'	1:AA:1796:A:O4'	2.18	0.43
6:AH:188:ASN:HB3	6:AH:191:ARG:HD3	2.00	0.43
9:AK:36:MET:N	9:AK:36:MET:HE3	2.33	0.43
16:AR:109:ARG:HH12	30:Ai:39:ARG:HE	1.67	0.43
20:AV:109:GLU:O	20:AV:112:GLU:HG3	2.18	0.43
20:AV:136:THR:O	20:AV:141:ARG:NH2	2.50	0.43
26:Ae:81:ALA:HA	26:Ae:84:LYS:HE3	2.00	0.43
28:Ag:79:ILE:HA	28:Ag:84:VAL:O	2.18	0.43
35:B2:202:U:H2'	35:B2:203:G:O4'	2.18	0.43
35:B2:1105:U:H2'	35:B2:1106:C:C6	2.54	0.43
35:B2:1472:U:H2'	35:B2:1473:U:C6	2.54	0.43
35:B2:3003:G:H2'	35:B2:3004:U:H6	1.82	0.43
36:B3:104:C:H2'	36:B3:105:G:C8	2.54	0.43
37:B4:150:C:OP1	50:BZ:38:ARG:NH1	2.51	0.43
52:Bb:51:VAL:HA	52:Bb:56:GLN:O	2.19	0.43
67:Bq:62:TYR:CG	75:By:25:PHE:HA	2.54	0.43
68:Br:15:LEU:HD11	68:Br:32:LYS:HB2	1.99	0.43
1:AA:708:U:H2'	1:AA:709:G:C8	2.54	0.43
1:AA:814:A:H2'	1:AA:815:U:H6	1.83	0.43
1:AA:1027:U:H2'	1:AA:1028:A:C8	2.53	0.43
1:AA:1157:G:H2'	1:AA:1158:A:C8	2.53	0.43
1:AA:1233:C:N4	1:AA:1468:G:O6	2.52	0.43
1:AA:1510:U:OP2	1:AA:1533:A:O2'	2.35	0.43
1:AA:1600:A:OP2	20:AV:133:GLY:HA3	2.18	0.43
4:AF:49:ILE:HB	4:AF:71:PHE:HZ	1.83	0.43
4:AF:237:THR:OG1	23:Ab:33:GLN:OE1	2.24	0.43
6:AH:126:VAL:HG12	6:AH:139:LEU:HD13	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AP:68:CYS:HB2	14:AP:71:CYS:SG	2.58	0.43
15:AQ:18:TYR:O	24:Ac:56:HIS:NE2	2.51	0.43
25:Ad:123:VAL:HG12	25:Ad:124:LYS:HG3	2.00	0.43
31:Aj:19:ARG:HD3	31:Aj:27:ARG:HH21	1.83	0.43
34:B1:42:CYS:SG	34:B1:44:ARG:N	2.89	0.43
34:B1:67:ALA:HB2	38:BN:47:ILE:HD13	2.00	0.43
35:B2:208:A:H2'	35:B2:209:G:C8	2.54	0.43
35:B2:283:U:H2'	35:B2:284:U:C6	2.54	0.43
35:B2:1269:C:O2'	35:B2:1270:C:OP1	2.32	0.43
35:B2:1653:A:H2'	35:B2:1654:A:H8	1.80	0.43
35:B2:1800:G:C4	35:B2:1803:U:H5	2.36	0.43
35:B2:2238:G:O2'	35:B2:2277:U:OP1	2.32	0.43
43:BS:178:GLU:HG2	43:BS:187:LEU:HA	2.00	0.43
64:Bn:41:ARG:HG3	64:Bn:41:ARG:NH1	2.33	0.43
65:Bo:48:ILE:O	65:Bo:48:ILE:HG13	2.19	0.43
72:Bv:24:LYS:HE2	72:Bv:24:LYS:HB3	1.88	0.43
1:AA:410:A:H1'	1:AA:1712:A:H2	1.84	0.43
1:AA:411:C:H2'	1:AA:412:C:H6	1.83	0.43
1:AA:558:A:H2'	1:AA:559:A:C4	2.54	0.43
1:AA:913:A:H2'	1:AA:927:U:O4	2.19	0.43
1:AA:1361:A:H2'	1:AA:1362:A:C8	2.53	0.43
1:AA:1456:A:OP2	5:AG:29:ARG:NH2	2.52	0.43
1:AA:1775:C:H2'	1:AA:1776:U:C6	2.54	0.43
1:AA:1784:U:H2'	1:AA:1785:U:C6	2.53	0.43
4:AF:149:ASP:N	4:AF:149:ASP:OD1	2.49	0.43
5:AG:160:ILE:HG22	5:AG:166:ALA:HB2	2.00	0.43
7:AI:40:ILE:HG23	7:AI:67:ILE:HB	1.99	0.43
19:AU:41:ILE:HD11	19:AU:46:LEU:HB3	1.99	0.43
35:B2:606:G:C2	35:B2:607:G:C8	3.07	0.43
35:B2:1270:C:H2'	35:B2:1271:A:O4'	2.18	0.43
35:B2:1482:U:H2'	35:B2:1483:A:H8	1.84	0.43
35:B2:1566:C:H2'	35:B2:1567:U:C6	2.52	0.43
35:B2:2909:G:OP1	40:BP:75:ARG:NH1	2.43	0.43
36:B3:2:U:H3	36:B3:117:G:H1	1.66	0.43
37:B4:131:G:H2'	37:B4:132:G:C8	2.53	0.43
39:BO:87:VAL:HB	39:BO:110:LEU:HD22	2.01	0.43
39:BO:295:SER:OG	39:BO:301:THR:O	2.26	0.43
50:BZ:73:ARG:HG2	50:BZ:75:VAL:HG13	2.00	0.43
1:AA:210:U:H2'	1:AA:211:A:C8	2.53	0.43
1:AA:1216:G:C6	31:Aj:40:ARG:HB3	2.54	0.43
1:AA:1301:C:H1'	1:AA:1303:U:N3	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1387:G:H2'	1:AA:1388:A:H8	1.82	0.43
9:AK:91:HIS:CD2	9:AK:167:LYS:HE2	2.53	0.43
28:Ag:41:ILE:HG12	28:Ag:68:TYR:HD1	1.83	0.43
31:Aj:19:ARG:NH1	31:Aj:27:ARG:HE	2.17	0.43
34:B1:5:THR:CG2	34:B1:9:GLY:H	2.32	0.43
35:B2:497:C:H2'	35:B2:498:U:H6	1.82	0.43
35:B2:1026:G:N2	35:B2:1027:U:O4	2.45	0.43
35:B2:1159:U:OP1	46:BV:100:ASN:HB2	2.19	0.43
35:B2:1177:C:H2'	35:B2:1178:G:H8	1.82	0.43
35:B2:2348:U:H2'	35:B2:2349:G:C5	2.54	0.43
35:B2:3308:G:C4	55:Be:169:PRO:HG3	2.53	0.43
35:B2:3363:C:H2'	35:B2:3364:A:H8	1.83	0.43
39:BO:262:TRP:CD1	39:BO:262:TRP:H	2.37	0.43
41:BQ:206:GLU:O	41:BQ:210:MET:HE2	2.19	0.43
1:AA:110:G:H1'	1:AA:810:U:O4	2.17	0.43
1:AA:178:A:H4'	1:AA:179:A:H5'	2.01	0.43
1:AA:247:G:H2'	1:AA:248:U:C6	2.54	0.43
1:AA:557:C:H1'	1:AA:558:A:N7	2.34	0.43
1:AA:1281:G:H2'	1:AA:1282:G:H8	1.83	0.43
1:AA:1568:C:OP1	7:AI:84:LYS:NZ	2.49	0.43
2:AD:178:TYR:CD2	2:AD:201:PRO:HB3	2.54	0.43
5:AG:197:THR:HG22	5:AG:198:ARG:H	1.82	0.43
7:AI:120:PRO:HA	7:AI:192:LYS:HD3	1.99	0.43
17:AS:105:TYR:HD1	17:AS:105:TYR:HA	1.65	0.43
35:B2:760:C:C5	35:B2:761:U:H1'	2.53	0.43
35:B2:853:U:H2'	35:B2:854:G:H8	1.83	0.43
35:B2:867:G:H1'	35:B2:890:A:N6	2.33	0.43
35:B2:1182:U:H2'	35:B2:1183:G:C8	2.54	0.43
35:B2:1395:A:H2'	35:B2:1396:G:H8	1.83	0.43
35:B2:1849:G:OP1	62:Bl:135:ARG:NH2	2.51	0.43
35:B2:2604:U:H2'	35:B2:2605:U:C6	2.54	0.43
35:B2:2704:A:H2'	35:B2:2705:G:C8	2.54	0.43
35:B2:2764:C:H2'	35:B2:2765:G:H8	1.83	0.43
35:B2:3287:A:H2'	35:B2:3289:G:OP1	2.19	0.43
39:BO:167:ARG:HE	39:BO:167:ARG:HB3	1.52	0.43
42:BR:119:PHE:HB3	42:BR:124:PHE:HE2	1.84	0.43
43:BS:229:HIS:HB3	43:BS:232:GLU:HG3	2.01	0.43
47:BW:32:ARG:NH1	47:BW:120:ILE:O	2.51	0.43
55:Be:46:MET:C	55:Be:47:ILE:HD13	2.44	0.43
55:Be:123:LEU:HD23	56:Bf:153:PRO:HB2	2.01	0.43
61:Bk:49:VAL:HG11	61:Bk:79:LEU:HD11	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:357:C:C2	1:AA:358:G:C8	3.07	0.43
1:AA:410:A:H2'	1:AA:411:C:C6	2.53	0.43
1:AA:565:G:H2'	1:AA:566:U:H6	1.84	0.43
1:AA:636:U:H2'	1:AA:637:G:O4'	2.19	0.43
1:AA:695:G:H5'	1:AA:703:C:H41	1.84	0.43
1:AA:1246:G:N2	1:AA:1272:G:O2'	2.52	0.43
1:AA:1334:C:H1'	1:AA:1420:A:H2	1.83	0.43
1:AA:1411:A:H61	1:AA:1427:U:H3	1.67	0.43
24:Ac:100:GLY:HA2	24:Ac:130:TYR:HB3	2.00	0.43
35:B2:181:A:H2'	35:B2:182:G:H8	1.84	0.43
35:B2:454:G:H1	35:B2:499:G:H1	1.65	0.43
35:B2:544:A:O2'	35:B2:545:A:H8	2.00	0.43
35:B2:712:U:H2'	35:B2:713:G:N2	2.34	0.43
35:B2:1190:A:H2'	35:B2:1190:A:N3	2.34	0.43
35:B2:2783:U:N3	41:BQ:17:GLN:O	2.46	0.43
35:B2:3144:C:H5	35:B2:3187:A:H62	1.67	0.43
35:B2:3147:U:H2'	35:B2:3148:G:H8	1.83	0.43
40:BP:115:VAL:HB	40:BP:120:LYS:HE3	2.00	0.43
42:BR:189:ARG:HB3	42:BR:191:HIS:CE1	2.54	0.43
56:Bf:56:TYR:CZ	56:Bf:78:LYS:HG3	2.54	0.43
57:Bg:47:LEU:HG	57:Bg:52:VAL:HB	2.00	0.43
1:AA:106:A:N6	1:AA:311:C:C2	2.82	0.43
1:AA:645:A:H2'	1:AA:646:G:H8	1.83	0.43
1:AA:952:C:H2'	1:AA:953:G:C8	2.54	0.43
1:AA:1270:U:OP1	14:AP:51:ARG:NH2	2.50	0.43
2:AD:78:VAL:HB	2:AD:100:ALA:HA	2.00	0.43
5:AG:94:GLN:HG3	5:AG:95:ASN:ND2	2.33	0.43
6:AH:161:LYS:HZ1	6:AH:235:TRP:HE3	1.67	0.43
7:AI:34:ILE:HD12	7:AI:34:ILE:HA	1.91	0.43
9:AK:83:LEU:HA	9:AK:86:LYS:HG2	2.00	0.43
10:AL:67:TRP:HB3	10:AL:72:VAL:HG12	2.00	0.43
11:AM:89:SER:O	11:AM:90:ARG:HG2	2.19	0.43
18:AT:107:ILE:HD13	18:AT:107:ILE:HA	1.93	0.43
35:B2:178:U:H2'	35:B2:179:G:H8	1.83	0.43
35:B2:595:U:C2	35:B2:596:A:C8	3.07	0.43
35:B2:719:A:O2'	35:B2:720:A:OP1	2.31	0.43
35:B2:1823:U:H2'	35:B2:1824:C:H6	1.84	0.43
35:B2:3028:A:N7	35:B2:3110:U:O2'	2.52	0.43
36:B3:23:A:H2'	36:B3:24:A:C8	2.54	0.43
46:BV:30:LYS:HG3	46:BV:63:GLU:HG2	2.00	0.43
68:Br:102:MET:HE3	68:Br:102:MET:HB3	1.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:139:A:C6	1:AA:142:U:H4'	2.53	0.43
1:AA:435:G:H2'	1:AA:436:C:C6	2.54	0.43
1:AA:885:U:H2'	1:AA:886:A:C8	2.53	0.43
1:AA:1163:A:H2'	1:AA:1164:C:C6	2.53	0.43
2:AD:41:TRP:CG	2:AD:42:LYS:N	2.87	0.43
9:AK:16:THR:HG23	9:AK:17:GLU:H	1.84	0.43
25:Ad:71:ARG:HH21	25:Ad:80:LYS:HB2	1.83	0.43
27:Af:83:ARG:HH11	27:Af:83:ARG:HA	1.84	0.43
35:B2:355:G:O6	72:Bv:55:ARG:HD3	2.19	0.43
35:B2:786:C:H2'	35:B2:787:G:C8	2.54	0.43
35:B2:1506:U:H2'	35:B2:1507:G:C8	2.54	0.43
35:B2:1671:C:O2'	62:Bl:79:HIS:ND1	2.44	0.43
35:B2:1702:A:H2'	35:B2:1703:G:C8	2.54	0.43
35:B2:1838:A:H2'	35:B2:1839:A:C8	2.53	0.43
35:B2:1941:A:H2'	35:B2:1942:A:C8	2.53	0.43
35:B2:3111:C:H2'	35:B2:3112:A:C8	2.51	0.43
35:B2:3139:C:OP1	58:Bh:47:ARG:NE	2.44	0.43
46:BV:72:ALA:HB2	46:BV:155:CYS:SG	2.58	0.43
46:BV:182:ILE:HG13	46:BV:183:GLU:N	2.34	0.43
47:BW:103:GLY:HA3	47:BW:128:TYR:CD1	2.54	0.43
56:Bf:100:LYS:NZ	56:Bf:100:LYS:HB3	2.34	0.43
58:Bh:20:PRO:HA	58:Bh:53:ALA:HA	2.01	0.43
1:AA:39:A:H2'	1:AA:40:A:C8	2.53	0.42
1:AA:295:U:H2'	1:AA:296:U:C6	2.54	0.42
1:AA:437:G:N1	1:AA:440:A:OP2	2.50	0.42
1:AA:787:A:C5	1:AA:788:G:H1'	2.54	0.42
1:AA:914:G:O5'	16:AR:48:MET:HB3	2.19	0.42
1:AA:1102:A:H2'	1:AA:1103:A:C8	2.54	0.42
1:AA:1115:U:O4	4:AF:167:ARG:NH1	2.52	0.42
12:AN:10:ALA:O	12:AN:13:GLN:HG3	2.19	0.42
14:AP:51:ARG:HA	14:AP:51:ARG:HD2	1.87	0.42
35:B2:439:A:H2'	35:B2:440:A:C8	2.54	0.42
35:B2:998:U:H2'	35:B2:999:A:C8	2.53	0.42
35:B2:1281:G:H2'	35:B2:1282:A:O4'	2.19	0.42
35:B2:1407:A:H2'	35:B2:1408:G:C8	2.54	0.42
35:B2:2615:A:H2'	35:B2:2616:A:C8	2.54	0.42
35:B2:3396:A:H2'	35:B2:3397:A:C8	2.53	0.42
39:BO:46:PHE:CD2	39:BO:205:ILE:HD13	2.54	0.42
39:BO:80:GLU:HG2	39:BO:82:PRO:HD3	2.01	0.42
41:BQ:22:ARG:HA	41:BQ:25:GLU:HG2	2.00	0.42
72:Bv:39:TYR:CD1	72:Bv:40:PRO:HA	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:70:C:H2'	1:AA:71:A:C8	2.53	0.42
1:AA:481:A:H2	1:AA:514:A:H61	1.66	0.42
1:AA:523:A:H61	1:AA:535:U:H3	1.65	0.42
1:AA:1415:G:N1	1:AA:1423:C:N3	2.37	0.42
1:AA:1664:C:H2'	1:AA:1665:C:H6	1.84	0.42
1:AA:1839:A:H62	28:Ag:84:VAL:HG13	1.84	0.42
1:AA:1841:U:H5'	1:AA:1842:A:C8	2.54	0.42
2:AD:151:ASP:OD1	2:AD:152:THR:N	2.43	0.42
8:AJ:138:ALA:O	8:AJ:142:ARG:HG2	2.19	0.42
16:AR:22:PHE:HB3	16:AR:29:PHE:HB2	2.01	0.42
17:AS:30:LEU:HD22	17:AS:117:PRO:HB2	2.01	0.42
26:Ae:20:ARG:HE	26:Ae:74:LEU:HD22	1.84	0.42
35:B2:1061:U:H2'	35:B2:1062:U:H6	1.83	0.42
35:B2:1255:C:H2'	35:B2:1256:A:C8	2.54	0.42
35:B2:1742:G:H22	35:B2:1781:G:N2	2.16	0.42
35:B2:1918:G:N1	35:B2:1921:C:OP2	2.41	0.42
35:B2:2182:C:N4	35:B2:2183:A:N7	2.66	0.42
35:B2:2345:C:H3'	35:B2:2346:U:H6	1.85	0.42
1:AA:925:C:O2'	1:AA:926:U:O5'	2.35	0.42
1:AA:1340:C:H2'	1:AA:1341:G:C8	2.54	0.42
1:AA:1408:A:H5''	19:AU:48:ASN:ND2	2.35	0.42
1:AA:1491:A:H62	1:AA:1579:U:H3	1.66	0.42
1:AA:1497:G:H2'	1:AA:1498:G:C8	2.54	0.42
1:AA:1681:C:N3	1:AA:1682:C:N4	2.67	0.42
1:AA:1706:U:O2	1:AA:1778:G:N2	2.35	0.42
1:AA:1760:G:H2'	1:AA:1761:A:H8	1.83	0.42
1:AA:1779:G:H2'	1:AA:1780:U:C6	2.52	0.42
5:AG:42:ARG:NE	22:Aa:109:GLY:H	2.18	0.42
6:AH:107:GLY:HA2	6:AH:189:MET:HG2	2.00	0.42
7:AI:194:GLU:HA	7:AI:197:ARG:HG2	2.01	0.42
13:AO:129:SER:C	13:AO:131:THR:H	2.27	0.42
18:AT:95:ASP:O	18:AT:98:SER:OG	2.33	0.42
22:Aa:86:LYS:HB3	22:Aa:86:LYS:HE2	1.74	0.42
24:Ac:26:LEU:HD11	24:Ac:60:LYS:HE3	2.02	0.42
24:Ac:70:ASN:N	24:Ac:130:TYR:O	2.49	0.42
33:B0:71:ARG:NH1	35:B2:2863:U:O2'	2.52	0.42
35:B2:80:C:H2'	35:B2:81:C:H6	1.84	0.42
35:B2:420:G:H2'	35:B2:421:C:C6	2.54	0.42
35:B2:674:A:H2'	35:B2:675:C:C6	2.54	0.42
35:B2:948:G:H5'	35:B2:949:A:OP1	2.19	0.42
35:B2:1363:A:H2'	35:B2:1364:C:H6	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:1398:C:H2'	35:B2:1399:G:C8	2.54	0.42
35:B2:1482:U:H2'	35:B2:1483:A:C8	2.54	0.42
35:B2:2696:A:H2'	35:B2:2697:G:C8	2.54	0.42
35:B2:3192:C:H2'	35:B2:3193:U:C6	2.54	0.42
36:B3:45:A:OP1	41:BQ:152:ARG:HB3	2.19	0.42
36:B3:72:U:H2'	36:B3:73:U:O4'	2.19	0.42
37:B4:36:C:H2'	37:B4:37:U:C6	2.54	0.42
1:AA:817:G:N3	24:Ac:107:SER:OG	2.35	0.42
1:AA:1594:G:N2	1:AA:1596:A:O2'	2.52	0.42
6:AH:19:LEU:HD21	6:AH:108:ARG:HD2	2.02	0.42
9:AK:53:VAL:HG23	9:AK:55:GLY:H	1.84	0.42
12:AN:7:ASN:HB3	12:AN:37:VAL:HG21	2.01	0.42
26:Ae:87:PRO:HG2	26:Ae:90:ARG:HG3	2.01	0.42
32:Ak:23:LYS:HB3	32:Ak:23:LYS:HE3	1.77	0.42
35:B2:386:A:H1'	61:Bk:89:ALA:O	2.20	0.42
35:B2:589:U:H2'	35:B2:590:U:C6	2.53	0.42
35:B2:1393:U:H2'	35:B2:1394:C:H6	1.85	0.42
35:B2:2726:U:H2'	35:B2:2727:G:H8	1.85	0.42
35:B2:3170:G:H2'	35:B2:3171:G:C8	2.55	0.42
36:B3:45:A:P	41:BQ:152:ARG:HB3	2.59	0.42
41:BQ:77:HIS:O	41:BQ:108:ARG:NH1	2.46	0.42
67:Bq:86:ASN:ND2	67:Bq:113:GLY:O	2.53	0.42
68:Br:104:TYR:HB2	68:Br:105:PRO:HD3	2.01	0.42
1:AA:90:G:N2	1:AA:454:G:O3'	2.53	0.42
1:AA:349:G:C2	1:AA:350:G:C8	3.07	0.42
1:AA:395:G:OP1	10:AL:2:GLY:N	2.52	0.42
1:AA:483:A:C2	1:AA:512:G:C2	3.08	0.42
1:AA:765:A:O2'	6:AH:221:ARG:HG3	2.19	0.42
1:AA:944:A:N7	16:AR:125:THR:HG23	2.35	0.42
1:AA:1589:G:O2'	1:AA:1590:C:O5'	2.38	0.42
4:AF:115:LYS:HG2	4:AF:126:GLY:HA3	2.00	0.42
5:AG:44:THR:O	5:AG:48:SER:HB3	2.19	0.42
6:AH:212:ASP:OD1	6:AH:212:ASP:C	2.62	0.42
8:AJ:181:LEU:HD23	8:AJ:181:LEU:H	1.84	0.42
21:AW:75:LEU:HD12	21:AW:75:LEU:HA	1.83	0.42
23:Ab:62:LYS:HA	23:Ab:62:LYS:HD2	1.84	0.42
25:Ad:70:VAL:HG23	25:Ad:83:ALA:HB3	2.01	0.42
27:Af:18:HIS:HE1	27:Af:46:VAL:HG13	1.83	0.42
27:Af:50:LYS:H	27:Af:50:LYS:HG2	1.65	0.42
35:B2:113:C:OP1	50:BZ:147:ARG:NH1	2.53	0.42
35:B2:1631:C:H2'	35:B2:1632:C:H6	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:B3:69:U:H2'	36:B3:70:C:C6	2.53	0.42
47:BW:17:LEU:HB3	47:BW:71:VAL:HG23	2.00	0.42
49:BY:10:VAL:HG11	49:BY:67:ARG:HA	2.01	0.42
55:Be:161:LEU:HD12	68:Br:37:ASP:HB2	2.01	0.42
66:Bp:25:LEU:HD11	66:Bp:37:ALA:HB2	2.01	0.42
74:Bx:9:THR:O	74:Bx:13:LEU:HG	2.18	0.42
1:AA:790:C:H2'	1:AA:791:A:C5	2.54	0.42
1:AA:974:U:H5'	29:Ah:28:PRO:HB3	2.01	0.42
1:AA:1213:A:O2'	1:AA:1643:C:O2'	2.28	0.42
1:AA:1264:U:H2'	1:AA:1265:C:C6	2.55	0.42
1:AA:1721:G:N2	1:AA:1762:G:H2'	2.35	0.42
3:AE:36:ALA:HB3	3:AE:182:ARG:HH21	1.83	0.42
5:AG:101:VAL:O	5:AG:175:ARG:NH2	2.51	0.42
13:AO:127:PRO:HA	13:AO:133:ARG:HG3	2.01	0.42
32:Ak:37:ARG:O	32:Ak:41:VAL:HG23	2.19	0.42
33:B0:91:PHE:CZ	33:B0:93:LEU:HG	2.55	0.42
35:B2:168:C:H2'	35:B2:169:U:O4'	2.19	0.42
35:B2:237:U:H2'	35:B2:238:U:O4'	2.19	0.42
35:B2:570:G:N3	35:B2:570:G:H2'	2.34	0.42
35:B2:663:C:H2'	35:B2:664:G:H8	1.85	0.42
35:B2:871:C:H4'	35:B2:1764:U:H2'	2.01	0.42
35:B2:1337:G:O2'	35:B2:1338:G:H5''	2.20	0.42
35:B2:1540:A:OP2	52:Bb:127:ARG:NH1	2.48	0.42
35:B2:2944:C:H3'	35:B2:2945:G:H8	1.85	0.42
35:B2:2952:C:H2'	35:B2:2953:U:C6	2.54	0.42
37:B4:93:G:O6	61:Bk:113:ASP:N	2.51	0.42
42:BR:191:HIS:CD2	42:BR:192:LEU:HG	2.54	0.42
48:BX:168:GLU:OE1	48:BX:171:LYS:HD2	2.20	0.42
75:By:37:VAL:HG23	75:By:119:ARG:HD2	2.01	0.42
1:AA:108:C:H2'	1:AA:109:A:C8	2.55	0.42
1:AA:642:U:OP1	9:AK:114:ARG:NH2	2.53	0.42
1:AA:1025:C:H2'	1:AA:1026:G:O4'	2.20	0.42
1:AA:1142:G:C2	1:AA:1143:G:C8	3.08	0.42
1:AA:1236:A:C8	1:AA:1282:G:C2	3.08	0.42
1:AA:1492:C:H5''	1:AA:1493:U:H2'	2.02	0.42
1:AA:1494:G:H2'	1:AA:1495:A:C8	2.53	0.42
1:AA:1587:G:N2	20:AV:85:ASN:OD1	2.53	0.42
1:AA:1632:C:H2'	1:AA:1633:A:C8	2.49	0.42
20:AV:23:LYS:HB3	27:Af:20:THR:HG23	2.02	0.42
22:Aa:35:VAL:HG21	22:Aa:110:VAL:HG21	2.02	0.42
25:Ad:29:LYS:HD2	25:Ad:29:LYS:C	2.45	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:258:U:H2'	35:B2:259:A:C2	2.54	0.42
35:B2:1415:A:H2'	35:B2:1416:G:H8	1.83	0.42
35:B2:1742:G:H2'	35:B2:1743:A:C8	2.55	0.42
35:B2:2802:U:H2'	35:B2:2803:C:C6	2.55	0.42
35:B2:3286:U:O4	35:B2:3303:C:O2'	2.35	0.42
37:B4:13:U:H2'	37:B4:14:U:C6	2.54	0.42
37:B4:42:U:H4'	70:Bt:87:THR:HG21	2.02	0.42
45:BU:22:LYS:O	45:BU:25:LEU:HB2	2.20	0.42
57:Bg:61:ILE:HG23	57:Bg:61:ILE:O	2.20	0.42
1:AA:117:U:H2'	1:AA:118:U:C6	2.54	0.42
1:AA:588:A:H2'	1:AA:589:G:H8	1.85	0.42
1:AA:772:U:H2'	1:AA:773:A:C8	2.54	0.42
1:AA:971:U:OP1	1:AA:1088:C:O2'	2.38	0.42
1:AA:999:G:H1	1:AA:1032:U:H3	1.67	0.42
1:AA:1783:U:H2'	1:AA:1784:U:C6	2.55	0.42
2:AD:124:ILE:HG13	2:AD:144:ILE:CG2	2.49	0.42
5:AG:25:GLU:O	5:AG:29:ARG:HG2	2.19	0.42
5:AG:29:ARG:N	5:AG:29:ARG:HD2	2.34	0.42
5:AG:41:VAL:HA	5:AG:50:ILE:HG23	2.01	0.42
8:AJ:58:LYS:HD3	8:AJ:107:ALA:HB2	2.01	0.42
35:B2:134:U:H5	35:B2:140:U:H3	1.67	0.42
35:B2:425:A:H2'	35:B2:426:A:C8	2.55	0.42
35:B2:429:G:O6	35:B2:2471:C:O2'	2.27	0.42
35:B2:1175:U:OP2	67:Bq:40:ARG:NH2	2.38	0.42
35:B2:1802:C:H2'	35:B2:1803:U:H4'	2.01	0.42
35:B2:2768:A:C5	35:B2:2769:A:C2	3.08	0.42
36:B3:55:A:H4'	47:BW:152:HIS:HB2	2.02	0.42
39:BO:218:ILE:HB	39:BO:337:THR:HB	2.01	0.42
39:BO:290:ASP:OD1	39:BO:290:ASP:N	2.52	0.42
43:BS:144:TYR:CZ	43:BS:238:LYS:HG2	2.55	0.42
44:BT:146:LYS:NZ	44:BT:173:MET:O	2.50	0.42
1:AA:295:U:H2'	1:AA:296:U:H6	1.84	0.42
1:AA:410:A:O2'	1:AA:1712:A:N3	2.41	0.42
1:AA:503:C:O2'	1:AA:504:U:O5'	2.36	0.42
1:AA:558:A:O2'	1:AA:559:A:O4'	2.37	0.42
1:AA:1710:U:H2'	1:AA:1711:G:O4'	2.19	0.42
2:AD:58:GLU:HB3	23:Ab:79:LEU:HD11	2.01	0.42
2:AD:107:PRO:HG3	2:AD:134:GLN:HG2	2.02	0.42
3:AE:139:VAL:HG22	3:AE:212:VAL:HG22	2.02	0.42
13:AO:128:LEU:N	13:AO:132:VAL:O	2.52	0.42
17:AS:72:LYS:HE2	17:AS:99:GLY:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Ad:105:PHE:CZ	25:Ad:121:LYS:HB3	2.55	0.42
35:B2:222:G:H5''	61:Bk:11:ARG:HG3	2.02	0.42
35:B2:1163:C:H2'	35:B2:1164:A:C8	2.55	0.42
35:B2:1363:A:H2'	35:B2:1364:C:C6	2.55	0.42
35:B2:1378:U:H5''	40:BP:305:ALA:O	2.19	0.42
35:B2:1381:G:H2'	35:B2:1381:G:N3	2.35	0.42
35:B2:2521:U:OP2	35:B2:2522:U:O2'	2.25	0.42
35:B2:2942:A:H3'	35:B2:2943:G:C8	2.54	0.42
35:B2:3305:C:O2	35:B2:3305:C:H2'	2.18	0.42
61:Bk:105:ILE:HG21	61:Bk:108:LEU:HD23	2.01	0.42
62:Bl:40:HIS:H	62:Bl:40:HIS:HD2	1.68	0.42
71:Bu:19:GLN:HE21	71:Bu:19:GLN:HB2	1.64	0.42
1:AA:17:C:H2'	1:AA:18:C:C6	2.55	0.42
1:AA:627:G:H2'	1:AA:628:C:C6	2.55	0.42
1:AA:952:C:H2'	1:AA:953:G:H8	1.84	0.42
1:AA:1183:A:H2'	1:AA:1184:G:O4'	2.20	0.42
1:AA:1798:A:C2	1:AA:1799:G:H1'	2.55	0.42
3:AE:168:MET:HG2	3:AE:197:ILE:HD11	2.01	0.42
5:AG:137:GLU:HG3	5:AG:155:ALA:HB2	2.02	0.42
11:AM:112:GLN:HG3	11:AM:148:VAL:HG21	2.00	0.42
17:AS:93:ILE:HA	17:AS:97:MET:HE1	2.02	0.42
25:Ad:107:ARG:HG3	25:Ad:112:LYS:HE3	2.01	0.42
26:Ae:5:VAL:HG12	26:Ae:29:HIS:HB3	2.02	0.42
34:B1:3:LYS:HE3	34:B1:5:THR:O	2.20	0.42
35:B2:595:U:H2'	35:B2:596:A:C8	2.54	0.42
35:B2:1052:G:N2	35:B2:1065:U:H3	2.18	0.42
35:B2:1330:U:H2'	35:B2:1331:G:O4'	2.19	0.42
35:B2:1632:C:H2'	35:B2:1633:G:H8	1.85	0.42
35:B2:2437:U:O2'	35:B2:3408:A:N3	2.52	0.42
35:B2:2668:C:OP2	62:Bl:58:GLY:N	2.53	0.42
35:B2:2757:G:H2'	35:B2:2758:A:C8	2.54	0.42
35:B2:3247:U:H3'	35:B2:3394:C:C4	2.55	0.42
36:B3:110:G:H2'	36:B3:111:C:H6	1.85	0.42
37:B4:81:U:H2'	37:B4:82:U:O4'	2.20	0.42
37:B4:126:C:H2'	37:B4:127:U:H6	1.85	0.42
39:BO:93:VAL:HA	39:BO:155:CYS:HA	2.01	0.42
43:BS:174:ASN:O	43:BS:178:GLU:HG3	2.20	0.42
45:BU:91:ARG:HG2	45:BU:180:SER:HB2	2.01	0.42
52:Bb:16:LYS:HG2	52:Bb:149:ILE:HG12	2.02	0.42
55:Be:95:ASP:OD1	55:Be:96:THR:N	2.49	0.42
65:Bo:36:THR:OG1	65:Bo:97:ALA:HB2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:Bo:39:THR:HB	65:Bo:45:ALA:HB2	2.02	0.42
65:Bo:45:ALA:HA	65:Bo:99:THR:HG22	2.02	0.42
70:Bt:47:LYS:O	70:Bt:51:LYS:HG2	2.20	0.42
75:By:97:LYS:HD3	75:By:97:LYS:HA	1.75	0.42
1:AA:1033:U:H2'	1:AA:1034:A:C8	2.54	0.41
1:AA:1101:G:OP1	4:AF:160:LYS:NZ	2.37	0.41
1:AA:1218:G:N2	1:AA:1641:A:H5''	2.35	0.41
1:AA:1424:C:H2'	1:AA:1425:A:C8	2.55	0.41
1:AA:1458:G:H2'	1:AA:1459:C:H6	1.85	0.41
1:AA:1695:G:O3'	1:AA:1696:A:H8	2.02	0.41
2:AD:33:GLU:O	2:AD:35:ARG:N	2.46	0.41
4:AF:55:ILE:HG23	4:AF:60:LEU:HB2	2.02	0.41
10:AL:106:ALA:O	10:AL:110:ARG:HG3	2.20	0.41
10:AL:195:ARG:HH21	13:AO:11:ARG:HG2	1.85	0.41
17:AS:98:VAL:HG23	17:AS:115:ILE:HG22	2.02	0.41
24:Ac:10:CYS:SG	24:Ac:27:ILE:HG12	2.60	0.41
33:B0:52:GLY:HA3	35:B2:2509:U:O2'	2.20	0.41
35:B2:191:U:O2'	35:B2:192:C:OP1	2.28	0.41
35:B2:445:G:O2'	35:B2:447:C:N3	2.41	0.41
35:B2:1045:G:H2'	35:B2:1046:U:O4'	2.20	0.41
35:B2:2268:G:H2'	35:B2:2269:C:H6	1.84	0.41
35:B2:2281:U:H1'	35:B2:2403:G:N2	2.35	0.41
35:B2:2307:A:H2'	35:B2:2308:A:C8	2.55	0.41
35:B2:3439:C:H2'	35:B2:3440:A:C8	2.55	0.41
35:B2:3472:G:H2'	35:B2:3473:A:C8	2.55	0.41
41:BQ:195:LEU:HD12	41:BQ:195:LEU:HA	1.93	0.41
43:BS:134:MET:O	43:BS:138:VAL:HG22	2.20	0.41
46:BV:60:ILE:HG23	46:BV:160:PRO:HD2	2.02	0.41
49:BY:30:ASP:HB3	49:BY:38:LEU:HD23	2.01	0.41
50:BZ:106:VAL:HG12	50:BZ:134:LEU:HD21	2.02	0.41
1:AA:359:G:H2'	1:AA:360:G:H8	1.86	0.41
1:AA:1327:U:H2'	1:AA:1328:U:C6	2.55	0.41
6:AH:127:LYS:HB2	6:AH:140:VAL:HG23	2.02	0.41
19:AU:25:THR:HG22	19:AU:27:ASP:H	1.85	0.41
25:Ad:84:PHE:O	25:Ad:122:VAL:HG22	2.19	0.41
35:B2:800:U:H2'	35:B2:801:G:H8	1.85	0.41
35:B2:1761:U:OP2	54:Bd:124:TYR:OH	2.36	0.41
35:B2:1878:A:H2'	35:B2:1879:C:C6	2.55	0.41
35:B2:2612:A:O2'	35:B2:2690:A:N1	2.48	0.41
35:B2:2724:U:O2'	35:B2:2853:A:O2'	2.37	0.41
35:B2:3197:G:H2'	35:B2:3198:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B2:3371:U:C5	42:BR:124:PHE:HA	2.55	0.41
35:B2:3472:G:H2'	35:B2:3473:A:H8	1.85	0.41
37:B4:71:G:N3	37:B4:71:G:H2'	2.35	0.41
41:BQ:284:PHE:CE1	46:BV:206:LEU:HD11	2.55	0.41
45:BU:32:ARG:HH12	45:BU:186:GLU:HB2	1.85	0.41
50:BZ:44:ARG:NH1	50:BZ:120:TRP:O	2.53	0.41
58:Bh:35:ASN:HD21	58:Bh:66:LYS:HB2	1.85	0.41
60:Bj:66:ILE:HD12	60:Bj:120:LYS:HG3	2.01	0.41
1:AA:608:A:OP2	1:AA:609:A:O2'	2.36	0.41
2:AD:12:ALA:O	2:AD:13:THR:OG1	2.36	0.41
4:AF:40:LEU:HD21	4:AF:55:ILE:HD13	2.01	0.41
5:AG:98:LEU:HD13	5:AG:193:PRO:HD3	2.03	0.41
8:AJ:32:MET:HE2	8:AJ:32:MET:N	2.34	0.41
28:Ag:70:LYS:HD3	28:Ag:70:LYS:HA	1.70	0.41
35:B2:169:U:H1'	35:B2:266:G:H22	1.85	0.41
35:B2:531:A:C8	40:BP:348:THR:HG23	2.55	0.41
35:B2:1086:A:H5''	35:B2:2732:A:N6	2.35	0.41
35:B2:1661:A:N1	35:B2:1872:G:C6	2.88	0.41
35:B2:2978:U:H2'	35:B2:2979:C:C6	2.56	0.41
35:B2:3261:U:C2	35:B2:3262:G:C8	3.08	0.41
35:B2:3480:C:H4'	39:BO:315:GLY:HA2	2.02	0.41
36:B3:3:C:H2'	36:B3:4:U:C6	2.55	0.41
40:BP:207:PRO:HG2	40:BP:227:VAL:HG22	2.01	0.41
48:BX:25:TRP:CE2	50:BZ:198:ARG:HG2	2.54	0.41
61:Bk:88:LYS:HE3	61:Bk:90:ASN:HD21	1.86	0.41
62:Bl:38:PHE:CE1	62:Bl:40:HIS:HB3	2.55	0.41
1:AA:165:G:H5'	8:AJ:8:PRO:HA	2.02	0.41
1:AA:704:C:N3	9:AK:108:SER:HA	2.35	0.41
1:AA:1179:A:H1'	1:AA:1654:U:O2'	2.21	0.41
1:AA:1270:U:H5''	14:AP:55:LYS:HE3	2.03	0.41
2:AD:10:LEU:H	2:AD:10:LEU:HG	1.69	0.41
7:AI:129:SER:H	30:AI:23:ARG:HH12	1.68	0.41
8:AJ:22:ARG:HD3	8:AJ:22:ARG:N	2.35	0.41
20:AV:12:ILE:HG22	20:AV:22:GLY:H	1.85	0.41
35:B2:8:C:H2'	35:B2:9:U:H6	1.85	0.41
35:B2:186:A:H2'	35:B2:187:U:O4'	2.20	0.41
35:B2:547:G:H1'	35:B2:581:A:C4	2.55	0.41
35:B2:2342:U:C4	35:B2:2349:G:C5	3.09	0.41
35:B2:2632:A:H2'	35:B2:2633:U:C6	2.55	0.41
35:B2:3360:G:H2'	35:B2:3361:U:C6	2.55	0.41
36:B3:17:A:H2'	36:B3:18:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BZ:183:SER:HB2	50:BZ:188:THR:OG1	2.20	0.41
59:Bi:39:LEU:HD22	59:Bi:44:LYS:HG3	2.02	0.41
72:Bv:25:ARG:NH1	74:Bx:51:ILE:HG13	2.35	0.41
1:AA:58:U:H5''	1:AA:459:G:H1'	2.03	0.41
1:AA:746:A:H5'	1:AA:747:A:C8	2.56	0.41
1:AA:842:C:H2'	1:AA:843:U:H6	1.85	0.41
1:AA:939:A:H2'	1:AA:940:G:C8	2.55	0.41
1:AA:974:U:H5''	15:AQ:15:ALA:O	2.20	0.41
1:AA:1362:A:H1'	22:Aa:54:VAL:HG13	2.03	0.41
1:AA:1407:G:N2	1:AA:1431:A:H2	2.18	0.41
6:AH:24:SER:O	6:AH:24:SER:OG	2.32	0.41
7:AI:50:HIS:CD2	7:AI:85:LYS:HG2	2.42	0.41
9:AK:115:PRO:HB2	9:AK:118:ARG:HG3	2.01	0.41
25:Ad:48:LYS:HB3	25:Ad:75:ILE:HD12	2.03	0.41
30:Ai:6:VAL:HB	30:Ai:7:PRO:HD3	2.02	0.41
34:B1:54:ILE:HG23	34:B1:65:VAL:HG13	2.02	0.41
35:B2:872:C:O3'	54:Bd:125:LEU:HD12	2.21	0.41
35:B2:1062:U:H2'	35:B2:1063:C:C6	2.55	0.41
35:B2:1177:C:H4'	35:B2:1362:U:C4	2.55	0.41
35:B2:1234:A:H61	35:B2:1331:G:H2'	1.84	0.41
35:B2:1249:U:O2'	35:B2:1254:A:H4'	2.20	0.41
35:B2:1725:C:H2'	35:B2:1726:U:C6	2.54	0.41
35:B2:1950:A:O2'	35:B2:3149:G:H4'	2.21	0.41
35:B2:1976:A:H2'	35:B2:1977:A:C8	2.55	0.41
35:B2:2683:U:H2'	35:B2:2684:G:C8	2.54	0.41
35:B2:2799:A:O2'	35:B2:2800:A:O5'	2.34	0.41
35:B2:2809:G:H5''	35:B2:2811:U:C6	2.55	0.41
35:B2:3001:C:H1'	35:B2:3002:G:OP2	2.20	0.41
35:B2:3025:A:H2'	35:B2:3026:C:C6	2.56	0.41
39:BO:308:MET:HB2	39:BO:363:SER:HB2	2.03	0.41
45:BU:108:THR:O	45:BU:108:THR:OG1	2.33	0.41
46:BV:61:THR:HG22	46:BV:126:VAL:HG12	2.02	0.41
49:BY:65:LEU:HD11	49:BY:74:VAL:HG22	2.02	0.41
53:Bc:18:PRO:HD3	53:Bc:52:PHE:CD1	2.55	0.41
65:Bo:47:LEU:HD11	65:Bo:74:HIS:CD2	2.56	0.41
1:AA:911:U:H2'	1:AA:912:C:C6	2.56	0.41
1:AA:1027:U:H2'	1:AA:1028:A:H8	1.84	0.41
1:AA:1501:C:O2'	1:AA:1502:C:O5'	2.23	0.41
1:AA:1666:C:H2'	1:AA:1667:U:H6	1.85	0.41
3:AE:152:LYS:H	3:AE:152:LYS:HG3	1.70	0.41
5:AG:93:VAL:HG21	5:AG:96:ARG:HD2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AH:174:LYS:HB2	6:AH:174:LYS:HE2	1.90	0.41
9:AK:120:LEU:HA	9:AK:123:VAL:HG22	2.03	0.41
11:AM:128:LEU:HD22	11:AM:134:ILE:HD11	2.02	0.41
11:AM:128:LEU:HD23	11:AM:133:HIS:HB2	2.02	0.41
18:AT:84:LYS:HG2	18:AT:114:LEU:HD13	2.01	0.41
21:AW:4:VAL:HG11	21:AW:139:LEU:HG	2.02	0.41
22:Aa:60:ILE:HA	22:Aa:83:ARG:HA	2.02	0.41
33:B0:68:VAL:HB	33:B0:85:LEU:HB2	2.03	0.41
35:B2:59:G:H4'	35:B2:60:A:H4'	2.03	0.41
35:B2:359:A:N3	37:B4:61:A:H1'	2.35	0.41
35:B2:663:C:H2'	35:B2:664:G:C8	2.56	0.41
35:B2:714:A:O2'	35:B2:715:U:P	2.78	0.41
35:B2:1172:C:O2'	35:B2:1184:A:N3	2.50	0.41
35:B2:1857:G:OP2	35:B2:1868:C:N4	2.53	0.41
35:B2:1917:U:H2'	35:B2:1918:G:O4'	2.21	0.41
35:B2:1984:G:OP2	35:B2:1985:A:O2'	2.28	0.41
35:B2:2805:C:H2'	35:B2:2806:C:C6	2.56	0.41
35:B2:3276:A:N6	35:B2:3286:U:OP2	2.53	0.41
37:B4:12:C:H2'	37:B4:13:U:H6	1.85	0.41
39:BO:50:LYS:HB2	39:BO:336:LEU:HD11	2.02	0.41
43:BS:117:ILE:HD13	43:BS:117:ILE:HA	1.89	0.41
45:BU:76:ASN:O	45:BU:79:ILE:HG22	2.21	0.41
48:BX:60:PRO:HG3	48:BX:70:ARG:HG2	2.01	0.41
1:AA:897:U:H4'	34:B1:87:ARG:HG2	2.02	0.41
1:AA:935:U:H2'	1:AA:936:U:H6	1.85	0.41
1:AA:1235:G:N2	1:AA:1464:A:OP2	2.48	0.41
1:AA:1597:A:C2	1:AA:1601:U:H1'	2.55	0.41
1:AA:1725:G:H2'	1:AA:1726:G:N7	2.36	0.41
3:AE:129:THR:OG1	3:AE:179:CYS:O	2.33	0.41
14:AP:96:ASP:HB2	14:AP:99:VAL:HG23	2.02	0.41
16:AR:116:ARG:HA	16:AR:116:ARG:HD3	1.87	0.41
26:Ae:45:GLY:HA3	26:Ae:52:ALA:HB2	2.02	0.41
35:B2:137:C:O2	35:B2:137:C:H2'	2.20	0.41
35:B2:662:C:C2	35:B2:663:C:C5	3.08	0.41
35:B2:1337:G:O6	35:B2:2454:C:O2'	2.32	0.41
35:B2:1426:G:N2	35:B2:1451:G:O2'	2.51	0.41
35:B2:1766:C:H2'	35:B2:1767:G:C8	2.55	0.41
35:B2:2445:A:H5'	52:Bb:137:THR:CG2	2.50	0.41
35:B2:2860:C:H2'	35:B2:2861:U:C6	2.56	0.41
35:B2:3485:U:H2'	35:B2:3486:U:C6	2.55	0.41
50:BZ:64:ILE:HD13	50:BZ:102:ALA:HA	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:By:54:VAL:HG12	75:By:68:THR:HG22	2.01	0.41
1:AA:13:C:H4'	1:AA:1315:U:H3	1.84	0.41
1:AA:95:U:O2'	6:AH:8:HIS:ND1	2.47	0.41
1:AA:629:U:H2'	1:AA:630:C:H6	1.86	0.41
1:AA:1083:U:H2'	1:AA:1084:U:C6	2.56	0.41
1:AA:1223:U:O2'	31:Aj:26:ARG:O	2.37	0.41
1:AA:1537:U:H2'	1:AA:1538:U:H6	1.84	0.41
1:AA:1576:U:O2	1:AA:1577:G:N2	2.53	0.41
2:AD:75:ASP:OD2	2:AD:122:ARG:NH2	2.53	0.41
5:AG:107:LEU:HG	5:AG:124:VAL:HG11	2.02	0.41
7:AI:75:LEU:HD21	7:AI:172:LEU:HD11	2.02	0.41
11:AM:107:ARG:HH22	11:AM:153:GLN:NE2	2.18	0.41
13:AO:37:LEU:HB2	13:AO:39:PHE:CE2	2.55	0.41
35:B2:315:A:H2'	35:B2:316:A:C8	2.55	0.41
35:B2:774:C:H2'	35:B2:775:A:C8	2.56	0.41
35:B2:817:G:O6	63:Bm:77:ARG:HD2	2.20	0.41
35:B2:1043:A:H2'	35:B2:1044:G:H8	1.85	0.41
35:B2:1509:A:H4'	66:Bp:62:LYS:HG2	2.02	0.41
35:B2:1845:A:H2'	35:B2:1846:A:H8	1.85	0.41
35:B2:2000:A:H2'	35:B2:2001:A:H8	1.86	0.41
36:B3:49:C:N4	41:BQ:57:ASN:O	2.54	0.41
41:BQ:157:SER:HB2	41:BQ:160:PHE:HD2	1.85	0.41
44:BT:24:ASN:HB2	44:BT:25:PRO:HD3	2.03	0.41
44:BT:46:LEU:O	44:BT:50:VAL:HG23	2.21	0.41
65:Bo:34:LYS:HA	65:Bo:34:LYS:HD2	1.85	0.41
66:Bp:21:MET:N	66:Bp:74:HIS:O	2.54	0.41
67:Bq:101:LYS:HE3	67:Bq:101:LYS:HB2	1.88	0.41
1:AA:139:A:C5	1:AA:142:U:H4'	2.56	0.41
1:AA:200:G:C2	1:AA:201:G:C5	3.08	0.41
1:AA:335:U:P	10:AL:56:ARG:HH22	2.43	0.41
1:AA:483:A:H2'	1:AA:484:A:H8	1.82	0.41
1:AA:769:A:H2'	1:AA:770:A:O4'	2.21	0.41
1:AA:918:U:H5	16:AR:26:ASN:HD21	1.67	0.41
1:AA:977:C:H2'	1:AA:978:A:O4'	2.20	0.41
1:AA:1163:A:O2'	1:AA:1677:C:OP2	2.33	0.41
1:AA:1247:A:H8	1:AA:1275:U:C2	2.37	0.41
1:AA:1464:A:H4'	1:AA:1465:G:H3'	2.03	0.41
1:AA:1479:C:OP1	20:AV:130:ARG:NH2	2.53	0.41
2:AD:143:ASN:OD1	23:Ab:32:VAL:HG12	2.21	0.41
3:AE:140:ILE:HG22	3:AE:213:ARG:HB3	2.02	0.41
6:AH:71:LYS:HA	6:AH:76:VAL:HA	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AH:112:HIS:NE2	6:AH:237:SER:O	2.54	0.41
7:AI:144:ARG:O	7:AI:148:GLN:HG2	2.21	0.41
8:AJ:63:MET:H	8:AJ:63:MET:HG3	1.65	0.41
9:AK:115:PRO:HG2	9:AK:118:ARG:HD2	2.02	0.41
11:AM:32:GLY:HA3	32:Ak:40:TYR:CZ	2.56	0.41
13:AO:108:VAL:HG22	13:AO:136:VAL:HG21	2.03	0.41
20:AV:83:PHE:CD1	21:AW:36:ILE:HD11	2.56	0.41
22:Aa:51:LYS:HD2	22:Aa:90:ASP:H	1.84	0.41
34:B1:68:GLY:HA2	38:BN:79:GLU:HG3	2.03	0.41
35:B2:430:A:N1	35:B2:2450:C:O2'	2.41	0.41
35:B2:573:G:H2'	35:B2:574:U:C6	2.56	0.41
35:B2:582:G:C2	35:B2:583:C:C2	3.08	0.41
35:B2:715:U:H2'	35:B2:716:G:N2	2.36	0.41
35:B2:726:C:H2'	35:B2:727:C:O4'	2.21	0.41
35:B2:756:C:H2'	35:B2:757:G:H8	1.86	0.41
35:B2:834:C:H2'	35:B2:835:C:H6	1.85	0.41
35:B2:906:U:N3	35:B2:3073:U:OP1	2.36	0.41
35:B2:1243:A:H2'	35:B2:1244:G:C8	2.56	0.41
35:B2:1274:G:O2'	35:B2:1302:A:N3	2.54	0.41
35:B2:1337:G:C6	51:Ba:63:CYS:HA	2.55	0.41
35:B2:1445:U:H2'	35:B2:1446:G:H8	1.85	0.41
35:B2:1601:G:H2'	35:B2:1601:G:N3	2.35	0.41
35:B2:1784:U:C2	35:B2:1785:U:C5	3.09	0.41
35:B2:1881:U:H2'	35:B2:1882:C:H6	1.85	0.41
35:B2:2346:U:C2	35:B2:2347:A:C8	3.09	0.41
35:B2:2653:G:OP1	38:BN:68:TYR:OH	2.21	0.41
35:B2:2656:A:O2'	35:B2:2657:A:H8	2.04	0.41
35:B2:2730:A:H2	35:B2:2737:A:H62	1.67	0.41
35:B2:2734:G:H4'	56:Bf:56:TYR:HD1	1.86	0.41
35:B2:2739:C:OP1	64:Bn:5:LYS:NZ	2.41	0.41
35:B2:2971:C:H2'	35:B2:2972:G:O4'	2.21	0.41
35:B2:3119:U:C2	35:B2:3128:A:N7	2.89	0.41
35:B2:3147:U:C2	35:B2:3148:G:C8	3.09	0.41
35:B2:3171:G:H2'	35:B2:3172:C:H6	1.83	0.41
35:B2:3290:A:H2	35:B2:3297:C:N3	2.18	0.41
43:BS:89:THR:HG21	43:BS:146:ILE:HG12	2.03	0.41
43:BS:128:ASN:HB2	56:Bf:132:PRO:HB2	2.03	0.41
43:BS:184:TYR:CZ	43:BS:205:GLN:HG2	2.56	0.41
46:BV:152:LEU:HD23	46:BV:152:LEU:HA	1.91	0.41
53:Bc:75:ALA:HB1	53:Bc:77:LEU:HG	2.03	0.41
55:Be:47:ILE:HG22	55:Be:48:ASN:OD1	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:Bl:118:PHE:HD1	62:Bl:118:PHE:HA	1.76	0.41
70:Bt:11:GLN:HB3	70:Bt:15:ASN:ND2	2.36	0.41
1:AA:1201:A:H4'	1:AA:1226:C:O2'	2.20	0.41
1:AA:1344:C:C2	1:AA:1345:G:C8	3.09	0.41
1:AA:1365:A:H2'	1:AA:1366:G:C8	2.56	0.41
1:AA:1680:C:H2'	1:AA:1681:C:O4'	2.21	0.41
9:AK:140:LYS:HD3	9:AK:152:ILE:HD11	2.03	0.41
19:AU:28:PHE:HA	19:AU:31:ASN:ND2	2.36	0.41
20:AV:85:ASN:ND2	20:AV:86:ARG:HG2	2.36	0.41
21:AW:57:ALA:HB1	21:AW:107:LEU:HD21	2.02	0.41
26:Ae:21:LYS:NZ	26:Ae:75:ILE:HD11	2.35	0.41
30:Ai:15:LYS:HE3	30:Ai:15:LYS:HB2	1.84	0.41
35:B2:233:C:H2'	35:B2:234:G:O4'	2.21	0.41
35:B2:589:U:O2'	35:B2:590:U:P	2.79	0.41
35:B2:698:U:H2'	35:B2:699:G:C8	2.56	0.41
35:B2:820:C:C2	35:B2:821:A:C8	3.09	0.41
35:B2:998:U:H2'	35:B2:999:A:H8	1.85	0.41
35:B2:1661:A:H2'	35:B2:1662:U:C6	2.56	0.41
35:B2:1674:C:OP2	69:Bs:74:ARG:NH1	2.54	0.41
35:B2:1695:C:H2'	35:B2:1696:G:H8	1.86	0.41
35:B2:1781:G:C4	35:B2:1783:G:C8	3.09	0.41
35:B2:2660:U:O2	35:B2:2660:U:H2'	2.20	0.41
35:B2:2777:C:OP2	47:BW:51:ARG:NH2	2.54	0.41
35:B2:2999:U:H2'	35:B2:3000:U:H6	1.86	0.41
35:B2:3042:G:N3	39:BO:250:ALA:HB1	2.36	0.41
36:B3:3:C:H2'	36:B3:4:U:H6	1.86	0.41
37:B4:158:G:H21	44:BT:59:GLN:HE22	1.68	0.41
40:BP:66:SER:HA	40:BP:77:PRO:HA	2.03	0.41
45:BU:175:ASP:OD1	45:BU:175:ASP:N	2.54	0.41
50:BZ:48:ALA:HB1	50:BZ:53:TYR:HB3	2.02	0.41
54:Bd:125:LEU:HD13	54:Bd:125:LEU:HA	1.94	0.41
61:Bk:80:LEU:HD22	61:Bk:95:PRO:HB2	2.02	0.41
65:Bo:55:PRO:HA	65:Bo:56:PRO:HD3	1.98	0.41
65:Bo:63:GLU:HG2	65:Bo:73:VAL:HG11	2.02	0.41
66:Bp:29:SER:O	66:Bp:33:ARG:HG3	2.21	0.41
1:AA:164:A:H2'	1:AA:165:G:C8	2.55	0.40
1:AA:603:U:OP2	25:Ad:108:LYS:NZ	2.44	0.40
1:AA:620:U:H2'	1:AA:621:U:C6	2.56	0.40
1:AA:1123:G:H2'	1:AA:1124:G:N3	2.36	0.40
1:AA:1188:A:H2'	1:AA:1189:G:C8	2.56	0.40
1:AA:1219:A:H3'	1:AA:1219:A:N3	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1493:U:C5	7:AI:168:ILE:HG13	2.56	0.40
1:AA:1697:U:O2'	35:B2:2380:U:O3'	2.39	0.40
2:AD:55:LYS:HB3	23:Ab:82:VAL:HG23	2.02	0.40
7:AI:111:LEU:HD13	7:AI:176:ILE:HD13	2.03	0.40
9:AK:112:GLN:OE1	9:AK:112:GLN:N	2.53	0.40
10:AL:164:ARG:NH1	35:B2:3454:G:O6	2.53	0.40
11:AM:64:GLU:OE2	11:AM:69:ARG:NH2	2.54	0.40
11:AM:107:ARG:HH22	11:AM:153:GLN:HE21	1.70	0.40
18:AT:98:SER:O	18:AT:101:GLU:HG2	2.21	0.40
26:Ae:111:ARG:HA	26:Ae:114:ARG:HG2	2.03	0.40
33:B0:37:ALA:O	33:B0:41:ARG:HG3	2.21	0.40
35:B2:127:G:H2'	35:B2:128:G:H8	1.84	0.40
35:B2:269:U:H2'	35:B2:270:U:C6	2.56	0.40
35:B2:274:A:OP2	35:B2:274:A:H8	2.04	0.40
35:B2:322:U:H2'	35:B2:323:C:H6	1.87	0.40
35:B2:419:U:H2'	35:B2:420:G:H8	1.87	0.40
35:B2:1043:A:H2'	35:B2:1044:G:C8	2.56	0.40
35:B2:2311:A:OP2	35:B2:2311:A:H8	2.03	0.40
35:B2:3439:C:H2'	35:B2:3440:A:H8	1.86	0.40
39:BO:215:ILE:HD12	39:BO:338:LEU:HB3	2.02	0.40
41:BQ:221:LYS:HE2	41:BQ:221:LYS:HB3	1.92	0.40
41:BQ:223:PHE:O	41:BQ:227:ILE:HG12	2.20	0.40
43:BS:156:LEU:HD21	43:BS:210:ILE:HD13	2.02	0.40
45:BU:71:ALA:O	45:BU:75:ILE:HG12	2.21	0.40
57:Bg:54:SER:HA	57:Bg:63:VAL:HA	2.03	0.40
66:Bp:103:ASN:ND2	66:Bp:105:LYS:HB2	2.36	0.40
1:AA:39:A:H2'	1:AA:40:A:H8	1.86	0.40
1:AA:92:G:H2'	1:AA:93:A:O4'	2.21	0.40
1:AA:343:U:H2'	1:AA:344:A:C8	2.56	0.40
1:AA:467:A:H4'	1:AA:530:A:H2	1.84	0.40
1:AA:901:U:H2'	1:AA:902:A:C8	2.48	0.40
1:AA:975:U:H2'	1:AA:976:U:H6	1.85	0.40
1:AA:1005:C:H2'	1:AA:1006:G:O4'	2.21	0.40
1:AA:1157:G:H2'	1:AA:1158:A:H8	1.85	0.40
1:AA:1459:C:C2	1:AA:1460:C:C5	3.09	0.40
1:AA:1592:U:H2'	1:AA:1593:U:H6	1.86	0.40
1:AA:1833:A:H5''	28:Ag:8:ASN:HB3	2.02	0.40
5:AG:96:ARG:O	5:AG:96:ARG:NH1	2.53	0.40
8:AJ:39:ASP:HB3	8:AJ:47:GLY:H	1.86	0.40
14:AP:48:ARG:HG3	14:AP:124:VAL:HG12	2.04	0.40
14:AP:93:LYS:HD3	14:AP:93:LYS:HA	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AU:101:ASP:OD1	19:AU:101:ASP:N	2.53	0.40
35:B2:382:A:H4'	35:B2:383:A:OP1	2.21	0.40
35:B2:443:C:H2'	35:B2:444:A:C8	2.57	0.40
35:B2:597:C:H2'	35:B2:598:G:C8	2.56	0.40
35:B2:716:G:H1'	35:B2:717:A:H5'	2.02	0.40
35:B2:860:A:H2'	35:B2:861:U:C6	2.56	0.40
35:B2:1388:G:H2'	35:B2:1388:G:N3	2.36	0.40
35:B2:1742:G:N2	35:B2:1781:G:H22	2.14	0.40
35:B2:1966:A:H2	35:B2:2210:G:C8	2.39	0.40
35:B2:1995:G:H2'	35:B2:1996:C:C6	2.56	0.40
35:B2:3217:U:H4'	35:B2:3218:A:OP1	2.21	0.40
35:B2:3353:U:H2'	35:B2:3354:U:O4'	2.21	0.40
44:BT:154:ALA:HB1	44:BT:183:LYS:HB3	2.04	0.40
46:BV:54:SER:HA	46:BV:163:GLN:HG3	2.01	0.40
46:BV:78:LYS:HE2	46:BV:78:LYS:HB3	1.71	0.40
46:BV:101:LYS:HD3	46:BV:102:MET:N	2.35	0.40
47:BW:21:ILE:HB	47:BW:23:LEU:HD23	2.02	0.40
48:BX:12:ALA:HB1	48:BX:14:PHE:HD2	1.86	0.40
61:Bk:2:LYS:HE3	61:Bk:7:VAL:O	2.22	0.40
62:Bl:66:SER:HB2	62:Bl:122:TYR:HE2	1.87	0.40
68:Br:53:VAL:HG22	68:Br:67:VAL:HG22	2.02	0.40
1:AA:299:U:OP1	6:AH:128:ARG:NH2	2.48	0.40
1:AA:396:C:H2'	1:AA:397:C:C6	2.56	0.40
1:AA:554:G:H5'	1:AA:584:U:C2	2.56	0.40
1:AA:630:C:H2'	1:AA:631:G:O4'	2.21	0.40
1:AA:879:U:O2	29:Ah:21:LEU:HB3	2.21	0.40
1:AA:1371:A:H2'	1:AA:1371:A:N3	2.36	0.40
1:AA:1481:C:OP2	20:AV:141:ARG:NH1	2.51	0.40
1:AA:1500:G:H2'	1:AA:1501:C:C6	2.57	0.40
2:AD:29:SER:HB3	2:AD:153:ASP:OD1	2.21	0.40
9:AK:162:ASN:C	9:AK:164:VAL:H	2.29	0.40
15:AQ:46:SER:OG	15:AQ:86:GLU:OE2	2.38	0.40
15:AQ:80:LEU:HD23	65:Bo:25:LYS:HZ1	1.86	0.40
35:B2:511:C:H2'	35:B2:512:A:C8	2.55	0.40
35:B2:823:A:H2'	35:B2:824:G:H8	1.85	0.40
35:B2:892:G:N3	35:B2:892:G:H3'	2.36	0.40
35:B2:1976:A:H2'	35:B2:1977:A:H8	1.85	0.40
35:B2:2378:C:C2	35:B2:2379:A:C8	3.09	0.40
35:B2:2631:G:N7	35:B2:2632:A:N6	2.69	0.40
35:B2:3116:U:H2'	35:B2:3129:A:H61	1.86	0.40
36:B3:60:C:OP1	41:BQ:274:LYS:HE3	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:B4:79:A:H4'	37:B4:80:A:O5'	2.22	0.40
37:B4:83:G:H2'	37:B4:84:C:C6	2.57	0.40
38:BN:31:LEU:HD13	38:BN:162:ARG:HD3	2.03	0.40
40:BP:108:TRP:HB2	50:BZ:197:LEU:HD12	2.03	0.40
52:Bb:103:GLU:HG2	52:Bb:109:MET:HE2	2.03	0.40
74:Bx:27:ILE:HD13	74:Bx:27:ILE:HA	1.97	0.40
1:AA:263:U:H5	10:AL:43:ILE:HB	1.85	0.40
1:AA:758:U:C2	1:AA:759:A:C8	3.09	0.40
1:AA:1552:G:C2	1:AA:1553:G:N7	2.89	0.40
1:AA:1761:A:H2'	1:AA:1762:G:O4'	2.21	0.40
1:AA:1815:C:H2'	1:AA:1816:G:C8	2.56	0.40
2:AD:166:ASN:C	2:AD:168:LYS:H	2.30	0.40
9:AK:143:ARG:NH2	24:Ac:49:GLU:OE1	2.46	0.40
11:AM:129:ILE:H	11:AM:129:ILE:HG13	1.74	0.40
25:Ad:83:ALA:HA	25:Ad:120:PHE:O	2.21	0.40
27:Af:34:VAL:N	27:Af:35:PRO:HD2	2.36	0.40
35:B2:740:U:H2'	35:B2:741:G:O4'	2.21	0.40
35:B2:753:G:N2	35:B2:771:C:OP2	2.43	0.40
35:B2:873:A:H2'	35:B2:874:G:H8	1.86	0.40
35:B2:1188:G:H2'	35:B2:1189:A:O4'	2.22	0.40
35:B2:1735:A:H2'	35:B2:1736:A:H8	1.86	0.40
35:B2:1960:G:O6	39:BO:241:LYS:NZ	2.51	0.40
35:B2:2006:U:O2'	35:B2:2183:A:N1	2.40	0.40
35:B2:2203:G:H22	35:B2:2208:A:H1'	1.87	0.40
35:B2:2803:C:H2'	35:B2:2804:C:C6	2.56	0.40
35:B2:2837:C:H2'	35:B2:2838:A:C8	2.57	0.40
35:B2:3002:G:H5'	35:B2:3003:G:OP2	2.21	0.40
35:B2:3227:U:H2'	35:B2:3228:C:C6	2.57	0.40
35:B2:3267:A:N3	35:B2:3269:A:N6	2.69	0.40
37:B4:22:C:H5''	52:Bb:123:PRO:HG3	2.04	0.40
39:BO:290:ASP:O	39:BO:304:ARG:NH1	2.55	0.40
41:BQ:196:ARG:HB3	41:BQ:196:ARG:HH11	1.87	0.40
41:BQ:219:TYR:OH	41:BQ:227:ILE:HD11	2.20	0.40
43:BS:72:GLU:HG2	43:BS:72:GLU:H	1.76	0.40
1:AA:1010:A:H4'	35:B2:2284:C:OP1	2.21	0.40
1:AA:1258:G:H21	1:AA:1258:G:P	2.44	0.40
1:AA:1394:A:H2'	1:AA:1395:G:H8	1.87	0.40
1:AA:1404:A:H2'	1:AA:1405:G:O4'	2.22	0.40
1:AA:1453:G:C5	31:Aj:41:GLN:HG2	2.57	0.40
1:AA:1724:U:H2'	1:AA:1725:G:O4'	2.21	0.40
1:AA:1821:U:H2'	1:AA:1823:A:OP2	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AE:40:VAL:HG12	3:AE:42:ASN:H	1.87	0.40
9:AK:114:ARG:NH2	9:AK:119:THR:HG23	2.37	0.40
18:AT:75:ILE:HA	18:AT:78:ILE:HG12	2.04	0.40
20:AV:3:LEU:HD13	20:AV:54:LYS:HE2	2.03	0.40
23:Ab:86:GLN:NE2	29:Ah:6:ASP:OD2	2.48	0.40
34:B1:51:ALA:HA	35:B2:1836:U:C4	2.56	0.40
35:B2:218:A:OP1	40:BP:222:ARG:NE	2.41	0.40
35:B2:277:G:OP2	50:BZ:44:ARG:NH1	2.51	0.40
35:B2:1715:G:H2'	35:B2:1716:U:C6	2.54	0.40
35:B2:1980:U:O2'	35:B2:1982:G:N7	2.51	0.40
35:B2:2286:A:C2	35:B2:2287:G:C8	3.09	0.40
35:B2:2501:A:H2'	35:B2:2502:G:C8	2.53	0.40
39:BO:281:LYS:NZ	39:BO:349:LYS:O	2.44	0.40
39:BO:323:MET:HE3	39:BO:323:MET:HB2	1.90	0.40
40:BP:11:TYR:CZ	40:BP:148:PRO:HB2	2.57	0.40
45:BU:85:GLY:HA3	45:BU:185:ILE:HG22	2.03	0.40
50:BZ:94:TYR:CZ	50:BZ:96:ARG:HB2	2.57	0.40
51:Ba:5:GLN:O	51:Ba:32:GLN:NE2	2.54	0.40
53:Bc:90:ASP:OD1	53:Bc:91:ASP:N	2.55	0.40
56:Bf:102:ARG:O	56:Bf:102:ARG:HD3	2.22	0.40
62:Bl:12:LEU:O	62:Bl:81:MET:N	2.54	0.40
63:Bm:131:ARG:HG2	63:Bm:131:ARG:NH1	2.36	0.40
70:Bt:105:LYS:HE2	70:Bt:109:LYS:HE3	2.04	0.40
73:Bw:32:ASP:OD1	73:Bw:33:VAL:N	2.55	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	AD	203/292 (70%)	183 (90%)	20 (10%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	AE	214/252 (85%)	197 (92%)	16 (8%)	1 (0%)	24	37
4	AF	214/253 (85%)	205 (96%)	8 (4%)	1 (0%)	24	37
5	AG	214/249 (86%)	201 (94%)	13 (6%)	0	100	100
6	AH	259/262 (99%)	249 (96%)	9 (4%)	1 (0%)	30	43
7	AI	201/203 (99%)	187 (93%)	13 (6%)	1 (0%)	24	37
8	AJ	219/239 (92%)	210 (96%)	9 (4%)	0	100	100
9	AK	191/195 (98%)	181 (95%)	10 (5%)	0	100	100
10	AL	184/200 (92%)	179 (97%)	5 (3%)	0	100	100
11	AM	176/192 (92%)	166 (94%)	9 (5%)	1 (1%)	21	32
12	AN	90/147 (61%)	77 (86%)	12 (13%)	1 (1%)	11	18
13	AO	141/152 (93%)	126 (89%)	15 (11%)	0	100	100
14	AP	119/145 (82%)	103 (87%)	14 (12%)	2 (2%)	7	10
15	AQ	148/151 (98%)	143 (97%)	5 (3%)	0	100	100
16	AR	126/139 (91%)	117 (93%)	9 (7%)	0	100	100
17	AS	117/154 (76%)	102 (87%)	15 (13%)	0	100	100
18	AT	138/140 (99%)	134 (97%)	4 (3%)	0	100	100
19	AU	116/131 (88%)	107 (92%)	7 (6%)	2 (2%)	7	10
20	AV	139/152 (91%)	129 (93%)	10 (7%)	0	100	100
21	AW	140/144 (97%)	131 (94%)	9 (6%)	0	100	100
22	Aa	99/118 (84%)	97 (98%)	2 (2%)	0	100	100
23	Ab	85/87 (98%)	81 (95%)	4 (5%)	0	100	100
24	Ac	127/130 (98%)	122 (96%)	5 (4%)	0	100	100
25	Ad	140/143 (98%)	135 (96%)	5 (4%)	0	100	100
26	Ae	131/134 (98%)	126 (96%)	5 (4%)	0	100	100
27	Af	67/89 (75%)	66 (98%)	1 (2%)	0	100	100
28	Ag	95/119 (80%)	91 (96%)	4 (4%)	0	100	100
29	Ah	79/83 (95%)	75 (95%)	4 (5%)	0	100	100
30	Ai	61/68 (90%)	57 (93%)	4 (7%)	0	100	100
31	Aj	51/56 (91%)	45 (88%)	6 (12%)	0	100	100
32	Ak	58/61 (95%)	52 (90%)	5 (9%)	1 (2%)	7	10
33	B0	91/106 (86%)	88 (97%)	3 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
34	B1	91/94 (97%)	84 (92%)	7 (8%)	0	100	100
38	BN	246/253 (97%)	231 (94%)	15 (6%)	0	100	100
39	BO	382/388 (98%)	369 (97%)	13 (3%)	0	100	100
40	BP	360/363 (99%)	346 (96%)	14 (4%)	0	100	100
41	BQ	285/294 (97%)	279 (98%)	6 (2%)	0	100	100
42	BR	160/195 (82%)	143 (89%)	17 (11%)	0	100	100
43	BS	231/251 (92%)	226 (98%)	5 (2%)	0	100	100
44	BT	227/259 (88%)	222 (98%)	5 (2%)	0	100	100
45	BU	162/189 (86%)	157 (97%)	5 (3%)	0	100	100
46	BV	187/221 (85%)	183 (98%)	4 (2%)	0	100	100
47	BW	165/174 (95%)	157 (95%)	8 (5%)	0	100	100
48	BX	205/208 (99%)	201 (98%)	4 (2%)	0	100	100
49	BY	128/134 (96%)	126 (98%)	2 (2%)	0	100	100
50	BZ	198/201 (98%)	191 (96%)	6 (3%)	1 (0%)	24	37
51	Ba	194/197 (98%)	191 (98%)	3 (2%)	0	100	100
52	Bb	150/187 (80%)	145 (97%)	5 (3%)	0	100	100
53	Bc	184/187 (98%)	178 (97%)	6 (3%)	0	100	100
54	Bd	155/193 (80%)	151 (97%)	4 (3%)	0	100	100
55	Be	171/176 (97%)	168 (98%)	3 (2%)	0	100	100
56	Bf	157/160 (98%)	151 (96%)	6 (4%)	0	100	100
57	Bg	97/117 (83%)	87 (90%)	10 (10%)	0	100	100
58	Bh	132/139 (95%)	127 (96%)	5 (4%)	0	100	100
59	Bi	61/149 (41%)	60 (98%)	1 (2%)	0	100	100
60	Bj	116/141 (82%)	109 (94%)	7 (6%)	0	100	100
61	Bk	123/126 (98%)	121 (98%)	2 (2%)	0	100	100
62	Bl	133/136 (98%)	124 (93%)	9 (7%)	0	100	100
63	Bm	145/148 (98%)	137 (94%)	8 (6%)	0	100	100
64	Bn	57/61 (93%)	55 (96%)	2 (4%)	0	100	100
65	Bo	92/109 (84%)	91 (99%)	1 (1%)	0	100	100
66	Bp	101/113 (89%)	98 (97%)	3 (3%)	0	100	100
67	Bq	116/127 (91%)	114 (98%)	2 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
68	Br	102/108 (94%)	100 (98%)	2 (2%)	0	100	100
69	Bs	104/111 (94%)	101 (97%)	3 (3%)	0	100	100
70	Bt	119/122 (98%)	116 (98%)	3 (2%)	0	100	100
71	Bu	93/99 (94%)	91 (98%)	2 (2%)	0	100	100
72	Bv	80/91 (88%)	74 (92%)	6 (8%)	0	100	100
73	Bw	67/74 (90%)	65 (97%)	2 (3%)	0	100	100
74	Bx	48/51 (94%)	47 (98%)	1 (2%)	0	100	100
75	By	132/134 (98%)	126 (96%)	6 (4%)	0	100	100
All	All	10389/11466 (91%)	9904 (95%)	473 (5%)	12 (0%)	49	64

All (12) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	AH	12	VAL
19	AU	118	VAL
3	AE	147	ALA
7	AI	79	GLY
50	BZ	183	SER
11	AM	147	VAL
14	AP	134	ALA
4	AF	237	THR
14	AP	110	ASP
32	Ak	51	VAL
12	AN	37	VAL
19	AU	98	VAL

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	AD	170/228 (75%)	168 (99%)	2 (1%)	63	81
3	AE	193/223 (86%)	189 (98%)	4 (2%)	47	69

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	AF	175/199 (88%)	166 (95%)	9 (5%)	21	37
5	AG	181/203 (89%)	178 (98%)	3 (2%)	53	74
6	AH	226/227 (100%)	217 (96%)	9 (4%)	28	47
7	AI	169/169 (100%)	168 (99%)	1 (1%)	78	89
8	AJ	188/204 (92%)	184 (98%)	4 (2%)	47	69
9	AK	169/171 (99%)	164 (97%)	5 (3%)	36	58
10	AL	157/166 (95%)	155 (99%)	2 (1%)	61	80
11	AM	155/165 (94%)	152 (98%)	3 (2%)	50	71
12	AN	77/116 (66%)	77 (100%)	0	100	100
13	AO	124/131 (95%)	121 (98%)	3 (2%)	43	65
14	AP	92/118 (78%)	90 (98%)	2 (2%)	45	67
15	AQ	127/128 (99%)	126 (99%)	1 (1%)	73	86
16	AR	95/104 (91%)	93 (98%)	2 (2%)	47	69
17	AS	101/131 (77%)	99 (98%)	2 (2%)	48	70
18	AT	111/111 (100%)	109 (98%)	2 (2%)	51	73
19	AU	107/120 (89%)	106 (99%)	1 (1%)	70	85
20	AV	127/136 (93%)	125 (98%)	2 (2%)	55	76
21	AW	117/119 (98%)	113 (97%)	4 (3%)	32	54
22	Aa	95/111 (86%)	95 (100%)	0	100	100
23	Ab	73/73 (100%)	71 (97%)	2 (3%)	39	62
24	Ac	114/115 (99%)	112 (98%)	2 (2%)	51	73
25	Ad	112/113 (99%)	109 (97%)	3 (3%)	39	62
26	Ae	112/113 (99%)	111 (99%)	1 (1%)	70	85
27	Af	61/75 (81%)	59 (97%)	2 (3%)	33	55
28	Ag	87/106 (82%)	84 (97%)	3 (3%)	32	54
29	Ah	71/73 (97%)	70 (99%)	1 (1%)	59	79
30	Ai	56/61 (92%)	51 (91%)	5 (9%)	9	15
31	Aj	45/47 (96%)	45 (100%)	0	100	100
32	Ak	51/52 (98%)	50 (98%)	1 (2%)	48	70
33	B0	84/93 (90%)	81 (96%)	3 (4%)	31	52
34	B1	74/75 (99%)	73 (99%)	1 (1%)	59	79

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
38	BN	188/192 (98%)	187 (100%)	1 (0%)	81	91
39	BO	318/326 (98%)	316 (99%)	2 (1%)	78	89
40	BP	293/294 (100%)	291 (99%)	2 (1%)	76	88
41	BQ	235/241 (98%)	231 (98%)	4 (2%)	53	74
42	BR	132/155 (85%)	130 (98%)	2 (2%)	57	77
43	BS	198/213 (93%)	196 (99%)	2 (1%)	68	84
44	BT	182/212 (86%)	181 (100%)	1 (0%)	81	91
45	BU	149/168 (89%)	146 (98%)	3 (2%)	48	70
46	BV	165/187 (88%)	164 (99%)	1 (1%)	78	89
47	BW	141/146 (97%)	139 (99%)	2 (1%)	59	79
48	BX	166/167 (99%)	165 (99%)	1 (1%)	78	89
49	BY	110/113 (97%)	110 (100%)	0	100	100
50	BZ	175/176 (99%)	174 (99%)	1 (1%)	78	89
51	Ba	159/160 (99%)	159 (100%)	0	100	100
52	Bb	124/149 (83%)	123 (99%)	1 (1%)	73	86
53	Bc	157/158 (99%)	156 (99%)	1 (1%)	78	89
54	Bd	136/163 (83%)	136 (100%)	0	100	100
55	Be	151/154 (98%)	151 (100%)	0	100	100
56	Bf	138/139 (99%)	137 (99%)	1 (1%)	76	88
57	Bg	86/103 (84%)	85 (99%)	1 (1%)	63	81
58	Bh	103/107 (96%)	101 (98%)	2 (2%)	50	71
59	Bi	57/121 (47%)	55 (96%)	2 (4%)	32	53
60	Bj	105/122 (86%)	103 (98%)	2 (2%)	50	71
61	Bk	110/111 (99%)	109 (99%)	1 (1%)	70	85
62	Bl	114/115 (99%)	112 (98%)	2 (2%)	51	73
63	Bm	122/123 (99%)	118 (97%)	4 (3%)	33	55
64	Bn	50/51 (98%)	50 (100%)	0	100	100
65	Bo	75/87 (86%)	73 (97%)	2 (3%)	39	62
66	Bp	94/102 (92%)	94 (100%)	0	100	100
67	Bq	100/107 (94%)	98 (98%)	2 (2%)	48	70
68	Br	91/94 (97%)	89 (98%)	2 (2%)	45	67

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
69	Bs	91/96 (95%)	90 (99%)	1 (1%)	65	82
70	Bt	106/107 (99%)	106 (100%)	0	100	100
71	Bu	81/84 (96%)	81 (100%)	0	100	100
72	Bv	68/71 (96%)	68 (100%)	0	100	100
73	Bw	63/66 (96%)	62 (98%)	1 (2%)	55	76
74	Bx	46/47 (98%)	46 (100%)	0	100	100
75	By	113/113 (100%)	112 (99%)	1 (1%)	70	85
All	All	8888/9616 (92%)	8755 (98%)	133 (2%)	55	77

All (133) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	AD	10	LEU
2	AD	21	LEU
3	AE	65	ILE
3	AE	119	THR
3	AE	178	SER
3	AE	182	ARG
4	AF	60	LEU
4	AF	85	VAL
4	AF	103	ILE
4	AF	110	VAL
4	AF	122	THR
4	AF	157	VAL
4	AF	182	VAL
4	AF	183	THR
4	AF	218	SER
5	AG	117	VAL
5	AG	144	LEU
5	AG	218	ILE
6	AH	2	VAL
6	AH	12	VAL
6	AH	24	SER
6	AH	76	VAL
6	AH	114	ILE
6	AH	115	THR
6	AH	129	VAL
6	AH	169	ILE
6	AH	204	SER
7	AI	92	VAL

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Mol	Chain	Res	Type
8	AJ	111	LEU
8	AJ	113	ILE
8	AJ	157	VAL
8	AJ	173	THR
9	AK	51	VAL
9	AK	61	VAL
9	AK	94	PHE
9	AK	164	VAL
9	AK	184	THR
10	AL	48	VAL
10	AL	156	LEU
11	AM	49	LEU
11	AM	116	LEU
11	AM	150	LEU
13	AO	41	THR
13	AO	71	THR
13	AO	120	VAL
14	AP	124	VAL
14	AP	129	TYR
15	AQ	145	THR
16	AR	30	VAL
16	AR	44	VAL
17	AS	102	VAL
17	AS	105	TYR
18	AT	21	VAL
18	AT	64	VAL
19	AU	99	ASP
20	AV	18	THR
20	AV	24	VAL
21	AW	6	VAL
21	AW	69	GLN
21	AW	99	VAL
21	AW	131	LEU
23	Ab	36	VAL
23	Ab	51	THR
24	Ac	53	ILE
24	Ac	80	ASN
25	Ad	24	ASP
25	Ad	72	VAL
25	Ad	100	VAL
26	Ae	14	THR
27	Af	20	THR

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Mol	Chain	Res	Type
27	Af	34	VAL
28	Ag	33	ASP
28	Ag	84	VAL
28	Ag	93	ARG
29	Ah	46	VAL
30	Ai	20	THR
30	Ai	26	VAL
30	Ai	27	THR
30	Ai	31	VAL
30	Ai	56	VAL
32	Ak	50	MET
33	B0	22	VAL
33	B0	26	THR
33	B0	57	VAL
34	B1	5	THR
38	BN	78	THR
39	BO	203	VAL
39	BO	276	THR
40	BP	17	VAL
40	BP	268	THR
41	BQ	110	LEU
41	BQ	132	THR
41	BQ	152	ARG
41	BQ	159	VAL
42	BR	76	LEU
42	BR	88	VAL
43	BS	50	GLU
43	BS	245	SER
44	BT	189	VAL
45	BU	58	TRP
45	BU	138	VAL
45	BU	152	VAL
46	BV	155	CYS
47	BW	9	MET
47	BW	86	VAL
48	BX	114	GLU
50	BZ	155	VAL
52	Bb	54	HIS
53	Bc	138	THR
56	Bf	140	PHE
57	Bg	13	ILE
58	Bh	117	THR

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Mol	Chain	Res	Type
58	Bh	138	VAL
59	Bi	22	VAL
59	Bi	54	LEU
60	Bj	29	THR
60	Bj	111	THR
61	Bk	23	SER
62	Bl	2	VAL
62	Bl	72	ILE
63	Bm	15	VAL
63	Bm	82	VAL
63	Bm	103	VAL
63	Bm	120	THR
65	Bo	24	MET
65	Bo	95	VAL
67	Bq	27	GLU
67	Bq	88	THR
68	Br	6	HIS
68	Br	60	VAL
69	Bs	32	TYR
73	Bw	3	ARG
75	By	44	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (121) such sidechains are listed below:

Mol	Chain	Res	Type
2	AD	24	ASN
2	AD	26	HIS
2	AD	167	ASN
3	AE	74	GLN
3	AE	175	GLN
3	AE	232	HIS
4	AF	188	GLN
4	AF	227	ASN
5	AG	95	ASN
5	AG	176	HIS
6	AH	17	HIS
6	AH	36	HIS
6	AH	157	ASN
6	AH	200	HIS
7	AI	15	ASN
7	AI	109	GLN
7	AI	202	ASN

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Mol	Chain	Res	Type
8	AJ	34	GLN
9	AK	144	GLN
10	AL	94	ASN
10	AL	143	HIS
11	AM	139	GLN
11	AM	155	HIS
12	AN	81	HIS
13	AO	21	GLN
13	AO	78	HIS
13	AO	89	HIS
13	AO	135	ASN
18	AT	91	GLN
21	AW	125	GLN
21	AW	126	GLN
23	Ab	35	ASN
24	Ac	92	GLN
26	Ae	29	HIS
26	Ae	113	ASN
26	Ae	133	GLN
27	Af	52	ASN
29	Ah	12	HIS
29	Ah	26	GLN
29	Ah	49	HIS
29	Ah	51	GLN
32	Ak	29	GLN
33	B0	23	HIS
33	B0	59	HIS
33	B0	81	ASN
33	B0	90	HIS
34	B1	45	ASN
38	BN	16	GLN
38	BN	232	GLN
39	BO	243	HIS
39	BO	277	GLN
39	BO	293	ASN
40	BP	41	HIS
40	BP	50	GLN
40	BP	89	GLN
40	BP	159	GLN
40	BP	185	ASN
40	BP	201	HIS
40	BP	314	HIS

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Mol	Chain	Res	Type
41	BQ	63	GLN
41	BQ	77	HIS
41	BQ	178	ASN
41	BQ	203	HIS
41	BQ	220	GLN
43	BS	46	GLN
43	BS	118	GLN
43	BS	194	HIS
43	BS	214	GLN
44	BT	38	GLN
44	BT	59	GLN
44	BT	131	ASN
44	BT	182	ASN
45	BU	77	ASN
45	BU	184	ASN
47	BW	144	GLN
49	BY	106	ASN
50	BZ	19	ASN
50	BZ	95	GLN
50	BZ	153	ASN
50	BZ	156	HIS
50	BZ	192	HIS
51	Ba	27	GLN
51	Ba	51	ASN
51	Ba	116	GLN
51	Ba	189	ASN
52	Bb	25	HIS
53	Bc	14	GLN
53	Bc	53	GLN
54	Bd	34	ASN
54	Bd	130	ASN
54	Bd	141	HIS
54	Bd	150	ASN
55	Be	17	HIS
55	Be	48	ASN
56	Bf	139	HIS
58	Bh	35	ASN
58	Bh	134	ASN
61	Bk	90	ASN
62	Bl	27	GLN
62	Bl	123	GLN
63	Bm	66	ASN

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Mol	Chain	Res	Type
63	Bm	102	ASN
64	Bn	9	ASN
64	Bn	47	ASN
65	Bo	74	HIS
66	Bp	11	GLN
66	Bp	103	ASN
68	Br	6	HIS
69	Bs	107	GLN
70	Bt	11	GLN
70	Bt	13	GLN
70	Bt	15	ASN
70	Bt	21	GLN
70	Bt	33	GLN
70	Bt	64	ASN
70	Bt	84	GLN
71	Bu	19	GLN
71	Bu	30	HIS
72	Bv	76	ASN
75	By	71	ASN
75	By	89	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	AA	1690/1842 (91%)	415 (24%)	16 (0%)
35	B2	3204/3498 (91%)	644 (20%)	26 (0%)
36	B3	118/246 (47%)	17 (14%)	1 (0%)
37	B4	156/165 (94%)	26 (16%)	1 (0%)
All	All	5168/5751 (89%)	1102 (21%)	44 (0%)

All (1102) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	AA	3	C
1	AA	4	C
1	AA	25	C
1	AA	26	A
1	AA	34	G
1	AA	35	U
1	AA	42	G
1	AA	45	U

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Mol	Chain	Res	Type
1	AA	46	A
1	AA	47	A
1	AA	57	G
1	AA	60	U
1	AA	65	A
1	AA	66	U
1	AA	67	A
1	AA	68	A
1	AA	72	A
1	AA	79	A
1	AA	105	A
1	AA	115	C
1	AA	116	G
1	AA	117	U
1	AA	120	A
1	AA	128	G
1	AA	130	A
1	AA	138	U
1	AA	139	A
1	AA	141	U
1	AA	142	U
1	AA	143	G
1	AA	144	G
1	AA	159	U
1	AA	160	C
1	AA	166	C
1	AA	177	U
1	AA	178	A
1	AA	188	A
1	AA	191	U
1	AA	192	U
1	AA	193	U
1	AA	194	U
1	AA	195	U
1	AA	196	G
1	AA	197	G
1	AA	198	A
1	AA	201	G
1	AA	205	G
1	AA	217	U
1	AA	219	A
1	AA	226	A

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Mol	Chain	Res	Type
1	AA	229	G
1	AA	230	C
1	AA	234	C
1	AA	236	G
1	AA	239	U
1	AA	241	U
1	AA	243	U
1	AA	244	U
1	AA	253	C
1	AA	264	U
1	AA	268	A
1	AA	275	U
1	AA	276	G
1	AA	278	C
1	AA	280	U
1	AA	281	U
1	AA	283	C
1	AA	305	U
1	AA	317	C
1	AA	319	A
1	AA	322	U
1	AA	323	U
1	AA	336	A
1	AA	340	G
1	AA	341	C
1	AA	355	A
1	AA	362	A
1	AA	363	A
1	AA	364	C
1	AA	393	G
1	AA	403	A
1	AA	405	C
1	AA	407	G
1	AA	419	A
1	AA	426	G
1	AA	427	C
1	AA	428	A
1	AA	429	G
1	AA	437	G
1	AA	440	A
1	AA	442	U
1	AA	447	C

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Mol	Chain	Res	Type
1	AA	448	A
1	AA	457	A
1	AA	467	A
1	AA	471	A
1	AA	473	A
1	AA	478	A
1	AA	480	A
1	AA	481	A
1	AA	489	G
1	AA	491	G
1	AA	504	U
1	AA	505	U
1	AA	508	A
1	AA	509	A
1	AA	511	U
1	AA	513	G
1	AA	514	A
1	AA	516	U
1	AA	517	G
1	AA	522	C
1	AA	523	A
1	AA	530	A
1	AA	537	A
1	AA	542	G
1	AA	545	A
1	AA	557	C
1	AA	558	A
1	AA	559	A
1	AA	560	G
1	AA	561	U
1	AA	562	C
1	AA	564	G
1	AA	568	C
1	AA	571	G
1	AA	572	C
1	AA	581	U
1	AA	588	A
1	AA	597	A
1	AA	598	G
1	AA	614	U
1	AA	622	A
1	AA	623	A

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Mol	Chain	Res	Type
1	AA	624	A
1	AA	626	A
1	AA	627	G
1	AA	637	G
1	AA	638	A
1	AA	642	U
1	AA	647	C
1	AA	651	G
1	AA	694	G
1	AA	696	U
1	AA	698	G
1	AA	701	A
1	AA	703	C
1	AA	747	A
1	AA	748	C
1	AA	755	U
1	AA	758	U
1	AA	768	A
1	AA	769	A
1	AA	778	G
1	AA	779	U
1	AA	784	A
1	AA	787	A
1	AA	788	G
1	AA	792	A
1	AA	793	G
1	AA	795	U
1	AA	797	U
1	AA	798	G
1	AA	802	G
1	AA	804	A
1	AA	808	A
1	AA	810	U
1	AA	826	A
1	AA	827	A
1	AA	828	U
1	AA	831	G
1	AA	833	C
1	AA	834	G
1	AA	835	U
1	AA	838	G
1	AA	841	U

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Mol	Chain	Res	Type
1	AA	844	A
1	AA	845	U
1	AA	846	U
1	AA	848	U
1	AA	849	G
1	AA	850	U
1	AA	865	G
1	AA	868	G
1	AA	869	U
1	AA	878	A
1	AA	888	U
1	AA	891	G
1	AA	910	G
1	AA	912	C
1	AA	913	A
1	AA	921	A
1	AA	926	U
1	AA	928	G
1	AA	929	G
1	AA	947	U
1	AA	948	A
1	AA	950	U
1	AA	974	U
1	AA	975	U
1	AA	981	A
1	AA	984	C
1	AA	985	A
1	AA	998	A
1	AA	1003	A
1	AA	1007	A
1	AA	1011	C
1	AA	1014	U
1	AA	1015	C
1	AA	1018	A
1	AA	1019	U
1	AA	1036	C
1	AA	1041	A
1	AA	1043	C
1	AA	1054	A
1	AA	1067	U
1	AA	1068	G
1	AA	1072	C

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Mol	Chain	Res	Type
1	AA	1092	A
1	AA	1098	C
1	AA	1108	A
1	AA	1112	C
1	AA	1113	U
1	AA	1114	U
1	AA	1116	G
1	AA	1129	A
1	AA	1154	A
1	AA	1166	G
1	AA	1171	G
1	AA	1174	C
1	AA	1176	A
1	AA	1179	A
1	AA	1180	U
1	AA	1181	G
1	AA	1182	G
1	AA	1184	G
1	AA	1187	G
1	AA	1190	C
1	AA	1201	A
1	AA	1202	U
1	AA	1203	U
1	AA	1210	A
1	AA	1211	A
1	AA	1213	A
1	AA	1214	C
1	AA	1215	G
1	AA	1216	G
1	AA	1217	G
1	AA	1219	A
1	AA	1224	C
1	AA	1233	C
1	AA	1234	A
1	AA	1235	G
1	AA	1242	U
1	AA	1243	A
1	AA	1244	A
1	AA	1245	G
1	AA	1246	G
1	AA	1247	A
1	AA	1248	U

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Mol	Chain	Res	Type
1	AA	1257	U
1	AA	1260	G
1	AA	1261	A
1	AA	1262	G
1	AA	1263	C
1	AA	1266	U
1	AA	1268	U
1	AA	1269	C
1	AA	1272	G
1	AA	1273	A
1	AA	1274	U
1	AA	1275	U
1	AA	1277	U
1	AA	1284	G
1	AA	1301	C
1	AA	1303	U
1	AA	1304	A
1	AA	1305	G
1	AA	1308	G
1	AA	1324	U
1	AA	1331	U
1	AA	1332	U
1	AA	1335	G
1	AA	1336	A
1	AA	1338	A
1	AA	1342	A
1	AA	1354	A
1	AA	1355	C
1	AA	1357	U
1	AA	1358	G
1	AA	1359	C
1	AA	1362	A
1	AA	1364	U
1	AA	1366	G
1	AA	1371	A
1	AA	1372	U
1	AA	1376	C
1	AA	1380	U
1	AA	1381	U
1	AA	1382	U
1	AA	1383	G
1	AA	1384	G

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Mol	Chain	Res	Type
1	AA	1387	G
1	AA	1391	A
1	AA	1393	U
1	AA	1396	C
1	AA	1398	U
1	AA	1399	C
1	AA	1405	G
1	AA	1410	U
1	AA	1413	U
1	AA	1418	U
1	AA	1431	A
1	AA	1432	G
1	AA	1433	U
1	AA	1435	U
1	AA	1447	A
1	AA	1448	G
1	AA	1452	U
1	AA	1455	G
1	AA	1464	A
1	AA	1465	G
1	AA	1466	A
1	AA	1479	C
1	AA	1489	A
1	AA	1494	G
1	AA	1498	G
1	AA	1500	G
1	AA	1502	C
1	AA	1510	U
1	AA	1535	C
1	AA	1541	C
1	AA	1542	C
1	AA	1544	G
1	AA	1545	A
1	AA	1546	A
1	AA	1547	G
1	AA	1548	G
1	AA	1550	C
1	AA	1551	U
1	AA	1552	G
1	AA	1557	A
1	AA	1558	U
1	AA	1559	C

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Mol	Chain	Res	Type
1	AA	1561	U
1	AA	1562	G
1	AA	1563	U
1	AA	1564	U
1	AA	1565	A
1	AA	1570	C
1	AA	1575	G
1	AA	1576	U
1	AA	1577	G
1	AA	1578	C
1	AA	1579	U
1	AA	1580	G
1	AA	1581	G
1	AA	1590	C
1	AA	1591	A
1	AA	1594	G
1	AA	1596	A
1	AA	1597	A
1	AA	1598	U
1	AA	1599	U
1	AA	1600	A
1	AA	1601	U
1	AA	1610	A
1	AA	1614	A
1	AA	1615	G
1	AA	1623	U
1	AA	1624	A
1	AA	1625	G
1	AA	1642	G
1	AA	1657	G
1	AA	1659	C
1	AA	1660	C
1	AA	1662	U
1	AA	1676	A
1	AA	1682	C
1	AA	1698	U
1	AA	1699	G
1	AA	1700	A
1	AA	1701	A
1	AA	1702	U
1	AA	1720	G
1	AA	1721	G

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Mol	Chain	Res	Type
1	AA	1726	G
1	AA	1755	U
1	AA	1756	U
1	AA	1757	G
1	AA	1759	C
1	AA	1760	G
1	AA	1772	A
1	AA	1786	A
1	AA	1791	A
1	AA	1795	A
1	AA	1797	A
1	AA	1798	A
1	AA	1800	U
1	AA	1801	C
1	AA	1802	G
1	AA	1803	U
1	AA	1804	A
1	AA	1809	G
1	AA	1811	U
1	AA	1822	G
1	AA	1824	A
1	AA	1825	C
1	AA	1834	G
1	AA	1835	G
1	AA	1836	A
1	AA	1838	C
1	AA	1840	U
1	AA	1841	U
1	AA	1842	A
35	B2	14	U
35	B2	40	A
35	B2	43	A
35	B2	49	A
35	B2	60	A
35	B2	65	A
35	B2	66	A
35	B2	69	U
35	B2	73	C
35	B2	77	A
35	B2	92	G
35	B2	110	G
35	B2	111	C

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Mol	Chain	Res	Type
35	B2	116	A
35	B2	118	U
35	B2	122	A
35	B2	156	A
35	B2	162	A
35	B2	163	A
35	B2	167	G
35	B2	170	G
35	B2	172	U
35	B2	174	U
35	B2	175	G
35	B2	176	A
35	B2	180	U
35	B2	181	A
35	B2	183	A
35	B2	184	C
35	B2	185	G
35	B2	187	U
35	B2	188	C
35	B2	189	G
35	B2	190	G
35	B2	191	U
35	B2	192	C
35	B2	193	U
35	B2	194	A
35	B2	197	U
35	B2	198	U
35	B2	207	C
35	B2	213	G
35	B2	217	G
35	B2	218	A
35	B2	220	A
35	B2	225	G
35	B2	226	A
35	B2	239	U
35	B2	241	G
35	B2	246	U
35	B2	247	U
35	B2	248	G
35	B2	252	A
35	B2	253	U
35	B2	254	G

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Mol	Chain	Res	Type
35	B2	255	C
35	B2	256	C
35	B2	257	A
35	B2	259	A
35	B2	260	U
35	B2	262	A
35	B2	263	A
35	B2	264	G
35	B2	269	U
35	B2	271	C
35	B2	272	G
35	B2	274	A
35	B2	277	G
35	B2	292	A
35	B2	303	A
35	B2	313	U
35	B2	331	A
35	B2	337	U
35	B2	347	C
35	B2	359	A
35	B2	360	A
35	B2	383	A
35	B2	384	G
35	B2	399	A
35	B2	406	U
35	B2	411	C
35	B2	429	G
35	B2	430	A
35	B2	445	G
35	B2	446	U
35	B2	447	C
35	B2	448	U
35	B2	449	U
35	B2	450	A
35	B2	461	A
35	B2	462	U
35	B2	477	C
35	B2	500	U
35	B2	501	G
35	B2	504	A
35	B2	505	G
35	B2	509	A

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Mol	Chain	Res	Type
35	B2	514	C
35	B2	522	G
35	B2	531	A
35	B2	532	A
35	B2	534	A
35	B2	540	A
35	B2	546	G
35	B2	547	G
35	B2	548	U
35	B2	549	G
35	B2	553	U
35	B2	554	U
35	B2	571	G
35	B2	572	A
35	B2	573	G
35	B2	575	G
35	B2	578	U
35	B2	579	A
35	B2	580	U
35	B2	581	A
35	B2	587	U
35	B2	588	G
35	B2	590	U
35	B2	591	G
35	B2	602	A
35	B2	603	C
35	B2	606	G
35	B2	613	A
35	B2	625	U
35	B2	627	G
35	B2	628	U
35	B2	629	G
35	B2	634	G
35	B2	636	A
35	B2	637	U
35	B2	643	C
35	B2	645	U
35	B2	662	C
35	B2	674	A
35	B2	685	A
35	B2	702	A
35	B2	706	U

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Mol	Chain	Res	Type
35	B2	708	U
35	B2	714	A
35	B2	715	U
35	B2	716	G
35	B2	717	A
35	B2	720	A
35	B2	732	A
35	B2	761	U
35	B2	763	G
35	B2	769	U
35	B2	770	G
35	B2	778	G
35	B2	786	C
35	B2	788	G
35	B2	789	A
35	B2	806	G
35	B2	813	G
35	B2	817	G
35	B2	838	A
35	B2	849	A
35	B2	862	A
35	B2	881	C
35	B2	889	G
35	B2	893	C
35	B2	903	U
35	B2	906	U
35	B2	911	U
35	B2	928	A
35	B2	939	G
35	B2	940	G
35	B2	946	A
35	B2	948	G
35	B2	949	A
35	B2	953	A
35	B2	955	C
35	B2	969	G
35	B2	976	C
35	B2	981	C
35	B2	985	G
35	B2	991	C
35	B2	992	U
35	B2	993	C

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Mol	Chain	Res	Type
35	B2	1009	C
35	B2	1011	G
35	B2	1012	A
35	B2	1015	A
35	B2	1033	G
35	B2	1034	A
35	B2	1047	C
35	B2	1049	U
35	B2	1050	G
35	B2	1051	G
35	B2	1053	G
35	B2	1056	G
35	B2	1057	G
35	B2	1058	A
35	B2	1059	A
35	B2	1060	U
35	B2	1061	U
35	B2	1062	U
35	B2	1064	C
35	B2	1067	A
35	B2	1079	A
35	B2	1081	C
35	B2	1095	G
35	B2	1096	A
35	B2	1098	G
35	B2	1100	C
35	B2	1101	C
35	B2	1104	G
35	B2	1113	U
35	B2	1119	G
35	B2	1123	G
35	B2	1125	C
35	B2	1126	A
35	B2	1127	U
35	B2	1128	C
35	B2	1129	G
35	B2	1130	A
35	B2	1134	A
35	B2	1135	G
35	B2	1148	G
35	B2	1155	U
35	B2	1159	U

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Mol	Chain	Res	Type
35	B2	1162	G
35	B2	1175	U
35	B2	1176	G
35	B2	1184	A
35	B2	1186	C
35	B2	1191	C
35	B2	1211	A
35	B2	1212	U
35	B2	1222	U
35	B2	1227	C
35	B2	1232	G
35	B2	1239	U
35	B2	1245	U
35	B2	1249	U
35	B2	1252	A
35	B2	1253	G
35	B2	1262	A
35	B2	1263	C
35	B2	1264	G
35	B2	1266	U
35	B2	1267	G
35	B2	1269	C
35	B2	1270	C
35	B2	1272	U
35	B2	1273	G
35	B2	1276	A
35	B2	1277	G
35	B2	1279	C
35	B2	1289	U
35	B2	1292	G
35	B2	1293	G
35	B2	1294	A
35	B2	1297	G
35	B2	1300	U
35	B2	1302	A
35	B2	1303	C
35	B2	1304	A
35	B2	1310	C
35	B2	1313	G
35	B2	1316	G
35	B2	1317	A
35	B2	1318	A

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Mol	Chain	Res	Type
35	B2	1319	U
35	B2	1323	C
35	B2	1333	A
35	B2	1334	A
35	B2	1336	U
35	B2	1338	G
35	B2	1340	U
35	B2	1361	A
35	B2	1379	U
35	B2	1380	A
35	B2	1381	G
35	B2	1388	G
35	B2	1389	A
35	B2	1420	U
35	B2	1426	G
35	B2	1433	U
35	B2	1451	G
35	B2	1452	A
35	B2	1453	A
35	B2	1468	G
35	B2	1470	U
35	B2	1471	C
35	B2	1515	A
35	B2	1521	G
35	B2	1522	G
35	B2	1530	C
35	B2	1542	C
35	B2	1557	U
35	B2	1570	G
35	B2	1588	A
35	B2	1589	U
35	B2	1590	G
35	B2	1593	A
35	B2	1594	G
35	B2	1595	U
35	B2	1596	U
35	B2	1600	C
35	B2	1601	G
35	B2	1602	A
35	B2	1604	U
35	B2	1606	U
35	B2	1607	U

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Mol	Chain	Res	Type
35	B2	1608	C
35	B2	1609	G
35	B2	1614	U
35	B2	1615	C
35	B2	1616	C
35	B2	1624	A
35	B2	1628	A
35	B2	1656	G
35	B2	1663	C
35	B2	1664	A
35	B2	1665	A
35	B2	1666	C
35	B2	1674	C
35	B2	1677	A
35	B2	1678	A
35	B2	1679	A
35	B2	1680	U
35	B2	1682	A
35	B2	1692	C
35	B2	1742	G
35	B2	1744	A
35	B2	1745	C
35	B2	1753	A
35	B2	1755	A
35	B2	1764	U
35	B2	1783	G
35	B2	1790	A
35	B2	1791	G
35	B2	1800	G
35	B2	1801	C
35	B2	1803	U
35	B2	1806	U
35	B2	1811	A
35	B2	1816	G
35	B2	1819	G
35	B2	1821	G
35	B2	1837	G
35	B2	1838	A
35	B2	1849	G
35	B2	1853	A
35	B2	1854	A
35	B2	1855	U

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Mol	Chain	Res	Type
35	B2	1856	G
35	B2	1869	C
35	B2	1871	U
35	B2	1876	U
35	B2	1894	A
35	B2	1896	A
35	B2	1897	A
35	B2	1901	C
35	B2	1904	C
35	B2	1921	C
35	B2	1933	G
35	B2	1934	A
35	B2	1935	U
35	B2	1941	A
35	B2	1961	G
35	B2	2005	U
35	B2	2007	G
35	B2	2182	C
35	B2	2183	A
35	B2	2185	C
35	B2	2188	A
35	B2	2190	U
35	B2	2200	U
35	B2	2201	A
35	B2	2209	G
35	B2	2210	G
35	B2	2219	A
35	B2	2228	U
35	B2	2232	A
35	B2	2246	A
35	B2	2257	G
35	B2	2293	U
35	B2	2294	G
35	B2	2295	A
35	B2	2296	A
35	B2	2297	U
35	B2	2310	A
35	B2	2311	A
35	B2	2317	A
35	B2	2332	A
35	B2	2337	G
35	B2	2339	G

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Mol	Chain	Res	Type
35	B2	2344	A
35	B2	2345	C
35	B2	2348	U
35	B2	2349	G
35	B2	2351	C
35	B2	2353	C
35	B2	2356	U
35	B2	2358	A
35	B2	2360	G
35	B2	2361	G
35	B2	2367	A
35	B2	2369	A
35	B2	2376	G
35	B2	2383	A
35	B2	2386	U
35	B2	2395	G
35	B2	2396	C
35	B2	2398	U
35	B2	2401	A
35	B2	2403	G
35	B2	2423	G
35	B2	2424	U
35	B2	2461	A
35	B2	2462	C
35	B2	2463	G
35	B2	2481	G
35	B2	2485	A
35	B2	2489	A
35	B2	2490	A
35	B2	2491	G
35	B2	2492	A
35	B2	2499	U
35	B2	2523	G
35	B2	2527	A
35	B2	2528	G
35	B2	2529	A
35	B2	2530	G
35	B2	2601	U
35	B2	2602	U
35	B2	2603	C
35	B2	2606	U
35	B2	2607	A

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Mol	Chain	Res	Type
35	B2	2610	U
35	B2	2611	A
35	B2	2619	A
35	B2	2620	A
35	B2	2622	C
35	B2	2627	U
35	B2	2628	U
35	B2	2629	G
35	B2	2630	G
35	B2	2632	A
35	B2	2633	U
35	B2	2635	U
35	B2	2636	A
35	B2	2638	U
35	B2	2642	C
35	B2	2643	A
35	B2	2644	U
35	B2	2645	A
35	B2	2648	C
35	B2	2649	U
35	B2	2650	A
35	B2	2656	A
35	B2	2657	A
35	B2	2660	U
35	B2	2661	U
35	B2	2662	U
35	B2	2664	U
35	B2	2665	U
35	B2	2667	G
35	B2	2668	C
35	B2	2669	G
35	B2	2680	C
35	B2	2681	G
35	B2	2688	A
35	B2	2701	G
35	B2	2702	G
35	B2	2707	U
35	B2	2709	G
35	B2	2714	G
35	B2	2721	A
35	B2	2730	A
35	B2	2743	G

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Mol	Chain	Res	Type
35	B2	2747	U
35	B2	2751	A
35	B2	2752	A
35	B2	2769	A
35	B2	2770	C
35	B2	2772	G
35	B2	2774	A
35	B2	2775	A
35	B2	2784	A
35	B2	2786	A
35	B2	2789	A
35	B2	2799	A
35	B2	2809	G
35	B2	2822	A
35	B2	2823	G
35	B2	2824	U
35	B2	2848	G
35	B2	2857	A
35	B2	2866	U
35	B2	2868	C
35	B2	2872	G
35	B2	2873	A
35	B2	2889	G
35	B2	2890	U
35	B2	2891	G
35	B2	2895	G
35	B2	2896	A
35	B2	2898	A
35	B2	2903	A
35	B2	2905	C
35	B2	2909	G
35	B2	2912	A
35	B2	2913	U
35	B2	2918	G
35	B2	2923	G
35	B2	2934	G
35	B2	2937	U
35	B2	2938	U
35	B2	2940	A
35	B2	2942	A
35	B2	2944	C
35	B2	2955	U

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Mol	Chain	Res	Type
35	B2	2957	U
35	B2	2962	C
35	B2	2966	G
35	B2	2967	A
35	B2	2982	A
35	B2	2984	C
35	B2	2992	A
35	B2	2993	G
35	B2	2994	C
35	B2	2996	G
35	B2	3001	C
35	B2	3002	G
35	B2	3003	G
35	B2	3018	U
35	B2	3030	U
35	B2	3031	A
35	B2	3036	A
35	B2	3040	G
35	B2	3042	G
35	B2	3046	G
35	B2	3050	U
35	B2	3051	A
35	B2	3066	A
35	B2	3067	G
35	B2	3078	C
35	B2	3085	G
35	B2	3091	G
35	B2	3093	G
35	B2	3108	A
35	B2	3117	A
35	B2	3155	G
35	B2	3174	A
35	B2	3175	U
35	B2	3182	G
35	B2	3188	U
35	B2	3189	C
35	B2	3195	C
35	B2	3197	G
35	B2	3212	G
35	B2	3216	C
35	B2	3218	A
35	B2	3225	A

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Mol	Chain	Res	Type
35	B2	3226	A
35	B2	3227	U
35	B2	3238	A
35	B2	3239	A
35	B2	3248	U
35	B2	3249	U
35	B2	3250	U
35	B2	3260	A
35	B2	3261	U
35	B2	3265	U
35	B2	3266	U
35	B2	3268	U
35	B2	3269	A
35	B2	3276	A
35	B2	3283	A
35	B2	3284	G
35	B2	3285	G
35	B2	3286	U
35	B2	3288	G
35	B2	3289	G
35	B2	3293	U
35	B2	3294	G
35	B2	3295	U
35	B2	3296	U
35	B2	3297	C
35	B2	3298	C
35	B2	3299	U
35	B2	3300	A
35	B2	3301	C
35	B2	3302	U
35	B2	3304	U
35	B2	3305	C
35	B2	3306	C
35	B2	3307	U
35	B2	3310	A
35	B2	3315	A
35	B2	3317	A
35	B2	3318	A
35	B2	3319	G
35	B2	3327	A
35	B2	3328	U
35	B2	3329	G

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Mol	Chain	Res	Type
35	B2	3338	A
35	B2	3343	A
35	B2	3345	G
35	B2	3347	G
35	B2	3359	U
35	B2	3360	G
35	B2	3363	C
35	B2	3371	U
35	B2	3372	C
35	B2	3373	C
35	B2	3374	A
35	B2	3375	U
35	B2	3376	U
35	B2	3377	G
35	B2	3382	C
35	B2	3388	C
35	B2	3390	G
35	B2	3391	A
35	B2	3392	A
35	B2	3393	U
35	B2	3394	C
35	B2	3405	C
35	B2	3408	A
35	B2	3418	U
35	B2	3419	G
35	B2	3420	U
35	B2	3435	U
35	B2	3442	U
35	B2	3443	A
35	B2	3446	G
35	B2	3450	C
35	B2	3452	U
35	B2	3453	U
35	B2	3454	G
35	B2	3455	U
35	B2	3456	U
35	B2	3457	G
35	B2	3468	C
35	B2	3476	A
35	B2	3479	C
35	B2	3483	U
35	B2	3484	G

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Mol	Chain	Res	Type
35	B2	3491	A
36	B3	7	G
36	B3	12	U
36	B3	13	A
36	B3	41	G
36	B3	45	A
36	B3	46	C
36	B3	53	U
36	B3	54	A
36	B3	55	A
36	B3	63	A
36	B3	64	G
36	B3	71	G
36	B3	75	G
36	B3	100	A
36	B3	110	G
36	B3	116	G
36	B3	119	U
37	B4	31	U
37	B4	42	U
37	B4	43	C
37	B4	47	G
37	B4	56	A
37	B4	59	G
37	B4	67	A
37	B4	70	C
37	B4	71	G
37	B4	88	A
37	B4	89	U
37	B4	90	U
37	B4	91	C
37	B4	93	G
37	B4	94	U
37	B4	98	U
37	B4	103	G
37	B4	112	A
37	B4	114	C
37	B4	119	A
37	B4	121	U
37	B4	124	G
37	B4	133	U
37	B4	134	U

Continued on next page...

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Mol	Chain	Res	Type
37	B4	135	C
37	B4	165	U

All (44) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	AA	104	A
1	AA	140	C
1	AA	187	G
1	AA	275	U
1	AA	516	U
1	AA	558	A
1	AA	561	U
1	AA	747	A
1	AA	768	A
1	AA	1113	U
1	AA	1209	C
1	AA	1361	A
1	AA	1383	G
1	AA	1501	C
1	AA	1661	C
1	AA	1699	G
35	B2	188	C
35	B2	382	A
35	B2	446	U
35	B2	572	A
35	B2	589	U
35	B2	714	A
35	B2	719	A
35	B2	948	G
35	B2	1059	A
35	B2	1094	A
35	B2	1103	U
35	B2	1133	G
35	B2	1269	C
35	B2	1272	U
35	B2	1854	A
35	B2	2200	U
35	B2	2661	U
35	B2	2993	G
35	B2	3001	C
35	B2	3217	U

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Mol	Chain	Res	Type
35	B2	3260	A
35	B2	3292	U
35	B2	3295	U
35	B2	3328	U
35	B2	3362	C
35	B2	3373	C
36	B3	12	U
37	B4	88	A

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 6 ligands modelled in this entry, 6 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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
1	AA	9

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	AA	537:A	O3'	538:A	P	4.50
1	AA	546:C	O3'	547:A	P	4.24
1	AA	1419:A	O3'	1420:A	P	4.11
1	AA	1359:C	O3'	1360:U	P	3.79
1	AA	1483:C	O3'	1484:G	P	3.67
1	AA	1605:U	O3'	1606:C	P	3.57
1	AA	524:A	O3'	525:U	P	3.42
1	AA	1574:C	O3'	1575:G	P	3.31
1	AA	1233:C	O3'	1234:A	P	3.28

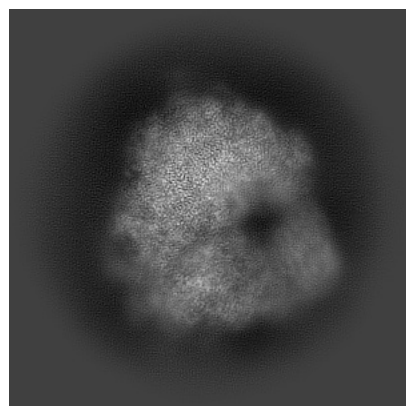
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-43972. These allow visual inspection of the internal detail of the map and identification of artifacts.

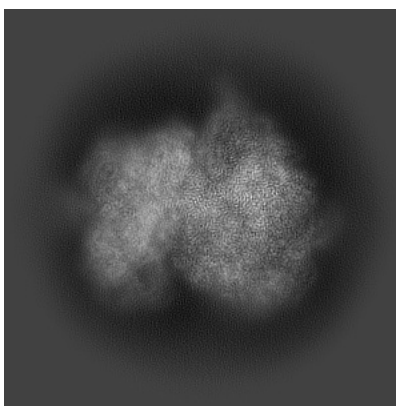
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

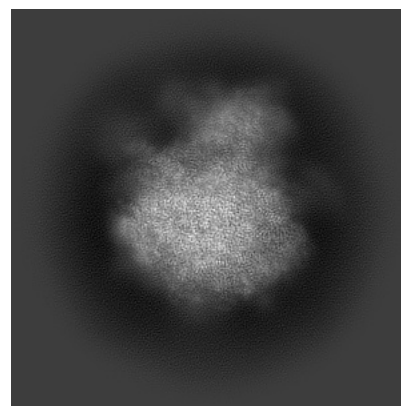
6.1.1 Primary map



X

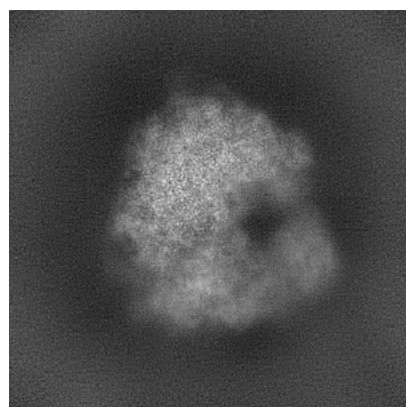


Y

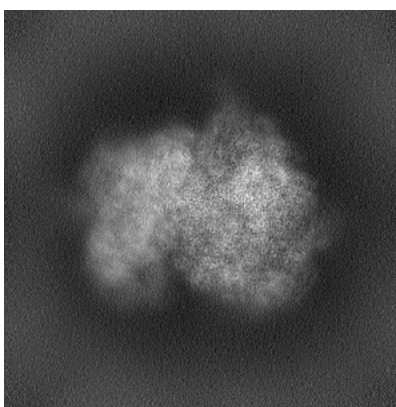


Z

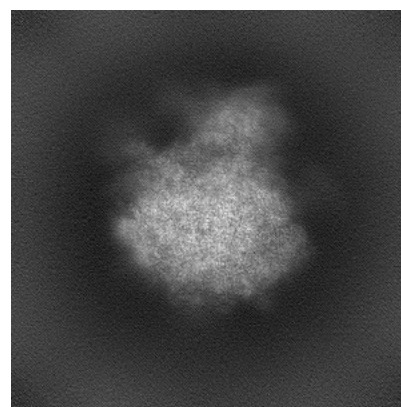
6.1.2 Raw map



X



Y

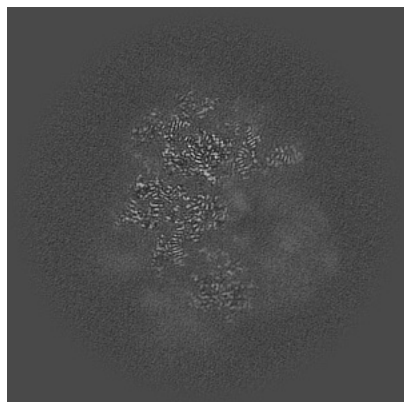


Z

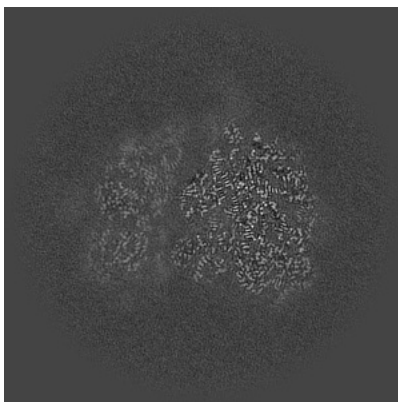
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

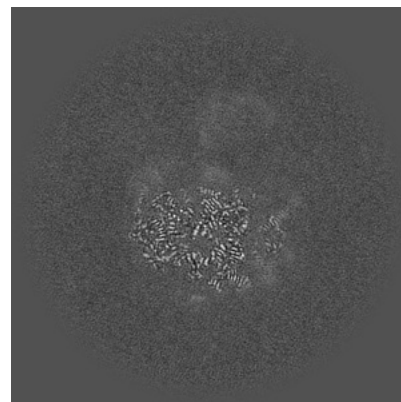
6.2.1 Primary map



X Index: 256

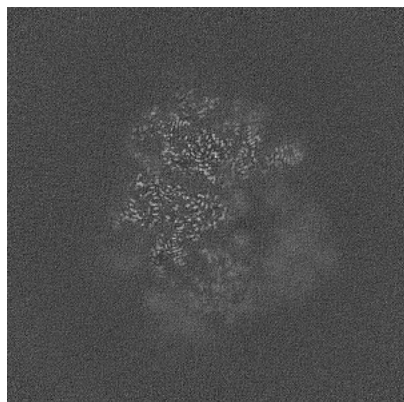


Y Index: 256

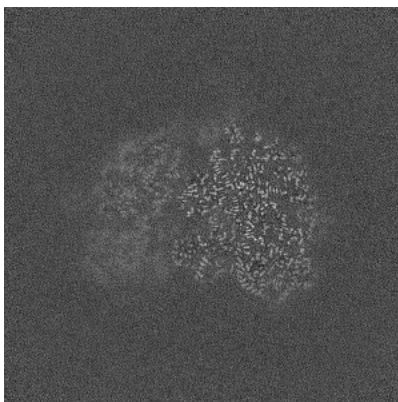


Z Index: 256

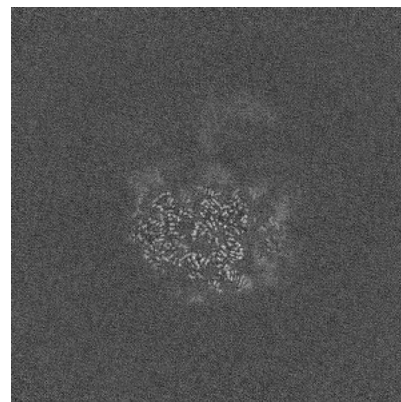
6.2.2 Raw map



X Index: 256



Y Index: 256

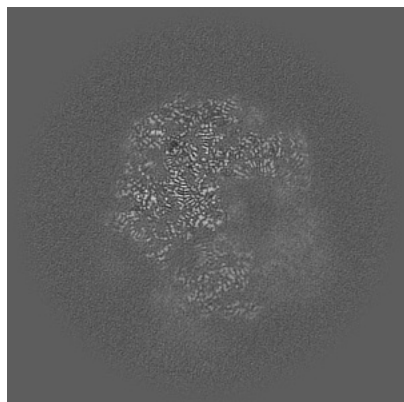


Z Index: 256

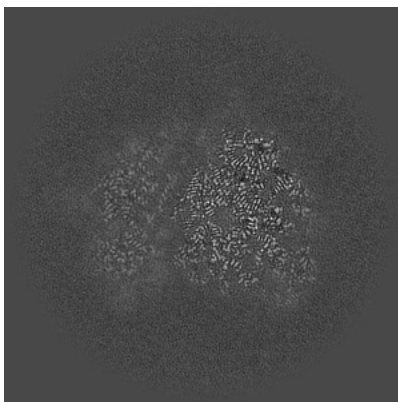
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

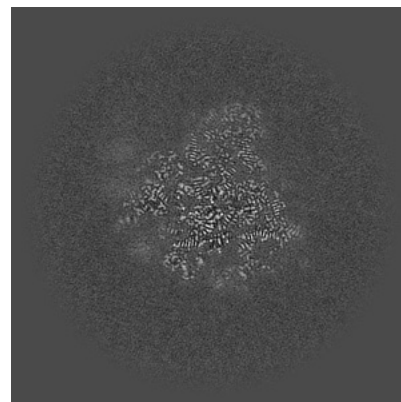
6.3.1 Primary map



X Index: 275

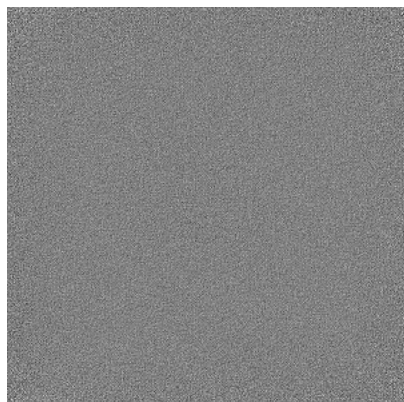


Y Index: 247

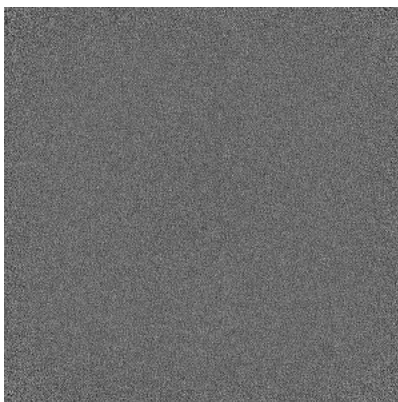


Z Index: 323

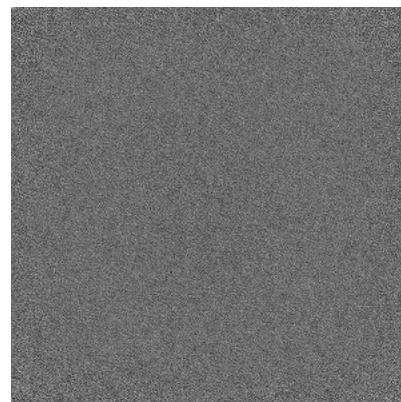
6.3.2 Raw map



X Index: 0



Y Index: 0

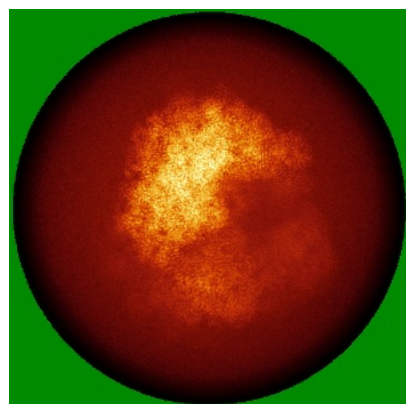


Z Index: 0

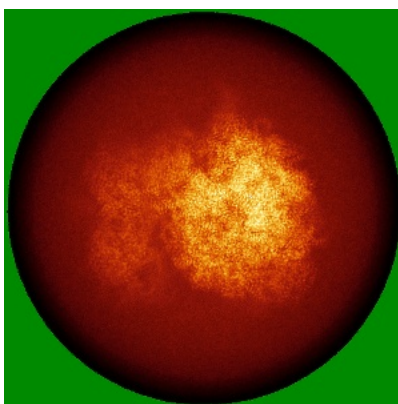
The images above show the largest variance slices of the map in three orthogonal directions.

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

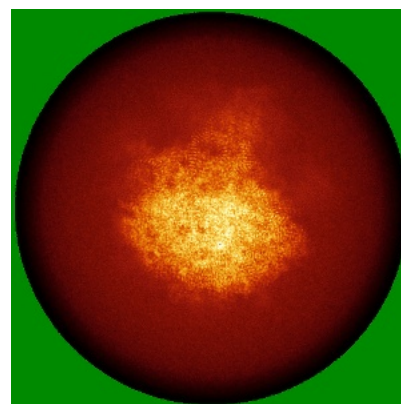
6.4.1 Primary map



X

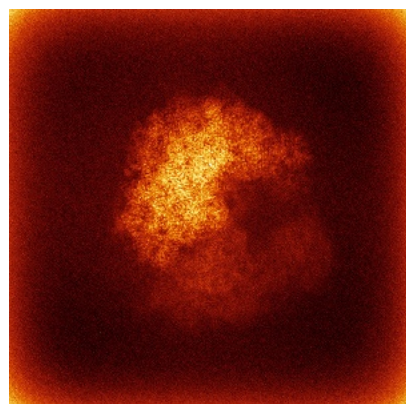


Y

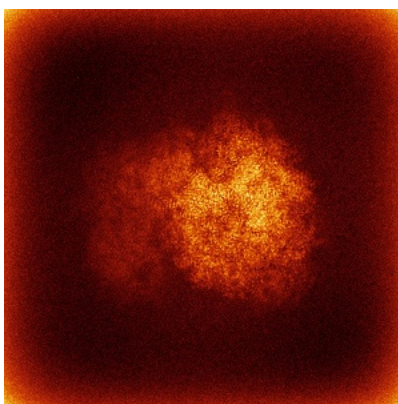


Z

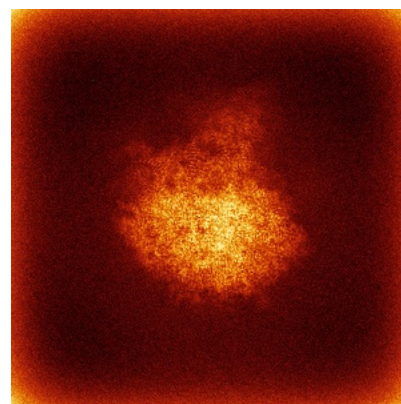
6.4.2 Raw map



X



Y

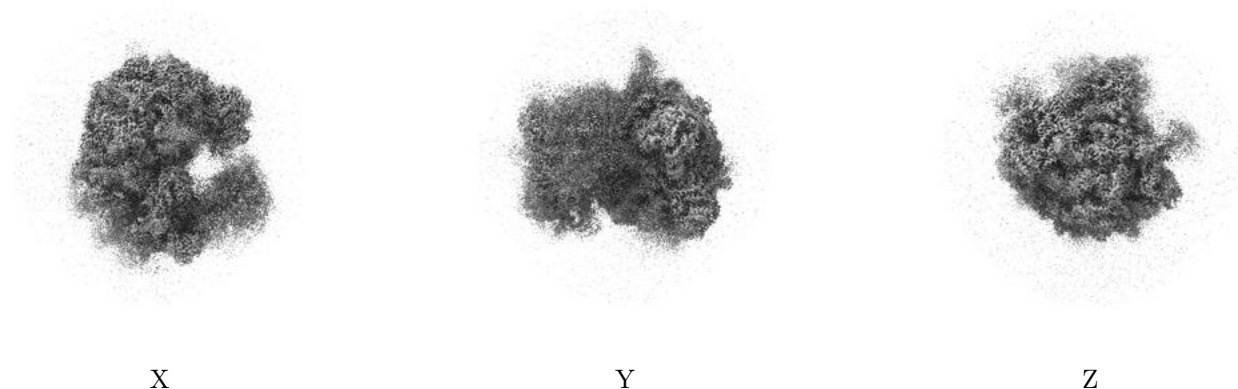


Z

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

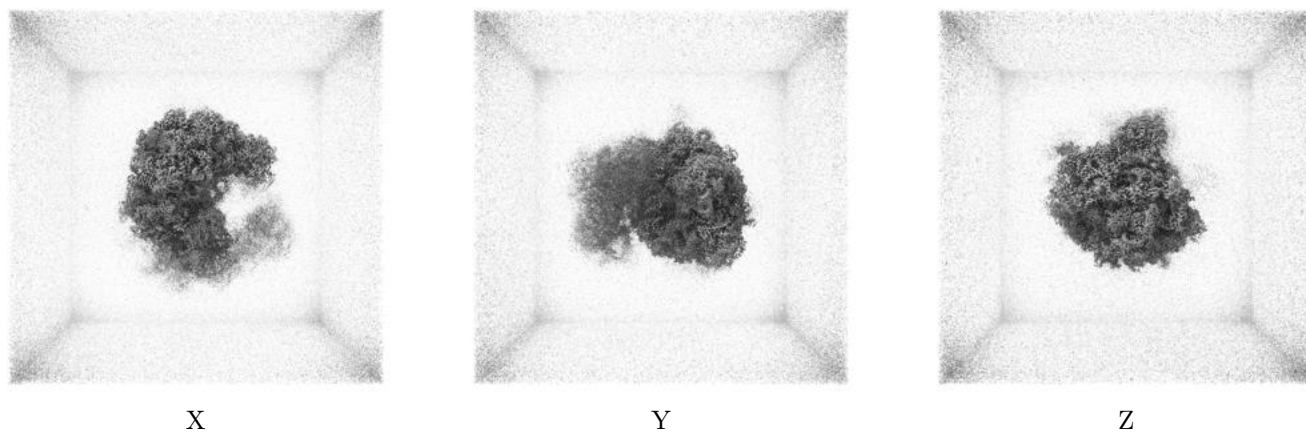
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.26. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

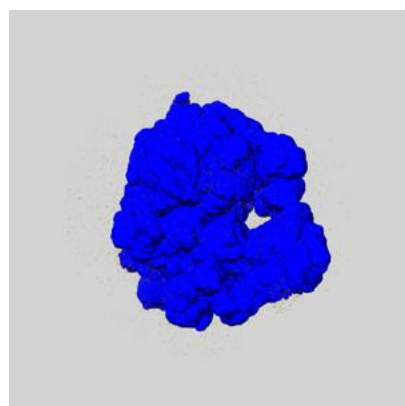
6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

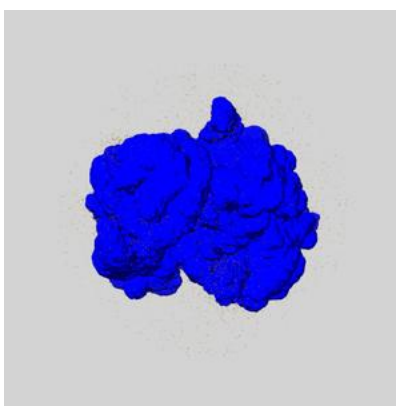
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

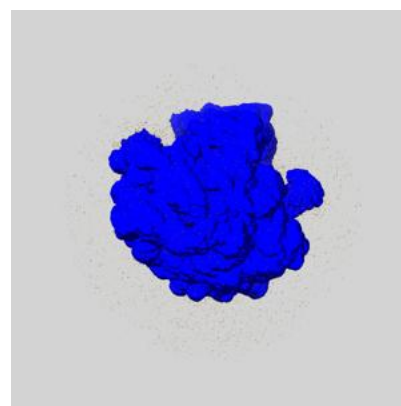
6.6.1 emd_43972_msk_1.map [i](#)



X



Y

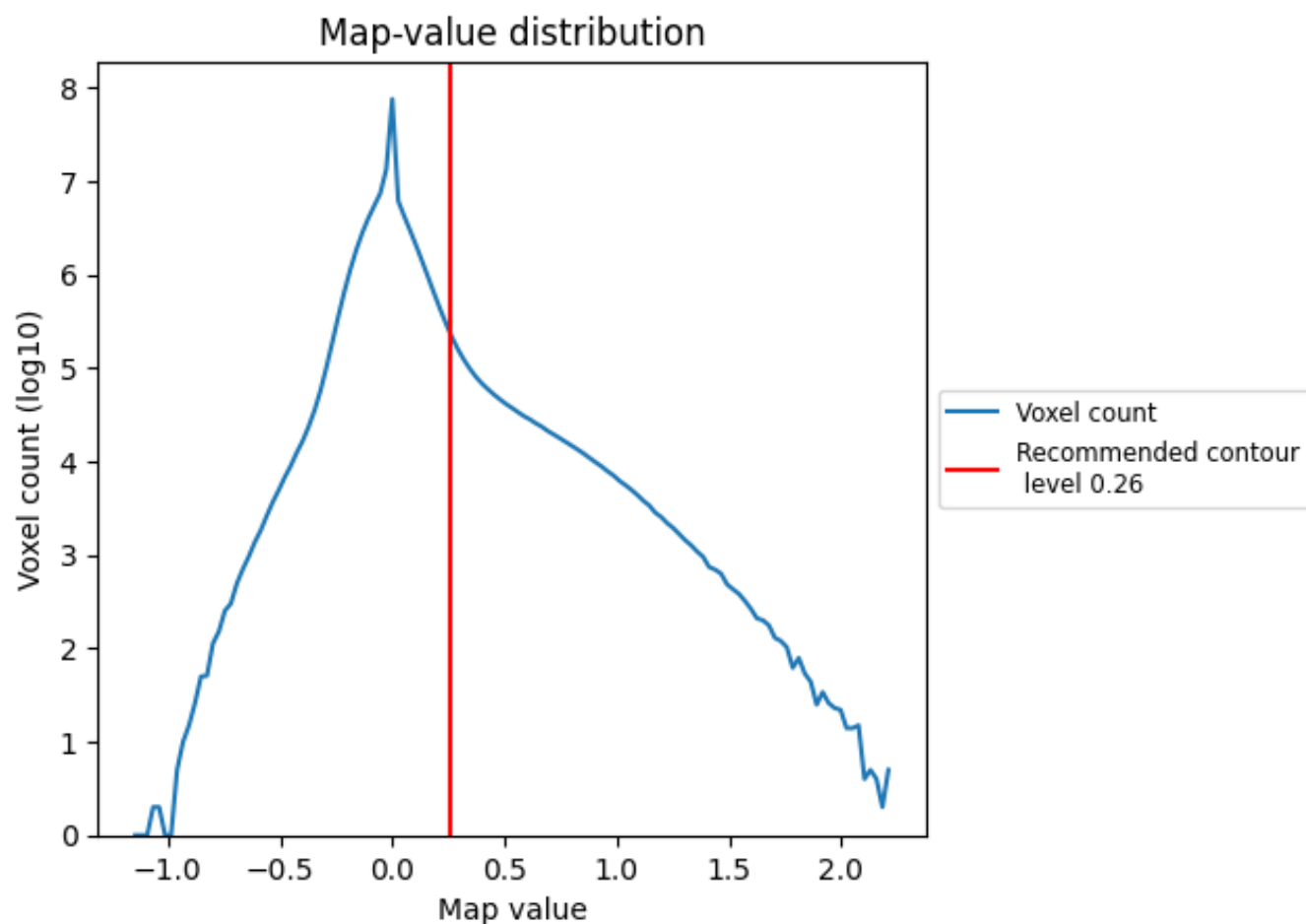


Z

7 Map analysis [i](#)

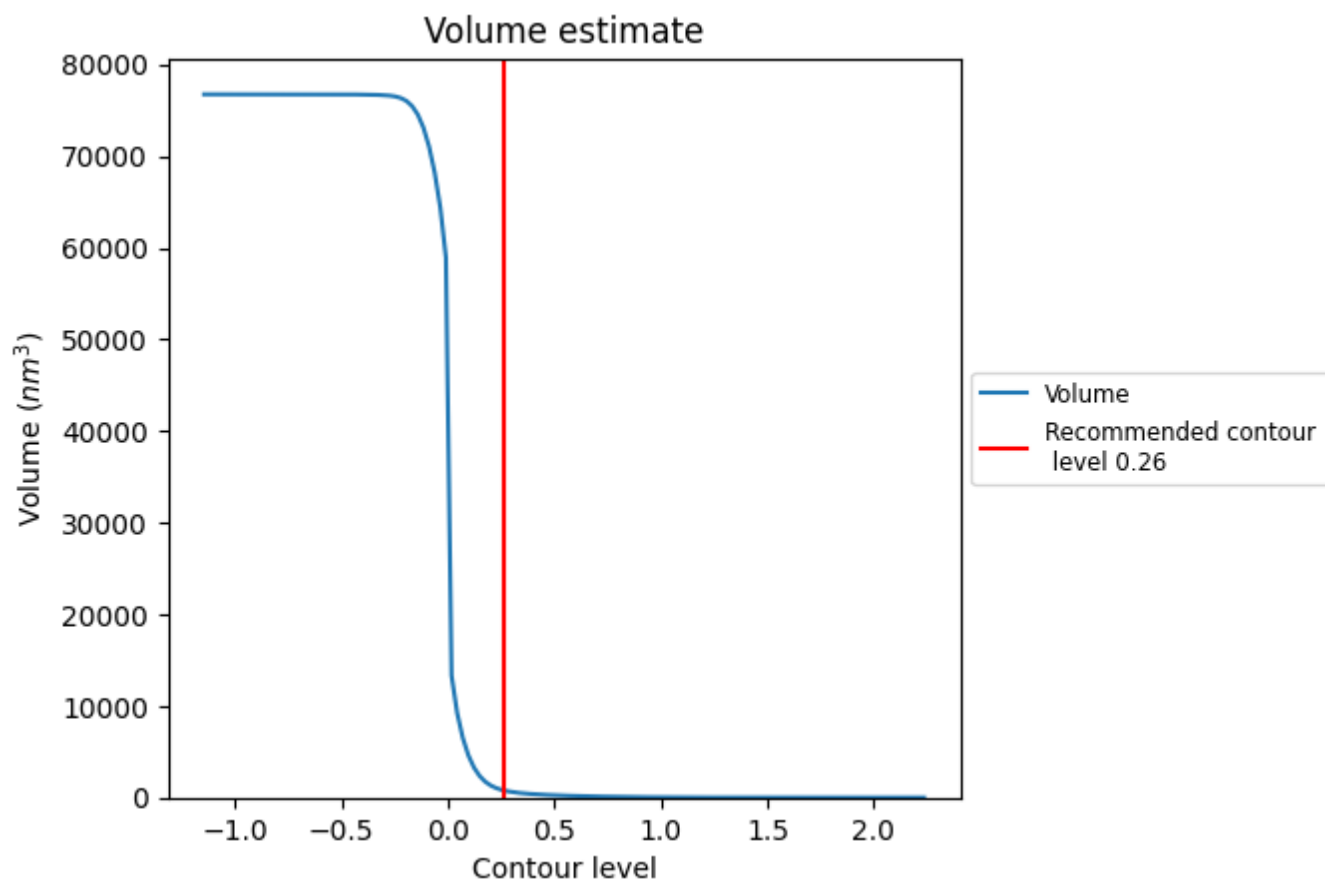
This section contains the results of statistical analysis of the map.

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.

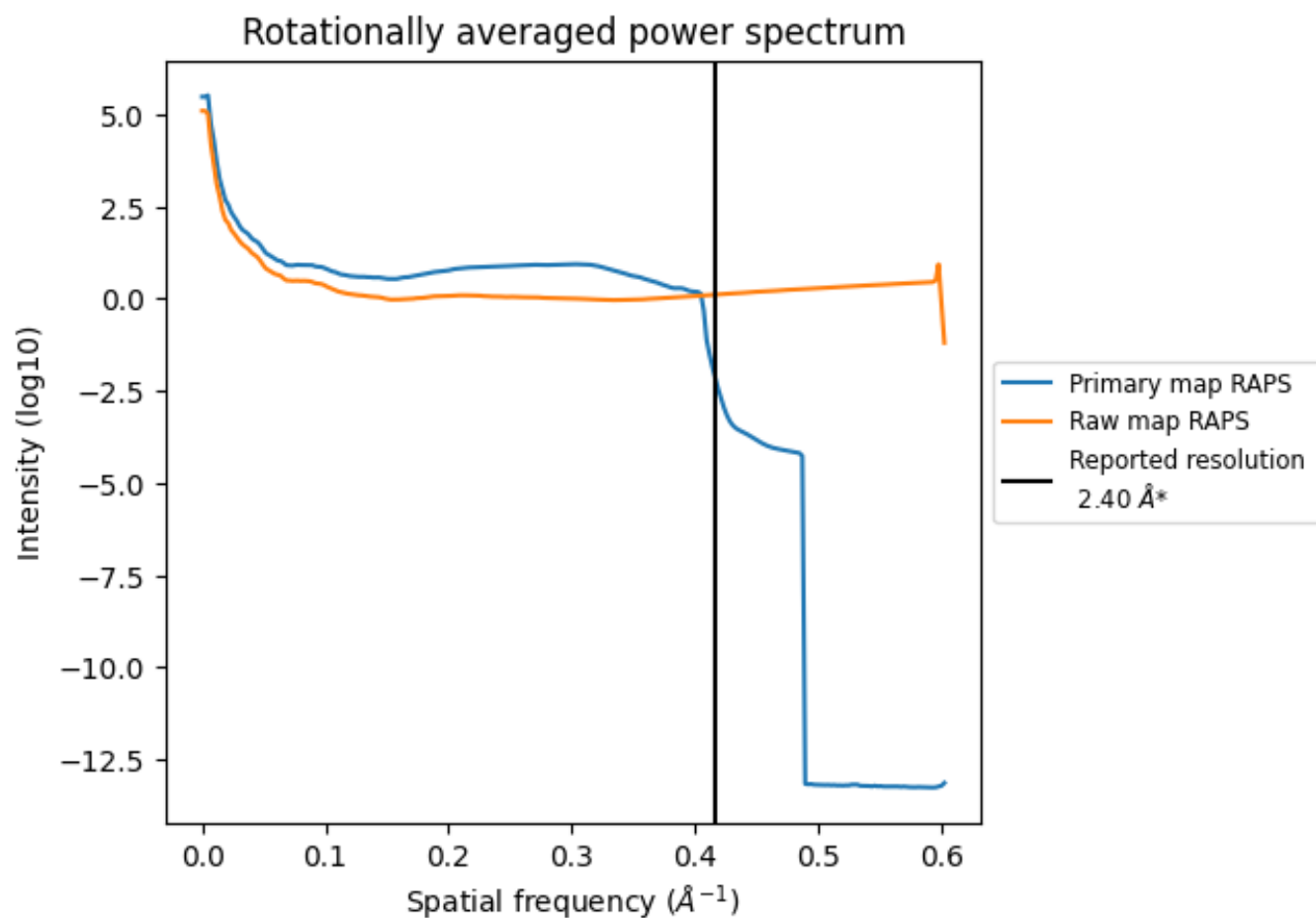
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 798 nm³; this corresponds to an approximate mass of 720 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 ⓘ

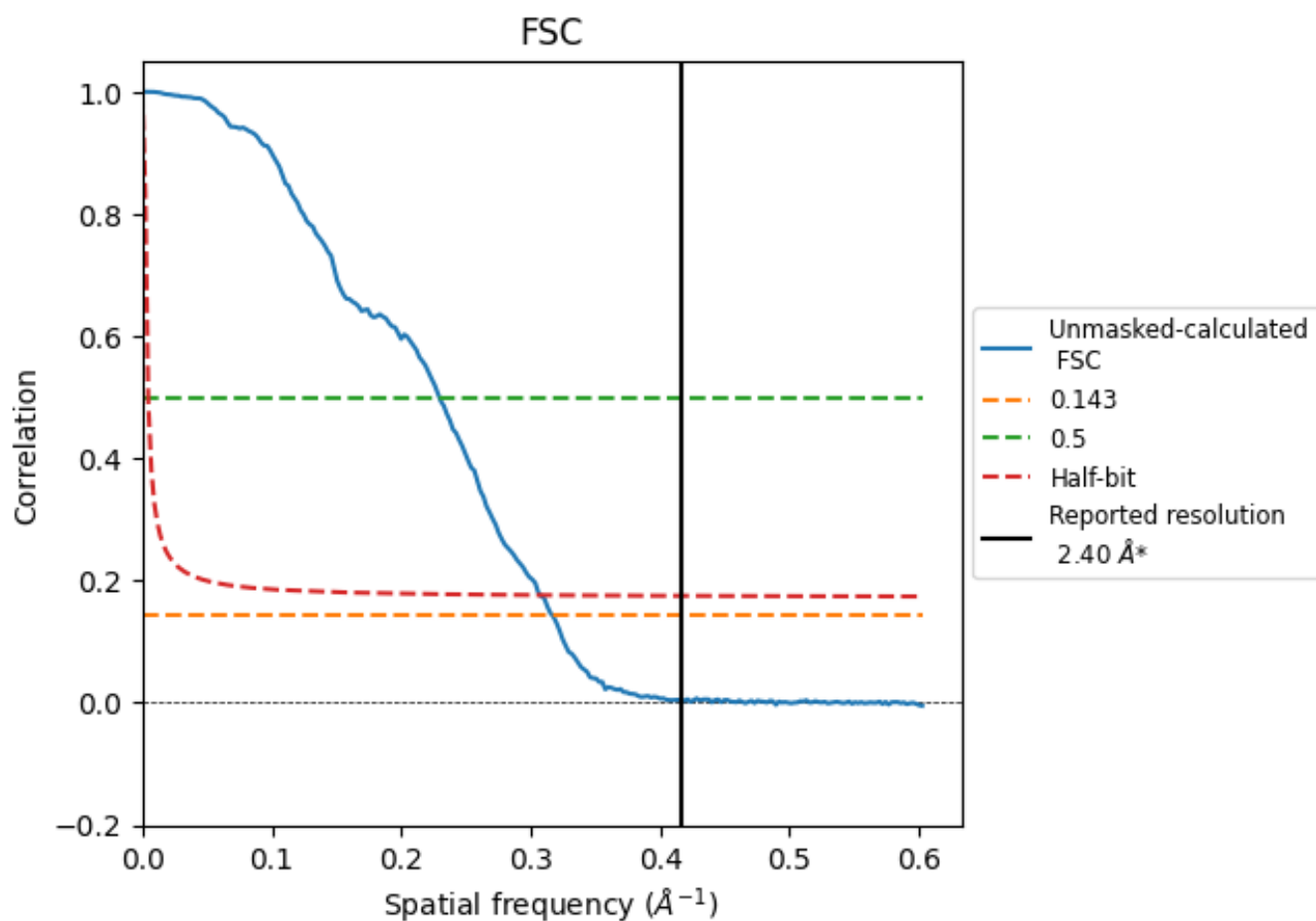


*Reported resolution corresponds to spatial frequency of 0.417 Å⁻¹

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 0.417 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

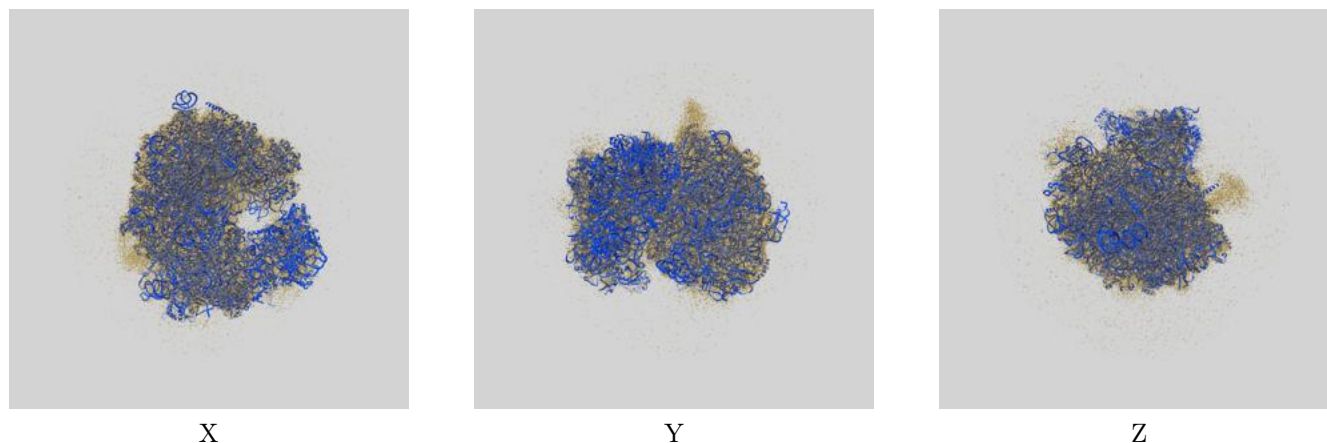
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.40	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.16	4.36	3.25

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.16 differs from the reported value 2.4 by more than 10 %

9 Map-model fit [i](#)

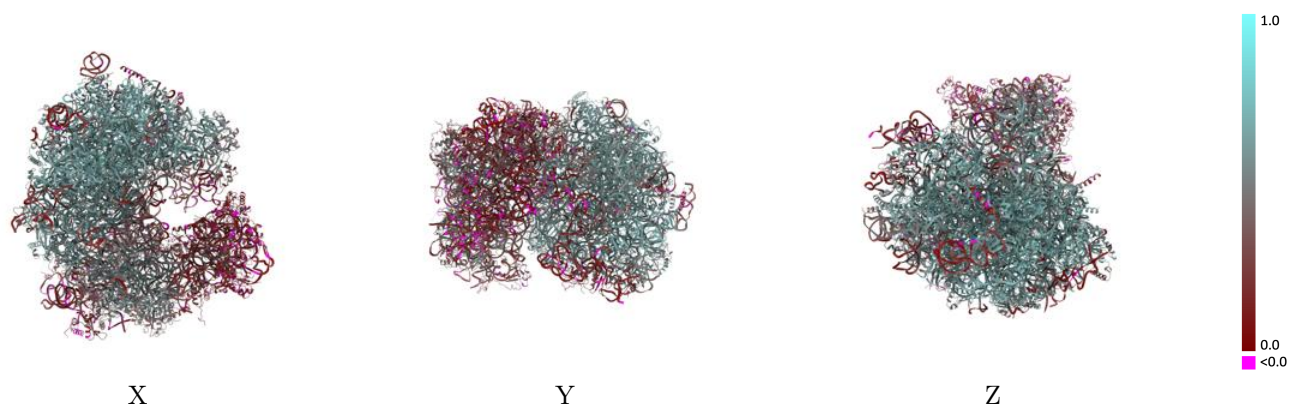
This section contains information regarding the fit between EMDB map EMD-43972 and PDB model 9AXT. Per-residue inclusion information can be found in section [3](#) on page [18](#).

9.1 Map-model overlay [i](#)



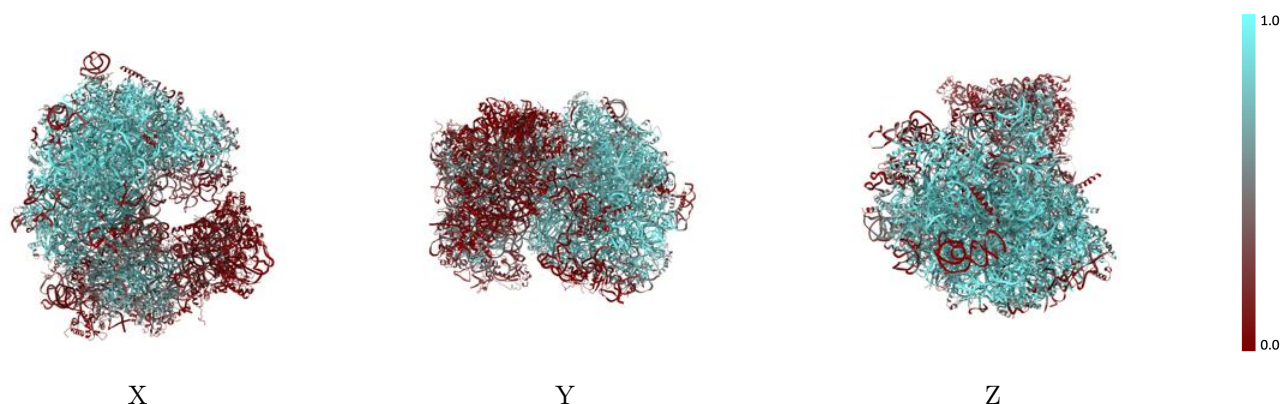
The images above show the 3D surface view of the map at the recommended contour level 0.26 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



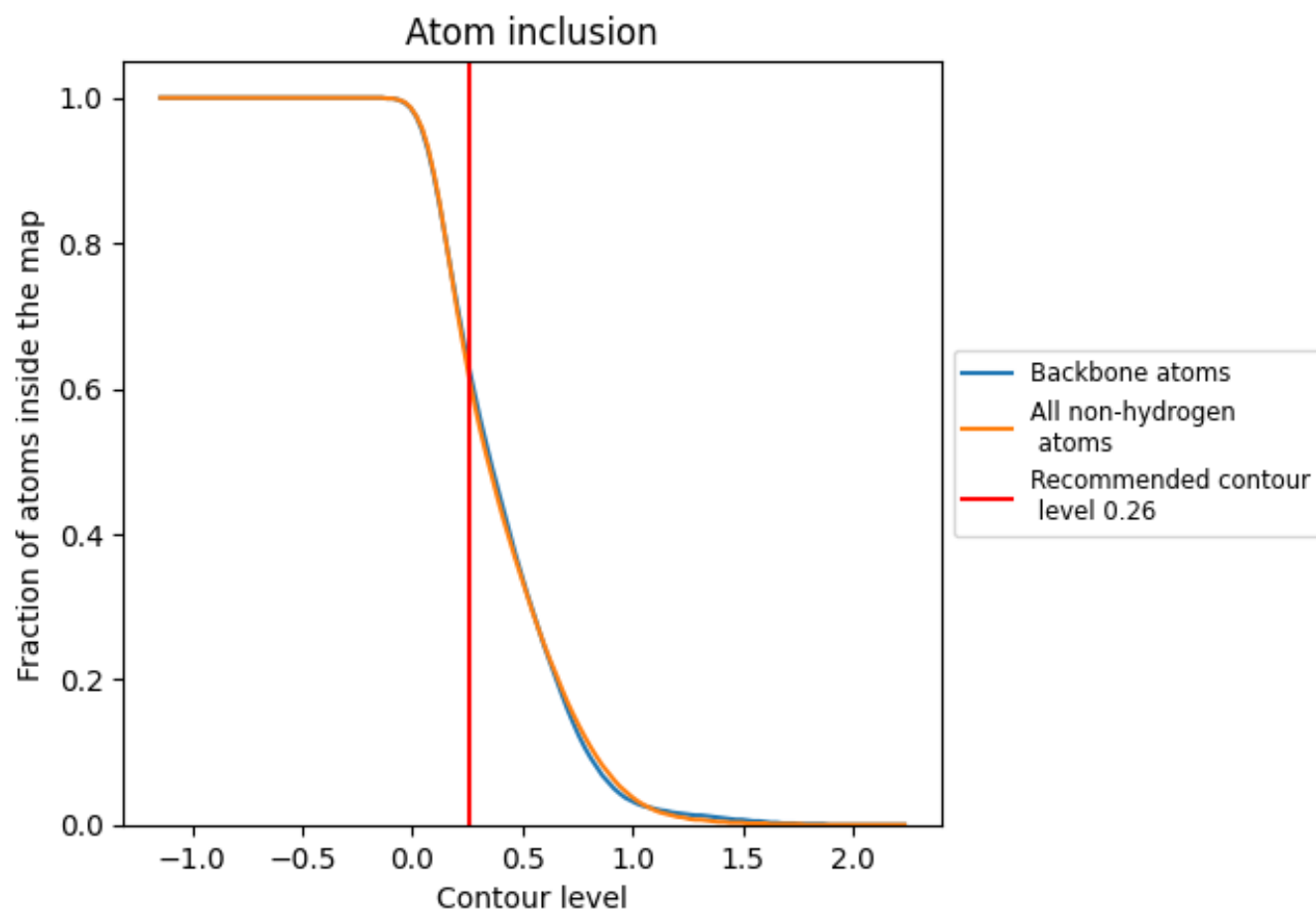
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.26).

9.4 Atom inclusion [i](#)



At the recommended contour level, 62% of all backbone atoms, 61% 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 (0.26) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.6110	 0.4710
AA	 0.3830	 0.3040
AD	 0.4760	 0.4750
AE	 0.3310	 0.4020
AF	 0.5420	 0.4860
AG	 0.0350	 0.1970
AH	 0.5600	 0.4930
AI	 0.0700	 0.2400
AJ	 0.0850	 0.2720
AK	 0.1760	 0.3090
AL	 0.4000	 0.4120
AM	 0.3840	 0.4250
AN	 0.0180	 0.1400
AO	 0.5670	 0.4850
AP	 0.0020	 0.1310
AQ	 0.4300	 0.4500
AR	 0.3800	 0.4060
AS	 0.0380	 0.1410
AT	 0.0660	 0.2240
AU	 0.1050	 0.2880
AV	 0.0490	 0.1830
AW	 0.0630	 0.2100
Aa	 0.0760	 0.2020
Ab	 0.5120	 0.4800
Ac	 0.7430	 0.5550
Ad	 0.1950	 0.3170
Ae	 0.2370	 0.3540
Af	 0.0200	 0.1580
Ag	 0.4830	 0.4510
Ah	 0.2880	 0.4020
Ai	 0.0820	 0.3060
Aj	 0.0540	 0.2630
Ak	 0.0220	 0.2230
B0	 0.7550	 0.5840
B1	 0.7120	 0.5720



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Chain	Atom inclusion	Q-score
B2	 0.7780	 0.5350
B3	 0.8450	 0.5590
B4	 0.8680	 0.5760
BN	 0.9080	 0.6490
BO	 0.9010	 0.6430
BP	 0.8980	 0.6450
BQ	 0.6680	 0.5380
BR	 0.6630	 0.5350
BS	 0.8430	 0.6070
BT	 0.7310	 0.5850
BU	 0.0610	 0.2580
BV	 0.1460	 0.3590
BW	 0.3270	 0.3660
BX	 0.7540	 0.5940
BY	 0.7320	 0.5710
BZ	 0.9730	 0.6700
Ba	 0.8950	 0.6410
Bb	 0.9090	 0.6520
Bc	 0.9020	 0.6490
Bd	 0.8390	 0.6140
Be	 0.8170	 0.6100
Bf	 0.7600	 0.5740
Bg	 0.5590	 0.5040
Bh	 0.8420	 0.6260
Bi	 0.7280	 0.5810
Bj	 0.8640	 0.6230
Bk	 0.8030	 0.6140
Bl	 0.7320	 0.5650
Bm	 0.9360	 0.6580
Bn	 0.8620	 0.6210
Bo	 0.6070	 0.5150
Bp	 0.8550	 0.6230
Bq	 0.9110	 0.6470
Br	 0.9230	 0.6500
Bs	 0.8970	 0.6480
Bt	 0.8000	 0.6100
Bu	 0.8170	 0.6170
Bv	 0.9600	 0.6670
Bw	 0.5920	 0.5100
Bx	 0.7080	 0.5240
By	 0.6030	 0.5620