



Full wwPDB EM Validation Report ⓘ

Mar 29, 2026 – 03:53 PM UTC

PDB ID : 8YLR / pdb_00008ylr
EMDB ID : EMD-38668
Title : State 6 (S6) of yeast 80S ribosome bound to 2 tRNAs and eEF2 and eEF3 during tranlocation
Authors : Cheng, J.; Wu, C.L.; Li, J.X.; Zhang, X.Z.
Deposited on : 2024-03-06
Resolution : 3.90 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:

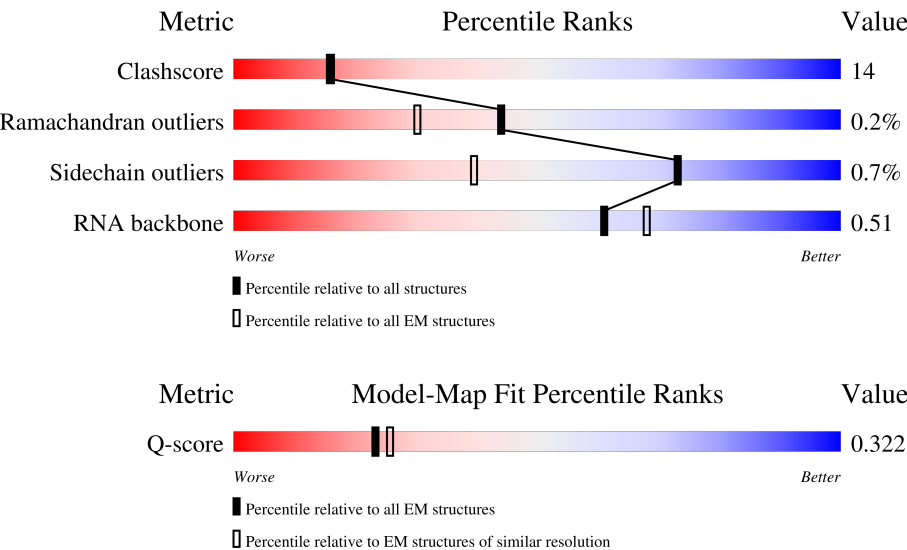
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & 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 3.90 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.



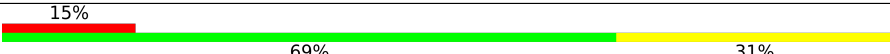
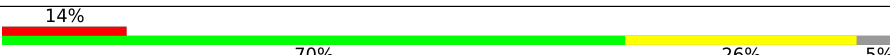
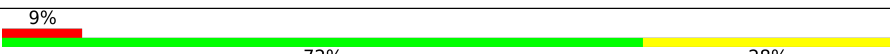
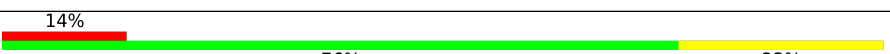
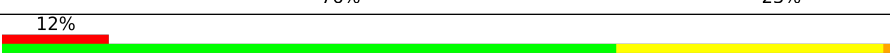
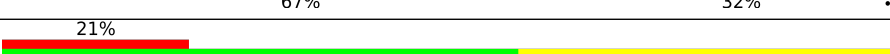
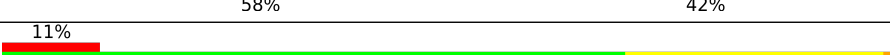
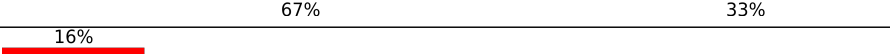
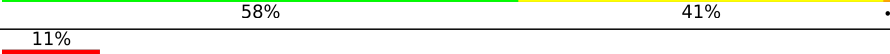
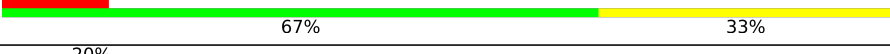
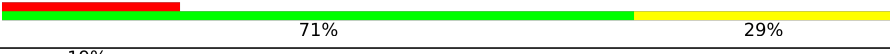
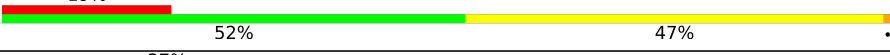
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	8855 (3.40 - 4.40)

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

Mol	Chain	Length	Quality of chain
1	2	1799	10% 33% 52% 13% .
2	A	3394	. 41% 47% 6% 6%
3	B	121	. 36% 58% 7%

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Mol	Chain	Length	Quality of chain
4	C	158	
5	D	251	
6	F	361	
7	G	294	
8	H	175	
9	I	223	
10	J	233	
11	K	191	
12	L	218	
13	M	169	
14	N	193	
15	O	136	
16	P	203	
17	Q	197	
18	R	183	
19	S	185	
20	T	188	
21	U	171	
22	V	159	
23	W	100	
24	X	136	
25	Y	126	
26	Z	121	
27	a	125	
28	b	135	

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Mol	Chain	Length	Quality of chain
29	c	148	
30	d	58	
31	e	96	
32	f	109	
33	g	127	
34	h	106	
35	i	112	
36	j	119	
37	k	99	
38	l	81	
39	m	77	
40	n	50	
41	o	52	
42	p	25	
43	q	103	
44	r	91	
45	t	75	
45	u	75	
46	v	1044	
47	x	842	
48	SA	222	
49	SC	92	
50	SD	121	
51	SE	117	
52	SF	141	

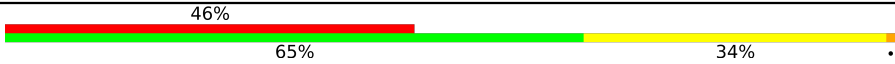
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Mol	Chain	Length	Quality of chain
53	SH	145	52% 65% 35%
54	SI	143	59% 58% 42%
55	SJ	100	52% 67% 33%
56	SK	108	38% 38% 20% 41%
57	SM	53	36% 62% 38%
58	SN	73	86% 58% 37% 5%
59	SO	312	69% 57% 42%
60	SQ	232	63% 57% 40%
61	SS	258	63% 67% 33%
62	ST	228	57% 76% 23%
63	SR	216	30% 67% 33%
64	SV	200	38% 62% 31% 6%
65	SW	184	38% 67% 29%
66	SX	142	47% 74% 25%
67	SY	150	45% 73% 26%
68	SZ	127	61% 68% 32%
69	Sa	87	54% 72% 28%
70	Sb	129	39% 53% 47%
71	Sc	144	55% 58% 40%
72	Sd	134	53% 72% 28%
73	Se	94	40% 64% 36%
74	Sf	81	52% 85% 15%
75	Sg	60	58% 75% 25%
76	SG	121	50% 64% 36%
77	SP	206	36% 65% 35%

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Mol	Chain	Length	Quality of chain
78	SU	184	
79	SL	63	
80	SB	206	
81	E	386	

2 Entry composition

There are 81 unique types of molecules in this entry. The entry contains 216620 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

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

- Molecule 2 is a RNA chain called 25S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	A	3192	Total	C	N	O	P	0	0
			68278	30498	12313	22275	3192		

- Molecule 3 is a RNA chain called 5S rRNA.

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

- Molecule 4 is a RNA chain called 5.8S rRNA.

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

- Molecule 5 is a protein called Large ribosomal subunit protein uL2A.

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

- Molecule 6 is a protein called Large ribosomal subunit protein uL4A.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	361	Total	C	N	O	S	0	0
			2748	1729	522	494	3		

- Molecule 7 is a protein called Large ribosomal subunit protein uL18.

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

- Molecule 8 is a protein called Large ribosomal subunit protein eL6B.

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

- Molecule 9 is a protein called Large ribosomal subunit protein uL30A.

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

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
I	22	ILE	THR	conflict	UNP P05737

- Molecule 10 is a protein called Large ribosomal subunit protein eL8A.

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

- Molecule 11 is a protein called Large ribosomal subunit protein uL6A.

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

- Molecule 12 is a protein called Large ribosomal subunit protein uL16.

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

- Molecule 13 is a protein called Large ribosomal subunit protein uL5B.

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

- Molecule 14 is a protein called Large ribosomal subunit protein eL13A.

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

- Molecule 15 is a protein called Large ribosomal subunit protein eL14A.

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

- Molecule 16 is a protein called Large ribosomal subunit protein eL15A.

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

- Molecule 17 is a protein called Large ribosomal subunit protein uL13A.

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

- Molecule 18 is a protein called Large ribosomal subunit protein uL22A.

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

- Molecule 19 is a protein called Large ribosomal subunit protein eL18A.

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

- Molecule 20 is a protein called Large ribosomal subunit protein eL19A.

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

- Molecule 21 is a protein called Large ribosomal subunit protein eL20A.

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

- Molecule 22 is a protein called Large ribosomal subunit protein eL21A.

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

- Molecule 23 is a protein called Large ribosomal subunit protein eL22A.

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

- Molecule 24 is a protein called Large ribosomal subunit protein uL14A.

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

- Molecule 25 is a protein called Large ribosomal subunit protein eL24A.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	Y	126	Total	C	N	O	S	0	0
			836	525	165	145	1		

- Molecule 26 is a protein called Large ribosomal subunit protein uL23.

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

- Molecule 27 is a protein called Large ribosomal subunit protein uL24A.

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

- Molecule 28 is a protein called Large ribosomal subunit protein eL27A.

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

- Molecule 29 is a protein called Large ribosomal subunit protein uL15.

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

- Molecule 30 is a protein called Large ribosomal subunit protein eL29.

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

- Molecule 31 is a protein called Large ribosomal subunit protein eL30.

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

- Molecule 32 is a protein called Large ribosomal subunit protein eL31A.

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

- Molecule 33 is a protein called Large ribosomal subunit protein eL32.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	g	127	Total	C	N	O	S	0	0
			1013	642	205	165	1		

- Molecule 34 is a protein called Large ribosomal subunit protein eL33A.

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

- Molecule 35 is a protein called Large ribosomal subunit protein eL34A.

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

- Molecule 36 is a protein called Large ribosomal subunit protein uL29A.

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

- Molecule 37 is a protein called Large ribosomal subunit protein eL36A.

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

- Molecule 38 is a protein called Large ribosomal subunit protein eL37A.

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

- Molecule 39 is a protein called Large ribosomal subunit protein eL38.

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

- Molecule 40 is a protein called Large ribosomal subunit protein eL39.

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

- Molecule 41 is a protein called Large ribosomal subunit protein eL40A.

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

- Molecule 42 is a protein called Large ribosomal subunit protein eL41A.

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

- Molecule 43 is a protein called Large ribosomal subunit protein eL42A.

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

- Molecule 44 is a protein called Large ribosomal subunit protein eL43A.

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

- Molecule 45 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	t	75	Total	C	N	O	P	0	0
			1605	716	297	517	75		
45	u	74	Total	C	N	O	P	0	0
			1584	706	292	512	74		

There are 2 discrepancies between the modelled and reference sequences:

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

- Molecule 46 is a protein called Elongation factor 3A.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	v	977	Total	C	N	O	S	0	0
			7476	4726	1295	1418	37		

- Molecule 47 is a protein called Elongation factor 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	x	842	Total	C	N	O	S	0	0
			6559	4166	1124	1238	31		

- Molecule 48 is a protein called Small ribosomal subunit protein uS3.

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

- Molecule 49 is a protein called Small ribosomal subunit protein eS10A.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	SC	92	Total	C	N	O	S	0	0
			752	487	122	141	2		

- Molecule 50 is a protein called Small ribosomal subunit protein eS12.

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

- Molecule 51 is a protein called Small ribosomal subunit protein uS19.

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

- Molecule 52 is a protein called Small ribosomal subunit protein uS9A.

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

- Molecule 53 is a protein called Small ribosomal subunit protein uS13A.

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

- Molecule 54 is a protein called Small ribosomal subunit protein eS19A.

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

- Molecule 55 is a protein called Small ribosomal subunit protein uS10.

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

- Molecule 56 is a protein called Small ribosomal subunit protein eS25A.

Mol	Chain	Residues	Atoms				AltConf	Trace
56	SK	64	Total	C	N	O	0	0
			519	332	95	92		

- Molecule 57 is a protein called Small ribosomal subunit protein uS14A.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	SM	53	Total	C	N	O	S	0	0
			442	274	92	72	4		

- Molecule 58 is a protein called Small ribosomal subunit protein eS31.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	SN	73	Total	C	N	O	S	0	0
			560	355	106	95	4		

- Molecule 59 is a protein called Small ribosomal subunit protein RACK1.

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

- Molecule 60 is a protein called Small ribosomal subunit protein eS1A.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	SQ	225	Total	C	N	O	S	0	0
			1794	1137	329	324	4		

- Molecule 61 is a protein called Small ribosomal subunit protein eS4A.

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

- Molecule 62 is a protein called Small ribosomal subunit protein eS6A.

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

- Molecule 63 is a protein called Small ribosomal subunit protein uS5.

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

- Molecule 64 is a protein called Small ribosomal subunit protein eS8A.

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

- Molecule 65 is a protein called Small ribosomal subunit protein uS4A.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	SW	178	Total	C	N	O	S	0	0
			1441	913	278	249	1		

- Molecule 66 is a protein called Small ribosomal subunit protein uS17A.

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

- Molecule 67 is a protein called Small ribosomal subunit protein uS15.

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

- Molecule 68 is a protein called Small ribosomal subunit protein uS11B.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	SZ	127	Total	C	N	O	S	0	0
			891	545	182	163	1		

- Molecule 69 is a protein called Small ribosomal subunit protein eS21A.

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

- Molecule 70 is a protein called Small ribosomal subunit protein uS8A.

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

- Molecule 71 is a protein called Small ribosomal subunit protein uS12A.

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

- Molecule 72 is a protein called Small ribosomal subunit protein eS24A.

Mol	Chain	Residues	Atoms				AltConf	Trace
72	Sd	134	Total	C	N	O	0	0
			1073	676	208	189		

- Molecule 73 is a protein called Small ribosomal subunit protein eS26A.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	Se	94	Total	C	N	O	S	0	0
			750	462	157	126	5		

- Molecule 74 is a protein called Small ribosomal subunit protein eS27A.

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

- Molecule 75 is a protein called Small ribosomal subunit protein eS30A.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	Sg	60	Total	C	N	O	S	0	0
			472	298	97	76	1		

- Molecule 76 is a protein called Small ribosomal subunit protein eS17A.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	SG	121	Total	C	N	O	S	0	0
			961	599	182	178	2		

- Molecule 77 is a protein called Small ribosomal subunit protein uS2A.

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

- Molecule 78 is a protein called Small ribosomal subunit protein eS7A.

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

- Molecule 79 is a protein called Small ribosomal subunit protein eS28A.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	SL	63	Total	C	N	O	S	0	0
			497	306	99	91	1		

- Molecule 80 is a protein called Small ribosomal subunit protein uS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	SB	206	Total	C	N	O	S	0	0
			1609	1007	300	299	3		

- Molecule 81 is a protein called Large ribosomal subunit protein uL3.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	E	386	Total	C	N	O	S	0	0
			3075	1950	584	533	8		

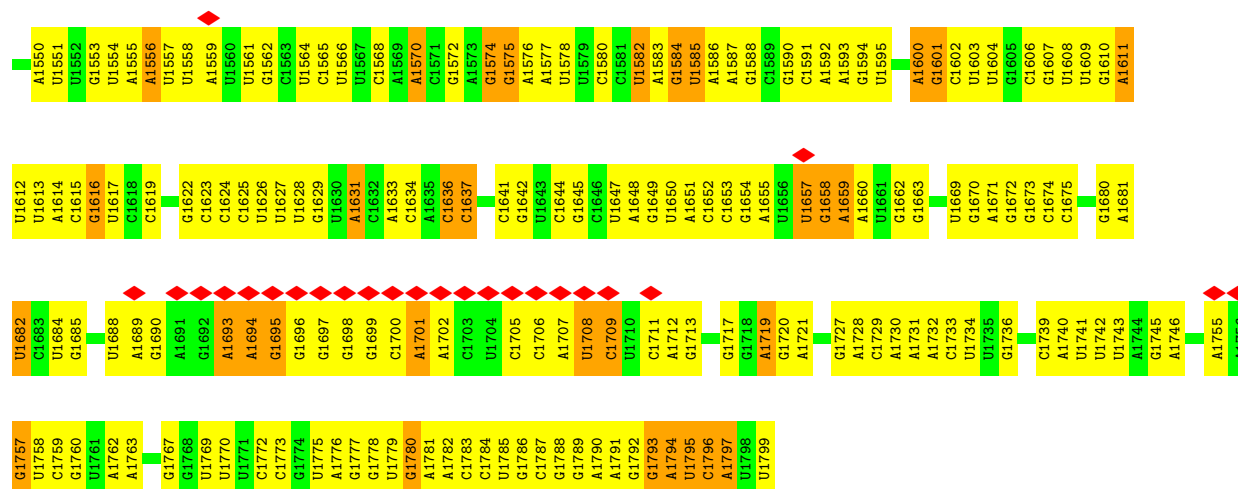
3 Residue-property plots

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

• Molecule 1: 18S rRNA

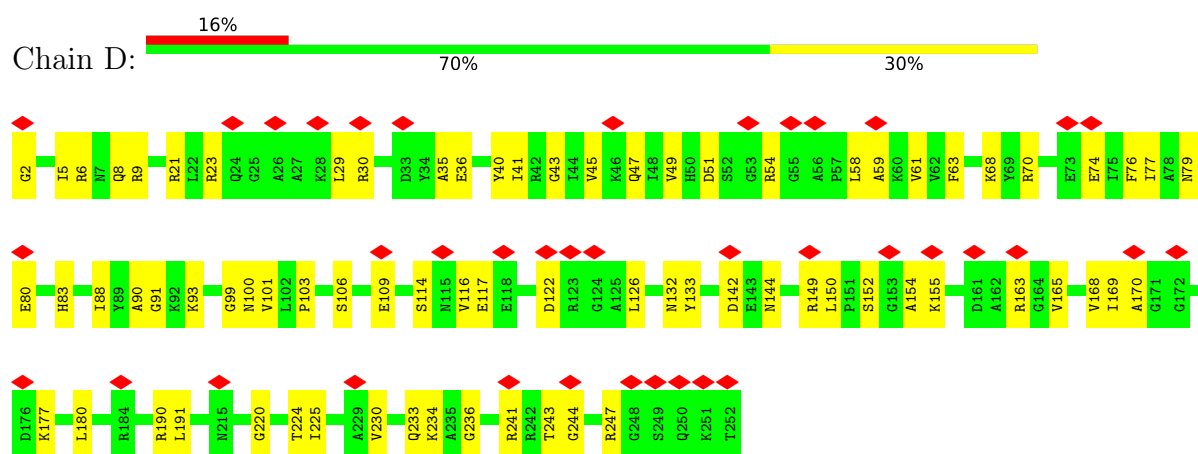




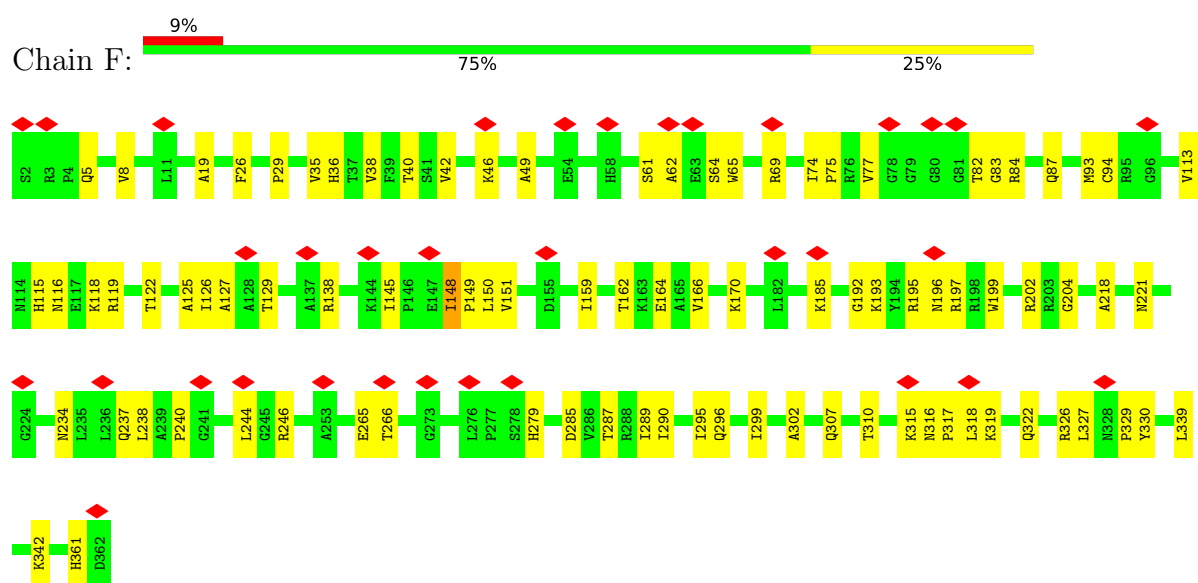




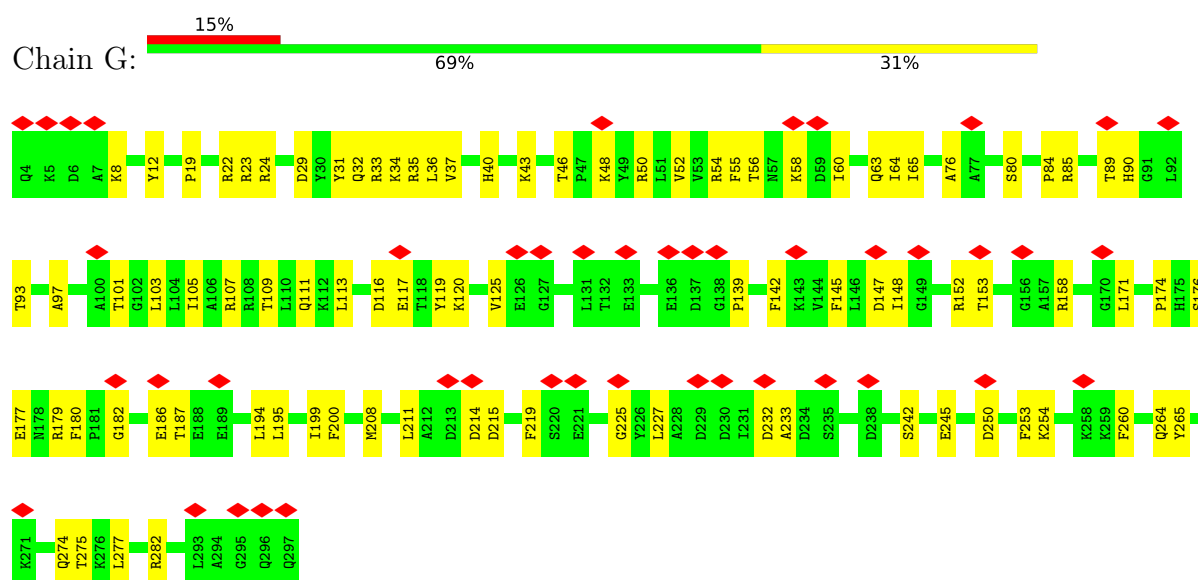
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C2889	C2809	A2727	U2634	G2549	G2419	U2344	C2257	A2167	U1795
U2891	C2810	U2729	A2636	C2552	U2421	A2345	C2257	A2169	G1796
G2895	A2811	G2732	A2637	C2553	U2422	U2349	G2261	U2170	A1798
A2896	C2812	A2733	A2647	A2554	U2423	C2350	U2176	A1799	A1800
A2897	A2813	A2736	A2657	C2555	A2424	U2351	G2262	A1801	U1800
C2898	G2814	A2737	U2652	C2556	U2425	A2352	U2176	A1802	A1800
C2899	G2815	U2737	U2653	A2557	A2426	G2353	G2263	A1803	C1802
A2900	G2816	U2737	U2654	A2558	U2427	C2354	C2265	A1804	C1803
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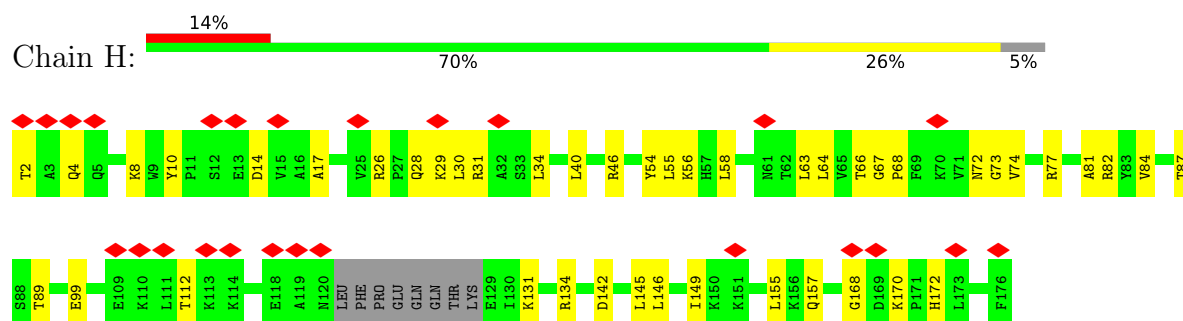
• Molecule 6: Large ribosomal subunit protein uL4A



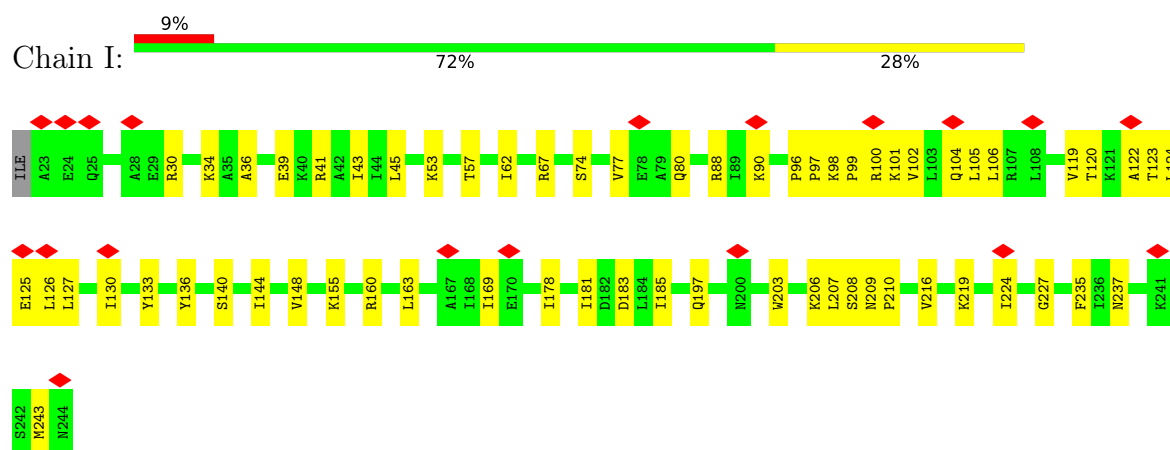
• Molecule 7: Large ribosomal subunit protein uL18



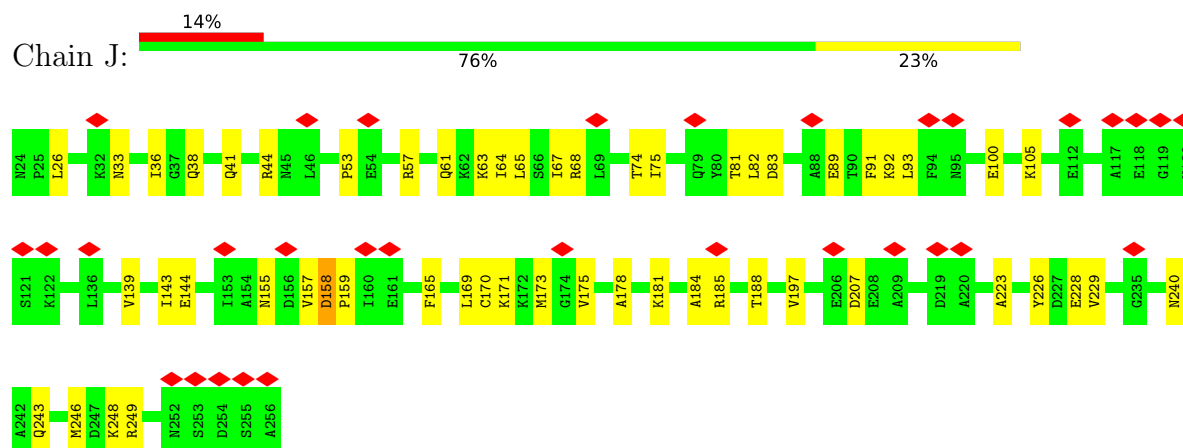
- Molecule 8: Large ribosomal subunit protein eL6B



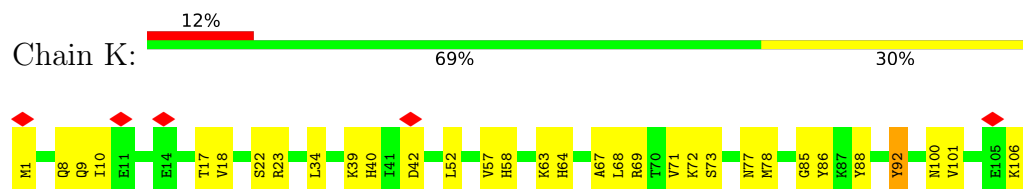
- Molecule 9: Large ribosomal subunit protein uL30A



- Molecule 10: Large ribosomal subunit protein eL8A

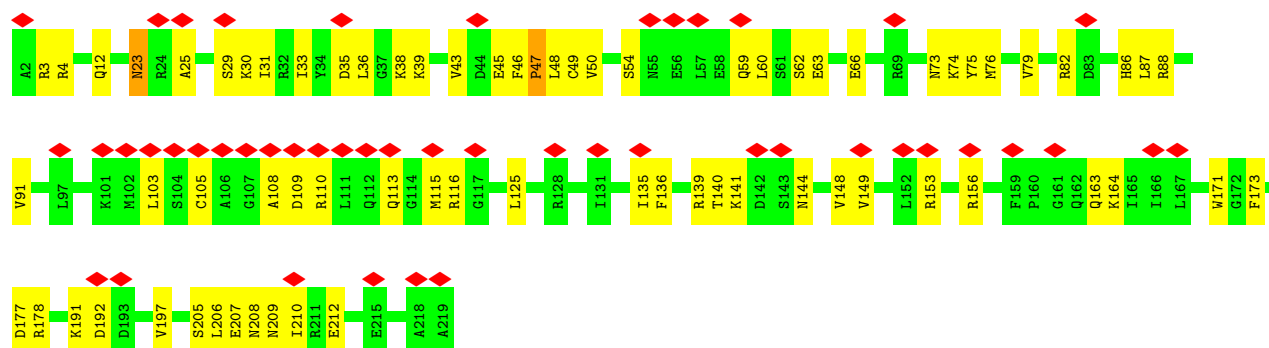


- Molecule 11: Large ribosomal subunit protein uL6A

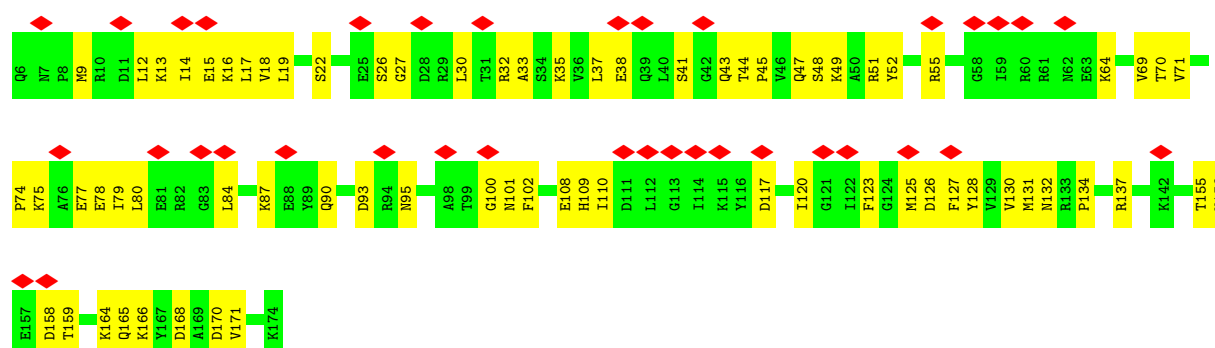




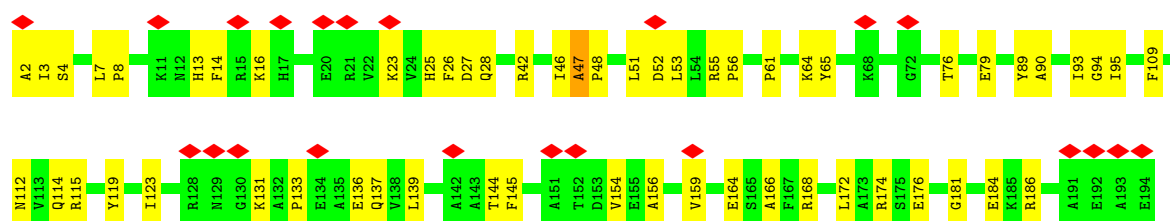
- Molecule 12: Large ribosomal subunit protein uL16



- Molecule 13: Large ribosomal subunit protein uL5B

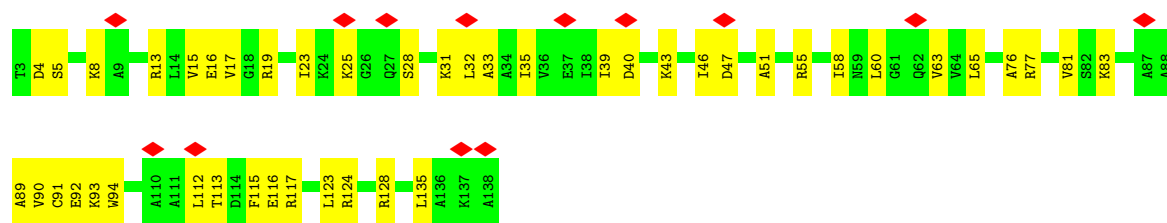


- Molecule 14: Large ribosomal subunit protein eL13A

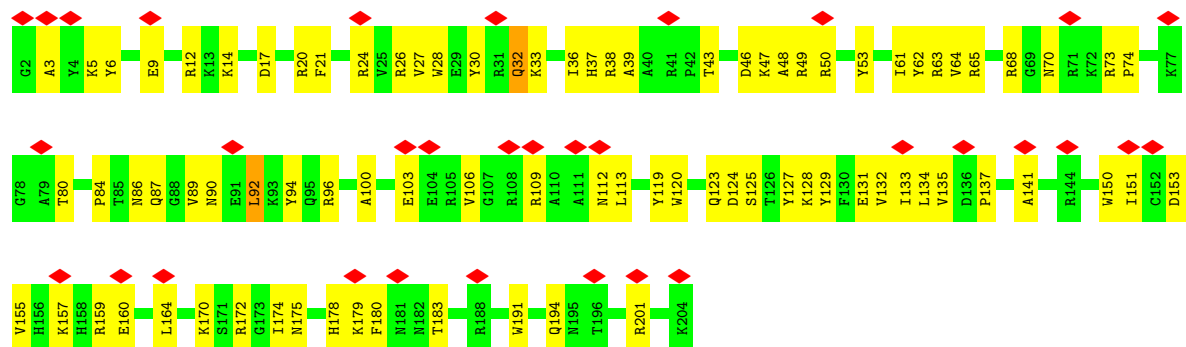


- Molecule 15: Large ribosomal subunit protein eL14A

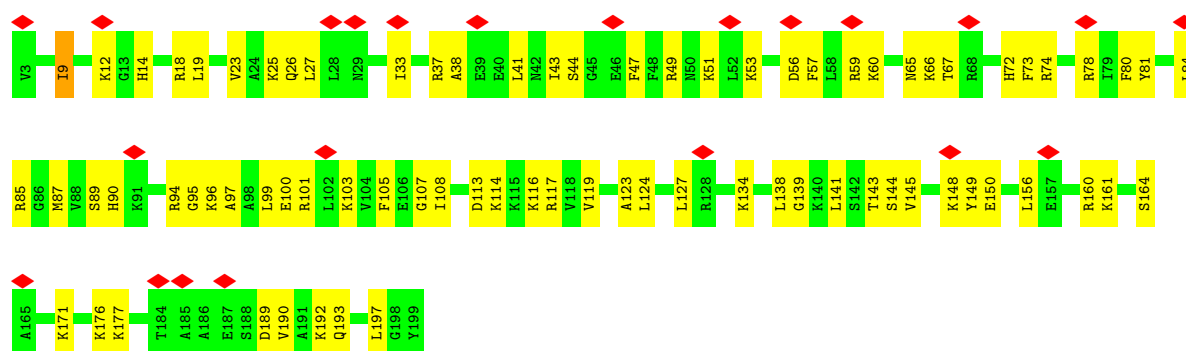




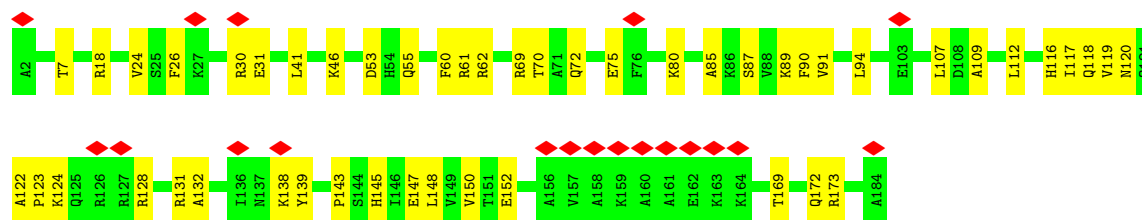
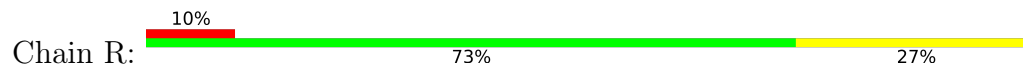
• Molecule 16: Large ribosomal subunit protein eL15A



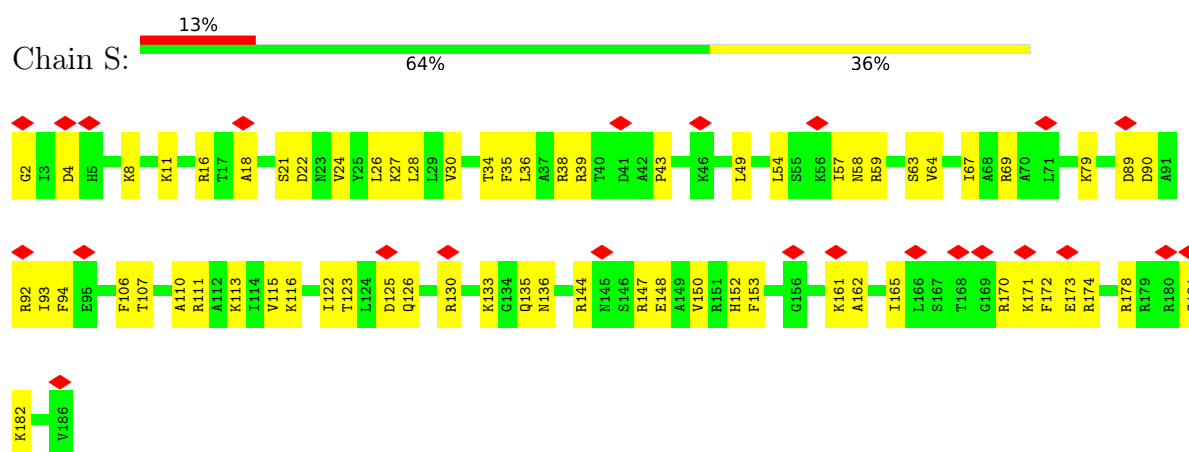
• Molecule 17: Large ribosomal subunit protein uL13A



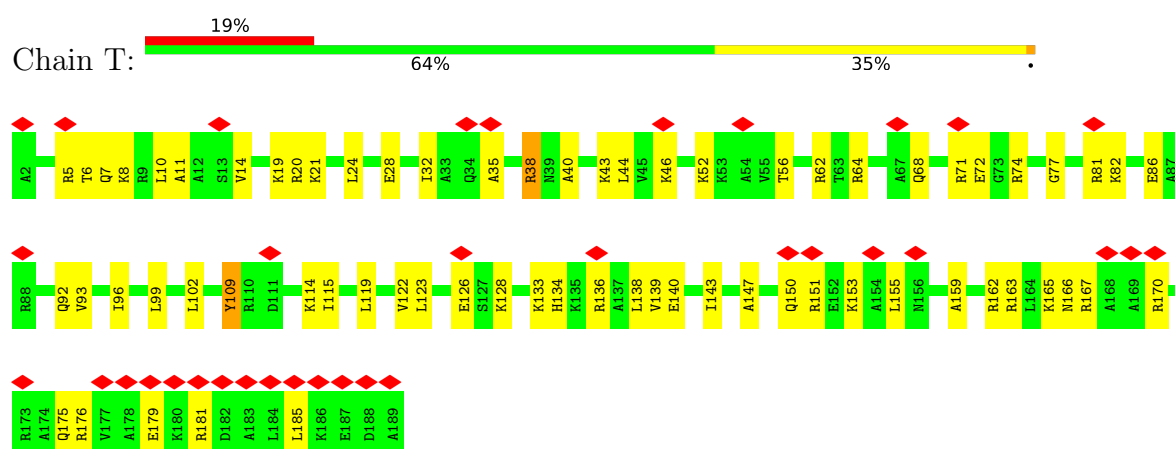
• Molecule 18: Large ribosomal subunit protein uL22A



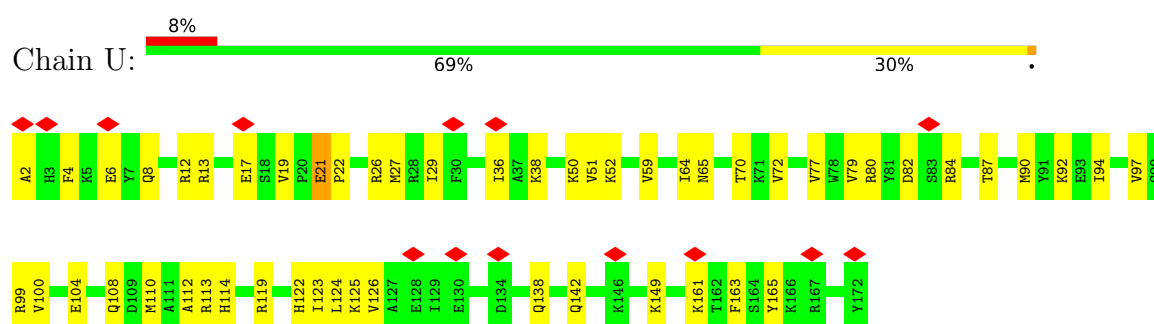
• Molecule 19: Large ribosomal subunit protein eL18A



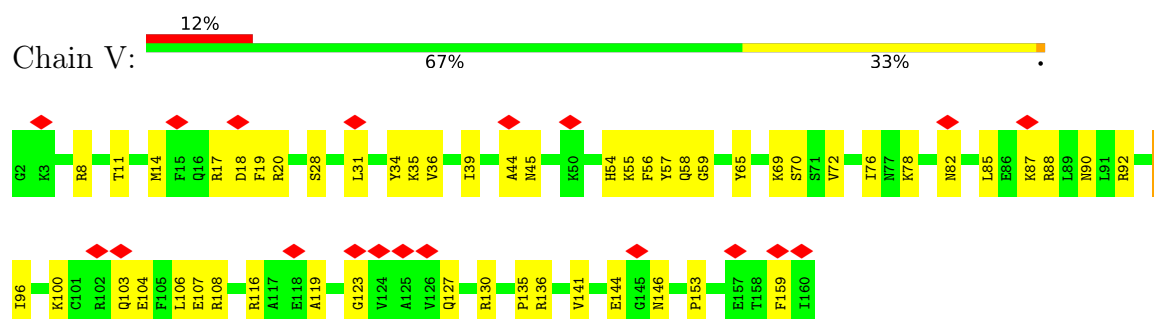
- Molecule 20: Large ribosomal subunit protein eL19A



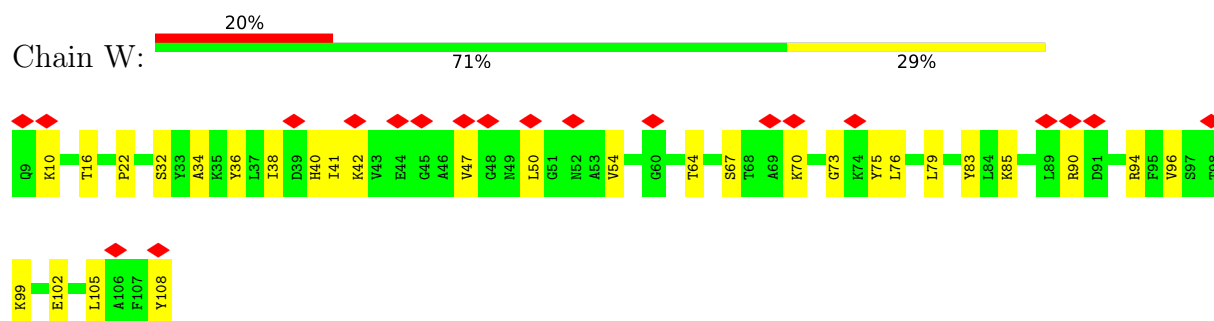
- Molecule 21: Large ribosomal subunit protein eL20A



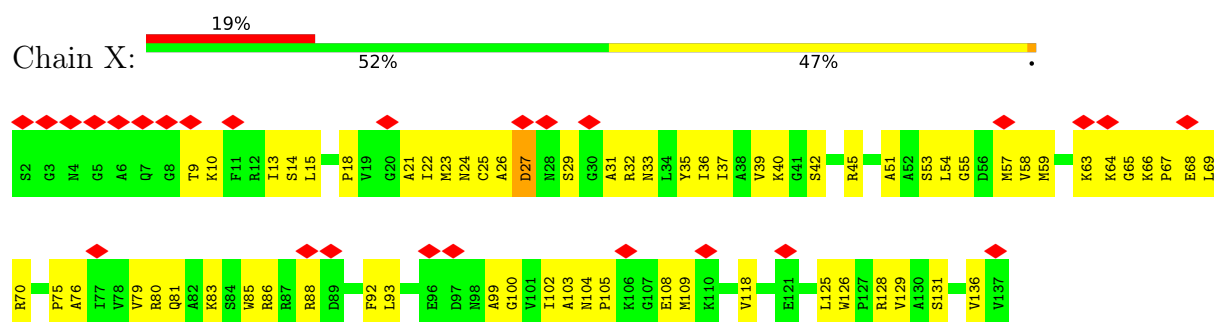
- Molecule 22: Large ribosomal subunit protein eL21A



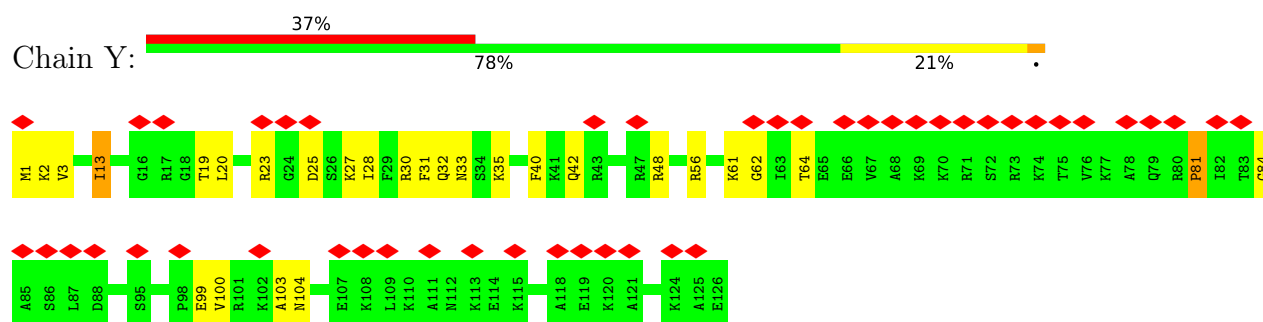
- Molecule 23: Large ribosomal subunit protein eL22A



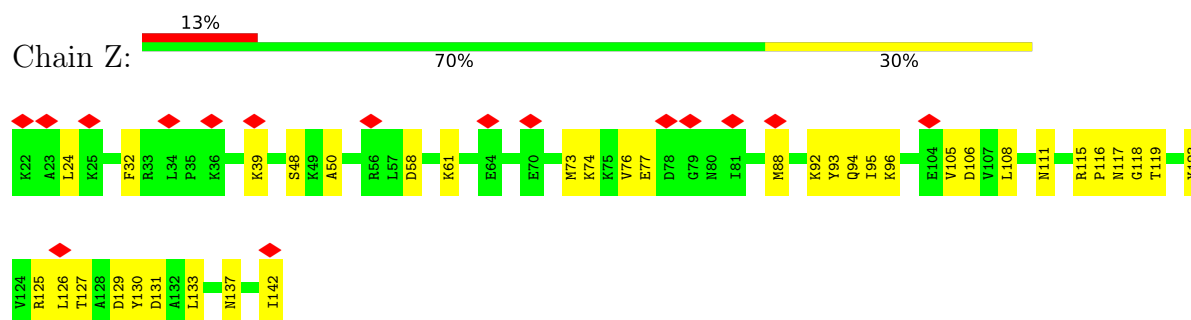
- Molecule 24: Large ribosomal subunit protein uL14A



- Molecule 25: Large ribosomal subunit protein eL24A

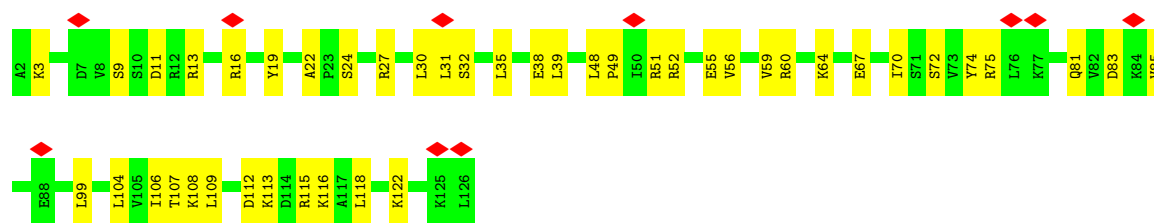


- Molecule 26: Large ribosomal subunit protein uL23

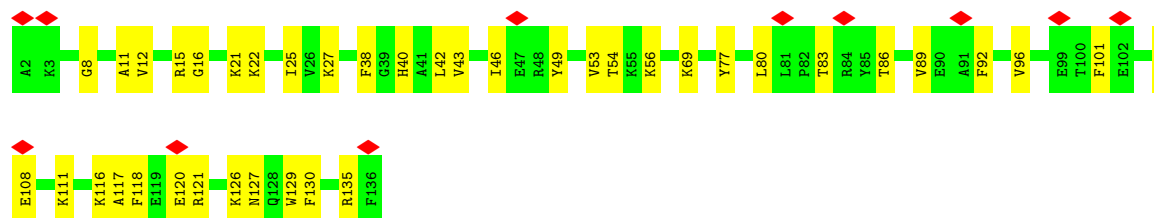


- Molecule 27: Large ribosomal subunit protein uL24A

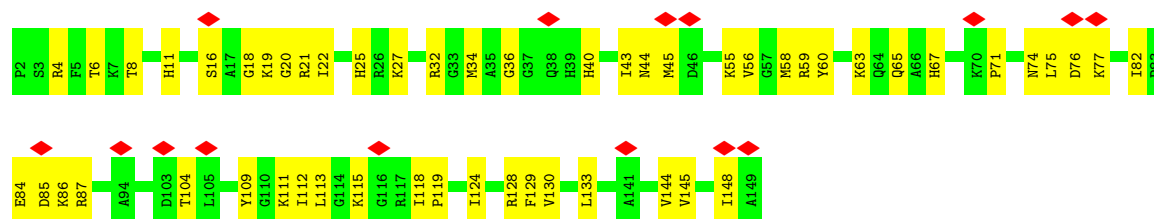




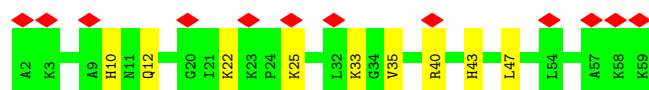
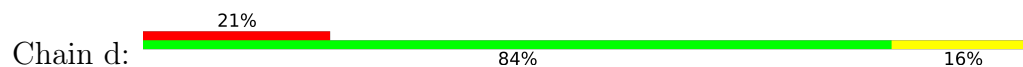
- Molecule 28: Large ribosomal subunit protein eL27A



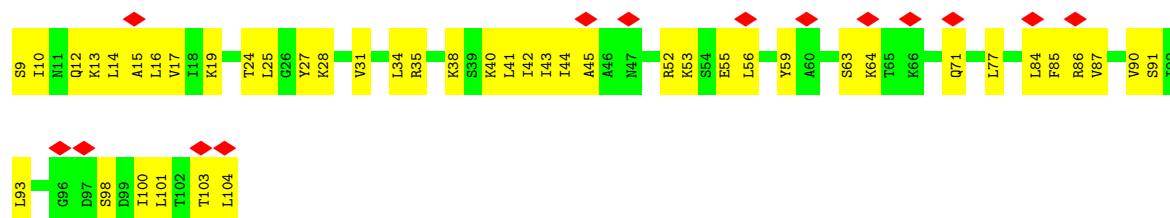
- Molecule 29: Large ribosomal subunit protein uL15



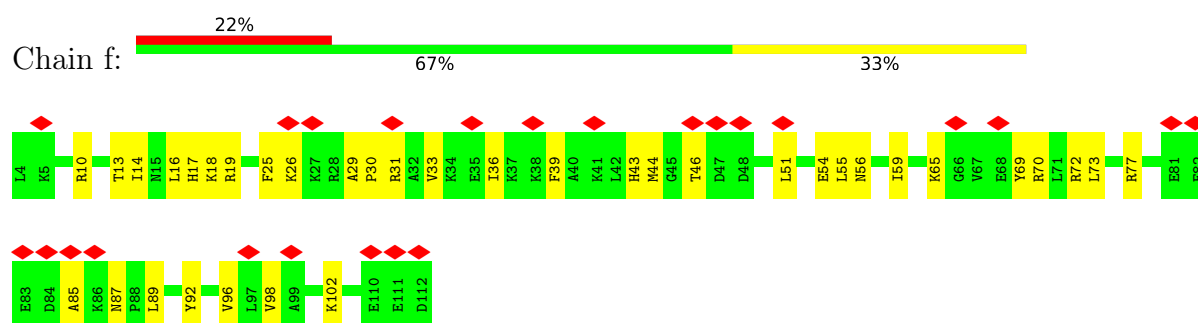
- Molecule 30: Large ribosomal subunit protein eL29



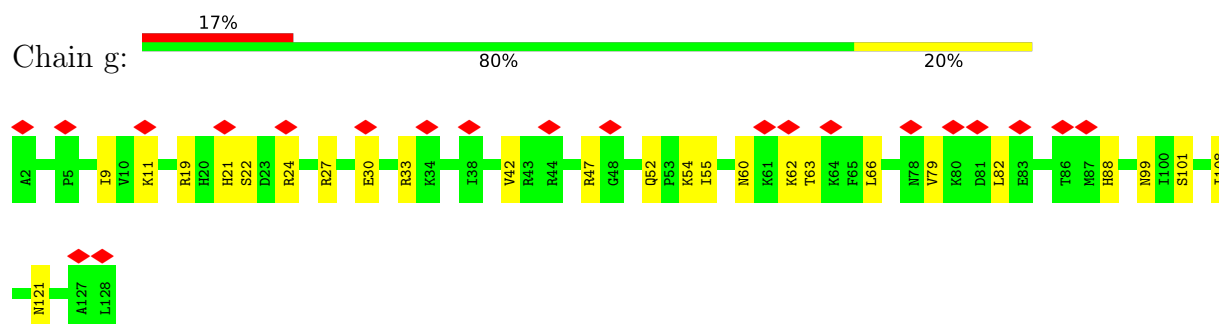
- Molecule 31: Large ribosomal subunit protein eL30



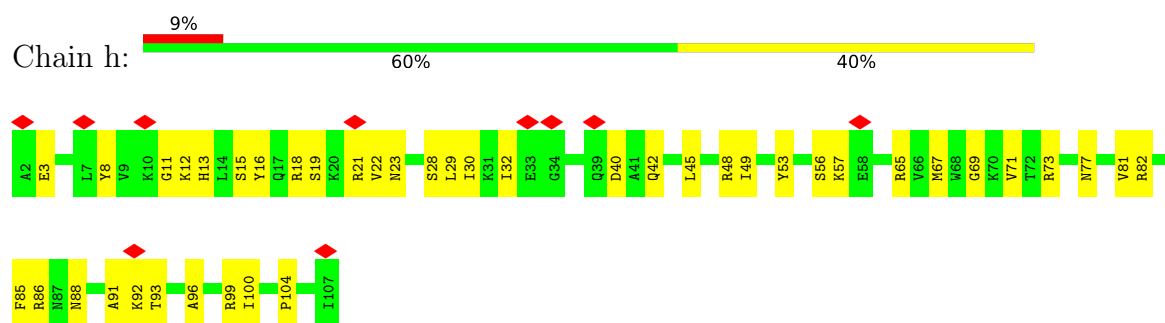
- Molecule 32: Large ribosomal subunit protein eL31A



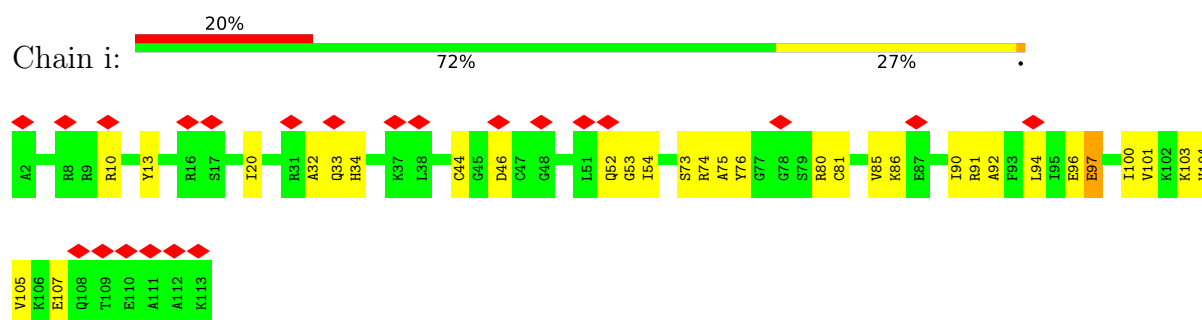
- Molecule 33: Large ribosomal subunit protein eL32



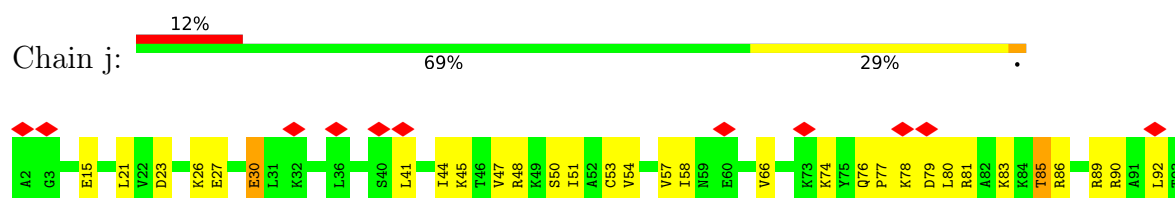
- Molecule 34: Large ribosomal subunit protein eL33A

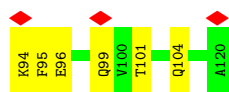


- Molecule 35: Large ribosomal subunit protein eL34A

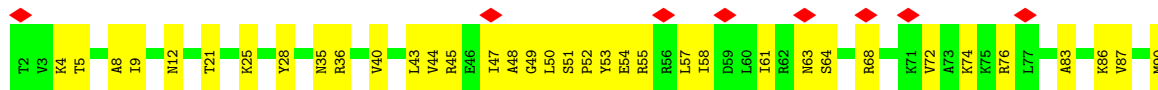


- Molecule 36: Large ribosomal subunit protein uL29A

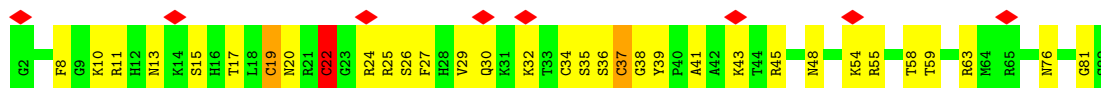




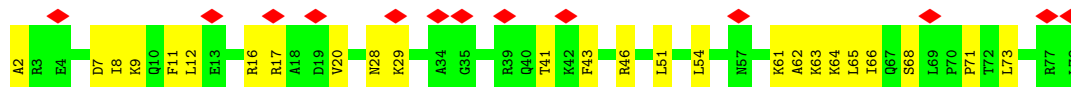
- Molecule 37: Large ribosomal subunit protein eL36A



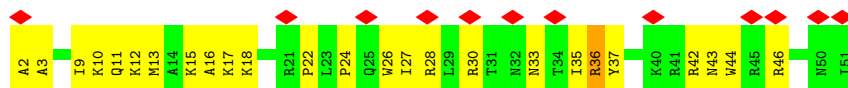
- Molecule 38: Large ribosomal subunit protein eL37A



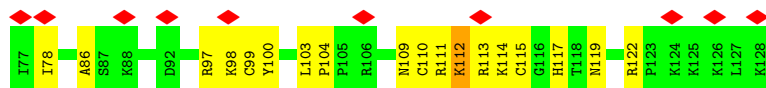
- Molecule 39: Large ribosomal subunit protein eL38



- Molecule 40: Large ribosomal subunit protein eL39



- Molecule 41: Large ribosomal subunit protein eL40A

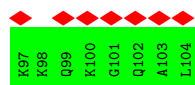
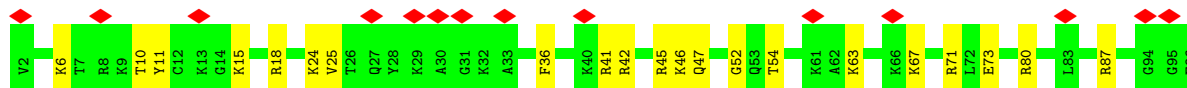
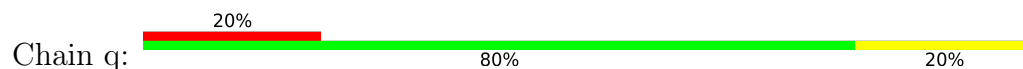


- Molecule 42: Large ribosomal subunit protein eL41A

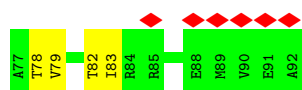
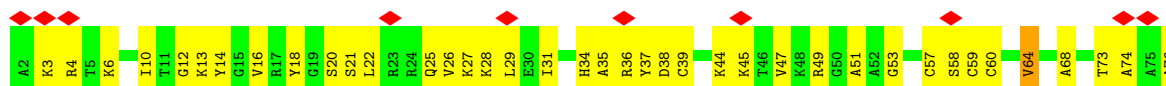




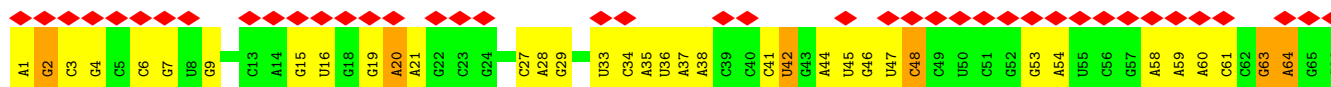
- Molecule 43: Large ribosomal subunit protein eL42A



- Molecule 44: Large ribosomal subunit protein eL43A



- Molecule 45: tRNA



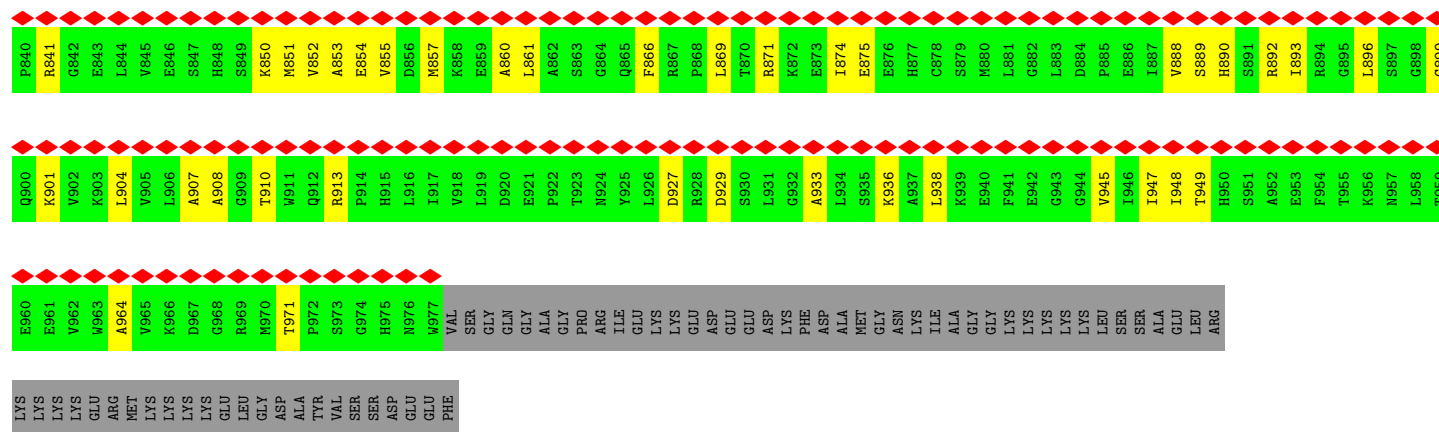
- Molecule 45: tRNA



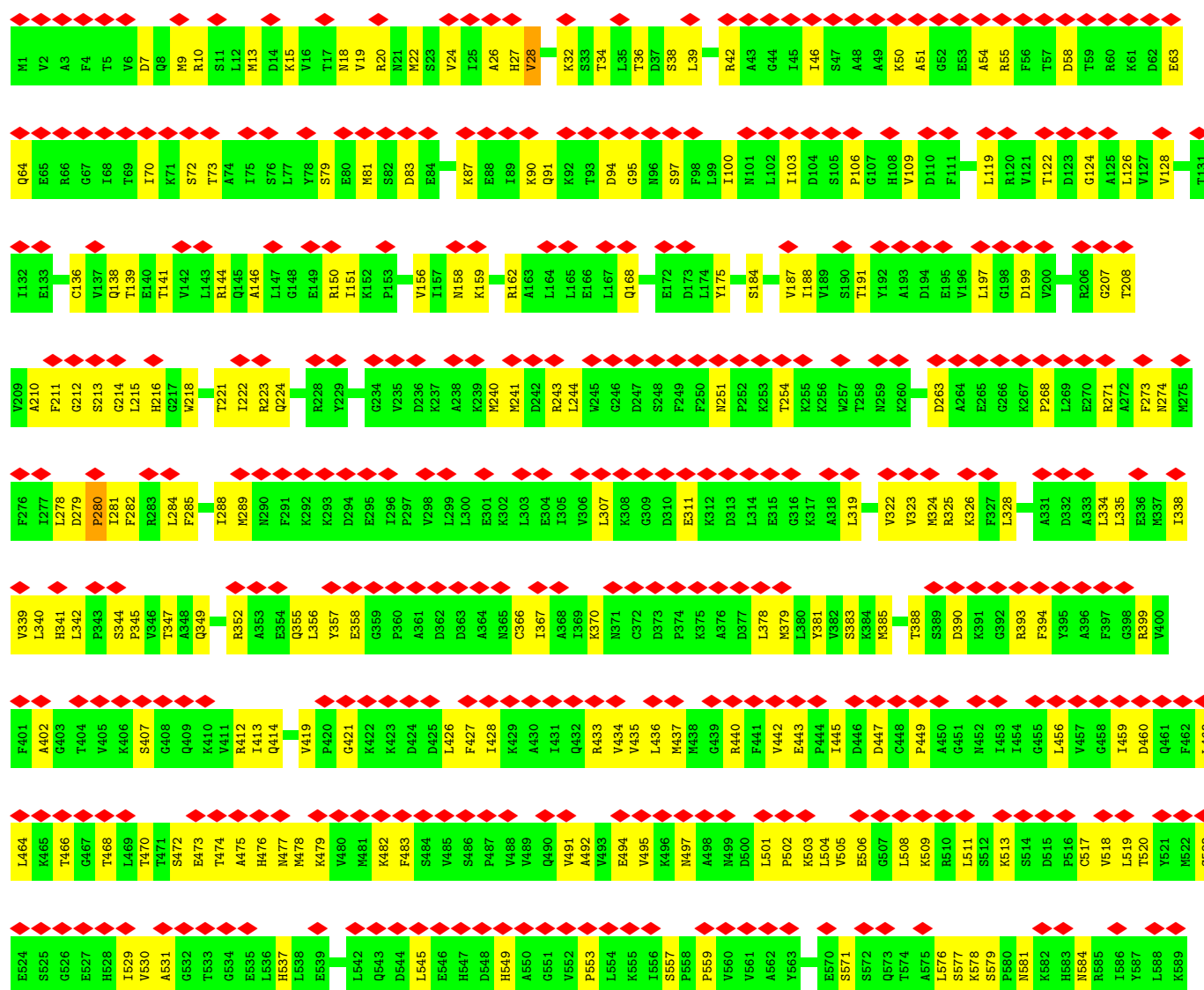
- Molecule 46: Elongation factor 3A



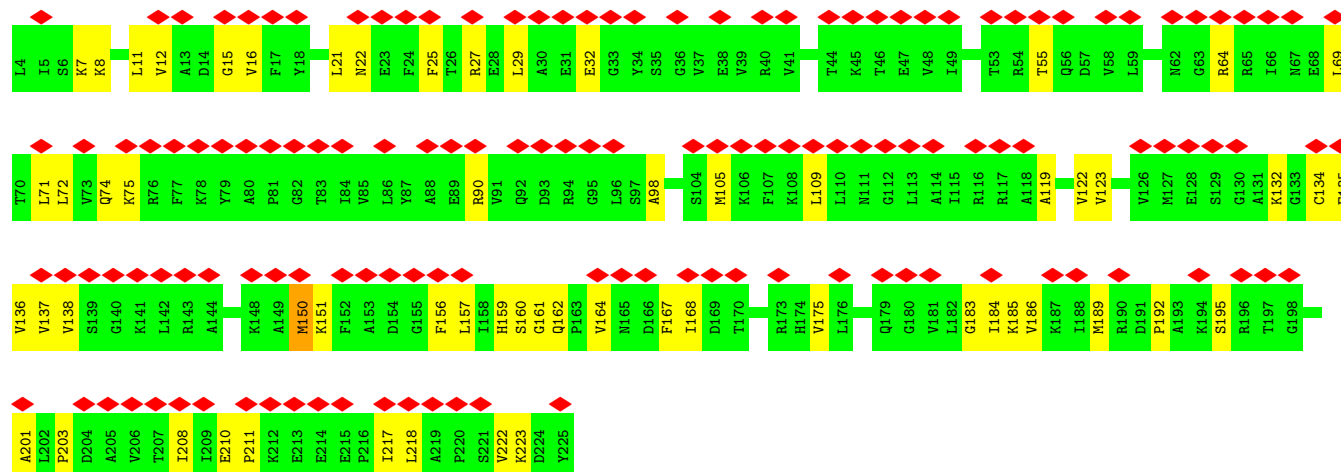
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K60	K61	T62	A63	A64	N65	A66	N67	Q68	A69	V70	A71	H72	H72	I73	A74	N75	Q76	S77	N78	L79	S80	P81	S82	Q83	H84	P85	H86	I87	T88	Q89	L90	A150	A151	V91	P92	A93	I94	C95	T96	N97	A98	G99	N100	I101	D102	K103	E104	I105	Q106	S107	V108	A109	S110	E111	T112	L113	I114	S115	I116	V117	N118	A119
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I300	A301	D302	P303	E304	A305	R306	E307	V308	T309	L310	R311	A312	L313	K314	T315	L316	R317	R318	V319	G320	N321	V322	G323	E324	D325	D326	A327	L328	P329	E330	V331	S332	F333	A334	G335	D336	V337	S338	T339	T340	L341	Q342	V343	N345	E346	L347	L348	K349	D350	E351	T352	V353	A354	P355	R356	K358	I359					
V360	V361	E362	Y363	I364	A365	A366	I367	G368	A369	D370	L371	I372	D373	E374	R375	I376	I377	D378	Q379	Q380	A381	W382	F383	T384	H385	I386	T387	P388	Y389	M390	T391	I392	K393	L394	H395	E396	R397	K398	A399	K400	D401	I402	L403	E405	P406	R407	K408	R409	A410	V411	D412	N413	I414	A415	V416	Q417	P418	N419				
F420	D421	D422	E423	E424	D425	E426	Q427	E428	A429	L430	C431	M432	C433	E434	F435	S436	L437	A438	Y439	G440	A441	K442	I443	L444	L445	N446	K447	T448	Q449	L450	R451	L452	K453	R454	A455	R456	R457	Y458	G459	L460	C461	G462	P463	N464	G465	C466	G467	K468	S469	T470	L471	M472	R473	A474	I475	A476	M477	Q478	Q479			
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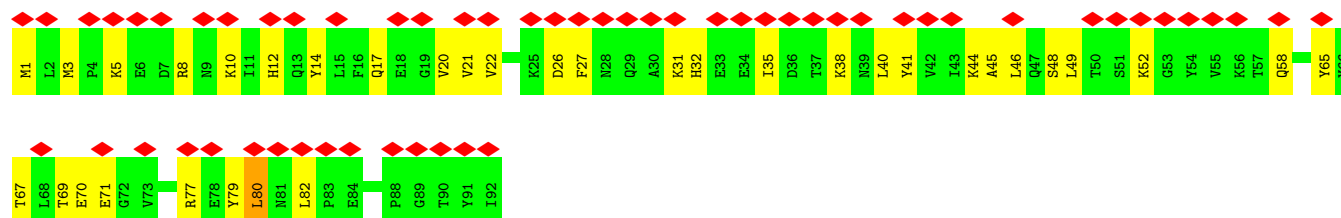
• Molecule 47: Elongation factor 2



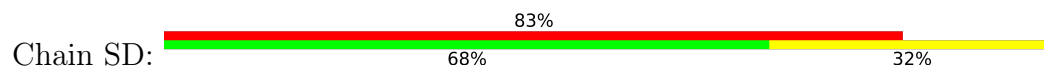
- Molecule 48: Small ribosomal subunit protein uS3

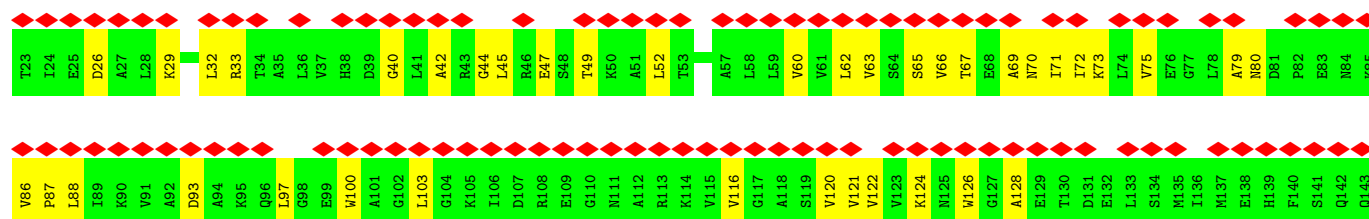


- Molecule 49: Small ribosomal subunit protein eS10A

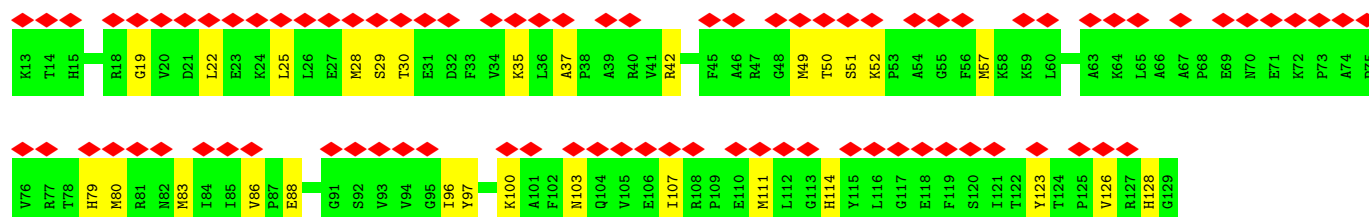
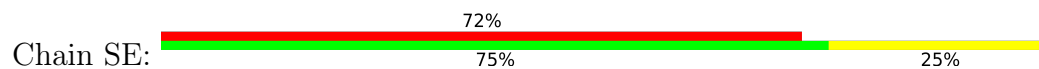


- Molecule 50: Small ribosomal subunit protein eS12

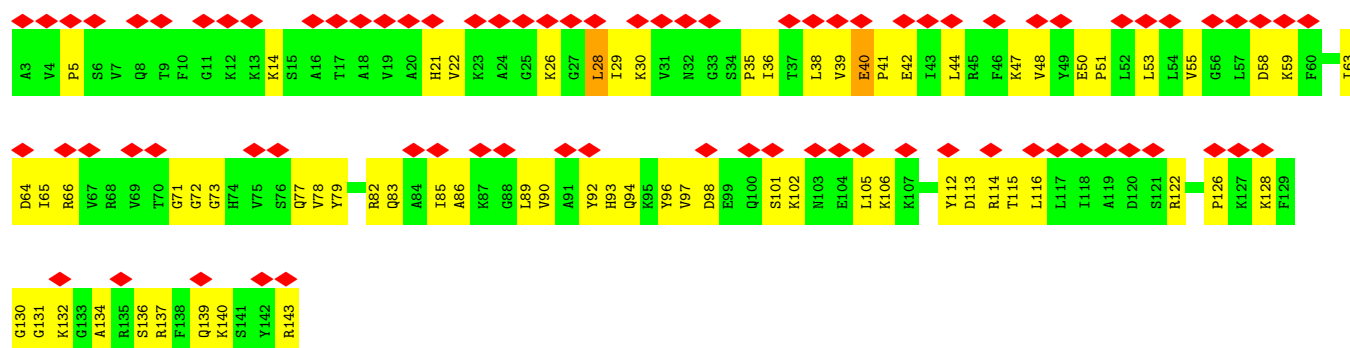




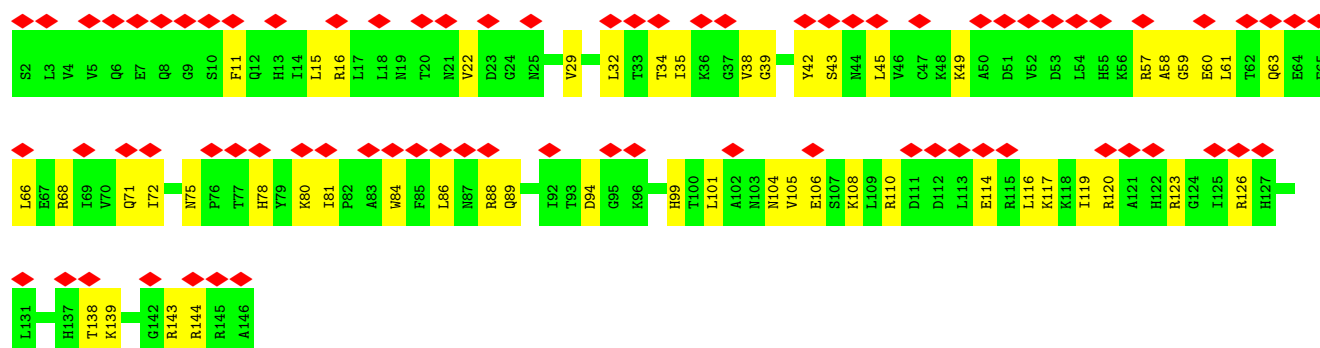
- Molecule 51: Small ribosomal subunit protein uS19



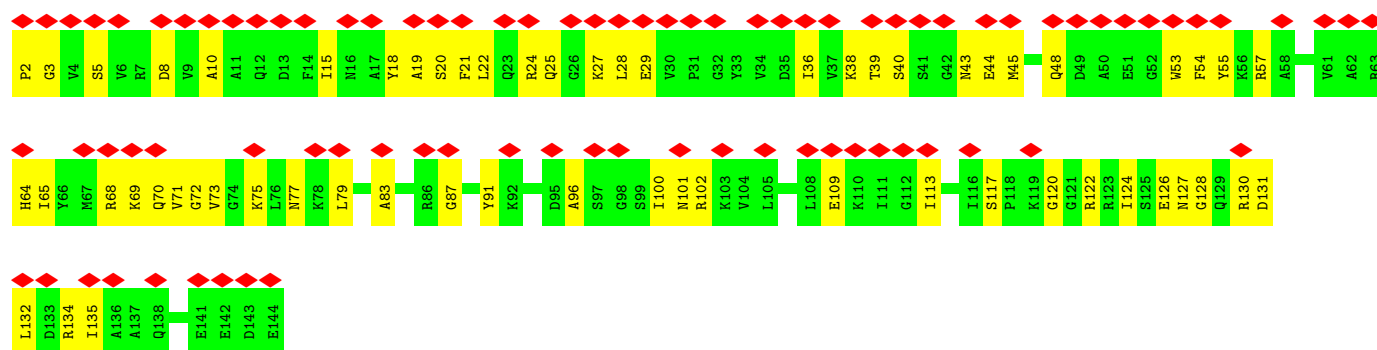
- Molecule 52: Small ribosomal subunit protein uS9A



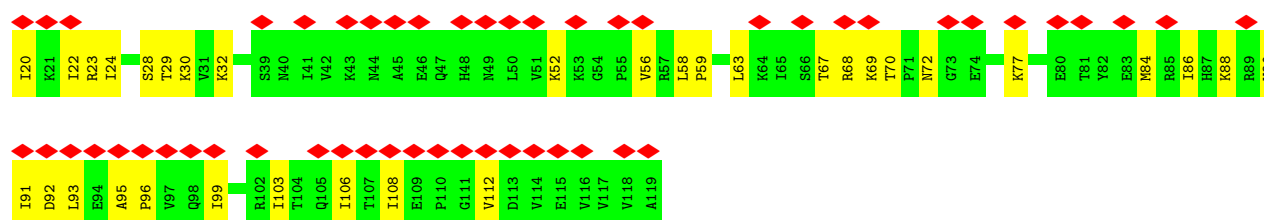
- Molecule 53: Small ribosomal subunit protein uS13A



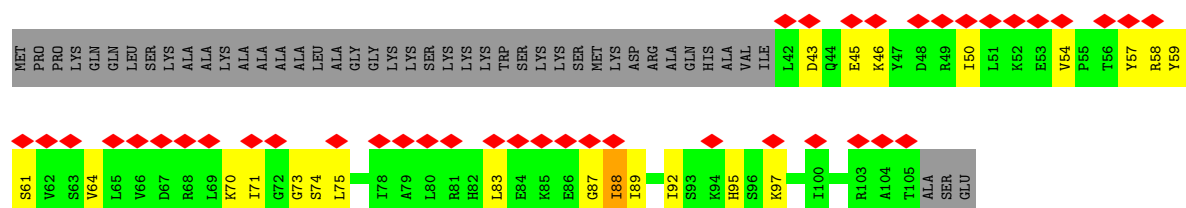
- Molecule 54: Small ribosomal subunit protein eS19A



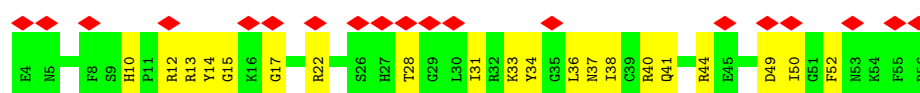
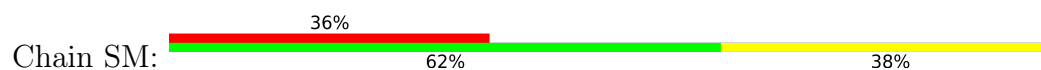
• Molecule 55: Small ribosomal subunit protein uS10



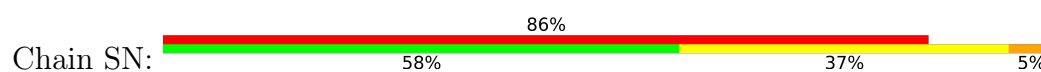
• Molecule 56: Small ribosomal subunit protein eS25A



• Molecule 57: Small ribosomal subunit protein uS14A

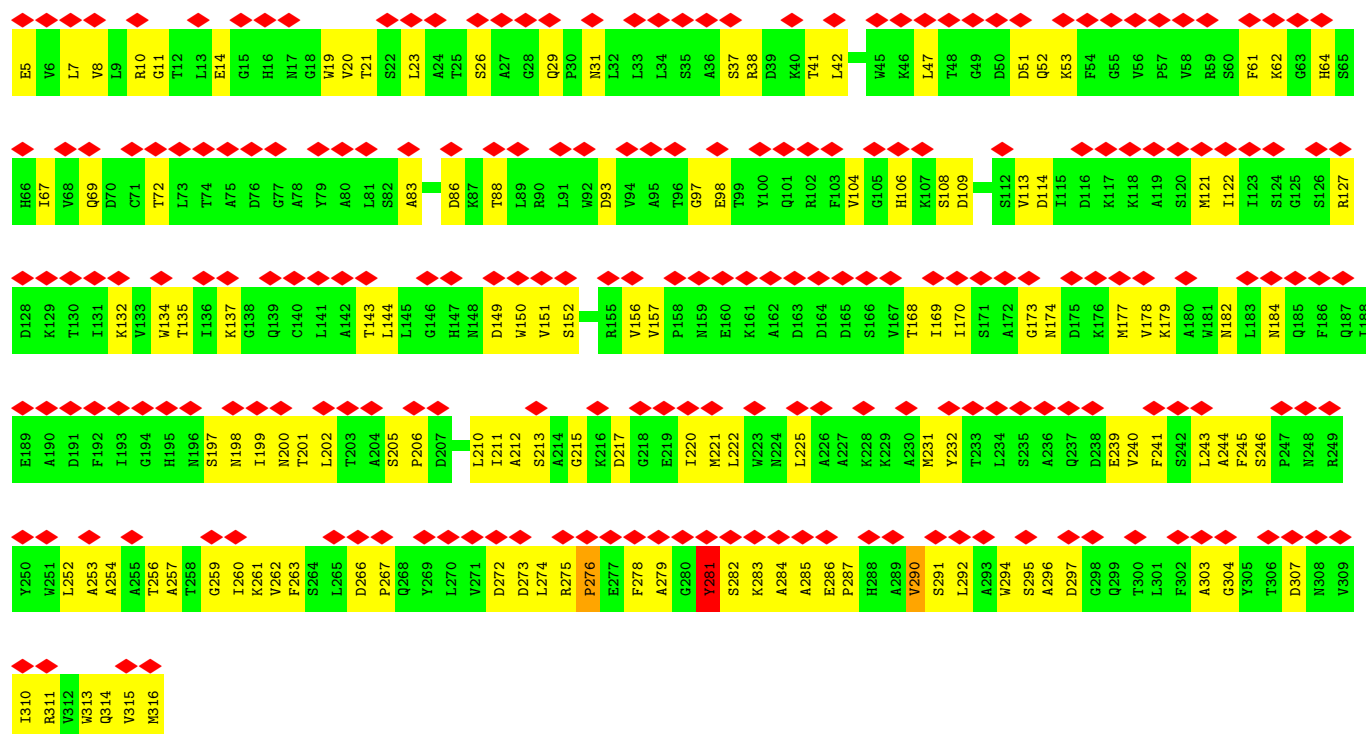


• Molecule 58: Small ribosomal subunit protein eS31

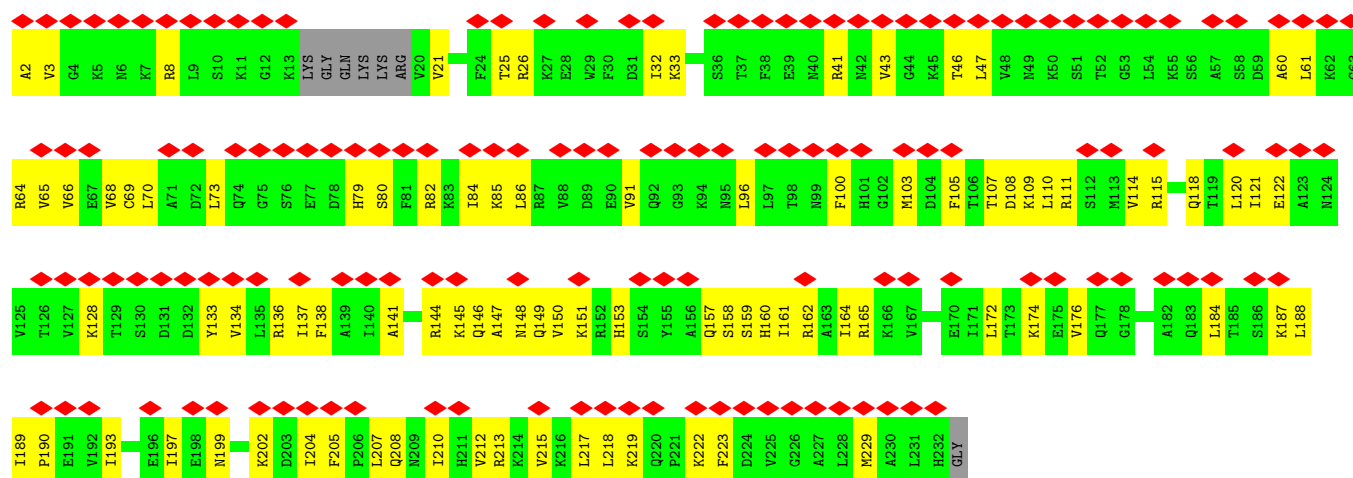




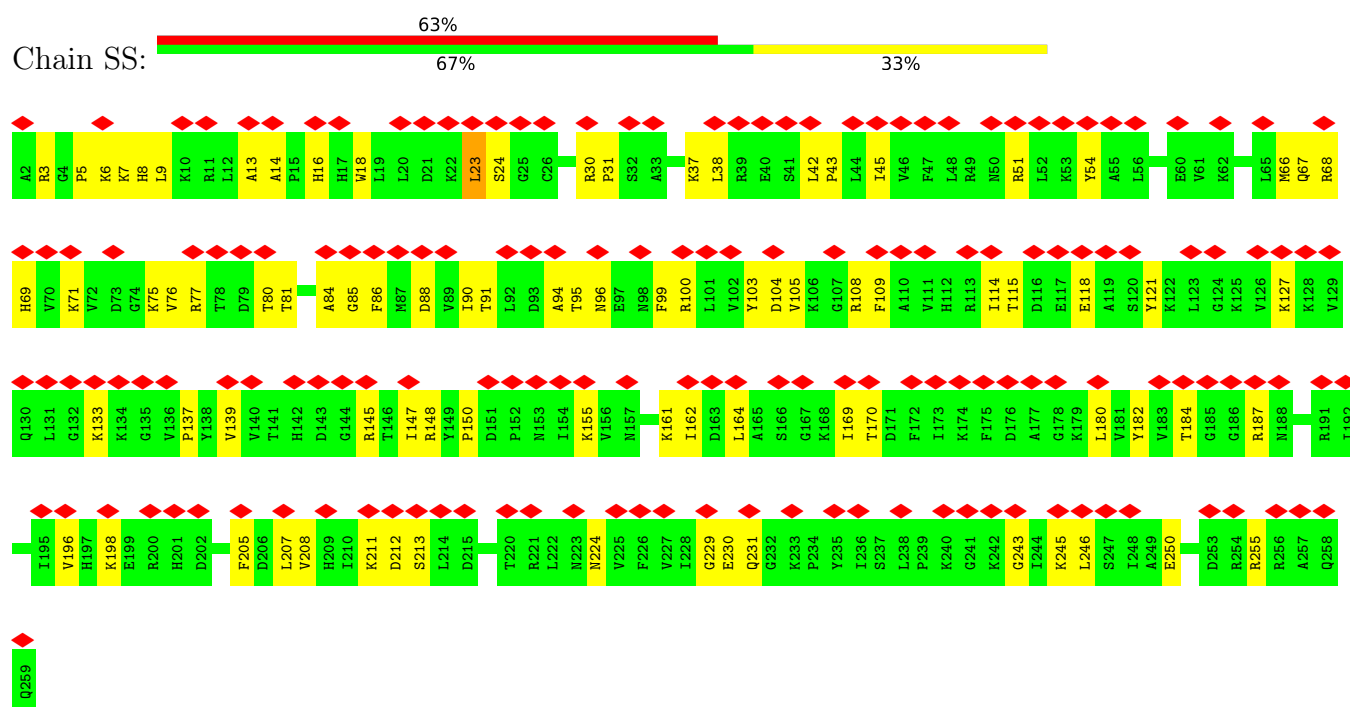
• Molecule 59: Small ribosomal subunit protein RACK1



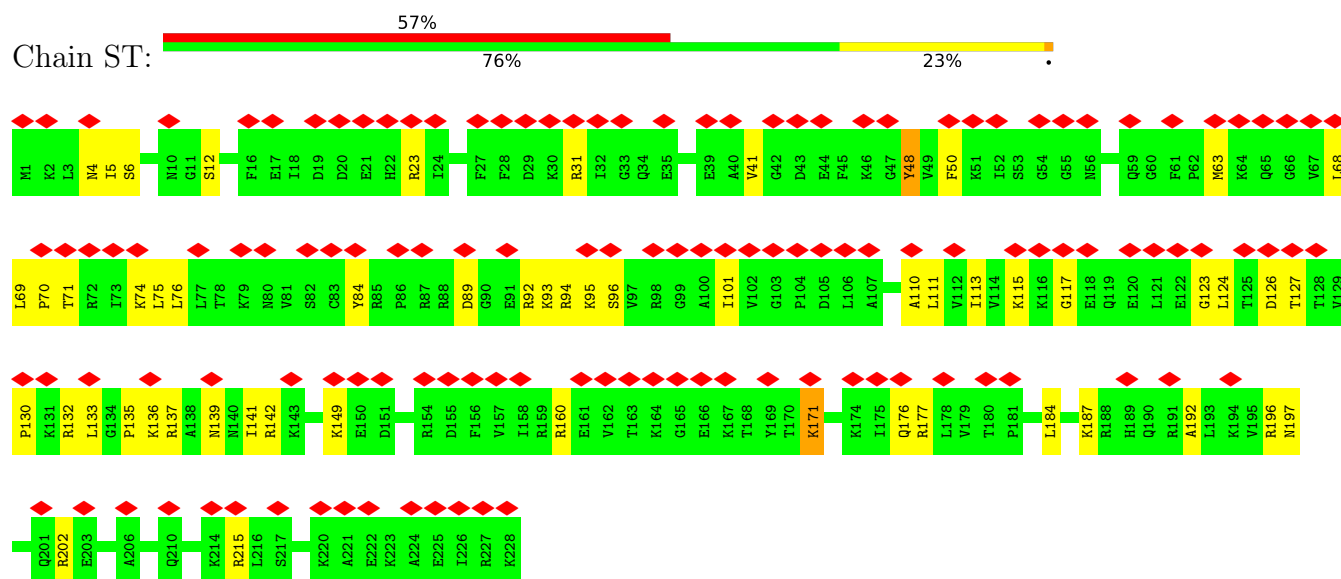
• Molecule 60: Small ribosomal subunit protein eS1A



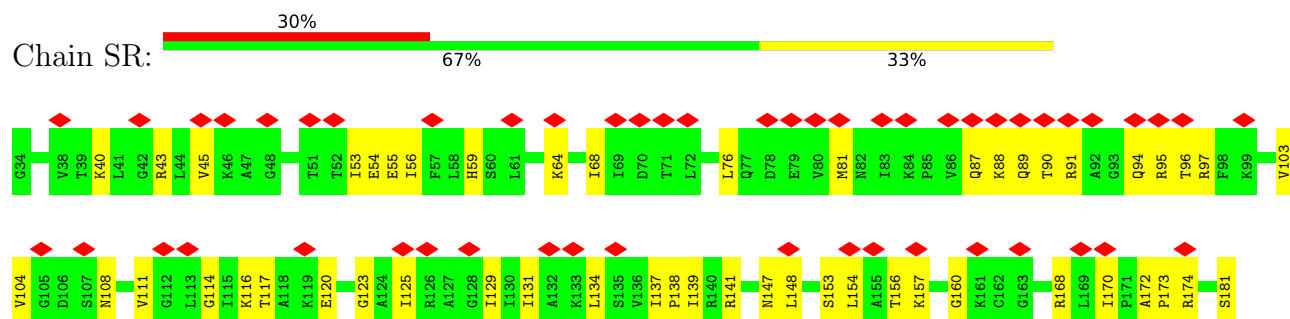
• Molecule 61: Small ribosomal subunit protein eS4A

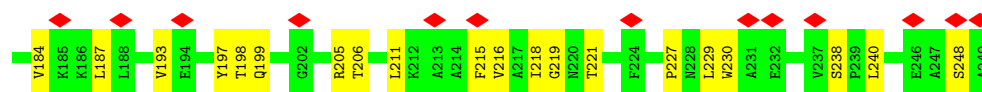


- Molecule 62: Small ribosomal subunit protein eS6A

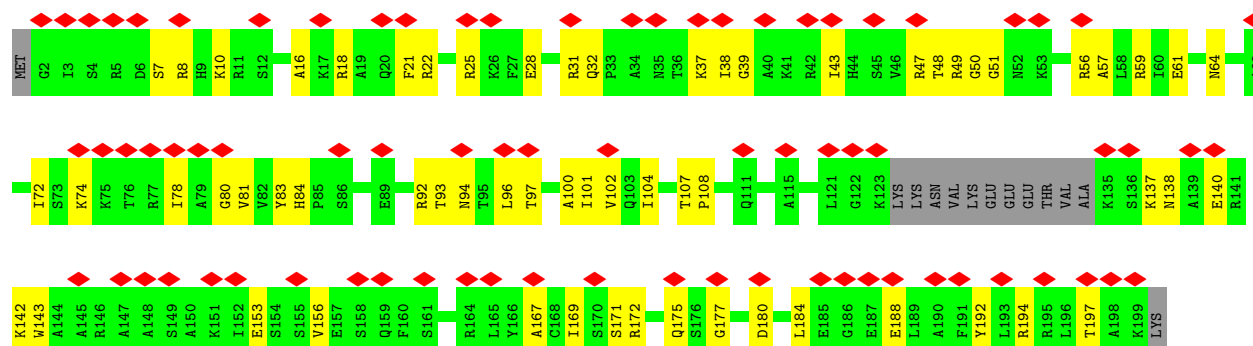
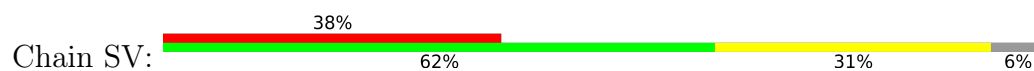


- Molecule 63: Small ribosomal subunit protein uS5

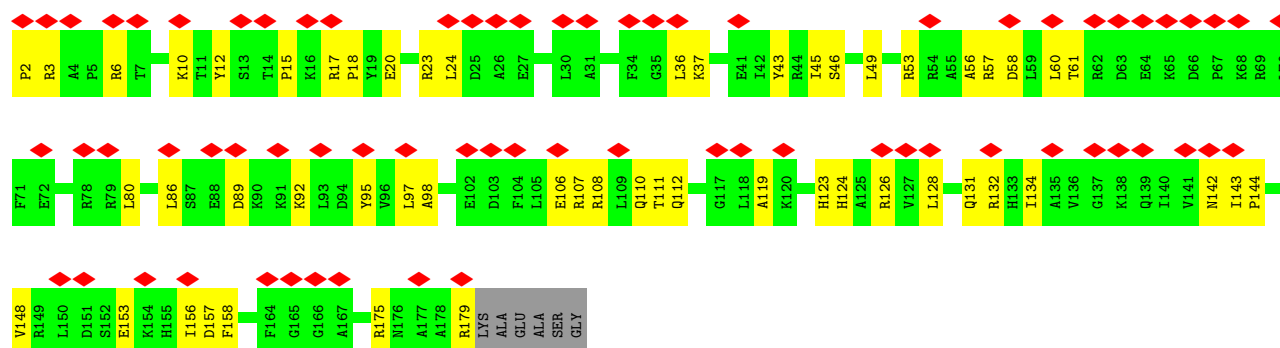
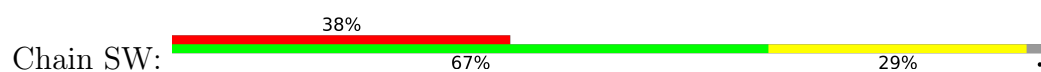




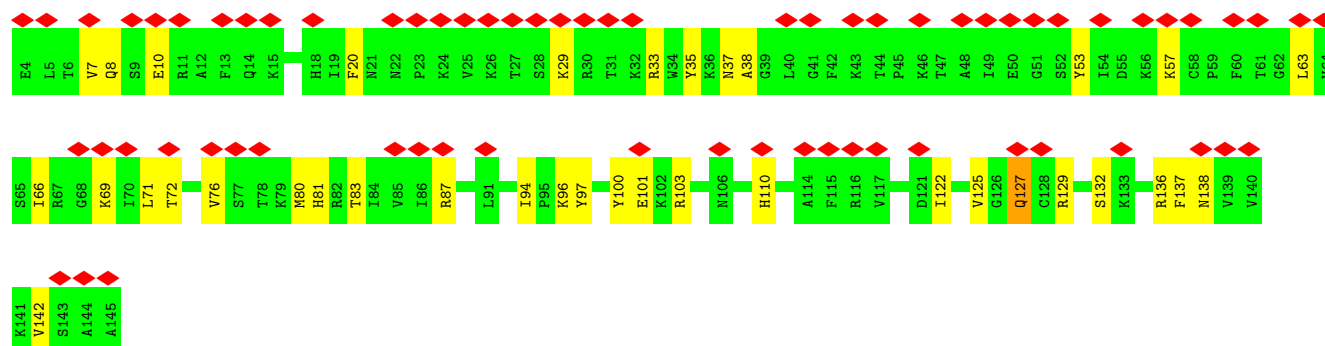
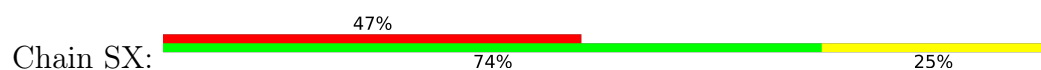
• Molecule 64: Small ribosomal subunit protein eS8A



• Molecule 65: Small ribosomal subunit protein uS4A

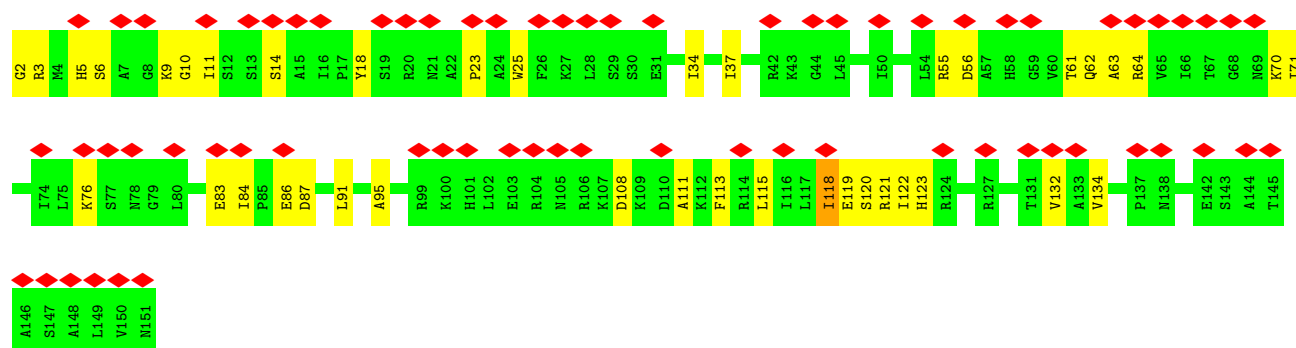


• Molecule 66: Small ribosomal subunit protein uS17A



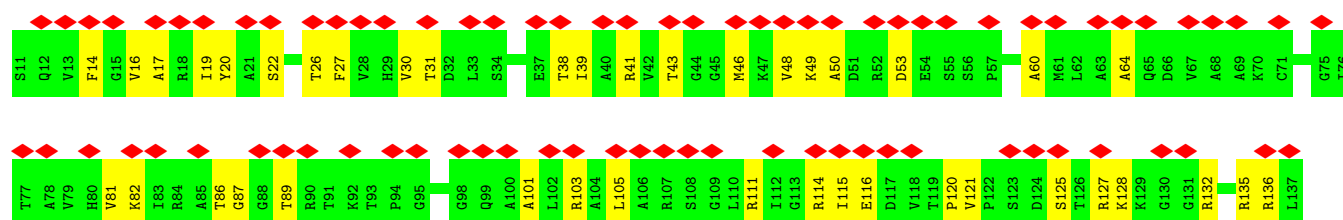
• Molecule 67: Small ribosomal subunit protein uS15

Chain SY: 



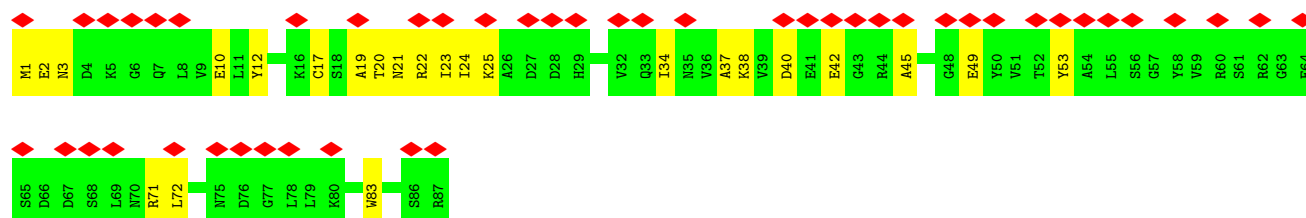
- Molecule 68: Small ribosomal subunit protein uS11B

Chain SZ: 



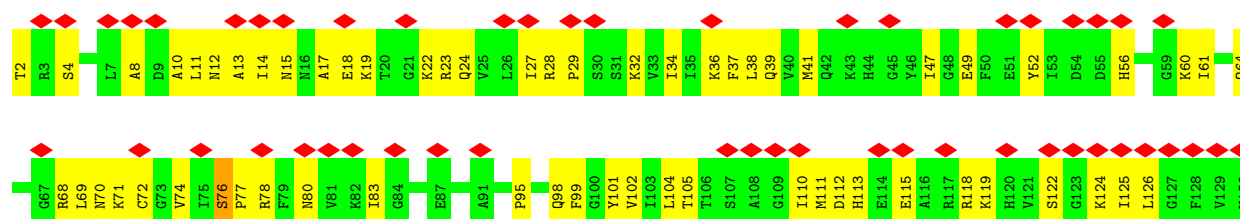
- Molecule 69: Small ribosomal subunit protein eS21A

Chain Sa: 



- Molecule 70: Small ribosomal subunit protein uS8A

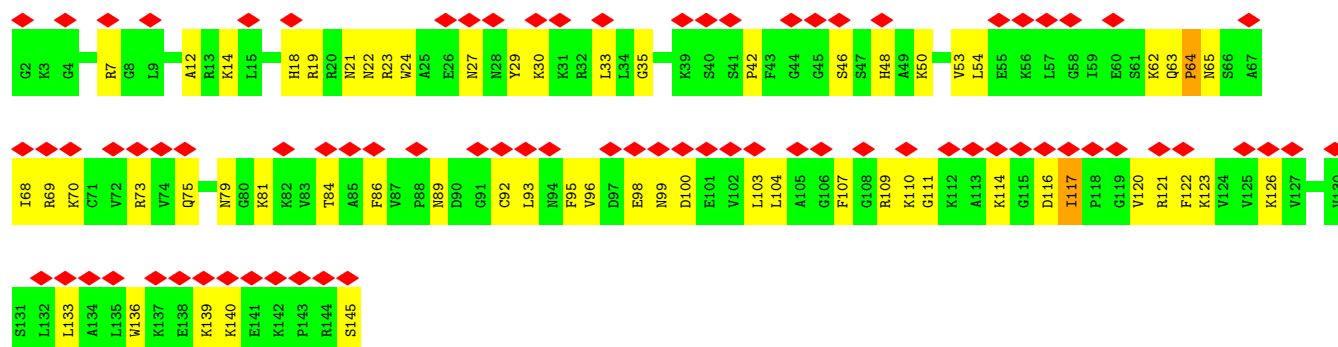
Chain Sb: 



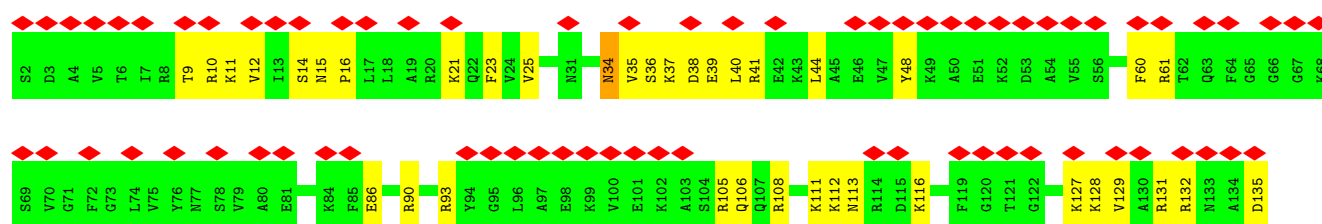
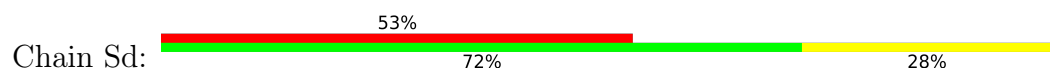
- Molecule 71: Small ribosomal subunit protein uS12A

Chain Sc: 

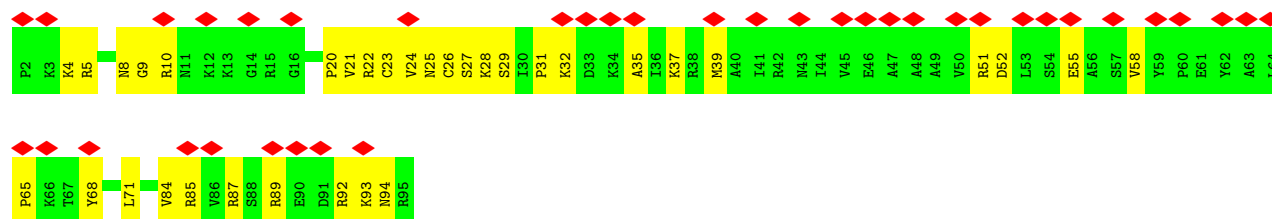
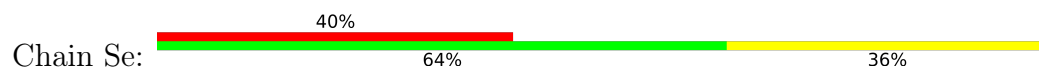




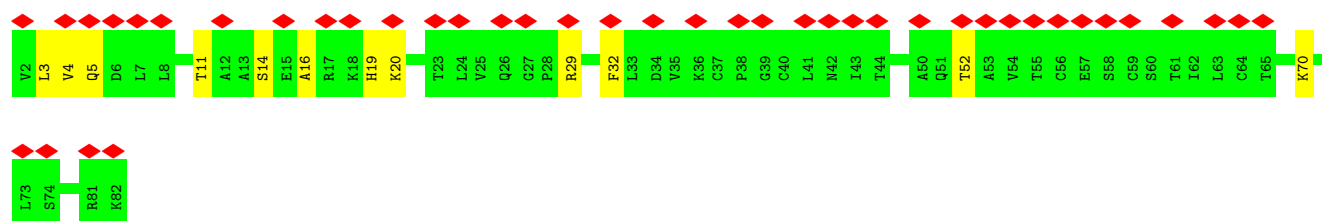
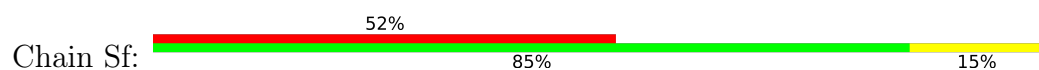
- Molecule 72: Small ribosomal subunit protein eS24A



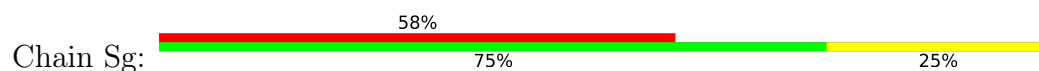
- Molecule 73: Small ribosomal subunit protein eS26A

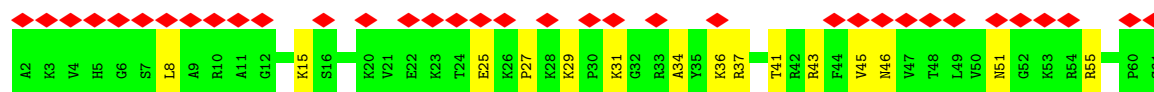


- Molecule 74: Small ribosomal subunit protein eS27A

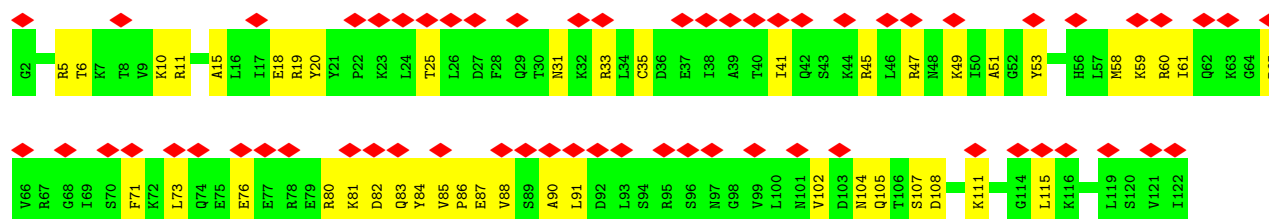


- Molecule 75: Small ribosomal subunit protein eS30A

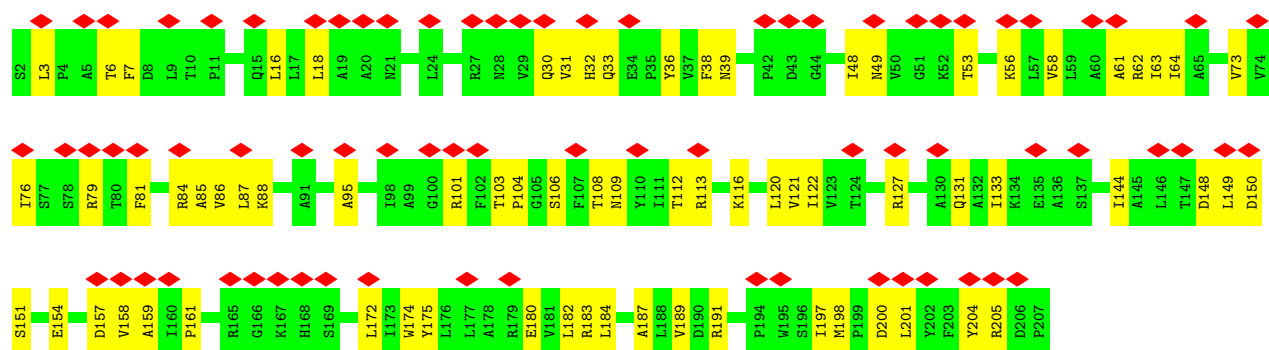




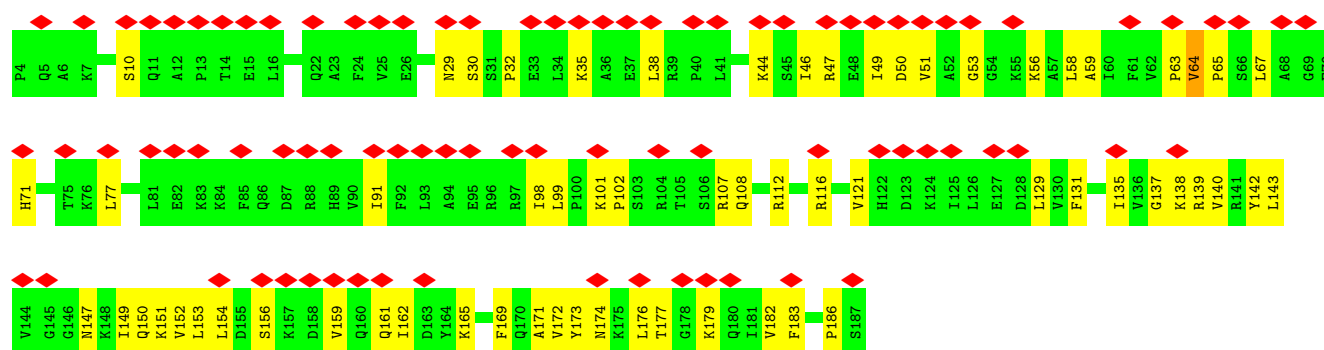
- Molecule 76: Small ribosomal subunit protein eS17A



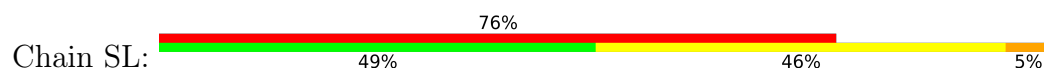
- Molecule 77: Small ribosomal subunit protein uS2A

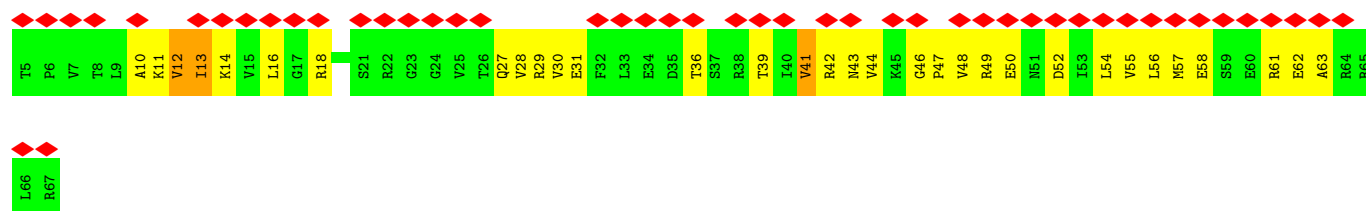


- Molecule 78: Small ribosomal subunit protein eS7A

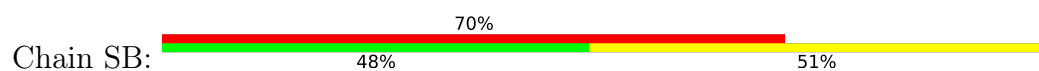


- Molecule 79: Small ribosomal subunit protein eS28A

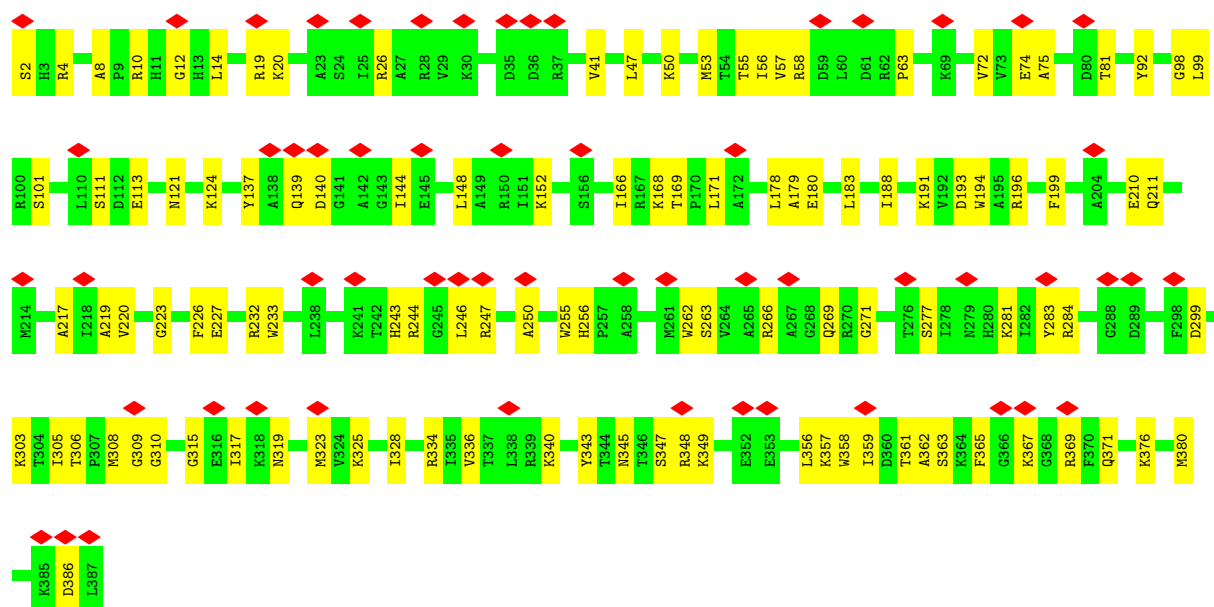




• Molecule 80: Small ribosomal subunit protein uS7



• Molecule 81: Large ribosomal subunit protein uL3



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	11880	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	Not provided	
Image detector	GATAN K2 QUANTUM (4k x 4k)	Depositor
Maximum map value	1.099	Depositor
Minimum map value	-0.558	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.066	Depositor
Recommended contour level	0.26	Depositor
Map size ($\text{\AA}$)	528.0, 528.0, 528.0	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.32, 1.32, 1.32	Depositor

5 Model quality

5.1 Standard geometry

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	2	0.11	0/42211	0.26	0/65773
2	A	0.08	0/76425	0.21	0/119146
3	B	0.07	0/2883	0.19	0/4491
4	C	0.10	0/3746	0.25	0/5832
5	D	0.12	0/1933	0.33	0/2598
6	F	0.11	0/2800	0.29	0/3790
7	G	0.10	0/2400	0.33	0/3239
8	H	0.14	0/1329	0.32	0/1794
9	I	0.12	0/1821	0.33	0/2451
10	J	0.14	0/1836	0.40	0/2481
11	K	0.13	0/1529	0.35	0/2060
12	L	0.15	0/1801	0.39	0/2416
13	M	0.16	0/1367	0.45	0/1834
14	N	0.11	0/1568	0.30	0/2106
15	O	0.12	0/1068	0.33	0/1438
16	P	0.16	0/1757	0.39	0/2354
17	Q	0.17	0/1585	0.46	0/2128
18	R	0.13	0/1439	0.37	0/1938
19	S	0.12	0/1465	0.33	0/1965
20	T	0.15	0/1532	0.40	0/2043
21	U	0.14	0/1473	0.34	1/1980 (0.1%)
22	V	0.16	0/1296	0.45	1/1739 (0.1%)
23	W	0.12	0/812	0.37	0/1099
24	X	0.14	0/1018	0.42	0/1369
25	Y	0.16	0/850	0.46	0/1152
26	Z	0.14	0/979	0.40	0/1321
27	a	0.10	0/995	0.35	0/1329
28	b	0.14	0/1106	0.37	0/1485
29	c	0.12	0/1200	0.33	0/1607
30	d	0.11	0/473	0.34	0/629
31	e	0.14	0/745	0.42	0/1001
32	f	0.17	0/890	0.46	0/1196
33	g	0.10	0/1034	0.30	0/1385
34	h	0.13	0/868	0.40	0/1168

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	i	0.14	0/890	0.36	0/1189
36	j	0.16	0/978	0.51	1/1301 (0.1%)
37	k	0.12	0/772	0.33	0/1026
38	l	0.19	0/660	0.54	1/875 (0.1%)
39	m	0.20	0/618	0.52	1/826 (0.1%)
40	n	0.25	0/443	0.69	1/588 (0.2%)
41	o	0.14	0/416	0.42	0/553
42	p	0.17	0/230	0.51	0/296
43	q	0.11	0/836	0.34	0/1104
44	r	0.14	0/701	0.45	0/934
45	t	0.08	0/1795	0.20	0/2797
45	u	0.08	0/1771	0.21	0/2760
46	v	0.13	0/7611	0.36	1/10322 (0.0%)
47	x	0.13	0/6685	0.38	1/9050 (0.0%)
48	SA	0.13	0/1754	0.35	0/2361
49	SC	0.18	0/769	0.53	0/1039
50	SD	0.13	0/883	0.42	0/1199
51	SE	0.13	0/936	0.38	0/1259
52	SF	0.16	0/1125	0.44	0/1510
53	SH	0.12	0/1207	0.37	0/1623
54	SI	0.11	0/1130	0.33	0/1517
55	SJ	0.15	0/807	0.45	1/1091 (0.1%)
56	SK	0.19	0/526	0.55	0/706
57	SM	0.14	0/452	0.47	0/600
58	SN	0.21	0/571	0.60	1/768 (0.1%)
59	SO	0.30	2/2436 (0.1%)	0.44	2/3318 (0.1%)
60	SQ	0.14	0/1819	0.38	0/2442
61	SS	0.11	0/2097	0.34	0/2823
62	ST	0.11	0/1839	0.33	0/2460
63	SR	0.16	0/1656	0.47	0/2251
64	SV	0.11	0/1501	0.34	0/2006
65	SW	0.13	0/1466	0.42	0/1966
66	SX	0.12	0/1168	0.35	0/1575
67	SY	0.12	0/1215	0.34	0/1638
68	SZ	0.10	0/901	0.30	0/1217
69	Sa	0.16	0/682	0.42	0/921
70	Sb	0.19	0/1038	0.51	0/1395
71	Sc	0.13	0/1139	0.37	0/1518
72	Sd	0.11	0/1087	0.31	0/1449
73	Se	0.13	0/761	0.38	0/1016
74	Sf	0.13	0/620	0.34	0/838
75	Sg	0.12	0/480	0.34	0/639
76	SG	0.17	0/971	0.45	0/1303

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
77	SP	0.14	0/1644	0.41	0/2249
78	SU	0.13	0/1498	0.38	0/2019
79	SL	0.24	0/499	0.62	0/670
80	SB	0.23	0/1629	0.69	3/2202 (0.1%)
81	E	0.10	0/3146	0.30	0/4228
All	All	0.12	2/232092 (0.0%)	0.31	15/339774 (0.0%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
59	SO	281	TYR	C-N	9.83	1.47	1.34
59	SO	21	THR	C-N	-5.56	1.26	1.33

All (15) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
38	l	22	CYS	N-CA-C	-10.19	100.17	111.07
46	v	205	ILE	N-CA-C	-7.35	106.73	113.71
58	SN	144	CYS	N-CA-C	-6.88	103.28	113.61
22	V	127	GLN	CA-CB-CG	6.20	126.50	114.10
39	m	71	PRO	CA-N-CD	-5.91	103.73	112.00
80	SB	43	PHE	N-CA-C	-5.75	102.93	110.53
21	U	21	GLU	CA-CB-CG	5.69	125.48	114.10
80	SB	168	VAL	N-CA-C	-5.67	107.36	112.12
80	SB	65	ARG	CA-CB-CG	5.63	125.37	114.10
47	x	280	PRO	CA-N-CD	-5.53	104.27	112.00
36	j	30	GLU	CA-CB-CG	5.48	125.07	114.10
59	SO	281	TYR	CA-C-N	-5.37	113.81	121.33
59	SO	281	TYR	C-N-CA	-5.37	113.81	121.33
55	SJ	59	PRO	CA-N-CD	-5.35	104.51	112.00
40	n	36	ARG	CB-CG-CD	5.13	123.11	111.30

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	2	37739	0	18988	966	0
2	A	68278	0	34316	1429	0
3	B	2579	0	1304	65	0
4	C	3353	0	1695	87	0
5	D	1899	0	1957	62	0
6	F	2748	0	2859	77	0
7	G	2351	0	2294	66	0
8	H	1307	0	1377	34	0
9	I	1784	0	1862	50	0
10	J	1804	0	1877	43	0
11	K	1508	0	1572	47	0
12	L	1764	0	1804	56	0
13	M	1346	0	1370	61	0
14	N	1543	0	1608	45	0
15	O	1053	0	1149	38	0
16	P	1720	0	1779	80	0
17	Q	1555	0	1659	71	0
18	R	1416	0	1433	37	0
19	S	1441	0	1543	60	0
20	T	1515	0	1606	52	0
21	U	1437	0	1475	47	0
22	V	1272	0	1312	44	0
23	W	796	0	812	23	0
24	X	1003	0	1048	53	0
25	Y	836	0	706	26	0
26	Z	964	0	1025	30	0
27	a	984	0	1075	34	0
28	b	1080	0	1122	33	0
29	c	1169	0	1211	45	0
30	d	462	0	491	7	0
31	e	737	0	792	35	0
32	f	876	0	912	32	0
33	g	1013	0	1077	21	0
34	h	850	0	880	42	0
35	i	880	0	945	29	0
36	j	969	0	1078	31	0
37	k	766	0	844	33	0
38	l	645	0	649	33	0
39	m	612	0	682	21	0
40	n	436	0	475	25	0
41	o	410	0	446	17	0
42	p	229	0	273	16	0
43	q	824	0	892	22	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
44	r	694	0	738	36	0
45	t	1605	0	816	34	0
45	u	1584	0	805	24	0
46	v	7476	0	7414	209	0
47	x	6559	0	6627	215	0
48	SA	1729	0	1812	55	0
49	SC	752	0	719	35	0
50	SD	875	0	878	27	0
51	SE	916	0	941	25	0
52	SF	1105	0	1166	72	0
53	SH	1188	0	1218	42	0
54	SI	1112	0	1124	53	0
55	SJ	797	0	863	28	0
56	SK	519	0	558	24	0
57	SM	442	0	432	27	0
58	SN	560	0	560	33	0
59	SO	2383	0	2332	113	0
60	SQ	1794	0	1887	72	0
61	SS	2056	0	2140	63	0
62	ST	1815	0	1894	49	0
63	SR	1626	0	1715	56	0
64	SV	1476	0	1501	59	0
65	SW	1441	0	1519	46	0
66	SX	1142	0	1209	28	0
67	SY	1192	0	1255	30	0
68	SZ	891	0	883	41	0
69	Sa	673	0	662	21	0
70	Sb	1021	0	1060	63	0
71	Sc	1121	0	1196	56	0
72	Sd	1073	0	1132	32	0
73	Se	750	0	799	28	0
74	Sf	610	0	633	11	0
75	Sg	472	0	521	15	0
76	SG	961	0	999	44	0
77	SP	1603	0	1610	70	0
78	SU	1473	0	1555	49	0
79	SL	497	0	535	37	0
80	SB	1609	0	1675	115	0
81	E	3075	0	3142	97	0
All	All	216620	0	162799	5384	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 14.

All (5384) 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)
1:2:1055:U:H3	1:2:1064:G:H1	1.04	0.98
1:2:1499:G:H1	1:2:1508:U:H3	1.06	0.97
63:SR:227:PRO:HA	63:SR:230:TRP:CD1	1.99	0.97
2:A:3006:A:H62	2:A:3140:G:N2	1.64	0.95
1:2:821:U:H3	1:2:852:C:N4	1.65	0.94
2:A:2250:G:H1	2:A:2266:U:H3	0.99	0.94
1:2:174:U:H3	1:2:266:A:H62	0.98	0.94
1:2:1267:G:H1	1:2:1442:U:H3	1.04	0.94
1:2:273:G:H1	1:2:283:U:H3	1.12	0.94
1:2:23:G:H1	1:2:602:U:H3	1.17	0.93
1:2:16:G:H21	1:2:1138:A:H62	1.14	0.92
2:A:3006:A:N6	2:A:3140:G:H21	1.65	0.92
1:2:628:G:H21	1:2:971:A:H62	1.02	0.92
71:Sc:63:GLN:HB3	71:Sc:64:PRO:HD2	1.52	0.91
2:A:3234:A:H61	2:A:3253:G:H1	1.07	0.91
2:A:2427:U:H3	2:A:2602:G:H1	1.02	0.91
62:ST:74:LYS:HG2	62:ST:94:ARG:HD2	1.53	0.89
2:A:3006:A:H62	2:A:3140:G:H21	0.89	0.87
1:2:1322:A:O2'	1:2:1323:C:H5'	1.75	0.87
1:2:1628:U:H2'	1:2:1629:G:C8	2.09	0.87
1:2:1396:U:H3	1:2:1402:G:H1	1.17	0.86
66:SX:127:GLN:HA	66:SX:127:GLN:HE21	1.38	0.85
2:A:2216:G:H1	2:A:2229:A:H61	1.22	0.85
47:x:280:PRO:HD2	47:x:281:ILE:H	1.42	0.85
1:2:609:U:H1'	71:Sc:19:ARG:HH22	1.41	0.85
1:2:821:U:H3	1:2:852:C:H42	1.21	0.85
52:SF:78:VAL:HG12	52:SF:82:ARG:HH12	1.41	0.85
2:A:2826:U:H3	2:A:2863:G:H1	1.21	0.85
2:A:785:G:H5''	19:S:92:ARG:HH22	1.39	0.84
23:W:99:LYS:HB3	23:W:102:GLU:HB3	1.58	0.84
1:2:1335:U:H3	1:2:1416:G:H1	1.26	0.83
2:A:1662:G:H1	2:A:1787:A:H61	1.26	0.83
2:A:664:U:H3	2:A:798:G:H1	1.24	0.82
1:2:1187:U:H3	1:2:1198:G:H1	1.27	0.82
1:2:1323:C:H4'	77:SP:112:THR:HG21	1.62	0.81
1:2:628:G:N2	1:2:971:A:H62	1.78	0.81
59:SO:281:TYR:OH	59:SO:286:GLU:HA	1.80	0.81
16:P:106:VAL:HG21	16:P:132:VAL:HG11	1.63	0.81
80:SB:95:ASN:HA	80:SB:98:MET:HE1	1.60	0.81
2:A:1497:C:H2'	2:A:1498:A:H8	1.45	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:3234:A:N6	2:A:3253:G:H1	1.80	0.80
79:SL:10:ALA:HB3	79:SL:54:LEU:HD12	1.64	0.80
70:Sb:76:SER:HB2	70:Sb:77:PRO:HD3	1.63	0.80
2:A:1919:G:H21	2:A:1933:A:H62	1.26	0.80
2:A:2660:G:H1'	2:A:2744:U:H1'	1.64	0.80
47:x:505:VAL:HG11	71:Sc:99:ASN:HB3	1.64	0.80
1:2:1319:A:H2'	1:2:1320:U:C2	2.16	0.79
60:SQ:141:ALA:HB1	60:SQ:207:LEU:HD11	1.62	0.79
40:n:43:ASN:HD22	40:n:46:ARG:HH21	1.28	0.79
1:2:1641:C:H2'	1:2:1642:G:C8	2.17	0.79
2:A:2338:C:H3'	2:A:2339:C:H2'	1.65	0.79
47:x:271:ARG:HG3	47:x:273:PHE:H	1.46	0.78
1:2:1230:A:N7	1:2:1255:G:N2	2.32	0.78
1:2:1696:G:H2'	1:2:1697:G:C8	2.19	0.78
2:A:360:G:H21	2:A:815:G:H1'	1.47	0.78
1:2:1289:U:H3	1:2:1326:A:H61	1.30	0.78
1:2:1688:U:H3	1:2:1713:G:H1	1.30	0.78
56:SK:58:ARG:HD2	80:SB:124:LEU:HD23	1.64	0.78
21:U:79:VAL:HG23	21:U:123:ILE:HA	1.65	0.78
68:SZ:48:VAL:HG11	68:SZ:53:ASP:HB3	1.66	0.77
1:2:7:G:N7	63:SR:205:ARG:NH1	2.33	0.77
80:SB:216:GLU:HA	80:SB:219:ARG:HG2	1.65	0.77
1:2:619:A:H1'	1:2:1140:G:H21	1.50	0.77
4:C:151:C:C5	26:Z:24:LEU:HD11	2.20	0.77
4:C:94:C:H5''	38:l:76:ASN:HD21	1.49	0.77
46:v:139:THR:HG22	46:v:145:LYS:HE2	1.65	0.77
62:ST:50:PHE:HB3	62:ST:111:LEU:HD11	1.66	0.77
2:A:508:U:H3	2:A:583:G:H1	1.31	0.77
6:F:93:MET:HE3	6:F:93:MET:H	1.50	0.77
50:SD:63:VAL:HG11	50:SD:66:VAL:HG23	1.67	0.77
2:A:370:U:H3	2:A:374:A:H62	1.32	0.77
1:2:1203:A:H61	1:2:1553:G:H1'	1.49	0.76
2:A:301:G:H1	2:A:314:U:H3	1.32	0.76
46:v:460:ILE:HD11	46:v:595:ILE:HG12	1.67	0.76
76:SG:18:GLU:HA	76:SG:71:PHE:HA	1.66	0.76
1:2:555:A:N7	1:2:591:A:H5'	2.01	0.76
2:A:3329:U:H4'	81:E:308:MET:HB3	1.66	0.76
1:2:1229:G:H21	1:2:1256:A:H62	1.34	0.76
1:2:142:G:H1	1:2:173:A:H2	1.29	0.76
71:Sc:63:GLN:HB3	71:Sc:64:PRO:CD	2.16	0.76
72:Sd:129:VAL:HA	72:Sd:132:ARG:HG2	1.65	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1580:C:H4'	52:SF:137:ARG:HB2	1.67	0.76
48:SA:27:ARG:HB3	49:SC:58:GLN:HE21	1.51	0.76
1:2:867:G:H1	1:2:961:U:H3	1.31	0.76
2:A:2511:A:C6	2:A:2512:C:N4	2.54	0.76
47:x:156:VAL:HG12	47:x:210:ALA:HB3	1.66	0.76
63:SR:227:PRO:HA	63:SR:230:TRP:HD1	1.51	0.76
1:2:213:A:HO2'	1:2:242:U:H3	1.31	0.75
1:2:628:G:H21	1:2:971:A:N6	1.82	0.75
1:2:1203:A:C2	1:2:1553:G:N2	2.54	0.75
45:t:15:G:H22	45:t:48:C:N4	1.83	0.75
62:ST:135:PRO:HB2	62:ST:141:ILE:HG13	1.68	0.75
2:A:776:U:H4'	30:d:40:ARG:HH22	1.52	0.75
2:A:1310:G:H2'	2:A:1311:G:C8	2.22	0.75
52:SF:38:LEU:HD21	54:SI:10:ALA:HA	1.65	0.75
59:SO:42:LEU:HB2	59:SO:61:PHE:HB2	1.66	0.75
32:f:25:PHE:HB3	32:f:65:LYS:HD2	1.67	0.75
2:A:3027:A:O2'	47:x:27:HIS:NE2	2.20	0.75
78:SU:139:ARG:HB2	78:SU:151:LYS:HZ1	1.52	0.75
1:2:1628:U:H2'	1:2:1629:G:H8	1.48	0.75
40:n:28:ARG:HH12	40:n:36:ARG:HA	1.50	0.75
1:2:1320:U:H3'	77:SP:131:GLN:HE22	1.50	0.74
24:X:22:ILE:HD11	24:X:33:ASN:HB2	1.69	0.74
47:x:478:MET:N	47:x:478:MET:SD	2.61	0.74
2:A:2574:G:H2'	2:A:2575:G:H8	1.51	0.74
29:c:63:LYS:NZ	29:c:65:GLN:OE1	2.21	0.74
1:2:1502:G:N7	54:SI:102:ARG:NH2	2.36	0.74
14:N:4:SER:O	29:c:44:ASN:ND2	2.20	0.74
20:T:10:LEU:HD11	20:T:38:ARG:HG3	1.70	0.74
59:SO:200:ASN:HD21	59:SO:241:PHE:HA	1.52	0.74
1:2:1144:U:H1'	1:2:1300:A:H2'	1.69	0.74
19:S:57:ILE:HD12	19:S:147:ARG:HH12	1.52	0.74
24:X:65:GLY:H	24:X:70:ARG:HH21	1.36	0.74
25:Y:84:GLY:HA2	62:ST:130:PRO:HB2	1.70	0.74
1:2:1325:A:P	76:SG:11:ARG:HH12	2.10	0.73
2:A:1919:G:H21	2:A:1933:A:N6	1.85	0.73
19:S:150:VAL:HA	19:S:153:PHE:HD2	1.53	0.73
80:SB:84:LYS:HE3	80:SB:92:ARG:HD2	1.70	0.73
37:k:45:ARG:NH1	37:k:45:ARG:O	2.21	0.73
49:SC:5:LYS:HA	49:SC:8:ARG:HD2	1.70	0.73
45:u:53:G:H2'	45:u:54:A:H8	1.51	0.73
71:Sc:63:GLN:CB	71:Sc:64:PRO:HD2	2.18	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1662:G:H1	2:A:1787:A:N6	1.86	0.73
2:A:1919:G:N2	2:A:1933:A:H62	1.86	0.73
50:SD:66:VAL:HG12	50:SD:67:THR:HG23	1.69	0.73
70:Sb:38:LEU:HA	70:Sb:41:MET:HB3	1.70	0.73
13:M:18:VAL:HG23	13:M:70:THR:HG22	1.69	0.73
36:j:54:VAL:O	36:j:58:ILE:HD12	1.89	0.73
63:SR:87:GLN:HB3	63:SR:96:THR:HG22	1.71	0.73
49:SC:38:LYS:HG3	49:SC:40:LEU:H	1.52	0.73
2:A:836:A:H4'	44:r:12:GLY:HA3	1.69	0.73
25:Y:2:LYS:HD2	25:Y:3:VAL:N	2.02	0.73
1:2:1276:U:H2'	1:2:1277:G:H8	1.53	0.73
21:U:82:ASP:HA	21:U:87:THR:HA	1.71	0.73
80:SB:25:LEU:HD12	80:SB:27:THR:H	1.53	0.73
1:2:513:U:H2'	1:2:514:G:H8	1.53	0.73
10:J:246:MET:HA	10:J:249:ARG:HG2	1.70	0.73
2:A:3094:A:O2'	24:X:86:ARG:NH2	2.22	0.72
24:X:75:PRO:HG2	24:X:105:PRO:HD3	1.70	0.72
1:2:1325:A:P	76:SG:11:ARG:NH1	2.63	0.72
2:A:101:G:N2	2:A:101:G:OP2	2.23	0.72
5:D:177:LYS:HB3	44:r:29:LEU:HG	1.69	0.72
15:O:15:VAL:HG12	15:O:65:LEU:HD21	1.71	0.72
21:U:21:GLU:OE1	22:V:146:ASN:ND2	2.22	0.72
1:2:174:U:H3	1:2:266:A:N6	1.82	0.72
70:Sb:36:LYS:HA	70:Sb:39:GLN:HG2	1.71	0.72
46:v:464:ASN:HB2	46:v:927:ASP:HB2	1.71	0.72
2:A:1634:G:H5''	28:b:107:ARG:HH12	1.55	0.72
2:A:3160:U:H5''	2:A:3396:U:H3'	1.72	0.72
2:A:655:C:H2'	2:A:656:A:H8	1.55	0.72
2:A:706:A:H2'	2:A:707:U:H6	1.55	0.72
2:A:1887:A:H4'	81:E:227:GLU:HA	1.70	0.72
22:V:119:ALA:O	22:V:123:GLY:N	2.22	0.72
28:b:121:ARG:HH12	28:b:127:ASN:HB2	1.54	0.71
3:B:30:G:O4'	3:B:51:A:N6	2.22	0.71
1:2:1325:A:OP2	76:SG:11:ARG:NH1	2.23	0.71
2:A:34:A:H5'	16:P:86:ASN:HD22	1.53	0.71
2:A:2573:G:H2'	2:A:2574:G:C8	2.25	0.71
1:2:1169:G:N2	1:2:1576:A:C6	2.58	0.71
2:A:2964:G:N2	2:A:2967:A:OP2	2.22	0.71
47:x:81:MET:HE1	47:x:335:LEU:HB2	1.72	0.71
63:SR:76:LEU:HD12	63:SR:104:VAL:HG22	1.72	0.71
24:X:33:ASN:ND2	24:X:64:LYS:O	2.23	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:66:LYS:HE3	24:X:67:PRO:HD2	1.72	0.71
17:Q:124[A]:LEU:HB2	17:Q:127[A]:LEU:HB2	1.72	0.71
2:A:1509:A:H2'	2:A:1510:G:C4	2.25	0.71
24:X:24:ASN:HA	24:X:33:ASN:HA	1.73	0.71
59:SO:11:GLY:HA2	59:SO:52:GLN:HA	1.73	0.71
79:SL:52:ASP:HB3	80:SB:164:PRO:HG3	1.73	0.71
2:A:288:C:OP1	16:P:170:LYS:NZ	2.23	0.71
2:A:824:C:H5''	5:D:21:ARG:HD3	1.71	0.71
4:C:58:G:O6	38:L:63:ARG:NH2	2.23	0.71
2:A:1827:C:H2'	2:A:1828:A:C8	2.26	0.71
46:v:156:VAL:HG12	46:v:163:VAL:HG11	1.72	0.71
46:v:271:ASN:HD22	46:v:442:LYS:HA	1.56	0.71
46:v:750:THR:HG23	46:v:752:SER:H	1.55	0.71
46:v:511:VAL:O	46:v:555:ARG:NH1	2.24	0.71
1:2:1231:U:H5	58:SN:97:LYS:HD2	1.56	0.70
59:SO:243:LEU:HD12	59:SO:252:LEU:HD11	1.71	0.70
61:SS:198:LYS:HB3	61:SS:208:VAL:HG23	1.73	0.70
1:2:1483:A:H4'	52:SF:71:GLY:HA2	1.73	0.70
2:A:2436:U:H3	2:A:2512:C:N4	1.88	0.70
63:SR:173:PRO:HG3	65:SW:57:ARG:HH11	1.55	0.70
52:SF:47:LYS:HG3	52:SF:82:ARG:NH2	2.06	0.70
54:SI:25:GLN:HE21	54:SI:27:LYS:HB3	1.55	0.70
47:x:437:MET:N	47:x:437:MET:SD	2.64	0.70
12:L:140:THR:HG21	12:L:148:VAL:HG21	1.72	0.70
18:R:120:ASN:HB3	18:R:145:HIS:HB2	1.72	0.70
55:SJ:95:ALA:HB3	55:SJ:99:ILE:HD11	1.73	0.70
1:2:1279:C:H2'	1:2:1280:C:C6	2.27	0.70
1:2:886:U:H2'	1:2:887:A:H8	1.57	0.70
1:2:1322:A:H4'	77:SP:104:PRO:HG2	1.71	0.70
57:SM:10:HIS:HB3	57:SM:12:ARG:HH12	1.56	0.70
76:SG:86:PRO:HG3	77:SP:200:ASP:HB2	1.73	0.70
2:A:797:U:H2'	2:A:798:G:C8	2.26	0.70
1:2:391:A:H4'	1:2:1730:A:H4'	1.73	0.70
2:A:2515:A:N1	2:A:2594:C:N4	2.40	0.70
12:L:115:MET:N	12:L:115:MET:SD	2.65	0.70
17:Q:150[A]:GLU:OE1	17:Q:150[A]:GLU:N	2.23	0.70
1:2:309:C:H2'	1:2:310:C:C6	2.27	0.69
1:2:1488:G:H3'	1:2:1515:A:H61	1.56	0.69
2:A:714:G:HO2'	2:A:753:C:HO2'	1.39	0.69
27:a:27:ARG:HD3	27:a:75:ARG:HB3	1.74	0.69
46:v:749:LYS:HG2	46:v:753:GLU:HB2	1.73	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:381:U:H3	2:A:388:G:H1	1.40	0.69
66:SX:127:GLN:HA	66:SX:127:GLN:NE2	2.06	0.69
21:U:77:VAL:HG12	21:U:126:VAL:HG22	1.75	0.69
25:Y:32:GLN:HE22	81:E:369:ARG:HH21	1.40	0.69
1:2:16:G:N2	1:2:1138:A:H62	1.87	0.69
1:2:1673:G:H1	1:2:1728:A:H61	1.39	0.69
2:A:2513:U:H2'	2:A:2592:G:H1	1.58	0.69
2:A:627:U:H2'	2:A:628:A:H8	1.55	0.69
2:A:1039:U:H2'	2:A:1040:A:H8	1.56	0.69
2:A:1492:G:N7	40:n:2:ALA:N	2.41	0.69
61:SS:7:LYS:O	61:SS:8:HIS:ND1	2.25	0.69
64:SV:172:ARG:HE	64:SV:175:GLN:HG3	1.57	0.69
20:T:28:GLU:O	20:T:32:ILE:HG13	1.92	0.69
1:2:16:G:H21	1:2:1138:A:N6	1.90	0.69
1:2:44:U:OP2	1:2:437:A:N6	2.25	0.69
1:2:297:U:H5''	61:SS:37:LYS:HG3	1.75	0.69
1:2:356:G:H2'	1:2:357:G:C8	2.27	0.69
1:2:571:G:H5''	71:Sc:114:LYS:HE3	1.73	0.69
1:2:874:C:H2'	1:2:875:G:C8	2.28	0.69
1:2:1067:C:H5''	60:SQ:150:VAL:HG12	1.75	0.69
1:2:1231:U:C5	58:SN:97:LYS:HD2	2.28	0.69
2:A:98:G:N7	14:N:13:HIS:NE2	2.41	0.69
2:A:1362:G:H2'	2:A:1363:A:H8	1.58	0.69
13:M:51:ARG:HD2	13:M:52:TYR:HB3	1.74	0.69
52:SF:39:VAL:HG11	52:SF:48:VAL:HG11	1.75	0.69
2:A:797:U:H2'	2:A:798:G:H8	1.58	0.69
2:A:1362:G:H2'	2:A:1363:A:C8	2.28	0.69
33:g:42:VAL:O	33:g:52:GLN:NE2	2.25	0.69
50:SD:73:LYS:NZ	58:SN:108:VAL:O	2.26	0.69
80:SB:143:ARG:HA	80:SB:167:ARG:HH12	1.58	0.69
1:2:1202:A:H62	1:2:1456:C:H3'	1.57	0.69
1:2:1218:G:N2	1:2:1444:A:OP2	2.25	0.69
2:A:209:A:N3	6:F:221:ASN:ND2	2.41	0.69
46:v:166:ARG:NH2	46:v:370:ASP:OD1	2.26	0.69
48:SA:15:GLY:HA3	57:SM:50:ILE:HG23	1.74	0.69
1:2:343:C:H2'	1:2:344:A:H8	1.57	0.68
2:A:1322:U:H2'	2:A:1323:G:H8	1.59	0.68
2:A:3028:G:H5'	47:x:28:VAL:HG21	1.75	0.68
25:Y:13:ILE:HG22	25:Y:32:GLN:HB3	1.75	0.68
31:e:52:ARG:NH1	31:e:55:GLU:OE1	2.25	0.68
77:SP:148:ASP:OD1	77:SP:149:LEU:N	2.26	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:358:G:N2	2:A:361:A:OP2	2.26	0.68
2:A:1103:A:N6	2:A:1363:A:O2'	2.26	0.68
2:A:2761:G:N7	43:q:63:LYS:NZ	2.41	0.68
6:F:295:ILE:HD11	19:S:36:LEU:HD21	1.74	0.68
19:S:106:PHE:HB2	19:S:111:ARG:HH21	1.58	0.68
38:l:27:PHE:HE1	38:l:32:LYS:HA	1.58	0.68
69:Sa:21:ASN:HD22	70:Sb:68:ARG:HH12	1.41	0.68
11:K:112:ILE:HD11	11:K:134:ILE:HG12	1.74	0.68
58:SN:123:ASN:HD22	58:SN:126:CYS:HB3	1.59	0.68
1:2:593:U:H4'	1:2:595:G:H4'	1.75	0.68
1:2:1310:U:HO2'	1:2:1402:G:HO2'	1.37	0.68
1:2:1320:U:H5	77:SP:101:ARG:HH22	1.40	0.68
47:x:240:MET:HA	47:x:243:ARG:HB2	1.76	0.68
47:x:459:ILE:HG22	47:x:460:ASP:H	1.58	0.68
47:x:694:HIS:O	47:x:700:ARG:NH1	2.25	0.68
51:SE:37:ALA:O	51:SE:42:ARG:NH1	2.25	0.68
60:SQ:147:ALA:O	60:SQ:148:ASN:ND2	2.27	0.68
44:r:57:CYS:SG	44:r:58:SER:N	2.67	0.68
2:A:1345:G:H21	6:F:307:GLN:HE22	1.41	0.68
2:A:1517:G:H5''	40:n:22:PRO:HG3	1.75	0.68
20:T:109:TYR:HB3	20:T:115:ILE:HD13	1.74	0.68
2:A:2388:U:O2'	18:R:80:LYS:NZ	2.26	0.68
8:H:40:LEU:HD12	8:H:84:VAL:HB	1.75	0.68
81:E:347:SER:OG	81:E:348:ARG:N	2.23	0.68
1:2:1046:G:H5''	60:SQ:157:GLN:HE21	1.59	0.68
2:A:3332:U:H2'	2:A:3333:G:O4'	1.94	0.68
47:x:468:THR:HB	47:x:478:MET:HE1	1.75	0.68
1:2:629:U:OP2	1:2:969:C:N4	2.24	0.68
2:A:1180:A:H5''	34:h:77:ASN:HB2	1.76	0.68
52:SF:73:GLY:O	52:SF:77:GLN:NE2	2.26	0.68
71:Sc:63:GLN:O	71:Sc:64:PRO:C	2.37	0.68
1:2:1524:A:H2'	1:2:1525:A:C8	2.29	0.68
2:A:3212:C:OP2	2:A:3213:A:N6	2.27	0.68
47:x:629:ASP:HB3	47:x:647:ILE:HD13	1.76	0.68
1:2:1022:C:O2'	1:2:1125:A:N1	2.26	0.67
1:2:1409:G:H4'	59:SO:283:LYS:C	2.19	0.67
1:2:1615:C:H2'	80:SB:81:ARG:HD2	1.76	0.67
2:A:990:U:H4'	22:V:100:LYS:HB2	1.75	0.67
29:c:130:VAL:HG21	29:c:145:VAL:HG21	1.75	0.67
53:SH:101:LEU:H	53:SH:104:ASN:HB2	1.59	0.67
59:SO:231:MET:HG2	59:SO:232:TYR:CD2	2.29	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:408:A:N3	2:A:655:C:O2'	2.25	0.67
59:SO:281:TYR:HH	59:SO:286:GLU:HA	1.59	0.67
64:SV:57:ALA:HB2	64:SV:177:GLY:HA2	1.76	0.67
2:A:99:A:OP1	16:P:194:GLN:NE2	2.27	0.67
4:C:29:U:H5''	14:N:27:ASP:HB3	1.75	0.67
10:J:228:GLU:OE2	10:J:228:GLU:N	2.27	0.67
21:U:161:LYS:HG3	21:U:163:PHE:H	1.59	0.67
39:m:7:ASP:OD1	39:m:8:ILE:N	2.28	0.67
46:v:760:GLN:HB2	53:SH:63:GLN:HB3	1.77	0.67
47:x:517:CYS:SG	47:x:518:VAL:N	2.63	0.67
67:SY:3:ARG:NH1	67:SY:10:GLY:O	2.27	0.67
81:E:168:LYS:HB3	81:E:319:ASN:HD21	1.60	0.67
2:A:2511:A:N6	2:A:2512:C:H41	1.93	0.67
47:x:463:LEU:O	47:x:513:LYS:NZ	2.27	0.67
2:A:1472:U:H2'	2:A:1473:G:H8	1.59	0.67
7:G:58:LYS:HA	7:G:93:THR:HB	1.75	0.67
54:SI:73:VAL:O	54:SI:77:ASN:ND2	2.28	0.67
1:2:871:G:H2'	1:2:872:G:C8	2.30	0.67
2:A:2216:G:H1	2:A:2229:A:N6	1.92	0.67
12:L:63:GLU:OE1	12:L:63:GLU:N	2.27	0.67
45:t:53:G:H2'	45:t:54:A:H8	1.59	0.67
46:v:215:CYS:SG	46:v:225:THR:OG1	2.53	0.67
79:SL:57:MET:HE2	80:SB:143:ARG:HD2	1.77	0.67
80:SB:44:ASN:ND2	80:SB:69:PHE:O	2.27	0.67
2:A:785:G:H5''	19:S:92:ARG:NH2	2.09	0.67
47:x:366:CYS:SG	47:x:370:LYS:NZ	2.67	0.67
1:2:68:A:N6	62:ST:132:ARG:O	2.27	0.67
1:2:354:C:H5''	64:SV:16:ALA:HB2	1.77	0.67
2:A:50:U:H2'	2:A:51:A:H8	1.59	0.67
5:D:80:GLU:HG2	5:D:168:VAL:HG23	1.77	0.67
81:E:196:ARG:HA	81:E:199:PHE:HD2	1.59	0.67
1:2:522:U:H5''	72:Sd:37:LYS:HG3	1.77	0.67
2:A:691:A:N1	4:C:28:C:O2'	2.28	0.67
3:B:89:G:N2	3:B:92:A:OP2	2.25	0.67
10:J:158:ASP:HB2	10:J:159:PRO:HD2	1.77	0.67
13:M:47:GLN:NE2	13:M:48:SER:O	2.27	0.67
59:SO:88:THR:HG22	59:SO:104:VAL:HG13	1.76	0.67
60:SQ:111:ARG:HB3	73:Se:68:TYR:HB2	1.76	0.67
63:SR:43:ARG:HE	63:SR:248:SER:H	1.41	0.67
1:2:152:U:O2'	62:ST:4:ASN:ND2	2.28	0.67
2:A:2828:G:O2'	12:L:4:ARG:NH1	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:80:ARG:HG2	21:U:122:HIS:HB2	1.77	0.67
2:A:297:G:OP2	2:A:297:G:N2	2.19	0.66
34:h:3:GLU:OE1	34:h:3:GLU:N	2.27	0.66
45:t:15:G:N2	45:t:48:C:H42	1.93	0.66
47:x:508:LEU:HA	47:x:511:LEU:HD12	1.76	0.66
61:SS:68:ARG:HD3	61:SS:76:VAL:HG11	1.76	0.66
61:SS:162:ILE:HG12	61:SS:164:LEU:H	1.60	0.66
79:SL:11:LYS:O	79:SL:31:GLU:N	2.26	0.66
47:x:729:PHE:CZ	47:x:774:VAL:HG12	2.30	0.66
77:SP:16:LEU:HD13	77:SP:172:LEU:HD11	1.76	0.66
1:2:704:C:H42	1:2:734:A:H61	1.43	0.66
1:2:1204:A:H61	57:SM:15:GLY:HA3	1.60	0.66
1:2:468:A:N1	1:2:594:A:O2'	2.27	0.66
2:A:1493:G:N2	2:A:1493:G:OP2	2.27	0.66
2:A:2511:A:N1	2:A:2512:C:N4	2.44	0.66
2:A:2948:C:H4'	81:E:243:HIS:H	1.60	0.66
44:r:59:CYS:SG	44:r:60:CYS:N	2.68	0.66
47:x:436:LEU:HB3	47:x:443:GLU:HB2	1.76	0.66
59:SO:152:SER:H	59:SO:173:GLY:HA2	1.60	0.66
80:SB:53:VAL:HG12	80:SB:134:VAL:HG11	1.77	0.66
15:O:16:GLU:OE1	15:O:16:GLU:N	2.29	0.66
38:l:19:CYS:SG	38:l:22:CYS:HB2	2.36	0.66
38:l:26:SER:O	38:l:34:CYS:HA	1.95	0.66
46:v:25:ARG:HE	46:v:29:ALA:HB2	1.59	0.66
58:SN:123:ASN:HD21	58:SN:147:VAL:HG11	1.60	0.66
1:2:1047:G:H1	1:2:1071:U:H3	1.43	0.66
2:A:359:U:O2'	38:l:25:ARG:NH1	2.29	0.66
2:A:2744:U:H2'	2:A:2745:G:C8	2.30	0.66
12:L:177:ASP:OD1	12:L:178:ARG:N	2.29	0.66
14:N:164:GLU:HG3	14:N:166:ALA:H	1.61	0.66
54:SI:21:PHE:HD1	54:SI:22:LEU:HD23	1.61	0.66
1:2:637:C:OP1	70:Sb:32:LYS:N	2.27	0.66
2:A:40:A:H61	2:A:963:G:N2	1.94	0.66
2:A:2499:U:O4	2:A:2500:A:N6	2.29	0.66
2:A:2675:C:N4	13:M:22:SER:OG	2.28	0.66
24:X:104:ASN:HD21	24:X:108:GLU:HB2	1.58	0.66
28:b:22:LYS:NZ	28:b:129:TRP:O	2.28	0.66
31:e:42:ILE:HD12	31:e:56:LEU:HD12	1.78	0.66
32:f:33:VAL:HA	32:f:36:ILE:HD12	1.78	0.66
1:2:257:A:N3	64:SV:64:ASN:ND2	2.44	0.66
2:A:30:G:O2'	16:P:96:ARG:NH1	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1661:G:H2'	2:A:1662:G:H8	1.61	0.66
2:A:1718:G:H2'	2:A:1719:G:C8	2.31	0.66
1:2:1203:A:H2	1:2:1553:G:N2	1.92	0.66
8:H:54:TYR:CZ	8:H:63:LEU:HD23	2.31	0.66
15:O:55:ARG:HD3	21:U:70:THR:HB	1.78	0.66
46:v:57:ILE:HD12	46:v:67:MET:HG3	1.78	0.66
1:2:1727:G:H2'	1:2:1728:A:H8	1.61	0.66
2:A:1497:C:H2'	2:A:1498:A:C8	2.29	0.66
22:V:17:ARG:HH21	22:V:45:ASN:HD21	1.44	0.66
1:2:687:G:O2'	70:Sb:119:LYS:NZ	2.29	0.65
2:A:517:G:OP1	9:I:67:ARG:NH2	2.28	0.65
1:2:741:C:H2'	78:SU:107:ARG:HE	1.61	0.65
2:A:432:G:H1	2:A:627:U:H3	1.44	0.65
2:A:627:U:H2'	2:A:628:A:C8	2.30	0.65
2:A:1302:A:N7	2:A:2857:C:O2'	2.29	0.65
2:A:1383:G:H4'	6:F:138:ARG:HH22	1.60	0.65
2:A:2112:U:OP1	25:Y:48:ARG:NH1	2.30	0.65
5:D:40:TYR:HA	5:D:91:GLY:HA3	1.78	0.65
46:v:650:PRO:HB2	46:v:913:ARG:HG3	1.78	0.65
1:2:1279:C:H2'	1:2:1280:C:H6	1.61	0.65
2:A:200:C:OP1	27:a:60:ARG:NH1	2.29	0.65
2:A:706:A:H2'	2:A:707:U:C6	2.31	0.65
21:U:8:GLN:HB3	21:U:64:ILE:HD11	1.77	0.65
49:SC:31:LYS:HA	49:SC:31:LYS:HE3	1.78	0.65
1:2:1523:G:N2	1:2:1523:G:OP2	2.28	0.65
2:A:182:U:H3	2:A:234:G:H1	1.41	0.65
2:A:1062:A:H5''	2:A:1063:G:H5'	1.79	0.65
56:SK:88:ILE:CD1	56:SK:89:ILE:H	2.09	0.65
1:2:1305:U:H5''	1:2:1306:C:H5	1.60	0.65
2:A:1405:U:H2'	2:A:1406:A:C4	2.31	0.65
80:SB:130:ILE:H	80:SB:130:ILE:HD12	1.61	0.65
1:2:1060:U:H3'	1:2:1061:A:H5''	1.78	0.65
12:L:30:LYS:HG3	12:L:66:GLU:HG3	1.79	0.65
27:a:55:GLU:HB2	27:a:108:LYS:HB3	1.78	0.65
37:k:50:LEU:HD23	37:k:55:ARG:HG2	1.78	0.65
47:x:760:ARG:NH1	47:x:767:THR:OG1	2.30	0.65
70:Sb:115:GLU:OE1	70:Sb:118:ARG:NH2	2.30	0.65
71:Sc:109:ARG:HD2	71:Sc:114:LYS:HA	1.78	0.65
1:2:818:C:N4	1:2:819:G:N7	2.45	0.65
1:2:1389:C:H2'	1:2:1390:U:H4'	1.78	0.65
1:2:1319:A:C4	1:2:1320:U:N3	2.65	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:370:U:H4'	2:A:404:G:H5'	1.78	0.65
2:A:2846:U:O2	41:o:97:ARG:NH1	2.28	0.65
16:P:39:ALA:HB3	16:P:61:ILE:HG22	1.79	0.65
1:2:641:G:H1'	78:SU:179:LYS:HE3	1.78	0.65
2:A:71:A:OP1	29:c:67:HIS:NE2	2.29	0.65
2:A:1054:A:H5''	2:A:2637:A:H61	1.61	0.65
2:A:2341:A:OP2	81:E:247:ARG:NH2	2.30	0.65
2:A:3113:A:H4'	11:K:69:ARG:HG2	1.79	0.65
4:C:140:G:O2'	16:P:109:ARG:NH1	2.28	0.65
4:C:151:C:H5	26:Z:24:LEU:HD11	1.60	0.65
46:v:759:PHE:O	46:v:760:GLN:HG3	1.95	0.65
1:2:331:A:H4'	64:SV:31:ARG:HB2	1.79	0.65
1:2:1026:A:N7	1:2:1772:C:O2'	2.28	0.65
2:A:40:A:H61	2:A:963:G:H21	1.43	0.65
2:A:2255:A:H5'	2:A:2261:G:H22	1.61	0.65
2:A:2775:U:O2'	2:A:2777:G:N1	2.29	0.65
15:O:113:THR:HG22	15:O:116:GLU:HG3	1.79	0.65
16:P:63:ARG:NH1	16:P:131:GLU:OE2	2.30	0.65
47:x:736:PRO:HG2	47:x:738:GLN:HE22	1.62	0.65
1:2:1146:G:H2'	1:2:1147:A:C8	2.32	0.64
1:2:1280:C:H2'	1:2:1281:G:C8	2.32	0.64
2:A:1135:A:N6	2:A:1136:A:N6	2.45	0.64
3:B:6:C:OP1	7:G:54:ARG:NH2	2.30	0.64
44:r:79:VAL:O	44:r:83:ILE:HG12	1.98	0.64
1:2:554:C:N4	1:2:571:G:O6	2.31	0.64
1:2:561:G:H2'	1:2:562:G:H8	1.61	0.64
1:2:1301:U:H2'	1:2:1302:U:C6	2.31	0.64
2:A:289:A:H2'	2:A:290:G:H8	1.61	0.64
2:A:2742:C:H2'	2:A:2743:A:H8	1.63	0.64
52:SF:134:ALA:O	52:SF:137:ARG:NH2	2.30	0.64
78:SU:161:GLN:O	78:SU:165:LYS:NZ	2.30	0.64
1:2:755:A:H2	61:SS:13:ALA:HA	1.63	0.64
1:2:1012:U:H4'	5:D:247:ARG:HB3	1.80	0.64
2:A:95:A:H5''	29:c:34:MET:HB3	1.78	0.64
2:A:1572:U:H3	2:A:1574:C:H41	1.43	0.64
21:U:110:MET:HE3	21:U:110:MET:HA	1.79	0.64
47:x:681:MET:N	47:x:681:MET:SD	2.71	0.64
53:SH:86:LEU:HD23	53:SH:99:HIS:HB2	1.78	0.64
2:A:86:G:N2	2:A:99:A:OP2	2.28	0.64
3:B:28:C:OP1	13:M:137:ARG:NH1	2.26	0.64
4:C:75:G:H2'	4:C:76:C:C6	2.32	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:56:LYS:HB3	8:H:64:LEU:HD23	1.80	0.64
23:W:42:LYS:HG3	23:W:47:VAL:HG23	1.78	0.64
48:SA:105:MET:HE2	48:SA:105:MET:HA	1.78	0.64
79:SL:54:LEU:HD22	79:SL:55:VAL:H	1.61	0.64
80:SB:46:TRP:CD1	80:SB:122:ASN:HD22	2.15	0.64
2:A:1421:G:H2'	2:A:1422:G:H8	1.63	0.64
2:A:1827:C:H2'	2:A:1828:A:H8	1.59	0.64
2:A:2960:C:N4	2:A:2961:G:O6	2.31	0.64
16:P:26:ARG:HB3	16:P:30:TYR:HE1	1.61	0.64
17:Q:9[A]:ILE:HD11	17:Q:33[A]:ILE:HD12	1.79	0.64
18:R:26:PHE:CE1	18:R:119:VAL:HG12	2.33	0.64
1:2:214:G:H1	1:2:249:U:H5''	1.63	0.64
1:2:1323:C:H4'	77:SP:112:THR:CG2	2.26	0.64
2:A:2094:C:H2'	2:A:2095:G:H8	1.62	0.64
2:A:2617:U:O2'	12:L:116:ARG:NH2	2.30	0.64
28:b:89:VAL:HG23	28:b:92:PHE:HD2	1.63	0.64
80:SB:46:TRP:HZ2	80:SB:119:ASP:HB3	1.61	0.64
80:SB:94:THR:HG22	80:SB:114:ILE:HD13	1.80	0.64
2:A:491:C:H3'	2:A:492:U:H5''	1.80	0.64
8:H:149:ILE:HD11	8:H:155:LEU:HB3	1.79	0.64
16:P:159:ARG:HB3	16:P:164:LEU:HB2	1.80	0.64
21:U:124:LEU:HA	22:V:153:PRO:HG2	1.80	0.64
80:SB:61:TYR:HB3	80:SB:168:VAL:HG11	1.80	0.64
1:2:1323:C:O2'	77:SP:112:THR:HG23	1.98	0.64
1:2:1608:U:H5''	52:SF:72:GLY:HA2	1.79	0.64
2:A:3226:A:N6	2:A:3227:A:N1	2.45	0.64
52:SF:128:LYS:HB2	52:SF:137:ARG:HH22	1.63	0.64
59:SO:31:ASN:ND2	59:SO:47:LEU:O	2.30	0.64
81:E:308:MET:HB2	81:E:363:SER:HB2	1.78	0.64
1:2:1402:G:OP1	76:SG:5:ARG:NH1	2.31	0.64
1:2:1524:A:N3	1:2:1590:G:O2'	2.28	0.64
2:A:616:G:H2'	2:A:617:G:H8	1.60	0.64
2:A:1661:G:H2'	2:A:1662:G:C8	2.33	0.64
2:A:3225:C:H2'	2:A:3226:A:C8	2.33	0.64
18:R:30:ARG:HA	18:R:119:VAL:HG21	1.79	0.64
19:S:148:GLU:OE2	19:S:148:GLU:N	2.28	0.64
79:SL:42:ARG:NH1	79:SL:61:ARG:O	2.31	0.64
81:E:137:TYR:HE1	81:E:144:ILE:HG21	1.63	0.64
1:2:1116:A:H5''	42:p:17:ARG:HH22	1.63	0.64
10:J:155:ASN:HD21	10:J:181:LYS:HD3	1.63	0.64
16:P:46:ASP:OD1	16:P:47:LYS:N	2.31	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:886:U:H2'	1:2:887:A:C8	2.33	0.63
2:A:1135:A:N6	2:A:1136:A:H62	1.96	0.63
2:A:1167:U:O2	9:I:209:ASN:ND2	2.31	0.63
2:A:2478:C:OP2	2:A:2480:A:N6	2.28	0.63
15:O:123:LEU:HD21	17:Q:193[A]:GLN:HB2	1.79	0.63
18:R:31:GLU:OE1	18:R:60:PHE:HA	1.99	0.63
46:v:674:GLN:NE2	46:v:678:THR:O	2.26	0.63
1:2:323:A:OP2	64:SV:10:LYS:NZ	2.31	0.63
1:2:1237:G:H2'	1:2:1238:A:H8	1.64	0.63
29:c:43:ILE:H	29:c:43:ILE:HD12	1.62	0.63
59:SO:244:ALA:HB1	59:SO:294:TRP:HD1	1.63	0.63
71:Sc:69:ARG:HG3	71:Sc:117:ILE:HG23	1.79	0.63
1:2:990:C:H1'	68:SZ:127:ARG:HD3	1.81	0.63
9:I:216:VAL:HG11	9:I:227:GLY:HA2	1.81	0.63
21:U:82:ASP:HB3	21:U:87:THR:HG22	1.81	0.63
27:a:22:ALA:O	27:a:27:ARG:NH1	2.30	0.63
1:2:397:A:H4'	64:SV:50:GLY:HA2	1.79	0.63
1:2:442:C:OP1	72:Sd:106:GLN:NE2	2.31	0.63
1:2:1534:G:N2	1:2:1535:U:O4	2.29	0.63
1:2:1759:C:H2'	1:2:1760:G:C8	2.34	0.63
2:A:13:A:H4'	26:Z:39:LYS:HE3	1.80	0.63
2:A:336:A:OP1	27:a:3:LYS:NZ	2.32	0.63
2:A:1725:C:H2'	2:A:1726:C:C6	2.33	0.63
6:F:74:ILE:HD12	6:F:75:PRO:HD2	1.79	0.63
10:J:61:GLN:HA	10:J:64:ILE:HG22	1.79	0.63
42:p:11:ARG:HA	42:p:14:LYS:HG3	1.80	0.63
59:SO:156:VAL:HG23	59:SO:169:ILE:HG22	1.79	0.63
69:Sa:22:ARG:NH2	70:Sb:18:GLU:OE2	2.30	0.63
73:Se:51:ARG:HH21	73:Se:55:GLU:HG3	1.63	0.63
77:SP:180:GLU:HA	77:SP:183:ARG:HB3	1.79	0.63
2:A:582:G:OP1	8:H:29:LYS:NZ	2.31	0.63
2:A:618:C:OP1	18:R:173:ARG:NH2	2.32	0.63
2:A:2181:C:H2'	2:A:2182:A:H8	1.63	0.63
2:A:2746:A:H5''	7:G:176:SER:HB2	1.80	0.63
39:m:8:ILE:HD11	39:m:65:LEU:HD11	1.81	0.63
1:2:1034:C:HO2'	70:Sb:2:THR:N	1.97	0.63
1:2:1521:G:O6	54:SI:68:ARG:NH1	2.31	0.63
2:A:3152:U:O2'	2:A:3155:U:N3	2.31	0.63
16:P:84:PRO:HA	16:P:87:GLN:HG3	1.80	0.63
46:v:642:ASN:ND2	46:v:929:ASP:O	2.31	0.63
50:SD:65:SER:HA	50:SD:72:ILE:HD11	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:SO:316:MET:N	59:SO:316:MET:SD	2.69	0.63
80:SB:42:LEU:HB2	80:SB:47:SER:HA	1.80	0.63
1:2:1042:G:H2'	1:2:1043:A:H8	1.63	0.63
1:2:1626:U:H2'	1:2:1627:U:C6	2.33	0.63
2:A:3023:U:O2	2:A:3032:A:N7	2.32	0.63
12:L:12:GLN:HE21	12:L:59:GLN:HE21	1.47	0.63
15:O:46:ILE:HD13	15:O:58:ILE:HG21	1.80	0.63
59:SO:8:VAL:HB	59:SO:314:GLN:HE21	1.63	0.63
1:2:477:A:H62	1:2:540:G:H22	1.47	0.63
1:2:529:A:N1	72:Sd:61:ARG:NH2	2.47	0.63
1:2:1108:G:OP2	1:2:1108:G:N2	2.22	0.63
1:2:1696:G:H2'	1:2:1697:G:H8	1.63	0.63
46:v:57:ILE:O	46:v:97:ASN:ND2	2.32	0.63
47:x:631:ARG:O	47:x:631:ARG:NH1	2.29	0.63
1:2:874:C:H2'	1:2:875:G:H8	1.64	0.63
1:2:1041:G:H2'	1:2:1042:G:C8	2.34	0.63
2:A:68:C:OP2	2:A:301:G:N2	2.27	0.63
2:A:2344:U:H2'	2:A:2345:A:H8	1.63	0.63
2:A:3305:A:H2'	2:A:3306:U:C2	2.34	0.63
46:v:572:HIS:O	46:v:702:ASN:ND2	2.31	0.63
1:2:135:A:H4'	1:2:136:C:H5'	1.81	0.62
1:2:887:A:H5''	68:SZ:120:PRO:HB2	1.81	0.62
2:A:1347:U:OP2	19:S:38:ARG:NE	2.31	0.62
40:n:27:ILE:HA	40:n:30:ARG:HH12	1.63	0.62
76:SG:84:TYR:H	77:SP:201:LEU:HD13	1.63	0.62
2:A:3002:C:OP1	81:E:26:ARG:NH2	2.31	0.62
2:A:3366:G:OP1	25:Y:61:LYS:NZ	2.27	0.62
5:D:59:ALA:N	5:D:76:PHE:O	2.29	0.62
17:Q:14[A]:HIS:ND1	17:Q:123[A]:ALA:O	2.33	0.62
64:SV:8:ARG:HE	64:SV:18:ARG:HH22	1.47	0.62
75:Sg:25:GLU:N	75:Sg:25:GLU:OE2	2.32	0.62
1:2:883:C:N3	1:2:945:U:O4	2.32	0.62
1:2:1409:G:H4'	59:SO:283:LYS:O	2.00	0.62
2:A:348:A:N3	2:A:352:A:O2'	2.32	0.62
2:A:1756:C:H2'	2:A:1757:A:H8	1.64	0.62
2:A:1888:U:OP1	81:E:247:ARG:NH1	2.32	0.62
2:A:1935:G:H2'	2:A:1936:A:H8	1.63	0.62
2:A:2116:G:OP1	2:A:2118:C:N4	2.32	0.62
2:A:3333:G:H22	2:A:3369:G:H1'	1.63	0.62
3:B:47:C:OP2	7:G:158:ARG:NH2	2.31	0.62
17:Q:37[A]:ARG:HE	17:Q:108[A]:ILE:HD11	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:788:C:H2'	2:A:789:A:C8	2.34	0.62
2:A:1413:G:H2'	2:A:1414:G:H8	1.65	0.62
2:A:3043:C:OP1	24:X:45:ARG:NH1	2.33	0.62
27:a:56:VAL:HG12	27:a:106:ILE:HG22	1.80	0.62
36:j:21:LEU:HD12	36:j:51:ILE:HD11	1.80	0.62
46:v:222:VAL:HG21	46:v:252:ARG:HG2	1.80	0.62
46:v:575:THR:HA	46:v:578:VAL:HB	1.82	0.62
63:SR:64:LYS:HA	63:SR:134:LEU:HD21	1.81	0.62
1:2:972:G:H21	2:A:846:A:H61	1.47	0.62
1:2:1274:C:N4	45:t:34:C:O2'	2.29	0.62
2:A:57:A:H2'	2:A:58:G:C8	2.35	0.62
46:v:668:VAL:HG13	46:v:671:MET:HE3	1.81	0.62
64:SV:39:GLY:H	64:SV:61:GLU:HB3	1.62	0.62
71:Sc:14:LYS:HD3	71:Sc:18:HIS:HE1	1.64	0.62
2:A:346:C:O2	2:A:348:A:N6	2.33	0.62
2:A:1632:A:OP1	28:b:69:LYS:NZ	2.33	0.62
2:A:3233:C:H2'	2:A:3234:A:C8	2.35	0.62
4:C:154:C:H2'	4:C:155:A:C8	2.35	0.62
57:SM:22:ARG:HE	57:SM:37:ASN:HB2	1.64	0.62
81:E:362:ALA:HB2	81:E:371:GLN:HE22	1.63	0.62
1:2:895:G:H1	1:2:917:U:H3	1.48	0.62
1:2:895:G:N3	68:SZ:38:THR:HG21	2.14	0.62
1:2:1396:U:O2	1:2:1402:G:N2	2.30	0.62
2:A:98:G:OP1	14:N:16:LYS:NZ	2.33	0.62
2:A:1255:C:H2'	2:A:1256:G:H8	1.65	0.62
2:A:1508:C:N4	2:A:1880:U:O2'	2.33	0.62
2:A:3114:A:OP2	2:A:3115:C:O2'	2.18	0.62
8:H:31:ARG:NH2	8:H:81:ALA:O	2.32	0.62
76:SG:80:ARG:NH1	76:SG:80:ARG:O	2.32	0.62
1:2:1323:C:H2'	1:2:1324:G:O4'	1.99	0.62
9:I:120:THR:H	9:I:123:THR:HG1	1.47	0.62
52:SF:51:PRO:HB2	52:SF:85:ILE:HD11	1.81	0.62
63:SR:81:MET:HE1	63:SR:103:VAL:HG12	1.81	0.62
63:SR:90:THR:HG21	63:SR:95:ARG:HH22	1.65	0.62
67:SY:119:GLU:O	67:SY:123:HIS:ND1	2.31	0.62
68:SZ:16:VAL:HB	68:SZ:31:THR:HB	1.82	0.62
68:SZ:60:ALA:HB1	68:SZ:101:ALA:HB2	1.80	0.62
2:A:1717:U:H3	2:A:1727:G:H1	1.47	0.62
12:L:76:MET:HE1	12:L:148:VAL:HA	1.81	0.62
13:M:15:GLU:OE1	13:M:132:ASN:ND2	2.33	0.62
48:SA:137:VAL:HG22	48:SA:151:LYS:HG2	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:142:G:N7	62:ST:177:ARG:NH2	2.48	0.62
1:2:513:U:H2'	1:2:514:G:C8	2.34	0.62
1:2:1357:A:H2'	1:2:1358:G:H8	1.65	0.62
2:A:90:C:OP1	29:c:59:ARG:NH1	2.32	0.62
2:A:658:G:H21	6:F:93:MET:HB2	1.65	0.62
2:A:3306:U:OP1	81:E:269:GLN:NE2	2.32	0.62
37:k:63:ASN:OD1	37:k:64:SER:N	2.33	0.62
46:v:751:PRO:HB2	46:v:888:VAL:HG23	1.82	0.62
63:SR:43:ARG:NE	63:SR:248:SER:H	1.98	0.62
78:SU:99:LEU:HB2	78:SU:112:ARG:HD2	1.82	0.62
1:2:553:G:OP2	1:2:554:C:O2'	2.18	0.61
2:A:1218:U:O2'	2:A:1223:A:H4'	1.99	0.61
2:A:1322:U:O2	21:U:108:GLN:NE2	2.33	0.61
2:A:1507:G:OP1	2:A:1509:A:N6	2.33	0.61
7:G:76:ALA:HB3	7:G:109:THR:HG22	1.81	0.61
36:j:23:ASP:O	36:j:27:GLU:HG2	1.99	0.61
46:v:209:ILE:HG23	46:v:210:PRO:HD3	1.82	0.61
47:x:7:ASP:HA	47:x:10:ARG:HG2	1.81	0.61
61:SS:42:LEU:HD12	61:SS:43:PRO:HD2	1.81	0.61
1:2:127:G:N7	62:ST:202:ARG:NH2	2.48	0.61
1:2:309:C:H2'	1:2:310:C:H6	1.65	0.61
1:2:925:G:H2'	1:2:926:A:H8	1.65	0.61
1:2:1466:G:H2'	1:2:1467:C:C6	2.35	0.61
2:A:2457:G:H5'	2:A:2482:U:H1'	1.82	0.61
2:A:3169:U:H2'	2:A:3170:A:C4	2.35	0.61
9:I:101:LYS:HA	9:I:104:GLN:HG3	1.82	0.61
1:2:107:C:H2'	1:2:108:A:H8	1.66	0.61
2:A:768:C:OP1	14:N:186:ARG:NH2	2.33	0.61
2:A:1687:U:O2	23:W:70:LYS:NZ	2.30	0.61
2:A:2341:A:H2'	2:A:2342:U:C6	2.36	0.61
6:F:38:VAL:O	6:F:42:VAL:HG12	2.00	0.61
22:V:11:THR:HG22	22:V:55:LYS:HD3	1.82	0.61
78:SU:174:ASN:ND2	78:SU:179:LYS:O	2.27	0.61
79:SL:61:ARG:HG2	80:SB:225:ARG:HB3	1.81	0.61
1:2:959:U:H5''	67:SY:14:SER:HB3	1.82	0.61
1:2:1550:A:OP2	51:SE:42:ARG:NH2	2.33	0.61
15:O:31:LYS:HB3	15:O:51:ALA:HB1	1.81	0.61
1:2:1345:A:H1'	55:SJ:56:VAL:HG13	1.83	0.61
1:2:1397:U:O2'	1:2:1400:A:N6	2.32	0.61
40:n:28:ARG:NH1	40:n:36:ARG:HA	2.16	0.61
47:x:338:ILE:HG13	47:x:339:VAL:HG13	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:E:305:ILE:H	81:E:305:ILE:HD12	1.64	0.61
1:2:884:A:H2'	1:2:885:G:H8	1.66	0.61
2:A:352:A:N7	2:A:367:A:N6	2.49	0.61
2:A:394:G:N1	2:A:397:A:OP2	2.33	0.61
2:A:584:G:H2'	2:A:585:A:H8	1.64	0.61
2:A:714:G:N7	29:c:111:LYS:NZ	2.49	0.61
2:A:1788:C:H2'	2:A:1789:G:H8	1.66	0.61
2:A:2383:C:OP2	17:Q:85[A]:ARG:NH2	2.33	0.61
2:A:2950:G:N2	2:A:2950:G:OP2	2.33	0.61
14:N:42:ARG:NH2	14:N:51:LEU:O	2.30	0.61
22:V:88:ARG:NH1	30:d:33:LYS:O	2.33	0.61
47:x:491:VAL:HA	47:x:559:PRO:HD3	1.83	0.61
2:A:185:C:OP1	27:a:122:LYS:NZ	2.34	0.61
2:A:708:G:OP2	19:S:174:ARG:NH2	2.34	0.61
2:A:856:G:OP1	20:T:92:GLN:NE2	2.27	0.61
2:A:1925:U:H1'	44:r:20:SER:HB3	1.83	0.61
19:S:8:LYS:HA	19:S:8:LYS:HE3	1.83	0.61
77:SP:64:ILE:HG12	77:SP:120:LEU:HD21	1.81	0.61
1:2:1435:G:H4'	1:2:1436:A:H5''	1.83	0.61
2:A:1102:A:OP1	9:I:155:LYS:NZ	2.33	0.61
49:SC:27:PHE:HB2	49:SC:40:LEU:HD12	1.83	0.61
52:SF:47:LYS:NZ	52:SF:112:TYR:OH	2.33	0.61
77:SP:84:ARG:HD3	77:SP:204:TYR:HA	1.81	0.61
79:SL:27:GLN:HB3	79:SL:43:ASN:HD22	1.66	0.61
5:D:68:LYS:HE3	5:D:70:ARG:HG3	1.83	0.61
7:G:186:GLU:HG2	7:G:187:THR:HG23	1.82	0.61
54:SI:22:LEU:HB2	54:SI:55:TYR:HB3	1.82	0.61
70:Sb:76:SER:O	70:Sb:77:PRO:C	2.39	0.61
1:2:1484:G:H21	1:2:1606:C:H1'	1.66	0.61
1:2:1586:A:H5''	52:SF:136:SER:HB3	1.83	0.61
2:A:1447:G:H22	2:A:2355:G:H3'	1.66	0.61
2:A:1682:U:C4	23:W:85:LYS:HG3	2.36	0.61
11:K:88:TYR:HE1	11:K:184:LYS:HG2	1.64	0.61
17:Q:84[A]:LEU:HA	17:Q:87[A]:MET:HB2	1.83	0.61
46:v:269:ILE:HD12	46:v:285:PHE:HZ	1.66	0.61
46:v:279:PRO:HA	46:v:282:ILE:HG22	1.83	0.61
47:x:497:ASN:HD21	47:x:553:PRO:HG2	1.66	0.61
64:SV:137:LYS:HA	64:SV:140:GLU:HG2	1.83	0.61
75:Sg:41:THR:HA	75:Sg:45:VAL:HB	1.81	0.61
1:2:1320:U:H3'	77:SP:131:GLN:NE2	2.14	0.60
2:A:1295:G:H5'	21:U:84:ARG:HH21	1.65	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:33:ALA:O	13:M:37:LEU:HG	2.00	0.60
35:i:101:VAL:O	35:i:105:VAL:HG12	1.99	0.60
47:x:638:PRO:HD2	47:x:642:GLY:HA3	1.82	0.60
48:SA:208:ILE:HD11	76:SG:20:TYR:HE2	1.66	0.60
67:SY:83:GLU:HG2	67:SY:84:ILE:HG23	1.82	0.60
2:A:312:C:H2'	2:A:313:A:H8	1.65	0.60
2:A:2349:U:O2'	2:A:3307:A:N3	2.34	0.60
2:A:2351:U:H2'	2:A:2352:A:H8	1.66	0.60
2:A:2423:U:H2'	2:A:2424:A:H8	1.65	0.60
2:A:3186:A:N6	11:K:58:HIS:O	2.31	0.60
9:I:197:GLN:OE1	9:I:197:GLN:N	2.23	0.60
12:L:31:ILE:HG22	12:L:62:SER:HB2	1.82	0.60
20:T:102:LEU:HD22	20:T:138:LEU:HD22	1.83	0.60
60:SQ:122:GLU:O	60:SQ:165:ARG:NH1	2.35	0.60
63:SR:227:PRO:HG2	70:Sb:99:PHE:HB2	1.83	0.60
79:SL:50:GLU:OE1	79:SL:50:GLU:N	2.32	0.60
80:SB:165:LEU:HG	80:SB:169:ASN:HB2	1.82	0.60
1:2:445:A:N6	1:2:462:G:N3	2.49	0.60
1:2:1587:A:O2'	80:SB:104:ASN:ND2	2.34	0.60
2:A:2423:U:H2'	2:A:2424:A:C8	2.36	0.60
3:B:29:C:O2'	3:B:52:G:N1	2.34	0.60
6:F:289:ILE:H	6:F:289:ILE:HD12	1.66	0.60
46:v:799:ILE:HB	46:v:855:VAL:HG21	1.84	0.60
46:v:803:ARG:O	46:v:810:GLU:N	2.33	0.60
48:SA:72:LEU:HD13	49:SC:20:VAL:HG21	1.83	0.60
52:SF:26:LYS:HD3	80:SB:26:ALA:HB2	1.82	0.60
63:SR:88:LYS:HB2	63:SR:97:ARG:HH12	1.67	0.60
80:SB:99:MET:HE2	80:SB:100:ASN:H	1.66	0.60
80:SB:208:SER:OG	80:SB:209:TYR:N	2.30	0.60
1:2:294:C:H2'	1:2:295:A:H8	1.66	0.60
1:2:513:U:H1'	65:SW:131:GLN:HG3	1.83	0.60
1:2:774:A:H61	1:2:786:C:H42	1.47	0.60
1:2:803:A:HO2'	1:2:804:A:H8	1.49	0.60
1:2:1022:C:H4'	1:2:1125:A:H61	1.66	0.60
2:A:900:G:H2'	2:A:901:G:H8	1.66	0.60
2:A:1826:C:H2'	2:A:1827:C:C6	2.37	0.60
2:A:2436:U:H3	2:A:2512:C:H42	1.46	0.60
5:D:36:GLU:OE1	5:D:36:GLU:N	2.29	0.60
12:L:36:LEU:HD21	12:L:73:ASN:HD21	1.64	0.60
24:X:37:ILE:HD11	24:X:59:MET:HE1	1.83	0.60
24:X:39:VAL:HG13	24:X:42:SER:HB2	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:j:44:ILE:HD12	36:j:45:LYS:N	2.15	0.60
45:t:27:C:H2'	45:t:28:A:H8	1.67	0.60
47:x:10:ARG:HH22	47:x:447:ASP:H	1.48	0.60
81:E:303:LYS:NZ	81:E:359:ILE:O	2.34	0.60
1:2:142:G:N1	1:2:173:A:C2	2.61	0.60
1:2:1292:G:H3'	1:2:1293:U:H6	1.65	0.60
1:2:1429:G:N3	55:SJ:72:ASN:ND2	2.49	0.60
6:F:361:HIS:O	21:U:26:ARG:NH1	2.34	0.60
16:P:9:GLU:HG3	37:k:44:VAL:HG21	1.82	0.60
16:P:48:ALA:HB1	16:P:133:ILE:HD11	1.83	0.60
16:P:94:TYR:HD1	16:P:96:ARG:H	1.47	0.60
19:S:26:LEU:O	19:S:30:VAL:HG12	2.02	0.60
24:X:32:ARG:HH22	24:X:65:GLY:HA2	1.66	0.60
45:u:28:A:H2'	45:u:29:G:H8	1.67	0.60
59:SO:121:MET:SD	59:SO:122:ILE:N	2.74	0.60
71:Sc:86:PHE:HB3	71:Sc:120:VAL:HG21	1.84	0.60
72:Sd:112:LYS:HD2	72:Sd:116:LYS:HD2	1.84	0.60
79:SL:55:VAL:HG11	80:SB:167:ARG:HD2	1.84	0.60
2:A:341:G:H21	2:A:349:A:N6	1.99	0.60
2:A:655:C:OP1	33:g:27:ARG:N	2.34	0.60
2:A:712:G:H4'	14:N:174:ARG:HH22	1.66	0.60
2:A:1235:U:H4'	2:A:1236:G:H5'	1.83	0.60
2:A:2331:C:H2'	2:A:2332:A:H8	1.66	0.60
24:X:36:ILE:HD11	24:X:58:VAL:HG11	1.84	0.60
46:v:263:ARG:NH1	46:v:890:HIS:O	2.35	0.60
46:v:756:GLN:HA	46:v:869:LEU:HD11	1.84	0.60
47:x:10:ARG:NH2	47:x:447:ASP:O	2.35	0.60
52:SF:21:HIS:N	52:SF:66:ARG:O	2.35	0.60
2:A:123:A:OP1	10:J:105:LYS:NZ	2.34	0.60
2:A:2426:U:H3	2:A:2603:G:H1	1.50	0.60
2:A:2574:G:H2'	2:A:2575:G:C8	2.35	0.60
2:A:2747:A:H4'	7:G:174:PRO:HB2	1.84	0.60
14:N:7:LEU:HD23	14:N:8:PRO:HD2	1.83	0.60
24:X:25:CYS:SG	24:X:26:ALA:N	2.74	0.60
47:x:216:HIS:HB3	47:x:218:TRP:CE2	2.37	0.60
70:Sb:102:VAL:HB	70:Sb:113:HIS:HB3	1.84	0.60
1:2:947:U:H2'	1:2:948:G:H8	1.66	0.60
2:A:1104:G:H2'	2:A:1105:A:H8	1.66	0.60
7:G:31:TYR:O	7:G:35:ARG:NH1	2.35	0.60
24:X:21:ALA:H	24:X:36:ILE:HG22	1.67	0.60
47:x:324:MET:SD	47:x:325:ARG:N	2.75	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:SC:38:LYS:HB3	49:SC:41:TYR:CE2	2.36	0.60
1:2:431:C:OP1	47:x:393:ARG:NH1	2.34	0.60
1:2:554:C:OP2	65:SW:17:ARG:NH2	2.35	0.60
1:2:1173:C:HO2'	1:2:1601:G:H1	1.47	0.60
1:2:1320:U:C3'	77:SP:131:GLN:HE22	2.14	0.60
2:A:632:G:H21	34:h:23:ASN:HD21	1.50	0.60
2:A:944:C:OP1	33:g:33:ARG:NH1	2.35	0.60
2:A:1471:U:OP1	20:T:5:ARG:NH2	2.32	0.60
2:A:1639:C:OP2	35:i:74:ARG:NH1	2.35	0.60
2:A:1794:G:O2'	2:A:1796:G:N2	2.35	0.60
10:J:243:GLN:HA	10:J:246:MET:SD	2.42	0.60
16:P:73:ARG:HD3	16:P:74:PRO:HD2	1.84	0.60
17:Q:23[A]:VAL:HB	17:Q:33[A]:ILE:HG21	1.82	0.60
31:e:44:ILE:HD12	31:e:53:LYS:HG2	1.83	0.60
47:x:20:ARG:HB2	47:x:100:ILE:HA	1.82	0.60
80:SB:44:ASN:HB2	80:SB:45:LYS:HZ2	1.67	0.60
1:2:868:G:H2'	1:2:869:A:H8	1.67	0.60
2:A:138:U:H2'	2:A:139:G:H8	1.66	0.60
3:B:75:G:H1'	3:B:104:A:H61	1.66	0.60
5:D:233:GLN:OE1	5:D:233:GLN:N	2.35	0.60
11:K:106:LYS:NZ	11:K:107:ASP:OD2	2.35	0.60
47:x:18:ASN:ND2	47:x:97:SER:O	2.35	0.60
47:x:141:THR:HG22	47:x:144:ARG:HH21	1.67	0.60
53:SH:81:ILE:H	53:SH:81:ILE:HD12	1.67	0.60
59:SO:240:VAL:HA	59:SO:256:THR:HA	1.84	0.60
68:SZ:46:MET:HE2	68:SZ:46:MET:N	2.17	0.60
71:Sc:21:ASN:OD1	71:Sc:22:ASN:N	2.35	0.60
2:A:85:A:H61	2:A:99:A:H3'	1.66	0.59
2:A:1009:A:H2'	2:A:1010:G:C8	2.37	0.59
2:A:1145:G:N2	2:A:1331:U:O2'	2.35	0.59
2:A:2736:A:OP1	22:V:92:ARG:NH1	2.35	0.59
5:D:47:GLN:N	5:D:47:GLN:OE1	2.35	0.59
27:a:24:SER:OG	27:a:75:ARG:NH1	2.35	0.59
46:v:820:ASN:O	46:v:821:ILE:C	2.43	0.59
65:SW:175:ARG:HE	65:SW:179:ARG:HH22	1.49	0.59
73:Se:35:ALA:O	73:Se:37:LYS:NZ	2.34	0.59
2:A:2500:A:O2'	2:A:2501:U:O5'	2.20	0.59
12:L:91:VAL:HG11	12:L:135:ILE:HD12	1.84	0.59
12:L:205:SER:O	12:L:209:ASN:ND2	2.35	0.59
66:SX:33:ARG:NH2	66:SX:53:TYR:O	2.34	0.59
67:SY:34:ILE:HA	67:SY:37:ILE:HD12	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:SB:58:LEU:HD21	80:SB:167:ARG:HB2	1.85	0.59
81:E:281:LYS:NZ	81:E:349:LYS:O	2.34	0.59
1:2:884:A:H2'	1:2:885:G:C8	2.36	0.59
1:2:1298:U:H2'	1:2:1299:G:C4	2.37	0.59
2:A:172:G:O6	2:A:246:U:O2	2.20	0.59
2:A:649:A:OP2	2:A:2868:U:O2'	2.20	0.59
2:A:1596:C:O2'	2:A:1696:A:N3	2.31	0.59
2:A:1948:G:H2'	2:A:1949:G:C8	2.38	0.59
2:A:1948:G:H2'	2:A:1949:G:H8	1.68	0.59
2:A:2947:G:C2	81:E:250:ALA:HB1	2.38	0.59
7:G:214:ASP:OD1	7:G:215:ASP:N	2.36	0.59
17:Q:113[A]:ASP:OD1	17:Q:114[A]:LYS:NZ	2.35	0.59
26:Z:88:MET:SD	26:Z:88:MET:N	2.71	0.59
59:SO:279:ALA:HB3	59:SO:311:ARG:NH2	2.17	0.59
78:SU:32:PRO:HA	78:SU:35:LYS:HG3	1.84	0.59
1:2:821:U:N3	1:2:852:C:N4	2.42	0.59
1:2:1499:G:H5''	54:SI:122:ARG:HH21	1.66	0.59
2:A:594:U:P	2:A:609:G:H1	2.26	0.59
2:A:780:A:N7	19:S:174:ARG:NH1	2.50	0.59
2:A:1427:U:OP2	29:c:4:ARG:NH1	2.32	0.59
2:A:2786:G:N2	29:c:58:MET:SD	2.66	0.59
2:A:2898:G:OP2	11:K:173:ARG:NH2	2.36	0.59
2:A:3183:A:OP1	17:Q:12[A]:LYS:NZ	2.24	0.59
6:F:204:GLY:O	6:F:246:ARG:NH2	2.35	0.59
45:t:15:G:N2	45:t:48:C:N4	2.50	0.59
70:Sb:23:ARG:HE	74:Sf:4:VAL:HG22	1.68	0.59
75:Sg:36:LYS:HD3	75:Sg:36:LYS:N	2.17	0.59
77:SP:113:ARG:HA	77:SP:113:ARG:HH11	1.66	0.59
77:SP:183:ARG:NH1	77:SP:183:ARG:O	2.36	0.59
80:SB:46:TRP:HD1	80:SB:122:ASN:HD22	1.50	0.59
2:A:1112:A:N3	2:A:1370:G:O2'	2.33	0.59
2:A:3076:C:OP1	32:f:65:LYS:NZ	2.35	0.59
16:P:160:GLU:OE1	16:P:160:GLU:N	2.29	0.59
40:n:43:ASN:OD1	40:n:44:TRP:N	2.36	0.59
63:SR:81:MET:HE2	63:SR:81:MET:N	2.18	0.59
80:SB:132:VAL:HG23	80:SB:198:LEU:HD11	1.84	0.59
1:2:871:G:H2'	1:2:872:G:H8	1.67	0.59
1:2:956:C:N4	1:2:957:G:O6	2.36	0.59
2:A:567:G:H2'	2:A:568:G:C8	2.38	0.59
2:A:2533:G:H22	2:A:2548:C:H1'	1.67	0.59
2:A:2573:G:H2'	2:A:2574:G:H8	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:2685:C:H2'	2:A:2686:A:H8	1.68	0.59
3:B:2:G:H21	3:B:24:A:H2	1.51	0.59
5:D:74:GLU:OE2	5:D:74:GLU:N	2.36	0.59
59:SO:206:PRO:HD3	59:SO:245:PHE:HB3	1.82	0.59
1:2:168:A:O3'	62:ST:176:GLN:NE2	2.35	0.59
1:2:174:U:O4	1:2:266:A:N7	2.36	0.59
1:2:1280:C:H2'	1:2:1281:G:H8	1.68	0.59
1:2:1727:G:H2'	1:2:1728:A:C8	2.37	0.59
2:A:728:G:H5''	19:S:43:PRO:HB2	1.83	0.59
2:A:2157:G:H4'	2:A:2158:A:H5'	1.84	0.59
60:SQ:32:ILE:HD12	60:SQ:96:LEU:HD11	1.83	0.59
63:SR:120:GLU:HG2	63:SR:123:GLY:H	1.68	0.59
72:Sd:39:GLU:OE2	72:Sd:39:GLU:N	2.33	0.59
81:E:376:LYS:O	81:E:380:MET:HB2	2.02	0.59
1:2:1591:C:H2'	1:2:1592:A:H8	1.68	0.59
2:A:894:G:N2	2:A:1660:C:OP1	2.35	0.59
2:A:1404:G:N2	2:A:1407:A:OP2	2.34	0.59
2:A:2228:A:H2'	2:A:2229:A:H8	1.67	0.59
2:A:2433:U:OP2	2:A:2434:U:O2'	2.18	0.59
11:K:9:GLN:NE2	11:K:10:ILE:O	2.35	0.59
16:P:27:VAL:HG23	16:P:129:TYR:CE2	2.38	0.59
46:v:264:LYS:O	46:v:268:ILE:HG23	2.03	0.59
66:SX:94:ILE:HG22	66:SX:97:TYR:H	1.68	0.59
77:SP:6:THR:OG1	77:SP:191:ARG:NH1	2.36	0.59
2:A:66:A:H61	2:A:76:G:H1'	1.66	0.59
2:A:647:A:N6	2:A:2371:G:O2'	2.30	0.59
2:A:1177:G:OP1	2:A:1177:G:N2	2.31	0.59
2:A:1527:C:N4	2:A:1528:G:O6	2.34	0.59
7:G:40:HIS:ND1	22:V:69:LYS:HA	2.18	0.59
22:V:18:ASP:OD1	22:V:19:PHE:N	2.36	0.59
24:X:22:ILE:HD12	24:X:23:MET:H	1.68	0.59
52:SF:30:LYS:HE3	52:SF:35:PRO:HD3	1.84	0.59
72:Sd:90:ARG:HD3	72:Sd:93:ARG:HD2	1.84	0.59
81:E:217:ALA:HB3	81:E:277:SER:HB3	1.85	0.59
1:2:1275:A:H3'	1:2:1276:U:H5''	1.85	0.59
2:A:629:U:H2'	2:A:630:A:C8	2.38	0.59
2:A:738:A:OP1	2:A:1093:A:N6	2.36	0.59
2:A:991:G:N2	22:V:59:GLY:O	2.35	0.59
2:A:1315:U:OP2	17:Q:44[A]:SER:OG	2.21	0.59
2:A:3094:A:OP1	24:X:14:SER:OG	2.21	0.59
2:A:3206:C:H42	15:O:13:ARG:HH22	1.49	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:55:ARG:NH2	15:O:76:ALA:O	2.36	0.59
24:X:35:TYR:HB2	24:X:63:LYS:HG2	1.85	0.59
31:e:16:LEU:HG	31:e:98:SER:HB2	1.85	0.59
37:k:51:SER:N	37:k:54:GLU:OE2	2.33	0.59
48:SA:71:LEU:HA	48:SA:74:GLN:HG2	1.84	0.59
59:SO:259:GLY:HA3	59:SO:275:ARG:HG2	1.83	0.59
59:SO:279:ALA:HB3	59:SO:311:ARG:HH21	1.67	0.59
1:2:325:G:H4'	66:SX:83:THR:HG21	1.85	0.58
1:2:1239:U:H3	1:2:1246:C:H42	1.50	0.58
1:2:1458:G:H21	51:SE:126:VAL:HG21	1.68	0.58
2:A:1255:C:H2'	2:A:1256:G:C8	2.38	0.58
10:J:89:GLU:HA	10:J:92:LYS:HD3	1.83	0.58
46:v:831:MET:HA	46:v:831:MET:HE3	1.84	0.58
53:SH:114:GLU:HA	53:SH:117:LYS:HB2	1.85	0.58
62:ST:48:TYR:HB2	62:ST:50:PHE:HE1	1.68	0.58
1:2:1220:C:H2'	1:2:1221:A:H8	1.67	0.58
1:2:1785:U:OP1	68:SZ:136:ARG:NH2	2.36	0.58
2:A:1127:G:N2	2:A:1130:A:OP2	2.32	0.58
2:A:1679:A:OP1	23:W:94:ARG:NH1	2.36	0.58
2:A:2137:U:OP2	2:A:2142:A:N6	2.36	0.58
2:A:3231:U:O2	2:A:3256:G:O6	2.20	0.58
35:i:96:GLU:O	35:i:100:ILE:HG23	2.03	0.58
48:SA:75:LYS:NZ	49:SC:14:TYR:OH	2.36	0.58
1:2:686:C:O2'	70:Sb:118:ARG:NH1	2.37	0.58
1:2:700:C:N4	1:2:739:G:O6	2.36	0.58
1:2:875:G:OP1	60:SQ:158:SER:OG	2.21	0.58
1:2:1229:G:N2	1:2:1256:A:H62	2.00	0.58
2:A:153:U:H4'	2:A:158:G:H4'	1.86	0.58
2:A:1084:A:H2'	2:A:1085:A:C8	2.38	0.58
5:D:180:LEU:HD11	44:r:26:VAL:HG21	1.85	0.58
34:h:67:MET:N	34:h:67:MET:SD	2.76	0.58
46:v:691:SER:H	46:v:694:SER:HB3	1.67	0.58
47:x:10:ARG:HE	47:x:445:ILE:HG22	1.68	0.58
52:SF:78:VAL:HG12	52:SF:82:ARG:NH1	2.16	0.58
54:SI:20:SER:HB3	54:SI:24:ARG:HH12	1.65	0.58
64:SV:100:ALA:H	64:SV:169:ILE:HG22	1.67	0.58
1:2:1358:G:H4'	54:SI:130:ARG:HG2	1.85	0.58
2:A:647:A:OP1	2:A:649:A:N6	2.36	0.58
2:A:3343:G:O2'	2:A:3362:A:N6	2.36	0.58
6:F:36:HIS:O	6:F:40:THR:HG23	2.02	0.58
10:J:139:VAL:O	10:J:143:ILE:HG12	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:89:ALA:O	15:O:93:LYS:NZ	2.31	0.58
16:P:46:ASP:HA	16:P:49:ARG:HG2	1.85	0.58
18:R:87:SER:O	18:R:91:VAL:HG22	2.02	0.58
18:R:116:HIS:HE1	18:R:118:GLN:HG3	1.69	0.58
46:v:271:ASN:ND2	46:v:441:ALA:O	2.36	0.58
46:v:670:ASN:C	46:v:671:MET:HE2	2.28	0.58
47:x:9:MET:SD	47:x:9:MET:N	2.62	0.58
70:Sb:17:ALA:HB1	70:Sb:22:LYS:HB2	1.84	0.58
81:E:57:VAL:HB	81:E:358:TRP:HB3	1.85	0.58
1:2:895:G:H2'	1:2:896:U:C6	2.39	0.58
1:2:1325:A:OP1	76:SG:11:ARG:NH1	2.36	0.58
2:A:158:G:H2'	2:A:159:A:H8	1.69	0.58
2:A:765:C:N4	14:N:176:GLU:OE1	2.36	0.58
2:A:1889:G:OP1	81:E:246:LEU:N	2.33	0.58
11:K:132:VAL:HG12	11:K:154:VAL:HG22	1.85	0.58
15:O:33:ALA:HB1	15:O:46:ILE:HB	1.84	0.58
45:u:53:G:H2'	45:u:54:A:C8	2.37	0.58
46:v:142:TRP:HA	46:v:145:LYS:HG3	1.85	0.58
46:v:502:HIS:O	46:v:540:ILE:HB	2.03	0.58
47:x:158:ASN:OD1	47:x:214:GLY:N	2.37	0.58
47:x:495:VAL:HG22	47:x:497:ASN:H	1.68	0.58
50:SD:60:VAL:HG13	50:SD:122:VAL:HG22	1.85	0.58
60:SQ:33:LYS:HB3	60:SQ:41:ARG:HH21	1.68	0.58
69:Sa:71:ARG:HB3	69:Sa:83:TRP:CZ3	2.39	0.58
77:SP:157:ASP:OD1	77:SP:157:ASP:N	2.35	0.58
2:A:67:A:O2'	2:A:315:C:O2	2.20	0.58
17:Q:19[A]:LEU:HD22	17:Q:80[A]:PHE:HZ	1.68	0.58
38:l:22:CYS:SG	38:l:37:CYS:HB3	2.43	0.58
59:SO:260:ILE:HD11	59:SO:274:LEU:HB2	1.85	0.58
62:ST:123:GLY:HA2	62:ST:126:ASP:HB2	1.85	0.58
70:Sb:98:GLN:OE1	70:Sb:98:GLN:N	2.37	0.58
71:Sc:86:PHE:HD2	71:Sc:107:PHE:HZ	1.49	0.58
78:SU:49:ILE:HG13	78:SU:172:VAL:HG12	1.85	0.58
2:A:3023:U:O3'	47:x:162:ARG:NH2	2.37	0.58
6:F:148:ILE:HG13	6:F:149:PRO:HA	1.85	0.58
15:O:17:VAL:HA	15:O:35:ILE:HG22	1.86	0.58
36:j:92:LEU:HD12	36:j:96:GLU:HG3	1.86	0.58
49:SC:45:ALA:O	49:SC:48:SER:OG	2.21	0.58
1:2:406:U:H2'	1:2:407:A:H8	1.67	0.58
1:2:1228:G:H5''	1:2:1229:G:H5''	1.84	0.58
2:A:2244:A:OP1	5:D:243:THR:OG1	2.22	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:8:VAL:HA	6:F:151:VAL:HG23	1.86	0.58
46:v:243:LEU:HA	46:v:246:MET:HE2	1.85	0.58
50:SD:42:ALA:HB3	50:SD:122:VAL:HB	1.85	0.58
52:SF:79:TYR:HA	52:SF:82:ARG:HH11	1.68	0.58
56:SK:57:TYR:HD2	56:SK:60:VAL:HG12	1.69	0.58
59:SO:31:ASN:HA	59:SO:47:LEU:HB2	1.86	0.58
59:SO:61:PHE:HE1	59:SO:97:GLY:HA2	1.69	0.58
62:ST:69:LEU:HD11	62:ST:71:THR:HG22	1.86	0.58
67:SY:5:HIS:NE2	67:SY:120:SER:OG	2.37	0.58
1:2:373:G:H5'	66:SX:96:LYS:HG3	1.84	0.58
1:2:393:C:H4'	1:2:1674:C:H5'	1.86	0.58
1:2:821:U:O2	1:2:852:C:N3	2.37	0.58
2:A:20:A:OP2	36:j:86:ARG:NH2	2.37	0.58
2:A:1332:A:H2	9:I:209:ASN:HD21	1.51	0.58
13:M:109:HIS:ND1	13:M:123:PHE:O	2.37	0.58
46:v:121:ASN:HD21	46:v:123:VAL:HG12	1.69	0.58
46:v:532:THR:HG22	46:v:533:ASP:H	1.69	0.58
63:SR:211:LEU:O	63:SR:215:PHE:N	2.32	0.58
76:SG:49:LYS:N	76:SG:49:LYS:HD3	2.19	0.58
1:2:23:G:O2'	1:2:368:U:OP1	2.22	0.58
1:2:793:A:H5''	1:2:794:U:H5'	1.86	0.58
1:2:1787:C:H2'	1:2:1788:G:C8	2.39	0.58
2:A:2446:U:H2'	2:A:2447:A:C8	2.38	0.58
2:A:3026:G:N2	2:A:3029:A:OP2	2.26	0.58
45:u:66:C:H2'	45:u:67:G:H8	1.67	0.58
1:2:1627:U:H2'	1:2:1628:U:C6	2.38	0.57
2:A:54:C:H2'	2:A:55:G:H8	1.69	0.57
4:C:38:U:O2'	36:j:83:LYS:NZ	2.36	0.57
15:O:16:GLU:HB3	21:U:149:LYS:HG2	1.85	0.57
46:v:789:ILE:HG22	46:v:790:GLU:HG3	1.85	0.57
58:SN:141:CYS:HB2	58:SN:149:LYS:HE2	1.86	0.57
81:E:347:SER:HG	81:E:348:ARG:H	1.51	0.57
1:2:604:A:H2'	1:2:605:A:O4'	2.03	0.57
1:2:1647:U:OP1	2:A:2257:C:N4	2.36	0.57
2:A:260:C:H2'	2:A:261:U:C6	2.38	0.57
2:A:1460:A:H2'	2:A:1461:A:C8	2.39	0.57
2:A:2838:A:H4'	12:L:74:LYS:HG2	1.86	0.57
4:C:47:C:H1'	4:C:61:A:H2'	1.84	0.57
20:T:162:ARG:HA	20:T:165:LYS:HD3	1.85	0.57
46:v:531:PHE:HE2	46:v:551:LEU:HD13	1.70	0.57
63:SR:168:ARG:HB2	63:SR:199:GLN:HB2	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SV:84:HIS:NE2	64:SV:97:THR:OG1	2.31	0.57
64:SV:101:ILE:H	64:SV:101:ILE:HD12	1.69	0.57
78:SU:38:LEU:HD23	78:SU:38:LEU:H	1.69	0.57
81:E:148:LEU:O	81:E:152:LYS:HG3	2.04	0.57
1:2:157:A:H2	1:2:419:G:H21	1.53	0.57
1:2:1695:G:H2'	1:2:1696:G:C8	2.40	0.57
2:A:788:C:H2'	2:A:789:A:H8	1.66	0.57
2:A:1560:G:H2'	2:A:1561:G:C8	2.39	0.57
2:A:1880:U:O4	2:A:1881:A:N6	2.37	0.57
8:H:99:GLU:OE1	8:H:99:GLU:N	2.30	0.57
12:L:192:ASP:HA	12:L:197:VAL:HA	1.86	0.57
14:N:47:ALA:O	14:N:137:GLN:NE2	2.38	0.57
23:W:34:ALA:O	23:W:38:ILE:HG12	2.04	0.57
30:d:43:HIS:O	30:d:47:LEU:HD22	2.04	0.57
35:i:86:LYS:O	35:i:90:ILE:HG12	2.04	0.57
47:x:828:MET:N	47:x:828:MET:SD	2.77	0.57
52:SF:113:ASP:OD1	52:SF:114:ARG:N	2.37	0.57
61:SS:196:VAL:HG11	61:SS:211:LYS:HE2	1.87	0.57
1:2:477:A:OP1	75:Sg:31:LYS:N	2.32	0.57
2:A:268:A:OP1	16:P:47:LYS:NZ	2.36	0.57
2:A:760:G:N2	2:A:770:G:N3	2.52	0.57
2:A:1047:A:N3	2:A:2633:U:O2'	2.38	0.57
2:A:2222:A:H2'	2:A:2223:A:C8	2.40	0.57
2:A:2468:A:N3	2:A:2477:G:N2	2.50	0.57
3:B:121:U:OP2	7:G:265:TYR:OH	2.23	0.57
7:G:208:MET:HE1	7:G:233:ALA:HB2	1.86	0.57
32:f:46:THR:HG21	32:f:89:LEU:HB3	1.86	0.57
44:r:10:ILE:O	44:r:13:LYS:NZ	2.37	0.57
46:v:180:ASP:O	46:v:186:LYS:NZ	2.34	0.57
55:SJ:106:ILE:HB	55:SJ:108:ILE:HG12	1.86	0.57
60:SQ:43:VAL:HG22	60:SQ:73:LEU:HD21	1.86	0.57
1:2:977:A:N7	1:2:1024:U:O4	2.37	0.57
1:2:1332:C:H5'	48:SA:203:PRO:HB3	1.87	0.57
2:A:307:A:H2'	2:A:308:A:C8	2.40	0.57
2:A:2767:U:H3	2:A:2791:G:H1	1.51	0.57
7:G:105:ILE:O	7:G:109:THR:HG23	2.05	0.57
10:J:184:ALA:O	10:J:188:THR:HG23	2.04	0.57
22:V:144:GLU:N	22:V:144:GLU:OE2	2.37	0.57
27:a:38:GLU:OE2	27:a:38:GLU:N	2.27	0.57
42:p:3:ALA:HA	42:p:6:ARG:HG3	1.86	0.57
47:x:576:LEU:H	47:x:839:TYR:HD1	1.52	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:SF:102:LYS:HE2	59:SO:279:ALA:HA	1.86	0.57
70:Sb:111:MET:SD	70:Sb:115:GLU:HB2	2.44	0.57
77:SP:30:GLN:HG2	77:SP:149:LEU:HD13	1.86	0.57
80:SB:121:ILE:HB	80:SB:129:PRO:HB3	1.85	0.57
2:A:655:C:H2'	2:A:656:A:C8	2.37	0.57
2:A:727:G:OP2	2:A:742:G:N2	2.37	0.57
2:A:1018:G:N2	2:A:1034:U:O2	2.38	0.57
2:A:2557:A:H5'	28:b:135:ARG:HH22	1.68	0.57
2:A:2866:U:O2	2:A:2867:C:N4	2.38	0.57
13:M:125:MET:SD	13:M:126:ASP:N	2.78	0.57
41:o:97:ARG:HE	41:o:122:ARG:HB3	1.70	0.57
46:v:45:VAL:HG21	46:v:356:ARG:HG3	1.84	0.57
46:v:347:LEU:HD21	46:v:406:PHE:HB2	1.85	0.57
64:SV:28:GLU:N	64:SV:28:GLU:OE2	2.37	0.57
1:2:43:A:N1	1:2:378:A:N6	2.53	0.57
1:2:1673:G:H1	1:2:1728:A:N6	2.03	0.57
2:A:196:G:N1	2:A:199:A:OP2	2.33	0.57
2:A:207:U:H2'	2:A:208:C:C6	2.40	0.57
2:A:285:A:O2'	43:q:45:ARG:NH2	2.37	0.57
2:A:509:U:H3	2:A:582:G:H1	1.53	0.57
2:A:1348:U:H5'	19:S:35:PHE:HE2	1.70	0.57
2:A:1506:A:N6	2:A:1510:G:N7	2.53	0.57
46:v:656:GLU:O	46:v:727:HIS:NE2	2.36	0.57
46:v:816:LEU:HB3	46:v:828:TRP:HB3	1.85	0.57
47:x:682:ARG:HH12	47:x:801:TRP:HB2	1.69	0.57
52:SF:29:ILE:HG22	52:SF:36:ILE:HD11	1.86	0.57
81:E:223:GLY:HA2	81:E:271:GLY:HA3	1.87	0.57
1:2:61:A:O2'	1:2:62:A:O4'	2.23	0.57
1:2:1168:U:H2'	1:2:1169:G:H8	1.69	0.57
1:2:1171:A:H2'	1:2:1172:G:C8	2.40	0.57
2:A:632:G:OP1	17:Q:94[A]:ARG:N	2.37	0.57
2:A:650:C:H2'	2:A:651:G:C8	2.39	0.57
2:A:1489:A:OP1	35:i:10:ARG:NH1	2.38	0.57
2:A:2677:G:N2	2:A:2679:A:OP2	2.36	0.57
2:A:2951:G:H2'	2:A:2952:G:C8	2.40	0.57
12:L:191:LYS:HE2	12:L:212:GLU:HB3	1.86	0.57
26:Z:111:ASN:O	26:Z:123:TYR:N	2.37	0.57
29:c:45:MET:HA	29:c:45:MET:HE3	1.87	0.57
47:x:109:VAL:HB	47:x:537:HIS:HE1	1.70	0.57
49:SC:1:MET:HG2	49:SC:3:MET:HE1	1.87	0.57
65:SW:108:ARG:HH21	65:SW:144:PRO:HB2	1.70	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:Sa:38:LYS:NZ	69:Sa:49:GLU:OE2	2.38	0.57
79:SL:29:ARG:NH2	79:SL:41:VAL:HG13	2.19	0.57
31:e:38:LYS:O	31:e:40:LYS:NZ	2.38	0.57
47:x:285:PHE:HA	47:x:288:ILE:HG22	1.87	0.57
50:SD:69:ALA:HA	50:SD:72:ILE:HD12	1.86	0.57
56:SK:61:SER:HB2	56:SK:64:VAL:HG23	1.86	0.57
60:SQ:3:VAL:HG22	68:SZ:49:LYS:HD2	1.86	0.57
73:Se:20:PRO:HA	73:Se:31:PRO:HA	1.85	0.57
80:SB:93:LEU:HA	80:SB:172:ILE:HD11	1.86	0.57
1:2:772:G:H4'	61:SS:23:LEU:HD11	1.86	0.57
1:2:1049:U:H5''	74:Sf:70:LYS:HG2	1.86	0.57
1:2:1461:C:H5'	53:SH:144:ARG:HH22	1.70	0.57
2:A:260:C:H2'	2:A:261:U:H6	1.70	0.57
2:A:2176:U:OP1	5:D:54:ARG:NH1	2.37	0.57
2:A:3170:A:O2'	2:A:3171:U:O4'	2.21	0.57
13:M:13:LYS:HG2	13:M:134:PRO:HD3	1.87	0.57
13:M:45:PRO:HB3	13:M:69:VAL:HB	1.86	0.57
58:SN:140:TYR:HA	58:SN:149:LYS:HZ3	1.69	0.57
66:SX:80:MET:HE2	66:SX:81:HIS:N	2.20	0.57
71:Sc:48:HIS:HB3	71:Sc:103:LEU:HD11	1.87	0.57
77:SP:127:ARG:NH1	77:SP:150:ASP:O	2.38	0.57
77:SP:183:ARG:HE	77:SP:191:ARG:HB3	1.70	0.57
1:2:992:A:H2'	1:2:993:A:H5'	1.86	0.56
1:2:1682:U:O4	1:2:1720:G:N2	2.38	0.56
2:A:664:U:H2'	2:A:665:A:C8	2.40	0.56
2:A:913:A:H5''	2:A:914:A:N7	2.20	0.56
2:A:2462:A:OP2	2:A:2484:A:N6	2.37	0.56
4:C:67:U:H2'	4:C:68:G:H8	1.70	0.56
24:X:59:MET:HA	24:X:75:PRO:HA	1.86	0.56
24:X:81:GLN:HE22	24:X:83:LYS:HB3	1.70	0.56
46:v:798:GLY:HA2	46:v:851:MET:SD	2.45	0.56
70:Sb:24:GLN:NE2	74:Sf:5:GLN:OE1	2.38	0.56
1:2:169:A:OP2	1:2:171:A:N6	2.38	0.56
1:2:1122:G:N2	1:2:1125:A:OP2	2.37	0.56
2:A:2434:U:H5'	2:A:2593:A:H2	1.70	0.56
2:A:3374:U:OP2	32:f:70:ARG:NH2	2.38	0.56
12:L:29:SER:HB2	12:L:125:LEU:HD22	1.86	0.56
20:T:147:ALA:HA	20:T:150:GLN:HE21	1.70	0.56
23:W:73:GLY:HA2	23:W:76:LEU:HD23	1.87	0.56
31:e:27:TYR:O	31:e:31:VAL:HG12	2.05	0.56
46:v:132:LEU:O	46:v:136:ILE:HG22	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:SN:107:LYS:HD2	58:SN:115:THR:H	1.69	0.56
1:2:457:G:OP1	72:Sd:108:ARG:NH1	2.37	0.56
1:2:460:A:H3'	1:2:461:G:H8	1.71	0.56
1:2:1210:C:H2'	1:2:1211:A:H8	1.70	0.56
2:A:340:C:H2'	2:A:341:G:C8	2.41	0.56
2:A:1136:A:O4'	2:A:2636:A:N6	2.38	0.56
2:A:1198:C:OP2	2:A:1199:C:O2'	2.23	0.56
2:A:1250:G:H2'	2:A:1251:A:C8	2.40	0.56
2:A:1805:C:H2'	2:A:1806:A:H8	1.70	0.56
2:A:1826:C:H2'	2:A:1827:C:H6	1.70	0.56
2:A:2338:C:OP2	2:A:2339:C:O2'	2.22	0.56
2:A:3328:G:H21	81:E:309:GLY:HA3	1.70	0.56
5:D:133:TYR:HB3	5:D:168:VAL:HG12	1.88	0.56
13:M:26:SER:HA	13:M:30:LEU:HD23	1.87	0.56
18:R:169:THR:HG22	18:R:172:GLN:HG3	1.87	0.56
36:j:101:THR:HG23	36:j:104:GLN:H	1.70	0.56
46:v:121:ASN:OD1	46:v:124:ALA:N	2.39	0.56
46:v:547:TRP:HE3	46:v:550:LYS:HG2	1.70	0.56
52:SF:42:GLU:HB2	80:SB:112:ARG:HH22	1.70	0.56
62:ST:192:ALA:HB1	62:ST:196:ARG:HH21	1.69	0.56
68:SZ:115:ILE:HB	73:Se:65:PRO:HG2	1.88	0.56
70:Sb:104:LEU:HB2	70:Sb:125:ILE:HA	1.85	0.56
81:E:121:ASN:HB3	81:E:124:LYS:HG2	1.87	0.56
1:2:1382:A:O2'	1:2:1383:G:H8	1.88	0.56
2:A:3187:A:H5'	11:K:22:SER:HA	1.87	0.56
6:F:237:GLN:O	6:F:246:ARG:NH1	2.39	0.56
46:v:71:ALA:HB2	46:v:112:THR:HG22	1.86	0.56
63:SR:40:LYS:HZ3	63:SR:240:LEU:HD22	1.70	0.56
63:SR:172:ALA:O	63:SR:174:ARG:NH2	2.39	0.56
67:SY:9:LYS:HZ3	67:SY:11:ILE:HD11	1.71	0.56
69:Sa:19:ALA:HA	69:Sa:71:ARG:HH12	1.70	0.56
75:Sg:27:PRO:O	75:Sg:29:LYS:NZ	2.38	0.56
80:SB:201:ALA:HA	80:SB:211:ILE:HG21	1.86	0.56
1:2:754:A:OP2	61:SS:187:ARG:NH2	2.38	0.56
2:A:820:A:N3	2:A:911:C:O2'	2.37	0.56
2:A:1039:U:H2'	2:A:1040:A:C8	2.39	0.56
2:A:2913:C:H2'	2:A:2914:G:C8	2.41	0.56
11:K:22:SER:OG	11:K:23:ARG:N	2.39	0.56
34:h:86:ARG:NE	34:h:86:ARG:O	2.38	0.56
44:r:27:LYS:O	44:r:31:ILE:HG13	2.06	0.56
46:v:582:VAL:O	46:v:586:ASN:HB2	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:v:627:PHE:HA	46:v:630:LYS:HE3	1.87	0.56
47:x:518:VAL:HG21	47:x:530:VAL:HG13	1.88	0.56
59:SO:201:THR:O	59:SO:213:SER:OG	2.22	0.56
59:SO:303:ALA:N	59:SO:311:ARG:O	2.37	0.56
68:SZ:20:TYR:HB3	68:SZ:27:PHE:HB3	1.88	0.56
81:E:210:GLU:HG2	81:E:211:GLN:H	1.71	0.56
1:2:1323:C:C5	1:2:1324:G:C8	2.93	0.56
2:A:19:U:H3	4:C:140:G:H1	1.53	0.56
2:A:365:A:OP1	6:F:84:ARG:NH1	2.39	0.56
2:A:999:G:N3	2:A:1002:A:N6	2.54	0.56
2:A:1009:A:H2'	2:A:1010:G:H8	1.69	0.56
2:A:2828:G:N2	12:L:105:CYS:O	2.39	0.56
2:A:3049:A:C8	81:E:53:MET:HE3	2.40	0.56
5:D:40:TYR:HD2	5:D:93:LYS:HB3	1.69	0.56
17:Q:73[A]:PHE:HB3	17:Q:78[A]:ARG:HB3	1.87	0.56
22:V:44:ALA:N	22:V:58:GLN:OE1	2.39	0.56
60:SQ:205:PHE:HE2	60:SQ:207:LEU:HD13	1.70	0.56
63:SR:103:VAL:HG21	63:SR:187:LEU:HD13	1.88	0.56
63:SR:108:ASN:O	63:SR:141:ARG:NH1	2.38	0.56
70:Sb:27:ILE:HG22	70:Sb:61:ILE:HB	1.86	0.56
1:2:360:A:O2'	1:2:362:G:OP1	2.23	0.56
1:2:912:U:OP1	1:2:913:G:O2'	2.18	0.56
1:2:1042:G:H2'	1:2:1043:A:C8	2.41	0.56
2:A:1175:C:H2'	2:A:1176:C:C6	2.40	0.56
2:A:1363:A:OP1	9:I:160:ARG:NH1	2.39	0.56
2:A:1507:G:O2'	18:R:139:TYR:OH	2.20	0.56
2:A:2264:U:H2'	2:A:2265:C:H6	1.71	0.56
23:W:36:TYR:O	23:W:40:HIS:HB2	2.05	0.56
46:v:404:ASP:O	46:v:408:LYS:HG3	2.05	0.56
47:x:72:SER:HB3	47:x:103:ILE:HD11	1.87	0.56
54:SI:39:THR:HB	54:SI:57:ARG:HH12	1.71	0.56
64:SV:153:GLU:OE2	64:SV:156:VAL:N	2.37	0.56
77:SP:86:VAL:HA	77:SP:174:TRP:HE1	1.71	0.56
77:SP:180:GLU:O	77:SP:184:LEU:N	2.29	0.56
78:SU:149:ILE:HD11	78:SU:182:VAL:HG23	1.87	0.56
1:2:214:G:H5''	1:2:215:A:C8	2.41	0.56
1:2:961:U:H2'	1:2:962:C:C6	2.41	0.56
1:2:1171:A:H2'	1:2:1172:G:H8	1.71	0.56
1:2:1263:G:H4'	47:x:613:LYS:HE3	1.88	0.56
1:2:1267:G:N2	1:2:1442:U:O2	2.39	0.56
2:A:1567:U:H2'	2:A:1568:U:H4'	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:2412:G:H2'	2:A:2413:A:H8	1.70	0.56
2:A:3123:A:O2'	11:K:40:HIS:ND1	2.39	0.56
4:C:27:U:H2'	4:C:28:C:H6	1.71	0.56
59:SO:151:VAL:HA	59:SO:173:GLY:HA3	1.87	0.56
65:SW:10:LYS:NZ	65:SW:12:TYR:O	2.33	0.56
1:2:382:C:H2'	1:2:383:G:C8	2.40	0.56
1:2:1324:G:H2'	1:2:1325:A:O4'	2.05	0.56
2:A:2505:U:H1'	2:A:2506:U:H5	1.71	0.56
2:A:2672:G:H21	13:M:128:TYR:HE2	1.53	0.56
2:A:3096:C:H4'	81:E:325:LYS:HE2	1.88	0.56
2:A:3119:U:H4'	41:o:104:PRO:HG2	1.86	0.56
3:B:12:U:O3'	3:B:111:U:O2'	2.22	0.56
3:B:94:C:H2'	3:B:95:A:H8	1.71	0.56
10:J:57:ARG:O	10:J:61:GLN:HG2	2.06	0.56
11:K:57:VAL:HG23	11:K:68:LEU:HD22	1.88	0.56
20:T:114:LYS:HB2	20:T:115:ILE:HD12	1.87	0.56
24:X:92:PHE:O	25:Y:20:LEU:N	2.39	0.56
32:f:44:MET:HE1	32:f:46:THR:HG23	1.87	0.56
52:SF:94:GLN:NE2	59:SO:14:GLU:OE1	2.38	0.56
62:ST:141:ILE:HD12	62:ST:141:ILE:H	1.70	0.56
64:SV:25:ARG:N	64:SV:28:GLU:OE1	2.38	0.56
67:SY:95:ALA:HA	67:SY:118:ILE:HD12	1.88	0.56
74:Sf:16:ALA:O	74:Sf:29:ARG:NH2	2.38	0.56
80:SB:37:GLN:HE22	80:SB:38:THR:HG23	1.71	0.56
80:SB:171:ALA:HA	80:SB:174:LEU:HD12	1.87	0.56
2:A:370:U:O4	2:A:374:A:N7	2.39	0.56
2:A:411:U:H2'	2:A:412:G:H8	1.70	0.56
2:A:695:C:OP2	6:F:115:HIS:NE2	2.29	0.56
2:A:1201:C:N4	2:A:2857:C:OP1	2.32	0.56
2:A:1348:U:OP2	19:S:38:ARG:NH2	2.39	0.56
2:A:1650:G:H5''	5:D:70:ARG:HG2	1.88	0.56
2:A:2331:C:H2'	2:A:2332:A:C8	2.41	0.56
2:A:2883:U:H2'	2:A:2884:C:H6	1.71	0.56
2:A:3273:A:OP2	8:H:77:ARG:NH1	2.38	0.56
5:D:243:THR:OG1	5:D:244:GLY:N	2.37	0.56
9:I:101:LYS:O	9:I:105:LEU:HD12	2.05	0.56
13:M:75:LYS:O	13:M:79:ILE:HG22	2.06	0.56
48:SA:22:ASN:ND2	57:SM:49:ASP:OD2	2.28	0.56
55:SJ:28:SER:HB2	55:SJ:112:VAL:HA	1.88	0.56
58:SN:139:LEU:HD22	58:SN:152:ALA:H	1.71	0.56
59:SO:275:ARG:N	59:SO:276:PRO:HD3	2.21	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:SQ:61:LEU:HD21	60:SQ:96:LEU:HD22	1.88	0.56
68:SZ:82:LYS:HG2	68:SZ:116:GLU:HB3	1.88	0.56
1:2:635:A:H2'	1:2:636:A:C8	2.41	0.55
4:C:76:C:N3	4:C:77:A:N6	2.54	0.55
13:M:158:ASP:N	13:M:158:ASP:OD1	2.34	0.55
37:k:57:LEU:O	37:k:61:ILE:HG23	2.06	0.55
38:l:22:CYS:HG	38:l:34:CYS:CB	2.20	0.55
40:n:27:ILE:O	40:n:33:ASN:ND2	2.40	0.55
47:x:10:ARG:NH2	47:x:447:ASP:H	2.04	0.55
47:x:696:ASP:O	47:x:700:ARG:NH1	2.36	0.55
52:SF:55:VAL:HG11	52:SF:105:LEU:HB3	1.87	0.55
59:SO:62:LYS:NZ	59:SO:64:HIS:O	2.39	0.55
59:SO:72:THR:OG1	59:SO:113:VAL:O	2.23	0.55
64:SV:37:LYS:NZ	64:SV:93:THR:O	2.30	0.55
64:SV:83:TYR:HB3	64:SV:101:ILE:HD13	1.88	0.55
80:SB:148:ARG:HB2	80:SB:157:ARG:HG2	1.88	0.55
80:SB:166:ARG:HH11	80:SB:169:ASN:HB3	1.70	0.55
1:2:733:A:N3	1:2:736:C:N4	2.54	0.55
1:2:1064:G:O2'	60:SQ:204:ILE:O	2.23	0.55
1:2:1582:U:O2'	1:2:1614:A:N6	2.40	0.55
2:A:544:C:O2	2:A:547:G:N2	2.34	0.55
2:A:894:G:H4'	2:A:895:A:H5'	1.87	0.55
2:A:1899:G:OP1	24:X:22:ILE:HG22	2.07	0.55
2:A:1921:A:OP2	2:A:1930:A:N6	2.31	0.55
2:A:2769:A:H2'	2:A:2770:G:C8	2.41	0.55
2:A:3051:U:H2'	2:A:3052:G:H8	1.70	0.55
17:Q:143[A]:THR:HB	17:Q:150[A]:GLU:HG2	1.89	0.55
39:m:63:LYS:HA	39:m:66:ILE:HD11	1.88	0.55
46:v:111:GLU:HA	46:v:114:ILE:HG22	1.87	0.55
47:x:595:GLU:OE2	47:x:682:ARG:NH2	2.38	0.55
60:SQ:70:LEU:HD21	60:SQ:84:ILE:HG12	1.88	0.55
78:SU:99:LEU:HD12	78:SU:112:ARG:HG3	1.88	0.55
1:2:1357:A:H2'	1:2:1358:G:C8	2.40	0.55
1:2:1595:U:OP1	57:SM:33:LYS:NZ	2.36	0.55
2:A:80:G:O6	2:A:106:A:N6	2.39	0.55
2:A:1617:G:H2'	2:A:1618:G:C8	2.40	0.55
2:A:2415:C:OP1	5:D:2:GLY:N	2.39	0.55
2:A:2812:C:H2'	2:A:2813:A:C8	2.41	0.55
2:A:3379:C:H4'	81:E:315:GLY:HA2	1.88	0.55
9:I:224:ILE:HG23	21:U:36:ILE:HG23	1.87	0.55
43:q:15:LYS:HA	43:q:18:ARG:HH11	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:v:755:ILE:HD12	46:v:908:ALA:HA	1.88	0.55
47:x:606:ILE:HD11	47:x:619:MET:HE2	1.87	0.55
47:x:780:PHE:O	47:x:784:LEU:HG	2.06	0.55
48:SA:75:LYS:HE2	49:SC:22:VAL:H	1.70	0.55
54:SI:69:LYS:HG3	54:SI:70:GLN:HG3	1.87	0.55
67:SY:132:VAL:HG23	67:SY:134:VAL:HG23	1.86	0.55
1:2:227:U:O2'	1:2:834:G:N2	2.40	0.55
2:A:66:A:N6	2:A:76:G:H1'	2.22	0.55
2:A:314:U:H2'	2:A:315:C:C6	2.41	0.55
2:A:504:A:H2'	2:A:505:G:H8	1.71	0.55
2:A:1057:A:OP1	9:I:98:LYS:NZ	2.39	0.55
2:A:3292:A:H2'	2:A:3293:U:C6	2.41	0.55
33:g:19:ARG:O	33:g:22:SER:OG	2.24	0.55
38:l:37:CYS:SG	38:l:38:GLY:N	2.79	0.55
39:m:11:PHE:HD2	39:m:54:LEU:HD13	1.71	0.55
46:v:80:SER:HB3	46:v:83:VAL:HG12	1.87	0.55
52:SF:22:VAL:HG22	52:SF:65:ILE:HG13	1.88	0.55
59:SO:106:HIS:HD2	59:SO:108:SER:H	1.55	0.55
60:SQ:146:GLN:HG2	60:SQ:149:GLN:HB2	1.89	0.55
60:SQ:229:MET:N	60:SQ:229:MET:SD	2.79	0.55
66:SX:101:GLU:HB3	71:Sc:12:ALA:HB3	1.88	0.55
1:2:990:C:O2'	68:SZ:127:ARG:NH1	2.39	0.55
1:2:1289:U:H2'	1:2:1290:U:H6	1.71	0.55
2:A:783:A:H5''	2:A:784:A:H5'	1.87	0.55
2:A:2095:G:H2'	2:A:2096:A:H8	1.71	0.55
2:A:3181:C:N4	2:A:3182:G:O6	2.40	0.55
4:C:156:U:H2'	4:C:157:U:C2	2.42	0.55
28:b:25:ILE:H	28:b:25:ILE:HD12	1.70	0.55
29:c:6:THR:HG22	29:c:8:THR:H	1.71	0.55
81:E:180:GLU:OE1	81:E:180:GLU:N	2.39	0.55
1:2:1025:A:OP2	1:2:1027:A:N6	2.34	0.55
1:2:1374:C:H2'	1:2:1375:A:H8	1.72	0.55
1:2:1555:A:N6	57:SM:14:TYR:OH	2.40	0.55
2:A:712:G:N2	2:A:754:G:O3'	2.40	0.55
2:A:1795:U:C4	44:r:51:ALA:HA	2.42	0.55
2:A:2342:U:O2'	2:A:2343:C:H5'	2.05	0.55
4:C:143:U:OP1	16:P:38:ARG:NH2	2.39	0.55
42:p:11:ARG:O	42:p:15:ARG:HG2	2.07	0.55
44:r:44:LYS:HD2	44:r:59:CYS:SG	2.47	0.55
78:SU:51:VAL:HG13	78:SU:53:GLY:H	1.70	0.55
78:SU:91:ILE:HG12	78:SU:129:LEU:HG	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1:U:H3	65:SW:53:ARG:HE	1.54	0.55
1:2:1045:C:H2'	1:2:1046:G:H8	1.71	0.55
1:2:1276:U:H2'	1:2:1277:G:C8	2.38	0.55
1:2:1727:G:H21	64:SV:32:GLN:HE22	1.55	0.55
2:A:53:G:OP2	38:l:48:ASN:ND2	2.38	0.55
2:A:900:G:C4	2:A:1589:A:N6	2.75	0.55
2:A:2769:A:H5''	43:q:80:ARG:NH1	2.21	0.55
2:A:2992:U:OP1	2:A:3310:A:O2'	2.23	0.55
14:N:55:ARG:O	14:N:115:ARG:NH2	2.40	0.55
17:Q:189[A]:ASP:HA	17:Q:192[A]:LYS:HD3	1.87	0.55
45:t:1:A:H2'	45:t:2:G:H8	1.71	0.55
47:x:280:PRO:HD2	47:x:281:ILE:N	2.16	0.55
65:SW:119:ALA:HB1	65:SW:124:HIS:HB3	1.88	0.55
1:2:389:G:H3'	1:2:390:G:H21	1.71	0.55
1:2:406:U:H2'	1:2:407:A:C8	2.42	0.55
1:2:1251:U:H1'	58:SN:135:HIS:CE1	2.42	0.55
1:2:1553:G:N1	1:2:1556:A:OP2	2.40	0.55
2:A:199:A:O2'	2:A:201:A:N7	2.37	0.55
2:A:339:C:OP2	6:F:197:ARG:NH2	2.37	0.55
2:A:633:C:O2'	34:h:21:ARG:O	2.24	0.55
2:A:1188:U:OP1	2:A:1210:U:O2'	2.24	0.55
2:A:1298:C:O3'	41:o:113:ARG:NH2	2.40	0.55
2:A:2366:C:H2'	2:A:2367:A:H8	1.72	0.55
19:S:165:ILE:HD12	19:S:173:GLU:HG2	1.87	0.55
21:U:13:ARG:HH11	21:U:51:VAL:HG12	1.71	0.55
23:W:32:SER:OG	23:W:83:TYR:OH	2.20	0.55
24:X:126:TRP:HB2	24:X:129:VAL:HG22	1.89	0.55
35:i:103:LYS:O	35:i:107:GLU:HG2	2.07	0.55
52:SF:39:VAL:HG23	52:SF:40:GLU:H	1.70	0.55
58:SN:142:GLY:HA2	58:SN:145:HIS:HA	1.89	0.55
60:SQ:207:LEU:HD12	60:SQ:208:GLN:H	1.71	0.55
66:SX:132:SER:O	66:SX:136:ARG:NH1	2.33	0.55
78:SU:50:ASP:HB2	78:SU:56:LYS:HE2	1.89	0.55
1:2:72:A:H2'	1:2:73:U:H4'	1.89	0.55
2:A:63:A:N3	2:A:78:U:O2'	2.34	0.55
2:A:528:U:H2'	2:A:529:A:C8	2.42	0.55
2:A:705:A:O2'	2:A:714:G:N2	2.38	0.55
2:A:1728:G:OP2	31:e:86:ARG:NH2	2.39	0.55
2:A:3308:C:N3	18:R:69:ARG:NH2	2.43	0.55
6:F:196:ASN:ND2	27:a:11:ASP:OD1	2.39	0.55
21:U:82:ASP:OD1	21:U:82:ASP:N	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:75:TYR:O	23:W:79:LEU:HD22	2.06	0.55
45:u:32:C:H5'	45:u:33:U:H5	1.72	0.55
47:x:24:VAL:HG22	47:x:126:LEU:HD22	1.89	0.55
47:x:83:ASP:O	47:x:87:LYS:NZ	2.40	0.55
76:SG:87:GLU:OE1	76:SG:87:GLU:N	2.27	0.55
80:SB:221:ALA:O	80:SB:225:ARG:NH2	2.39	0.55
1:2:634:G:H4'	70:Sb:4:SER:HA	1.89	0.55
2:A:1105:A:H2'	2:A:1106:G:C8	2.42	0.55
2:A:1493:G:C5	40:n:13:MET:HE1	2.42	0.55
2:A:1777:U:H2'	2:A:1778:G:C8	2.42	0.55
2:A:3116:G:OP1	2:A:3116:G:N2	2.34	0.55
4:C:8:C:H2'	4:C:9:A:H8	1.71	0.55
31:e:9:SER:O	31:e:12:GLN:NE2	2.40	0.55
44:r:47:VAL:HG22	44:r:57:CYS:HB2	1.89	0.55
62:ST:92:ARG:HH12	62:ST:94:ARG:HB2	1.72	0.55
66:SX:72:THR:HG22	66:SX:122:ILE:HD11	1.89	0.55
69:Sa:37:ALA:O	77:SP:62:ARG:NH2	2.36	0.55
78:SU:51:VAL:HG23	78:SU:171:ALA:HB2	1.88	0.55
1:2:1055:U:O4	1:2:1064:G:O6	2.25	0.54
1:2:1187:U:H2'	1:2:1188:G:H8	1.71	0.54
2:A:1472:U:OP1	20:T:8:LYS:NZ	2.33	0.54
2:A:2382:G:H3'	17:Q:85[A]:ARG:HH22	1.72	0.54
2:A:2526:C:H2'	2:A:2527:G:H8	1.72	0.54
2:A:3352:U:O2'	2:A:3353:G:N1	2.40	0.54
16:P:14:LYS:HD3	16:P:120:TRP:CH2	2.41	0.54
49:SC:20:VAL:HG12	49:SC:67:THR:HA	1.89	0.54
59:SO:38:ARG:HA	59:SO:67:ILE:HG23	1.89	0.54
70:Sb:10:ALA:HB2	70:Sb:29:PRO:HG3	1.89	0.54
71:Sc:104:LEU:HD13	71:Sc:122:PHE:HB3	1.88	0.54
77:SP:154:GLU:OE1	77:SP:154:GLU:N	2.33	0.54
1:2:105:A:N6	1:2:308:C:O2	2.40	0.54
2:A:970:A:H2'	2:A:971:G:C8	2.42	0.54
2:A:1108:U:H2'	2:A:1109:U:C6	2.42	0.54
2:A:1480:G:O4'	2:A:1483:G:N2	2.39	0.54
2:A:1886:A:H2'	2:A:1887:A:H8	1.72	0.54
2:A:2095:G:H2'	2:A:2096:A:C8	2.41	0.54
2:A:2899:C:N3	11:K:173:ARG:NH1	2.48	0.54
2:A:3023:U:H2'	2:A:3024:A:H8	1.72	0.54
2:A:3169:U:H2'	2:A:3170:A:N3	2.22	0.54
3:B:9:C:OP1	22:V:28:SER:OG	2.23	0.54
4:C:44:A:O3'	40:n:12:LYS:NZ	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:30:ARG:HH12	9:I:34:LYS:HG2	1.71	0.54
10:J:63:LYS:O	10:J:67:ILE:HG13	2.07	0.54
46:v:92:PRO:HG3	46:v:131:HIS:HB3	1.88	0.54
46:v:139:THR:HG21	46:v:144:GLU:HB3	1.89	0.54
46:v:247:VAL:HG23	46:v:289:LEU:HD11	1.90	0.54
47:x:356:LEU:HG	47:x:478:MET:HB3	1.89	0.54
47:x:746:VAL:HG13	47:x:747:LEU:HD22	1.88	0.54
61:SS:86:PHE:HE1	61:SS:103:TYR:H	1.55	0.54
64:SV:72:ILE:HG13	64:SV:74:LYS:HE2	1.90	0.54
1:2:143:G:OP2	62:ST:139:ASN:ND2	2.40	0.54
1:2:1030:A:OP2	73:Se:8:ASN:ND2	2.40	0.54
1:2:1591:C:H2'	1:2:1592:A:C8	2.42	0.54
2:A:250:U:H5''	2:A:251:G:H2'	1.90	0.54
2:A:597:G:H2'	2:A:598:A:H8	1.72	0.54
2:A:2344:U:H2'	2:A:2345:A:C8	2.42	0.54
2:A:3121:U:H1'	2:A:3122:A:H5''	1.89	0.54
7:G:32:GLN:OE1	7:G:32:GLN:N	2.36	0.54
11:K:1:MET:HE3	21:U:138:GLN:HG2	1.89	0.54
12:L:108:ALA:HB3	12:L:113:GLN:H	1.71	0.54
16:P:150:TRP:HD1	16:P:151:ILE:N	2.06	0.54
17:Q:66[A]:LYS:HG2	81:E:262:TRP:HE1	1.71	0.54
21:U:27:MET:HB3	21:U:29:ILE:HD11	1.88	0.54
32:f:14:ILE:HD12	32:f:73:LEU:HD21	1.90	0.54
48:SA:192:PRO:HB2	48:SA:201:ALA:HA	1.89	0.54
48:SA:217:ILE:HG23	48:SA:218:LEU:H	1.72	0.54
61:SS:100:ARG:HB2	61:SS:114:ILE:HD13	1.90	0.54
81:E:361:THR:OG1	81:E:371:GLN:O	2.25	0.54
1:2:623:A:H3'	1:2:624:G:H5''	1.89	0.54
1:2:1347:U:OP1	55:SJ:90:TYR:OH	2.25	0.54
2:A:3060:C:H2'	2:A:3061:G:H8	1.72	0.54
2:A:3166:C:H2'	2:A:3167:A:H8	1.72	0.54
6:F:145:ILE:HG12	6:F:150:LEU:HD21	1.90	0.54
9:I:53:LYS:O	9:I:57:THR:HG22	2.08	0.54
21:U:17:GLU:OE1	21:U:17:GLU:N	2.40	0.54
35:i:76:TYR:HB2	35:i:80:ARG:HB2	1.89	0.54
47:x:36:THR:HA	47:x:39:LEU:HD23	1.89	0.54
47:x:124:GLY:HA2	47:x:151:ILE:HG23	1.90	0.54
48:SA:135:GLU:N	48:SA:135:GLU:OE2	2.40	0.54
52:SF:93:HIS:HD2	52:SF:97:VAL:HG11	1.73	0.54
71:Sc:42:PRO:O	71:Sc:79:ASN:ND2	2.40	0.54
1:2:1267:G:O6	1:2:1442:U:O4	2.24	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:2948:C:OP1	81:E:244:ARG:NH2	2.40	0.54
13:M:18:VAL:HG12	13:M:128:TYR:HB3	1.90	0.54
16:P:73:ARG:HB3	16:P:89:VAL:HG23	1.90	0.54
39:m:2:ALA:HA	39:m:51:LEU:HB2	1.88	0.54
45:u:63:G:O2'	45:u:64:A:OP1	2.18	0.54
46:v:53:LEU:O	46:v:57:ILE:HG12	2.06	0.54
46:v:554:ALA:O	46:v:558:LEU:HG	2.07	0.54
59:SO:23:LEU:HB3	59:SO:291:SER:HB2	1.90	0.54
60:SQ:145:LYS:NZ	60:SQ:151:LYS:O	2.35	0.54
61:SS:54:TYR:HB3	72:Sd:15:ASN:ND2	2.23	0.54
63:SR:137:ILE:HD12	63:SR:138:PRO:HD2	1.88	0.54
1:2:1471:A:H2	1:2:1474:G:H21	1.56	0.54
1:2:1699:G:H2'	1:2:1701:A:H62	1.71	0.54
2:A:54:C:HO2'	2:A:1547:G:HO2'	1.49	0.54
2:A:69:C:OP1	16:P:178:HIS:ND1	2.38	0.54
2:A:278:U:H3	2:A:287:G:H1	1.56	0.54
2:A:840:C:H2'	2:A:841:A:H8	1.72	0.54
2:A:1186:G:N3	21:U:112:ALA:HB1	2.21	0.54
2:A:2461:A:O2'	2:A:2485:A:N1	2.37	0.54
2:A:2810:C:H2'	2:A:2811:A:H8	1.72	0.54
2:A:3044:G:H2'	2:A:3045:G:H8	1.72	0.54
2:A:3172:A:O3'	17:Q:101[A]:ARG:NH2	2.41	0.54
14:N:144:THR:HG23	14:N:145:PHE:HD1	1.73	0.54
16:P:36:ILE:HD13	16:P:64:VAL:HG12	1.88	0.54
16:P:172:ARG:O	16:P:183:THR:OG1	2.25	0.54
46:v:799:ILE:HG13	46:v:851:MET:HE3	1.89	0.54
47:x:523:SER:HB3	47:x:529:ILE:HD11	1.88	0.54
81:E:219:ALA:HB2	81:E:336:VAL:HG23	1.90	0.54
1:2:461:G:H5''	65:SW:2:PRO:HD2	1.90	0.54
1:2:1226:A:O2'	1:2:1227:A:OP1	2.23	0.54
1:2:1554:U:OP1	57:SM:13:ARG:NH2	2.31	0.54
2:A:19:U:H2'	2:A:20:A:C8	2.43	0.54
2:A:491:C:O5'	8:H:112:THR:OG1	2.26	0.54
2:A:1100:U:H2'	2:A:1101:G:C8	2.43	0.54
3:B:22:A:H2'	3:B:23:A:H8	1.73	0.54
3:B:87:G:O2'	21:U:119:ARG:NH2	2.40	0.54
14:N:47:ALA:HB1	14:N:48:PRO:HD2	1.90	0.54
34:h:93:THR:HB	34:h:96:ALA:HB3	1.89	0.54
46:v:274:LYS:HB2	46:v:443:ILE:HD11	1.90	0.54
47:x:32:LYS:NZ	47:x:106:PRO:O	2.41	0.54
52:SF:47:LYS:HB2	80:SB:70:VAL:HG22	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:SN:123:ASN:ND2	58:SN:126:CYS:HB3	2.22	0.54
60:SQ:2:ALA:N	68:SZ:48:VAL:O	2.40	0.54
64:SV:78:ILE:HD12	64:SV:78:ILE:H	1.71	0.54
65:SW:15:PRO:HD3	65:SW:43:TYR:CE1	2.42	0.54
2:A:640:U:OP1	29:c:21:ARG:NH1	2.41	0.54
2:A:868:C:H2'	2:A:869:G:C8	2.43	0.54
2:A:1460:A:H2'	2:A:1461:A:H8	1.72	0.54
2:A:1836:C:H41	40:n:3:ALA:HB2	1.72	0.54
2:A:3049:A:N3	81:E:55:THR:HG22	2.23	0.54
2:A:3064:U:H2'	2:A:3065:G:H8	1.72	0.54
4:C:14:C:H5''	18:R:123:PRO:HG3	1.90	0.54
5:D:149:ARG:HH12	5:D:155:LYS:HD3	1.73	0.54
6:F:295:ILE:HG12	6:F:299:ILE:HD11	1.89	0.54
9:I:127:LEU:HD11	9:I:136:TYR:CD1	2.42	0.54
10:J:81:THR:HG21	10:J:181:LYS:HB2	1.89	0.54
13:M:19:LEU:HD13	13:M:125:MET:HE3	1.90	0.54
17:Q:51[A]:LYS:NZ	17:Q:144[A]:SER:O	2.40	0.54
18:R:53:ASP:O	18:R:55:GLN:NE2	2.40	0.54
20:T:7:GLN:NE2	20:T:35:ALA:O	2.40	0.54
23:W:54:VAL:HG22	23:W:67:SER:HB2	1.89	0.54
38:l:8:PHE:HD1	38:l:11:ARG:HD2	1.73	0.54
47:x:38:SER:HB3	47:x:334:LEU:HD11	1.90	0.54
47:x:823:ARG:NH1	47:x:829:LYS:O	2.41	0.54
53:SH:101:LEU:O	53:SH:105:VAL:HG13	2.08	0.54
54:SI:127:ASN:HA	54:SI:130:ARG:HE	1.73	0.54
59:SO:239:GLU:O	59:SO:257:ALA:N	2.40	0.54
60:SQ:199:ASN:HA	60:SQ:202:LYS:HD2	1.88	0.54
70:Sb:27:ILE:HG23	70:Sb:29:PRO:HD2	1.90	0.54
81:E:169:THR:HG23	81:E:171:LEU:H	1.72	0.54
1:2:29:U:H2'	1:2:30:G:H8	1.73	0.54
1:2:144:U:O4	62:ST:137:ARG:NH2	2.39	0.54
1:2:1041:G:OP1	77:SP:32:HIS:ND1	2.41	0.54
2:A:994:G:N2	2:A:995:U:O4	2.32	0.54
2:A:1311:G:H2'	2:A:1312:C:C6	2.43	0.54
2:A:1390:A:O4'	2:A:1418:A:N6	2.41	0.54
2:A:2150:G:H1	2:A:2186:U:H3	1.54	0.54
2:A:2457:G:H2'	2:A:2458:A:H2'	1.90	0.54
5:D:77:ILE:HD12	5:D:77:ILE:H	1.72	0.54
7:G:32:GLN:O	7:G:36:LEU:HD22	2.07	0.54
22:V:11:THR:HA	22:V:14:MET:HB3	1.89	0.54
48:SA:168:ILE:HG13	48:SA:189:MET:HB3	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:SS:51:ARG:NH2	61:SS:109:PHE:O	2.41	0.54
78:SU:101:LYS:HD3	78:SU:102:PRO:HD2	1.90	0.54
79:SL:11:LYS:HA	79:SL:54:LEU:H	1.72	0.54
2:A:269:G:N2	2:A:270:U:O4	2.35	0.54
2:A:501:A:H2'	2:A:502:U:C6	2.43	0.54
2:A:1003:A:N1	2:A:1049:C:O2'	2.37	0.54
2:A:1364:C:H2'	2:A:1365:G:C8	2.42	0.54
2:A:2129:U:H2'	2:A:2130:G:C8	2.43	0.54
2:A:2862:U:OP1	45:t:75:C:N4	2.41	0.54
2:A:3166:C:H2'	2:A:3167:A:C8	2.42	0.54
3:B:81:U:H3	3:B:99:G:H1	1.54	0.54
52:SF:29:ILE:HD13	52:SF:65:ILE:H	1.73	0.54
54:SI:71:VAL:HG13	54:SI:75:LYS:HB2	1.90	0.54
70:Sb:23:ARG:HH21	74:Sf:3:LEU:HB3	1.73	0.54
1:2:433:C:H2'	1:2:434:G:C8	2.43	0.53
1:2:868:G:H22	1:2:960:U:H3	1.56	0.53
1:2:1474:G:H2'	1:2:1475:A:H8	1.73	0.53
2:A:1435:A:N6	2:A:1437:C:O2	2.40	0.53
8:H:14:ASP:OD1	8:H:14:ASP:N	2.41	0.53
15:O:4:ASP:OD1	15:O:5:SER:N	2.40	0.53
59:SO:200:ASN:HB3	59:SO:215:GLY:HA2	1.90	0.53
80:SB:58:LEU:HD22	80:SB:168:VAL:HB	1.89	0.53
1:2:289:U:H2'	1:2:290:G:C8	2.43	0.53
2:A:1447:G:N2	2:A:2355:G:H3'	2.22	0.53
2:A:1869:C:H2'	2:A:1870:C:H6	1.73	0.53
2:A:3231:U:H2'	2:A:3232:G:H8	1.74	0.53
10:J:26:LEU:HB3	28:b:53:VAL:HG21	1.90	0.53
10:J:173:MET:HE2	10:J:173:MET:HA	1.91	0.53
11:K:67:ALA:O	11:K:71:VAL:HG12	2.08	0.53
11:K:77:ASN:O	11:K:86:TYR:OH	2.25	0.53
45:t:15:G:H22	45:t:48:C:H42	1.50	0.53
46:v:437:LEU:H	46:v:445:LEU:HB2	1.73	0.53
47:x:26:ALA:HB2	47:x:128:VAL:HB	1.90	0.53
47:x:281:ILE:O	47:x:284:LEU:HG	2.08	0.53
47:x:501:LEU:HD12	47:x:504:LEU:HD21	1.90	0.53
47:x:676:ILE:HG12	47:x:677:PHE:CD2	2.43	0.53
1:2:419:G:H2'	1:2:420:A:C8	2.44	0.53
2:A:692:A:H4'	6:F:46:LYS:HB2	1.90	0.53
2:A:1178:G:C2	34:h:19:SER:HA	2.43	0.53
2:A:1215:U:H2'	2:A:1216:C:O4'	2.08	0.53
2:A:2316:G:H2'	2:A:2317:A:C8	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:2815:G:N2	2:A:2818:U:O2	2.42	0.53
12:L:144:ASN:O	12:L:148:VAL:HG23	2.08	0.53
24:X:10:LYS:HE2	24:X:125:LEU:HD22	1.89	0.53
32:f:29:ALA:O	32:f:33:VAL:HG13	2.09	0.53
46:v:270:ASP:OD2	46:v:311:ARG:HG3	2.08	0.53
46:v:315:THR:HA	46:v:318:ARG:HG2	1.90	0.53
47:x:34:THR:HG21	47:x:215:LEU:HA	1.88	0.53
62:ST:84:TYR:CE1	62:ST:93:LYS:HB2	2.43	0.53
73:Se:87:ARG:NH2	73:Se:94:ASN:O	2.38	0.53
1:2:1374:C:H2'	1:2:1375:A:C8	2.43	0.53
2:A:284:A:OP2	43:q:41:ARG:NH1	2.41	0.53
2:A:787:G:H2'	2:A:788:C:C6	2.43	0.53
2:A:1726:C:O2'	2:A:1727:G:H5'	2.09	0.53
2:A:2658:G:H2'	2:A:2659:G:H8	1.74	0.53
2:A:2727:A:OP2	2:A:2728:G:N2	2.41	0.53
3:B:64:A:OP1	12:L:206:LEU:N	2.35	0.53
6:F:192:GLY:HA2	6:F:195:ARG:HG3	1.91	0.53
28:b:21:LYS:HE3	28:b:49:TYR:HE1	1.73	0.53
32:f:55:LEU:O	32:f:59:ILE:HG13	2.08	0.53
40:n:9:ILE:O	40:n:13:MET:HG2	2.09	0.53
47:x:42:ARG:HG2	47:x:79:SER:HB3	1.91	0.53
49:SC:3:MET:N	49:SC:3:MET:SD	2.82	0.53
53:SH:68:ARG:O	53:SH:72:ILE:HG12	2.08	0.53
60:SQ:161:ILE:O	60:SQ:165:ARG:HG3	2.08	0.53
69:Sa:21:ASN:ND2	70:Sb:68:ARG:HH12	2.05	0.53
76:SG:25:THR:O	76:SG:31:ASN:ND2	2.41	0.53
80:SB:158:GLN:HE22	80:SB:160:VAL:HG12	1.73	0.53
1:2:1179:G:H21	1:2:1460:A:H62	1.56	0.53
1:2:1787:C:H2'	1:2:1788:G:H8	1.74	0.53
2:A:1104:G:H2'	2:A:1105:A:C8	2.44	0.53
2:A:1874:A:OP2	20:T:20:ARG:NH2	2.42	0.53
2:A:2290:C:H2'	2:A:2291:A:H8	1.73	0.53
2:A:2895:G:O2'	41:o:100:TYR:O	2.25	0.53
2:A:3285:C:H2'	2:A:3286:G:H8	1.73	0.53
5:D:45:VAL:HA	5:D:61:VAL:HA	1.91	0.53
6:F:125:ALA:O	6:F:129:THR:HG23	2.08	0.53
8:H:146:LEU:HA	8:H:149:ILE:HG22	1.90	0.53
13:M:26:SER:OG	13:M:27:GLY:N	2.42	0.53
25:Y:23:ARG:NH1	25:Y:25:ASP:OD1	2.42	0.53
46:v:893:ILE:HG23	46:v:896:LEU:HB3	1.90	0.53
47:x:413:ILE:HD11	47:x:427:PHE:HB2	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:x:492:ALA:HB2	47:x:559:PRO:HA	1.90	0.53
75:Sg:51:ASN:HB3	75:Sg:55:ARG:HH22	1.72	0.53
77:SP:133:ILE:H	77:SP:133:ILE:HD12	1.73	0.53
80:SB:143:ARG:HA	80:SB:167:ARG:NH1	2.24	0.53
1:2:1169:G:N2	1:2:1576:A:C5	2.77	0.53
1:2:1260:U:H2'	1:2:1261:G:H8	1.73	0.53
1:2:1388:A:H61	1:2:1409:G:H1'	1.73	0.53
2:A:947:G:H5''	33:g:55:ILE:HB	1.89	0.53
2:A:1117:G:O6	2:A:1142:G:N2	2.41	0.53
2:A:1176:C:H2'	2:A:1177:G:N2	2.22	0.53
2:A:1324:U:H5'	21:U:2:ALA:HA	1.91	0.53
2:A:1793:C:OP1	5:D:177:LYS:NZ	2.41	0.53
2:A:2226:U:H2'	2:A:2227:C:H6	1.73	0.53
2:A:3090:U:H2'	2:A:3091:A:C8	2.44	0.53
4:C:71:A:H4'	4:C:72:A:O5'	2.09	0.53
7:G:55:PHE:CE2	7:G:158:ARG:HG3	2.44	0.53
12:L:205:SER:OG	12:L:208:ASN:ND2	2.42	0.53
28:b:12:VAL:HA	28:b:22:LYS:HA	1.91	0.53
46:v:120:VAL:HG23	46:v:121:ASN:H	1.74	0.53
67:SY:56:ASP:OD2	74:Sf:52:THR:OG1	2.26	0.53
71:Sc:63:GLN:CB	71:Sc:64:PRO:CD	2.81	0.53
1:2:1321:A:H1'	77:SP:104:PRO:HB2	1.90	0.53
1:2:1547:A:O2'	53:SH:89:GLN:O	2.25	0.53
1:2:1739:C:H2'	1:2:1740:A:H8	1.73	0.53
2:A:919:U:H5''	2:A:920:A:H5'	1.90	0.53
2:A:1803:C:H2'	2:A:1804:A:H8	1.73	0.53
2:A:2769:A:OP1	43:q:80:ARG:NH2	2.31	0.53
2:A:2901:G:N2	2:A:3030:G:O2'	2.42	0.53
2:A:3371:G:H2'	2:A:3372:A:H8	1.74	0.53
26:Z:115:ARG:HG2	26:Z:116:PRO:HD2	1.91	0.53
38:l:58:THR:OG1	38:l:59:THR:N	2.41	0.53
65:SW:95:TYR:HA	65:SW:98:ALA:HB3	1.91	0.53
1:2:1320:U:C4	1:2:1322:A:H5'	2.43	0.53
1:2:1739:C:H2'	1:2:1740:A:C8	2.43	0.53
2:A:925:A:N6	5:D:2:GLY:O	2.38	0.53
2:A:1160:C:OP1	19:S:2:GLY:N	2.42	0.53
2:A:1786:G:H2'	2:A:1787:A:C8	2.44	0.53
2:A:2094:C:H2'	2:A:2095:G:C8	2.41	0.53
2:A:2662:G:H2'	2:A:2663:G:H8	1.74	0.53
9:I:140:SER:OG	9:I:237:ASN:ND2	2.41	0.53
13:M:43:GLN:HE21	13:M:71:VAL:HG12	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:v:686:ILE:HG21	46:v:709:LEU:HD11	1.90	0.53
50:SD:29:LYS:HB3	50:SD:33:ARG:HH21	1.73	0.53
62:ST:63:MET:SD	62:ST:63:MET:N	2.73	0.53
68:SZ:26:THR:O	68:SZ:43:THR:OG1	2.23	0.53
77:SP:182:LEU:HG	77:SP:187:ALA:HB3	1.91	0.53
1:2:634:G:N2	1:2:965:U:OP2	2.34	0.53
1:2:835:U:H2'	1:2:836:U:H5	1.72	0.53
1:2:1087:A:H2'	1:2:1088:A:C8	2.43	0.53
2:A:2317:A:H2'	2:A:2318:U:C6	2.44	0.53
2:A:3333:G:H1'	2:A:3370:A:H61	1.73	0.53
4:C:126:A:O2'	4:C:129:C:N4	2.41	0.53
7:G:23:ARG:O	7:G:23:ARG:NH1	2.39	0.53
7:G:250:ASP:OD1	7:G:250:ASP:N	2.42	0.53
9:I:98:LYS:O	9:I:102:VAL:HG12	2.09	0.53
36:j:74:LYS:HA	36:j:74:LYS:HE3	1.90	0.53
47:x:751:ARG:O	47:x:751:ARG:HG2	2.09	0.53
80:SB:80:LYS:HG2	80:SB:81:ARG:H	1.73	0.53
80:SB:99:MET:O	80:SB:100:ASN:HB2	2.09	0.53
1:2:255:U:O4	1:2:256:A:N6	2.42	0.53
1:2:862:A:OP2	67:SY:64:ARG:NH1	2.42	0.53
1:2:1650:U:H2'	1:2:1651:A:C8	2.44	0.53
2:A:1310:G:N2	2:A:2381:G:OP1	2.37	0.53
2:A:2429:G:H2'	2:A:2430:A:H8	1.73	0.53
5:D:5:ILE:HG13	5:D:8:GLN:HB2	1.90	0.53
7:G:48:LYS:HE3	7:G:145:PHE:HE2	1.73	0.53
16:P:43:THR:OG1	16:P:63:ARG:NH1	2.40	0.53
24:X:80:ARG:HB2	24:X:99:ALA:HB3	1.91	0.53
32:f:10:ARG:HH12	32:f:43:HIS:HE1	1.57	0.53
45:t:54:A:H61	45:t:58:A:H8	1.57	0.53
46:v:331:VAL:HA	46:v:333:HIS:CE1	2.44	0.53
46:v:797:ALA:HB2	46:v:816:LEU:HG	1.91	0.53
50:SD:126:TRP:HE3	50:SD:128:ALA:H	1.56	0.53
60:SQ:25:THR:OG1	60:SQ:26:ARG:NH1	2.42	0.53
60:SQ:43:VAL:HG13	60:SQ:68:VAL:HG21	1.91	0.53
62:ST:136:LYS:HE3	62:ST:176:GLN:HB2	1.90	0.53
65:SW:157:ASP:OD1	65:SW:158:PHE:N	2.41	0.53
66:SX:100:TYR:OH	70:Sb:80:ASN:OD1	2.22	0.53
70:Sb:15:ASN:HD21	70:Sb:71:LYS:HD2	1.74	0.53
71:Sc:68:ILE:HG22	71:Sc:70:LYS:HD3	1.91	0.53
76:SG:102:VAL:HG11	77:SP:18:LEU:HD23	1.90	0.53
1:2:768:C:H1'	65:SW:143:ILE:HG12	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:36:C:H4'	2:A:808:A:H2	1.73	0.52
2:A:161:G:H2'	2:A:162:G:C8	2.44	0.52
2:A:1345:G:H2'	2:A:1346:G:H8	1.74	0.52
2:A:3101:G:H2'	2:A:3102:G:H8	1.74	0.52
17:Q:107[A]:GLY:C	17:Q:108[A]:ILE:HD13	2.35	0.52
17:Q:117[A]:ARG:HH12	17:Q:160[A]:ARG:HH22	1.56	0.52
20:T:40:ALA:O	20:T:44:LEU:HG	2.09	0.52
25:Y:23:ARG:HH12	25:Y:27:LYS:HE3	1.72	0.52
29:c:71:PRO:HB2	29:c:109:TYR:HA	1.91	0.52
2:A:2412:G:H2'	2:A:2413:A:C8	2.45	0.52
2:A:2825:C:H42	2:A:2864:A:H61	1.56	0.52
12:L:103:LEU:HD13	12:L:109:ASP:HA	1.89	0.52
14:N:56:PRO:HA	14:N:115:ARG:HH21	1.73	0.52
14:N:119:TYR:CE1	14:N:123:ILE:HG13	2.45	0.52
18:R:116:HIS:CE1	18:R:118:GLN:HG3	2.44	0.52
21:U:36:ILE:HD12	21:U:36:ILE:H	1.73	0.52
26:Z:133:LEU:O	26:Z:137:ASN:ND2	2.42	0.52
27:a:72:SER:OG	27:a:81:GLN:OE1	2.27	0.52
38:l:27:PHE:HB2	38:l:34:CYS:SG	2.49	0.52
46:v:108:VAL:O	46:v:111:GLU:HG3	2.10	0.52
46:v:445:LEU:HD22	46:v:448:THR:HG21	1.91	0.52
1:2:5:U:H2'	1:2:6:G:H8	1.74	0.52
1:2:748:U:O2'	70:Sb:122:SER:O	2.26	0.52
2:A:19:U:H5''	36:j:90:ARG:NE	2.23	0.52
2:A:1105:A:H2'	2:A:1106:G:H8	1.73	0.52
2:A:1339:C:H2'	2:A:1340:G:C8	2.44	0.52
2:A:1551:C:H2'	2:A:1552:G:C8	2.45	0.52
2:A:2827:U:O2'	2:A:2829:U:O4	2.23	0.52
5:D:142:ASP:OD1	5:D:142:ASP:N	2.42	0.52
6:F:265:GLU:HG2	6:F:266:THR:HG23	1.91	0.52
13:M:117:ASP:HB3	13:M:120:ILE:HG22	1.91	0.52
16:P:63:ARG:HG3	16:P:131:GLU:HG3	1.92	0.52
19:S:8:LYS:HB2	19:S:11:LYS:HD2	1.90	0.52
24:X:108:GLU:OE1	24:X:128:ARG:NE	2.41	0.52
33:g:121:ASN:N	33:g:121:ASN:OD1	2.43	0.52
46:v:680:LYS:NZ	46:v:681:PRO:O	2.36	0.52
55:SJ:99:ILE:H	55:SJ:99:ILE:HD12	1.74	0.52
72:Sd:113:ASN:HA	72:Sd:116:LYS:HD3	1.91	0.52
1:2:17:C:O2'	1:2:1137:A:N1	2.39	0.52
1:2:1257:U:H1'	49:SC:8:ARG:NH2	2.24	0.52
1:2:1682:U:OP1	62:ST:31:ARG:NH1	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:268:A:N7	16:P:12:ARG:NE	2.58	0.52
2:A:928:C:H2'	2:A:929:A:C8	2.45	0.52
2:A:2363:A:H2'	2:A:2364:G:C8	2.44	0.52
2:A:2597:U:H2'	2:A:2598:G:H8	1.75	0.52
2:A:3369:G:H4'	2:A:3370:A:H8	1.74	0.52
12:L:43:VAL:HA	12:L:139:ARG:HH12	1.75	0.52
16:P:14:LYS:HD3	16:P:120:TRP:HH2	1.74	0.52
34:h:53:TYR:HE2	34:h:67:MET:HE1	1.73	0.52
46:v:306:ARG:NH1	53:SH:78:HIS:O	2.42	0.52
51:SE:57:MET:N	51:SE:57:MET:SD	2.83	0.52
58:SN:116:LYS:HD2	58:SN:131:PHE:HB2	1.91	0.52
61:SS:184:THR:N	61:SS:224:ASN:O	2.29	0.52
62:ST:68:LEU:HA	62:ST:101:ILE:HD11	1.90	0.52
1:2:162:A:O2'	1:2:163:G:O4'	2.21	0.52
1:2:590:C:H2'	1:2:591:A:H8	1.75	0.52
1:2:1050:G:H2'	1:2:1051:G:H8	1.74	0.52
1:2:1266:U:H2'	1:2:1267:G:C8	2.44	0.52
1:2:1498:G:H5''	54:SI:72:GLY:HA3	1.91	0.52
2:A:337:G:H1	4:C:26:U:H3	1.57	0.52
2:A:361:A:OP1	38:l:24:ARG:NH2	2.42	0.52
2:A:598:A:H1'	6:F:322:GLN:HE22	1.74	0.52
2:A:1177:G:H5'	34:h:18:ARG:NH1	2.24	0.52
3:B:84:A:H2'	3:B:85:G:C8	2.45	0.52
6:F:83:GLY:O	6:F:87:GLN:NE2	2.42	0.52
24:X:118:VAL:HG12	24:X:136:VAL:HA	1.91	0.52
68:SZ:17:ALA:HB3	68:SZ:81:VAL:HA	1.89	0.52
78:SU:77:LEU:H	78:SU:77:LEU:HD23	1.73	0.52
81:E:188:ILE:HA	81:E:191:LYS:HD2	1.92	0.52
1:2:1201:G:N2	1:2:1600:A:O4'	2.43	0.52
1:2:1230:A:H2'	1:2:1258:U:C5	2.44	0.52
2:A:428:A:O2'	34:h:88:ASN:ND2	2.34	0.52
21:U:80:ARG:HD2	21:U:124:LEU:HD21	1.92	0.52
29:c:104:THR:HG21	29:c:112:ILE:HD11	1.92	0.52
34:h:16:TYR:HA	34:h:28:SER:HA	1.92	0.52
37:k:54:GLU:HA	37:k:57:LEU:HB2	1.91	0.52
41:o:110:CYS:HB3	41:o:117:HIS:HA	1.90	0.52
46:v:506:SER:OG	46:v:538:MET:O	2.26	0.52
47:x:81:MET:HE3	47:x:339:VAL:HG11	1.90	0.52
47:x:709:MET:SD	47:x:710:ARG:N	2.83	0.52
70:Sb:11:LEU:HD21	70:Sb:72:CYS:HB3	1.92	0.52
80:SB:37:GLN:NE2	80:SB:38:THR:HG23	2.24	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:SB:143:ARG:HA	80:SB:167:ARG:HH22	1.73	0.52
81:E:4:ARG:HH12	81:E:8:ALA:HB3	1.72	0.52
1:2:605:A:OP2	1:2:606:A:O2'	2.24	0.52
1:2:625:C:H42	1:2:974:A:H61	1.58	0.52
1:2:1116:A:H5''	42:p:17:ARG:HH12	1.75	0.52
1:2:1644:C:H2'	1:2:1645:G:C8	2.45	0.52
1:2:1708:U:H2'	1:2:1709:C:H5	1.74	0.52
2:A:1088:U:C2	2:A:1089:G:C8	2.98	0.52
2:A:3181:C:H2'	2:A:3182:G:C8	2.44	0.52
6:F:62:ALA:HB2	6:F:77:VAL:HG12	1.91	0.52
11:K:23:ARG:HD2	11:K:39:LYS:HA	1.91	0.52
18:R:85:ALA:C	18:R:89:LYS:HZ3	2.18	0.52
21:U:12:ARG:HB2	21:U:22:PRO:HB2	1.90	0.52
23:W:41:ILE:HB	23:W:50:LEU:HD21	1.90	0.52
26:Z:108:LEU:HD11	26:Z:127:THR:HA	1.91	0.52
28:b:54:THR:HG23	28:b:56:LYS:H	1.75	0.52
29:c:11:HIS:CE1	29:c:18:GLY:HA3	2.44	0.52
29:c:84:GLU:OE1	29:c:87:ARG:NH1	2.32	0.52
33:g:63:THR:HA	33:g:66:LEU:HD12	1.92	0.52
46:v:360:VAL:O	46:v:364:ILE:HG22	2.09	0.52
46:v:804:LYS:HA	46:v:809:TYR:HA	1.91	0.52
76:SG:73:LEU:HA	76:SG:76:GLU:HG2	1.91	0.52
79:SL:42:ARG:NE	80:SB:161:ASP:OD2	2.42	0.52
81:E:144:ILE:O	81:E:148:LEU:HG	2.10	0.52
1:2:186:C:OP2	64:SV:142:LYS:NZ	2.43	0.52
1:2:1757:G:H2'	1:2:1758:U:C6	2.44	0.52
2:A:501:A:H4'	8:H:28:GLN:HG2	1.91	0.52
2:A:1011:A:H2'	2:A:1012:G:H8	1.75	0.52
2:A:1217:A:C5	2:A:1289:G:C6	2.98	0.52
2:A:1665:C:H2'	2:A:1666:G:H8	1.75	0.52
2:A:1894:U:O2'	2:A:3054:U:OP1	2.25	0.52
2:A:2745:G:N2	2:A:2748:A:OP2	2.42	0.52
2:A:3138:U:H2'	2:A:3139:A:H8	1.74	0.52
4:C:8:C:H2'	4:C:9:A:C8	2.44	0.52
24:X:79:VAL:HG12	24:X:100:GLY:HA2	1.92	0.52
48:SA:168:ILE:H	48:SA:168:ILE:HD12	1.75	0.52
51:SE:19:GLY:H	53:SH:94:ASP:HA	1.74	0.52
65:SW:119:ALA:HB2	65:SW:128:LEU:HD21	1.92	0.52
71:Sc:92:CYS:O	71:Sc:96:VAL:HG22	2.10	0.52
80:SB:142:PRO:HA	80:SB:214:LYS:HG2	1.92	0.52
1:2:307:G:OP1	66:SX:103:ARG:NH1	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:340:U:H2'	1:2:341:A:C8	2.44	0.52
1:2:1490:C:H5'	1:2:1492:A:H1'	1.91	0.52
2:A:798:G:O2'	14:N:14:PHE:O	2.27	0.52
2:A:2185:G:O2'	2:A:2314:U:OP2	2.23	0.52
2:A:2526:C:H2'	2:A:2527:G:C8	2.45	0.52
3:B:3:U:H4'	3:B:25:G:H21	1.74	0.52
13:M:165:GLN:OE1	13:M:166:LYS:HG2	2.10	0.52
14:N:42:ARG:HE	14:N:51:LEU:HG	1.75	0.52
14:N:159:VAL:HG22	29:c:124:ILE:HD11	1.92	0.52
34:h:49:ILE:HG23	34:h:100:ILE:HG13	1.90	0.52
36:j:15:GLU:OE1	36:j:15:GLU:N	2.29	0.52
37:k:86:LYS:O	37:k:90:MET:HG2	2.10	0.52
38:l:37:CYS:C	38:l:45:ARG:HG2	2.35	0.52
47:x:664:VAL:O	47:x:668:GLN:NE2	2.43	0.52
59:SO:290:VAL:HG13	59:SO:291:SER:H	1.75	0.52
1:2:591:A:H2'	1:2:592:A:C8	2.45	0.52
1:2:1144:U:H2'	1:2:1145:U:C6	2.45	0.52
1:2:1245:G:H4'	1:2:1246:C:H5'	1.92	0.52
2:A:879:U:H4'	18:R:132:ALA:HB3	1.92	0.52
4:C:145:U:H2'	4:C:146:U:C6	2.45	0.52
6:F:125:ALA:HB1	6:F:238:LEU:HD22	1.92	0.52
31:e:71:GLN:OE1	31:e:71:GLN:N	2.28	0.52
45:t:33:U:N3	45:t:36:U:OP2	2.43	0.52
45:u:66:C:H2'	45:u:67:G:C8	2.45	0.52
47:x:222:ILE:HD11	47:x:244:LEU:HB3	1.91	0.52
47:x:673:GLU:N	47:x:673:GLU:OE2	2.43	0.52
64:SV:101:ILE:HG12	64:SV:192:TYR:CD2	2.44	0.52
76:SG:10:LYS:HA	76:SG:53:TYR:HE2	1.74	0.52
1:2:1441:C:H2'	1:2:1442:U:H6	1.75	0.51
1:2:1732:A:H2'	1:2:1733:C:H6	1.75	0.51
2:A:255:A:H2'	2:A:256:G:H8	1.74	0.51
2:A:656:A:HO2'	4:C:17:A:HO2'	1.56	0.51
2:A:809:G:H2'	2:A:810:A:C8	2.46	0.51
4:C:136:G:OP1	26:Z:48:SER:OG	2.21	0.51
6:F:162:THR:O	6:F:166:VAL:HG12	2.10	0.51
7:G:43:LYS:HB3	7:G:46:THR:HB	1.93	0.51
36:j:76:GLN:O	36:j:81:ARG:NH2	2.43	0.51
39:m:12:LEU:O	39:m:16:ARG:NH1	2.43	0.51
47:x:383:SER:HA	47:x:466:THR:HG22	1.92	0.51
60:SQ:82:ARG:NH2	60:SQ:212:VAL:O	2.37	0.51
63:SR:219:GLY:O	69:Sa:25:LYS:NZ	2.37	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66: SX:7: VAL:HG13	66: SX:8: GLN:HG2	1.92	0.51
68: SZ:87: GLY:HA3	68: SZ:120: PRO:HG2	1.91	0.51
71: Sc:73: ARG:HH21	71: Sc:84: THR:HG1	1.57	0.51
1:2:124: A:O2'	61: SS:148: ARG:NH1	2.39	0.51
1:2:646: C:H2'	1:2:647: G:C8	2.46	0.51
1:2:819: G:H4'	1:2:820: U:O5'	2.10	0.51
1:2:958: U:O2'	67: SY:55: ARG:NH1	2.43	0.51
1:2:1405: G:H2'	1:2:1406: A:C8	2.45	0.51
2: A:571: U:H2'	2: A:572: A:H8	1.76	0.51
2: A:2266: U:H2'	2: A:2267: C:C6	2.45	0.51
2: A:2658: G:H2'	2: A:2659: G:C8	2.45	0.51
2: A:2659: G:H2'	2: A:2660: G:H8	1.75	0.51
7: G:85: ARG:HE	7: G:254: LYS:HD3	1.75	0.51
17: Q:97[A]: ALA:HA	17: Q:100[A]: GLU:OE1	2.10	0.51
22: V:56: PHE:HE2	22: V:78: LYS:HG3	1.75	0.51
46: v:179: TRP:HH2	54: SI:24: ARG:HG2	1.74	0.51
56: SK:88: ILE:HD12	56: SK:89: ILE:H	1.75	0.51
60: SQ:213: ARG:H	60: SQ:213: ARG:HD2	1.74	0.51
62: ST:197: ASN:N	62: ST:197: ASN:OD1	2.41	0.51
79: SL:12: VAL:HA	79: SL:30: VAL:HA	1.93	0.51
1:2:38: C:O3'	65: SW:6: ARG:NH1	2.43	0.51
1:2:142: G:N1	1:2:173: A:H2	2.03	0.51
1:2:340: U:H2'	1:2:341: A:H8	1.75	0.51
1:2:1084: A:H2'	1:2:1085: G:C8	2.46	0.51
1:2:1147: A:H2'	1:2:1148: C:O4'	2.09	0.51
1:2:1424: A:H2'	1:2:1425: A:C8	2.45	0.51
2: A:1510: G:H2'	2: A:1512: U:C5	2.46	0.51
2: A:1822: C:H2'	2: A:1823: A:H8	1.74	0.51
2: A:2792: A:H5''	43: q:67: LYS:HE2	1.91	0.51
5: D:190: ARG:HH21	5: D:191: LEU:HD11	1.75	0.51
19: S:182: LYS:NZ	29: c:55: LYS:O	2.43	0.51
23: W:22: PRO:HG3	23: W:105: LEU:HD12	1.92	0.51
25: Y:100: VAL:O	25: Y:104: ASN:CB	2.58	0.51
27: a:35: LEU:HG	27: a:106: ILE:HD11	1.91	0.51
28: b:77: TYR:HB3	31: e:35: ARG:NE	2.26	0.51
47: x:188: ILE:O	47: x:191: THR:OG1	2.28	0.51
47: x:349: GLN:OE1	47: x:399: ARG:NH2	2.43	0.51
47: x:664: VAL:HG22	47: x:668: GLN:HE21	1.74	0.51
65: SW:128: LEU:HD13	65: SW:134: ILE:HG13	1.93	0.51
1:2:332: U:OP2	64: SV:175: GLN:NE2	2.30	0.51
1:2:650: U:H2'	1:2:651: G:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1648:A:H2'	1:2:1649:G:C8	2.46	0.51
2:A:63:A:H5''	16:P:174:ILE:HG21	1.91	0.51
2:A:1177:G:H1'	2:A:1178:G:N7	2.26	0.51
2:A:2165:G:HO2'	2:A:2167:A:H62	1.58	0.51
3:B:89:G:H5''	21:U:84:ARG:HH11	1.75	0.51
4:C:19:C:H2'	4:C:20:U:C6	2.46	0.51
8:H:131:LYS:HB2	8:H:134:ARG:HD2	1.92	0.51
14:N:131:LYS:HG3	14:N:133:PRO:HD3	1.93	0.51
15:O:113:THR:O	15:O:117:ARG:HG3	2.11	0.51
16:P:20:ARG:HH22	37:k:52:PRO:HG3	1.75	0.51
45:t:1:A:H2'	45:t:2:G:C8	2.46	0.51
46:v:108:VAL:O	46:v:112:THR:HG23	2.11	0.51
47:x:288:ILE:HD13	47:x:319:LEU:HD22	1.92	0.51
54:SI:48:GLN:N	54:SI:48:GLN:OE1	2.43	0.51
58:SN:83:LYS:HG2	58:SN:85:TYR:HD1	1.75	0.51
63:SR:156:THR:HB	70:Sb:95:PRO:HB3	1.92	0.51
65:SW:143:ILE:HD12	65:SW:144:PRO:HD2	1.92	0.51
71:Sc:136:TRP:CE2	75:Sg:15:LYS:HE3	2.46	0.51
81:E:193:ASP:HA	81:E:196:ARG:HE	1.75	0.51
1:2:387:A:H2'	1:2:402:C:H5'	1.91	0.51
1:2:617:U:H2'	1:2:618:U:C6	2.45	0.51
2:A:117:U:O2'	2:A:119:U:OP2	2.26	0.51
2:A:612:U:H2'	2:A:613:G:H8	1.76	0.51
2:A:674:G:O2'	6:F:116:ASN:OD1	2.27	0.51
2:A:865:U:H2'	2:A:866:A:H8	1.74	0.51
2:A:2376:G:H2'	2:A:2377:G:C8	2.46	0.51
2:A:2446:U:H2'	2:A:2447:A:H8	1.75	0.51
2:A:2927:C:H2'	2:A:2928:C:C6	2.45	0.51
46:v:933:ALA:HA	46:v:936:LYS:HD2	1.92	0.51
56:SK:75:LEU:HD12	56:SK:75:LEU:H	1.75	0.51
62:ST:74:LYS:HE2	62:ST:96:SER:OG	2.10	0.51
63:SR:227:PRO:HG2	70:Sb:99:PHE:CB	2.39	0.51
64:SV:48:THR:OG1	64:SV:51:GLY:O	2.22	0.51
66:SX:110:HIS:ND1	66:SX:138:ASN:OD1	2.42	0.51
81:E:220:VAL:HG13	81:E:334:ARG:HH11	1.74	0.51
1:2:1072:C:H2'	1:2:1073:G:C8	2.46	0.51
1:2:1229:G:N2	1:2:1255:G:O2'	2.30	0.51
2:A:818:C:H4'	38:l:10:LYS:HE2	1.93	0.51
2:A:1345:G:H2'	2:A:1346:G:C8	2.46	0.51
2:A:1715:A:C8	31:e:84:LEU:HD12	2.45	0.51
2:A:2383:C:P	17:Q:85[A]:ARG:HH12	2.34	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:2427:U:O2	2:A:2602:G:N2	2.29	0.51
5:D:35:ALA:HA	10:J:36:ILE:HD11	1.91	0.51
9:I:96:PRO:HB2	9:I:99:PRO:HD2	1.93	0.51
37:k:83:ALA:O	37:k:87:VAL:HG22	2.10	0.51
46:v:583:ASN:O	46:v:587:THR:OG1	2.24	0.51
46:v:823:MET:C	46:v:825:SER:H	2.18	0.51
47:x:274:ASN:HA	47:x:278:LEU:HB2	1.93	0.51
47:x:311:GLU:HG2	47:x:322:VAL:HG11	1.93	0.51
62:ST:137:ARG:O	62:ST:141:ILE:HD12	2.10	0.51
62:ST:184:LEU:HD13	62:ST:187:LYS:HE3	1.92	0.51
63:SR:157:LYS:HE2	70:Sb:95:PRO:HA	1.92	0.51
68:SZ:132:ARG:HA	73:Se:22:ARG:HH22	1.76	0.51
1:2:381:C:H2'	1:2:382:C:C6	2.46	0.51
1:2:386:G:P	64:SV:25:ARG:HH22	2.33	0.51
1:2:655:G:O2'	1:2:656:G:N7	2.41	0.51
1:2:1320:U:OP2	77:SP:101:ARG:NH2	2.43	0.51
1:2:1332:C:OP2	76:SG:45:ARG:HD3	2.11	0.51
2:A:675:C:O2'	2:A:679:U:OP1	2.24	0.51
2:A:1868:G:O2'	2:A:2118:C:O2'	2.20	0.51
2:A:2988:C:OP1	17:Q:65[A]:ASN:ND2	2.37	0.51
2:A:3182:G:H4'	17:Q:161[A]:LYS:HG2	1.92	0.51
4:C:63:G:H22	4:C:97:A:H2	1.59	0.51
6:F:138:ARG:HH21	6:F:240:PRO:HD2	1.75	0.51
13:M:37:LEU:HD13	13:M:69:VAL:HG12	1.93	0.51
22:V:31:LEU:H	22:V:31:LEU:HD12	1.76	0.51
36:j:44:ILE:HD13	36:j:48:ARG:HH12	1.75	0.51
41:o:99:CYS:HB3	41:o:115:CYS:HB3	1.93	0.51
49:SC:46:LEU:HA	49:SC:49:LEU:HD23	1.92	0.51
52:SF:47:LYS:O	52:SF:50:GLU:HB2	2.11	0.51
61:SS:105:VAL:HG13	61:SS:243:GLY:HA2	1.92	0.51
65:SW:18:PRO:O	65:SW:23:ARG:NH2	2.40	0.51
67:SY:119:GLU:HB3	67:SY:123:HIS:HE1	1.76	0.51
78:SU:98:ILE:HD12	78:SU:121:VAL:HG11	1.92	0.51
1:2:5:U:H2'	1:2:6:G:C8	2.46	0.51
1:2:647:G:H1	1:2:687:G:H1	1.58	0.51
1:2:783:G:OP2	72:Sd:14:SER:OG	2.28	0.51
1:2:1719:A:H3'	1:2:1720:G:H8	1.75	0.51
2:A:420:G:N7	17:Q:96[A]:LYS:NZ	2.58	0.51
2:A:836:A:H2'	2:A:837:A:H8	1.76	0.51
2:A:1403:C:N4	2:A:1404:G:O6	2.43	0.51
2:A:1472:U:H2'	2:A:1473:G:C8	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:2357:A:OP1	18:R:138:LYS:NZ	2.41	0.51
13:M:19:LEU:HD22	13:M:125:MET:SD	2.51	0.51
13:M:131:MET:HE2	13:M:131:MET:HA	1.91	0.51
47:x:473:GLU:HG2	47:x:474:THR:HG23	1.92	0.51
47:x:591:GLU:OE1	47:x:687:ASN:ND2	2.44	0.51
47:x:593:ILE:HG23	47:x:625:TRP:HZ2	1.76	0.51
51:SE:96:ILE:O	51:SE:103:ASN:N	2.41	0.51
52:SF:41:PRO:HG2	52:SF:44:LEU:HB2	1.92	0.51
61:SS:95:THR:HG22	72:Sd:16:PRO:HD2	1.93	0.51
80:SB:122:ASN:OD1	80:SB:126:ASP:HB3	2.10	0.51
81:E:306:THR:HG23	81:E:310:GLY:HA2	1.93	0.51
1:2:1035:G:H2'	1:2:1036:A:H8	1.76	0.51
1:2:1177:C:H5''	1:2:1189:A:H61	1.75	0.51
1:2:1267:G:OP1	1:2:1435:G:N2	2.44	0.51
2:A:201:A:H4'	2:A:220:G:C6	2.46	0.51
2:A:1339:C:H2'	2:A:1340:G:H8	1.76	0.51
2:A:2148:U:H2'	2:A:2149:A:C8	2.46	0.51
2:A:2931:C:H5''	24:X:40:LYS:HZ2	1.75	0.51
2:A:3211:C:H2'	2:A:3212:C:C5	2.46	0.51
4:C:95:G:O2'	38:l:81:GLY:O	2.27	0.51
8:H:30:LEU:HB3	8:H:34:LEU:HD11	1.93	0.51
13:M:12:LEU:HD12	13:M:13:LYS:N	2.26	0.51
13:M:100:GLY:HA2	13:M:159:THR:HG21	1.92	0.51
46:v:161:ASP:OD1	46:v:161:ASP:N	2.38	0.51
50:SD:103:LEU:HD22	50:SD:116:VAL:HB	1.93	0.51
53:SH:106:GLU:OE1	53:SH:106:GLU:N	2.42	0.51
61:SS:31:PRO:HA	61:SS:81:THR:HB	1.93	0.51
61:SS:88:ASP:OD1	61:SS:88:ASP:N	2.39	0.51
80:SB:214:LYS:O	80:SB:218:GLU:HG3	2.10	0.51
1:2:207:U:H2'	1:2:208:U:C6	2.46	0.51
1:2:1171:A:O2'	1:2:1570:A:N3	2.35	0.51
1:2:1220:C:H2'	1:2:1221:A:C8	2.45	0.51
2:A:158:G:H2'	2:A:159:A:C8	2.45	0.51
2:A:184:U:H2'	2:A:185:C:C6	2.46	0.51
2:A:584:G:H2'	2:A:585:A:C8	2.45	0.51
2:A:650:C:H2'	2:A:651:G:H8	1.76	0.51
2:A:784:A:OP2	19:S:69:ARG:NH1	2.44	0.51
2:A:1597:C:H2'	2:A:1598:G:C8	2.46	0.51
2:A:1604:G:H5''	2:A:1835:A:H4'	1.93	0.51
2:A:2245:C:O2'	5:D:220:GLY:O	2.29	0.51
2:A:3045:G:OP1	81:E:19:ARG:NH2	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:163:LEU:HD23	9:I:169:ILE:HD11	1.93	0.51
12:L:156:ARG:HD2	12:L:163:GLN:HB2	1.93	0.51
25:Y:56:ARG:CZ	25:Y:61:LYS:HB3	2.41	0.51
32:f:31:ARG:HG2	32:f:31:ARG:HH11	1.76	0.51
34:h:28:SER:OG	34:h:29:LEU:N	2.44	0.51
45:t:27:C:H2'	45:t:28:A:C8	2.46	0.51
46:v:125:ILE:HG13	46:v:129:LEU:HG	1.92	0.51
46:v:276:VAL:HG22	46:v:278:ASP:H	1.76	0.51
47:x:780:PHE:CZ	47:x:784:LEU:HD21	2.46	0.51
53:SH:75:ASN:N	53:SH:75:ASN:OD1	2.44	0.51
53:SH:84:TRP:CD1	53:SH:84:TRP:H	2.29	0.51
62:ST:12:SER:HB3	62:ST:127:THR:HB	1.91	0.51
79:SL:13:ILE:HD11	79:SL:29:ARG:HG3	1.93	0.51
1:2:211:U:H5''	66:SX:20:PHE:HB3	1.93	0.50
1:2:499:U:H5''	1:2:500:C:C5	2.45	0.50
1:2:545:A:O2'	75:Sg:31:LYS:NZ	2.44	0.50
1:2:788:A:OP2	61:SS:108:ARG:NH1	2.44	0.50
1:2:1164:G:O2'	1:2:1612:U:O2	2.24	0.50
1:2:1274:C:H4'	1:2:1275:A:O5'	2.10	0.50
1:2:1319:A:H2'	1:2:1320:U:N1	2.26	0.50
1:2:1611:A:H2'	1:2:1612:U:H6	1.76	0.50
2:A:47:C:OP2	2:A:48:A:O2'	2.25	0.50
2:A:293:C:H4'	37:k:76:ARG:HH12	1.76	0.50
2:A:1071:U:O2	2:A:1087:G:O6	2.29	0.50
2:A:1109:U:H2'	2:A:1110:U:C6	2.47	0.50
2:A:1144:U:OP1	2:A:1367:G:O2'	2.25	0.50
2:A:2908:G:O2'	41:o:114:LYS:NZ	2.44	0.50
2:A:2915:U:H5''	2:A:2916:U:H5'	1.93	0.50
3:B:19:C:H2'	3:B:20:A:C8	2.46	0.50
7:G:84:PRO:HB3	7:G:89:THR:HG22	1.92	0.50
16:P:137:PRO:HB3	16:P:151:ILE:HG23	1.92	0.50
21:U:72:VAL:HA	21:U:97:VAL:HA	1.93	0.50
34:h:49:ILE:HD11	34:h:71:VAL:HG23	1.93	0.50
45:u:27:C:H2'	45:u:28:A:C8	2.46	0.50
45:u:27:C:H2'	45:u:28:A:H8	1.76	0.50
47:x:545:LEU:HD22	47:x:549:HIS:HE1	1.76	0.50
1:2:1213:G:O2'	1:2:1244:A:N7	2.45	0.50
1:2:1229:G:H21	1:2:1256:A:N6	2.05	0.50
1:2:1483:A:H2'	1:2:1484:G:H8	1.76	0.50
2:A:616:G:H2'	2:A:617:G:C8	2.43	0.50
2:A:1234:G:OP2	2:A:1235:U:H3'	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:76:ILE:O	22:V:87:LYS:N	2.44	0.50
29:c:85:ASP:OD1	29:c:86:LYS:HG2	2.11	0.50
40:n:43:ASN:HD22	40:n:46:ARG:NH2	2.01	0.50
45:u:34:C:H3'	45:u:35:A:H8	1.76	0.50
46:v:460:ILE:HG22	46:v:610:ILE:HB	1.94	0.50
46:v:671:MET:HB2	46:v:686:ILE:HB	1.92	0.50
48:SA:164:VAL:HA	48:SA:168:ILE:HD13	1.93	0.50
51:SE:79:HIS:HA	51:SE:97:TYR:HB2	1.94	0.50
64:SV:8:ARG:HD2	64:SV:18:ARG:HH12	1.77	0.50
74:Sf:11:THR:HG23	74:Sf:14:SER:H	1.77	0.50
1:2:183:U:H2'	1:2:184:C:C6	2.47	0.50
1:2:774:A:H61	1:2:786:C:N4	2.09	0.50
1:2:1245:G:H4'	1:2:1246:C:C5'	2.41	0.50
1:2:1647:U:H2'	1:2:1648:A:C8	2.46	0.50
2:A:833:G:OP1	20:T:86:GLU:HB3	2.11	0.50
2:A:1532:C:O2'	2:A:1799:A:O2'	2.29	0.50
2:A:1666:G:H2'	2:A:1667:A:H8	1.75	0.50
2:A:2954:U:H4'	2:A:2955:U:H5'	1.93	0.50
7:G:208:MET:C	7:G:208:MET:HE2	2.36	0.50
10:J:61:GLN:HA	10:J:64:ILE:CG2	2.39	0.50
10:J:100:GLU:OE2	10:J:100:GLU:N	2.40	0.50
19:S:34:THR:HG22	19:S:49:LEU:HD21	1.94	0.50
39:m:41:THR:HB	39:m:43:PHE:HE1	1.77	0.50
40:n:36:ARG:HH11	40:n:37:TYR:HB3	1.75	0.50
47:x:212:GLY:HA2	47:x:218:TRP:O	2.12	0.50
71:Sc:116:ASP:N	71:Sc:116:ASP:OD1	2.44	0.50
1:2:953:G:H2'	1:2:954:G:H8	1.76	0.50
1:2:1202:A:N6	1:2:1457:C:O5'	2.44	0.50
1:2:1301:U:OP2	63:SR:88:LYS:HD2	2.11	0.50
2:A:1334:U:OP1	9:I:206:LYS:NZ	2.41	0.50
2:A:2149:A:C2	2:A:2188:A:H4'	2.46	0.50
2:A:2217:U:H2'	2:A:2218:G:H8	1.76	0.50
2:A:3314:A:H2'	2:A:3315:G:C8	2.47	0.50
3:B:11:A:N7	22:V:20:ARG:NH1	2.59	0.50
5:D:116:VAL:HB	5:D:126:LEU:HB2	1.94	0.50
22:V:56:PHE:CE2	22:V:78:LYS:HG3	2.45	0.50
24:X:68:GLU:OE2	24:X:68:GLU:N	2.36	0.50
29:c:74:ASN:HD21	29:c:115:LYS:HB3	1.75	0.50
39:m:62:ALA:O	39:m:66:ILE:HG13	2.11	0.50
59:SO:135:THR:HG23	59:SO:137:LYS:H	1.76	0.50
1:2:12:U:H2'	1:2:13:C:H6	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:476:U:OP2	65:SW:37:LYS:NZ	2.45	0.50
1:2:1065:A:OP1	60:SQ:160:HIS:NE2	2.41	0.50
1:2:1462:G:OP2	53:SH:143:ARG:NH2	2.43	0.50
2:A:1765:U:H5	20:T:46:LYS:HD3	1.77	0.50
2:A:2228:A:H2'	2:A:2229:A:C8	2.46	0.50
2:A:2429:G:H2'	2:A:2430:A:C8	2.47	0.50
2:A:2710:C:H2'	2:A:2711:C:C6	2.47	0.50
2:A:2724:U:H3	2:A:2732:G:H1	1.58	0.50
2:A:2922:G:H21	2:A:2952:G:H21	1.59	0.50
27:a:83:ASP:OD1	27:a:83:ASP:N	2.38	0.50
56:SK:57:TYR:HB2	56:SK:60:VAL:HG12	1.92	0.50
61:SS:104:ASP:OD1	61:SS:108:ARG:N	2.37	0.50
65:SW:107:ARG:NH2	65:SW:148:VAL:O	2.39	0.50
80:SB:158:GLN:NE2	80:SB:159:ALA:O	2.43	0.50
1:2:868:G:OP1	67:SY:121:ARG:NH1	2.45	0.50
1:2:1102:G:OP2	71:Sc:7:ARG:NH1	2.44	0.50
1:2:1175:U:H2'	1:2:1176:G:C8	2.46	0.50
1:2:1235:C:N3	58:SN:138:ARG:NH2	2.58	0.50
1:2:1466:G:O2'	1:2:1602:C:OP1	2.28	0.50
1:2:1584:G:C8	52:SF:122:ARG:HB3	2.46	0.50
1:2:1659:A:H2'	1:2:1660:A:C8	2.46	0.50
1:2:1784:C:H2'	1:2:1785:U:H6	1.76	0.50
2:A:1455:U:O3'	32:f:26:LYS:NZ	2.45	0.50
2:A:1695:U:O2'	2:A:1749:A:N1	2.36	0.50
2:A:1805:C:H2'	2:A:1806:A:C8	2.47	0.50
2:A:2225:U:H2'	2:A:2226:U:H6	1.75	0.50
2:A:2522:G:N2	2:A:2522:G:OP1	2.45	0.50
2:A:3160:U:H2'	2:A:3161:C:H6	1.75	0.50
2:A:3345:G:H2'	2:A:3346:U:C6	2.46	0.50
8:H:168:GLY:O	8:H:170:LYS:NZ	2.43	0.50
10:J:170:CYS:HB2	10:J:175:VAL:HG23	1.93	0.50
21:U:6:GLU:OE2	21:U:99:ARG:NH1	2.45	0.50
25:Y:62:GLY:C	25:Y:64:THR:H	2.18	0.50
46:v:947:ILE:HG23	46:v:949:THR:HG23	1.94	0.50
47:x:284:LEU:HD13	47:x:323:VAL:HG21	1.93	0.50
47:x:379:MET:HB2	47:x:402:ALA:HB3	1.93	0.50
47:x:668:GLN:HA	47:x:671:THR:HG22	1.94	0.50
52:SF:102:LYS:CE	59:SO:279:ALA:HA	2.42	0.50
57:SM:10:HIS:HB3	57:SM:12:ARG:NH1	2.26	0.50
67:SY:118:ILE:O	67:SY:122:ILE:HG13	2.12	0.50
68:SZ:132:ARG:O	73:Se:29:SER:OG	2.25	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:Sc:111:GLY:O	71:Sc:121:ARG:NH1	2.44	0.50
1:2:162:A:H2'	1:2:163:G:C4	2.47	0.50
1:2:885:G:H2'	1:2:886:U:C6	2.46	0.50
1:2:951:A:H2'	1:2:952:A:H8	1.75	0.50
1:2:1157:A:H3'	1:2:1160:A:H62	1.77	0.50
2:A:2227:C:H2'	2:A:2228:A:H8	1.77	0.50
2:A:3008:A:N1	2:A:3139:A:N6	2.60	0.50
2:A:3164:C:H2'	2:A:3165:A:C8	2.46	0.50
2:A:3181:C:O2'	17:Q:164[A]:SER:OG	2.29	0.50
4:C:102:U:H3'	4:C:103:G:H8	1.76	0.50
15:O:47:ASP:OD2	15:O:55:ARG:NH2	2.42	0.50
20:T:6:THR:OG1	20:T:7:GLN:OE1	2.30	0.50
20:T:159:ALA:HB1	20:T:163:ARG:HH21	1.76	0.50
25:Y:81:PRO:HG2	62:ST:130:PRO:HA	1.92	0.50
26:Z:73:MET:O	26:Z:77:GLU:HG3	2.12	0.50
29:c:74:ASN:HB3	29:c:76:ASP:OD1	2.12	0.50
31:e:9:SER:N	31:e:12:GLN:HE21	2.10	0.50
49:SC:26:ASP:OD1	49:SC:27:PHE:N	2.45	0.50
56:SK:71:ILE:HG23	56:SK:75:LEU:HB2	1.93	0.50
65:SW:123:HIS:HE1	75:Sg:34:ALA:HA	1.77	0.50
70:Sb:76:SER:HB2	70:Sb:77:PRO:CD	2.38	0.50
70:Sb:76:SER:O	70:Sb:78:ARG:HD2	2.12	0.50
71:Sc:62:LYS:HG3	71:Sc:116:ASP:O	2.12	0.50
72:Sd:135:ASP:OD1	72:Sd:135:ASP:N	2.44	0.50
81:E:63:PRO:O	81:E:348:ARG:NH2	2.45	0.50
81:E:284:ARG:H	81:E:323:MET:HB2	1.77	0.50
1:2:386:G:OP1	64:SV:25:ARG:NH2	2.43	0.50
1:2:1400:A:H2'	1:2:1401:A:C8	2.46	0.50
2:A:25:U:OP2	38:l:54:LYS:NZ	2.44	0.50
2:A:198:A:N3	2:A:218:G:O2'	2.41	0.50
2:A:637:C:H4'	33:g:24:ARG:HH22	1.74	0.50
2:A:715:A:H5''	29:c:133:LEU:HD23	1.94	0.50
2:A:840:C:H2'	2:A:841:A:C8	2.46	0.50
2:A:1463:U:H3	2:A:1467:A:H62	1.59	0.50
2:A:1639:C:N4	35:i:73:SER:OG	2.45	0.50
2:A:1747:G:H21	39:m:2:ALA:HB3	1.77	0.50
2:A:1803:C:H2'	2:A:1804:A:C8	2.47	0.50
2:A:2093:A:H2'	2:A:2094:C:C6	2.47	0.50
4:C:154:C:H2'	4:C:155:A:H8	1.75	0.50
11:K:57:VAL:HG11	11:K:64:HIS:HB3	1.94	0.50
14:N:28:GLN:OE1	16:P:201:ARG:NH1	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:27:VAL:HG23	16:P:129:TYR:HE2	1.75	0.50
37:k:68:ARG:O	37:k:72:VAL:HG12	2.12	0.50
47:x:579:SER:OG	47:x:581:ASN:O	2.20	0.50
59:SO:52:GLN:HG2	59:SO:53:LYS:HD3	1.92	0.50
60:SQ:120:LEU:HD12	60:SQ:121:ILE:H	1.75	0.50
1:2:11:A:H5'	63:SR:87:GLN:HE22	1.76	0.50
1:2:313:U:O4	1:2:1116:A:N6	2.45	0.50
1:2:534:A:H3'	1:2:535:A:H8	1.77	0.50
1:2:947:U:H2'	1:2:948:G:C8	2.46	0.50
1:2:1179:G:H21	1:2:1460:A:N6	2.09	0.50
1:2:1245:G:H4'	1:2:1246:C:O5'	2.12	0.50
1:2:1281:G:H2'	1:2:1282:U:C6	2.47	0.50
1:2:1296:A:H2'	1:2:1297:G:C8	2.47	0.50
1:2:1459:C:OP2	53:SH:138:THR:OG1	2.24	0.50
1:2:1542:G:H5''	54:SI:87:GLY:C	2.35	0.50
1:2:1648:A:H2'	1:2:1649:G:H8	1.77	0.50
2:A:171:G:H2'	2:A:172:G:O4'	2.11	0.50
2:A:1094:U:H3'	2:A:1095:U:H3'	1.94	0.50
2:A:2742:C:H2'	2:A:2743:A:C8	2.45	0.50
2:A:3322:A:H2'	2:A:3323:A:C8	2.47	0.50
16:P:120:TRP:HE1	16:P:123:GLN:HB3	1.75	0.50
26:Z:105:VAL:HG11	26:Z:126:LEU:HD11	1.93	0.50
27:a:32:SER:HA	27:a:49:PRO:HA	1.94	0.50
31:e:93:LEU:HD23	31:e:93:LEU:H	1.77	0.50
34:h:8:TYR:CE2	34:h:99:ARG:HG2	2.47	0.50
34:h:16:TYR:HD1	34:h:28:SER:HB2	1.76	0.50
36:j:44:ILE:HA	36:j:47:VAL:HG12	1.93	0.50
44:r:22:LEU:O	44:r:26:VAL:HG23	2.11	0.50
49:SC:69:THR:HG22	49:SC:70:GLU:H	1.77	0.50
52:SF:58:ASP:OD1	52:SF:58:ASP:N	2.45	0.50
53:SH:38:VAL:HG22	53:SH:42:TYR:HD2	1.77	0.50
1:2:294:C:H2'	1:2:295:A:C8	2.47	0.49
1:2:652:G:N2	1:2:683:C:OP2	2.45	0.49
1:2:938:G:N2	1:2:941:A:OP2	2.39	0.49
1:2:1525:A:H2'	1:2:1526:A:C8	2.47	0.49
2:A:631:U:O2'	34:h:91:ALA:O	2.29	0.49
2:A:876:A:H4'	2:A:1890:U:H4'	1.93	0.49
2:A:1336:U:H2'	2:A:1337:A:H8	1.77	0.49
2:A:1709:C:H5''	28:b:15:ARG:NH2	2.26	0.49
2:A:2407:C:H2'	2:A:2408:U:H6	1.76	0.49
2:A:2736:A:H2'	2:A:2737:C:O4'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:113:VAL:HB	6:F:118:LYS:HE3	1.94	0.49
15:O:135:LEU:HB2	17:Q:177[A]:LYS:HE3	1.94	0.49
54:SI:117:SER:OG	54:SI:120:GLY:O	2.30	0.49
71:Sc:92:CYS:HA	71:Sc:95:PHE:CD2	2.47	0.49
1:2:150:U:H2'	1:2:151:G:C8	2.48	0.49
1:2:327:U:O2'	66:SX:10:GLU:OE1	2.30	0.49
1:2:398:G:OP2	64:SV:47:ARG:NH2	2.41	0.49
1:2:431:C:H2'	1:2:432:G:H8	1.78	0.49
1:2:1201:G:H22	1:2:1600:A:H5''	1.77	0.49
1:2:1296:A:C6	1:2:1297:G:C6	3.00	0.49
2:A:591:G:N2	2:A:612:U:OP1	2.38	0.49
2:A:632:G:H21	34:h:23:ASN:ND2	2.10	0.49
2:A:656:A:H2'	2:A:657:A:H8	1.77	0.49
2:A:988:U:H2'	2:A:989:A:C8	2.47	0.49
2:A:1836:C:H2'	2:A:1837:U:H6	1.77	0.49
2:A:2927:C:H2'	2:A:2928:C:H6	1.76	0.49
2:A:2931:C:H5''	24:X:40:LYS:NZ	2.26	0.49
2:A:3016:A:H2'	2:A:3017:A:H8	1.77	0.49
2:A:3049:A:H8	81:E:53:MET:HE3	1.77	0.49
2:A:3056:U:H5'	2:A:3058:U:C6	2.47	0.49
5:D:58:LEU:HA	5:D:77:ILE:HA	1.94	0.49
28:b:92:PHE:O	28:b:96:VAL:HG12	2.11	0.49
46:v:126:LYS:HG2	46:v:166:ARG:HH21	1.77	0.49
59:SO:109:ASP:HB2	59:SO:127:ARG:HD2	1.95	0.49
59:SO:243:LEU:HA	59:SO:254:ALA:HA	1.94	0.49
60:SQ:222:LYS:HZ2	60:SQ:223:PHE:H	1.60	0.49
62:ST:23:ARG:NE	62:ST:41:VAL:O	2.36	0.49
62:ST:48:TYR:HB2	62:ST:50:PHE:CE1	2.46	0.49
70:Sb:14:ILE:H	70:Sb:14:ILE:HD12	1.77	0.49
1:2:384:G:O3'	64:SV:22:ARG:NH2	2.45	0.49
1:2:419:G:H2'	1:2:420:A:H8	1.77	0.49
1:2:860:U:H2'	1:2:861:U:C6	2.47	0.49
1:2:1360:A:OP1	54:SI:134:ARG:NH1	2.45	0.49
1:2:1478:G:OP1	54:SI:43:ASN:ND2	2.46	0.49
2:A:1330:A:OP1	34:h:19:SER:OG	2.30	0.49
2:A:2467:G:H1'	2:A:2468:A:C8	2.46	0.49
2:A:2505:U:H1'	2:A:2506:U:C5	2.48	0.49
2:A:2896:A:H2'	2:A:2897:A:H8	1.76	0.49
3:B:99:G:H2'	3:B:100:C:C6	2.47	0.49
7:G:177:GLU:HA	7:G:180:PHE:CE2	2.47	0.49
12:L:88:ARG:HG3	12:L:173:PHE:CE2	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:14[A]:HIS:HB3	17:Q:19[A]:LEU:HD12	1.94	0.49
38:l:37:CYS:SG	38:l:39:TYR:HD1	2.35	0.49
47:x:412:ARG:HE	47:x:426:LEU:HD21	1.77	0.49
52:SF:89:LEU:HG	52:SF:93:HIS:CE1	2.47	0.49
53:SH:32:LEU:O	53:SH:35:ILE:HG12	2.11	0.49
66:SX:125:VAL:HG11	66:SX:137:PHE:HB3	1.95	0.49
76:SG:58:MET:HA	76:SG:58:MET:HE3	1.93	0.49
1:2:12:U:H2'	1:2:13:C:C6	2.47	0.49
1:2:200:A:H2'	1:2:201:G:C8	2.47	0.49
1:2:751:G:H2'	1:2:752:A:H8	1.76	0.49
1:2:816:G:H2'	1:2:817:A:H8	1.77	0.49
1:2:1103:U:P	71:Sc:7:ARG:H	2.35	0.49
1:2:1217:A:H4'	49:SC:44:LYS:HE2	1.93	0.49
1:2:1408:G:H1'	59:SO:285:ALA:HA	1.94	0.49
1:2:1610:G:O2'	1:2:1611:A:H5''	2.13	0.49
2:A:673:U:H2'	2:A:674:G:C8	2.47	0.49
2:A:1293:U:H2'	2:A:1294:A:C8	2.47	0.49
2:A:1590:G:O2'	2:A:1797:A:N6	2.45	0.49
2:A:1900:A:H61	2:A:1908:A:H61	1.60	0.49
2:A:2349:U:H1'	2:A:3307:A:H1'	1.94	0.49
2:A:2535:A:H2'	2:A:2536:A:C8	2.47	0.49
2:A:2681:U:OP2	13:M:51:ARG:NH2	2.45	0.49
6:F:159:ILE:HD12	6:F:164:GLU:HG3	1.95	0.49
7:G:119:TYR:OH	7:G:139:PRO:O	2.25	0.49
12:L:35:ASP:HA	12:L:88:ARG:HD2	1.94	0.49
16:P:6:TYR:CE1	37:k:40:VAL:HG12	2.47	0.49
17:Q:160[A]:ARG:HD2	17:Q:160[A]:ARG:O	2.12	0.49
24:X:128:ARG:HH11	24:X:128:ARG:HA	1.77	0.49
35:i:76:TYR:HD2	35:i:80:ARG:HD3	1.76	0.49
44:r:3:LYS:HE2	44:r:3:LYS:HA	1.94	0.49
46:v:333:HIS:C	46:v:335:GLY:H	2.20	0.49
46:v:648:LYS:HG2	46:v:649:PHE:H	1.77	0.49
46:v:729:ASN:HA	46:v:860:ALA:HB2	1.94	0.49
51:SE:49:MET:HE2	51:SE:49:MET:HA	1.93	0.49
60:SQ:65:VAL:HG11	60:SQ:85:LYS:HE3	1.95	0.49
66:SX:76:VAL:HG11	66:SX:87:ARG:HD3	1.93	0.49
80:SB:86:GLN:OE1	80:SB:86:GLN:N	2.45	0.49
1:2:776:G:O6	72:Sd:11:LYS:NZ	2.41	0.49
1:2:803:A:O2'	1:2:804:A:H8	1.94	0.49
1:2:956:C:OP1	1:2:1072:C:O2'	2.28	0.49
1:2:1210:C:H2'	1:2:1211:A:C8	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1304:G:H1'	1:2:1322:A:N7	2.27	0.49
2:A:785:G:N2	19:S:89:ASP:O	2.40	0.49
2:A:869:G:N1	2:A:891:G:C6	2.81	0.49
2:A:900:G:H2'	2:A:901:G:C8	2.46	0.49
2:A:1138:U:H2'	2:A:1139:G:C8	2.47	0.49
2:A:2180:G:H2'	2:A:2181:C:C6	2.48	0.49
2:A:2369:G:H2'	2:A:2370:G:C8	2.48	0.49
2:A:2685:C:H2'	2:A:2686:A:C8	2.47	0.49
2:A:2854:U:OP2	12:L:3:ARG:NH2	2.45	0.49
2:A:3181:C:H2'	2:A:3182:G:H8	1.77	0.49
2:A:3306:U:H1'	2:A:3309:G:H1	1.77	0.49
9:I:88:ARG:NE	9:I:90:LYS:O	2.45	0.49
29:c:82:ILE:O	29:c:87:ARG:NH2	2.45	0.49
34:h:42:GLN:HA	34:h:45:LEU:HD21	1.94	0.49
46:v:301:ALA:HB2	53:SH:49:LYS:HD2	1.95	0.49
47:x:207:GLY:HA3	47:x:223:ARG:HB2	1.94	0.49
47:x:591:GLU:N	47:x:591:GLU:OE2	2.46	0.49
47:x:780:PHE:CD2	47:x:784:LEU:HD11	2.48	0.49
48:SA:167:PHE:HE1	48:SA:195:SER:HB2	1.78	0.49
69:Sa:40:ASP:O	69:Sa:42:GLU:N	2.43	0.49
76:SG:111:LYS:HA	76:SG:115:LEU:HB2	1.95	0.49
77:SP:121:VAL:O	77:SP:144:ILE:N	2.44	0.49
81:E:281:LYS:H	81:E:325:LYS:HB3	1.78	0.49
1:2:111:U:H5'	61:SS:205:PHE:HZ	1.78	0.49
1:2:304:U:O2	66:SX:69:LYS:NZ	2.45	0.49
1:2:1148:C:H2'	1:2:1149:G:H8	1.76	0.49
1:2:1297:G:O2'	1:2:1299:G:O6	2.29	0.49
1:2:1461:C:H3'	53:SH:143:ARG:HH21	1.78	0.49
2:A:106:A:C2	2:A:325:A:H1'	2.48	0.49
2:A:243:G:H2'	2:A:244:G:H8	1.77	0.49
2:A:2181:C:H2'	2:A:2182:A:C8	2.47	0.49
2:A:2432:A:N6	2:A:2598:G:O6	2.46	0.49
2:A:2436:U:N3	2:A:2512:C:N4	2.51	0.49
2:A:2812:C:H2'	2:A:2813:A:H8	1.76	0.49
2:A:3217:C:H5'	2:A:3219:G:H21	1.76	0.49
3:B:19:C:H2'	3:B:20:A:H8	1.77	0.49
12:L:46:PHE:HD2	12:L:139:ARG:HG3	1.77	0.49
13:M:77:GLU:HA	13:M:80:LEU:HB3	1.94	0.49
15:O:19:ARG:HG2	15:O:65:LEU:HD23	1.95	0.49
16:P:134:LEU:HD12	16:P:135:VAL:N	2.27	0.49
19:S:133:LYS:HB2	19:S:135:GLN:HE22	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:c:85:ASP:OD1	29:c:86:LYS:N	2.46	0.49
31:e:25:LEU:HG	31:e:87:VAL:HG21	1.93	0.49
45:u:43:G:H2'	45:u:44:A:C8	2.47	0.49
46:v:490:ARG:NH2	46:v:560:ASN:O	2.35	0.49
47:x:571:SER:HA	47:x:720:ALA:HB2	1.94	0.49
51:SE:107:ILE:HD11	51:SE:111:MET:HE2	1.95	0.49
60:SQ:60:ALA:O	60:SQ:64:ARG:NH1	2.46	0.49
62:ST:89:ASP:OD1	62:ST:89:ASP:N	2.41	0.49
67:SY:61:THR:OG1	67:SY:62:GLN:OE1	2.25	0.49
73:Se:51:ARG:HH11	79:SL:61:ARG:HD2	1.76	0.49
77:SP:84:ARG:HA	77:SP:87:LEU:HD23	1.93	0.49
78:SU:63:PRO:C	78:SU:65:PRO:HD2	2.37	0.49
1:2:15:U:H2'	1:2:16:G:O4'	2.12	0.49
1:2:773:C:O2'	1:2:787:G:N2	2.45	0.49
1:2:961:U:O2'	67:SY:86:GLU:OE2	2.26	0.49
1:2:1116:A:H5''	42:p:17:ARG:NH2	2.27	0.49
2:A:65:A:N6	2:A:323:A:H61	2.10	0.49
2:A:1322:U:H2'	2:A:1323:G:C8	2.45	0.49
2:A:2283:G:H1'	2:A:2285:C:H41	1.78	0.49
2:A:2775:U:HO2'	2:A:2777:G:H1	1.49	0.49
2:A:3252:G:H2'	2:A:3253:G:C8	2.47	0.49
4:C:4:C:H5''	18:R:62:ARG:HB2	1.95	0.49
6:F:296:GLN:HA	6:F:299:ILE:HD12	1.94	0.49
6:F:302:ALA:HB2	19:S:39:ARG:CZ	2.42	0.49
7:G:277:LEU:O	7:G:282:ARG:NH2	2.43	0.49
10:J:171:LYS:NZ	10:J:223:ALA:O	2.42	0.49
12:L:23:ASN:O	12:L:25:ALA:N	2.44	0.49
19:S:152:HIS:ND1	19:S:162:ALA:O	2.38	0.49
46:v:50:PHE:HZ	46:v:83:VAL:HG23	1.77	0.49
46:v:104:GLU:HG2	46:v:105:ILE:HD12	1.95	0.49
54:SI:77:ASN:HA	54:SI:96:ALA:HB3	1.95	0.49
60:SQ:193:ILE:HG22	60:SQ:197:ILE:HD11	1.94	0.49
61:SS:23:LEU:O	65:SW:3:ARG:NH2	2.46	0.49
79:SL:11:LYS:N	79:SL:31:GLU:O	2.41	0.49
1:2:590:C:OP1	75:Sg:43:ARG:NH2	2.46	0.49
1:2:1330:G:C2	1:2:1331:A:H1'	2.48	0.49
1:2:1381:U:H5'	1:2:1382:A:OP2	2.12	0.49
1:2:1603:U:OP2	52:SF:132:LYS:NZ	2.45	0.49
2:A:1307:G:C2	17:Q:60[A]:LYS:HG3	2.47	0.49
2:A:2881:C:H2'	2:A:2882:U:C6	2.48	0.49
2:A:3023:U:C2	2:A:3032:A:N7	2.81	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:3177:G:O2'	2:A:3179:U:OP1	2.21	0.49
12:L:86:HIS:HB3	12:L:139:ARG:HG2	1.95	0.49
13:M:32:ARG:O	13:M:35:LYS:HG2	2.12	0.49
24:X:103:ALA:HB2	24:X:109:MET:HG3	1.94	0.49
44:r:38:ASP:HB3	44:r:45:LYS:HG3	1.95	0.49
44:r:74:ALA:O	44:r:78:THR:HG22	2.13	0.49
45:t:36:U:H2'	45:t:37:A:H8	1.78	0.49
45:u:50:U:H2'	45:u:51:C:C6	2.48	0.49
47:x:772:LEU:HD22	47:x:780:PHE:CE2	2.48	0.49
54:SI:18:TYR:OH	54:SI:132:LEU:HD23	2.13	0.49
58:SN:141:CYS:HB3	58:SN:147:VAL:HG22	1.94	0.49
67:SY:115:LEU:O	67:SY:119:GLU:HG2	2.13	0.49
68:SZ:46:MET:O	68:SZ:49:LYS:NZ	2.46	0.49
80:SB:73:THR:N	80:SB:91:GLU:OE1	2.34	0.49
81:E:139:GLN:HG2	81:E:140:ASP:H	1.78	0.49
1:2:243:G:H2'	1:2:244:A:C8	2.48	0.49
1:2:1483:A:H2'	1:2:1484:G:C8	2.48	0.49
2:A:114:A:N1	2:A:266:A:O2'	2.43	0.49
2:A:173:G:H1	2:A:245:U:H3	1.60	0.49
2:A:339:C:N4	2:A:340:C:N4	2.61	0.49
2:A:351:A:N6	40:n:37:TYR:O	2.46	0.49
2:A:1345:G:H21	6:F:307:GLN:NE2	2.10	0.49
2:A:2583:C:H2'	2:A:2584:G:C8	2.48	0.49
12:L:45:GLU:O	12:L:141:LYS:NZ	2.46	0.49
31:e:41:LEU:HG	31:e:101:LEU:HD13	1.94	0.49
35:i:90:ILE:O	35:i:94:LEU:HG	2.13	0.49
36:j:27:GLU:HA	36:j:30:GLU:OE1	2.13	0.49
45:t:72:U:H2'	45:t:73:A:H4'	1.95	0.49
46:v:544:SER:OG	46:v:545:GLY:N	2.46	0.49
51:SE:86:VAL:HG23	51:SE:88:GLU:H	1.78	0.49
61:SS:230:GLU:HG2	61:SS:231:GLN:H	1.77	0.49
69:Sa:34:ILE:HG23	77:SP:63:ILE:HD11	1.95	0.49
76:SG:87:GLU:HG2	76:SG:88:VAL:HG22	1.93	0.49
79:SL:62:GLU:H	79:SL:62:GLU:CD	2.21	0.49
81:E:56:ILE:HD12	81:E:356:LEU:HD11	1.95	0.49
81:E:362:ALA:N	81:E:371:GLN:OE1	2.46	0.49
1:2:1168:U:H2'	1:2:1169:G:C8	2.48	0.49
1:2:1192:C:OP2	1:2:1193:A:O2'	2.28	0.49
1:2:1280:C:H5'	57:SM:44:ARG:HH12	1.77	0.49
1:2:1534:G:OP1	53:SH:57:ARG:NH2	2.46	0.49
2:A:67:A:N6	2:A:271:C:O2'	2.41	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:589:A:H1'	2:A:1337:A:H5''	1.95	0.49
2:A:794:U:H2'	2:A:795:G:C8	2.48	0.49
2:A:876:A:H5''	2:A:1890:U:H5''	1.95	0.49
2:A:1667:A:H2'	2:A:1668:G:H8	1.78	0.49
2:A:1756:C:H2'	2:A:1757:A:C8	2.45	0.49
2:A:2225:U:H2'	2:A:2226:U:C6	2.48	0.49
7:G:52:VAL:HG12	7:G:147:ASP:HB2	1.95	0.49
10:J:57:ARG:NH1	10:J:57:ARG:HB2	2.27	0.49
16:P:191:TRP:HA	16:P:194:GLN:HB2	1.95	0.49
19:S:147:ARG:HG3	19:S:150:VAL:H	1.78	0.49
24:X:76:ALA:HA	24:X:102:ILE:HA	1.95	0.49
34:h:13:HIS:ND1	34:h:93:THR:OG1	2.43	0.49
40:n:16:ALA:HB1	40:n:42:ARG:NH2	2.28	0.49
46:v:375:ARG:HB3	46:v:416:VAL:HA	1.93	0.49
46:v:457:ARG:HB3	46:v:606:CYS:HA	1.94	0.49
47:x:730:LEU:HD23	47:x:799:ASP:HB2	1.95	0.49
55:SJ:95:ALA:HB3	55:SJ:99:ILE:CD1	2.43	0.49
62:ST:48:TYR:HD1	62:ST:117:GLY:H	1.60	0.49
70:Sb:78:ARG:HH21	70:Sb:126:LEU:HA	1.78	0.49
1:2:120:U:H3'	1:2:121:U:H5''	1.95	0.48
1:2:182:A:H2'	1:2:183:U:C6	2.48	0.48
1:2:213:A:H2'	1:2:214:G:O4'	2.13	0.48
1:2:472:U:H2'	1:2:473:A:H8	1.78	0.48
1:2:1081:A:O2'	1:2:1083:G:N7	2.44	0.48
1:2:1577:A:H2'	1:2:1578:U:C6	2.48	0.48
1:2:1631:A:N6	1:2:1763:A:O2'	2.46	0.48
2:A:429:U:H2'	2:A:430:U:H6	1.76	0.48
2:A:639:G:H2'	2:A:640:U:H6	1.78	0.48
2:A:658:G:N2	6:F:93:MET:HB2	2.28	0.48
2:A:3005:A:OP1	81:E:99:LEU:N	2.36	0.48
2:A:3015:G:H2'	2:A:3016:A:H8	1.77	0.48
4:C:6:U:H2'	4:C:7:U:C6	2.48	0.48
4:C:57:C:H4'	4:C:63:G:C8	2.48	0.48
5:D:30:ARG:O	5:D:163:ARG:NH1	2.45	0.48
7:G:142:PHE:HD2	7:G:171:LEU:HD23	1.78	0.48
9:I:80:GLN:HE22	22:V:136:ARG:HB2	1.78	0.48
43:q:73:GLU:OE1	43:q:80:ARG:HG2	2.13	0.48
46:v:821:ILE:O	46:v:823:MET:HG3	2.13	0.48
47:x:211:PHE:HE2	47:x:273:PHE:HZ	1.61	0.48
49:SC:10:LYS:HE2	49:SC:35:ILE:HG23	1.95	0.48
59:SO:5:GLU:HG3	59:SO:315:VAL:HB	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:SS:115:THR:HG23	61:SS:118:GLU:H	1.78	0.48
62:ST:84:TYR:HE1	62:ST:93:LYS:HB2	1.78	0.48
77:SP:30:GLN:NE2	77:SP:31:VAL:O	2.46	0.48
1:2:41:A:O2'	1:2:437:A:O2'	2.23	0.48
1:2:924:A:H2'	1:2:925:G:C8	2.48	0.48
2:A:1439:U:H2'	2:A:1440:G:C8	2.48	0.48
2:A:1619:A:H2'	2:A:1620:U:O4'	2.13	0.48
2:A:1886:A:H2'	2:A:1887:A:C8	2.48	0.48
2:A:2442:G:O6	2:A:2505:U:O2	2.31	0.48
2:A:2775:U:H4'	2:A:2777:G:H22	1.77	0.48
2:A:3101:G:H2'	2:A:3102:G:C8	2.47	0.48
2:A:3153:U:OP2	2:A:3293:U:O2'	2.22	0.48
5:D:43:GLY:O	5:D:88:ILE:N	2.45	0.48
9:I:181:ILE:O	9:I:185:ILE:HG22	2.13	0.48
12:L:33:ILE:HD13	12:L:36:LEU:HD13	1.96	0.48
49:SC:22:VAL:HG12	49:SC:65:TYR:HA	1.95	0.48
53:SH:116:LEU:HD21	53:SH:123:ARG:HB2	1.94	0.48
54:SI:64:HIS:O	54:SI:68:ARG:HD3	2.13	0.48
55:SJ:84:MET:HE1	55:SJ:86:ILE:HG23	1.95	0.48
61:SS:75:LYS:HD3	61:SS:77:ARG:HH22	1.78	0.48
76:SG:10:LYS:HG2	76:SG:53:TYR:CE2	2.48	0.48
80:SB:92:ARG:NH2	80:SB:168:VAL:HG22	2.27	0.48
1:2:67:A:N6	1:2:83:G:O2'	2.46	0.48
1:2:129:U:O4'	1:2:264:G:N1	2.46	0.48
1:2:916:U:H3	68:SZ:41:ARG:HH12	1.61	0.48
1:2:1169:G:N2	1:2:1576:A:N6	2.60	0.48
1:2:1295:G:H1	1:2:1302:U:H3	1.61	0.48
1:2:1574:G:H5''	1:2:1575:G:OP1	2.13	0.48
1:2:1610:G:H5''	80:SB:107:LYS:HB3	1.95	0.48
2:A:129:U:H3	2:A:139:G:H1	1.61	0.48
2:A:549:U:H2'	2:A:550:A:C8	2.48	0.48
2:A:1060:U:H2'	2:A:1061:A:H8	1.78	0.48
2:A:1321:G:N2	21:U:112:ALA:HB2	2.28	0.48
2:A:1438:U:H1'	6:F:94:CYS:HA	1.95	0.48
2:A:1613:A:OP1	39:m:51:LEU:N	2.45	0.48
2:A:2093:A:H2'	2:A:2094:C:H6	1.79	0.48
4:C:49:G:C2	4:C:77:A:N1	2.81	0.48
24:X:70:ARG:HG2	24:X:70:ARG:HH11	1.78	0.48
38:l:36:SER:HA	38:l:45:ARG:HH11	1.77	0.48
39:m:11:PHE:CD2	39:m:54:LEU:HD13	2.48	0.48
43:q:47:GLN:OE1	43:q:47:GLN:HA	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:r:49:ARG:NH1	44:r:68:ALA:O	2.46	0.48
45:t:58:A:O2'	45:t:60:A:OP2	2.23	0.48
46:v:823:MET:O	46:v:825:SER:N	2.45	0.48
47:x:414:GLN:NE2	47:x:475:ALA:O	2.39	0.48
49:SC:32:HIS:CD2	49:SC:35:ILE:HB	2.48	0.48
55:SJ:63:LEU:HD11	57:SM:34:TYR:CE2	2.49	0.48
59:SO:20:VAL:HG12	59:SO:37:SER:HB2	1.95	0.48
66:SX:29:LYS:NZ	66:SX:35:TYR:OH	2.46	0.48
1:2:25:C:H5'	1:2:26:A:H5'	1.94	0.48
1:2:58:U:O2'	1:2:451:A:N3	2.45	0.48
1:2:555:A:O2'	1:2:556:A:O4'	2.29	0.48
1:2:1260:U:H2'	1:2:1261:G:C8	2.48	0.48
1:2:1654:G:N2	1:2:1745:G:H2'	2.28	0.48
2:A:309:U:H2'	2:A:310:U:C6	2.49	0.48
2:A:842:G:H2'	2:A:843:A:H8	1.77	0.48
2:A:1141:C:H2'	2:A:1142:G:O4'	2.14	0.48
2:A:1391:C:O2'	33:g:101:SER:OG	2.27	0.48
2:A:1602:A:H2'	2:A:1603:A:C4	2.47	0.48
2:A:1746:U:H2'	2:A:1747:G:H8	1.78	0.48
2:A:1942:U:H4'	2:A:3345:G:H21	1.79	0.48
2:A:2896:A:H1'	41:o:100:TYR:HE2	1.76	0.48
2:A:2913:C:H2'	2:A:2914:G:H8	1.78	0.48
2:A:3304:U:H1'	81:E:334:ARG:HH21	1.79	0.48
7:G:34:LYS:HB2	7:G:34:LYS:HE3	1.69	0.48
7:G:211:LEU:HA	7:G:214:ASP:OD1	2.13	0.48
13:M:80:LEU:O	13:M:84:LEU:HG	2.14	0.48
17:Q:103[A]:LYS:HB3	17:Q:105[A]:PHE:CZ	2.48	0.48
31:e:86:ARG:NH1	44:r:44:LYS:HG2	2.29	0.48
35:i:44:CYS:HB2	35:i:80:ARG:HA	1.95	0.48
39:m:61:LYS:O	39:m:65:LEU:HD23	2.14	0.48
45:t:63:G:H2'	45:t:64:A:H8	1.77	0.48
46:v:333:HIS:HA	46:v:339:THR:HG21	1.93	0.48
47:x:94:ASP:OD1	47:x:95:GLY:N	2.46	0.48
48:SA:21:LEU:HD12	48:SA:25:PHE:CE1	2.48	0.48
50:SD:93:ASP:OD1	50:SD:93:ASP:N	2.44	0.48
63:SR:170:ILE:HB	63:SR:197:TYR:HB2	1.96	0.48
73:Se:89:ARG:O	73:Se:93:LYS:NZ	2.46	0.48
1:2:556:A:O2'	1:2:589:C:O2	2.25	0.48
1:2:1237:G:H2'	1:2:1238:A:C8	2.46	0.48
1:2:1348:A:H2'	1:2:1349:G:O4'	2.13	0.48
1:2:1616:G:H1'	79:SL:18:ARG:NH1	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:363:G:H21	6:F:82:THR:HG21	1.78	0.48
2:A:738:A:H2'	2:A:739:G:H8	1.77	0.48
2:A:787:G:H2'	2:A:788:C:H6	1.77	0.48
2:A:1516:C:H2'	2:A:1517:G:H8	1.79	0.48
2:A:2327:U:H2'	2:A:2328:U:H6	1.78	0.48
2:A:2371:G:N1	2:A:2375:G:OP1	2.46	0.48
2:A:2746:A:N6	7:G:153:THR:HB	2.28	0.48
2:A:2926:A:H2'	2:A:2927:C:C6	2.49	0.48
2:A:3379:C:H2'	2:A:3380:U:C6	2.48	0.48
3:B:52:G:O2'	3:B:53:U:OP1	2.31	0.48
6:F:330:TYR:HB2	9:I:45:LEU:HG	1.96	0.48
9:I:90:LYS:HB3	9:I:133:TYR:HB3	1.95	0.48
15:O:77:ARG:O	15:O:81:VAL:HG12	2.13	0.48
17:Q:26[A]:GLN:OE1	17:Q:26[A]:GLN:HA	2.13	0.48
19:S:125:ASP:N	19:S:125:ASP:OD1	2.45	0.48
39:m:28:ASN:OD1	39:m:29:LYS:N	2.46	0.48
46:v:98:ALA:O	46:v:106:GLN:NE2	2.38	0.48
54:SI:44:GLU:O	54:SI:45:MET:HE2	2.12	0.48
1:2:17:C:H4'	1:2:1109:G:C8	2.49	0.48
1:2:142:G:O6	1:2:173:A:N1	2.47	0.48
1:2:523:G:H1'	1:2:529:A:N6	2.28	0.48
1:2:843:U:H2'	1:2:844:A:H8	1.79	0.48
1:2:1408:G:H4'	59:SO:286:GLU:OE2	2.13	0.48
1:2:1642:G:H5'	42:p:1:MET:HG2	1.94	0.48
2:A:421:G:O6	2:A:2383:C:O2'	2.24	0.48
2:A:790:U:H2'	2:A:791:A:H8	1.78	0.48
2:A:1162:U:OP1	33:g:54:LYS:NZ	2.42	0.48
2:A:1738:C:H1'	35:i:52:GLN:HE22	1.79	0.48
2:A:1856:C:H2'	2:A:1857:C:C6	2.49	0.48
2:A:2223:A:OP2	2:A:2223:A:H8	1.97	0.48
5:D:6:ARG:O	5:D:9:ARG:HG2	2.13	0.48
6:F:49:ALA:HB2	14:N:26:PHE:CE2	2.48	0.48
13:M:17:LEU:HD13	13:M:79:ILE:HG23	1.95	0.48
17:Q:38[A]:ALA:HA	17:Q:41[A]:LEU:HD21	1.96	0.48
33:g:9:ILE:HD11	33:g:11:LYS:HE2	1.95	0.48
34:h:15:SER:OG	34:h:16:TYR:N	2.46	0.48
47:x:263:ASP:HA	47:x:268:PRO:HB3	1.95	0.48
55:SJ:28:SER:OG	55:SJ:29:THR:N	2.47	0.48
55:SJ:67:THR:HG23	57:SM:40:ARG:HD2	1.95	0.48
58:SN:119:ARG:NE	58:SN:133:ALA:O	2.46	0.48
63:SR:53:ILE:HD12	63:SR:56:ILE:HD13	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:Sb:36:LYS:HD2	70:Sb:110:ILE:HD13	1.95	0.48
79:SL:46:GLY:HA3	80:SB:166:ARG:HG2	1.96	0.48
80:SB:82:PHE:CE1	80:SB:165:LEU:HD13	2.49	0.48
1:2:57:G:OP1	72:Sd:112:LYS:NZ	2.46	0.48
1:2:647:G:H22	1:2:687:G:H1	1.60	0.48
1:2:1408:G:N3	59:SO:285:ALA:HA	2.29	0.48
2:A:307:A:H2'	2:A:308:A:H8	1.78	0.48
2:A:1598:G:H2'	2:A:1599:G:C8	2.49	0.48
2:A:2607:G:H5'	5:D:233:GLN:HB3	1.96	0.48
2:A:2769:A:H2'	2:A:2770:G:H8	1.79	0.48
5:D:109:GLU:OE1	5:D:109:GLU:HA	2.14	0.48
7:G:40:HIS:HB3	7:G:43:LYS:HD2	1.95	0.48
10:J:169:LEU:HB2	37:k:43:LEU:HD21	1.96	0.48
20:T:122:VAL:O	20:T:126:GLU:HG2	2.13	0.48
46:v:300:ILE:O	53:SH:80:LYS:NZ	2.42	0.48
47:x:464:LEU:HD11	71:Sc:145:SER:HB2	1.95	0.48
47:x:584:ASN:HD21	47:x:700:ARG:HG2	1.78	0.48
52:SF:136:SER:O	52:SF:137:ARG:NE	2.39	0.48
61:SS:161:LYS:O	61:SS:170:THR:N	2.44	0.48
65:SW:97:LEU:H	65:SW:97:LEU:HD12	1.78	0.48
78:SU:138:LYS:NZ	78:SU:150:GLN:HB3	2.29	0.48
2:A:821:U:H2'	2:A:822:G:H8	1.78	0.48
2:A:920:A:N3	38:l:11:ARG:NH2	2.61	0.48
2:A:966:U:H2'	2:A:967:A:H8	1.79	0.48
2:A:1427:U:H2'	2:A:1428:A:C8	2.47	0.48
2:A:1727:G:P	31:e:86:ARG:HH22	2.37	0.48
2:A:3371:G:H2'	2:A:3372:A:C8	2.49	0.48
4:C:151:C:C6	26:Z:24:LEU:HD11	2.49	0.48
20:T:119:LEU:O	20:T:123:LEU:HD12	2.13	0.48
35:i:101:VAL:HA	35:i:104:VAL:HG22	1.96	0.48
37:k:4:LYS:HA	37:k:12:ASN:HB3	1.95	0.48
45:u:23:C:H2'	45:u:24:G:C8	2.47	0.48
46:v:769:ASP:OD1	46:v:769:ASP:N	2.45	0.48
47:x:385:MET:SD	47:x:513:LYS:HB3	2.54	0.48
51:SE:80:MET:HE1	51:SE:83:MET:HB2	1.95	0.48
52:SF:53:LEU:HB2	80:SB:37:GLN:NE2	2.29	0.48
59:SO:157:VAL:HG23	59:SO:170:ILE:HD11	1.96	0.48
60:SQ:128:LYS:HB2	60:SQ:134:VAL:HG12	1.95	0.48
65:SW:45:ILE:HD12	65:SW:46:SER:N	2.29	0.48
65:SW:89:ASP:OD1	65:SW:89:ASP:N	2.41	0.48
65:SW:107:ARG:NH2	65:SW:148:VAL:HG13	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:Sb:13:ALA:HB3	70:Sb:27:ILE:HD11	1.95	0.48
77:SP:53:THR:HG22	77:SP:161:PRO:HG2	1.94	0.48
78:SU:156:SER:OG	78:SU:186:PRO:O	2.31	0.48
1:2:21:U:H2'	1:2:22:A:C8	2.49	0.48
1:2:209:U:H2'	1:2:210:A:C8	2.49	0.48
1:2:243:G:H2'	1:2:244:A:H8	1.78	0.48
1:2:273:G:O6	1:2:283:U:O4	2.32	0.48
1:2:335:U:H4'	66:SX:129:ARG:HD2	1.94	0.48
1:2:393:C:H2'	1:2:394:C:C6	2.49	0.48
1:2:408:C:O2'	1:2:1732:A:O2'	2.24	0.48
1:2:1410:A:H2'	1:2:1411:A:C8	2.48	0.48
1:2:1586:A:H1'	1:2:1611:A:H61	1.77	0.48
1:2:1586:A:H1'	1:2:1611:A:N6	2.29	0.48
2:A:39:A:H61	2:A:42:C:H3'	1.79	0.48
2:A:172:G:O6	2:A:246:U:C2	2.67	0.48
2:A:428:A:H2'	2:A:429:U:C6	2.49	0.48
2:A:1128:U:OP1	12:L:4:ARG:NH2	2.46	0.48
2:A:1436:U:H5''	2:A:1437:C:H5''	1.95	0.48
4:C:79:A:H3'	4:C:80:A:H5''	1.96	0.48
15:O:92:GLU:H	15:O:92:GLU:CD	2.22	0.48
18:R:128:ARG:HH11	18:R:128:ARG:HG3	1.78	0.48
41:o:109:ASN:HA	41:o:119:ASN:HA	1.94	0.48
45:t:71:C:H2'	45:t:72:U:C6	2.48	0.48
46:v:171:ILE:HD13	46:v:174:LEU:HD11	1.96	0.48
46:v:795:ARG:O	46:v:816:LEU:N	2.45	0.48
47:x:494:GLU:OE1	47:x:557:SER:OG	2.31	0.48
47:x:509:LYS:HE3	71:Sc:145:SER:HB3	1.96	0.48
47:x:802:SER:OG	47:x:803:THR:N	2.47	0.48
52:SF:94:GLN:C	59:SO:53:LYS:HD2	2.38	0.48
52:SF:131:GLY:HA3	52:SF:136:SER:O	2.14	0.48
57:SM:37:ASN:O	57:SM:38:ILE:HD13	2.14	0.48
58:SN:130:VAL:HG12	58:SN:143:LYS:HD2	1.95	0.48
61:SS:67:GLN:OE1	61:SS:69:HIS:HB2	2.13	0.48
62:ST:139:ASN:HA	62:ST:142:ARG:HD3	1.96	0.48
63:SR:95:ARG:HG3	63:SR:97:ARG:NH1	2.29	0.48
63:SR:229:LEU:HD23	63:SR:229:LEU:O	2.14	0.48
78:SU:129:LEU:HD21	78:SU:169:PHE:HB3	1.96	0.48
1:2:609:U:H1'	71:Sc:19:ARG:NH2	2.19	0.48
1:2:883:C:H2'	1:2:884:A:C8	2.49	0.48
1:2:907:A:O2'	1:2:997:G:O2'	2.21	0.48
1:2:1459:C:O2	51:SE:128:HIS:NE2	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:684:G:H2'	2:A:685:G:H8	1.79	0.48
2:A:799:G:H2'	2:A:801:A:H62	1.79	0.48
2:A:920:A:OP1	2:A:923:C:N4	2.34	0.48
2:A:974:G:OP1	19:S:16:ARG:NE	2.33	0.48
2:A:1077:U:H2'	2:A:1078:U:C6	2.49	0.48
2:A:1167:U:O2'	9:I:210:PRO:O	2.31	0.48
2:A:1223:A:H1'	2:A:1287:A:H2	1.78	0.48
2:A:1439:U:H2'	2:A:1440:G:H8	1.78	0.48
2:A:1639:C:H2'	2:A:1640:G:H8	1.79	0.48
2:A:1667:A:H2'	2:A:1668:G:C8	2.49	0.48
2:A:1788:C:H2'	2:A:1789:G:C8	2.46	0.48
2:A:2290:C:H2'	2:A:2291:A:C8	2.49	0.48
2:A:2677:G:O6	2:A:2680:A:N1	2.47	0.48
2:A:2896:A:H2'	2:A:2897:A:C8	2.49	0.48
2:A:3044:G:H2'	2:A:3045:G:C8	2.48	0.48
2:A:3267:A:OP1	2:A:3268:A:N6	2.47	0.48
3:B:27:A:OP2	7:G:56:THR:OG1	2.31	0.48
6:F:64:SER:HA	6:F:75:PRO:HA	1.95	0.48
7:G:55:PHE:HD1	7:G:60:ILE:HD12	1.79	0.48
14:N:159:VAL:HG13	29:c:144:VAL:HG12	1.95	0.48
27:a:51:ARG:HE	27:a:52:ARG:H	1.59	0.48
31:e:10:ILE:HA	31:e:13:LYS:HE2	1.94	0.48
36:j:48:ARG:HA	36:j:51:ILE:HG22	1.95	0.48
37:k:44:VAL:O	37:k:48:ALA:HB2	2.14	0.48
45:t:75:C:H2'	45:t:76:A:H5'	1.96	0.48
46:v:661:LYS:HA	46:v:692:LEU:HD23	1.96	0.48
47:x:58:ASP:HB3	47:x:63:GLU:HB3	1.94	0.48
47:x:434:VAL:HG22	47:x:456:LEU:HD22	1.96	0.48
48:SA:69:LEU:HA	48:SA:72:LEU:HD23	1.96	0.48
56:SK:54:VAL:HA	56:SK:57:TYR:CE2	2.49	0.48
64:SV:107:THR:N	64:SV:108:PRO:HD2	2.29	0.48
64:SV:184:LEU:HB3	64:SV:188:GLU:HG2	1.95	0.48
65:SW:57:ARG:O	65:SW:57:ARG:NE	2.44	0.48
68:SZ:48:VAL:HG12	68:SZ:50:ALA:H	1.79	0.48
1:2:170:U:H3	1:2:289:U:H1'	1.79	0.47
1:2:590:C:H2'	1:2:591:A:C8	2.48	0.47
1:2:894:U:H2'	1:2:895:G:C8	2.49	0.47
1:2:1045:C:H2'	1:2:1046:G:C8	2.49	0.47
1:2:1174:C:O2'	1:2:1196:A:N6	2.47	0.47
1:2:1388:A:H4'	1:2:1389:C:C2	2.48	0.47
1:2:1652:C:H2'	1:2:1653:C:H6	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1657:U:O2'	1:2:1658:G:OP2	2.23	0.47
1:2:1659:A:H2'	1:2:1660:A:H8	1.78	0.47
2:A:513:G:H2'	2:A:514:G:C8	2.49	0.47
2:A:1009:A:O3'	12:L:39:LYS:NZ	2.38	0.47
2:A:1011:A:H2'	2:A:1012:G:C8	2.48	0.47
2:A:1535:A:H62	2:A:1586:G:H21	1.62	0.47
2:A:2242:A:H5''	5:D:244:GLY:HA3	1.96	0.47
2:A:2512:C:H2'	2:A:2513:U:C6	2.48	0.47
2:A:2673:A:H5''	13:M:95:ASN:ND2	2.29	0.47
6:F:290:ILE:HD11	19:S:35:PHE:CD1	2.49	0.47
7:G:219:PHE:HB3	7:G:227:LEU:HD11	1.96	0.47
8:H:87:THR:HG22	8:H:89:THR:H	1.79	0.47
21:U:138:GLN:O	21:U:142:GLN:HG3	2.14	0.47
43:q:15:LYS:H	43:q:18:ARG:HD3	1.79	0.47
46:v:181:THR:HG21	54:SI:131:ASP:HB2	1.96	0.47
47:x:146:ALA:O	47:x:151:ILE:HB	2.14	0.47
60:SQ:136:ARG:HD2	60:SQ:218:LEU:HD21	1.96	0.47
66:SX:37:ASN:OD1	66:SX:37:ASN:N	2.44	0.47
78:SU:63:PRO:O	78:SU:64:VAL:HB	2.14	0.47
1:2:454:U:O4'	61:SS:66:MET:HE1	2.14	0.47
1:2:951:A:H2'	1:2:952:A:C8	2.50	0.47
1:2:1187:U:H2'	1:2:1188:G:C8	2.49	0.47
1:2:1358:G:H2'	1:2:1359:C:C6	2.49	0.47
1:2:1381:U:O4	1:2:1382:A:N6	2.46	0.47
1:2:1474:G:H2'	1:2:1475:A:C8	2.49	0.47
2:A:513:G:H2'	2:A:514:G:H8	1.79	0.47
2:A:952:A:H2	2:A:1114:U:H4'	1.80	0.47
2:A:1425:U:H4'	6:F:36:HIS:NE2	2.28	0.47
2:A:2535:A:H2'	2:A:2536:A:H8	1.78	0.47
9:I:39:GLU:O	9:I:43:ILE:HG22	2.14	0.47
13:M:38:GLU:HB3	13:M:45:PRO:HD3	1.96	0.47
14:N:3:ILE:HD11	29:c:34:MET:HG3	1.95	0.47
14:N:23:LYS:HG3	14:N:25:HIS:CD2	2.49	0.47
19:S:165:ILE:HD11	19:S:172:PHE:HD2	1.79	0.47
44:r:28:LYS:HA	44:r:31:ILE:HD11	1.96	0.47
46:v:457:ARG:O	46:v:608:TYR:HB2	2.14	0.47
50:SD:62:LEU:HD22	50:SD:75:VAL:HG13	1.96	0.47
52:SF:28:LEU:HB3	80:SB:26:ALA:HB3	1.95	0.47
59:SO:7:LEU:C	59:SO:274:LEU:HD11	2.39	0.47
59:SO:178:VAL:HG13	59:SO:199:ILE:HD13	1.96	0.47
59:SO:213:SER:O	59:SO:220:ILE:HD12	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:SS:145:ARG:HE	61:SS:147:ILE:HD12	1.80	0.47
67:SY:87:ASP:O	67:SY:91:LEU:HD12	2.13	0.47
69:Sa:17:CYS:HB2	69:Sa:24:ILE:HD11	1.97	0.47
80:SB:43:PHE:N	80:SB:46:TRP:O	2.46	0.47
1:2:43:A:H2'	1:2:44:U:C6	2.49	0.47
1:2:1044:U:H5''	60:SQ:153:HIS:CE1	2.49	0.47
1:2:1061:A:OP1	1:2:1061:A:H4'	2.15	0.47
1:2:1426:C:H3'	1:2:1427:A:H4'	1.97	0.47
1:2:1584:G:HO2'	1:2:1585:U:P	2.37	0.47
1:2:1658:G:H1	1:2:1743:U:H3	1.62	0.47
2:A:938:C:O2	2:A:2813:A:O2'	2.32	0.47
2:A:1528:G:H21	2:A:1588:A:H2	1.61	0.47
2:A:1653:G:H2'	2:A:1654:A:C8	2.49	0.47
2:A:2882:U:HO2'	81:E:263:SER:HG	1.60	0.47
2:A:2900:A:O2'	2:A:3025:C:O2'	2.28	0.47
2:A:3076:C:H2'	2:A:3077:A:C8	2.49	0.47
7:G:260:PHE:HD1	7:G:264:GLN:HE21	1.61	0.47
16:P:36:ILE:HD11	16:P:62:TYR:HD2	1.77	0.47
19:S:58:ASN:OD1	19:S:144:ARG:NH1	2.47	0.47
26:Z:92:LYS:HA	26:Z:95:ILE:HD12	1.94	0.47
27:a:109:LEU:HD21	27:a:115:ARG:HG2	1.95	0.47
45:t:53:G:H2'	45:t:54:A:C8	2.45	0.47
46:v:344:VAL:HG11	46:v:361:VAL:HG13	1.96	0.47
47:x:648:ASP:OD1	47:x:649:GLN:N	2.47	0.47
52:SF:66:ARG:HA	52:SF:66:ARG:HE	1.79	0.47
65:SW:17:ARG:HB3	65:SW:20:GLU:OE2	2.14	0.47
70:Sb:15:ASN:ND2	70:Sb:72:CYS:O	2.47	0.47
75:Sg:41:THR:O	75:Sg:46:ASN:N	2.42	0.47
1:2:60:U:N3	1:2:63:G:OP1	2.44	0.47
1:2:82:U:H2'	1:2:83:G:O4'	2.15	0.47
1:2:435:C:H5''	71:Sc:50:LYS:HE2	1.94	0.47
1:2:1332:C:O2'	48:SA:162:GLN:OE1	2.31	0.47
2:A:1340:G:H2'	2:A:1341:U:C6	2.50	0.47
2:A:1666:G:H2'	2:A:1667:A:C8	2.49	0.47
2:A:2941:A:OP2	81:E:255:TRP:HB3	2.14	0.47
2:A:3346:U:H3	2:A:3359:A:H61	1.62	0.47
7:G:171:LEU:HD12	7:G:171:LEU:H	1.79	0.47
17:Q:66[A]:LYS:HG2	81:E:262:TRP:NE1	2.29	0.47
30:d:10:HIS:O	30:d:12:GLN:NE2	2.47	0.47
48:SA:71:LEU:HD23	49:SC:20:VAL:HG22	1.96	0.47
52:SF:29:ILE:N	80:SB:27:THR:OG1	2.36	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:SO:53:LYS:H	59:SO:53:LYS:HE2	1.80	0.47
64:SV:37:LYS:HA	64:SV:37:LYS:HE3	1.96	0.47
68:SZ:64:ALA:HB1	68:SZ:105:LEU:HB3	1.96	0.47
1:2:435:C:H5''	71:Sc:50:LYS:HG3	1.96	0.47
1:2:461:G:H2'	1:2:462:G:C8	2.49	0.47
1:2:514:G:H2'	1:2:515:A:H8	1.80	0.47
1:2:743:U:O4	1:2:809:A:N6	2.48	0.47
1:2:976:G:N1	1:2:1023:A:H1'	2.29	0.47
1:2:1534:G:N7	56:SK:73:GLY:HA3	2.30	0.47
2:A:5:G:C6	4:C:155:A:N6	2.82	0.47
2:A:259:C:H2'	2:A:260:C:C6	2.49	0.47
2:A:339:C:C4	2:A:340:C:N4	2.83	0.47
2:A:1060:U:H2'	2:A:1061:A:C8	2.49	0.47
2:A:1079:A:C6	7:G:113:LEU:HD11	2.49	0.47
2:A:1192:C:N4	2:A:1300:G:OP2	2.47	0.47
2:A:2512:C:OP1	10:J:249:ARG:NH2	2.47	0.47
2:A:2941:A:OP2	81:E:256:HIS:ND1	2.48	0.47
2:A:3107:U:H2'	2:A:3108:G:C8	2.50	0.47
5:D:150:LEU:HD11	5:D:154:ALA:HB3	1.96	0.47
12:L:75:TYR:O	12:L:79:VAL:HG12	2.15	0.47
16:P:103:GLU:HG3	16:P:160:GLU:HB2	1.96	0.47
20:T:136:ARG:O	20:T:140:GLU:HG3	2.15	0.47
32:f:85:ALA:O	32:f:87:ASN:N	2.47	0.47
34:h:53:TYR:CE1	34:h:65:ARG:HB2	2.49	0.47
46:v:383:PHE:HE2	46:v:400:LYS:HA	1.78	0.47
47:x:339:VAL:HG23	47:x:340:LEU:HD22	1.96	0.47
47:x:358:GLU:HG2	47:x:479:LYS:HD2	1.96	0.47
59:SO:20:VAL:HA	59:SO:37:SER:HA	1.95	0.47
59:SO:168:THR:OG1	59:SO:182:ASN:ND2	2.47	0.47
71:Sc:27:ASN:HA	71:Sc:30:LYS:HZ3	1.79	0.47
79:SL:29:ARG:HD2	79:SL:39:THR:OG1	2.14	0.47
80:SB:46:TRP:CZ2	80:SB:119:ASP:HB3	2.47	0.47
81:E:56:ILE:N	81:E:74:GLU:O	2.47	0.47
1:2:163:G:H1'	62:ST:110:ALA:HB1	1.96	0.47
1:2:338:C:H5''	64:SV:10:LYS:HD3	1.96	0.47
1:2:482:U:H2'	1:2:483:A:H8	1.79	0.47
1:2:982:U:H2'	1:2:983:A:C8	2.50	0.47
1:2:1145:U:O2'	63:SR:89:GLN:O	2.31	0.47
1:2:1273:G:N2	1:2:1278:G:O6	2.47	0.47
1:2:1459:C:N4	53:SH:139:LYS:HG3	2.30	0.47
1:2:1672:G:H2'	1:2:1673:G:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:504:A:O2'	6:F:315:LYS:NZ	2.48	0.47
2:A:1135:A:C6	2:A:1136:A:N6	2.83	0.47
2:A:1566:A:N6	2:A:1571:A:N3	2.62	0.47
2:A:1927:G:C8	44:r:16:VAL:HG12	2.50	0.47
2:A:2264:U:H2'	2:A:2265:C:C6	2.50	0.47
2:A:3049:A:C6	81:E:75:ALA:HB2	2.49	0.47
2:A:3146:G:H2'	2:A:3147:G:C8	2.48	0.47
2:A:3164:C:H2'	2:A:3165:A:H8	1.79	0.47
3:B:59:U:H2'	3:B:60:G:C8	2.49	0.47
4:C:91:C:H2'	4:C:92:A:C8	2.50	0.47
14:N:90:ALA:HB1	14:N:95:ILE:HB	1.96	0.47
14:N:168:ARG:HG2	14:N:172:LEU:HD23	1.96	0.47
39:m:8:ILE:HG23	39:m:9:LYS:HD3	1.96	0.47
46:v:244:SER:O	46:v:247:VAL:HG12	2.14	0.47
46:v:446:ASN:N	46:v:446:ASN:OD1	2.47	0.47
48:SA:137:VAL:HB	48:SA:185:LYS:HB2	1.95	0.47
48:SA:157:LEU:HB2	48:SA:159:HIS:HE2	1.79	0.47
64:SV:194:ARG:HA	64:SV:197:THR:HG22	1.97	0.47
1:2:92:A:N6	62:ST:89:ASP:OD2	2.48	0.47
1:2:187:G:H3'	64:SV:138:ASN:HD22	1.80	0.47
1:2:200:A:H2'	1:2:201:G:H8	1.80	0.47
1:2:215:A:O2'	1:2:216:U:OP1	2.28	0.47
1:2:217:A:N1	1:2:844:A:O2'	2.45	0.47
1:2:293:U:O2'	61:SS:133:LYS:NZ	2.46	0.47
1:2:395:U:H2'	1:2:396:G:O4'	2.14	0.47
1:2:606:A:H4'	1:2:607:G:H3'	1.97	0.47
1:2:1114:G:H1'	1:2:1115:U:H5	1.79	0.47
1:2:1175:U:H2'	1:2:1176:G:H8	1.79	0.47
1:2:1227:A:O2'	50:SD:44:GLY:HA3	2.15	0.47
1:2:1294:G:H1	1:2:1303:U:H3	1.63	0.47
1:2:1320:U:O2'	1:2:1321:A:O5'	2.28	0.47
1:2:1488:G:OP2	48:SA:8:LYS:NZ	2.46	0.47
1:2:1616:G:H2'	1:2:1617:U:C6	2.50	0.47
1:2:1790:A:H2'	1:2:1791:A:C8	2.49	0.47
2:A:8:C:H2'	2:A:9:U:C6	2.50	0.47
2:A:542:G:C6	2:A:550:A:N1	2.83	0.47
2:A:550:A:H2'	2:A:551:A:H8	1.79	0.47
2:A:597:G:H2'	2:A:598:A:C8	2.47	0.47
2:A:776:U:H4'	30:d:40:ARG:NH2	2.24	0.47
2:A:1072:G:H2'	2:A:1073:U:C6	2.50	0.47
2:A:3094:A:H2'	2:A:3095:U:C6	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:3110:C:H2'	2:A:3111:U:C6	2.49	0.47
2:A:3159:C:H2'	2:A:3160:U:C6	2.49	0.47
3:B:16:U:H2'	3:B:17:A:C8	2.49	0.47
3:B:81:U:O2	3:B:99:G:N2	2.45	0.47
3:B:97:A:H2'	3:B:98:C:C6	2.50	0.47
4:C:57:C:H2'	4:C:58:G:C8	2.49	0.47
4:C:69:U:H2'	4:C:70:G:O4'	2.15	0.47
7:G:107:ARG:O	7:G:111:GLN:HG2	2.14	0.47
19:S:170:ARG:O	19:S:171:LYS:HG2	2.15	0.47
22:V:34:TYR:OH	22:V:96:ILE:HB	2.15	0.47
22:V:70:SER:O	22:V:70:SER:OG	2.29	0.47
28:b:116:LYS:O	28:b:116:LYS:NZ	2.40	0.47
43:q:67:LYS:HG3	43:q:87:ARG:HB2	1.97	0.47
45:t:63:G:H2'	45:t:64:A:C8	2.50	0.47
45:u:22:G:N7	45:u:46:G:O6	2.48	0.47
45:u:28:A:H2'	45:u:29:G:C8	2.50	0.47
46:v:42:GLU:HG3	46:v:44:ASP:H	1.79	0.47
46:v:149:LEU:HD11	46:v:189:ALA:HA	1.97	0.47
47:x:159:LYS:H	47:x:213:SER:HA	1.78	0.47
47:x:653:VAL:HG12	47:x:656:LEU:HB3	1.96	0.47
50:SD:45:LEU:HD23	50:SD:120:VAL:HG22	1.96	0.47
58:SN:116:LYS:HE2	58:SN:116:LYS:HA	1.96	0.47
59:SO:41:THR:HG22	59:SO:62:LYS:HD3	1.96	0.47
59:SO:211:ILE:HD11	59:SO:225:LEU:HD22	1.97	0.47
60:SQ:137:ILE:HG21	60:SQ:172:LEU:HD22	1.96	0.47
64:SV:56:ARG:HD3	64:SV:56:ARG:HA	1.74	0.47
64:SV:104:ILE:HD13	64:SV:167:ALA:HB2	1.96	0.47
66:SX:71:LEU:HD22	66:SX:137:PHE:HE2	1.79	0.47
71:Sc:54:LEU:HD11	71:Sc:75:GLN:HB2	1.95	0.47
71:Sc:139:LYS:HB3	71:Sc:140:LYS:HE2	1.96	0.47
73:Se:4:LYS:HG2	73:Se:5:ARG:HG3	1.95	0.47
78:SU:107:ARG:NH1	78:SU:108:GLN:H	2.12	0.47
80:SB:71:ALA:O	80:SB:107:LYS:NZ	2.47	0.47
80:SB:110:ALA:O	80:SB:113:ILE:HG12	2.15	0.47
1:2:331:A:H2'	1:2:332:U:C6	2.50	0.47
1:2:556:A:H1'	1:2:590:C:H1'	1.97	0.47
1:2:1203:A:N1	1:2:1553:G:N3	2.63	0.47
2:A:370:U:H2'	2:A:371:G:O4'	2.15	0.47
2:A:407:A:H4'	2:A:1397:C:H5'	1.96	0.47
2:A:932:U:O4'	2:A:934:G:H5'	2.15	0.47
2:A:1257:C:H42	2:A:1261:G:H22	1.61	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1615:C:H2'	2:A:1616:U:C6	2.50	0.47
2:A:2184:U:OP2	5:D:6:ARG:NH2	2.47	0.47
2:A:2396:G:OP1	2:A:2397:A:O2'	2.29	0.47
2:A:2930:A:H2'	2:A:2931:C:C6	2.50	0.47
3:B:24:A:H2'	3:B:25:G:C8	2.50	0.47
3:B:27:A:H2'	3:B:28:C:C6	2.49	0.47
11:K:135:GLU:OE1	11:K:135:GLU:N	2.48	0.47
12:L:33:ILE:HD12	12:L:33:ILE:O	2.14	0.47
16:P:70:ASN:HB2	16:P:92:LEU:O	2.15	0.47
18:R:24:VAL:HG21	18:R:90:PHE:CD2	2.50	0.47
20:T:159:ALA:HA	20:T:162:ARG:HG2	1.96	0.47
44:r:73:THR:HG23	44:r:76:ALA:H	1.80	0.47
47:x:19:VAL:HG23	47:x:345:PRO:HD2	1.97	0.47
47:x:251:ASN:HB3	47:x:254:THR:HB	1.96	0.47
48:SA:27:ARG:HB3	49:SC:58:GLN:NE2	2.25	0.47
51:SE:50:THR:OG1	51:SE:51:SER:N	2.47	0.47
52:SF:5:PRO:HB3	52:SF:96:TYR:CE1	2.50	0.47
54:SI:83:ALA:HB1	54:SI:91:TYR:HB3	1.96	0.47
60:SQ:103:MET:HG2	60:SQ:215:VAL:HG23	1.97	0.47
72:Sd:36:SER:HB2	72:Sd:39:GLU:OE2	2.14	0.47
1:2:401:A:O2'	1:2:402:C:H4'	2.14	0.47
1:2:461:G:H2'	1:2:462:G:H8	1.80	0.47
1:2:472:U:H2'	1:2:473:A:C8	2.49	0.47
1:2:1647:U:H2'	1:2:1648:A:H8	1.78	0.47
1:2:1729:C:H2'	1:2:1730:A:O4'	2.15	0.47
2:A:374:A:H4'	2:A:375:A:H5'	1.97	0.47
2:A:417:A:H2'	2:A:418:A:C8	2.49	0.47
2:A:1663:C:H2'	2:A:1664:G:H8	1.80	0.47
2:A:2225:U:H4'	43:q:36:PHE:HZ	1.79	0.47
2:A:2863:G:H2'	2:A:2864:A:H8	1.80	0.47
6:F:342:LYS:HD2	6:F:342:LYS:HA	1.68	0.47
16:P:183:THR:OG1	16:P:183:THR:O	2.32	0.47
17:Q:43[A]:ILE:HD11	17:Q:138[A]:LEU:HD12	1.97	0.47
20:T:163:ARG:HA	20:T:166:ASN:ND2	2.29	0.47
26:Z:74:LYS:HA	26:Z:77:GLU:OE1	2.15	0.47
29:c:6:THR:CG2	29:c:8:THR:HG22	2.44	0.47
47:x:502:PRO:HA	47:x:505:VAL:HG22	1.95	0.47
52:SF:21:HIS:HB3	52:SF:66:ARG:HB2	1.97	0.47
52:SF:86:ALA:O	52:SF:90:VAL:HG23	2.14	0.47
67:SY:108:ASP:OD1	67:SY:111:ALA:N	2.41	0.47
70:Sb:34:ILE:O	70:Sb:38:LEU:HD12	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:SB:98:MET:N	80:SB:98:MET:SD	2.87	0.47
81:E:343:TYR:CZ	81:E:345:ASN:HB2	2.50	0.47
1:2:513:U:O3'	65:SW:132:ARG:NH1	2.49	0.47
1:2:923:A:H2'	1:2:924:A:C8	2.49	0.47
2:A:296:A:N3	2:A:299:G:O2'	2.47	0.47
2:A:1234:G:H2'	2:A:1235:U:C5	2.50	0.47
2:A:2160:G:C2	2:A:2161:G:N7	2.83	0.47
2:A:2184:U:H2'	2:A:2185:G:H8	1.80	0.47
2:A:2883:U:H2'	2:A:2884:C:C6	2.50	0.47
2:A:3004:C:O2'	2:A:3005:A:OP1	2.32	0.47
2:A:3287:U:H2'	2:A:3288:G:H8	1.80	0.47
3:B:65:G:H2'	3:B:66:A:H8	1.80	0.47
4:C:45:C:H2'	4:C:46:G:C8	2.50	0.47
6:F:287:THR:HA	6:F:290:ILE:HG22	1.96	0.47
20:T:166:ASN:O	20:T:170:ARG:HG2	2.15	0.47
22:V:100:LYS:O	22:V:103:GLN:NE2	2.42	0.47
41:o:111:ARG:HG2	41:o:112:LYS:HG2	1.96	0.47
46:v:854:GLU:HA	46:v:857:MET:HE2	1.95	0.47
47:x:577:SER:HB2	47:x:712:ALA:HB2	1.97	0.47
47:x:650:THR:HG21	47:x:691:VAL:HG13	1.96	0.47
57:SM:33:LYS:HD3	57:SM:33:LYS:N	2.28	0.47
61:SS:71:LYS:HB2	61:SS:91:THR:HB	1.96	0.47
78:SU:143:LEU:HD21	78:SU:147:ASN:HB2	1.96	0.47
79:SL:27:GLN:HA	79:SL:43:ASN:HA	1.96	0.47
1:2:250:C:H2'	1:2:251:A:C8	2.50	0.46
1:2:477:A:H2'	1:2:478:A:H8	1.80	0.46
1:2:520:A:H2'	1:2:521:A:H8	1.79	0.46
1:2:1321:A:OP2	77:SP:131:GLN:NE2	2.45	0.46
1:2:1458:G:N3	1:2:1458:G:H2'	2.30	0.46
1:2:1485:C:H2'	1:2:1486:G:O4'	2.14	0.46
1:2:1532:U:O4	56:SK:97:LYS:NZ	2.30	0.46
2:A:417:A:H2'	2:A:418:A:H8	1.80	0.46
2:A:721:G:H2'	2:A:722:G:H8	1.80	0.46
2:A:978:G:O2'	2:A:980:A:N3	2.42	0.46
2:A:1138:U:O3'	9:I:97:PRO:HD3	2.15	0.46
2:A:1254:C:H2'	2:A:1255:C:H6	1.80	0.46
2:A:2999:U:H2'	2:A:3000:A:C8	2.50	0.46
7:G:90:HIS:CE1	7:G:225:GLY:HA3	2.50	0.46
11:K:92:TYR:HA	11:K:179:ILE:HG22	1.96	0.46
14:N:114:GLN:NE2	14:N:115:ARG:HG2	2.30	0.46
17:Q:96[A]:LYS:O	17:Q:100[A]:GLU:HG3	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:147:GLU:HG2	18:R:148:LEU:N	2.30	0.46
19:S:54:LEU:HG	19:S:58:ASN:HB3	1.96	0.46
20:T:68:GLN:OE1	20:T:71:ARG:NH2	2.48	0.46
24:X:31:ALA:HB2	24:X:69:LEU:HD23	1.95	0.46
46:v:28:ILE:HG23	46:v:69:ALA:HA	1.96	0.46
46:v:559:ARG:NH2	46:v:560:ASN:OD1	2.48	0.46
47:x:223:ARG:HD2	47:x:223:ARG:HA	1.70	0.46
47:x:279:ASP:OD1	47:x:279:ASP:N	2.48	0.46
52:SF:59:LYS:HZ3	52:SF:105:LEU:HD21	1.80	0.46
56:SK:59:TYR:CZ	80:SB:123:VAL:HB	2.50	0.46
62:ST:5:ILE:HB	62:ST:124:LEU:HD11	1.97	0.46
71:Sc:98:GLU:OE1	71:Sc:99:ASN:N	2.43	0.46
76:SG:10:LYS:HA	76:SG:53:TYR:CE2	2.50	0.46
78:SU:71:HIS:HB3	78:SU:131:PHE:CE2	2.50	0.46
80:SB:71:ALA:HB1	80:SB:91:GLU:HA	1.97	0.46
1:2:366:A:H2'	1:2:367:A:C8	2.49	0.46
1:2:1292:G:H3'	1:2:1293:U:C6	2.48	0.46
1:2:1488:G:O2'	1:2:1494:C:O2	2.32	0.46
1:2:1502:G:N2	1:2:1505:A:OP2	2.26	0.46
2:A:70:A:O5'	2:A:101:G:O2'	2.28	0.46
2:A:207:U:H2'	2:A:208:C:H6	1.79	0.46
2:A:1462:A:H2'	2:A:1463:U:H6	1.79	0.46
2:A:1577:G:H2'	2:A:1578:C:C6	2.50	0.46
2:A:2186:U:H2'	2:A:2187:G:O4'	2.15	0.46
2:A:2682:C:H2'	2:A:2683:U:H6	1.81	0.46
2:A:2746:A:N1	7:G:148:ILE:HD13	2.30	0.46
2:A:2776:C:H5'	2:A:2777:G:C2	2.50	0.46
2:A:2891:U:O2'	2:A:3014:U:H5''	2.15	0.46
6:F:35:VAL:HA	6:F:38:VAL:HG22	1.97	0.46
8:H:67:GLY:HA3	8:H:74:VAL:HB	1.96	0.46
13:M:77:GLU:OE1	13:M:77:GLU:N	2.36	0.46
19:S:107:THR:HG23	19:S:110:ALA:H	1.79	0.46
46:v:581:LEU:O	46:v:585:LEU:HG	2.13	0.46
47:x:51:ALA:HB1	47:x:54:ALA:HB3	1.96	0.46
48:SA:132:LYS:HB3	48:SA:156:PHE:HE1	1.81	0.46
50:SD:79:ALA:HB3	50:SD:88:LEU:HD22	1.96	0.46
58:SN:119:ARG:HD2	58:SN:139:LEU:HD13	1.96	0.46
65:SW:131:GLN:O	65:SW:132:ARG:HG2	2.16	0.46
69:Sa:20:THR:HG23	69:Sa:22:ARG:HG2	1.98	0.46
78:SU:138:LYS:HD2	78:SU:138:LYS:HA	1.67	0.46
80:SB:98:MET:HB3	80:SB:103:ASN:O	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:798:C:H2'	1:2:799:A:C8	2.50	0.46
1:2:1466:G:H2'	1:2:1467:C:H6	1.80	0.46
2:A:1203:A:H2'	2:A:1204:A:H8	1.80	0.46
2:A:1639:C:H2'	2:A:1640:G:C8	2.51	0.46
2:A:1881:A:H2'	2:A:1882:G:H8	1.80	0.46
2:A:1895:A:O2'	2:A:3053:G:H4'	2.16	0.46
2:A:2578:U:H2'	2:A:2579:G:O4'	2.16	0.46
4:C:91:C:H2'	4:C:92:A:H8	1.81	0.46
5:D:117:GLU:HG2	5:D:122:ASP:HB3	1.97	0.46
9:I:74:SER:OG	22:V:141:VAL:O	2.29	0.46
9:I:207:LEU:HB3	9:I:243:MET:HE3	1.96	0.46
14:N:76:THR:N	14:N:79:GLU:OE1	2.46	0.46
17:Q:108[A]:ILE:HG21	17:Q:160[A]:ARG:NH1	2.31	0.46
19:S:64:VAL:HA	19:S:67:ILE:HD12	1.97	0.46
23:W:16:THR:OG1	23:W:102:GLU:OE1	2.32	0.46
23:W:94:ARG:HG2	23:W:96:VAL:HG13	1.96	0.46
24:X:54:LEU:HD12	24:X:55:GLY:N	2.30	0.46
46:v:26:HIS:CD2	46:v:27:GLU:H	2.33	0.46
47:x:702:GLY:O	47:x:706:ILE:HG12	2.14	0.46
56:SK:95:HIS:HD2	80:SB:116:HIS:NE2	2.13	0.46
61:SS:42:LEU:N	61:SS:84:ALA:O	2.40	0.46
63:SR:153:SER:OG	63:SR:154:LEU:N	2.44	0.46
68:SZ:14:PHE:HZ	73:Se:58:VAL:HG11	1.81	0.46
73:Se:23:CYS:HB3	73:Se:28:LYS:H	1.81	0.46
1:2:911:U:OP2	60:SQ:8:ARG:NH2	2.45	0.46
1:2:1034:C:H2'	1:2:1035:G:H8	1.80	0.46
1:2:1609:U:H2'	1:2:1610:G:O4'	2.15	0.46
2:A:276:U:H2'	2:A:277:G:C8	2.51	0.46
2:A:504:A:H2'	2:A:505:G:C8	2.49	0.46
2:A:727:G:O6	2:A:742:G:O2'	2.23	0.46
2:A:988:U:H2'	2:A:989:A:H8	1.80	0.46
2:A:1207:G:O2'	2:A:1209:G:OP1	2.22	0.46
2:A:1420:C:OP2	6:F:193:LYS:NZ	2.48	0.46
2:A:1423:C:C2	2:A:1424:C:C5	3.04	0.46
2:A:1551:C:H2'	2:A:1552:G:O4'	2.14	0.46
2:A:1711:C:H2'	2:A:1712:G:O4'	2.14	0.46
2:A:3192:U:H3	2:A:3200:G:H1	1.63	0.46
2:A:3252:G:H2'	2:A:3253:G:H8	1.81	0.46
10:J:91:PHE:CE1	10:J:185:ARG:HG2	2.51	0.46
19:S:161:LYS:HD2	19:S:161:LYS:HA	1.72	0.46
35:i:81:CYS:O	35:i:85:VAL:HG22	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:i:100:ILE:HG13	35:i:101:VAL:N	2.30	0.46
47:x:385:MET:HG3	47:x:394:PHE:HB3	1.97	0.46
69:Sa:12:TYR:CG	69:Sa:12:TYR:O	2.68	0.46
1:2:1176:G:H2'	1:2:1177:C:C6	2.50	0.46
1:2:1623:C:H2'	1:2:1624:C:C6	2.50	0.46
1:2:1644:C:H2'	1:2:1645:G:H8	1.80	0.46
2:A:838:G:O6	44:r:4:ARG:NH2	2.49	0.46
3:B:45:A:H2'	3:B:46:A:H8	1.81	0.46
11:K:130:ASP:OD1	11:K:130:ASP:N	2.48	0.46
16:P:46:ASP:OD1	16:P:46:ASP:C	2.58	0.46
24:X:63:LYS:HD3	24:X:63:LYS:HA	1.59	0.46
28:b:108:GLU:HA	28:b:111:LYS:HE2	1.96	0.46
31:e:25:LEU:HD23	31:e:85:PHE:HZ	1.80	0.46
33:g:60:ASN:HD21	33:g:62:LYS:HG3	1.79	0.46
46:v:464:ASN:HD21	46:v:899:GLY:HA3	1.79	0.46
47:x:324:MET:O	47:x:328:LEU:N	2.49	0.46
51:SE:111:MET:HG2	51:SE:114:HIS:HD1	1.81	0.46
57:SM:31:ILE:HG23	57:SM:33:LYS:HE2	1.97	0.46
59:SO:38:ARG:HD3	76:SG:33:ARG:NH2	2.30	0.46
60:SQ:61:LEU:HD22	60:SQ:91:VAL:HG22	1.96	0.46
60:SQ:133:TYR:CE1	60:SQ:217:LEU:HD21	2.51	0.46
63:SR:45:VAL:HG11	63:SR:68:ILE:HG13	1.98	0.46
70:Sb:8:ALA:HA	70:Sb:74:VAL:HG11	1.98	0.46
70:Sb:18:GLU:HG3	70:Sb:69:LEU:HG	1.97	0.46
76:SG:35:CYS:SG	76:SG:51:ALA:HB2	2.56	0.46
1:2:842:C:H2'	1:2:843:U:O4'	2.16	0.46
1:2:1140:G:H2'	1:2:1141:G:H8	1.81	0.46
2:A:664:U:H2'	2:A:665:A:H8	1.80	0.46
2:A:753:C:H2'	2:A:754:G:H8	1.81	0.46
2:A:809:G:N1	2:A:932:U:O4	2.49	0.46
2:A:913:A:H5''	2:A:914:A:C8	2.51	0.46
2:A:1031:C:H2'	2:A:1032:C:C5	2.51	0.46
2:A:2168:A:H4'	2:A:2169:G:OP1	2.15	0.46
2:A:2632:G:H2'	2:A:2633:U:C6	2.51	0.46
2:A:2936:A:H2'	2:A:2937:G:C8	2.51	0.46
2:A:3014:U:H2'	2:A:3015:G:C8	2.50	0.46
2:A:3322:A:H2'	2:A:3323:A:H8	1.79	0.46
19:S:35:PHE:CZ	19:S:39:ARG:HD3	2.51	0.46
46:v:871:ARG:HH22	46:v:874:ILE:HD12	1.80	0.46
47:x:22:MET:HG3	47:x:342:LEU:HD13	1.97	0.46
47:x:772:LEU:HD11	47:x:776:GLU:O	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:SJ:22:ILE:HG23	55:SJ:93:LEU:HB2	1.97	0.46
59:SO:292:LEU:HD12	59:SO:292:LEU:O	2.16	0.46
61:SS:14:ALA:HB1	61:SS:18:TRP:CZ3	2.50	0.46
61:SS:103:TYR:O	61:SS:182:TYR:OH	2.26	0.46
68:SZ:103:ARG:NH2	73:Se:52:ASP:OD2	2.48	0.46
69:Sa:21:ASN:HD22	70:Sb:68:ARG:NH1	2.09	0.46
71:Sc:53:VAL:HG12	71:Sc:100:ASP:H	1.81	0.46
72:Sd:128:LYS:O	72:Sd:131:ARG:NH1	2.48	0.46
78:SU:152:VAL:HB	78:SU:183:PHE:HD1	1.81	0.46
81:E:196:ARG:HA	81:E:199:PHE:CD2	2.46	0.46
1:2:140:A:OP2	1:2:140:A:H4'	2.15	0.46
1:2:477:A:N6	1:2:540:G:H22	2.11	0.46
1:2:637:C:OP1	70:Sb:32:LYS:HG3	2.15	0.46
1:2:979:A:H4'	1:2:1786:G:N2	2.31	0.46
1:2:1127:G:P	42:p:11:ARG:HH12	2.38	0.46
2:A:2351:U:H2'	2:A:2352:A:C8	2.50	0.46
2:A:2703:A:N7	7:G:29:ASP:HB2	2.30	0.46
2:A:2714:G:H4'	2:A:2715:A:H3'	1.97	0.46
2:A:3284:G:H2'	2:A:3285:C:C6	2.50	0.46
10:J:144:GLU:OE2	16:P:6:TYR:OH	2.33	0.46
10:J:158:ASP:HB2	10:J:159:PRO:CD	2.40	0.46
12:L:47:PRO:HB3	12:L:171:TRP:CE2	2.51	0.46
12:L:54:SER:HA	12:L:163:GLN:HG3	1.98	0.46
20:T:133:LYS:HG3	20:T:134:HIS:CE1	2.50	0.46
28:b:22:LYS:HB2	28:b:130:PHE:HE1	1.80	0.46
28:b:22:LYS:HB2	28:b:130:PHE:CE1	2.51	0.46
37:k:54:GLU:HB2	37:k:90:MET:HE1	1.97	0.46
42:p:2:ARG:HB3	42:p:5:TRP:CD1	2.51	0.46
45:t:28:A:H2'	45:t:29:G:H8	1.80	0.46
46:v:26:HIS:CG	46:v:27:GLU:H	2.34	0.46
50:SD:70:ASN:OD1	50:SD:71:ILE:N	2.48	0.46
51:SE:29:SER:OG	51:SE:30:THR:N	2.48	0.46
60:SQ:219:LYS:HA	60:SQ:219:LYS:HD2	1.78	0.46
64:SV:171:SER:HB3	64:SV:180:ASP:H	1.80	0.46
65:SW:92:LYS:HD3	65:SW:92:LYS:HA	1.67	0.46
66:SX:57:LYS:HB2	66:SX:110:HIS:CE1	2.50	0.46
71:Sc:136:TRP:NE1	75:Sg:15:LYS:HE3	2.30	0.46
76:SG:15:ALA:O	76:SG:19:ARG:NH2	2.47	0.46
77:SP:31:VAL:HG22	77:SP:33:GLN:H	1.81	0.46
77:SP:33:GLN:OE1	77:SP:33:GLN:HA	2.15	0.46
80:SB:148:ARG:HG2	80:SB:149:VAL:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:21:U:H2'	1:2:22:A:H8	1.79	0.46
1:2:107:C:H2'	1:2:108:A:C8	2.48	0.46
1:2:364:G:H21	1:2:756:A:H61	1.64	0.46
1:2:609:U:H4'	1:2:610:G:O5'	2.16	0.46
1:2:1159:C:H4'	1:2:1580:C:P	2.56	0.46
1:2:1195:C:OP1	55:SJ:77:LYS:NZ	2.48	0.46
1:2:1331:A:N1	48:SA:161:GLY:HA3	2.31	0.46
1:2:1612:U:OP1	80:SB:84:LYS:NZ	2.46	0.46
1:2:1690:G:N1	1:2:1711:C:O2'	2.27	0.46
2:A:508:U:O2	2:A:583:G:N2	2.34	0.46
2:A:1489:A:OP2	2:A:1838:G:N1	2.38	0.46
2:A:1596:C:H2'	2:A:1597:C:C6	2.51	0.46
2:A:1887:A:C2	2:A:2391:G:H4'	2.51	0.46
2:A:2367:A:H2'	2:A:2368:A:C8	2.51	0.46
2:A:2468:A:N7	2:A:2478:C:O2'	2.48	0.46
2:A:3060:C:H2'	2:A:3061:G:C8	2.51	0.46
10:J:240:ASN:OD1	10:J:241:LYS:N	2.49	0.46
11:K:156:GLN:NE2	11:K:160:ASP:OD2	2.48	0.46
12:L:153:ARG:HG3	12:L:156:ARG:HH12	1.81	0.46
12:L:171:TRP:HB2	12:L:178:ARG:HD2	1.97	0.46
13:M:47:GLN:NE2	13:M:64:LYS:HA	2.30	0.46
16:P:73:ARG:HG2	16:P:73:ARG:HH11	1.79	0.46
29:c:75:LEU:HB3	29:c:118:ILE:HG23	1.98	0.46
31:e:15:ALA:O	31:e:19:LYS:HG2	2.16	0.46
34:h:69:GLY:HA3	34:h:85:PHE:HD1	1.81	0.46
59:SO:286:GLU:CD	59:SO:287:PRO:HD2	2.40	0.46
70:Sb:34:ILE:HA	70:Sb:37:PHE:HB2	1.98	0.46
1:2:29:U:H2'	1:2:30:G:C8	2.50	0.46
1:2:705:U:O2'	1:2:706:A:O5'	2.24	0.46
1:2:888:U:H2'	1:2:889:U:C6	2.51	0.46
1:2:1278:G:H2'	1:2:1279:C:C6	2.51	0.46
1:2:1293:U:O2'	77:SP:109:ASN:ND2	2.49	0.46
1:2:1333:C:H2'	1:2:1334:U:H6	1.81	0.46
1:2:1508:U:H2'	1:2:1509:C:C6	2.51	0.46
2:A:34:A:H5'	16:P:86:ASN:ND2	2.28	0.46
2:A:790:U:H2'	2:A:791:A:C8	2.50	0.46
2:A:1217:A:O2'	2:A:1218:U:H5'	2.16	0.46
2:A:2457:G:O2'	2:A:2481:G:O6	2.32	0.46
2:A:2611:U:O2'	2:A:2803:A:N6	2.48	0.46
2:A:3016:A:H2'	2:A:3017:A:C8	2.50	0.46
2:A:3321:C:H2'	2:A:3322:A:H8	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:149:A:H2'	4:C:150:G:C8	2.51	0.46
6:F:26:PHE:HA	6:F:127:ALA:HA	1.98	0.46
7:G:120:LYS:HB2	7:G:120:LYS:HE2	1.71	0.46
19:S:79:LYS:HA	19:S:136:ASN:OD1	2.15	0.46
46:v:45:VAL:HG23	46:v:86:TYR:OH	2.16	0.46
46:v:207:ARG:HH22	46:v:232:THR:HG23	1.81	0.46
46:v:347:LEU:HD11	46:v:406:PHE:HB2	1.98	0.46
46:v:611:ASN:HB2	46:v:627:PHE:HZ	1.80	0.46
48:SA:109:LEU:HD12	48:SA:175:VAL:HG21	1.98	0.46
51:SE:50:THR:HG23	51:SE:52:LYS:HG3	1.97	0.46
52:SF:101:SER:O	52:SF:105:LEU:HG	2.16	0.46
62:ST:69:LEU:HD12	62:ST:70:PRO:HD2	1.98	0.46
70:Sb:80:ASN:HD22	70:Sb:124:LYS:HE2	1.81	0.46
80:SB:83:ARG:HA	80:SB:86:GLN:NE2	2.31	0.46
1:2:107:C:H4'	1:2:383:G:H21	1.80	0.46
1:2:215:A:HO2'	1:2:216:U:P	2.38	0.46
1:2:1050:G:H2'	1:2:1051:G:C8	2.49	0.46
2:A:371:G:O2'	2:A:396:A:N6	2.46	0.46
2:A:707:U:H1'	2:A:754:G:H1'	1.98	0.46
2:A:1146:C:H2'	2:A:1147:G:H8	1.81	0.46
2:A:1254:C:H2'	2:A:1255:C:C6	2.51	0.46
2:A:1757:A:OP1	23:W:94:ARG:NH2	2.47	0.46
2:A:2225:U:H4'	43:q:36:PHE:CZ	2.51	0.46
2:A:2577:C:H2'	2:A:2578:U:C6	2.51	0.46
2:A:2986:U:H2'	2:A:2987:A:H8	1.80	0.46
2:A:3368:U:H4'	2:A:3369:G:H5'	1.98	0.46
3:B:100:C:H2'	3:B:101:G:O4'	2.16	0.46
4:C:15:G:H2'	4:C:16:G:C4	2.50	0.46
11:K:17:THR:HG23	15:O:5:SER:HA	1.98	0.46
11:K:141:LYS:HD3	11:K:141:LYS:HA	1.74	0.46
14:N:154:VAL:HG22	14:N:156:ALA:H	1.81	0.46
24:X:10:LYS:HE2	24:X:125:LEU:HD13	1.97	0.46
33:g:30:GLU:N	33:g:30:GLU:OE1	2.48	0.46
34:h:42:GLN:OE1	34:h:42:GLN:N	2.46	0.46
45:u:67:G:H2'	45:u:68:G:H8	1.81	0.46
46:v:120:VAL:HG23	46:v:121:ASN:N	2.29	0.46
47:x:10:ARG:HH21	47:x:445:ILE:HB	1.81	0.46
47:x:591:GLU:HG2	47:x:685:ARG:HD3	1.97	0.46
48:SA:150:MET:C	48:SA:150:MET:SD	2.99	0.46
52:SF:64:ASP:C	52:SF:65:ILE:HD12	2.40	0.46
55:SJ:58:LEU:HD22	55:SJ:88:LYS:HB3	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:SS:45:ILE:HD11	61:SS:80:THR:HB	1.97	0.46
66:SX:38:ALA:HB1	66:SX:66:ILE:HG21	1.97	0.46
67:SY:18:TYR:HA	70:Sb:56:HIS:CE1	2.51	0.46
78:SU:101:LYS:HZ3	78:SU:112:ARG:HH12	1.64	0.46
80:SB:209:TYR:HE1	80:SB:213:LYS:HG2	1.81	0.46
1:2:45:U:O2	1:2:433:C:O2'	2.30	0.45
1:2:477:A:H2'	1:2:478:A:C8	2.51	0.45
1:2:868:G:H2'	1:2:869:A:C8	2.49	0.45
2:A:1699:A:H2'	2:A:1700:G:H8	1.81	0.45
2:A:1949:G:H1	2:A:2097:U:H3	1.64	0.45
2:A:2413:A:H2'	2:A:2414:G:H8	1.80	0.45
2:A:2447:A:N6	2:A:2500:A:H61	2.13	0.45
2:A:2632:G:O6	2:A:2647:A:N6	2.49	0.45
2:A:3067:C:H3'	20:T:62:ARG:HH22	1.81	0.45
3:B:87:G:H2'	3:B:88:G:H8	1.80	0.45
9:I:140:SER:O	9:I:144:ILE:HD12	2.16	0.45
11:K:133:THR:OG1	11:K:147:SER:OG	2.34	0.45
16:P:119:TYR:OH	16:P:131:GLU:OE1	2.27	0.45
26:Z:93:TYR:O	26:Z:96:LYS:HG2	2.17	0.45
28:b:121:ARG:HH22	28:b:127:ASN:HB2	1.80	0.45
31:e:86:ARG:HH12	44:r:44:LYS:HG2	1.81	0.45
31:e:103:THR:OG1	31:e:104:LEU:N	2.47	0.45
36:j:78:LYS:HA	36:j:78:LYS:HD3	1.57	0.45
39:m:20:VAL:HG22	39:m:73:LEU:HD11	1.98	0.45
44:r:14:TYR:HB3	44:r:18:TYR:HD2	1.80	0.45
46:v:263:ARG:CZ	46:v:267:VAL:HG21	2.46	0.45
47:x:412:ARG:HG2	47:x:428:ILE:HG22	1.99	0.45
55:SJ:63:LEU:HD11	57:SM:34:TYR:CZ	2.51	0.45
59:SO:127:ARG:HA	59:SO:150:TRP:HB2	1.99	0.45
1:2:786:C:O2'	61:SS:255:ARG:NE	2.49	0.45
1:2:870:C:H2'	1:2:871:G:C8	2.52	0.45
1:2:1101:G:HO2'	70:Sb:4:SER:HG	1.62	0.45
1:2:1334:U:H2'	1:2:1335:U:C6	2.52	0.45
1:2:1441:C:H2'	1:2:1442:U:C6	2.51	0.45
2:A:651:G:O2'	2:A:1435:A:OP1	2.34	0.45
2:A:1601:U:O5'	20:T:38:ARG:HD3	2.16	0.45
2:A:1709:C:H2'	2:A:1710:C:H6	1.81	0.45
2:A:1781:C:H2'	2:A:1782:U:C6	2.51	0.45
2:A:2615:G:H2'	2:A:2616:C:C6	2.51	0.45
2:A:3149:G:H2'	2:A:3150:A:C8	2.51	0.45
2:A:3181:C:HO2'	17:Q:164[A]:SER:HG	1.58	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:6:C:OP2	7:G:22:ARG:NH1	2.45	0.45
9:I:100:ARG:NH2	19:S:4:ASP:OD1	2.49	0.45
10:J:41:GLN:OE1	10:J:44:ARG:NH1	2.49	0.45
15:O:23:ILE:HG21	15:O:28:SER:HB2	1.98	0.45
19:S:27:LYS:HE2	19:S:27:LYS:HB2	1.81	0.45
24:X:40:LYS:HB2	24:X:57:MET:O	2.16	0.45
24:X:64:LYS:O	24:X:64:LYS:HD3	2.16	0.45
28:b:121:ARG:NH1	28:b:127:ASN:HB2	2.28	0.45
45:t:37:A:H3'	45:t:38:A:H8	1.80	0.45
46:v:755:ILE:HG13	46:v:759:PHE:HD2	1.80	0.45
46:v:853:ALA:O	46:v:857:MET:HG3	2.17	0.45
47:x:676:ILE:HG13	47:x:832:VAL:HG11	1.98	0.45
56:SK:87:GLY:O	56:SK:88:ILE:HD12	2.15	0.45
1:2:278:U:OP2	1:2:279:G:N2	2.49	0.45
1:2:339:C:P	64:SV:10:LYS:HD2	2.56	0.45
1:2:359:A:H62	71:Sc:35:GLY:HA3	1.81	0.45
1:2:435:C:N4	71:Sc:46:SER:HB2	2.32	0.45
1:2:751:G:H2'	1:2:752:A:C8	2.51	0.45
1:2:1203:A:C2	1:2:1556:A:C4	3.05	0.45
1:2:1222:C:H2'	1:2:1223:A:H8	1.82	0.45
1:2:1259:U:H2'	1:2:1260:U:C6	2.51	0.45
1:2:1433:G:C2	57:SM:41:GLN:HB3	2.50	0.45
1:2:1487:A:H2'	1:2:1488:G:C8	2.51	0.45
1:2:1566:U:H5''	53:SH:39:GLY:H	1.81	0.45
2:A:126:U:H5'	16:P:141:ALA:HB2	1.99	0.45
2:A:695:C:OP1	6:F:119:ARG:NH1	2.48	0.45
2:A:1138:U:H2'	2:A:1139:G:H8	1.81	0.45
2:A:1794:G:H4'	5:D:191:LEU:HD22	1.97	0.45
2:A:2451:G:H2'	2:A:2452:G:O4'	2.16	0.45
2:A:2555:G:N2	28:b:135:ARG:O	2.48	0.45
2:A:2555:G:C6	35:i:92:ALA:HA	2.51	0.45
2:A:2948:C:H5''	81:E:243:HIS:HB3	1.98	0.45
2:A:3201:C:H2'	2:A:3202:G:C8	2.51	0.45
3:B:71:G:H2'	3:B:72:A:C8	2.52	0.45
5:D:100:ASN:O	5:D:165:VAL:HA	2.16	0.45
20:T:136:ARG:HA	20:T:139:VAL:HG12	1.97	0.45
37:k:5:THR:HG23	37:k:12:ASN:HB2	1.98	0.45
47:x:601:ILE:HD11	47:x:643:PRO:HA	1.99	0.45
71:Sc:42:PRO:HB3	71:Sc:81:LYS:HE2	1.97	0.45
76:SG:86:PRO:O	77:SP:198:MET:HE3	2.15	0.45
78:SU:137:GLY:HA3	78:SU:153:LEU:HD12	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1227:A:O2'	50:SD:47:GLU:OE1	2.35	0.45
1:2:1281:G:H2'	1:2:1282:U:H6	1.81	0.45
1:2:1614:A:H3'	1:2:1615:C:H6	1.82	0.45
1:2:1773:C:H3'	42:p:4:LYS:NZ	2.31	0.45
2:A:518:G:H5'	2:A:520:U:H5'	1.97	0.45
2:A:987:U:H2'	2:A:988:U:H6	1.80	0.45
2:A:998:A:H2'	2:A:999:G:C8	2.52	0.45
2:A:1336:U:H2'	2:A:1337:A:C8	2.51	0.45
2:A:2963:C:N4	2:A:2964:G:O6	2.50	0.45
16:P:154:PRO:HB3	16:P:157:LYS:HE2	1.97	0.45
36:j:50:SER:O	36:j:54:VAL:HG12	2.17	0.45
38:l:22:CYS:SG	38:l:37:CYS:SG	3.15	0.45
40:n:28:ARG:HD2	40:n:28:ARG:HA	1.80	0.45
46:v:193:MET:N	46:v:193:MET:SD	2.90	0.45
47:x:150:ARG:HH11	47:x:197:LEU:HD12	1.82	0.45
47:x:651:LYS:HA	47:x:651:LYS:HD2	1.77	0.45
51:SE:25:LEU:HA	51:SE:28:MET:HE1	1.99	0.45
53:SH:110:ARG:HD3	53:SH:114:GLU:OE1	2.16	0.45
60:SQ:121:ILE:HG21	60:SQ:141:ALA:HB3	1.98	0.45
68:SZ:89:THR:O	68:SZ:128:LYS:HG3	2.16	0.45
69:Sa:53:TYR:HE1	69:Sa:72:LEU:HB3	1.82	0.45
72:Sd:105:ARG:HD2	72:Sd:108:ARG:HH21	1.79	0.45
76:SG:49:LYS:HD3	76:SG:49:LYS:H	1.82	0.45
76:SG:58:MET:HA	76:SG:61:ILE:HG22	1.98	0.45
78:SU:173:TYR:CE2	78:SU:179:LYS:HB2	2.52	0.45
79:SL:29:ARG:HG2	79:SL:29:ARG:HH11	1.81	0.45
79:SL:58:GLU:HB3	80:SB:225:ARG:NH1	2.31	0.45
1:2:68:A:OP1	62:ST:171:LYS:NZ	2.44	0.45
1:2:1323:C:P	77:SP:104:PRO:HD2	2.56	0.45
1:2:1528:U:O3'	80:SB:112:ARG:NH2	2.50	0.45
1:2:1608:U:H2'	1:2:1609:U:C6	2.52	0.45
1:2:1732:A:H2'	1:2:1733:C:C6	2.50	0.45
2:A:533:A:H2'	2:A:535:G:C8	2.51	0.45
2:A:671:U:H5''	19:S:16:ARG:HH22	1.81	0.45
2:A:794:U:H2'	2:A:795:G:H8	1.81	0.45
2:A:1112:A:H1'	2:A:1371:G:H5'	1.98	0.45
2:A:1294:A:O2'	2:A:1295:G:H5''	2.17	0.45
2:A:1390:A:N6	2:A:1418:A:O2'	2.50	0.45
2:A:1403:C:H2'	2:A:1404:G:C8	2.51	0.45
2:A:1405:U:H2'	2:A:1406:A:N3	2.32	0.45
2:A:1733:G:H2'	2:A:1734:G:H8	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1935:G:H2'	2:A:1936:A:C8	2.47	0.45
2:A:2342:U:H2'	2:A:2343:C:H6	1.82	0.45
2:A:2952:G:H2'	2:A:2953:U:C6	2.51	0.45
3:B:39:C:H4'	13:M:44:THR:HG23	1.99	0.45
4:C:121:U:H3	4:C:132:G:H1	1.65	0.45
9:I:120:THR:O	9:I:124:LEU:HD13	2.16	0.45
13:M:164:LYS:HD3	13:M:171:VAL:HG13	1.98	0.45
16:P:36:ILE:HD11	16:P:62:TYR:CD2	2.50	0.45
16:P:175:ASN:HB3	16:P:180:PHE:CE2	2.51	0.45
20:T:99:LEU:HD23	20:T:99:LEU:HA	1.80	0.45
27:a:99:LEU:HB3	27:a:104:LEU:HD21	1.98	0.45
37:k:36:ARG:O	37:k:40:VAL:HG22	2.17	0.45
41:o:103:LEU:HD21	41:o:110:CYS:HA	1.97	0.45
46:v:26:HIS:CG	46:v:27:GLU:N	2.82	0.45
46:v:431:CYS:HB2	46:v:452:LEU:HB2	1.98	0.45
46:v:577:ASN:O	46:v:581:LEU:HD13	2.15	0.45
47:x:578:LYS:N	47:x:840:ASP:OD2	2.36	0.45
48:SA:138:VAL:HA	48:SA:183:GLY:O	2.17	0.45
49:SC:79:TYR:CE2	49:SC:80:LEU:HD23	2.52	0.45
52:SF:39:VAL:HG23	52:SF:40:GLU:N	2.31	0.45
59:SO:93:ASP:HB3	59:SO:97:GLY:O	2.17	0.45
59:SO:212:ALA:HA	59:SO:222:LEU:HA	1.98	0.45
60:SQ:69:CYS:SG	60:SQ:70:LEU:N	2.89	0.45
60:SQ:138:PHE:HB2	60:SQ:213:ARG:HD3	1.98	0.45
62:ST:176:GLN:HG2	62:ST:177:ARG:HG3	1.97	0.45
63:SR:147:ASN:O	63:SR:148:LEU:HD13	2.17	0.45
1:2:160:C:O3'	62:ST:95:LYS:NZ	2.50	0.45
1:2:381:C:H2'	1:2:382:C:H6	1.81	0.45
1:2:447:U:O2'	1:2:448:C:OP1	2.32	0.45
1:2:749:U:H5''	70:Sb:83:ILE:HD13	1.98	0.45
1:2:990:C:H2'	1:2:991:G:O4'	2.16	0.45
1:2:1056:U:O2'	60:SQ:202:LYS:HB2	2.17	0.45
1:2:1252:C:H5'	58:SN:131:PHE:CZ	2.52	0.45
2:A:591:G:O2'	8:H:17:ALA:O	2.29	0.45
2:A:1132:C:H2'	2:A:1133:A:H8	1.81	0.45
2:A:1135:A:H2'	2:A:1136:A:H8	1.82	0.45
2:A:1219:C:H4'	2:A:1223:A:H5'	1.98	0.45
2:A:1533:U:H2'	2:A:1534:A:H8	1.80	0.45
2:A:2508:U:O2'	2:A:2509:U:H5'	2.16	0.45
2:A:3211:C:N3	2:A:3212:C:N4	2.63	0.45
2:A:3213:A:OP1	15:O:128:ARG:NH1	2.41	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:16:U:H2'	3:B:17:A:H8	1.82	0.45
4:C:55:U:C2	4:C:56:G:C8	3.04	0.45
11:K:23:ARG:HE	11:K:42:ASP:HA	1.82	0.45
13:M:101:ASN:OD1	13:M:102:PHE:N	2.49	0.45
22:V:103:GLN:HA	22:V:106:LEU:HG	1.99	0.45
46:v:179:TRP:CH2	54:SI:24:ARG:HG2	2.51	0.45
46:v:187:ALA:O	46:v:190:THR:OG1	2.34	0.45
46:v:404:ASP:HA	46:v:407:ARG:HG2	1.98	0.45
48:SA:29:LEU:HB3	48:SA:32:GLU:HB2	1.98	0.45
53:SH:88:ARG:HE	53:SH:108:LYS:HB3	1.81	0.45
54:SI:5:SER:OG	54:SI:8:ASP:OD1	2.28	0.45
60:SQ:103:MET:HB3	60:SQ:215:VAL:H	1.81	0.45
61:SS:207:LEU:HD23	61:SS:207:LEU:HA	1.84	0.45
63:SR:88:LYS:HB2	63:SR:97:ARG:NH1	2.31	0.45
67:SY:113:PHE:CD1	67:SY:113:PHE:C	2.95	0.45
68:SZ:135:ARG:NH1	73:Se:25:ASN:O	2.34	0.45
71:Sc:23:ARG:HB3	71:Sc:29:TYR:CD2	2.52	0.45
78:SU:154:LEU:HD11	78:SU:159:VAL:HG23	1.98	0.45
81:E:303:LYS:HZ1	81:E:361:THR:HG23	1.82	0.45
1:2:19:A:OP1	71:Sc:110:LYS:NZ	2.50	0.45
1:2:472:U:O2'	1:2:769:A:N3	2.49	0.45
1:2:689:G:H2'	1:2:690:G:H8	1.80	0.45
1:2:936:G:OP1	1:2:1074:G:N2	2.50	0.45
1:2:1126:G:C2	1:2:1127:G:C8	3.05	0.45
1:2:1706:C:O2'	1:2:1707:A:O4'	2.32	0.45
2:A:1709:C:H2'	2:A:1710:C:C6	2.52	0.45
2:A:1824:U:H2'	2:A:1825:G:C8	2.52	0.45
2:A:2790:A:OP2	19:S:181:SER:OG	2.25	0.45
2:A:2809:C:H4'	2:A:2956:A:H4'	1.98	0.45
2:A:2981:U:OP2	81:E:244:ARG:NH1	2.45	0.45
2:A:3269:U:OP2	8:H:46:ARG:NH2	2.50	0.45
4:C:71:A:O3'	27:a:52:ARG:NH1	2.50	0.45
5:D:150:LEU:HD13	5:D:152:SER:HB3	1.99	0.45
6:F:29:PRO:HB3	6:F:279:HIS:CD2	2.51	0.45
6:F:61:SER:O	6:F:61:SER:OG	2.34	0.45
6:F:185:LYS:HZ2	6:F:199:TRP:CG	2.34	0.45
12:L:47:PRO:HA	12:L:171:TRP:CD1	2.51	0.45
16:P:113:LEU:CB	16:P:134:LEU:HD11	2.46	0.45
25:Y:31:PHE:HZ	25:Y:40:PHE:HD2	1.64	0.45
34:h:11:GLY:HA3	34:h:100:ILE:HD11	1.98	0.45
39:m:61:LYS:HA	39:m:64:LYS:HG2	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:v:811:TYR:CZ	46:v:852:VAL:HG13	2.52	0.45
49:SC:8:ARG:HB3	49:SC:12:HIS:HE1	1.82	0.45
53:SH:15:LEU:HD11	53:SH:58:ALA:HB1	1.99	0.45
60:SQ:115:ARG:O	60:SQ:118:GLN:NE2	2.27	0.45
64:SV:39:GLY:N	64:SV:61:GLU:HB3	2.30	0.45
68:SZ:30:VAL:HB	68:SZ:39:ILE:HB	1.99	0.45
76:SG:5:ARG:HB2	76:SG:10:LYS:HZ1	1.82	0.45
77:SP:58:VAL:O	77:SP:62:ARG:N	2.41	0.45
80:SB:90:ILE:O	80:SB:94:THR:HG23	2.15	0.45
81:E:50:LYS:HD2	81:E:328:ILE:HD11	1.97	0.45
1:2:252:U:H2'	1:2:253:A:C8	2.52	0.45
1:2:1295:G:P	1:2:1321:A:H61	2.39	0.45
1:2:1636:C:H4'	1:2:1637:C:O5'	2.17	0.45
2:A:40:A:N6	2:A:963:G:H21	2.12	0.45
2:A:125:C:H2'	2:A:126:U:H6	1.81	0.45
2:A:213:A:N6	2:A:228:U:O4'	2.49	0.45
2:A:261:U:H2'	2:A:262:U:C6	2.52	0.45
2:A:357:A:H2'	2:A:358:G:C8	2.51	0.45
2:A:1157:G:H2'	2:A:1158:A:O4'	2.17	0.45
2:A:1516:C:H2'	2:A:1517:G:C8	2.52	0.45
2:A:2196:C:H2'	2:A:2242:A:H61	1.81	0.45
2:A:3039:C:C2	2:A:3040:A:C8	3.04	0.45
8:H:142:ASP:HA	8:H:145:LEU:HB2	1.98	0.45
9:I:208:SER:O	9:I:243:MET:HB3	2.16	0.45
18:R:46:LYS:HD3	18:R:46:LYS:HA	1.72	0.45
18:R:109:ALA:HA	18:R:112:LEU:HG	1.98	0.45
19:S:150:VAL:HA	19:S:153:PHE:CD2	2.43	0.45
26:Z:50:ALA:HB1	36:j:66:VAL:HG11	1.98	0.45
32:f:14:ILE:HD11	32:f:39:PHE:CE2	2.51	0.45
47:x:184:SER:HA	47:x:187:VAL:HG22	1.99	0.45
47:x:518:VAL:HG13	47:x:531:ALA:H	1.82	0.45
48:SA:12:VAL:O	48:SA:16:VAL:HG22	2.17	0.45
48:SA:183:GLY:C	48:SA:184:ILE:HD13	2.42	0.45
48:SA:222:VAL:HG13	59:SO:144:LEU:HA	1.98	0.45
52:SF:41:PRO:O	80:SB:112:ARG:NH2	2.50	0.45
54:SI:126:GLU:O	54:SI:130:ARG:HG3	2.17	0.45
55:SJ:69:LYS:O	57:SM:44:ARG:NH1	2.50	0.45
65:SW:15:PRO:HD3	65:SW:43:TYR:HE1	1.81	0.45
65:SW:20:GLU:O	65:SW:24:LEU:HG	2.17	0.45
77:SP:73:VAL:HG13	77:SP:95:ALA:HB2	1.99	0.45
80:SB:171:ALA:O	80:SB:175:LEU:HD22	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:158:U:H3'	1:2:159:U:H5''	1.99	0.45
1:2:922:G:H2'	1:2:923:A:H8	1.82	0.45
1:2:1501:C:H2'	1:2:1502:G:C8	2.52	0.45
2:A:225:C:H2'	2:A:226:C:C6	2.52	0.45
2:A:370:U:H3	2:A:374:A:N6	2.08	0.45
2:A:519:A:N6	21:U:65:ASN:O	2.50	0.45
2:A:712:G:H4'	14:N:174:ARG:NH2	2.32	0.45
2:A:786:A:O3'	2:A:787:G:H8	2.00	0.45
2:A:2160:G:H2'	2:A:2161:G:H8	1.82	0.45
2:A:2482:U:H2'	2:A:2483:G:C8	2.52	0.45
2:A:2781:U:H2'	2:A:2782:U:C6	2.52	0.45
2:A:3038:U:H2'	2:A:3039:C:O4'	2.17	0.45
9:I:119:VAL:HG23	22:V:135:PRO:HG3	1.99	0.45
15:O:40:ASP:OD1	15:O:43:LYS:N	2.49	0.45
16:P:17:ASP:N	16:P:17:ASP:OD1	2.50	0.45
16:P:21:PHE:C	16:P:21:PHE:CD1	2.95	0.45
19:S:171:LYS:H	29:c:56:VAL:HG21	1.81	0.45
22:V:44:ALA:HA	22:V:95:HIS:HB3	1.99	0.45
24:X:27:ASP:CG	24:X:29:SER:HG	2.23	0.45
31:e:55:GLU:HB3	35:i:94:LEU:HD11	1.99	0.45
34:h:49:ILE:HG13	34:h:100:ILE:HG23	1.99	0.45
40:n:17:LYS:HA	40:n:17:LYS:HD2	1.76	0.45
48:SA:25:PHE:N	48:SA:25:PHE:CD1	2.85	0.45
48:SA:119:ALA:O	48:SA:123:VAL:HG13	2.17	0.45
50:SD:86:VAL:N	50:SD:87:PRO:HD3	2.31	0.45
55:SJ:24:ILE:HG22	55:SJ:91:ILE:HB	1.98	0.45
56:SK:97:LYS:HD2	56:SK:97:LYS:HA	1.84	0.45
59:SO:210:LEU:HD22	59:SO:222:LEU:HD21	1.98	0.45
63:SR:181:SER:HB3	63:SR:184:VAL:HG23	1.98	0.45
70:Sb:78:ARG:CB	70:Sb:124:LYS:HD2	2.47	0.45
72:Sd:38:ASP:OD1	72:Sd:41:ARG:NH1	2.49	0.45
79:SL:29:ARG:HH21	79:SL:41:VAL:N	2.15	0.45
1:2:325:G:H2'	1:2:326:G:C8	2.52	0.45
1:2:446:A:N3	1:2:446:A:H2'	2.32	0.45
1:2:600:U:H2'	1:2:601:A:H8	1.82	0.45
1:2:607:G:H21	1:2:614:C:H5''	1.82	0.45
1:2:1277:G:C2	1:2:1278:G:H1'	2.52	0.45
1:2:1280:C:H5'	57:SM:44:ARG:NH1	2.31	0.45
1:2:1385:G:H2'	1:2:1386:G:H8	1.81	0.45
2:A:359:U:H2'	2:A:360:G:O4'	2.17	0.45
2:A:1236:G:N2	2:A:1244:A:O5'	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1324:U:H2'	2:A:1325:U:C6	2.52	0.45
2:A:2882:U:H2'	2:A:2883:U:C6	2.52	0.45
3:B:28:C:H5''	13:M:137:ARG:HG2	1.99	0.45
3:B:79:A:H62	3:B:101:G:H21	1.64	0.45
7:G:242:SER:O	7:G:245:GLU:HG2	2.16	0.45
8:H:66:THR:O	8:H:68:PRO:HD3	2.17	0.45
14:N:42:ARG:O	14:N:46:ILE:HG23	2.17	0.45
24:X:125:LEU:HD12	24:X:125:LEU:HA	1.79	0.45
30:d:25:LYS:HD2	30:d:25:LYS:HA	1.72	0.45
37:k:58:ILE:HG13	37:k:90:MET:HE3	1.98	0.45
46:v:263:ARG:NH2	46:v:267:VAL:HG21	2.32	0.45
47:x:482:LYS:NZ	47:x:483:PHE:O	2.44	0.45
49:SC:77:ARG:HG2	49:SC:82:LEU:HD23	1.99	0.45
51:SE:22:LEU:HA	51:SE:25:LEU:HG	1.99	0.45
52:SF:30:LYS:H	52:SF:66:ARG:HH21	1.64	0.45
52:SF:79:TYR:HA	52:SF:82:ARG:HD2	1.98	0.45
54:SI:40:SER:HB2	54:SI:96:ALA:HA	1.99	0.45
54:SI:109:GLU:OE2	54:SI:122:ARG:NH1	2.49	0.45
60:SQ:207:LEU:HG	60:SQ:210:ILE:HD11	1.99	0.45
61:SS:180:LEU:N	61:SS:229:GLY:O	2.49	0.45
62:ST:149:LYS:H	62:ST:149:LYS:HG2	1.62	0.45
65:SW:45:ILE:O	65:SW:49:LEU:HG	2.17	0.45
65:SW:124:HIS:O	65:SW:128:LEU:HG	2.17	0.45
80:SB:142:PRO:O	80:SB:167:ARG:NH1	2.50	0.45
1:2:325:G:O6	1:2:344:A:N6	2.49	0.44
1:2:882:U:H2'	1:2:883:C:C6	2.52	0.44
1:2:900:A:H2'	1:2:901:G:H8	1.82	0.44
1:2:953:G:H2'	1:2:954:G:C8	2.52	0.44
1:2:1085:G:H2'	1:2:1087:A:OP2	2.17	0.44
1:2:1586:A:H2'	1:2:1587:A:O4'	2.17	0.44
1:2:1775:U:OP1	42:p:11:ARG:NH2	2.49	0.44
2:A:11:A:H2'	2:A:12:A:C8	2.52	0.44
2:A:74:G:H2'	2:A:75:G:H8	1.81	0.44
2:A:308:A:H1'	2:A:2222:A:C2	2.51	0.44
2:A:677:A:N6	2:A:786:A:O4'	2.50	0.44
2:A:2226:U:H2'	2:A:2227:C:C6	2.51	0.44
2:A:2510:U:H2'	2:A:2511:A:C8	2.52	0.44
3:B:94:C:H2'	3:B:95:A:C8	2.50	0.44
12:L:38:LYS:HD3	12:L:82:ARG:HH22	1.81	0.44
22:V:54:HIS:ND1	22:V:55:LYS:N	2.64	0.44
30:d:22:LYS:HE3	30:d:22:LYS:HB3	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:k:43:LEU:O	37:k:47:ILE:HG23	2.17	0.44
40:n:27:ILE:HG23	40:n:30:ARG:HH22	1.82	0.44
47:x:711:ARG:HE	47:x:838:TYR:HA	1.81	0.44
56:SK:46:LYS:HZ2	56:SK:50:ILE:HD11	1.81	0.44
61:SS:137:PRO:HG2	61:SS:150:PRO:HD2	1.99	0.44
63:SR:55:GLU:O	63:SR:59:HIS:ND1	2.51	0.44
67:SY:25:TRP:HZ2	74:Sf:32:PHE:HD2	1.65	0.44
70:Sb:70:ASN:OD1	70:Sb:71:LYS:N	2.50	0.44
72:Sd:35:VAL:HG23	72:Sd:40:LEU:HD11	1.98	0.44
80:SB:188:LYS:HB2	80:SB:192:GLU:OE2	2.17	0.44
1:2:211:U:H2'	1:2:212:U:C6	2.53	0.44
1:2:352:A:H4'	1:2:353:A:O5'	2.17	0.44
1:2:917:U:H2'	1:2:918:U:C6	2.52	0.44
1:2:1183:A:H2'	1:2:1184:A:C4	2.51	0.44
1:2:1183:A:C2	51:SE:100:LYS:HB3	2.51	0.44
1:2:1266:U:H2'	1:2:1267:G:H8	1.83	0.44
1:2:1320:U:C4	1:2:1322:A:C5'	3.01	0.44
1:2:1531:G:H21	54:SI:48:GLN:HE21	1.66	0.44
1:2:1658:G:H2'	1:2:1659:A:C8	2.52	0.44
1:2:1684:U:H2'	1:2:1685:G:H8	1.83	0.44
1:2:1778:G:H2'	1:2:1779:U:C6	2.52	0.44
2:A:998:A:H2'	2:A:999:G:H8	1.82	0.44
2:A:1086:C:H2'	2:A:1087:G:O4'	2.18	0.44
2:A:1493:G:C4	40:n:13:MET:HE1	2.52	0.44
2:A:1556:C:H2'	2:A:2169:G:C2	2.52	0.44
2:A:1712:G:OP2	31:e:28:LYS:NZ	2.36	0.44
2:A:1822:C:H2'	2:A:1823:A:C8	2.53	0.44
3:B:13:A:OP2	3:B:67:G:N2	2.50	0.44
4:C:3:A:H4'	18:R:61:ARG:HD3	1.99	0.44
5:D:30:ARG:HD2	5:D:63:PHE:HD2	1.82	0.44
5:D:144:ASN:OD1	5:D:144:ASN:N	2.51	0.44
7:G:103:LEU:HD23	7:G:103:LEU:HA	1.87	0.44
8:H:58:LEU:HD21	8:H:64:LEU:HB2	1.99	0.44
10:J:74:THR:HG23	10:J:75:ILE:HD13	1.98	0.44
11:K:86:TYR:CE2	11:K:151:VAL:HB	2.51	0.44
17:Q:160[A]:ARG:HD2	17:Q:160[A]:ARG:C	2.43	0.44
61:SS:67:GLN:HE22	61:SS:69:HIS:CD2	2.35	0.44
63:SR:87:GLN:OE1	63:SR:87:GLN:N	2.50	0.44
1:2:110:U:OP1	1:2:753:A:O2'	2.36	0.44
1:2:361:C:H2'	1:2:362:G:C8	2.52	0.44
1:2:1073:G:H4'	67:SY:10:GLY:HA2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1202:A:H1'	1:2:1207:C:H42	1.82	0.44
1:2:1227:A:N6	1:2:1256:A:H2'	2.32	0.44
1:2:1564:U:H2'	1:2:1565:C:H6	1.83	0.44
2:A:504:A:N6	2:A:588:G:O6	2.50	0.44
2:A:837:A:OP2	44:r:4:ARG:NH1	2.50	0.44
2:A:863:C:H2'	2:A:864:G:O4'	2.18	0.44
2:A:1886:A:O2'	81:E:226:PHE:O	2.35	0.44
2:A:2201:G:H21	5:D:224:THR:HG21	1.82	0.44
2:A:2660:G:H2'	2:A:2661:G:C8	2.53	0.44
2:A:2940:A:OP2	81:E:2:SER:N	2.51	0.44
5:D:23:ARG:HA	5:D:51:ASP:OD1	2.18	0.44
5:D:225:ILE:HG21	5:D:234:LYS:HD2	1.99	0.44
10:J:53:PRO:HD3	26:Z:32:PHE:HD2	1.82	0.44
22:V:34:TYR:CD2	22:V:72:VAL:HG11	2.52	0.44
37:k:21:THR:O	37:k:21:THR:HG22	2.17	0.44
43:q:10:THR:OG1	43:q:11:TYR:N	2.50	0.44
51:SE:52:LYS:HE2	51:SE:52:LYS:HB2	1.89	0.44
54:SI:124:ILE:HD12	54:SI:124:ILE:N	2.32	0.44
58:SN:97:LYS:O	58:SN:98:VAL:C	2.60	0.44
58:SN:106:TYR:CD2	58:SN:116:LYS:HA	2.52	0.44
63:SR:54:GLU:HB2	69:Sa:12:TYR:HB3	1.99	0.44
64:SV:188:GLU:OE1	64:SV:188:GLU:N	2.46	0.44
68:SZ:128:LYS:HD3	73:Se:27:SER:HB2	1.99	0.44
71:Sc:103:LEU:HB3	71:Sc:126:LYS:HB2	1.99	0.44
72:Sd:127:LYS:HA	72:Sd:127:LYS:HD2	1.70	0.44
80:SB:113:ILE:HA	80:SB:116:HIS:HB2	1.98	0.44
81:E:139:GLN:HG2	81:E:140:ASP:N	2.32	0.44
1:2:338:C:H2'	1:2:339:C:C6	2.52	0.44
1:2:351:C:OP1	1:2:630:A:O2'	2.35	0.44
1:2:483:A:H2'	1:2:484:C:C6	2.53	0.44
1:2:598:U:O2'	71:Sc:123:LYS:NZ	2.48	0.44
1:2:1230:A:N6	1:2:1231:U:O2	2.51	0.44
1:2:1333:C:H2'	1:2:1334:U:C6	2.52	0.44
1:2:1499:G:O6	1:2:1508:U:O4	2.35	0.44
2:A:1495:U:H2'	2:A:1842:A:C2	2.52	0.44
2:A:1765:U:OP2	20:T:43:LYS:NZ	2.50	0.44
2:A:1836:C:O2'	2:A:1842:A:N1	2.49	0.44
2:A:2434:U:OP1	2:A:2515:A:O2'	2.26	0.44
2:A:2582:C:H2'	2:A:2583:C:C6	2.52	0.44
2:A:2824:G:H1	2:A:2865:U:H3	1.66	0.44
4:C:30:C:H2'	4:C:31:G:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:29:LEU:HA	5:D:76:PHE:CE1	2.52	0.44
11:K:114:VAL:HG12	11:K:124:ARG:HB2	1.99	0.44
11:K:117:PHE:CE2	11:K:165:CYS:HB2	2.53	0.44
13:M:87:LYS:O	13:M:90:GLN:NE2	2.50	0.44
16:P:134:LEU:HD12	16:P:135:VAL:H	1.82	0.44
23:W:99:LYS:HD2	23:W:99:LYS:HA	1.71	0.44
33:g:79:VAL:O	33:g:82:LEU:N	2.51	0.44
46:v:246:MET:HE3	46:v:250:LEU:HD11	1.99	0.44
46:v:869:LEU:HD12	46:v:874:ILE:HD11	1.99	0.44
52:SF:113:ASP:OD1	52:SF:115:THR:N	2.33	0.44
53:SH:29:VAL:O	53:SH:43:SER:OG	2.25	0.44
56:SK:83:LEU:HB3	56:SK:89:ILE:HD11	1.99	0.44
60:SQ:100:PHE:HE1	60:SQ:103:MET:HB2	1.82	0.44
61:SS:105:VAL:HG22	61:SS:243:GLY:H	1.82	0.44
61:SS:147:ILE:HG21	61:SS:169:ILE:HG23	2.00	0.44
76:SG:82:ASP:HA	77:SP:88:LYS:HE2	2.00	0.44
77:SP:85:ALA:HB1	77:SP:174:TRP:CD1	2.53	0.44
1:2:886:U:O2'	68:SZ:121:VAL:O	2.35	0.44
1:2:984:G:H1	1:2:1017:U:H3	1.66	0.44
1:2:1018:U:H2'	1:2:1019:A:C8	2.52	0.44
1:2:1240:U:O2'	1:2:1244:A:N6	2.50	0.44
1:2:1424:A:H2'	1:2:1425:A:H8	1.82	0.44
1:2:1512:G:H2'	1:2:1513:G:C8	2.52	0.44
2:A:679:U:H4'	2:A:787:G:N2	2.32	0.44
2:A:817:A:C8	38:l:15:SER:HB3	2.53	0.44
2:A:907:G:H4'	2:A:908:G:H5'	1.99	0.44
2:A:1485:G:H2'	2:A:1486:G:H8	1.82	0.44
2:A:1565:G:C5	2:A:1566:A:H1'	2.52	0.44
2:A:1627:U:H2'	2:A:1814:A:N6	2.33	0.44
2:A:1833:G:H5''	40:n:10:LYS:HD2	2.00	0.44
2:A:2382:G:OP2	17:Q:90[A]:HIS:NE2	2.41	0.44
2:A:2559:U:H5''	2:A:2561:A:H5'	1.99	0.44
2:A:3005:A:H5'	81:E:98:GLY:HA3	1.99	0.44
2:A:3160:U:H2'	2:A:3161:C:C6	2.52	0.44
3:B:49:G:OP1	7:G:90:HIS:ND1	2.45	0.44
27:a:35:LEU:HD23	27:a:39:LEU:HB3	1.98	0.44
31:e:77:LEU:HD12	31:e:77:LEU:HA	1.78	0.44
34:h:48:ARG:NH1	34:h:69:GLY:O	2.50	0.44
37:k:8:ALA:C	37:k:9:ILE:HD13	2.42	0.44
43:q:42:ARG:HH11	43:q:42:ARG:HG3	1.83	0.44
44:r:35:ALA:HB3	44:r:37:TYR:HE1	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:u:21:A:H61	45:u:46:G:H2'	1.82	0.44
46:v:382:TRP:O	46:v:386:ILE:HG12	2.18	0.44
46:v:547:TRP:O	46:v:550:LYS:HG3	2.18	0.44
46:v:673:PHE:HB3	46:v:683:ILE:HD11	1.97	0.44
46:v:964:ALA:HB3	46:v:971:THR:HB	2.00	0.44
47:x:208:THR:HA	47:x:341:HIS:CD2	2.52	0.44
50:SD:73:LYS:NZ	58:SN:111:GLU:H	2.16	0.44
61:SS:9:LEU:HG	61:SS:30:ARG:HB2	1.99	0.44
79:SL:49:ARG:HD2	79:SL:50:GLU:OE1	2.18	0.44
1:2:172:C:H2'	1:2:173:A:C8	2.52	0.44
1:2:400:A:H5''	64:SV:25:ARG:HA	1.99	0.44
1:2:1615:C:C4	80:SB:81:ARG:HA	2.53	0.44
1:2:1780:G:H2'	1:2:1781:A:C8	2.53	0.44
2:A:267:G:H21	16:P:50:ARG:HG3	1.82	0.44
2:A:411:U:H2'	2:A:412:G:C8	2.52	0.44
2:A:498:A:O2'	2:A:3273:A:N1	2.50	0.44
2:A:1689:U:OP1	20:T:64:ARG:NH1	2.51	0.44
2:A:2686:A:H2'	2:A:2687:G:O4'	2.18	0.44
2:A:2722:U:H2'	2:A:2723:U:H6	1.83	0.44
2:A:2900:A:H4'	11:K:174:LYS:HE2	2.00	0.44
9:I:122:ALA:O	9:I:126:LEU:HD13	2.17	0.44
11:K:8:GLN:OE1	11:K:69:ARG:NH1	2.51	0.44
11:K:100:ASN:OD1	47:x:168:GLN:NE2	2.51	0.44
17:Q:49[A]:ARG:C	17:Q:53[A]:LYS:HZ3	2.26	0.44
26:Z:133:LEU:HD12	26:Z:142:ILE:HD11	2.00	0.44
46:v:555:ARG:O	46:v:555:ARG:NE	2.39	0.44
46:v:750:THR:HG22	46:v:753:GLU:CD	2.42	0.44
46:v:938:LEU:HD22	46:v:945:VAL:HG21	1.99	0.44
47:x:367:ILE:HA	47:x:370:LYS:HD2	2.00	0.44
47:x:664:VAL:HG22	47:x:668:GLN:NE2	2.32	0.44
51:SE:35:LYS:HE2	51:SE:35:LYS:HB2	1.71	0.44
53:SH:66:LEU:H	53:SH:66:LEU:HD12	1.83	0.44
53:SH:68:ARG:O	53:SH:71:GLN:HG2	2.17	0.44
58:SN:98:VAL:O	58:SN:100:LEU:HG	2.18	0.44
61:SS:155:LYS:HD3	61:SS:155:LYS:HA	1.69	0.44
63:SR:111:VAL:HG22	63:SR:139:ILE:HD11	1.99	0.44
69:Sa:2:GLU:HG3	69:Sa:3:ASN:O	2.17	0.44
1:2:148:A:H61	62:ST:133:LEU:HD11	1.83	0.44
1:2:407:A:H1'	1:2:1671:A:C2	2.53	0.44
1:2:647:G:N2	1:2:687:G:H22	2.16	0.44
1:2:1393:C:H2'	1:2:1394:G:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:138:U:H2'	2:A:139:G:C8	2.50	0.44
2:A:710:A:H2'	2:A:711:A:C8	2.52	0.44
2:A:884:A:OP2	2:A:2139:A:N6	2.51	0.44
2:A:1107:C:H2'	2:A:1108:U:C6	2.53	0.44
2:A:1218:U:H2'	2:A:1219:C:C6	2.53	0.44
2:A:1477:A:OP1	2:A:3075:G:O2'	2.34	0.44
2:A:1659:U:H2'	2:A:1660:C:C6	2.53	0.44
2:A:2901:G:O3'	11:K:170:LYS:NZ	2.51	0.44
3:B:70:U:H2'	3:B:71:G:C8	2.53	0.44
4:C:24:G:OP2	27:a:13:ARG:NH1	2.42	0.44
7:G:182:GLY:HA2	7:G:194:LEU:HD23	1.99	0.44
18:R:112:LEU:HD22	18:R:150:VAL:HG12	1.99	0.44
19:S:122:ILE:HD12	19:S:126:GLN:HB2	2.00	0.44
27:a:48:LEU:HD23	27:a:49:PRO:HD2	2.00	0.44
28:b:121:ARG:NH1	28:b:126:LYS:O	2.51	0.44
32:f:77:ARG:HD3	32:f:89:LEU:HG	1.99	0.44
34:h:73:ARG:CZ	34:h:82:ARG:HH22	2.31	0.44
46:v:297:PHE:O	53:SH:80:LYS:NZ	2.50	0.44
46:v:493:TYR:CE2	46:v:496:HIS:HB3	2.53	0.44
46:v:568:GLU:OE1	46:v:597:HIS:ND1	2.36	0.44
47:x:15:LYS:HD3	47:x:18:ASN:HB2	1.98	0.44
47:x:90:LYS:HA	47:x:90:LYS:HD3	1.73	0.44
49:SC:3:MET:SD	49:SC:8:ARG:NH2	2.91	0.44
52:SF:102:LYS:HE2	59:SO:279:ALA:CA	2.47	0.44
59:SO:69:GLN:N	59:SO:83:ALA:O	2.40	0.44
64:SV:140:GLU:HA	64:SV:143:TRP:HB2	1.99	0.44
72:Sd:9:THR:HG23	72:Sd:25:VAL:HG12	2.00	0.44
72:Sd:34:ASN:N	72:Sd:34:ASN:ND2	2.66	0.44
80:SB:188:LYS:H	80:SB:188:LYS:HD3	1.82	0.44
1:2:176:C:H2'	1:2:177:U:O4'	2.18	0.44
1:2:1278:G:H2'	1:2:1279:C:H6	1.82	0.44
1:2:1657:U:H4'	1:2:1658:G:O5'	2.17	0.44
2:A:1863:G:H4'	20:T:82:LYS:HD3	2.00	0.44
2:A:2158:A:C8	2:A:2160:G:C4	3.06	0.44
2:A:2354:C:H2'	2:A:2355:G:C8	2.52	0.44
2:A:2556:C:H2'	2:A:2557:A:C4	2.52	0.44
2:A:3193:C:H2'	2:A:3194:C:H6	1.83	0.44
4:C:27:U:H2'	4:C:28:C:C6	2.52	0.44
6:F:326:ARG:HA	9:I:41:ARG:HH12	1.82	0.44
11:K:34:LEU:HD11	11:K:78:MET:HG3	1.99	0.44
11:K:176:LEU:HD12	41:o:86:ALA:HB1	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:123:THR:OG1	19:S:125:ASP:OD1	2.31	0.44
23:W:36:TYR:O	23:W:40:HIS:CB	2.66	0.44
31:e:45:ALA:O	31:e:53:LYS:NZ	2.51	0.44
34:h:19:SER:HB2	34:h:22:VAL:HG22	2.00	0.44
35:i:52:GLN:OE1	35:i:53:GLY:N	2.51	0.44
48:SA:211:PRO:HD3	76:SG:20:TYR:OH	2.18	0.44
60:SQ:107:THR:HA	60:SQ:110:LEU:HG	2.00	0.44
72:Sd:111:LYS:HD3	72:Sd:111:LYS:HA	1.66	0.44
78:SU:46:ILE:HD11	78:SU:58:LEU:HD21	1.99	0.44
81:E:232:ARG:NH1	81:E:266:ARG:O	2.50	0.44
1:2:175:G:H21	1:2:176:C:H41	1.66	0.44
1:2:925:G:H2'	1:2:926:A:C8	2.48	0.44
1:2:1383:G:H2'	1:2:1384:A:C8	2.52	0.44
1:2:1550:A:H2'	1:2:1551:U:H6	1.83	0.44
1:2:1796:C:C5	73:Se:92:ARG:HB3	2.53	0.44
2:A:531:G:H2'	2:A:532:A:C8	2.52	0.44
2:A:747:A:H2'	2:A:748:U:C6	2.53	0.44
2:A:801:A:OP1	29:c:27:LYS:NZ	2.51	0.44
2:A:1194:G:H2'	2:A:1195:A:C8	2.53	0.44
2:A:1215:U:C4	2:A:1216:C:C4	3.06	0.44
2:A:1461:A:H2'	2:A:1462:A:H8	1.82	0.44
2:A:3200:G:OP2	15:O:8:LYS:NZ	2.45	0.44
3:B:45:A:H2'	3:B:46:A:C8	2.53	0.44
3:B:58:C:H2'	3:B:59:U:C6	2.53	0.44
17:Q:72[A]:HIS:O	17:Q:74[A]:ARG:NH1	2.50	0.44
18:R:94:LEU:HB3	18:R:148:LEU:HD21	1.98	0.44
18:R:117:ILE:HD13	18:R:117:ILE:HA	1.85	0.44
19:S:148:GLU:H	19:S:148:GLU:CD	2.24	0.44
25:Y:99:GLU:O	25:Y:103:ALA:HB3	2.18	0.44
46:v:148:ILE:O	46:v:152:ILE:HG13	2.17	0.44
46:v:866:PHE:HA	46:v:913:ARG:HH21	1.82	0.44
47:x:119:LEU:HA	47:x:122:THR:HG22	2.00	0.44
47:x:326:LYS:HB3	47:x:326:LYS:HE2	1.80	0.44
47:x:335:LEU:O	47:x:339:VAL:HG22	2.18	0.44
47:x:619:MET:O	47:x:623:TYR:HB2	2.18	0.44
52:SF:93:HIS:HA	52:SF:97:VAL:HG12	2.00	0.44
54:SI:18:TYR:O	54:SI:22:LEU:HG	2.18	0.44
57:SM:31:ILE:HG22	57:SM:33:LYS:HG2	2.00	0.44
64:SV:101:ILE:HG12	64:SV:192:TYR:HD2	1.83	0.44
64:SV:184:LEU:HD22	64:SV:184:LEU:H	1.83	0.44
65:SW:58:ASP:O	65:SW:61:THR:OG1	2.36	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:SL:44:VAL:HA	80:SB:161:ASP:O	2.18	0.44
80:SB:51:VAL:HA	80:SB:131:GLN:HA	2.00	0.44
1:2:208:U:H2'	1:2:209:U:C6	2.53	0.43
1:2:385:A:H2'	1:2:386:G:C8	2.53	0.43
1:2:1152:A:H4'	73:Se:85:ARG:NH1	2.32	0.43
2:A:255:A:H2'	2:A:256:G:C8	2.52	0.43
2:A:565:U:H2'	2:A:566:G:C8	2.53	0.43
2:A:632:G:H2'	2:A:633:C:C6	2.52	0.43
2:A:772:U:H2'	2:A:773:G:H8	1.83	0.43
2:A:946:U:H2'	2:A:947:G:H8	1.82	0.43
2:A:1077:U:H2'	2:A:1078:U:H6	1.83	0.43
2:A:1298:C:H2'	2:A:1299:U:C6	2.53	0.43
2:A:1370:G:H2'	2:A:1371:G:C8	2.52	0.43
2:A:1778:G:O2'	2:A:1780:G:OP2	2.35	0.43
2:A:1945:A:H2'	2:A:1946:A:C8	2.53	0.43
2:A:2189:U:H2'	2:A:2190:U:C6	2.53	0.43
2:A:2219:A:H2'	2:A:2220:A:H8	1.83	0.43
2:A:3072:C:H2'	2:A:3073:A:O4'	2.17	0.43
2:A:3170:A:N7	34:h:56:SER:HB3	2.32	0.43
2:A:3231:U:H2'	2:A:3232:G:C8	2.53	0.43
2:A:3243:A:C5	17:Q:156[A]:LEU:HD23	2.53	0.43
4:C:23:U:OP1	27:a:16:ARG:NH2	2.44	0.43
7:G:33:ARG:HE	7:G:37:VAL:HG11	1.83	0.43
7:G:60:ILE:HB	7:G:80:SER:HB3	2.00	0.43
8:H:172:HIS:NE2	34:h:40:ASP:OD2	2.49	0.43
9:I:36:ALA:O	9:I:39:GLU:HG3	2.17	0.43
10:J:139:VAL:HG21	10:J:197:VAL:HG21	1.99	0.43
17:Q:25[A]:LYS:HD2	17:Q:25[A]:LYS:HA	1.78	0.43
20:T:151:ARG:HH12	20:T:155:LEU:HD23	1.83	0.43
21:U:4:PHE:N	21:U:4:PHE:CD1	2.85	0.43
22:V:14:MET:HE1	22:V:58:GLN:NE2	2.33	0.43
22:V:54:HIS:HB3	22:V:57:TYR:CD2	2.53	0.43
22:V:104:GLU:HA	22:V:107:GLU:OE1	2.18	0.43
28:b:42:LEU:HD22	28:b:101:PHE:HE2	1.83	0.43
29:c:16:SER:OG	29:c:20:GLY:N	2.51	0.43
46:v:739:ALA:HB1	46:v:743:ILE:HG13	1.99	0.43
48:SA:123:VAL:HA	48:SA:134:CYS:SG	2.58	0.43
50:SD:80:ASN:ND2	50:SD:88:LEU:HD23	2.33	0.43
55:SJ:52:LYS:HB2	55:SJ:52:LYS:HE2	1.77	0.43
59:SO:261:LYS:NZ	59:SO:275:ARG:HH12	2.16	0.43
77:SP:63:ILE:HD12	77:SP:63:ILE:HA	1.80	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:139:C:H4'	1:2:140:A:O5'	2.18	0.43
1:2:338:C:OP2	64:SV:7:SER:OG	2.34	0.43
1:2:691:C:H2'	1:2:692:C:C6	2.52	0.43
1:2:1231:U:H2'	1:2:1232:U:C6	2.53	0.43
1:2:1494:C:H2'	1:2:1495:C:C6	2.52	0.43
1:2:1542:G:H22	1:2:1568:C:H1'	1.83	0.43
2:A:164:A:N1	2:A:258:G:C6	2.87	0.43
2:A:503:C:P	8:H:26:ARG:HH21	2.41	0.43
2:A:560:G:OP1	15:O:83:LYS:NZ	2.51	0.43
2:A:1104:G:P	2:A:1104:G:H8	2.41	0.43
2:A:1725:C:H5'	44:r:36:ARG:HH12	1.83	0.43
2:A:1733:G:H2'	2:A:1734:G:C8	2.53	0.43
2:A:1791:C:H2'	2:A:1792:C:C6	2.53	0.43
2:A:2368:A:H2'	2:A:2369:G:C8	2.53	0.43
2:A:2662:G:H2'	2:A:2663:G:C8	2.51	0.43
2:A:3007:U:H2'	2:A:3008:A:C8	2.53	0.43
2:A:3190:C:H2'	2:A:3191:G:C8	2.53	0.43
7:G:63:GLN:C	7:G:64:ILE:HD13	2.43	0.43
11:K:69:ARG:HG3	11:K:72:LYS:HE3	2.01	0.43
12:L:110:ARG:HD2	12:L:110:ARG:HA	1.76	0.43
13:M:16:LYS:HG2	13:M:130:VAL:HG22	2.00	0.43
13:M:41:SER:HB2	13:M:75:LYS:HD2	2.00	0.43
16:P:65:ARG:HD2	16:P:127:TYR:CD2	2.53	0.43
16:P:100:ALA:O	16:P:103:GLU:HG2	2.19	0.43
26:Z:58:ASP:H	26:Z:61:LYS:HB2	1.84	0.43
27:a:39:LEU:HD21	27:a:107:THR:O	2.17	0.43
28:b:16:GLY:O	35:i:74:ARG:HG3	2.18	0.43
32:f:13:THR:HG22	32:f:72:ARG:HD2	2.01	0.43
43:q:6:LYS:HA	43:q:25:VAL:HB	2.00	0.43
46:v:16:LYS:O	46:v:65:ASN:ND2	2.51	0.43
46:v:26:HIS:CD2	46:v:27:GLU:HG2	2.53	0.43
46:v:875:GLU:OE2	46:v:889:SER:OG	2.34	0.43
47:x:412:ARG:HE	47:x:426:LEU:HD11	1.82	0.43
50:SD:52:LEU:HD21	50:SD:122:VAL:HG21	1.99	0.43
59:SO:177:MET:HG3	59:SO:179:LYS:HE3	1.99	0.43
59:SO:261:LYS:HZ1	59:SO:275:ARG:HH22	1.65	0.43
65:SW:80:LEU:HB3	65:SW:86:LEU:HD23	2.00	0.43
81:E:178:LEU:HD12	81:E:178:LEU:HA	1.86	0.43
1:2:17:C:H2'	1:2:18:C:C6	2.54	0.43
1:2:151:G:O6	1:2:164:A:N6	2.51	0.43
1:2:311:U:OP1	71:Sc:24:TRP:NE1	2.45	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:891:A:H2'	1:2:892:A:H8	1.83	0.43
1:2:1232:U:H2'	1:2:1233:G:C8	2.54	0.43
1:2:1280:C:O2'	55:SJ:70:THR:HB	2.18	0.43
1:2:1320:U:OP2	77:SP:101:ARG:CZ	2.66	0.43
1:2:1323:C:C4'	77:SP:112:THR:CG2	2.95	0.43
1:2:1430:U:O2'	1:2:1431:C:OP1	2.27	0.43
1:2:1584:G:H1'	1:2:1585:U:H5	1.83	0.43
2:A:399:A:O2'	2:A:403:C:O2'	2.26	0.43
2:A:546:C:C5	2:A:547:G:H1'	2.53	0.43
2:A:785:G:N2	2:A:786:A:H62	2.16	0.43
2:A:1094:U:OP1	22:V:116:ARG:NH2	2.50	0.43
2:A:2328:U:H2'	2:A:2329:C:H6	1.83	0.43
2:A:2602:G:H2'	2:A:2603:G:H8	1.83	0.43
2:A:3162:C:H2'	2:A:3163:A:H8	1.84	0.43
6:F:87:GLN:N	6:F:87:GLN:OE1	2.51	0.43
6:F:237:GLN:HA	6:F:240:PRO:HG3	1.99	0.43
18:R:24:VAL:HG21	18:R:90:PHE:HD2	1.82	0.43
25:Y:23:ARG:NH1	25:Y:27:LYS:HE3	2.33	0.43
36:j:58:ILE:HD12	36:j:58:ILE:H	1.83	0.43
42:p:2:ARG:HG2	42:p:3:ALA:H	1.82	0.43
46:v:358:LYS:HE2	46:v:358:LYS:HA	2.00	0.43
70:Sb:112:ASP:C	70:Sb:112:ASP:OD1	2.61	0.43
72:Sd:14:SER:HA	72:Sd:21:LYS:HD2	2.00	0.43
76:SG:90:ALA:O	76:SG:91:LEU:HG	2.18	0.43
79:SL:43:ASN:OD1	79:SL:63:ALA:HB3	2.19	0.43
81:E:81:THR:O	81:E:81:THR:OG1	2.28	0.43
1:2:748:U:H2'	1:2:749:U:C6	2.53	0.43
1:2:896:U:H2'	1:2:897:C:C2	2.52	0.43
1:2:1421:A:H4'	48:SA:160:SER:HB3	2.00	0.43
1:2:1588:G:H1	1:2:1608:U:H3	1.64	0.43
1:2:1603:U:H2'	1:2:1604:U:C6	2.54	0.43
1:2:1610:G:O6	52:SF:14:LYS:NZ	2.51	0.43
1:2:1741:U:H2'	1:2:1742:U:C6	2.54	0.43
1:2:1785:U:H2'	1:2:1786:G:H8	1.83	0.43
2:A:26:A:N3	2:A:328:U:O2'	2.46	0.43
2:A:201:A:OP1	2:A:220:G:O2'	2.34	0.43
2:A:506:U:P	6:F:316:ASN:HD22	2.41	0.43
2:A:563:U:H2'	2:A:564:G:H8	1.82	0.43
2:A:628:A:H2'	2:A:629:U:C6	2.53	0.43
2:A:647:A:OP2	2:A:647:A:H8	2.02	0.43
2:A:901:G:OP1	38:l:13:ASN:ND2	2.37	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1940:G:H2'	2:A:1941:C:C6	2.54	0.43
2:A:2583:C:H2'	2:A:2584:G:H8	1.83	0.43
2:A:2609:A:H2'	2:A:2610:G:H8	1.82	0.43
8:H:2:THR:OG1	8:H:4:GLN:O	2.31	0.43
12:L:50:VAL:HG11	12:L:149:VAL:HG12	2.00	0.43
19:S:93:ILE:HD12	19:S:93:ILE:HA	1.87	0.43
23:W:94:ARG:HB2	23:W:108:TYR:HE2	1.83	0.43
28:b:38:PHE:CE2	28:b:40:HIS:HB3	2.53	0.43
32:f:16:LEU:N	32:f:69:TYR:O	2.46	0.43
35:i:33:GLN:OE1	35:i:34:HIS:N	2.52	0.43
45:t:33:U:H3	45:t:35:A:H3'	1.84	0.43
45:t:34:C:N3	45:t:35:A:N6	2.67	0.43
46:v:377:ILE:HA	46:v:411:VAL:HG21	1.99	0.43
47:x:281:ILE:HA	47:x:284:LEU:CD2	2.47	0.43
56:SK:88:ILE:CD1	56:SK:89:ILE:HG13	2.48	0.43
57:SM:36:LEU:HD23	57:SM:36:LEU:HA	1.82	0.43
58:SN:126:CYS:SG	58:SN:144:CYS:HB3	2.58	0.43
61:SS:37:LYS:HE2	61:SS:37:LYS:HB2	1.81	0.43
62:ST:4:ASN:O	62:ST:111:LEU:HB3	2.18	0.43
1:2:13:C:H5''	63:SR:206:THR:HG21	2.00	0.43
1:2:298:C:O2'	61:SS:30:ARG:NH2	2.51	0.43
1:2:521:A:H2'	1:2:522:U:C6	2.53	0.43
1:2:888:U:H2'	1:2:889:U:H6	1.83	0.43
1:2:1183:A:O2'	1:2:1184:A:O4'	2.35	0.43
1:2:1450:U:H2'	1:2:1451:C:C6	2.52	0.43
1:2:1467:C:H2'	1:2:1468:U:C6	2.53	0.43
1:2:1534:G:OP2	56:SK:74:SER:OG	2.23	0.43
1:2:1680:G:O2'	1:2:1681:A:O4'	2.35	0.43
1:2:1789:G:H2'	1:2:1790:A:H8	1.83	0.43
2:A:258:G:C2	2:A:259:C:C5	3.06	0.43
2:A:272:G:H2'	2:A:273:A:H8	1.83	0.43
2:A:738:A:H2'	2:A:739:G:C8	2.53	0.43
2:A:847:A:O2'	2:A:848:A:H8	2.01	0.43
2:A:931:C:OP2	2:A:932:U:O2'	2.29	0.43
2:A:1112:A:H2	2:A:1369:A:C2	2.36	0.43
2:A:1203:A:H2'	2:A:1204:A:C8	2.54	0.43
2:A:1260:A:O2'	2:A:1261:G:O4'	2.22	0.43
2:A:1596:C:H2'	2:A:1597:C:H6	1.83	0.43
2:A:1717:U:H2'	2:A:1718:G:C8	2.54	0.43
2:A:1869:C:H2'	2:A:1870:C:C6	2.52	0.43
2:A:2335:G:H22	2:A:2339:C:H1'	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:2368:A:H2'	2:A:2369:G:H8	1.83	0.43
2:A:2697:A:H2'	2:A:2698:G:C8	2.52	0.43
2:A:2922:G:H21	2:A:2952:G:N2	2.16	0.43
2:A:3181:C:OP2	17:Q:171[A]:LYS:NZ	2.44	0.43
3:B:68:C:H2'	3:B:69:C:C6	2.53	0.43
4:C:11:C:H2'	4:C:12:A:H8	1.83	0.43
5:D:88:ILE:HD11	5:D:99:GLY:C	2.44	0.43
11:K:120:ASP:OD1	11:K:120:ASP:C	2.62	0.43
19:S:21:SER:OG	19:S:22:ASP:N	2.52	0.43
22:V:39:ILE:HD13	22:V:39:ILE:HA	1.85	0.43
25:Y:32:GLN:NE2	25:Y:33:ASN:HD22	2.17	0.43
27:a:27:ARG:O	27:a:31:LEU:HB2	2.18	0.43
32:f:54:GLU:OE1	32:f:54:GLU:N	2.28	0.43
47:x:601:ILE:HG22	47:x:606:ILE:HD13	2.00	0.43
50:SD:45:LEU:O	50:SD:49:THR:OG1	2.32	0.43
54:SI:65:ILE:HG22	54:SI:124:ILE:HG13	2.00	0.43
59:SO:260:ILE:HD13	59:SO:313:TRP:CE2	2.54	0.43
60:SQ:82:ARG:HD2	60:SQ:103:MET:SD	2.58	0.43
60:SQ:174:LYS:HD2	60:SQ:174:LYS:HA	1.87	0.43
64:SV:169:ILE:HD12	64:SV:169:ILE:HA	1.84	0.43
76:SG:61:ILE:HD12	76:SG:61:ILE:HA	1.89	0.43
79:SL:12:VAL:HG13	79:SL:52:ASP:H	1.84	0.43
80:SB:44:ASN:HB2	80:SB:45:LYS:NZ	2.32	0.43
81:E:20:LYS:HB3	81:E:20:LYS:HE2	1.85	0.43
81:E:47:LEU:HD11	81:E:179:ALA:HB3	2.00	0.43
1:2:93:A:H61	1:2:396:G:H1'	1.83	0.43
1:2:552:G:H2'	1:2:553:G:C8	2.52	0.43
1:2:1615:C:C5	80:SB:81:ARG:HA	2.54	0.43
1:2:1626:U:H2'	1:2:1627:U:H6	1.82	0.43
1:2:1782:A:P	42:p:9:ARG:HH22	2.41	0.43
2:A:47:C:H5''	14:N:16:LYS:HG3	2.00	0.43
2:A:561:C:H2'	2:A:562:C:H6	1.84	0.43
2:A:673:U:H2'	2:A:674:G:H8	1.82	0.43
2:A:950:G:OP1	19:S:8:LYS:NZ	2.22	0.43
2:A:1187:C:H2'	2:A:1188:U:C6	2.53	0.43
2:A:1191:U:OP2	17:Q:49[A]:ARG:NE	2.51	0.43
2:A:1350:A:C8	2:A:1351:U:H5	2.37	0.43
2:A:2709:C:H2'	2:A:2710:C:C6	2.54	0.43
3:B:118:A:H5''	7:G:253:PHE:CZ	2.54	0.43
4:C:43:A:H2'	4:C:44:A:H8	1.83	0.43
9:I:178:ILE:HG23	9:I:183:ASP:HB2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:100:ASN:HD22	11:K:115:ARG:HD2	1.82	0.43
12:L:25:ALA:HA	45:t:64:A:H4'	2.00	0.43
14:N:53:LEU:HD23	14:N:94:GLY:HA2	2.01	0.43
16:P:96:ARG:HG2	16:P:100:ALA:HB3	2.00	0.43
17:Q:116[A]:LYS:NZ	21:U:165:TYR:O	2.44	0.43
19:S:113:LYS:HA	19:S:116:LYS:HG2	2.01	0.43
28:b:80:LEU:HD23	28:b:80:LEU:HA	1.83	0.43
41:o:110:CYS:SG	41:o:111:ARG:N	2.91	0.43
45:t:69:C:H2'	45:t:70:G:C8	2.53	0.43
46:v:269:ILE:HG23	46:v:285:PHE:CE2	2.54	0.43
47:x:419:VAL:HG23	47:x:421:GLY:H	1.84	0.43
53:SH:16:ARG:HA	53:SH:16:ARG:HD2	1.75	0.43
53:SH:22:VAL:HG23	53:SH:34:THR:OG1	2.18	0.43
53:SH:119:ILE:O	53:SH:120:ARG:HG2	2.18	0.43
54:SI:25:GLN:NE2	54:SI:27:LYS:H	2.16	0.43
54:SI:100:ILE:HG13	54:SI:101:ASN:N	2.34	0.43
59:SO:222:LEU:C	59:SO:222:LEU:HD23	2.43	0.43
60:SQ:66:VAL:O	60:SQ:86:LEU:N	2.52	0.43
61:SS:212:ASP:OD1	61:SS:213:SER:N	2.48	0.43
76:SG:104:ASN:OD1	76:SG:105:GLN:N	2.51	0.43
80:SB:206:SER:O	80:SB:212:LYS:HD3	2.19	0.43
81:E:111:SER:OG	81:E:113:GLU:OE1	2.34	0.43
1:2:523:G:OP2	72:Sd:37:LYS:NZ	2.46	0.43
1:2:606:A:H1'	1:2:609:U:OP1	2.19	0.43
1:2:866:G:H5''	67:SY:2:GLY:HA3	2.00	0.43
1:2:922:G:H2'	1:2:923:A:C8	2.54	0.43
1:2:1081:A:H1'	1:2:1082:C:H5	1.83	0.43
1:2:1164:G:H2'	1:2:1165:G:H8	1.82	0.43
1:2:1289:U:H3	1:2:1326:A:N6	2.05	0.43
1:2:1292:G:N3	1:2:1292:G:H2'	2.34	0.43
1:2:1649:G:H2'	1:2:1650:U:C6	2.54	0.43
1:2:1694:A:N3	1:2:1694:A:H2'	2.33	0.43
1:2:1699:G:H8	1:2:1702:A:H62	1.67	0.43
2:A:320:G:HO2'	16:P:150:TRP:HZ3	1.66	0.43
2:A:693:A:H2'	2:A:694:C:H6	1.84	0.43
2:A:798:G:OP1	29:c:32:ARG:HD3	2.19	0.43
2:A:817:A:H2'	2:A:920:A:N1	2.34	0.43
2:A:1529:A:OP2	2:A:1592:G:N2	2.51	0.43
2:A:1532:C:H2'	2:A:1533:U:C6	2.54	0.43
2:A:2155:G:H2'	2:A:2156:C:C6	2.54	0.43
2:A:2203:U:H2'	2:A:2204:C:C6	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:2575:G:H2'	2:A:2576:G:H8	1.83	0.43
2:A:2635:A:H4'	2:A:2636:A:N3	2.34	0.43
2:A:2826:U:O4	2:A:2863:G:O6	2.37	0.43
2:A:3215:A:C2	8:H:157:GLN:HB3	2.54	0.43
2:A:3375:A:O2'	2:A:3378:C:OP2	2.25	0.43
4:C:77:A:H8	4:C:77:A:O5'	2.01	0.43
6:F:74:ILE:HD12	6:F:75:PRO:CD	2.47	0.43
10:J:33:ASN:OD1	10:J:38:GLN:HB2	2.19	0.43
16:P:153:ASP:OD1	16:P:155:VAL:HG12	2.18	0.43
21:U:50:LYS:HE2	21:U:50:LYS:HB3	1.80	0.43
45:u:35:A:H2'	45:u:36:U:C6	2.53	0.43
47:x:508:LEU:HD13	47:x:520:THR:HG21	2.00	0.43
47:x:804:LEU:HG	47:x:806:SER:H	1.82	0.43
52:SF:59:LYS:NZ	52:SF:101:SER:OG	2.50	0.43
53:SH:38:VAL:HG22	53:SH:42:TYR:CD2	2.53	0.43
59:SO:297:ASP:OD1	59:SO:297:ASP:N	2.51	0.43
60:SQ:187:LYS:HG3	60:SQ:193:ILE:HD11	2.00	0.43
76:SG:107:SER:C	76:SG:111:LYS:HZ2	2.26	0.43
77:SP:122:ILE:N	77:SP:122:ILE:HD12	2.34	0.43
80:SB:42:LEU:HD12	80:SB:43:PHE:O	2.18	0.43
1:2:1429:G:H2'	1:2:1430:U:C6	2.53	0.43
1:2:1433:G:H2'	1:2:1434:U:C6	2.53	0.43
1:2:1486:G:H2'	1:2:1487:A:C8	2.54	0.43
1:2:1797:A:H62	73:Se:84:VAL:HG13	1.84	0.43
2:A:809:G:H2'	2:A:810:A:H8	1.81	0.43
2:A:987:U:H2'	2:A:988:U:C6	2.54	0.43
2:A:1370:G:H2'	2:A:1371:G:H8	1.84	0.43
2:A:1791:C:OP1	44:r:34:HIS:NE2	2.52	0.43
2:A:1851:G:H2'	2:A:1852:G:C8	2.53	0.43
2:A:2340:U:H2'	2:A:2341:A:C8	2.53	0.43
2:A:2356:A:N3	18:R:131:ARG:NH2	2.67	0.43
2:A:2585:G:C2	4:C:151:C:C5	3.06	0.43
2:A:2684:C:H2'	2:A:2685:C:H6	1.83	0.43
2:A:3107:U:H2'	2:A:3108:G:H8	1.83	0.43
2:A:3193:C:H2'	2:A:3194:C:C6	2.54	0.43
2:A:3234:A:N1	2:A:3253:G:N2	2.48	0.43
3:B:112:G:H2'	3:B:113:C:C6	2.53	0.43
4:C:143:U:H2'	4:C:144:G:H8	1.84	0.43
13:M:131:MET:HG3	13:M:159:THR:OG1	2.19	0.43
14:N:181:GLY:O	14:N:184:GLU:HG3	2.18	0.43
18:R:41:LEU:HD23	18:R:112:LEU:HB3	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:54:LEU:HB3	19:S:59:ARG:HG3	2.00	0.43
20:T:143:ILE:HD13	20:T:143:ILE:HA	1.93	0.43
23:W:85:LYS:HG2	23:W:90:ARG:HG3	2.00	0.43
31:e:100:ILE:HG23	31:e:104:LEU:HD22	2.01	0.43
32:f:102:LYS:NZ	32:f:102:LYS:HB3	2.33	0.43
46:v:139:THR:CG2	46:v:144:GLU:HB3	2.48	0.43
46:v:531:PHE:HA	46:v:535:MET:HB3	2.01	0.43
47:x:13:MET:HA	47:x:449:PRO:HG3	2.00	0.43
47:x:505:VAL:HA	47:x:508:LEU:HG	2.01	0.43
47:x:824:LYS:HA	47:x:824:LYS:HD2	1.67	0.43
52:SF:143:ARG:HD3	52:SF:143:ARG:HA	1.83	0.43
59:SO:217:ASP:N	59:SO:217:ASP:OD1	2.51	0.43
60:SQ:46:THR:OG1	60:SQ:47:LEU:N	2.52	0.43
60:SQ:110:LEU:O	60:SQ:114:VAL:HG22	2.19	0.43
62:ST:115:LYS:HD2	62:ST:115:LYS:HA	1.78	0.43
64:SV:21:PHE:CD2	64:SV:22:ARG:HG3	2.53	0.43
67:SY:63:ALA:HB3	67:SY:71:ILE:HG22	2.00	0.43
67:SY:70:LYS:HD3	67:SY:70:LYS:HA	1.76	0.43
68:SZ:27:PHE:HZ	68:SZ:41:ARG:HG2	1.84	0.43
70:Sb:52:TYR:HB3	78:SU:142:TYR:HE1	1.83	0.43
80:SB:144:GLU:HA	80:SB:162:VAL:HG13	2.01	0.43
1:2:76:A:N3	1:2:80:A:N6	2.67	0.43
1:2:382:C:H2'	1:2:383:G:H8	1.81	0.43
1:2:522:U:O2'	72:Sd:60:PHE:O	2.37	0.43
1:2:1404:C:H2'	1:2:1405:G:C8	2.54	0.43
1:2:1512:G:H2'	1:2:1513:G:H8	1.83	0.43
2:A:609:G:H8	6:F:310:THR:HG23	1.84	0.43
2:A:903:U:H2'	2:A:904:A:C8	2.54	0.43
2:A:1391:C:HO2'	33:g:101:SER:HG	1.63	0.43
2:A:1900:A:N6	2:A:1908:A:H61	2.16	0.43
2:A:3138:U:H2'	2:A:3139:A:C8	2.53	0.43
2:A:3201:C:H2'	2:A:3202:G:H8	1.84	0.43
5:D:79:ASN:HA	5:D:169:ILE:HA	2.01	0.43
16:P:68:ARG:HG2	16:P:128:LYS:HG3	2.01	0.43
22:V:108:ARG:HH11	22:V:130:ARG:HD3	1.84	0.43
24:X:66:LYS:HE3	24:X:66:LYS:HA	2.01	0.43
24:X:88:ARG:HB3	81:E:72:VAL:HG23	2.00	0.43
32:f:54:GLU:H	32:f:54:GLU:CD	2.22	0.43
43:q:46:LYS:HD3	43:q:54:THR:HG21	2.00	0.43
46:v:25:ARG:HG2	46:v:29:ALA:HB2	2.01	0.43
46:v:775:ILE:HD12	46:v:777:GLU:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:x:307:LEU:HA	47:x:326:LYS:HD3	2.01	0.43
47:x:503:LYS:O	47:x:506:GLU:HG2	2.19	0.43
48:SA:69:LEU:HD13	48:SA:72:LEU:HD23	2.01	0.43
51:SE:111:MET:SD	51:SE:114:HIS:ND1	2.91	0.43
53:SH:45:LEU:HD12	53:SH:45:LEU:HA	1.84	0.43
59:SO:307:ASP:OD1	59:SO:307:ASP:N	2.40	0.43
65:SW:123:HIS:HE2	75:Sg:37:ARG:HB2	1.84	0.43
80:SB:132:VAL:HG23	80:SB:198:LEU:CD1	2.49	0.43
80:SB:159:ALA:H	80:SB:224:ASN:HB2	1.82	0.43
81:E:340:LYS:HE2	81:E:340:LYS:HB3	1.76	0.43
1:2:863:A:N7	1:2:964:U:O4	2.52	0.43
1:2:946:U:H5'	60:SQ:165:ARG:HH22	1.84	0.43
1:2:992:A:N3	1:2:992:A:H5'	2.34	0.43
1:2:1176:G:H2'	1:2:1177:C:H6	1.83	0.43
1:2:1262:U:H2'	1:2:1263:G:C8	2.54	0.43
1:2:1410:A:H2'	1:2:1411:A:C4	2.54	0.43
1:2:1501:C:H2'	1:2:1502:G:H8	1.84	0.43
1:2:1561:U:H2'	1:2:1562:G:H8	1.84	0.43
1:2:1608:U:H2'	1:2:1609:U:H6	1.83	0.43
1:2:1624:C:H2'	1:2:1625:C:C6	2.54	0.43
2:A:8:C:H2'	2:A:9:U:H6	1.83	0.43
2:A:263:C:H2'	2:A:264:G:O4'	2.19	0.43
2:A:515:C:H2'	2:A:516:A:C8	2.54	0.43
2:A:901:G:H2'	2:A:902:G:C8	2.54	0.43
2:A:1779:C:H1'	20:T:93:VAL:HG21	2.00	0.43
2:A:3131:U:H2'	2:A:3132:C:C6	2.54	0.43
2:A:3375:A:N6	81:E:365:PHE:HE2	2.16	0.43
7:G:274:GLN:NE2	7:G:275:THR:O	2.52	0.43
10:J:92:LYS:HG2	10:J:93:LEU:N	2.34	0.43
11:K:63:LYS:HD3	11:K:63:LYS:HA	1.87	0.43
17:Q:141[A]:LEU:O	17:Q:145[A]:VAL:HG12	2.19	0.43
20:T:52:LYS:HE3	20:T:52:LYS:HB3	1.76	0.43
27:a:3:LYS:HZ3	27:a:9:SER:HA	1.84	0.43
36:j:77:PRO:HB2	36:j:80:LEU:HD23	1.99	0.43
38:l:17:THR:O	38:l:27:PHE:HB3	2.19	0.43
43:q:24:LYS:N	43:q:73:GLU:O	2.35	0.43
44:r:14:TYR:HB3	44:r:18:TYR:CD2	2.53	0.43
45:t:3:C:H2'	45:t:4:G:C8	2.54	0.43
45:t:15:G:N1	45:t:48:C:N3	2.64	0.43
46:v:711:ASN:HB3	46:v:717:LEU:HD13	2.00	0.43
47:x:658:GLU:CD	47:x:700:ARG:HH21	2.24	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:SF:66:ARG:HA	52:SF:66:ARG:NE	2.34	0.43
52:SF:139:GLN:NE2	52:SF:140:LYS:O	2.50	0.43
56:SK:43:ASP:OD1	56:SK:45:GLU:HG3	2.19	0.43
59:SO:259:GLY:HA3	59:SO:275:ARG:CG	2.48	0.43
63:SR:116:LYS:NZ	63:SR:117:THR:H	2.16	0.43
68:SZ:111:ARG:HG2	73:Se:58:VAL:HG22	2.00	0.43
76:SG:108:ASP:OD1	76:SG:108:ASP:N	2.51	0.43
77:SP:148:ASP:O	77:SP:151:SER:OG	2.32	0.43
79:SL:58:GLU:OE1	79:SL:61:ARG:N	2.52	0.43
1:2:736:C:H2'	1:2:737:A:C8	2.54	0.42
1:2:772:G:H21	1:2:774:A:H1'	1.83	0.42
1:2:1334:U:H2'	1:2:1335:U:H6	1.84	0.42
1:2:1451:C:OP2	57:SM:12:ARG:NH2	2.52	0.42
2:A:250:U:H3'	2:A:251:G:H8	1.84	0.42
2:A:276:U:H2'	2:A:277:G:H8	1.83	0.42
2:A:286:U:O2'	16:P:179:LYS:O	2.36	0.42
2:A:433:A:OP2	34:h:57:LYS:NZ	2.52	0.42
2:A:693:A:O2'	6:F:234:ASN:HB3	2.18	0.42
2:A:785:G:N2	19:S:63:SER:OG	2.50	0.42
2:A:993:G:N3	2:A:2637:A:H2'	2.34	0.42
2:A:1252:A:H3'	2:A:1253:U:H5''	2.01	0.42
2:A:1300:G:OP2	2:A:1301:A:O2'	2.31	0.42
2:A:1368:U:C2	2:A:1369:A:C8	3.07	0.42
2:A:1480:G:H4'	2:A:1481:A:H5'	2.01	0.42
2:A:1626:U:H3	2:A:1817:G:H1	1.67	0.42
2:A:1824:U:H4'	39:m:17:ARG:HH12	1.84	0.42
2:A:2308:C:H5''	2:A:2309:A:H2'	2.01	0.42
2:A:2655:U:H1'	2:A:2656:A:C2	2.53	0.42
2:A:3040:A:C2	2:A:3041:U:C5	3.07	0.42
2:A:3146:G:H2'	2:A:3147:G:H8	1.83	0.42
2:A:3345:G:H5'	64:SV:92:ARG:CZ	2.49	0.42
5:D:88:ILE:HD12	5:D:88:ILE:HA	1.87	0.42
7:G:19:PRO:HD2	7:G:24:ARG:HG3	1.99	0.42
17:Q:65[A]:ASN:OD1	17:Q:67[A]:THR:OG1	2.24	0.42
21:U:52:LYS:HE2	21:U:52:LYS:HB2	1.80	0.42
21:U:100:VAL:O	21:U:104:GLU:HG2	2.19	0.42
28:b:11:ALA:HA	28:b:83:THR:HG23	2.01	0.42
32:f:43:HIS:C	32:f:43:HIS:HD1	2.27	0.42
32:f:96:VAL:HG12	32:f:98:VAL:HG23	2.01	0.42
34:h:32:ILE:HD11	34:h:81:VAL:HG11	2.00	0.42
44:r:28:LYS:O	44:r:31:ILE:HD12	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:v:337:VAL:O	46:v:341:LEU:HB2	2.19	0.42
46:v:572:HIS:CD2	46:v:737:GLN:HB2	2.53	0.42
46:v:751:PRO:HB3	46:v:904:LEU:HD13	2.01	0.42
48:SA:72:LEU:HD12	49:SC:65:TYR:HB3	2.00	0.42
50:SD:97:LEU:HA	50:SD:100:TRP:HB3	2.01	0.42
62:ST:6:SER:O	62:ST:113:ILE:HG22	2.19	0.42
69:Sa:45:ALA:HB2	77:SP:184:LEU:HD11	2.01	0.42
70:Sb:32:LYS:HB3	70:Sb:36:LYS:HZ1	1.82	0.42
78:SU:162:ILE:HA	78:SU:165:LYS:HZ2	1.84	0.42
81:E:41:VAL:HG21	81:E:194:TRP:HB2	2.01	0.42
1:2:71:A:H2'	1:2:72:A:O4'	2.19	0.42
1:2:231:U:N3	1:2:233:C:O4'	2.51	0.42
1:2:388:G:H5''	1:2:425:A:N6	2.34	0.42
1:2:431:C:C2	1:2:432:G:C8	3.07	0.42
1:2:610:G:O2'	1:2:613:G:O3'	2.37	0.42
1:2:651:G:N1	1:2:684:A:C6	2.88	0.42
1:2:809:A:H2'	1:2:810:G:C8	2.54	0.42
1:2:861:U:H3'	1:2:862:A:C8	2.54	0.42
1:2:1278:G:C6	1:2:1279:C:C4	3.07	0.42
2:A:1140:G:H2'	2:A:1141:C:C6	2.54	0.42
2:A:1222:G:N2	2:A:1285:G:O2'	2.39	0.42
2:A:2198:A:C6	2:A:2270:A:C6	3.07	0.42
2:A:2366:C:H2'	2:A:2367:A:C8	2.53	0.42
2:A:2765:C:H2'	2:A:2766:U:H6	1.84	0.42
2:A:2926:A:H2'	2:A:2927:C:H6	1.85	0.42
4:C:11:C:H2'	4:C:12:A:C8	2.53	0.42
4:C:39:G:OP1	36:j:83:LYS:NZ	2.46	0.42
6:F:317:PRO:C	6:F:318:LEU:HD12	2.45	0.42
7:G:116:ASP:OD1	7:G:117:GLU:N	2.52	0.42
10:J:207:ASP:OD1	10:J:207:ASP:N	2.53	0.42
11:K:52:LEU:HD12	11:K:52:LEU:HA	1.86	0.42
13:M:35:LYS:O	13:M:38:GLU:HG3	2.19	0.42
13:M:87:LYS:HG3	13:M:90:GLN:O	2.20	0.42
15:O:90:VAL:HA	15:O:93:LYS:HD2	2.01	0.42
19:S:94:PHE:CE2	29:c:119:PRO:HD3	2.53	0.42
19:S:122:ILE:HD13	19:S:130:ARG:HH21	1.84	0.42
20:T:175:GLN:OE1	20:T:175:GLN:HA	2.19	0.42
28:b:27:LYS:HB3	28:b:42:LEU:HD12	2.01	0.42
36:j:53:CYS:O	36:j:57:VAL:HG23	2.19	0.42
46:v:179:TRP:CE2	54:SI:25:GLN:HB2	2.54	0.42
47:x:39:LEU:HD13	47:x:334:LEU:HD13	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:x:661:ASP:OD1	47:x:662:SER:N	2.52	0.42
54:SI:38:LYS:HG2	54:SI:43:ASN:HB2	2.01	0.42
56:SK:89:ILE:HD12	56:SK:89:ILE:O	2.19	0.42
60:SQ:80:SER:O	68:SZ:114:ARG:NH2	2.52	0.42
60:SQ:137:ILE:HD11	60:SQ:176:VAL:HG21	2.01	0.42
60:SQ:144:ARG:HB3	60:SQ:208:GLN:CG	2.49	0.42
64:SV:38:ILE:HG22	64:SV:96:LEU:HD11	2.00	0.42
67:SY:3:ARG:HB3	67:SY:6:SER:OG	2.19	0.42
67:SY:23:PRO:HB2	67:SY:25:TRP:CD1	2.54	0.42
72:Sd:44:LEU:HD13	72:Sd:48:TYR:HE2	1.83	0.42
76:SG:60:ARG:NH2	76:SG:65:PRO:O	2.52	0.42
80:SB:197:GLU:HA	80:SB:200:ASN:HB2	2.00	0.42
81:E:166:ILE:HD12	81:E:166:ILE:HA	1.84	0.42
1:2:108:A:H2'	1:2:109:G:C8	2.53	0.42
1:2:572:C:H5'	71:Sc:109:ARG:NH1	2.34	0.42
1:2:1085:G:N2	1:2:1088:A:OP2	2.51	0.42
1:2:1205:C:O2	57:SM:17:GLY:N	2.52	0.42
2:A:547:G:H2'	2:A:548:G:C8	2.54	0.42
2:A:638:C:H2'	2:A:639:G:H8	1.84	0.42
2:A:772:U:H2'	2:A:773:G:C8	2.53	0.42
2:A:1544:G:OP1	16:P:127:TYR:OH	2.27	0.42
2:A:1759:C:H2'	2:A:1760:A:C8	2.55	0.42
2:A:2407:C:H2'	2:A:2408:U:C6	2.54	0.42
2:A:2661:G:H2'	2:A:2662:G:C8	2.55	0.42
2:A:2673:A:H5''	13:M:95:ASN:HD22	1.83	0.42
2:A:2678:A:OP1	2:A:2678:A:H3'	2.19	0.42
2:A:2769:A:H5''	43:q:80:ARG:HH12	1.82	0.42
2:A:3182:G:H2'	2:A:3183:A:C8	2.54	0.42
4:C:14:C:H3'	4:C:15:G:C8	2.54	0.42
4:C:26:U:H2'	4:C:27:U:C6	2.54	0.42
4:C:76:C:C4	4:C:77:A:N6	2.87	0.42
4:C:126:A:O2'	4:C:128:U:OP2	2.36	0.42
16:P:53:TYR:HB2	16:P:133:ILE:HD11	2.01	0.42
17:Q:139[A]:GLY:O	17:Q:143[A]:THR:HG22	2.20	0.42
26:Z:118:GLY:O	26:Z:119:THR:OG1	2.36	0.42
27:a:22:ALA:H	27:a:27:ARG:HH12	1.68	0.42
28:b:8:GLY:O	28:b:86:THR:OG1	2.31	0.42
38:l:27:PHE:HA	38:l:34:CYS:SG	2.60	0.42
41:o:98:LYS:HD2	41:o:98:LYS:HA	1.81	0.42
46:v:263:ARG:NE	46:v:890:HIS:HB3	2.34	0.42
46:v:739:ALA:HB3	46:v:901:LYS:HD2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:x:218:TRP:HA	47:x:324:MET:HE3	2.02	0.42
47:x:288:ILE:HG23	47:x:289:MET:SD	2.60	0.42
48:SA:11:LEU:HD23	48:SA:11:LEU:HA	1.78	0.42
49:SC:49:LEU:HA	49:SC:52:LYS:HE2	2.00	0.42
54:SI:48:GLN:CD	54:SI:48:GLN:H	2.25	0.42
59:SO:261:LYS:NZ	59:SO:275:ARG:HH22	2.17	0.42
59:SO:266:ASP:HB3	59:SO:267:PRO:HD3	2.02	0.42
64:SV:81:VAL:HG12	64:SV:102:VAL:HG12	2.00	0.42
67:SY:76:LYS:N	67:SY:76:LYS:HD2	2.34	0.42
72:Sd:86:GLU:CD	72:Sd:90:ARG:HB3	2.45	0.42
77:SP:56:LYS:HZ1	77:SP:159:ALA:N	2.18	0.42
80:SB:97:LEU:O	80:SB:180:ARG:NH2	2.51	0.42
1:2:111:U:H2'	1:2:112:A:C8	2.55	0.42
1:2:407:A:H2	1:2:1731:A:O2'	2.03	0.42
1:2:1071:U:H2'	1:2:1072:C:C6	2.54	0.42
1:2:1187:U:O2	1:2:1198:G:N2	2.38	0.42
1:2:1793:G:H1'	1:2:1794:A:H2'	2.02	0.42
2:A:22:G:H5''	38:l:43:LYS:HG2	2.01	0.42
2:A:88:A:C4	2:A:99:A:N6	2.88	0.42
2:A:705:A:N6	2:A:715:A:OP2	2.52	0.42
2:A:1163:A:H2'	2:A:1164:G:H8	1.84	0.42
2:A:1553:U:H4'	2:A:1554:U:H5'	2.00	0.42
2:A:2582:C:H2'	2:A:2583:C:H6	1.84	0.42
2:A:2781:U:H2'	2:A:2782:U:H6	1.85	0.42
2:A:3306:U:H1'	2:A:3309:G:N1	2.34	0.42
3:B:90:U:H2'	3:B:91:G:O4'	2.19	0.42
4:C:70:G:OP1	27:a:118:LEU:HD21	2.19	0.42
6:F:93:MET:H	6:F:93:MET:CE	2.24	0.42
14:N:79:GLU:HA	14:N:109:PHE:HE1	1.84	0.42
17:Q:19[A]:LEU:O	17:Q:23[A]:VAL:HG13	2.20	0.42
20:T:21:LYS:HE2	20:T:21:LYS:HA	2.01	0.42
22:V:35:LYS:HB3	22:V:35:LYS:HE2	1.57	0.42
25:Y:19:THR:OG1	25:Y:20:LEU:N	2.52	0.42
25:Y:28:ILE:HG22	25:Y:30:ARG:HD2	2.01	0.42
31:e:63:SER:O	31:e:64:LYS:HG2	2.19	0.42
31:e:85:PHE:HD1	31:e:85:PHE:H	1.67	0.42
34:h:69:GLY:HA3	34:h:85:PHE:HA	2.01	0.42
39:m:43:PHE:N	39:m:43:PHE:CD1	2.87	0.42
43:q:73:GLU:OE1	43:q:73:GLU:HA	2.19	0.42
45:t:28:A:H2'	45:t:29:G:C8	2.54	0.42
46:v:240:PRO:HB3	46:v:284:PRO:HG3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:x:241:MET:H	47:x:241:MET:HG2	1.71	0.42
47:x:378:LEU:O	47:x:470:THR:HA	2.19	0.42
65:SW:36:LEU:HD13	65:SW:36:LEU:HA	1.89	0.42
70:Sb:19:LYS:HB2	70:Sb:19:LYS:HE2	1.80	0.42
70:Sb:64:GLN:OE1	70:Sb:64:GLN:HA	2.20	0.42
70:Sb:111:MET:HE3	70:Sb:111:MET:HB3	1.86	0.42
80:SB:194:LEU:O	80:SB:198:LEU:HB2	2.18	0.42
1:2:30:G:H2'	1:2:31:C:C6	2.54	0.42
1:2:260:U:H3	64:SV:43:ILE:HG21	1.84	0.42
1:2:521:A:H4'	72:Sd:36:SER:OG	2.19	0.42
1:2:777:C:H41	72:Sd:10:ARG:HD3	1.84	0.42
1:2:878:G:H2'	1:2:879:G:C8	2.55	0.42
1:2:886:U:H3	68:SZ:125:SER:HG	1.67	0.42
1:2:909:U:H2'	1:2:910:C:C6	2.54	0.42
1:2:1320:U:C2'	77:SP:131:GLN:HE22	2.32	0.42
1:2:1584:G:N2	1:2:1611:A:OP2	2.52	0.42
1:2:1590:G:H2'	1:2:1591:C:H6	1.84	0.42
1:2:1674:C:H2'	1:2:1675:C:C6	2.54	0.42
2:A:156:G:OP2	37:k:25:LYS:HB3	2.19	0.42
2:A:243:G:H2'	2:A:244:G:C8	2.54	0.42
2:A:768:C:P	14:N:186:ARG:HH22	2.42	0.42
2:A:855:U:H2'	2:A:856:G:O4'	2.19	0.42
2:A:1609:C:OP1	26:Z:125:ARG:NH1	2.53	0.42
2:A:2560:C:N4	2:A:2575:G:OP1	2.52	0.42
2:A:3057:U:O2'	2:A:3058:U:H4'	2.19	0.42
2:A:3095:U:H2'	2:A:3096:C:C6	2.54	0.42
4:C:142:C:H2'	4:C:143:U:C6	2.55	0.42
6:F:339:LEU:HD23	6:F:342:LYS:HE2	2.01	0.42
7:G:195:LEU:O	7:G:199:ILE:HG12	2.20	0.42
15:O:113:THR:HG23	15:O:115:PHE:H	1.84	0.42
17:Q:176[A]:LYS:HB2	17:Q:176[A]:LYS:HE3	1.87	0.42
25:Y:33:ASN:HB2	81:E:367:LYS:HG2	2.01	0.42
26:Z:131:ASP:OD1	26:Z:131:ASP:C	2.63	0.42
27:a:83:ASP:C	27:a:85:VAL:H	2.27	0.42
31:e:98:SER:OG	31:e:100:ILE:HG13	2.18	0.42
32:f:44:MET:SD	32:f:77:ARG:HG3	2.59	0.42
44:r:79:VAL:O	44:r:82:THR:HG22	2.18	0.42
46:v:386:ILE:HD12	46:v:403:LEU:HD22	2.02	0.42
47:x:280:PRO:CD	47:x:281:ILE:N	2.80	0.42
48:SA:156:PHE:C	48:SA:157:LEU:HD23	2.45	0.42
52:SF:130:GLY:O	52:SF:137:ARG:HD3	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SH:57:ARG:HB2	53:SH:60:GLU:HG2	2.02	0.42
55:SJ:58:LEU:HB3	55:SJ:88:LYS:O	2.19	0.42
59:SO:221:MET:HA	59:SO:221:MET:HE3	2.02	0.42
61:SS:6:LYS:NZ	61:SS:8:HIS:HB2	2.34	0.42
63:SR:90:THR:OG1	63:SR:91:ARG:N	2.52	0.42
68:SZ:49:LYS:HD3	68:SZ:49:LYS:N	2.35	0.42
77:SP:58:VAL:HA	77:SP:61:ALA:HB3	2.01	0.42
80:SB:43:PHE:CE1	80:SB:44:ASN:ND2	2.87	0.42
80:SB:46:TRP:HD1	80:SB:122:ASN:ND2	2.13	0.42
81:E:137:TYR:CE1	81:E:144:ILE:HD13	2.54	0.42
1:2:1288:G:C5	1:2:1289:U:C5	3.07	0.42
1:2:1316:G:H2'	1:2:1317:C:C6	2.55	0.42
1:2:1350:U:H2'	1:2:1351:G:C8	2.55	0.42
1:2:1433:G:O2'	1:2:1434:U:O4'	2.26	0.42
1:2:1680:G:N2	1:2:1720:G:H2'	2.34	0.42
1:2:1779:U:H2'	1:2:1781:A:OP2	2.19	0.42
2:A:21:G:H3'	2:A:22:G:H8	1.85	0.42
2:A:74:G:O2'	14:N:61:PRO:HA	2.19	0.42
2:A:229:G:H2'	2:A:230:U:C6	2.55	0.42
2:A:291:C:C2	2:A:292:U:C5	3.08	0.42
2:A:429:U:H2'	2:A:430:U:C6	2.54	0.42
2:A:974:G:H5'	19:S:16:ARG:HB2	2.01	0.42
2:A:1364:C:H2'	2:A:1365:G:H8	1.82	0.42
2:A:1836:C:H2'	2:A:1837:U:C6	2.53	0.42
2:A:2148:U:O4	2:A:2187:G:O2'	2.33	0.42
2:A:2536:A:C5	2:A:2537:U:H1'	2.54	0.42
2:A:2661:G:H2'	2:A:2662:G:H8	1.84	0.42
2:A:3167:A:C6	2:A:3284:G:N1	2.87	0.42
6:F:35:VAL:HG11	6:F:244:LEU:HD21	2.01	0.42
7:G:50:ARG:NH1	7:G:147:ASP:OD2	2.52	0.42
8:H:72:ASN:OD1	8:H:73:GLY:N	2.52	0.42
9:I:77:VAL:HG22	21:U:59:VAL:HA	2.02	0.42
12:L:36:LEU:O	12:L:87:LEU:N	2.51	0.42
15:O:39:ILE:H	15:O:39:ILE:HD12	1.82	0.42
20:T:24:LEU:HD12	20:T:32:ILE:HD13	2.01	0.42
21:U:8:GLN:OE1	21:U:26:ARG:NE	2.48	0.42
31:e:14:LEU:HA	31:e:17:VAL:HG12	2.02	0.42
46:v:252:ARG:HH12	54:SI:25:GLN:HA	1.85	0.42
46:v:523:LYS:HZ3	46:v:536:ILE:HG21	1.84	0.42
47:x:27:HIS:HB2	47:x:138:GLN:HB3	2.02	0.42
47:x:46:ILE:HD12	47:x:46:ILE:HA	1.89	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:x:407:SER:HB2	47:x:433:ARG:HA	2.00	0.42
48:SA:223:LYS:HB3	59:SO:143:THR:H	1.85	0.42
52:SF:40:GLU:HB3	52:SF:41:PRO:HD3	2.00	0.42
60:SQ:21:VAL:HG12	60:SQ:26:ARG:HH22	1.85	0.42
63:SR:238:SER:OG	63:SR:240:LEU:HG	2.20	0.42
64:SV:61:GLU:OE1	64:SV:61:GLU:N	2.52	0.42
1:2:639:U:OP1	78:SU:112:ARG:NH2	2.53	0.42
1:2:878:G:H2'	1:2:879:G:H8	1.85	0.42
1:2:982:U:H2'	1:2:983:A:H8	1.84	0.42
1:2:1218:G:O2'	1:2:1264:G:N2	2.45	0.42
1:2:1290:U:H3	1:2:1325:A:H61	1.68	0.42
1:2:1388:A:C6	1:2:1411:A:N7	2.88	0.42
2:A:32:U:H2'	2:A:33:G:O4'	2.19	0.42
2:A:242:C:HO2'	2:A:243:G:H8	1.66	0.42
2:A:663:C:H2'	2:A:664:U:C6	2.54	0.42
2:A:1307:G:N3	17:Q:60[A]:LYS:HE2	2.35	0.42
2:A:1372:C:H2'	2:A:1373:A:H8	1.84	0.42
2:A:1459:C:Cl'	32:f:56:ASN:HD22	2.33	0.42
2:A:1598:G:H2'	2:A:1599:G:H8	1.84	0.42
2:A:1615:C:H2'	2:A:1616:U:H6	1.84	0.42
2:A:1679:A:H2'	2:A:1680:G:H8	1.83	0.42
2:A:1776:G:H2'	2:A:1777:U:C6	2.55	0.42
2:A:2443:A:N1	2:A:2505:U:N3	2.67	0.42
2:A:2519:A:H2'	2:A:2520:A:C8	2.54	0.42
2:A:2631:U:H2'	2:A:2632:G:C8	2.55	0.42
2:A:2856:G:H2'	2:A:2857:C:C6	2.54	0.42
2:A:2930:A:H2'	2:A:2931:C:H6	1.84	0.42
2:A:3059:G:H5''	32:f:17:HIS:NE2	2.34	0.42
3:B:71:G:H2'	3:B:72:A:H8	1.85	0.42
7:G:8:LYS:HD3	7:G:12:TYR:HE2	1.84	0.42
10:J:226:TYR:HA	10:J:229:VAL:HG12	2.02	0.42
16:P:3:ALA:HA	16:P:6:TYR:HD2	1.85	0.42
16:P:32:GLN:HE21	16:P:32:GLN:HB2	1.72	0.42
24:X:93:LEU:HB2	25:Y:20:LEU:HD22	2.02	0.42
25:Y:2:LYS:HD2	25:Y:2:LYS:C	2.45	0.42
25:Y:25:ASP:OD2	25:Y:27:LYS:HD3	2.20	0.42
29:c:44:ASN:OD1	29:c:44:ASN:C	2.62	0.42
33:g:82:LEU:HD22	33:g:108:ILE:HG23	2.01	0.42
35:i:54:ILE:HD13	35:i:54:ILE:HA	1.86	0.42
36:j:95:PHE:O	36:j:99:GLN:HG2	2.20	0.42
40:n:24:PRO:HB2	40:n:26:TRP:CD1	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:r:21:SER:O	44:r:25:GLN:NE2	2.47	0.42
46:v:442:LYS:HE2	46:v:442:LYS:HB2	1.79	0.42
46:v:509:ASP:C	46:v:511:VAL:H	2.26	0.42
46:v:608:TYR:CE2	46:v:621:LYS:HG2	2.55	0.42
46:v:706:LYS:HG2	46:v:948:ILE:HD11	2.01	0.42
47:x:519:LEU:HD12	47:x:519:LEU:HA	1.84	0.42
49:SC:71:GLU:H	49:SC:71:GLU:CD	2.27	0.42
52:SF:116:LEU:H	52:SF:116:LEU:HD22	1.84	0.42
54:SI:113:ILE:HG22	54:SI:128:GLY:HA2	2.02	0.42
54:SI:131:ASP:OD1	54:SI:132:LEU:N	2.52	0.42
55:SJ:84:MET:HG3	57:SM:52:PHE:CD1	2.54	0.42
59:SO:72:THR:HG21	59:SO:114:ASP:HA	2.01	0.42
59:SO:259:GLY:N	59:SO:275:ARG:HD3	2.34	0.42
59:SO:261:LYS:HB3	59:SO:263:PHE:HE1	1.84	0.42
60:SQ:184:LEU:O	60:SQ:188:LEU:HG	2.19	0.42
61:SS:5:PRO:HB2	61:SS:7:LYS:HE3	2.01	0.42
65:SW:110:GLN:HE21	65:SW:126:ARG:HD2	1.84	0.42
65:SW:153:GLU:O	65:SW:156:ILE:HG12	2.20	0.42
71:Sc:63:GLN:O	71:Sc:65:ASN:N	2.51	0.42
80:SB:118:LEU:HD12	80:SB:129:PRO:HB2	2.02	0.42
80:SB:194:LEU:HD21	80:SB:198:LEU:HD23	2.00	0.42
1:2:205:U:H2'	1:2:206:A:H8	1.84	0.42
1:2:430:G:H2'	1:2:431:C:H6	1.85	0.42
1:2:826:U:H2'	1:2:827:C:H6	1.85	0.42
1:2:1294:G:O2'	1:2:1321:A:C6	2.73	0.42
2:A:20:A:OP1	36:j:90:ARG:NH1	2.53	0.42
2:A:79:U:H2'	2:A:80:G:C8	2.55	0.42
2:A:275:U:H2'	2:A:276:U:C6	2.54	0.42
2:A:307:A:O2'	2:A:2223:A:O2'	2.33	0.42
2:A:361:A:H5'	38:l:35:SER:CB	2.49	0.42
2:A:424:G:H21	33:g:24:ARG:HH21	1.68	0.42
2:A:1462:A:H2'	2:A:1463:U:C6	2.54	0.42
2:A:1609:C:H2'	2:A:1610:G:H8	1.84	0.42
2:A:1882:G:C2	2:A:1883:A:N7	2.87	0.42
2:A:2442:G:C6	2:A:2443:A:C5	3.07	0.42
2:A:2945:G:O2'	2:A:2948:C:OP2	2.24	0.42
10:J:155:ASN:OD1	10:J:155:ASN:N	2.51	0.42
13:M:164:LYS:HA	13:M:164:LYS:HD2	1.83	0.42
16:P:5:LYS:NZ	37:k:36:ARG:HE	2.17	0.42
18:R:124:LYS:H	18:R:124:LYS:HG2	1.64	0.42
20:T:96:ILE:HD13	20:T:96:ILE:HA	1.95	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Z:127:THR:OG1	26:Z:129:ASP:OD1	2.29	0.42
36:j:26:LYS:HB2	36:j:26:LYS:HE3	1.78	0.42
39:m:64:LYS:O	39:m:68:SER:OG	2.26	0.42
46:v:85:PRO:HB3	46:v:363:TYR:HB2	2.02	0.42
46:v:714:THR:O	46:v:770:ARG:NH1	2.53	0.42
46:v:755:ILE:HG13	46:v:759:PHE:CD2	2.54	0.42
47:x:388:THR:HG23	47:x:390:ASP:H	1.84	0.42
47:x:743:ILE:HG13	47:x:788:THR:HG21	2.02	0.42
48:SA:7:LYS:HA	48:SA:7:LYS:HD3	1.83	0.42
56:SK:59:TYR:OH	80:SB:123:VAL:HB	2.20	0.42
59:SO:26:SER:HB3	59:SO:29:GLN:O	2.19	0.42
59:SO:132:LYS:HB2	59:SO:134:TRP:HE1	1.84	0.42
59:SO:200:ASN:ND2	59:SO:240:VAL:O	2.53	0.42
70:Sb:101:TYR:HB3	70:Sb:112:ASP:HB2	2.01	0.42
1:2:424:C:O2'	1:2:426:G:OP1	2.22	0.42
1:2:611:U:N3	66:SX:96:LYS:O	2.53	0.42
1:2:1279:C:C2	1:2:1280:C:C5	3.08	0.42
2:A:339:C:H2'	2:A:340:C:C6	2.55	0.42
2:A:374:A:O2'	2:A:376:G:H5'	2.19	0.42
2:A:725:G:O6	2:A:746:A:N6	2.53	0.42
2:A:969:C:OP1	22:V:82:ASN:ND2	2.53	0.42
2:A:1504:A:N1	2:A:1515:A:O2'	2.46	0.42
2:A:2096:A:H2'	2:A:2097:U:C6	2.54	0.42
2:A:2367:A:H2'	2:A:2368:A:H8	1.84	0.42
2:A:2698:G:H21	22:V:8:ARG:HH21	1.66	0.42
2:A:3321:C:H2'	2:A:3322:A:C8	2.54	0.42
4:C:30:C:H2'	4:C:31:G:H8	1.85	0.42
6:F:166:VAL:O	6:F:170:LYS:HG2	2.19	0.42
14:N:79:GLU:OE2	14:N:112:ASN:ND2	2.49	0.42
16:P:113:LEU:HB2	16:P:134:LEU:HD11	2.02	0.42
17:Q:23[A]:VAL:O	17:Q:27[A]:LEU:HG	2.19	0.42
17:Q:89[A]:SER:O	17:Q:95[A]:GLY:HA3	2.20	0.42
19:S:90:ASP:OD2	19:S:92:ARG:NH2	2.42	0.42
21:U:113:ARG:HG2	21:U:114:HIS:CE1	2.55	0.42
22:V:159:PHE:H	22:V:159:PHE:HD1	1.67	0.42
25:Y:33:ASN:OD1	25:Y:35:LYS:N	2.53	0.42
28:b:117:ALA:HA	28:b:120:GLU:HG3	2.01	0.42
37:k:44:VAL:O	37:k:48:ALA:CB	2.68	0.42
46:v:667:LYS:HB3	46:v:725:TYR:HD2	1.84	0.42
47:x:279:ASP:OD1	47:x:280:PRO:HD3	2.20	0.42
47:x:345:PRO:O	47:x:347:THR:N	2.46	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:SA:185:LYS:HA	48:SA:185:LYS:HD3	1.97	0.42
52:SF:63:ILE:HG12	52:SF:92:TYR:CE2	2.55	0.42
54:SI:15:ILE:H	54:SI:15:ILE:HG12	1.73	0.42
65:SW:56:ALA:O	65:SW:60:LEU:HD12	2.19	0.42
72:Sd:12:VAL:HA	72:Sd:23:PHE:HB3	2.01	0.42
73:Se:26:CYS:SG	73:Se:28:LYS:HB2	2.60	0.42
74:Sf:16:ALA:HA	74:Sf:29:ARG:HH22	1.85	0.42
76:SG:83:GLN:O	76:SG:85:VAL:HG22	2.20	0.42
78:SU:140:VAL:HG22	78:SU:150:GLN:HG3	2.02	0.42
80:SB:80:LYS:HE3	80:SB:82:PHE:H	1.84	0.42
1:2:750:U:H2'	1:2:751:G:H8	1.85	0.42
1:2:1023:A:H4'	1:2:1024:U:O5'	2.20	0.42
1:2:1390:U:H1'	1:2:1412:G:C2	2.55	0.42
2:A:61:A:C4	2:A:62:A:C8	3.08	0.42
2:A:345:G:O2'	4:C:25:G:N3	2.51	0.42
2:A:1655:G:N2	2:A:1801:U:O4	2.53	0.42
2:A:2183:A:O2'	5:D:236:GLY:N	2.51	0.42
2:A:2612:U:H2'	2:A:2613:U:O4'	2.20	0.42
2:A:2743:A:H2'	2:A:2744:U:C6	2.55	0.42
4:C:68:G:H2'	4:C:69:U:H6	1.85	0.42
4:C:143:U:H2'	4:C:144:G:C8	2.55	0.42
9:I:219:LYS:HB3	9:I:219:LYS:HE2	1.84	0.42
16:P:68:ARG:NH1	16:P:124:ASP:O	2.41	0.42
16:P:180:PHE:N	16:P:180:PHE:CD1	2.87	0.42
20:T:133:LYS:HG3	20:T:134:HIS:ND1	2.34	0.42
23:W:10:LYS:HA	23:W:10:LYS:HD3	1.77	0.42
26:Z:73:MET:O	26:Z:76:VAL:HG12	2.20	0.42
27:a:67:GLU:HA	27:a:67:GLU:OE2	2.20	0.42
27:a:113:LYS:O	27:a:116:LYS:HG2	2.20	0.42
29:c:75:LEU:HD13	29:c:115:LYS:H	1.85	0.42
37:k:35:ASN:OD1	37:k:35:ASN:N	2.48	0.42
38:l:19:CYS:HB2	38:l:20:ASN:H	1.65	0.42
44:r:82:THR:HG23	44:r:83:ILE:HD13	2.01	0.42
46:v:775:ILE:CG2	46:v:850:LYS:HZ2	2.33	0.42
47:x:278:LEU:HD23	47:x:281:ILE:HD11	2.02	0.42
48:SA:75:LYS:HE3	49:SC:22:VAL:HG22	2.01	0.42
60:SQ:189:ILE:HB	60:SQ:190:PRO:HD3	2.02	0.42
63:SR:218:ILE:O	63:SR:221:THR:OG1	2.21	0.42
71:Sc:14:LYS:HE2	71:Sc:14:LYS:HA	2.02	0.42
77:SP:144:ILE:HG13	77:SP:158:VAL:HB	2.02	0.42
79:SL:48:VAL:HG12	80:SB:164:PRO:HD2	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:SL:55:VAL:HG11	80:SB:167:ARG:CD	2.48	0.42
81:E:317:ILE:H	81:E:317:ILE:HD12	1.84	0.42
1:2:329:G:H2'	1:2:330:G:C8	2.55	0.41
1:2:514:G:H5'	65:SW:132:ARG:NH1	2.34	0.41
1:2:656:G:N1	1:2:679:U:O2	2.53	0.41
1:2:900:A:H2'	1:2:901:G:C8	2.55	0.41
1:2:1335:U:O4	1:2:1336:A:N6	2.52	0.41
1:2:1433:G:N2	57:SM:41:GLN:O	2.53	0.41
2:A:303:G:O2'	2:A:2778:G:OP2	2.26	0.41
2:A:1165:A:H2'	2:A:1166:G:C8	2.55	0.41
2:A:1388:U:O2'	33:g:99:ASN:O	2.31	0.41
2:A:1804:A:H2'	2:A:1805:C:H6	1.85	0.41
2:A:1946:A:H2'	2:A:1947:G:H8	1.84	0.41
2:A:2922:G:H2'	2:A:2923:U:O4'	2.20	0.41
3:B:96:U:H2'	3:B:97:A:H8	1.84	0.41
3:B:108:A:H2'	3:B:109:G:C8	2.55	0.41
4:C:82:U:C4	4:C:83:C:H5	2.38	0.41
4:C:151:C:O2'	4:C:153:U:OP2	2.34	0.41
13:M:47:GLN:HG3	13:M:49:LYS:NZ	2.34	0.41
15:O:32:LEU:HD11	15:O:94:TRP:CD1	2.55	0.41
17:Q:189[A]:ASP:OD1	17:Q:190[A]:VAL:N	2.53	0.41
19:S:24:VAL:O	19:S:28:LEU:HG	2.20	0.41
20:T:153:LYS:HD2	20:T:153:LYS:HA	1.69	0.41
28:b:43:VAL:HG11	28:b:80:LEU:HD11	2.02	0.41
28:b:46:ILE:HD11	28:b:118:PHE:CD2	2.55	0.41
37:k:72:VAL:O	37:k:76:ARG:HG2	2.19	0.41
46:v:907:ALA:HA	46:v:910:THR:HG22	2.01	0.41
47:x:263:ASP:HB3	47:x:268:PRO:HG3	2.02	0.41
47:x:339:VAL:O	47:x:340:LEU:HD13	2.20	0.41
50:SD:26:ASP:OD1	50:SD:26:ASP:N	2.38	0.41
50:SD:40:GLY:HA2	50:SD:124:LYS:HB3	2.01	0.41
59:SO:304:GLY:HA2	59:SO:310:ILE:HA	2.01	0.41
61:SS:16:HIS:ND1	61:SS:16:HIS:O	2.53	0.41
65:SW:106:GLU:HA	65:SW:111:THR:HG21	2.01	0.41
70:Sb:28:ARG:HB3	70:Sb:60:LYS:HG3	2.01	0.41
78:SU:10:SER:HB3	78:SU:44:LYS:HA	2.02	0.41
80:SB:114:ILE:HA	80:SB:117:THR:HG22	2.02	0.41
1:2:736:C:H2'	1:2:737:A:H8	1.84	0.41
1:2:1385:G:H2'	1:2:1386:G:C8	2.55	0.41
1:2:1388:A:N6	1:2:1409:G:H1'	2.34	0.41
1:2:1522:U:H4'	1:2:1523:G:OP2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1523:G:O2'	54:SI:79:LEU:HB2	2.20	0.41
1:2:1611:A:H2'	1:2:1612:U:C6	2.54	0.41
2:A:35:A:H2'	2:A:36:C:C6	2.55	0.41
2:A:656:A:H2'	2:A:657:A:C8	2.55	0.41
2:A:1031:C:H2'	2:A:1032:C:H5	1.85	0.41
2:A:1384:U:OP2	6:F:202:ARG:NE	2.52	0.41
2:A:1485:G:H2'	2:A:1486:G:C8	2.55	0.41
2:A:1875:G:OP1	20:T:19:LYS:HG3	2.20	0.41
2:A:2155:G:OP1	5:D:241:ARG:NE	2.51	0.41
2:A:2184:U:H2'	2:A:2185:G:C8	2.55	0.41
2:A:2221:G:N2	2:A:2224:A:OP2	2.48	0.41
2:A:2386:A:N7	2:A:2994:A:N6	2.67	0.41
2:A:2999:U:H2'	2:A:3000:A:H8	1.84	0.41
2:A:3296:A:H2'	2:A:3297:U:C6	2.55	0.41
3:B:55:A:C4	13:M:9:MET:HE1	2.55	0.41
4:C:121:U:H2'	4:C:122:U:C6	2.55	0.41
4:C:154:C:H5'	10:J:181:LYS:HE3	2.01	0.41
6:F:162:THR:HG22	6:F:218:ALA:O	2.20	0.41
7:G:179:ARG:HA	7:G:179:ARG:HD3	1.70	0.41
12:L:164:LYS:HB3	12:L:164:LYS:HE3	1.86	0.41
17:Q:47[A]:PHE:HE2	17:Q:141[A]:LEU:HA	1.85	0.41
17:Q:197[A]:LEU:HD12	17:Q:197[A]:LEU:HA	1.90	0.41
20:T:72:GLU:OE1	20:T:74:ARG:HG2	2.20	0.41
21:U:92:LYS:HE2	21:U:92:LYS:HB2	1.74	0.41
25:Y:1:MET:HE3	81:E:357:LYS:HD3	2.01	0.41
31:e:34:LEU:HD12	31:e:59:TYR:HB3	2.03	0.41
37:k:45:ARG:NH1	37:k:49:GLY:O	2.53	0.41
39:m:46:ARG:HD2	39:m:46:ARG:HA	1.85	0.41
44:r:53:GLY:H	44:r:68:ALA:HA	1.85	0.41
46:v:386:ILE:HG13	46:v:403:LEU:HD13	2.02	0.41
46:v:647:PHE:HB2	46:v:933:ALA:HB1	2.02	0.41
47:x:175:TYR:CD2	47:x:271:ARG:HG2	2.55	0.41
47:x:221:THR:HG23	47:x:224:GLN:H	1.84	0.41
47:x:357:TYR:CZ	47:x:476:HIS:HB2	2.55	0.41
47:x:412:ARG:HH12	47:x:472:SER:C	2.27	0.41
48:SA:98:ALA:HB1	48:SA:186:VAL:HB	2.02	0.41
59:SO:19:TRP:HB3	59:SO:38:ARG:HE	1.85	0.41
59:SO:276:PRO:HD2	59:SO:278:PHE:CE1	2.56	0.41
61:SS:85:GLY:N	61:SS:88:ASP:OD2	2.53	0.41
64:SV:92:ARG:NE	64:SV:92:ARG:HA	2.35	0.41
73:Se:39:MET:HA	73:Se:39:MET:HE2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:SB:197:GLU:N	80:SB:197:GLU:OE2	2.53	0.41
1:2:374:U:H2'	1:2:375:U:C6	2.56	0.41
1:2:1036:A:H2'	1:2:1037:C:H6	1.86	0.41
1:2:1199:G:N2	1:2:1595:U:H4'	2.35	0.41
1:2:1292:G:H1	1:2:1323:C:N4	2.18	0.41
1:2:1294:G:H2'	1:2:1295:G:C8	2.55	0.41
1:2:1392:U:OP1	76:SG:59:LYS:HD2	2.20	0.41
1:2:1776:A:H2'	1:2:1777:G:C8	2.55	0.41
2:A:922:U:N3	2:A:926:A:O2'	2.53	0.41
2:A:999:G:H2'	2:A:1000:C:C6	2.55	0.41
2:A:1256:G:H2'	2:A:1257:C:C6	2.55	0.41
2:A:1524:A:O2'	2:A:1526:U:OP1	2.31	0.41
2:A:2313:A:H5'	2:A:2315:G:H1'	2.02	0.41
2:A:2327:U:H2'	2:A:2328:U:C6	2.54	0.41
2:A:2554:A:P	35:i:91:ARG:HH12	2.42	0.41
2:A:2565:U:H3	2:A:2576:G:H1	1.68	0.41
2:A:2908:G:H4'	41:o:114:LYS:NZ	2.35	0.41
2:A:3027:A:H61	47:x:785:ARG:HB2	1.85	0.41
3:B:62:U:O4	3:B:63:A:N6	2.54	0.41
3:B:65:G:H4'	12:L:205:SER:N	2.35	0.41
7:G:97:ALA:O	7:G:101:THR:HG23	2.20	0.41
8:H:40:LEU:HD23	8:H:54:TYR:HB2	2.01	0.41
10:J:165:PHE:HD1	10:J:165:PHE:H	1.68	0.41
12:L:30:LYS:HE2	12:L:30:LYS:HB2	1.69	0.41
12:L:135:ILE:HG23	12:L:136:PHE:CD1	2.55	0.41
17:Q:149[A]:TYR:N	17:Q:150[A]:GLU:OE1	2.53	0.41
18:R:89:LYS:HE2	18:R:89:LYS:HB2	1.85	0.41
22:V:76:ILE:HD13	22:V:76:ILE:HA	1.86	0.41
34:h:12:LYS:HA	34:h:12:LYS:HD3	1.77	0.41
34:h:13:HIS:ND1	34:h:93:THR:O	2.52	0.41
37:k:74:LYS:HA	37:k:74:LYS:HD2	1.80	0.41
43:q:71:ARG:HH21	43:q:80:ARG:HD2	1.85	0.41
45:u:52:G:H2'	45:u:53:G:H8	1.86	0.41
47:x:780:PHE:CE1	47:x:784:LEU:HD21	2.55	0.41
48:SA:167:PHE:CE1	48:SA:195:SER:HB2	2.55	0.41
55:SJ:68:ARG:HA	55:SJ:68:ARG:HD2	1.78	0.41
58:SN:126:CYS:SG	58:SN:143:LYS:C	3.04	0.41
59:SO:244:ALA:CB	59:SO:294:TRP:HD1	2.33	0.41
64:SV:39:GLY:O	64:SV:59:ARG:HB3	2.18	0.41
69:Sa:83:TRP:HZ2	74:Sf:4:VAL:O	2.03	0.41
71:Sc:89:ASN:ND2	71:Sc:92:CYS:SG	2.94	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:SG:41:ILE:O	76:SG:47:ARG:NH2	2.46	0.41
77:SP:3:LEU:HD12	77:SP:7:PHE:HE2	1.85	0.41
78:SU:47:ARG:HB3	78:SU:59:ALA:HB3	2.02	0.41
80:SB:77:TYR:HA	80:SB:83:ARG:HH12	1.85	0.41
81:E:183:LEU:O	81:E:191:LYS:NZ	2.54	0.41
1:2:398:G:H5''	64:SV:49:ARG:CZ	2.50	0.41
1:2:641:G:N2	78:SU:177:THR:O	2.53	0.41
1:2:1065:A:H2'	1:2:1066:C:O4'	2.19	0.41
1:2:1222:C:H2'	1:2:1223:A:C8	2.54	0.41
1:2:1292:G:O6	1:2:1323:C:N4	2.53	0.41
1:2:1294:G:C4	1:2:1322:A:N1	2.89	0.41
2:A:600:G:N1	2:A:602:A:OP2	2.53	0.41
2:A:629:U:H2'	2:A:630:A:H8	1.82	0.41
2:A:677:A:C8	2:A:785:G:C5	3.09	0.41
2:A:705:A:C5	29:c:113:LEU:HD12	2.54	0.41
2:A:725:G:H2'	2:A:726:G:O4'	2.20	0.41
2:A:726:G:N2	2:A:743:C:OP2	2.42	0.41
2:A:1398:U:H5''	4:C:9:A:OP1	2.21	0.41
2:A:1549:U:H2'	2:A:1550:C:H6	1.86	0.41
2:A:1783:U:H2'	2:A:1784:G:C8	2.55	0.41
2:A:2118:C:H2'	2:A:2119:A:O4'	2.21	0.41
2:A:2421:U:O2'	43:q:52:GLY:HA3	2.21	0.41
2:A:2677:G:H21	2:A:2679:A:P	2.41	0.41
2:A:2724:U:OP2	2:A:2726:C:N4	2.52	0.41
2:A:3214:U:OP2	15:O:124:ARG:NH2	2.54	0.41
2:A:3287:U:C2	2:A:3288:G:C8	3.08	0.41
4:C:58:G:H5''	4:C:98:U:O2	2.20	0.41
7:G:232:ASP:OD1	7:G:232:ASP:N	2.52	0.41
13:M:155:THR:OG1	13:M:156:LYS:N	2.49	0.41
16:P:33:LYS:HD2	16:P:37:HIS:CG	2.55	0.41
20:T:77:GLY:O	20:T:81:ARG:NE	2.53	0.41
24:X:70:ARG:HG2	24:X:70:ARG:NH1	2.34	0.41
26:Z:39:LYS:HD2	26:Z:39:LYS:HA	1.91	0.41
26:Z:73:MET:HA	26:Z:76:VAL:HG12	2.02	0.41
29:c:36:GLY:HA3	29:c:40:HIS:CE1	2.55	0.41
35:i:97:GLU:O	35:i:101:VAL:HG12	2.20	0.41
36:j:94:LYS:HE3	36:j:94:LYS:HB2	1.90	0.41
41:o:78:ILE:HD13	41:o:78:ILE:HA	1.87	0.41
42:p:12:ARG:NH2	42:p:15:ARG:HG3	2.36	0.41
45:u:50:U:H2'	45:u:51:C:H6	1.85	0.41
46:v:811:TYR:OH	46:v:841:ARG:NH1	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:x:435:VAL:HG11	47:x:442:VAL:HG12	2.02	0.41
49:SC:1:MET:HE1	49:SC:40:LEU:HD23	2.02	0.41
52:SF:55:VAL:HB	52:SF:105:LEU:HD22	2.02	0.41
53:SH:45:LEU:HD11	54:SI:36:ILE:HG22	2.02	0.41
54:SI:2:PRO:HB2	54:SI:3:GLY:H	1.60	0.41
55:SJ:84:MET:C	55:SJ:84:MET:HE2	2.45	0.41
59:SO:62:LYS:HD2	59:SO:62:LYS:HA	1.65	0.41
60:SQ:33:LYS:HB3	60:SQ:41:ARG:NH2	2.33	0.41
60:SQ:70:LEU:HB3	60:SQ:79:HIS:HB3	2.02	0.41
73:Se:21:VAL:HG11	73:Se:32:LYS:HD3	2.02	0.41
73:Se:24:VAL:HG21	73:Se:71:LEU:HD12	2.01	0.41
77:SP:56:LYS:NZ	77:SP:158:VAL:HG13	2.35	0.41
1:2:199:G:H2'	1:2:200:A:C8	2.56	0.41
1:2:392:G:H2'	1:2:393:C:C6	2.56	0.41
1:2:743:U:OP2	78:SU:107:ARG:NH1	2.53	0.41
1:2:1204:A:H2'	1:2:1204:A:N3	2.35	0.41
1:2:1330:G:H3'	1:2:1331:A:H8	1.85	0.41
1:2:1344:A:H4'	1:2:1345:A:OP1	2.20	0.41
1:2:1392:U:H2'	1:2:1393:C:C6	2.55	0.41
1:2:1478:G:H4'	54:SI:53:TRP:CZ3	2.56	0.41
1:2:1746:A:O2'	2:A:2290:C:O2	2.39	0.41
2:A:90:C:H1'	2:A:281:G:H4'	2.02	0.41
2:A:425:G:H2'	2:A:426:G:C8	2.56	0.41
2:A:903:U:H2'	2:A:904:A:H8	1.85	0.41
2:A:1239:C:H2'	2:A:1240:A:O4'	2.21	0.41
2:A:1653:G:H2'	2:A:1654:A:H8	1.85	0.41
2:A:1746:U:H2'	2:A:1747:G:C8	2.55	0.41
2:A:2330:C:C2	2:A:2331:C:C5	3.08	0.41
2:A:3111:U:OP1	11:K:184:LYS:NZ	2.41	0.41
3:B:59:U:H2'	3:B:60:G:H8	1.85	0.41
4:C:141:C:H1'	16:P:112:ASN:ND2	2.35	0.41
5:D:83:HIS:HB3	44:r:64:VAL:HB	2.02	0.41
5:D:106:SER:O	5:D:106:SER:OG	2.36	0.41
9:I:62:ILE:HD13	9:I:62:ILE:HA	1.89	0.41
13:M:14:ILE:HD12	13:M:15:GLU:H	1.86	0.41
13:M:168:ASP:OD1	13:M:168:ASP:C	2.63	0.41
15:O:91:CYS:SG	15:O:92:GLU:N	2.94	0.41
20:T:11:ALA:HA	20:T:14:VAL:HG12	2.02	0.41
20:T:163:ARG:HA	20:T:166:ASN:HD21	1.85	0.41
21:U:79:VAL:CG1	21:U:90:MET:HB3	2.51	0.41
24:X:13:ILE:HG23	24:X:85:TRP:CD1	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:a:59:VAL:O	27:a:64:LYS:HD3	2.20	0.41
32:f:56:ASN:OD1	32:f:56:ASN:C	2.64	0.41
35:i:74:ARG:HG2	35:i:75:ALA:H	1.85	0.41
37:k:25:LYS:HB2	37:k:28:TYR:CE1	2.56	0.41
45:t:44:A:H2'	45:t:45:U:C6	2.55	0.41
45:u:23:C:H2'	45:u:24:G:H8	1.86	0.41
46:v:227:HIS:CE1	46:v:892:ARG:HE	2.38	0.41
53:SH:61:LEU:HD23	53:SH:61:LEU:HA	1.91	0.41
56:SK:70:LYS:HA	56:SK:70:LYS:HD2	1.89	0.41
59:SO:199:ILE:H	59:SO:199:ILE:HG13	1.64	0.41
63:SR:160:GLY:HA3	63:SR:216:VAL:HG13	2.03	0.41
66:SX:63:LEU:HD23	66:SX:63:LEU:H	1.85	0.41
74:Sf:19:HIS:CG	74:Sf:20:LYS:N	2.89	0.41
80:SB:77:TYR:CD2	80:SB:87:CYS:HB3	2.55	0.41
80:SB:211:ILE:HD12	80:SB:212:LYS:N	2.36	0.41
81:E:58:ARG:HD3	81:E:283:TYR:HE2	1.85	0.41
1:2:14:C:H2'	1:2:15:U:C6	2.54	0.41
1:2:368:U:H2'	1:2:369:A:N9	2.35	0.41
1:2:1230:A:H1'	1:2:1256:A:N1	2.36	0.41
1:2:1298:U:H2'	1:2:1299:G:N9	2.35	0.41
1:2:1693:A:O2'	1:2:1694:A:O4'	2.25	0.41
1:2:1788:G:OP2	68:SZ:132:ARG:NH1	2.53	0.41
2:A:155:G:H5''	2:A:156:G:C8	2.56	0.41
2:A:187:A:H2'	2:A:188:U:C6	2.54	0.41
2:A:216:G:HO2'	27:a:19:TYR:HH	1.60	0.41
2:A:562:C:H2'	2:A:563:U:H6	1.85	0.41
2:A:1090:G:H2'	2:A:1091:A:H8	1.85	0.41
2:A:1318:A:H62	17:Q:18[A]:ARG:HD3	1.86	0.41
2:A:1350:A:H2'	2:A:1351:U:C5	2.54	0.41
2:A:1352:A:H4'	2:A:1353:U:C6	2.56	0.41
2:A:2389:C:H2'	2:A:2390:A:H8	1.84	0.41
2:A:2722:U:H2'	2:A:2723:U:C6	2.56	0.41
2:A:2777:G:C2	29:c:60:TYR:HE1	2.39	0.41
2:A:3048:A:H4'	81:E:53:MET:HE2	2.02	0.41
2:A:3190:C:H2'	2:A:3191:G:H8	1.86	0.41
2:A:3251:U:H2'	2:A:3252:G:C8	2.56	0.41
6:F:327:LEU:HD12	9:I:181:ILE:HD13	2.02	0.41
7:G:64:ILE:C	7:G:65:ILE:HD13	2.45	0.41
8:H:10:TYR:HD2	33:g:88:HIS:CG	2.39	0.41
9:I:144:ILE:O	9:I:148:VAL:HG22	2.20	0.41
10:J:68:ARG:HA	10:J:68:ARG:HD2	1.78	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:36:LEU:HB3	12:L:87:LEU:HB3	2.02	0.41
14:N:89:TYR:O	14:N:93:ILE:HG12	2.20	0.41
18:R:107:LEU:HB3	18:R:152:GLU:OE2	2.21	0.41
26:Z:117:ASN:C	26:Z:117:ASN:OD1	2.63	0.41
29:c:128:ARG:C	29:c:129:PHE:HD1	2.27	0.41
31:e:43:ILE:N	31:e:90:VAL:O	2.33	0.41
34:h:30:ILE:HD13	34:h:30:ILE:HA	1.84	0.41
46:v:182:LYS:HB3	46:v:185:VAL:HG23	2.03	0.41
46:v:763:GLU:HA	46:v:861:LEU:HD12	2.01	0.41
47:x:91:GLN:HE22	47:x:344:SER:H	1.68	0.41
47:x:477:ASN:OD1	47:x:478:MET:N	2.54	0.41
47:x:729:PHE:HA	47:x:798:PHE:HA	2.03	0.41
47:x:742:GLY:O	47:x:746:VAL:HG12	2.19	0.41
58:SN:143:LYS:HD3	58:SN:143:LYS:HA	1.82	0.41
58:SN:144:CYS:O	58:SN:145:HIS:HB2	2.20	0.41
59:SO:10:ARG:HB2	59:SO:314:GLN:HG2	2.02	0.41
60:SQ:149:GLN:HE21	60:SQ:151:LYS:HG2	1.86	0.41
60:SQ:159:SER:HA	60:SQ:162:ARG:HG3	2.02	0.41
61:SS:90:ILE:HB	61:SS:99:PHE:HB2	2.02	0.41
61:SS:94:ALA:C	61:SS:96:ASN:H	2.28	0.41
63:SR:114:GLY:HA3	63:SR:131:ILE:HG13	2.03	0.41
64:SV:80:GLY:HA2	64:SV:94:ASN:HD21	1.86	0.41
69:Sa:1:MET:HE2	69:Sa:1:MET:HB3	1.93	0.41
70:Sb:41:MET:SD	70:Sb:47:ILE:HG12	2.60	0.41
76:SG:81:LYS:HD3	76:SG:81:LYS:HA	1.70	0.41
78:SU:64:VAL:O	78:SU:67:LEU:HG	2.21	0.41
1:2:45:U:N3	1:2:434:G:H1'	2.36	0.41
1:2:263:C:H2'	1:2:264:G:C8	2.55	0.41
1:2:387:A:H4'	1:2:388:G:O5'	2.21	0.41
1:2:532:U:H2'	1:2:533:U:O4'	2.21	0.41
1:2:548:G:H2'	1:2:549:G:C8	2.56	0.41
1:2:1157:A:H5'	1:2:1158:C:OP1	2.19	0.41
1:2:1288:G:C6	1:2:1289:U:C4	3.09	0.41
1:2:1439:C:H2'	1:2:1440:C:C6	2.56	0.41
1:2:1585:U:N3	1:2:1611:A:C2	2.86	0.41
1:2:1680:G:H1'	1:2:1721:A:N6	2.36	0.41
2:A:59:G:H4'	2:A:60:A:H4'	2.03	0.41
2:A:412:G:H2'	2:A:413:U:C6	2.55	0.41
2:A:846:A:H3'	2:A:847:A:H8	1.86	0.41
2:A:1359:C:H2'	2:A:1360:C:H6	1.86	0.41
2:A:1460:A:H5'	32:f:51:LEU:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1624:G:O2'	2:A:1643:A:N1	2.54	0.41
2:A:1742:U:C2	2:A:1743:G:C8	3.09	0.41
2:A:2424:A:N1	5:D:230:VAL:HG11	2.35	0.41
2:A:2427:U:H2'	2:A:2428:U:C6	2.56	0.41
2:A:2527:G:H2'	2:A:2528:G:C8	2.55	0.41
2:A:3039:C:H1'	24:X:9:THR:HG21	2.01	0.41
2:A:3177:G:N1	2:A:3212:C:N4	2.69	0.41
2:A:3369:G:C5	81:E:380:MET:HE1	2.56	0.41
4:C:103:G:OP2	4:C:105:A:O2'	2.39	0.41
5:D:132:ASN:OD1	5:D:132:ASN:N	2.53	0.41
12:L:207:GLU:HA	12:L:210:ILE:HG22	2.02	0.41
19:S:111:ARG:O	19:S:115:VAL:HG22	2.20	0.41
22:V:90:ASN:OD1	22:V:90:ASN:N	2.54	0.41
26:Z:105:VAL:HG13	26:Z:130:TYR:CD2	2.56	0.41
27:a:56:VAL:HG11	27:a:70:ILE:HD11	2.02	0.41
32:f:18:LYS:HG2	32:f:19:ARG:HG3	2.03	0.41
35:i:46:ASP:OD1	35:i:80:ARG:NE	2.54	0.41
45:u:65:G:H2'	45:u:66:C:C6	2.56	0.41
46:v:346:GLU:HG2	46:v:409:ARG:HH22	1.85	0.41
47:x:381:TYR:HB2	47:x:478:MET:HE3	2.03	0.41
54:SI:135:ILE:H	54:SI:135:ILE:HG13	1.68	0.41
56:SK:57:TYR:CD2	56:SK:60:VAL:HG12	2.51	0.41
58:SN:107:LYS:HG2	58:SN:109:ASP:HB2	2.02	0.41
59:SO:86:ASP:O	59:SO:88:THR:HG23	2.20	0.41
59:SO:246:SER:HB2	59:SO:294:TRP:CZ2	2.55	0.41
63:SR:87:GLN:HG3	63:SR:94:GLN:CD	2.45	0.41
71:Sc:29:TYR:CD1	71:Sc:33:LEU:HD13	2.56	0.41
79:SL:47:PRO:HG2	80:SB:165:LEU:CD2	2.50	0.41
79:SL:56:LEU:HD13	79:SL:58:GLU:O	2.21	0.41
1:2:108:A:H2'	1:2:109:G:H8	1.85	0.41
1:2:1273:G:H4'	1:2:1274:C:H3'	2.02	0.41
1:2:1655:A:N3	1:2:1655:A:H2'	2.36	0.41
2:A:279:U:H2'	2:A:280:U:C6	2.56	0.41
2:A:576:C:H2'	2:A:577:C:C6	2.56	0.41
2:A:1298:C:H2'	2:A:1299:U:H6	1.86	0.41
2:A:1589:A:C4	35:i:13:TYR:HD2	2.39	0.41
2:A:1609:C:H2'	2:A:1610:G:C8	2.56	0.41
2:A:2219:A:H2'	2:A:2220:A:C8	2.56	0.41
2:A:2676:A:H5'	2:A:2677:G:N7	2.36	0.41
2:A:3172:A:O2'	17:Q:97[A]:ALA:HB1	2.21	0.41
2:A:3243:A:C4	17:Q:156[A]:LEU:HD23	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:155:A:C5	4:C:156:U:C4	3.09	0.41
7:G:93:THR:O	7:G:93:THR:OG1	2.38	0.41
8:H:82:ARG:HB3	34:h:104:PRO:HB3	2.02	0.41
11:K:85:GLY:HA3	11:K:187:ILE:HD12	2.03	0.41
11:K:113:GLU:C	11:K:113:GLU:CD	2.89	0.41
17:Q:56[A]:ASP:OD1	17:Q:59[A]:ARG:NH1	2.53	0.41
31:e:40:LYS:O	31:e:41:LEU:HD23	2.21	0.41
36:j:41:LEU:HD12	36:j:41:LEU:HA	1.84	0.41
36:j:85:THR:O	36:j:89:ARG:HG3	2.20	0.41
38:l:37:CYS:SG	38:l:39:TYR:CD1	3.14	0.41
39:m:43:PHE:N	39:m:43:PHE:HD1	2.19	0.41
45:u:21:A:N6	45:u:46:G:H2'	2.35	0.41
46:v:269:ILE:HD12	46:v:285:PHE:CZ	2.49	0.41
46:v:555:ARG:NH2	46:v:558:LEU:HB2	2.35	0.41
47:x:758:GLU:O	47:x:760:ARG:NH1	2.54	0.41
48:SA:119:ALA:O	48:SA:122:VAL:HG22	2.20	0.41
48:SA:210:GLU:OE1	76:SG:19:ARG:NH1	2.46	0.41
50:SD:97:LEU:HD21	50:SD:121:VAL:HG23	2.02	0.41
52:SF:73:GLY:C	52:SF:77:GLN:HE22	2.28	0.41
54:SI:28:LEU:HG	54:SI:29:GLU:OE1	2.19	0.41
58:SN:118:ARG:HD3	58:SN:131:PHE:HD2	1.86	0.41
59:SO:97:GLY:O	59:SO:98:GLU:HG2	2.21	0.41
59:SO:149:ASP:OD2	59:SO:174:ASN:HB2	2.21	0.41
59:SO:278:PHE:O	59:SO:279:ALA:C	2.63	0.41
60:SQ:82:ARG:NH2	60:SQ:105:PHE:HD2	2.18	0.41
61:SS:3:ARG:HE	61:SS:3:ARG:HB3	1.71	0.41
61:SS:118:GLU:HA	61:SS:121:TYR:CE1	2.56	0.41
61:SS:246:LEU:HD23	61:SS:250:GLU:HG3	2.03	0.41
77:SP:38:PHE:CD1	77:SP:49:ASN:HB2	2.55	0.41
78:SU:135:ILE:HD13	78:SU:135:ILE:HA	1.90	0.41
78:SU:165:LYS:HB2	78:SU:169:PHE:CZ	2.55	0.41
80:SB:73:THR:OG1	80:SB:91:GLU:OE1	2.35	0.41
1:2:50:C:OP1	1:2:423:G:N2	2.50	0.41
1:2:595:G:H2'	1:2:596:C:C6	2.56	0.41
1:2:767:U:H5	65:SW:142:ASN:H	1.69	0.41
1:2:856:A:N6	78:SU:116:ARG:HE	2.19	0.41
1:2:898:A:N3	1:2:899:G:H1'	2.35	0.41
1:2:930:A:H5''	1:2:931:C:C5	2.56	0.41
1:2:976:G:H1	1:2:1023:A:H1'	1.86	0.41
1:2:1225:U:H2'	1:2:1226:A:O4'	2.20	0.41
1:2:1301:U:H5''	63:SR:88:LYS:HE3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1305:U:H5''	1:2:1306:C:C5	2.48	0.41
1:2:1458:G:N2	51:SE:126:VAL:HG21	2.33	0.41
1:2:1495:C:O2'	1:2:1519:U:O2	2.27	0.41
1:2:1594:G:H4'	57:SM:33:LYS:HE3	2.03	0.41
1:2:1662:G:H2'	1:2:1663:G:H8	1.86	0.41
1:2:1795:U:OP2	73:Se:5:ARG:NH2	2.54	0.41
2:A:294:U:H5''	37:k:53:TYR:CE1	2.56	0.41
2:A:425:G:H2'	2:A:426:G:H8	1.85	0.41
2:A:612:U:H2'	2:A:613:G:C8	2.56	0.41
2:A:638:C:P	33:g:21:HIS:HE2	2.44	0.41
2:A:1214:U:H2'	2:A:1215:U:C6	2.55	0.41
2:A:1224:C:C2	2:A:1225:A:C8	3.08	0.41
2:A:1297:C:H2'	2:A:1298:C:H6	1.86	0.41
2:A:1383:G:O2'	6:F:138:ARG:NH1	2.54	0.41
2:A:1446:A:N1	2:A:2356:A:H5''	2.35	0.41
2:A:1505:C:H2'	2:A:1506:A:H8	1.86	0.41
2:A:1595:U:O2'	2:A:1606:U:O2	2.27	0.41
2:A:1601:U:P	20:T:38:ARG:HD3	2.60	0.41
2:A:1785:U:H2'	2:A:1786:G:C8	2.56	0.41
2:A:2249:G:OP2	2:A:2272:G:O2'	2.38	0.41
2:A:2663:G:H4'	7:G:152:ARG:NH2	2.36	0.41
2:A:2697:A:H2'	2:A:2698:G:H8	1.85	0.41
2:A:2727:A:C2	29:c:43:ILE:HG23	2.56	0.41
2:A:2829:U:H2'	2:A:2830:G:H8	1.86	0.41
2:A:2877:G:H2'	2:A:2878:G:H8	1.86	0.41
2:A:2877:G:O2'	2:A:2923:U:O2'	2.38	0.41
2:A:2956:A:H61	2:A:2977:G:H1'	1.86	0.41
2:A:3180:A:C4	17:Q:114[A]:LYS:HA	2.56	0.41
2:A:3184:A:H4'	11:K:39:LYS:HE2	2.02	0.41
2:A:3295:A:H2'	2:A:3296:A:C8	2.55	0.41
2:A:3385:U:H2'	2:A:3386:G:H8	1.86	0.41
3:B:70:U:H2'	3:B:71:G:H8	1.86	0.41
3:B:96:U:H2'	3:B:97:A:C8	2.56	0.41
3:B:116:C:H2'	3:B:117:A:H8	1.86	0.41
3:B:116:C:H2'	3:B:117:A:C8	2.56	0.41
4:C:9:A:H2'	4:C:10:A:C8	2.56	0.41
6:F:317:PRO:C	6:F:319:LYS:H	2.28	0.41
6:F:329:PRO:HB2	9:I:45:LEU:HD12	2.03	0.41
7:G:125:VAL:HG11	7:G:200:PHE:HE1	1.86	0.41
8:H:131:LYS:HE3	8:H:131:LYS:HB3	1.87	0.41
8:H:157:GLN:H	8:H:157:GLN:HG2	1.66	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:126:LEU:O	9:I:130:ILE:HG13	2.21	0.41
11:K:92:TYR:CZ	11:K:101:VAL:HG11	2.56	0.41
12:L:48:LEU:HD12	12:L:49:CYS:N	2.36	0.41
13:M:12:LEU:HD12	13:M:13:LYS:H	1.86	0.41
13:M:74:PRO:O	13:M:78:GLU:HG2	2.21	0.41
13:M:164:LYS:HE3	13:M:170:ASP:HA	2.03	0.41
16:P:9:GLU:HB3	37:k:44:VAL:HG11	2.03	0.41
18:R:70:THR:HG22	18:R:72:GLN:H	1.85	0.41
21:U:21:GLU:O	21:U:21:GLU:CD	2.63	0.41
21:U:38:LYS:HZ2	21:U:38:LYS:HG2	1.74	0.41
21:U:94:ILE:HD13	21:U:94:ILE:HA	1.85	0.41
22:V:36:VAL:HG13	22:V:65:TYR:HA	2.03	0.41
23:W:16:THR:HG22	23:W:64:THR:HB	2.01	0.41
24:X:128:ARG:O	24:X:131:SER:OG	2.39	0.41
26:Z:94:GLN:H	26:Z:94:GLN:HG3	1.65	0.41
31:e:24:THR:HG1	31:e:91:SER:HG	1.65	0.41
34:h:48:ARG:HH12	34:h:69:GLY:C	2.28	0.41
36:j:79:ASP:O	36:j:80:LEU:HD22	2.20	0.41
40:n:15:LYS:HA	40:n:18:LYS:NZ	2.36	0.41
47:x:32:LYS:HD2	47:x:32:LYS:HA	1.77	0.41
47:x:55:ARG:NH2	47:x:64:GLN:O	2.53	0.41
47:x:63:GLU:HG2	47:x:70:ILE:H	1.85	0.41
47:x:319:LEU:O	47:x:323:VAL:HG22	2.21	0.41
48:SA:55:THR:HG21	48:SA:90:ARG:HA	2.02	0.41
49:SC:3:MET:HG2	49:SC:8:ARG:NE	2.35	0.41
51:SE:123:TYR:OH	53:SH:126:ARG:NH1	2.48	0.41
52:SF:98:ASP:HA	59:SO:51:ASP:HB3	2.03	0.41
54:SI:15:ILE:O	54:SI:19:ALA:N	2.40	0.41
58:SN:144:CYS:O	58:SN:145:HIS:CB	2.69	0.41
59:SO:205:SER:HB2	59:SO:210:LEU:HB2	2.03	0.41
59:SO:272:ASP:O	59:SO:273:ASP:C	2.63	0.41
60:SQ:109:LYS:HA	60:SQ:109:LYS:HD2	1.84	0.41
66:SX:127:GLN:HE21	66:SX:127:GLN:CA	2.19	0.41
68:SZ:114:ARG:HD2	68:SZ:114:ARG:HA	1.93	0.41
69:Sa:23:ILE:H	69:Sa:23:ILE:HG13	1.72	0.41
73:Se:9:GLY:O	73:Se:10:ARG:HG3	2.21	0.41
76:SG:6:THR:O	76:SG:10:LYS:HG3	2.21	0.41
76:SG:15:ALA:HA	76:SG:18:GLU:OE1	2.21	0.41
77:SP:75:ALA:C	77:SP:76:ILE:HD13	2.46	0.41
77:SP:79:ARG:HG2	77:SP:81:PHE:H	1.86	0.41
78:SU:29:ASN:OD1	78:SU:30:SER:N	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:SU:140:VAL:HG13	78:SU:150:GLN:HG3	2.02	0.41
78:SU:169:PHE:HB2	78:SU:183:PHE:CE2	2.55	0.41
80:SB:63:GLN:HB3	80:SB:88:PRO:HA	2.03	0.41
80:SB:143:ARG:HA	80:SB:167:ARG:NH2	2.35	0.41
81:E:299:ASP:OD1	81:E:299:ASP:N	2.43	0.41
1:2:1294:G:C2	1:2:1295:G:C5	3.09	0.41
1:2:1320:U:OP2	1:2:1320:U:C6	2.73	0.41
1:2:1606:C:OP1	52:SF:126:PRO:HB3	2.21	0.41
2:A:127:G:H2'	2:A:128:G:H8	1.86	0.41
2:A:249:U:O2	2:A:250:U:N3	2.54	0.41
2:A:347:G:N7	38:L:55:ARG:NH1	2.69	0.41
2:A:709:A:H2'	2:A:710:A:C8	2.55	0.41
2:A:712:G:H4'	14:N:174:ARG:HH12	1.86	0.41
2:A:1213:G:H2'	2:A:1214:U:C6	2.56	0.41
2:A:1499:C:H2'	2:A:1500:G:C8	2.56	0.41
2:A:1770:G:H4'	23:W:99:LYS:NZ	2.36	0.41
2:A:1806:A:H2'	2:A:1807:G:O4'	2.21	0.41
2:A:1828:A:H2'	2:A:1829:G:C8	2.56	0.41
2:A:2149:A:H2	2:A:2188:A:H4'	1.86	0.41
2:A:2263:C:H2'	2:A:2264:U:C6	2.56	0.41
2:A:2974:U:H2'	2:A:2975:U:C6	2.56	0.41
2:A:3019:U:H2'	2:A:3020:U:O4'	2.21	0.41
2:A:3214:U:H3	15:O:124:ARG:HH12	1.68	0.41
4:C:67:U:H2'	4:C:68:G:C8	2.53	0.41
4:C:101:U:H2'	4:C:102:U:O4'	2.21	0.41
5:D:114:SER:O	5:D:165:VAL:N	2.46	0.41
6:F:5:GLN:HB3	6:F:19:ALA:HB1	2.01	0.41
6:F:65:TRP:HE3	6:F:69:ARG:HG2	1.85	0.41
6:F:285:ASP:OD1	6:F:285:ASP:C	2.64	0.41
8:H:8:LYS:HB2	8:H:8:LYS:HE3	1.84	0.41
9:I:125:GLU:OE2	9:I:125:GLU:HA	2.20	0.41
10:J:61:GLN:HB2	16:P:28:TRP:CH2	2.56	0.41
11:K:72:LYS:HD2	11:K:73:SER:N	2.36	0.41
13:M:93:ASP:OD1	13:M:93:ASP:C	2.64	0.41
14:N:64:LYS:HG3	14:N:65:TYR:CE1	2.56	0.41
14:N:139:LEU:H	14:N:139:LEU:HD22	1.86	0.41
15:O:60:LEU:HA	15:O:63:VAL:HG22	2.03	0.41
21:U:125:LYS:HE3	21:U:125:LYS:HB2	1.97	0.41
24:X:18:PRO:HA	24:X:51:ALA:HA	2.03	0.41
25:Y:62:GLY:C	25:Y:64:THR:N	2.77	0.41
26:Z:106:ASP:OD1	26:Z:106:ASP:N	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:u:36:U:H2'	45:u:37:A:O4'	2.21	0.41
55:SJ:23:ARG:HA	55:SJ:92:ASP:HA	2.02	0.41
57:SM:31:ILE:CG2	57:SM:33:LYS:HG2	2.50	0.41
59:SO:197:SER:OG	59:SO:198:ASN:N	2.54	0.41
59:SO:275:ARG:N	59:SO:276:PRO:CD	2.84	0.41
62:ST:215:ARG:HE	62:ST:215:ARG:HB3	1.61	0.41
68:SZ:22:SER:HB2	68:SZ:86:THR:OG1	2.20	0.41
70:Sb:105:THR:N	70:Sb:124:LYS:O	2.50	0.41
71:Sc:93:LEU:HD21	75:Sg:8:LEU:HB3	2.02	0.41
71:Sc:133:LEU:HD12	71:Sc:133:LEU:HA	1.91	0.41
71:Sc:136:TRP:HE1	75:Sg:15:LYS:HG2	1.85	0.41
77:SP:175:TYR:OH	77:SP:197:ILE:O	2.33	0.41
81:E:12:GLY:HA3	81:E:233:TRP:HE3	1.86	0.41
81:E:369:ARG:H	81:E:369:ARG:HG2	1.72	0.41
1:2:68:A:H5'	62:ST:160:ARG:HH22	1.85	0.40
1:2:260:U:N3	64:SV:43:ILE:HG21	2.35	0.40
1:2:327:U:O4	1:2:328:A:N6	2.55	0.40
1:2:612:U:OP2	1:2:613:G:O2'	2.36	0.40
1:2:921:U:H2'	1:2:922:G:C8	2.56	0.40
1:2:1247:U:H2'	1:2:1248:C:C6	2.56	0.40
1:2:1273:G:H4'	1:2:1274:C:O5'	2.20	0.40
1:2:1393:C:H2'	1:2:1394:G:H8	1.86	0.40
1:2:1459:C:H1'	51:SE:128:HIS:HE2	1.85	0.40
1:2:1592:A:H2'	1:2:1593:A:C8	2.57	0.40
1:2:1733:C:C2	1:2:1734:U:C5	3.09	0.40
2:A:54:C:H2'	2:A:55:G:C8	2.52	0.40
2:A:277:G:H2'	2:A:278:U:C6	2.57	0.40
2:A:638:C:H2'	2:A:639:G:C8	2.56	0.40
2:A:840:C:O2'	20:T:128:LYS:HG2	2.21	0.40
2:A:901:G:H2'	2:A:902:G:H8	1.86	0.40
2:A:2286:U:O4'	2:A:2288:G:H5'	2.21	0.40
2:A:3214:U:H3	15:O:124:ARG:NH1	2.18	0.40
3:B:23:A:H2'	3:B:24:A:C8	2.56	0.40
3:B:35:C:O2	3:B:45:A:O2'	2.38	0.40
5:D:80:GLU:OE2	5:D:170:ALA:HA	2.20	0.40
5:D:103:PRO:HA	5:D:163:ARG:HA	2.02	0.40
8:H:55:LEU:HD13	8:H:66:THR:HB	2.03	0.40
9:I:235:PHE:N	9:I:235:PHE:CD1	2.89	0.40
10:J:157:VAL:HG22	10:J:158:ASP:CG	2.47	0.40
15:O:112:LEU:O	15:O:117:ARG:NH2	2.53	0.40
16:P:14:LYS:HB2	16:P:14:LYS:HE2	1.88	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:c:22:ILE:HD13	29:c:22:ILE:HA	1.93	0.40
36:j:51:ILE:HA	36:j:54:VAL:HG12	2.02	0.40
38:l:29:VAL:HG23	38:l:30:GLN:HG3	2.03	0.40
45:t:41:C:H2'	45:t:42:U:C6	2.56	0.40
46:v:176:GLU:OE1	46:v:176:GLU:N	2.54	0.40
46:v:199:THR:O	46:v:199:THR:OG1	2.37	0.40
47:x:50:LYS:HD2	47:x:50:LYS:HA	1.76	0.40
47:x:685:ARG:CZ	47:x:687:ASN:HD21	2.34	0.40
50:SD:32:LEU:HD12	50:SD:32:LEU:HA	1.94	0.40
59:SO:246:SER:HB2	59:SO:294:TRP:CH2	2.56	0.40
59:SO:253:ALA:HA	59:SO:262:VAL:HA	2.03	0.40
61:SS:6:LYS:HZ1	61:SS:8:HIS:HB2	1.86	0.40
61:SS:127:LYS:HB2	61:SS:127:LYS:HE2	1.86	0.40
63:SR:40:LYS:HZ3	63:SR:240:LEU:CD2	2.34	0.40
63:SR:125:ILE:O	63:SR:129:ILE:HG22	2.21	0.40
65:SW:107:ARG:NH1	65:SW:112:GLN:OE1	2.53	0.40
70:Sb:49:GLU:O	70:Sb:64:GLN:HB2	2.20	0.40
77:SP:103:THR:HG1	77:SP:106:SER:HG	1.53	0.40
81:E:92:TYR:HD1	81:E:101:SER:HA	1.86	0.40
81:E:193:ASP:OD1	81:E:193:ASP:C	2.63	0.40
81:E:281:LYS:O	81:E:325:LYS:N	2.55	0.40
1:2:5:U:O2'	1:2:553:G:O2'	2.26	0.40
1:2:142:G:C6	1:2:173:A:N1	2.89	0.40
1:2:297:U:H2'	1:2:298:C:C6	2.55	0.40
1:2:312:A:H4'	1:2:314:C:H5'	2.04	0.40
1:2:916:U:H3	68:SZ:41:ARG:HH22	1.69	0.40
1:2:1002:G:N2	1:2:1760:G:H4'	2.36	0.40
1:2:1292:G:C4	1:2:1324:G:N2	2.90	0.40
1:2:1409:G:P	59:SO:282:SER:HA	2.61	0.40
1:2:1452:U:H2'	1:2:1453:G:C8	2.55	0.40
1:2:1622:G:H2'	1:2:1623:C:C6	2.56	0.40
2:A:528:U:H2'	2:A:529:A:H8	1.84	0.40
2:A:1063:G:O2'	2:A:1097:G:N2	2.54	0.40
2:A:1107:C:H2'	2:A:1108:U:H6	1.85	0.40
2:A:1363:A:H2'	2:A:1364:C:C6	2.55	0.40
2:A:1498:A:H2'	2:A:1499:C:C6	2.56	0.40
2:A:1662:G:N2	2:A:1787:A:N1	2.55	0.40
2:A:1801:U:H2'	2:A:1802:C:C6	2.57	0.40
2:A:1873:U:C4	2:A:1874:A:C5	3.09	0.40
2:A:2203:U:H2'	2:A:2204:C:H6	1.84	0.40
2:A:2329:C:H2'	2:A:2330:C:H6	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:2432:A:H2'	2:A:2433:U:C6	2.55	0.40
2:A:2433:U:H1'	16:P:125:SER:HB3	2.02	0.40
2:A:2435:G:H4'	16:P:24:ARG:HH22	1.87	0.40
3:B:58:C:H2'	3:B:59:U:H6	1.86	0.40
4:C:44:A:H2'	4:C:45:C:O4'	2.21	0.40
4:C:67:U:C2	4:C:68:G:C8	3.09	0.40
6:F:122:THR:O	6:F:126:ILE:HG13	2.20	0.40
7:G:40:HIS:CE1	22:V:69:LYS:HA	2.56	0.40
12:L:60:LEU:HD13	12:L:60:LEU:HA	1.93	0.40
13:M:110:ILE:H	13:M:110:ILE:HD12	1.87	0.40
15:O:23:ILE:N	15:O:23:ILE:HD13	2.36	0.40
17:Q:57[A]:PHE:HZ	17:Q:72[A]:HIS:HA	1.86	0.40
17:Q:81[A]:TYR:CZ	17:Q:99[A]:LEU:HD11	2.56	0.40
18:R:112:LEU:HD23	18:R:112:LEU:HA	1.93	0.40
20:T:167:ARG:CZ	20:T:170:ARG:HD2	2.51	0.40
32:f:59:ILE:HG13	32:f:59:ILE:H	1.76	0.40
35:i:20:ILE:HB	35:i:32:ALA:HB1	2.03	0.40
38:l:38:GLY:O	38:l:41:ALA:HB3	2.21	0.40
40:n:12:LYS:HD3	40:n:12:LYS:HA	1.97	0.40
42:p:1:MET:SD	42:p:6:ARG:NH1	2.94	0.40
44:r:3:LYS:HD2	44:r:6:LYS:HA	2.04	0.40
46:v:294:LYS:HB3	46:v:294:LYS:HE3	1.85	0.40
46:v:358:LYS:O	46:v:358:LYS:HD3	2.21	0.40
47:x:136:CYS:O	47:x:139:THR:OG1	2.36	0.40
47:x:282:PHE:HA	47:x:285:PHE:CD2	2.55	0.40
47:x:706:ILE:HB	47:x:707:PRO:HD3	2.02	0.40
52:SF:28:LEU:CD1	52:SF:66:ARG:HH12	2.34	0.40
53:SH:11:PHE:HD1	53:SH:59:GLY:HA3	1.86	0.40
54:SI:21:PHE:CD1	54:SI:22:LEU:HD23	2.47	0.40
59:SO:256:THR:HG21	59:SO:261:LYS:HD2	2.02	0.40
61:SS:245:LYS:HD3	61:SS:245:LYS:HA	1.81	0.40
63:SR:153:SER:HA	63:SR:193:VAL:HG13	2.02	0.40
71:Sc:86:PHE:CD2	71:Sc:107:PHE:HZ	2.36	0.40
73:Se:22:ARG:HH21	73:Se:29:SER:HB3	1.85	0.40
77:SP:79:ARG:HD3	77:SP:81:PHE:HB3	2.03	0.40
77:SP:84:ARG:NH1	77:SP:205:ARG:H	2.20	0.40
79:SL:16:LEU:HD11	79:SL:29:ARG:H	1.86	0.40
1:2:63:G:O2'	1:2:170:U:OP1	2.39	0.40
1:2:287:G:H2'	1:2:288:A:H8	1.86	0.40
1:2:482:U:H2'	1:2:483:A:C8	2.56	0.40
1:2:1081:A:H1'	1:2:1082:C:C5	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1230:A:P	58:SN:97:LYS:HD3	2.61	0.40
1:2:1344:A:H2'	1:2:1345:A:C8	2.56	0.40
1:2:1693:A:H2'	1:2:1694:A:H8	1.86	0.40
2:A:170:G:H22	2:A:248:U:H2'	1.85	0.40
2:A:700:C:H2'	2:A:701:G:H8	1.87	0.40
2:A:1132:C:H2'	2:A:1133:A:C8	2.57	0.40
2:A:1229:G:H2'	2:A:1230:G:H8	1.86	0.40
2:A:1293:U:H5''	12:L:164:LYS:NZ	2.36	0.40
2:A:1342:C:H2'	2:A:1343:A:C8	2.57	0.40
2:A:1459:C:H2'	2:A:1460:A:C8	2.56	0.40
2:A:1636:U:H2'	2:A:1637:A:C4	2.56	0.40
2:A:1940:G:H2'	2:A:1941:C:H6	1.87	0.40
2:A:2732:G:H2'	2:A:2733:A:C8	2.57	0.40
2:A:2825:C:H42	2:A:2864:A:N6	2.19	0.40
2:A:3121:U:H4'	2:A:3122:A:OP1	2.21	0.40
2:A:3173:G:N1	34:h:92:LYS:O	2.41	0.40
2:A:3183:A:H2'	2:A:3184:A:C8	2.57	0.40
2:A:3184:A:H2'	2:A:3185:U:C6	2.57	0.40
5:D:41:ILE:N	5:D:90:ALA:O	2.43	0.40
9:I:160:ARG:HD2	9:I:203:TRP:CE2	2.56	0.40
10:J:248:LYS:HB3	10:J:248:LYS:HE3	1.76	0.40
13:M:30:LEU:HD13	13:M:30:LEU:HA	1.96	0.40
13:M:43:GLN:HB3	13:M:75:LYS:HZ2	1.86	0.40
19:S:178:ARG:HA	19:S:178:ARG:HD2	1.84	0.40
24:X:15:LEU:HD23	24:X:53:SER:HB2	2.04	0.40
32:f:30:PRO:O	32:f:33:VAL:HG22	2.21	0.40
35:i:76:TYR:CD2	35:i:80:ARG:HD3	2.55	0.40
46:v:25:ARG:HA	46:v:28:ILE:HB	2.04	0.40
47:x:284:LEU:O	47:x:288:ILE:HG22	2.21	0.40
47:x:743:ILE:H	47:x:743:ILE:HD12	1.86	0.40
48:SA:75:LYS:HE2	49:SC:21:VAL:HA	2.02	0.40
55:SJ:20:ILE:HD13	55:SJ:96:PRO:HA	2.02	0.40
55:SJ:103:ILE:H	55:SJ:103:ILE:HG12	1.71	0.40
59:SO:202:LEU:HD11	59:SO:211:ILE:HG22	2.03	0.40
61:SS:139:VAL:HG13	61:SS:150:PRO:HG3	2.02	0.40
63:SR:87:GLN:HB2	63:SR:94:GLN:HB3	2.03	0.40
77:SP:36:TYR:HB2	77:SP:48:ILE:HD11	2.04	0.40
77:SP:108:THR:OG1	77:SP:109:ASN:N	2.54	0.40
77:SP:113:ARG:HA	77:SP:113:ARG:NH1	2.34	0.40
79:SL:29:ARG:HD3	79:SL:30:VAL:N	2.36	0.40
80:SB:68:ILE:HD12	80:SB:68:ILE:HA	1.83	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:E:386:ASP:OD1	81:E:386:ASP:N	2.55	0.40
1:2:1117:U:H2'	1:2:1118:G:H8	1.87	0.40
1:2:1452:U:H2'	1:2:1453:G:H8	1.86	0.40
1:2:1584:G:O2'	1:2:1585:U:P	2.79	0.40
1:2:1669:U:H2'	1:2:1670:G:O4'	2.21	0.40
2:A:195:U:H2'	2:A:196:G:O4'	2.21	0.40
2:A:371:G:H4'	2:A:396:A:N1	2.36	0.40
2:A:792:G:H2'	2:A:793:C:H6	1.87	0.40
2:A:797:U:OP1	14:N:2:ALA:N	2.54	0.40
2:A:843:A:H2'	2:A:844:G:H8	1.86	0.40
2:A:953:G:H5'	2:A:954:U:O5'	2.21	0.40
2:A:1155:C:O2	2:A:1155:C:H2'	2.22	0.40
2:A:1299:U:H2'	2:A:1300:G:O4'	2.21	0.40
2:A:1378:U:H2'	2:A:1379:G:H8	1.86	0.40
2:A:1627:U:H2'	2:A:1814:A:H62	1.85	0.40
2:A:1658:G:O4'	2:A:1796:G:H2'	2.21	0.40
2:A:1869:C:H4'	2:A:3077:A:O2'	2.22	0.40
2:A:1942:U:O2'	2:A:3345:G:H1'	2.22	0.40
2:A:2188:A:N3	2:A:2188:A:H2'	2.36	0.40
2:A:2430:A:H2'	2:A:2431:C:C6	2.57	0.40
2:A:3034:C:C2	11:K:120:ASP:HB2	2.56	0.40
2:A:3191:G:H5''	17:Q:176[A]:LYS:HE2	2.03	0.40
2:A:3376:A:OP1	32:f:18:LYS:NZ	2.47	0.40
4:C:148:G:C2	4:C:149:A:C5	3.10	0.40
9:I:224:ILE:H	9:I:224:ILE:HD12	1.87	0.40
10:J:82:LEU:HD21	10:J:178:ALA:HB1	2.03	0.40
15:O:25:LYS:HB3	15:O:25:LYS:HE2	1.96	0.40
17:Q:134[A]:LYS:HD3	17:Q:134[A]:LYS:HA	1.92	0.40
18:R:122:ALA:HB3	18:R:143:PRO:HB2	2.03	0.40
20:T:181:ARG:O	20:T:185:LEU:HG	2.22	0.40
28:b:46:ILE:HD11	28:b:118:PHE:HD2	1.85	0.40
29:c:19:LYS:HB3	29:c:25:HIS:HB2	2.03	0.40
29:c:76:ASP:OD1	29:c:77:LYS:N	2.52	0.40
29:c:148:ILE:HD12	29:c:148:ILE:HA	1.91	0.40
40:n:28:ARG:NH1	40:n:35:ILE:O	2.54	0.40
46:v:67:MET:O	46:v:70:VAL:HG22	2.21	0.40
46:v:142:TRP:HA	46:v:145:LYS:CG	2.52	0.40
46:v:247:VAL:HA	46:v:250:LEU:HD12	2.03	0.40
47:x:381:TYR:CE2	47:x:383:SER:HB3	2.57	0.40
47:x:501:LEU:O	47:x:505:VAL:HG13	2.22	0.40
52:SF:106:LYS:HA	52:SF:106:LYS:HD3	1.71	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:SO:261:LYS:HZ3	59:SO:275:ARG:HH12	1.68	0.40
59:SO:295:SER:O	59:SO:296:ALA:C	2.65	0.40
60:SQ:108:ASP:HA	60:SQ:111:ARG:HH21	1.86	0.40
60:SQ:184:LEU:HA	60:SQ:187:LYS:HD3	2.02	0.40
61:SS:24:SER:OG	61:SS:24:SER:O	2.40	0.40
62:ST:75:LEU:HD12	62:ST:76:LEU:N	2.37	0.40
63:SR:168:ARG:O	63:SR:198:THR:HA	2.21	0.40
68:SZ:19:ILE:HD11	68:SZ:105:LEU:HD21	2.03	0.40
68:SZ:127:ARG:NH1	68:SZ:128:LYS:O	2.54	0.40
70:Sb:115:GLU:HB3	70:Sb:118:ARG:HH21	1.85	0.40
79:SL:14:LYS:O	79:SL:28:VAL:HG13	2.22	0.40
80:SB:215:ASP:HA	80:SB:218:GLU:OE2	2.21	0.40
81:E:283:TYR:HB2	81:E:323:MET:HB3	2.02	0.40
1:2:87:C:O2'	1:2:169:A:N1	2.52	0.40
1:2:97:C:H2'	1:2:98:U:C6	2.56	0.40
1:2:466:U:H2'	1:2:467:G:O4'	2.21	0.40
1:2:541:A:O2'	1:2:542:A:OP1	2.28	0.40
1:2:1116:A:H5''	42:p:17:ARG:NH1	2.36	0.40
1:2:1212:G:H2'	1:2:1213:G:H8	1.86	0.40
1:2:1310:U:H2'	1:2:1311:U:C6	2.56	0.40
1:2:1538:U:O2'	1:2:1539:G:N2	2.54	0.40
1:2:1607:G:H2'	1:2:1608:U:C6	2.56	0.40
1:2:1733:C:H2'	1:2:1734:U:H6	1.87	0.40
2:A:140:C:H2'	2:A:141:C:C6	2.56	0.40
2:A:377:A:H1'	2:A:392:G:N2	2.37	0.40
2:A:634:C:O3'	33:g:47:ARG:NH2	2.54	0.40
2:A:860:G:O2'	2:A:895:A:H5''	2.21	0.40
2:A:1214:U:H2'	2:A:1215:U:H6	1.86	0.40
2:A:1529:A:P	2:A:1592:G:H1	2.44	0.40
2:A:1813:A:O2'	2:A:1816:A:N3	2.39	0.40
2:A:2383:C:H2'	2:A:2384:A:O4'	2.20	0.40
2:A:2553:U:O2'	35:i:91:ARG:NH1	2.55	0.40
2:A:2597:U:H2'	2:A:2598:G:C8	2.55	0.40
2:A:3058:U:C2	32:f:25:PHE:CZ	3.09	0.40
4:C:21:C:N4	4:C:22:U:O4	2.55	0.40
13:M:55:ARG:NE	45:t:20:A:OP1	2.55	0.40
13:M:108:GLU:O	13:M:108:GLU:OE1	2.39	0.40
14:N:52:ASP:OD1	14:N:52:ASP:N	2.54	0.40
18:R:18:ARG:HE	18:R:18:ARG:HB3	1.62	0.40
20:T:176:ARG:HA	20:T:179:GLU:OE1	2.22	0.40
24:X:13:ILE:HD12	24:X:13:ILE:N	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:a:112:ASP:OD1	27:a:115:ARG:HB2	2.21	0.40
45:t:6:C:H2'	45:t:7:G:C8	2.56	0.40
46:v:282:ILE:HG21	46:v:319:VAL:HG12	2.03	0.40
47:x:73:THR:HG23	47:x:440:ARG:HH21	1.86	0.40
47:x:352:ARG:HH22	47:x:355:GLN:HG2	1.87	0.40
48:SA:64:ARG:HA	48:SA:64:ARG:HD3	1.85	0.40
49:SC:14:TYR:HA	49:SC:17:GLN:HE21	1.87	0.40
52:SF:122:ARG:HH11	80:SB:76:ARG:HD2	1.86	0.40
55:SJ:30:LYS:NZ	55:SJ:32:LYS:HB3	2.36	0.40
59:SO:200:ASN:ND2	59:SO:239:GLU:OE2	2.54	0.40
60:SQ:160:HIS:O	60:SQ:164:ILE:HG22	2.21	0.40
77:SP:116:LYS:HA	77:SP:116:LYS:HD3	1.91	0.40
78:SU:51:VAL:HG13	78:SU:53:GLY:N	2.35	0.40
80:SB:220:VAL:HB	80:SB:224:ASN:OD1	2.22	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	
5	D	249/251 (99%)	227 (91%)	22 (9%)	0	100	100
6	F	359/361 (99%)	345 (96%)	14 (4%)	0	100	100
7	G	292/294 (99%)	279 (96%)	13 (4%)	0	100	100
8	H	163/175 (93%)	153 (94%)	10 (6%)	0	100	100
9	I	220/223 (99%)	209 (95%)	11 (5%)	0	100	100
10	J	231/233 (99%)	221 (96%)	9 (4%)	1 (0%)	30	64
11	K	189/191 (99%)	177 (94%)	12 (6%)	0	100	100
12	L	216/218 (99%)	194 (90%)	21 (10%)	1 (0%)	24	59
13	M	167/169 (99%)	154 (92%)	13 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	N	191/193 (99%)	180 (94%)	9 (5%)	2 (1%)	12	45
15	O	134/136 (98%)	124 (92%)	10 (8%)	0	100	100
16	P	201/203 (99%)	195 (97%)	6 (3%)	0	100	100
17	Q	195/197 (99%)	190 (97%)	5 (3%)	0	100	100
18	R	181/183 (99%)	173 (96%)	8 (4%)	0	100	100
19	S	183/185 (99%)	175 (96%)	7 (4%)	1 (0%)	24	59
20	T	186/188 (99%)	185 (100%)	1 (0%)	0	100	100
21	U	169/171 (99%)	162 (96%)	7 (4%)	0	100	100
22	V	157/159 (99%)	147 (94%)	10 (6%)	0	100	100
23	W	98/100 (98%)	96 (98%)	2 (2%)	0	100	100
24	X	134/136 (98%)	131 (98%)	3 (2%)	0	100	100
25	Y	124/126 (98%)	108 (87%)	15 (12%)	1 (1%)	16	50
26	Z	119/121 (98%)	111 (93%)	8 (7%)	0	100	100
27	a	123/125 (98%)	114 (93%)	9 (7%)	0	100	100
28	b	133/135 (98%)	124 (93%)	9 (7%)	0	100	100
29	c	146/148 (99%)	134 (92%)	12 (8%)	0	100	100
30	d	56/58 (97%)	55 (98%)	1 (2%)	0	100	100
31	e	94/96 (98%)	88 (94%)	6 (6%)	0	100	100
32	f	107/109 (98%)	100 (94%)	7 (6%)	0	100	100
33	g	125/127 (98%)	123 (98%)	2 (2%)	0	100	100
34	h	104/106 (98%)	98 (94%)	6 (6%)	0	100	100
35	i	110/112 (98%)	103 (94%)	7 (6%)	0	100	100
36	j	117/119 (98%)	114 (97%)	3 (3%)	0	100	100
37	k	97/99 (98%)	94 (97%)	3 (3%)	0	100	100
38	l	79/81 (98%)	75 (95%)	4 (5%)	0	100	100
39	m	75/77 (97%)	71 (95%)	4 (5%)	0	100	100
40	n	48/50 (96%)	44 (92%)	4 (8%)	0	100	100
41	o	50/52 (96%)	48 (96%)	2 (4%)	0	100	100
42	p	23/25 (92%)	23 (100%)	0	0	100	100
43	q	101/103 (98%)	98 (97%)	3 (3%)	0	100	100
44	r	89/91 (98%)	86 (97%)	3 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
46	v	975/1044 (93%)	897 (92%)	75 (8%)	3 (0%)	36	69
47	x	840/842 (100%)	759 (90%)	79 (9%)	2 (0%)	43	74
48	SA	220/222 (99%)	206 (94%)	14 (6%)	0	100	100
49	SC	90/92 (98%)	78 (87%)	12 (13%)	0	100	100
50	SD	119/121 (98%)	97 (82%)	22 (18%)	0	100	100
51	SE	115/117 (98%)	97 (84%)	18 (16%)	0	100	100
52	SF	139/141 (99%)	132 (95%)	6 (4%)	1 (1%)	18	53
53	SH	143/145 (99%)	133 (93%)	10 (7%)	0	100	100
54	SI	141/143 (99%)	131 (93%)	10 (7%)	0	100	100
55	SJ	98/100 (98%)	88 (90%)	10 (10%)	0	100	100
56	SK	62/108 (57%)	57 (92%)	4 (6%)	1 (2%)	7	36
57	SM	51/53 (96%)	43 (84%)	8 (16%)	0	100	100
58	SN	71/73 (97%)	47 (66%)	22 (31%)	2 (3%)	4	27
59	SO	310/312 (99%)	281 (91%)	26 (8%)	3 (1%)	12	45
60	SQ	221/232 (95%)	201 (91%)	20 (9%)	0	100	100
61	SS	256/258 (99%)	239 (93%)	17 (7%)	0	100	100
62	ST	226/228 (99%)	215 (95%)	10 (4%)	1 (0%)	30	64
63	SR	214/216 (99%)	197 (92%)	17 (8%)	0	100	100
64	SV	183/200 (92%)	178 (97%)	5 (3%)	0	100	100
65	SW	176/184 (96%)	166 (94%)	10 (6%)	0	100	100
66	SX	140/142 (99%)	130 (93%)	10 (7%)	0	100	100
67	SY	148/150 (99%)	143 (97%)	5 (3%)	0	100	100
68	SZ	125/127 (98%)	115 (92%)	10 (8%)	0	100	100
69	Sa	85/87 (98%)	76 (89%)	8 (9%)	1 (1%)	10	41
70	Sb	127/129 (98%)	115 (91%)	11 (9%)	1 (1%)	16	50
71	Sc	142/144 (99%)	130 (92%)	11 (8%)	1 (1%)	18	53
72	Sd	132/134 (98%)	122 (92%)	10 (8%)	0	100	100
73	Se	92/94 (98%)	82 (89%)	10 (11%)	0	100	100
74	Sf	79/81 (98%)	76 (96%)	3 (4%)	0	100	100
75	Sg	58/60 (97%)	54 (93%)	4 (7%)	0	100	100
76	SG	119/121 (98%)	107 (90%)	12 (10%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
77	SP	204/206 (99%)	185 (91%)	17 (8%)	2 (1%)	12	45
78	SU	182/184 (99%)	173 (95%)	8 (4%)	1 (0%)	24	59
79	SL	61/63 (97%)	54 (88%)	7 (12%)	0	100	100
80	SB	204/206 (99%)	178 (87%)	26 (13%)	0	100	100
81	E	384/386 (100%)	363 (94%)	21 (6%)	0	100	100
All	All	12767/13071 (98%)	11873 (93%)	869 (7%)	25 (0%)	44	74

All (25) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
10	J	158	ASP
25	Y	81	PRO
52	SF	40	GLU
56	SK	88	ILE
70	Sb	76	SER
71	Sc	64	PRO
78	SU	64	VAL
47	x	677	PHE
59	SO	284	ALA
77	SP	39	ASN
77	SP	189	VAL
46	v	334	ALA
46	v	821	ILE
14	N	136	GLU
58	SN	145	HIS
62	ST	171	LYS
14	N	47	ALA
59	SO	281	TYR
69	Sa	10	GLU
12	L	47	PRO
46	v	331	VAL
58	SN	98	VAL
59	SO	276	PRO
19	S	18	ALA
47	x	28	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	
5	D	190/193 (98%)	188 (99%)	2 (1%)	65	74
6	F	288/288 (100%)	287 (100%)	1 (0%)	86	85
7	G	241/243 (99%)	241 (100%)	0	100	100
8	H	139/154 (90%)	139 (100%)	0	100	100
9	I	186/187 (100%)	185 (100%)	1 (0%)	81	82
10	J	187/191 (98%)	185 (99%)	2 (1%)	65	74
11	K	168/171 (98%)	166 (99%)	2 (1%)	63	72
12	L	185/185 (100%)	184 (100%)	1 (0%)	81	82
13	M	145/147 (99%)	144 (99%)	1 (1%)	76	78
14	N	154/154 (100%)	154 (100%)	0	100	100
15	O	107/107 (100%)	107 (100%)	0	100	100
16	P	175/175 (100%)	171 (98%)	4 (2%)	44	63
17	Q	160/160 (100%)	157 (98%)	3 (2%)	50	66
18	R	138/145 (95%)	136 (99%)	2 (1%)	59	71
19	S	150/150 (100%)	150 (100%)	0	100	100
20	T	152/153 (99%)	149 (98%)	3 (2%)	48	65
21	U	155/155 (100%)	154 (99%)	1 (1%)	78	80
22	V	135/136 (99%)	133 (98%)	2 (2%)	57	70
23	W	87/87 (100%)	87 (100%)	0	100	100
24	X	104/104 (100%)	103 (99%)	1 (1%)	68	75
25	Y	56/108 (52%)	54 (96%)	2 (4%)	31	54
26	Z	104/105 (99%)	104 (100%)	0	100	100
27	a	108/108 (100%)	106 (98%)	2 (2%)	50	66
28	b	112/115 (97%)	112 (100%)	0	100	100
29	c	117/118 (99%)	117 (100%)	0	100	100
30	d	46/46 (100%)	45 (98%)	1 (2%)	45	64
31	e	81/81 (100%)	81 (100%)	0	100	100
32	f	92/96 (96%)	91 (99%)	1 (1%)	65	74
33	g	107/109 (98%)	107 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
34	h	90/90 (100%)	90 (100%)	0	100	100
35	i	95/95 (100%)	94 (99%)	1 (1%)	65	74
36	j	104/104 (100%)	103 (99%)	1 (1%)	68	75
37	k	80/81 (99%)	80 (100%)	0	100	100
38	l	67/67 (100%)	64 (96%)	3 (4%)	24	49
39	m	68/68 (100%)	68 (100%)	0	100	100
40	n	45/45 (100%)	44 (98%)	1 (2%)	45	64
41	o	45/47 (96%)	44 (98%)	1 (2%)	45	64
42	p	22/23 (96%)	21 (96%)	1 (4%)	24	49
43	q	87/88 (99%)	87 (100%)	0	100	100
44	r	71/71 (100%)	69 (97%)	2 (3%)	38	59
46	v	789/890 (89%)	788 (100%)	1 (0%)	88	89
47	x	715/715 (100%)	714 (100%)	1 (0%)	88	89
48	SA	182/182 (100%)	180 (99%)	2 (1%)	65	74
49	SC	77/85 (91%)	76 (99%)	1 (1%)	61	71
50	SD	88/98 (90%)	88 (100%)	0	100	100
51	SE	95/98 (97%)	95 (100%)	0	100	100
52	SF	117/117 (100%)	115 (98%)	2 (2%)	53	68
53	SH	127/128 (99%)	127 (100%)	0	100	100
54	SI	115/115 (100%)	114 (99%)	1 (1%)	70	75
55	SJ	93/93 (100%)	93 (100%)	0	100	100
56	SK	57/89 (64%)	56 (98%)	1 (2%)	51	67
57	SM	47/47 (100%)	46 (98%)	1 (2%)	47	65
58	SN	57/64 (89%)	56 (98%)	1 (2%)	51	67
59	SO	250/257 (97%)	248 (99%)	2 (1%)	73	77
60	SQ	200/205 (98%)	200 (100%)	0	100	100
61	SS	220/220 (100%)	218 (99%)	2 (1%)	70	75
62	ST	189/195 (97%)	188 (100%)	1 (0%)	81	82
63	SR	175/175 (100%)	175 (100%)	0	100	100
64	SV	148/161 (92%)	148 (100%)	0	100	100
65	SW	153/157 (98%)	153 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
66	SX	126/127 (99%)	124 (98%)	2 (2%)	55	69
67	SY	127/127 (100%)	126 (99%)	1 (1%)	73	77
68	SZ	81/96 (84%)	81 (100%)	0	100	100
69	Sa	71/74 (96%)	71 (100%)	0	100	100
70	Sb	110/110 (100%)	109 (99%)	1 (1%)	70	75
71	Sc	119/119 (100%)	118 (99%)	1 (1%)	73	77
72	Sd	112/112 (100%)	111 (99%)	1 (1%)	70	75
73	Se	81/81 (100%)	81 (100%)	0	100	100
74	Sf	70/70 (100%)	70 (100%)	0	100	100
75	Sg	50/51 (98%)	50 (100%)	0	100	100
76	SG	105/110 (96%)	105 (100%)	0	100	100
77	SP	170/173 (98%)	170 (100%)	0	100	100
78	SU	163/165 (99%)	162 (99%)	1 (1%)	78	80
79	SL	56/56 (100%)	52 (93%)	4 (7%)	13	40
80	SB	173/173 (100%)	172 (99%)	1 (1%)	78	80
81	E	320/322 (99%)	318 (99%)	2 (1%)	78	80
All	All	10671/11007 (97%)	10599 (99%)	72 (1%)	73	78

All (72) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	D	49	VAL
5	D	101	VAL
6	F	148	ILE
9	I	106	LEU
10	J	65	LEU
10	J	83	ASP
11	K	18	VAL
11	K	92	TYR
12	L	23	ASN
13	M	127	PHE
16	P	32	GLN
16	P	80	THR
16	P	90	ASN
16	P	92	LEU
17	Q	9[A]	ILE

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Mol	Chain	Res	Type
17	Q	119[A]	VAL
17	Q	148[A]	LYS
18	R	7	THR
18	R	75	GLU
20	T	38	ARG
20	T	56	THR
20	T	109	TYR
21	U	19	VAL
22	V	85	LEU
22	V	95	HIS
24	X	27	ASP
25	Y	13	ILE
25	Y	42	GLN
27	a	30	LEU
27	a	74	TYR
30	d	35	VAL
32	f	92	TYR
35	i	97	GLU
36	j	85	THR
38	l	19	CYS
38	l	22	CYS
38	l	37	CYS
40	n	11	GLN
41	o	112	LYS
42	p	1	MET
44	r	39	CYS
44	r	64	VAL
46	v	367	ILE
47	x	199	ASP
48	SA	136	VAL
48	SA	150	MET
49	SC	80	LEU
52	SF	28	LEU
52	SF	83	GLN
54	SI	54	PHE
56	SK	92	ILE
57	SM	28	THR
58	SN	135	HIS
59	SO	184	ASN
59	SO	290	VAL
61	SS	23	LEU
61	SS	38	LEU

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Mol	Chain	Res	Type
62	ST	48	TYR
66	SX	127	GLN
66	SX	142	VAL
67	SY	118	ILE
70	Sb	12	ASN
71	Sc	117	ILE
72	Sd	34	ASN
78	SU	176	LEU
79	SL	12	VAL
79	SL	13	ILE
79	SL	36	THR
79	SL	41	VAL
80	SB	34	GLN
81	E	10	ARG
81	E	14	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (126) such sidechains are listed below:

Mol	Chain	Res	Type
5	D	100	ASN
5	D	194	ASN
5	D	215	ASN
5	D	216	HIS
6	F	59	GLN
6	F	114	ASN
6	F	213	ASN
6	F	237	GLN
6	F	291	ASN
6	F	307	GLN
7	G	297	GLN
9	I	186	HIS
9	I	209	ASN
9	I	237	ASN
9	I	244	ASN
10	J	137	ASN
10	J	232	HIS
10	J	243	GLN
11	K	9	GLN
11	K	50	ASN
11	K	100	ASN
12	L	23	ASN
12	L	59	GLN

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Mol	Chain	Res	Type
12	L	73	ASN
12	L	162	GLN
12	L	208	ASN
14	N	114	GLN
15	O	119	GLN
16	P	95	GLN
16	P	112	ASN
16	P	194	GLN
18	R	34	GLN
18	R	92	GLN
18	R	101	ASN
18	R	116	HIS
18	R	125	GLN
20	T	3	ASN
20	T	130	ASN
20	T	141	HIS
20	T	150	GLN
22	V	98	HIS
24	X	81	GLN
25	Y	32	GLN
26	Z	111	ASN
27	a	26	GLN
28	b	78	ASN
28	b	128	GLN
29	c	62	HIS
36	j	20	GLN
36	j	59	ASN
36	j	61	GLN
36	j	62	GLN
36	j	68	GLN
36	j	108	GLN
38	l	28	HIS
38	l	30	GLN
38	l	76	ASN
40	n	11	GLN
40	n	20	ASN
46	v	26	HIS
46	v	97	ASN
46	v	271	ASN
46	v	280	GLN
46	v	333	HIS
46	v	413	ASN

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Mol	Chain	Res	Type
46	v	583	ASN
46	v	772	ASN
47	x	91	GLN
47	x	168	GLN
47	x	452	ASN
47	x	497	ASN
47	x	668	GLN
47	x	687	ASN
47	x	748	ASN
48	SA	174	HIS
49	SC	13	GLN
49	SC	58	GLN
51	SE	79	HIS
52	SF	8	GLN
52	SF	32	ASN
52	SF	77	GLN
52	SF	93	HIS
53	SH	127	HIS
54	SI	25	GLN
54	SI	106	GLN
55	SJ	40	ASN
56	SK	95	HIS
58	SN	123	ASN
59	SO	31	ASN
59	SO	101	GLN
59	SO	200	ASN
59	SO	248	ASN
60	SQ	92	GLN
60	SQ	148	ASN
60	SQ	220	GLN
61	SS	69	HIS
62	ST	4	ASN
62	ST	13	GLN
62	ST	140	ASN
62	ST	190	GLN
63	SR	233	GLN
64	SV	32	GLN
64	SV	52	ASN
64	SV	119	GLN
65	SW	110	GLN
66	SX	106	ASN
67	SY	138	ASN

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Mol	Chain	Res	Type
69	Sa	21	ASN
69	Sa	35	ASN
70	Sb	15	ASN
70	Sb	66	ASN
71	Sc	48	HIS
71	Sc	63	GLN
72	Sd	34	ASN
72	Sd	107	GLN
74	Sf	26	GLN
77	SP	131	GLN
78	SU	180	GLN
79	SL	43	ASN
80	SB	37	GLN
80	SB	104	ASN
80	SB	158	GLN
80	SB	169	ASN
81	E	224	HIS
81	E	269	GLN
81	E	319	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	2	1768/1799 (98%)	471 (26%)	37 (2%)
2	A	3186/3394 (93%)	500 (15%)	6 (0%)
3	B	120/121 (99%)	14 (11%)	1 (0%)
4	C	157/158 (99%)	33 (21%)	1 (0%)
45	t	74/75 (98%)	17 (22%)	0
45	u	73/75 (97%)	17 (23%)	0
All	All	5378/5622 (95%)	1052 (19%)	45 (0%)

All (1052) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	2	2	A
1	2	4	C
1	2	25	C
1	2	26	A
1	2	34	G
1	2	42	G
1	2	43	A

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Mol	Chain	Res	Type
1	2	45	U
1	2	47	A
1	2	56	U
1	2	57	G
1	2	62	A
1	2	65	A
1	2	68	A
1	2	69	G
1	2	71	A
1	2	73	U
1	2	74	U
1	2	76	A
1	2	77	U
1	2	78	A
1	2	80	A
1	2	81	G
1	2	93	A
1	2	104	A
1	2	114	C
1	2	116	U
1	2	121	U
1	2	126	A
1	2	127	G
1	2	129	U
1	2	130	C
1	2	131	C
1	2	132	U
1	2	134	U
1	2	135	A
1	2	138	A
1	2	140	A
1	2	141	U
1	2	145	A
1	2	153	G
1	2	158	U
1	2	159	U
1	2	168	A
1	2	171	A
1	2	172	C
1	2	176	C
1	2	178	U
1	2	184	C

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Mol	Chain	Res	Type
1	2	185	U
1	2	186	C
1	2	187	G
1	2	188	A
1	2	189	C
1	2	191	C
1	2	193	U
1	2	194	U
1	2	195	G
1	2	215	A
1	2	216	U
1	2	217	A
1	2	218	A
1	2	223	U
1	2	225	A
1	2	226	A
1	2	227	U
1	2	230	C
1	2	233	C
1	2	234	G
1	2	238	U
1	2	239	C
1	2	240	U
1	2	241	U
1	2	249	U
1	2	250	C
1	2	260	U
1	2	261	U
1	2	265	A
1	2	270	C
1	2	272	U
1	2	274	G
1	2	276	C
1	2	277	U
1	2	278	U
1	2	279	G
1	2	280	U
1	2	281	G
1	2	287	G
1	2	299	A
1	2	313	U
1	2	314	C

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Mol	Chain	Res	Type
1	2	316	A
1	2	320	U
1	2	322	G
1	2	323	A
1	2	330	G
1	2	332	U
1	2	333	A
1	2	334	G
1	2	337	G
1	2	338	C
1	2	352	A
1	2	353	A
1	2	359	A
1	2	361	C
1	2	369	A
1	2	370	A
1	2	387	A
1	2	388	G
1	2	400	A
1	2	401	A
1	2	402	C
1	2	404	G
1	2	415	C
1	2	416	A
1	2	417	A
1	2	418	G
1	2	419	G
1	2	423	G
1	2	425	A
1	2	426	G
1	2	437	A
1	2	439	U
1	2	444	C
1	2	445	A
1	2	447	U
1	2	448	C
1	2	460	A
1	2	482	U
1	2	483	A
1	2	485	A
1	2	487	G
1	2	493	U

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Mol	Chain	Res	Type
1	2	494	U
1	2	496	G
1	2	498	G
1	2	499	U
1	2	500	C
1	2	506	A
1	2	507	U
1	2	510	G
1	2	517	U
1	2	518	A
1	2	525	A
1	2	534	A
1	2	538	A
1	2	540	G
1	2	541	A
1	2	542	A
1	2	543	C
1	2	554	C
1	2	555	A
1	2	556	A
1	2	557	G
1	2	558	U
1	2	559	C
1	2	565	C
1	2	568	G
1	2	572	C
1	2	575	C
1	2	578	U
1	2	582	U
1	2	594	A
1	2	609	U
1	2	610	G
1	2	619	A
1	2	620	A
1	2	622	A
1	2	623	A
1	2	624	G
1	2	635	A
1	2	638	U
1	2	639	U
1	2	640	U
1	2	641	G

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Mol	Chain	Res	Type
1	2	645	C
1	2	653	C
1	2	655	G
1	2	656	G
1	2	677	G
1	2	678	A
1	2	680	U
1	2	681	U
1	2	682	C
1	2	684	A
1	2	687	G
1	2	688	G
1	2	693	U
1	2	694	U
1	2	696	C
1	2	698	U
1	2	700	C
1	2	703	G
1	2	704	C
1	2	705	U
1	2	706	A
1	2	708	C
1	2	709	C
1	2	710	U
1	2	711	U
1	2	712	G
1	2	730	G
1	2	732	G
1	2	733	A
1	2	736	C
1	2	738	G
1	2	739	G
1	2	741	C
1	2	742	U
1	2	743	U
1	2	745	U
1	2	756	A
1	2	765	G
1	2	766	U
1	2	767	U
1	2	774	A
1	2	775	G

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Mol	Chain	Res	Type
1	2	778	G
1	2	781	U
1	2	782	U
1	2	783	G
1	2	787	G
1	2	789	A
1	2	811	A
1	2	812	A
1	2	813	U
1	2	814	A
1	2	816	G
1	2	818	C
1	2	820	U
1	2	821	U
1	2	823	G
1	2	833	U
1	2	836	U
1	2	840	U
1	2	846	G
1	2	852	C
1	2	856	A
1	2	857	U
1	2	861	U
1	2	862	A
1	2	863	A
1	2	873	U
1	2	876	G
1	2	899	G
1	2	901	G
1	2	902	G
1	2	903	U
1	2	912	U
1	2	913	G
1	2	921	U
1	2	929	A
1	2	931	C
1	2	933	A
1	2	934	C
1	2	935	U
1	2	942	G
1	2	945	U
1	2	966	A

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Mol	Chain	Res	Type
1	2	967	A
1	2	969	C
1	2	970	A
1	2	988	A
1	2	992	A
1	2	993	A
1	2	996	U
1	2	1004	U
1	2	1005	A
1	2	1024	U
1	2	1028	C
1	2	1029	U
1	2	1032	G
1	2	1039	A
1	2	1052	U
1	2	1053	G
1	2	1054	U
1	2	1055	U
1	2	1057	U
1	2	1058	U
1	2	1060	U
1	2	1061	A
1	2	1062	A
1	2	1063	U
1	2	1064	G
1	2	1066	C
1	2	1074	G
1	2	1076	A
1	2	1080	U
1	2	1081	A
1	2	1082	C
1	2	1092	A
1	2	1096	C
1	2	1098	U
1	2	1100	G
1	2	1113	A
1	2	1138	A
1	2	1143	A
1	2	1147	A
1	2	1150	G
1	2	1151	A
1	2	1152	A

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Mol	Chain	Res	Type
1	2	1153	G
1	2	1154	G
1	2	1158	C
1	2	1159	C
1	2	1160	A
1	2	1162	C
1	2	1163	A
1	2	1164	G
1	2	1165	G
1	2	1167	G
1	2	1170	G
1	2	1184	A
1	2	1185	U
1	2	1194	A
1	2	1196	A
1	2	1199	G
1	2	1200	G
1	2	1212	G
1	2	1217	A
1	2	1218	G
1	2	1227	A
1	2	1228	G
1	2	1229	G
1	2	1241	G
1	2	1243	G
1	2	1244	A
1	2	1245	G
1	2	1246	C
1	2	1256	A
1	2	1257	U
1	2	1274	C
1	2	1275	A
1	2	1276	U
1	2	1284	C
1	2	1285	U
1	2	1292	G
1	2	1293	U
1	2	1295	G
1	2	1301	U
1	2	1307	U
1	2	1308	G
1	2	1314	U

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Mol	Chain	Res	Type
1	2	1315	U
1	2	1320	U
1	2	1321	A
1	2	1322	A
1	2	1323	C
1	2	1324	G
1	2	1325	A
1	2	1326	A
1	2	1337	A
1	2	1341	A
1	2	1344	A
1	2	1345	A
1	2	1346	A
1	2	1348	A
1	2	1349	G
1	2	1360	A
1	2	1361	U
1	2	1363	U
1	2	1364	G
1	2	1367	G
1	2	1370	U
1	2	1371	A
1	2	1372	U
1	2	1373	C
1	2	1378	U
1	2	1382	A
1	2	1383	G
1	2	1389	C
1	2	1390	U
1	2	1398	U
1	2	1399	C
1	2	1400	A
1	2	1406	A
1	2	1407	U
1	2	1409	G
1	2	1414	U
1	2	1415	U
1	2	1427	A
1	2	1428	G
1	2	1431	C
1	2	1432	U
1	2	1433	G

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Mol	Chain	Res	Type
1	2	1436	A
1	2	1437	U
1	2	1438	G
1	2	1445	G
1	2	1446	A
1	2	1458	G
1	2	1459	C
1	2	1460	A
1	2	1468	U
1	2	1469	A
1	2	1471	A
1	2	1472	C
1	2	1474	G
1	2	1479	A
1	2	1482	C
1	2	1491	U
1	2	1493	A
1	2	1496	U
1	2	1514	U
1	2	1516	A
1	2	1517	U
1	2	1518	C
1	2	1521	G
1	2	1523	G
1	2	1524	A
1	2	1528	U
1	2	1530	C
1	2	1531	G
1	2	1537	C
1	2	1540	G
1	2	1542	G
1	2	1543	A
1	2	1545	A
1	2	1556	A
1	2	1557	U
1	2	1558	U
1	2	1559	A
1	2	1570	A
1	2	1572	G
1	2	1574	G
1	2	1575	G
1	2	1582	U

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Mol	Chain	Res	Type
1	2	1583	A
1	2	1585	U
1	2	1600	A
1	2	1601	G
1	2	1611	A
1	2	1613	U
1	2	1616	G
1	2	1619	C
1	2	1631	A
1	2	1634	C
1	2	1637	C
1	2	1657	U
1	2	1658	G
1	2	1659	A
1	2	1682	U
1	2	1689	A
1	2	1693	A
1	2	1694	A
1	2	1695	G
1	2	1698	G
1	2	1700	C
1	2	1701	A
1	2	1705	C
1	2	1708	U
1	2	1709	C
1	2	1712	A
1	2	1717	G
1	2	1719	A
1	2	1736	G
1	2	1755	A
1	2	1757	G
1	2	1762	A
1	2	1767	G
1	2	1769	U
1	2	1770	U
1	2	1780	G
1	2	1783	C
1	2	1792	G
1	2	1793	G
1	2	1794	A
1	2	1795	U
1	2	1796	C

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Mol	Chain	Res	Type
1	2	1797	A
1	2	1799	U
2	A	14	U
2	A	26	A
2	A	40	A
2	A	43	A
2	A	49	A
2	A	59	G
2	A	60	A
2	A	65	A
2	A	66	A
2	A	77	A
2	A	92	G
2	A	99	A
2	A	109	A
2	A	110	G
2	A	111	C
2	A	116	A
2	A	117	U
2	A	118	U
2	A	122	A
2	A	135	C
2	A	136	G
2	A	148	G
2	A	156	G
2	A	157	A
2	A	165	A
2	A	172	G
2	A	173	G
2	A	190	U
2	A	219	A
2	A	221	A
2	A	234	G
2	A	240	U
2	A	241	G
2	A	243	G
2	A	245	U
2	A	247	C
2	A	252	U
2	A	263	C
2	A	269	G
2	A	286	U

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Mol	Chain	Res	Type
2	A	295	A
2	A	298	U
2	A	305	U
2	A	315	C
2	A	321	C
2	A	329	U
2	A	346	C
2	A	361	A
2	A	376	G
2	A	398	A
2	A	401	U
2	A	402	A
2	A	403	C
2	A	420	G
2	A	421	G
2	A	422	A
2	A	490	A
2	A	491	C
2	A	492	U
2	A	518	G
2	A	519	A
2	A	521	A
2	A	523	A
2	A	533	A
2	A	557	A
2	A	558	U
2	A	559	A
2	A	589	A
2	A	601	U
2	A	602	A
2	A	604	G
2	A	611	A
2	A	636	C
2	A	637	C
2	A	638	C
2	A	646	A
2	A	649	A
2	A	667	C
2	A	677	A
2	A	678	G
2	A	681	U
2	A	683	U

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Mol	Chain	Res	Type
2	A	690	A
2	A	691	A
2	A	705	A
2	A	712	G
2	A	758	C
2	A	761	A
2	A	766	U
2	A	767	U
2	A	780	A
2	A	781	G
2	A	785	G
2	A	786	A
2	A	799	G
2	A	817	A
2	A	826	G
2	A	830	A
2	A	836	A
2	A	846	A
2	A	848	A
2	A	849	C
2	A	857	G
2	A	861	C
2	A	874	U
2	A	879	U
2	A	880	G
2	A	896	A
2	A	907	G
2	A	908	G
2	A	914	A
2	A	916	G
2	A	917	A
2	A	921	A
2	A	924	G
2	A	937	G
2	A	944	C
2	A	959	C
2	A	960	U
2	A	974	G
2	A	979	U
2	A	980	A
2	A	1006	A
2	A	1008	U

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Mol	Chain	Res	Type
2	A	1016	C
2	A	1018	G
2	A	1020	G
2	A	1021	G
2	A	1022	U
2	A	1047	A
2	A	1064	A
2	A	1072	G
2	A	1081	U
2	A	1087	G
2	A	1093	A
2	A	1094	U
2	A	1096	U
2	A	1097	G
2	A	1098	A
2	A	1103	A
2	A	1104	G
2	A	1117	G
2	A	1131	G
2	A	1143	A
2	A	1153	A
2	A	1159	A
2	A	1178	G
2	A	1180	A
2	A	1181	U
2	A	1182	A
2	A	1189	C
2	A	1191	U
2	A	1193	A
2	A	1196	C
2	A	1197	A
2	A	1201	C
2	A	1209	G
2	A	1222	G
2	A	1235	U
2	A	1236	G
2	A	1245	A
2	A	1246	G
2	A	1252	A
2	A	1253	U
2	A	1257	C
2	A	1258	U

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Mol	Chain	Res	Type
2	A	1263	A
2	A	1272	C
2	A	1287	A
2	A	1302	A
2	A	1307	G
2	A	1308	A
2	A	1317	A
2	A	1325	U
2	A	1330	A
2	A	1331	U
2	A	1348	U
2	A	1349	G
2	A	1350	A
2	A	1352	A
2	A	1357	G
2	A	1386	A
2	A	1392	G
2	A	1399	A
2	A	1400	G
2	A	1406	A
2	A	1407	A
2	A	1417	G
2	A	1418	A
2	A	1434	G
2	A	1437	C
2	A	1446	A
2	A	1470	U
2	A	1483	G
2	A	1487	G
2	A	1488	G
2	A	1495	U
2	A	1507	G
2	A	1508	C
2	A	1511	U
2	A	1553	U
2	A	1556	C
2	A	1557	A
2	A	1560	G
2	A	1562	C
2	A	1563	C
2	A	1568	U
2	A	1569	U

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Mol	Chain	Res	Type
2	A	1570	U
2	A	1571	A
2	A	1573	G
2	A	1581	C
2	A	1582	C
2	A	1583	A
2	A	1589	A
2	A	1593	A
2	A	1594	A
2	A	1605	A
2	A	1621	A
2	A	1629	U
2	A	1630	U
2	A	1637	A
2	A	1643	A
2	A	1645	U
2	A	1657	C
2	A	1694	U
2	A	1713	G
2	A	1724	U
2	A	1741	A
2	A	1750	A
2	A	1751	G
2	A	1753	G
2	A	1759	C
2	A	1762	C
2	A	1763	U
2	A	1765	U
2	A	1767	C
2	A	1773	C
2	A	1775	G
2	A	1796	G
2	A	1797	A
2	A	1808	G
2	A	1812	G
2	A	1815	U
2	A	1816	A
2	A	1821	U
2	A	1835	A
2	A	1840	U
2	A	1842	A
2	A	1846	C

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Mol	Chain	Res	Type
2	A	1866	C
2	A	1878	G
2	A	1879	A
2	A	1880	U
2	A	1884	A
2	A	1893	A
2	A	1906	G
2	A	1952	G
2	A	2101	C
2	A	2102	U
2	A	2111	G
2	A	2112	U
2	A	2114	C
2	A	2122	G
2	A	2131	A
2	A	2158	A
2	A	2167	A
2	A	2168	A
2	A	2169	G
2	A	2170	U
2	A	2188	A
2	A	2194	G
2	A	2205	U
2	A	2206	G
2	A	2222	A
2	A	2223	A
2	A	2242	A
2	A	2244	A
2	A	2249	G
2	A	2252	A
2	A	2255	A
2	A	2256	A
2	A	2272	G
2	A	2273	G
2	A	2274	U
2	A	2281	A
2	A	2287	C
2	A	2306	C
2	A	2307	G
2	A	2310	U
2	A	2315	G
2	A	2319	U

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Mol	Chain	Res	Type
2	A	2320	A
2	A	2336	U
2	A	2372	A
2	A	2373	A
2	A	2374	C
2	A	2375	G
2	A	2376	G
2	A	2393	G
2	A	2394	G
2	A	2397	A
2	A	2402	A
2	A	2403	G
2	A	2404	A
2	A	2411	U
2	A	2418	G
2	A	2435	G
2	A	2437	G
2	A	2438	A
2	A	2440	G
2	A	2441	A
2	A	2444	C
2	A	2445	A
2	A	2453	U
2	A	2454	G
2	A	2455	U
2	A	2456	A
2	A	2458	A
2	A	2459	A
2	A	2461	A
2	A	2462	A
2	A	2463	G
2	A	2468	A
2	A	2469	G
2	A	2474	G
2	A	2477	G
2	A	2480	A
2	A	2484	A
2	A	2487	U
2	A	2488	A
2	A	2491	A
2	A	2492	C
2	A	2493	U

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Mol	Chain	Res	Type
2	A	2494	A
2	A	2495	C
2	A	2498	U
2	A	2499	U
2	A	2500	A
2	A	2501	U
2	A	2502	A
2	A	2504	U
2	A	2505	U
2	A	2509	U
2	A	2514	U
2	A	2515	A
2	A	2523	A
2	A	2526	C
2	A	2532	U
2	A	2533	G
2	A	2534	G
2	A	2535	A
2	A	2540	A
2	A	2541	U
2	A	2547	A
2	A	2549	G
2	A	2552	C
2	A	2555	G
2	A	2557	A
2	A	2560	C
2	A	2561	A
2	A	2569	A
2	A	2570	U
2	A	2571	U
2	A	2585	G
2	A	2587	U
2	A	2593	A
2	A	2606	G
2	A	2607	G
2	A	2614	G
2	A	2652	U
2	A	2656	A
2	A	2657	A
2	A	2672	G
2	A	2674	A
2	A	2678	A

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Mol	Chain	Res	Type
2	A	2689	A
2	A	2690	G
2	A	2691	A
2	A	2696	A
2	A	2704	A
2	A	2712	U
2	A	2713	U
2	A	2728	G
2	A	2729	U
2	A	2737	C
2	A	2746	A
2	A	2749	G
2	A	2753	G
2	A	2755	C
2	A	2772	C
2	A	2773	C
2	A	2777	G
2	A	2778	G
2	A	2779	A
2	A	2795	U
2	A	2796	G
2	A	2799	A
2	A	2800	G
2	A	2801	A
2	A	2802	A
2	A	2804	A
2	A	2808	A
2	A	2810	C
2	A	2817	A
2	A	2821	C
2	A	2828	G
2	A	2843	U
2	A	2844	C
2	A	2847	A
2	A	2860	U
2	A	2861	U
2	A	2867	C
2	A	2871	G
2	A	2873	U
2	A	2887	A
2	A	2889	C
2	A	2899	C

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Mol	Chain	Res	Type
2	A	2911	A
2	A	2935	U
2	A	2936	A
2	A	2941	A
2	A	2951	G
2	A	2954	U
2	A	2971	A
2	A	2972	G
2	A	2979	U
2	A	2983	C
2	A	2997	G
2	A	3003	G
2	A	3005	A
2	A	3012	A
2	A	3028	G
2	A	3051	U
2	A	3055	U
2	A	3059	G
2	A	3078	U
2	A	3086	A
2	A	3092	C
2	A	3093	C
2	A	3101	G
2	A	3113	A
2	A	3115	C
2	A	3117	C
2	A	3122	A
2	A	3130	A
2	A	3131	U
2	A	3142	A
2	A	3143	C
2	A	3154	C
2	A	3156	U
2	A	3157	U
2	A	3167	A
2	A	3168	A
2	A	3171	U
2	A	3172	A
2	A	3173	G
2	A	3174	A
2	A	3176	G
2	A	3179	U

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Mol	Chain	Res	Type
2	A	3181	C
2	A	3187	A
2	A	3198	U
2	A	3207	U
2	A	3212	C
2	A	3213	A
2	A	3214	U
2	A	3217	C
2	A	3218	A
2	A	3219	G
2	A	3228	C
2	A	3235	C
2	A	3244	A
2	A	3247	G
2	A	3260	G
2	A	3268	A
2	A	3270	U
2	A	3271	G
2	A	3273	A
2	A	3276	G
2	A	3277	U
2	A	3278	C
2	A	3279	A
2	A	3281	U
2	A	3304	U
2	A	3313	U
2	A	3316	A
2	A	3319	U
2	A	3331	U
2	A	3341	U
2	A	3350	C
2	A	3351	U
2	A	3352	U
2	A	3353	G
2	A	3356	G
2	A	3363	U
2	A	3369	G
2	A	3378	C
2	A	3382	U
2	A	3390	G
3	B	7	G
3	B	11	A

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Mol	Chain	Res	Type
3	B	22	A
3	B	26	C
3	B	52	G
3	B	53	U
3	B	54	U
3	B	65	G
3	B	74	C
3	B	76	A
3	B	99	G
3	B	102	A
3	B	112	G
3	B	121	U
4	C	16	G
4	C	23	U
4	C	34	U
4	C	35	C
4	C	39	G
4	C	46	G
4	C	49	G
4	C	51	G
4	C	59	A
4	C	62	C
4	C	63	G
4	C	79	A
4	C	80	A
4	C	81	U
4	C	82	U
4	C	83	C
4	C	84	C
4	C	86	U
4	C	87	G
4	C	90	U
4	C	95	G
4	C	104	A
4	C	106	C
4	C	111	A
4	C	112	U
4	C	113	U
4	C	116	G
4	C	125	U
4	C	126	A
4	C	129	C

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Mol	Chain	Res	Type
4	C	152	G
4	C	157	U
4	C	158	U
45	t	2	G
45	t	9	G
45	t	16	U
45	t	19	G
45	t	20	A
45	t	21	A
45	t	42	U
45	t	46	G
45	t	47	U
45	t	48	C
45	t	59	A
45	t	61	C
45	t	63	G
45	t	64	A
45	t	74	C
45	t	75	C
45	t	76	A
45	u	16	U
45	u	19	G
45	u	20	A
45	u	21	A
45	u	32	C
45	u	36	U
45	u	40	C
45	u	42	U
45	u	46	G
45	u	47	U
45	u	48	C
45	u	54	A
45	u	63	G
45	u	64	A
45	u	69	C
45	u	74	C
45	u	75	C

All (45) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	2	68	A

Continued on next page...

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Mol	Chain	Res	Type
1	2	77	U
1	2	139	C
1	2	215	A
1	2	224	C
1	2	237	C
1	2	322	G
1	2	352	A
1	2	387	A
1	2	400	A
1	2	447	U
1	2	541	A
1	2	555	A
1	2	609	U
1	2	639	U
1	2	705	U
1	2	711	U
1	2	819	G
1	2	912	U
1	2	928	U
1	2	1023	A
1	2	1226	A
1	2	1245	G
1	2	1256	A
1	2	1273	G
1	2	1274	C
1	2	1321	A
1	2	1323	C
1	2	1344	A
1	2	1382	A
1	2	1430	U
1	2	1471	A
1	2	1557	U
1	2	1584	G
1	2	1633	A
1	2	1636	C
1	2	1657	U
2	A	1562	C
2	A	2168	A
2	A	2533	G
2	A	2842	U
2	A	3004	C
2	A	3121	U

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Mol	Chain	Res	Type
3	B	52	G
4	C	85	G

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

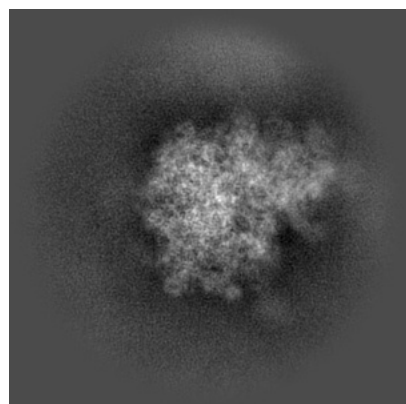
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-38668. These allow visual inspection of the internal detail of the map and identification of artifacts.

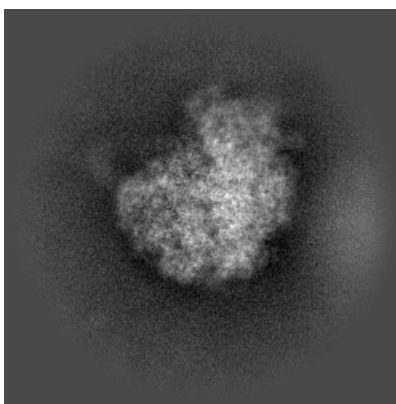
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

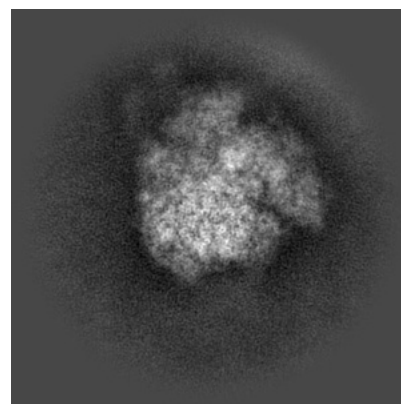
6.1.1 Primary map



X

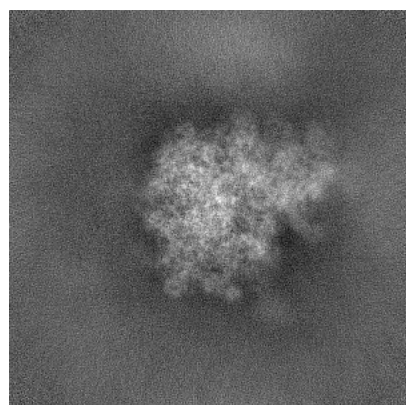


Y

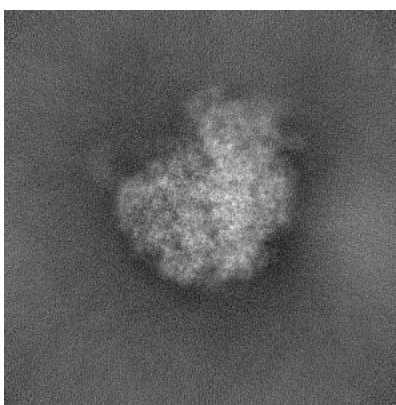


Z

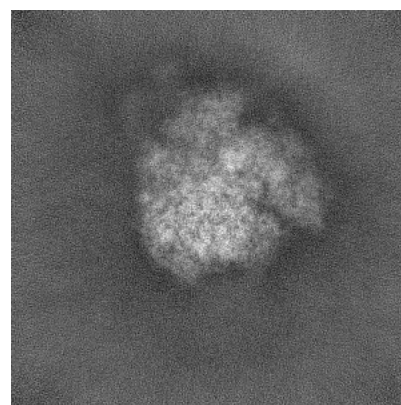
6.1.2 Raw map



X



Y

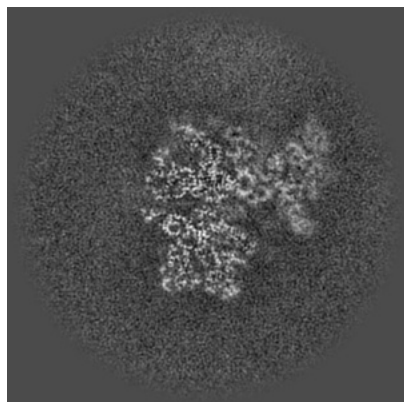


Z

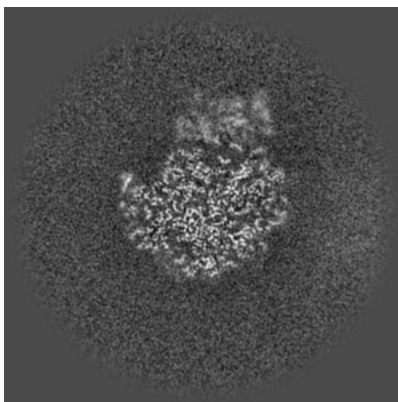
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

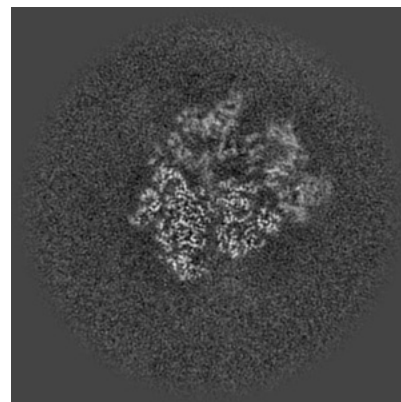
6.2.1 Primary map



X Index: 200

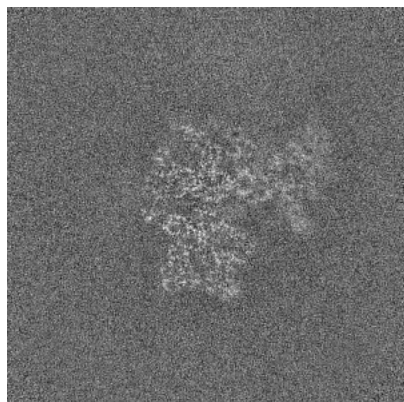


Y Index: 200

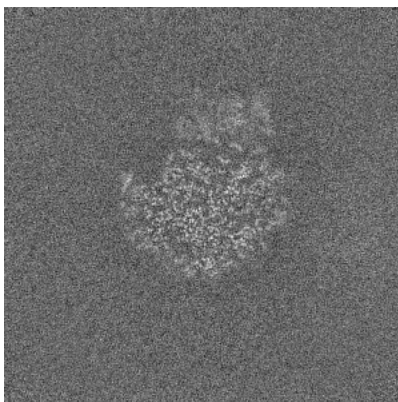


Z Index: 200

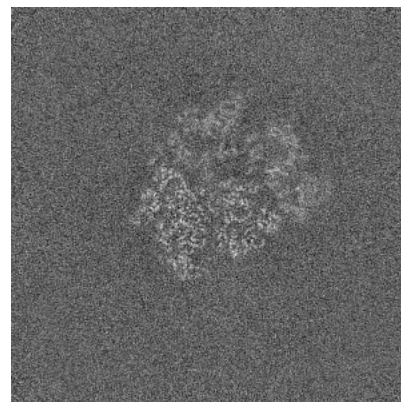
6.2.2 Raw map



X Index: 200



Y Index: 200

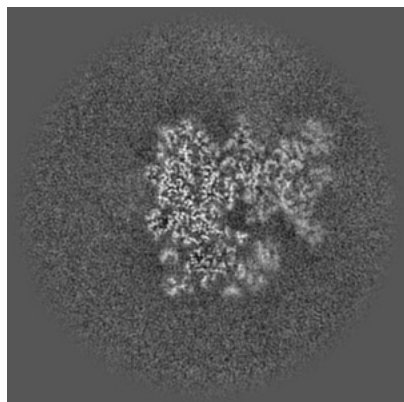


Z Index: 200

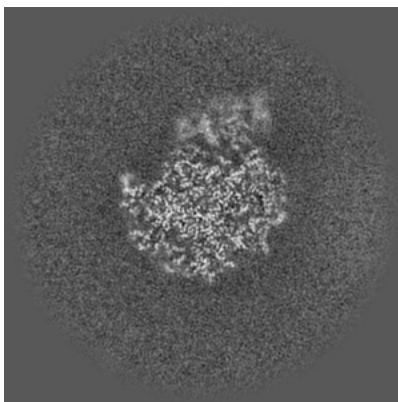
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

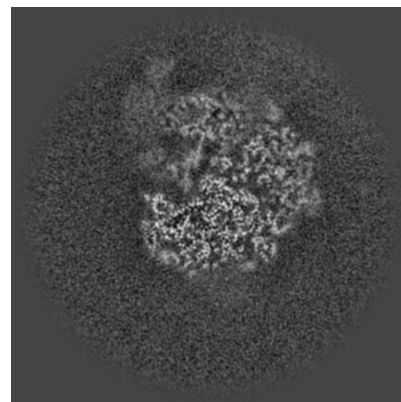
6.3.1 Primary map



X Index: 213

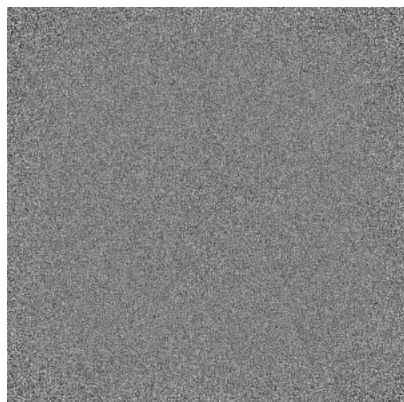


Y Index: 198

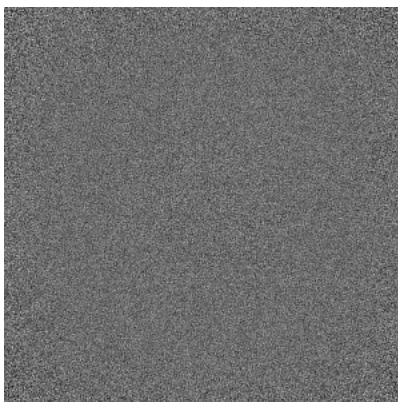


Z Index: 223

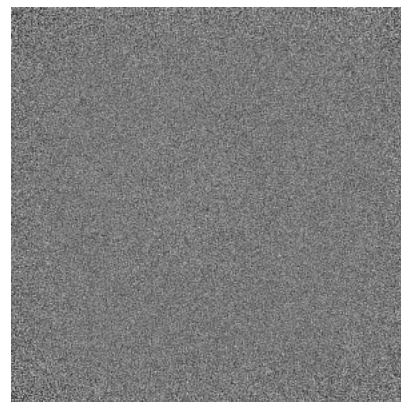
6.3.2 Raw map



X Index: 0



Y Index: 0

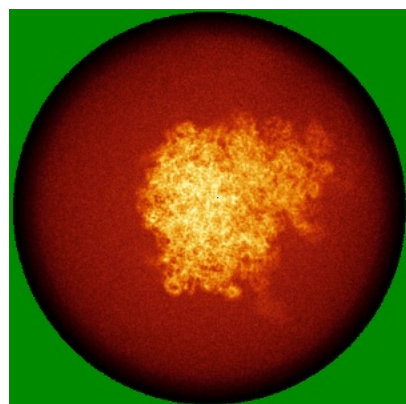


Z Index: 0

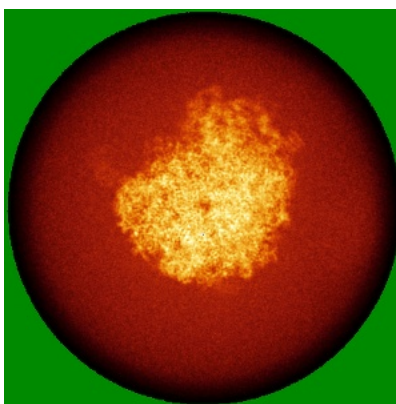
The images above show the largest variance slices of the map in three orthogonal directions.

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

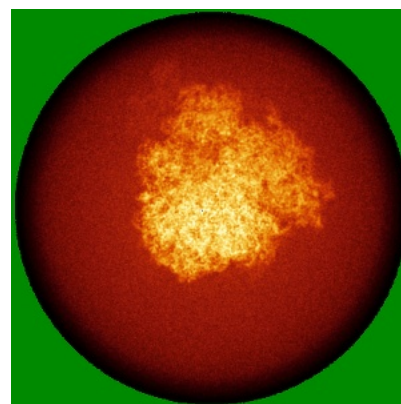
6.4.1 Primary map



X

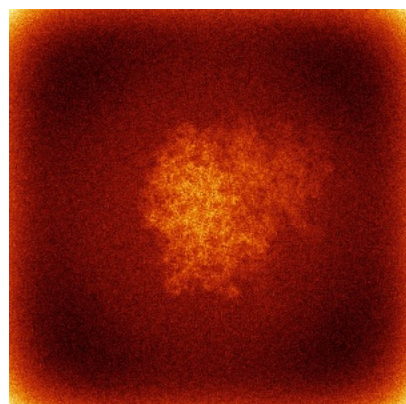


Y

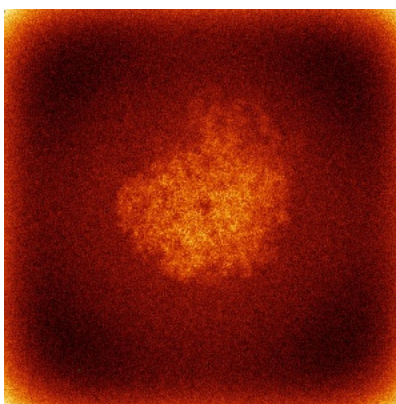


Z

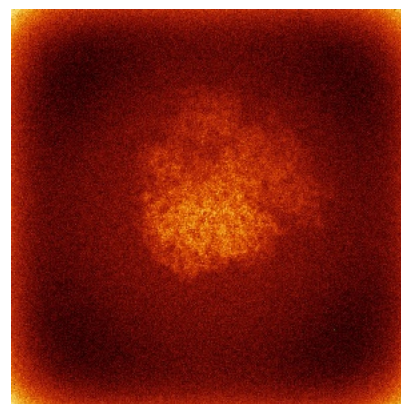
6.4.2 Raw map



X



Y

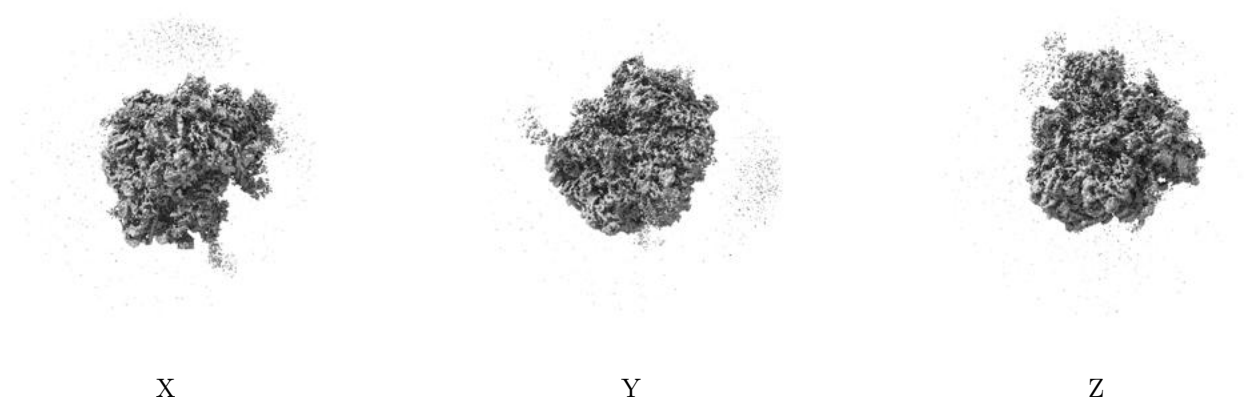


Z

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.

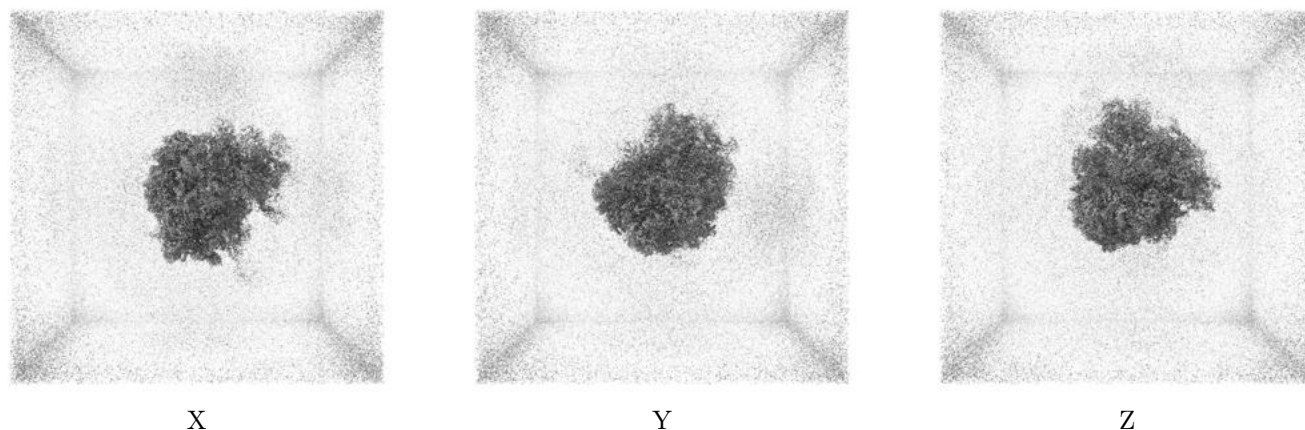
6.5 Orthogonal surface views [i](#)

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.

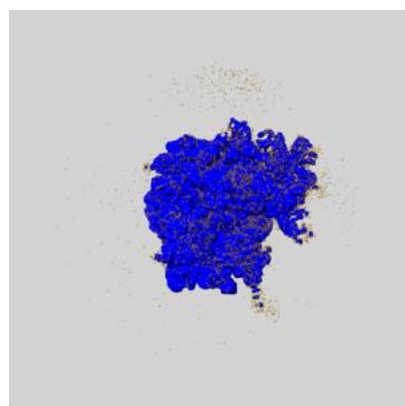
6.6 Mask visualisation [i](#)

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

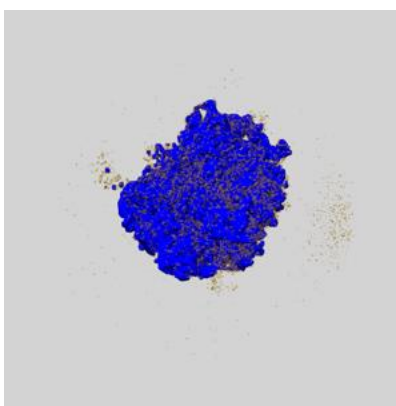
A mask typically either:

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

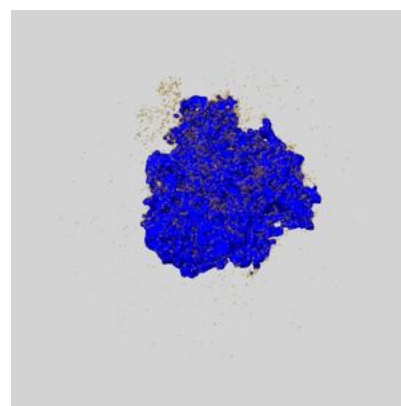
6.6.1 emd_38668_msk_1.map [i](#)



X



Y

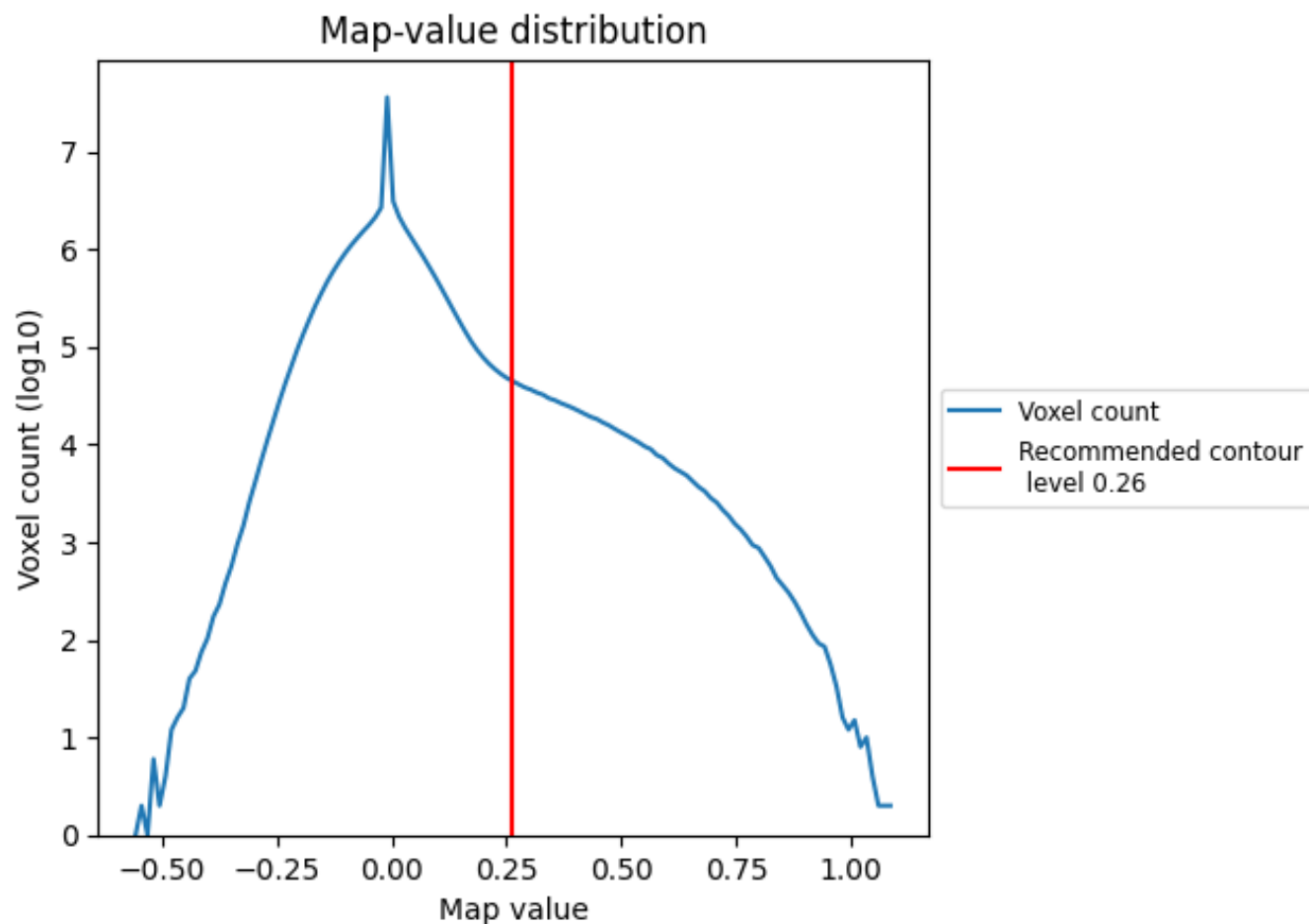


Z

7 Map analysis [i](#)

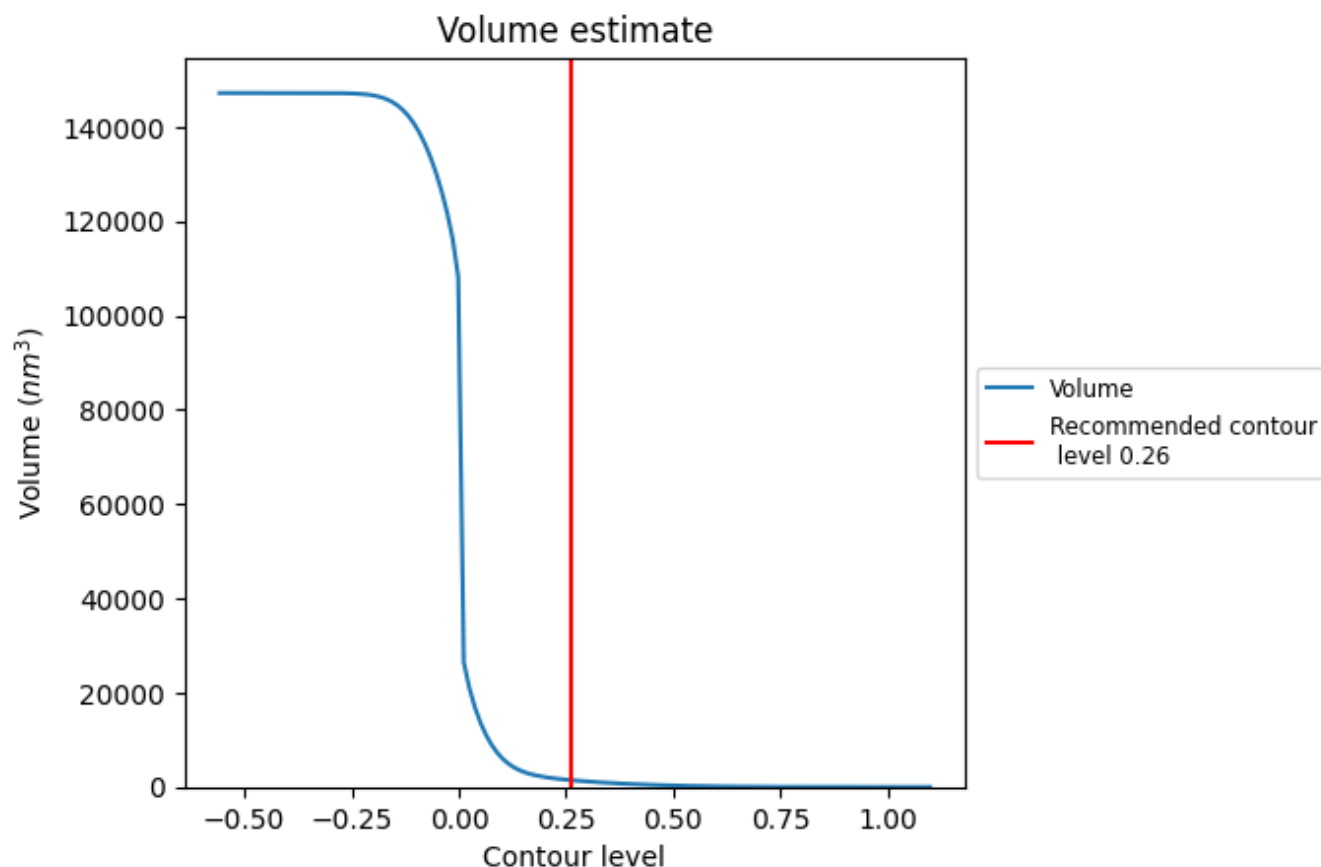
This section contains the results of statistical analysis of the map.

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.

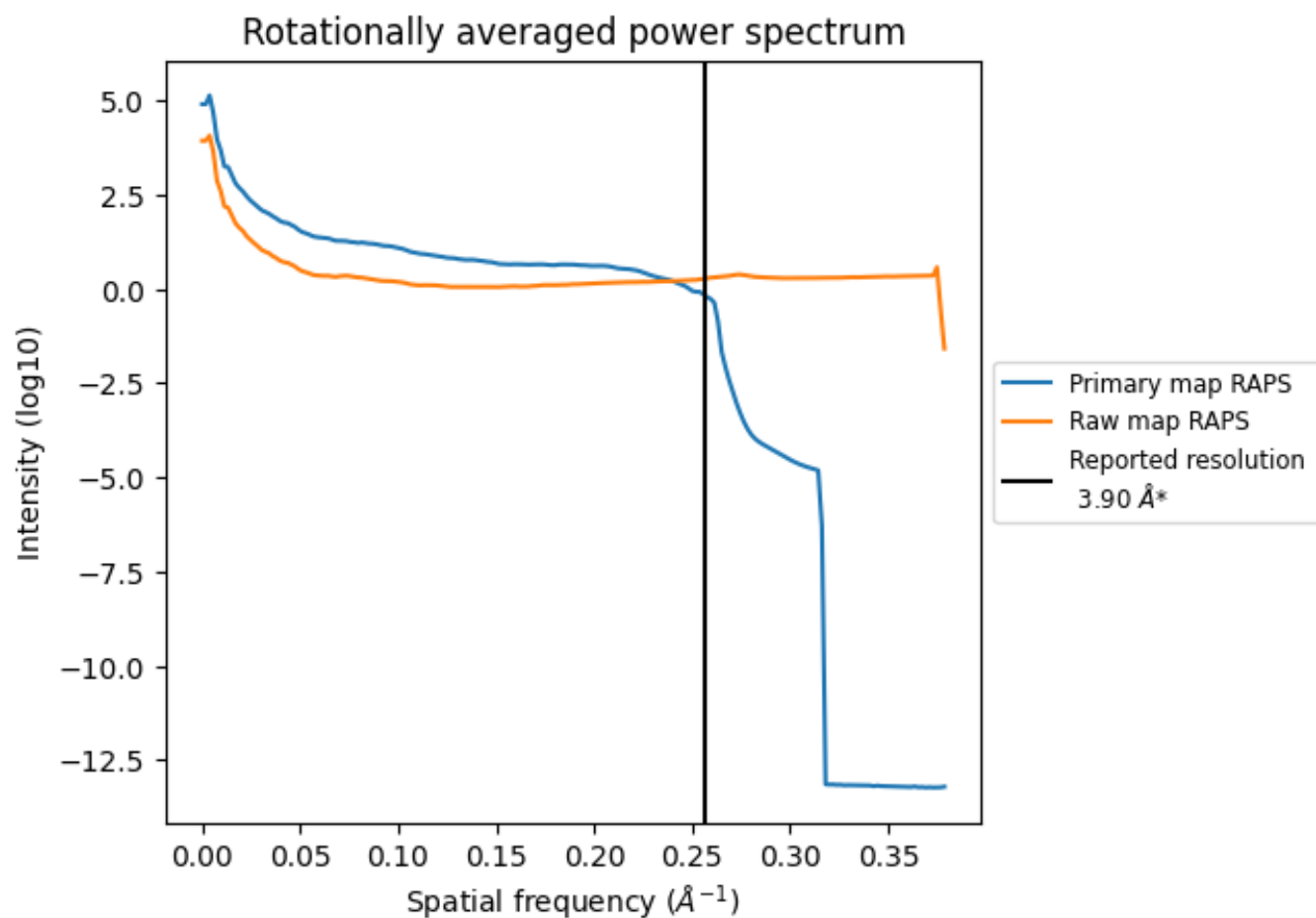
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1459 nm³; this corresponds to an approximate mass of 1318 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 ⓘ

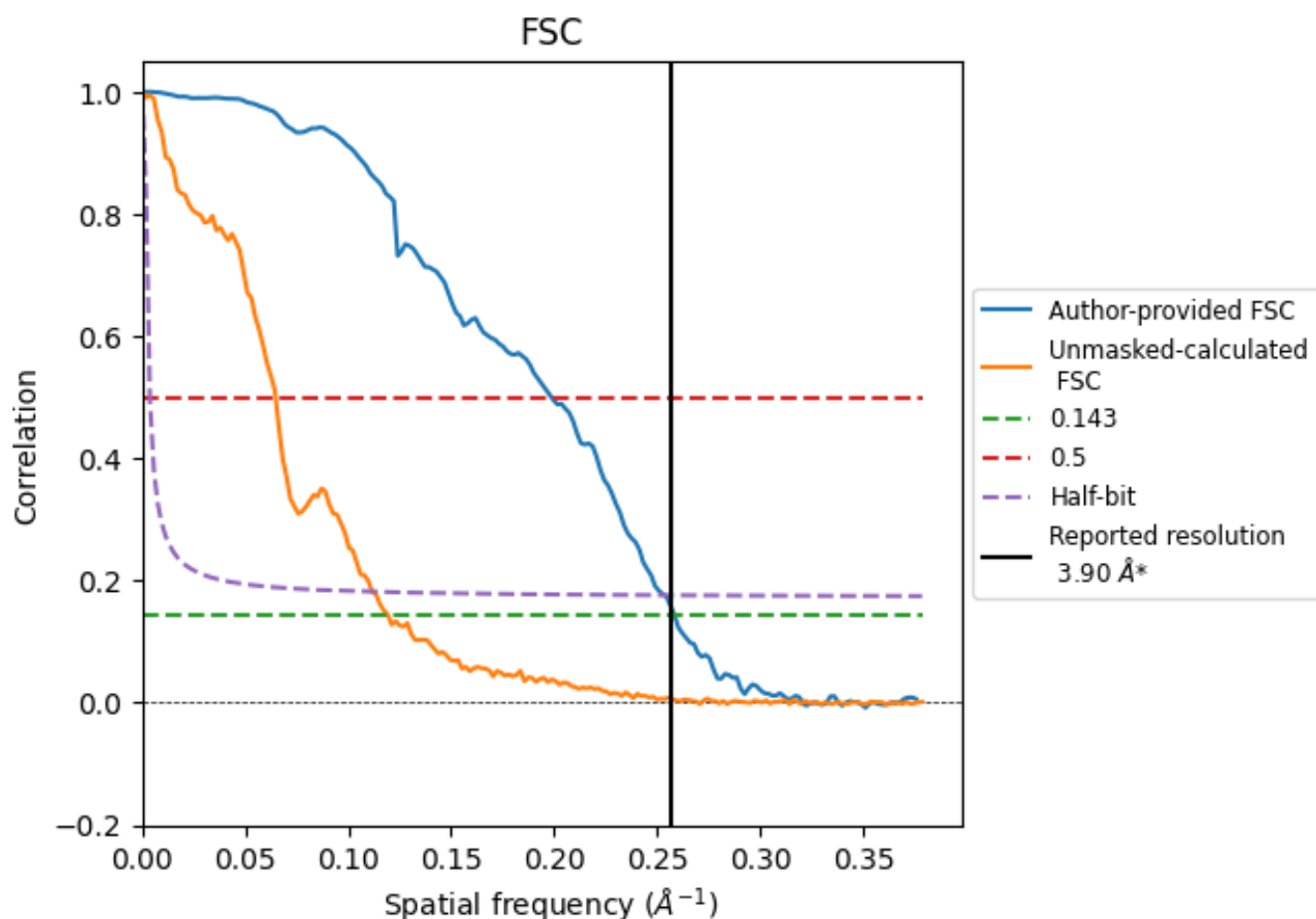


*Reported resolution corresponds to spatial frequency of 0.256 Å⁻¹

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 0.256 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

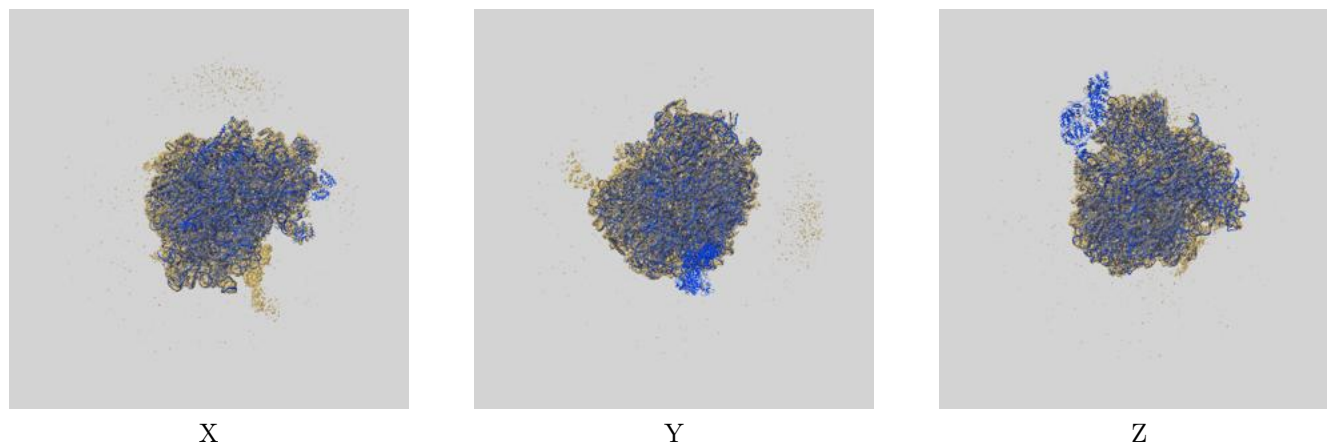
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.90	-	-
Author-provided FSC curve	3.87	5.03	3.94
Unmasked-calculated*	8.38	15.43	8.95

*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 8.38 differs from the reported value 3.9 by more than 10 %

9 Map-model fit [i](#)

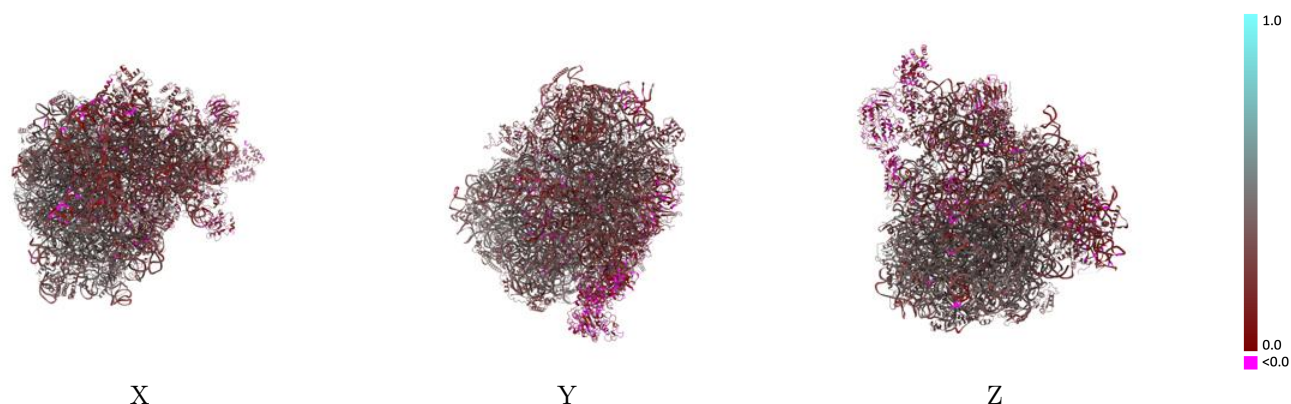
This section contains information regarding the fit between EMDB map EMD-38668 and PDB model 8YLR. Per-residue inclusion information can be found in section 3 on page 19.

9.1 Map-model overlay [i](#)



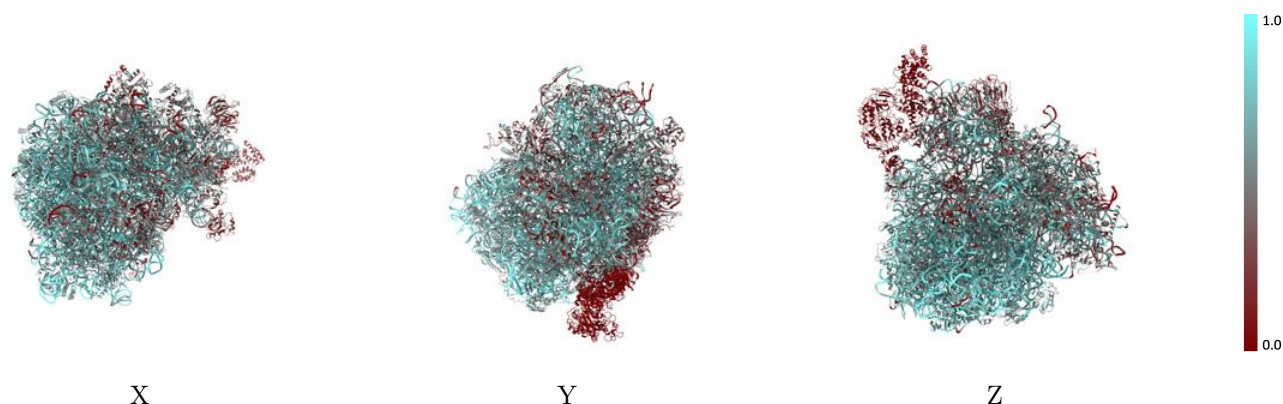
The images above show the 3D surface view of the map at the recommended contour level 0.26 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



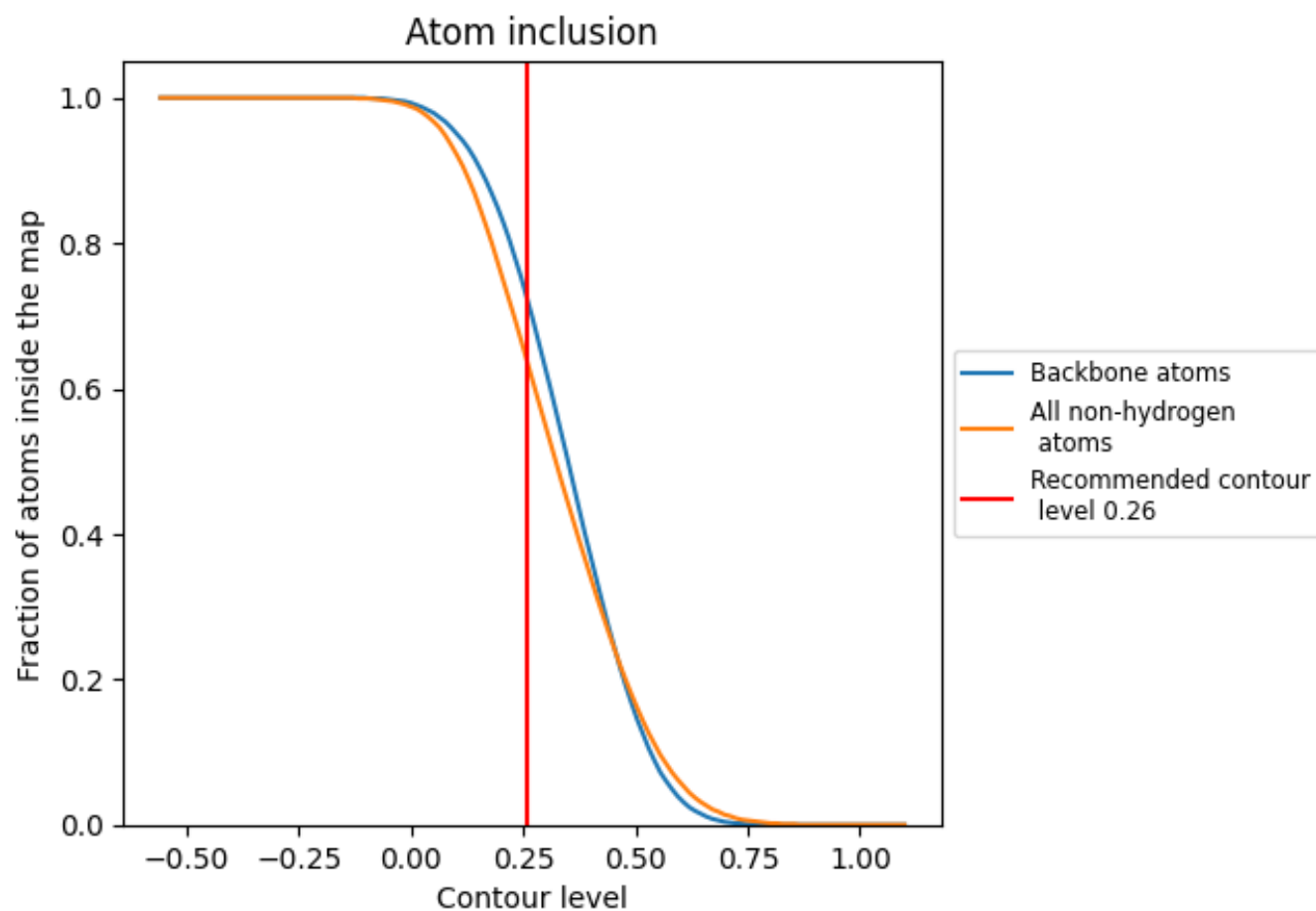
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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, 72% of all backbone atoms, 63% 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	 0.6340	 0.3220
2	 0.7110	 0.2750
A	 0.8340	 0.3660
B	 0.8880	 0.3710
C	 0.8560	 0.3830
D	 0.5970	 0.4190
E	 0.6230	 0.4050
F	 0.6420	 0.4070
G	 0.6070	 0.3380
H	 0.6120	 0.3760
I	 0.6340	 0.3800
J	 0.6100	 0.3630
K	 0.6110	 0.3740
L	 0.5790	 0.3590
M	 0.5670	 0.3110
N	 0.6560	 0.3950
O	 0.6760	 0.3830
P	 0.6000	 0.4110
Q	 0.6350	 0.3810
R	 0.6110	 0.3970
S	 0.6150	 0.4060
SA	 0.3540	 0.2780
SB	 0.2940	 0.2160
SC	 0.3540	 0.2490
SD	 0.1790	 0.1680
SE	 0.2990	 0.2650
SF	 0.3580	 0.2740
SG	 0.4030	 0.2290
SH	 0.3650	 0.2750
SI	 0.3640	 0.2550
SJ	 0.3590	 0.2840
SK	 0.3100	 0.2490
SL	 0.2310	 0.2190
SM	 0.5080	 0.3250
SN	 0.1830	 0.1620



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Chain	Atom inclusion	Q-score
SO	 0.2870	 0.1660
SP	 0.4620	 0.2770
SQ	 0.3390	 0.1880
SR	 0.5150	 0.3340
SS	 0.3370	 0.2550
ST	 0.3780	 0.2630
SU	 0.4060	 0.2690
SV	 0.4540	 0.3050
SW	 0.4490	 0.2830
SX	 0.4080	 0.3340
SY	 0.4270	 0.2890
SZ	 0.3710	 0.2060
Sa	 0.4380	 0.3040
Sb	 0.4660	 0.3200
Sc	 0.3890	 0.3270
Sd	 0.3750	 0.2260
Se	 0.4670	 0.3080
Sf	 0.3990	 0.2590
Sg	 0.3620	 0.2940
T	 0.5950	 0.3570
U	 0.6280	 0.4110
V	 0.6020	 0.4050
W	 0.5770	 0.3500
X	 0.5640	 0.3990
Y	 0.5040	 0.3160
Z	 0.6200	 0.3940
a	 0.6440	 0.3990
b	 0.6230	 0.3730
c	 0.6590	 0.4210
d	 0.5800	 0.3880
e	 0.6040	 0.3540
f	 0.5710	 0.3990
g	 0.5860	 0.4090
h	 0.6630	 0.4090
i	 0.5560	 0.4000
j	 0.6290	 0.3680
k	 0.6390	 0.3840
l	 0.6380	 0.4280
m	 0.5780	 0.3790
n	 0.5450	 0.3880
o	 0.6060	 0.4040
p	 0.5430	 0.3630

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Chain	Atom inclusion	Q-score
q	 0.5640	 0.4190
r	 0.5770	 0.3850
t	 0.2710	 0.1440
u	 0.5570	 0.1940
v	 0.0150	 0.1270
x	 0.3320	 0.2630