



Full wwPDB EM Validation Report ⓘ

Jun 25, 2025 – 08:12 PM JST

PDB ID : 8XU8 / pdb_00008xu8
EMDB ID : EMD-38660
Title : State 2c(S2c) of yeast 80S ribosome bound to compact eEF2 and 2 tRNAs during peptidyl transferation
Authors : Cheng, J.; Wu, C.L.; Li, J.X.; Zhang, X.Z.
Deposited on : 2024-01-12
Resolution : 3.40 Å(reported)

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

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

A user guide is available at

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

The types of validation reports are described at

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

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

EMDB validation analysis : **FAILED**
MolProbity : 4-5-2 with Phenix2.0rc1
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : **FAILED**
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.44

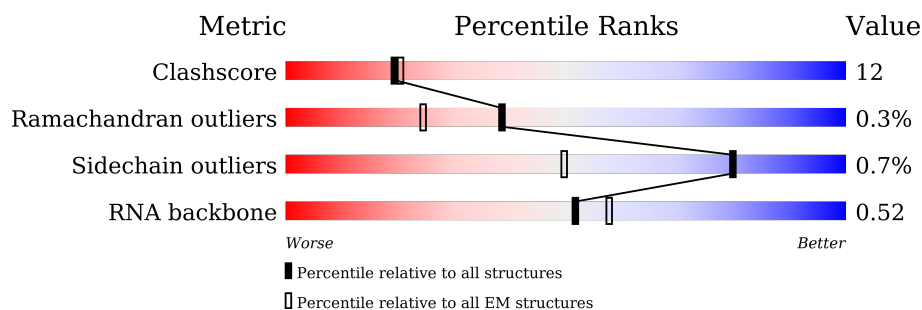
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.40 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



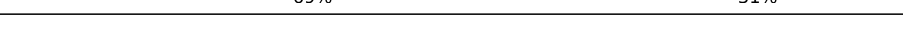
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

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 $\leq 5\%$.

Mol	Chain	Length	Quality of chain
1	2	1799	38% 47% 13% .
2	A	3394	47% 42% 6% 6%
3	B	121	50% 45% 6%
4	C	158	48% 47% 5%
5	D	251	68% 32%
6	E	386	75% 25%
7	F	361	76% 23%
8	G	294	79% 21%

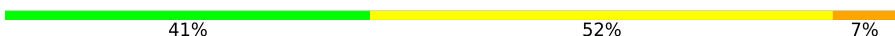
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Mol	Chain	Length	Quality of chain
9	H	175	 73%22%5%
10	I	222	 72%28%
11	J	233	 74%26%
12	K	191	 70%29%
13	L	218	 67%33%
14	M	169	 70%30%
15	N	193	 80%20%
16	O	136	 75%24%
17	P	203	 70%30%
18	Q	197	 71%29%
19	R	183	 79%21%
20	S	185	 79%21%
21	T	188	 80%20%
22	U	171	 75%25%
23	V	159	 69%31%
24	W	100	 70%30%
25	X	136	 74%26%
26	Y	126	 84%16%
27	Z	121	 79%21%
28	a	125	 80%19%
29	b	135	 79%21%
30	c	148	 72%28%
31	d	58	 84%16%
32	e	96	 69%30%
33	f	109	 69%31%

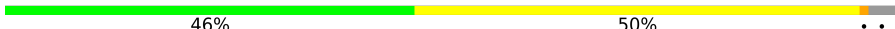
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Mol	Chain	Length	Quality of chain
34	g	127	 76% 23% .
35	h	106	 69% 30% .
36	i	112	 75% 25%
37	j	119	 71% 29%
38	k	99	 79% 21%
39	l	81	 52% 37% 7% .
40	m	77	 69% 31%
41	n	50	 70% 30%
42	o	52	 65% 35%
43	p	25	 72% 28%
44	q	103	 82% 18%
45	r	91	 69% 31%
46	s	75	 41% 52% 7%
46	t	75	 52% 43% 5%
47	x	842	 68% 31%
48	SD	121	 61% 39%
49	SZ	127	 71% 29%
50	Se	94	 72% 27% .
51	SC	92	 49% 49% .
52	SE	117	 65% 34% .
53	SA	222	 66% 34%
54	SI	143	 59% 41%
55	SJ	100	 63% 36% .
56	SL	63	 75% 25%
57	SM	53	 62% 38%

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Mol	Chain	Length	Quality of chain
58	SB	206	 64% 36%
59	SF	141	 60% 38% .
60	SH	145	 59% 41%
61	SO	312	 46% 50% . .
62	SN	73	 74% 26%
63	SG	121	 59% 40% .
64	SP	206	 62% 38%
65	SQ	232	 65% 32% . .
66	SR	216	 71% 28% .
67	SS	258	 62% 37% .
68	ST	228	 72% 27% .
69	SU	184	 60% 39% .
70	SV	198	 65% 30% 6%
71	SW	184	 69% 30% .
72	SX	142	 79% 20% .
73	SY	150	 65% 35%
74	Sa	87	 74% 25% .
75	Sb	129	 67% 32% .
76	Sc	144	 69% 29% . .
77	Sd	134	 78% 22%
78	Sf	81	 62% 38%
79	Sg	60	 78% 22%
80	SK	108	 68% 28% 5%

2 Entry composition

There are 80 unique types of molecules in this entry. The entry contains 209284 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	1767	Total	C	N	O	P	0	0
			37653	16834	6668	12384	1767		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
2	A	3189	Total	C	N	O	P	0	0
			68216	30470	12302	22255	3189		

- 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 uL3.

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

- Molecule 7 is a protein called Large ribosomal subunit protein uL4A.

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

- Molecule 8 is a protein called Large ribosomal subunit protein uL18.

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

- Molecule 9 is a protein called Large ribosomal subunit protein eL6B.

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

- Molecule 10 is a protein called Large ribosomal subunit protein uL30A.

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

- Molecule 11 is a protein called Large ribosomal subunit protein eL8A.

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

- Molecule 12 is a protein called Large ribosomal subunit protein uL6A.

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

- Molecule 13 is a protein called Large ribosomal subunit protein uL16.

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

- Molecule 14 is a protein called Large ribosomal subunit protein uL5B.

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

- Molecule 15 is a protein called Large ribosomal subunit protein eL13A.

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

- Molecule 16 is a protein called Large ribosomal subunit protein eL14A.

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

- Molecule 17 is a protein called Large ribosomal subunit protein eL15A.

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

- Molecule 18 is a protein called Large ribosomal subunit protein uL13A.

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

- Molecule 19 is a protein called Large ribosomal subunit protein uL22A.

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

- Molecule 20 is a protein called Large ribosomal subunit protein eL18A.

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

- Molecule 21 is a protein called Large ribosomal subunit protein eL19A.

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

- Molecule 22 is a protein called Large ribosomal subunit protein eL20A.

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

- Molecule 23 is a protein called Large ribosomal subunit protein eL21A.

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

- Molecule 24 is a protein called Large ribosomal subunit protein eL22A.

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

- Molecule 25 is a protein called Large ribosomal subunit protein uL14A.

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

- Molecule 26 is a protein called Large ribosomal subunit protein eL24A.

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

- Molecule 27 is a protein called Large ribosomal subunit protein uL23.

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

- Molecule 28 is a protein called Large ribosomal subunit protein uL24A.

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

- Molecule 29 is a protein called Large ribosomal subunit protein eL27A.

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

- Molecule 30 is a protein called Large ribosomal subunit protein uL15.

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

- Molecule 31 is a protein called Large ribosomal subunit protein eL29.

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

- Molecule 32 is a protein called Large ribosomal subunit protein eL30.

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

- Molecule 33 is a protein called Large ribosomal subunit protein eL31A.

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

- Molecule 34 is a protein called Large ribosomal subunit protein eL32.

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

- Molecule 35 is a protein called Large ribosomal subunit protein eL33A.

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

- Molecule 36 is a protein called Large ribosomal subunit protein eL34A.

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

- Molecule 37 is a protein called Large ribosomal subunit protein uL29A.

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

- Molecule 38 is a protein called Large ribosomal subunit protein eL36A.

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

- Molecule 39 is a protein called Large ribosomal subunit protein eL37A.

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

- Molecule 40 is a protein called Large ribosomal subunit protein eL38.

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

- Molecule 41 is a protein called Large ribosomal subunit protein eL39.

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

- Molecule 42 is a protein called Large ribosomal subunit protein eL40A.

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

- Molecule 43 is a protein called Large ribosomal subunit protein eL41A.

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

- Molecule 44 is a protein called Large ribosomal subunit protein eL42A.

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

- Molecule 45 is a protein called Large ribosomal subunit protein eL43A.

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

- Molecule 46 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	s	75	Total	C	N	O	P	0	0
			1605	716	297	517	75		
46	t	75	Total	C	N	O	P	0	0
			1606	716	297	518	75		

- 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 eS12.

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

- Molecule 49 is a protein called Small ribosomal subunit protein uS11B.

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

- Molecule 50 is a protein called Small ribosomal subunit protein eS26A.

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

- Molecule 51 is a protein called Small ribosomal subunit protein eS10A.

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

- Molecule 52 is a protein called Small ribosomal subunit protein uS19.

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

- Molecule 53 is a protein called Small ribosomal subunit protein uS3.

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

- 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 eS28A.

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

- 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 uS7.

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

- Molecule 59 is a protein called Small ribosomal subunit protein uS9A.

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

- Molecule 60 is a protein called Small ribosomal subunit protein uS13A.

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

- Molecule 61 is a protein called Small ribosomal subunit protein RACK1.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	SO	304	Total	C	N	O	S	0	0
			2326	1477	401	440	8		

- Molecule 62 is a protein called Small ribosomal subunit protein eS31.

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

- Molecule 63 is a protein called Small ribosomal subunit protein eS17A.

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

- Molecule 64 is a protein called Small ribosomal subunit protein uS2A.

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

- Molecule 65 is a protein called Small ribosomal subunit protein eS1A.

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

- Molecule 66 is a protein called Small ribosomal subunit protein uS5.

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

- Molecule 67 is a protein called Small ribosomal subunit protein eS4A.

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

- Molecule 68 is a protein called Small ribosomal subunit protein eS6A.

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

- Molecule 69 is a protein called Small ribosomal subunit protein eS7A.

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

- Molecule 70 is a protein called Small ribosomal subunit protein eS8A.

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

- Molecule 71 is a protein called Small ribosomal subunit protein uS4A.

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

- Molecule 72 is a protein called Small ribosomal subunit protein uS17A.

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

- Molecule 73 is a protein called Small ribosomal subunit protein uS15.

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

- Molecule 74 is a protein called Small ribosomal subunit protein eS21A.

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

- Molecule 75 is a protein called Small ribosomal subunit protein uS8A.

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

- Molecule 76 is a protein called Small ribosomal subunit protein uS12A.

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

- Molecule 77 is a protein called Small ribosomal subunit protein eS24A.

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

- Molecule 78 is a protein called Small ribosomal subunit protein eS27A.

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

- Molecule 79 is a protein called Small ribosomal subunit protein eS30A.

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

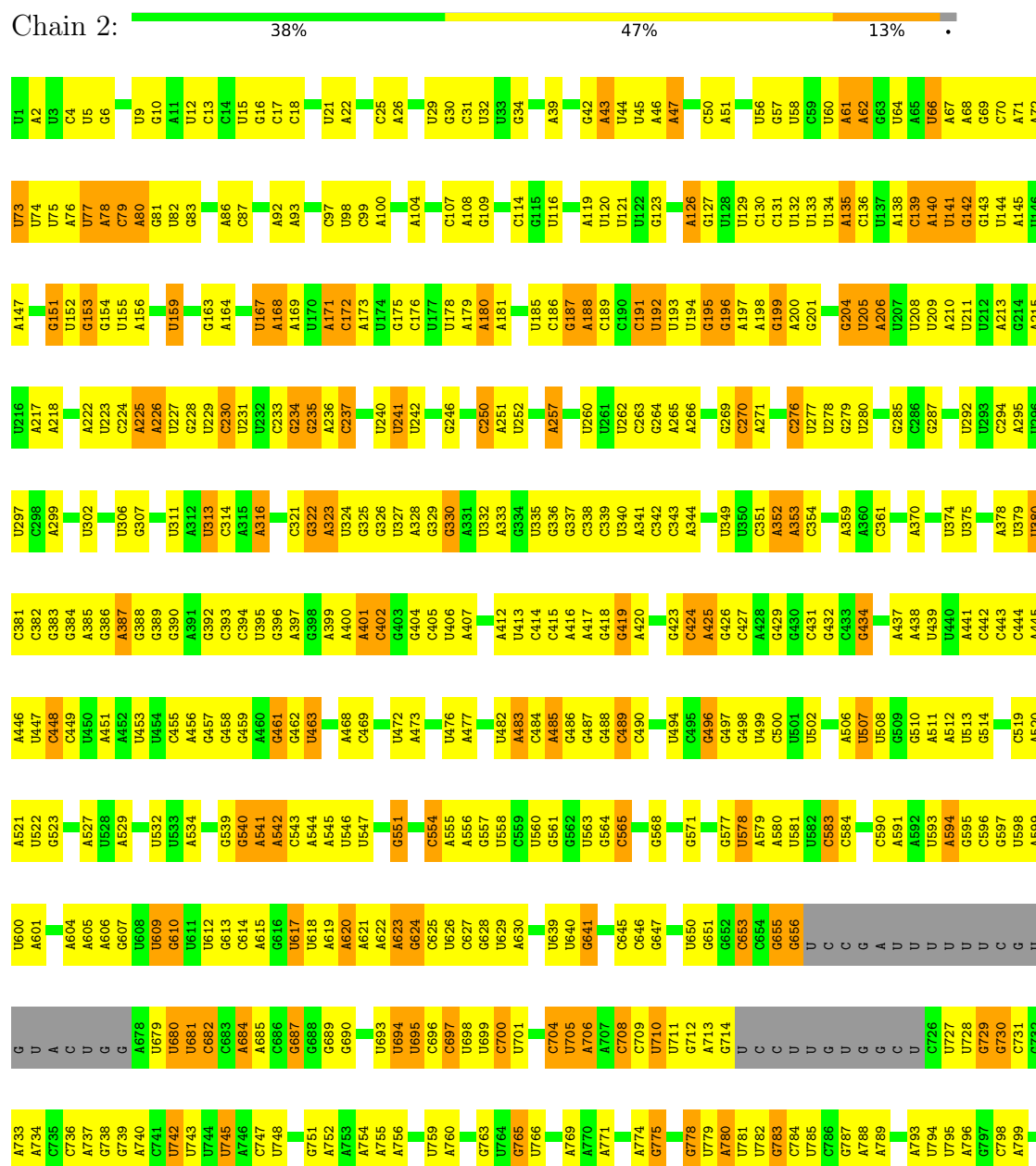
- Molecule 80 is a protein called Small ribosomal subunit protein eS25A.

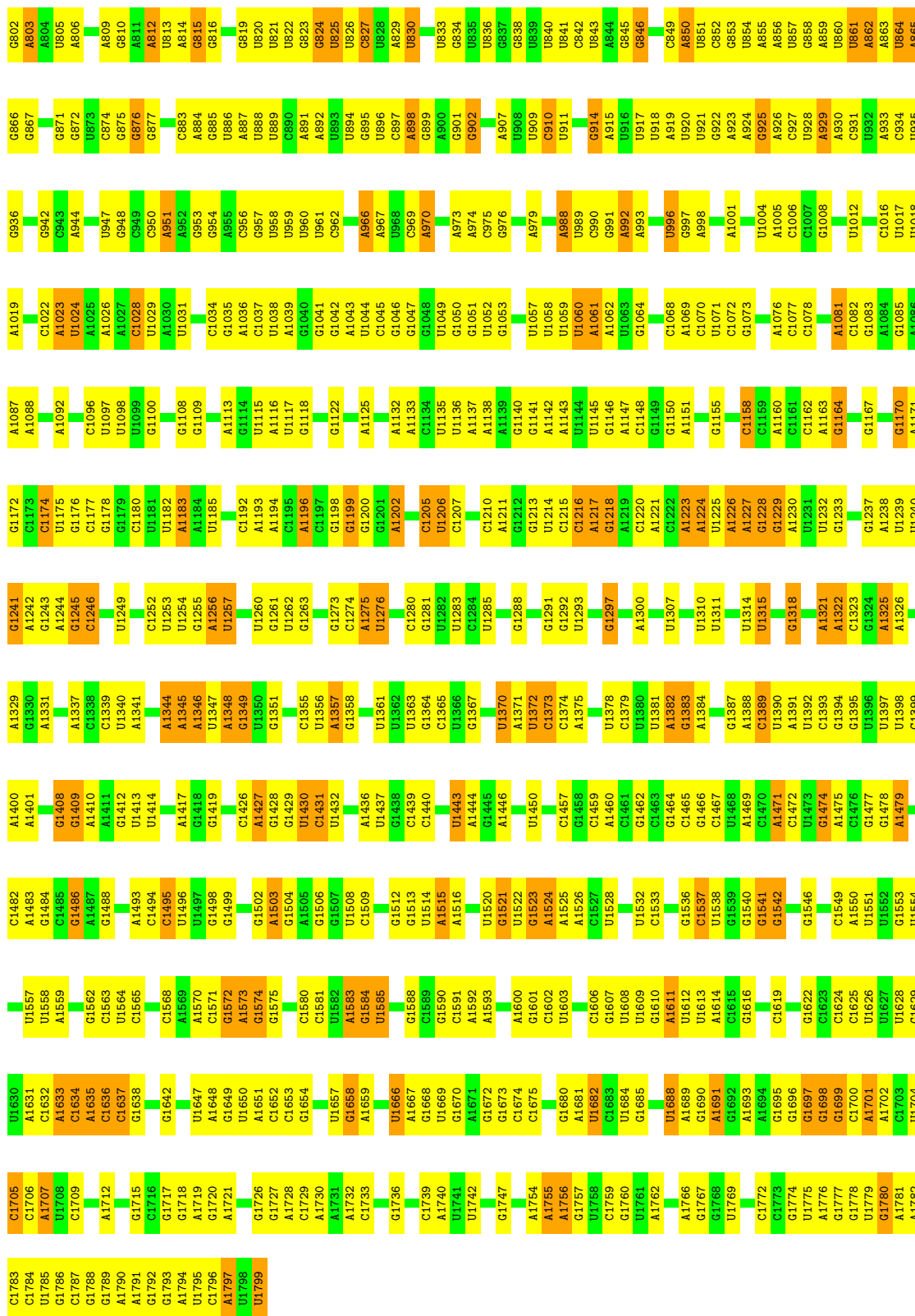
Mol	Chain	Residues	Atoms					AltConf	Trace
80	SK	103	Total	C	N	O	S	0	0
			810	514	151	143	2		

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. 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. Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

• Molecule 1: 18S rRNA



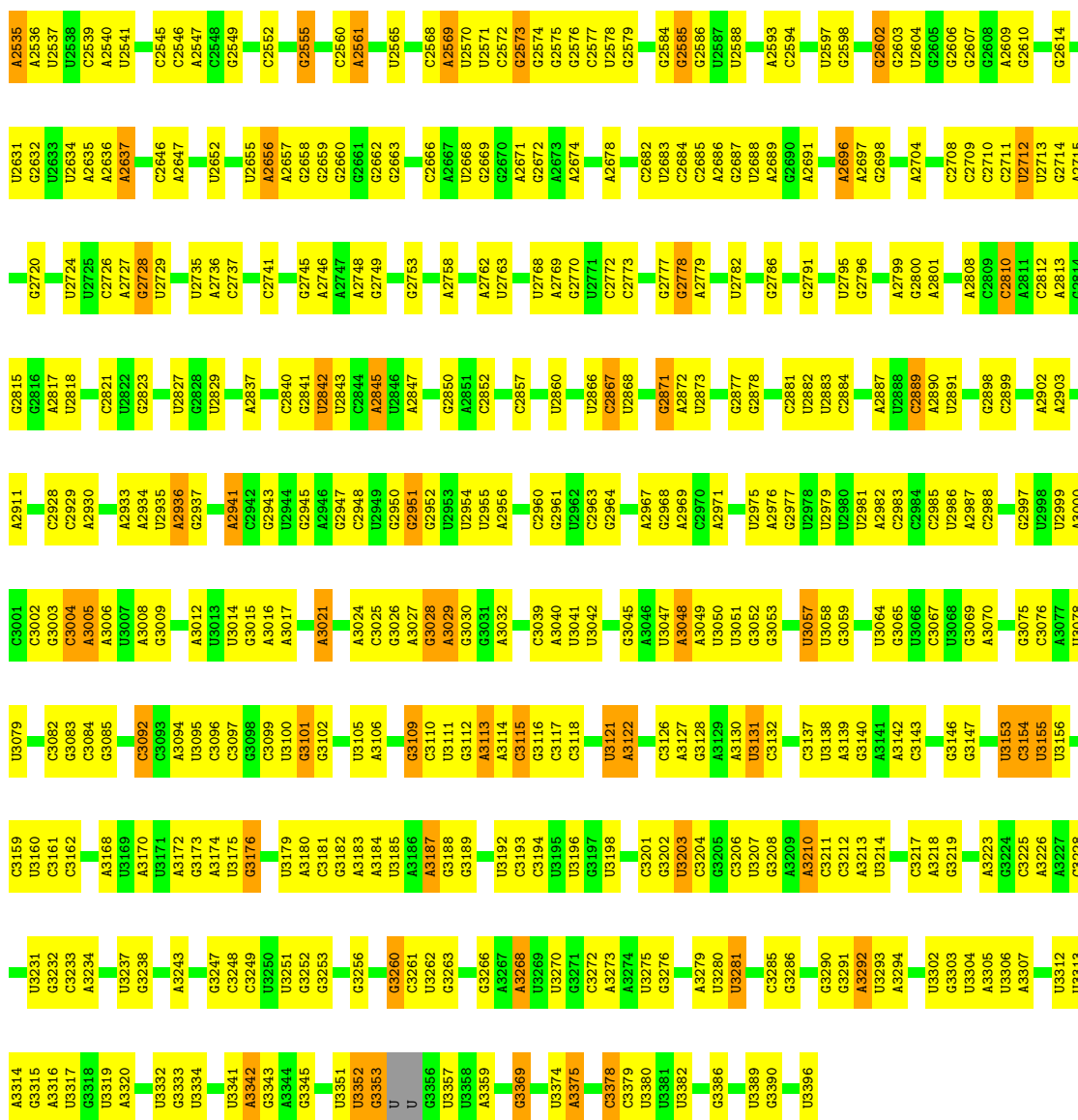


- Molecule 2: 25S rRNA



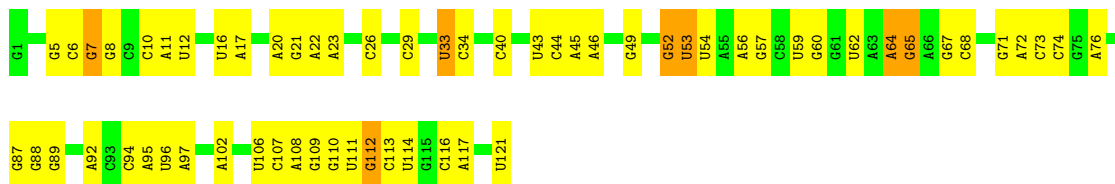
C1199	G1126	C1037	G968	G891	A806	G725	G650	U581	A	U429	C346	U246	G158	G76	U3
A1200	G1127	C1038	C969	G894	A806	G726	G651	U582	C	U430	G347	C247	A159	A77	C7
C1201	U1039	A1040	A970	A895	G809	G727	G652	U583	U	U431	A348	U248	G160	U78	C8
A1203	U1128	A1040	G971	A896	A810	G728	A653	G493	G493	G432	U249	U250	G161	G80	U9
G1207	A1129	A1046	G974	U899	G813	G733	C654	A585	G495	A433	C350	G251	C162	C81	
U1206	G1131	A1047	C975	G900	U814	G734	A656	C586	C500	A436	A351	U252	A164	C82	U14
C1132	U1048	A1048	U976	G900	G815	A735	A657	U587	A501	G	A352	C259	A165	U87	A20
G1209	A1049	C1049	G977	G900	A736	A736	G658	U588	U502	A	A357	C260	C166	A88	G21
U1210	G1134	A1054	G978	U903	A816	G737	G659	A589	C503	A	U359	U262	G170	G91	G22
C1219	A1135	A1054	U979	A904	A817	A738	C663	G590	A504	U	U360	C263	G173	G92	A23
U1220	U1136	A1067	A980	U905	A821	G742	U664	G591	U508	G	G361			G93	
A1221	C1137	C1067	C982	G907	G822	G743	A685	U594	U508	G	G267			G94	A26
G1222	U1138	U1060	U985	G908	G823	C743	U671	G595	U508	U	U177				
U1230	G1140	A1061	U986	G908	C824	A744	A672	C596	A516	U	G268			C29	
G1239	C1141	A1062	U987	C911	C824	C745	A673	C597	A517	U	U182			G30	
U1240	U1142	G1063	U988	C912	A830	A746	U673	C598	G518	U	U183			C31	
G1234	A1143	A1064	U988	A913	A831	G750	G674	C599	A519	U	G371			U32	
U1235	U1144	A1065	A989	A914	G832	G751	C675	G600	U520	U	A284			G33	
G1236	G1145	G1066	G991	A915	G835	A751	A677	U601	A521	G	U286			A34	
U1237	G1148	G1072	G991	A917	A836	C753	G678	A602	A523	U	G287			A35	
A1240	U1150	U1073	U995	C918	A837	G754	U679	A603	A523	U	C288			C36	
U1241	U1151	C1076	A996	U919	C840	C758	G680	G609	U528	C	G383			U37	
G1242	U1152	U1077	A997	A920	A841	U759	U681	G610	A529	U	U197			U38	
A1244	A1153	U1078	G999	A921	A841	G760	G684	A611	G530	U	A198			A39	
U1245	G1157	A1079	G999	G924	G845	A761	G685	U612	G531	C	U199			A40	
G1246	A1158	A1080	A1002	G924	A846	U766	G686	C614	A532	U	A389			A43	
U1249	A1159	U1082	A1003	A926	A847	U767	U687	U615	A533	G	G394			U44	
G1250	U1167	G1083	A1006	C927	A848	U768	G688	G616	A296	C	U207			C47	
A1252	U1168	A1084	A1006	C928	C849	C768	U689	U617	G297	U	C208			A46	
U1253	G1174	A1085	G1010	A929	G854	G769	A690	C618	G299	C	A209			A49	
C1254	C1175	A1093	A1011	G934	G857	G770	A691	A619	G301	U	G301			U50	
G1256	U1176	U1094	G1012	G937	C861	U781	C695	U	C542	U	A213			A51	
C1257	G1177	U1095	U1014	C938	U862	U782	C696	A622	C544	U	G214			A52	
U1258	U1178	U1096	U1015	U939	A863	A783	A697	U623	U545	U	G215			G53	
G1261	A1180	A1098	C1017	C944	C863	G784	U698	G624	G404	G	G216			C54	
U1262	U1181	G1101	G1018	C945	C864	A785	A699	G625	G547	U	U217			G55	
G1263	A1182	A1102	G1019	U946	U865	U786	C700	U626	A407	G	G218			A57	
C1264	C1183	A1103	G1020	G947	A866	C787	G701	A628	A408	A	G220			G58	
U1265	G1185	G1105	U1021	C948	G869	C788	C702	A629	A313	G				G59	
G1270	U1187	C1107	U1022	C949	C873	U790	G703	U629	U314	U	U228			A60	
A1271	C1188	U1108	C	G950	A874	A791	U704	U631	C315	G	G229			A61	
U1272	U1189	U1109	A	G953	G875	G792	A705	G632	A325	U	U230			A62	
C1277	U1191	U1110	U	C957	A876	G793	U706	C633	U329	A	G231			A63	
A1278	U1192	A1112	A1030	C958	U879	U796	G712	U558	G330	U	G232			G64	
G1281	C1196	G1117	U1033	U960	G880	U797	U713	A559	U336	C	C233			A65	
U1286	C1197	C1118	U1034	G963	G887	G800	G717	U559	G234	U	G234			A66	
	C1198	A1120	A1036	U966	A888	A801	G721	C636	A336	U	G236			C68	
				A967	C890	C802	G722	U640	G337	G	U240			C69	
								C641	A422	C	G241			A70	
								G567	A342	U	C242			A71	
								G568	U343	U	G243			C72	
								C576	G426	U	G244			C73	
								C577	A428	C	U245			G74	





• Molecule 3: 5S rRNA

Chain B: 50% 45% 6%



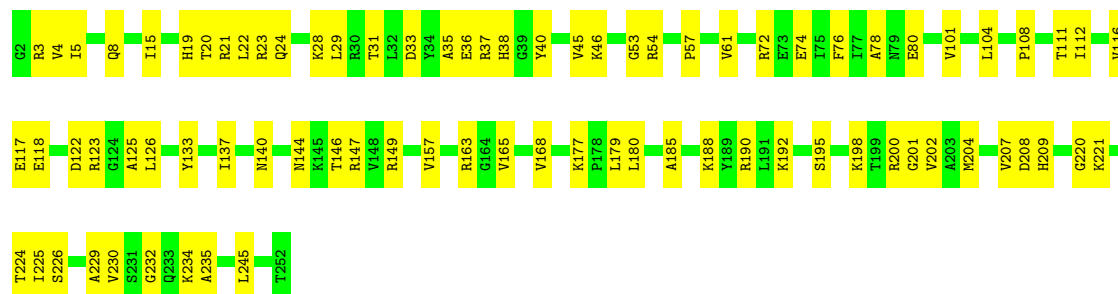
• Molecule 4: 5.8S rRNA

Chain C: 48% 47% 5%

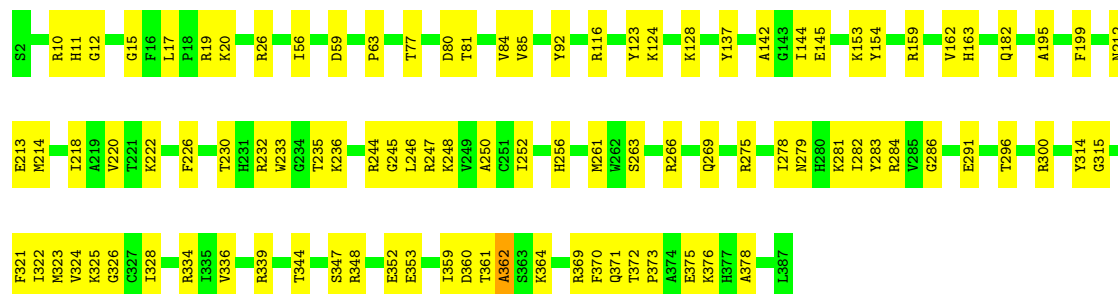




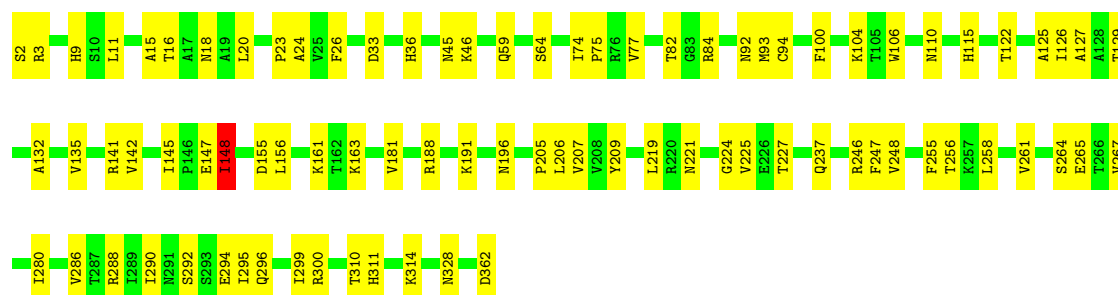
• Molecule 5: Large ribosomal subunit protein uL2A



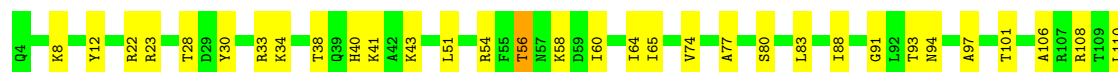
• Molecule 6: Large ribosomal subunit protein uL3



• Molecule 7: Large ribosomal subunit protein uL4A



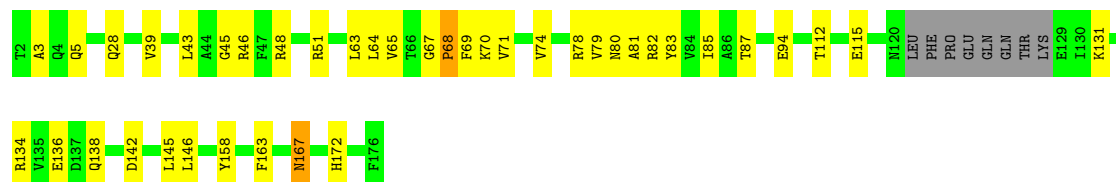
• Molecule 8: Large ribosomal subunit protein uL18





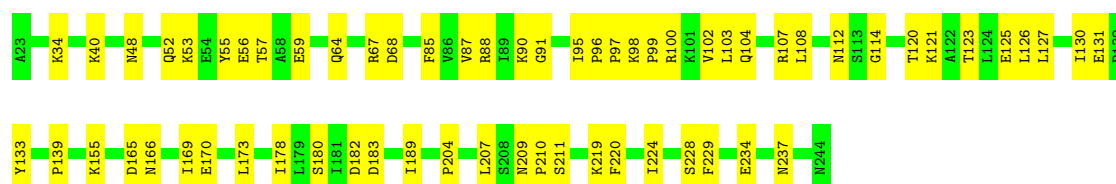
- Molecule 9: Large ribosomal subunit protein eL6B

Chain H: 73% 22% 5%



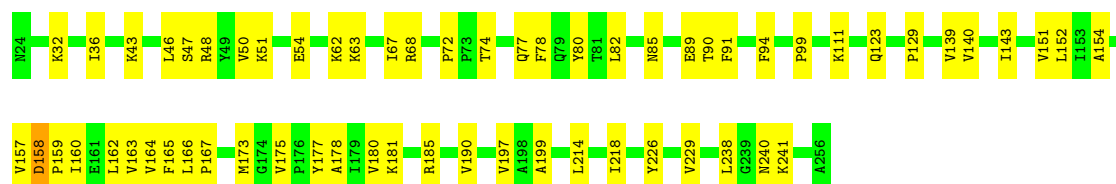
- Molecule 10: Large ribosomal subunit protein uL30A

Chain I: 72% 28%



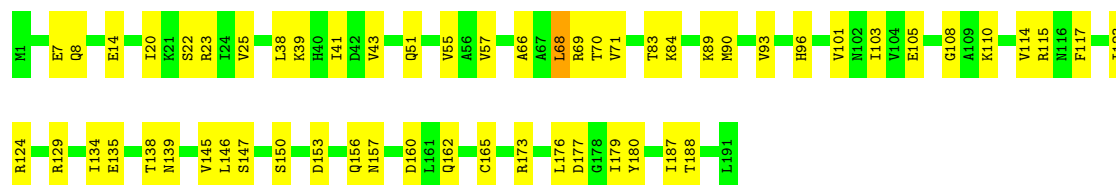
- Molecule 11: Large ribosomal subunit protein eL8A

Chain J: 74% 26%



- Molecule 12: Large ribosomal subunit protein uL6A

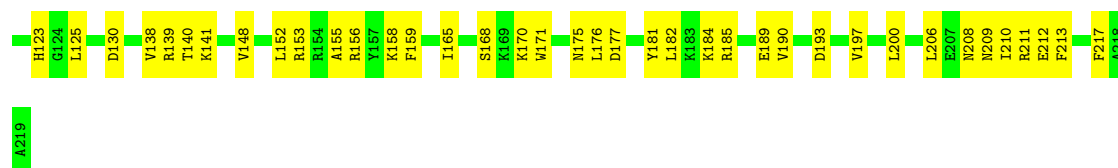
Chain K: 70% 29%



- Molecule 13: Large ribosomal subunit protein uL16

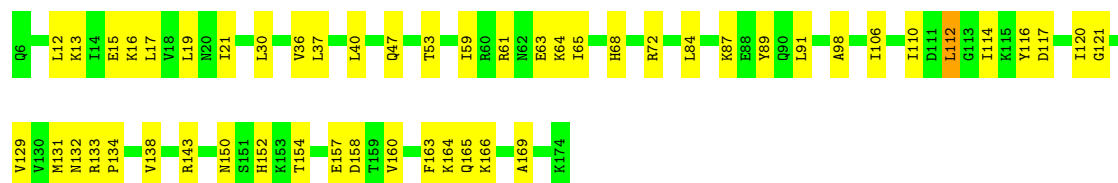
Chain L: 67% 33%





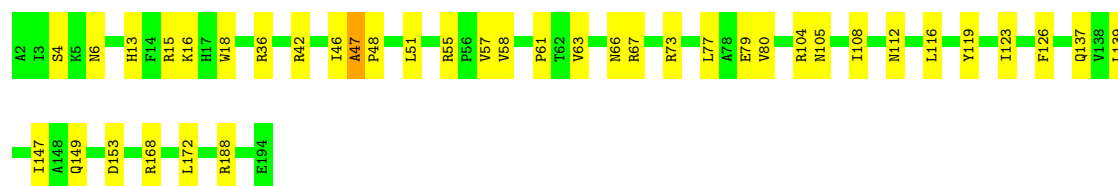
- Molecule 14: Large ribosomal subunit protein uL5B

Chain M: 70% 30%



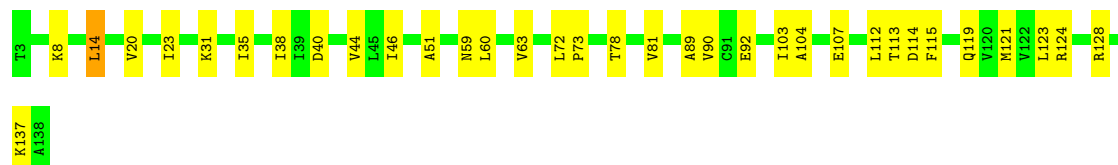
- Molecule 15: Large ribosomal subunit protein eL13A

Chain N: 80% 20%



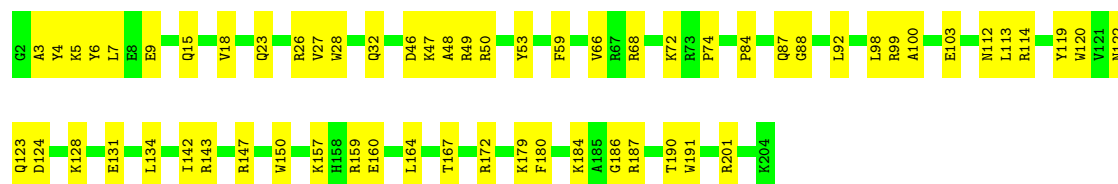
- Molecule 16: Large ribosomal subunit protein eL14A

Chain O: 75% 24%



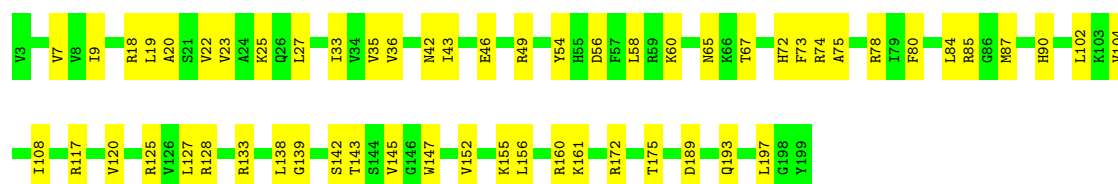
- Molecule 17: Large ribosomal subunit protein eL15A

Chain P: 70% 30%



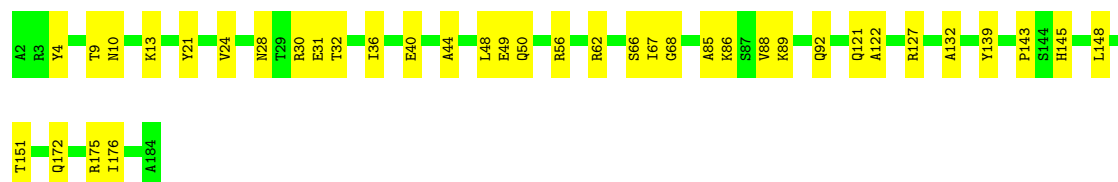
- Molecule 18: Large ribosomal subunit protein uL13A

Chain Q: 71% 29%



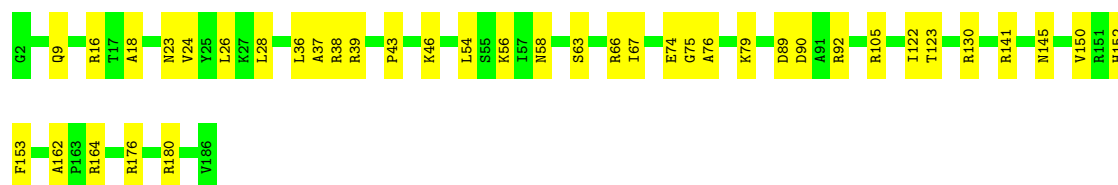
• Molecule 19: Large ribosomal subunit protein uL22A

Chain R:  79% 21%



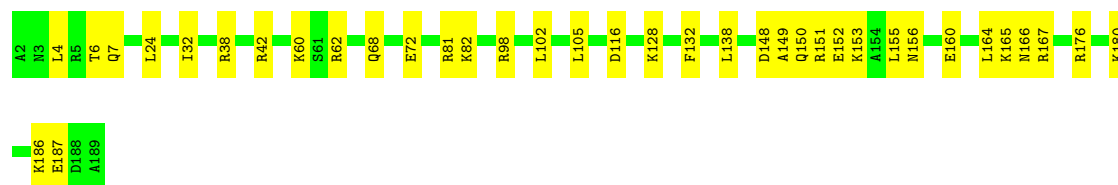
• Molecule 20: Large ribosomal subunit protein eL18A

Chain S:  79% 21%



• Molecule 21: Large ribosomal subunit protein eL19A

Chain T:  80% 20%



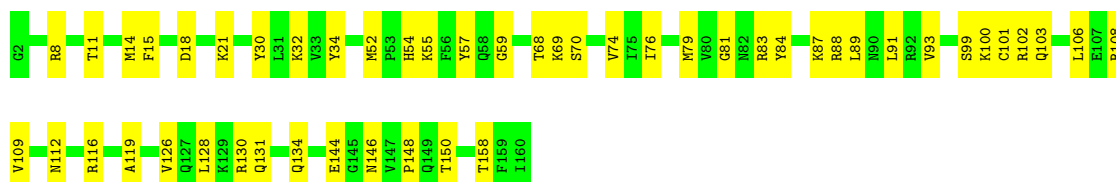
• Molecule 22: Large ribosomal subunit protein eL20A

Chain U:  75% 25%



• Molecule 23: Large ribosomal subunit protein eL21A

Chain V:  69% 31%



- Molecule 24: Large ribosomal subunit protein eL22A

Chain W: 70% 30%



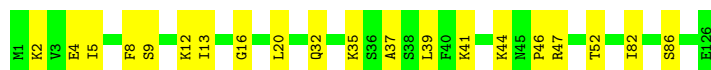
- Molecule 25: Large ribosomal subunit protein uL14A

Chain X: 74% 26%



- Molecule 26: Large ribosomal subunit protein eL24A

Chain Y: 84% 16%



- Molecule 27: Large ribosomal subunit protein uL23

Chain Z: 79% 21%



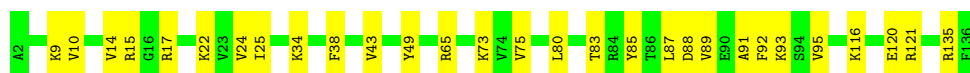
- Molecule 28: Large ribosomal subunit protein uL24A

Chain a: 80% 19%

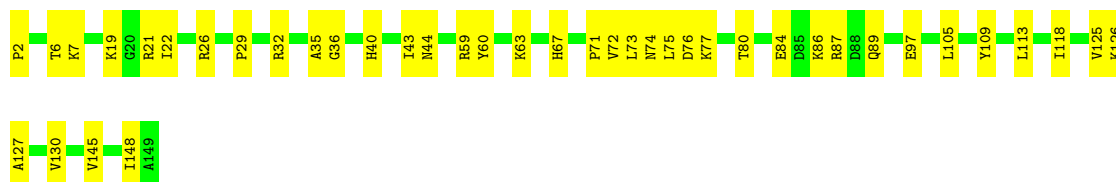


- Molecule 29: Large ribosomal subunit protein eL27A

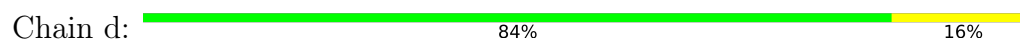
Chain b: 79% 21%



- Molecule 30: Large ribosomal subunit protein uL15



- Molecule 31: Large ribosomal subunit protein eL29



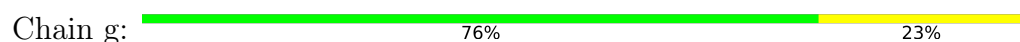
- Molecule 32: Large ribosomal subunit protein eL30



- Molecule 33: Large ribosomal subunit protein eL31A



- Molecule 34: Large ribosomal subunit protein eL32



- Molecule 35: Large ribosomal subunit protein eL33A





- Molecule 36: Large ribosomal subunit protein eL34A

Chain i: 75% 25%



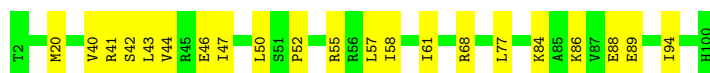
- Molecule 37: Large ribosomal subunit protein uL29A

Chain j: 71% 29%



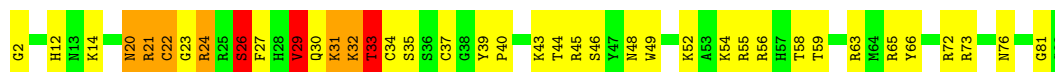
- Molecule 38: Large ribosomal subunit protein eL36A

Chain k: 79% 21%



- Molecule 39: Large ribosomal subunit protein eL37A

Chain l: 52% 37% 7%



- Molecule 40: Large ribosomal subunit protein eL38

Chain m: 69% 31%



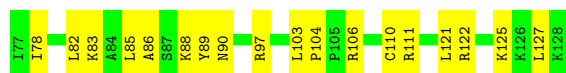
- Molecule 41: Large ribosomal subunit protein eL39

Chain n: 70% 30%



- Molecule 42: Large ribosomal subunit protein eL40A

Chain o:  65% 35%



- Molecule 43: Large ribosomal subunit protein eL41A

Chain p:  72% 28%



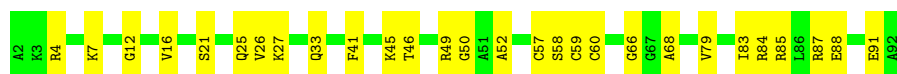
- Molecule 44: Large ribosomal subunit protein eL42A

Chain q:  82% 18%

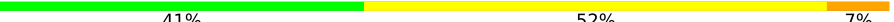


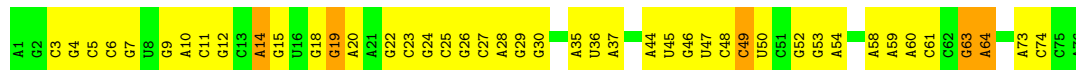
- Molecule 45: Large ribosomal subunit protein eL43A

Chain r:  69% 31%



- Molecule 46: tRNA

Chain s:  41% 52% 7%



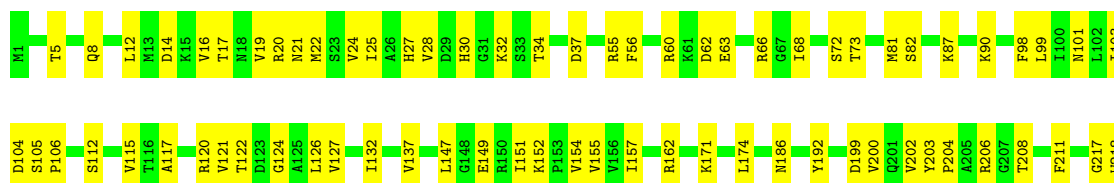
- Molecule 46: tRNA

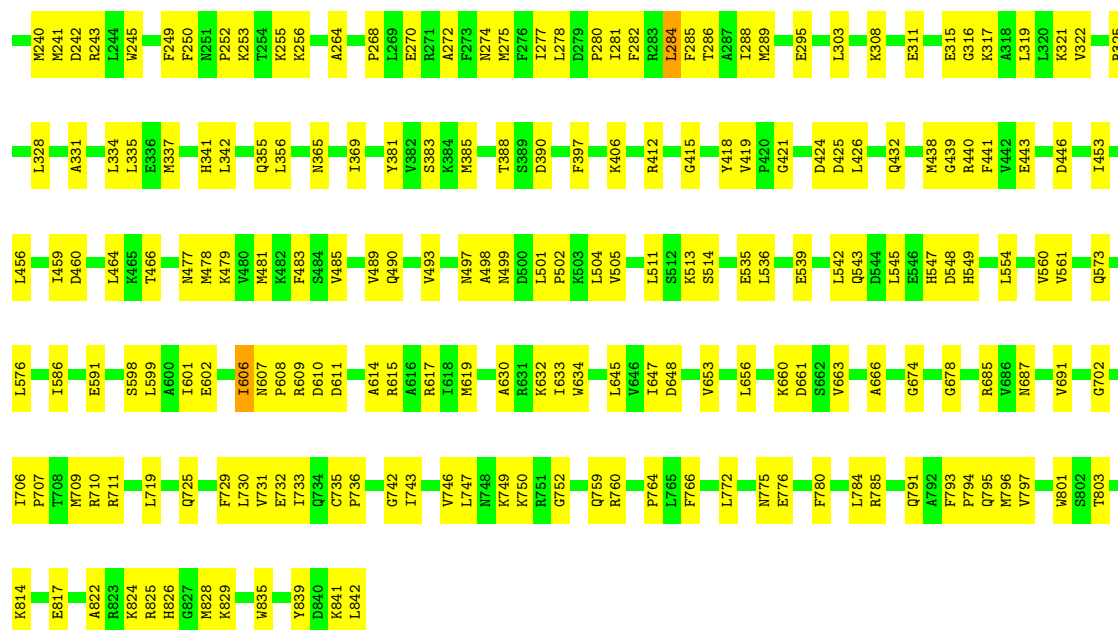
Chain t:  52% 43% 5%



- Molecule 47: Elongation factor 2

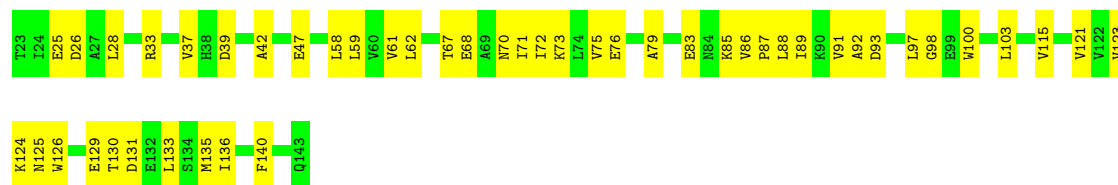
Chain x:  68% 31%





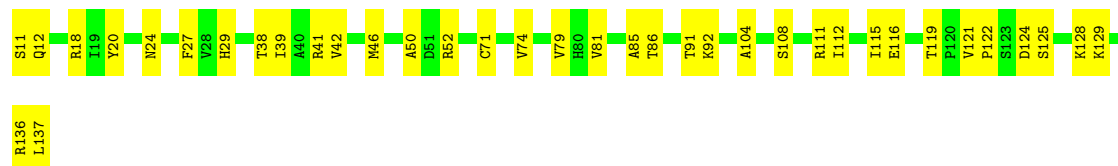
- Molecule 48: Small ribosomal subunit protein eS12

Chain SD: 61% 39%



- Molecule 49: Small ribosomal subunit protein uS11B

Chain SZ: 71% 29%



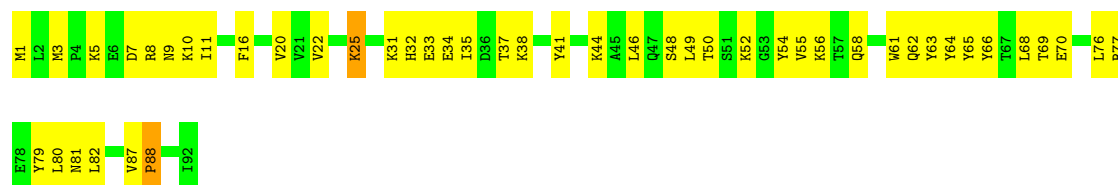
- Molecule 50: Small ribosomal subunit protein eS26A

Chain Se: 72% 27%



- Molecule 51: Small ribosomal subunit protein eS10A

Chain SC: 49% 49%



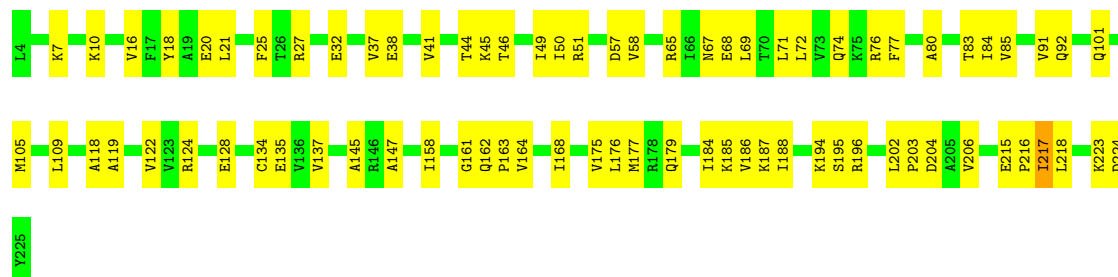
- Molecule 52: Small ribosomal subunit protein uS19

Chain SE: 65% 34% .



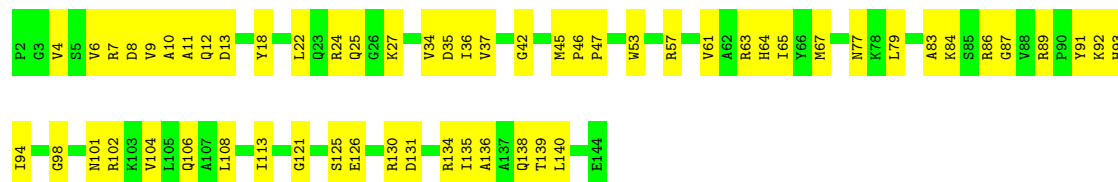
- Molecule 53: Small ribosomal subunit protein uS3

Chain SA: 66% 34%



- Molecule 54: Small ribosomal subunit protein eS19A

Chain SI: 59% 41%



- Molecule 55: Small ribosomal subunit protein uS10

Chain SJ: 63% 36% .



- Molecule 56: Small ribosomal subunit protein eS28A

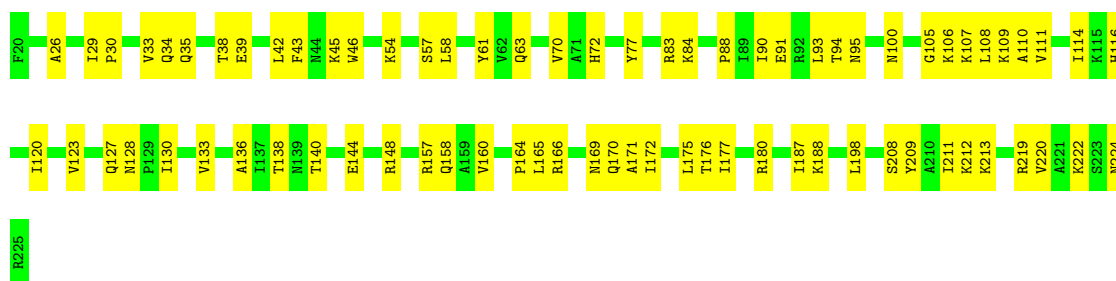
Chain SL: 75% 25%



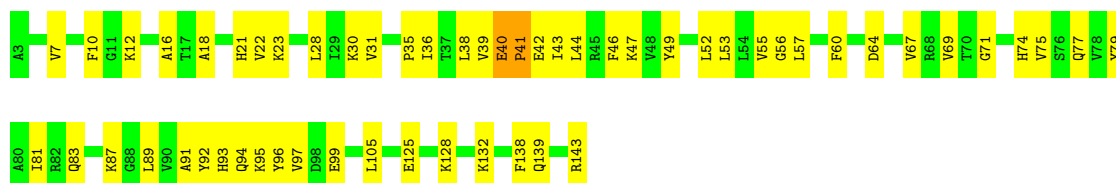
- Molecule 57: Small ribosomal subunit protein uS14A



- Molecule 58: Small ribosomal subunit protein uS7



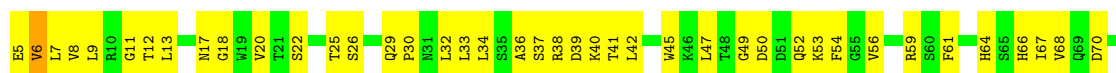
- Molecule 59: Small ribosomal subunit protein uS9A

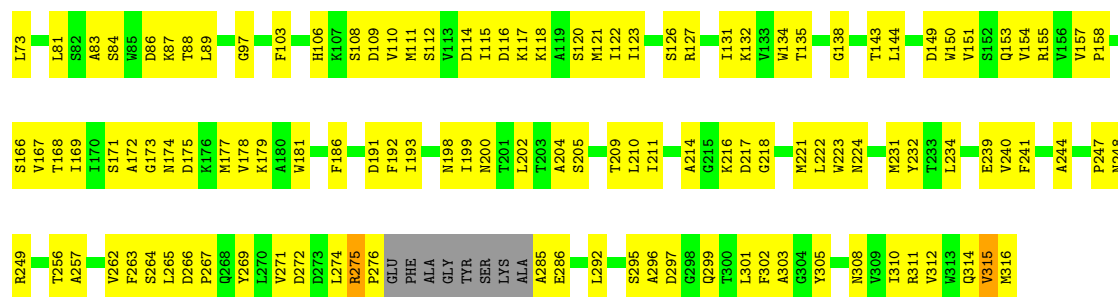


- Molecule 60: Small ribosomal subunit protein uS13A



- Molecule 61: Small ribosomal subunit protein RACK1





- Molecule 62: Small ribosomal subunit protein eS31

Chain SN: 74% 26%



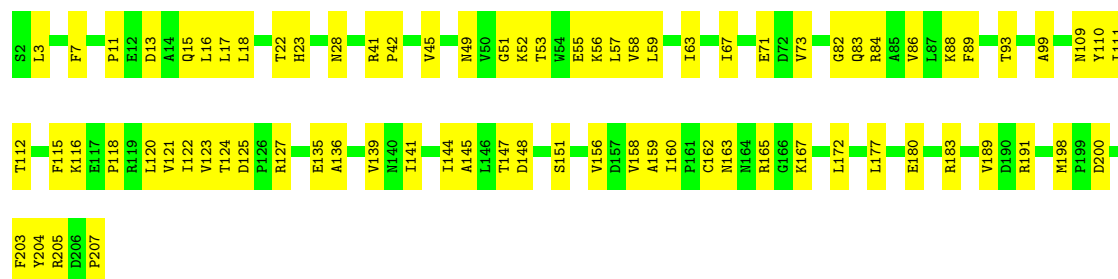
- Molecule 63: Small ribosomal subunit protein eS17A

Chain SG: 59% 40%



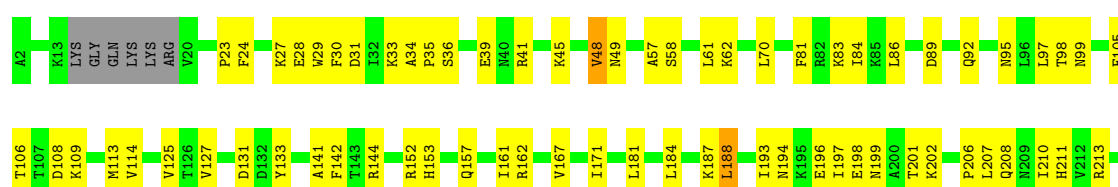
- Molecule 64: Small ribosomal subunit protein uS2A

Chain SP: 62% 38%



- Molecule 65: Small ribosomal subunit protein eS1A

Chain SQ: 65% 32%





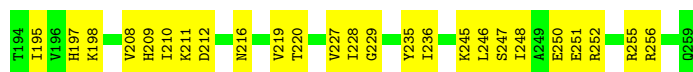
- Molecule 66: Small ribosomal subunit protein uS5

Chain SR: 71% 28%



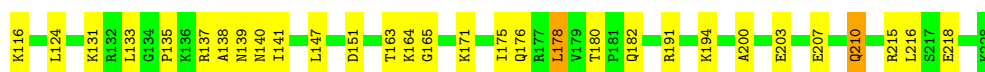
- Molecule 67: Small ribosomal subunit protein eS4A

Chain SS: 62% 37%



- Molecule 68: Small ribosomal subunit protein eS6A

Chain ST: 72% 27%



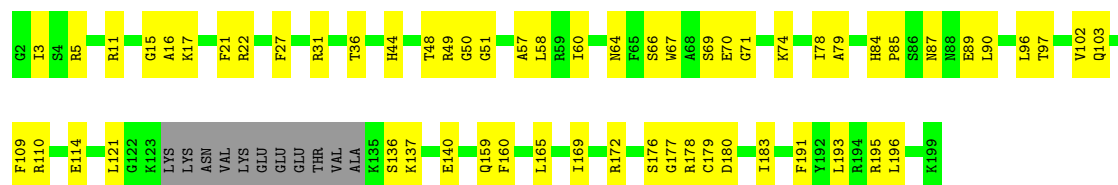
- Molecule 69: Small ribosomal subunit protein eS7A

Chain SU: 60% 39%



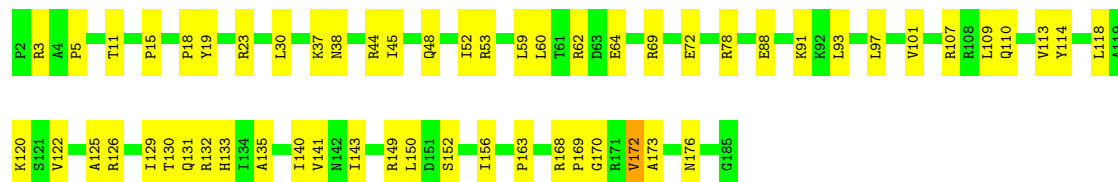
- Molecule 70: Small ribosomal subunit protein eS8A

Chain SV: 65% 30% 6%



- Molecule 71: Small ribosomal subunit protein uS4A

Chain SW: 69% 30% .



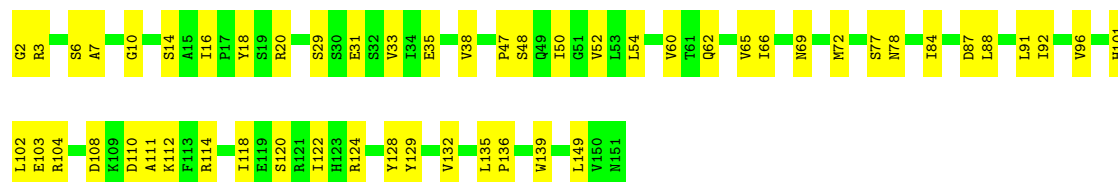
- Molecule 72: Small ribosomal subunit protein uS17A

Chain SX: 79% 20% .



- Molecule 73: Small ribosomal subunit protein uS15

Chain SY: 65% 35% .



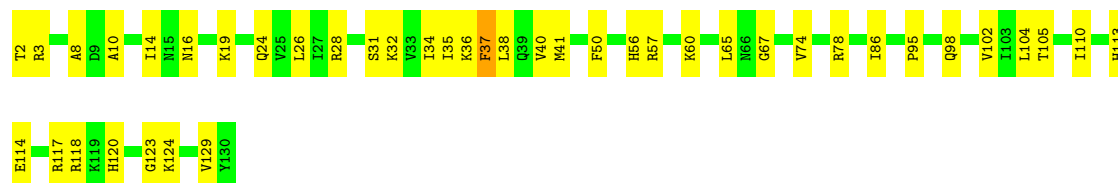
- Molecule 74: Small ribosomal subunit protein eS21A

Chain Sa: 74% 25% .



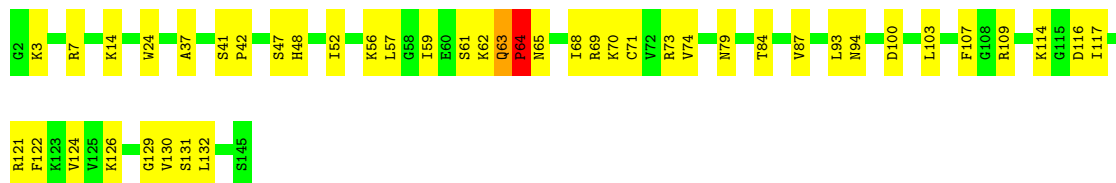
- Molecule 75: Small ribosomal subunit protein uS8A

Chain Sb: 67% 32% .



- Molecule 76: Small ribosomal subunit protein uS12A

Chain Sc:  69% 29% ..



- Molecule 77: Small ribosomal subunit protein eS24A

Chain Sd:  78% 22%



- Molecule 78: Small ribosomal subunit protein eS27A

Chain Sf:  62% 38%



- Molecule 79: Small ribosomal subunit protein eS30A

Chain Sg:  78% 22%



- Molecule 80: Small ribosomal subunit protein eS25A

Chain SK:  68% 28% 5%



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	39857	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN 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

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	0.09	0/42115	0.24	0/65623
2	A	0.08	0/76357	0.20	0/119043
3	B	0.07	0/2883	0.21	0/4491
4	C	0.09	0/3746	0.21	0/5832
5	D	0.13	0/1933	0.29	0/2598
6	E	0.10	0/3146	0.30	0/4228
7	F	0.19	2/2800 (0.1%)	0.30	0/3790
8	G	0.13	0/2400	0.34	1/3239 (0.0%)
9	H	0.14	0/1329	0.33	0/1794
10	I	0.15	0/1821	0.35	0/2451
11	J	0.12	0/1836	0.32	0/2481
12	K	0.13	0/1529	0.29	0/2060
13	L	0.17	0/1801	0.40	0/2416
14	M	0.13	0/1367	0.33	0/1834
15	N	0.11	0/1568	0.28	0/2106
16	O	0.16	0/1068	0.34	0/1438
17	P	0.13	0/1757	0.27	0/2354
18	Q	0.15	0/1585	0.34	0/2128
19	R	0.09	0/1439	0.27	0/1938
20	S	0.25	0/1465	0.34	0/1965
21	T	0.13	0/1532	0.29	0/2043
22	U	0.10	0/1473	0.27	0/1980
23	V	0.14	0/1296	0.33	0/1739
24	W	0.15	0/812	0.39	0/1099
25	X	0.08	0/1018	0.23	0/1369
26	Y	0.11	0/850	0.28	0/1152
27	Z	0.13	0/979	0.32	0/1321
28	a	0.10	0/995	0.25	0/1329
29	b	0.16	0/1106	0.36	0/1485
30	c	0.09	0/1200	0.24	0/1607
31	d	0.12	0/473	0.32	0/629
32	e	0.15	0/745	0.38	0/1001
33	f	0.12	0/890	0.29	0/1196
34	g	0.09	0/1034	0.24	0/1385

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	h	0.15	0/868	0.37	0/1168
36	i	0.10	0/890	0.24	0/1189
37	j	0.20	0/978	0.32	0/1301
38	k	0.12	0/772	0.35	0/1026
39	l	0.65	0/660	0.59	1/875 (0.1%)
40	m	0.13	0/618	0.36	0/826
41	n	0.09	0/443	0.29	0/588
42	o	0.14	0/416	0.30	0/553
43	p	0.08	0/230	0.17	0/296
44	q	0.12	0/836	0.30	0/1104
45	r	0.11	0/701	0.29	0/934
46	s	0.07	0/1795	0.19	0/2797
46	t	0.09	0/1796	0.21	0/2799
47	x	0.17	0/6685	0.46	2/9050 (0.0%)
48	SD	0.16	0/883	0.47	0/1199
49	SZ	0.16	0/901	0.45	0/1217
50	Se	0.15	0/761	0.43	0/1016
51	SC	0.30	0/769	0.50	0/1039
52	SE	0.22	0/936	0.46	0/1259
53	SA	0.19	0/1754	0.42	0/2361
54	SI	0.26	0/1130	0.50	0/1517
55	SJ	0.17	0/807	0.42	0/1091
56	SL	0.13	0/493	0.34	0/663
57	SM	0.12	0/452	0.28	0/600
58	SB	0.15	0/1625	0.40	0/2197
59	SF	0.23	0/1125	0.50	2/1510 (0.1%)
60	SH	0.19	0/1207	0.49	0/1623
61	SO	0.22	0/2376	0.51	1/3235 (0.0%)
62	SN	0.16	0/571	0.48	0/768
63	SG	0.17	0/971	0.46	0/1303
64	SP	0.15	0/1644	0.35	0/2249
65	SQ	0.14	0/1823	0.39	0/2447
66	SR	0.15	0/1656	0.36	0/2251
67	SS	0.16	0/2097	0.41	0/2823
68	ST	0.14	0/1839	0.31	0/2460
69	SU	0.21	0/1498	0.47	0/2019
70	SV	0.12	0/1501	0.33	0/2006
71	SW	0.14	0/1504	0.33	0/2016
72	SX	0.11	0/1168	0.32	0/1575
73	SY	0.14	0/1215	0.35	0/1638
74	Sa	0.16	0/682	0.42	0/921
75	Sb	0.18	0/1038	0.40	0/1395
76	Sc	0.18	0/1139	0.45	0/1518

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
77	Sd	0.14	0/1087	0.34	0/1449
78	Sf	0.10	0/620	0.30	0/838
79	Sg	0.13	0/480	0.35	0/639
80	SK	0.13	0/821	0.36	0/1096
All	All	0.13	2/224609 (0.0%)	0.28	7/329588 (0.0%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	F	147	GLU	C-N	-7.01	1.25	1.33
7	F	148	ILE	C-N	5.26	1.44	1.34

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
59	SF	41	PRO	N-CA-C	7.62	123.75	113.84
8	G	251	PRO	CA-N-CD	-5.77	103.92	112.00
61	SO	265	LEU	CB-CA-C	-5.58	110.13	116.54
59	SF	41	PRO	CB-CA-C	-5.34	104.27	111.85
47	x	606	ILE	CA-C-N	5.15	127.80	120.49
47	x	606	ILE	C-N-CA	5.15	127.80	120.49
39	l	29	VAL	CB-CA-C	-5.09	102.94	111.29

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	2	37653	0	18945	747	0
2	A	68216	0	34282	1149	0
3	B	2579	0	1304	47	0
4	C	3353	0	1695	64	0
5	D	1899	0	1957	72	0
6	E	3075	0	3142	81	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
7	F	2748	0	2859	64	0
8	G	2351	0	2294	49	0
9	H	1307	0	1377	29	0
10	I	1784	0	1862	50	0
11	J	1804	0	1877	47	0
12	K	1508	0	1572	44	0
13	L	1764	0	1804	56	0
14	M	1346	0	1370	36	0
15	N	1543	0	1608	34	0
16	O	1053	0	1149	32	0
17	P	1720	0	1779	53	0
18	Q	1555	0	1659	45	0
19	R	1416	0	1433	26	0
20	S	1441	0	1543	34	0
21	T	1515	0	1606	35	0
22	U	1437	0	1475	34	0
23	V	1272	0	1312	38	0
24	W	796	0	812	19	0
25	X	1003	0	1048	28	0
26	Y	836	0	706	15	0
27	Z	964	0	1025	19	0
28	a	984	0	1075	20	0
29	b	1080	0	1122	28	0
30	c	1169	0	1211	37	0
31	d	462	0	491	8	0
32	e	737	0	792	22	0
33	f	876	0	912	24	0
34	g	1013	0	1077	25	0
35	h	850	0	880	32	0
36	i	880	0	945	23	0
37	j	969	0	1078	24	0
38	k	766	0	844	18	0
39	l	645	0	649	43	0
40	m	612	0	682	17	0
41	n	436	0	475	10	0
42	o	410	0	446	14	0
43	p	229	0	273	7	0
44	q	824	0	892	25	0
45	r	694	0	738	26	0
46	s	1605	0	816	34	0
46	t	1606	0	816	20	0
47	x	6559	0	6627	203	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
48	SD	875	0	878	39	0
49	SZ	891	0	883	28	0
50	Se	750	0	799	20	0
51	SC	752	0	719	47	0
52	SE	916	0	941	38	0
53	SA	1729	0	1812	61	0
54	SI	1112	0	1124	66	0
55	SJ	797	0	863	40	0
56	SL	491	0	524	12	0
57	SM	442	0	432	17	0
58	SB	1605	0	1669	58	0
59	SF	1105	0	1166	58	0
60	SH	1188	0	1218	59	0
61	SO	2326	0	2287	152	0
62	SN	560	0	560	19	0
63	SG	961	0	999	41	0
64	SP	1603	0	1610	68	0
65	SQ	1798	0	1890	56	0
66	SR	1626	0	1715	53	0
67	SS	2056	0	2140	81	0
68	ST	1815	0	1894	58	0
69	SU	1473	0	1555	68	0
70	SV	1476	0	1501	50	0
71	SW	1479	0	1556	44	0
72	SX	1142	0	1209	24	0
73	SY	1192	0	1255	41	0
74	Sa	673	0	662	29	0
75	Sb	1021	0	1060	41	0
76	Sc	1121	0	1196	40	0
77	Sd	1073	0	1132	23	0
78	Sf	610	0	633	28	0
79	Sg	472	0	521	13	0
80	SK	810	0	875	26	0
All	All	209284	0	155614	4444	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 12.

All (4444) 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)
66:SR:242:ILE:HG13	66:SR:243:TYR:CD1	1.99	0.98
1:2:222:A:H61	1:2:838:G:H1	1.03	0.97
39:l:22:CYS:HB2	39:l:37:CYS:SG	2.03	0.97
53:SA:20:GLU:HG2	53:SA:77:PHE:HZ	1.28	0.97
54:SI:47:PRO:HG3	54:SI:53:TRP:CZ3	1.99	0.96
1:2:1109:G:H1	1:2:1136:U:H3	1.12	0.96
76:Sc:63:GLN:HB3	76:Sc:64:PRO:HD2	1.46	0.96
69:SU:131:PHE:CD2	69:SU:132:PRO:HD3	2.01	0.93
2:A:341:G:H21	2:A:349:A:N6	1.68	0.92
53:SA:38:GLU:HB3	53:SA:49:ILE:HG22	1.49	0.92
1:2:394:C:H42	1:2:401:A:H62	1.15	0.92
21:T:150:GLN:HA	21:T:153:LYS:HE2	1.51	0.91
67:SS:48:LEU:HA	67:SS:52:LEU:HD22	1.53	0.90
51:SC:25:LYS:HZ2	51:SC:62:GLN:HA	1.37	0.90
60:SH:68:ARG:HA	60:SH:71:GLN:HE21	1.37	0.89
66:SR:137:ILE:HD12	66:SR:138:PRO:HD2	1.54	0.87
2:A:2216:G:H1	2:A:2229:A:H61	1.22	0.86
4:C:94:C:H5''	39:l:76:ASN:HD21	1.41	0.86
69:SU:131:PHE:HD2	69:SU:132:PRO:HD3	1.38	0.86
1:2:1034:C:HO2'	75:Sb:2:THR:N	1.74	0.86
1:2:1408:G:HO2'	61:SO:285:ALA:N	1.74	0.86
61:SO:248:ASN:H	61:SO:249:ARG:NH1	1.74	0.86
74:Sa:79:LEU:HD23	74:Sa:80:LYS:H	1.39	0.85
66:SR:242:ILE:HG13	66:SR:243:TYR:HD1	1.39	0.85
13:L:36:LEU:HD22	13:L:73:ASN:HD22	1.41	0.85
61:SO:11:GLY:HA2	61:SO:52:GLN:HB2	1.59	0.84
2:A:1786:G:H2'	2:A:1787:A:C8	2.11	0.84
2:A:1174:G:N2	18:Q:87[A]:MET:HE2	1.92	0.84
59:SF:57:LEU:HA	59:SF:60:PHE:CD1	2.13	0.84
1:2:925:G:H2'	1:2:926:A:H8	1.44	0.83
2:A:1717:U:H3	2:A:1727:G:H1	1.26	0.83
1:2:898:A:N6	1:2:914:G:H21	1.77	0.82
68:ST:14:LYS:NZ	68:ST:15:THR:O	2.11	0.82
1:2:222:A:N6	1:2:838:G:H1	1.77	0.82
1:2:1158:C:H42	1:2:1163:A:H61	1.24	0.82
55:SJ:99:ILE:O	55:SJ:103:ILE:HG12	1.80	0.81
66:SR:140:ARG:HH22	66:SR:229:LEU:HD11	1.46	0.81
54:SI:130:ARG:HG2	54:SI:134:ARG:HH21	1.44	0.81
1:2:898:A:H62	1:2:914:G:N2	1.79	0.81
47:x:759:GLN:NE2	47:x:760:ARG:O	2.14	0.81
2:A:2234:G:HO2'	2:A:2603:G:HO2'	1.23	0.80
30:c:60:TYR:HD2	30:c:63:LYS:HD2	1.47	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1242:G:N3	47:x:749:LYS:NZ	2.29	0.80
65:SQ:141:ALA:HB1	65:SQ:207:LEU:HD11	1.64	0.80
23:V:89:LEU:HD12	23:V:91:LEU:HD21	1.63	0.80
2:A:824:C:H5''	5:D:21:ARG:HD3	1.63	0.79
2:A:341:G:N2	2:A:349:A:N6	2.29	0.79
2:A:360:G:H21	2:A:815:G:H1'	1.48	0.79
13:L:182:LEU:HD22	13:L:185:ARG:HH22	1.48	0.78
54:SI:130:ARG:HG2	54:SI:134:ARG:NH2	1.99	0.78
47:x:784:LEU:HD12	47:x:794:PRO:HB3	1.65	0.78
1:2:1382:A:O2'	1:2:1383:G:O5'	2.02	0.77
47:x:591:GLU:HG2	47:x:687:ASN:HD21	1.49	0.77
2:A:1020:G:H2'	2:A:1021:G:H5'	1.65	0.77
61:SO:111:MET:SD	61:SO:111:MET:N	2.57	0.77
69:SU:14:THR:H	69:SU:17:GLU:HB2	1.49	0.77
1:2:924:A:H2'	1:2:925:G:C8	2.19	0.76
69:SU:129:LEU:HD11	69:SU:169:PHE:HD1	1.49	0.76
67:SS:114:ILE:HD12	67:SS:118:GLU:HB3	1.67	0.76
8:G:34:LYS:NZ	23:V:30:TYR:CZ	2.54	0.76
2:A:1310:G:H2'	2:A:1311:G:C8	2.21	0.76
30:c:60:TYR:CD2	30:c:63:LYS:HD2	2.20	0.76
51:SC:80:LEU:HB3	51:SC:82:LEU:HD21	1.66	0.76
2:A:2451:G:H1	2:A:2495:C:H42	1.34	0.76
73:SY:135:LEU:HD12	73:SY:136:PRO:HD2	1.68	0.76
1:2:1542:G:H5''	54:SI:87:GLY:HA2	1.68	0.75
2:A:1497:C:H2'	2:A:1498:A:H8	1.51	0.75
47:x:381:TYR:CE2	47:x:478:MET:HG3	2.21	0.75
47:x:72:SER:HB3	47:x:103:ILE:HD11	1.66	0.75
66:SR:228:ASN:ND2	74:Sa:1:MET:HG2	2.02	0.75
2:A:2964:G:N2	2:A:2967:A:OP2	2.20	0.75
2:A:2437:G:H1	2:A:2510:U:H3	1.32	0.75
22:U:96:ASP:OD1	22:U:97:VAL:N	2.19	0.75
24:W:92:TRP:HB3	24:W:107:PHE:HE1	1.49	0.75
61:SO:108:SER:HB2	61:SO:127:ARG:HB3	1.68	0.75
12:K:23:ARG:HH11	12:K:39:LYS:HA	1.51	0.75
66:SR:45:VAL:HG11	66:SR:68:ILE:HG23	1.67	0.75
2:A:627:U:H2'	2:A:628:A:H8	1.52	0.74
2:A:1493:G:N2	2:A:1493:G:OP2	2.19	0.74
6:E:361:THR:HB	6:E:371:GLN:HB2	1.69	0.74
40:m:42:LYS:HG2	40:m:55:VAL:HG12	1.68	0.74
61:SO:232:TYR:HB2	61:SO:234:LEU:HD23	1.69	0.74
2:A:2193:U:H5'	2:A:2194:G:H5'	1.69	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:SF:36:ILE:HG13	59:SF:49:TYR:HE1	1.51	0.74
6:E:213:GLU:H	6:E:282:ILE:HG22	1.51	0.73
13:L:109:ASP:HA	13:L:112:GLN:HG2	1.70	0.73
58:SB:34:GLN:OE1	58:SB:34:GLN:N	2.20	0.73
1:2:992:A:H2	1:2:1012:U:H3	1.35	0.73
2:A:2094:C:H2'	2:A:2095:G:H8	1.53	0.73
58:SB:94:THR:HG22	58:SB:114:ILE:HG13	1.70	0.73
1:2:1673:G:O6	1:2:1728:A:N1	2.21	0.73
2:A:3201:C:H2'	2:A:3202:G:H8	1.53	0.73
2:A:1786:G:C6	2:A:1787:A:N6	2.56	0.73
47:x:459:ILE:HG22	47:x:460:ASP:H	1.52	0.73
48:SD:83:GLU:N	48:SD:83:GLU:OE2	2.21	0.73
5:D:4:VAL:HG23	5:D:8:GLN:OE1	1.87	0.73
18:Q:27[A]:LEU:HD11	18:Q:102[A]:LEU:HB2	1.71	0.73
42:o:103:LEU:HD21	42:o:110:CYS:HA	1.70	0.73
1:2:850:A:H5'	21:T:165:LYS:HE3	1.69	0.72
2:A:2393:G:N2	2:A:2394:G:O6	2.22	0.72
59:SF:57:LEU:HA	59:SF:60:PHE:HD1	1.52	0.72
3:B:64:A:H5'	3:B:65:G:H5''	1.71	0.72
51:SC:63:TYR:HB3	51:SC:65:TYR:HE1	1.53	0.72
52:SE:28:MET:HE3	52:SE:28:MET:H	1.54	0.72
55:SJ:27:THR:HG22	55:SJ:88:LYS:HG2	1.69	0.72
75:Sb:117:ARG:HH22	75:Sb:118:ARG:HG3	1.53	0.72
47:x:103:ILE:HG22	47:x:122:THR:HG21	1.71	0.72
64:SP:52:LYS:HE2	74:Sa:82:VAL:HG12	1.71	0.72
1:2:1016:C:H2'	1:2:1017:U:H6	1.55	0.72
1:2:1158:C:H42	1:2:1163:A:N6	1.87	0.72
54:SI:92:LYS:HD3	54:SI:94:ILE:HD11	1.70	0.72
61:SO:22:SER:HB2	61:SO:70:ASP:HA	1.71	0.72
1:2:394:C:N4	1:2:401:A:H62	1.87	0.72
2:A:182:U:H3	2:A:234:G:H1	1.36	0.72
1:2:394:C:H42	1:2:401:A:N6	1.87	0.72
6:E:291:GLU:N	6:E:291:GLU:OE2	2.23	0.72
1:2:1499:G:H1	1:2:1508:U:H3	1.38	0.72
61:SO:132:LYS:HB3	61:SO:134:TRP:NE1	2.05	0.72
1:2:78:A:N3	68:ST:175:ILE:HD12	2.05	0.71
61:SO:232:TYR:HD2	61:SO:234:LEU:HD23	1.55	0.71
61:SO:232:TYR:CD2	61:SO:234:LEU:HD23	2.24	0.71
61:SO:248:ASN:HB2	61:SO:249:ARG:HH22	1.55	0.71
10:I:48:ASN:ND2	10:I:182:ASP:OD2	2.24	0.71
1:2:1321:A:H4'	1:2:1322:A:H5'	1.72	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:SI:84:LYS:HG2	54:SI:86:ARG:HG2	1.71	0.71
2:A:3225:C:N4	2:A:3226:A:N6	2.38	0.71
69:SU:168:SER:O	69:SU:172:VAL:HG12	1.90	0.71
75:Sb:78:ARG:HB3	75:Sb:124:LYS:HB3	1.73	0.71
2:A:3379:C:H4'	6:E:315:GLY:HA2	1.73	0.71
67:SS:195:ILE:HD12	67:SS:208:VAL:HG21	1.73	0.71
2:A:1404:G:N2	2:A:1407:A:OP2	2.22	0.71
53:SA:20:GLU:HG2	53:SA:77:PHE:CZ	2.19	0.71
1:2:78:A:N6	68:ST:178:LEU:HD11	2.05	0.71
46:t:53:G:H2'	46:t:54:A:H8	1.56	0.71
52:SE:33:PHE:CE2	52:SE:87:PRO:HD3	2.25	0.71
66:SR:57:PHE:CE1	66:SR:138:PRO:HD3	2.26	0.71
1:2:898:A:N6	1:2:914:G:N2	2.38	0.71
59:SF:39:VAL:HG13	59:SF:41:PRO:HD2	1.73	0.70
65:SQ:144:ARG:HB2	65:SQ:208:GLN:HB3	1.72	0.70
1:2:1158:C:N4	1:2:1163:A:H61	1.89	0.70
7:F:264:SER:HB3	7:F:267:VAL:HG12	1.73	0.70
44:q:73:GLU:HG2	44:q:80:ARG:CZ	2.21	0.70
61:SO:7:LEU:HD13	61:SO:271:VAL:HG21	1.71	0.70
80:SK:55:PRO:HG3	80:SK:88:ILE:HD11	1.73	0.70
1:2:332:U:H5''	70:SV:31:ARG:HH21	1.57	0.70
2:A:2138:A:HO2'	39:l:2:GLY:N	1.89	0.70
8:G:40:HIS:HB3	8:G:43:LYS:HG3	1.72	0.70
46:t:69:C:H2'	46:t:70:G:H8	1.57	0.70
1:2:1345:A:OP2	55:SJ:54:GLY:N	2.24	0.70
1:2:135:A:H4'	1:2:136:C:H5'	1.73	0.70
47:x:157:ILE:HB	47:x:211:PHE:HB3	1.73	0.70
51:SC:32:HIS:HE1	51:SC:35:ILE:HD13	1.56	0.70
1:2:209:U:O4	1:2:210:A:N6	2.24	0.70
63:SG:115:LEU:HG	63:SG:116:LYS:H	1.57	0.70
2:A:301:G:H1	2:A:314:U:H3	1.39	0.70
66:SR:168:ARG:HB3	66:SR:199:GLN:HG3	1.74	0.70
1:2:742:U:O2	69:SU:107:ARG:NH2	2.24	0.70
2:A:1370:G:H2'	2:A:1371:G:H8	1.55	0.70
46:s:53:G:H2'	46:s:54:A:H8	1.56	0.70
47:x:666:ALA:HB2	47:x:706:ILE:HD12	1.74	0.70
75:Sb:26:LEU:HD21	75:Sb:60:LYS:HD2	1.72	0.70
1:2:953:G:H2'	1:2:954:G:H8	1.56	0.70
61:SO:179:LYS:NZ	61:SO:191:ASP:OD1	2.24	0.70
71:SW:172:VAL:HG12	71:SW:173:ALA:H	1.56	0.70
1:2:1081:A:O2'	1:2:1083:G:N7	2.24	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:K:83:THR:HG23	12:K:84:LYS:HG3	1.72	0.69
1:2:736:C:H2'	1:2:737:A:H8	1.56	0.69
2:A:2493:U:H3'	2:A:2494:A:H5''	1.74	0.69
69:SU:27:LEU:HD21	69:SU:80:GLU:HG2	1.73	0.69
2:A:1010:G:N2	13:L:193:ASP:OD2	2.25	0.69
42:o:103:LEU:HD22	42:o:121:LEU:HD11	1.74	0.69
61:SO:248:ASN:HB2	61:SO:249:ARG:NH2	2.07	0.69
63:SG:27:ASP:O	63:SG:31:ASN:ND2	2.24	0.69
1:2:324:U:OP1	72:SX:133:LYS:NZ	2.21	0.69
51:SC:77:ARG:HA	51:SC:82:LEU:HD12	1.74	0.69
54:SI:61:VAL:O	54:SI:65:ILE:HD12	1.92	0.69
64:SP:84:ARG:HD3	64:SP:204:TYR:HA	1.74	0.69
78:Sf:36:LYS:HB2	78:Sf:78:SER:HB3	1.73	0.69
14:M:36:VAL:O	14:M:40:LEU:HD12	1.92	0.69
52:SE:81:ARG:HA	52:SE:116:LEU:HD21	1.73	0.69
69:SU:132:PRO:HB3	69:SU:161:GLN:NE2	2.08	0.69
1:2:706:A:N6	1:2:731:C:OP2	2.25	0.69
16:O:104:ALA:HA	16:O:107:GLU:OE2	1.92	0.69
47:x:545:LEU:HA	47:x:549:HIS:HB2	1.74	0.69
70:SV:109:PHE:HE2	70:SV:183:ILE:HD11	1.57	0.69
1:2:966:A:OP2	73:SY:124:ARG:NH1	2.26	0.69
1:2:1108:G:N2	1:2:1108:G:OP2	2.24	0.69
22:U:23:LYS:HA	23:V:146:ASN:HD21	1.57	0.69
47:x:481:MET:HE1	47:x:483:PHE:HB3	1.75	0.69
1:2:513:U:H2'	1:2:514:G:H8	1.58	0.69
2:A:687:U:OP2	15:N:36:ARG:NH2	2.22	0.69
75:Sb:10:ALA:O	75:Sb:14:ILE:HD12	1.93	0.69
75:Sb:36:LYS:O	75:Sb:40:VAL:HG23	1.93	0.69
1:2:925:G:H2'	1:2:926:A:C8	2.27	0.68
11:J:139:VAL:HG21	11:J:197:VAL:HG11	1.73	0.68
23:V:54:HIS:HB3	23:V:57:TYR:CD1	2.28	0.68
36:i:58:ARG:HB2	36:i:61:GLN:HG3	1.75	0.68
69:SU:35:LYS:HD3	69:SU:39:ARG:HH21	1.57	0.68
70:SV:11:ARG:HH12	70:SV:17:LYS:HE2	1.57	0.68
1:2:463:U:O2'	1:2:527:A:N6	2.26	0.68
47:x:775:ASN:ND2	47:x:776:GLU:OE1	2.27	0.68
51:SC:56:LYS:HG2	51:SC:58:GLN:HE22	1.58	0.68
67:SS:92:LEU:HD21	77:Sd:17:LEU:HD21	1.76	0.68
1:2:208:U:H4'	70:SV:176:SER:HB2	1.75	0.68
1:2:1175:U:H2'	1:2:1176:G:H8	1.58	0.68
21:T:6:THR:OG1	21:T:7:GLN:OE1	2.11	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:SF:39:VAL:O	59:SF:40:GLU:HB3	1.92	0.68
21:T:148:ASP:OD1	21:T:151:ARG:NH2	2.26	0.68
1:2:1673:G:H1	1:2:1728:A:H2	1.39	0.68
29:b:88:ASP:HB3	29:b:121:ARG:HH22	1.58	0.68
47:x:383:SER:HA	47:x:466:THR:HG22	1.76	0.68
76:Sc:62:LYS:HG2	76:Sc:63:GLN:H	1.58	0.68
2:A:286:U:H2'	2:A:287:G:H8	1.58	0.68
50:Se:35:ALA:O	50:Se:37:LYS:NZ	2.26	0.68
75:Sb:31:SER:O	75:Sb:35:ILE:HD12	1.94	0.68
52:SE:30:THR:HG22	52:SE:87:PRO:HD2	1.76	0.68
53:SA:124:ARG:O	53:SA:128:GLU:HG2	1.93	0.68
56:SL:42:ARG:HG3	56:SL:56:LEU:HD21	1.76	0.68
59:SF:77:GLN:O	59:SF:81:ILE:HD12	1.93	0.68
60:SH:68:ARG:HA	60:SH:71:GLN:NE2	2.08	0.68
64:SP:89:PHE:O	64:SP:93:THR:HG22	1.93	0.68
63:SG:23:LYS:HB3	63:SG:34:LEU:HD11	1.76	0.68
13:L:189:GLU:OE2	13:L:189:GLU:N	2.20	0.68
53:SA:51:ARG:HB2	53:SA:91:VAL:HG22	1.74	0.68
47:x:270:GLU:N	47:x:270:GLU:OE2	2.27	0.67
61:SO:81:LEU:HD11	61:SO:89:LEU:HD11	1.75	0.67
1:2:780:A:N1	77:Sd:8:ARG:NH1	2.42	0.67
2:A:1472:U:H2'	2:A:1473:G:H8	1.59	0.67
2:A:3009:G:N2	6:E:15:GLY:O	2.22	0.67
44:q:71:ARG:NH2	44:q:80:ARG:HE	1.92	0.67
69:SU:126:LEU:HB2	69:SU:173:TYR:HE2	1.60	0.67
70:SV:21:PHE:HE2	70:SV:22:ARG:HE	1.42	0.67
21:T:186:LYS:HE3	21:T:187:GLU:HG2	1.74	0.67
1:2:1044:U:H5''	65:SQ:153:HIS:HE1	1.59	0.67
18:Q:160[A]:ARG:HH21	18:Q:161[A]:LYS:HG3	1.59	0.67
30:c:75:LEU:HB3	30:c:118:ILE:HG23	1.77	0.67
47:x:218:TRP:HZ3	47:x:328:LEU:HB3	1.60	0.67
2:A:1604:G:H5''	2:A:1835:A:H4'	1.77	0.67
11:J:151:VAL:HG23	11:J:199:ALA:HB2	1.75	0.67
51:SC:16:PHE:HE1	51:SC:88:PRO:HA	1.59	0.67
55:SJ:24:ILE:HG22	55:SJ:116:VAL:HG22	1.77	0.67
66:SR:40:LYS:HD2	66:SR:247:ALA:HB1	1.76	0.67
1:2:1183:A:N3	1:2:1210:C:O2'	2.27	0.67
59:SF:41:PRO:HB2	59:SF:44:LEU:H	1.59	0.67
62:SN:125:THR:OG1	62:SN:143:LYS:NZ	2.27	0.67
76:Sc:63:GLN:CB	76:Sc:64:PRO:HD2	2.19	0.67
79:Sg:13:LYS:HG2	79:Sg:17:GLN:NE2	2.10	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:153:G:H2'	1:2:154:G:H8	1.60	0.67
36:i:41:ARG:NH2	36:i:51:LEU:O	2.28	0.67
63:SG:58:MET:HA	63:SG:58:MET:HE3	1.77	0.67
64:SP:205:ARG:HG2	64:SP:207:PRO:HD2	1.77	0.67
2:A:517:G:OP1	10:I:67:ARG:NH2	2.28	0.67
17:P:84:PRO:HA	17:P:87:GLN:HG3	1.77	0.67
61:SO:232:TYR:HB2	61:SO:234:LEU:CD2	2.25	0.67
61:SO:276:PRO:HB3	61:SO:311:ARG:HH21	1.60	0.67
1:2:15:U:O2'	1:2:620:A:N6	2.28	0.67
21:T:150:GLN:HA	21:T:153:LYS:CE	2.22	0.67
44:q:38:GLN:OE1	44:q:41:ARG:NH1	2.27	0.67
63:SG:85:VAL:HG23	64:SP:198:MET:SD	2.35	0.67
66:SR:57:PHE:HD1	74:Sa:26:ALA:HB1	1.59	0.67
2:A:1174:G:H21	18:Q:87[A]:MET:HE2	1.59	0.66
5:D:61:VAL:HG23	5:D:74:GLU:HB2	1.77	0.66
35:h:103:TYR:HB3	35:h:104:PRO:HD2	1.77	0.66
65:SQ:31:ASP:HB2	65:SQ:45:LYS:HZ1	1.60	0.66
66:SR:68:ILE:O	66:SR:72:LEU:HD12	1.95	0.66
9:H:94:GLU:OE2	9:H:94:GLU:N	2.26	0.66
17:P:113:LEU:HD13	17:P:134:LEU:HB3	1.76	0.66
27:Z:70:GLU:N	27:Z:70:GLU:OE2	2.28	0.66
58:SB:133:VAL:HA	58:SB:198:LEU:HD21	1.76	0.66
61:SO:108:SER:CB	61:SO:127:ARG:HB3	2.25	0.66
1:2:1170:G:N2	1:2:1571:C:O2'	2.27	0.66
27:Z:121:LYS:NZ	27:Z:123:TYR:OH	2.28	0.66
1:2:1784:C:H2'	1:2:1785:U:C6	2.30	0.66
2:A:1497:C:H2'	2:A:1498:A:C8	2.31	0.66
2:A:2216:G:H1	2:A:2229:A:N6	1.94	0.66
12:K:103:ILE:HD11	12:K:110:LYS:HB3	1.76	0.66
61:SO:153:GLN:OE1	61:SO:155:ARG:NE	2.24	0.66
2:A:2975:U:H2'	2:A:2976:A:C8	2.30	0.66
70:SV:78:ILE:HD12	70:SV:78:ILE:H	1.58	0.66
2:A:674:G:O6	20:S:56:LYS:NZ	2.27	0.66
59:SF:93:HIS:HA	59:SF:97:VAL:HB	1.77	0.66
60:SH:75:ASN:OD1	60:SH:78:HIS:ND1	2.29	0.66
1:2:72:A:H2'	1:2:73:U:H4'	1.76	0.66
1:2:1591:C:H2'	1:2:1592:A:H8	1.60	0.66
29:b:88:ASP:HB3	29:b:121:ARG:NH2	2.10	0.66
2:A:2555:G:N2	29:b:135:ARG:O	2.29	0.66
13:L:76:MET:HB3	13:L:85:PHE:CE2	2.30	0.66
54:SI:10:ALA:HA	59:SF:38:LEU:HD21	1.78	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:Sa:71:ARG:HD3	78:Sf:4:VAL:HG21	1.77	0.66
74:Sa:79:LEU:HD23	74:Sa:80:LYS:N	2.10	0.66
1:2:1073:G:H4'	73:SY:10:GLY:HA2	1.77	0.66
2:A:1119:C:H2'	2:A:1120:A:H8	1.61	0.66
2:A:2116:G:OP1	2:A:2118:C:N4	2.29	0.66
16:O:119:GLN:O	16:O:123:LEU:HD12	1.96	0.66
40:m:56:ILE:HG22	40:m:58:ASP:H	1.60	0.66
50:Se:90:GLU:N	50:Se:90:GLU:OE2	2.29	0.66
53:SA:216:PRO:O	53:SA:218:LEU:N	2.28	0.66
69:SU:34:LEU:HD22	69:SU:38:LEU:HD22	1.78	0.66
1:2:1237:G:H2'	1:2:1238:A:H8	1.61	0.66
61:SO:240:VAL:HA	61:SO:256:THR:HA	1.78	0.66
70:SV:191:PHE:O	70:SV:195:ARG:HG2	1.95	0.66
6:E:281:LYS:NZ	6:E:352:GLU:O	2.29	0.65
59:SF:52:LEU:HA	59:SF:60:PHE:CZ	2.32	0.65
59:SF:56:GLY:O	59:SF:60:PHE:HE1	1.79	0.65
1:2:1465:C:H5'	59:SF:139:GLN:HB3	1.76	0.65
2:A:813:G:O2'	39:l:45:ARG:NH1	2.29	0.65
2:A:1302:A:N7	2:A:2857:C:O2'	2.29	0.65
38:k:57:LEU:O	38:k:61:ILE:HG22	1.96	0.65
47:x:277:ILE:HG22	47:x:278:LEU:HD12	1.79	0.65
54:SI:131:ASP:HA	54:SI:134:ARG:HG2	1.79	0.65
67:SS:60:GLU:OE2	67:SS:60:GLU:N	2.23	0.65
1:2:647:G:H22	1:2:687:G:H1	1.43	0.65
2:A:364:G:OP2	39:l:52:LYS:NZ	2.28	0.65
5:D:101:VAL:HG22	5:D:165:VAL:HG12	1.78	0.65
8:G:125:VAL:HG11	8:G:199:ILE:HG21	1.77	0.65
76:Sc:56:LYS:HD2	76:Sc:93:LEU:HD11	1.78	0.65
21:T:186:LYS:HD2	21:T:187:GLU:N	2.11	0.65
2:A:209:A:N3	7:F:221:ASN:ND2	2.44	0.65
2:A:638:C:N4	2:A:639:G:O6	2.30	0.65
59:SF:41:PRO:C	59:SF:43:ILE:H	2.03	0.65
60:SH:84:TRP:CD1	60:SH:85:PHE:HD1	2.14	0.65
2:A:32:U:H3	2:A:52:A:H61	1.45	0.65
2:A:627:U:H2'	2:A:628:A:C8	2.31	0.65
16:O:38:ILE:HG23	16:O:44:VAL:HG12	1.78	0.65
47:x:60:ARG:HG3	47:x:63:GLU:HB2	1.78	0.65
54:SI:104:VAL:O	54:SI:108:LEU:HD12	1.97	0.65
1:2:234:G:N7	1:2:235:G:O2'	2.30	0.65
2:A:1015:U:H4'	2:A:1016:C:H5'	1.79	0.65
2:A:1382:G:OP2	7:F:188:ARG:NH2	2.28	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:SH:106:GLU:OE2	60:SH:106:GLU:N	2.27	0.65
69:SU:129:LEU:CD1	69:SU:169:PHE:HD1	2.10	0.65
47:x:202:VAL:HG22	47:x:204:PRO:HD3	1.79	0.65
2:A:38:U:H4'	30:c:32:ARG:HD2	1.79	0.65
2:A:519:A:N6	22:U:65:ASN:O	2.30	0.65
5:D:5:ILE:HG22	5:D:208:ASP:O	1.97	0.65
19:R:85:ALA:O	19:R:89:LYS:HG3	1.96	0.65
1:2:44:U:OP2	1:2:437:A:N6	2.27	0.65
2:A:3160:U:H3	2:A:3290:G:H1	1.44	0.65
60:SH:25:ASN:HA	80:SK:40:VAL:HG11	1.79	0.65
1:2:862:A:H5''	73:SY:16:ILE:HG13	1.80	0.64
2:A:209:A:OP2	7:F:163:LYS:NZ	2.31	0.64
3:B:107:C:H2'	3:B:108:A:H8	1.62	0.64
10:I:53:LYS:O	10:I:57:THR:HG23	1.97	0.64
32:e:74:ASN:HB2	32:e:86:ARG:HB2	1.79	0.64
44:q:69:VAL:HG22	44:q:84:THR:HG22	1.79	0.64
58:SB:187:ILE:H	58:SB:187:ILE:HD12	1.61	0.64
71:SW:53:ARG:NH1	71:SW:97:LEU:O	2.30	0.64
1:2:1785:U:H2'	1:2:1786:G:H8	1.62	0.64
6:E:361:THR:HG22	6:E:362:ALA:H	1.62	0.64
17:P:6:TYR:CE2	38:k:40:VAL:HG22	2.31	0.64
69:SU:47:ARG:HB3	69:SU:59:ALA:HB3	1.79	0.64
74:Sa:32:VAL:HG13	74:Sa:60:ARG:HH12	1.62	0.64
1:2:1389:C:OP1	63:SG:48:ASN:ND2	2.30	0.64
2:A:1475:A:H4'	33:f:57:GLN:HG3	1.79	0.64
12:K:20:ILE:HG12	12:K:25:VAL:HG12	1.79	0.64
15:N:51:LEU:HD12	15:N:139:LEU:HB3	1.79	0.64
28:a:115:ARG:O	28:a:119:ILE:HG12	1.97	0.64
73:SY:102:LEU:HD11	73:SY:112:LYS:HA	1.78	0.64
1:2:1533:C:OP2	80:SK:77:ARG:NH2	2.30	0.64
12:K:187:ILE:HG23	12:K:188:THR:HG23	1.78	0.64
2:A:3118:C:O2'	42:o:106:ARG:NH2	2.31	0.64
23:V:134:GLN:OE1	23:V:134:GLN:N	2.30	0.64
61:SO:150:TRP:CD1	61:SO:151:VAL:H	2.15	0.64
25:X:20:GLY:HA2	25:X:35:TYR:HE1	1.63	0.64
1:2:476:U:H5''	1:2:477:A:H5''	1.80	0.64
1:2:1072:C:OP1	78:Sf:22:LYS:NZ	2.30	0.64
13:L:76:MET:HB3	13:L:85:PHE:CD2	2.33	0.64
14:M:116:TYR:HD2	60:SH:14:ILE:HG21	1.63	0.64
47:x:20:ARG:NH1	47:x:342:LEU:O	2.31	0.64
53:SA:68:GLU:O	53:SA:72:LEU:HD22	1.97	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:74:GLN:NE2	53:SA:80:ALA:O	2.31	0.64
63:SG:86:PRO:HD2	64:SP:200:ASP:OD2	1.97	0.64
2:A:267:G:H21	17:P:50:ARG:HG3	1.63	0.64
2:A:1596:C:O2'	2:A:1696:A:N3	2.29	0.64
2:A:1661:G:H2'	2:A:1662:G:C8	2.33	0.64
1:2:751:G:H2'	1:2:752:A:H8	1.63	0.64
1:2:925:G:N3	1:2:988:A:H1'	2.12	0.64
2:A:358:G:N2	2:A:361:A:OP2	2.30	0.64
2:A:1151:U:O2'	2:A:2369:G:N2	2.31	0.64
2:A:2295:A:N1	25:X:37:ILE:HB	2.13	0.64
22:U:93:GLU:HB2	22:U:140:VAL:HG21	1.80	0.64
47:x:759:GLN:HG2	47:x:764:PRO:O	1.98	0.64
29:b:91:ALA:O	29:b:95:VAL:HG12	1.98	0.64
70:SV:3:ILE:H	70:SV:3:ILE:HD12	1.62	0.64
1:2:39:A:OP1	71:SW:3:ARG:NH2	2.31	0.63
1:2:354:C:H5''	70:SV:16:ALA:HB2	1.79	0.63
2:A:542:G:O6	2:A:550:A:N1	2.31	0.63
2:A:1928:G:N2	2:A:2320:A:O2'	2.29	0.63
12:K:101:VAL:HG22	12:K:114:VAL:HG23	1.78	0.63
17:P:159:ARG:HB2	17:P:164:LEU:HB2	1.79	0.63
1:2:397:A:H4'	70:SV:50:GLY:HA2	1.79	0.63
1:2:802:G:H2'	1:2:803:A:C4	2.33	0.63
1:2:1280:C:H4'	55:SJ:69:LYS:HB3	1.80	0.63
13:L:87:LEU:HD12	13:L:138:VAL:HB	1.80	0.63
18:Q:75[A]:ALA:HB3	18:Q:78[A]:ARG:HG2	1.81	0.63
47:x:759:GLN:HE21	47:x:764:PRO:HA	1.62	0.63
65:SQ:196:GLU:HA	65:SQ:199:ASN:HB2	1.79	0.63
1:2:1739:C:H2'	1:2:1740:A:H8	1.63	0.63
2:A:799:G:O2'	15:N:18:TRP:NE1	2.32	0.63
52:SE:61:ARG:O	52:SE:65:LEU:HD12	1.99	0.63
65:SQ:125:VAL:HG22	65:SQ:127:VAL:HG13	1.79	0.63
38:k:84:LYS:O	38:k:88:GLU:HG2	1.98	0.63
53:SA:168:ILE:HD11	53:SA:187:LYS:HG2	1.80	0.63
2:A:71:A:OP1	30:c:67:HIS:NE2	2.26	0.63
2:A:3225:C:N4	2:A:3226:A:H62	1.96	0.63
9:H:63:LEU:HD11	9:H:81:ALA:HA	1.81	0.63
53:SA:179:GLN:N	53:SA:179:GLN:OE1	2.31	0.63
67:SS:18:TRP:O	67:SS:51:ARG:NH2	2.26	0.63
2:A:1527:C:N4	2:A:1528:G:O6	2.32	0.63
28:a:38:GLU:OE2	28:a:38:GLU:N	2.28	0.63
51:SC:16:PHE:CE1	51:SC:88:PRO:HA	2.33	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:SL:53:ILE:HB	58:SB:57:SER:HA	1.79	0.63
2:A:370:U:H4'	2:A:404:G:H5'	1.80	0.63
2:A:408:A:N3	2:A:655:C:O2'	2.31	0.63
2:A:2217:U:H2'	2:A:2218:G:H8	1.63	0.63
13:L:101:LYS:HE2	13:L:101:LYS:HA	1.80	0.63
33:f:80:ASN:ND2	33:f:87:ASN:O	2.32	0.63
54:SI:131:ASP:O	54:SI:134:ARG:HG2	1.99	0.63
61:SO:132:LYS:HB3	61:SO:134:TRP:CD1	2.33	0.63
64:SP:57:LEU:HD23	64:SP:160:ILE:HD12	1.80	0.63
73:SY:135:LEU:HD11	73:SY:139:TRP:CD1	2.34	0.63
2:A:1577:G:H2'	2:A:1578:C:C6	2.33	0.63
47:x:315:GLU:HG2	47:x:319:LEU:HD22	1.79	0.63
49:SZ:79:VAL:O	49:SZ:112:ILE:HA	1.99	0.63
60:SH:76:PRO:HB2	60:SH:81:ILE:HG21	1.80	0.63
76:Sc:63:GLN:HB3	76:Sc:64:PRO:CD	2.25	0.63
2:A:312:C:H2'	2:A:313:A:H8	1.64	0.63
2:A:625:G:N2	2:A:1401:A:OP1	2.29	0.63
2:A:3206:C:H1'	22:U:155:ARG:HH12	1.63	0.63
13:L:58:GLU:OE1	13:L:58:GLU:N	2.32	0.63
48:SD:71:ILE:O	48:SD:75:VAL:HG23	1.98	0.63
1:2:1524:A:H4'	54:SI:93:HIS:CD2	2.33	0.62
2:A:640:U:OP1	30:c:21:ARG:NH2	2.32	0.62
2:A:681:U:O2	2:A:696:C:N4	2.30	0.62
2:A:1805:C:H2'	2:A:1806:A:H8	1.64	0.62
8:G:60:ILE:H	8:G:80:SER:HB2	1.64	0.62
25:X:14:SER:O	25:X:81:GLN:NE2	2.30	0.62
61:SO:192:PHE:HE2	61:SO:211:ILE:HG21	1.63	0.62
2:A:2941:A:H5'	2:A:2943:G:H4'	1.80	0.62
3:B:6:C:OP1	8:G:54:ARG:NH1	2.32	0.62
47:x:730:LEU:HB3	47:x:797:VAL:HG13	1.81	0.62
51:SC:33:GLU:HG2	51:SC:34:GLU:HG3	1.82	0.62
54:SI:25:GLN:OE1	54:SI:27:LYS:HB2	1.99	0.62
61:SO:87:LYS:HA	61:SO:109:ASP:HA	1.81	0.62
67:SS:114:ILE:HD12	67:SS:118:GLU:CB	2.29	0.62
1:2:1628:U:H2'	1:2:1629:G:C8	2.34	0.62
2:A:562:C:H5'	22:U:71:LYS:HD2	1.81	0.62
2:A:1020:G:C2'	2:A:1021:G:H5'	2.29	0.62
2:A:2392:C:H1'	6:E:266:ARG:HH21	1.63	0.62
66:SR:76:LEU:HD12	66:SR:133:LYS:HD3	1.82	0.62
1:2:1351:G:H4'	59:SF:21:HIS:NE2	2.14	0.62
8:G:210:GLU:O	8:G:214:ASP:HB2	2.00	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:SQ:184:LEU:O	65:SQ:188:LEU:HD22	1.98	0.62
67:SS:174:LYS:O	67:SS:179:LYS:NZ	2.31	0.62
1:2:1122:G:N2	1:2:1125:A:OP2	2.32	0.62
1:2:1162:C:H5'	56:SL:22:ARG:NH2	2.14	0.62
2:A:584:G:H2'	2:A:585:A:H8	1.64	0.62
6:E:218:ILE:HD11	6:E:339:ARG:HH21	1.64	0.62
13:L:76:MET:HE1	13:L:148:VAL:HA	1.81	0.62
22:U:12:ARG:NH1	22:U:57:GLU:OE2	2.30	0.62
61:SO:157:VAL:HA	61:SO:204:ALA:HB3	1.82	0.62
1:2:208:U:H1'	70:SV:178:ARG:HD2	1.82	0.62
2:A:1235:U:H4'	2:A:1236:G:H5'	1.80	0.62
2:A:1602:A:H2'	2:A:1603:A:C4	2.34	0.62
2:A:2317:A:H2'	2:A:2318:U:C6	2.35	0.62
3:B:10:C:N4	8:G:30:TYR:OH	2.33	0.62
6:E:56:ILE:HG22	6:E:359:ILE:HG22	1.81	0.62
71:SW:18:PRO:HA	71:SW:23:ARG:NH2	2.12	0.62
1:2:896:U:O2	49:SZ:41:ARG:NH2	2.33	0.62
2:A:894:G:N2	2:A:1660:C:OP1	2.33	0.62
2:A:1463:U:H3	2:A:1467:A:H62	1.48	0.62
10:I:96:PRO:HB2	10:I:99:PRO:HD2	1.82	0.62
20:S:23:ASN:HB3	20:S:26:LEU:HB3	1.81	0.62
20:S:92:ARG:HG3	30:c:76:ASP:HB2	1.80	0.62
24:W:58:GLU:OE1	24:W:60:GLY:N	2.32	0.62
47:x:355:GLN:O	47:x:479:LYS:NZ	2.32	0.62
70:SV:109:PHE:CE2	70:SV:183:ILE:HD11	2.33	0.62
3:B:7:G:H4'	8:G:33:ARG:HH21	1.65	0.62
47:x:284:LEU:HD11	47:x:303:LEU:HD12	1.79	0.62
53:SA:194:LYS:O	53:SA:196:ARG:N	2.33	0.62
68:ST:137:ARG:HB3	68:ST:140:ASN:HB2	1.80	0.62
1:2:1482:C:O2'	59:SF:77:GLN:NE2	2.33	0.62
2:A:655:C:H2'	2:A:656:A:H8	1.65	0.62
2:A:2228:A:H2'	2:A:2229:A:H8	1.64	0.62
59:SF:125:GLU:N	59:SF:125:GLU:OE2	2.33	0.62
2:A:2423:U:H2'	2:A:2424:A:H8	1.65	0.62
2:A:2495:C:H3'	2:A:2496:C:C5'	2.30	0.62
2:A:3006:A:H62	2:A:3140:G:H21	1.48	0.62
2:A:3237:U:H2'	2:A:3238:G:C8	2.34	0.62
4:C:67:U:H2'	4:C:68:G:H8	1.65	0.62
8:G:150:LEU:HD13	14:M:143:ARG:HG3	1.81	0.62
11:J:139:VAL:O	11:J:143:ILE:HG13	2.00	0.62
46:s:28:A:H2'	46:s:29:G:H8	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:x:186:ASN:HD21	47:x:202:VAL:HB	1.65	0.62
51:SC:20:VAL:HG21	53:SA:72:LEU:HD13	1.81	0.62
61:SO:18:GLY:HA3	61:SO:38:ARG:HB3	1.82	0.62
61:SO:134:TRP:CD1	61:SO:134:TRP:H	2.18	0.62
61:SO:154:VAL:HG12	61:SO:171:SER:HA	1.80	0.62
65:SQ:105:PHE:HE1	65:SQ:213:ARG:HA	1.64	0.62
67:SS:21:ASP:HB3	67:SS:24:SER:HB3	1.80	0.62
1:2:918:U:O3'	49:SZ:18:ARG:NH1	2.33	0.61
2:A:341:G:N2	2:A:349:A:H61	1.96	0.61
2:A:928:C:H2'	2:A:929:A:H8	1.65	0.61
8:G:205:SER:HB2	8:G:236:LEU:HD21	1.81	0.61
1:2:1697:G:H1	1:2:1704:U:H3	1.48	0.61
2:A:1818:U:H2'	2:A:1819:U:C2	2.35	0.61
22:U:72:VAL:HA	22:U:97:VAL:HA	1.82	0.61
38:k:40:VAL:O	38:k:44:VAL:HG23	2.00	0.61
53:SA:175:VAL:HB	53:SA:177:MET:HE3	1.81	0.61
54:SI:83:ALA:HB1	54:SI:91:TYR:HB3	1.83	0.61
55:SJ:22:ILE:HG23	55:SJ:93:LEU:HB2	1.81	0.61
61:SO:314:GLN:HE21	61:SO:316:MET:HE2	1.64	0.61
1:2:513:U:H2'	1:2:514:G:C8	2.34	0.61
1:2:1022:C:H4'	1:2:1125:A:H61	1.64	0.61
2:A:297:G:OP2	2:A:297:G:N2	2.21	0.61
6:E:328:ILE:HD13	6:E:336:VAL:HG11	1.82	0.61
12:K:22:SER:OG	12:K:23:ARG:N	2.33	0.61
12:K:162:GLN:HE22	42:o:89:TYR:HE2	1.47	0.61
15:N:153:ASP:OD2	30:c:126:LYS:NZ	2.32	0.61
17:P:28:TRP:O	17:P:32:GLN:HG2	2.00	0.61
19:R:127:ARG:HB3	19:R:139:TYR:HB3	1.82	0.61
47:x:81:MET:HE3	47:x:82:SER:N	2.15	0.61
68:ST:48:TYR:HB3	68:ST:50:PHE:HE1	1.65	0.61
1:2:959:U:H5''	73:SY:14:SER:HB2	1.80	0.61
2:A:2435:G:N2	2:A:2514:U:O4	2.32	0.61
3:B:59:U:H2'	3:B:60:G:H8	1.65	0.61
4:C:8:C:H2'	4:C:9:A:H8	1.66	0.61
64:SP:148:ASP:H	64:SP:151:SER:HB2	1.65	0.61
72:SX:132:SER:HB3	72:SX:135:VAL:HG22	1.81	0.61
73:SY:18:TYR:O	75:Sb:56:HIS:ND1	2.32	0.61
2:A:2363:A:H2'	2:A:2364:G:C8	2.36	0.61
11:J:82:LEU:HD11	11:J:178:ALA:HB1	1.83	0.61
21:T:156:ASN:O	21:T:160:GLU:HG2	2.01	0.61
60:SH:100:THR:HG21	60:SH:108:LYS:HG3	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:SS:252:ARG:O	67:SS:256:ARG:HG3	2.01	0.61
70:SV:11:ARG:NH1	70:SV:17:LYS:HE2	2.15	0.61
80:SK:62:VAL:O	80:SK:66:VAL:HG22	2.00	0.61
52:SE:60:LEU:HD21	52:SE:89:MET:HB3	1.83	0.61
60:SH:45:LEU:HD21	60:SH:81:ILE:HD11	1.83	0.61
1:2:705:U:O2'	1:2:706:A:O5'	2.18	0.61
1:2:1628:U:H2'	1:2:1629:G:H8	1.66	0.61
10:I:131:GLU:HG3	10:I:229:PHE:HE1	1.66	0.61
13:L:182:LEU:CD2	13:L:185:ARG:HH22	2.14	0.61
58:SB:39:GLU:OE2	58:SB:42:LEU:HD13	2.00	0.61
1:2:195:G:O6	70:SV:137:LYS:NZ	2.32	0.61
1:2:252:U:OP1	67:SS:133:LYS:NZ	2.33	0.61
2:A:68:C:N4	2:A:314:U:O2'	2.22	0.61
2:A:632:G:H21	35:h:23:ASN:HD21	1.46	0.61
2:A:2351:U:H2'	2:A:2352:A:H8	1.65	0.61
10:I:55:TYR:O	10:I:59:GLU:HG2	2.01	0.61
53:SA:92:GLN:OE1	53:SA:92:GLN:N	2.32	0.61
61:SO:204:ALA:HB2	61:SO:211:ILE:HD13	1.82	0.61
6:E:245:GLY:HA3	6:E:248:LYS:HE3	1.80	0.61
7:F:181:VAL:HG21	7:F:224:GLY:HA3	1.82	0.61
24:W:35:LYS:HA	24:W:38:ILE:HG12	1.81	0.61
29:b:75:VAL:HG13	29:b:80:LEU:HD12	1.82	0.61
35:h:29:LEU:C	35:h:30:ILE:HD13	2.26	0.61
63:SG:46:LEU:O	63:SG:50:ILE:HG13	2.00	0.61
65:SQ:194:ASN:ND2	65:SQ:210:ILE:O	2.33	0.61
76:Sc:42:PRO:O	76:Sc:79:ASN:ND2	2.34	0.61
10:I:102:VAL:CG2	10:I:126:LEU:HD22	2.31	0.61
21:T:186:LYS:NZ	21:T:187:GLU:OE2	2.28	0.61
57:SM:20:GLN:N	57:SM:20:GLN:OE1	2.33	0.61
1:2:599:A:N3	76:Sc:47:SER:OG	2.30	0.60
2:A:1145:G:N2	2:A:1331:U:O2'	2.33	0.60
2:A:2950:G:N2	2:A:2950:G:OP2	2.32	0.60
7:F:311:HIS:CE1	7:F:314:LYS:HA	2.36	0.60
53:SA:76:ARG:HG3	53:SA:77:PHE:CD1	2.36	0.60
61:SO:83:ALA:HB1	61:SO:110:VAL:HG23	1.81	0.60
66:SR:65:GLU:HB2	66:SR:68:ILE:HG12	1.82	0.60
70:SV:84:HIS:NE2	70:SV:97:THR:OG1	2.32	0.60
1:2:815:G:OP2	21:T:166:ASN:ND2	2.34	0.60
2:A:348:A:N3	2:A:352:A:O2'	2.35	0.60
2:A:800:G:H1	7:F:104:LYS:HZ1	1.48	0.60
8:G:146:LEU:HD13	8:G:163:LEU:HB2	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:W:17:VAL:HG12	24:W:103:TYR:HB2	1.83	0.60
32:e:14:LEU:O	32:e:18:ILE:HG22	2.01	0.60
47:x:619:MET:O	47:x:619:MET:HE3	2.01	0.60
54:SI:11:ALA:HA	54:SI:63:ARG:HH12	1.66	0.60
61:SO:26:SER:HA	61:SO:73:LEU:HD21	1.82	0.60
78:Sf:41:LEU:HD23	78:Sf:42:ASN:H	1.66	0.60
1:2:1682:U:O4	1:2:1720:G:N2	2.34	0.60
2:A:999:G:N3	2:A:1002:A:N6	2.49	0.60
13:L:170:LYS:HA	13:L:177:ASP:HA	1.84	0.60
35:h:12:LYS:NZ	35:h:95:GLY:O	2.27	0.60
76:Sc:130:VAL:HG23	76:Sc:131:SER:H	1.67	0.60
2:A:1141:C:O2'	2:A:1153:A:N3	2.32	0.60
40:m:43:PHE:HE2	40:m:56:ILE:HG12	1.67	0.60
72:SX:132:SER:OG	72:SX:133:LYS:N	2.33	0.60
1:2:1462:G:OP2	60:SH:143:ARG:NH1	2.32	0.60
13:L:42:THR:O	13:L:139:ARG:NH2	2.34	0.60
39:l:26:SER:HB2	39:l:35:SER:H	1.66	0.60
1:2:307:G:OP1	72:SX:103:ARG:NH1	2.33	0.60
2:A:2763:U:H5'	20:S:176:ARG:HD2	1.82	0.60
7:F:45:ASN:O	7:F:110:ASN:ND2	2.35	0.60
13:L:36:LEU:HD22	13:L:73:ASN:ND2	2.15	0.60
29:b:10:VAL:HG13	29:b:83:THR:HB	1.84	0.60
47:x:707:PRO:O	47:x:711:ARG:HG2	2.01	0.60
51:SC:3:MET:HB3	51:SC:8:ARG:HE	1.65	0.60
61:SO:25:THR:HG21	61:SO:295:SER:HB2	1.83	0.60
63:SG:33:ARG:O	63:SG:37:GLU:HG3	2.02	0.60
67:SS:247:SER:N	67:SS:250:GLU:OE2	2.34	0.60
78:Sf:75:GLU:N	78:Sf:75:GLU:OE2	2.33	0.60
1:2:947:U:H2'	1:2:948:G:H8	1.67	0.60
1:2:1142:A:H5''	50:Se:2:PRO:HB3	1.84	0.60
2:A:21:G:H3'	2:A:22:G:H8	1.66	0.60
2:A:1646:G:H21	2:A:1809:A:H62	1.48	0.60
11:J:140:VAL:HG21	17:P:3:ALA:HB2	1.83	0.60
23:V:57:TYR:CD2	23:V:89:LEU:HD13	2.36	0.60
28:a:42:GLN:HG2	28:a:43:TYR:CE1	2.36	0.60
39:l:20:ASN:O	39:l:21:ARG:C	2.44	0.60
67:SS:52:LEU:HG	67:SS:54:TYR:CD2	2.37	0.60
1:2:1022:C:O2'	1:2:1125:A:N1	2.34	0.60
1:2:1498:G:H4'	54:SI:121:GLY:H	1.67	0.60
2:A:2147:A:OP2	5:D:200:ARG:NH1	2.34	0.60
2:A:3027:A:H1'	47:x:785:ARG:HB3	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:206:LEU:O	13:L:210:ILE:HG12	2.01	0.60
47:x:203:TYR:HB3	47:x:206:ARG:HB2	1.83	0.60
54:SI:25:GLN:NE2	54:SI:27:LYS:H	1.99	0.60
1:2:142:G:H22	1:2:173:A:H2	1.50	0.60
1:2:1281:G:H4'	55:SJ:76:SER:H	1.67	0.60
1:2:1585:U:H3	1:2:1611:A:H2	1.50	0.60
2:A:518:G:H5'	2:A:520:U:H5'	1.84	0.60
2:A:616:G:H2'	2:A:617:G:H8	1.66	0.60
2:A:2344:U:H2'	2:A:2345:A:H8	1.66	0.60
4:C:47:C:H1'	4:C:61:A:H2'	1.84	0.60
42:o:86:ALA:O	42:o:90:ASN:ND2	2.31	0.60
1:2:192:U:O4	1:2:195:G:N2	2.35	0.60
1:2:382:C:H2'	1:2:383:G:C8	2.37	0.60
1:2:921:U:H2'	1:2:922:G:H8	1.67	0.60
2:A:284:A:OP2	44:q:41:ARG:NH1	2.34	0.60
65:SQ:167:VAL:O	65:SQ:171:ILE:HG12	2.02	0.60
75:Sb:57:ARG:NH1	78:Sf:26:GLN:OE1	2.35	0.60
1:2:142:G:H5''	68:ST:139:ASN:HD21	1.67	0.59
2:A:707:U:H1'	2:A:754:G:H1'	1.84	0.59
5:D:33:ASP:OD1	5:D:33:ASP:N	2.35	0.59
25:X:18:PRO:HA	25:X:51:ALA:HA	1.83	0.59
61:SO:59:ARG:HH22	61:SO:97:GLY:HA2	1.67	0.59
67:SS:118:GLU:HA	67:SS:121:TYR:CE1	2.37	0.59
2:A:2727:A:OP2	2:A:2728:G:N2	2.35	0.59
12:K:41:ILE:HG12	12:K:71:VAL:HG21	1.84	0.59
13:L:189:GLU:HB2	13:L:200:LEU:HB3	1.83	0.59
73:SY:16:ILE:HG23	73:SY:62:GLN:HE22	1.67	0.59
1:2:297:U:H5''	67:SS:37:LYS:HG2	1.84	0.59
1:2:1175:U:H2'	1:2:1176:G:C8	2.37	0.59
2:A:341:G:N2	2:A:349:A:C6	2.70	0.59
2:A:500:C:H5''	9:H:82:ARG:HG3	1.82	0.59
2:A:1370:G:H2'	2:A:1371:G:C8	2.37	0.59
2:A:2433:U:OP2	2:A:2434:U:O2'	2.19	0.59
38:k:50:LEU:O	38:k:55:ARG:NH2	2.35	0.59
47:x:132:ILE:HD11	47:x:162:ARG:HG3	1.84	0.59
47:x:634:TRP:HE1	47:x:648:ASP:HB2	1.67	0.59
47:x:725:GLN:HE21	47:x:801:TRP:HB3	1.67	0.59
47:x:736:PRO:HD2	47:x:791:GLN:HE21	1.66	0.59
55:SJ:28:SER:HB3	55:SJ:34:LEU:HD21	1.83	0.59
58:SB:219:ARG:HH21	58:SB:220:VAL:HG22	1.65	0.59
61:SO:248:ASN:H	61:SO:249:ARG:HH12	1.47	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:SQ:34:ALA:HB3	65:SQ:41:ARG:HG3	1.84	0.59
1:2:1466:G:H2'	1:2:1467:C:C6	2.38	0.59
1:2:1550:A:OP1	52:SE:42:ARG:NH1	2.35	0.59
1:2:1695:G:H2'	1:2:1696:G:C8	2.37	0.59
2:A:2193:U:O4	2:A:2243:A:N6	2.36	0.59
2:A:2728:G:OP2	23:V:83:ARG:NH2	2.36	0.59
51:SC:63:TYR:HB3	51:SC:65:TYR:CE1	2.35	0.59
69:SU:90:VAL:C	69:SU:91:ILE:HD13	2.27	0.59
2:A:2382:G:OP2	18:Q:90[A]:HIS:NE2	2.32	0.59
3:B:17:A:OP1	14:M:150:ASN:ND2	2.35	0.59
30:c:71:PRO:HB2	30:c:109:TYR:HA	1.84	0.59
53:SA:32:GLU:OE2	53:SA:58:VAL:HG23	2.03	0.59
80:SK:13:ALA:O	80:SK:17:LEU:HD13	2.03	0.59
1:2:1262:U:H2'	1:2:1263:G:C8	2.38	0.59
1:2:1774:G:N7	43:p:4:LYS:NZ	2.47	0.59
2:A:528:U:H2'	2:A:529:A:C8	2.37	0.59
2:A:845:G:N2	2:A:848:A:OP2	2.35	0.59
2:A:928:C:H2'	2:A:929:A:C8	2.37	0.59
2:A:1014:U:O2	2:A:1017:C:N4	2.36	0.59
2:A:2305:G:N2	2:A:2305:G:OP2	2.35	0.59
2:A:2366:C:H2'	2:A:2367:A:H8	1.67	0.59
39:l:26:SER:O	39:l:34:CYS:HA	2.03	0.59
58:SB:43:PHE:CD1	58:SB:43:PHE:O	2.56	0.59
60:SH:32:LEU:HB2	60:SH:43:SER:HB2	1.85	0.59
61:SO:264:SER:HB3	61:SO:269:TYR:H	1.68	0.59
73:SY:118:ILE:O	73:SY:122:ILE:HG23	2.02	0.59
1:2:1293:U:O2	64:SP:109:ASN:ND2	2.35	0.59
1:2:1613:U:OP1	58:SB:169:ASN:ND2	2.35	0.59
2:A:1809:A:OP2	29:b:65:ARG:NH1	2.35	0.59
2:A:2526:C:H2'	2:A:2527:G:H8	1.67	0.59
2:A:3193:C:H2'	2:A:3194:C:H6	1.67	0.59
6:E:17:LEU:HD21	6:E:233:TRP:HH2	1.67	0.59
39:l:27:PHE:HA	39:l:33:THR:O	2.03	0.59
48:SD:129:GLU:HA	48:SD:133:LEU:HD23	1.85	0.59
58:SB:157:ARG:HB2	58:SB:224:ASN:HD22	1.66	0.59
73:SY:87:ASP:OD1	73:SY:87:ASP:N	2.35	0.59
2:A:567:G:H2'	2:A:568:G:C8	2.38	0.59
2:A:1046:A:O2'	2:A:1048:A:OP2	2.21	0.59
7:F:77:VAL:HG11	7:F:84:ARG:HD2	1.85	0.59
12:K:150:SER:OG	12:K:153:ASP:OD1	2.20	0.59
18:Q:56[A]:ASP:OD1	18:Q:60[A]:LYS:NZ	2.33	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:p:7:LYS:O	43:p:11:ARG:HG2	2.03	0.59
54:SI:47:PRO:HG3	54:SI:53:TRP:CE3	2.37	0.59
59:SF:52:LEU:HD13	59:SF:60:PHE:CE2	2.38	0.59
64:SP:162:CYS:SG	64:SP:163:ASN:N	2.75	0.59
70:SV:70:GLU:N	70:SV:70:GLU:OE2	2.35	0.59
1:2:329:G:H2'	1:2:330:G:H8	1.67	0.59
2:A:1101:G:H5''	10:I:107:ARG:HD3	1.84	0.59
5:D:80:GLU:HG3	45:r:66:GLY:HA2	1.83	0.59
7:F:125:ALA:O	7:F:129:THR:HG23	2.03	0.59
17:P:23:GLN:O	17:P:27:VAL:HG12	2.03	0.59
23:V:54:HIS:HB3	23:V:57:TYR:HD1	1.68	0.59
47:x:103:ILE:CG2	47:x:122:THR:HG21	2.33	0.59
1:2:1797:A:P	50:Se:10:ARG:HH12	2.25	0.59
2:A:2094:C:H2'	2:A:2095:G:C8	2.36	0.59
2:A:2424:A:H61	5:D:230:VAL:HG11	1.68	0.59
2:A:2842:U:OP1	2:A:2898:G:N2	2.35	0.59
2:A:3092:C:O2'	2:A:3094:A:OP2	2.20	0.59
4:C:23:U:H5''	28:a:13:ARG:HG3	1.85	0.59
4:C:71:A:H62	4:C:87:G:N2	2.01	0.59
11:J:54:GLU:CD	11:J:54:GLU:H	2.10	0.59
61:SO:89:LEU:HD23	61:SO:134:TRP:CZ3	2.36	0.59
64:SP:52:LYS:N	64:SP:52:LYS:HD2	2.18	0.59
67:SS:180:LEU:HB3	67:SS:228:ILE:HG12	1.85	0.59
1:2:996:U:H3	1:2:1008:G:H1	1.51	0.58
2:A:707:U:O2'	2:A:754:G:N3	2.35	0.58
2:A:969:C:OP1	31:d:19:ASN:ND2	2.36	0.58
2:A:1234:G:H2'	2:A:1235:U:C5	2.38	0.58
2:A:1886:A:H2'	2:A:1887:A:H8	1.67	0.58
7:F:9:HIS:HA	7:F:15:ALA:HA	1.84	0.58
20:S:54:LEU:HB3	20:S:58:ASN:HB3	1.84	0.58
47:x:419:VAL:HG22	47:x:421:GLY:H	1.68	0.58
59:SF:94:GLN:O	61:SO:52:GLN:NE2	2.33	0.58
67:SS:72:VAL:HG22	67:SS:90:ILE:HG22	1.85	0.58
1:2:229:U:OP2	1:2:230:C:N4	2.36	0.58
1:2:606:A:H4'	1:2:607:G:H3'	1.84	0.58
1:2:1171:A:H2'	1:2:1172:G:C8	2.37	0.58
1:2:1171:A:H2'	1:2:1172:G:H8	1.68	0.58
1:2:1553:G:N7	52:SE:43:ARG:NH2	2.50	0.58
2:A:57:A:H4'	17:P:157:LYS:HE3	1.84	0.58
2:A:1794:G:O2'	2:A:1796:G:N2	2.36	0.58
11:J:158:ASP:HB2	11:J:159:PRO:HD2	1.83	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:K:8:GLN:HG3	12:K:68:LEU:HD21	1.85	0.58
18:Q:54[A]:TYR:OH	18:Q:73[A]:PHE:O	2.20	0.58
45:r:7:LYS:O	45:r:27:LYS:NZ	2.36	0.58
61:SO:121:MET:HG3	61:SO:135:THR:HA	1.85	0.58
67:SS:52:LEU:HG	67:SS:54:TYR:HD2	1.68	0.58
69:SU:41:LEU:HG	69:SU:70:PHE:HE1	1.68	0.58
1:2:1606:C:H2'	1:2:1607:G:H8	1.68	0.58
2:A:695:C:OP2	7:F:115:HIS:NE2	2.37	0.58
2:A:2349:U:O2'	2:A:3307:A:N3	2.35	0.58
5:D:28:LYS:HB3	5:D:123:ARG:HB3	1.83	0.58
13:L:85:PHE:CD1	13:L:85:PHE:C	2.80	0.58
47:x:653:VAL:HG11	47:x:656:LEU:HD12	1.85	0.58
61:SO:110:VAL:HG12	61:SO:126:SER:HB3	1.86	0.58
65:SQ:57:ALA:O	65:SQ:61:LEU:HG	2.02	0.58
66:SR:76:LEU:HD22	66:SR:105:GLY:HA2	1.84	0.58
78:Sf:15:GLU:O	78:Sf:29:ARG:NH2	2.33	0.58
79:Sg:37:ARG:O	79:Sg:41:THR:HG23	2.04	0.58
1:2:1217:A:H4'	51:SC:44:LYS:NZ	2.18	0.58
2:A:75:G:H5'	15:N:58:VAL:HG21	1.84	0.58
2:A:364:G:N7	39:l:56:ARG:NH2	2.51	0.58
2:A:417:A:H2'	2:A:418:A:H8	1.69	0.58
18:Q:139[A]:GLY:O	18:Q:143[A]:THR:HG23	2.02	0.58
20:S:75:GLY:O	20:S:79:LYS:NZ	2.36	0.58
22:U:141:LYS:HA	22:U:144:LEU:HD12	1.84	0.58
61:SO:112:SER:OG	61:SO:155:ARG:NH2	2.36	0.58
69:SU:20:VAL:HG23	69:SU:24:PHE:HE1	1.68	0.58
73:SY:84:ILE:HD11	73:SY:149:LEU:HD22	1.86	0.58
78:Sf:15:GLU:HA	78:Sf:18:LYS:HZ3	1.67	0.58
1:2:343:C:H2'	1:2:344:A:H8	1.68	0.58
2:A:1389:G:OP1	34:g:104:ASN:ND2	2.33	0.58
2:A:2218:G:OP2	38:k:68:ARG:NH2	2.34	0.58
6:E:283:TYR:N	6:E:323:MET:O	2.23	0.58
17:P:160:GLU:H	17:P:160:GLU:CD	2.11	0.58
50:Se:44:ILE:HG23	50:Se:67:THR:HB	1.85	0.58
58:SB:133:VAL:HG22	58:SB:198:LEU:HD11	1.85	0.58
61:SO:33:LEU:HD11	61:SO:302:PHE:CD1	2.38	0.58
80:SK:47:TYR:CE1	80:SK:51:LEU:HD21	2.39	0.58
1:2:1151:A:O2'	1:2:1766:A:N7	2.32	0.58
1:2:1483:A:H4'	59:SF:71:GLY:HA2	1.85	0.58
1:2:1573:A:H4'	1:2:1574:G:O5'	2.02	0.58
1:2:1650:U:H2'	1:2:1651:A:C8	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:76:G:H3'	15:N:73:ARG:HD2	1.85	0.58
2:A:3015:G:H2'	2:A:3016:A:H8	1.68	0.58
14:M:21:ILE:HD13	14:M:37:LEU:HD13	1.86	0.58
24:W:61:THR:HG23	24:W:62:VAL:HG13	1.84	0.58
49:SZ:116:GLU:OE2	65:SQ:83:LYS:NZ	2.36	0.58
2:A:196:G:H22	2:A:199:A:H5'	1.69	0.58
2:A:542:G:C6	2:A:550:A:N1	2.72	0.58
19:R:49:GLU:OE2	19:R:92:GLN:NE2	2.29	0.58
26:Y:9:SER:HA	26:Y:52:THR:HB	1.86	0.58
28:a:99:LEU:HD13	28:a:104:LEU:HD21	1.84	0.58
47:x:117:ALA:O	47:x:121:VAL:HG23	2.04	0.58
51:SC:64:TYR:HB3	51:SC:66:TYR:CE1	2.38	0.58
53:SA:69:LEU:HD23	53:SA:72:LEU:HD23	1.86	0.58
54:SI:37:VAL:HG22	54:SI:53:TRP:HH2	1.68	0.58
75:Sb:8:ALA:HA	75:Sb:74:VAL:HG11	1.84	0.58
76:Sc:68:ILE:O	76:Sc:70:LYS:NZ	2.35	0.58
2:A:1756:C:H2'	2:A:1757:A:H8	1.67	0.58
5:D:177:LYS:HG2	45:r:26:VAL:HG12	1.85	0.58
6:E:278:ILE:HD12	6:E:279:ASN:HB2	1.86	0.58
8:G:91:GLY:O	8:G:94:ASN:ND2	2.37	0.58
18:Q:80[A]:PHE:CE1	18:Q:84[A]:LEU:HD11	2.38	0.58
21:T:148:ASP:HA	21:T:151:ARG:HE	1.69	0.58
27:Z:115:ARG:HH21	27:Z:119:THR:HG21	1.69	0.58
40:m:62:ALA:O	40:m:66:ILE:HG23	2.03	0.58
47:x:607:ASN:ND2	47:x:609:ARG:O	2.36	0.58
77:Sd:13:ILE:HG12	77:Sd:22:GLN:HB2	1.84	0.58
80:SK:81:ARG:HH11	80:SK:81:ARG:HG3	1.68	0.58
1:2:775:G:O6	1:2:785:U:O2	2.22	0.58
2:A:501:A:H4'	9:H:28:GLN:HB2	1.85	0.58
2:A:2185:G:H2'	2:A:2186:U:C6	2.39	0.58
2:A:2898:G:OP2	12:K:173:ARG:NH2	2.37	0.58
2:A:3002:C:OP1	6:E:26:ARG:NH2	2.37	0.58
3:B:40:C:O2	14:M:72:ARG:NH1	2.35	0.58
20:S:9:GLN:OE1	20:S:9:GLN:HA	2.04	0.58
33:f:72:ARG:NH2	33:f:105:GLN:O	2.37	0.58
48:SD:58:LEU:HD12	48:SD:125:ASN:H	1.67	0.58
49:SZ:39:ILE:H	49:SZ:39:ILE:HD12	1.69	0.58
59:SF:56:GLY:O	59:SF:60:PHE:CE1	2.56	0.58
68:ST:14:LYS:HZ3	68:ST:15:THR:H	1.51	0.58
1:2:929:A:OP1	1:2:931:C:N4	2.37	0.58
1:2:950:C:O2'	73:SY:104:ARG:NH1	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1037:C:O2	75:Sb:16:ASN:ND2	2.37	0.58
2:A:1084:A:H2'	2:A:1085:A:C8	2.38	0.58
2:A:1721:U:O4	21:T:128:LYS:NZ	2.36	0.58
2:A:3233:C:H2'	2:A:3234:A:C8	2.38	0.58
5:D:180:LEU:HD22	45:r:26:VAL:HG11	1.85	0.58
12:K:147:SER:HB3	12:K:187:ILE:HD12	1.86	0.58
21:T:166:ASN:OD1	21:T:167:ARG:N	2.37	0.58
23:V:112:ASN:HB3	23:V:128:LEU:HD13	1.86	0.58
44:q:25:VAL:HG22	44:q:72:LEU:HD22	1.86	0.58
47:x:381:TYR:CD2	47:x:478:MET:HG3	2.39	0.58
52:SE:111:MET:O	52:SE:112:LEU:HD23	2.04	0.58
67:SS:35:PRO:HD2	67:SS:83:PRO:HG2	1.84	0.58
1:2:755:A:O2'	67:SS:39:ARG:NH2	2.33	0.57
2:A:664:U:H2'	2:A:665:A:C8	2.39	0.57
20:S:145:ASN:HB2	20:S:150:VAL:HG11	1.86	0.57
32:e:51:LEU:HD11	36:i:90:ILE:HG22	1.86	0.57
48:SD:91:VAL:HG23	48:SD:92:ALA:H	1.68	0.57
49:SZ:20:TYR:HB3	49:SZ:27:PHE:HB2	1.85	0.57
54:SI:93:HIS:O	54:SI:94:ILE:HD13	2.04	0.57
54:SI:93:HIS:C	54:SI:94:ILE:HD13	2.29	0.57
58:SB:127:GLN:OE1	58:SB:128:ASN:N	2.28	0.57
64:SP:53:THR:O	64:SP:57:LEU:HG	2.03	0.57
66:SR:104:VAL:HG22	66:SR:132:ALA:HB1	1.86	0.57
75:Sb:14:ILE:HG23	75:Sb:65:LEU:HD11	1.85	0.57
1:2:1001:A:OP1	46:t:38:A:O2'	2.21	0.57
2:A:791:A:H2'	2:A:792:G:H8	1.69	0.57
2:A:1805:C:H2'	2:A:1806:A:C8	2.39	0.57
2:A:2209:U:H4'	2:A:2210:G:H5'	1.85	0.57
5:D:74:GLU:OE1	5:D:74:GLU:N	2.37	0.57
9:H:45:GLY:O	9:H:48:ARG:NH1	2.37	0.57
12:K:89:LYS:HG2	12:K:145:VAL:HG22	1.86	0.57
21:T:7:GLN:OE1	21:T:7:GLN:N	2.37	0.57
54:SI:126:GLU:CD	54:SI:126:GLU:H	2.11	0.57
58:SB:29:ILE:HD11	58:SB:33:VAL:HG21	1.86	0.57
1:2:78:A:C4	68:ST:175:ILE:HD12	2.39	0.57
1:2:1262:U:H2'	1:2:1263:G:H8	1.69	0.57
2:A:691:A:N1	4:C:28:C:O2'	2.34	0.57
4:C:60:U:O4	37:j:59:ASN:ND2	2.36	0.57
7:F:92:ASN:HD22	7:F:100:PHE:HB2	1.68	0.57
13:L:69:ARG:O	13:L:70:ILE:C	2.47	0.57
24:W:92:TRP:HB3	24:W:107:PHE:CE1	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:f:6:ASP:O	33:f:8:VAL:HG13	2.05	0.57
35:h:49:ILE:HD11	35:h:71:VAL:HG23	1.86	0.57
37:j:7:TYR:O	37:j:11:THR:HG23	2.04	0.57
53:SA:137:VAL:HB	53:SA:185:LYS:HB3	1.86	0.57
64:SP:144:ILE:HG12	64:SP:158:VAL:HB	1.86	0.57
66:SR:143:TYR:O	75:Sb:98:GLN:NE2	2.37	0.57
67:SS:65:LEU:HD23	67:SS:70:VAL:HG21	1.84	0.57
80:SK:47:TYR:HE1	80:SK:51:LEU:HD21	1.68	0.57
1:2:336:G:O6	70:SV:5:ARG:NH1	2.37	0.57
1:2:565:C:O2'	1:2:1755:A:N1	2.32	0.57
2:A:68:C:H41	2:A:314:U:HO2'	1.50	0.57
2:A:1057:A:OP1	10:I:98:LYS:NZ	2.38	0.57
11:J:151:VAL:C	11:J:152:LEU:HD12	2.29	0.57
13:L:73:ASN:O	13:L:77:THR:HG23	2.05	0.57
65:SQ:184:LEU:O	65:SQ:187:LYS:HG2	2.05	0.57
1:2:197:A:H2'	1:2:198:A:H8	1.69	0.57
2:A:664:U:H2'	2:A:665:A:H8	1.69	0.57
2:A:1184:A:H5''	16:O:59:ASN:HD22	1.69	0.57
2:A:2746:A:H4'	8:G:176:SER:HB2	1.87	0.57
6:E:347:SER:OG	6:E:348:ARG:N	2.36	0.57
9:H:67:GLY:HA3	9:H:74:VAL:HB	1.86	0.57
60:SH:69:ILE:HG23	60:SH:73:MET:HE3	1.85	0.57
1:2:123:G:H21	67:SS:146:THR:HG21	1.70	0.57
2:A:259:C:H2'	2:A:260:C:C6	2.39	0.57
2:A:991:G:N2	23:V:59:GLY:O	2.38	0.57
2:A:2446:U:H2'	2:A:2447:A:H8	1.68	0.57
2:A:3122:A:N1	12:K:70:THR:HG21	2.19	0.57
5:D:195:SER:O	5:D:195:SER:OG	2.23	0.57
7:F:219:LEU:HD12	7:F:225:VAL:HG11	1.86	0.57
17:P:186:GLY:O	17:P:190:THR:HG23	2.04	0.57
25:X:45:ARG:HD2	25:X:46:LEU:H	1.69	0.57
41:n:15:LYS:O	41:n:19:GLN:HG3	2.04	0.57
46:t:74:C:N3	46:t:75:C:N4	2.53	0.57
58:SB:140:THR:HG21	58:SB:175:LEU:HD21	1.87	0.57
1:2:144:U:H2'	1:2:145:A:C8	2.40	0.57
7:F:288:ARG:HB3	7:F:288:ARG:HH11	1.69	0.57
21:T:132:PHE:CD2	21:T:138:LEU:HD13	2.39	0.57
66:SR:220:ASN:OD1	74:Sa:25:LYS:NZ	2.36	0.57
67:SS:61:VAL:O	67:SS:64:ILE:HG22	2.04	0.57
1:2:58:U:O2'	1:2:451:A:N3	2.38	0.57
1:2:1180:C:H1'	52:SE:128:HIS:HE1	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1618:G:O2'	4:C:126:A:N1	2.37	0.57
6:E:300:ARG:HH12	68:ST:22:HIS:HB3	1.70	0.57
7:F:2:SER:OG	7:F:3:ARG:N	2.33	0.57
11:J:159:PRO:HB3	17:P:26:ARG:HH21	1.68	0.57
20:S:76:ALA:HA	20:S:79:LYS:HG3	1.86	0.57
59:SF:46:PHE:HD1	59:SF:49:TYR:HD2	1.53	0.57
61:SO:7:LEU:HG	61:SO:315:VAL:HA	1.85	0.57
72:SX:83:THR:HG22	72:SX:110:HIS:HA	1.86	0.57
1:2:1602:C:H2'	1:2:1603:U:C6	2.40	0.57
2:A:503:C:H2'	2:A:504:A:H8	1.70	0.57
2:A:797:U:H2'	2:A:798:G:H8	1.70	0.57
2:A:1080:A:H2'	2:A:1081:U:H3'	1.86	0.57
2:A:2585:G:N7	11:J:47:SER:OG	2.37	0.57
44:q:71:ARG:HH21	44:q:80:ARG:HE	1.50	0.57
61:SO:117:LYS:HZ1	61:SO:158:PRO:HA	1.69	0.57
63:SG:50:ILE:O	63:SG:54:THR:HG23	2.04	0.57
67:SS:11:ARG:HG3	67:SS:28:ALA:HB2	1.87	0.57
70:SV:78:ILE:HG23	70:SV:102:VAL:HG21	1.87	0.57
1:2:1280:C:H5''	55:SJ:69:LYS:HG2	1.87	0.57
2:A:170:G:C2	2:A:249:U:O2	2.57	0.57
2:A:2515:A:N1	2:A:2594:C:N4	2.51	0.57
61:SO:314:GLN:OE1	61:SO:314:GLN:N	2.36	0.57
64:SP:83:GLN:OE1	64:SP:99:ALA:HB1	2.05	0.57
65:SQ:29:TRP:HB3	65:SQ:45:LYS:HD3	1.87	0.57
65:SQ:144:ARG:NH2	65:SQ:206:PRO:O	2.37	0.57
1:2:1344:A:O2'	1:2:1345:A:O5'	2.23	0.56
2:A:1551:C:O2'	2:A:2170:U:O2'	2.21	0.56
2:A:1889:G:OP1	6:E:246:LEU:N	2.33	0.56
2:A:2495:C:H3'	2:A:2496:C:H5''	1.86	0.56
5:D:229:ALA:O	5:D:234:LYS:NZ	2.37	0.56
6:E:214:MET:HA	6:E:214:MET:HE3	1.86	0.56
8:G:126:GLU:OE1	8:G:126:GLU:N	2.38	0.56
22:U:77:VAL:HG12	22:U:126:VAL:HG13	1.87	0.56
35:h:19:SER:OG	35:h:20:LYS:N	2.37	0.56
55:SJ:106:ILE:O	55:SJ:106:ILE:HG13	2.04	0.56
2:A:63:A:N3	2:A:78:U:O2'	2.35	0.56
2:A:80:G:O6	2:A:106:A:N6	2.37	0.56
5:D:53:GLY:O	5:D:192:LYS:NZ	2.37	0.56
18:Q:43[A]:ILE:HD11	18:Q:138[A]:LEU:HD13	1.87	0.56
24:W:33:TYR:HH	24:W:80:THR:HG1	1.53	0.56
30:c:22:ILE:H	30:c:22:ILE:HD12	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:SC:7:ASP:OD1	51:SC:7:ASP:N	2.37	0.56
54:SI:42:GLY:HA2	54:SI:84:LYS:HD2	1.88	0.56
65:SQ:83:LYS:HZ1	65:SQ:106:THR:HG22	1.70	0.56
65:SQ:196:GLU:OE2	65:SQ:196:GLU:N	2.28	0.56
70:SV:27:PHE:HB3	70:SV:49:ARG:NH2	2.21	0.56
74:Sa:62:ARG:HA	74:Sa:62:ARG:HE	1.70	0.56
1:2:680:U:O4	1:2:682:C:N4	2.33	0.56
1:2:1237:G:H2'	1:2:1238:A:C8	2.40	0.56
1:2:1374:C:H2'	1:2:1375:A:H8	1.70	0.56
1:2:1397:U:O2'	1:2:1401:A:N6	2.38	0.56
1:2:1504:G:H21	1:2:1563:C:H1'	1.70	0.56
1:2:1583:A:O2'	1:2:1585:U:O4'	2.23	0.56
2:A:260:C:H2'	2:A:261:U:C6	2.40	0.56
2:A:1729:A:N6	45:r:41:PHE:O	2.34	0.56
2:A:2122:G:O6	2:A:2332:A:N6	2.38	0.56
2:A:2144:A:OP1	2:A:2323:G:N2	2.36	0.56
2:A:2437:G:N2	2:A:2510:U:O2	2.33	0.56
5:D:108:PRO:O	5:D:111:THR:OG1	2.24	0.56
11:J:50:VAL:HG21	27:Z:27:ARG:HD2	1.87	0.56
12:K:114:VAL:HG12	12:K:124:ARG:HB2	1.85	0.56
14:M:133:ARG:NH2	14:M:158:ASP:OD2	2.38	0.56
51:SC:5:LYS:O	51:SC:9:ASN:ND2	2.37	0.56
61:SO:132:LYS:HB3	61:SO:134:TRP:HE1	1.70	0.56
61:SO:177:MET:HB3	61:SO:193:ILE:HD13	1.87	0.56
75:Sb:114:GLU:CG	75:Sb:118:ARG:HH21	2.18	0.56
76:Sc:107:PHE:CE1	76:Sc:114:LYS:HD3	2.40	0.56
77:Sd:20:ARG:NH1	77:Sd:76:TYR:OH	2.38	0.56
1:2:325:G:OP1	72:SX:134:THR:OG1	2.24	0.56
2:A:337:G:OP2	7:F:196:ASN:ND2	2.38	0.56
2:A:3094:A:OP1	25:X:14:SER:OG	2.23	0.56
54:SI:34:VAL:HG22	54:SI:53:TRP:CZ3	2.41	0.56
61:SO:41:THR:OG1	61:SO:61:PHE:O	2.22	0.56
69:SU:173:TYR:O	69:SU:177:THR:OG1	2.22	0.56
2:A:548:G:H2'	2:A:549:U:H6	1.71	0.56
2:A:591:G:N2	2:A:612:U:OP1	2.35	0.56
2:A:2837:A:H2'	2:A:2845:A:N1	2.21	0.56
2:A:2951:G:H2'	2:A:2952:G:C8	2.41	0.56
7:F:132:ALA:HA	7:F:148:ILE:HD13	1.87	0.56
27:Z:91:ASN:O	27:Z:95:ILE:HD12	2.05	0.56
61:SO:192:PHE:CZ	61:SO:223:TRP:HE3	2.23	0.56
64:SP:73:VAL:HG22	64:SP:120:LEU:HD21	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:SU:165:LYS:HG3	69:SU:169:PHE:CE2	2.41	0.56
71:SW:126:ARG:O	71:SW:130:THR:HG22	2.05	0.56
73:SY:62:GLN:HB2	73:SY:65:VAL:HG12	1.87	0.56
1:2:694:U:N3	69:SU:96:ARG:O	2.32	0.56
1:2:1070:C:O2'	78:Sf:17:ARG:O	2.23	0.56
2:A:2137:U:OP2	2:A:2142:A:N6	2.39	0.56
2:A:3201:C:H2'	2:A:3202:G:C8	2.39	0.56
34:g:4:LEU:H	34:g:4:LEU:HD12	1.71	0.56
53:SA:223:LYS:HB3	61:SO:143:THR:HB	1.88	0.56
72:SX:108:PRO:HB2	72:SX:135:VAL:HG12	1.87	0.56
1:2:605:A:OP2	1:2:606:A:O2'	2.19	0.56
1:2:1045:C:H2'	1:2:1046:G:H8	1.71	0.56
1:2:1339:C:O2'	1:2:1341:A:N7	2.39	0.56
1:2:1633:A:H4'	1:2:1634:C:O5'	2.03	0.56
2:A:508:U:H3	2:A:583:G:H1	1.53	0.56
2:A:633:C:O2'	35:h:21:ARG:O	2.23	0.56
2:A:3226:A:N1	2:A:3260:G:C6	2.74	0.56
13:L:47:PRO:HD2	13:L:141:LYS:HA	1.87	0.56
47:x:308:LYS:HG2	47:x:311:GLU:HB2	1.86	0.56
64:SP:11:PRO:O	64:SP:15:GLN:HG2	2.05	0.56
70:SV:11:ARG:NH2	70:SV:15:GLY:O	2.38	0.56
1:2:29:U:H2'	1:2:30:G:H8	1.71	0.56
2:A:1104:G:H2'	2:A:1105:A:H8	1.70	0.56
2:A:1188:U:OP1	2:A:1210:U:O2'	2.23	0.56
2:A:1910:A:H2'	2:A:1911:A:H8	1.69	0.56
9:H:64:LEU:HD12	9:H:65:VAL:N	2.20	0.56
47:x:281:ILE:HA	47:x:284:LEU:HD22	1.86	0.56
60:SH:52:VAL:HG11	60:SH:69:ILE:HD11	1.88	0.56
67:SS:52:LEU:CG	67:SS:54:TYR:HD2	2.19	0.56
75:Sb:2:THR:OG1	75:Sb:3:ARG:N	2.38	0.56
1:2:168:A:O2'	68:ST:176:GLN:OE1	2.24	0.56
2:A:98:G:N7	15:N:13:HIS:NE2	2.54	0.56
2:A:541:U:N3	2:A:542:G:O6	2.39	0.56
2:A:2218:G:P	38:k:68:ARG:HH22	2.29	0.56
2:A:2432:A:N6	2:A:2598:G:O6	2.38	0.56
2:A:2450:G:O2'	2:A:2451:G:O5'	2.23	0.56
26:Y:12:LYS:HA	26:Y:12:LYS:HE2	1.86	0.56
46:s:37:A:H61	80:SK:3:PRO:HG3	1.69	0.56
53:SA:202:LEU:HD23	53:SA:203:PRO:HD2	1.88	0.56
68:ST:24:ILE:HG22	68:ST:27:PHE:HE2	1.71	0.56
1:2:577:G:N3	46:s:35:A:O2'	2.35	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:926:A:C2	49:SZ:125:SER:HA	2.41	0.56
1:2:1068:C:H2'	1:2:1069:A:H8	1.71	0.56
1:2:1672:G:H2'	1:2:1673:G:C8	2.41	0.56
2:A:3251:U:H2'	2:A:3252:G:C8	2.41	0.56
8:G:120:LYS:O	8:G:248:ARG:NH1	2.39	0.56
49:SZ:112:ILE:O	50:Se:58:VAL:N	2.34	0.56
58:SB:136:ALA:O	58:SB:140:THR:HG22	2.06	0.56
63:SG:103:ASP:OD2	64:SP:41:ARG:NE	2.25	0.56
66:SR:57:PHE:CD1	74:Sa:26:ALA:HB1	2.38	0.56
76:Sc:3:LYS:HD2	76:Sc:7:ARG:HH22	1.71	0.56
1:2:512:A:H5''	71:SW:163:PRO:HG2	1.88	0.55
1:2:1524:A:N3	1:2:1590:G:O2'	2.39	0.55
1:2:1650:U:H2'	1:2:1651:A:H8	1.69	0.55
2:A:1560:G:N3	2:A:1581:C:N4	2.54	0.55
2:A:3082:C:H2'	2:A:3083:G:H8	1.71	0.55
8:G:22:ARG:HB3	8:G:28:THR:HB	1.86	0.55
16:O:103:ILE:O	16:O:107:GLU:HG3	2.07	0.55
39:l:63:ARG:HH21	39:l:65:ARG:HD3	1.70	0.55
47:x:814:LYS:HA	47:x:817:GLU:OE1	2.06	0.55
55:SJ:26:LEU:HB3	55:SJ:34:LEU:HD11	1.88	0.55
61:SO:6:VAL:HA	61:SO:272:ASP:HB3	1.87	0.55
65:SQ:197:ILE:O	65:SQ:201:THR:OG1	2.22	0.55
1:2:907:A:HO2'	1:2:997:G:HO2'	1.53	0.55
2:A:35:A:O2'	2:A:809:G:N3	2.39	0.55
6:E:360:ASP:OD1	6:E:364:LYS:NZ	2.39	0.55
7:F:264:SER:OG	7:F:265:GLU:N	2.39	0.55
12:K:173:ARG:HB2	42:o:127:LEU:HD22	1.86	0.55
26:Y:2:LYS:NZ	26:Y:4:GLU:OE2	2.39	0.55
37:j:47:VAL:O	37:j:51:ILE:HG23	2.06	0.55
1:2:78:A:H61	68:ST:178:LEU:HD11	1.71	0.55
1:2:1037:C:H1'	75:Sb:16:ASN:HD22	1.71	0.55
1:2:1322:A:H2'	1:2:1323:C:C6	2.41	0.55
1:2:1388:A:H5''	63:SG:48:ASN:HD21	1.72	0.55
1:2:1504:G:N3	1:2:1563:C:O2'	2.38	0.55
2:A:629:U:H2'	2:A:630:A:C8	2.41	0.55
2:A:1695:U:O2'	2:A:1749:A:N1	2.38	0.55
5:D:112:ILE:HD13	45:r:79:VAL:HG22	1.87	0.55
10:I:127:LEU:HD23	10:I:130:ILE:HD11	1.88	0.55
47:x:619:MET:HG2	47:x:630:ALA:HB2	1.87	0.55
69:SU:85:PHE:HB3	69:SU:88:ARG:HD2	1.88	0.55
75:Sb:37:PHE:O	75:Sb:41:MET:HG2	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:961:U:H2'	1:2:962:C:C6	2.42	0.55
1:2:1145:U:H4'	66:SR:88:LYS:HE2	1.89	0.55
1:2:1689:A:H2'	1:2:1690:G:C8	2.41	0.55
2:A:57:A:H2'	2:A:58:G:C8	2.41	0.55
2:A:836:A:H4'	45:r:12:GLY:HA3	1.88	0.55
2:A:1776:G:H2'	2:A:1777:U:C6	2.42	0.55
2:A:2201:G:H21	5:D:224:THR:HG21	1.71	0.55
2:A:3116:G:OP1	2:A:3116:G:N2	2.37	0.55
5:D:37:ARG:HG2	5:D:38:HIS:CD2	2.42	0.55
23:V:99:SER:OG	23:V:101:CYS:SG	2.64	0.55
29:b:25:ILE:HA	29:b:43:VAL:HG12	1.89	0.55
51:SC:50:THR:HG22	51:SC:55:VAL:HB	1.88	0.55
55:SJ:102:ARG:HA	55:SJ:105:GLN:HE22	1.71	0.55
56:SL:43:ASN:HB2	58:SB:160:VAL:HG23	1.88	0.55
58:SB:29:ILE:HD12	58:SB:30:PRO:HD2	1.89	0.55
61:SO:66:HIS:CG	61:SO:67:ILE:H	2.25	0.55
73:SY:48:SER:O	73:SY:52:VAL:HG13	2.07	0.55
2:A:1168:U:H1'	10:I:209:ASN:HD22	1.72	0.55
2:A:1189:C:H41	18:Q:133[A]:ARG:HH21	1.54	0.55
2:A:1336:U:H2'	2:A:1337:A:H8	1.72	0.55
2:A:1361:U:H2'	2:A:1362:G:C8	2.42	0.55
2:A:1606:U:O4	36:i:9:ARG:NH1	2.40	0.55
2:A:3114:A:OP2	2:A:3115:C:O2'	2.23	0.55
2:A:3214:U:O4	16:O:124:ARG:NH2	2.38	0.55
2:A:3306:U:OP1	6:E:269:GLN:NE2	2.39	0.55
4:C:6:U:H2'	4:C:7:U:H6	1.70	0.55
5:D:57:PRO:HG2	5:D:78:ALA:HB3	1.89	0.55
11:J:178:ALA:HB2	11:J:218:ILE:HD13	1.87	0.55
27:Z:51:VAL:HG21	37:j:62:GLN:HB3	1.88	0.55
62:SN:130:VAL:HG11	62:SN:143:LYS:HB3	1.87	0.55
65:SQ:113:MET:HE1	65:SQ:211:HIS:ND1	2.22	0.55
66:SR:57:PHE:CZ	66:SR:138:PRO:HD3	2.41	0.55
72:SX:57:LYS:HE2	72:SX:131:ILE:HG23	1.88	0.55
1:2:895:G:N1	1:2:918:U:C2	2.74	0.55
1:2:1232:U:O4	62:SN:97:LYS:HD2	2.07	0.55
1:2:1603:U:OP2	59:SF:132:LYS:NZ	2.37	0.55
2:A:2988:C:OP1	18:Q:65[A]:ASN:ND2	2.39	0.55
12:K:115:ARG:HH21	12:K:123:ILE:HG23	1.70	0.55
46:t:64:A:H2'	46:t:65:G:H8	1.71	0.55
54:SI:47:PRO:HG3	54:SI:53:TRP:CH2	2.41	0.55
54:SI:61:VAL:O	54:SI:64:HIS:N	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:SU:81:LEU:HB3	69:SU:90:VAL:HG11	1.89	0.55
74:Sa:71:ARG:HH21	78:Sf:3:LEU:HD23	1.72	0.55
2:A:288:C:H2'	2:A:289:A:H8	1.71	0.55
2:A:2184:U:H2'	2:A:2185:G:H8	1.72	0.55
2:A:2429:G:H2'	2:A:2430:A:H8	1.71	0.55
12:K:23:ARG:HH11	12:K:39:LYS:CA	2.20	0.55
15:N:149:GLN:N	15:N:149:GLN:OE1	2.40	0.55
47:x:610:ASP:HB2	47:x:615:ARG:HH21	1.70	0.55
55:SJ:63:LEU:HB2	55:SJ:84:MET:HB2	1.89	0.55
59:SF:75:VAL:O	59:SF:79:TYR:HD1	1.90	0.55
69:SU:125:ILE:HG12	69:SU:176:LEU:HD11	1.88	0.55
2:A:307:A:H2'	2:A:308:A:H8	1.71	0.55
2:A:370:U:O4	2:A:374:A:N7	2.40	0.55
3:B:89:G:N2	3:B:92:A:OP2	2.40	0.55
4:C:139:U:H2'	4:C:140:G:H8	1.72	0.55
7:F:16:THR:HG23	7:F:18:ASN:H	1.72	0.55
7:F:23:PRO:HB2	7:F:258:LEU:HD22	1.89	0.55
9:H:80:ASN:HB3	9:H:83:TYR:HD2	1.72	0.55
18:Q:189[A]:ASP:OD1	18:Q:189[A]:ASP:N	2.39	0.55
37:j:76:GLN:O	37:j:81:ARG:NH2	2.40	0.55
53:SA:16:VAL:HG11	57:SM:22:ARG:HH12	1.71	0.55
61:SO:199:ILE:HA	61:SO:214:ALA:HB3	1.89	0.55
69:SU:9:LEU:HD11	69:SU:13:PRO:HB3	1.89	0.55
69:SU:62:VAL:HB	69:SU:94:ALA:HA	1.88	0.55
1:2:93:A:H61	1:2:396:G:H1'	1.71	0.55
1:2:434:G:N1	1:2:437:A:OP2	2.38	0.55
1:2:923:A:H2'	1:2:924:A:C8	2.42	0.55
2:A:158:G:H2'	2:A:159:A:C8	2.42	0.55
2:A:919:U:H5''	2:A:920:A:H5'	1.88	0.55
2:A:1717:U:H2'	2:A:1718:G:C8	2.42	0.55
2:A:3042:U:OP2	2:A:3092:C:N4	2.40	0.55
10:I:234:GLU:OE1	10:I:234:GLU:N	2.40	0.55
34:g:100:ILE:O	34:g:105:ARG:NH1	2.40	0.55
48:SD:73:LYS:HA	48:SD:76:GLU:OE2	2.07	0.55
52:SE:78:THR:HG21	52:SE:116:LEU:HD11	1.89	0.55
80:SK:76:ALA:O	80:SK:80:LEU:HG	2.06	0.55
1:2:1085:G:OP2	66:SR:161:LYS:NZ	2.40	0.55
2:A:286:U:H2'	2:A:287:G:C8	2.41	0.55
2:A:417:A:H2'	2:A:418:A:C8	2.42	0.55
2:A:1634:G:N7	29:b:17:ARG:NH2	2.55	0.55
12:K:66:ALA:O	12:K:70:THR:HG23	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:V:18:ASP:HB2	23:V:21:LYS:HG3	1.89	0.55
38:k:42:SER:O	38:k:46:GLU:HG2	2.07	0.55
45:r:46:THR:OG1	45:r:57:CYS:SG	2.59	0.55
69:SU:62:VAL:HG22	69:SU:70:PHE:CE2	2.42	0.55
71:SW:170:GLY:O	71:SW:176:ASN:ND2	2.40	0.55
1:2:564:G:N1	1:2:580:A:OP2	2.30	0.54
1:2:710:U:H3	1:2:728:U:H3'	1.71	0.54
2:A:1322:U:H2'	2:A:1323:G:H8	1.72	0.54
2:A:1411:C:H2'	2:A:1412:G:H8	1.71	0.54
2:A:1516:C:H2'	2:A:1517:G:C8	2.42	0.54
2:A:1777:U:H2'	2:A:1778:G:C8	2.42	0.54
2:A:1935:G:H2'	2:A:1936:A:H8	1.72	0.54
2:A:2423:U:H2'	2:A:2424:A:C8	2.42	0.54
6:E:282:ILE:HD11	6:E:322:ILE:HD12	1.89	0.54
9:H:39:VAL:O	9:H:87:THR:OG1	2.23	0.54
23:V:88:ARG:NH2	31:d:31:SER:OG	2.40	0.54
25:X:37:ILE:HG12	25:X:59:MET:O	2.07	0.54
31:d:11:ASN:O	31:d:11:ASN:ND2	2.27	0.54
33:f:23:VAL:HG11	33:f:31:ARG:HG2	1.89	0.54
39:l:21:ARG:HE	39:l:39:TYR:HA	1.70	0.54
60:SH:15:LEU:HD23	60:SH:17:LEU:HD11	1.89	0.54
71:SW:44:ARG:O	71:SW:48:GLN:HG3	2.07	0.54
1:2:155:U:H4'	68:ST:59:GLN:HA	1.89	0.54
2:A:289:A:H2'	2:A:290:G:H8	1.72	0.54
2:A:655:C:H2'	2:A:656:A:C8	2.42	0.54
2:A:939:U:OP2	30:c:26:ARG:NH2	2.40	0.54
2:A:1516:C:H2'	2:A:1517:G:H8	1.71	0.54
2:A:2515:A:H5''	17:P:28:TRP:CD1	2.42	0.54
6:E:370:PHE:HB3	6:E:375:GLU:HG3	1.89	0.54
12:K:180:TYR:HB2	42:o:85:LEU:HD21	1.89	0.54
14:M:17:LEU:HD12	14:M:129:VAL:HG22	1.88	0.54
25:X:68:GLU:O	25:X:72:LYS:NZ	2.38	0.54
60:SH:26:ILE:HD11	60:SH:31:ALA:HA	1.89	0.54
64:SP:139:VAL:HG13	64:SP:141:ILE:HG12	1.88	0.54
69:SU:90:VAL:O	69:SU:91:ILE:HD13	2.07	0.54
1:2:472:U:H2'	1:2:473:A:C8	2.41	0.54
1:2:1606:C:H2'	1:2:1607:G:C8	2.42	0.54
2:A:799:G:H2'	2:A:801:A:H62	1.71	0.54
2:A:1361:U:H2'	2:A:1362:G:H8	1.71	0.54
2:A:1728:G:H5''	2:A:1729:A:H3'	1.89	0.54
2:A:1803:C:H2'	2:A:1804:A:H8	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:2166:A:C4	17:P:74:PRO:HB3	2.43	0.54
2:A:3375:A:O2'	2:A:3378:C:OP2	2.22	0.54
12:K:41:ILE:HG13	12:K:43:VAL:HG13	1.89	0.54
18:Q:143[A]:THR:HG22	18:Q:147[A]:TRP:HB3	1.89	0.54
47:x:21:ASN:HD21	47:x:122:THR:HA	1.72	0.54
47:x:241:MET:HA	47:x:241:MET:HE3	1.88	0.54
65:SQ:24:PHE:HA	65:SQ:27:LYS:HB2	1.90	0.54
70:SV:84:HIS:CD2	70:SV:90:LEU:HD12	2.42	0.54
71:SW:48:GLN:O	71:SW:52:ILE:HG12	2.06	0.54
76:Sc:65:ASN:ND2	76:Sc:116:ASP:OD2	2.39	0.54
2:A:49:A:OP1	17:P:191:TRP:NE1	2.37	0.54
2:A:394:G:N1	2:A:397:A:OP2	2.34	0.54
2:A:1255:C:H2'	2:A:1256:G:C8	2.42	0.54
21:T:148:ASP:HA	21:T:151:ARG:HH21	1.72	0.54
29:b:89:VAL:HA	29:b:92:PHE:HD2	1.71	0.54
46:t:28:A:H2'	46:t:29:G:H8	1.72	0.54
54:SI:8:ASP:HA	59:SF:35:PRO:HD3	1.89	0.54
63:SG:21:TYR:HD2	63:SG:71:PHE:HB2	1.72	0.54
1:2:483:A:H2'	1:2:484:C:O4'	2.07	0.54
1:2:1695:G:H2'	1:2:1696:G:H8	1.72	0.54
2:A:1096:U:OP2	23:V:116:ARG:NH2	2.36	0.54
2:A:1646:G:H22	2:A:1808:G:H1'	1.72	0.54
2:A:3252:G:H2'	2:A:3253:G:C8	2.42	0.54
6:E:10:ARG:NH2	6:E:263:SER:O	2.38	0.54
10:I:234:GLU:O	10:I:237:ASN:ND2	2.40	0.54
20:S:67:ILE:H	20:S:67:ILE:HD12	1.73	0.54
30:c:84:GLU:HA	30:c:87:ARG:HB3	1.88	0.54
64:SP:59:LEU:O	64:SP:63:ILE:HG12	2.07	0.54
70:SV:48:THR:OG1	70:SV:51:GLY:O	2.22	0.54
1:2:327:U:O4	1:2:328:A:N6	2.41	0.54
2:A:1109:U:H2'	2:A:1110:U:C6	2.43	0.54
2:A:1447:G:N2	2:A:2356:A:OP2	2.39	0.54
2:A:1665:C:H2'	2:A:1666:G:H8	1.73	0.54
7:F:82:THR:HG22	7:F:84:ARG:H	1.73	0.54
7:F:135:VAL:HG13	7:F:142:VAL:HG21	1.89	0.54
47:x:22:MET:N	47:x:22:MET:SD	2.81	0.54
47:x:281:ILE:HD12	47:x:282:PHE:N	2.23	0.54
2:A:3268:A:H5'	9:H:46:ARG:HH22	1.72	0.54
15:N:168:ARG:O	15:N:172:LEU:HG	2.07	0.54
17:P:120:TRP:HE1	17:P:123:GLN:HB2	1.71	0.54
21:T:98:ARG:O	21:T:102:LEU:HG	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:SS:64:ILE:HD11	77:Sd:17:LEU:HB3	1.90	0.54
1:2:187:G:N2	1:2:197:A:N7	2.56	0.54
2:A:23:A:OP1	39:l:44:THR:N	2.34	0.54
2:A:1108:U:H2'	2:A:1109:U:C6	2.43	0.54
2:A:2526:C:H2'	2:A:2527:G:C8	2.43	0.54
30:c:2:PRO:O	30:c:6:THR:OG1	2.22	0.54
73:SY:91:LEU:HB3	73:SY:122:ILE:HG22	1.89	0.54
80:SK:65:LEU:HD11	80:SK:71:ILE:HD11	1.88	0.54
1:2:1223:A:H2'	1:2:1224:A:H8	1.73	0.54
1:2:1292:G:H21	64:SP:111:ILE:HG21	1.73	0.54
2:A:67:A:O2'	2:A:315:C:O2	2.25	0.54
2:A:946:U:H2'	2:A:947:G:H8	1.73	0.54
2:A:2685:C:H2'	2:A:2686:A:H8	1.72	0.54
2:A:2735:U:H2'	2:A:2736:A:C8	2.43	0.54
3:B:87:G:H2'	3:B:88:G:H8	1.73	0.54
30:c:36:GLY:HA3	30:c:40:HIS:CE1	2.43	0.54
37:j:45:LYS:O	37:j:49:LYS:HG2	2.07	0.54
47:x:171:LYS:HD3	47:x:274:ASN:HB2	1.90	0.54
61:SO:127:ARG:HA	61:SO:150:TRP:HD1	1.72	0.54
65:SQ:181:LEU:HD13	65:SQ:184:LEU:HD23	1.90	0.54
1:2:1163:A:H4'	58:SB:166:ARG:HH22	1.73	0.54
1:2:1727:G:H2'	1:2:1728:A:C8	2.43	0.54
2:A:832:G:H1	2:A:862:U:H3	1.54	0.54
2:A:1460:A:H2'	2:A:1461:A:H8	1.73	0.54
3:B:23:A:H1'	3:B:121:U:H3'	1.90	0.54
6:E:220:VAL:O	6:E:334:ARG:NH1	2.41	0.54
13:L:49:CYS:HG	13:L:51:HIS:HE2	1.56	0.54
16:O:60:LEU:HD13	22:U:152:LEU:HD11	1.89	0.54
40:m:55:VAL:C	40:m:56:ILE:HD13	2.33	0.54
55:SJ:109:GLU:OE2	55:SJ:109:GLU:N	2.41	0.54
64:SP:71:GLU:OE2	64:SP:71:GLU:N	2.41	0.54
65:SQ:198:GLU:O	65:SQ:202:LYS:HB3	2.08	0.54
1:2:92:A:N6	68:ST:89:ASP:OD2	2.41	0.53
1:2:896:U:H2'	1:2:897:C:C6	2.43	0.53
2:A:242:C:H2'	2:A:243:G:H8	1.72	0.53
2:A:1493:G:N3	41:n:13:MET:HE1	2.23	0.53
2:A:2366:C:H2'	2:A:2367:A:C8	2.43	0.53
2:A:2947:G:C2	6:E:250:ALA:HB1	2.43	0.53
15:N:79:GLU:OE2	15:N:112:ASN:ND2	2.40	0.53
22:U:26:ARG:NH1	23:V:150:THR:OG1	2.41	0.53
25:X:10:LYS:NZ	25:X:53:SER:OG	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:Z:134:ASP:OD1	27:Z:135:ILE:N	2.41	0.53
51:SC:35:ILE:HD12	51:SC:35:ILE:H	1.72	0.53
61:SO:114:ASP:OD2	61:SO:155:ARG:NH1	2.41	0.53
61:SO:123:ILE:HG21	61:SO:169:ILE:HG21	1.89	0.53
69:SU:58:LEU:HD11	69:SU:88:ARG:HD3	1.90	0.53
1:2:250:C:H2'	1:2:251:A:H8	1.74	0.53
1:2:898:A:N1	1:2:911:U:O2'	2.36	0.53
1:2:953:G:H2'	1:2:954:G:C8	2.41	0.53
1:2:1409:G:N1	1:2:1412:G:OP2	2.41	0.53
1:2:1564:U:H2'	1:2:1565:C:C6	2.43	0.53
2:A:1601:U:OP1	21:T:42:ARG:NH2	2.39	0.53
13:L:140:THR:HG21	13:L:148:VAL:HG21	1.88	0.53
21:T:4:LEU:HD22	21:T:32:ILE:HG22	1.90	0.53
47:x:120:ARG:HA	47:x:149:GLU:OE2	2.09	0.53
50:Se:37:LYS:HG2	50:Se:72:HIS:CD2	2.43	0.53
61:SO:240:VAL:HG22	61:SO:256:THR:HG22	1.90	0.53
64:SP:189:VAL:HA	74:Sa:44:ARG:HH22	1.73	0.53
66:SR:235:LEU:HD21	74:Sa:54:ALA:HB2	1.90	0.53
1:2:571:G:H5''	76:Sc:114:LYS:HD2	1.90	0.53
1:2:710:U:N3	1:2:729:G:OP2	2.41	0.53
2:A:346:C:N4	2:A:349:A:OP2	2.41	0.53
2:A:1256:G:H2'	2:A:1257:C:C6	2.44	0.53
2:A:1662:G:H22	2:A:1787:A:H2	1.56	0.53
6:E:159:ARG:HG2	6:E:182:GLN:HA	1.90	0.53
13:L:211:ARG:HG2	13:L:212:GLU:OE1	2.09	0.53
32:e:44:ILE:HG21	32:e:53:LYS:HG3	1.90	0.53
38:k:52:PRO:HA	38:k:55:ARG:HE	1.73	0.53
44:q:24:LYS:O	44:q:72:LEU:HA	2.08	0.53
67:SS:45:ILE:HD12	67:SS:61:VAL:HG11	1.89	0.53
2:A:712:G:N2	2:A:754:G:O3'	2.41	0.53
2:A:760:G:N2	2:A:770:G:N3	2.56	0.53
2:A:1408:G:OP2	34:g:31:ASN:ND2	2.41	0.53
2:A:1888:U:OP1	6:E:247:ARG:NH1	2.42	0.53
7:F:59:GLN:O	39:l:52:LYS:NZ	2.38	0.53
15:N:6:ASN:O	20:S:164:ARG:NH1	2.41	0.53
25:X:37:ILE:HG21	25:X:61:THR:HG23	1.90	0.53
58:SB:58:LEU:HD13	58:SB:138:THR:HG22	1.90	0.53
67:SS:229:GLY:HA2	67:SS:235:TYR:CD2	2.43	0.53
75:Sb:41:MET:HE1	75:Sb:129:VAL:HG21	1.90	0.53
1:2:147:A:H62	1:2:167:U:H3	1.57	0.53
1:2:461:G:H2'	1:2:462:G:H8	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:2513:U:H1'	11:J:238:LEU:HD23	1.89	0.53
5:D:20:THR:HG23	5:D:23:ARG:HG3	1.90	0.53
5:D:45:VAL:HG12	5:D:61:VAL:HG12	1.91	0.53
17:P:99:ARG:HH21	17:P:167:THR:HB	1.74	0.53
74:Sa:1:MET:HG3	74:Sa:10:GLU:OE1	2.08	0.53
75:Sb:114:GLU:HG3	75:Sb:118:ARG:HH21	1.74	0.53
1:2:1171:A:O2'	1:2:1570:A:N3	2.41	0.53
2:A:120:G:N2	11:J:123:GLN:O	2.41	0.53
2:A:217:U:O2	28:a:103:LYS:NZ	2.41	0.53
2:A:547:G:H2'	2:A:548:G:C8	2.44	0.53
2:A:745:C:H2'	2:A:746:A:H8	1.73	0.53
2:A:1062:A:H5''	2:A:1063:G:H5'	1.90	0.53
2:A:2565:U:H3	2:A:2576:G:H1	1.56	0.53
2:A:2660:G:H4'	2:A:2749:G:H22	1.74	0.53
2:A:2741:C:HO2'	44:q:20:HIS:H	1.57	0.53
11:J:85:ASN:O	11:J:89:GLU:HG2	2.09	0.53
47:x:147:LEU:HD13	47:x:192:TYR:HB2	1.91	0.53
47:x:719:LEU:HD21	47:x:835:TRP:CD2	2.43	0.53
66:SR:140:ARG:HB2	66:SR:222:TYR:CD2	2.43	0.53
68:ST:180:THR:HG22	68:ST:182:GLN:H	1.74	0.53
69:SU:28:GLU:HG2	69:SU:39:ARG:HG3	1.91	0.53
71:SW:60:LEU:HD21	71:SW:93:LEU:HB3	1.91	0.53
76:Sc:70:LYS:HB3	76:Sc:93:LEU:HD22	1.90	0.53
78:Sf:34:ASP:HB2	78:Sf:80:ARG:HB3	1.90	0.53
1:2:590:C:H2'	1:2:591:A:C8	2.43	0.53
2:A:1757:A:H2'	2:A:1758:G:H8	1.73	0.53
2:A:2662:G:H2'	2:A:2663:G:H8	1.74	0.53
9:H:142:ASP:O	9:H:146:LEU:HG	2.09	0.53
51:SC:22:VAL:HG11	53:SA:76:ARG:HB2	1.91	0.53
53:SA:177:MET:HE2	53:SA:177:MET:N	2.24	0.53
54:SI:57:ARG:O	54:SI:61:VAL:HG13	2.09	0.53
58:SB:45:LYS:HG3	58:SB:46:TRP:CZ3	2.44	0.53
66:SR:58:LEU:HA	74:Sa:12:TYR:HE1	1.74	0.53
1:2:461:G:H2'	1:2:462:G:C8	2.44	0.53
1:2:759:U:H2'	1:2:760:A:H8	1.72	0.53
1:2:1504:G:OP1	54:SI:98:GLY:N	2.41	0.53
2:A:726:G:N2	2:A:743:C:OP2	2.37	0.53
2:A:894:G:H4'	2:A:895:A:H5'	1.90	0.53
2:A:1717:U:H2'	2:A:1718:G:H8	1.74	0.53
2:A:1813:A:H4'	2:A:1817:G:H1'	1.90	0.53
3:B:96:U:H2'	3:B:97:A:H8	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:168:VAL:HG13	45:r:79:VAL:HG11	1.89	0.53
6:E:362:ALA:HB2	6:E:371:GLN:HB3	1.90	0.53
15:N:42:ARG:NH2	15:N:51:LEU:O	2.42	0.53
19:R:28:ASN:O	19:R:32:THR:HG23	2.09	0.53
35:h:39:GLN:OE1	35:h:39:GLN:N	2.32	0.53
37:j:12:LYS:NZ	37:j:20:GLN:OE1	2.42	0.53
40:m:5:ILE:HG23	40:m:10:GLN:HG2	1.90	0.53
55:SJ:92:ASP:O	55:SJ:93:LEU:HD23	2.09	0.53
63:SG:6:THR:HG22	63:SG:8:THR:H	1.74	0.53
73:SY:31:GLU:H	73:SY:31:GLU:CD	2.17	0.53
1:2:153:G:H2'	1:2:154:G:C8	2.42	0.53
1:2:947:U:H2'	1:2:948:G:C8	2.43	0.53
1:2:1348:A:H2'	1:2:1349:G:O4'	2.09	0.53
1:2:1383:G:H2'	1:2:1384:A:C8	2.44	0.53
1:2:1591:C:H2'	1:2:1592:A:C8	2.42	0.53
2:A:87:U:H2'	2:A:88:A:H8	1.73	0.53
2:A:1609:C:H2'	2:A:1610:G:H8	1.74	0.53
2:A:2429:G:H2'	2:A:2430:A:C8	2.44	0.53
11:J:63:LYS:O	11:J:67:ILE:HG23	2.09	0.53
46:t:23:C:H2'	46:t:24:G:C8	2.44	0.53
54:SI:77:ASN:HD21	54:SI:98:GLY:HA2	1.74	0.53
1:2:1477:G:H5'	54:SI:45:MET:HB2	1.91	0.53
2:A:788:C:H2'	2:A:789:A:H8	1.74	0.53
2:A:1250:G:H2'	2:A:1251:A:C8	2.44	0.53
2:A:2426:U:H3	2:A:2603:G:H1	1.55	0.53
6:E:282:ILE:HG13	6:E:324:VAL:HG12	1.91	0.53
7:F:237:GLN:O	7:F:246:ARG:NH1	2.38	0.53
27:Z:62:VAL:HG12	27:Z:63:ILE:HD13	1.91	0.53
35:h:18:ARG:HA	35:h:23:ASN:HA	1.91	0.53
47:x:733:ILE:HD13	47:x:743:ILE:HG21	1.90	0.53
55:SJ:21:LYS:HZ1	55:SJ:93:LEU:H	1.56	0.53
66:SR:206:THR:HB	66:SR:209:ASN:HB2	1.90	0.53
1:2:866:G:H5''	73:SY:2:GLY:HA2	1.91	0.52
1:2:925:G:C2'	1:2:926:A:H8	2.20	0.52
2:A:250:U:H5''	2:A:251:G:H2'	1.90	0.52
2:A:612:U:H2'	2:A:613:G:H8	1.74	0.52
2:A:1339:C:H2'	2:A:1340:G:H8	1.74	0.52
2:A:2948:C:OP1	6:E:244:ARG:NH2	2.41	0.52
2:A:3138:U:H2'	2:A:3139:A:H8	1.73	0.52
10:I:102:VAL:HG21	10:I:126:LEU:HD22	1.91	0.52
11:J:162:LEU:HB3	17:P:7:LEU:HD11	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:200:LEU:HD12	13:L:213:PHE:HD2	1.74	0.52
23:V:102:ARG:O	23:V:106:LEU:HG	2.08	0.52
42:o:85:LEU:O	42:o:88:LYS:HG3	2.09	0.52
46:s:23:C:H2'	46:s:24:G:H8	1.73	0.52
47:x:252:PRO:O	47:x:253:LYS:HG2	2.09	0.52
47:x:489:VAL:HA	47:x:561:VAL:HA	1.91	0.52
55:SJ:67:THR:HG21	57:SM:44:ARG:HG3	1.90	0.52
58:SB:110:ALA:O	58:SB:114:ILE:HG12	2.08	0.52
60:SH:84:TRP:NE1	60:SH:85:PHE:CD1	2.77	0.52
64:SP:56:LYS:HZ3	74:Sa:82:VAL:HG11	1.74	0.52
67:SS:163:ASP:OD1	67:SS:165:ALA:N	2.42	0.52
67:SS:212:ASP:HB3	67:SS:216:ASN:HB2	1.91	0.52
69:SU:26:GLU:O	69:SU:30:SER:OG	2.27	0.52
1:2:488:G:N7	1:2:489:C:N4	2.57	0.52
1:2:496:G:H2'	1:2:497:G:C8	2.44	0.52
2:A:29:C:O3'	17:P:172:ARG:NH1	2.42	0.52
2:A:692:A:OP1	17:P:201:ARG:NH2	2.43	0.52
2:A:2815:G:N2	2:A:2818:U:O2	2.42	0.52
2:A:3213:A:H62	16:O:124:ARG:HH12	1.57	0.52
6:E:212:ASN:ND2	6:E:353:GLU:OE1	2.42	0.52
9:H:43:LEU:HD21	9:H:85:ILE:HD11	1.90	0.52
10:I:87:VAL:HG22	10:I:114:GLY:HA3	1.92	0.52
14:M:132:ASN:HA	14:M:154:THR:HG21	1.91	0.52
15:N:4:SER:O	30:c:44:ASN:ND2	2.41	0.52
17:P:88:GLY:C	17:P:92:LEU:HD21	2.35	0.52
18:Q:80[A]:PHE:O	18:Q:84[A]:LEU:HD13	2.10	0.52
21:T:68:GLN:O	21:T:72:GLU:HG2	2.08	0.52
44:q:23:HIS:HA	44:q:73:GLU:O	2.09	0.52
53:SA:176:LEU:C	53:SA:177:MET:HE2	2.34	0.52
64:SP:177:LEU:HA	64:SP:180:GLU:OE1	2.09	0.52
1:2:751:G:H2'	1:2:752:A:C8	2.44	0.52
1:2:1049:U:H2'	1:2:1050:G:H8	1.73	0.52
1:2:1791:A:H5''	50:Se:8:ASN:HB3	1.91	0.52
2:A:196:G:H21	2:A:219:A:H61	1.57	0.52
2:A:294:U:OP2	17:P:15:GLN:NE2	2.42	0.52
2:A:3231:U:O2	2:A:3256:G:O6	2.27	0.52
3:B:11:A:N1	3:B:67:G:O2'	2.41	0.52
17:P:46:ASP:OD1	17:P:47:LYS:N	2.42	0.52
25:X:30:GLY:HA3	25:X:66:LYS:HE2	1.92	0.52
26:Y:82:ILE:HA	68:ST:131:LYS:HB2	1.91	0.52
37:j:38:ARG:HG3	37:j:39:PRO:HD2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:s:25:C:H2'	46:s:26:G:H8	1.74	0.52
52:SE:110:GLU:OE2	52:SE:110:GLU:N	2.38	0.52
61:SO:11:GLY:CA	61:SO:52:GLN:HB2	2.37	0.52
63:SG:82:ASP:OD1	63:SG:82:ASP:N	2.43	0.52
1:2:195:G:H2'	1:2:196:G:C8	2.45	0.52
1:2:406:U:H2'	1:2:407:A:H8	1.73	0.52
1:2:888:U:O2	1:2:988:A:O2'	2.26	0.52
1:2:1253:U:H5''	62:SN:130:VAL:HG12	1.92	0.52
1:2:1483:A:H2	1:2:1607:G:H1'	1.75	0.52
2:A:353:G:O6	39:l:55:ARG:NH2	2.42	0.52
2:A:1136:A:O4'	2:A:2636:A:N6	2.43	0.52
11:J:72:PRO:HG3	17:P:18:VAL:HA	1.91	0.52
32:e:76:GLU:CD	32:e:76:GLU:H	2.17	0.52
44:q:71:ARG:NE	44:q:80:ARG:NE	2.57	0.52
47:x:793:PHE:CD1	47:x:794:PRO:HD2	2.44	0.52
49:SZ:111:ARG:NH1	50:Se:55:GLU:O	2.42	0.52
64:SP:82:GLY:O	64:SP:86:VAL:HG13	2.10	0.52
67:SS:159:THR:HB	67:SS:173:ILE:HD12	1.91	0.52
1:2:520:A:H2'	1:2:521:A:H8	1.73	0.52
2:A:835:G:O2'	2:A:857:G:N2	2.41	0.52
2:A:1177:G:OP1	2:A:1177:G:N2	2.31	0.52
2:A:1564:U:H2'	2:A:1565:G:H8	1.74	0.52
2:A:1699:A:H2'	2:A:1700:G:H8	1.75	0.52
2:A:2448:G:H2'	2:A:2449:A:H8	1.75	0.52
4:C:68:G:H2'	4:C:69:U:H6	1.75	0.52
9:H:142:ASP:HA	9:H:145:LEU:HB2	1.91	0.52
10:I:98:LYS:O	10:I:102:VAL:HG12	2.10	0.52
11:J:162:LEU:HD12	11:J:163:VAL:HG13	1.92	0.52
14:M:47:GLN:HB2	14:M:64:LYS:HE2	1.91	0.52
22:U:91:TYR:OH	22:U:93:GLU:OE2	2.27	0.52
47:x:599:LEU:HD23	47:x:599:LEU:H	1.75	0.52
47:x:822:ALA:HA	47:x:825:ARG:HH12	1.75	0.52
77:Sd:114:ARG:O	77:Sd:118:ILE:HG23	2.10	0.52
1:2:29:U:H2'	1:2:30:G:C8	2.44	0.52
1:2:322:G:O2'	1:2:323:A:OP2	2.22	0.52
1:2:520:A:H2'	1:2:521:A:C8	2.45	0.52
1:2:1227:A:H4'	1:2:1229:G:H1'	1.92	0.52
2:A:609:G:H8	7:F:310:THR:HG23	1.75	0.52
2:A:1339:C:H2'	2:A:1340:G:C8	2.45	0.52
6:E:11:HIS:HD2	6:E:235:THR:HA	1.74	0.52
16:O:72:LEU:HD11	16:O:81:VAL:HG23	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:j:54:VAL:O	37:j:58:ILE:HD12	2.09	0.52
47:x:25:ILE:HD11	47:x:127:VAL:HG12	1.92	0.52
51:SC:55:VAL:HG22	51:SC:68:LEU:HD23	1.91	0.52
53:SA:161:GLY:O	53:SA:164:VAL:HG22	2.10	0.52
59:SF:22:VAL:HG12	59:SF:92:TYR:HD2	1.74	0.52
60:SH:69:ILE:O	60:SH:73:MET:HG2	2.09	0.52
61:SO:151:VAL:HA	61:SO:173:GLY:HA2	1.91	0.52
65:SQ:113:MET:HE3	65:SQ:142:PHE:CE1	2.45	0.52
68:ST:180:THR:HG22	68:ST:182:GLN:N	2.25	0.52
73:SY:128:TYR:O	73:SY:132:VAL:HG12	2.10	0.52
1:2:809:A:H2'	1:2:810:G:C8	2.45	0.52
1:2:886:U:H2'	1:2:887:A:H8	1.75	0.52
1:2:1524:A:H2'	1:2:1525:A:C8	2.45	0.52
2:A:26:A:H61	2:A:59:G:H1	1.58	0.52
2:A:114:A:H5''	17:P:49:ARG:HH21	1.74	0.52
2:A:728:G:H5''	20:S:43:PRO:HB2	1.92	0.52
2:A:2376:G:H2'	2:A:2377:G:C8	2.45	0.52
7:F:280:ILE:O	20:S:123:THR:OG1	2.27	0.52
10:I:55:TYR:HE1	10:I:189:ILE:HG21	1.74	0.52
14:M:63:GLU:N	14:M:63:GLU:OE2	2.42	0.52
23:V:106:LEU:O	23:V:109:VAL:HG12	2.10	0.52
39:l:21:ARG:O	39:l:22:CYS:C	2.52	0.52
48:SD:42:ALA:HB1	48:SD:47:GLU:HG3	1.92	0.52
51:SC:5:LYS:O	51:SC:5:LYS:HD2	2.09	0.52
51:SC:76:LEU:HA	51:SC:79:TYR:HB3	1.90	0.52
66:SR:207:LEU:HD12	66:SR:211:LEU:HD23	1.91	0.52
68:ST:48:TYR:HB3	68:ST:50:PHE:CE1	2.43	0.52
70:SV:87:ASN:ND2	70:SV:89:GLU:CD	2.68	0.52
71:SW:125:ALA:O	71:SW:129:ILE:HD12	2.09	0.52
2:A:1724:U:H1'	2:A:1725:C:C6	2.45	0.52
2:A:3275:U:O2'	35:h:99:ARG:NH1	2.42	0.52
6:E:373:PRO:HA	6:E:376:LYS:HE3	1.91	0.52
32:e:27:TYR:OH	32:e:55:GLU:OE1	2.28	0.52
46:s:58:A:O2'	46:s:60:A:OP2	2.21	0.52
61:SO:247:PRO:HB2	61:SO:249:ARG:HH12	1.74	0.52
70:SV:79:ALA:HB3	70:SV:103:GLN:HB2	1.91	0.52
73:SY:120:SER:O	73:SY:124:ARG:HG3	2.10	0.52
1:2:349:U:OP1	72:SX:104:HIS:NE2	2.38	0.52
1:2:1523:G:OP2	1:2:1523:G:N2	2.24	0.52
1:2:1787:C:H2'	1:2:1788:G:H8	1.75	0.52
2:A:129:U:H3	2:A:139:G:H1	1.58	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:161:G:H2'	2:A:162:G:C8	2.45	0.52
2:A:1884:A:OP2	33:f:31:ARG:NH2	2.43	0.52
2:A:1890:U:O4	2:A:1891:A:N6	2.43	0.52
2:A:2218:G:H2'	2:A:2219:A:H8	1.74	0.52
2:A:2954:U:H4'	2:A:2955:U:H5'	1.91	0.52
80:SK:47:TYR:O	80:SK:51:LEU:HG	2.10	0.52
1:2:382:C:H2'	1:2:383:G:H8	1.74	0.52
1:2:793:A:H5''	1:2:794:U:H5'	1.92	0.52
2:A:374:A:H4'	2:A:375:A:H5'	1.92	0.52
2:A:1595:U:O2'	2:A:1606:U:O2	2.20	0.52
2:A:2720:G:OP2	20:S:180:ARG:NH1	2.43	0.52
3:B:49:G:C8	8:G:58:LYS:HD3	2.45	0.52
15:N:55:ARG:NH1	15:N:73:ARG:O	2.43	0.52
28:a:86:THR:OG1	28:a:95:VAL:O	2.28	0.52
32:e:93:LEU:HD23	32:e:93:LEU:H	1.75	0.52
32:e:103:THR:HG23	32:e:104:LEU:HG	1.92	0.52
33:f:75:ILE:HG12	33:f:93:VAL:HG22	1.92	0.52
47:x:32:LYS:HE2	47:x:68:ILE:HD11	1.92	0.52
61:SO:178:VAL:HG13	61:SO:192:PHE:HB3	1.90	0.52
1:2:1097:U:O4	66:SR:201:ASN:ND2	2.43	0.51
1:2:1180:C:H1'	52:SE:128:HIS:CE1	2.45	0.51
2:A:501:A:H2'	2:A:502:U:C6	2.45	0.51
2:A:1616:U:H2'	2:A:1617:G:C8	2.44	0.51
2:A:1729:A:H5'	32:e:27:TYR:HB2	1.92	0.51
2:A:2228:A:H2'	2:A:2229:A:C8	2.44	0.51
2:A:2344:U:H2'	2:A:2345:A:C8	2.44	0.51
2:A:3193:C:H2'	2:A:3194:C:C6	2.45	0.51
6:E:59:ASP:OD1	6:E:59:ASP:N	2.40	0.51
12:K:23:ARG:HD2	12:K:39:LYS:HA	1.91	0.51
23:V:79:MET:HE1	23:V:81:GLY:O	2.10	0.51
39:l:33:THR:HG23	39:l:40:PRO:HG2	1.92	0.51
40:m:54:LEU:HD21	40:m:56:ILE:HD11	1.91	0.51
45:r:33:GLN:HG3	45:r:49:ARG:HD3	1.92	0.51
56:SL:25:VAL:HG13	58:SB:160:VAL:HG21	1.92	0.51
59:SF:41:PRO:C	59:SF:43:ILE:N	2.66	0.51
75:Sb:24:GLN:HE21	78:Sf:5:GLN:HG2	1.75	0.51
76:Sc:73:ARG:NH1	76:Sc:84:THR:OG1	2.42	0.51
1:2:60:U:H5''	1:2:455:C:H41	1.75	0.51
1:2:70:C:OP1	68:ST:164:LYS:NZ	2.39	0.51
1:2:147:A:N7	1:2:167:U:O4	2.43	0.51
1:2:623:A:H3'	1:2:624:G:H5''	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:616:G:H2'	2:A:617:G:C8	2.46	0.51
2:A:1448:U:OP1	19:R:67:ILE:HG22	2.10	0.51
2:A:3225:C:H2'	2:A:3226:A:C8	2.46	0.51
4:C:131:A:H4'	27:Z:93:TYR:CE2	2.45	0.51
10:I:173:LEU:HB3	10:I:178:ILE:HB	1.92	0.51
12:K:117:PHE:CD2	12:K:165:CYS:HB2	2.45	0.51
47:x:25:ILE:HG22	47:x:105:SER:OG	2.09	0.51
50:Se:41:ILE:HG22	50:Se:68:TYR:HD2	1.75	0.51
51:SC:46:LEU:O	51:SC:50:THR:HG23	2.11	0.51
1:2:5:U:H2'	1:2:6:G:C8	2.46	0.51
1:2:921:U:H2'	1:2:922:G:C8	2.46	0.51
2:A:671:U:H2'	2:A:672:A:H8	1.74	0.51
2:A:1054:A:H5''	2:A:2637:A:H61	1.75	0.51
2:A:1105:A:H2'	2:A:1106:G:C8	2.45	0.51
2:A:1219:C:O2'	2:A:1286:A:N1	2.37	0.51
2:A:2890:A:O2'	2:A:2933:A:N3	2.37	0.51
2:A:2968:G:H2'	2:A:2969:A:H8	1.75	0.51
2:A:3225:C:H42	2:A:3226:A:N6	2.09	0.51
5:D:31:THR:HB	5:D:123:ARG:HH12	1.74	0.51
7:F:33:ASP:N	7:F:33:ASP:OD1	2.44	0.51
47:x:835:TRP:O	47:x:839:TYR:HB2	2.09	0.51
58:SB:106:LYS:HG3	58:SB:109:LYS:HD2	1.91	0.51
1:2:445:A:H61	1:2:462:G:H1'	1.75	0.51
1:2:604:A:H2'	1:2:605:A:O4'	2.11	0.51
1:2:884:A:H2'	1:2:885:G:C8	2.46	0.51
1:2:1026:A:N7	1:2:1772:C:O2'	2.37	0.51
1:2:1739:C:H2'	1:2:1740:A:C8	2.43	0.51
2:A:47:C:H5''	15:N:16:LYS:HG2	1.92	0.51
2:A:797:U:H2'	2:A:798:G:C8	2.46	0.51
2:A:2163:C:H4'	5:D:8:GLN:HA	1.93	0.51
2:A:2584:G:O2'	11:J:240:ASN:ND2	2.43	0.51
8:G:34:LYS:O	8:G:38:THR:OG1	2.28	0.51
17:P:68:ARG:NH1	17:P:124:ASP:O	2.43	0.51
22:U:99:ARG:HH21	22:U:126:VAL:HB	1.75	0.51
30:c:105:LEU:HD23	30:c:127:ALA:HA	1.91	0.51
32:e:57:GLU:OE2	32:e:69:TYR:OH	2.29	0.51
39:l:66:TYR:OH	39:l:73:ARG:NH2	2.43	0.51
47:x:124:GLY:HA2	47:x:151:ILE:HG23	1.91	0.51
47:x:725:GLN:OE1	47:x:803:THR:OG1	2.22	0.51
58:SB:77:TYR:HA	58:SB:83:ARG:HG2	1.91	0.51
66:SR:137:ILE:HD12	66:SR:138:PRO:CD	2.33	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:Sc:57:LEU:HD12	79:Sg:4:VAL:HG23	1.92	0.51
76:Sc:103:LEU:HD23	76:Sc:126:LYS:HD3	1.91	0.51
1:2:384:G:H2'	1:2:385:A:H8	1.76	0.51
1:2:532:U:OP1	71:SW:132:ARG:NH1	2.44	0.51
1:2:593:U:H4'	1:2:595:G:H4'	1.93	0.51
1:2:841:U:H2'	1:2:842:C:C6	2.46	0.51
1:2:1347:U:OP1	55:SJ:90:TYR:OH	2.29	0.51
1:2:1536:G:H5'	80:SK:35:ARG:HB3	1.93	0.51
2:A:68:C:OP2	2:A:301:G:N2	2.41	0.51
2:A:127:G:H2'	2:A:128:G:H8	1.76	0.51
2:A:3014:U:H2'	2:A:3015:G:C8	2.46	0.51
4:C:71:A:H62	4:C:87:G:H21	1.57	0.51
15:N:47:ALA:HB1	15:N:48:PRO:HD2	1.93	0.51
47:x:498:ALA:HB3	76:Sc:129:GLY:HA3	1.91	0.51
67:SS:52:LEU:HD23	67:SS:53:LYS:N	2.25	0.51
67:SS:88:ASP:OD1	67:SS:88:ASP:N	2.42	0.51
70:SV:183:ILE:HD12	70:SV:183:ILE:H	1.75	0.51
71:SW:88:GLU:O	71:SW:91:LYS:NZ	2.29	0.51
76:Sc:48:HIS:HB3	76:Sc:103:LEU:HD11	1.92	0.51
78:Sf:20:LYS:HB3	78:Sf:29:ARG:HD2	1.93	0.51
1:2:1382:A:N3	55:SJ:57:ARG:HG3	2.25	0.51
1:2:1718:G:H2'	1:2:1719:A:H8	1.76	0.51
2:A:66:A:H61	2:A:76:G:H1'	1.76	0.51
2:A:528:U:H2'	2:A:529:A:H8	1.76	0.51
2:A:1130:A:H61	13:L:115:MET:HE1	1.74	0.51
2:A:1395:G:O2'	4:C:18:U:O2	2.28	0.51
2:A:1529:A:OP2	2:A:1592:G:N2	2.44	0.51
2:A:1712:G:O6	32:e:28:LYS:NZ	2.44	0.51
2:A:2217:U:H2'	2:A:2218:G:C8	2.45	0.51
2:A:3185:U:O2'	22:U:170:THR:OG1	2.22	0.51
46:s:26:G:N1	46:s:44:A:C2	2.75	0.51
47:x:272:ALA:HA	47:x:275:MET:HE3	1.92	0.51
47:x:337:MET:SD	47:x:341:HIS:CE1	3.04	0.51
54:SI:131:ASP:HA	54:SI:134:ARG:NE	2.26	0.51
61:SO:106:HIS:ND1	61:SO:134:TRP:HZ2	2.09	0.51
61:SO:305:TYR:H	61:SO:310:ILE:HG22	1.76	0.51
68:ST:163:THR:HG22	68:ST:165:GLY:H	1.75	0.51
80:SK:78:ILE:HD12	80:SK:78:ILE:H	1.75	0.51
1:2:1034:C:O2'	75:Sb:2:THR:N	2.42	0.51
1:2:1550:A:H2'	1:2:1551:U:C6	2.45	0.51
2:A:2357:A:H2'	2:A:2358:A:H8	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:2515:A:H5''	17:P:28:TRP:HD1	1.76	0.51
2:A:3333:G:H22	2:A:3369:G:H1'	1.74	0.51
5:D:225:ILE:HG21	5:D:234:LYS:HA	1.93	0.51
13:L:49:CYS:SG	13:L:168:SER:OG	2.60	0.51
13:L:106:ALA:HB3	46:s:73:A:H5''	1.93	0.51
13:L:170:LYS:HD3	13:L:175:ASN:HA	1.92	0.51
19:R:85:ALA:O	19:R:88:VAL:HG12	2.11	0.51
34:g:82:LEU:HD22	34:g:108:ILE:HG23	1.92	0.51
35:h:45:LEU:HD11	35:h:73:ARG:HA	1.91	0.51
47:x:204:PRO:HB2	47:x:245:TRP:CE3	2.46	0.51
53:SA:175:VAL:HB	53:SA:177:MET:CE	2.41	0.51
64:SP:183:ARG:HD3	64:SP:191:ARG:HG2	1.92	0.51
69:SU:14:THR:HG22	69:SU:15:GLU:H	1.75	0.51
1:2:47:A:H61	1:2:385:A:H2	1.57	0.51
1:2:1226:A:H4'	1:2:1227:A:OP1	2.11	0.51
1:2:1474:G:OP1	58:SB:109:LYS:NZ	2.34	0.51
1:2:1684:U:H2'	1:2:1685:G:H8	1.76	0.51
2:A:143:G:H2'	2:A:144:A:H8	1.75	0.51
2:A:1881:A:H2'	2:A:1882:G:H8	1.76	0.51
2:A:2413:A:H2'	2:A:2414:G:H8	1.75	0.51
6:E:81:THR:O	6:E:81:THR:OG1	2.28	0.51
17:P:5:LYS:HG3	38:k:40:VAL:HG11	1.93	0.51
22:U:152:LEU:HB2	22:U:172:TYR:HD2	1.76	0.51
39:l:39:TYR:HB3	39:l:40:PRO:CD	2.40	0.51
40:m:23:ALA:HB3	40:m:75:VAL:HG12	1.93	0.51
47:x:736:PRO:HD2	47:x:791:GLN:NE2	2.26	0.51
49:SZ:92:LYS:O	49:SZ:92:LYS:HD2	2.11	0.51
58:SB:33:VAL:HG13	59:SF:53:LEU:HD21	1.93	0.51
61:SO:53:LYS:HZ2	61:SO:56:VAL:HG23	1.75	0.51
72:SX:66:ILE:HG22	72:SX:66:ILE:O	2.11	0.51
76:Sc:109:ARG:HG3	76:Sc:114:LYS:HA	1.93	0.51
1:2:5:U:H2'	1:2:6:G:H8	1.76	0.51
2:A:1472:U:H2'	2:A:1473:G:C8	2.45	0.51
2:A:1758:G:H2'	2:A:1759:C:C6	2.46	0.51
5:D:24:GLN:N	5:D:24:GLN:OE1	2.43	0.51
6:E:230:THR:HG21	6:E:247:ARG:HG2	1.93	0.51
6:E:284:ARG:HH12	6:E:296:THR:HG21	1.76	0.51
53:SA:83:THR:HG23	53:SA:84:ILE:HG23	1.93	0.51
61:SO:305:TYR:HE2	61:SO:311:ARG:HG2	1.76	0.51
66:SR:188:LEU:HD13	66:SR:196:VAL:HG21	1.93	0.51
67:SS:37:LYS:HB2	67:SS:40:GLU:OE1	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:SS:61:VAL:O	67:SS:65:LEU:HG	2.10	0.51
69:SU:132:PRO:HB3	69:SU:161:GLN:HE21	1.75	0.51
69:SU:161:GLN:OE1	69:SU:161:GLN:N	2.35	0.51
1:2:1562:G:OP1	54:SI:89:ARG:NH1	2.44	0.51
2:A:911:C:H5''	5:D:15:ILE:HD13	1.93	0.51
2:A:1460:A:H2'	2:A:1461:A:C8	2.46	0.51
2:A:2535:A:H61	2:A:2545:C:H42	1.59	0.51
3:B:112:G:H2'	3:B:113:C:C6	2.46	0.51
7:F:3:ARG:HH22	7:F:24:ALA:H	1.59	0.51
14:M:157:GLU:HA	14:M:160:VAL:HG22	1.93	0.51
48:SD:79:ALA:HB1	48:SD:88:LEU:HG	1.92	0.51
51:SC:7:ASP:O	51:SC:11:ILE:HD12	2.11	0.51
54:SI:35:ASP:OD1	54:SI:35:ASP:N	2.44	0.51
61:SO:30:PRO:HG3	61:SO:297:ASP:HB2	1.92	0.51
64:SP:110:TYR:HA	64:SP:115:PHE:HD2	1.76	0.51
68:ST:49:VAL:HG13	68:ST:114:VAL:HB	1.92	0.51
69:SU:121:VAL:O	69:SU:125:ILE:HG22	2.11	0.51
77:Sd:17:LEU:HD12	77:Sd:17:LEU:H	1.75	0.51
1:2:64:U:O2'	1:2:168:A:N3	2.39	0.50
1:2:598:U:H2'	1:2:599:A:H8	1.76	0.50
1:2:1192:C:OP2	1:2:1193:A:O2'	2.26	0.50
1:2:1210:C:H2'	1:2:1211:A:H8	1.76	0.50
1:2:1393:C:H2'	1:2:1394:G:H8	1.77	0.50
2:A:658:G:H21	7:F:93:MET:HB2	1.77	0.50
2:A:837:A:OP2	45:r:4:ARG:NH1	2.43	0.50
2:A:2574:G:H2'	2:A:2575:G:H8	1.75	0.50
2:A:3374:U:H2'	2:A:3378:C:H41	1.76	0.50
4:C:41:A:H4'	39:l:59:THR:HG23	1.92	0.50
5:D:35:ALA:HA	11:J:36:ILE:HG23	1.93	0.50
15:N:188:ARG:NH1	15:N:188:ARG:HB3	2.26	0.50
49:SZ:128:LYS:NZ	50:Se:23:CYS:O	2.39	0.50
54:SI:36:ILE:O	60:SH:41:ARG:NH2	2.45	0.50
56:SL:31:GLU:N	56:SL:31:GLU:OE2	2.42	0.50
57:SM:21:CYS:HB3	57:SM:26:SER:H	1.76	0.50
61:SO:200:ASN:ND2	61:SO:241:PHE:O	2.41	0.50
61:SO:221:MET:HE3	61:SO:222:LEU:H	1.75	0.50
78:Sf:18:LYS:O	78:Sf:29:ARG:NH2	2.44	0.50
1:2:641:G:O6	1:2:693:U:O2	2.28	0.50
1:2:1588:G:H1	1:2:1608:U:H3	1.59	0.50
1:2:1608:U:H2'	1:2:1609:U:C6	2.46	0.50
2:A:594:U:P	2:A:609:G:H1	2.32	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:733:G:N2	2:A:736:A:OP2	2.45	0.50
2:A:1602:A:OP2	21:T:38:ARG:HG3	2.12	0.50
2:A:2483:G:H2'	2:A:2484:A:H2'	1.94	0.50
2:A:2975:U:H2'	2:A:2976:A:H8	1.75	0.50
2:A:3008:A:N1	2:A:3139:A:N6	2.59	0.50
2:A:3110:C:H2'	2:A:3111:U:C6	2.46	0.50
2:A:3180:A:O2'	18:Q:117[A]:ARG:NH2	2.44	0.50
20:S:150:VAL:O	20:S:153:PHE:HB2	2.11	0.50
47:x:56:PHE:CE1	47:x:440:ARG:HB2	2.46	0.50
47:x:126:LEU:HA	47:x:154:VAL:HG23	1.91	0.50
47:x:208:THR:HA	47:x:341:HIS:NE2	2.26	0.50
47:x:285:PHE:HA	47:x:288:ILE:HG12	1.92	0.50
58:SB:177:ILE:HA	58:SB:180:ARG:HG2	1.93	0.50
61:SO:131:ILE:HB	61:SO:144:LEU:HB2	1.92	0.50
66:SR:239:PRO:O	66:SR:242:ILE:HG12	2.11	0.50
70:SV:193:LEU:HD23	70:SV:196:LEU:HD21	1.94	0.50
71:SW:135:ALA:HA	71:SW:140:ILE:HA	1.92	0.50
72:SX:55:ASP:OD2	72:SX:82:ARG:NH1	2.44	0.50
1:2:143:G:OP2	68:ST:139:ASN:ND2	2.44	0.50
1:2:236:A:O2'	1:2:237:C:O5'	2.29	0.50
1:2:1071:U:H2'	1:2:1072:C:C6	2.46	0.50
2:A:56:G:H2'	2:A:57:A:C8	2.46	0.50
2:A:411:U:H2'	2:A:412:G:H8	1.76	0.50
2:A:1128:U:OP1	13:L:4:ARG:NH1	2.41	0.50
2:A:3176:G:OP1	35:h:6:ARG:NH1	2.45	0.50
47:x:311:GLU:HG2	47:x:322:VAL:HG21	1.93	0.50
47:x:750:LYS:HB3	47:x:772:LEU:HD12	1.93	0.50
58:SB:171:ALA:O	58:SB:175:LEU:HG	2.11	0.50
61:SO:120:SER:C	61:SO:121:MET:HE2	2.36	0.50
61:SO:166:SER:C	61:SO:168:THR:H	2.19	0.50
64:SP:67:ILE:HG13	64:SP:120:LEU:HD22	1.93	0.50
65:SQ:92:GLN:NE2	65:SQ:95:ASN:HB2	2.26	0.50
65:SQ:229:MET:HA	65:SQ:229:MET:HE3	1.93	0.50
68:ST:16:PHE:CE2	68:ST:45:PHE:HE2	2.29	0.50
1:2:61:A:O2'	1:2:62:A:O4'	2.28	0.50
1:2:152:U:H2'	1:2:153:G:O4'	2.10	0.50
1:2:929:A:H5''	1:2:931:C:H41	1.77	0.50
1:2:1609:U:H5''	59:SF:75:VAL:HG22	1.92	0.50
1:2:1718:G:H2'	1:2:1719:A:C8	2.45	0.50
1:2:1755:A:H2'	1:2:1756:A:C4	2.46	0.50
2:A:66:A:N6	2:A:76:G:H1'	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:188:U:O2'	2:A:207:U:O2	2.22	0.50
2:A:1112:A:N3	2:A:1370:G:O2'	2.37	0.50
2:A:1157:G:H5''	10:I:220:PHE:HE2	1.76	0.50
3:B:94:C:H2'	3:B:95:A:H8	1.76	0.50
8:G:23:ARG:O	8:G:23:ARG:NH1	2.39	0.50
29:b:34:LYS:N	29:b:34:LYS:HD3	2.26	0.50
35:h:16:TYR:OH	35:h:89:LEU:O	2.28	0.50
41:n:28:ARG:HA	41:n:33:ASN:HD22	1.76	0.50
47:x:12:LEU:HD22	47:x:99:LEU:HD13	1.93	0.50
48:SD:98:GLY:HA3	48:SD:115:VAL:HG11	1.93	0.50
53:SA:109:LEU:HD12	53:SA:184:ILE:HD11	1.92	0.50
61:SO:132:LYS:CB	61:SO:134:TRP:HE1	2.24	0.50
64:SP:156:VAL:O	74:Sa:65:SER:OG	2.29	0.50
71:SW:37:LYS:HG2	71:SW:38:ASN:H	1.76	0.50
73:SY:54:LEU:HB3	73:SY:60:VAL:HB	1.92	0.50
1:2:139:C:H4'	1:2:140:A:O5'	2.10	0.50
1:2:335:U:O2'	72:SX:130:PRO:O	2.24	0.50
1:2:895:G:O2'	49:SZ:38:THR:OG1	2.28	0.50
1:2:1220:C:H2'	1:2:1221:A:H8	1.75	0.50
1:2:1256:A:H4'	1:2:1257:U:O5'	2.11	0.50
1:2:1374:C:H2'	1:2:1375:A:C8	2.46	0.50
1:2:1554:U:OP1	57:SM:13:ARG:NH2	2.45	0.50
2:A:37:U:OP1	2:A:934:G:N2	2.45	0.50
2:A:207:U:H2'	2:A:208:C:C6	2.46	0.50
2:A:926:A:H2'	2:A:927:C:H6	1.77	0.50
2:A:2951:G:H2'	2:A:2952:G:H8	1.77	0.50
12:K:38:LEU:O	12:K:41:ILE:HG22	2.11	0.50
15:N:48:PRO:HA	15:N:137:GLN:HG3	1.92	0.50
15:N:105:ASN:HB3	15:N:108:ILE:HB	1.92	0.50
16:O:40:ASP:OD1	16:O:40:ASP:N	2.42	0.50
20:S:74:GLU:OE1	20:S:74:GLU:N	2.43	0.50
24:W:18:ASP:O	24:W:105:LEU:HD12	2.11	0.50
28:a:55:GLU:N	28:a:108:LYS:O	2.45	0.50
49:SZ:20:TYR:HE1	49:SZ:86:THR:HA	1.76	0.50
53:SA:69:LEU:HA	53:SA:72:LEU:HD23	1.93	0.50
60:SH:35:ILE:HG13	60:SH:38:VAL:HB	1.93	0.50
60:SH:75:ASN:ND2	60:SH:77:THR:H	2.10	0.50
73:SY:47:PRO:HA	73:SY:50:ILE:HG12	1.93	0.50
75:Sb:35:ILE:HD12	75:Sb:35:ILE:H	1.76	0.50
1:2:795:U:C2	1:2:796:A:C8	3.00	0.50
2:A:2697:A:H2'	2:A:2698:G:C8	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:3082:C:H2'	2:A:3083:G:C8	2.46	0.50
2:A:3374:U:OP2	33:f:70:ARG:NH2	2.44	0.50
19:R:50:GLN:OE1	19:R:56:ARG:NE	2.42	0.50
40:m:55:VAL:O	40:m:56:ILE:HD13	2.12	0.50
47:x:365:ASN:O	47:x:369:ILE:HG23	2.11	0.50
47:x:747:LEU:HD12	47:x:752:GLY:HA3	1.93	0.50
53:SA:206:VAL:HG11	63:SG:12:ALA:HB2	1.94	0.50
57:SM:32:ARG:HA	57:SM:37:ASN:H	1.77	0.50
69:SU:22:GLN:HA	69:SU:25:VAL:HG22	1.93	0.50
70:SV:136:SER:O	70:SV:140:GLU:HG2	2.11	0.50
79:Sg:12:GLY:O	79:Sg:16:SER:HB2	2.11	0.50
1:2:78:A:H2'	1:2:79:C:C6	2.46	0.50
1:2:250:C:H2'	1:2:251:A:C8	2.47	0.50
1:2:306:U:H2'	1:2:307:G:C8	2.46	0.50
1:2:392:G:O2'	1:2:1673:G:N3	2.45	0.50
1:2:393:C:H4'	1:2:1674:C:H5'	1.92	0.50
1:2:902:G:N7	49:SZ:24:ASN:ND2	2.60	0.50
2:A:50:U:H2'	2:A:51:A:H8	1.76	0.50
2:A:158:G:H2'	2:A:159:A:H8	1.76	0.50
2:A:944:C:OP1	34:g:33:ARG:NH1	2.45	0.50
2:A:1493:G:O6	41:n:2:ALA:N	2.45	0.50
2:A:1563:C:H2'	2:A:1564:U:C6	2.46	0.50
2:A:2207:A:H2'	2:A:2208:A:C4	2.46	0.50
2:A:3004:C:O2'	2:A:3005:A:OP1	2.29	0.50
6:E:19:ARG:HB2	6:E:232:ARG:HH21	1.77	0.50
33:f:55:LEU:O	33:f:59:ILE:HG13	2.10	0.50
36:i:100:ILE:O	36:i:104:VAL:HG13	2.11	0.50
37:j:24:LEU:HB3	37:j:51:ILE:HG22	1.93	0.50
46:s:9:G:H2'	46:s:11:C:H41	1.76	0.50
48:SD:37:VAL:HG22	51:SC:81:ASN:OD1	2.12	0.50
51:SC:58:GLN:HB2	51:SC:65:TYR:HB2	1.92	0.50
61:SO:264:SER:HB3	61:SO:269:TYR:N	2.26	0.50
1:2:12:U:OP1	66:SR:84:LYS:NZ	2.45	0.50
1:2:736:C:H2'	1:2:737:A:C8	2.42	0.50
1:2:1125:A:O3'	43:p:15:ARG:NH1	2.45	0.50
1:2:1747:G:HO2'	2:A:2303:A:HO2'	1.60	0.50
2:A:72:C:H4'	15:N:63:VAL:HB	1.94	0.50
2:A:806:A:N6	2:A:2411:U:O2'	2.45	0.50
2:A:1229:G:H2'	2:A:1230:G:H8	1.75	0.50
2:A:1868:G:H2'	2:A:1869:C:H6	1.77	0.50
2:A:3192:U:H2'	2:A:3193:C:C6	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:T:186:LYS:HD2	21:T:187:GLU:H	1.77	0.50
33:f:80:ASN:ND2	33:f:84:ASP:OD2	2.37	0.50
39:l:27:PHE:CE1	39:l:32:LYS:HA	2.46	0.50
39:l:34:CYS:CB	39:l:37:CYS:SG	3.00	0.50
46:t:64:A:H2'	46:t:65:G:C8	2.47	0.50
61:SO:192:PHE:CZ	61:SO:223:TRP:CE3	3.00	0.50
64:SP:41:ARG:HH11	64:SP:45:VAL:HB	1.77	0.50
64:SP:49:ASN:OD1	64:SP:51:GLY:N	2.45	0.50
66:SR:142:GLY:N	66:SR:153:SER:O	2.45	0.50
74:Sa:68:SER:O	74:Sa:72:LEU:HD23	2.12	0.50
1:2:742:U:H1'	69:SU:107:ARG:HH12	1.77	0.50
1:2:871:G:H2'	1:2:872:G:C8	2.47	0.50
1:2:1549:C:OP1	52:SE:42:ARG:NH2	2.44	0.50
2:A:914:A:C2	5:D:204:MET:SD	3.05	0.50
2:A:2095:G:H2'	2:A:2096:A:H8	1.77	0.50
2:A:2245:C:O2'	5:D:220:GLY:O	2.30	0.50
2:A:2532:U:H2'	2:A:2533:G:C4	2.46	0.50
2:A:2568:C:O2'	2:A:2569:A:H5'	2.11	0.50
2:A:3095:U:H2'	2:A:3096:C:C6	2.47	0.50
5:D:19:HIS:ND1	5:D:190:ARG:O	2.36	0.50
32:e:56:LEU:HD11	32:e:89:VAL:HG21	1.94	0.50
54:SI:86:ARG:HH11	54:SI:92:LYS:HG2	1.77	0.50
58:SB:188:LYS:HA	80:SK:63:SER:HB2	1.94	0.50
60:SH:28:ILE:HG12	60:SH:61:LEU:HD13	1.94	0.50
67:SS:252:ARG:HA	67:SS:255:ARG:HG2	1.93	0.50
68:ST:135:PRO:HB2	68:ST:140:ASN:HB3	1.94	0.50
80:SK:47:TYR:CE1	80:SK:51:LEU:HD11	2.47	0.50
80:SK:62:VAL:HG22	80:SK:80:LEU:HD11	1.94	0.50
1:2:1225:U:O2	1:2:1230:A:O2'	2.30	0.49
1:2:1275:A:O2'	53:SA:145:ALA:O	2.30	0.49
2:A:2881:C:OP1	6:E:11:HIS:NE2	2.45	0.49
2:A:2898:G:N7	42:o:125:LYS:NZ	2.59	0.49
2:A:3139:A:H4'	6:E:20:LYS:HD3	1.94	0.49
4:C:7:U:H2'	4:C:8:C:H6	1.76	0.49
32:e:31:VAL:HG12	32:e:35:ARG:HH12	1.77	0.49
49:SZ:85:ALA:H	49:SZ:119:THR:HB	1.76	0.49
66:SR:164:SER:O	66:SR:164:SER:OG	2.30	0.49
70:SV:195:ARG:HH11	70:SV:195:ARG:HG3	1.77	0.49
73:SY:108:ASP:HB3	73:SY:111:ALA:HB3	1.92	0.49
77:Sd:8:ARG:HB2	77:Sd:26:ASP:OD1	2.12	0.49
77:Sd:25:VAL:HG13	77:Sd:60:PHE:CZ	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:311:U:OP1	76:Sc:24:TRP:NE1	2.37	0.49
1:2:340:U:H2'	1:2:341:A:C8	2.47	0.49
1:2:1426:C:H3'	1:2:1427:A:H4'	1.94	0.49
2:A:542:G:O6	2:A:550:A:C6	2.64	0.49
2:A:705:A:N6	2:A:715:A:OP2	2.44	0.49
2:A:1039:U:H2'	2:A:1040:A:C8	2.47	0.49
2:A:1340:G:H2'	2:A:1341:U:C6	2.47	0.49
2:A:1756:C:H2'	2:A:1757:A:C8	2.47	0.49
2:A:2714:G:H4'	2:A:2715:A:H3'	1.95	0.49
2:A:3126:C:H2'	2:A:3127:A:C8	2.46	0.49
5:D:137:ILE:HG21	5:D:149:ARG:HG3	1.92	0.49
25:X:12:ARG:HH21	25:X:15:LEU:HD12	1.76	0.49
37:j:31:LEU:HB3	37:j:44:ILE:HG12	1.94	0.49
47:x:56:PHE:CZ	47:x:440:ARG:HB2	2.47	0.49
64:SP:56:LYS:HB3	64:SP:160:ILE:HD13	1.94	0.49
1:2:451:A:N6	1:2:453:U:O2	2.44	0.49
1:2:483:A:P	1:2:483:A:H8	2.35	0.49
1:2:541:A:O2'	1:2:542:A:OP1	2.30	0.49
1:2:650:U:H2'	1:2:651:G:C8	2.47	0.49
1:2:1488:G:H3'	1:2:1515:A:H61	1.77	0.49
1:2:1494:C:H2'	1:2:1495:C:C6	2.47	0.49
2:A:1019:G:H22	2:A:1033:U:H3	1.59	0.49
2:A:1175:C:H2'	2:A:1176:C:C6	2.46	0.49
2:A:2597:U:H2'	2:A:2598:G:H8	1.78	0.49
3:B:33:U:H2'	3:B:34:C:O4'	2.13	0.49
68:ST:8:PRO:O	68:ST:10:ASN:N	2.46	0.49
69:SU:16:LEU:O	69:SU:20:VAL:HG13	2.11	0.49
1:2:891:A:H2'	1:2:892:A:C8	2.47	0.49
2:A:32:U:H2'	2:A:33:G:O4'	2.13	0.49
2:A:345:G:O2'	4:C:25:G:N3	2.46	0.49
2:A:1144:U:OP1	2:A:1367:G:O2'	2.27	0.49
2:A:1425:U:O2'	7:F:36:HIS:NE2	2.38	0.49
2:A:1693:C:H2'	2:A:1773:C:H5	1.76	0.49
2:A:1914:G:N2	21:T:81:ARG:O	2.37	0.49
2:A:3175:U:H4'	2:A:3176:G:H5'	1.93	0.49
9:H:172:HIS:ND1	35:h:44:TYR:OH	2.32	0.49
10:I:90:LYS:HG2	10:I:95:ILE:HD11	1.94	0.49
26:Y:5:ILE:CD1	26:Y:12:LYS:HE3	2.42	0.49
34:g:121:ASN:N	34:g:121:ASN:OD1	2.45	0.49
35:h:93:THR:HB	35:h:96:ALA:HB3	1.94	0.49
46:t:48:C:H2'	46:t:59:A:O4'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:SI:131:ASP:HA	54:SI:134:ARG:HE	1.77	0.49
64:SP:3:LEU:HD13	64:SP:7:PHE:HB2	1.94	0.49
70:SV:36:THR:OG1	70:SV:96:LEU:O	2.30	0.49
72:SX:84:ILE:HD11	72:SX:139:VAL:HG21	1.94	0.49
73:SY:103:GLU:OE1	73:SY:103:GLU:C	2.55	0.49
77:Sd:99:LYS:NZ	77:Sd:100:VAL:O	2.45	0.49
1:2:316:A:O2'	1:2:353:A:N1	2.41	0.49
1:2:384:G:H2'	1:2:385:A:C8	2.47	0.49
1:2:1041:G:H2'	1:2:1042:G:C8	2.46	0.49
1:2:1163:A:H4'	58:SB:166:ARG:NH2	2.26	0.49
2:A:503:C:H2'	2:A:504:A:C8	2.47	0.49
2:A:700:C:H2'	2:A:701:G:H8	1.77	0.49
2:A:705:A:C5	30:c:113:LEU:HD23	2.46	0.49
2:A:879:U:H4'	19:R:132:ALA:HB3	1.95	0.49
2:A:1581:C:O2'	2:A:1582:C:O4'	2.30	0.49
2:A:1757:A:H2'	2:A:1758:G:C8	2.46	0.49
2:A:3067:C:H3'	21:T:62:ARG:HH22	1.77	0.49
5:D:36:GLU:OE2	5:D:163:ARG:NE	2.45	0.49
9:H:158:TYR:HE2	16:O:115:PHE:HA	1.77	0.49
52:SE:80:MET:HE3	52:SE:83:MET:SD	2.52	0.49
53:SA:134:CYS:SG	53:SA:135:GLU:N	2.86	0.49
54:SI:131:ASP:HA	54:SI:134:ARG:CG	2.41	0.49
61:SO:103:PHE:CE2	61:SO:138:GLY:HA2	2.47	0.49
73:SY:6:SER:OG	73:SY:7:ALA:N	2.46	0.49
76:Sc:69:ARG:HG3	76:Sc:117:ILE:HG12	1.94	0.49
1:2:79:C:H2'	1:2:80:A:C4	2.47	0.49
1:2:1542:G:N1	1:2:1568:C:O2'	2.44	0.49
2:A:94:G:OP1	2:A:2763:U:O2'	2.27	0.49
2:A:649:A:OP2	2:A:2868:U:O2'	2.29	0.49
2:A:1636:U:C2	29:b:38:PHE:CE2	3.00	0.49
2:A:2331:C:H2'	2:A:2332:A:H8	1.78	0.49
2:A:3187:A:H5'	12:K:22:SER:HA	1.95	0.49
13:L:130:ASP:OD1	13:L:130:ASP:N	2.39	0.49
22:U:10:ILE:HG12	22:U:26:ARG:HB2	1.93	0.49
47:x:493:VAL:HG11	47:x:554:LEU:HD12	1.94	0.49
54:SI:65:ILE:HD12	54:SI:65:ILE:H	1.77	0.49
64:SP:124:THR:OG1	64:SP:125:ASP:N	2.46	0.49
1:2:523:G:H1	1:2:527:A:H5''	1.77	0.49
1:2:629:U:OP2	1:2:969:C:N4	2.41	0.49
1:2:1085:G:N2	1:2:1088:A:OP2	2.40	0.49
1:2:1471:A:N6	1:2:1538:U:C2	2.81	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1680:G:O2'	1:2:1681:A:O4'	2.29	0.49
2:A:55:G:OP1	39:l:43:LYS:NZ	2.46	0.49
2:A:624:G:H2'	2:A:625:G:H8	1.78	0.49
2:A:2671:A:HO2'	14:M:98:ALA:H	1.59	0.49
4:C:95:G:OP1	39:l:76:ASN:ND2	2.45	0.49
18:Q:46[A]:GLU:HG2	18:Q:49[A]:ARG:HG3	1.94	0.49
24:W:33:TYR:OH	24:W:80:THR:OG1	2.24	0.49
27:Z:112:THR:HB	27:Z:120:LYS:HE2	1.94	0.49
32:e:13:LYS:O	32:e:17:VAL:HG12	2.13	0.49
51:SC:32:HIS:CE1	51:SC:35:ILE:HD13	2.42	0.49
61:SO:144:LEU:HD23	61:SO:181:TRP:CD1	2.48	0.49
68:ST:215:ARG:O	68:ST:218:GLU:HG3	2.13	0.49
72:SX:109:VAL:HG12	72:SX:137:PHE:HB2	1.94	0.49
78:Sf:48:SER:HB3	78:Sf:70:LYS:HG2	1.94	0.49
1:2:917:U:H2'	1:2:918:U:C6	2.48	0.49
2:A:389:A:OP1	19:R:4:TYR:OH	2.27	0.49
2:A:1506:A:H5''	2:A:1507:G:H5''	1.95	0.49
2:A:2193:U:O2	2:A:2315:G:N2	2.46	0.49
2:A:2349:U:H1'	2:A:3307:A:H1'	1.95	0.49
2:A:2685:C:H2'	2:A:2686:A:C8	2.47	0.49
2:A:3279:A:H61	35:h:54:ARG:HD3	1.78	0.49
6:E:92:TYR:CD2	6:E:159:ARG:HD2	2.47	0.49
7:F:258:LEU:HA	7:F:261:VAL:HB	1.95	0.49
8:G:41:LYS:NZ	23:V:32:LYS:O	2.46	0.49
18:Q:189[A]:ASP:C	18:Q:193[A]:GLN:HE21	2.20	0.49
25:X:20:GLY:HA2	25:X:35:TYR:CE1	2.47	0.49
25:X:62:VAL:HG21	25:X:69:LEU:HB3	1.95	0.49
29:b:83:THR:HG22	29:b:85:TYR:HD1	1.78	0.49
45:r:49:ARG:NH1	45:r:68:ALA:O	2.44	0.49
45:r:57:CYS:SG	45:r:60:CYS:N	2.86	0.49
46:s:26:G:O6	46:s:44:A:N1	2.46	0.49
47:x:295:GLU:OE2	47:x:295:GLU:N	2.34	0.49
1:2:1163:A:N3	1:2:1613:U:O2'	2.35	0.49
1:2:1508:U:H2'	1:2:1509:C:C6	2.47	0.49
1:2:1611:A:H2'	1:2:1612:U:O4'	2.13	0.49
2:A:1127:G:N2	2:A:1130:A:OP2	2.39	0.49
2:A:2185:G:H2'	2:A:2186:U:H6	1.77	0.49
2:A:2947:G:OP1	2:A:2982:A:N6	2.46	0.49
8:G:277:LEU:HD12	8:G:281:GLU:HB2	1.95	0.49
13:L:86:HIS:HB3	13:L:139:ARG:HG3	1.95	0.49
14:M:15:GLU:HG2	14:M:16:LYS:HG2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:q:38:GLN:OE1	44:q:38:GLN:HA	2.12	0.49
47:x:586:ILE:HD13	47:x:691:VAL:HG22	1.94	0.49
47:x:711:ARG:HG3	47:x:842:LEU:HD22	1.94	0.49
63:SG:82:ASP:O	64:SP:84:ARG:NH2	2.46	0.49
66:SR:240:LEU:HD12	66:SR:240:LEU:H	1.78	0.49
76:Sc:64:PRO:O	76:Sc:65:ASN:HB3	2.13	0.49
1:2:883:C:H2'	1:2:884:A:C8	2.48	0.49
1:2:887:A:H1'	49:SZ:122:PRO:HB3	1.94	0.49
1:2:897:C:N4	1:2:914:G:O2'	2.45	0.49
1:2:1177:C:H2'	1:2:1178:G:H8	1.77	0.49
2:A:1480:G:O4'	2:A:1483:G:N2	2.46	0.49
2:A:1508:C:N4	2:A:1880:U:O2'	2.45	0.49
2:A:2871:G:H5'	2:A:2872:A:H5'	1.95	0.49
7:F:295:ILE:HD12	20:S:36:LEU:HD21	1.94	0.49
12:K:14:GLU:OE2	12:K:51:GLN:NE2	2.44	0.49
34:g:79:VAL:O	34:g:83:GLU:HG2	2.12	0.49
66:SR:139:ILE:HD12	66:SR:218:ILE:HD12	1.95	0.49
1:2:100:A:H61	1:2:385:A:H1'	1.77	0.48
1:2:381:C:H5'	67:SS:12:LEU:HD12	1.94	0.48
1:2:1699:G:H8	1:2:1702:A:H62	1.61	0.48
2:A:127:G:H2'	2:A:128:G:C8	2.48	0.48
2:A:351:A:N6	41:n:37:TYR:O	2.44	0.48
2:A:587:U:H2'	2:A:588:G:C8	2.47	0.48
2:A:790:U:H2'	2:A:791:A:C8	2.48	0.48
2:A:1533:U:H2'	2:A:1534:A:H8	1.77	0.48
2:A:2389:C:H5''	19:R:66:SER:HA	1.95	0.48
2:A:2494:A:H4'	2:A:2494:A:OP1	2.13	0.48
18:Q:23[A]:VAL:HG13	18:Q:33[A]:ILE:HG21	1.95	0.48
46:s:28:A:H2'	46:s:29:G:C8	2.45	0.48
69:SU:60:ILE:HD12	69:SU:60:ILE:H	1.77	0.48
1:2:168:A:H2'	1:2:169:A:C8	2.48	0.48
1:2:1087:A:H2'	1:2:1088:A:C8	2.48	0.48
2:A:985:U:H2'	2:A:986:U:H6	1.78	0.48
2:A:2369:G:H2'	2:A:2370:G:C8	2.48	0.48
10:I:102:VAL:HG23	10:I:126:LEU:HD22	1.95	0.48
46:s:63:G:H2'	46:s:64:A:C8	2.48	0.48
47:x:586:ILE:CD1	47:x:691:VAL:HG22	2.43	0.48
47:x:674:GLY:H	47:x:678:GLY:HA2	1.78	0.48
54:SI:131:ASP:HA	54:SI:134:ARG:CD	2.43	0.48
57:SM:31:ILE:HD11	57:SM:40:ARG:HB3	1.95	0.48
61:SO:103:PHE:HE2	61:SO:138:GLY:HA2	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:SS:229:GLY:HA2	67:SS:235:TYR:CE2	2.48	0.48
71:SW:53:ARG:HG3	71:SW:97:LEU:HD23	1.95	0.48
73:SY:114:ARG:O	73:SY:118:ILE:HG13	2.13	0.48
1:2:251:A:H2	67:SS:131:LEU:HD21	1.78	0.48
1:2:812:A:O4'	1:2:858:G:N2	2.46	0.48
1:2:1226:A:O2'	1:2:1227:A:O5'	2.24	0.48
1:2:1584:G:H4'	1:2:1585:U:O5'	2.12	0.48
2:A:428:A:H2'	2:A:429:U:C6	2.48	0.48
2:A:1011:A:H2'	2:A:1012:G:H8	1.79	0.48
2:A:1693:C:H5''	2:A:1694:U:H5'	1.95	0.48
2:A:2338:C:H2'	2:A:2339:C:C5	2.47	0.48
2:A:3175:U:H5''	35:h:10:LYS:HZ1	1.77	0.48
2:A:3314:A:H5''	6:E:116:ARG:HH21	1.78	0.48
6:E:372:THR:HB	6:E:375:GLU:OE1	2.14	0.48
18:Q:7[A]:VAL:HB	18:Q:33[A]:ILE:HD13	1.95	0.48
22:U:14:LEU:H	22:U:14:LEU:HD12	1.78	0.48
44:q:23:HIS:HB3	44:q:72:LEU:HB3	1.94	0.48
45:r:57:CYS:SG	45:r:58:SER:N	2.85	0.48
54:SI:113:ILE:O	54:SI:125:SER:OG	2.31	0.48
61:SO:205:SER:HB2	61:SO:210:LEU:HB2	1.95	0.48
1:2:236:A:O2'	1:2:237:C:O4'	2.30	0.48
1:2:1382:A:HO2'	1:2:1383:G:H8	1.56	0.48
1:2:1443:U:H5'	1:2:1446:A:H1'	1.95	0.48
2:A:2577:C:H2'	2:A:2578:U:C6	2.49	0.48
2:A:3379:C:H2'	2:A:3380:U:C6	2.49	0.48
5:D:46:LYS:HD3	5:D:46:LYS:HA	1.64	0.48
8:G:256:THR:HG23	8:G:258:LYS:HG2	1.94	0.48
11:J:90:THR:HA	11:J:214:LEU:HD21	1.95	0.48
11:J:99:PRO:HG2	11:J:190:VAL:HA	1.96	0.48
53:SA:32:GLU:OE2	53:SA:58:VAL:N	2.46	0.48
59:SF:91:ALA:HA	59:SF:94:GLN:OE1	2.13	0.48
1:2:864:U:H5'	78:Sf:26:GLN:HE22	1.79	0.48
1:2:1045:C:H2'	1:2:1046:G:C8	2.48	0.48
1:2:1331:A:OP1	63:SG:45:ARG:NH2	2.46	0.48
2:A:125:C:H2'	2:A:126:U:H6	1.78	0.48
2:A:787:G:H2'	2:A:788:C:H6	1.77	0.48
2:A:900:G:H1'	2:A:1589:A:N6	2.28	0.48
2:A:1003:A:N1	2:A:1049:C:O2'	2.39	0.48
2:A:1020:G:H3'	2:A:1021:G:C8	2.49	0.48
2:A:1104:G:H2'	2:A:1105:A:C8	2.48	0.48
2:A:1192:C:N4	2:A:1300:G:OP2	2.45	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1347:U:OP2	20:S:38:ARG:NE	2.45	0.48
2:A:1660:C:H2'	2:A:1661:G:H8	1.78	0.48
11:J:143:ILE:HG23	11:J:175:VAL:HG21	1.96	0.48
14:M:30:LEU:HD21	14:M:47:GLN:HG2	1.95	0.48
28:a:31:LEU:HG	28:a:101:PRO:HG3	1.96	0.48
46:s:29:G:H2'	46:s:30:G:H8	1.77	0.48
47:x:573:GLN:HG3	47:x:835:TRP:CZ3	2.48	0.48
63:SG:87:GLU:O	64:SP:198:MET:HE1	2.14	0.48
69:SU:114:ARG:O	69:SU:117:THR:OG1	2.25	0.48
1:2:405:C:O2'	68:ST:92:ARG:O	2.32	0.48
1:2:825:U:H2'	1:2:826:U:O4'	2.12	0.48
1:2:874:C:H2'	1:2:875:G:C8	2.49	0.48
1:2:1325:A:H2'	1:2:1326:A:H8	1.79	0.48
1:2:1417:A:O3'	59:SF:128:LYS:NZ	2.41	0.48
1:2:1558:U:OP1	60:SH:122:HIS:ND1	2.47	0.48
2:A:7:C:H2'	2:A:8:C:C6	2.48	0.48
2:A:91:G:OP2	2:A:93:C:N4	2.46	0.48
2:A:371:G:O2'	2:A:396:A:N6	2.47	0.48
2:A:899:U:H2'	2:A:900:G:H8	1.78	0.48
2:A:1574:C:H3'	2:A:1575:A:C8	2.49	0.48
2:A:1635:G:O6	2:A:1639:C:N4	2.47	0.48
2:A:2331:C:H2'	2:A:2332:A:C8	2.49	0.48
2:A:2655:U:H1'	2:A:2656:A:C2	2.48	0.48
2:A:3016:A:H2'	2:A:3017:A:H8	1.78	0.48
5:D:207:VAL:HG13	5:D:208:ASP:OD1	2.14	0.48
12:K:90:MET:HE1	12:K:146:LEU:HD11	1.96	0.48
22:U:30:PHE:CD2	22:U:103:VAL:HG21	2.49	0.48
24:W:56:VAL:HG23	24:W:65:VAL:HG22	1.96	0.48
25:X:104:ASN:OD1	25:X:108:GLU:N	2.45	0.48
54:SI:36:ILE:HG13	60:SH:84:TRP:HZ2	1.79	0.48
55:SJ:102:ARG:C	55:SJ:103:ILE:HD13	2.39	0.48
58:SB:91:GLU:HG3	58:SB:95:ASN:HD21	1.77	0.48
61:SO:89:LEU:HD23	61:SO:134:TRP:CE3	2.47	0.48
63:SG:20:TYR:HB3	63:SG:23:LYS:HB2	1.95	0.48
1:2:126:A:H8	1:2:204:G:H21	1.60	0.48
1:2:1016:C:H2'	1:2:1017:U:C6	2.42	0.48
1:2:1135:U:OP1	76:Sc:121:ARG:NH1	2.47	0.48
2:A:163:C:H2'	2:A:164:A:C8	2.47	0.48
2:A:163:C:H2'	2:A:164:A:H8	1.78	0.48
2:A:261:U:H2'	2:A:262:U:C6	2.48	0.48
2:A:674:G:OP1	20:S:105:ARG:NH2	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1022:U:C2	2:A:1030:A:N6	2.82	0.48
2:A:1157:G:H5''	10:I:220:PHE:CE2	2.48	0.48
2:A:1486:G:H21	36:i:6:THR:HG22	1.79	0.48
2:A:1636:U:C4	29:b:38:PHE:CE1	3.01	0.48
2:A:1787:A:H8	2:A:1787:A:O5'	1.97	0.48
2:A:2697:A:H2'	2:A:2698:G:H8	1.79	0.48
2:A:2960:C:H2'	2:A:2961:G:H8	1.79	0.48
4:C:75:G:H2'	4:C:76:C:C6	2.49	0.48
4:C:104:A:OP2	4:C:105:A:H5''	2.13	0.48
5:D:37:ARG:HG2	5:D:38:HIS:HD2	1.78	0.48
21:T:105:LEU:HD22	21:T:138:LEU:HD23	1.96	0.48
46:s:27:C:H2'	46:s:28:A:H8	1.78	0.48
47:x:90:LYS:HB2	47:x:90:LYS:HE3	1.72	0.48
48:SD:61:VAL:HG13	48:SD:89:ILE:HG23	1.95	0.48
48:SD:89:ILE:HB	48:SD:140:PHE:HD2	1.79	0.48
56:SL:66:LEU:HD11	58:SB:158:GLN:HG2	1.95	0.48
61:SO:144:LEU:HD23	61:SO:181:TRP:HD1	1.77	0.48
2:A:1167:U:O2'	10:I:210:PRO:O	2.31	0.48
2:A:1666:G:H2'	2:A:1667:A:H8	1.78	0.48
2:A:1803:C:H2'	2:A:1804:A:C8	2.48	0.48
2:A:1829:G:H5''	2:A:1830:G:H5'	1.95	0.48
2:A:2527:G:H2'	2:A:2528:G:H8	1.79	0.48
2:A:3213:A:H62	16:O:124:ARG:NH1	2.12	0.48
4:C:128:U:OP1	4:C:129:C:N4	2.42	0.48
35:h:29:LEU:O	35:h:30:ILE:HD13	2.14	0.48
55:SJ:28:SER:HB3	55:SJ:34:LEU:CD2	2.43	0.48
55:SJ:63:LEU:HD22	57:SM:34:TYR:HE2	1.79	0.48
56:SL:37:SER:O	56:SL:38:ARG:HD3	2.13	0.48
59:SF:7:VAL:HG12	59:SF:95:LYS:HD3	1.95	0.48
61:SO:81:LEU:HD23	61:SO:115:ILE:HD11	1.95	0.48
61:SO:127:ARG:HA	61:SO:150:TRP:CD1	2.48	0.48
63:SG:105:GLN:HE22	64:SP:42:PRO:HD3	1.79	0.48
69:SU:166:LEU:HA	69:SU:169:PHE:HD2	1.78	0.48
72:SX:92:HIS:O	72:SX:101:GLU:N	2.41	0.48
76:Sc:126:LYS:HG2	76:Sc:130:VAL:HA	1.95	0.48
1:2:82:U:H2'	1:2:83:G:O4'	2.13	0.48
1:2:141:U:H5'	1:2:142:G:OP1	2.14	0.48
1:2:1546:G:OP2	60:SH:134:ARG:NH1	2.47	0.48
2:A:876:A:H4'	2:A:1890:U:H4'	1.96	0.48
2:A:2683:U:H2'	2:A:2684:C:H6	1.79	0.48
4:C:24:G:H2'	4:C:25:G:H8	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:51:G:C5	41:n:26:TRP:HZ2	2.31	0.48
6:E:85:VAL:HB	6:E:163:HIS:CD2	2.48	0.48
8:G:119:TYR:OH	8:G:139:PRO:O	2.27	0.48
18:Q:35[A]:VAL:HB	18:Q:104[A]:VAL:HG12	1.94	0.48
53:SA:58:VAL:O	53:SA:65:ARG:HB3	2.13	0.48
55:SJ:33:GLN:O	55:SJ:37:VAL:HG23	2.14	0.48
55:SJ:99:ILE:HG12	55:SJ:103:ILE:HG13	1.96	0.48
1:2:151:G:O6	1:2:164:A:N6	2.47	0.48
1:2:557:G:H5''	79:Sg:57:ASN:HB3	1.94	0.48
1:2:655:G:O2'	1:2:656:G:N2	2.47	0.48
1:2:860:U:H2'	1:2:861:U:C6	2.48	0.48
1:2:865:A:OP1	75:Sb:28:ARG:NH2	2.47	0.48
2:A:873:C:H4'	2:A:1908:A:H5'	1.96	0.48
2:A:1107:C:H2'	2:A:1108:U:H6	1.78	0.48
2:A:1138:U:H2'	2:A:1139:G:C8	2.48	0.48
2:A:1277:C:H2'	2:A:1278:A:H8	1.78	0.48
2:A:2945:G:O2'	2:A:2948:C:OP2	2.26	0.48
2:A:3101:G:H2'	2:A:3102:G:H8	1.78	0.48
3:B:20:A:H2'	3:B:21:G:H8	1.79	0.48
10:I:88:ARG:NH2	10:I:91:GLY:O	2.47	0.48
13:L:184:LYS:HG2	13:L:190:VAL:HG23	1.96	0.48
22:U:93:GLU:C	22:U:94:ILE:HD13	2.39	0.48
23:V:119:ALA:CB	23:V:126:VAL:HB	2.44	0.48
32:e:9:SER:O	32:e:13:LYS:HG3	2.13	0.48
33:f:12:TYR:CE1	33:f:106:THR:HG23	2.49	0.48
58:SB:70:VAL:HG11	59:SF:44:LEU:HD22	1.95	0.48
60:SH:11:PHE:CD1	60:SH:59:GLY:HA3	2.49	0.48
71:SW:141:VAL:HG12	71:SW:143:ILE:H	1.79	0.48
1:2:1430:U:O2'	1:2:1431:C:OP1	2.31	0.47
2:A:702:C:H2'	2:A:703:G:C8	2.49	0.47
2:A:957:C:H1'	30:c:43:ILE:HD11	1.95	0.47
2:A:1671:C:OP1	21:T:60:LYS:NZ	2.44	0.47
2:A:3342:A:H2'	2:A:3343:G:O4'	2.14	0.47
3:B:20:A:H2'	3:B:21:G:C8	2.50	0.47
4:C:47:C:O2'	4:C:62:C:OP2	2.29	0.47
18:Q:74[A]:ARG:O	18:Q:142[A]:SER:HB3	2.14	0.47
19:R:21:TYR:H	19:R:145:HIS:CE1	2.31	0.47
26:Y:47:ARG:HB3	26:Y:47:ARG:CZ	2.43	0.47
47:x:412:ARG:HE	47:x:426:LEU:HD11	1.79	0.47
58:SB:90:ILE:O	58:SB:94:THR:HG23	2.14	0.47
59:SF:31:VAL:HG23	59:SF:67:VAL:HG23	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:SO:40:LYS:HA	61:SO:68:VAL:HG13	1.95	0.47
65:SQ:28:GLU:HG3	65:SQ:30:PHE:HE1	1.79	0.47
68:ST:70:PRO:HA	68:ST:101:ILE:HB	1.95	0.47
70:SV:67:TRP:O	70:SV:71:GLY:N	2.35	0.47
75:Sb:31:SER:O	75:Sb:34:ILE:HB	2.13	0.47
1:2:142:G:H5''	68:ST:139:ASN:ND2	2.28	0.47
1:2:877:G:O6	1:2:951:A:N1	2.47	0.47
1:2:1477:G:H2'	1:2:1478:G:H8	1.80	0.47
2:A:1148:G:OP1	35:h:20:LYS:HB3	2.14	0.47
2:A:1157:G:H2'	2:A:1158:A:O4'	2.14	0.47
3:B:7:G:H5'	8:G:33:ARG:HE	1.79	0.47
7:F:328:ASN:OD1	10:I:48:ASN:ND2	2.47	0.47
10:I:219:LYS:HG3	10:I:228:SER:HB2	1.96	0.47
34:g:72:LYS:O	34:g:93:ALA:N	2.45	0.47
47:x:282:PHE:HA	47:x:285:PHE:CE1	2.49	0.47
51:SC:77:ARG:HA	51:SC:82:LEU:CD1	2.44	0.47
53:SA:101:GLN:HE21	53:SA:122:VAL:HG23	1.78	0.47
61:SO:52:GLN:HA	61:SO:54:PHE:CD2	2.49	0.47
64:SP:122:ILE:N	64:SP:122:ILE:HD12	2.29	0.47
67:SS:95:THR:OG1	67:SS:97:GLU:OE1	2.32	0.47
74:Sa:58:TYR:OH	75:Sb:19:LYS:O	2.32	0.47
1:2:419:G:H2'	1:2:420:A:C8	2.49	0.47
1:2:431:C:H2'	1:2:432:G:H8	1.79	0.47
1:2:483:A:H8	1:2:483:A:OP1	1.97	0.47
1:2:1297:G:N2	1:2:1300:A:OP2	2.39	0.47
2:A:307:A:H2'	2:A:308:A:C8	2.47	0.47
2:A:549:U:C2	2:A:550:A:C8	3.02	0.47
2:A:1290:A:H2'	2:A:1291:A:C8	2.49	0.47
2:A:1699:A:N6	2:A:1747:G:O6	2.48	0.47
2:A:1895:A:O2'	2:A:3053:G:H4'	2.14	0.47
2:A:2578:U:H2'	2:A:2579:G:O4'	2.15	0.47
2:A:2963:C:H2'	2:A:2964:G:C8	2.50	0.47
5:D:29:LEU:HA	5:D:76:PHE:HE1	1.78	0.47
8:G:58:LYS:HA	8:G:93:THR:HB	1.95	0.47
11:J:226:TYR:HA	11:J:229:VAL:HG22	1.97	0.47
36:i:97:GLU:HA	36:i:97:GLU:OE2	2.14	0.47
47:x:321:LYS:O	47:x:325:ARG:HG2	2.15	0.47
47:x:824:LYS:O	47:x:824:LYS:NZ	2.42	0.47
59:SF:23:LYS:HG2	59:SF:64:ASP:OD1	2.14	0.47
60:SH:84:TRP:CD1	60:SH:84:TRP:C	2.92	0.47
62:SN:97:LYS:HG2	62:SN:98:VAL:H	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:SR:218:ILE:O	66:SR:221:THR:HG22	2.13	0.47
67:SS:183:VAL:HG11	67:SS:188:ASN:HB2	1.96	0.47
74:Sa:62:ARG:HA	74:Sa:62:ARG:NE	2.29	0.47
76:Sc:57:LEU:HB3	76:Sc:71:CYS:SG	2.54	0.47
78:Sf:31:TYR:O	78:Sf:48:SER:OG	2.27	0.47
80:SK:80:LEU:HB3	80:SK:101:TYR:HE2	1.79	0.47
1:2:313:U:O4'	1:2:1118:G:N2	2.47	0.47
1:2:420:A:OP1	68:ST:74:LYS:NZ	2.47	0.47
1:2:930:A:H2'	65:SQ:114:VAL:HG11	1.97	0.47
2:A:544:C:O2	2:A:547:G:N2	2.44	0.47
2:A:2181:C:H2'	2:A:2182:A:C8	2.49	0.47
2:A:2389:C:H2'	2:A:2390:A:H8	1.79	0.47
2:A:2947:G:N3	6:E:250:ALA:HB1	2.30	0.47
2:A:3047:U:H2'	2:A:3048:A:C4	2.49	0.47
3:B:67:G:H1	3:B:111:U:H3	1.61	0.47
3:B:96:U:H2'	3:B:97:A:C8	2.49	0.47
6:E:195:ALA:O	6:E:199:PHE:HD1	1.97	0.47
9:H:131:LYS:HB2	9:H:134:ARG:HG3	1.95	0.47
10:I:120:THR:HB	10:I:123:THR:HG23	1.96	0.47
11:J:91:PHE:CE1	11:J:185:ARG:HG2	2.50	0.47
13:L:30:LYS:HD2	13:L:30:LYS:HA	1.74	0.47
13:L:35:ASP:OD2	13:L:86:HIS:NE2	2.45	0.47
14:M:157:GLU:OE1	14:M:157:GLU:N	2.44	0.47
19:R:122:ALA:HB3	19:R:143:PRO:HG2	1.96	0.47
44:q:72:LEU:HD11	44:q:83:LEU:HD23	1.95	0.47
54:SI:45:MET:HE1	60:SH:40:ARG:HB3	1.96	0.47
75:Sb:105:THR:O	75:Sb:123:GLY:HA3	2.14	0.47
78:Sf:42:ASN:ND2	78:Sf:58:SER:OG	2.47	0.47
1:2:1245:G:H4'	1:2:1246:C:C5	2.49	0.47
1:2:1759:C:H2'	1:2:1760:G:C8	2.49	0.47
2:A:840:C:H2'	2:A:841:A:H8	1.79	0.47
2:A:2351:U:H2'	2:A:2352:A:C8	2.46	0.47
2:A:3101:G:H2'	2:A:3102:G:C8	2.49	0.47
2:A:3280:U:HO2'	2:A:3281:U:H6	1.61	0.47
3:B:7:G:OP1	8:G:33:ARG:NE	2.47	0.47
3:B:59:U:H2'	3:B:60:G:C8	2.47	0.47
11:J:143:ILE:O	11:J:173:MET:HG3	2.15	0.47
16:O:23:ILE:HA	16:O:63:VAL:HG12	1.96	0.47
17:P:28:TRP:NE1	17:P:32:GLN:HE21	2.12	0.47
25:X:10:LYS:NZ	25:X:56:ASP:OD1	2.32	0.47
46:s:6:C:H2'	46:s:7:G:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:s:9:G:H1'	46:s:45:U:H2'	1.96	0.47
61:SO:26:SER:OG	61:SO:29:GLN:O	2.32	0.47
73:SY:72:MET:HE2	73:SY:72:MET:HA	1.96	0.47
1:2:395:U:H3	1:2:399:A:H62	1.61	0.47
1:2:763:G:OP1	71:SW:78:ARG:NH2	2.39	0.47
1:2:888:U:H2'	1:2:889:U:C6	2.49	0.47
1:2:973:A:H2'	1:2:974:A:H8	1.79	0.47
1:2:1071:U:H2'	1:2:1072:C:H6	1.79	0.47
1:2:1357:A:H2'	1:2:1358:G:C8	2.49	0.47
2:A:753:C:H2'	2:A:754:G:H8	1.77	0.47
2:A:1311:G:H2'	2:A:1312:C:C6	2.48	0.47
2:A:1711:C:H2'	2:A:1712:G:O4'	2.15	0.47
2:A:2297:U:H2'	2:A:2299:A:N7	2.30	0.47
5:D:118:GLU:HG3	5:D:126:LEU:HD11	1.96	0.47
11:J:94:PHE:CZ	11:J:152:LEU:HD13	2.50	0.47
15:N:188:ARG:HB3	15:N:188:ARG:HH11	1.79	0.47
24:W:54:VAL:HG12	24:W:67:SER:HA	1.96	0.47
29:b:14:VAL:HG23	29:b:15:ARG:HG3	1.95	0.47
31:d:43:HIS:O	31:d:47:LEU:HD23	2.14	0.47
46:s:63:G:O2'	46:s:64:A:OP1	2.29	0.47
46:t:27:C:H2'	46:t:28:A:H8	1.80	0.47
57:SM:41:GLN:OE1	57:SM:41:GLN:N	2.32	0.47
61:SO:239:GLU:HB3	61:SO:257:ALA:HB2	1.97	0.47
65:SQ:193:ILE:H	65:SQ:193:ILE:HD12	1.79	0.47
69:SU:154:LEU:HD11	69:SU:183:PHE:HB3	1.97	0.47
1:2:17:C:H2'	1:2:18:C:H6	1.80	0.47
1:2:197:A:H2'	1:2:198:A:C8	2.48	0.47
1:2:386:G:O2'	1:2:425:A:N1	2.36	0.47
1:2:456:A:H2'	1:2:457:G:C8	2.50	0.47
1:2:513:U:H1'	71:SW:131:GLN:HE22	1.80	0.47
1:2:891:A:H2'	1:2:892:A:H8	1.79	0.47
1:2:1478:G:H3'	1:2:1479:A:H8	1.80	0.47
1:2:1483:A:H2'	1:2:1484:G:C8	2.48	0.47
1:2:1701:A:H8	1:2:1702:A:C8	2.32	0.47
1:2:1795:U:OP2	50:Se:4:LYS:NZ	2.47	0.47
2:A:692:A:H4'	7:F:46:LYS:HB2	1.96	0.47
2:A:1533:U:H1'	2:A:1798:A:H2	1.79	0.47
2:A:1568:U:H2'	2:A:1570:U:OP2	2.15	0.47
2:A:1912:U:H2'	2:A:1913:A:O4'	2.15	0.47
2:A:2129:U:H2'	2:A:2130:G:C8	2.49	0.47
2:A:2166:A:H4'	17:P:72:LYS:HE2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:2866:U:O2	2:A:2867:C:N4	2.48	0.47
2:A:2986:U:C2	2:A:2987:A:C8	3.03	0.47
4:C:6:U:H2'	4:C:7:U:C6	2.50	0.47
5:D:179:LEU:HD13	5:D:185:ALA:HB2	1.95	0.47
6:E:282:ILE:HA	6:E:324:VAL:HA	1.95	0.47
8:G:83:LEU:HD12	8:G:88:ILE:HB	1.96	0.47
13:L:72:ALA:O	13:L:76:MET:HG2	2.15	0.47
13:L:103:LEU:HD12	13:L:108:ALA:HB1	1.96	0.47
22:U:24:LEU:HD12	23:V:148:PRO:HG3	1.95	0.47
37:j:13:SER:O	37:j:17:LEU:HG	2.15	0.47
46:t:43:G:H2'	46:t:44:A:C8	2.50	0.47
47:x:14:ASP:OD1	47:x:14:ASP:N	2.47	0.47
47:x:660:LYS:HG3	47:x:661:ASP:N	2.30	0.47
50:Se:33:ASP:OD1	50:Se:34:LYS:N	2.47	0.47
52:SE:75:PRO:HA	52:SE:93:VAL:HG23	1.97	0.47
53:SA:185:LYS:HB2	53:SA:185:LYS:HE3	1.71	0.47
58:SB:43:PHE:O	58:SB:43:PHE:HD1	1.98	0.47
58:SB:72:HIS:CD2	58:SB:107:LYS:HG2	2.50	0.47
60:SH:82:PRO:HB2	60:SH:84:TRP:CD1	2.50	0.47
62:SN:132:LEU:HD23	62:SN:139:LEU:HD11	1.96	0.47
64:SP:200:ASP:HA	64:SP:203:PHE:CE2	2.50	0.47
65:SQ:39:GLU:HA	65:SQ:39:GLU:OE2	2.15	0.47
65:SQ:157:GLN:O	65:SQ:161:ILE:HG12	2.14	0.47
66:SR:126:ARG:O	66:SR:130:ILE:HG12	2.14	0.47
67:SS:45:ILE:HG23	67:SS:46:VAL:H	1.80	0.47
67:SS:247:SER:OG	67:SS:250:GLU:HG3	2.15	0.47
69:SU:49:ILE:HG21	69:SU:172:VAL:HA	1.96	0.47
1:2:78:A:H2'	1:2:79:C:C5	2.49	0.47
1:2:154:G:H1'	68:ST:56:ASN:ND2	2.29	0.47
2:A:422:A:N1	2:A:2362:C:O2'	2.37	0.47
2:A:1176:C:OP2	2:A:1177:G:O2'	2.31	0.47
2:A:1609:C:H2'	2:A:1610:G:C8	2.48	0.47
2:A:1704:A:H1'	2:A:1741:A:H61	1.80	0.47
2:A:2320:A:H2	45:r:16:VAL:HB	1.80	0.47
2:A:3084:C:H2'	2:A:3085:G:O4'	2.15	0.47
16:O:35:ILE:HD13	16:O:46:ILE:HG22	1.97	0.47
27:Z:82:LEU:HB2	27:Z:124:VAL:HG13	1.95	0.47
27:Z:83:VAL:HG22	27:Z:123:TYR:CD1	2.50	0.47
28:a:50:ILE:HD12	28:a:50:ILE:HA	1.83	0.47
47:x:16:VAL:HG23	47:x:17:THR:H	1.80	0.47
47:x:438:MET:SD	47:x:439:GLY:N	2.88	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:SC:49:LEU:O	51:SC:54:TYR:HB2	2.15	0.47
61:SO:33:LEU:O	61:SO:34:LEU:HD22	2.15	0.47
61:SO:231:MET:CG	61:SO:232:TYR:HD1	2.27	0.47
63:SG:106:THR:HG21	64:SP:23:HIS:CE1	2.49	0.47
68:ST:16:PHE:CD2	68:ST:45:PHE:HE2	2.33	0.47
69:SU:62:VAL:HG23	69:SU:93:LEU:O	2.15	0.47
1:2:918:U:H2'	1:2:919:A:H8	1.79	0.47
1:2:1216:C:H1'	1:2:1217:A:C8	2.50	0.47
2:A:966:U:H2'	2:A:967:A:H8	1.80	0.47
2:A:1310:G:N2	2:A:2381:G:OP1	2.44	0.47
2:A:1729:A:O4'	32:e:52:ARG:NH1	2.48	0.47
3:B:22:A:H2'	3:B:23:A:H8	1.80	0.47
4:C:27:U:H2'	4:C:28:C:H6	1.80	0.47
4:C:69:U:H2'	4:C:70:G:O4'	2.15	0.47
4:C:142:C:H2'	4:C:143:U:C6	2.50	0.47
4:C:142:C:H2'	4:C:143:U:H6	1.78	0.47
5:D:116:VAL:O	5:D:126:LEU:N	2.46	0.47
20:S:89:ASP:OD1	20:S:90:ASP:N	2.48	0.47
21:T:24:LEU:HD23	21:T:32:ILE:HD12	1.97	0.47
34:g:80:LYS:HA	34:g:83:GLU:HG2	1.97	0.47
39:l:54:LYS:O	39:l:58:THR:HB	2.15	0.47
46:s:22:G:H2'	46:s:23:C:C6	2.50	0.47
47:x:331:ALA:O	47:x:334:LEU:HD23	2.15	0.47
47:x:660:LYS:O	47:x:663:VAL:HG12	2.15	0.47
52:SE:33:PHE:O	52:SE:37:ALA:HB2	2.15	0.47
53:SA:32:GLU:CD	53:SA:57:ASP:HB3	2.39	0.47
60:SH:84:TRP:CD1	60:SH:85:PHE:CD1	2.99	0.47
60:SH:101:LEU:O	60:SH:105:VAL:HG13	2.14	0.47
63:SG:106:THR:O	63:SG:110:VAL:HG12	2.14	0.47
77:Sd:90:ARG:O	77:Sd:94:TYR:HD1	1.98	0.47
1:2:1202:A:N6	1:2:1457:C:O5'	2.48	0.47
1:2:1213:G:H1	1:2:1450:U:H3	1.63	0.47
1:2:1245:G:H4'	1:2:1246:C:H5	1.80	0.47
1:2:1602:C:H2'	1:2:1603:U:H6	1.79	0.47
2:A:44:U:O2'	44:q:46:LYS:NZ	2.42	0.47
2:A:361:A:H4'	39:l:35:SER:O	2.15	0.47
2:A:1017:C:O2'	2:A:1035:G:N2	2.48	0.47
2:A:1135:A:N6	2:A:1136:A:N6	2.63	0.47
2:A:2852:C:N3	13:L:158:LYS:NZ	2.58	0.47
47:x:32:LYS:HB2	47:x:68:ILE:HD12	1.96	0.47
60:SH:20:THR:HG21	60:SH:35:ILE:HA	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:SO:8:VAL:HG12	61:SO:9:LEU:H	1.79	0.47
61:SO:262:VAL:C	61:SO:263:PHE:HD1	2.23	0.47
61:SO:299:GLN:HA	61:SO:315:VAL:HB	1.97	0.47
64:SP:148:ASP:OD2	64:SP:165:ARG:NH2	2.47	0.47
67:SS:191:ARG:HD3	67:SS:245:LYS:HD3	1.96	0.47
67:SS:211:LYS:HE3	67:SS:211:LYS:HB3	1.77	0.47
2:A:342:A:H5'	2:A:344:A:C8	2.50	0.46
2:A:684:G:H2'	2:A:685:G:H8	1.79	0.46
2:A:995:U:H2'	2:A:996:A:H8	1.79	0.46
2:A:1597:C:H2'	2:A:1598:G:C8	2.50	0.46
4:C:8:C:H2'	4:C:9:A:C8	2.47	0.46
4:C:131:A:H4'	27:Z:93:TYR:CD2	2.51	0.46
16:O:78:THR:HA	16:O:81:VAL:HG12	1.97	0.46
21:T:176:ARG:O	21:T:180:LYS:HG3	2.14	0.46
27:Z:72:ALA:O	27:Z:76:VAL:HG12	2.14	0.46
47:x:826:HIS:CE1	47:x:828:MET:HG2	2.50	0.46
48:SD:62:LEU:HD13	48:SD:75:VAL:HG11	1.97	0.46
48:SD:73:LYS:HE3	62:SN:110:ALA:HA	1.96	0.46
50:Se:10:ARG:HG3	50:Se:34:LYS:HA	1.97	0.46
60:SH:75:ASN:HD21	60:SH:77:THR:HB	1.79	0.46
61:SO:116:ASP:OD1	61:SO:120:SER:OG	2.32	0.46
64:SP:121:VAL:HG13	64:SP:141:ILE:HG21	1.96	0.46
1:2:51:A:OP2	1:2:424:C:N4	2.48	0.46
1:2:198:A:H3'	1:2:199:G:H5''	1.96	0.46
2:A:1186:G:N3	22:U:112:ALA:HB1	2.30	0.46
2:A:1381:A:H2'	2:A:1382:G:H8	1.81	0.46
2:A:1796:G:H5'	5:D:22:LEU:HD22	1.97	0.46
2:A:3175:U:OP1	35:h:10:LYS:NZ	2.33	0.46
3:B:8:G:OP2	8:G:30:TYR:OH	2.25	0.46
3:B:87:G:H2'	3:B:88:G:C8	2.50	0.46
8:G:77:ALA:O	8:G:108:ARG:NH1	2.48	0.46
12:K:129:ARG:H	12:K:157:ASN:HD21	1.64	0.46
18:Q:108[A]:ILE:HG13	18:Q:160[A]:ARG:NH1	2.30	0.46
36:i:25:THR:HG21	36:i:31:ARG:HE	1.80	0.46
47:x:281:ILE:HD13	47:x:285:PHE:HZ	1.79	0.46
47:x:653:VAL:HG21	47:x:656:LEU:HG	1.97	0.46
58:SB:108:LEU:H	58:SB:108:LEU:HD12	1.80	0.46
61:SO:132:LYS:HE3	61:SO:143:THR:OG1	2.15	0.46
68:ST:14:LYS:NZ	68:ST:15:THR:H	2.13	0.46
68:ST:138:ALA:O	68:ST:141:ILE:HG13	2.15	0.46
1:2:472:U:OP1	71:SW:11:THR:OG1	2.32	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:512:A:H4'	71:SW:133:HIS:HE1	1.80	0.46
1:2:1133:A:N3	1:2:1650:U:O2'	2.47	0.46
1:2:1466:G:H2'	1:2:1467:C:H6	1.80	0.46
1:2:1483:A:OP2	1:2:1521:G:N2	2.45	0.46
2:A:542:G:N1	2:A:550:A:C2	2.83	0.46
2:A:970:A:H2'	2:A:971:G:C8	2.51	0.46
2:A:1135:A:OP2	31:d:5:LYS:NZ	2.39	0.46
2:A:1647:A:H2'	2:A:1648:A:H8	1.80	0.46
2:A:2261:G:H4'	2:A:2262:A:O5'	2.14	0.46
2:A:2524:A:O4'	11:J:46:LEU:HD11	2.15	0.46
4:C:71:A:H4'	4:C:72:A:O5'	2.14	0.46
21:T:82:LYS:HE2	21:T:82:LYS:HB3	1.67	0.46
37:j:96:GLU:O	37:j:99:GLN:HB2	2.15	0.46
47:x:432:GLN:HA	47:x:432:GLN:OE1	2.14	0.46
48:SD:135:MET:O	48:SD:136:ILE:HD13	2.15	0.46
52:SE:94:VAL:N	52:SE:104:GLN:HE22	2.12	0.46
58:SB:100:ASN:HD21	58:SB:180:ARG:HD3	1.80	0.46
58:SB:166:ARG:HG3	58:SB:170:GLN:OE1	2.14	0.46
61:SO:18:GLY:O	61:SO:308:ASN:HB3	2.16	0.46
72:SX:80:MET:HE2	72:SX:83:THR:OG1	2.15	0.46
2:A:361:A:OP1	39:l:24:ARG:NH2	2.48	0.46
2:A:585:A:H4'	35:h:72:THR:HG22	1.97	0.46
2:A:615:U:H2'	2:A:616:G:H8	1.80	0.46
2:A:656:A:H2'	2:A:657:A:C8	2.51	0.46
2:A:1709:C:H2'	2:A:1710:C:C6	2.50	0.46
2:A:1918:C:O2'	2:A:1919:G:H5'	2.15	0.46
2:A:2138:A:O2'	39:l:2:GLY:N	2.46	0.46
2:A:2177:G:C6	5:D:125:ALA:HB1	2.50	0.46
2:A:2186:U:H2'	2:A:2187:G:O4'	2.15	0.46
2:A:2196:C:H2'	2:A:2242:A:H61	1.81	0.46
2:A:3225:C:C4	2:A:3226:A:N6	2.83	0.46
5:D:72:ARG:NH1	5:D:74:GLU:CD	2.73	0.46
15:N:57:VAL:HG23	15:N:147:ILE:HD11	1.97	0.46
17:P:9:GLU:HG3	38:k:40:VAL:HG12	1.97	0.46
20:S:145:ASN:HA	20:S:150:VAL:HG21	1.96	0.46
30:c:76:ASP:OD1	30:c:77:LYS:N	2.48	0.46
47:x:539:GLU:O	47:x:543:GLN:HG2	2.15	0.46
48:SD:26:ASP:OD1	48:SD:26:ASP:N	2.49	0.46
51:SC:1:MET:SD	51:SC:1:MET:N	2.82	0.46
55:SJ:57:ARG:HD2	55:SJ:89:ARG:HH11	1.80	0.46
61:SO:39:ASP:N	61:SO:39:ASP:OD1	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:SU:20:VAL:O	69:SU:24:PHE:CD1	2.69	0.46
73:SY:20:ARG:HG3	75:Sb:56:HIS:CE1	2.50	0.46
1:2:21:U:H2'	1:2:22:A:C8	2.51	0.46
1:2:210:A:H2'	1:2:211:U:C6	2.49	0.46
1:2:295:A:H4'	67:SS:128:LYS:HZ2	1.80	0.46
1:2:413:U:H2'	1:2:414:C:C6	2.50	0.46
1:2:512:A:H4'	71:SW:133:HIS:CE1	2.50	0.46
1:2:1537:C:OP2	1:2:1572:G:N2	2.48	0.46
1:2:1706:C:H2'	1:2:1707:A:C4	2.50	0.46
2:A:96:G:H5'	15:N:15:ARG:NH1	2.31	0.46
2:A:783:A:H5''	2:A:784:A:H5'	1.97	0.46
2:A:890:C:H2'	2:A:891:G:C8	2.50	0.46
2:A:927:C:C2	2:A:928:C:C5	3.04	0.46
2:A:3184:A:N3	2:A:3187:A:O2'	2.40	0.46
2:A:3214:U:N3	16:O:121:MET:HG3	2.29	0.46
4:C:67:U:H2'	4:C:68:G:C8	2.47	0.46
6:E:63:PRO:HD2	6:E:348:ARG:HE	1.80	0.46
6:E:286:GLY:HA3	6:E:321:PHE:CE1	2.51	0.46
9:H:51:ARG:HE	9:H:163:PHE:HB2	1.81	0.46
10:I:98:LYS:HB3	10:I:99:PRO:HD3	1.98	0.46
10:I:103:LEU:HD22	10:I:108:LEU:HB2	1.98	0.46
13:L:72:ALA:HB2	13:L:155:ALA:HB2	1.97	0.46
26:Y:13:ILE:HD11	26:Y:32:GLN:HA	1.97	0.46
37:j:58:ILE:HD12	37:j:58:ILE:H	1.79	0.46
38:k:20:MET:HE3	38:k:20:MET:HB3	1.77	0.46
47:x:611:ASP:C	47:x:611:ASP:OD1	2.58	0.46
65:SQ:113:MET:HE1	65:SQ:211:HIS:HD1	1.80	0.46
71:SW:64:GLU:OE2	71:SW:64:GLU:HA	2.15	0.46
75:Sb:38:LEU:HB3	75:Sb:50:PHE:CD2	2.50	0.46
80:SK:79:ALA:O	80:SK:83:LEU:HG	2.16	0.46
1:2:126:A:N6	1:2:263:C:O2'	2.45	0.46
1:2:139:C:N4	1:2:175:G:O2'	2.49	0.46
1:2:617:U:H5'	1:2:1031:U:H5'	1.97	0.46
1:2:925:G:H8	1:2:925:G:OP2	1.98	0.46
1:2:1136:U:H2'	1:2:1137:A:C8	2.51	0.46
2:A:105:C:H2'	2:A:106:A:H8	1.80	0.46
2:A:231:G:H5'	2:A:232:G:OP2	2.16	0.46
2:A:1341:U:H2'	2:A:1342:C:C6	2.51	0.46
2:A:1616:U:H2'	2:A:1617:G:H8	1.81	0.46
2:A:3231:U:H2'	2:A:3232:G:H8	1.80	0.46
13:L:209:ASN:HB3	13:L:217:PHE:HE2	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:O:14:LEU:H	16:O:14:LEU:HD12	1.81	0.46
23:V:8:ARG:HH11	23:V:52:MET:HE1	1.81	0.46
37:j:83:LYS:O	37:j:89:ARG:NH1	2.39	0.46
47:x:24:VAL:HG13	47:x:104:ASP:HA	1.97	0.46
47:x:152:LYS:HD2	47:x:200:VAL:HB	1.97	0.46
47:x:497:ASN:ND2	47:x:499:ASN:OD1	2.48	0.46
50:Se:63:ALA:O	50:Se:64:LEU:HD12	2.15	0.46
60:SH:68:ARG:O	60:SH:71:GLN:NE2	2.49	0.46
61:SO:25:THR:HA	61:SO:33:LEU:HD23	1.97	0.46
68:ST:26:VAL:HG22	68:ST:36:VAL:HG12	1.98	0.46
69:SU:80:GLU:HA	69:SU:83:LYS:HG2	1.97	0.46
1:2:99:C:OP2	1:2:378:A:O2'	2.20	0.46
1:2:329:G:H2'	1:2:330:G:C8	2.50	0.46
1:2:1379:C:H5'	59:SF:10:PHE:HD2	1.81	0.46
2:A:148:G:OP2	17:P:4:TYR:OH	2.28	0.46
2:A:170:G:N1	2:A:249:U:N3	2.64	0.46
2:A:533:A:H2'	2:A:535:G:C8	2.49	0.46
2:A:1236:G:N2	2:A:1244:A:O5'	2.48	0.46
2:A:1413:G:H2'	2:A:1414:G:H8	1.80	0.46
2:A:1422:G:N2	9:H:5:GLN:OE1	2.35	0.46
2:A:2588:U:OP1	11:J:241:LYS:NZ	2.49	0.46
2:A:2710:C:H2'	2:A:2711:C:C6	2.50	0.46
2:A:2999:U:H2'	2:A:3000:A:C8	2.50	0.46
3:B:71:G:H2'	3:B:72:A:C8	2.50	0.46
8:G:218:ARG:HA	8:G:221:GLU:HG2	1.98	0.46
13:L:176:LEU:HB3	13:L:181:TYR:HB2	1.98	0.46
14:M:13:LYS:HD2	14:M:134:PRO:HB3	1.97	0.46
22:U:9:VAL:HG21	22:U:41:TYR:HB2	1.97	0.46
24:W:98:THR:HG23	24:W:99:LYS:HG2	1.96	0.46
39:l:21:ARG:HD2	39:l:37:CYS:HB2	1.97	0.46
44:q:71:ARG:HE	44:q:80:ARG:NE	2.13	0.46
47:x:337:MET:HE2	47:x:337:MET:HA	1.97	0.46
47:x:601:ILE:HG12	47:x:606:ILE:HD13	1.98	0.46
54:SI:63:ARG:O	54:SI:67:MET:HG2	2.15	0.46
60:SH:32:LEU:HB3	60:SH:35:ILE:HD11	1.98	0.46
62:SN:83:LYS:HD3	62:SN:85:TYR:HE2	1.79	0.46
62:SN:107:LYS:HG3	62:SN:109:ASP:H	1.81	0.46
67:SS:183:VAL:HG13	67:SS:220:THR:HG21	1.97	0.46
70:SV:57:ALA:HB2	70:SV:177:GLY:HA2	1.97	0.46
1:2:894:U:H2'	1:2:895:G:C8	2.50	0.46
1:2:1018:U:H2'	1:2:1019:A:H8	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1436:A:H2'	1:2:1437:U:O4'	2.16	0.46
2:A:7:C:H2'	2:A:8:C:H6	1.80	0.46
2:A:508:U:OP1	10:I:211:SER:OG	2.21	0.46
2:A:531:G:H2'	2:A:532:A:C8	2.51	0.46
2:A:840:C:H2'	2:A:841:A:C8	2.51	0.46
2:A:1119:C:H2'	2:A:1120:A:C8	2.48	0.46
2:A:1184:A:O3'	16:O:59:ASN:ND2	2.49	0.46
2:A:1207:G:O2'	2:A:1209:G:OP1	2.23	0.46
2:A:1304:A:O2'	2:A:2884:C:O2	2.31	0.46
2:A:3070:A:OP1	21:T:62:ARG:NH1	2.49	0.46
2:A:3159:C:H2'	2:A:3160:U:H6	1.81	0.46
17:P:150:TRP:CD1	17:P:150:TRP:H	2.32	0.46
26:Y:8:PHE:CD1	26:Y:46:PRO:HG3	2.51	0.46
26:Y:37:ALA:O	26:Y:41:LYS:HG3	2.16	0.46
45:r:88:GLU:HA	45:r:88:GLU:OE2	2.16	0.46
46:t:66:C:H2'	46:t:67:G:H8	1.81	0.46
54:SI:6:VAL:HA	54:SI:9:VAL:HB	1.98	0.46
54:SI:102:ARG:O	54:SI:106:GLN:HG3	2.16	0.46
57:SM:14:TYR:N	57:SM:18:SER:OG	2.49	0.46
61:SO:217:ASP:OD1	61:SO:218:GLY:N	2.48	0.46
61:SO:295:SER:OG	61:SO:296:ALA:N	2.49	0.46
69:SU:6:ALA:HA	69:SU:9:LEU:HB2	1.97	0.46
69:SU:51:VAL:HG22	69:SU:53:GLY:H	1.81	0.46
1:2:263:C:H2'	1:2:264:G:C8	2.51	0.46
1:2:956:C:H2'	1:2:957:G:H8	1.81	0.46
1:2:1439:C:H2'	1:2:1440:C:C6	2.50	0.46
2:A:1666:G:H2'	2:A:1667:A:C8	2.51	0.46
2:A:1709:C:H2'	2:A:1710:C:H6	1.80	0.46
2:A:2296:A:O2'	2:A:2928:C:O2	2.30	0.46
2:A:2440:G:H2'	2:A:2441:A:C8	2.51	0.46
2:A:2810:C:OP2	2:A:2955:U:O2'	2.33	0.46
3:B:71:G:H2'	3:B:72:A:H8	1.81	0.46
5:D:147:ARG:HG2	5:D:157:VAL:HG12	1.97	0.46
6:E:344:THR:O	6:E:344:THR:OG1	2.34	0.46
8:G:23:ARG:HD2	8:G:23:ARG:HA	1.68	0.46
8:G:97:ALA:O	8:G:101:THR:HG22	2.15	0.46
11:J:165:PHE:CE1	11:J:166:LEU:HD22	2.51	0.46
14:M:53:THR:HG22	14:M:61:ARG:N	2.31	0.46
17:P:160:GLU:OE1	17:P:160:GLU:N	2.36	0.46
33:f:11:GLU:HG2	33:f:74:ARG:HB2	1.97	0.46
46:s:19:G:H5'	46:s:20:A:N3	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:t:69:C:H2'	46:t:70:G:C8	2.45	0.46
47:x:21:ASN:ND2	47:x:122:THR:HA	2.30	0.46
47:x:793:PHE:CE1	47:x:794:PRO:O	2.69	0.46
53:SA:27:ARG:HE	53:SA:27:ARG:HB2	1.56	0.46
61:SO:276:PRO:HB3	61:SO:311:ARG:NH2	2.29	0.46
63:SG:105:GLN:HE22	64:SP:41:ARG:HA	1.80	0.46
65:SQ:62:LYS:NZ	65:SQ:89:ASP:O	2.48	0.46
76:Sc:37:ALA:HA	76:Sc:41:SER:HB2	1.97	0.46
76:Sc:62:LYS:CG	76:Sc:63:GLN:H	2.28	0.46
1:2:294:C:H2'	1:2:295:A:H8	1.81	0.46
1:2:429:G:OP1	1:2:438:A:O2'	2.31	0.46
1:2:607:G:H21	1:2:614:C:H5''	1.81	0.46
1:2:866:G:H2'	1:2:867:G:H8	1.80	0.46
1:2:1072:C:H2'	1:2:1073:G:C8	2.51	0.46
1:2:1429:G:H2'	1:2:1430:U:C6	2.51	0.46
1:2:1609:U:H2'	1:2:1610:G:O4'	2.16	0.46
1:2:1625:C:H2'	1:2:1626:U:H6	1.81	0.46
1:2:1652:C:H2'	1:2:1653:C:C6	2.51	0.46
2:A:383:G:N2	2:A:386:A:OP2	2.42	0.46
2:A:1109:U:H5'	20:S:153:PHE:CD2	2.50	0.46
2:A:2446:U:H2'	2:A:2447:A:C8	2.50	0.46
2:A:2513:U:C5	11:J:68:ARG:HB3	2.51	0.46
18:Q:22[A]:VAL:HG21	18:Q:120[A]:VAL:HG11	1.98	0.46
23:V:84:TYR:HB3	31:d:24:PRO:HD3	1.97	0.46
27:Z:83:VAL:HG22	27:Z:123:TYR:HD1	1.81	0.46
32:e:92:ILE:HD11	32:e:94:GLU:O	2.15	0.46
49:SZ:104:ALA:O	49:SZ:108:SER:OG	2.32	0.46
52:SE:59:LYS:H	52:SE:59:LYS:HG2	1.60	0.46
53:SA:16:VAL:HG11	57:SM:22:ARG:NH1	2.30	0.46
54:SI:22:LEU:HA	54:SI:25:GLN:HG3	1.98	0.46
58:SB:208:SER:OG	58:SB:211:ILE:HB	2.17	0.46
58:SB:222:LYS:HA	58:SB:222:LYS:HD3	1.69	0.46
61:SO:17:ASN:O	61:SO:308:ASN:ND2	2.49	0.46
67:SS:117:GLU:O	67:SS:121:TYR:HD1	1.99	0.46
75:Sb:32:LYS:HA	75:Sb:35:ILE:CD1	2.45	0.46
1:2:926:A:H2'	1:2:927:C:C6	2.51	0.45
1:2:1486:G:N2	1:2:1522:U:O4	2.49	0.45
1:2:1652:C:H2'	1:2:1653:C:H6	1.81	0.45
1:2:1747:G:O2'	2:A:2303:A:O2'	2.32	0.45
2:A:341:G:H4'	2:A:344:A:H1'	1.97	0.45
2:A:364:G:O6	39:l:56:ARG:NE	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:370:U:C2	2:A:374:A:N6	2.84	0.45
2:A:2646:C:H2'	2:A:2647:A:C8	2.51	0.45
10:I:166:ASN:HA	10:I:169:ILE:HD12	1.97	0.45
16:O:31:LYS:HB3	16:O:51:ALA:HB1	1.97	0.45
27:Z:104:GLU:OE1	27:Z:104:GLU:N	2.48	0.45
30:c:19:LYS:HD3	30:c:19:LYS:HA	1.73	0.45
39:l:39:TYR:O	39:l:40:PRO:C	2.58	0.45
39:l:46:SER:OG	39:l:54:LYS:HE2	2.16	0.45
45:r:85:ARG:HG2	45:r:85:ARG:HH11	1.81	0.45
47:x:250:PHE:HB3	47:x:275:MET:HE1	1.98	0.45
47:x:355:GLN:OE1	47:x:356:LEU:HD12	2.16	0.45
47:x:502:PRO:HA	47:x:505:VAL:HG22	1.98	0.45
52:SE:111:MET:C	52:SE:112:LEU:HD23	2.41	0.45
53:SA:105:MET:HE1	53:SA:119:ALA:N	2.31	0.45
55:SJ:106:ILE:HD12	55:SJ:108:ILE:HG12	1.97	0.45
59:SF:28:LEU:HB3	59:SF:64:ASP:HB2	1.98	0.45
62:SN:113:LYS:HD2	62:SN:113:LYS:HA	1.72	0.45
65:SQ:224:ASP:O	65:SQ:228:LEU:HB2	2.16	0.45
68:ST:207:GLU:O	68:ST:210:GLN:HG3	2.16	0.45
69:SU:6:ALA:HA	69:SU:9:LEU:HD12	1.98	0.45
71:SW:168:ARG:O	71:SW:169:PRO:C	2.59	0.45
72:SX:71:LEU:HD12	72:SX:88:ARG:HD2	1.98	0.45
76:Sc:59:ILE:H	76:Sc:59:ILE:HG13	1.59	0.45
80:SK:48:ASP:OD1	80:SK:49:ARG:N	2.49	0.45
1:2:427:C:H1'	1:2:459:G:H1'	1.98	0.45
1:2:590:C:H5''	79:Sg:43:ARG:HH22	1.81	0.45
1:2:708:C:H5'	1:2:730:G:C5	2.50	0.45
2:A:20:A:H2'	2:A:21:G:C8	2.52	0.45
2:A:69:C:HO2'	2:A:101:G:HO2'	1.58	0.45
2:A:629:U:H2'	2:A:630:A:H8	1.80	0.45
2:A:1570:U:O2	2:A:1572:U:O2'	2.34	0.45
2:A:1843:C:H2'	2:A:1844:C:C6	2.51	0.45
2:A:2152:A:H2'	2:A:2153:U:H6	1.82	0.45
2:A:2449:A:C6	2:A:2450:G:C6	3.04	0.45
4:C:75:G:H2'	4:C:76:C:H6	1.82	0.45
9:H:112:THR:HG23	9:H:115:GLU:H	1.81	0.45
15:N:42:ARG:O	15:N:46:ILE:HG23	2.17	0.45
47:x:446:ASP:N	47:x:446:ASP:OD1	2.49	0.45
48:SD:33:ARG:NH1	48:SD:100:TRP:O	2.50	0.45
51:SC:16:PHE:HE2	51:SC:77:ARG:HG3	1.82	0.45
53:SA:158:ILE:HG23	53:SA:164:VAL:HG12	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:SI:57:ARG:HG2	54:SI:104:VAL:HG21	1.97	0.45
54:SI:136:ALA:HA	54:SI:139:THR:HG22	1.98	0.45
59:SF:55:VAL:HG11	59:SF:105:LEU:HD12	1.98	0.45
61:SO:192:PHE:CE1	61:SO:223:TRP:HE3	2.34	0.45
67:SS:179:LYS:HB3	67:SS:227:VAL:HG13	1.97	0.45
70:SV:69:SER:HA	72:SX:20:PHE:CZ	2.51	0.45
1:2:325:G:H2'	1:2:326:G:C8	2.52	0.45
1:2:918:U:H2'	1:2:919:A:C8	2.52	0.45
1:2:926:A:H2'	1:2:927:C:H6	1.81	0.45
1:2:1283:U:O2'	66:SR:91:ARG:NH2	2.49	0.45
1:2:1608:U:H2'	1:2:1609:U:H6	1.82	0.45
2:A:612:U:H2'	2:A:613:G:C8	2.51	0.45
2:A:1490:A:O2'	39:l:12:HIS:O	2.31	0.45
2:A:2646:C:H2'	2:A:2647:A:H8	1.81	0.45
2:A:2812:C:H2'	2:A:2813:A:C8	2.51	0.45
2:A:3045:G:OP1	6:E:19:ARG:NH2	2.43	0.45
5:D:104:LEU:HB3	5:D:146:THR:HG21	1.98	0.45
15:N:119:TYR:O	15:N:123:ILE:HG23	2.17	0.45
17:P:9:GLU:OE1	38:k:41:ARG:HG2	2.16	0.45
23:V:116:ARG:HB2	23:V:128:LEU:HD11	1.98	0.45
32:e:47:ASN:OD1	32:e:74:ASN:ND2	2.49	0.45
53:SA:7:LYS:HD3	53:SA:7:LYS:HA	1.72	0.45
66:SR:140:ARG:HB3	66:SR:221:THR:HG23	1.98	0.45
67:SS:96:ASN:O	67:SS:96:ASN:ND2	2.49	0.45
67:SS:125:LYS:O	67:SS:142:HIS:N	2.49	0.45
67:SS:133:LYS:O	67:SS:136:VAL:HG22	2.16	0.45
71:SW:135:ALA:HB2	71:SW:140:ILE:HG22	1.99	0.45
1:2:12:U:H2'	1:2:13:C:C6	2.51	0.45
1:2:755:A:HO2'	67:SS:39:ARG:HH22	1.62	0.45
1:2:783:G:H2'	1:2:784:C:C6	2.51	0.45
1:2:958:U:OP2	78:Sf:20:LYS:NZ	2.46	0.45
1:2:1503:A:H3'	1:2:1504:G:H8	1.81	0.45
2:A:26:A:N6	2:A:59:G:H1	2.14	0.45
2:A:235:A:H2'	2:A:236:G:H8	1.81	0.45
2:A:359:U:H2'	2:A:360:G:O4'	2.17	0.45
2:A:821:U:H2'	2:A:822:G:H8	1.82	0.45
2:A:1659:U:H2'	2:A:1660:C:C6	2.51	0.45
2:A:3064:U:H2'	2:A:3065:G:H8	1.82	0.45
6:E:128:LYS:HE2	6:E:128:LYS:HB2	1.81	0.45
7:F:155:ASP:OD1	7:F:155:ASP:N	2.49	0.45
8:G:194:LEU:HD23	8:G:194:LEU:HA	1.83	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:166:LYS:HD3	14:M:166:LYS:HA	1.77	0.45
24:W:31:ALA:O	24:W:35:LYS:HG2	2.16	0.45
25:X:109:MET:H	25:X:128:ARG:HG2	1.81	0.45
29:b:73:LYS:HB2	29:b:73:LYS:HE3	1.73	0.45
34:g:25:TYR:HB2	34:g:28:VAL:HG23	1.98	0.45
35:h:37:THR:HG23	35:h:40:ASP:H	1.80	0.45
47:x:385:MET:SD	47:x:514:SER:HA	2.56	0.45
47:x:539:GLU:O	47:x:542:LEU:HG	2.16	0.45
48:SD:85:LYS:O	48:SD:87:PRO:HD3	2.16	0.45
51:SC:7:ASP:C	51:SC:11:ILE:HD12	2.41	0.45
52:SE:33:PHE:N	52:SE:33:PHE:CD1	2.83	0.45
54:SI:25:GLN:HE22	54:SI:27:LYS:HB3	1.81	0.45
55:SJ:63:LEU:HB3	57:SM:34:TYR:CE2	2.52	0.45
61:SO:286:GLU:CD	61:SO:311:ARG:HH22	2.25	0.45
64:SP:123:VAL:O	64:SP:145:ALA:HA	2.17	0.45
67:SS:98:ASN:HB2	67:SS:114:ILE:HG12	1.96	0.45
73:SY:84:ILE:HG23	73:SY:88:LEU:HB3	1.98	0.45
74:Sa:22:ARG:NH1	74:Sa:58:TYR:HB2	2.31	0.45
77:Sd:20:ARG:HD3	77:Sd:76:TYR:CZ	2.52	0.45
80:SK:66:VAL:HG12	80:SK:71:ILE:O	2.17	0.45
1:2:472:U:O2'	1:2:769:A:N3	2.49	0.45
1:2:1205:C:O2'	1:2:1206:U:OP1	2.28	0.45
1:2:1474:G:H2'	1:2:1475:A:C8	2.51	0.45
2:A:288:C:H2'	2:A:289:A:C8	2.50	0.45
2:A:535:G:N2	2:A:536:U:O4	2.46	0.45
2:A:651:G:O2'	2:A:1435:A:OP1	2.33	0.45
2:A:786:A:O3'	2:A:787:G:H8	1.99	0.45
2:A:947:G:H5''	34:g:55:ILE:HB	1.99	0.45
2:A:990:U:H4'	23:V:100:LYS:HB2	1.97	0.45
2:A:2374:C:O2	6:E:256:HIS:NE2	2.50	0.45
2:A:2527:G:H2'	2:A:2528:G:C8	2.51	0.45
2:A:2745:G:N2	2:A:2748:A:OP2	2.45	0.45
2:A:3057:U:O2'	2:A:3058:U:H4'	2.16	0.45
2:A:3270:U:C4	19:R:175:ARG:HA	2.52	0.45
3:B:16:U:H2'	3:B:17:A:C8	2.51	0.45
4:C:68:G:H2'	4:C:69:U:C6	2.51	0.45
12:K:162:GLN:HG3	12:K:179:ILE:O	2.15	0.45
30:c:130:VAL:HG21	30:c:145:VAL:HG21	1.98	0.45
33:f:12:TYR:O	33:f:73:LEU:HD23	2.16	0.45
33:f:43:HIS:HB3	33:f:44:MET:HE3	1.99	0.45
45:r:57:CYS:SG	45:r:59:CYS:N	2.83	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:SD:33:ARG:HD3	48:SD:33:ARG:HA	1.73	0.45
52:SE:103:ASN:HD21	52:SE:120:SER:HB2	1.82	0.45
60:SH:100:THR:HB	60:SH:104:ASN:HB2	1.99	0.45
60:SH:104:ASN:O	60:SH:108:LYS:HG2	2.17	0.45
61:SO:274:LEU:HB3	61:SO:275:ARG:H	1.51	0.45
63:SG:102:VAL:HG11	64:SP:18:LEU:HD12	1.98	0.45
72:SX:68:GLY:HA3	72:SX:127:GLN:HB3	1.99	0.45
1:2:564:G:O2'	1:2:578:U:OP2	2.32	0.45
1:2:695:U:O2'	1:2:697:C:OP1	2.23	0.45
1:2:922:G:H2'	1:2:923:A:C8	2.51	0.45
1:2:1220:C:H2'	1:2:1221:A:C8	2.52	0.45
1:2:1541:G:H2'	1:2:1542:G:C4	2.52	0.45
2:A:1107:C:H2'	2:A:1108:U:C6	2.51	0.45
2:A:1203:A:OP2	2:A:1301:A:N6	2.43	0.45
2:A:1335:C:H2'	2:A:1336:U:H6	1.82	0.45
2:A:2451:G:O6	2:A:2494:A:N6	2.42	0.45
2:A:3314:A:H2'	2:A:3315:G:C8	2.52	0.45
4:C:154:C:H5''	11:J:181:LYS:HD3	1.98	0.45
14:M:120:ILE:HD12	14:M:121:GLY:N	2.31	0.45
36:i:41:ARG:HG2	36:i:56:THR:HG21	1.99	0.45
40:m:43:PHE:CE2	40:m:56:ILE:HG12	2.48	0.45
42:o:78:ILE:HG21	42:o:83:LYS:HE3	1.98	0.45
47:x:21:ASN:OD1	47:x:122:THR:HG22	2.16	0.45
47:x:37:ASP:OD2	47:x:55:ARG:HB2	2.16	0.45
47:x:87:LYS:HA	47:x:87:LYS:HD2	1.87	0.45
47:x:280:PRO:O	47:x:284:LEU:HD13	2.17	0.45
47:x:511:LEU:HD22	47:x:545:LEU:HD21	1.97	0.45
53:SA:224:ASP:HA	61:SO:186:PHE:HD2	1.81	0.45
55:SJ:28:SER:OG	55:SJ:29:THR:N	2.50	0.45
64:SP:110:TYR:HA	64:SP:115:PHE:CD2	2.52	0.45
67:SS:92:LEU:HD22	67:SS:97:GLU:CG	2.47	0.45
75:Sb:102:VAL:O	75:Sb:113:HIS:N	2.49	0.45
1:2:352:A:H4'	1:2:353:A:O5'	2.16	0.45
1:2:614:C:H2'	1:2:615:A:H8	1.82	0.45
2:A:74:G:H2'	2:A:75:G:H8	1.81	0.45
2:A:246:U:H2'	2:A:247:C:C6	2.51	0.45
2:A:370:U:H2'	2:A:371:G:O4'	2.17	0.45
2:A:596:C:O2'	10:I:165:ASP:OD2	2.24	0.45
2:A:734:C:H3'	2:A:735:A:H8	1.81	0.45
2:A:1564:U:O2	2:A:1565:G:C8	2.70	0.45
2:A:3127:A:H2'	2:A:3128:G:O4'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:275:ARG:HD3	6:E:275:ARG:HA	1.79	0.45
11:J:160:ILE:O	11:J:164:VAL:HG13	2.16	0.45
11:J:165:PHE:CD1	11:J:165:PHE:C	2.95	0.45
13:L:65:LEU:HD23	13:L:159:PHE:HZ	1.82	0.45
14:M:87:LYS:HD3	14:M:87:LYS:HA	1.67	0.45
18:Q:58[A]:LEU:HA	18:Q:72[A]:HIS:CD2	2.52	0.45
38:k:44:VAL:HA	38:k:47:ILE:HG12	1.98	0.45
47:x:120:ARG:NH2	47:x:481:MET:HB3	2.32	0.45
48:SD:79:ALA:O	48:SD:86:VAL:HG12	2.17	0.45
54:SI:45:MET:SD	54:SI:46:PRO:HD2	2.56	0.45
60:SH:113:LEU:HD11	60:SH:127:HIS:CG	2.52	0.45
61:SO:47:LEU:HD12	61:SO:54:PHE:CD1	2.52	0.45
64:SP:17:LEU:O	64:SP:22:THR:HG23	2.17	0.45
64:SP:28:ASN:OD1	64:SP:28:ASN:N	2.49	0.45
65:SQ:81:PHE:CD2	65:SQ:109:LYS:HE3	2.52	0.45
1:2:257:A:N3	70:SV:64:ASN:ND2	2.65	0.45
1:2:554:C:O4'	71:SW:19:TYR:HD2	1.99	0.45
1:2:1023:A:H4'	1:2:1024:U:O5'	2.16	0.45
1:2:1036:A:H2'	1:2:1037:C:H6	1.82	0.45
1:2:1280:C:H2'	1:2:1281:G:H8	1.82	0.45
1:2:1394:G:H2'	1:2:1395:G:O4'	2.17	0.45
2:A:946:U:H2'	2:A:947:G:C8	2.50	0.45
2:A:1011:A:H2'	2:A:1012:G:C8	2.51	0.45
2:A:1856:C:H2'	2:A:1857:C:C6	2.52	0.45
2:A:2662:G:H2'	2:A:2663:G:C8	2.51	0.45
4:C:103:G:P	4:C:105:A:HO2'	2.39	0.45
5:D:72:ARG:HG3	5:D:72:ARG:HH11	1.82	0.45
11:J:74:THR:O	11:J:77:GLN:NE2	2.47	0.45
27:Z:67:ILE:HG12	27:Z:115:ARG:HH12	1.80	0.45
40:m:31:LEU:HD12	40:m:34:ALA:HA	1.98	0.45
46:t:66:C:H2'	46:t:67:G:C8	2.51	0.45
47:x:30:HIS:O	47:x:34:THR:OG1	2.32	0.45
55:SJ:25:THR:HG22	55:SJ:90:TYR:HB3	1.98	0.45
58:SB:176:THR:HG22	58:SB:180:ARG:NH1	2.32	0.45
61:SO:18:GLY:HA2	61:SO:38:ARG:NH2	2.32	0.45
61:SO:47:LEU:HD12	61:SO:54:PHE:HD1	1.82	0.45
63:SG:113:LEU:HD21	64:SP:49:ASN:HD21	1.81	0.45
67:SS:181:VAL:HG12	67:SS:183:VAL:H	1.81	0.45
68:ST:138:ALA:HB2	68:ST:178:LEU:HB3	1.98	0.45
78:Sf:8:LEU:HB3	78:Sf:9:HIS:CE1	2.52	0.45
1:2:590:C:H5''	79:Sg:43:ARG:HH12	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:936:G:N7	50:Se:15:ARG:NH1	2.65	0.45
1:2:1037:C:H2'	1:2:1038:U:C6	2.52	0.45
1:2:1049:U:H2'	1:2:1050:G:C8	2.51	0.45
1:2:1512:G:H2'	1:2:1513:G:C8	2.52	0.45
2:A:44:U:H4'	44:q:54:THR:HG22	1.99	0.45
2:A:100:A:H3'	2:A:101:G:H21	1.82	0.45
2:A:1132:C:H2'	2:A:1133:A:H8	1.81	0.45
2:A:1333:C:C2	2:A:1334:U:C5	3.05	0.45
2:A:2374:C:OP1	2:A:2823:G:O2'	2.28	0.45
2:A:2573:G:H2'	2:A:2574:G:C8	2.52	0.45
7:F:135:VAL:HG11	7:F:148:ILE:CD1	2.47	0.45
17:P:48:ALA:HB1	17:P:53:TYR:HB3	1.98	0.45
22:U:66:GLU:OE2	22:U:99:ARG:N	2.46	0.45
46:s:3:C:H2'	46:s:4:G:C8	2.52	0.45
47:x:316:GLY:H	47:x:319:LEU:HB3	1.81	0.45
47:x:424:ASP:N	47:x:424:ASP:OD1	2.49	0.45
47:x:443:GLU:N	47:x:443:GLU:OE1	2.49	0.45
51:SC:69:THR:OG1	51:SC:70:GLU:N	2.50	0.45
55:SJ:36:ASN:C	55:SJ:36:ASN:OD1	2.59	0.45
65:SQ:224:ASP:OD1	65:SQ:227:ALA:HB3	2.17	0.45
67:SS:163:ASP:OD1	67:SS:163:ASP:C	2.60	0.45
68:ST:5:ILE:HG12	68:ST:50:PHE:HE2	1.82	0.45
1:2:246:G:N2	72:SX:38:ALA:O	2.37	0.45
1:2:788:A:C6	67:SS:19:LEU:HD21	2.52	0.45
1:2:1218:G:O4'	1:2:1444:A:N6	2.50	0.45
1:2:1387:G:H21	1:2:1410:A:H61	1.64	0.45
1:2:1474:G:H2'	1:2:1475:A:H8	1.81	0.45
2:A:87:U:H2'	2:A:88:A:C8	2.52	0.45
2:A:314:U:H2'	2:A:315:C:C6	2.52	0.45
2:A:907:G:H4'	2:A:908:G:H5'	1.98	0.45
2:A:1403:C:H2'	2:A:1404:G:C8	2.52	0.45
2:A:2666:C:OP2	2:A:2687:G:N1	2.49	0.45
2:A:2889:C:H2'	2:A:2890:A:H8	1.81	0.45
2:A:3006:A:H62	2:A:3140:G:N2	2.14	0.45
2:A:3111:U:H2'	2:A:3112:G:O4'	2.17	0.45
4:C:30:C:H2'	4:C:31:G:H8	1.82	0.45
4:C:95:G:OP2	39:l:72:ARG:NH1	2.43	0.45
27:Z:58:ASP:OD1	27:Z:59:SER:N	2.46	0.45
47:x:242:ASP:OD1	47:x:242:ASP:N	2.48	0.45
56:SL:10:ALA:HA	56:SL:32:PHE:HA	1.98	0.45
59:SF:23:LYS:O	59:SF:64:ASP:N	2.43	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:SH:18:LEU:HD13	60:SH:101:LEU:HD13	1.98	0.45
61:SO:178:VAL:O	61:SO:192:PHE:HB2	2.17	0.45
65:SQ:98:THR:OG1	65:SQ:99:ASN:N	2.50	0.45
69:SU:86:GLN:N	69:SU:86:GLN:OE1	2.50	0.45
70:SV:96:LEU:HD21	70:SV:169:ILE:HD13	1.99	0.45
73:SY:135:LEU:HD12	73:SY:136:PRO:CD	2.44	0.45
76:Sc:94:ASN:OD1	76:Sc:94:ASN:N	2.45	0.45
78:Sf:35:VAL:HG23	78:Sf:77:THR:HB	1.99	0.45
1:2:1252:C:H2'	1:2:1253:U:H6	1.82	0.44
1:2:1573:A:H5'	1:2:1574:G:N3	2.32	0.44
2:A:863:C:H2'	2:A:864:G:O4'	2.18	0.44
2:A:1177:G:H4'	35:h:18:ARG:HD3	1.98	0.44
2:A:1596:C:H2'	2:A:1597:C:C6	2.52	0.44
2:A:2181:C:H2'	2:A:2182:A:H8	1.82	0.44
2:A:2519:A:H2'	2:A:2520:A:C8	2.51	0.44
6:E:11:HIS:HE1	25:X:45:ARG:HH22	1.65	0.44
9:H:63:LEU:HD12	9:H:79:VAL:O	2.17	0.44
10:I:112:ASN:HB3	10:I:207:LEU:O	2.16	0.44
14:M:84:LEU:HD21	14:M:163:PHE:HZ	1.82	0.44
19:R:40:GLU:CD	19:R:40:GLU:H	2.25	0.44
36:i:113:LYS:HD2	36:i:113:LYS:HA	1.82	0.44
42:o:97:ARG:HH21	42:o:122:ARG:HD3	1.81	0.44
53:SA:162:GLN:N	53:SA:163:PRO:HD2	2.33	0.44
61:SO:106:HIS:NE2	61:SO:132:LYS:HD3	2.32	0.44
61:SO:112:SER:HB2	61:SO:153:GLN:HA	1.99	0.44
63:SG:20:TYR:HE2	63:SG:38:ILE:HD13	1.82	0.44
75:Sb:104:LEU:HB2	75:Sb:124:LYS:O	2.17	0.44
1:2:270:C:H2'	1:2:271:A:C8	2.52	0.44
2:A:1060:U:H2'	2:A:1061:A:H8	1.81	0.44
2:A:1368:U:C2	2:A:1369:A:C8	3.05	0.44
2:A:1935:G:H2'	2:A:1936:A:C8	2.52	0.44
2:A:2634:U:H4'	13:L:15:LYS:HZ2	1.81	0.44
2:A:2786:G:H5''	44:q:38:GLN:HB2	1.99	0.44
2:A:2889:C:H2'	2:A:2890:A:C8	2.52	0.44
2:A:3211:C:H2'	2:A:3212:C:H6	1.82	0.44
4:C:97:A:H5'	37:j:63:ARG:NH1	2.33	0.44
7:F:74:ILE:HD11	7:F:94:CYS:SG	2.57	0.44
8:G:106:ALA:O	8:G:110:LEU:HD23	2.17	0.44
16:O:31:LYS:HE2	16:O:51:ALA:HB1	1.99	0.44
16:O:113:THR:OG1	16:O:114:ASP:N	2.50	0.44
17:P:59:PHE:CE2	17:P:142:ILE:HD11	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:V:34:TYR:HE2	23:V:93:VAL:HG13	1.82	0.44
36:i:54:ILE:HD13	36:i:54:ILE:HA	1.87	0.44
46:s:23:C:H2'	46:s:24:G:C8	2.51	0.44
46:t:27:C:H2'	46:t:28:A:C8	2.53	0.44
47:x:211:PHE:HE2	47:x:245:TRP:HH2	1.65	0.44
47:x:759:GLN:CG	47:x:764:PRO:HA	2.47	0.44
53:SA:186:VAL:HG12	53:SA:188:ILE:HG23	2.00	0.44
54:SI:138:GLN:H	54:SI:138:GLN:CD	2.25	0.44
58:SB:93:LEU:HD13	58:SB:172:ILE:HG13	1.98	0.44
61:SO:36:ALA:HB1	61:SO:68:VAL:HG21	1.98	0.44
61:SO:244:ALA:HB2	61:SO:292:LEU:HG	2.00	0.44
63:SG:13:SER:O	63:SG:17:ILE:HG12	2.16	0.44
68:ST:36:VAL:HG23	68:ST:50:PHE:HB2	1.98	0.44
68:ST:74:LYS:HA	68:ST:96:SER:HA	1.97	0.44
76:Sc:68:ILE:HG22	76:Sc:70:LYS:HG3	1.99	0.44
1:2:17:C:H2'	1:2:18:C:C6	2.52	0.44
1:2:895:G:N1	1:2:918:U:N3	2.65	0.44
1:2:960:U:H2'	1:2:961:U:C6	2.52	0.44
1:2:1276:U:H4'	53:SA:147:ALA:HB2	1.99	0.44
1:2:1315:U:H5''	1:2:1329:A:H2	1.82	0.44
1:2:1673:G:C6	1:2:1728:A:N1	2.84	0.44
1:2:1779:U:H2'	1:2:1781:A:OP2	2.17	0.44
2:A:516:A:H2'	2:A:517:G:C8	2.52	0.44
2:A:529:A:H2'	2:A:530:G:C8	2.53	0.44
2:A:542:G:C6	2:A:550:A:C2	3.06	0.44
2:A:2285:C:OP2	2:A:2286:U:O2'	2.29	0.44
2:A:2295:A:C2	25:X:37:ILE:HB	2.52	0.44
2:A:2768:U:H2'	2:A:2769:A:H8	1.81	0.44
2:A:3243:A:C4	18:Q:156[A]:LEU:HD13	2.52	0.44
6:E:375:GLU:HA	6:E:378:ALA:HB3	1.98	0.44
7:F:26:PHE:HA	7:F:127:ALA:HA	1.99	0.44
7:F:142:VAL:HA	7:F:145:ILE:HG12	1.99	0.44
12:K:135:GLU:N	12:K:135:GLU:OE2	2.51	0.44
17:P:184:LYS:HE3	17:P:184:LYS:HB3	1.72	0.44
18:Q:42[A]:ASN:OD1	18:Q:125[A]:ARG:NH1	2.50	0.44
30:c:86:LYS:O	30:c:89:GLN:HG3	2.16	0.44
45:r:49:ARG:HH12	45:r:52:ALA:HA	1.83	0.44
47:x:174:LEU:HD12	47:x:174:LEU:HA	1.84	0.44
47:x:243:ARG:NH1	47:x:249:PHE:O	2.50	0.44
50:Se:44:ILE:HD11	50:Se:65:PRO:HG2	1.99	0.44
51:SC:48:SER:O	51:SC:52:LYS:NZ	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:SE:86:VAL:HB	52:SE:87:PRO:HD2	1.99	0.44
60:SH:84:TRP:HD1	60:SH:85:PHE:N	2.15	0.44
61:SO:6:VAL:HG23	61:SO:6:VAL:O	2.16	0.44
62:SN:143:LYS:HE2	62:SN:144:CYS:SG	2.57	0.44
64:SP:56:LYS:NZ	74:Sa:82:VAL:HG11	2.31	0.44
65:SQ:61:LEU:HD23	65:SQ:61:LEU:N	2.31	0.44
67:SS:177:ALA:HA	67:SS:195:ILE:HG22	1.99	0.44
68:ST:147:LEU:HD12	68:ST:151:ASP:HB3	1.98	0.44
73:SY:77:SER:OG	73:SY:78:ASN:OD1	2.34	0.44
1:2:446:A:N1	1:2:461:G:O2'	2.50	0.44
1:2:1132:A:H2'	1:2:1133:A:H8	1.82	0.44
1:2:1198:G:OP1	1:2:1199:G:O2'	2.24	0.44
1:2:1658:G:H2'	1:2:1659:A:H8	1.82	0.44
1:2:1776:A:H2'	1:2:1777:G:H8	1.82	0.44
2:A:412:G:OP1	19:R:62:ARG:NH1	2.51	0.44
2:A:658:G:N2	7:F:93:MET:HB2	2.32	0.44
2:A:717:C:OP1	2:A:751:A:O2'	2.34	0.44
2:A:998:A:H2'	2:A:999:G:H8	1.82	0.44
2:A:1869:C:H2'	2:A:1870:C:H6	1.82	0.44
2:A:2225:U:H2'	2:A:2226:U:C6	2.51	0.44
2:A:2668:U:H2'	2:A:2669:G:H8	1.82	0.44
2:A:3075:G:H2'	2:A:3076:C:C6	2.52	0.44
2:A:3188:G:H2'	2:A:3189:G:H8	1.81	0.44
2:A:3212:C:OP2	16:O:124:ARG:NH1	2.49	0.44
4:C:76:C:H2'	4:C:77:A:C8	2.52	0.44
10:I:90:LYS:HB3	10:I:133:TYR:HB3	2.00	0.44
17:P:27:VAL:HB	17:P:122:ASN:OD1	2.18	0.44
18:Q:54[A]:TYR:CD2	18:Q:145[A]:VAL:HG21	2.53	0.44
29:b:116:LYS:HE2	29:b:116:LYS:HB3	1.68	0.44
33:f:86:LYS:HA	33:f:86:LYS:HD2	1.79	0.44
35:h:47:LYS:HA	35:h:47:LYS:HD3	1.76	0.44
38:k:52:PRO:O	38:k:55:ARG:HG2	2.17	0.44
52:SE:83:MET:HE2	52:SE:116:LEU:CD2	2.47	0.44
52:SE:97:TYR:O	52:SE:98:ASN:O	2.36	0.44
56:SL:42:ARG:HA	56:SL:42:ARG:HD2	1.57	0.44
61:SO:36:ALA:HB2	61:SO:42:LEU:HD23	2.00	0.44
61:SO:232:TYR:CB	61:SO:234:LEU:HD23	2.45	0.44
67:SS:125:LYS:HZ3	67:SS:157:ASN:HA	1.83	0.44
69:SU:149:ILE:HG23	69:SU:180:GLN:HG3	2.00	0.44
1:2:306:U:H2'	1:2:307:G:H8	1.83	0.44
1:2:447:U:O2'	67:SS:27:TYR:O	2.35	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:250:U:H3'	2:A:251:G:H8	1.83	0.44
2:A:529:A:H2'	2:A:530:G:H8	1.81	0.44
2:A:1139:G:OP2	31:d:14:ARG:NH1	2.51	0.44
2:A:1660:C:H2'	2:A:1661:G:C8	2.52	0.44
2:A:2184:U:H2'	2:A:2185:G:C8	2.52	0.44
2:A:3189:G:H1	2:A:3203:U:H3	1.65	0.44
12:K:105:GLU:HG3	12:K:108:GLY:HA2	2.00	0.44
18:Q:128[A]:ARG:HA	18:Q:128[A]:ARG:HD2	1.86	0.44
23:V:158:THR:HG23	23:V:158:THR:O	2.18	0.44
29:b:93:LYS:HE2	29:b:93:LYS:HB2	1.82	0.44
30:c:74:ASN:HB2	30:c:76:ASP:OD1	2.18	0.44
46:s:5:C:H2'	46:s:6:C:C6	2.53	0.44
46:t:23:C:H2'	46:t:24:G:H8	1.82	0.44
69:SU:153:LEU:HA	69:SU:184:GLU:O	2.18	0.44
73:SY:110:ASP:OD1	73:SY:114:ARG:NH2	2.42	0.44
1:2:15:U:H2'	1:2:16:G:O4'	2.18	0.44
1:2:86:A:H2'	1:2:87:C:H6	1.82	0.44
1:2:159:U:H5''	77:Sd:117:LYS:HG2	2.00	0.44
1:2:180:A:H2'	1:2:181:A:C8	2.52	0.44
1:2:614:C:H2'	1:2:615:A:C8	2.53	0.44
2:A:198:A:N3	2:A:218:G:O2'	2.39	0.44
2:A:288:C:C2	2:A:289:A:C8	3.05	0.44
2:A:407:A:H4'	2:A:1397:C:H5'	2.00	0.44
2:A:663:C:H2'	2:A:664:U:H6	1.81	0.44
2:A:671:U:H2'	2:A:672:A:C8	2.52	0.44
2:A:1020:G:H3'	2:A:1021:G:H8	1.82	0.44
2:A:1022:U:O2	2:A:1029:G:N2	2.50	0.44
2:A:1566:A:H61	2:A:1571:A:H1'	1.82	0.44
2:A:1699:A:H2'	2:A:1700:G:C8	2.52	0.44
2:A:2443:A:H2'	2:A:2444:C:H6	1.82	0.44
2:A:2960:C:H2'	2:A:2961:G:C8	2.51	0.44
2:A:3039:C:C2	2:A:3040:A:C8	3.05	0.44
2:A:3213:A:N7	16:O:124:ARG:NH2	2.61	0.44
10:I:34:LYS:HD3	10:I:34:LYS:HA	1.81	0.44
13:L:70:ILE:N	13:L:70:ILE:HD13	2.33	0.44
33:f:14:ILE:HG12	33:f:16:LEU:HD12	2.00	0.44
34:g:82:LEU:HD21	34:g:112:ALA:HB2	1.99	0.44
41:n:27:ILE:O	41:n:30:ARG:NH1	2.50	0.44
46:s:5:C:H2'	46:s:6:C:H6	1.83	0.44
47:x:27:HIS:ND1	47:x:28:VAL:HG22	2.32	0.44
47:x:81:MET:HG2	47:x:98:PHE:HE1	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:SD:71:ILE:HD11	62:SN:102:VAL:HG11	2.00	0.44
49:SZ:137:LEU:H	49:SZ:137:LEU:HD12	1.81	0.44
64:SP:147:THR:HG21	64:SP:159:ALA:HB1	2.00	0.44
68:ST:3:LEU:HD21	68:ST:111:LEU:HD12	1.98	0.44
68:ST:14:LYS:HD2	68:ST:14:LYS:HA	1.77	0.44
71:SW:15:PRO:HG3	71:SW:23:ARG:NH1	2.32	0.44
77:Sd:135:ASP:OD1	77:Sd:135:ASP:N	2.49	0.44
1:2:626:U:H2'	1:2:627:C:H6	1.83	0.44
1:2:909:U:H2'	1:2:910:C:C6	2.52	0.44
1:2:1291:G:OP2	1:2:1291:G:N2	2.48	0.44
1:2:1592:A:H2'	1:2:1593:A:C8	2.53	0.44
1:2:1719:A:H2'	1:2:1720:G:O4'	2.18	0.44
2:A:245:U:H2'	2:A:246:U:C6	2.52	0.44
2:A:286:U:O2'	17:P:179:LYS:O	2.34	0.44
2:A:548:G:H2'	2:A:549:U:C6	2.51	0.44
2:A:655:C:OP2	34:g:27:ARG:NH1	2.47	0.44
2:A:656:A:H2'	2:A:657:A:H8	1.83	0.44
2:A:903:U:H2'	2:A:904:A:C8	2.52	0.44
2:A:1390:A:N6	2:A:1418:A:O2'	2.51	0.44
2:A:2100:A:H2'	2:A:2101:C:C6	2.52	0.44
2:A:2111:G:O2'	26:Y:44:LYS:NZ	2.50	0.44
2:A:2154:U:H2'	2:A:2155:G:C8	2.53	0.44
2:A:2535:A:H2'	2:A:2536:A:H8	1.81	0.44
2:A:3021:A:N1	2:A:3032:A:H5''	2.32	0.44
4:C:95:G:O2'	39:l:81:GLY:O	2.29	0.44
4:C:103:G:OP2	4:C:105:A:O2'	2.33	0.44
7:F:20:LEU:HD21	7:F:256:THR:HG23	1.99	0.44
8:G:51:LEU:HB2	8:G:64:ILE:HG12	2.00	0.44
9:H:3:ALA:HB3	34:g:75:LEU:HB3	2.00	0.44
16:O:112:LEU:HD11	18:Q:197[A]:LEU:O	2.18	0.44
17:P:103:GLU:HG3	17:P:160:GLU:HB2	1.99	0.44
20:S:24:VAL:O	20:S:28:LEU:HG	2.18	0.44
30:c:72:VAL:HB	30:c:113:LEU:HD22	2.00	0.44
33:f:12:TYR:CD1	33:f:106:THR:HG23	2.53	0.44
47:x:112:SER:HA	47:x:115:VAL:HG22	2.00	0.44
49:SZ:91:THR:O	49:SZ:92:LYS:HB3	2.18	0.44
54:SI:7:ARG:HH12	54:SI:67:MET:HA	1.82	0.44
57:SM:17:GLY:HA2	57:SM:27:HIS:ND1	2.33	0.44
61:SO:11:GLY:HA3	61:SO:54:PHE:CE2	2.53	0.44
61:SO:193:ILE:O	61:SO:223:TRP:HH2	2.00	0.44
64:SP:71:GLU:O	64:SP:116:LYS:NZ	2.38	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:SQ:58:SER:O	65:SQ:62:LYS:HG3	2.18	0.44
65:SQ:131:ASP:OD1	65:SQ:131:ASP:N	2.37	0.44
70:SV:121:LEU:HD22	70:SV:160:PHE:CG	2.52	0.44
76:Sc:93:LEU:HD21	79:Sg:8:LEU:HD23	2.00	0.44
79:Sg:13:LYS:HG2	79:Sg:17:GLN:HE22	1.83	0.44
1:2:1176:G:H2'	1:2:1177:C:H6	1.82	0.44
1:2:1634:C:H5''	1:2:1635:A:C8	2.52	0.44
2:A:31:C:H2'	2:A:32:U:C6	2.52	0.44
2:A:904:A:H2'	2:A:905:U:C6	2.53	0.44
2:A:987:U:H2'	2:A:988:U:C6	2.53	0.44
2:A:1340:G:H2'	2:A:1341:U:H6	1.82	0.44
2:A:1663:C:H2'	2:A:1664:G:H8	1.83	0.44
2:A:1667:A:H2'	2:A:1668:G:H8	1.83	0.44
2:A:2263:C:O5'	2:A:2263:C:H6	2.00	0.44
2:A:2448:G:H2'	2:A:2449:A:C8	2.53	0.44
2:A:2981:U:OP2	6:E:244:ARG:NH1	2.45	0.44
2:A:3014:U:H2'	2:A:3015:G:H8	1.83	0.44
2:A:3272:C:OP2	9:H:78:ARG:NE	2.41	0.44
6:E:222:LYS:HA	6:E:334:ARG:HH22	1.83	0.44
16:O:89:ALA:HB1	16:O:92:GLU:CD	2.42	0.44
17:P:119:TYR:OH	17:P:131:GLU:OE1	2.32	0.44
19:R:9:THR:HG21	19:R:151:THR:HG21	2.00	0.44
20:S:37:ALA:HB1	20:S:46:LYS:HG3	2.00	0.44
29:b:88:ASP:OD1	29:b:88:ASP:C	2.61	0.44
47:x:137:VAL:HG21	47:x:795:GLN:CD	2.43	0.44
48:SD:58:LEU:HB2	48:SD:123:VAL:O	2.18	0.44
48:SD:73:LYS:HA	48:SD:76:GLU:CD	2.43	0.44
50:Se:33:ASP:OD1	50:Se:33:ASP:C	2.60	0.44
51:SC:65:TYR:C	51:SC:66:TYR:HD1	2.25	0.44
56:SL:44:VAL:HG11	56:SL:48:VAL:HG21	1.99	0.44
59:SF:39:VAL:HG13	59:SF:40:GLU:H	1.83	0.44
59:SF:99:GLU:OE2	61:SO:12:THR:HG22	2.18	0.44
67:SS:209:HIS:HA	67:SS:219:VAL:HA	1.99	0.44
75:Sb:24:GLN:NE2	78:Sf:5:GLN:HG2	2.32	0.44
1:2:392:G:OP1	1:2:1729:C:O2'	2.35	0.44
1:2:1684:U:H2'	1:2:1685:G:C8	2.53	0.44
2:A:697:A:H2'	2:A:698:U:C6	2.52	0.44
2:A:929:A:O2'	39:l:49:TRP:O	2.36	0.44
2:A:1126:G:OP2	13:L:14:ASN:ND2	2.51	0.44
2:A:1257:C:H42	2:A:1261:G:H22	1.65	0.44
2:A:2152:A:H2'	2:A:2153:U:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:2711:C:H2'	2:A:2712:U:C6	2.52	0.44
4:C:38:U:O2'	37:j:83:LYS:NZ	2.51	0.44
5:D:28:LYS:HE2	5:D:123:ARG:HD3	1.99	0.44
5:D:208:ASP:OD1	5:D:208:ASP:N	2.50	0.44
10:I:55:TYR:CE1	10:I:189:ILE:HG21	2.53	0.44
13:L:43:VAL:HG11	13:L:197:VAL:HB	1.99	0.44
13:L:208:ASN:OD1	13:L:211:ARG:NH1	2.50	0.44
15:N:104:ARG:HA	38:k:20:MET:HB2	1.99	0.44
18:Q:20[A]:ALA:HA	18:Q:84[A]:LEU:HD11	1.99	0.44
24:W:36:TYR:O	24:W:40:HIS:HB2	2.17	0.44
30:c:125:VAL:HG13	30:c:145:VAL:HG23	2.00	0.44
32:e:43:ILE:N	32:e:43:ILE:HD12	2.33	0.44
60:SH:16:ARG:HA	60:SH:16:ARG:HD2	1.72	0.44
61:SO:266:ASP:HB2	61:SO:267:PRO:HD3	1.99	0.44
62:SN:97:LYS:CG	62:SN:98:VAL:H	2.29	0.44
66:SR:157:LYS:HG3	75:Sb:95:PRO:O	2.18	0.44
67:SS:246:LEU:HD22	67:SS:250:GLU:CD	2.43	0.44
69:SU:62:VAL:HG13	69:SU:70:PHE:CE2	2.53	0.44
70:SV:69:SER:HA	72:SX:20:PHE:HZ	1.83	0.44
80:SK:98:GLN:HE21	80:SK:100:ILE:HD11	1.82	0.44
1:2:1355:C:H2'	1:2:1356:U:O4'	2.17	0.43
1:2:1372:U:H2'	1:2:1373:C:C6	2.53	0.43
1:2:1633:A:H5'	1:2:1635:A:O4'	2.18	0.43
1:2:1647:U:H2'	1:2:1648:A:C8	2.53	0.43
1:2:1680:G:H1'	1:2:1721:A:H61	1.83	0.43
2:A:165:A:H2'	2:A:166:C:C6	2.52	0.43
2:A:600:G:N2	2:A:603:A:OP2	2.30	0.43
2:A:784:A:H2	20:S:92:ARG:HB3	1.82	0.43
2:A:788:C:H2'	2:A:789:A:C8	2.53	0.43
2:A:2185:G:OP1	5:D:202:VAL:HG13	2.18	0.43
2:A:2427:U:H3	2:A:2602:G:H1	1.66	0.43
2:A:2585:G:H8	11:J:48:ARG:HG3	1.82	0.43
2:A:2891:U:O2'	2:A:3014:U:H5''	2.18	0.43
2:A:2968:G:H2'	2:A:2969:A:C8	2.53	0.43
2:A:3015:G:H2'	2:A:3016:A:C8	2.50	0.43
12:K:7:GLU:OE2	12:K:7:GLU:C	2.61	0.43
23:V:76:ILE:HD13	23:V:76:ILE:HA	1.91	0.43
23:V:131:GLN:OE1	23:V:131:GLN:HA	2.18	0.43
25:X:4:ASN:HD21	25:X:40:LYS:HE3	1.82	0.43
35:h:13:HIS:ND1	35:h:93:THR:OG1	2.31	0.43
40:m:46:ARG:HH11	40:m:51:LEU:HB2	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:r:84:ARG:O	45:r:88:GLU:HG2	2.17	0.43
51:SC:38:LYS:HZ3	51:SC:41:TYR:HD2	1.66	0.43
52:SE:33:PHE:N	52:SE:33:PHE:HD1	2.15	0.43
59:SF:83:GLN:HG2	59:SF:87:LYS:HE2	2.00	0.43
60:SH:72:ILE:CG2	60:SH:73:MET:HE2	2.48	0.43
61:SO:64:HIS:CE1	61:SO:84:SER:HB2	2.53	0.43
61:SO:149:ASP:OD1	61:SO:149:ASP:N	2.44	0.43
65:SQ:133:TYR:CE1	65:SQ:221:PRO:HD2	2.53	0.43
68:ST:57:ASP:OD1	68:ST:61:PHE:HB2	2.17	0.43
68:ST:74:LYS:HE3	68:ST:74:LYS:HB3	1.78	0.43
68:ST:191:ARG:HA	68:ST:191:ARG:HD2	1.77	0.43
70:SV:66:SER:O	70:SV:183:ILE:HD12	2.17	0.43
70:SV:74:LYS:HB2	70:SV:109:PHE:HE1	1.81	0.43
71:SW:45:ILE:HG22	71:SW:101:VAL:HG12	2.01	0.43
71:SW:120:LYS:HE3	71:SW:120:LYS:HB3	1.77	0.43
76:Sc:14:LYS:HE2	76:Sc:14:LYS:HB2	1.78	0.43
1:2:829:A:H2'	1:2:830:U:C6	2.53	0.43
1:2:1018:U:C2	1:2:1019:A:N7	2.86	0.43
1:2:1060:U:H3'	1:2:1061:A:H5''	2.00	0.43
1:2:1580:C:H2'	1:2:1581:C:C6	2.53	0.43
2:A:581:U:H2'	2:A:582:G:H8	1.83	0.43
2:A:707:U:O2	2:A:754:G:O2'	2.34	0.43
2:A:794:U:H2'	2:A:795:G:C8	2.53	0.43
2:A:1388:U:O2'	34:g:99:ASN:O	2.36	0.43
2:A:1564:U:C2	2:A:1576:G:N1	2.86	0.43
2:A:1615:C:H2'	2:A:1616:U:C6	2.53	0.43
2:A:2196:C:O2'	2:A:2270:A:H1'	2.17	0.43
2:A:2883:U:H2'	2:A:2884:C:C6	2.53	0.43
2:A:3211:C:C2	2:A:3212:C:C5	3.06	0.43
3:B:116:C:H2'	3:B:117:A:H8	1.83	0.43
6:E:84:VAL:CG1	6:E:162:VAL:HB	2.48	0.43
7:F:23:PRO:HD3	7:F:255:PHE:CE2	2.53	0.43
7:F:161:LYS:HD3	7:F:161:LYS:HA	1.72	0.43
8:G:80:SER:HA	8:G:83:LEU:HD23	2.00	0.43
8:G:156:GLY:HA2	8:G:181:PRO:HD3	2.00	0.43
10:I:40:LYS:HD3	10:I:170:GLU:OE1	2.17	0.43
10:I:121:LYS:HD2	10:I:125:GLU:OE1	2.18	0.43
17:P:66:VAL:HG11	17:P:98:LEU:HB3	2.00	0.43
17:P:114:ARG:CZ	17:P:157:LYS:HG2	2.48	0.43
46:s:49:C:H2'	46:s:50:U:C6	2.53	0.43
47:x:63:GLU:OE1	47:x:63:GLU:N	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:SD:59:LEU:HA	48:SD:87:PRO:HB2	2.00	0.43
48:SD:130:THR:OG1	48:SD:131:ASP:N	2.51	0.43
51:SC:7:ASP:O	51:SC:10:LYS:HG2	2.19	0.43
60:SH:46:VAL:HG11	60:SH:73:MET:HE1	2.00	0.43
60:SH:91:ASP:OD2	60:SH:93:THR:OG1	2.35	0.43
61:SO:209:THR:O	61:SO:224:ASN:HA	2.18	0.43
63:SG:10:LYS:HG3	63:SG:53:TYR:HE2	1.83	0.43
67:SS:139:VAL:HG13	67:SS:150:PRO:HG3	1.99	0.43
69:SU:131:PHE:CD2	69:SU:132:PRO:CD	2.88	0.43
74:Sa:4:ASP:OD1	74:Sa:4:ASP:N	2.50	0.43
1:2:50:C:H2'	1:2:424:C:H41	1.83	0.43
1:2:521:A:H2'	1:2:522:U:H6	1.83	0.43
2:A:58:G:O2'	2:A:61:A:H5'	2.17	0.43
2:A:785:G:O4'	20:S:92:ARG:NH2	2.51	0.43
2:A:787:G:H2'	2:A:788:C:C6	2.52	0.43
2:A:1249:G:H2'	2:A:1250:G:H8	1.83	0.43
2:A:1508:C:N4	2:A:1880:U:HO2'	2.17	0.43
2:A:1804:A:H2'	2:A:1805:C:H6	1.82	0.43
2:A:1886:A:H2'	2:A:1887:A:C8	2.51	0.43
2:A:2095:G:H2'	2:A:2096:A:C8	2.52	0.43
2:A:2313:A:H5'	2:A:2315:G:H1'	2.00	0.43
2:A:2456:A:H2'	2:A:2457:G:C8	2.53	0.43
2:A:2545:C:H2'	2:A:2546:C:C6	2.53	0.43
2:A:2561:A:C2	11:J:32:LYS:HB2	2.53	0.43
2:A:2837:A:H2'	2:A:2845:A:C2	2.52	0.43
2:A:2985:C:H2'	2:A:2986:U:H6	1.83	0.43
7:F:84:ARG:O	7:F:84:ARG:HD3	2.19	0.43
8:G:8:LYS:HD3	8:G:12:TYR:HE2	1.83	0.43
13:L:42:THR:N	13:L:45:GLU:OE1	2.36	0.43
24:W:13:LYS:HB2	24:W:13:LYS:HE3	1.84	0.43
28:a:42:GLN:HG2	28:a:43:TYR:CD1	2.53	0.43
33:f:20:LEU:HD11	33:f:32:ALA:HB2	2.00	0.43
33:f:28:ARG:HD2	33:f:65:LYS:HA	2.01	0.43
34:g:71:HIS:HB3	34:g:93:ALA:HB2	1.99	0.43
37:j:23:ASP:O	37:j:27:GLU:HG2	2.17	0.43
47:x:464:LEU:HA	47:x:513:LYS:HD2	2.00	0.43
51:SC:31:LYS:HD2	51:SC:31:LYS:HA	1.74	0.43
52:SE:116:LEU:N	52:SE:116:LEU:HD23	2.33	0.43
54:SI:8:ASP:HA	59:SF:35:PRO:CD	2.48	0.43
58:SB:116:HIS:O	58:SB:120:ILE:HG12	2.18	0.43
59:SF:22:VAL:HG12	59:SF:92:TYR:CD2	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:SO:49:GLY:H	61:SO:54:PHE:HA	1.83	0.43
63:SG:17:ILE:HD12	63:SG:58:MET:SD	2.59	0.43
63:SG:28:PHE:HA	63:SG:55:THR:HG21	2.00	0.43
69:SU:27:LEU:HD23	69:SU:27:LEU:HA	1.85	0.43
1:2:446:A:N3	1:2:446:A:H2'	2.33	0.43
1:2:653:C:H41	1:2:681:U:H3	1.66	0.43
1:2:922:G:H2'	1:2:923:A:H8	1.83	0.43
1:2:1042:G:H2'	1:2:1043:A:H8	1.83	0.43
1:2:1252:C:H1'	62:SN:140:TYR:CE1	2.53	0.43
1:2:1636:C:H4'	1:2:1637:C:O5'	2.18	0.43
2:A:1246:G:N3	2:A:1264:G:O2'	2.47	0.43
2:A:1534:A:OP2	2:A:1586:G:N1	2.31	0.43
2:A:2778:G:H2'	2:A:2779:A:H8	1.82	0.43
2:A:3305:A:H2'	2:A:3306:U:C2	2.54	0.43
3:B:52:G:O2'	3:B:53:U:O4'	2.20	0.43
7:F:362:ASP:OD1	7:F:362:ASP:N	2.52	0.43
14:M:110:ILE:HA	14:M:114:ILE:HG13	2.01	0.43
26:Y:35:LYS:O	26:Y:39:LEU:HD13	2.18	0.43
28:a:21:THR:HG22	28:a:21:THR:O	2.18	0.43
39:l:34:CYS:CB	39:l:37:CYS:HG	2.29	0.43
40:m:61:LYS:O	40:m:65:LEU:HD23	2.18	0.43
47:x:342:LEU:HD23	47:x:342:LEU:HA	1.86	0.43
47:x:702:GLY:O	47:x:706:ILE:HG12	2.19	0.43
61:SO:66:HIS:HB3	61:SO:86:ASP:HB3	2.00	0.43
61:SO:153:GLN:HE21	61:SO:202:LEU:H	1.66	0.43
61:SO:175:ASP:OD1	61:SO:175:ASP:N	2.49	0.43
61:SO:178:VAL:HG13	61:SO:192:PHE:CB	2.49	0.43
65:SQ:27:LYS:HE3	65:SQ:49:ASN:N	2.34	0.43
71:SW:109:LEU:HD23	71:SW:109:LEU:HA	1.83	0.43
73:SY:29:SER:O	73:SY:33:VAL:HG12	2.18	0.43
74:Sa:16:LYS:HB2	74:Sa:16:LYS:NZ	2.33	0.43
1:2:205:U:H2'	1:2:206:A:H8	1.84	0.43
1:2:689:G:H2'	1:2:690:G:H8	1.83	0.43
1:2:876:G:H1'	1:2:944:A:O4'	2.18	0.43
1:2:966:A:N1	1:2:967:A:N6	2.67	0.43
1:2:1227:A:N1	48:SD:103:LEU:HD13	2.34	0.43
1:2:1315:U:H5''	1:2:1329:A:C2	2.53	0.43
1:2:1502:G:N7	54:SI:102:ARG:NH2	2.58	0.43
1:2:1524:A:H2	1:2:1590:G:H1'	1.83	0.43
1:2:1590:G:H2'	1:2:1591:C:C6	2.54	0.43
1:2:1659:A:H61	1:2:1742:U:H3	1.65	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:53:G:P	39:I:48:ASN:HB2	2.59	0.43
2:A:229:G:H2'	2:A:230:U:C6	2.54	0.43
2:A:702:C:H2'	2:A:703:G:H8	1.82	0.43
2:A:785:G:OP1	20:S:66:ARG:NH2	2.52	0.43
2:A:1168:U:H1'	10:I:209:ASN:ND2	2.33	0.43
2:A:1421:G:H2'	2:A:1422:G:H8	1.84	0.43
2:A:1618:G:H2'	2:A:1619:A:C8	2.54	0.43
3:B:26:C:H5'	8:G:56:THR:OG1	2.18	0.43
3:B:87:G:O2'	22:U:119:ARG:NH2	2.52	0.43
4:C:26:U:H2'	4:C:27:U:H6	1.84	0.43
5:D:221:LYS:HB2	5:D:221:LYS:HE3	1.90	0.43
6:E:11:HIS:CD2	6:E:235:THR:HA	2.52	0.43
8:G:106:ALA:HB2	8:G:166:ALA:HA	2.00	0.43
12:K:103:ILE:HD12	12:K:134:ILE:HD11	2.01	0.43
15:N:77:LEU:HA	15:N:80:VAL:HG22	2.00	0.43
18:Q:36[A]:VAL:HB	18:Q:108[A]:ILE:HD13	2.00	0.43
18:Q:78[A]:ARG:NE	18:Q:78[A]:ARG:HA	2.33	0.43
46:s:6:C:H2'	46:s:7:G:H8	1.83	0.43
47:x:270:GLU:CD	47:x:275:MET:HE2	2.44	0.43
47:x:281:ILE:HD12	47:x:282:PHE:HD1	1.83	0.43
47:x:282:PHE:O	47:x:286:THR:OG1	2.20	0.43
47:x:611:ASP:CG	47:x:614:ALA:HB3	2.44	0.43
61:SO:172:ALA:HB1	61:SO:199:ILE:HB	2.00	0.43
63:SG:75:GLU:O	63:SG:79:GLU:HG2	2.19	0.43
64:SP:89:PHE:CZ	64:SP:93:THR:HG21	2.54	0.43
64:SP:118:PRO:HD2	64:SP:141:ILE:HG13	2.00	0.43
69:SU:62:VAL:HG22	69:SU:70:PHE:HE2	1.81	0.43
73:SY:60:VAL:HA	73:SY:66:ILE:HD13	2.01	0.43
76:Sc:100:ASP:OD1	76:Sc:100:ASP:N	2.51	0.43
78:Sf:42:ASN:ND2	78:Sf:57:GLU:OE2	2.52	0.43
1:2:277:U:O2	1:2:279:G:C6	2.72	0.43
1:2:625:C:H2'	1:2:626:U:C6	2.54	0.43
1:2:907:A:N1	1:2:1008:G:O2'	2.47	0.43
1:2:1068:C:H2'	1:2:1069:A:C8	2.53	0.43
1:2:1070:C:H5''	78:Sf:17:ARG:NH2	2.34	0.43
1:2:1564:U:H2'	1:2:1565:C:H6	1.83	0.43
1:2:1590:G:H2'	1:2:1591:C:H6	1.83	0.43
1:2:1649:G:H2'	1:2:1650:U:C6	2.54	0.43
1:2:1759:C:H2'	1:2:1760:G:H8	1.82	0.43
2:A:426:G:OP1	34:g:15:LYS:NZ	2.52	0.43
2:A:553:U:H2'	2:A:554:A:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:790:U:H2'	2:A:791:A:H8	1.81	0.43
2:A:1380:G:H5'	7:F:191:LYS:H	1.83	0.43
2:A:2144:A:H1'	2:A:2281:A:H61	1.83	0.43
2:A:3050:U:O2'	26:Y:16:GLY:O	2.37	0.43
2:A:3146:G:H2'	2:A:3147:G:C8	2.53	0.43
4:C:13:A:O2'	19:R:121:GLN:O	2.35	0.43
5:D:40:TYR:CD1	5:D:40:TYR:C	2.97	0.43
7:F:296:GLN:HA	7:F:299:ILE:HG12	2.00	0.43
9:H:82:ARG:HB3	35:h:104:PRO:HA	2.00	0.43
37:j:86:ARG:O	37:j:90:ARG:HG2	2.19	0.43
43:p:2:ARG:HB2	43:p:5:TRP:CD1	2.54	0.43
48:SD:62:LEU:HD21	48:SD:72:ILE:HG23	1.99	0.43
53:SA:32:GLU:CD	53:SA:58:VAL:HG23	2.44	0.43
58:SB:61:TYR:HE2	58:SB:164:PRO:HG2	1.83	0.43
64:SP:52:LYS:HD2	64:SP:52:LYS:H	1.84	0.43
65:SQ:36:SER:N	65:SQ:231:LEU:O	2.51	0.43
1:2:342:C:H2'	1:2:343:C:C6	2.54	0.43
1:2:521:A:H1'	77:Sd:34:ASN:HD21	1.84	0.43
1:2:551:G:OP2	1:2:581:U:H2'	2.19	0.43
1:2:599:A:H2'	1:2:600:U:H6	1.83	0.43
1:2:600:U:C2	1:2:601:A:C8	3.06	0.43
2:A:8:C:H2'	2:A:9:U:C6	2.54	0.43
2:A:121:A:C2	11:J:129:PRO:HB3	2.54	0.43
2:A:1535:A:H62	2:A:1586:G:H21	1.67	0.43
2:A:1669:C:OP1	36:i:24:LYS:NZ	2.50	0.43
2:A:1880:U:O4	2:A:1881:A:N6	2.52	0.43
2:A:2383:C:P	18:Q:85[A]:ARG:HH22	2.42	0.43
2:A:2769:A:H2'	2:A:2770:G:C8	2.54	0.43
2:A:3008:A:H4'	18:Q:67[A]:THR:HA	2.00	0.43
3:B:5:G:OP1	14:M:143:ARG:NH2	2.43	0.43
4:C:143:U:C2	4:C:144:G:C8	3.07	0.43
5:D:5:ILE:HD11	5:D:232:GLY:HA2	2.01	0.43
5:D:112:ILE:HG23	5:D:133:TYR:HB2	2.00	0.43
10:I:85:PHE:HB2	10:I:139:PRO:HG3	2.01	0.43
33:f:55:LEU:HB2	33:f:95:PRO:HD3	2.00	0.43
44:q:71:ARG:NH2	44:q:80:ARG:NE	2.65	0.43
45:r:87:ARG:O	45:r:91:GLU:HG2	2.18	0.43
47:x:331:ALA:O	47:x:335:LEU:HD13	2.18	0.43
47:x:732:GLU:N	47:x:795:GLN:HE21	2.17	0.43
48:SD:61:VAL:HB	48:SD:121:VAL:HG22	1.99	0.43
49:SZ:81:VAL:CG1	49:SZ:115:ILE:HG12	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:18:TYR:C	53:SA:18:TYR:CD1	2.96	0.43
55:SJ:68:ARG:HE	55:SJ:68:ARG:HB3	1.71	0.43
61:SO:275:ARG:HG3	61:SO:276:PRO:HD2	1.99	0.43
63:SG:29:GLN:O	63:SG:33:ARG:HG2	2.19	0.43
63:SG:66:VAL:HG13	63:SG:67:ARG:H	1.83	0.43
65:SQ:33:LYS:HD3	65:SQ:33:LYS:HA	1.88	0.43
65:SQ:35:PRO:HA	65:SQ:231:LEU:HB3	2.01	0.43
65:SQ:105:PHE:CE1	65:SQ:213:ARG:HA	2.50	0.43
66:SR:228:ASN:HD21	74:Sa:1:MET:HG2	1.79	0.43
70:SV:74:LYS:HB2	70:SV:109:PHE:CE1	2.53	0.43
76:Sc:87:VAL:HA	76:Sc:124:VAL:HG22	2.01	0.43
1:2:191:C:O2	70:SV:137:LYS:NZ	2.43	0.43
1:2:385:A:H2'	1:2:386:G:C8	2.53	0.43
1:2:431:C:H2'	1:2:432:G:C8	2.54	0.43
1:2:956:C:H1'	1:2:1047:G:O2'	2.19	0.43
1:2:1163:A:H2'	1:2:1164:G:O4'	2.18	0.43
2:A:40:A:H61	2:A:963:G:H21	1.65	0.43
2:A:721:G:H2'	2:A:722:G:H8	1.82	0.43
2:A:1132:C:H2'	2:A:1133:A:C8	2.54	0.43
2:A:1243:G:N2	2:A:1270:A:O2'	2.49	0.43
2:A:1386:A:H5''	7:F:141:ARG:HH22	1.83	0.43
2:A:1411:C:OP2	34:g:98:HIS:ND1	2.51	0.43
2:A:2219:A:H2'	2:A:2220:A:H8	1.84	0.43
2:A:3137:C:H2'	2:A:3138:U:C6	2.53	0.43
6:E:11:HIS:CE1	25:X:45:ARG:HH22	2.37	0.43
6:E:17:LEU:HD21	6:E:233:TRP:CH2	2.52	0.43
10:I:180:SER:N	10:I:183:ASP:OD2	2.52	0.43
14:M:117:ASP:HB2	14:M:120:ILE:HG13	2.00	0.43
16:O:20:VAL:HG21	16:O:90:VAL:HG11	2.00	0.43
19:R:30:ARG:NH1	19:R:31:GLU:OE1	2.51	0.43
23:V:144:GLU:OE2	23:V:144:GLU:N	2.47	0.43
35:h:88:ASN:N	35:h:88:ASN:OD1	2.51	0.43
46:s:27:C:H2'	46:s:28:A:C8	2.53	0.43
46:t:56:C:H2'	46:t:57:G:C8	2.54	0.43
47:x:272:ALA:HA	47:x:275:MET:HG3	2.00	0.43
53:SA:10:LYS:NZ	55:SJ:113:ASP:OD2	2.49	0.43
55:SJ:98:GLN:HE21	55:SJ:102:ARG:HG3	1.83	0.43
61:SO:11:GLY:O	61:SO:311:ARG:HA	2.19	0.43
61:SO:174:ASN:HA	61:SO:198:ASN:HD22	1.83	0.43
61:SO:178:VAL:C	61:SO:179:LYS:HD2	2.44	0.43
75:Sb:41:MET:HE1	75:Sb:129:VAL:CG2	2.47	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:78:A:N1	68:ST:178:LEU:HD21	2.34	0.43
1:2:188:A:N3	1:2:188:A:H2'	2.34	0.43
1:2:861:U:H3'	1:2:862:A:C8	2.53	0.43
1:2:979:A:H4'	1:2:1786:G:N2	2.33	0.43
1:2:990:C:H5''	49:SZ:129:LYS:HB2	2.00	0.43
1:2:1217:A:OP1	51:SC:1:MET:HG2	2.19	0.43
2:A:737:G:H2'	2:A:738:A:H8	1.84	0.43
2:A:1060:U:H2'	2:A:1061:A:C8	2.54	0.43
2:A:1261:G:H1'	2:A:1278:A:H61	1.83	0.43
2:A:1498:A:H2'	2:A:1499:C:C6	2.53	0.43
2:A:3126:C:H2'	2:A:3127:A:H8	1.84	0.43
2:A:3175:U:H5''	35:h:10:LYS:NZ	2.34	0.43
2:A:3251:U:H2'	2:A:3252:G:H8	1.83	0.43
6:E:123:TYR:CZ	6:E:124:LYS:HG3	2.53	0.43
7:F:3:ARG:NH2	7:F:24:ALA:H	2.16	0.43
7:F:11:LEU:HD23	7:F:11:LEU:HA	1.86	0.43
7:F:300:ARG:HH11	20:S:39:ARG:HA	1.84	0.43
11:J:111:LYS:HB3	11:J:111:LYS:HE2	1.62	0.43
13:L:5:PRO:HB2	13:L:7:ARG:HG2	2.01	0.43
13:L:153:ARG:HA	13:L:156:ARG:HD2	2.00	0.43
19:R:148:LEU:O	19:R:148:LEU:HD12	2.19	0.43
30:c:7:LYS:HA	30:c:7:LYS:HD3	1.85	0.43
38:k:77:LEU:HD21	38:k:86:LYS:HG3	2.00	0.43
47:x:202:VAL:HG22	47:x:204:PRO:CD	2.48	0.43
47:x:459:ILE:CG2	47:x:460:ASP:H	2.28	0.43
47:x:543:GLN:O	47:x:547:HIS:CE1	2.71	0.43
47:x:610:ASP:HB2	47:x:615:ARG:NH2	2.33	0.43
47:x:731:VAL:HG21	47:x:780:PHE:CZ	2.54	0.43
47:x:793:PHE:HD1	47:x:794:PRO:HD2	1.83	0.43
47:x:822:ALA:HA	47:x:825:ARG:NH1	2.33	0.43
49:SZ:29:HIS:HA	49:SZ:41:ARG:HA	1.99	0.43
61:SO:20:VAL:HG22	61:SO:37:SER:HB3	2.01	0.43
61:SO:59:ARG:NH2	61:SO:97:GLY:HA2	2.32	0.43
67:SS:41:SER:OG	67:SS:42:LEU:N	2.52	0.43
67:SS:180:LEU:HD23	67:SS:228:ILE:HD11	2.01	0.43
1:2:380:U:N3	71:SW:5:PRO:HB3	2.34	0.43
1:2:646:C:H2'	1:2:647:G:C8	2.54	0.43
1:2:990:C:H2'	1:2:991:G:O4'	2.19	0.43
1:2:1525:A:H2'	1:2:1526:A:C8	2.54	0.43
2:A:293:C:H2'	2:A:294:U:O4'	2.19	0.43
2:A:357:A:H2'	2:A:358:G:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:407:A:N1	4:C:17:A:H1'	2.34	0.43
2:A:429:U:H2'	2:A:430:U:H6	1.83	0.43
2:A:658:G:H2'	2:A:659:G:H8	1.84	0.43
2:A:1138:U:H2'	2:A:1139:G:H8	1.84	0.43
2:A:1198:C:OP2	2:A:1199:C:O2'	2.23	0.43
2:A:2684:C:H2'	2:A:2685:C:H6	1.83	0.43
2:A:2736:A:O2'	23:V:68:THR:HG21	2.18	0.43
2:A:2827:U:O2'	2:A:2829:U:O4	2.24	0.43
8:G:54:ARG:HD3	8:G:54:ARG:HA	1.79	0.43
9:H:68:PRO:O	9:H:71:VAL:HG22	2.18	0.43
21:T:166:ASN:OD1	21:T:166:ASN:C	2.61	0.43
28:a:86:THR:HA	28:a:97:ILE:HG22	2.00	0.43
36:i:58:ARG:HD2	36:i:58:ARG:HA	1.73	0.43
46:s:3:C:H2'	46:s:4:G:H8	1.83	0.43
47:x:632:LYS:HD2	47:x:648:ASP:HB3	1.99	0.43
54:SI:18:TYR:CD2	54:SI:22:LEU:HD11	2.54	0.43
58:SB:91:GLU:O	58:SB:95:ASN:ND2	2.52	0.43
60:SH:10:SER:O	60:SH:60:GLU:HA	2.19	0.43
62:SN:97:LYS:HG2	62:SN:98:VAL:N	2.33	0.43
66:SR:150:GLN:O	66:SR:174:ARG:NH2	2.36	0.43
71:SW:59:LEU:HD11	71:SW:72:GLU:HB2	2.01	0.43
74:Sa:21:ASN:HB2	75:Sb:67:GLY:HA3	2.01	0.43
78:Sf:62:ILE:O	78:Sf:74:SER:OG	2.30	0.43
1:2:276:C:H3'	1:2:277:U:H6	1.84	0.42
1:2:745:U:O4	69:SU:104:ARG:NH1	2.52	0.42
1:2:783:G:H2'	1:2:784:C:H6	1.84	0.42
1:2:1042:G:H2'	1:2:1043:A:C8	2.54	0.42
1:2:1146:G:H2'	1:2:1147:A:C8	2.54	0.42
1:2:1214:U:H2'	1:2:1215:C:C6	2.53	0.42
1:2:1220:C:OP1	51:SC:48:SER:OG	2.36	0.42
1:2:1223:A:O2'	1:2:1224:A:H5'	2.18	0.42
1:2:1322:A:H2'	1:2:1323:C:H6	1.82	0.42
2:A:750:G:C2	2:A:751:A:C8	3.07	0.42
2:A:974:G:H5'	20:S:16:ARG:HB2	2.00	0.42
2:A:1022:U:H6	2:A:1022:U:P	2.42	0.42
2:A:1135:A:H2'	2:A:1136:A:H8	1.84	0.42
2:A:1150:A:N7	2:A:1310:G:H5'	2.33	0.42
2:A:1842:A:H5''	41:n:45:ARG:HH22	1.84	0.42
2:A:2956:A:H61	2:A:2977:G:H1'	1.83	0.42
4:C:9:A:H2'	4:C:10:A:H8	1.84	0.42
6:E:12:GLY:HA3	6:E:233:TRP:HE3	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:11:LEU:HD21	7:F:156:LEU:HB2	2.01	0.42
7:F:362:ASP:HA	22:U:28:ARG:HD2	2.01	0.42
8:G:111:GLN:HA	8:G:116:ASP:HB2	2.01	0.42
9:H:136:GLU:C	9:H:136:GLU:OE2	2.62	0.42
29:b:120:GLU:OE2	29:b:120:GLU:HA	2.19	0.42
46:s:53:G:H2'	46:s:54:A:C8	2.45	0.42
47:x:101:ASN:HB3	47:x:453:ILE:HD11	2.00	0.42
47:x:388:THR:HG23	47:x:390:ASP:HB3	2.00	0.42
47:x:607:ASN:OD1	47:x:608:PRO:HD2	2.19	0.42
52:SE:26:LEU:HD11	52:SE:90:ILE:HG21	2.01	0.42
65:SQ:48:VAL:HG11	65:SQ:61:LEU:HD21	2.01	0.42
70:SV:44:HIS:HE1	70:SV:58:LEU:HD23	1.85	0.42
73:SY:3:ARG:NH1	73:SY:10:GLY:O	2.51	0.42
75:Sb:32:LYS:HA	75:Sb:35:ILE:HD13	2.01	0.42
77:Sd:2:SER:HA	77:Sd:32:ARG:HG3	2.01	0.42
1:2:108:A:H2'	1:2:109:G:C8	2.54	0.42
1:2:626:U:H2'	1:2:627:C:C6	2.54	0.42
1:2:700:C:H2'	1:2:701:U:C6	2.54	0.42
1:2:1666:U:H2'	1:2:1667:A:O4'	2.19	0.42
2:A:975:C:H2'	2:A:976:U:C6	2.54	0.42
2:A:1019:G:N2	2:A:1033:U:H3	2.17	0.42
2:A:1105:A:H2'	2:A:1106:G:H8	1.83	0.42
2:A:2226:U:H2'	2:A:2227:C:C6	2.54	0.42
2:A:2350:C:H5''	19:R:68:GLY:HA3	2.01	0.42
2:A:2368:A:H2'	2:A:2369:G:H8	1.84	0.42
2:A:2631:U:H2'	2:A:2632:G:H8	1.83	0.42
2:A:2929:C:H2'	2:A:2930:A:C8	2.54	0.42
2:A:3109:G:N2	12:K:156:GLN:OE1	2.53	0.42
3:B:56:A:H4'	14:M:152:HIS:HB2	2.00	0.42
5:D:188:LYS:O	5:D:192:LYS:HG3	2.19	0.42
6:E:12:GLY:HA3	6:E:233:TRP:CE3	2.54	0.42
7:F:205:PRO:HB3	7:F:247:PHE:CD2	2.54	0.42
21:T:116:ASP:C	21:T:116:ASP:OD1	2.62	0.42
22:U:40:ARG:HD2	22:U:40:ARG:HA	1.76	0.42
22:U:137:ARG:HD3	22:U:137:ARG:HA	1.89	0.42
22:U:154:HIS:HA	22:U:170:THR:HB	2.01	0.42
24:W:32:SER:HA	24:W:35:LYS:HG2	2.00	0.42
33:f:10:ARG:HG2	33:f:108:VAL:HA	2.00	0.42
36:i:21:LYS:HB3	36:i:21:LYS:HE2	1.74	0.42
44:q:47:GLN:OE1	44:q:47:GLN:HA	2.20	0.42
47:x:611:ASP:O	47:x:615:ARG:HG2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:SD:68:GLU:CD	48:SD:70:ASN:HB2	2.44	0.42
54:SI:53:TRP:CD1	54:SI:53:TRP:C	2.98	0.42
54:SI:131:ASP:CA	54:SI:134:ARG:HG2	2.48	0.42
61:SO:26:SER:HB3	61:SO:32:LEU:HB2	2.02	0.42
63:SG:47:ARG:HA	63:SG:50:ILE:HD12	2.01	0.42
64:SP:125:ASP:OD1	64:SP:125:ASP:C	2.62	0.42
66:SR:116:LYS:HG2	66:SR:127:ALA:HB3	2.01	0.42
67:SS:19:LEU:O	67:SS:51:ARG:NH2	2.52	0.42
68:ST:171:LYS:HE2	68:ST:171:LYS:HB3	1.92	0.42
69:SU:80:GLU:O	69:SU:83:LYS:HG2	2.18	0.42
69:SU:129:LEU:HD11	69:SU:169:PHE:CD1	2.40	0.42
70:SV:87:ASN:ND2	70:SV:89:GLU:OE2	2.52	0.42
71:SW:113:VAL:HG13	71:SW:118:LEU:HB3	2.02	0.42
71:SW:172:VAL:HG12	71:SW:173:ALA:N	2.30	0.42
73:SY:92:ILE:O	73:SY:96:VAL:HG13	2.19	0.42
1:2:78:A:C6	68:ST:178:LEU:HD21	2.54	0.42
1:2:609:U:H4'	1:2:610:G:O5'	2.18	0.42
1:2:694:U:H5''	1:2:695:U:H5	1.85	0.42
1:2:1196:A:OP2	1:2:1464:G:N2	2.51	0.42
1:2:1260:U:H2'	1:2:1261:G:C8	2.54	0.42
1:2:1488:G:O2'	1:2:1494:C:H1'	2.20	0.42
2:A:705:A:C6	30:c:113:LEU:HD23	2.54	0.42
2:A:1020:G:C3'	2:A:1021:G:H5'	2.50	0.42
2:A:1098:A:OP2	23:V:108:ARG:NH1	2.52	0.42
2:A:1733:G:H2'	2:A:1734:G:C8	2.54	0.42
2:A:2218:G:H2'	2:A:2219:A:C8	2.54	0.42
2:A:2308:C:H5''	2:A:2309:A:H2'	2.01	0.42
2:A:3005:A:N1	2:A:3140:G:O2'	2.49	0.42
2:A:3024:A:H5''	12:K:96:HIS:ND1	2.33	0.42
2:A:3161:C:H2'	2:A:3162:C:C6	2.54	0.42
2:A:3214:U:OP2	16:O:128:ARG:NH1	2.51	0.42
2:A:3332:U:H2'	2:A:3333:G:O4'	2.20	0.42
14:M:12:LEU:HB3	14:M:131:MET:HE2	2.01	0.42
16:O:44:VAL:HG11	16:O:60:LEU:HD21	2.01	0.42
19:R:24:VAL:HG22	19:R:86:LYS:HG2	2.01	0.42
22:U:29:ILE:HD13	22:U:29:ILE:HA	1.88	0.42
24:W:43:VAL:O	24:W:44:GLU:HG2	2.19	0.42
28:a:40:ARG:HH12	28:a:46:LYS:HE2	1.84	0.42
30:c:73:LEU:HD23	30:c:109:TYR:CD2	2.54	0.42
47:x:32:LYS:HD2	47:x:106:PRO:HA	1.99	0.42
51:SC:63:TYR:CD2	53:SA:76:ARG:NE	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:SI:34:VAL:HG23	54:SI:53:TRP:CH2	2.54	0.42
55:SJ:25:THR:OG1	55:SJ:115:GLU:HB2	2.20	0.42
55:SJ:67:THR:CG2	55:SJ:68:ARG:N	2.82	0.42
61:SO:50:ASP:OD1	61:SO:50:ASP:N	2.47	0.42
61:SO:192:PHE:CE2	61:SO:223:TRP:CE3	3.07	0.42
66:SR:175:GLY:HA3	71:SW:97:LEU:HD22	2.01	0.42
69:SU:31:SER:HB2	69:SU:34:LEU:HB2	2.02	0.42
71:SW:110:GLN:OE1	71:SW:126:ARG:HB2	2.19	0.42
76:Sc:61:SER:HB3	76:Sc:65:ASN:OD1	2.19	0.42
78:Sf:34:ASP:OD1	78:Sf:82:LYS:HG2	2.19	0.42
1:2:330:G:OP2	70:SV:172:ARG:NH2	2.50	0.42
1:2:628:G:O2'	2:A:846:A:N6	2.51	0.42
1:2:1210:C:H2'	1:2:1211:A:C8	2.54	0.42
1:2:1241:G:H3'	1:2:1242:A:H8	1.83	0.42
1:2:1280:C:H2'	1:2:1281:G:C8	2.55	0.42
2:A:296:A:N3	2:A:299:G:O2'	2.50	0.42
2:A:547:G:H2'	2:A:548:G:H8	1.84	0.42
2:A:916:G:C6	5:D:207:VAL:HG11	2.54	0.42
2:A:1300:G:OP2	2:A:1301:A:O2'	2.33	0.42
2:A:1369:A:H5''	30:c:21:ARG:HH11	1.83	0.42
2:A:2190:U:H2'	2:A:2191:U:C6	2.55	0.42
2:A:2341:A:OP2	6:E:247:ARG:NH2	2.53	0.42
2:A:2658:G:H2'	2:A:2659:G:H8	1.85	0.42
2:A:2741:C:O2'	44:q:20:HIS:N	2.43	0.42
3:B:106:U:H2'	3:B:107:C:C6	2.55	0.42
15:N:123:ILE:HG22	37:j:118:ILE:HG12	2.02	0.42
40:m:11:PHE:O	40:m:15:THR:HG22	2.19	0.42
46:s:10:A:C2	46:s:26:G:H1'	2.54	0.42
47:x:211:PHE:HE2	47:x:245:TRP:CH2	2.37	0.42
47:x:501:LEU:O	47:x:504:LEU:HD23	2.19	0.42
47:x:633:ILE:HD11	47:x:645:LEU:HD12	2.01	0.42
47:x:647:ILE:HD13	47:x:685:ARG:HH12	1.83	0.42
58:SB:54:LYS:HB2	58:SB:138:THR:HG21	2.01	0.42
59:SF:95:LYS:HG2	59:SF:96:TYR:CE1	2.54	0.42
63:SG:72:LYS:HA	63:SG:72:LYS:HD2	1.77	0.42
63:SG:109:LEU:HD21	64:SP:49:ASN:HA	2.01	0.42
71:SW:62:ARG:HB3	71:SW:69:ARG:HB2	2.02	0.42
78:Sf:73:LEU:HD23	78:Sf:73:LEU:H	1.85	0.42
79:Sg:29:LYS:HB3	79:Sg:29:LYS:HE3	1.88	0.42
79:Sg:43:ARG:HH11	79:Sg:56:MET:HG2	1.84	0.42
1:2:225:A:O2'	1:2:226:A:OP1	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:431:C:C2	1:2:432:G:C8	3.08	0.42
1:2:468:A:N1	1:2:594:A:O2'	2.50	0.42
1:2:1346:A:H62	1:2:1370:U:H5	1.67	0.42
1:2:1471:A:N6	1:2:1538:U:N3	2.66	0.42
1:2:1667:A:H2'	1:2:1668:G:H8	1.85	0.42
2:A:113:C:OP1	17:P:147:ARG:NH1	2.52	0.42
2:A:375:A:O2'	28:a:87:LYS:NZ	2.52	0.42
2:A:432:G:H2'	2:A:433:A:C8	2.55	0.42
2:A:1229:G:H2'	2:A:1230:G:C8	2.53	0.42
2:A:1298:C:H2'	2:A:1299:U:C6	2.55	0.42
2:A:1491:A:O2'	2:A:1843:C:H4'	2.20	0.42
2:A:1576:G:H2'	2:A:1577:G:C8	2.54	0.42
2:A:1781:C:H2'	2:A:1782:U:C6	2.55	0.42
2:A:2444:C:C2	2:A:2445:A:C8	3.07	0.42
2:A:2936:A:H2'	2:A:2937:G:C8	2.54	0.42
2:A:3105:U:O4	2:A:3106:A:N6	2.53	0.42
2:A:3203:U:H2'	2:A:3204:C:C6	2.54	0.42
4:C:71:A:N6	4:C:87:G:H21	2.17	0.42
17:P:7:LEU:HB3	17:P:46:ASP:OD2	2.19	0.42
18:Q:25[A]:LYS:HA	18:Q:25[A]:LYS:HD2	1.72	0.42
22:U:7:TYR:HE1	22:U:63:GLN:HB2	1.85	0.42
29:b:38:PHE:N	29:b:38:PHE:CD1	2.88	0.42
34:g:102:ALA:HA	34:g:105:ARG:HB2	2.02	0.42
36:i:67:LYS:HE3	36:i:67:LYS:HB2	1.82	0.42
38:k:43:LEU:O	38:k:47:ILE:HG23	2.19	0.42
40:m:33:LYS:HA	40:m:33:LYS:HD3	1.71	0.42
47:x:217:GLY:O	47:x:325:ARG:NH1	2.53	0.42
47:x:598:SER:O	47:x:602:GLU:HG2	2.19	0.42
48:SD:85:LYS:C	48:SD:87:PRO:HD3	2.44	0.42
48:SD:124:LYS:HB2	48:SD:124:LYS:HE3	1.83	0.42
54:SI:131:ASP:O	54:SI:135:ILE:HG22	2.19	0.42
56:SL:43:ASN:HD21	56:SL:63:ALA:HB1	1.84	0.42
58:SB:148:ARG:HA	58:SB:148:ARG:HD2	1.83	0.42
60:SH:83:ALA:O	60:SH:89:GLN:NE2	2.43	0.42
61:SO:81:LEU:HD21	61:SO:122:ILE:HG21	2.01	0.42
61:SO:292:LEU:HA	61:SO:303:ALA:HA	2.01	0.42
61:SO:305:TYR:CE2	61:SO:310:ILE:HA	2.54	0.42
68:ST:67:VAL:HG12	68:ST:69:LEU:HB2	2.01	0.42
1:2:155:U:OP2	77:Sd:132:ARG:NH1	2.44	0.42
1:2:448:C:H2'	1:2:449:C:C6	2.55	0.42
1:2:521:A:O2'	1:2:522:U:H5'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:628:G:N1	1:2:970:A:OP2	2.37	0.42
1:2:1174:C:H42	1:2:1465:C:N4	2.17	0.42
1:2:1318:G:OP2	63:SG:67:ARG:HG2	2.20	0.42
1:2:1321:A:N6	64:SP:135:GLU:OE2	2.52	0.42
1:2:1592:A:H2'	1:2:1593:A:H8	1.85	0.42
1:2:1653:C:H2'	1:2:1654:G:O4'	2.19	0.42
1:2:1698:G:H5''	1:2:1699:G:H21	1.83	0.42
1:2:1799:U:H5	65:SQ:152:ARG:HD3	1.84	0.42
2:A:219:A:O2'	2:A:220:G:N2	2.35	0.42
2:A:713:U:H2'	2:A:714:G:O4'	2.19	0.42
2:A:1237:G:H1	2:A:1251:A:H2	1.59	0.42
2:A:1495:U:H2'	2:A:1842:A:C2	2.54	0.42
2:A:1778:G:O2'	2:A:1780:G:OP2	2.32	0.42
2:A:1806:A:H2'	2:A:1807:G:O4'	2.20	0.42
2:A:1917:C:H2'	2:A:1918:C:C6	2.55	0.42
2:A:3069:G:H2'	2:A:3070:A:H8	1.85	0.42
5:D:8:GLN:NE2	5:D:232:GLY:CA	2.82	0.42
10:I:100:ARG:O	10:I:104:GLN:HG3	2.19	0.42
15:N:67:ARG:HD3	30:c:105:LEU:O	2.20	0.42
29:b:83:THR:HG23	36:i:93:PHE:CZ	2.54	0.42
37:j:8:GLU:H	37:j:8:GLU:HG2	1.61	0.42
45:r:41:PHE:HB2	45:r:60:CYS:SG	2.59	0.42
47:x:439:GLY:O	47:x:441:PHE:HD1	2.02	0.42
47:x:483:PHE:CD2	47:x:485:VAL:HG22	2.54	0.42
47:x:617:ARG:HG3	47:x:617:ARG:HH11	1.84	0.42
55:SJ:99:ILE:HG12	55:SJ:103:ILE:CG1	2.49	0.42
58:SB:208:SER:O	58:SB:212:LYS:HG3	2.19	0.42
61:SO:86:ASP:OD1	61:SO:88:THR:HG22	2.20	0.42
61:SO:244:ALA:CB	61:SO:292:LEU:HG	2.50	0.42
64:SP:84:ARG:O	64:SP:88:LYS:HG2	2.20	0.42
73:SY:3:ARG:HB3	73:SY:6:SER:HB3	2.00	0.42
1:2:78:A:C4	68:ST:175:ILE:CD1	3.03	0.42
1:2:378:A:H2'	1:2:379:U:O4'	2.19	0.42
1:2:798:C:H2'	1:2:799:A:H8	1.85	0.42
1:2:1632:C:N4	1:2:1633:A:N6	2.67	0.42
1:2:1704:U:H2'	1:2:1705:C:C6	2.55	0.42
2:A:229:G:H5''	28:a:4:GLN:HG2	2.02	0.42
2:A:407:A:H2'	2:A:408:A:C8	2.55	0.42
2:A:1098:A:H4'	23:V:130:ARG:O	2.19	0.42
2:A:1102:A:OP1	10:I:155:LYS:NZ	2.51	0.42
2:A:1318:A:N6	18:Q:18[A]:ARG:HD3	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1597:C:H5'	2:A:1696:A:H1'	2.01	0.42
2:A:1661:G:H2'	2:A:1662:G:H8	1.83	0.42
2:A:2177:G:N1	5:D:118:GLU:OE2	2.41	0.42
2:A:2188:A:H2'	2:A:2188:A:N3	2.34	0.42
2:A:2286:U:O4'	2:A:2288:G:H5'	2.20	0.42
2:A:2392:C:O2	6:E:266:ARG:NH2	2.52	0.42
2:A:2407:C:H2'	2:A:2408:U:C6	2.54	0.42
3:B:12:U:OP2	3:B:68:C:O2'	2.37	0.42
6:E:236:LYS:HE3	6:E:236:LYS:HB2	1.74	0.42
6:E:281:LYS:O	6:E:325:LYS:N	2.45	0.42
6:E:369:ARG:HG3	6:E:370:PHE:CE1	2.55	0.42
7:F:206:LEU:HD23	7:F:248:VAL:HG13	2.01	0.42
12:K:176:LEU:HD13	42:o:86:ALA:HB3	2.02	0.42
19:R:10:ASN:HD22	19:R:13:LYS:HG3	1.85	0.42
35:h:18:ARG:NH2	35:h:20:LYS:O	2.52	0.42
46:s:14:A:H3'	46:s:15:G:H8	1.84	0.42
46:s:52:G:H2'	46:s:53:G:C8	2.55	0.42
47:x:73:THR:HB	47:x:440:ARG:CZ	2.50	0.42
48:SD:37:VAL:HG22	51:SC:81:ASN:CG	2.44	0.42
54:SI:63:ARG:HD2	54:SI:67:MET:HE3	2.01	0.42
55:SJ:21:LYS:HZ1	55:SJ:93:LEU:N	2.17	0.42
58:SB:107:LYS:O	58:SB:111:VAL:HG22	2.20	0.42
59:SF:18:ALA:HA	59:SF:69:VAL:HA	2.01	0.42
61:SO:177:MET:CB	61:SO:193:ILE:HD13	2.50	0.42
65:SQ:86:LEU:HB3	65:SQ:98:THR:OG1	2.20	0.42
67:SS:248:ILE:HA	67:SS:251:GLU:OE2	2.20	0.42
69:SU:41:LEU:HD23	69:SU:42:GLN:N	2.35	0.42
69:SU:126:LEU:HB2	69:SU:173:TYR:CE2	2.47	0.42
78:Sf:55:THR:HB	78:Sf:62:ILE:HD13	2.01	0.42
1:2:107:C:H2'	1:2:108:A:C8	2.54	0.42
1:2:419:G:H2'	1:2:420:A:H8	1.84	0.42
1:2:765:G:N7	71:SW:149:ARG:NH2	2.68	0.42
1:2:1383:G:P	55:SJ:89:ARG:HH12	2.42	0.42
1:2:1459:C:OP1	60:SH:131:LEU:HD21	2.19	0.42
1:2:1690:G:C2'	1:2:1691:A:H5'	2.49	0.42
2:A:597:G:H2'	2:A:598:A:H8	1.85	0.42
2:A:650:C:H2'	2:A:651:G:C8	2.54	0.42
2:A:786:A:H1'	2:A:787:G:C8	2.55	0.42
2:A:824:C:O2'	2:A:1534:A:N3	2.51	0.42
2:A:1138:U:O3'	10:I:97:PRO:HD3	2.20	0.42
2:A:1559:A:OP2	27:Z:33:ARG:NH1	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1596:C:H2'	2:A:1597:C:H6	1.84	0.42
2:A:1795:U:N3	45:r:50:GLY:O	2.50	0.42
2:A:2103:U:H2'	2:A:2104:A:C8	2.54	0.42
2:A:2152:A:H4'	5:D:245:LEU:HD12	2.02	0.42
2:A:2176:U:OP1	5:D:54:ARG:NH1	2.40	0.42
2:A:2319:U:H5'	2:A:2320:A:OP1	2.19	0.42
2:A:3139:A:H2'	2:A:3140:G:O4'	2.19	0.42
2:A:3261:C:H2'	2:A:3262:U:C6	2.54	0.42
3:B:116:C:H2'	3:B:117:A:C8	2.55	0.42
7:F:286:VAL:O	7:F:290:ILE:HG12	2.19	0.42
11:J:62:LYS:HB3	11:J:62:LYS:HE2	1.81	0.42
13:L:93:PRO:HB2	13:L:125:LEU:HB3	2.02	0.42
13:L:171:TRP:CD1	13:L:171:TRP:C	2.98	0.42
14:M:91:LEU:HD12	14:M:163:PHE:CE2	2.55	0.42
17:P:143:ARG:HG2	37:j:96:GLU:OE1	2.20	0.42
18:Q:152[A]:VAL:HA	18:Q:155[A]:LYS:HE3	2.01	0.42
26:Y:8:PHE:O	26:Y:46:PRO:HB3	2.20	0.42
47:x:255:LYS:HB3	47:x:256:LYS:H	1.71	0.42
53:SA:71:LEU:HD13	53:SA:71:LEU:HA	1.85	0.42
60:SH:15:LEU:HD12	60:SH:15:LEU:HA	1.82	0.42
63:SG:20:TYR:CE2	63:SG:38:ILE:HD13	2.54	0.42
64:SP:122:ILE:O	64:SP:122:ILE:HG22	2.19	0.42
65:SQ:70:LEU:HB2	65:SQ:84:ILE:HD12	2.01	0.42
65:SQ:97:LEU:HD22	65:SQ:232:HIS:CG	2.55	0.42
66:SR:118:ALA:HB3	66:SR:124:ALA:HB2	2.02	0.42
67:SS:126:VAL:HA	67:SS:141:THR:HA	2.00	0.42
1:2:43:A:H2'	1:2:44:U:C6	2.55	0.42
1:2:845:G:H2'	1:2:846:G:O4'	2.20	0.42
1:2:1115:U:H2'	1:2:1116:A:C8	2.55	0.42
1:2:1232:U:H2'	1:2:1233:G:C8	2.55	0.42
1:2:1689:A:H2'	1:2:1690:G:H8	1.83	0.42
2:A:49:A:N7	17:P:187:ARG:NH1	2.68	0.42
2:A:675:C:O2'	2:A:679:U:OP1	2.34	0.42
2:A:1261:G:N2	2:A:1261:G:OP2	2.53	0.42
2:A:1617:G:H2'	2:A:1618:G:C8	2.55	0.42
2:A:2149:A:C2	2:A:2188:A:H4'	2.55	0.42
2:A:2203:U:H2'	2:A:2204:C:C6	2.54	0.42
2:A:2407:C:H2'	2:A:2408:U:H6	1.85	0.42
2:A:2407:C:H1'	2:A:2818:U:H3	1.85	0.42
2:A:2477:G:N3	2:A:2477:G:H2'	2.35	0.42
2:A:3051:U:H2'	2:A:3052:G:H8	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:81:U:C2	4:C:83:C:H5''	2.55	0.42
5:D:201:GLY:HA2	5:D:204:MET:HB2	2.01	0.42
6:E:142:ALA:O	6:E:145:GLU:HG2	2.20	0.42
14:M:112:LEU:HD12	14:M:114:ILE:HG12	2.00	0.42
15:N:126:PHE:O	37:j:114:ARG:NH2	2.53	0.42
25:X:37:ILE:HG12	25:X:59:MET:C	2.45	0.42
28:a:42:GLN:C	28:a:43:TYR:HD1	2.27	0.42
47:x:22:MET:HE2	47:x:342:LEU:CD1	2.50	0.42
47:x:264:ALA:HB3	47:x:268:PRO:HA	2.01	0.42
47:x:406:LYS:HE2	47:x:406:LYS:HB3	1.78	0.42
52:SE:17:TYR:C	52:SE:19:GLY:H	2.28	0.42
53:SA:118:ALA:O	53:SA:122:VAL:HG12	2.20	0.42
60:SH:42:TYR:CE2	60:SH:99:HIS:CD2	3.07	0.42
64:SP:13:ASP:N	64:SP:13:ASP:OD1	2.53	0.42
67:SS:236:ILE:HD12	67:SS:236:ILE:HA	1.87	0.42
1:2:66:U:C4	68:ST:133:LEU:HB2	2.55	0.42
1:2:231:U:H1'	1:2:235:G:N2	2.35	0.42
1:2:976:G:N1	1:2:1023:A:H1'	2.35	0.42
1:2:992:A:H2	1:2:1012:U:N3	2.11	0.42
2:A:638:C:H1'	2:A:1434:G:H22	1.85	0.42
2:A:974:G:N1	2:A:1108:U:O4	2.53	0.42
2:A:1592:G:OP1	36:i:58:ARG:NH2	2.53	0.42
2:A:1819:U:H2'	2:A:1820:U:C2	2.55	0.42
2:A:3099:C:H2'	2:A:3100:U:C6	2.54	0.42
2:A:3112:G:H21	2:A:3122:A:H62	1.66	0.42
6:E:261:MET:HE2	6:E:261:MET:HB3	1.80	0.42
13:L:66:GLU:O	13:L:70:ILE:HG12	2.20	0.42
16:O:8:LYS:HD2	16:O:8:LYS:HA	1.87	0.42
18:Q:9[A]:ILE:HG21	18:Q:19[A]:LEU:HD11	2.02	0.42
21:T:149:ALA:O	21:T:153:LYS:HD3	2.20	0.42
23:V:11:THR:HB	23:V:15:PHE:HD2	1.83	0.42
31:d:18:ARG:HH11	31:d:18:ARG:HG2	1.84	0.42
41:n:49:MET:HB3	41:n:51:ILE:HG12	2.01	0.42
44:q:71:ARG:HH21	44:q:80:ARG:HG2	1.85	0.42
47:x:284:LEU:HD11	47:x:303:LEU:CD1	2.48	0.42
57:SM:10:HIS:HA	57:SM:11:PRO:HD3	1.91	0.42
59:SF:28:LEU:HD21	59:SF:30:LYS:HE2	2.02	0.42
59:SF:52:LEU:HD13	59:SF:60:PHE:CD2	2.55	0.42
61:SO:221:MET:HE1	61:SO:232:TYR:H	1.84	0.42
61:SO:301:LEU:O	61:SO:312:VAL:HG13	2.19	0.42
69:SU:62:VAL:HG22	69:SU:70:PHE:CD2	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:SW:45:ILE:HA	71:SW:48:GLN:OE1	2.20	0.42
75:Sb:14:ILE:HD12	75:Sb:14:ILE:H	1.85	0.42
75:Sb:86:ILE:HD12	75:Sb:86:ILE:HA	1.93	0.42
1:2:689:G:H2'	1:2:690:G:C8	2.55	0.41
1:2:859:A:N7	73:SY:69:ASN:ND2	2.68	0.41
1:2:1484:G:H21	1:2:1606:C:H1'	1.85	0.41
2:A:21:G:OP1	4:C:36:G:N1	2.40	0.41
2:A:336:A:OP1	28:a:10:SER:OG	2.35	0.41
2:A:689:U:O4	7:F:209:TYR:OH	2.30	0.41
2:A:1362:G:H2'	2:A:1363:A:C8	2.55	0.41
2:A:1643:A:O2'	2:A:1644:C:O4'	2.32	0.41
2:A:3154:C:O2'	2:A:3155:U:H5'	2.20	0.41
9:H:167:ASN:OD1	9:H:167:ASN:N	2.50	0.41
23:V:74:VAL:HG12	23:V:76:ILE:HG12	2.02	0.41
29:b:24:VAL:HG11	29:b:87:LEU:HD13	2.02	0.41
32:e:55:GLU:HA	36:i:94:LEU:HD21	2.02	0.41
37:j:102:GLU:OE2	37:j:102:GLU:HA	2.20	0.41
47:x:735:CYS:CB	47:x:791:GLN:HE22	2.33	0.41
49:SZ:50:ALA:C	49:SZ:52:ARG:H	2.28	0.41
63:SG:69:ILE:HD12	63:SG:71:PHE:CE2	2.55	0.41
66:SR:235:LEU:HD12	66:SR:236:PRO:HD2	2.02	0.41
67:SS:175:PHE:HE2	67:SS:198:LYS:HD2	1.84	0.41
1:2:560:U:H2'	1:2:561:G:H8	1.84	0.41
1:2:826:U:O2'	1:2:827:C:H5'	2.20	0.41
1:2:927:C:H1'	49:SZ:124:ASP:O	2.20	0.41
1:2:1391:A:H2'	1:2:1392:U:C6	2.55	0.41
1:2:1624:C:H2'	1:2:1625:C:H6	1.84	0.41
1:2:1648:A:H2'	1:2:1649:G:C8	2.55	0.41
1:2:1787:C:H2'	1:2:1788:G:C8	2.54	0.41
2:A:260:C:H2'	2:A:261:U:H6	1.84	0.41
2:A:412:G:H2'	2:A:413:U:H6	1.84	0.41
2:A:1117:G:O6	2:A:1142:G:N2	2.53	0.41
2:A:1411:C:O3'	34:g:121:ASN:ND2	2.53	0.41
2:A:1435:A:N6	2:A:1437:C:O2	2.53	0.41
2:A:2222:A:N6	2:A:2782:U:O2'	2.43	0.41
2:A:2708:C:H2'	2:A:2709:C:C6	2.55	0.41
2:A:2902:A:H2'	2:A:2903:A:O4'	2.20	0.41
2:A:3040:A:C2	2:A:3041:U:C5	3.08	0.41
2:A:3352:U:O2'	2:A:3353:G:N7	2.53	0.41
10:I:64:GLN:O	10:I:68:ASP:OD2	2.38	0.41
12:K:57:VAL:HG23	12:K:68:LEU:HD12	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:19:LEU:O	14:M:68:HIS:HA	2.20	0.41
15:N:66:ASN:OD1	15:N:66:ASN:C	2.63	0.41
16:O:137:LYS:HE3	16:O:137:LYS:HB3	1.89	0.41
17:P:100:ALA:O	17:P:103:GLU:HG2	2.20	0.41
17:P:123:GLN:HB2	17:P:128:LYS:HG2	2.01	0.41
24:W:24:GLU:C	24:W:24:GLU:OE1	2.63	0.41
47:x:62:ASP:OD2	47:x:547:HIS:NE2	2.53	0.41
47:x:490:GLN:HE22	47:x:560:VAL:HG23	1.85	0.41
48:SD:59:LEU:HD12	48:SD:123:VAL:HG21	2.02	0.41
52:SE:72:LYS:HA	52:SE:72:LYS:HD3	1.76	0.41
52:SE:83:MET:HE2	52:SE:83:MET:HB2	1.86	0.41
52:SE:116:LEU:HD23	52:SE:116:LEU:H	1.86	0.41
52:SE:121:ILE:HD11	52:SE:123:TYR:CE1	2.55	0.41
54:SI:12:GLN:NE2	54:SI:13:ASP:OD1	2.53	0.41
55:SJ:26:LEU:HB3	55:SJ:34:LEU:CD1	2.50	0.41
58:SB:84:LYS:HE2	58:SB:165:LEU:HD11	2.02	0.41
59:SF:23:LYS:HA	59:SF:92:TYR:HE2	1.86	0.41
59:SF:30:LYS:H	59:SF:30:LYS:HG2	1.64	0.41
68:ST:48:TYR:CE1	68:ST:116:LYS:HA	2.55	0.41
68:ST:200:ALA:HA	68:ST:203:GLU:HG2	2.02	0.41
71:SW:114:TYR:HD2	71:SW:122:VAL:HG13	1.84	0.41
1:2:97:C:H2'	1:2:98:U:C6	2.55	0.41
1:2:381:C:H2'	1:2:382:C:C6	2.56	0.41
1:2:395:U:O4	1:2:399:A:N7	2.53	0.41
1:2:507:U:H2'	1:2:508:U:O4'	2.20	0.41
1:2:606:A:H1'	1:2:609:U:OP1	2.20	0.41
1:2:824:G:C2'	1:2:825:U:H5'	2.51	0.41
1:2:1471:A:H2	1:2:1474:G:H21	1.68	0.41
1:2:1667:A:H2'	1:2:1668:G:C8	2.55	0.41
2:A:39:A:H5''	30:c:35:ALA:HB2	2.01	0.41
2:A:1234:G:OP2	2:A:1235:U:H3'	2.20	0.41
2:A:1590:G:O2'	2:A:1797:A:N6	2.53	0.41
2:A:2180:G:H2'	2:A:2181:C:C6	2.56	0.41
2:A:2609:A:H2'	2:A:2610:G:H8	1.85	0.41
4:C:7:U:H2'	4:C:8:C:C6	2.54	0.41
4:C:20:U:H2'	4:C:21:C:H6	1.85	0.41
4:C:104:A:OP2	4:C:105:A:H2'	2.21	0.41
5:D:140:ASN:OD1	5:D:140:ASN:C	2.63	0.41
8:G:280:GLU:HG2	8:G:281:GLU:N	2.35	0.41
10:I:97:PRO:O	10:I:100:ARG:HG2	2.19	0.41
13:L:99:ILE:HD11	13:L:123:HIS:CG	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:S:89:ASP:OD1	20:S:89:ASP:C	2.63	0.41
48:SD:93:ASP:O	48:SD:97:LEU:HD23	2.20	0.41
49:SZ:46:MET:SD	49:SZ:46:MET:N	2.88	0.41
51:SC:16:PHE:C	51:SC:16:PHE:CD1	2.98	0.41
52:SE:43:ARG:HH21	52:SE:47:ARG:HH21	1.67	0.41
52:SE:83:MET:HE2	52:SE:116:LEU:HD22	2.01	0.41
60:SH:92:ILE:HD13	60:SH:92:ILE:HA	1.86	0.41
61:SO:64:HIS:ND1	61:SO:84:SER:HB2	2.36	0.41
63:SG:107:SER:C	63:SG:111:LYS:HE2	2.45	0.41
69:SU:21:ALA:HA	69:SU:24:PHE:HD1	1.85	0.41
71:SW:152:SER:O	71:SW:156:ILE:HG12	2.21	0.41
76:Sc:52:ILE:O	76:Sc:74:VAL:HG23	2.20	0.41
1:2:210:A:H2'	1:2:211:U:H6	1.85	0.41
1:2:788:A:C4	67:SS:19:LEU:HD11	2.55	0.41
1:2:827:C:N4	1:2:846:G:O6	2.54	0.41
1:2:1774:G:OP1	43:p:7:LYS:NZ	2.53	0.41
2:A:143:G:H2'	2:A:144:A:C8	2.55	0.41
2:A:768:C:H2'	2:A:769:G:O4'	2.21	0.41
2:A:865:U:C2	2:A:866:A:C8	3.07	0.41
2:A:911:C:H42	5:D:3:ARG:HH11	1.68	0.41
2:A:1072:G:H2'	2:A:1073:U:C6	2.55	0.41
2:A:1491:A:H5'	39:l:12:HIS:O	2.20	0.41
2:A:1578:C:OP1	11:J:43:LYS:NZ	2.41	0.41
2:A:1783:U:H2'	2:A:1784:G:C8	2.55	0.41
2:A:1809:A:P	29:b:65:ARG:HH12	2.43	0.41
2:A:1919:G:N2	2:A:1934:G:C6	2.89	0.41
2:A:2103:U:H2'	2:A:2104:A:H8	1.86	0.41
2:A:2206:G:O2'	2:A:2207:A:O5'	2.31	0.41
2:A:2440:G:H2'	2:A:2441:A:H8	1.86	0.41
2:A:2840:C:H2'	2:A:2841:G:O4'	2.21	0.41
2:A:2881:C:H2'	2:A:2882:U:C6	2.56	0.41
2:A:3016:A:H2'	2:A:3017:A:C8	2.55	0.41
2:A:3266:G:OP2	9:H:70:LYS:NZ	2.50	0.41
4:C:57:C:H4'	4:C:63:G:N7	2.35	0.41
4:C:149:A:H2'	4:C:150:G:C8	2.55	0.41
6:E:77:THR:OG1	6:E:326:GLY:O	2.29	0.41
6:E:137:TYR:HA	6:E:144:ILE:HD13	2.02	0.41
7:F:64:SER:HA	7:F:75:PRO:HA	2.02	0.41
7:F:122:THR:O	7:F:126:ILE:HG13	2.20	0.41
9:H:145:LEU:HD23	9:H:145:LEU:HA	1.82	0.41
10:I:56:GLU:HA	10:I:56:GLU:OE2	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Q:172[A]:ARG:HA	18:Q:175[A]:THR:HG22	2.01	0.41
19:R:32:THR:O	19:R:36:ILE:HG23	2.20	0.41
20:S:122:ILE:HD13	20:S:130:ARG:HH21	1.85	0.41
23:V:87:LYS:HZ3	23:V:87:LYS:HG2	1.79	0.41
28:a:42:GLN:HG2	28:a:43:TYR:HE1	1.80	0.41
41:n:21:ARG:N	41:n:41:ARG:HH12	2.18	0.41
47:x:19:VAL:HG12	47:x:99:LEU:HB3	2.02	0.41
47:x:535:GLU:HG3	47:x:536:LEU:N	2.34	0.41
47:x:729:PHE:CE2	47:x:796:MET:HB3	2.55	0.41
49:SZ:11:SER:O	49:SZ:12:GLN:HG2	2.20	0.41
53:SA:67:ASN:OD1	53:SA:71:LEU:HD23	2.21	0.41
58:SB:63:GLN:HE22	58:SB:88:PRO:HA	1.85	0.41
59:SF:52:LEU:HD12	59:SF:57:LEU:HD23	2.02	0.41
60:SH:143:ARG:HD3	60:SH:143:ARG:HA	1.87	0.41
62:SN:83:LYS:HD3	62:SN:85:TYR:CE2	2.55	0.41
64:SP:167:LYS:HD3	64:SP:204:TYR:CE1	2.55	0.41
67:SS:100:ARG:NH2	67:SS:118:GLU:O	2.49	0.41
71:SW:156:ILE:HD13	71:SW:156:ILE:HA	1.95	0.41
1:2:540:G:H1'	1:2:542:A:C2	2.56	0.41
1:2:842:C:H2'	1:2:843:U:O4'	2.21	0.41
1:2:1006:C:O2'	49:SZ:136:ARG:O	2.33	0.41
1:2:1532:U:P	80:SK:77:ARG:HH21	2.43	0.41
2:A:597:G:H2'	2:A:598:A:C8	2.55	0.41
2:A:1318:A:H62	18:Q:18[A]:ARG:HD3	1.84	0.41
2:A:1408:G:OP1	34:g:33:ARG:NH2	2.54	0.41
2:A:1448:U:H2'	2:A:1449:A:C8	2.55	0.41
2:A:1507:G:H1'	19:R:139:TYR:CE2	2.56	0.41
2:A:1804:A:H2'	2:A:1805:C:C6	2.55	0.41
2:A:1889:G:OP1	6:E:247:ARG:N	2.51	0.41
2:A:2270:A:H2'	2:A:2271:A:C8	2.56	0.41
2:A:2277:C:H2'	2:A:2278:C:C6	2.55	0.41
2:A:2683:U:H2'	2:A:2684:C:C6	2.55	0.41
2:A:2877:G:H2'	2:A:2878:G:H8	1.85	0.41
2:A:3027:A:H2'	2:A:3028:G:C8	2.55	0.41
2:A:3303:G:N2	2:A:3312:U:H1'	2.35	0.41
3:B:45:A:H2'	3:B:46:A:H8	1.85	0.41
11:J:78:PHE:C	11:J:80:TYR:H	2.27	0.41
25:X:45:ARG:HB3	25:X:48:ARG:HB3	2.02	0.41
29:b:10:VAL:HG11	29:b:85:TYR:HB2	2.01	0.41
34:g:86:THR:HG22	34:g:115:LEU:HD23	2.02	0.41
36:i:11:ASN:HB3	36:i:18:ASN:ND2	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:x:127:VAL:HG23	47:x:155:VAL:HA	2.01	0.41
47:x:418:TYR:O	47:x:477:ASN:ND2	2.53	0.41
47:x:706:ILE:HA	47:x:709:MET:HE3	2.01	0.41
50:Se:3:LYS:HD2	50:Se:3:LYS:HA	1.92	0.41
54:SI:57:ARG:NH1	54:SI:101:ASN:OD1	2.51	0.41
58:SB:35:GLN:O	58:SB:38:THR:OG1	2.38	0.41
58:SB:105:GLY:C	58:SB:106:LYS:HG2	2.46	0.41
60:SH:101:LEU:HD23	60:SH:101:LEU:HA	1.80	0.41
61:SO:150:TRP:CD1	61:SO:151:VAL:N	2.86	0.41
64:SP:136:ALA:HB1	64:SP:141:ILE:HB	2.03	0.41
67:SS:128:LYS:NZ	67:SS:130:GLN:HE22	2.18	0.41
72:SX:82:ARG:HG3	72:SX:110:HIS:CE1	2.55	0.41
77:Sd:112:LYS:HA	77:Sd:115:ASP:OD2	2.20	0.41
80:SK:61:SER:HB2	80:SK:64:VAL:HG23	2.03	0.41
1:2:200:A:H2'	1:2:201:G:C8	2.56	0.41
1:2:387:A:H2'	1:2:402:C:H5'	2.02	0.41
1:2:596:C:H2'	1:2:597:G:H8	1.86	0.41
1:2:617:U:H2'	1:2:618:U:C6	2.55	0.41
1:2:1142:A:H2'	1:2:1143:A:C8	2.56	0.41
1:2:1344:A:O2'	1:2:1345:A:C8	2.68	0.41
1:2:1393:C:H2'	1:2:1394:G:C8	2.54	0.41
1:2:1732:A:H2'	1:2:1733:C:C6	2.55	0.41
1:2:1780:G:H2'	1:2:1781:A:C8	2.56	0.41
2:A:640:U:OP2	34:g:38:ILE:HG12	2.21	0.41
2:A:937:G:H5'	30:c:29:PRO:HA	2.03	0.41
2:A:1190:A:H2'	2:A:1190:A:N3	2.35	0.41
2:A:1557:A:OP1	11:J:51:LYS:NZ	2.41	0.41
2:A:2322:C:O2'	2:A:2323:G:H5'	2.21	0.41
2:A:2656:A:N7	2:A:2658:G:C8	2.89	0.41
2:A:2769:A:O2'	44:q:80:ARG:O	2.36	0.41
2:A:3028:G:O2'	2:A:3029:A:OP1	2.30	0.41
2:A:3160:U:H2'	2:A:3161:C:C6	2.56	0.41
2:A:3302:U:H2'	2:A:3303:G:C8	2.56	0.41
3:B:57:G:H4'	14:M:138:VAL:HG11	2.02	0.41
4:C:143:U:H2'	4:C:144:G:C8	2.56	0.41
7:F:207:VAL:HB	7:F:227:THR:HG22	2.02	0.41
10:I:107:ARG:HE	10:I:204:PRO:HG3	1.85	0.41
11:J:154:ALA:HA	11:J:180:VAL:O	2.20	0.41
16:O:60:LEU:HA	16:O:60:LEU:HD23	1.83	0.41
21:T:164:LEU:HD12	21:T:164:LEU:HA	1.96	0.41
25:X:92:PHE:O	26:Y:20:LEU:N	2.46	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Y:4:GLU:O	26:Y:5:ILE:HD13	2.21	0.41
30:c:77:LYS:O	30:c:80:THR:OG1	2.32	0.41
33:f:110:GLU:OE1	33:f:110:GLU:N	2.50	0.41
36:i:107:GLU:O	36:i:110:GLU:HG3	2.20	0.41
39:l:21:ARG:HH21	39:l:39:TYR:HA	1.85	0.41
48:SD:70:ASN:HA	48:SD:73:LYS:HB3	2.03	0.41
60:SH:4:VAL:HG13	80:SK:42:LEU:HD23	2.02	0.41
60:SH:57:ARG:HA	60:SH:57:ARG:HD3	1.92	0.41
62:SN:110:ALA:O	62:SN:111:GLU:HG2	2.20	0.41
65:SQ:108:ASP:OD1	65:SQ:108:ASP:C	2.64	0.41
68:ST:5:ILE:HD12	68:ST:111:LEU:O	2.20	0.41
69:SU:129:LEU:O	69:SU:129:LEU:HD12	2.20	0.41
76:Sc:121:ARG:HG3	76:Sc:122:PHE:CZ	2.56	0.41
77:Sd:15:ASN:HD21	77:Sd:18:LEU:HD12	1.85	0.41
1:2:199:G:H2'	1:2:200:A:C8	2.56	0.41
1:2:612:U:OP2	1:2:613:G:O2'	2.37	0.41
1:2:976:G:H1	1:2:1023:A:H1'	1.84	0.41
1:2:1228:G:H22	48:SD:67:THR:HB	1.85	0.41
1:2:1254:U:H2'	1:2:1255:G:C8	2.56	0.41
2:A:8:C:H2'	2:A:9:U:H6	1.85	0.41
2:A:213:A:N6	2:A:228:U:O4'	2.54	0.41
2:A:631:U:H2'	2:A:632:G:C8	2.56	0.41
2:A:632:G:H2'	2:A:633:C:C6	2.56	0.41
2:A:1187:C:O2'	2:A:1295:G:N2	2.53	0.41
2:A:1293:U:H2'	2:A:1294:A:C8	2.55	0.41
2:A:1624:G:O2'	2:A:1643:A:N1	2.47	0.41
2:A:1640:G:H2'	2:A:1641:U:C6	2.56	0.41
2:A:1869:C:H2'	2:A:1870:C:C6	2.55	0.41
2:A:2778:G:H2'	2:A:2779:A:C8	2.56	0.41
2:A:3025:C:H2'	2:A:3026:G:O4'	2.21	0.41
3:B:52:G:H2'	3:B:53:U:C6	2.56	0.41
12:K:93:VAL:HG23	12:K:177:ASP:HA	2.03	0.41
13:L:152:LEU:HB3	13:L:165:ILE:HD13	2.03	0.41
17:P:180:PHE:N	17:P:180:PHE:CD1	2.87	0.41
25:X:57:MET:HE2	25:X:57:MET:HB2	1.89	0.41
29:b:9:LYS:NZ	29:b:83:THR:O	2.47	0.41
32:e:27:TYR:O	32:e:30:THR:HG22	2.21	0.41
40:m:26:LYS:HA	40:m:26:LYS:HD2	1.86	0.41
53:SA:25:PHE:HE2	53:SA:50:ILE:HG13	1.86	0.41
53:SA:41:VAL:HG23	53:SA:46:THR:HG22	2.02	0.41
53:SA:215:GLU:HA	53:SA:216:PRO:HD3	1.93	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:SF:44:LEU:HD12	59:SF:47:LYS:HD2	2.02	0.41
60:SH:28:ILE:HD12	60:SH:31:ALA:HB3	2.03	0.41
65:SQ:23:PRO:O	65:SQ:27:LYS:HG2	2.21	0.41
66:SR:139:ILE:HD12	66:SR:218:ILE:CD1	2.51	0.41
70:SV:64:ASN:O	70:SV:180:ASP:HA	2.21	0.41
70:SV:84:HIS:CD2	70:SV:90:LEU:CD1	3.03	0.41
70:SV:159:GLN:HB3	70:SV:165:LEU:HD23	2.02	0.41
1:2:1028:C:H4'	1:2:1029:U:H2'	2.03	0.41
1:2:1036:A:H2'	1:2:1037:C:C6	2.55	0.41
1:2:1239:U:H2'	1:2:1240:U:O4'	2.20	0.41
1:2:1382:A:O2'	1:2:1383:G:H8	2.03	0.41
1:2:1471:A:N3	1:2:1471:A:H2'	2.36	0.41
1:2:1508:U:H2'	1:2:1509:C:H6	1.86	0.41
1:2:1778:G:H2'	1:2:1779:U:C6	2.55	0.41
2:A:129:U:H2'	2:A:130:A:C8	2.55	0.41
2:A:308:A:H1'	2:A:2222:A:N3	2.36	0.41
2:A:576:C:H2'	2:A:577:C:C6	2.55	0.41
2:A:725:G:H2'	2:A:726:G:O4'	2.21	0.41
2:A:887:G:H2'	2:A:888:A:C8	2.56	0.41
2:A:1415:U:H2'	2:A:1416:C:O4'	2.20	0.41
2:A:2202:C:H5''	5:D:226:SER:HB2	2.02	0.41
2:A:3113:A:H4'	12:K:69:ARG:HG3	2.01	0.41
4:C:24:G:H2'	4:C:25:G:C8	2.56	0.41
5:D:198:LYS:HB3	5:D:198:LYS:HE3	1.94	0.41
8:G:22:ARG:HD3	8:G:22:ARG:HA	1.91	0.41
12:K:23:ARG:NH1	12:K:39:LYS:O	2.54	0.41
12:K:138:THR:OG1	12:K:139:ASN:N	2.53	0.41
18:Q:108[A]:ILE:HG13	18:Q:160[A]:ARG:HH11	1.86	0.41
19:R:172:GLN:O	19:R:176:ILE:HG22	2.20	0.41
20:S:63:SER:HB2	20:S:90:ASP:HB2	2.02	0.41
33:f:10:ARG:NH1	33:f:12:TYR:OH	2.53	0.41
39:l:39:TYR:HB3	39:l:40:PRO:HD3	2.02	0.41
46:t:50:U:H2'	46:t:51:C:H6	1.86	0.41
48:SD:135:MET:C	48:SD:136:ILE:HD13	2.46	0.41
51:SC:20:VAL:HG22	53:SA:71:LEU:HB3	2.03	0.41
53:SA:217:ILE:HG13	53:SA:218:LEU:H	1.86	0.41
58:SB:209:TYR:CZ	58:SB:213:LYS:HD2	2.56	0.41
61:SO:174:ASN:HB3	61:SO:198:ASN:ND2	2.36	0.41
64:SP:55:GLU:O	64:SP:58:VAL:HG12	2.20	0.41
67:SS:105:VAL:HG21	67:SS:245:LYS:H	1.85	0.41
73:SY:129:TYR:HD1	73:SY:129:TYR:HA	1.81	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:Sb:24:GLN:OE1	75:Sb:24:GLN:N	2.53	0.41
76:Sc:69:ARG:NH2	76:Sc:116:ASP:OD2	2.40	0.41
1:2:86:A:H2'	1:2:87:C:C6	2.56	0.41
1:2:171:A:H2'	1:2:172:C:C6	2.56	0.41
1:2:563:U:H2'	1:2:564:G:O4'	2.21	0.41
1:2:747:C:H2'	1:2:748:U:C6	2.55	0.41
1:2:925:G:C2	1:2:988:A:H1'	2.56	0.41
1:2:1035:G:C2	1:2:1036:A:N7	2.89	0.41
1:2:1775:U:P	43:p:11:ARG:HH22	2.44	0.41
1:2:1789:G:H2'	1:2:1790:A:H8	1.86	0.41
2:A:81:C:H2'	2:A:82:C:C6	2.56	0.41
2:A:794:U:H2'	2:A:795:G:H8	1.85	0.41
2:A:949:C:H2'	2:A:950:G:O4'	2.21	0.41
2:A:998:A:H2'	2:A:999:G:C8	2.55	0.41
2:A:1564:U:O5'	2:A:1564:U:H6	2.04	0.41
2:A:1574:C:H3'	2:A:1575:A:H8	1.85	0.41
2:A:1626:U:H2'	2:A:1627:U:C6	2.56	0.41
2:A:1767:C:H2'	2:A:1768:U:C6	2.56	0.41
2:A:2573:G:H2'	2:A:2574:G:H8	1.85	0.41
2:A:2631:U:H2'	2:A:2632:G:C8	2.56	0.41
2:A:3131:U:H2'	2:A:3132:C:C6	2.55	0.41
2:A:3307:A:OP1	6:E:226:PHE:HB2	2.20	0.41
3:B:113:C:H2'	3:B:114:U:O4'	2.21	0.41
7:F:292:SER:OG	7:F:294:GLU:OE1	2.39	0.41
10:I:52:GLN:C	10:I:52:GLN:OE1	2.63	0.41
13:L:76:MET:CB	13:L:85:PHE:CE2	3.00	0.41
18:Q:127[A]:LEU:HD11	22:U:168:PRO:HG3	2.03	0.41
28:a:119:ILE:HG22	28:a:124:GLY:HA3	2.01	0.41
30:c:148:ILE:HD12	30:c:148:ILE:HA	1.95	0.41
32:e:11:ASN:OD1	32:e:11:ASN:N	2.52	0.41
35:h:16:TYR:CD2	35:h:25:PRO:HA	2.56	0.41
39:l:31:LYS:HB2	39:l:31:LYS:HE2	1.74	0.41
42:o:104:PRO:HD3	42:o:111:ARG:HH12	1.85	0.41
47:x:5:THR:HG23	47:x:8:GLN:H	1.86	0.41
47:x:274:ASN:OD1	47:x:274:ASN:N	2.53	0.41
47:x:742:GLY:O	47:x:746:VAL:HG22	2.21	0.41
52:SE:70:ASN:OD1	52:SE:70:ASN:C	2.64	0.41
52:SE:93:VAL:HB	52:SE:104:GLN:NE2	2.36	0.41
53:SA:21:LEU:HD23	53:SA:37:VAL:HG21	2.03	0.41
54:SI:92:LYS:CD	54:SI:94:ILE:HD11	2.48	0.41
58:SB:144:GLU:OE1	58:SB:144:GLU:HA	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SP:16:LEU:HB3	64:SP:172:LEU:HD21	2.03	0.41
65:SQ:48:VAL:CB	65:SQ:61:LEU:HD21	2.51	0.41
66:SR:82:ASN:OD1	66:SR:82:ASN:C	2.64	0.41
67:SS:70:VAL:HG12	67:SS:72:VAL:HG23	2.03	0.41
67:SS:86:PHE:HB2	67:SS:103:TYR:HE1	1.85	0.41
67:SS:180:LEU:HD12	67:SS:180:LEU:HA	1.91	0.41
68:ST:194:LYS:HE3	68:ST:194:LYS:HB2	1.95	0.41
69:SU:63:PRO:O	69:SU:64:VAL:HG23	2.21	0.41
70:SV:110:ARG:O	70:SV:114:GLU:HG2	2.20	0.41
71:SW:107:ARG:HH12	71:SW:150:LEU:HD13	1.86	0.41
72:SX:26:LYS:O	72:SX:30:ARG:NH2	2.53	0.41
1:2:386:G:N3	1:2:425:A:H2	2.18	0.41
1:2:583:C:H2'	1:2:584:C:C6	2.56	0.41
1:2:778:G:H1	77:Sd:10:ARG:HE	1.69	0.41
1:2:895:G:C6	1:2:918:U:N3	2.89	0.41
1:2:1523:G:O2'	54:SI:79:LEU:HB2	2.21	0.41
1:2:1584:G:N2	1:2:1611:A:OP2	2.54	0.41
1:2:1680:G:N2	1:2:1720:G:H2'	2.36	0.41
2:A:245:U:H2'	2:A:246:U:H6	1.86	0.41
2:A:886:C:H2'	2:A:887:G:H8	1.86	0.41
2:A:1550:C:H2'	2:A:1551:C:C6	2.56	0.41
2:A:1746:U:O2'	40:m:4:GLU:OE1	2.38	0.41
2:A:2658:G:H2'	2:A:2659:G:C8	2.56	0.41
2:A:2724:U:OP2	2:A:2726:C:N4	2.54	0.41
2:A:3121:U:H4'	2:A:3122:A:OP1	2.21	0.41
2:A:3183:A:H2'	2:A:3184:A:H8	1.86	0.41
2:A:3285:C:H2'	2:A:3286:G:C8	2.56	0.41
5:D:116:VAL:HG23	5:D:126:LEU:HB2	2.03	0.41
7:F:132:ALA:HB2	7:F:148:ILE:CG2	2.51	0.41
8:G:211:LEU:HD12	8:G:218:ARG:HB3	2.03	0.41
11:J:154:ALA:HB3	11:J:157:VAL:HG22	2.02	0.41
14:M:106:ILE:HD13	14:M:106:ILE:HA	1.90	0.41
14:M:165:GLN:OE1	14:M:166:LYS:HB2	2.20	0.41
22:U:6:GLU:HB3	22:U:64:ILE:HB	2.03	0.41
23:V:14:MET:HE1	23:V:55:LYS:HB3	2.03	0.41
23:V:69:LYS:NZ	23:V:70:SER:OG	2.38	0.41
30:c:59:ARG:HH12	44:q:38:GLN:HE21	1.69	0.41
45:r:83:ILE:HD13	45:r:83:ILE:HA	1.90	0.41
47:x:240:MET:SD	47:x:240:MET:O	2.79	0.41
47:x:736:PRO:HA	47:x:766:PHE:H	1.85	0.41
50:Se:60:PRO:HB2	50:Se:61:GLU:OE1	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:SB:211:ILE:HD13	58:SB:211:ILE:HA	1.97	0.41
59:SF:49:TYR:O	59:SF:53:LEU:HG	2.22	0.41
59:SF:74:HIS:O	59:SF:77:GLN:HB2	2.20	0.41
59:SF:132:LYS:HG2	59:SF:138:PHE:HE1	1.86	0.41
61:SO:216:LYS:HA	61:SO:216:LYS:HD2	1.60	0.41
64:SP:122:ILE:O	64:SP:123:VAL:C	2.64	0.41
64:SP:127:ARG:HH21	64:SP:151:SER:HA	1.86	0.41
69:SU:89:HIS:CE1	69:SU:165:LYS:HE3	2.57	0.41
1:2:31:C:O2'	1:2:547:U:OP1	2.39	0.40
1:2:780:A:H2	77:Sd:8:ARG:HB3	1.85	0.40
1:2:805:U:H2'	1:2:806:A:C8	2.56	0.40
1:2:860:U:O4'	69:SU:114:ARG:HG3	2.21	0.40
1:2:1072:C:H2'	1:2:1073:G:H8	1.86	0.40
1:2:1344:A:O2'	1:2:1345:A:P	2.79	0.40
2:A:138:U:H2'	2:A:139:G:H8	1.86	0.40
2:A:268:A:N1	2:A:295:A:H5'	2.36	0.40
2:A:289:A:C2	2:A:290:G:N7	2.89	0.40
2:A:547:G:O2'	2:A:548:G:O4'	2.31	0.40
2:A:803:C:H4'	7:F:92:ASN:HD21	1.86	0.40
2:A:1077:U:O3'	8:G:43:LYS:NZ	2.51	0.40
2:A:1281:G:C2	2:A:1282:G:C8	3.09	0.40
2:A:1485:G:H2'	2:A:1486:G:H8	1.86	0.40
2:A:1499:C:H2'	2:A:1500:G:C8	2.56	0.40
2:A:1644:C:H41	36:i:68:THR:HG21	1.86	0.40
2:A:2586:G:O2'	2:A:2588:U:OP2	2.40	0.40
2:A:3182:G:H4'	18:Q:161[A]:LYS:HG2	2.03	0.40
4:C:30:C:H2'	4:C:31:G:C8	2.57	0.40
5:D:117:GLU:HB2	5:D:122:ASP:HB3	2.03	0.40
5:D:140:ASN:O	5:D:144:ASN:HA	2.20	0.40
14:M:59:ILE:HG12	14:M:65:ILE:HD11	2.03	0.40
14:M:89:TYR:HD2	14:M:169:ALA:HB2	1.86	0.40
15:N:116:LEU:HD23	15:N:116:LEU:HA	1.91	0.40
16:O:72:LEU:HD23	16:O:73:PRO:O	2.20	0.40
20:S:152:HIS:ND1	20:S:162:ALA:O	2.55	0.40
21:T:152:GLU:O	21:T:155:LEU:HG	2.21	0.40
30:c:97:GLU:OE1	30:c:97:GLU:N	2.53	0.40
34:g:54:LYS:HE3	34:g:54:LYS:HB2	1.89	0.40
44:q:93:LEU:HD12	44:q:93:LEU:HA	1.95	0.40
46:s:49:C:H2'	46:s:50:U:H6	1.85	0.40
47:x:21:ASN:C	47:x:22:MET:HE3	2.46	0.40
47:x:60:ARG:H	47:x:60:ARG:HG2	1.64	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:x:186:ASN:ND2	47:x:202:VAL:HB	2.34	0.40
47:x:415:GLY:N	47:x:425:ASP:OD2	2.46	0.40
58:SB:123:VAL:HG11	80:SK:59:TYR:HD1	1.86	0.40
59:SF:89:LEU:HD23	59:SF:89:LEU:C	2.46	0.40
60:SH:60:GLU:OE2	60:SH:60:GLU:O	2.40	0.40
60:SH:88:ARG:HB3	60:SH:98:TYR:HB2	2.03	0.40
61:SO:13:LEU:HD12	61:SO:45:TRP:CD2	2.56	0.40
65:SQ:83:LYS:HE2	65:SQ:83:LYS:HB3	1.93	0.40
67:SS:31:PRO:HG2	67:SS:38:LEU:HB2	2.03	0.40
69:SU:147:ASN:OD1	69:SU:147:ASN:N	2.48	0.40
70:SV:60:ILE:HG21	70:SV:179:CYS:SG	2.61	0.40
70:SV:121:LEU:H	70:SV:121:LEU:HD12	1.86	0.40
75:Sb:105:THR:HG22	75:Sb:110:ILE:HD11	2.03	0.40
77:Sd:102:LYS:HE3	77:Sd:102:LYS:HB2	1.89	0.40
1:2:269:G:H2'	1:2:270:C:C6	2.57	0.40
1:2:325:G:O6	1:2:344:A:N6	2.55	0.40
1:2:351:C:OP1	1:2:630:A:O2'	2.29	0.40
1:2:627:C:H2'	1:2:628:G:O4'	2.22	0.40
1:2:759:U:H2'	1:2:760:A:C8	2.54	0.40
1:2:1310:U:H2'	1:2:1311:U:C6	2.56	0.40
1:2:1546:G:OP1	60:SH:127:HIS:NE2	2.51	0.40
1:2:1607:G:H2'	1:2:1608:U:C6	2.55	0.40
1:2:1688:U:H3'	1:2:1689:A:H8	1.86	0.40
2:A:639:G:H2'	2:A:640:U:C6	2.56	0.40
2:A:644:G:H21	2:A:2372:A:H5'	1.87	0.40
2:A:1140:G:H2'	2:A:1141:C:C6	2.56	0.40
2:A:1934:G:C6	2:A:1935:G:N7	2.89	0.40
2:A:2208:A:C4	2:A:2209:U:H5	2.39	0.40
2:A:2394:G:H8	6:E:252:ILE:HD11	1.86	0.40
2:A:2468:A:H1'	2:A:2477:G:N2	2.36	0.40
2:A:2531:C:C2'	2:A:2532:U:H5'	2.51	0.40
2:A:2696:A:H62	2:A:2758:A:N6	2.20	0.40
2:A:3208:G:O4'	2:A:3210:A:C8	2.74	0.40
4:C:142:C:C2	4:C:143:U:C5	3.09	0.40
6:E:80:ASP:OD2	6:E:314:TYR:OH	2.39	0.40
6:E:153:LYS:NZ	6:E:154:TYR:OH	2.42	0.40
29:b:22:LYS:HB2	29:b:49:TYR:OH	2.21	0.40
35:h:7:LEU:HD23	35:h:7:LEU:HA	1.96	0.40
46:s:52:G:H2'	46:s:53:G:H8	1.86	0.40
46:t:33:U:OP2	59:SF:143:ARG:NH1	2.45	0.40
46:t:59:A:H2'	46:t:60:A:C8	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:x:735:CYS:SG	47:x:791:GLN:NE2	2.91	0.40
47:x:829:LYS:O	47:x:829:LYS:HG3	2.20	0.40
51:SC:16:PHE:C	51:SC:16:PHE:HD1	2.29	0.40
54:SI:77:ASN:HD21	54:SI:98:GLY:CA	2.34	0.40
55:SJ:84:MET:HG2	57:SM:52:PHE:CE1	2.56	0.40
61:SO:192:PHE:CE2	61:SO:211:ILE:HG21	2.48	0.40
66:SR:72:LEU:O	66:SR:73:LEU:HD23	2.21	0.40
66:SR:233:GLN:HE22	74:Sa:15:ARG:HA	1.86	0.40
68:ST:37:ASP:O	68:ST:41:VAL:HG13	2.20	0.40
70:SV:84:HIS:ND1	70:SV:85:PRO:HD2	2.36	0.40
1:2:77:U:H1'	1:2:78:A:OP2	2.21	0.40
1:2:119:A:H2'	1:2:120:U:O4'	2.21	0.40
1:2:325:G:H2'	1:2:326:G:H8	1.86	0.40
1:2:374:U:H2'	1:2:375:U:H6	1.86	0.40
1:2:684:A:H2'	1:2:685:A:H8	1.86	0.40
1:2:864:U:OP1	75:Sb:28:ARG:NH2	2.54	0.40
1:2:887:A:H2'	1:2:888:U:C6	2.56	0.40
1:2:919:A:H2'	1:2:920:U:C6	2.56	0.40
1:2:922:G:C2	1:2:923:A:C5	3.09	0.40
1:2:947:U:OP1	65:SQ:162:ARG:HG3	2.21	0.40
1:2:1077:C:C2	1:2:1078:C:C5	3.09	0.40
1:2:1117:U:H2'	1:2:1118:G:H8	1.85	0.40
1:2:1669:U:H2'	1:2:1670:G:O4'	2.21	0.40
1:2:1674:C:H2'	1:2:1675:C:C6	2.56	0.40
2:A:74:G:O2'	15:N:61:PRO:HA	2.22	0.40
2:A:291:C:C2	2:A:292:U:C5	3.10	0.40
2:A:744:A:H1'	20:S:141:ARG:HE	1.86	0.40
2:A:809:G:H2'	2:A:810:A:C8	2.57	0.40
2:A:1103:A:H5''	2:A:1104:G:H5''	2.03	0.40
2:A:1549:U:H2'	2:A:1550:C:H6	1.87	0.40
2:A:1639:C:OP2	36:i:74:ARG:NH1	2.33	0.40
2:A:1696:A:H2'	2:A:1697:A:C8	2.57	0.40
2:A:1843:C:H2'	2:A:1844:C:H6	1.86	0.40
2:A:1886:A:O4'	2:A:3307:A:H5'	2.21	0.40
2:A:2290:C:H2'	2:A:2291:A:H8	1.86	0.40
2:A:3211:C:H2'	2:A:3212:C:C6	2.55	0.40
9:H:69:PHE:HB2	9:H:138:GLN:CD	2.46	0.40
11:J:167:PRO:HB3	11:J:177:TYR:CE2	2.57	0.40
29:b:15:ARG:NH2	36:i:83:ASN:OD1	2.46	0.40
47:x:663:VAL:HG23	47:x:709:MET:SD	2.62	0.40
47:x:759:GLN:NE2	47:x:764:PRO:HA	2.33	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:SC:61:TRP:HA	57:SM:23:VAL:HG12	2.03	0.40
52:SE:52:LYS:HB2	52:SE:53:PRO:HD3	2.04	0.40
60:SH:18:LEU:CD1	60:SH:101:LEU:HD13	2.52	0.40
66:SR:58:LEU:HA	74:Sa:12:TYR:CE1	2.54	0.40
66:SR:64:LYS:HA	66:SR:64:LYS:HD2	1.87	0.40
67:SS:193:GLY:HA3	67:SS:210:ILE:HD12	2.01	0.40
68:ST:12:SER:HB2	68:ST:124:LEU:O	2.21	0.40
69:SU:127:GLU:OE2	69:SU:127:GLU:C	2.64	0.40
71:SW:30:LEU:HD12	71:SW:30:LEU:HA	1.84	0.40
77:Sd:21:LYS:HB2	77:Sd:75:VAL:HG13	2.03	0.40
1:2:395:U:H2'	1:2:396:G:O4'	2.22	0.40
1:2:485:A:H2'	1:2:486:G:O4'	2.22	0.40
1:2:684:A:H2'	1:2:685:A:C8	2.56	0.40
1:2:1141:G:H2'	1:2:1142:A:C8	2.57	0.40
1:2:1382:A:O2'	1:2:1383:G:P	2.79	0.40
1:2:1466:G:O2'	1:2:1602:C:OP1	2.34	0.40
1:2:1642:G:H5'	43:p:1:MET:HB3	2.03	0.40
2:A:215:G:H2'	2:A:216:G:H8	1.87	0.40
2:A:640:U:H2'	2:A:641:C:C6	2.56	0.40
2:A:653:A:H5''	2:A:2361:A:H5''	2.03	0.40
2:A:673:U:H2'	2:A:674:G:C8	2.56	0.40
2:A:913:A:H5''	2:A:914:A:N7	2.36	0.40
2:A:914:A:N1	5:D:204:MET:HE1	2.36	0.40
2:A:1334:U:H2'	2:A:1335:C:H6	1.86	0.40
2:A:1667:A:H2'	2:A:1668:G:C8	2.56	0.40
2:A:1707:A:H2'	2:A:1708:C:C6	2.57	0.40
2:A:2199:G:H2'	2:A:2200:U:C6	2.57	0.40
2:A:2425:G:H1	2:A:2604:U:H3	1.69	0.40
2:A:3096:C:H2'	2:A:3097:C:C6	2.56	0.40
2:A:3153:U:H1'	2:A:3293:U:C4	2.57	0.40
3:B:43:U:H2'	3:B:44:C:O4'	2.20	0.40
3:B:62:U:H5''	8:G:277:LEU:HD22	2.02	0.40
3:B:94:C:H2'	3:B:95:A:C8	2.55	0.40
4:C:36:G:H4'	4:C:40:A:H5'	2.02	0.40
5:D:21:ARG:HE	5:D:21:ARG:HB3	1.75	0.40
8:G:65:ILE:HG12	8:G:74:VAL:HG13	2.02	0.40
8:G:179:ARG:HD3	8:G:179:ARG:HA	1.82	0.40
15:N:168:ARG:NE	15:N:172:LEU:HD21	2.36	0.40
19:R:44:ALA:O	19:R:48:LEU:HG	2.21	0.40
24:W:102:GLU:N	24:W:102:GLU:OE2	2.54	0.40
25:X:106:LYS:HA	25:X:106:LYS:HD3	1.92	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:r:21:SER:OG	45:r:25:GLN:OE1	2.39	0.40
45:r:45:LYS:HE3	45:r:45:LYS:HB3	1.95	0.40
47:x:66:ARG:NH1	47:x:66:ARG:HG2	2.36	0.40
48:SD:39:ASP:OD1	48:SD:39:ASP:O	2.39	0.40
53:SA:45:LYS:HE3	53:SA:85:VAL:HG11	2.03	0.40
53:SA:202:LEU:HD22	53:SA:204:ASP:OD1	2.20	0.40
57:SM:40:ARG:H	57:SM:40:ARG:HG2	1.72	0.40
66:SR:178:ILE:HB	66:SR:185:LYS:HG3	2.03	0.40
73:SY:35:GLU:HA	73:SY:38:VAL:HG12	2.03	0.40
79:Sg:43:ARG:HD3	79:Sg:56:MET:HE2	2.03	0.40
1:2:241:U:H2'	1:2:242:U:C6	2.56	0.40
1:2:324:U:OP1	72:SX:133:LYS:CE	2.69	0.40
1:2:650:U:H2'	1:2:651:G:H8	1.86	0.40
1:2:704:C:H2'	1:2:705:U:O4'	2.22	0.40
1:2:951:A:H1'	73:SY:101:HIS:CD2	2.56	0.40
1:2:975:C:H2'	1:2:976:G:O4'	2.22	0.40
1:2:1147:A:H2'	1:2:1148:C:C6	2.57	0.40
1:2:1364:G:H2'	1:2:1365:C:C6	2.56	0.40
2:A:286:U:O3'	17:P:179:LYS:HE3	2.22	0.40
2:A:412:G:H2'	2:A:413:U:C6	2.56	0.40
2:A:414:U:C2	2:A:415:G:C8	3.09	0.40
2:A:589:A:N6	2:A:610:G:H1'	2.35	0.40
2:A:737:G:H2'	2:A:738:A:C8	2.56	0.40
2:A:869:G:N1	2:A:891:G:C6	2.89	0.40
2:A:2160:G:H2'	2:A:2161:G:H8	1.87	0.40
2:A:2682:C:H2'	2:A:2683:U:H6	1.86	0.40
2:A:2727:A:C2	30:c:43:ILE:HG23	2.56	0.40
2:A:3291:G:H2'	2:A:3292:A:C8	2.56	0.40
3:B:109:G:H2'	3:B:110:G:H8	1.87	0.40
4:C:140:G:N2	17:P:112:ASN:OD1	2.55	0.40
5:D:209:HIS:CE1	5:D:235:ALA:HB1	2.57	0.40
10:I:224:ILE:HD12	22:U:36:ILE:HA	2.04	0.40
12:K:117:PHE:CE2	12:K:165:CYS:HB2	2.57	0.40
12:K:160:ASP:OD1	12:K:160:ASP:N	2.55	0.40
14:M:164:LYS:HA	14:M:164:LYS:HD2	1.91	0.40
25:X:74:MET:SD	25:X:102:ILE:HD13	2.62	0.40
25:X:84:SER:HA	25:X:94:TYR:HB3	2.02	0.40
33:f:54:GLU:H	33:f:54:GLU:CD	2.29	0.40
35:h:12:LYS:HE3	35:h:96:ALA:O	2.22	0.40
39:l:21:ARG:O	39:l:23:GLY:N	2.55	0.40
42:o:78:ILE:O	42:o:82:LEU:HB2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:x:576:LEU:HD23	47:x:841:LYS:NZ	2.37	0.40
47:x:710:ARG:NH1	47:x:711:ARG:HH22	2.19	0.40
48:SD:25:GLU:OE2	48:SD:28:LEU:HD23	2.21	0.40
49:SZ:71:CYS:O	49:SZ:74:VAL:HG12	2.22	0.40
51:SC:32:HIS:HB3	51:SC:37:THR:O	2.22	0.40
59:SF:10:PHE:O	59:SF:87:LYS:HE3	2.21	0.40
59:SF:12:LYS:HA	59:SF:16:ALA:O	2.21	0.40
61:SO:5:GLU:O	61:SO:5:GLU:HG2	2.22	0.40
62:SN:98:VAL:HG12	62:SN:100:LEU:HG	2.04	0.40
62:SN:105:TYR:CD1	62:SN:105:TYR:C	2.99	0.40
64:SP:109:ASN:OD1	64:SP:112:THR:HG22	2.21	0.40
67:SS:125:LYS:NZ	67:SS:157:ASN:HD22	2.18	0.40
74:Sa:12:TYR:O	74:Sa:12:TYR:CG	2.74	0.40
76:Sc:56:LYS:H	76:Sc:56:LYS:HG2	1.65	0.40
79:Sg:3:LYS:H	79:Sg:3:LYS:HG2	1.73	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%)	236 (95%)	13 (5%)	0	100	100
6	E	384/386 (100%)	363 (94%)	20 (5%)	1 (0%)	37	66
7	F	359/361 (99%)	350 (98%)	9 (2%)	0	100	100
8	G	292/294 (99%)	280 (96%)	12 (4%)	0	100	100
9	H	163/175 (93%)	155 (95%)	7 (4%)	1 (1%)	22	50
10	I	220/222 (99%)	216 (98%)	4 (2%)	0	100	100
11	J	231/233 (99%)	223 (96%)	7 (3%)	1 (0%)	30	60
12	K	189/191 (99%)	178 (94%)	11 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
13	L	216/218 (99%)	208 (96%)	8 (4%)	0	100	100
14	M	167/169 (99%)	162 (97%)	5 (3%)	0	100	100
15	N	191/193 (99%)	180 (94%)	10 (5%)	1 (0%)	25	54
16	O	134/136 (98%)	131 (98%)	3 (2%)	0	100	100
17	P	201/203 (99%)	200 (100%)	1 (0%)	0	100	100
18	Q	195/197 (99%)	190 (97%)	5 (3%)	0	100	100
19	R	181/183 (99%)	176 (97%)	5 (3%)	0	100	100
20	S	183/185 (99%)	178 (97%)	4 (2%)	1 (0%)	25	54
21	T	186/188 (99%)	184 (99%)	2 (1%)	0	100	100
22	U	169/171 (99%)	166 (98%)	3 (2%)	0	100	100
23	V	157/159 (99%)	150 (96%)	7 (4%)	0	100	100
24	W	98/100 (98%)	92 (94%)	6 (6%)	0	100	100
25	X	134/136 (98%)	134 (100%)	0	0	100	100
26	Y	124/126 (98%)	121 (98%)	2 (2%)	1 (1%)	16	44
27	Z	119/121 (98%)	114 (96%)	5 (4%)	0	100	100
28	a	123/125 (98%)	121 (98%)	2 (2%)	0	100	100
29	b	133/135 (98%)	128 (96%)	5 (4%)	0	100	100
30	c	146/148 (99%)	141 (97%)	5 (3%)	0	100	100
31	d	56/58 (97%)	53 (95%)	3 (5%)	0	100	100
32	e	94/96 (98%)	93 (99%)	1 (1%)	0	100	100
33	f	107/109 (98%)	104 (97%)	3 (3%)	0	100	100
34	g	125/127 (98%)	123 (98%)	2 (2%)	0	100	100
35	h	104/106 (98%)	97 (93%)	6 (6%)	1 (1%)	13	39
36	i	110/112 (98%)	106 (96%)	4 (4%)	0	100	100
37	j	117/119 (98%)	115 (98%)	2 (2%)	0	100	100
38	k	97/99 (98%)	94 (97%)	3 (3%)	0	100	100
39	l	79/81 (98%)	68 (86%)	6 (8%)	5 (6%)	1	7
40	m	75/77 (97%)	74 (99%)	1 (1%)	0	100	100
41	n	48/50 (96%)	47 (98%)	1 (2%)	0	100	100
42	o	50/52 (96%)	47 (94%)	3 (6%)	0	100	100
43	p	23/25 (92%)	23 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
44	q	101/103 (98%)	96 (95%)	5 (5%)	0	100	100
45	r	89/91 (98%)	87 (98%)	2 (2%)	0	100	100
47	x	840/842 (100%)	755 (90%)	84 (10%)	1 (0%)	48	78
48	SD	119/121 (98%)	95 (80%)	24 (20%)	0	100	100
49	SZ	125/127 (98%)	101 (81%)	23 (18%)	1 (1%)	16	44
50	Se	92/94 (98%)	81 (88%)	9 (10%)	2 (2%)	5	24
51	SC	90/92 (98%)	78 (87%)	10 (11%)	2 (2%)	5	24
52	SE	115/117 (98%)	96 (84%)	18 (16%)	1 (1%)	14	41
53	SA	220/222 (99%)	206 (94%)	11 (5%)	3 (1%)	9	31
54	SI	141/143 (99%)	132 (94%)	8 (6%)	1 (1%)	19	47
55	SJ	98/100 (98%)	91 (93%)	7 (7%)	0	100	100
56	SL	61/63 (97%)	59 (97%)	2 (3%)	0	100	100
57	SM	51/53 (96%)	47 (92%)	4 (8%)	0	100	100
58	SB	204/206 (99%)	182 (89%)	21 (10%)	1 (0%)	25	54
59	SF	139/141 (99%)	131 (94%)	6 (4%)	2 (1%)	9	31
60	SH	143/145 (99%)	123 (86%)	20 (14%)	0	100	100
61	SO	300/312 (96%)	238 (79%)	57 (19%)	5 (2%)	7	28
62	SN	71/73 (97%)	52 (73%)	19 (27%)	0	100	100
63	SG	119/121 (98%)	106 (89%)	13 (11%)	0	100	100
64	SP	204/206 (99%)	191 (94%)	13 (6%)	0	100	100
65	SQ	222/232 (96%)	201 (90%)	21 (10%)	0	100	100
66	SR	214/216 (99%)	205 (96%)	9 (4%)	0	100	100
67	SS	256/258 (99%)	226 (88%)	29 (11%)	1 (0%)	30	60
68	ST	226/228 (99%)	213 (94%)	12 (5%)	1 (0%)	30	60
69	SU	182/184 (99%)	174 (96%)	7 (4%)	1 (0%)	25	54
70	SV	183/198 (92%)	171 (93%)	12 (7%)	0	100	100
71	SW	182/184 (99%)	166 (91%)	15 (8%)	1 (0%)	25	54
72	SX	140/142 (99%)	132 (94%)	8 (6%)	0	100	100
73	SY	148/150 (99%)	144 (97%)	4 (3%)	0	100	100
74	Sa	85/87 (98%)	80 (94%)	4 (5%)	1 (1%)	11	35
75	Sb	127/129 (98%)	123 (97%)	4 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
76	Sc	142/144 (99%)	127 (89%)	13 (9%)	2 (1%)	9	31
77	Sd	132/134 (98%)	129 (98%)	3 (2%)	0	100	100
78	Sf	79/81 (98%)	79 (100%)	0	0	100	100
79	Sg	58/60 (97%)	56 (97%)	2 (3%)	0	100	100
80	SK	99/108 (92%)	98 (99%)	1 (1%)	0	100	100
All	All	11826/12024 (98%)	11092 (94%)	696 (6%)	38 (0%)	38	66

All (38) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	E	362	ALA
9	H	68	PRO
35	h	104	PRO
49	SZ	42	VAL
51	SC	87	VAL
51	SC	88	PRO
52	SE	98	ASN
53	SA	195	SER
53	SA	217	ILE
59	SF	40	GLU
59	SF	42	GLU
61	SO	6	VAL
69	SU	64	VAL
71	SW	172	VAL
76	Sc	64	PRO
11	J	158	ASP
39	l	20	ASN
39	l	26	SER
53	SA	44	THR
61	SO	167	VAL
47	x	317	LYS
61	SO	118	LYS
15	N	47	ALA
39	l	22	CYS
39	l	29	VAL
39	l	33	THR
50	Se	61	GLU
54	SI	4	VAL
58	SB	26	ALA
20	S	18	ALA

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Mol	Chain	Res	Type
26	Y	86	SER
74	Sa	10	GLU
76	Sc	132	LEU
67	SS	183	VAL
50	Se	59	TYR
61	SO	275	ARG
61	SO	315	VAL
68	ST	9	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%)	190 (100%)	0	100	100
6	E	319/322 (99%)	319 (100%)	0	100	100
7	F	288/288 (100%)	286 (99%)	2 (1%)	81	88
8	G	241/243 (99%)	240 (100%)	1 (0%)	89	93
9	H	139/154 (90%)	138 (99%)	1 (1%)	81	88
10	I	186/186 (100%)	186 (100%)	0	100	100
11	J	187/191 (98%)	187 (100%)	0	100	100
12	K	168/171 (98%)	166 (99%)	2 (1%)	67	80
13	L	185/185 (100%)	183 (99%)	2 (1%)	70	81
14	M	145/147 (99%)	144 (99%)	1 (1%)	81	88
15	N	154/154 (100%)	154 (100%)	0	100	100
16	O	107/107 (100%)	106 (99%)	1 (1%)	75	86
17	P	175/175 (100%)	175 (100%)	0	100	100
18	Q	160/160 (100%)	160 (100%)	0	100	100
19	R	138/145 (95%)	138 (100%)	0	100	100
20	S	150/150 (100%)	150 (100%)	0	100	100
21	T	152/153 (99%)	152 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
22	U	155/155 (100%)	155 (100%)	0	100	100
23	V	135/136 (99%)	134 (99%)	1 (1%)	81	88
24	W	87/87 (100%)	86 (99%)	1 (1%)	70	81
25	X	104/104 (100%)	104 (100%)	0	100	100
26	Y	56/108 (52%)	56 (100%)	0	100	100
27	Z	104/105 (99%)	103 (99%)	1 (1%)	73	83
28	a	108/108 (100%)	106 (98%)	2 (2%)	52	71
29	b	112/115 (97%)	112 (100%)	0	100	100
30	c	117/118 (99%)	117 (100%)	0	100	100
31	d	46/46 (100%)	46 (100%)	0	100	100
32	e	81/81 (100%)	80 (99%)	1 (1%)	67	80
33	f	92/96 (96%)	92 (100%)	0	100	100
34	g	107/109 (98%)	105 (98%)	2 (2%)	52	71
35	h	90/90 (100%)	90 (100%)	0	100	100
36	i	95/95 (100%)	94 (99%)	1 (1%)	70	81
37	j	104/104 (100%)	103 (99%)	1 (1%)	73	83
38	k	80/81 (99%)	77 (96%)	3 (4%)	28	54
39	l	67/67 (100%)	58 (87%)	9 (13%)	3	12
40	m	68/68 (100%)	67 (98%)	1 (2%)	60	76
41	n	45/45 (100%)	45 (100%)	0	100	100
42	o	45/47 (96%)	45 (100%)	0	100	100
43	p	22/23 (96%)	22 (100%)	0	100	100
44	q	87/88 (99%)	85 (98%)	2 (2%)	45	67
45	r	71/71 (100%)	71 (100%)	0	100	100
47	x	715/715 (100%)	709 (99%)	6 (1%)	79	87
48	SD	88/98 (90%)	87 (99%)	1 (1%)	70	81
49	SZ	81/96 (84%)	80 (99%)	1 (1%)	67	80
50	Se	81/81 (100%)	80 (99%)	1 (1%)	67	80
51	SC	77/85 (91%)	76 (99%)	1 (1%)	65	78
52	SE	95/98 (97%)	95 (100%)	0	100	100
53	SA	182/182 (100%)	182 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
54	SI	115/115 (100%)	113 (98%)	2 (2%)	56	74
55	SJ	93/93 (100%)	91 (98%)	2 (2%)	47	68
56	SL	55/56 (98%)	54 (98%)	1 (2%)	54	73
57	SM	47/47 (100%)	47 (100%)	0	100	100
58	SB	172/173 (99%)	171 (99%)	1 (1%)	84	90
59	SF	117/117 (100%)	117 (100%)	0	100	100
60	SH	127/128 (99%)	127 (100%)	0	100	100
61	SO	246/257 (96%)	246 (100%)	0	100	100
62	SN	57/64 (89%)	57 (100%)	0	100	100
63	SG	105/110 (96%)	102 (97%)	3 (3%)	37	61
64	SP	170/173 (98%)	170 (100%)	0	100	100
65	SQ	200/205 (98%)	198 (99%)	2 (1%)	73	83
66	SR	175/175 (100%)	173 (99%)	2 (1%)	70	81
67	SS	220/220 (100%)	218 (99%)	2 (1%)	75	86
68	ST	189/195 (97%)	186 (98%)	3 (2%)	58	75
69	SU	163/165 (99%)	161 (99%)	2 (1%)	67	80
70	SV	148/159 (93%)	148 (100%)	0	100	100
71	SW	156/157 (99%)	156 (100%)	0	100	100
72	SX	126/127 (99%)	125 (99%)	1 (1%)	79	87
73	SY	127/127 (100%)	127 (100%)	0	100	100
74	Sa	71/74 (96%)	71 (100%)	0	100	100
75	Sb	110/110 (100%)	108 (98%)	2 (2%)	54	73
76	Sc	119/119 (100%)	117 (98%)	2 (2%)	56	74
77	Sd	112/112 (100%)	112 (100%)	0	100	100
78	Sf	70/70 (100%)	70 (100%)	0	100	100
79	Sg	50/51 (98%)	50 (100%)	0	100	100
80	SK	85/89 (96%)	85 (100%)	0	100	100
All	All	9906/10114 (98%)	9836 (99%)	70 (1%)	80	88

All (70) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
7	F	106	TRP

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Mol	Chain	Res	Type
7	F	148	ILE
8	G	56	THR
9	H	167	ASN
12	K	55	VAL
12	K	68	LEU
13	L	69	ARG
13	L	103	LEU
14	M	112	LEU
16	O	14	LEU
23	V	103	GLN
24	W	93	ILE
27	Z	67	ILE
28	a	59	VAL
28	a	97	ILE
32	e	11	ASN
34	g	30	GLU
34	g	86	THR
36	i	38	LEU
37	j	95	PHE
38	k	58	ILE
38	k	89	GLU
38	k	94	ILE
39	l	14	LYS
39	l	21	ARG
39	l	24	ARG
39	l	26	SER
39	l	29	VAL
39	l	30	GLN
39	l	31	LYS
39	l	32	LYS
39	l	33	THR
40	m	40	GLN
44	q	58	PHE
44	q	82	GLN
47	x	199	ASP
47	x	284	LEU
47	x	289	MET
47	x	397	PHE
47	x	456	LEU
47	x	548	ASP
48	SD	126	TRP
49	SZ	121	VAL

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Mol	Chain	Res	Type
50	Se	11	ASN
51	SC	25	LYS
54	SI	24	ARG
54	SI	140	LEU
55	SJ	22	ILE
55	SJ	52	LYS
56	SL	54	LEU
58	SB	130	ILE
63	SG	16	LEU
63	SG	69	ILE
63	SG	119	LEU
65	SQ	48	VAL
65	SQ	188	LEU
66	SR	57	PHE
66	SR	222	TYR
67	SS	52	LEU
67	SS	197	HIS
68	ST	178	LEU
68	ST	210	GLN
68	ST	216	LEU
69	SU	103	SER
69	SU	126	LEU
72	SX	133	LYS
75	Sb	37	PHE
75	Sb	120	HIS
76	Sc	63	GLN
76	Sc	64	PRO

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (133) such sidechains are listed below:

Mol	Chain	Res	Type
5	D	38	HIS
5	D	97	ASN
5	D	115	ASN
5	D	139	HIS
5	D	187	HIS
5	D	217	GLN
6	E	13	HIS
6	E	109	HIS
6	E	182	GLN
6	E	224	HIS
6	E	243	HIS

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Mol	Chain	Res	Type
6	E	259	HIS
6	E	279	ASN
7	F	5	GLN
7	F	45	ASN
7	F	48	GLN
7	F	87	GLN
7	F	175	HIS
7	F	201	GLN
7	F	311	HIS
7	F	316	ASN
8	G	40	HIS
8	G	296	GLN
9	H	4	GLN
10	I	112	ASN
10	I	225	GLN
11	J	155	ASN
11	J	240	ASN
11	J	252	ASN
12	K	139	ASN
12	K	157	ASN
13	L	73	ASN
13	L	113	GLN
13	L	162	GLN
15	N	19	GLN
16	O	59	ASN
17	P	86	ASN
17	P	87	GLN
17	P	117	ASN
17	P	122	ASN
17	P	123	GLN
18	Q	122[A]	GLN
19	R	10	ASN
21	T	134	HIS
22	U	49	HIS
23	V	90	ASN
23	V	127	GLN
23	V	146	ASN
25	X	28	ASN
30	c	38	GLN
31	d	48	HIS
32	e	74	ASN
32	e	75	ASN

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Mol	Chain	Res	Type
34	g	31	ASN
36	i	11	ASN
36	i	52	GLN
37	j	99	GLN
38	k	12	ASN
39	l	13	ASN
39	l	28	HIS
39	l	30	GLN
39	l	76	ASN
41	n	19	GLN
41	n	50	ASN
44	q	82	GLN
47	x	30	HIS
47	x	138	GLN
47	x	461	GLN
47	x	694	HIS
47	x	699	HIS
47	x	759	GLN
47	x	786	GLN
47	x	791	GLN
47	x	826	HIS
49	SZ	24	ASN
50	Se	80	HIS
51	SC	13	GLN
51	SC	28	ASN
51	SC	32	HIS
51	SC	58	GLN
52	SE	104	GLN
53	SA	56	GLN
53	SA	74	GLN
53	SA	101	GLN
55	SJ	40	ASN
57	SM	37	ASN
58	SB	95	ASN
58	SB	139	ASN
58	SB	169	ASN
59	SF	100	GLN
59	SF	139	GLN
60	SH	71	GLN
60	SH	103	ASN
61	SO	139	GLN
61	SO	159	ASN

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Mol	Chain	Res	Type
61	SO	198	ASN
61	SO	299	GLN
61	SO	308	ASN
63	SG	104	ASN
64	SP	46	HIS
64	SP	140	ASN
65	SQ	79	HIS
65	SQ	92	GLN
65	SQ	99	ASN
65	SQ	153	HIS
66	SR	87	GLN
67	SS	96	ASN
67	SS	130	GLN
67	SS	157	ASN
68	ST	139	ASN
68	ST	201	GLN
68	ST	210	GLN
69	SU	22	GLN
70	SV	44	HIS
71	SW	176	ASN
72	SX	16	GLN
72	SX	92	HIS
72	SX	110	HIS
72	SX	118	GLN
72	SX	138	ASN
73	SY	62	GLN
75	Sb	16	ASN
75	Sb	42	GLN
76	Sc	27	ASN
76	Sc	99	ASN
77	Sd	22	GLN
77	Sd	106	GLN
77	Sd	113	ASN
77	Sd	133	ASN
78	Sf	26	GLN
78	Sf	42	ASN
79	Sg	17	GLN
80	SK	98	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	2	1764/1799 (98%)	502 (28%)	32 (1%)
2	A	3183/3394 (93%)	526 (16%)	12 (0%)
3	B	120/121 (99%)	12 (10%)	1 (0%)
4	C	157/158 (99%)	30 (19%)	1 (0%)
46	s	74/75 (98%)	14 (18%)	0
46	t	74/75 (98%)	14 (18%)	0
All	All	5372/5622 (95%)	1098 (20%)	46 (0%)

All (1098) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	2	2	A
1	2	4	C
1	2	9	U
1	2	10	G
1	2	25	C
1	2	26	A
1	2	32	U
1	2	34	G
1	2	42	G
1	2	43	A
1	2	45	U
1	2	46	A
1	2	47	A
1	2	56	U
1	2	57	G
1	2	61	A
1	2	62	A
1	2	66	U
1	2	67	A
1	2	68	A
1	2	69	G
1	2	71	A
1	2	73	U
1	2	74	U
1	2	75	U
1	2	76	A
1	2	78	A
1	2	79	C
1	2	80	A
1	2	81	G
1	2	104	A
1	2	114	C

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Mol	Chain	Res	Type
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	133	U
1	2	134	U
1	2	135	A
1	2	138	A
1	2	139	C
1	2	140	A
1	2	141	U
1	2	142	G
1	2	151	G
1	2	153	G
1	2	156	A
1	2	159	U
1	2	163	G
1	2	167	U
1	2	168	A
1	2	171	A
1	2	172	C
1	2	176	C
1	2	178	U
1	2	179	A
1	2	180	A
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	192	U
1	2	193	U
1	2	194	U
1	2	195	G
1	2	196	G
1	2	199	G
1	2	204	G

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Mol	Chain	Res	Type
1	2	205	U
1	2	206	A
1	2	213	A
1	2	215	A
1	2	217	A
1	2	218	A
1	2	223	U
1	2	224	C
1	2	226	A
1	2	227	U
1	2	228	G
1	2	230	C
1	2	233	C
1	2	234	G
1	2	235	G
1	2	237	C
1	2	240	U
1	2	241	U
1	2	250	C
1	2	257	A
1	2	260	U
1	2	262	U
1	2	265	A
1	2	266	A
1	2	270	C
1	2	276	C
1	2	278	U
1	2	280	U
1	2	285	G
1	2	287	G
1	2	292	U
1	2	299	A
1	2	302	U
1	2	313	U
1	2	314	C
1	2	316	A
1	2	321	C
1	2	322	G
1	2	323	A
1	2	330	G
1	2	333	A
1	2	337	G

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Mol	Chain	Res	Type
1	2	338	C
1	2	339	C
1	2	352	A
1	2	353	A
1	2	359	A
1	2	361	C
1	2	370	A
1	2	380	U
1	2	388	G
1	2	389	G
1	2	390	G
1	2	400	A
1	2	401	A
1	2	402	C
1	2	404	G
1	2	412	A
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	424	C
1	2	425	A
1	2	426	G
1	2	434	G
1	2	439	U
1	2	441	A
1	2	442	C
1	2	443	C
1	2	444	C
1	2	448	C
1	2	458	G
1	2	461	G
1	2	463	U
1	2	469	C
1	2	482	U
1	2	483	A
1	2	485	A
1	2	487	G
1	2	489	C
1	2	490	C

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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	502	U
1	2	506	A
1	2	507	U
1	2	510	G
1	2	511	A
1	2	519	C
1	2	529	A
1	2	534	A
1	2	539	G
1	2	540	G
1	2	541	A
1	2	542	A
1	2	543	C
1	2	544	A
1	2	545	A
1	2	546	U
1	2	551	G
1	2	554	C
1	2	555	A
1	2	556	A
1	2	558	U
1	2	565	C
1	2	568	G
1	2	578	U
1	2	579	A
1	2	583	C
1	2	594	A
1	2	609	U
1	2	610	G
1	2	617	U
1	2	619	A
1	2	620	A
1	2	621	A
1	2	622	A
1	2	623	A
1	2	624	G
1	2	639	U

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Mol	Chain	Res	Type
1	2	640	U
1	2	641	G
1	2	645	C
1	2	653	C
1	2	655	G
1	2	656	G
1	2	679	U
1	2	680	U
1	2	681	U
1	2	682	C
1	2	684	A
1	2	687	G
1	2	694	U
1	2	695	U
1	2	696	C
1	2	697	C
1	2	698	U
1	2	699	U
1	2	700	C
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	713	A
1	2	714	G
1	2	727	U
1	2	729	G
1	2	730	G
1	2	733	A
1	2	734	A
1	2	738	G
1	2	739	G
1	2	740	A
1	2	742	U
1	2	743	U
1	2	745	U
1	2	754	A
1	2	756	A

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Mol	Chain	Res	Type
1	2	765	G
1	2	766	U
1	2	771	A
1	2	774	A
1	2	775	G
1	2	778	G
1	2	779	U
1	2	780	A
1	2	781	U
1	2	782	U
1	2	783	G
1	2	787	G
1	2	789	A
1	2	803	A
1	2	812	A
1	2	813	U
1	2	814	A
1	2	815	G
1	2	816	G
1	2	819	G
1	2	820	U
1	2	821	U
1	2	822	U
1	2	823	G
1	2	824	G
1	2	825	U
1	2	827	C
1	2	830	U
1	2	833	U
1	2	834	G
1	2	836	U
1	2	840	U
1	2	846	G
1	2	849	C
1	2	850	A
1	2	851	U
1	2	852	C
1	2	853	G
1	2	854	U
1	2	855	A
1	2	856	A
1	2	857	U

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Mol	Chain	Res	Type
1	2	861	U
1	2	862	A
1	2	863	A
1	2	864	U
1	2	865	A
1	2	876	G
1	2	898	A
1	2	899	G
1	2	901	G
1	2	902	G
1	2	910	C
1	2	914	G
1	2	915	A
1	2	925	G
1	2	929	A
1	2	933	A
1	2	934	C
1	2	935	U
1	2	942	G
1	2	951	A
1	2	966	A
1	2	970	A
1	2	988	A
1	2	989	U
1	2	992	A
1	2	993	A
1	2	996	U
1	2	998	A
1	2	1004	U
1	2	1005	A
1	2	1023	A
1	2	1024	U
1	2	1028	C
1	2	1039	A
1	2	1051	G
1	2	1052	U
1	2	1053	G
1	2	1057	U
1	2	1058	U
1	2	1059	U
1	2	1060	U
1	2	1061	A

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Mol	Chain	Res	Type
1	2	1062	A
1	2	1064	G
1	2	1076	A
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	1140	G
1	2	1150	G
1	2	1155	G
1	2	1158	C
1	2	1160	A
1	2	1164	G
1	2	1167	G
1	2	1170	G
1	2	1174	C
1	2	1182	U
1	2	1183	A
1	2	1185	U
1	2	1194	A
1	2	1196	A
1	2	1199	G
1	2	1200	G
1	2	1202	A
1	2	1206	U
1	2	1207	C
1	2	1216	C
1	2	1217	A
1	2	1218	G
1	2	1223	A
1	2	1224	A
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

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Mol	Chain	Res	Type
1	2	1246	C
1	2	1249	U
1	2	1256	A
1	2	1257	U
1	2	1274	C
1	2	1275	A
1	2	1276	U
1	2	1285	U
1	2	1288	G
1	2	1297	G
1	2	1307	U
1	2	1314	U
1	2	1315	U
1	2	1318	G
1	2	1321	A
1	2	1322	A
1	2	1325	A
1	2	1337	A
1	2	1340	U
1	2	1344	A
1	2	1345	A
1	2	1346	A
1	2	1348	A
1	2	1349	G
1	2	1357	A
1	2	1361	U
1	2	1363	U
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	1381	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	1408	G

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Mol	Chain	Res	Type
1	2	1409	G
1	2	1413	U
1	2	1414	U
1	2	1419	G
1	2	1427	A
1	2	1428	G
1	2	1431	C
1	2	1432	U
1	2	1443	U
1	2	1460	A
1	2	1469	A
1	2	1472	C
1	2	1474	G
1	2	1479	A
1	2	1486	G
1	2	1493	A
1	2	1495	C
1	2	1496	U
1	2	1503	A
1	2	1506	G
1	2	1514	U
1	2	1515	A
1	2	1516	A
1	2	1520	U
1	2	1521	G
1	2	1523	G
1	2	1524	A
1	2	1528	U
1	2	1537	C
1	2	1540	G
1	2	1541	G
1	2	1542	G
1	2	1557	U
1	2	1559	A
1	2	1572	G
1	2	1573	A
1	2	1574	G
1	2	1575	G
1	2	1583	A
1	2	1584	G
1	2	1585	U
1	2	1600	A

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Mol	Chain	Res	Type
1	2	1601	G
1	2	1611	A
1	2	1614	A
1	2	1616	G
1	2	1619	C
1	2	1622	G
1	2	1631	A
1	2	1633	A
1	2	1634	C
1	2	1635	A
1	2	1636	C
1	2	1637	C
1	2	1638	G
1	2	1657	U
1	2	1658	G
1	2	1666	U
1	2	1682	U
1	2	1688	U
1	2	1691	A
1	2	1693	A
1	2	1697	G
1	2	1698	G
1	2	1699	G
1	2	1700	C
1	2	1701	A
1	2	1705	C
1	2	1707	A
1	2	1709	C
1	2	1712	A
1	2	1715	G
1	2	1717	G
1	2	1726	G
1	2	1730	A
1	2	1736	G
1	2	1754	A
1	2	1755	A
1	2	1756	A
1	2	1757	G
1	2	1762	A
1	2	1767	G
1	2	1769	U
1	2	1780	G

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Mol	Chain	Res	Type
1	2	1782	A
1	2	1783	C
1	2	1792	G
1	2	1793	G
1	2	1794	A
1	2	1796	C
1	2	1797	A
1	2	1799	U
2	A	14	U
2	A	20	A
2	A	26	A
2	A	30	G
2	A	40	A
2	A	43	A
2	A	49	A
2	A	57	A
2	A	59	G
2	A	60	A
2	A	65	A
2	A	66	A
2	A	72	C
2	A	77	A
2	A	92	G
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	173	G
2	A	177	U
2	A	183	G
2	A	187	A
2	A	190	U
2	A	199	A
2	A	200	C
2	A	206	G

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Mol	Chain	Res	Type
2	A	219	A
2	A	220	G
2	A	231	G
2	A	232	G
2	A	234	G
2	A	240	U
2	A	249	U
2	A	252	U
2	A	263	C
2	A	269	G
2	A	286	U
2	A	295	A
2	A	305	U
2	A	315	C
2	A	325	A
2	A	329	U
2	A	330	G
2	A	341	G
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	404	G
2	A	420	G
2	A	421	G
2	A	422	A
2	A	494	G
2	A	495	G
2	A	503	C
2	A	518	G
2	A	520	U
2	A	521	A
2	A	523	A
2	A	533	A
2	A	536	U
2	A	543	C
2	A	545	U
2	A	557	A
2	A	558	U
2	A	559	A

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Mol	Chain	Res	Type
2	A	560	G
2	A	600	G
2	A	601	U
2	A	602	A
2	A	611	A
2	A	636	C
2	A	637	C
2	A	638	C
2	A	649	A
2	A	677	A
2	A	678	G
2	A	681	U
2	A	690	A
2	A	691	A
2	A	692	A
2	A	705	A
2	A	712	G
2	A	734	C
2	A	735	A
2	A	742	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	817	A
2	A	830	A
2	A	836	A
2	A	846	A
2	A	849	C
2	A	854	G
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	914	A

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Mol	Chain	Res	Type
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	953	G
2	A	959	C
2	A	960	U
2	A	974	G
2	A	976	U
2	A	977	C
2	A	979	U
2	A	980	A
2	A	982	C
2	A	1006	A
2	A	1015	U
2	A	1016	C
2	A	1017	C
2	A	1018	G
2	A	1020	G
2	A	1021	G
2	A	1022	U
2	A	1037	C
2	A	1047	A
2	A	1063	G
2	A	1064	A
2	A	1066	G
2	A	1072	G
2	A	1076	C
2	A	1079	A
2	A	1082	U
2	A	1083	G
2	A	1093	A
2	A	1094	U
2	A	1095	U
2	A	1096	U
2	A	1097	G
2	A	1098	A
2	A	1104	G
2	A	1117	G
2	A	1131	G

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Mol	Chain	Res	Type
2	A	1153	A
2	A	1159	A
2	A	1174	G
2	A	1178	G
2	A	1179	A
2	A	1180	A
2	A	1181	U
2	A	1182	A
2	A	1189	C
2	A	1190	A
2	A	1193	A
2	A	1196	C
2	A	1201	C
2	A	1209	G
2	A	1220	U
2	A	1222	G
2	A	1235	U
2	A	1236	G
2	A	1240	A
2	A	1242	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
2	A	1263	A
2	A	1265	U
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	1330	A
2	A	1331	U
2	A	1345	G
2	A	1348	U
2	A	1349	G
2	A	1350	A
2	A	1352	A
2	A	1355	A

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Mol	Chain	Res	Type
2	A	1357	G
2	A	1386	A
2	A	1392	G
2	A	1399	A
2	A	1400	G
2	A	1417	G
2	A	1418	A
2	A	1431	G
2	A	1434	G
2	A	1437	C
2	A	1443	G
2	A	1446	A
2	A	1483	G
2	A	1495	U
2	A	1496	C
2	A	1508	C
2	A	1511	U
2	A	1528	G
2	A	1556	C
2	A	1557	A
2	A	1560	G
2	A	1562	C
2	A	1564	U
2	A	1567	U
2	A	1568	U
2	A	1570	U
2	A	1575	A
2	A	1576	G
2	A	1577	G
2	A	1578	C
2	A	1579	C
2	A	1580	A
2	A	1581	C
2	A	1582	C
2	A	1583	A
2	A	1593	A
2	A	1594	A
2	A	1605	A
2	A	1607	U
2	A	1630	U
2	A	1642	A
2	A	1643	A

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Mol	Chain	Res	Type
2	A	1645	U
2	A	1647	A
2	A	1657	C
2	A	1658	G
2	A	1694	U
2	A	1705	U
2	A	1713	G
2	A	1724	U
2	A	1735	G
2	A	1741	A
2	A	1743	G
2	A	1750	A
2	A	1751	G
2	A	1752	A
2	A	1753	G
2	A	1756	C
2	A	1759	C
2	A	1763	U
2	A	1765	U
2	A	1767	C
2	A	1769	G
2	A	1773	C
2	A	1775	G
2	A	1796	G
2	A	1797	A
2	A	1813	A
2	A	1814	A
2	A	1815	U
2	A	1816	A
2	A	1820	U
2	A	1821	U
2	A	1822	C
2	A	1840	U
2	A	1842	A
2	A	1846	C
2	A	1850	A
2	A	1858	A
2	A	1866	C
2	A	1879	A
2	A	1880	U
2	A	1893	A
2	A	1906	G

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Mol	Chain	Res	Type
2	A	1920	U
2	A	1952	G
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	2205	U
2	A	2206	G
2	A	2207	A
2	A	2208	A
2	A	2209	U
2	A	2210	G
2	A	2223	A
2	A	2244	A
2	A	2249	G
2	A	2252	A
2	A	2253	G
2	A	2256	A
2	A	2261	G
2	A	2262	A
2	A	2264	U
2	A	2266	U
2	A	2270	A
2	A	2272	G
2	A	2273	G
2	A	2281	A
2	A	2306	C
2	A	2307	G
2	A	2310	U
2	A	2313	A
2	A	2315	G
2	A	2320	A
2	A	2335	G
2	A	2336	U
2	A	2340	U

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Mol	Chain	Res	Type
2	A	2372	A
2	A	2373	A
2	A	2374	C
2	A	2375	G
2	A	2376	G
2	A	2388	U
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	2450	G
2	A	2451	G
2	A	2453	U
2	A	2454	G
2	A	2458	A
2	A	2459	A
2	A	2462	A
2	A	2463	G
2	A	2468	A
2	A	2469	G
2	A	2472	U
2	A	2474	G
2	A	2477	G
2	A	2478	C
2	A	2485	A
2	A	2490	C
2	A	2494	A
2	A	2496	C
2	A	2504	U
2	A	2513	U
2	A	2515	A
2	A	2523	A
2	A	2524	A
2	A	2532	U
2	A	2533	G
2	A	2534	G
2	A	2535	A
2	A	2537	U

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Mol	Chain	Res	Type
2	A	2539	C
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	2560	C
2	A	2561	A
2	A	2569	A
2	A	2570	U
2	A	2571	U
2	A	2572	C
2	A	2573	G
2	A	2585	G
2	A	2593	A
2	A	2602	G
2	A	2606	G
2	A	2607	G
2	A	2614	G
2	A	2635	A
2	A	2637	A
2	A	2652	U
2	A	2656	A
2	A	2657	A
2	A	2672	G
2	A	2674	A
2	A	2678	A
2	A	2688	U
2	A	2689	A
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	2753	G
2	A	2762	A
2	A	2772	C
2	A	2773	C

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Mol	Chain	Res	Type
2	A	2777	G
2	A	2778	G
2	A	2791	G
2	A	2795	U
2	A	2796	G
2	A	2799	A
2	A	2800	G
2	A	2801	A
2	A	2808	A
2	A	2810	C
2	A	2817	A
2	A	2821	C
2	A	2843	U
2	A	2845	A
2	A	2847	A
2	A	2850	G
2	A	2860	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
2	A	2911	A
2	A	2934	A
2	A	2935	U
2	A	2936	A
2	A	2941	A
2	A	2951	G
2	A	2971	A
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	3021	A
2	A	3028	G
2	A	3029	A
2	A	3030	G
2	A	3048	A
2	A	3049	A

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Mol	Chain	Res	Type
2	A	3057	U
2	A	3059	G
2	A	3078	U
2	A	3079	U
2	A	3092	C
2	A	3101	G
2	A	3109	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	3153	U
2	A	3154	C
2	A	3155	U
2	A	3156	U
2	A	3168	A
2	A	3170	A
2	A	3172	A
2	A	3173	G
2	A	3174	A
2	A	3176	G
2	A	3179	U
2	A	3181	C
2	A	3187	A
2	A	3196	U
2	A	3198	U
2	A	3203	U
2	A	3207	U
2	A	3210	A
2	A	3217	C
2	A	3218	A
2	A	3219	G
2	A	3223	A
2	A	3228	C
2	A	3247	G
2	A	3248	C
2	A	3249	C
2	A	3260	G

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Mol	Chain	Res	Type
2	A	3263	G
2	A	3268	A
2	A	3273	A
2	A	3276	G
2	A	3281	U
2	A	3292	A
2	A	3294	A
2	A	3304	U
2	A	3313	U
2	A	3316	A
2	A	3317	U
2	A	3319	U
2	A	3320	A
2	A	3334	U
2	A	3341	U
2	A	3342	A
2	A	3345	G
2	A	3351	U
2	A	3352	U
2	A	3353	G
2	A	3357	U
2	A	3359	A
2	A	3369	G
2	A	3375	A
2	A	3378	C
2	A	3382	U
2	A	3386	G
2	A	3389	U
2	A	3390	G
2	A	3396	U
3	B	7	G
3	B	29	C
3	B	33	U
3	B	53	U
3	B	54	U
3	B	64	A
3	B	65	G
3	B	73	C
3	B	74	C
3	B	76	A
3	B	102	A
3	B	112	G

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Mol	Chain	Res	Type
4	C	15	G
4	C	16	G
4	C	23	U
4	C	34	U
4	C	35	C
4	C	39	G
4	C	59	A
4	C	62	C
4	C	63	G
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	90	U
4	C	91	C
4	C	95	G
4	C	100	U
4	C	106	C
4	C	111	A
4	C	113	U
4	C	116	G
4	C	125	U
4	C	126	A
4	C	129	C
4	C	146	U
4	C	148	G
4	C	151	C
4	C	152	G
46	s	12	G
46	s	14	A
46	s	18	G
46	s	19	G
46	s	36	U
46	s	46	G
46	s	47	U
46	s	48	C
46	s	49	C
46	s	59	A
46	s	61	C
46	s	63	G

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Mol	Chain	Res	Type
46	s	64	A
46	s	74	C
46	t	14	A
46	t	16	U
46	t	19	G
46	t	20	A
46	t	46	G
46	t	47	U
46	t	48	C
46	t	49	C
46	t	59	A
46	t	60	A
46	t	61	C
46	t	63	G
46	t	64	A
46	t	76	A

All (46) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	2	68	A
1	2	77	U
1	2	139	C
1	2	225	A
1	2	322	G
1	2	352	A
1	2	387	A
1	2	400	A
1	2	489	C
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	928	U
1	2	1023	A
1	2	1205	C
1	2	1226	A
1	2	1256	A
1	2	1273	G

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Mol	Chain	Res	Type
1	2	1274	C
1	2	1344	A
1	2	1382	A
1	2	1430	U
1	2	1471	A
1	2	1573	A
1	2	1584	G
1	2	1633	A
1	2	1636	C
1	2	1756	A
2	A	601	U
2	A	916	G
2	A	1081	U
2	A	1814	A
2	A	2261	G
2	A	2450	G
2	A	2533	G
2	A	2842	U
2	A	3004	C
2	A	3028	G
2	A	3121	U
2	A	3341	U
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 ⓘ

There are no chain breaks in this entry.