



Full wwPDB EM Validation Report ⓘ

Jun 25, 2025 – 07:18 PM JST

PDB ID : 8Z71 / pdb_00008z71
EMDB ID : EMD-38657
Title : State 1a (S1a) of yeast 80S ribosome bound to open eEF3 and 2 tRNAs and eEF1A during mRNA decoding
Authors : Cheng, J.; Wu, C.L.; Li, J.X.; Zhang, X.Z.
Deposited on : 2024-04-19
Resolution : 3.60 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

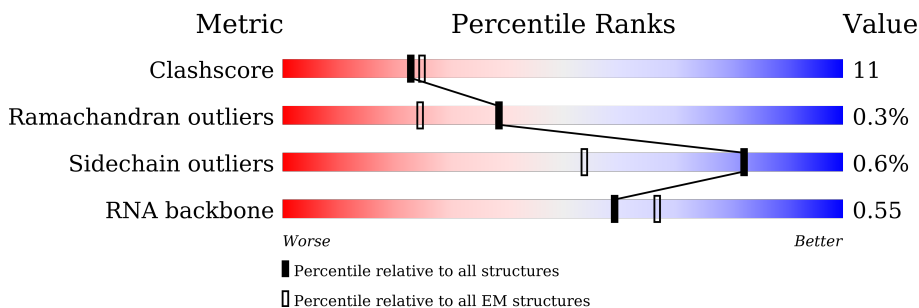
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.60 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	56% 35% 8% .
2	SA	222	76% 24%
3	SB	206	67% 31% ..
4	SC	92	61% 38% .
5	SD	121	68% 31% .
6	SE	117	77% 23%
7	SF	141	60% 38% .
8	SG	121	69% 31% .

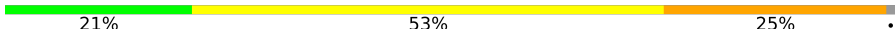
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Mol	Chain	Length	Quality of chain
9	SH	145	
10	SI	143	
11	SJ	100	
12	SK	108	
13	SL	63	
14	SM	53	
15	SN	73	
16	SO	312	
17	SP	206	
18	SQ	232	
19	SR	216	
20	SS	258	
21	ST	228	
22	SU	184	
23	SV	200	
24	SW	184	
25	SX	142	
26	SY	150	
27	SZ	127	
28	Sa	87	
29	Sb	129	
30	Sc	144	
31	Sd	134	
32	Se	94	
33	Sf	81	

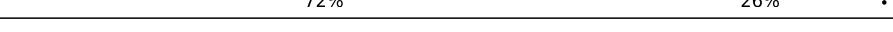
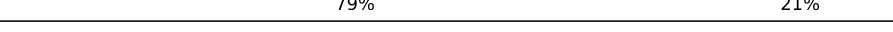
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Mol	Chain	Length	Quality of chain
34	Sg	60	
35	s	77	
36	t	75	
37	B	121	
38	C	158	
39	T	188	
40	Y	126	
41	A	3394	
42	D	251	
43	E	386	
44	F	361	
45	G	294	
46	H	175	
47	I	223	
48	J	233	
49	K	191	
50	L	218	
51	M	169	
52	N	193	
53	O	136	
54	P	203	
55	Q	197	
56	R	183	
57	S	185	
58	U	171	

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Mol	Chain	Length	Quality of chain
59	V	159	
60	W	100	
61	X	136	
62	Z	121	
63	a	125	
64	b	135	
65	c	148	
66	d	58	
67	e	96	
68	f	109	
69	g	127	
70	h	106	
71	i	112	
72	j	119	
73	k	99	
74	l	81	
75	m	77	
76	n	50	
77	o	52	
78	p	25	
79	q	103	
80	r	91	
81	x	462	
82	v	1044	

2 Entry composition

There are 82 unique types of molecules in this entry. The entry contains 213525 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

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

- Molecule 2 is a protein called Small ribosomal subunit protein uS3.

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

- Molecule 3 is a protein called Small ribosomal subunit protein uS7.

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

- Molecule 4 is a protein called Small ribosomal subunit protein eS10A.

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

- Molecule 5 is a protein called Small ribosomal subunit protein eS12.

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

- Molecule 6 is a protein called Small ribosomal subunit protein uS19.

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

- Molecule 7 is a protein called Small ribosomal subunit protein uS9A.

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

- Molecule 8 is a protein called Small ribosomal subunit protein eS17A.

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

- Molecule 9 is a protein called Small ribosomal subunit protein uS13A.

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

- Molecule 10 is a protein called Small ribosomal subunit protein eS19A.

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

- Molecule 11 is a protein called Small ribosomal subunit protein uS10.

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

- Molecule 12 is a protein called Small ribosomal subunit protein eS25A.

Mol	Chain	Residues	Atoms				AltConf	Trace
12	SK	82	Total	C	N	O	0	0
			651	416	123	112		

- Molecule 13 is a protein called Small ribosomal subunit protein eS28A.

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

- Molecule 14 is a protein called Small ribosomal subunit protein uS14A.

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

- Molecule 15 is a protein called Small ribosomal subunit protein eS31.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	SN	73	Total	C	N	O	S	0	0
			556	352	105	95	4		

- Molecule 16 is a protein called Small ribosomal subunit protein RACK1.

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

- Molecule 17 is a protein called Small ribosomal subunit protein uS2A.

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

- Molecule 18 is a protein called Small ribosomal subunit protein eS1A.

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

- Molecule 19 is a protein called Small ribosomal subunit protein uS5.

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

- Molecule 20 is a protein called Small ribosomal subunit protein eS4A.

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

- Molecule 21 is a protein called Small ribosomal subunit protein eS6A.

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

- Molecule 22 is a protein called Small ribosomal subunit protein eS7A.

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

- Molecule 23 is a protein called Small ribosomal subunit protein eS8A.

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

- Molecule 24 is a protein called Small ribosomal subunit protein uS4A.

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

- Molecule 25 is a protein called Small ribosomal subunit protein uS17A.

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

- Molecule 26 is a protein called Small ribosomal subunit protein uS15.

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

- Molecule 27 is a protein called Small ribosomal subunit protein uS11B.

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

- Molecule 28 is a protein called Small ribosomal subunit protein eS21A.

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

- Molecule 29 is a protein called Small ribosomal subunit protein uS8A.

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

- Molecule 30 is a protein called Small ribosomal subunit protein uS12A.

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

- Molecule 31 is a protein called Small ribosomal subunit protein eS24A.

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

- Molecule 32 is a protein called Small ribosomal subunit protein eS26A.

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

- Molecule 33 is a protein called Small ribosomal subunit protein eS27A.

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

- Molecule 34 is a protein called Small ribosomal subunit protein eS30A.

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

- Molecule 35 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	s	76	Total	C	N	O	P	0	0
			1616	723	291	527	75		

- Molecule 36 is a RNA chain called tRNA.

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

- Molecule 37 is a RNA chain called 5S rRNA.

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

- Molecule 38 is a RNA chain called 5.8S rRNA.

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

- Molecule 39 is a protein called Large ribosomal subunit protein eL19A.

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

- Molecule 40 is a protein called Large ribosomal subunit protein eL24A.

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

- Molecule 41 is a RNA chain called 25S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	A	3187	Total	C	N	O	P	0	0
			68170	30449	12289	22245	3187		

- Molecule 42 is a protein called Large ribosomal subunit protein uL2A.

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

- Molecule 43 is a protein called Large ribosomal subunit protein uL3.

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

- Molecule 44 is a protein called Large ribosomal subunit protein uL4A.

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

- Molecule 45 is a protein called Large ribosomal subunit protein uL18.

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

- Molecule 46 is a protein called Large ribosomal subunit protein eL6B.

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

- Molecule 47 is a protein called Large ribosomal subunit protein uL30A.

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

There is a discrepancy between the modelled and reference sequences:

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

- Molecule 48 is a protein called Large ribosomal subunit protein eL8A.

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

- Molecule 49 is a protein called Large ribosomal subunit protein uL6A.

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

- Molecule 50 is a protein called Large ribosomal subunit protein uL16.

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

- Molecule 51 is a protein called Large ribosomal subunit protein uL5B.

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

- Molecule 52 is a protein called Large ribosomal subunit protein eL13A.

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

- Molecule 53 is a protein called Large ribosomal subunit protein eL14A.

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

- Molecule 54 is a protein called Large ribosomal subunit protein eL15A.

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

- Molecule 55 is a protein called Large ribosomal subunit protein uL13A.

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

- Molecule 56 is a protein called Large ribosomal subunit protein uL22A.

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

- Molecule 57 is a protein called Large ribosomal subunit protein eL18A.

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

- Molecule 58 is a protein called Large ribosomal subunit protein eL20A.

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

- Molecule 59 is a protein called Large ribosomal subunit protein eL21A.

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

- Molecule 60 is a protein called Large ribosomal subunit protein eL22A.

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

- Molecule 61 is a protein called Large ribosomal subunit protein uL14A.

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

- Molecule 62 is a protein called Large ribosomal subunit protein uL23.

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

- Molecule 63 is a protein called Large ribosomal subunit protein uL24A.

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

- Molecule 64 is a protein called Large ribosomal subunit protein eL27A.

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

- Molecule 65 is a protein called Large ribosomal subunit protein uL15.

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

- Molecule 66 is a protein called Large ribosomal subunit protein eL29.

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

- Molecule 67 is a protein called Large ribosomal subunit protein eL30.

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

- Molecule 68 is a protein called Large ribosomal subunit protein eL31A.

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

- Molecule 69 is a protein called Large ribosomal subunit protein eL32.

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

- Molecule 70 is a protein called Large ribosomal subunit protein eL33A.

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

- Molecule 71 is a protein called Large ribosomal subunit protein eL34A.

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

- Molecule 72 is a protein called Large ribosomal subunit protein uL29A.

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

- Molecule 73 is a protein called Large ribosomal subunit protein eL36A.

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

- Molecule 74 is a protein called Large ribosomal subunit protein eL37A.

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

- Molecule 75 is a protein called Large ribosomal subunit protein eL38.

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

- Molecule 76 is a protein called Large ribosomal subunit protein eL39.

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

- Molecule 77 is a protein called Large ribosomal subunit protein eL40A.

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

- Molecule 78 is a protein called Large ribosomal subunit protein eL41A.

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

- Molecule 79 is a protein called Large ribosomal subunit protein eL42A.

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

- Molecule 80 is a protein called Large ribosomal subunit protein eL43A.

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

- Molecule 81 is a protein called Elongation factor 1-alpha 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	x	441	Total	C	N	O	S	0	0
			3379	2148	581	633	17		

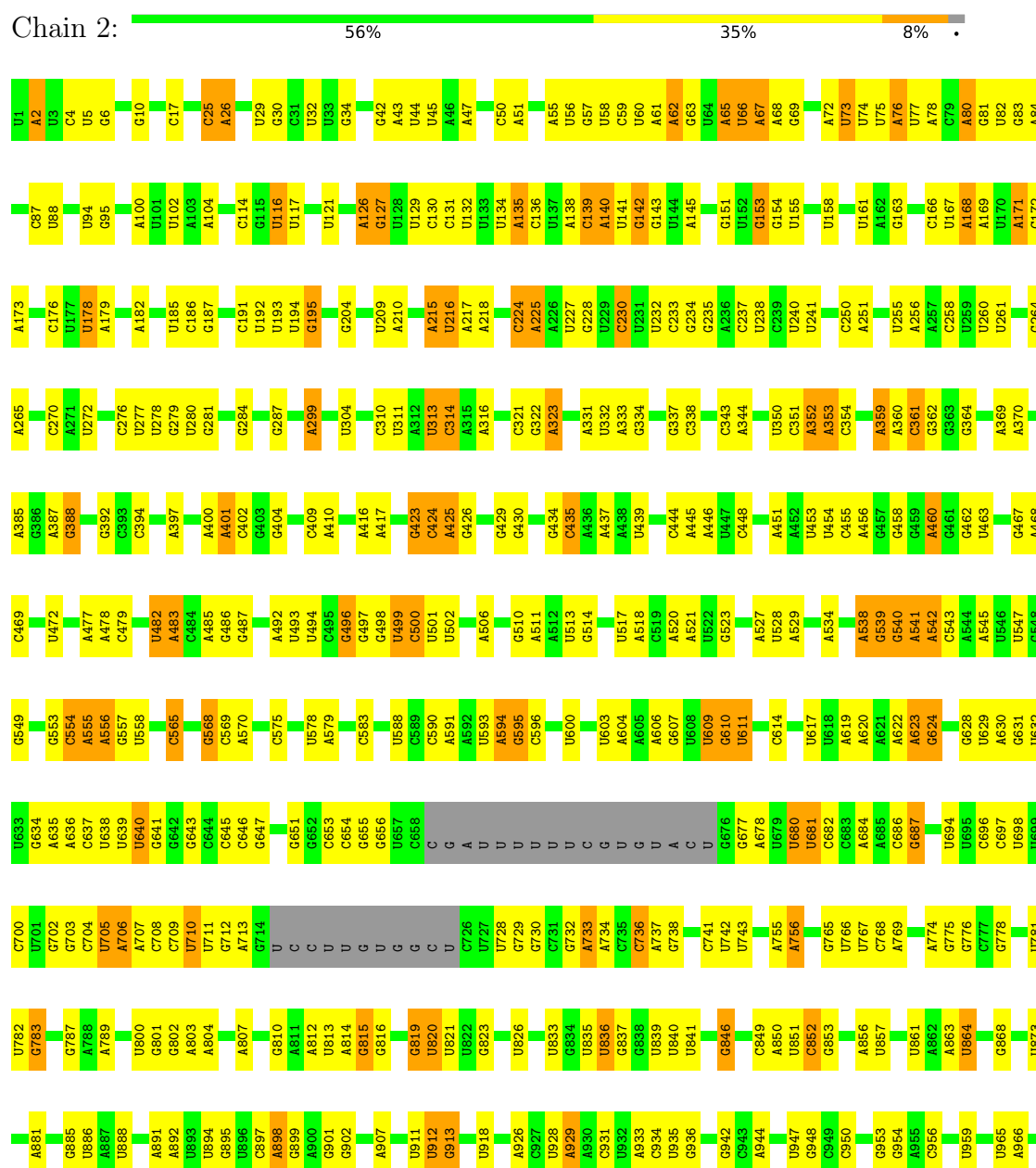
- Molecule 82 is a protein called Elongation factor 3A.

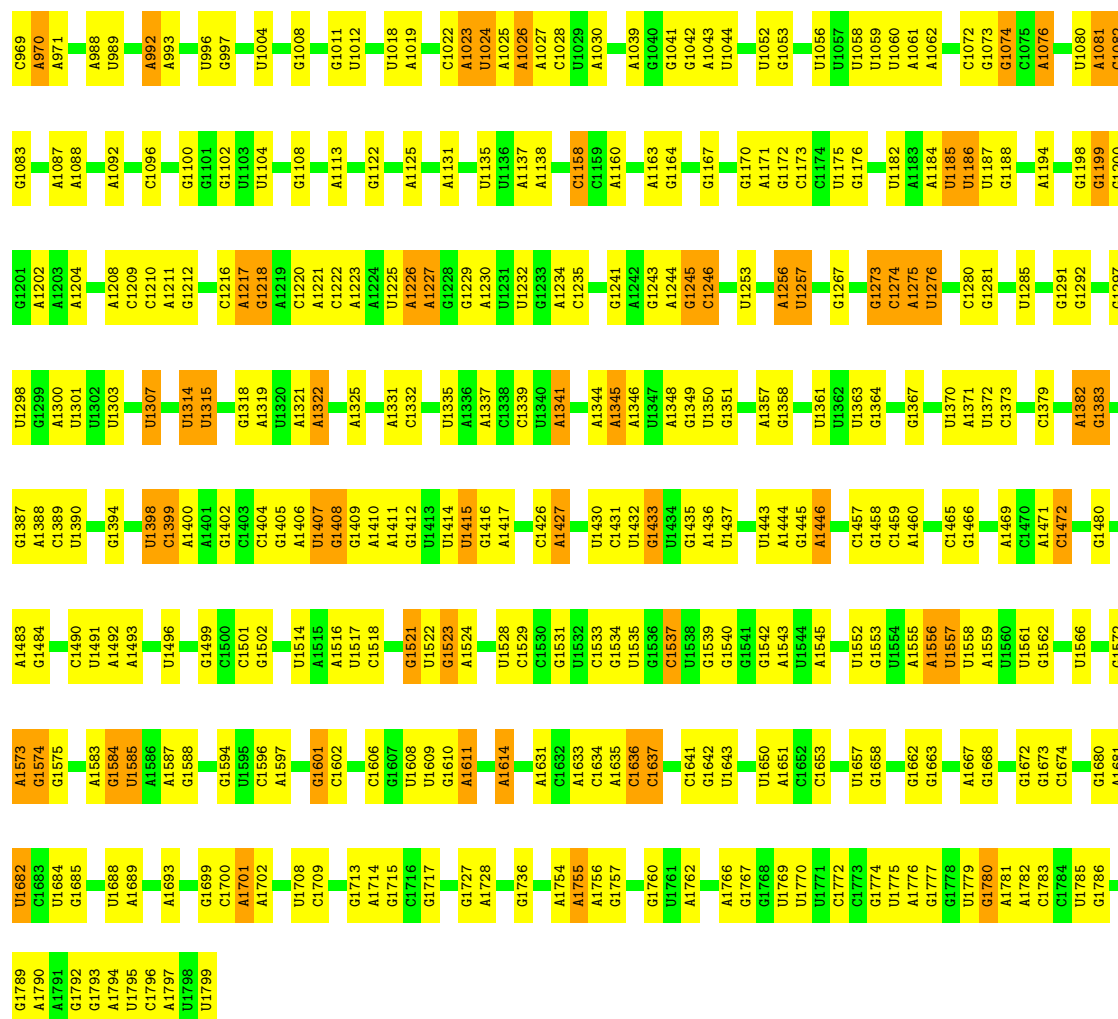
Mol	Chain	Residues	Atoms					AltConf	Trace
82	v	977	Total	C	N	O	S	0	0
			7476	4726	1295	1418	37		

3 Residue-property plots [i](#)

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.

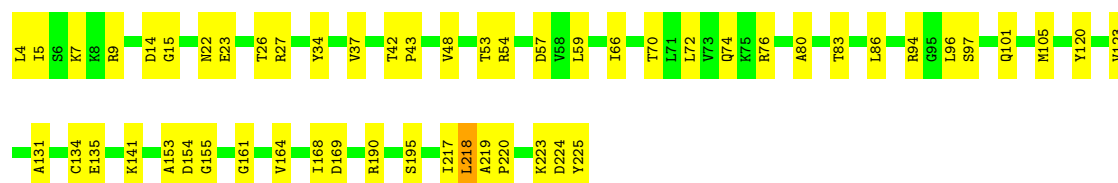
• Molecule 1: 18S rRNA





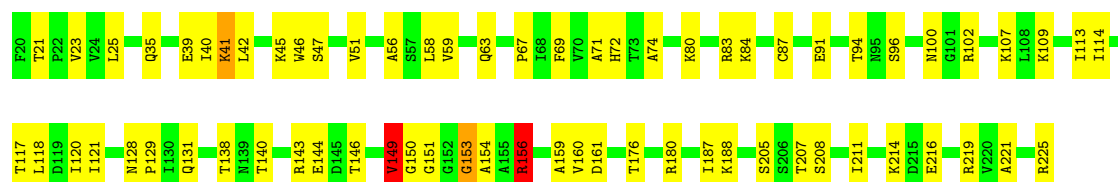
• Molecule 2: Small ribosomal subunit protein uS3

Chain SA: 76% 24%



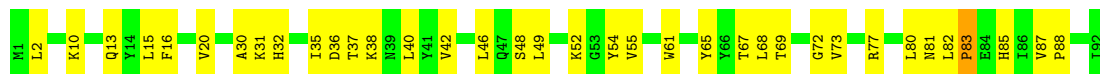
• Molecule 3: Small ribosomal subunit protein uS7

Chain SB: 67% 31% ..



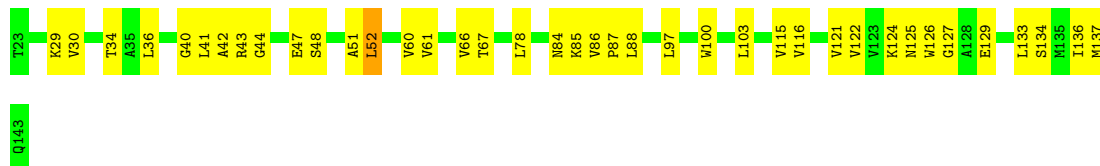
- Molecule 4: Small ribosomal subunit protein eS10A

Chain SC:  61% 38%



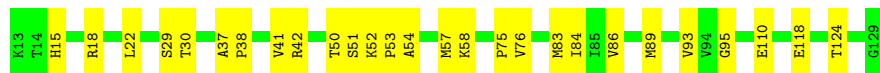
- Molecule 5: Small ribosomal subunit protein eS12

Chain SD:  68% 31%



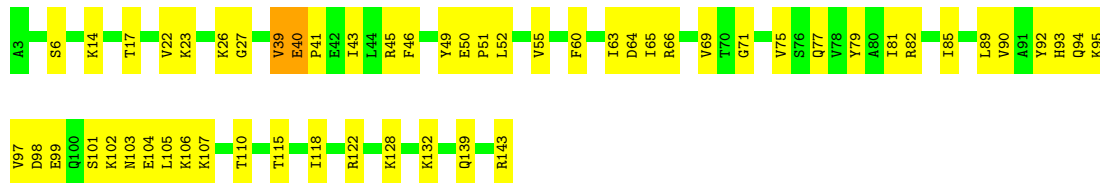
- Molecule 6: Small ribosomal subunit protein uS19

Chain SE:  77% 23%



- Molecule 7: Small ribosomal subunit protein uS9A

Chain SF:  60% 38%



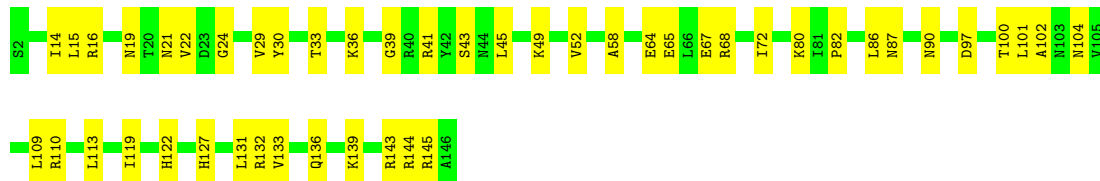
- Molecule 8: Small ribosomal subunit protein eS17A

Chain SG:  69% 31%

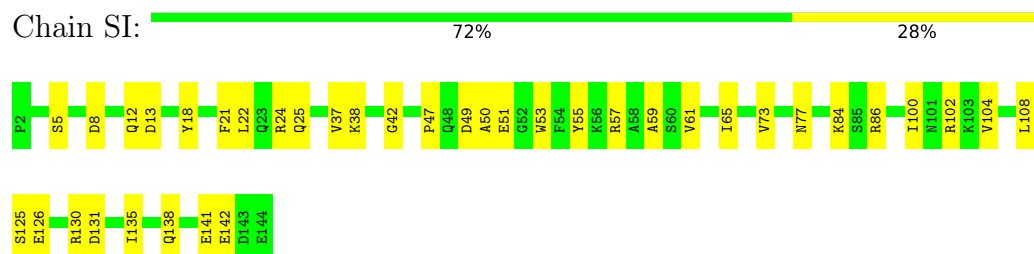


- Molecule 9: Small ribosomal subunit protein uS13A

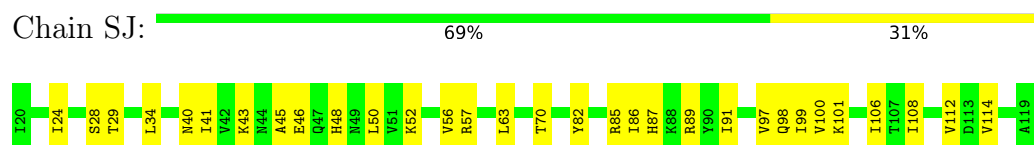
Chain SH:  67% 33%



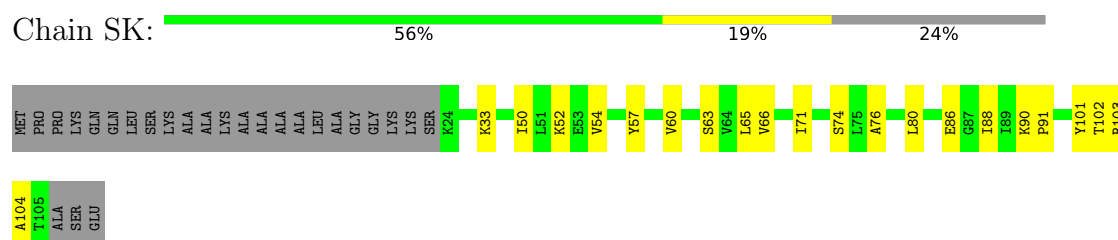
- Molecule 10: Small ribosomal subunit protein eS19A



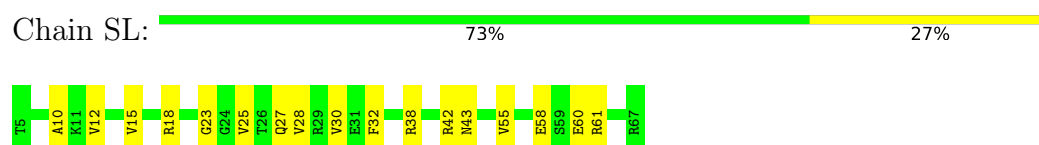
- Molecule 11: Small ribosomal subunit protein uS10



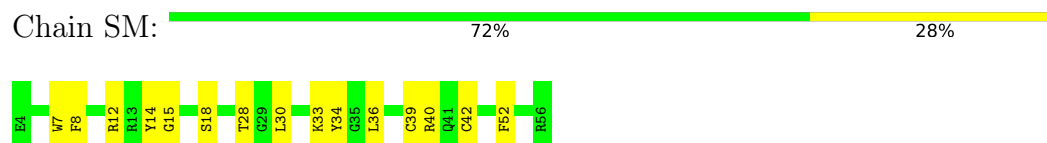
- Molecule 12: Small ribosomal subunit protein eS25A



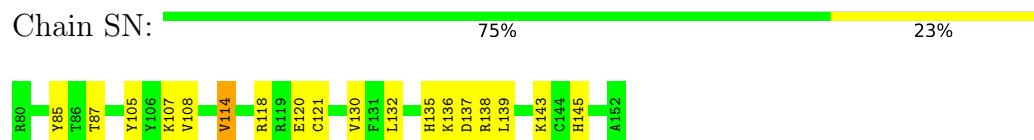
- Molecule 13: Small ribosomal subunit protein eS28A



- Molecule 14: Small ribosomal subunit protein uS14A

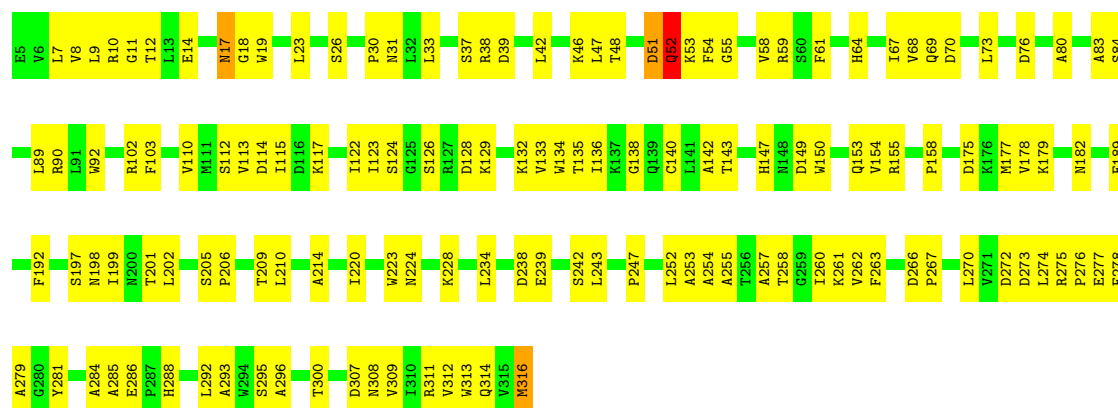


- Molecule 15: Small ribosomal subunit protein eS31



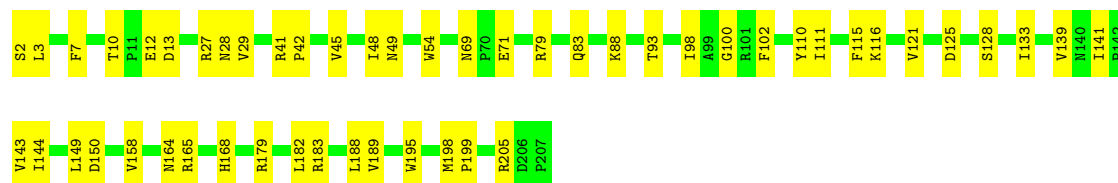
- Molecule 16: Small ribosomal subunit protein RACK1

Chain SO:  55% 43% .



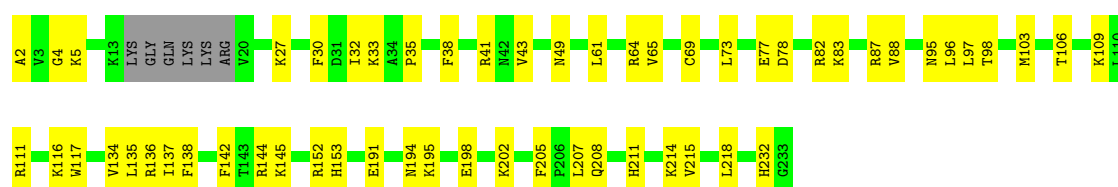
- Molecule 17: Small ribosomal subunit protein uS2A

Chain SP:  75% 25% .



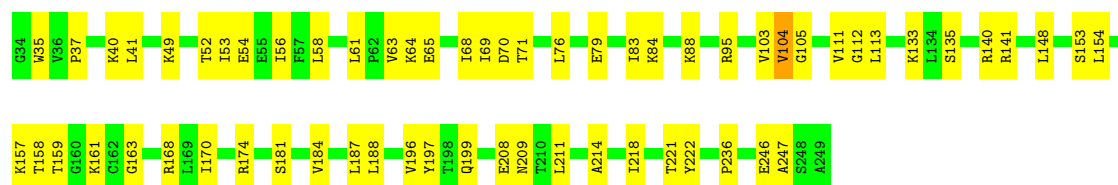
- Molecule 18: Small ribosomal subunit protein eS1A

Chain SQ:  73% 24% .



- Molecule 19: Small ribosomal subunit protein uS5

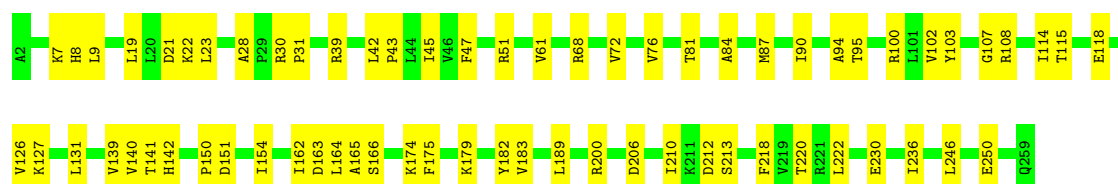
Chain SR:  71% 28% .



- Molecule 20: Small ribosomal subunit protein eS4A

Chain SS:  74% 26% .





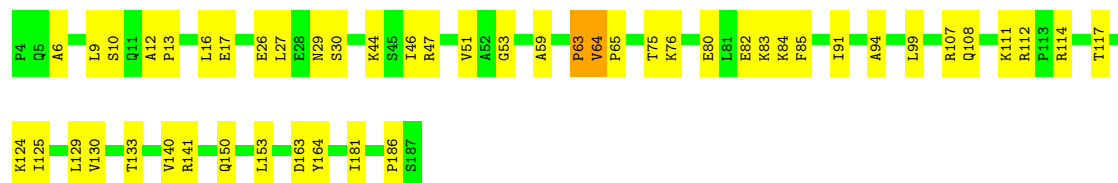
- Molecule 21: Small ribosomal subunit protein eS6A

Chain ST: 78% 22%



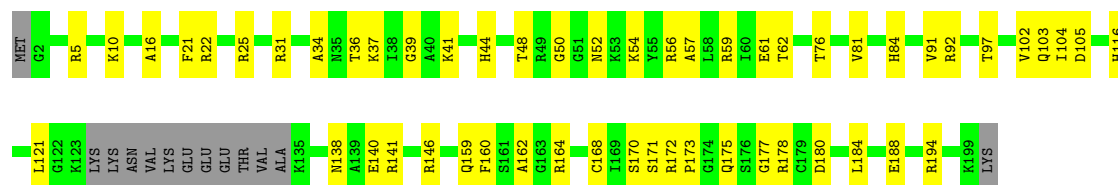
- Molecule 22: Small ribosomal subunit protein eS7A

Chain SU: 73% 26%



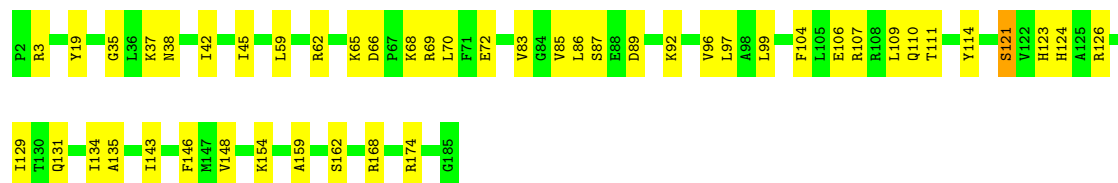
- Molecule 23: Small ribosomal subunit protein eS8A

Chain SV: 66% 27% 6%



- Molecule 24: Small ribosomal subunit protein uS4A

Chain SW: 74% 25%



- Molecule 25: Small ribosomal subunit protein uS17A

Chain SX: 85% 15%



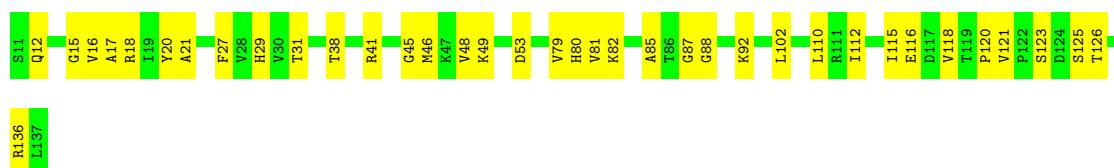
- Molecule 26: Small ribosomal subunit protein uS15

Chain SY: 80% 19%



- Molecule 27: Small ribosomal subunit protein uS11B

Chain SZ: 71% 29%



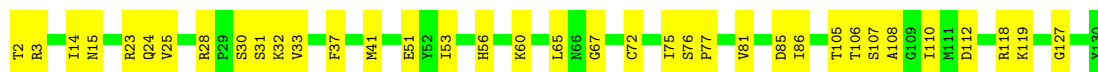
- Molecule 28: Small ribosomal subunit protein eS21A

Chain Sa: 71% 29%



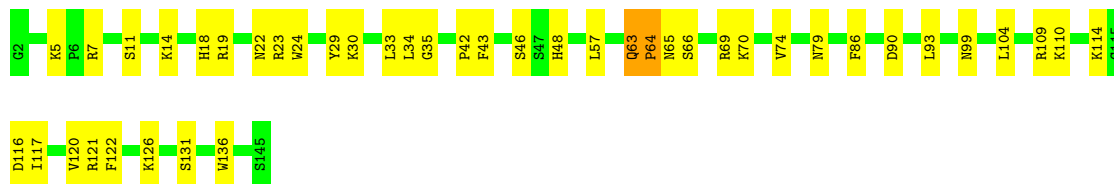
- Molecule 29: Small ribosomal subunit protein uS8A

Chain Sb: 72% 28%



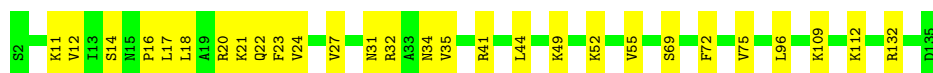
- Molecule 30: Small ribosomal subunit protein uS12A

Chain Sc: 70% 28%



- Molecule 31: Small ribosomal subunit protein eS24A

Chain Sd: 79% 21%



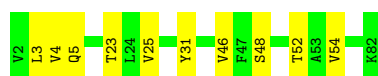
- Molecule 32: Small ribosomal subunit protein eS26A

Chain Se: 81% 19%



- Molecule 33: Small ribosomal subunit protein eS27A

Chain Sf: 88% 12%



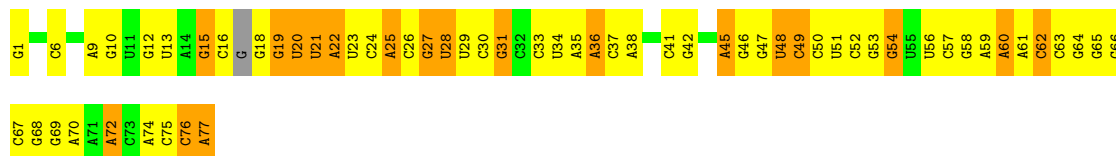
- Molecule 34: Small ribosomal subunit protein eS30A

Chain Sg: 85% 15%



- Molecule 35: tRNA

Chain s: 21% 53% 25%



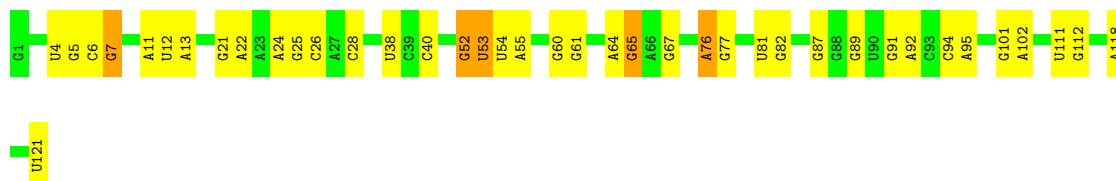
- Molecule 36: tRNA

Chain t: 65% 28% 7%

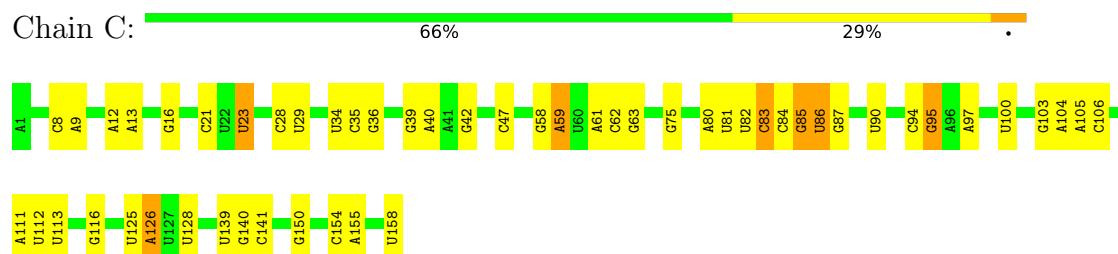


- Molecule 37: 5S rRNA

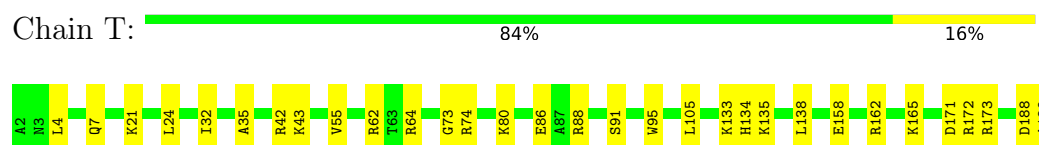
Chain B: 67% 29%



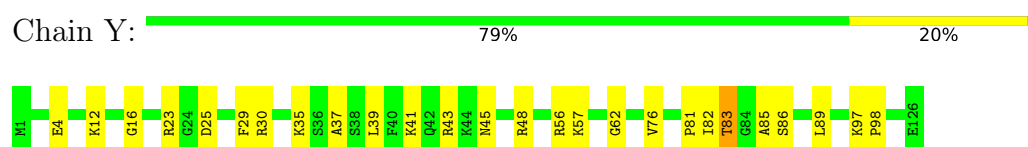
- Molecule 38: 5.8S rRNA



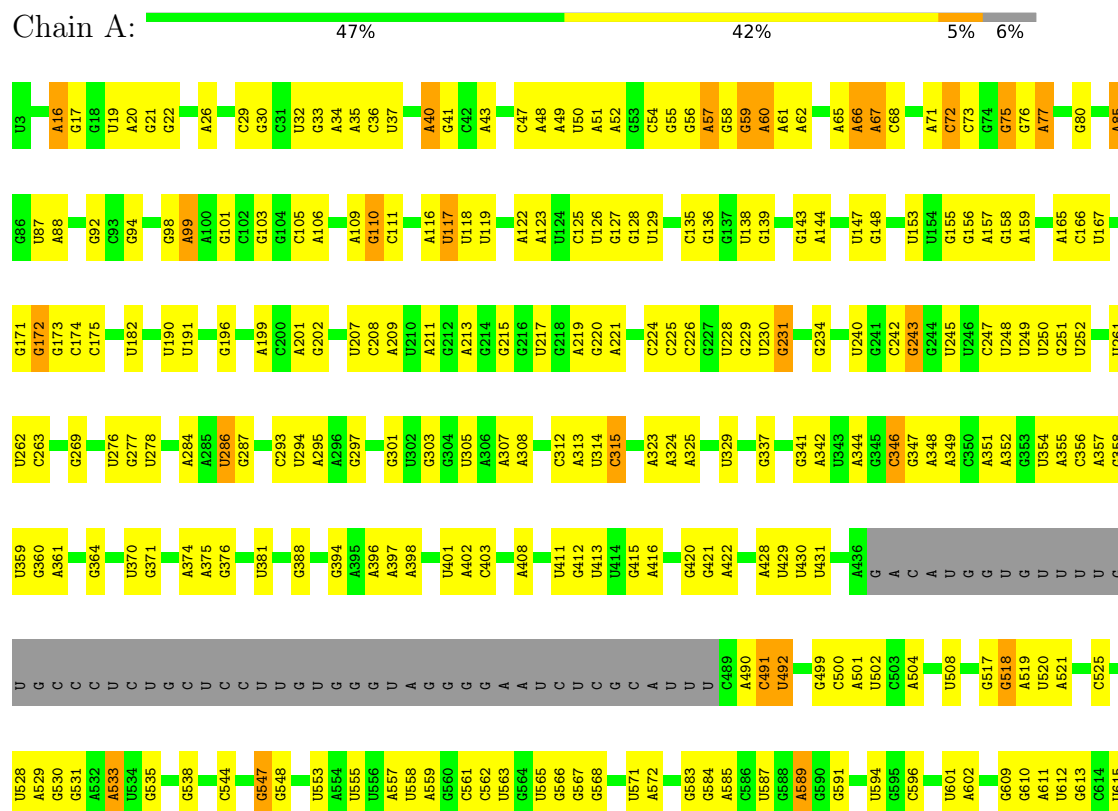
- Molecule 39: Large ribosomal subunit protein eL19A



- Molecule 40: Large ribosomal subunit protein eL24A

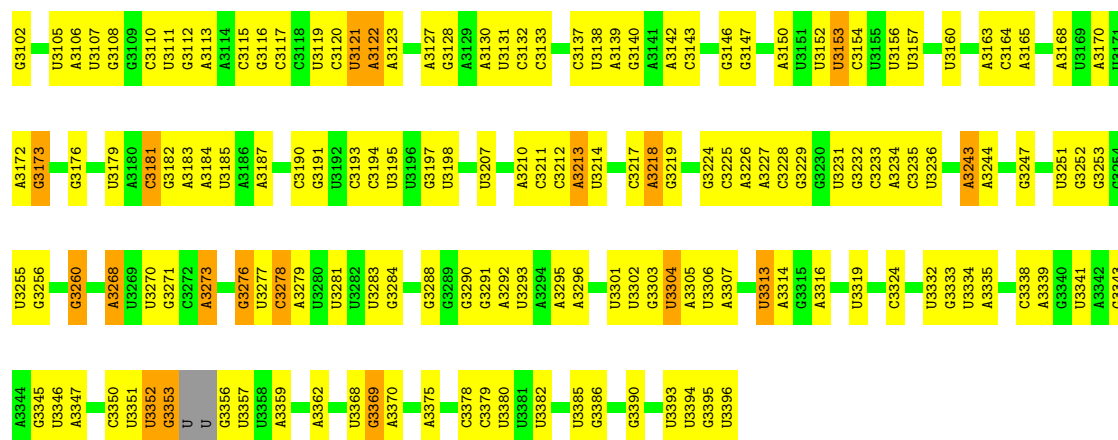


- Molecule 41: 25S rRNA

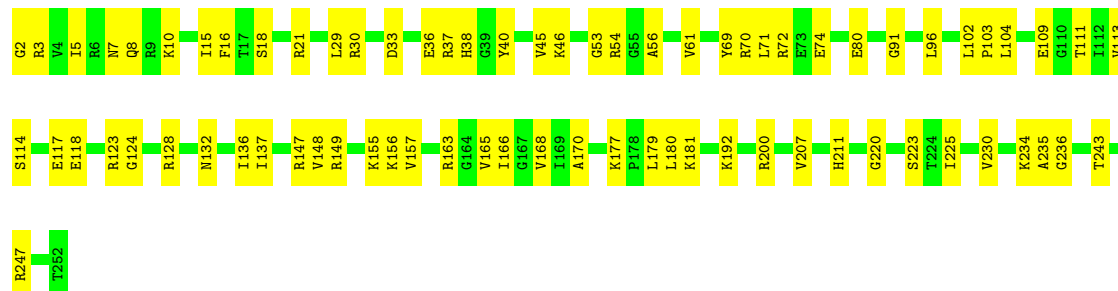




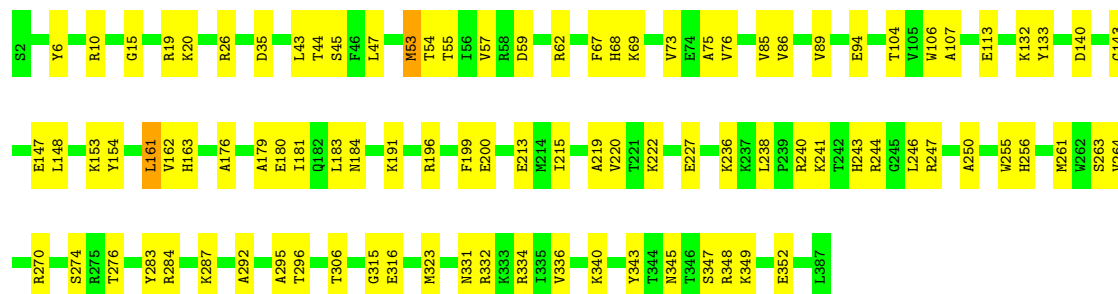
G3015	A2837	A2758	A2491	U2423	U2344	U2260	G2177	C2094	U1888
A3016	A2838	U2759	C2492	U2424	A2345	G2261	A2178	G2095	G1869
A3017	U2843	C2760	U2493	A2424	A2346	A2262	C2179	U2096	U1890
A3018	G2844	U2763	C2495	U2427	U2349	G2263	G2180	A1895	A1900
A3019	A2845	U2766	U2499	G2428	C2350	U2264	C2181	A2099	G1905
U3020	U2846	U2767	A2500	G2429	U2351	C2265	A2182	A1900	G1906
U3023	A2847	U2768	G2501	A2430	A2352	U2266	C2183	C1907	C1907
A3024	U2848	U2769	A2502	A2432	C2354	U2267	U2184	U1907	A1908
C3025	U2854	G2770	G2503	U2433	C2355	U2268	U2185	A1909	A1910
G3026	C2857	U2771	U2504	U2434	A2356	U2269	G2187	U1909	A1910
A3029	U2858	C2772	U2505	G2435	A2359	A2270	A2188	U1909	A1910
C3030	U2859	C2773	U2506	U2436	C2360	G2272	U2189	A1910	A1910
U3031	U2860	G2774	C2507	U2437	A2363	G2273	U2190	C1918	C1918
U3032	A2864	U2775	U2508	A2438	G2364	U2274	U2191	G1919	G1919
C3043	G2778	A2779	U2509	G2440	C2365	A2275	U2192	U1920	U1920
G3044	U2865	A2779	U2510	A2441	C2366	G2276	G2193	A1921	A1921
G3045	C2867	A2785	A2511	G2442	A2367	A2280	C2194	G1927	G1927
A3049	G2871	G2786	U2514	G2443	A2368	A2281	C2195	G1928	G1928
U3050	A2872	G2786	A2515	A2444	G2369	U2282	C2196	G1929	G1929
G3051	G2873	G2786	C2518	A2445	G2370	G2283	U2205	U1930	U1930
G3052	U2874	G2791	U2519	U2446	C2371	C2284	G2206	U1931	U1931
G3053	U2875	U2795	G2522	U2447	A2372	A2207	A2207	A1932	A1932
U3057	C2876	G2796	A2523	U2453	A2373	U2294	G2216	G1933	G1933
G3058	A2877	A2799	U2524	G2454	C2374	A2295	U2217	A1934	A1934
U3059	G2878	G2800	G2525	U2455	C2375	A2296	G2218	G1935	G1935
G3060	A2881	A2801	A2526	A2456	G2376	U2297	U2297	G1940	G1940
G3061	U2882	U2712	G2527	G2457	C2377	U2298	A2222	A1941	A1941
C3067	U2883	U2713	G2528	A2458	G2381	G2305	A2223	U1942	U1942
U3068	C2884	G2714	U2533	U2460	C2382	C2306	A2224	G1948	G1948
A3070	A2887	U2722	G2534	U2461	U2388	G2307	U2225	U1950	U1950
U3071	U2888	U2723	A2535	A2462	A2390	C2308	U2226	C1951	C1951
C3072	C2889	U2724	U2540	G2463	G2391	A2309	U2227	G1952	G1952
A3073	A2890	U2725	U2541	G2467	C2392	U2310	A2228	G	G
G3074	U2891	C2726	U2546	A2468	G2393	U2314	G2234	G	G
G3075	C2894	A2727	C2547	G2469	C2394	G2315	A2152	G	G
C3076	G2895	G2728	A2548	C2470	G2395	G2316	U2153	G	G
A3077	A2896	U2729	G2549	U2471	A2397	A2317	U2154	G	G
U3078	A2897	G2730	G2552	G2474	C2398	U2318	G2155	G	G
U3079	G2898	U2731	C2555	G2475	A2399	U2319	G2156	G	G
C3082	A2900	G2732	U2556	G2476	C2400	A2320	G2157	G	G
G3083	A2911	U2735	G2557	G2477	A2402	U2327	A2158	G	G
C3084	C2911	A2736	U2558	G2477	G2403	U2328	A2242	G	G
G3085	C2925	C2737	C2559	A2480	A2404	C2329	A2243	G	G
C3092	G2926	U2744	A2561	G2481	C2407	G2330	C2245	G	G
A3093	U2926	G2745	A2562	U2482	U2408	A2332	G2249	G	G
U3094	U2927	U2748	U2565	G2483	U2411	G2335	G2250	G	G
C3096	G2928	G2753	G2566	A2484	U2412	G2336	G2251	G	G
G3097	U2929	G2754	U2567	A2485	G2413	C2337	A2252	G	G
G3101	A2934	G2755	G2568	U2487	G2414	C2338	U2254	G	G
	U2935	G2756	G2569	A2488	C2415	U2339	A2255	G	G
	A2936	G2757	G2570	G2489	G2418	U2340	A2256	G	G
	G2937		A2673	C2490		A2341	C2257	G	G



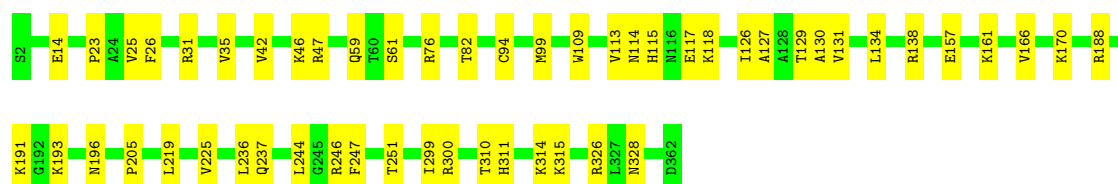
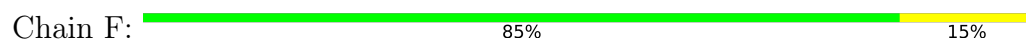
• Molecule 42: Large ribosomal subunit protein uL2A



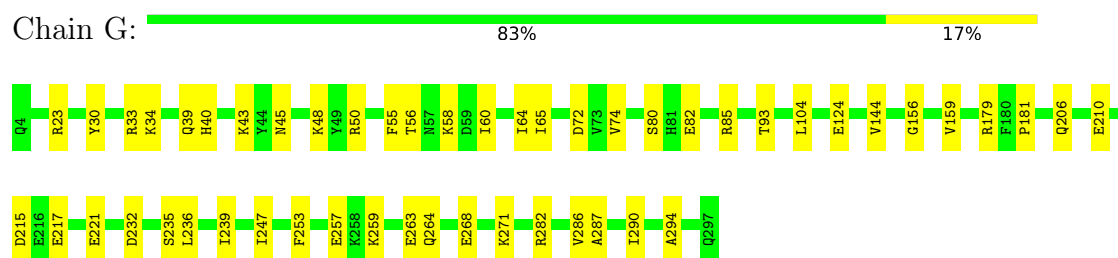
• Molecule 43: Large ribosomal subunit protein uL3



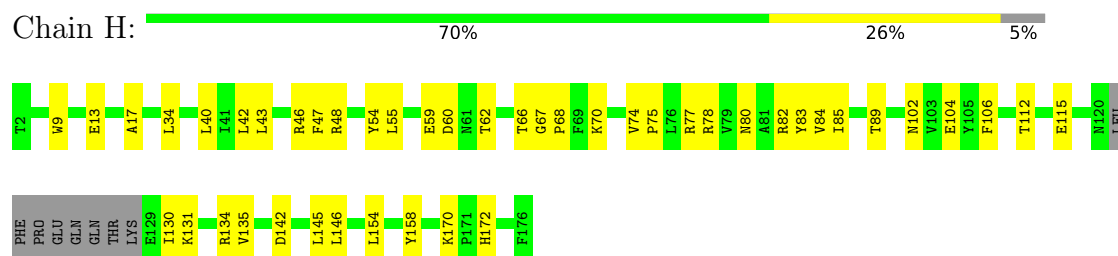
• Molecule 44: Large ribosomal subunit protein uL4A



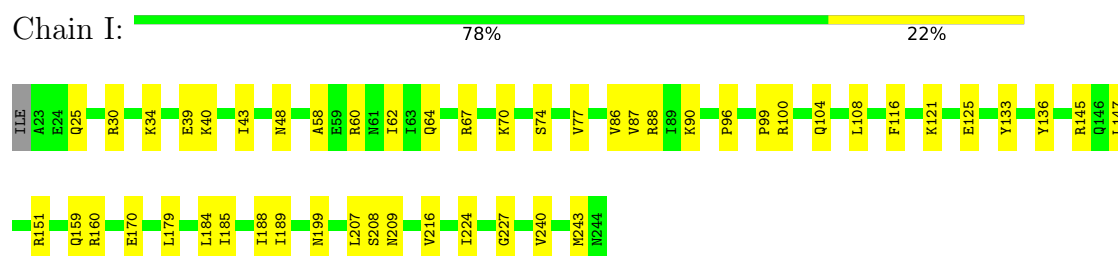
- Molecule 45: Large ribosomal subunit protein uL18



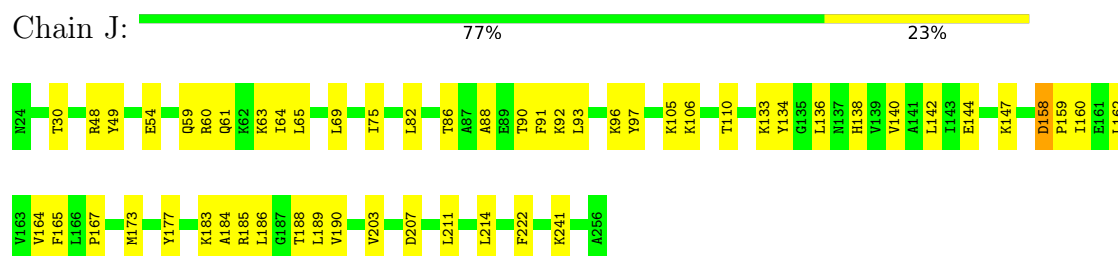
- Molecule 46: Large ribosomal subunit protein eL6B



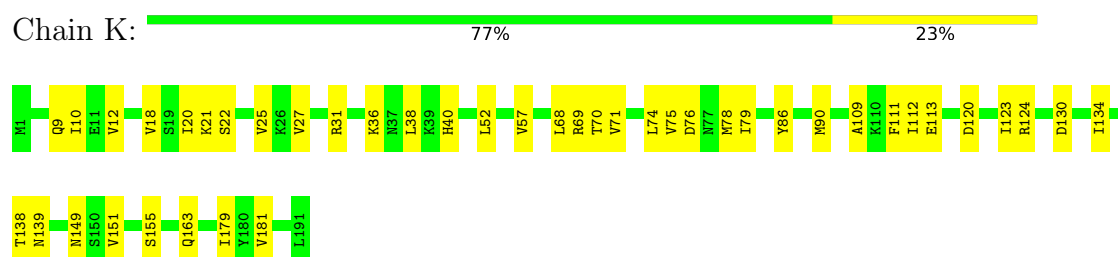
- Molecule 47: Large ribosomal subunit protein uL30A



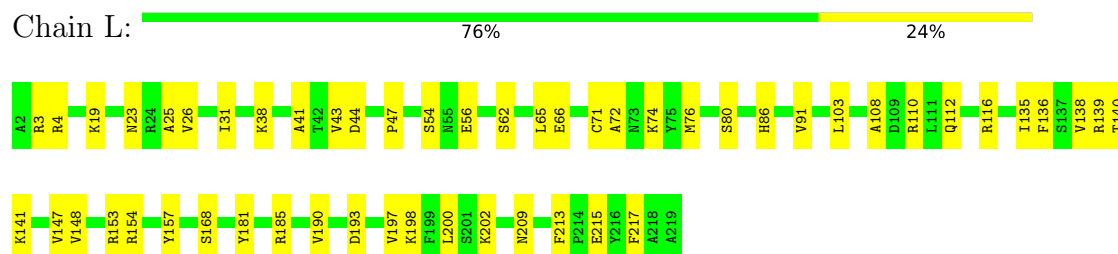
- Molecule 48: Large ribosomal subunit protein eL8A



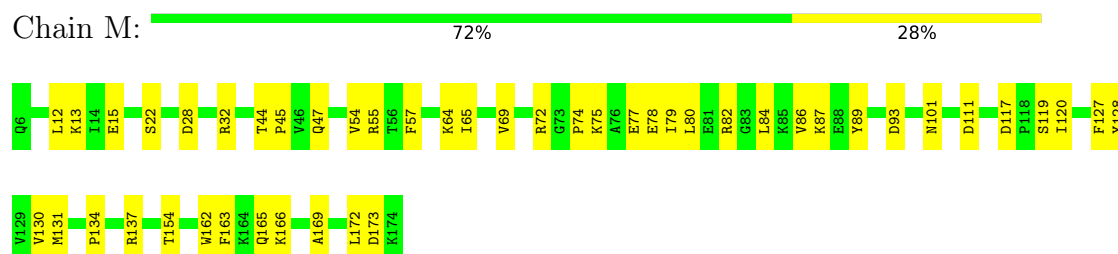
- Molecule 49: Large ribosomal subunit protein uL6A



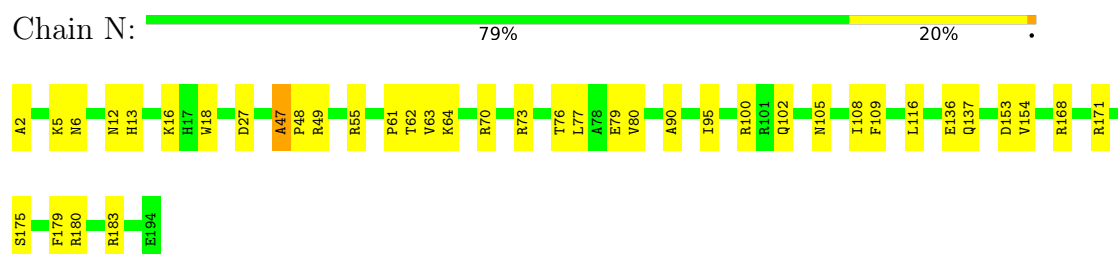
- Molecule 50: Large ribosomal subunit protein uL16



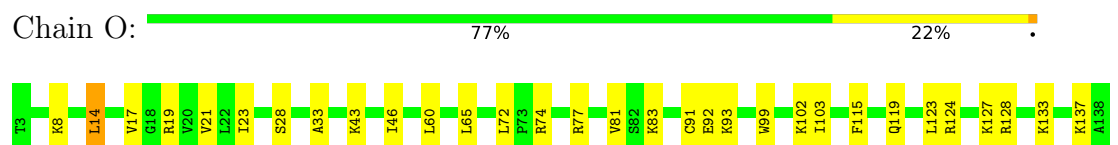
- Molecule 51: Large ribosomal subunit protein uL5B



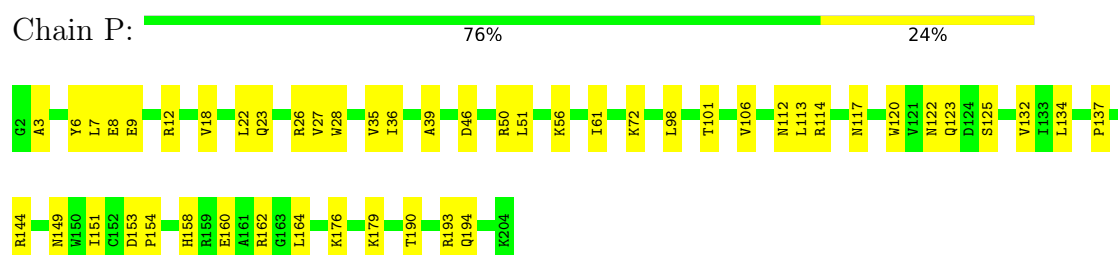
- Molecule 52: Large ribosomal subunit protein eL13A



- Molecule 53: Large ribosomal subunit protein eL14A

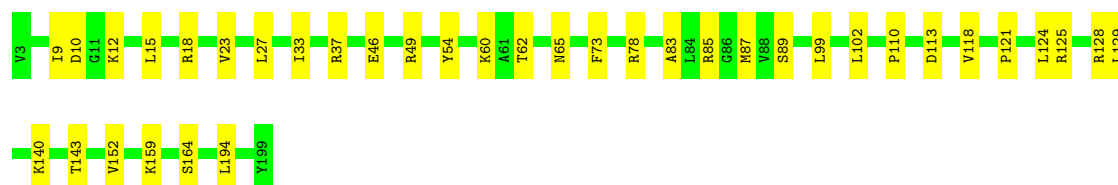


- Molecule 54: Large ribosomal subunit protein eL15A



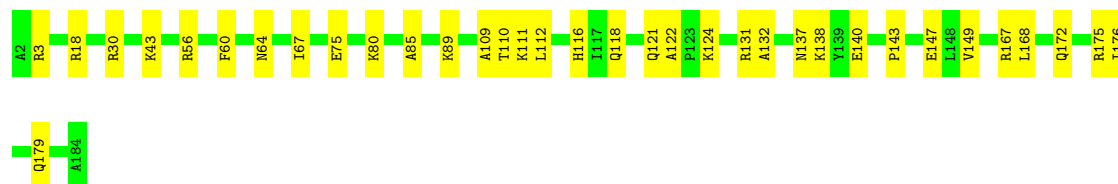
- Molecule 55: Large ribosomal subunit protein uL13A

Chain Q:  81% 19%



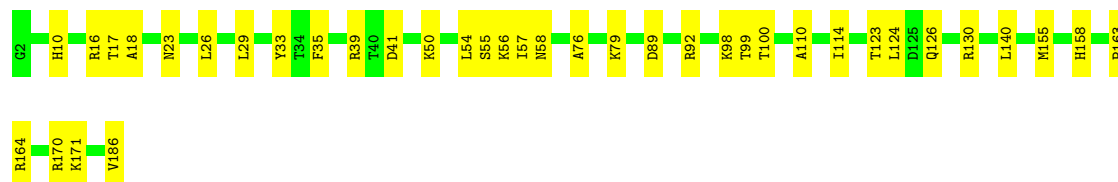
- Molecule 56: Large ribosomal subunit protein uL22A

Chain R:  81% 19%



- Molecule 57: Large ribosomal subunit protein eL18A

Chain S:  79% 21%



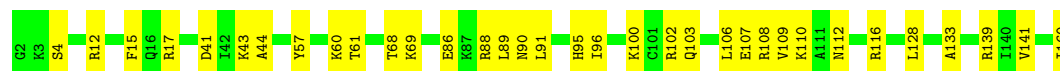
- Molecule 58: Large ribosomal subunit protein eL20A

Chain U:  77% 23%



- Molecule 59: Large ribosomal subunit protein eL21A

Chain V:  79% 21%



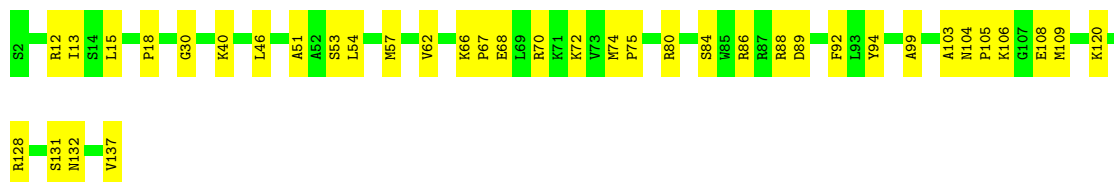
- Molecule 60: Large ribosomal subunit protein eL22A

Chain W:  69% 31%



- Molecule 61: Large ribosomal subunit protein uL14A

Chain X: 72% 28%



- Molecule 62: Large ribosomal subunit protein uL23

Chain Z: 79% 21%



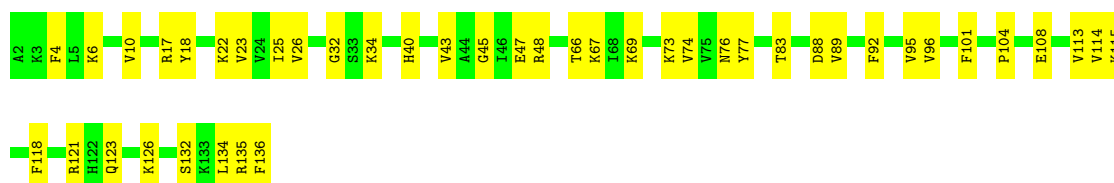
- Molecule 63: Large ribosomal subunit protein uL24A

Chain a: 78% 22%



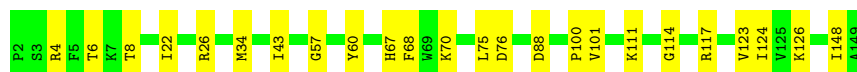
- Molecule 64: Large ribosomal subunit protein eL27A

Chain b: 68% 32%



- Molecule 65: Large ribosomal subunit protein uL15

Chain c: 84% 16%



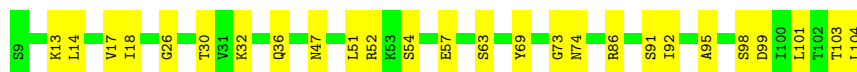
- Molecule 66: Large ribosomal subunit protein eL29

Chain d: 86% 14%



- Molecule 67: Large ribosomal subunit protein eL30

Chain e: 73% 27%



- Molecule 68: Large ribosomal subunit protein eL31A

Chain f: 77% 23%



- Molecule 69: Large ribosomal subunit protein eL32

Chain g: 83% 17%



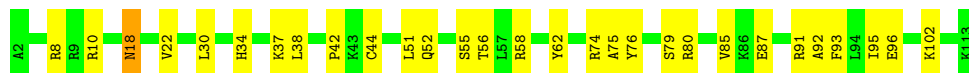
- Molecule 70: Large ribosomal subunit protein eL33A

Chain h: 74% 26%



- Molecule 71: Large ribosomal subunit protein eL34A

Chain i: 74% 25%



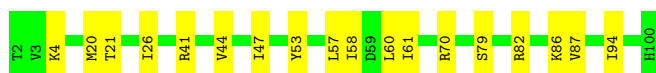
- Molecule 72: Large ribosomal subunit protein uL29A

Chain j: 76% 24%



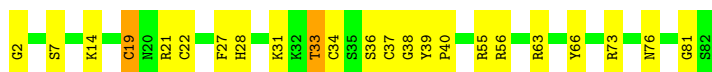
- Molecule 73: Large ribosomal subunit protein eL36A

Chain k: 82% 18%



- Molecule 74: Large ribosomal subunit protein eL37A

Chain l: 72% 26%



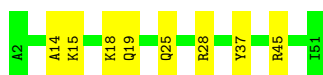
- Molecule 75: Large ribosomal subunit protein eL38

Chain m: 79% 21%



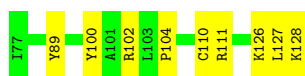
- Molecule 76: Large ribosomal subunit protein eL39

Chain n: 84% 16%



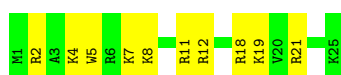
- Molecule 77: Large ribosomal subunit protein eL40A

Chain o: 83% 17%



- Molecule 78: Large ribosomal subunit protein eL41A

Chain p: 60% 40%



- Molecule 79: Large ribosomal subunit protein eL42A

Chain q: 85% 15%



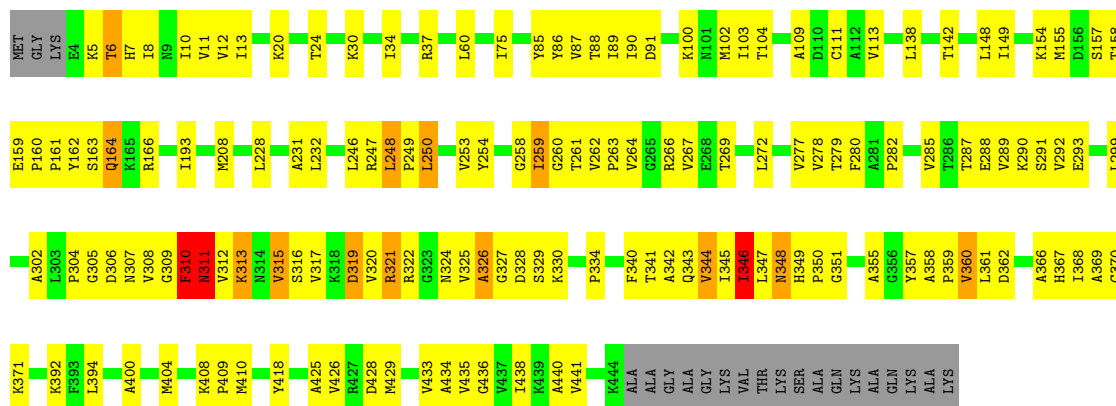
- Molecule 80: Large ribosomal subunit protein eL43A

Chain r: 74% 26%



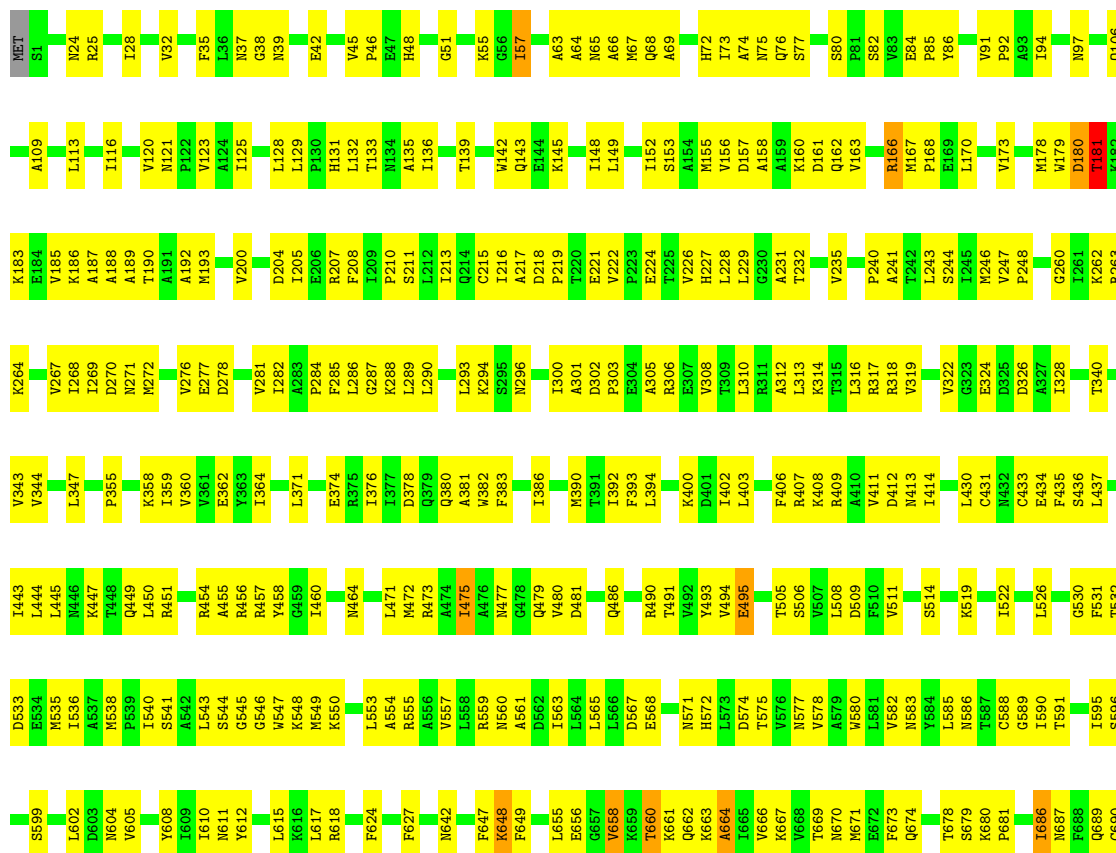
• Molecule 81: Elongation factor 1-alpha 1

Chain x: 63% 29% • 5%



• Molecule 82: Elongation factor 3A

Chain v: 49% 43% • 6%



LEU	S691	T767	K850	L938
SER	L692	M768	M851	K939
SER	S693	D769	V852	V945
ALA	I696	R773	V855	I946
GLU	A697	Q774	I947	I948
LEU	V698	I775	E859	ARG
ARG	I699	M776	K956	LYS
LYS	N702	E777	R867	LYS
LYS	G703	E781	P868	LYS
LYS	K706	K785	L869	LYS
GLU	S707	I786	T870	GLU
ARG	I708	P793	R871	ARG
MET	N711	R794	K872	MET
LYS	V712	E795	E873	LYS
LYS	I713	I799	E876	LYS
LYS	T714	R802	M880	LYS
GLU	G715	R803	D884	LYS
LEU	E716	K804	P885	GLU
GLY	L717	F805	E886	GLY
ASP	P719	I887	I887	ASP
ALA	T720	K806	N976	ALA
TYR	S721	Y809	N977	TYR
VAL	G722	E810	VAL	VAL
SER	I725	Y811	SER	SER
SER	C730	F812	GLY	SER
ASP	R731	S814	PRO	ASP
GLU	I732	F815	ARG	GLY
GLU	A733	L816	ILE	GLN
GLU	Y734	L817	GLU	GLY
LYS	I735	G818	LYS	GLY
LYS	K736	I821	LYS	ALA
LYS	Q737	G822	P814	LYS
LYS	H738	M823	H915	GLU
LYS	I743	K824	L916	ASP
LYS	L747	S825	I917	GLU
LYS	D748	E826	V918	GLU
LYS	K749	R827	L919	ASP
LYS	T750	W828	D920	LYS
LYS	P751	M831	E921	PHE
LYS	S752	M832	P922	ASP
LYS	E753	S833	T923	ALA
LYS	Q756	V834	N924	ALA
LYS	W757	D835	Y925	GLY
LYS	R758	W838	I926	ASN
LYS	F759	Y839	D927	LYS
LYS	Q760	R841	R928	LYS
LYS	D764	S847	D929	ILE
LYS	R765	H848	ALA	ALA
LYS	E766	S849	S930	GLY
			L931	GLY
			G932	LYS
			A933	LYS
			K936	LYS
			A937	LYS

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	27708	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)	500	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	0.07	0/42211	0.17	0/65773
2	SA	0.16	0/1754	0.39	0/2361
3	SB	0.20	0/1625	0.42	0/2197
4	SC	0.12	0/769	0.35	0/1039
5	SD	0.15	0/883	0.49	0/1199
6	SE	0.13	0/936	0.36	0/1259
7	SF	0.18	0/1125	0.45	0/1510
8	SG	0.14	0/971	0.45	0/1303
9	SH	0.16	0/1207	0.39	1/1623 (0.1%)
10	SI	0.12	0/1130	0.34	0/1517
11	SJ	0.14	0/807	0.55	1/1091 (0.1%)
12	SK	0.17	0/661	0.54	0/888
13	SL	0.10	0/493	0.28	0/663
14	SM	0.12	0/452	0.36	0/600
15	SN	0.18	0/567	0.49	0/764
16	SO	0.18	0/2436	0.50	2/3318 (0.1%)
17	SP	0.11	0/1644	0.31	0/2249
18	SQ	0.14	0/1823	0.37	0/2447
19	SR	0.12	0/1656	0.35	0/2251
20	SS	0.11	0/2097	0.33	0/2823
21	ST	0.11	0/1839	0.32	0/2460
22	SU	0.17	0/1498	0.41	1/2019 (0.0%)
23	SV	0.13	0/1501	0.32	0/2006
24	SW	0.10	0/1504	0.30	0/2016
25	SX	0.10	0/1168	0.30	0/1575
26	SY	0.10	0/1215	0.27	0/1638
27	SZ	0.13	0/901	0.35	0/1217
28	Sa	0.13	0/682	0.42	0/921
29	Sb	0.10	0/1038	0.29	0/1395
30	Sc	0.16	0/1139	0.34	0/1518
31	Sd	0.12	0/1087	0.33	0/1449
32	Se	0.12	0/761	0.39	0/1016
33	Sf	0.09	0/620	0.28	0/838
34	Sg	0.10	0/480	0.28	0/639

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	s	0.11	0/1805	0.27	2/2809 (0.1%)
36	t	0.07	0/1796	0.16	0/2799
37	B	0.05	0/2883	0.11	0/4491
38	C	0.05	0/3746	0.12	0/5832
39	T	0.09	0/1532	0.29	0/2043
40	Y	0.10	0/850	0.30	0/1152
41	A	0.08	0/76303	0.19	0/118956
42	D	0.09	0/1933	0.26	0/2598
43	E	0.09	0/3146	0.26	0/4228
44	F	0.09	0/2800	0.26	0/3790
45	G	0.11	0/2400	0.30	0/3239
46	H	0.14	0/1329	0.35	0/1794
47	I	0.11	0/1821	0.27	0/2451
48	J	0.13	0/1836	0.34	0/2481
49	K	0.13	0/1529	0.34	0/2060
50	L	0.11	0/1801	0.29	0/2416
51	M	0.13	0/1367	0.38	0/1834
52	N	0.12	0/1568	0.29	0/2106
53	O	0.09	0/1068	0.22	0/1438
54	P	0.08	0/1757	0.22	0/2354
55	Q	0.13	0/1585	0.28	0/2128
56	R	0.14	0/1439	0.29	0/1938
57	S	0.10	0/1465	0.25	0/1965
58	U	0.09	0/1473	0.27	0/1980
59	V	0.11	0/1296	0.30	0/1739
60	W	0.13	0/812	0.42	0/1099
61	X	0.14	0/1018	0.33	0/1369
62	Z	0.10	0/979	0.32	0/1321
63	a	0.10	0/995	0.26	0/1329
64	b	0.12	0/1106	0.31	0/1485
65	c	0.09	0/1200	0.27	0/1607
66	d	0.09	0/473	0.24	0/629
67	e	0.12	0/745	0.33	0/1001
68	f	0.09	0/890	0.25	0/1196
69	g	0.07	0/1034	0.21	0/1385
70	h	0.10	0/868	0.26	0/1168
71	i	0.11	0/890	0.29	0/1189
72	j	0.15	0/978	0.36	1/1301 (0.1%)
73	k	0.10	0/772	0.28	0/1026
74	l	0.36	1/660 (0.2%)	0.47	0/875
75	m	0.14	0/618	0.34	0/826
76	n	0.09	0/443	0.24	0/588
77	o	0.12	0/416	0.34	0/553

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
78	p	0.13	0/230	0.36	0/296
79	q	0.09	0/836	0.26	0/1104
80	r	0.17	0/701	0.40	0/934
81	x	0.54	0/3449	0.82	5/4667 (0.1%)
82	v	0.26	1/7611 (0.0%)	0.63	6/10322 (0.1%)
All	All	0.13	2/228932 (0.0%)	0.28	19/335473 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
81	x	0	1

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
82	v	648	LYS	C-N	-5.99	1.24	1.33
74	l	33	THR	C-N	5.71	1.41	1.33

All (19) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
81	x	311	ASN	CA-C-N	-7.95	107.66	121.97
81	x	311	ASN	C-N-CA	-7.95	107.66	121.97
11	SJ	101	LYS	N-CA-C	-7.19	103.71	114.64
82	v	180	ASP	N-CA-C	-7.18	103.15	110.97
35	s	76	C	C4'-C3'-O3'	6.83	119.65	109.40
82	v	166	ARG	CA-C-N	6.48	131.79	121.62
82	v	166	ARG	C-N-CA	6.48	131.79	121.62
16	SO	52	GLN	CA-C-N	-6.26	111.80	120.38
16	SO	52	GLN	C-N-CA	-6.26	111.80	120.38
81	x	319	ASP	N-CA-C	-6.06	104.75	111.36
81	x	321	ARG	N-CA-C	6.05	117.73	108.42
35	s	76	C	O3'-P-O5'	6.04	113.07	104.00
9	SH	82	PRO	CA-N-CD	-6.00	103.61	112.00
22	SU	63	PRO	CA-N-CD	-5.94	103.68	112.00
81	x	311	ASN	N-CA-C	-5.51	99.28	108.32
82	v	806	LYS	CB-CA-C	-5.34	110.44	116.63
72	j	84	LYS	CB-CA-C	-5.33	110.41	116.54
82	v	495	GLU	CA-CB-CG	5.19	124.47	114.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
82	v	589	GLY	N-CA-C	-5.06	109.03	115.31

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
81	x	159	GLU	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	2	37739	0	18988	437	0
2	SA	1729	0	1812	39	0
3	SB	1605	0	1669	52	0
4	SC	752	0	719	29	0
5	SD	875	0	878	27	0
6	SE	916	0	941	19	0
7	SF	1105	0	1166	64	0
8	SG	961	0	999	39	0
9	SH	1188	0	1218	44	0
10	SI	1112	0	1124	34	0
11	SJ	797	0	863	27	0
12	SK	651	0	682	15	0
13	SL	491	0	524	13	0
14	SM	442	0	432	12	0
15	SN	556	0	549	15	0
16	SO	2383	0	2332	115	0
17	SP	1603	0	1610	35	0
18	SQ	1798	0	1890	40	0
19	SR	1626	0	1715	41	0
20	SS	2056	0	2140	47	0
21	ST	1815	0	1894	44	0
22	SU	1473	0	1555	35	0
23	SV	1476	0	1501	47	0
24	SW	1479	0	1556	37	0
25	SX	1142	0	1209	13	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
26	SY	1192	0	1255	21	0
27	SZ	891	0	883	29	0
28	Sa	673	0	662	21	0
29	Sb	1021	0	1060	30	0
30	Sc	1121	0	1196	37	0
31	Sd	1073	0	1132	23	0
32	Se	750	0	799	18	0
33	Sf	610	0	633	8	0
34	Sg	472	0	521	9	0
35	s	1616	0	824	82	0
36	t	1606	0	816	9	0
37	B	2579	0	1304	30	0
38	C	3353	0	1695	33	0
39	T	1515	0	1606	29	0
40	Y	836	0	706	16	0
41	A	68170	0	34260	1138	0
42	D	1899	0	1957	57	0
43	E	3075	0	3142	70	0
44	F	2748	0	2859	40	0
45	G	2351	0	2294	38	0
46	H	1307	0	1377	39	0
47	I	1784	0	1862	33	0
48	J	1804	0	1877	40	0
49	K	1508	0	1572	27	0
50	L	1764	0	1804	42	0
51	M	1346	0	1370	37	0
52	N	1543	0	1608	30	0
53	O	1053	0	1149	26	0
54	P	1720	0	1779	41	0
55	Q	1555	0	1659	29	0
56	R	1416	0	1433	27	0
57	S	1441	0	1543	30	0
58	U	1437	0	1475	32	0
59	V	1272	0	1312	29	0
60	W	796	0	812	22	0
61	X	1003	0	1048	22	0
62	Z	964	0	1025	20	0
63	a	984	0	1075	20	0
64	b	1080	0	1122	31	0
65	c	1169	0	1211	19	0
66	d	462	0	491	7	0
67	e	737	0	792	18	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
68	f	876	0	912	14	0
69	g	1013	0	1077	19	0
70	h	850	0	880	21	0
71	i	880	0	945	23	0
72	j	969	0	1078	20	0
73	k	766	0	844	11	0
74	l	645	0	649	29	0
75	m	612	0	682	12	0
76	n	436	0	475	7	0
77	o	410	0	446	8	0
78	p	229	0	273	10	0
79	q	824	0	892	12	0
80	r	694	0	738	20	0
81	x	3379	0	3433	296	0
82	v	7476	0	7414	439	0
All	All	213525	0	159704	3968	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 11.

All (3968) 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)
81:x:280:PHE:HB3	81:x:324:ASN:CG	1.48	1.35
35:s:77:A:C5	81:x:293:GLU:HG3	1.76	1.20
81:x:346:ILE:HA	81:x:434:ALA:CA	1.72	1.18
81:x:280:PHE:CD1	81:x:324:ASN:HB2	1.80	1.16
30:Sc:63:GLN:HB3	30:Sc:64:PRO:HD2	1.23	1.14
82:v:662:GLN:HA	82:v:691:SER:HB2	1.27	1.14
35:s:77:A:H4'	81:x:264:VAL:HG21	1.30	1.13
35:s:77:A:H2	81:x:291:SER:C	1.56	1.12
81:x:358:ALA:HA	81:x:370:CYS:O	1.48	1.10
1:2:430:G:H5''	81:x:290:LYS:HE3	1.34	1.08
81:x:325:VAL:HB	81:x:334:PRO:HG3	1.16	1.08
81:x:346:ILE:HA	81:x:434:ALA:HA	1.09	1.07
81:x:262:VAL:HA	81:x:311:ASN:CA	1.83	1.06
74:l:22:CYS:HB2	74:l:37:CYS:SG	1.96	1.05
81:x:262:VAL:HG22	81:x:311:ASN:HB2	1.40	1.04
81:x:280:PHE:HD1	81:x:324:ASN:HB2	0.90	1.03
35:s:77:A:C4	81:x:293:GLU:HG3	1.93	1.03
81:x:7:HIS:CD2	81:x:86:TYR:CD1	2.47	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:x:262:VAL:CA	81:x:311:ASN:HA	1.87	1.03
81:x:250:LEU:HD11	81:x:310:PHE:HZ	1.25	1.00
81:x:325:VAL:HB	81:x:334:PRO:CG	1.92	0.99
35:s:77:A:C2	81:x:291:SER:C	2.41	0.99
81:x:346:ILE:CA	81:x:434:ALA:HA	1.92	0.99
81:x:263:PRO:HG2	81:x:312:VAL:HG13	1.42	0.98
81:x:280:PHE:HD1	81:x:324:ASN:CB	1.75	0.98
81:x:138:LEU:HD21	81:x:347:LEU:HD13	1.44	0.97
81:x:325:VAL:CB	81:x:334:PRO:HG3	1.94	0.97
81:x:280:PHE:HB3	81:x:324:ASN:CB	1.96	0.96
41:A:508:U:H3	41:A:583:G:H1	1.08	0.96
10:SI:131:ASP:HB2	82:v:181:THR:HG21	1.47	0.96
81:x:253:VAL:HG21	81:x:320:VAL:HG12	1.49	0.95
16:SO:11:GLY:HA2	16:SO:52:GLN:HA	1.49	0.93
41:A:1662:G:H1	41:A:1787:A:H61	0.95	0.93
35:s:77:A:H4'	81:x:264:VAL:CG2	1.99	0.93
81:x:289:VAL:HG13	81:x:311:ASN:H	1.34	0.93
81:x:280:PHE:CZ	81:x:320:VAL:HG13	2.04	0.92
41:A:2471:U:H3	41:A:2475:G:H1	1.10	0.92
41:A:2427:U:H3	41:A:2602:G:H1	1.05	0.92
41:A:370:U:H3	41:A:374:A:H62	1.10	0.92
81:x:312:VAL:HG21	81:x:320:VAL:HG21	1.49	0.92
81:x:346:ILE:HA	81:x:434:ALA:CB	1.99	0.92
81:x:262:VAL:HA	81:x:311:ASN:HA	0.93	0.92
81:x:282:PRO:HD2	81:x:324:ASN:ND2	1.85	0.92
1:2:51:A:C2	81:x:258:GLY:O	2.22	0.92
41:A:1662:G:H1	41:A:1787:A:N6	1.68	0.91
35:s:77:A:N9	81:x:293:GLU:HB2	1.85	0.91
81:x:282:PRO:HD2	81:x:324:ASN:HD22	1.36	0.90
81:x:280:PHE:CB	81:x:324:ASN:CG	2.42	0.90
81:x:247:ARG:HD3	81:x:325:VAL:HG11	1.52	0.90
81:x:358:ALA:HB2	81:x:371:LYS:HG3	1.53	0.90
11:SJ:50:LEU:HD11	11:SJ:99:ILE:HG21	1.53	0.90
81:x:250:LEU:HD21	81:x:263:PRO:HB3	1.52	0.90
81:x:280:PHE:HA	81:x:324:ASN:HB3	1.51	0.89
9:SH:64:GLU:CG	82:v:756:GLN:HE22	1.84	0.89
35:s:77:A:C1'	81:x:293:GLU:HB2	2.02	0.89
35:s:77:A:N1	81:x:291:SER:HB3	1.88	0.88
41:A:2423:U:H3	41:A:2607:G:H1	1.18	0.88
41:A:3226:A:N6	41:A:3260:G:N1	2.20	0.88
1:2:416:A:H1'	81:x:37:ARG:NH2	1.88	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:430:G:C5'	81:x:290:LYS:HE3	2.02	0.88
81:x:280:PHE:HB3	81:x:324:ASN:OD1	1.73	0.88
82:v:408:LYS:HB3	82:v:409:ARG:HH21	1.38	0.88
35:s:77:A:O2'	81:x:293:GLU:CB	2.22	0.88
81:x:7:HIS:NE2	81:x:86:TYR:CD1	2.43	0.87
82:v:802:ARG:HG2	82:v:809:TYR:HD2	1.39	0.86
1:2:1797:A:H5'	32:Se:95:ARG:HD2	1.56	0.86
81:x:162:TYR:HB3	81:x:208:MET:HB3	1.58	0.86
1:2:416:A:H1'	81:x:37:ARG:CZ	2.06	0.85
82:v:200:VAL:HG11	82:v:205:ILE:HD11	1.57	0.85
51:M:44:THR:HG23	82:v:803:ARG:HD2	1.56	0.85
81:x:280:PHE:CA	81:x:324:ASN:HB3	2.06	0.85
41:A:1257:C:H42	41:A:1261:G:N2	1.75	0.85
60:W:36:TYR:O	60:W:40:HIS:HB2	1.76	0.85
41:A:3234:A:H61	41:A:3253:G:H1	1.23	0.85
81:x:344:VAL:HA	81:x:436:GLY:HA3	1.55	0.85
82:v:386:ILE:HD12	82:v:403:LEU:HD13	1.59	0.84
35:s:77:A:H2	81:x:291:SER:O	1.61	0.84
41:A:301:G:H1	41:A:314:U:H3	1.22	0.84
41:A:341:G:N2	41:A:349:A:N6	2.25	0.84
41:A:1257:C:N4	41:A:1261:G:H22	1.75	0.83
41:A:1717:U:H3	41:A:1727:G:H1	1.26	0.83
81:x:280:PHE:CD1	81:x:324:ASN:CB	2.53	0.83
35:s:77:A:O2'	81:x:293:GLU:C	2.20	0.83
41:A:341:G:H21	41:A:349:A:N6	1.77	0.83
81:x:11:VAL:HG23	81:x:90:ILE:HB	1.59	0.83
81:x:349:HIS:HB2	81:x:433:VAL:HB	1.59	0.82
41:A:824:C:H5''	42:D:21:ARG:HD3	1.59	0.82
41:A:3379:C:H4'	43:E:315:GLY:HA2	1.60	0.82
82:v:183:LYS:HA	82:v:186:LYS:HD2	1.62	0.82
81:x:7:HIS:NE2	81:x:86:TYR:CE1	2.48	0.81
81:x:280:PHE:CB	81:x:324:ASN:CB	2.58	0.81
82:v:347:LEU:HD21	82:v:406:PHE:HB2	1.62	0.81
41:A:3276:G:H3'	46:H:48:ARG:HH22	1.46	0.80
61:X:62:VAL:HG23	61:X:74:MET:HE1	1.64	0.80
81:x:263:PRO:HD3	81:x:312:VAL:H	1.43	0.80
41:A:1257:C:N4	41:A:1261:G:N2	2.30	0.80
41:A:40:A:H61	41:A:963:G:N2	1.79	0.80
80:r:57:CYS:SG	80:r:58:SER:N	2.54	0.80
35:s:27:G:H1	35:s:45:A:H61	1.27	0.80
35:s:77:A:C2	81:x:292:VAL:N	2.51	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:632:U:H4'	30:Sc:11:SER:HB3	1.65	0.79
41:A:538:G:H1	41:A:553:U:H3	1.29	0.79
35:s:77:A:H2	81:x:292:VAL:N	1.81	0.79
82:v:610:ILE:HD11	82:v:617:LEU:HB3	1.65	0.78
41:A:2216:G:H1	41:A:2229:A:H61	1.26	0.78
81:x:289:VAL:CG1	81:x:310:PHE:HB2	2.13	0.78
15:SN:130:VAL:HG21	15:SN:143:LYS:HB3	1.65	0.78
82:v:661:LYS:HA	82:v:692:LEU:HD23	1.65	0.78
81:x:280:PHE:CB	81:x:324:ASN:HB3	2.13	0.78
5:SD:60:VAL:HG12	5:SD:87:PRO:HB2	1.66	0.78
82:v:129:LEU:HD11	82:v:155:MET:HE1	1.66	0.78
41:A:87:U:H3	41:A:99:A:H62	1.28	0.77
7:SF:106:LYS:HD3	16:SO:279:ALA:HB2	1.67	0.77
81:x:5:LYS:HB3	81:x:85:TYR:HA	1.67	0.77
45:G:217:GLU:HG2	82:v:662:GLN:HB2	1.66	0.77
81:x:302:ALA:HB1	81:x:308:VAL:HG21	1.67	0.77
82:v:660:THR:HG23	82:v:663:LYS:HB2	1.66	0.77
35:s:21:U:H5'	35:s:49:C:H42	1.48	0.76
49:K:36:LYS:HB2	49:K:78:MET:HE1	1.66	0.76
1:2:1426:C:H3'	1:2:1427:A:H4'	1.67	0.76
41:A:664:U:H3	41:A:798:G:H1	1.33	0.76
81:x:263:PRO:CD	81:x:312:VAL:N	2.48	0.76
67:e:30:THR:HG23	67:e:91:SER:HB2	1.67	0.76
16:SO:12:THR:HB	16:SO:52:GLN:HG3	1.68	0.76
1:2:513:U:H1'	24:SW:131:GLN:HG2	1.68	0.75
46:H:67:GLY:HA3	46:H:74:VAL:HB	1.67	0.75
82:v:179:TRP:CE3	82:v:186:LYS:HE2	2.22	0.75
52:N:76:THR:HB	52:N:79:GLU:HG3	1.69	0.75
1:2:416:A:C1'	81:x:37:ARG:CZ	2.65	0.75
30:Sc:63:GLN:CB	30:Sc:64:PRO:HD2	2.09	0.75
81:x:263:PRO:HD2	81:x:312:VAL:N	2.01	0.75
1:2:647:G:H22	1:2:687:G:H1	1.35	0.74
41:A:2573:G:H2'	41:A:2574:G:C8	2.22	0.74
82:v:437:LEU:HB3	82:v:445:LEU:HB2	1.70	0.74
82:v:455:ALA:O	82:v:456:ARG:NH1	2.20	0.74
1:2:1227:A:H61	1:2:1256:A:H2'	1.51	0.74
3:SB:94:THR:HG22	3:SB:114:ILE:HG13	1.68	0.74
38:C:29:U:H5''	52:N:27:ASP:HB3	1.69	0.74
82:v:224:GLU:OE1	82:v:224:GLU:N	2.21	0.74
9:SH:101:LEU:H	9:SH:104:ASN:HB2	1.53	0.74
41:A:1463:U:H3	41:A:1467:A:H62	1.36	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1502:G:N7	10:SI:102:ARG:NH2	2.36	0.74
41:A:1404:G:N2	41:A:1407:A:OP2	2.20	0.74
3:SB:40:ILE:HD12	3:SB:67:PRO:HG3	1.69	0.74
81:x:289:VAL:HG11	81:x:310:PHE:HB2	1.68	0.74
1:2:430:G:H4'	81:x:260:GLY:N	2.02	0.73
30:Sc:63:GLN:HB3	30:Sc:64:PRO:CD	2.10	0.73
57:S:123:THR:OG1	57:S:126:GLN:NE2	2.20	0.73
81:x:344:VAL:HA	81:x:436:GLY:CA	2.18	0.73
1:2:430:G:H4'	81:x:260:GLY:H	1.53	0.73
41:A:40:A:H61	41:A:963:G:H21	1.33	0.73
41:A:1236:G:N2	41:A:1244:A:OP1	2.20	0.73
41:A:1310:G:H2'	41:A:1311:G:C8	2.24	0.73
35:s:19:G:N2	41:A:1242:G:OP1	2.21	0.73
82:v:267:VAL:O	82:v:271:ASN:ND2	2.21	0.73
23:SV:171:SER:HB3	23:SV:180:ASP:H	1.54	0.73
16:SO:42:LEU:HD11	16:SO:68:VAL:HG11	1.70	0.73
82:v:213:ILE:O	82:v:216:ILE:HG12	1.88	0.73
7:SF:95:LYS:HG2	7:SF:96:TYR:CE1	2.24	0.72
81:x:285:VAL:HG11	81:x:319:ASP:HB3	1.70	0.72
81:x:262:VAL:HG13	81:x:310:PHE:O	1.89	0.72
24:SW:99:LEU:HD23	24:SW:104:PHE:HE1	1.55	0.72
81:x:361:LEU:HD23	81:x:410:MET:HE1	1.71	0.72
82:v:805:PHE:HB2	82:v:810:GLU:HG3	1.69	0.72
41:A:1246:G:N2	41:A:1266:G:OP2	2.22	0.72
67:e:17:VAL:HG11	67:e:92:ILE:HD12	1.71	0.72
35:s:9:A:H62	35:s:24:C:H41	1.37	0.72
59:V:68:THR:HG22	59:V:69:LYS:H	1.53	0.72
81:x:261:THR:O	81:x:312:VAL:N	2.23	0.72
82:v:460:ILE:HD12	82:v:595:ILE:HG12	1.71	0.72
1:2:1022:C:O2'	1:2:1125:A:N1	2.23	0.72
16:SO:8:VAL:HG12	16:SO:314:GLN:HE21	1.55	0.72
16:SO:149:ASP:HB3	16:SO:175:ASP:HB3	1.72	0.72
41:A:3213:A:N7	53:O:124:ARG:NH2	2.37	0.72
60:W:96:VAL:HG21	60:W:104:ARG:HH21	1.55	0.72
82:v:869:LEU:HD23	82:v:869:LEU:H	1.53	0.72
41:A:655:C:H2'	41:A:656:A:H8	1.55	0.71
82:v:290:LEU:HD11	82:v:326:ASP:HB3	1.71	0.71
82:v:490:ARG:NH2	82:v:560:ASN:O	2.23	0.71
35:s:77:A:C2'	81:x:293:GLU:HB2	2.19	0.71
82:v:128:LEU:HD12	82:v:129:LEU:HD22	1.70	0.71
10:SI:42:GLY:HA2	10:SI:84:LYS:HD2	1.71	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:SI:21:PHE:HZ	82:v:179:TRP:HB3	1.55	0.71
16:SO:69:GLN:N	16:SO:83:ALA:O	2.23	0.71
20:SS:7:LYS:O	20:SS:8:HIS:ND1	2.23	0.71
41:A:68:C:N4	41:A:314:U:O2'	2.21	0.71
3:SB:47:SER:HB2	3:SB:128:ASN:HD21	1.55	0.71
35:s:77:A:H5'	81:x:254:TYR:CD2	2.24	0.71
41:A:1035:G:H2'	41:A:1036:A:H8	1.56	0.71
1:2:224:C:O2'	1:2:225:A:OP1	2.08	0.71
81:x:250:LEU:HD11	81:x:310:PHE:CZ	2.17	0.71
32:Se:10:ARG:HB3	32:Se:34:LYS:HA	1.73	0.71
3:SB:58:LEU:HD12	3:SB:138:THR:HG22	1.73	0.71
7:SF:95:LYS:HA	16:SO:53:LYS:HG2	1.72	0.71
7:SF:97:VAL:O	16:SO:53:LYS:NZ	2.22	0.71
41:A:101:G:N2	41:A:101:G:OP2	2.24	0.71
82:v:179:TRP:HE3	82:v:186:LYS:HE2	1.56	0.71
9:SH:80:LYS:HE2	82:v:300:ILE:O	1.91	0.70
41:A:1336:U:H2'	41:A:1337:A:H8	1.56	0.70
1:2:1339:C:O2'	1:2:1341:A:N7	2.24	0.70
9:SH:64:GLU:CB	82:v:756:GLN:HE22	2.02	0.70
41:A:3226:A:N6	41:A:3260:G:H1	1.88	0.70
1:2:1291:G:OP2	1:2:1291:G:N2	2.23	0.70
2:SA:76:ARG:NH1	2:SA:76:ARG:O	2.21	0.70
41:A:341:G:N2	41:A:349:A:C6	2.60	0.70
65:c:6:THR:HG22	65:c:8:THR:H	1.57	0.70
81:x:263:PRO:HD2	81:x:311:ASN:CA	2.22	0.70
82:v:612:TYR:HB3	82:v:617:LEU:HD12	1.72	0.70
41:A:87:U:O4	41:A:99:A:N7	2.25	0.70
21:ST:142:ARG:HA	21:ST:147:LEU:HB2	1.74	0.70
41:A:894:G:N2	41:A:1660:C:OP1	2.24	0.70
1:2:936:G:OP1	1:2:1074:G:N2	2.25	0.70
41:A:797:U:O2	52:N:12:ASN:ND2	2.25	0.70
81:x:287:THR:HB	81:x:315:VAL:HG11	1.74	0.70
3:SB:187:ILE:HG21	12:SK:66:VAL:HG11	1.74	0.69
10:SI:115:GLU:OE1	10:SI:115:GLU:N	2.24	0.69
35:s:51:U:H3	35:s:65:G:H1	1.40	0.69
41:A:50:U:H2'	41:A:51:A:H8	1.57	0.69
81:x:367:HIS:O	81:x:368:ILE:HG13	1.91	0.69
21:ST:63:MET:HG2	21:ST:98:ARG:HG2	1.74	0.69
41:A:990:U:H4'	59:V:100:LYS:HB2	1.74	0.69
82:v:380:GLN:HA	82:v:383:PHE:HD2	1.56	0.69
82:v:445:LEU:HD11	82:v:617:LEU:HD13	1.73	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:127:G:N7	21:ST:202:ARG:NH2	2.40	0.69
1:2:539:G:O2'	1:2:540:G:OP2	2.10	0.69
41:A:1237:G:H1	41:A:1251:A:H2	1.41	0.69
13:SL:27:GLN:OE1	13:SL:43:ASN:ND2	2.25	0.69
3:SB:35:GLN:O	3:SB:35:GLN:NE2	2.25	0.69
5:SD:40:GLY:HA2	5:SD:124:LYS:HB2	1.73	0.69
81:x:263:PRO:CD	81:x:312:VAL:H	2.05	0.69
81:x:288:GLU:O	81:x:313:LYS:HG2	1.92	0.69
1:2:394:C:H42	1:2:401:A:H62	1.41	0.69
16:SO:153:GLN:HE22	16:SO:202:LEU:HG	1.56	0.69
35:s:77:A:O2'	81:x:293:GLU:HB2	1.92	0.69
41:A:2660:G:H1'	41:A:2744:U:H1'	1.73	0.69
82:v:544:SER:HG	82:v:547:TRP:HD1	1.39	0.69
47:I:86:VAL:HG13	47:I:136:TYR:HB3	1.74	0.68
61:X:103:ALA:HA	61:X:109:MET:HA	1.75	0.68
82:v:870:THR:OG1	82:v:873:GLU:HB2	1.92	0.68
20:SS:19:LEU:HD11	20:SS:108:ARG:HD2	1.74	0.68
20:SS:68:ARG:HG3	20:SS:76:VAL:HG11	1.75	0.68
35:s:77:A:C4	81:x:293:GLU:CG	2.74	0.68
82:v:156:VAL:HG12	82:v:163:VAL:HG11	1.75	0.68
82:v:696:ILE:HG22	82:v:946:ILE:HG23	1.76	0.68
7:SF:46:PHE:HA	7:SF:49:TYR:HB2	1.75	0.68
81:x:263:PRO:HD2	81:x:311:ASN:C	2.17	0.68
41:A:87:U:H3	41:A:99:A:N6	1.91	0.68
81:x:290:LYS:HG3	81:x:313:LYS:HB3	1.74	0.68
40:Y:43:ARG:NH2	41:A:2112:U:O2'	2.27	0.68
41:A:491:C:H3'	41:A:492:U:H5''	1.75	0.68
43:E:227:GLU:HG2	43:E:270:ARG:HE	1.58	0.68
53:O:60:LEU:HD13	58:U:152:LEU:HD11	1.76	0.68
2:SA:217:ILE:C	2:SA:219:ALA:H	2.00	0.68
16:SO:178:VAL:HB	16:SO:192:PHE:HB2	1.75	0.68
31:Sd:55:VAL:HG12	31:Sd:75:VAL:HG12	1.74	0.68
41:A:3234:A:N6	41:A:3253:G:H1	1.91	0.68
81:x:282:PRO:CD	81:x:324:ASN:HD22	2.06	0.68
82:v:737:GLN:OE1	82:v:737:GLN:N	2.15	0.68
9:SH:64:GLU:CD	82:v:756:GLN:NE2	2.51	0.68
16:SO:281:TYR:HE2	16:SO:286:GLU:HA	1.59	0.68
23:SV:103:GLN:HG2	23:SV:164:ARG:HD3	1.76	0.68
41:A:1695:U:O2'	41:A:1749:A:N1	2.26	0.68
82:v:671:MET:HB3	82:v:686:ILE:HB	1.73	0.68
19:SR:104:VAL:O	19:SR:112:GLY:N	2.26	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:SU:141:ARG:HA	29:Sb:51:GLU:HB2	1.76	0.68
29:Sb:106:THR:HG23	29:Sb:108:ALA:H	1.57	0.68
39:T:43:LYS:NZ	41:A:1765:U:OP2	2.26	0.68
81:x:278:VAL:CG1	81:x:326:ALA:HB1	2.24	0.68
82:v:262:LYS:HD3	82:v:300:ILE:HG22	1.75	0.68
82:v:294:LYS:HD3	82:v:313:LEU:HD11	1.73	0.68
6:SE:110:GLU:HB2	9:SH:119:ILE:HD13	1.76	0.67
68:f:9:THR:HG23	68:f:76:SER:HB3	1.76	0.67
76:n:25:GLN:OE1	76:n:28:ARG:NH1	2.27	0.67
1:2:1653:C:O3'	78:p:21:ARG:NH1	2.27	0.67
81:x:262:VAL:HG22	81:x:311:ASN:CB	2.22	0.67
1:2:1104:U:OP1	30:Sc:14:LYS:NZ	2.26	0.67
9:SH:64:GLU:HB2	82:v:756:GLN:NE2	2.08	0.67
41:A:1104:G:H2'	41:A:1105:A:H8	1.60	0.67
41:A:2948:C:OP1	43:E:244:ARG:NH2	2.28	0.67
81:x:246:LEU:HD12	81:x:269:THR:O	1.94	0.67
81:x:262:VAL:CG2	81:x:311:ASN:HB2	2.22	0.67
1:2:1297:G:N2	1:2:1300:A:OP2	2.26	0.67
9:SH:64:GLU:CB	82:v:756:GLN:NE2	2.58	0.67
41:A:547:G:H2'	41:A:548:G:H8	1.59	0.67
41:A:627:U:H2'	41:A:628:A:H8	1.60	0.67
1:2:126:A:HO2'	1:2:264:G:HO2'	1.40	0.67
1:2:1073:G:H4'	26:SY:10:GLY:HA2	1.76	0.67
81:x:263:PRO:HB2	81:x:310:PHE:CE2	2.30	0.67
1:2:72:A:H2'	1:2:73:U:H4'	1.77	0.67
40:Y:45:ASN:HB3	40:Y:48:ARG:HG3	1.77	0.67
74:l:22:CYS:CB	74:l:34:CYS:SG	2.82	0.67
8:SG:110:VAL:HG12	8:SG:115:LEU:HA	1.77	0.67
81:x:280:PHE:CB	81:x:324:ASN:OD1	2.41	0.67
9:SH:64:GLU:CG	82:v:756:GLN:NE2	2.57	0.67
23:SV:172:ARG:HE	23:SV:175:GLN:HG3	1.58	0.67
41:A:2423:U:H2'	41:A:2424:A:H8	1.60	0.67
44:F:300:ARG:O	57:S:39:ARG:NH2	2.27	0.67
74:l:22:CYS:HB2	74:l:37:CYS:HG	1.59	0.66
82:v:409:ARG:HA	82:v:412:ASP:HB2	1.77	0.66
1:2:629:U:OP2	1:2:969:C:N4	2.24	0.66
41:A:2393:G:N2	41:A:2394:G:O6	2.28	0.66
41:A:2631:U:H2'	41:A:2632:G:H8	1.59	0.66
52:N:153:ASP:OD1	52:N:154:VAL:N	2.28	0.66
1:2:521:A:N3	31:Sd:34:ASN:ND2	2.43	0.66
19:SR:53:ILE:HD12	19:SR:56:ILE:HD12	1.76	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:2555:G:N2	64:b:135:ARG:O	2.29	0.66
1:2:135:A:H4'	1:2:136:C:H5'	1.76	0.66
1:2:1410:A:H5''	7:SF:118:ILE:HG23	1.75	0.66
24:SW:45:ILE:HD11	24:SW:104:PHE:HB3	1.75	0.66
41:A:2837:A:H5''	50:L:154:ARG:HE	1.60	0.66
66:d:8:THR:HG22	66:d:10:HIS:H	1.60	0.66
40:Y:23:ARG:HH21	40:Y:29:PHE:HZ	1.44	0.66
41:A:99:A:H5'	54:P:194:GLN:HB3	1.77	0.66
41:A:2339:C:O2'	41:A:2340:U:O4'	2.11	0.66
62:Z:90:ALA:O	62:Z:120:LYS:NZ	2.26	0.66
81:x:277:VAL:HG13	81:x:329:SER:HB3	1.76	0.66
48:J:162:LEU:HG	54:P:7:LEU:HD11	1.77	0.66
53:O:19:ARG:HG2	53:O:65:LEU:HD23	1.78	0.66
4:SC:32:HIS:HD2	4:SC:42:VAL:HG11	1.60	0.66
71:i:79:SER:OG	71:i:80:ARG:NH1	2.29	0.66
9:SH:64:GLU:HG2	82:v:756:GLN:HE22	1.59	0.66
82:v:802:ARG:HH21	82:v:859:GLU:HB2	1.61	0.66
35:s:77:A:C2	81:x:292:VAL:CA	2.79	0.66
35:s:77:A:N1	81:x:291:SER:CB	2.58	0.66
22:SU:47:ARG:HB3	22:SU:59:ALA:HB3	1.77	0.66
81:x:310:PHE:H	81:x:310:PHE:HD1	1.44	0.66
82:v:57:ILE:HG23	82:v:97:ASN:HD21	1.61	0.66
1:2:65:A:H2	1:2:84:A:H62	1.43	0.65
48:J:90:THR:HA	48:J:214:LEU:HD21	1.78	0.65
82:v:240:PRO:HG3	82:v:281:VAL:HA	1.77	0.65
1:2:1555:A:N6	14:SM:14:TYR:OH	2.29	0.65
41:A:1145:G:N2	41:A:1331:U:O2'	2.27	0.65
49:K:112:ILE:HD11	49:K:134:ILE:HD13	1.78	0.65
81:x:193:ILE:HD13	81:x:228:LEU:HD12	1.79	0.65
81:x:358:ALA:HA	81:x:370:CYS:C	2.22	0.65
7:SF:71:GLY:O	7:SF:77:GLN:NE2	2.29	0.65
60:W:44:GLU:OE1	60:W:49:ASN:ND2	2.29	0.65
72:j:104:GLN:O	72:j:108:GLN:HG3	1.97	0.65
74:l:19:CYS:SG	74:l:27:PHE:HB2	2.35	0.65
81:x:11:VAL:HA	81:x:90:ILE:HB	1.78	0.65
82:v:243:LEU:HA	82:v:246:MET:HE3	1.77	0.65
21:ST:32:ILE:HD13	21:ST:54:GLY:H	1.62	0.65
41:A:1010:G:N2	50:L:193:ASP:OD2	2.29	0.65
81:x:289:VAL:HA	81:x:311:ASN:O	1.96	0.65
82:v:204:ASP:HB2	82:v:479:GLN:OE1	1.97	0.65
24:SW:66:ASP:HB3	24:SW:69:ARG:HB3	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:Y:23:ARG:NH1	40:Y:25:ASP:OD2	2.29	0.65
41:A:370:U:H3	41:A:374:A:N6	1.91	0.65
30:Sc:69:ARG:NH2	30:Sc:116:ASP:OD2	2.29	0.65
2:SA:217:ILE:O	2:SA:218:LEU:HG	1.97	0.65
21:ST:1:MET:N	21:ST:18:ILE:O	2.29	0.65
23:SV:57:ALA:HB2	23:SV:177:GLY:HA2	1.79	0.65
65:c:100:PRO:HG2	65:c:123:VAL:HG23	1.78	0.65
82:v:464:ASN:ND2	82:v:925:TYR:O	2.29	0.65
82:v:549:MET:CE	82:v:571:ASN:HB3	2.26	0.65
21:ST:44:GLU:N	21:ST:44:GLU:OE2	2.29	0.65
35:s:77:A:O2'	81:x:293:GLU:HB3	1.95	0.65
41:A:499:G:O4'	41:A:3273:A:N6	2.30	0.65
16:SO:10:ARG:N	16:SO:312:VAL:O	2.30	0.64
41:A:297:G:OP2	41:A:297:G:N2	2.20	0.64
41:A:1427:U:OP2	65:c:4:ARG:NH1	2.26	0.64
44:F:35:VAL:HG21	44:F:244:LEU:HD21	1.78	0.64
48:J:158:ASP:HB2	48:J:159:PRO:HD2	1.78	0.64
54:P:8:GLU:HB2	54:P:50:ARG:HH12	1.62	0.64
82:v:157:ASP:OD1	82:v:158:ALA:N	2.30	0.64
82:v:596:SER:HB3	82:v:602:LEU:HD21	1.79	0.64
41:A:2317:A:H2'	41:A:2318:U:C6	2.32	0.64
41:A:2433:U:H1'	54:P:125:SER:HB3	1.80	0.64
56:R:122:ALA:HB3	56:R:143:PRO:HB2	1.78	0.64
82:v:923:THR:HG22	82:v:931:LEU:HD21	1.79	0.64
1:2:359:A:H62	30:Sc:35:GLY:HA3	1.62	0.64
1:2:539:G:H5'	1:2:542:A:H8	1.61	0.64
1:2:1610:G:OP1	3:SB:72:HIS:NE2	2.25	0.64
1:2:1614:A:OP2	3:SB:84:LYS:NZ	2.29	0.64
2:SA:154:ASP:OD1	2:SA:155:GLY:N	2.30	0.64
3:SB:69:PHE:CD2	7:SF:50:GLU:HG2	2.33	0.64
41:A:681:U:O2	41:A:696:C:N4	2.27	0.64
81:x:253:VAL:CG2	81:x:320:VAL:HG12	2.25	0.64
13:SL:38:ARG:HH22	32:Se:55:GLU:HG3	1.62	0.64
41:A:1157:G:OP1	47:I:90:LYS:NZ	2.31	0.64
81:x:253:VAL:HG12	81:x:317:VAL:HG23	1.78	0.64
82:v:711:ASN:HD22	82:v:717:LEU:HD11	1.62	0.64
35:s:34:U:H2'	35:s:35:A:H2'	1.79	0.64
41:A:21:G:H3'	41:A:22:G:H8	1.62	0.64
45:G:58:LYS:HA	45:G:93:THR:HB	1.78	0.64
48:J:134:TYR:HB3	48:J:190:VAL:HG11	1.80	0.64
55:Q:46[A]:GLU:HG3	55:Q:49[A]:ARG:HB2	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:X:18:PRO:HA	61:X:51:ALA:HA	1.79	0.64
41:A:567:G:H2'	41:A:568:G:C8	2.33	0.64
47:I:60:ARG:O	47:I:64:GLN:HG2	1.97	0.64
81:x:285:VAL:HG11	81:x:319:ASP:CB	2.28	0.64
8:SG:69:ILE:HG13	8:SG:70:SER:H	1.63	0.64
20:SS:95:THR:HG22	31:Sd:16:PRO:HD2	1.79	0.64
28:Sa:49:GLU:N	28:Sa:49:GLU:OE2	2.31	0.64
41:A:1105:A:H2'	41:A:1106:G:H8	1.63	0.64
41:A:3226:A:C6	41:A:3260:G:N1	2.65	0.64
81:x:359:PRO:HD2	81:x:370:CYS:O	1.98	0.64
82:v:667:LYS:HB3	82:v:725:TYR:HB3	1.78	0.64
7:SF:39:VAL:HG12	7:SF:41:PRO:HD2	1.80	0.64
41:A:1919:G:H21	41:A:1933:A:H62	1.46	0.64
1:2:429:G:O3'	81:x:290:LYS:NZ	2.31	0.64
24:SW:168:ARG:HG2	24:SW:174:ARG:HH12	1.61	0.64
28:Sa:66:ASP:O	28:Sa:70:ASN:ND2	2.31	0.64
41:A:370:U:O4	41:A:374:A:N7	2.31	0.64
74:l:22:CYS:HB2	74:l:34:CYS:SG	2.37	0.64
16:SO:42:LEU:HB2	16:SO:61:PHE:HB2	1.79	0.64
41:A:799:G:O2'	52:N:18:TRP:NE1	2.28	0.64
41:A:2631:U:H2'	41:A:2632:G:C8	2.31	0.64
28:Sa:64:GLU:HG2	33:Sf:3:LEU:HG	1.79	0.63
41:A:508:U:O2	41:A:583:G:N2	2.29	0.63
41:A:1656:A:OP2	71:i:37:LYS:NZ	2.30	0.63
46:H:102:ASN:ND2	46:H:104:GLU:OE1	2.31	0.63
51:M:44:THR:CG2	82:v:803:ARG:HD2	2.28	0.63
82:v:456:ARG:H	82:v:591:THR:HB	1.63	0.63
1:2:686:C:O3'	29:Sb:118:ARG:NH1	2.29	0.63
4:SC:77:ARG:NH2	4:SC:87:VAL:O	2.31	0.63
30:Sc:69:ARG:HG3	30:Sc:117:ILE:HG12	1.79	0.63
41:A:3097:C:OP1	43:E:349:LYS:NZ	2.31	0.63
1:2:1795:U:H5'	32:Se:79:ILE:HD11	1.81	0.63
35:s:77:A:C2	81:x:291:SER:O	2.44	0.63
41:A:1103:A:N6	41:A:1363:A:O2'	2.32	0.63
82:v:430:LEU:HD11	82:v:454:ARG:HH21	1.62	0.63
39:T:42:ARG:NH2	41:A:1601:U:OP1	2.32	0.63
43:E:10:ARG:HH12	43:E:263:SER:HB2	1.63	0.63
56:R:64:ASN:O	56:R:80:LYS:NZ	2.31	0.63
7:SF:99:GLU:O	7:SF:103:ASN:N	2.20	0.63
23:SV:81:VAL:HG12	23:SV:102:VAL:HG12	1.80	0.63
41:A:999:G:N3	41:A:1002:A:N6	2.47	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:1634:G:N7	64:b:17:ARG:NH1	2.46	0.63
41:A:2331:C:H2'	41:A:2332:A:H8	1.62	0.63
44:F:114:ASN:HB2	44:F:117:GLU:HG3	1.79	0.63
82:v:282:ILE:HG21	82:v:319:VAL:HG12	1.78	0.63
1:2:397:A:H4'	23:SV:50:GLY:HA2	1.80	0.63
27:SZ:20:TYR:HB3	27:SZ:27:PHE:HB2	1.79	0.63
41:A:2216:G:H1	41:A:2229:A:N6	1.97	0.63
41:A:2617:U:O2'	50:L:116:ARG:NH2	2.32	0.63
41:A:3226:A:N1	41:A:3260:G:C2	2.67	0.63
44:F:113:VAL:HB	44:F:118:LYS:HE3	1.81	0.63
56:R:124:LYS:HB3	56:R:140:GLU:HG3	1.81	0.63
81:x:272:LEU:HD21	81:x:310:PHE:HB3	1.81	0.63
82:v:437:LEU:HG	82:v:444:LEU:HB2	1.81	0.63
1:2:1483:A:H4'	7:SF:71:GLY:HA2	1.81	0.63
30:Sc:70:LYS:HG3	30:Sc:93:LEU:HD22	1.81	0.63
41:A:348:A:N3	41:A:352:A:O2'	2.32	0.63
41:A:408:A:N3	41:A:655:C:O2'	2.29	0.63
41:A:3045:G:OP1	43:E:19:ARG:NH2	2.32	0.63
51:M:101:ASN:HB3	51:M:128:TYR:HE1	1.64	0.63
69:g:19:ARG:HD3	69:g:28:VAL:HG13	1.81	0.63
74:l:33:THR:HG23	74:l:38:GLY:HA2	1.81	0.63
10:SI:21:PHE:CZ	82:v:179:TRP:HB3	2.34	0.62
29:Sb:15:ASN:ND2	29:Sb:72:CYS:O	2.32	0.62
41:A:182:U:H3	41:A:234:G:H1	1.47	0.62
81:x:290:LYS:HB2	81:x:311:ASN:OD1	1.97	0.62
82:v:764:ASP:HB2	82:v:767:THR:HG22	1.81	0.62
41:A:71:A:OP1	65:c:67:HIS:NE2	2.32	0.62
41:A:1551:C:H2'	41:A:1552:G:C8	2.34	0.62
41:A:1805:C:H2'	41:A:1806:A:H8	1.64	0.62
41:A:2560:C:N4	41:A:2575:G:OP1	2.32	0.62
41:A:2767:U:H3	41:A:2791:G:H1	1.47	0.62
57:S:29:LEU:HD21	57:S:124:LEU:HB2	1.82	0.62
82:v:750:THR:HG22	82:v:753:GLU:HG3	1.80	0.62
1:2:50:C:H41	1:2:424:C:H2'	1.63	0.62
1:2:737:A:OP1	20:SS:200:ARG:NH1	2.31	0.62
1:2:918:U:H4'	27:SZ:18:ARG:HD3	1.81	0.62
27:SZ:88:GLY:O	27:SZ:92:LYS:NZ	2.32	0.62
41:A:1135:A:OP2	66:d:5:LYS:NZ	2.32	0.62
41:A:2951:G:H2'	41:A:2952:G:C8	2.33	0.62
1:2:385:A:H5''	23:SV:22:ARG:HG2	1.82	0.62
2:SA:54:ARG:NH1	2:SA:57:ASP:OD2	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:SP:144:ILE:HG12	17:SP:158:VAL:HB	1.82	0.62
41:A:707:U:O2'	41:A:754:G:N3	2.31	0.62
41:A:1104:G:H2'	41:A:1105:A:C8	2.33	0.62
41:A:2854:U:OP2	50:L:3:ARG:NH2	2.33	0.62
41:A:2950:G:N2	41:A:2950:G:OP2	2.31	0.62
64:b:25:ILE:HA	64:b:43:VAL:HG12	1.80	0.62
16:SO:17:ASN:O	16:SO:17:ASN:ND2	2.32	0.62
32:Se:35:ALA:O	32:Se:37:LYS:NZ	2.31	0.62
41:A:40:A:N6	41:A:963:G:H21	1.97	0.62
41:A:1141:C:O2'	41:A:1153:A:N3	2.30	0.62
41:A:2515:A:N1	41:A:2594:C:N4	2.42	0.62
41:A:2675:C:N4	51:M:22:SER:OG	2.33	0.62
41:A:2769:A:H5''	79:q:80:ARG:HD2	1.81	0.62
41:A:821:U:H2'	41:A:822:G:H8	1.65	0.62
41:A:1543:G:HO2'	41:A:2168:A:HO2'	1.48	0.62
51:M:162:TRP:HA	51:M:165:GLN:HG2	1.82	0.62
1:2:1682:U:OP1	21:ST:31:ARG:NH2	2.33	0.62
7:SF:6:SER:HA	7:SF:23:LYS:HA	1.82	0.62
19:SR:49:LYS:NZ	19:SR:246:GLU:OE2	2.32	0.62
59:V:116:ARG:HB2	59:V:128:LEU:HD11	1.81	0.62
82:v:371:LEU:HD12	82:v:376:ILE:HB	1.82	0.62
82:v:549:MET:HE3	82:v:571:ASN:HB3	1.81	0.62
1:2:179:A:N1	21:ST:202:ARG:NH1	2.48	0.62
18:SQ:111:ARG:HH22	27:SZ:121:VAL:HG21	1.65	0.62
22:SU:150:GLN:HB3	22:SU:181:ILE:HG22	1.81	0.62
29:Sb:24:GLN:HE22	33:Sf:5:GLN:H	1.46	0.62
41:A:609:G:H8	44:F:310:THR:HG23	1.64	0.62
41:A:2445:A:H2'	41:A:2446:U:O4'	2.00	0.62
41:A:2573:G:H2'	41:A:2574:G:H8	1.64	0.62
82:v:575:THR:HA	82:v:578:VAL:HB	1.81	0.62
82:v:893:ILE:HG23	82:v:896:LEU:HD12	1.80	0.62
1:2:1108:G:OP2	1:2:1108:G:N2	2.27	0.62
41:A:2349:U:O2'	41:A:3307:A:N3	2.32	0.62
82:v:737:GLN:HG2	82:v:738:HIS:ND1	2.15	0.62
1:2:154:G:H1'	21:ST:56:ASN:HD22	1.63	0.62
16:SO:110:VAL:HA	16:SO:126:SER:HA	1.80	0.62
82:v:374:GLU:HG3	82:v:376:ILE:HG13	1.81	0.62
3:SB:69:PHE:HD2	7:SF:50:GLU:HG2	1.65	0.61
35:s:77:A:C4	81:x:293:GLU:HB2	2.34	0.61
41:A:638:C:N4	41:A:639:G:O6	2.33	0.61
41:A:1370:G:H2'	41:A:1371:G:H8	1.66	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:2260:U:OP1	41:A:2306:C:N4	2.33	0.61
1:2:523:G:O2'	1:2:529:A:N6	2.33	0.61
29:Sb:2:THR:OG1	29:Sb:3:ARG:N	2.33	0.61
41:A:1665:C:H2'	41:A:1666:G:H8	1.65	0.61
50:L:80:SER:HB2	50:L:147:VAL:HG11	1.83	0.61
58:U:10:ILE:HG12	58:U:26:ARG:HB2	1.82	0.61
73:k:57:LEU:O	73:k:61:ILE:HG13	2.00	0.61
9:SH:67:GLU:OE1	82:v:870:THR:HB	2.01	0.61
18:SQ:96:LEU:HD23	18:SQ:96:LEU:H	1.65	0.61
41:A:939:U:OP2	65:c:26:ARG:NH1	2.32	0.61
82:v:667:LYS:HZ3	82:v:689:GLN:HG2	1.65	0.61
1:2:1797:A:H5'	32:Se:95:ARG:CD	2.30	0.61
5:SD:78:LEU:HB2	15:SN:114:VAL:HG21	1.82	0.61
41:A:528:U:H2'	41:A:529:A:C8	2.35	0.61
41:A:1338:C:O2	69:g:12:LYS:NZ	2.32	0.61
43:E:62:ARG:NH2	43:E:352:GLU:OE2	2.34	0.61
41:A:360:G:H21	41:A:815:G:H1'	1.66	0.61
41:A:2681:U:H5'	51:M:65:ILE:HD11	1.82	0.61
69:g:34:LYS:NZ	69:g:52:GLN:OE1	2.34	0.61
82:v:867:ARG:HD3	82:v:873:GLU:HG3	1.82	0.61
1:2:912:U:OP1	1:2:913:G:O2'	2.17	0.61
22:SU:99:LEU:HB2	22:SU:112:ARG:HD2	1.82	0.61
41:A:1497:C:H2'	41:A:1498:A:H8	1.66	0.61
46:H:70:LYS:HB2	46:H:146:LEU:HD21	1.82	0.61
51:M:54:VAL:HG23	51:M:57:PHE:HB2	1.82	0.61
52:N:5:LYS:H	52:N:5:LYS:HZ3	1.49	0.61
82:v:647:PHE:HZ	82:v:903:LYS:HE2	1.65	0.61
1:2:1529:C:O2	10:SI:12:GLN:NE2	2.33	0.61
41:A:312:C:H2'	41:A:313:A:H8	1.66	0.61
41:A:547:G:H2'	41:A:548:G:C8	2.35	0.61
46:H:75:PRO:HG2	46:H:77:ARG:HD2	1.83	0.61
46:H:89:THR:HG21	46:H:158:TYR:HE2	1.65	0.61
55:Q:85[A]:ARG:HG3	55:Q:99[A]:LEU:HD21	1.83	0.61
82:v:795:ARG:HG2	82:v:816:LEU:HD12	1.82	0.61
25:SX:33:ARG:NH2	25:SX:53:TYR:O	2.34	0.61
41:A:525:C:OP2	53:O:77:ARG:NH2	2.32	0.61
41:A:769:G:O2'	52:N:168:ARG:NH2	2.34	0.61
41:A:1237:G:O6	41:A:1251:A:N1	2.34	0.61
41:A:1565:G:H1'	41:A:1576:G:C4	2.36	0.61
42:D:109:GLU:N	42:D:109:GLU:OE2	2.32	0.61
64:b:89:VAL:HG23	64:b:92:PHE:HD2	1.64	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:v:460:ILE:HG23	82:v:610:ILE:HG23	1.83	0.61
1:2:354:C:H5''	23:SV:16:ALA:HB2	1.83	0.61
17:SP:12:GLU:OE1	17:SP:12:GLU:N	2.31	0.61
20:SS:162:ILE:HG22	20:SS:164:LEU:H	1.66	0.61
28:Sa:11:LEU:HD12	28:Sa:12:TYR:HD1	1.65	0.61
38:C:141:C:O2	54:P:112:ASN:ND2	2.34	0.61
41:A:627:U:H2'	41:A:628:A:C8	2.36	0.61
47:I:25:GLN:H	47:I:25:GLN:CD	2.08	0.61
51:M:45:PRO:HB3	51:M:69:VAL:HB	1.82	0.61
81:x:267:VAL:O	81:x:304:PRO:HA	2.00	0.61
81:x:358:ALA:HB1	81:x:369:ALA:HB1	1.82	0.61
1:2:810:G:N2	22:SU:108:GLN:OE1	2.34	0.60
13:SL:42:ARG:NH2	13:SL:58:GLU:OE2	2.34	0.60
16:SO:89:LEU:HB2	16:SO:103:PHE:HB2	1.81	0.60
19:SR:161:LYS:NZ	19:SR:163:GLY:O	2.33	0.60
41:A:2964:G:N2	41:A:2967:A:OP2	2.26	0.60
41:A:3139:A:H4'	43:E:20:LYS:HD3	1.83	0.60
1:2:1030:A:OP2	32:Se:8:ASN:ND2	2.34	0.60
8:SG:74:GLN:OE1	8:SG:78:ARG:NH2	2.34	0.60
41:A:87:U:H2'	41:A:88:A:C8	2.36	0.60
58:U:162:THR:HG23	58:U:163:PHE:HD1	1.65	0.60
82:v:264:LYS:O	82:v:268:ILE:HG12	2.01	0.60
1:2:58:U:O2'	1:2:451:A:N3	2.33	0.60
1:2:163:G:N2	1:2:163:G:OP2	2.34	0.60
35:s:12:G:N2	35:s:24:C:O2	2.34	0.60
41:A:47:C:H5''	52:N:16:LYS:HG2	1.83	0.60
41:A:346:C:N4	41:A:349:A:OP2	2.34	0.60
41:A:2305:G:N2	41:A:2305:G:OP2	2.31	0.60
41:A:2588:U:OP1	48:J:241:LYS:NZ	2.32	0.60
62:Z:110:VAL:HG22	62:Z:124:VAL:HG12	1.84	0.60
64:b:34:LYS:HA	64:b:34:LYS:HE3	1.82	0.60
39:T:73:GLY:O	39:T:74:ARG:NH1	2.33	0.60
41:A:504:A:H61	41:A:587:U:H3	1.47	0.60
41:A:1084:A:H2'	41:A:1085:A:C8	2.36	0.60
44:F:166:VAL:O	44:F:170:LYS:HG2	2.01	0.60
46:H:68:PRO:HG3	46:H:145:LEU:HD13	1.84	0.60
48:J:167:PRO:HB3	48:J:177:TYR:CE2	2.36	0.60
49:K:18:VAL:HG13	49:K:27:VAL:HG22	1.84	0.60
50:L:47:PRO:HD2	50:L:141:LYS:HA	1.83	0.60
56:R:109:ALA:HA	56:R:112:LEU:HD12	1.82	0.60
81:x:155:MET:O	81:x:161:PRO:HA	2.00	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:178:U:OP1	21:ST:191:ARG:NH1	2.34	0.60
18:SQ:97:LEU:HB3	18:SQ:232:HIS:CE1	2.37	0.60
41:A:1793:C:N4	42:D:177:LYS:O	2.33	0.60
44:F:328:ASN:OD1	47:I:48:ASN:ND2	2.34	0.60
68:f:39:PHE:CE1	68:f:43:HIS:CE1	2.89	0.60
82:v:260:GLY:O	82:v:264:LYS:HG2	2.01	0.60
82:v:514:SER:O	82:v:559:ARG:NH2	2.35	0.60
1:2:868:G:OP1	26:SY:121:ARG:NH1	2.34	0.60
16:SO:261:LYS:HG3	16:SO:270:LEU:HD21	1.83	0.60
41:A:1302:A:N7	41:A:2857:C:O2'	2.35	0.60
41:A:1411:C:OP1	69:g:98:HIS:ND1	2.35	0.60
41:A:1786:G:H2'	41:A:1787:A:C8	2.37	0.60
41:A:2178:A:H3'	42:D:132:ASN:HD21	1.66	0.60
41:A:2503:G:N1	41:A:2504:U:H1'	2.15	0.60
43:E:10:ARG:NH2	43:E:263:SER:O	2.29	0.60
74:l:21:ARG:HH21	74:l:37:CYS:HB2	1.66	0.60
81:x:8:ILE:CD1	81:x:85:TYR:CE1	2.84	0.60
81:x:160:PRO:HG2	81:x:163:SER:HB3	1.83	0.60
81:x:344:VAL:HG21	81:x:426:VAL:HG21	1.84	0.60
16:SO:182:ASN:ND2	16:SO:189:GLU:OE2	2.34	0.60
41:A:2234:G:HO2'	41:A:2603:G:HO2'	1.47	0.60
48:J:106:LYS:O	48:J:110:THR:HG23	2.01	0.60
9:SH:136:GLN:OE1	9:SH:136:GLN:N	2.32	0.60
27:SZ:48:VAL:HG21	27:SZ:53:ASP:HB2	1.84	0.60
29:Sb:75:ILE:HG12	29:Sb:127:GLY:HA2	1.82	0.60
35:s:6:C:O2	35:s:69:G:N2	2.34	0.60
41:A:2567:C:N4	41:A:2575:G:O6	2.34	0.60
41:A:2951:G:H2'	41:A:2952:G:H8	1.66	0.60
1:2:350:U:O2'	1:2:970:A:N1	2.34	0.60
16:SO:316:MET:SD	16:SO:316:MET:N	2.64	0.60
17:SP:93:THR:HG22	17:SP:182:LEU:HG	1.83	0.60
22:SU:75:THR:HG23	22:SU:76:LYS:HD3	1.84	0.60
41:A:2975:U:H2'	41:A:2976:A:C8	2.37	0.60
57:S:16:ARG:NH2	57:S:55:SER:OG	2.35	0.60
81:x:280:PHE:CE2	81:x:320:VAL:HG22	2.36	0.60
82:v:207:ARG:O	82:v:210:PRO:HD2	2.02	0.60
82:v:697:ALA:HB3	82:v:962:VAL:HG12	1.84	0.60
1:2:1182:U:H5	1:2:1185:U:H5''	1.66	0.60
6:SE:118:GLU:HG2	9:SH:122:HIS:H	1.66	0.60
8:SG:110:VAL:HG21	8:SG:119:LEU:HD11	1.83	0.60
20:SS:45:ILE:HA	20:SS:61:VAL:HG11	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:1062:A:H5''	41:A:1063:G:H5'	1.84	0.60
41:A:1493:G:N2	41:A:1493:G:OP2	2.35	0.60
41:A:2931:C:H5''	61:X:40:LYS:HE3	1.84	0.60
41:A:705:A:N6	41:A:715:A:OP2	2.34	0.59
67:e:51:LEU:HD11	71:i:91:ARG:HA	1.84	0.59
82:v:178:MET:HA	82:v:178:MET:HE3	1.84	0.59
82:v:731:ARG:HG2	82:v:915:HIS:HD2	1.67	0.59
17:SP:41:ARG:HD3	17:SP:45:VAL:HB	1.83	0.59
41:A:1822:C:H2'	41:A:1823:A:H8	1.66	0.59
41:A:2331:C:H2'	41:A:2332:A:C8	2.36	0.59
28:Sa:21:ASN:HB2	29:Sb:67:GLY:HA3	1.85	0.59
41:A:1527:C:N4	41:A:1528:G:O6	2.36	0.59
41:A:2137:U:OP2	41:A:2142:A:N6	2.35	0.59
48:J:86:THR:O	48:J:90:THR:HG23	2.02	0.59
82:v:687:ASN:H	82:v:970:MET:HE1	1.67	0.59
36:t:11:C:H2'	36:t:12:G:C8	2.38	0.59
65:c:22:ILE:H	65:c:22:ILE:HD12	1.68	0.59
81:x:290:LYS:HB2	81:x:311:ASN:CG	2.28	0.59
1:2:634:G:N2	1:2:965:U:OP2	2.33	0.59
1:2:1125:A:OP1	78:p:18:ARG:NH1	2.36	0.59
22:SU:27:LEU:HD21	22:SU:80:GLU:HG2	1.83	0.59
37:B:64:A:H5'	37:B:65:G:H5''	1.83	0.59
41:A:928:C:H2'	41:A:929:A:C8	2.38	0.59
41:A:1119:C:H2'	41:A:1120:A:H8	1.66	0.59
47:I:121:LYS:HB2	59:V:133:ALA:HB3	1.85	0.59
81:x:266:ARG:NE	81:x:305:GLY:HA2	2.17	0.59
82:v:125:ILE:HG23	82:v:166:ARG:HH12	1.66	0.59
1:2:142:G:H22	1:2:173:A:H2	1.49	0.59
7:SF:101:SER:O	7:SF:105:LEU:HB2	2.02	0.59
9:SH:30:TYR:O	9:SH:33:THR:OG1	2.21	0.59
10:SI:57:ARG:HG2	10:SI:104:VAL:HG21	1.83	0.59
41:A:2185:G:O2'	41:A:2314:U:OP2	2.20	0.59
41:A:2344:U:H2'	41:A:2345:A:H8	1.68	0.59
43:E:220:VAL:O	43:E:334:ARG:NH1	2.36	0.59
58:U:73:LYS:NZ	58:U:97:VAL:O	2.35	0.59
81:x:11:VAL:HG23	81:x:90:ILE:CB	2.31	0.59
81:x:344:VAL:HG22	81:x:434:ALA:HB1	1.85	0.59
82:v:655:LEU:HD13	82:v:915:HIS:CG	2.37	0.59
82:v:674:GLN:H	82:v:720:THR:HG21	1.67	0.59
1:2:853:G:OP1	39:T:173:ARG:NH2	2.35	0.59
41:A:1794:G:O2'	41:A:1796:G:N2	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:3395:G:N2	41:A:3396:U:O4	2.36	0.59
56:R:172:GLN:O	56:R:176:ILE:HG13	2.03	0.59
63:a:24:SER:OG	63:a:75:ARG:NH1	2.36	0.59
41:A:358:G:N2	41:A:361:A:OP2	2.35	0.59
42:D:148:VAL:HG23	42:D:156:LYS:HB3	1.84	0.59
10:SI:25:GLN:NE2	82:v:179:TRP:CD1	2.71	0.59
20:SS:8:HIS:O	20:SS:30:ARG:NH1	2.35	0.59
20:SS:100:ARG:HD3	20:SS:236:ILE:HD11	1.85	0.59
26:SY:56:ASP:OD2	33:Sf:52:THR:OG1	2.20	0.59
41:A:337:G:OP2	44:F:196:ASN:ND2	2.31	0.59
41:A:1786:G:H2'	41:A:1787:A:H8	1.67	0.59
47:I:96:PRO:HB2	47:I:99:PRO:HD2	1.85	0.59
12:SK:50:ILE:O	12:SK:54:VAL:HG22	2.03	0.59
41:A:504:A:O2'	44:F:315:LYS:NZ	2.36	0.59
41:A:1661:G:H2'	41:A:1662:G:C8	2.38	0.59
82:v:969:ARG:NH1	82:v:970:MET:H	2.01	0.59
6:SE:37:ALA:O	6:SE:42:ARG:NH1	2.36	0.58
20:SS:141:THR:HG21	20:SS:162:ILE:HD11	1.85	0.58
82:v:167:MET:HE2	82:v:170:LEU:HD11	1.84	0.58
1:2:151:G:N3	21:ST:13:GLN:NE2	2.50	0.58
9:SH:67:GLU:OE1	82:v:870:THR:HA	2.02	0.58
16:SO:11:GLY:HA2	16:SO:52:GLN:CA	2.29	0.58
41:A:2340:U:H2'	41:A:2341:A:H8	1.68	0.58
41:A:3014:U:H2'	41:A:3015:G:C8	2.38	0.58
55:Q:83[A]:ALA:O	55:Q:87[A]:MET:HG3	2.03	0.58
2:SA:59:LEU:HA	2:SA:66:ILE:HB	1.86	0.58
16:SO:114:ASP:OD2	16:SO:155:ARG:NH1	2.36	0.58
37:B:38:U:H5	82:v:806:LYS:HZ3	1.52	0.58
41:A:67:A:O2'	41:A:315:C:O2	2.21	0.58
41:A:1661:G:H2'	41:A:1662:G:H8	1.67	0.58
41:A:2340:U:H2'	41:A:2341:A:C8	2.38	0.58
71:i:87:GLU:OE1	71:i:91:ARG:NH2	2.36	0.58
74:l:34:CYS:C	74:l:36:SER:H	2.11	0.58
82:v:671:MET:HE2	82:v:671:MET:HA	1.85	0.58
1:2:416:A:O4'	81:x:37:ARG:CZ	2.52	0.58
24:SW:59:LEU:HD11	24:SW:72:GLU:HG2	1.85	0.58
28:Sa:7:GLN:OE1	28:Sa:7:GLN:N	2.25	0.58
33:Sf:23:THR:OG1	33:Sf:25:VAL:O	2.21	0.58
41:A:3116:G:OP1	41:A:3116:G:N2	2.28	0.58
64:b:26:VAL:HG11	64:b:96:VAL:HB	1.85	0.58
82:v:765:ARG:O	82:v:768:MET:HG2	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:v:817:LEU:HB2	82:v:831:MET:HG2	1.84	0.58
1:2:1303:U:O2'	1:2:1322:A:OP2	2.21	0.58
9:SH:15:LEU:HB2	9:SH:22:VAL:HB	1.84	0.58
20:SS:179:LYS:HD3	20:SS:230:GLU:HA	1.86	0.58
39:T:88:ARG:O	41:A:1779:C:N4	2.36	0.58
41:A:68:C:OP2	41:A:301:G:N2	2.33	0.58
41:A:1003:A:N1	41:A:1049:C:O2'	2.35	0.58
41:A:1596:C:O2'	41:A:1696:A:N3	2.34	0.58
41:A:2838:A:H4'	50:L:74:LYS:HD3	1.85	0.58
41:A:3044:G:H2'	41:A:3045:G:H8	1.67	0.58
45:G:215:ASP:HB2	82:v:663:LYS:HA	1.86	0.58
1:2:1643:U:O2	1:2:1780:G:N2	2.37	0.58
41:A:57:A:H2'	41:A:58:G:C8	2.39	0.58
41:A:2363:A:H2'	41:A:2364:G:C8	2.37	0.58
41:A:2700:G:H5''	59:V:17:ARG:HG2	1.84	0.58
46:H:131:LYS:HB2	46:H:134:ARG:HG3	1.85	0.58
54:P:190:THR:HG22	54:P:193:ARG:HH12	1.69	0.58
81:x:345:ILE:N	81:x:435:VAL:O	2.31	0.58
82:v:208:PHE:CZ	82:v:229:LEU:HB2	2.39	0.58
1:2:1409:G:N1	1:2:1412:G:OP2	2.36	0.58
7:SF:64:ASP:OD2	7:SF:66:ARG:NH2	2.36	0.58
7:SF:93:HIS:O	16:SO:53:LYS:NZ	2.36	0.58
21:ST:7:TYR:HB2	21:ST:113:ILE:HD12	1.86	0.58
37:B:7:G:O2'	45:G:72:ASP:OD1	2.21	0.58
41:A:985:U:H2'	41:A:986:U:H6	1.68	0.58
41:A:1829:G:H5''	41:A:1830:G:H5'	1.86	0.58
44:F:237:GLN:O	44:F:246:ARG:NH1	2.35	0.58
49:K:130:ASP:OD1	49:K:130:ASP:N	2.36	0.58
61:X:70:ARG:O	61:X:72:LYS:NZ	2.37	0.58
73:k:53:TYR:OH	73:k:86:LYS:NZ	2.36	0.58
80:r:39:CYS:HB2	80:r:42:CYS:SG	2.43	0.58
81:x:350:PRO:HG2	81:x:429:MET:SD	2.44	0.58
16:SO:117:LYS:NZ	16:SO:158:PRO:HA	2.18	0.58
22:SU:80:GLU:OE1	22:SU:83:LYS:NZ	2.34	0.58
50:L:38:LYS:HG2	50:L:41:ALA:HB2	1.84	0.58
81:x:248:LEU:HD11	81:x:326:ALA:HB3	1.84	0.58
81:x:346:ILE:CA	81:x:434:ALA:CB	2.79	0.58
82:v:758:ARG:HA	82:v:765:ARG:HG2	1.86	0.58
37:B:89:G:N2	37:B:92:A:OP2	2.34	0.58
41:A:1112:A:H1'	41:A:1371:G:H5'	1.85	0.58
41:A:2298:U:O4	41:A:2925:C:N4	2.30	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:P:190:THR:O	54:P:194:GLN:HG3	2.03	0.58
82:v:663:LYS:O	82:v:664:ALA:C	2.47	0.58
1:2:385:A:OP1	23:SV:25:ARG:NH2	2.37	0.58
4:SC:35:ILE:HG22	4:SC:37:THR:HG23	1.85	0.58
5:SD:84:ASN:OD1	5:SD:85:LYS:NZ	2.33	0.58
21:ST:148:SER:OG	21:ST:151:ASP:OD1	2.22	0.58
35:s:19:G:N1	41:A:1242:G:N7	2.50	0.58
41:A:1151:U:O2'	41:A:2369:G:N2	2.37	0.58
41:A:2960:C:H2'	41:A:2961:G:H8	1.68	0.58
46:H:80:ASN:HB3	46:H:83:TYR:HD2	1.69	0.58
70:h:49:ILE:HD11	70:h:71:VAL:HG22	1.84	0.58
82:v:969:ARG:HH11	82:v:970:MET:H	1.52	0.58
1:2:588:U:O2	34:Sg:57:ASN:ND2	2.37	0.57
7:SF:6:SER:N	7:SF:96:TYR:OH	2.36	0.57
16:SO:30:PRO:HG3	16:SO:296:ALA:HB3	1.86	0.57
41:A:284:A:OP2	79:q:41:ARG:NH1	2.36	0.57
41:A:1361:U:H2'	41:A:1362:G:H8	1.69	0.57
41:A:2565:U:H3	41:A:2576:G:H1	1.52	0.57
64:b:66:THR:O	64:b:66:THR:HG22	2.04	0.57
81:x:325:VAL:O	81:x:334:PRO:HG3	2.03	0.57
82:v:247:VAL:HG23	82:v:248:PRO:HD3	1.86	0.57
82:v:870:THR:CB	82:v:873:GLU:HB2	2.34	0.57
82:v:927:ASP:OD1	82:v:928:ARG:N	2.36	0.57
1:2:898:A:N1	1:2:911:U:O2'	2.32	0.57
5:SD:103:LEU:HD13	5:SD:115:VAL:HG13	1.87	0.57
6:SE:50:THR:HG23	6:SE:52:LYS:HG3	1.86	0.57
36:t:63:G:O2'	36:t:64:A:OP1	2.19	0.57
39:T:62:ARG:NH1	41:A:3070:A:OP1	2.37	0.57
40:Y:56:ARG:HH12	40:Y:62:GLY:HA3	1.69	0.57
41:A:276:U:H2'	41:A:277:G:H8	1.69	0.57
41:A:655:C:H2'	41:A:656:A:C8	2.38	0.57
41:A:2341:A:OP2	43:E:247:ARG:NH2	2.38	0.57
82:v:544:SER:HG	82:v:547:TRP:CD1	2.21	0.57
82:v:785:LYS:HE2	82:v:847:SER:HB3	1.86	0.57
1:2:1797:A:N6	32:Se:85:ARG:O	2.36	0.57
3:SB:160:VAL:HG11	13:SL:25:VAL:HG11	1.86	0.57
4:SC:32:HIS:CD2	4:SC:42:VAL:HG11	2.38	0.57
12:SK:102:THR:OG1	12:SK:103:ARG:N	2.37	0.57
41:A:1018:G:H22	41:A:1034:U:H2'	1.69	0.57
41:A:1263:A:H4'	41:A:1264:G:O4'	2.05	0.57
41:A:1381:A:H2'	41:A:1382:G:H8	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:E:45:SER:HB2	43:E:181:ILE:HG23	1.86	0.57
82:v:277:GLU:OE1	82:v:318:ARG:NH1	2.35	0.57
1:2:1433:G:H21	14:SM:42:CYS:HB3	1.70	0.57
16:SO:9:LEU:HD11	16:SO:311:ARG:HD3	1.87	0.57
41:A:3015:G:H2'	41:A:3016:A:H8	1.67	0.57
41:A:3225:C:N3	41:A:3226:A:N6	2.52	0.57
62:Z:86:VAL:HG23	62:Z:120:LYS:HB3	1.85	0.57
69:g:79:VAL:O	69:g:83:GLU:HG2	2.04	0.57
41:A:1447:G:N2	41:A:2356:A:OP2	2.36	0.57
41:A:3190:C:H2'	41:A:3191:G:H8	1.68	0.57
45:G:39:GLN:OE1	45:G:48:LYS:NZ	2.37	0.57
49:K:12:VAL:HG12	49:K:79:ILE:HD13	1.85	0.57
60:W:61:THR:HG22	60:W:62:VAL:HG13	1.85	0.57
64:b:17:ARG:NH2	64:b:18:TYR:OH	2.38	0.57
82:v:544:SER:HB3	82:v:547:TRP:HB2	1.86	0.57
82:v:917:ILE:HG23	82:v:945:VAL:HG12	1.87	0.57
1:2:1490:C:OP2	2:SA:9:ARG:NH2	2.37	0.57
41:A:1112:A:N3	41:A:1370:G:O2'	2.30	0.57
41:A:2945:G:O2'	41:A:2948:C:OP2	2.22	0.57
41:A:3185:U:O2'	58:U:170:THR:OG1	2.20	0.57
45:G:60:ILE:HB	45:G:80:SER:HB2	1.86	0.57
52:N:47:ALA:HB1	52:N:48:PRO:HD2	1.87	0.57
58:U:162:THR:HG23	58:U:163:PHE:CD1	2.38	0.57
81:x:343:GLN:HG3	81:x:400:ALA:O	2.04	0.57
82:v:300:ILE:HD11	82:v:306:ARG:HA	1.86	0.57
3:SB:121:ILE:HB	3:SB:129:PRO:HB3	1.87	0.57
5:SD:97:LEU:HA	5:SD:100:TRP:HD1	1.70	0.57
14:SM:30:LEU:HA	14:SM:39:CYS:HA	1.87	0.57
16:SO:26:SER:HA	16:SO:73:LEU:HD11	1.87	0.57
20:SS:87:MET:HA	20:SS:87:MET:HE3	1.86	0.57
23:SV:164:ARG:NH2	41:A:3353:G:H2'	2.20	0.57
43:E:284:ARG:HB3	43:E:323:MET:HE3	1.84	0.57
52:N:6:ASN:O	57:S:164:ARG:NH1	2.38	0.57
56:R:110:THR:HG22	56:R:111:LYS:HG3	1.85	0.57
74:l:34:CYS:CB	74:l:37:CYS:HG	2.17	0.57
81:x:246:LEU:HA	81:x:269:THR:O	2.04	0.57
81:x:408:LYS:HG3	81:x:409:PRO:HD2	1.87	0.57
82:v:51:GLY:O	82:v:55:LYS:HG2	2.05	0.57
82:v:383:PHE:HA	82:v:386:ILE:HG12	1.87	0.57
82:v:522:ILE:HD11	82:v:536:ILE:HD11	1.86	0.57
82:v:642:ASN:ND2	82:v:929:ASP:O	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1012:U:H4'	42:D:247:ARG:HB3	1.86	0.57
2:SA:217:ILE:C	2:SA:219:ALA:N	2.62	0.57
37:B:12:U:O3'	37:B:111:U:O2'	2.21	0.57
41:A:394:G:N1	41:A:397:A:OP2	2.32	0.57
41:A:518:G:H5'	41:A:520:U:H5'	1.86	0.57
41:A:585:A:H5''	70:h:70:LYS:HD3	1.87	0.57
41:A:1136:A:O4'	41:A:2636:A:N6	2.38	0.57
41:A:2703:A:OP2	45:G:23:ARG:NH2	2.38	0.57
41:A:2895:G:O2'	77:o:100:TYR:O	2.22	0.57
41:A:3268:A:H5'	46:H:46:ARG:HH22	1.70	0.57
1:2:1573:A:H4'	1:2:1574:G:O5'	2.04	0.57
37:B:87:G:O2'	58:U:119:ARG:NH2	2.34	0.57
41:A:714:G:N7	65:c:111:LYS:NZ	2.53	0.57
41:A:1756:C:H2'	41:A:1757:A:H8	1.70	0.57
41:A:3305:A:O2'	41:A:3306:U:O4'	2.17	0.57
56:R:131:ARG:HE	56:R:137:ASN:HD22	1.53	0.57
57:S:41:ASP:OD1	57:S:41:ASP:N	2.36	0.57
82:v:148:ILE:O	82:v:152:ILE:HG13	2.04	0.57
82:v:247:VAL:HG12	82:v:289:LEU:HD11	1.85	0.57
82:v:824:LYS:C	82:v:826:GLU:H	2.13	0.57
1:2:255:U:O4	1:2:256:A:N6	2.38	0.57
1:2:803:A:HO2'	1:2:804:A:H8	1.53	0.57
16:SO:48:THR:HG23	16:SO:55:GLY:HA2	1.87	0.57
21:ST:32:ILE:HG23	21:ST:53:SER:HA	1.87	0.57
24:SW:62:ARG:O	24:SW:69:ARG:NH1	2.38	0.57
30:Sc:99:ASN:ND2	35:s:70:A:OP1	2.37	0.57
41:A:707:U:OP1	41:A:780:A:O2'	2.21	0.57
41:A:707:U:H1'	41:A:754:G:H1'	1.87	0.57
41:A:2522:G:O6	42:D:70:ARG:NH2	2.30	0.57
54:P:51:LEU:HD13	54:P:117:ASN:HB3	1.86	0.57
81:x:264:VAL:HA	81:x:309:GLY:HA2	1.87	0.57
1:2:1472:C:OP1	3:SB:102:ARG:NH2	2.38	0.56
41:A:201:A:H4'	41:A:220:G:C6	2.40	0.56
41:A:1310:G:N2	41:A:2381:G:OP1	2.36	0.56
41:A:3243:A:OP1	55:Q:159[A]:LYS:NZ	2.38	0.56
82:v:540:ILE:O	82:v:548:LYS:HE2	2.04	0.56
1:2:687:G:H5'	29:Sb:119:LYS:HD3	1.87	0.56
3:SB:117:THR:HA	3:SB:120:ILE:HD12	1.87	0.56
24:SW:87:SER:OG	24:SW:89:ASP:OD1	2.21	0.56
35:s:67:C:H5''	81:x:408:LYS:NZ	2.19	0.56
41:A:1765:U:H2'	41:A:1766:G:C8	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:W:13:LYS:O	60:W:66:VAL:HA	2.04	0.56
81:x:7:HIS:CD2	81:x:86:TYR:HD1	2.16	0.56
1:2:1404:C:H2'	1:2:1405:G:C8	2.41	0.56
12:SK:57:TYR:HD2	12:SK:60:VAL:HG23	1.70	0.56
41:A:68:C:H41	41:A:314:U:HO2'	1.50	0.56
41:A:836:A:H4'	80:r:12:GLY:HA3	1.86	0.56
41:A:1717:U:H2'	41:A:1718:G:C8	2.41	0.56
41:A:1805:C:H2'	41:A:1806:A:C8	2.40	0.56
41:A:2217:U:H2'	41:A:2218:G:H8	1.70	0.56
41:A:2533:G:H22	41:A:2548:C:H1'	1.70	0.56
41:A:3226:A:C6	41:A:3260:G:C2	2.93	0.56
51:M:75:LYS:O	51:M:79:ILE:HG12	2.05	0.56
67:e:98:SER:OG	67:e:99:ASP:N	2.37	0.56
80:r:38:ASP:HB3	80:r:45:LYS:HA	1.87	0.56
82:v:183:LYS:C	82:v:185:VAL:N	2.63	0.56
82:v:183:LYS:C	82:v:185:VAL:H	2.13	0.56
82:v:927:ASP:O	82:v:931:LEU:N	2.33	0.56
1:2:907:A:OP2	18:SQ:5:LYS:NZ	2.39	0.56
7:SF:110:THR:HG21	16:SO:279:ALA:HB1	1.88	0.56
30:Sc:65:ASN:ND2	30:Sc:116:ASP:OD2	2.38	0.56
41:A:303:G:O2'	41:A:2778:G:OP2	2.22	0.56
41:A:1047:A:N3	41:A:2633:U:O2'	2.39	0.56
41:A:1863:G:N2	41:A:1866:C:OP2	2.38	0.56
41:A:1888:U:OP1	43:E:247:ARG:NH1	2.38	0.56
41:A:2183:A:O2'	42:D:236:GLY:N	2.39	0.56
41:A:2228:A:H2'	41:A:2229:A:H8	1.70	0.56
41:A:2618:G:O2'	41:A:2865:U:OP1	2.22	0.56
64:b:95:VAL:HG11	64:b:113:VAL:HG11	1.88	0.56
81:x:250:LEU:HD22	81:x:280:PHE:CE1	2.41	0.56
81:x:280:PHE:HB3	81:x:324:ASN:HB3	1.78	0.56
82:v:268:ILE:O	82:v:272:MET:HG3	2.05	0.56
82:v:786:ILE:HG23	82:v:828:TRP:CH2	2.41	0.56
1:2:195:G:N7	23:SV:141:ARG:NH1	2.52	0.56
41:A:729:C:O2'	57:S:79:LYS:NZ	2.37	0.56
41:A:1438:U:OP1	44:F:76:ARG:NH2	2.38	0.56
61:X:13:ILE:HD13	61:X:54:LEU:HB3	1.87	0.56
82:v:179:TRP:HE1	82:v:217:ALA:HB2	1.71	0.56
82:v:802:ARG:HD3	82:v:811:TYR:CE1	2.41	0.56
1:2:776:G:O6	31:Sd:11:LYS:NZ	2.39	0.56
16:SO:266:ASP:HB2	16:SO:267:PRO:HD3	1.86	0.56
18:SQ:38:PHE:HB3	18:SQ:73:LEU:HB3	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:1928:G:N2	41:A:2320:A:O2'	2.39	0.56
41:A:3082:C:H2'	41:A:3083:G:H8	1.71	0.56
45:G:268:GLU:HA	45:G:271:LYS:HG2	1.88	0.56
54:P:120:TRP:HE1	54:P:123:GLN:HB3	1.69	0.56
68:f:55:LEU:HB2	68:f:95:PRO:HD3	1.86	0.56
81:x:278:VAL:HB	81:x:326:ALA:HB1	1.88	0.56
13:SL:12:VAL:HA	13:SL:30:VAL:HA	1.87	0.56
28:Sa:25:LYS:HB2	28:Sa:28:ASP:HB2	1.88	0.56
43:E:219:ALA:HB2	43:E:336:VAL:HG12	1.87	0.56
50:L:76:MET:HE1	50:L:148:VAL:HA	1.88	0.56
71:i:44:CYS:HB2	71:i:80:ARG:HA	1.88	0.56
82:v:919:LEU:H	82:v:919:LEU:HD12	1.70	0.56
1:2:1466:G:O2'	1:2:1602:C:OP1	2.24	0.56
10:SI:25:GLN:N	10:SI:25:GLN:OE1	2.39	0.56
19:SR:153:SER:OG	19:SR:154:LEU:N	2.38	0.56
39:T:105:LEU:HD22	39:T:135:LYS:HG3	1.87	0.56
41:A:66:A:N6	41:A:76:G:H1'	2.21	0.56
41:A:215:G:OP1	63:a:12:ARG:NH1	2.37	0.56
41:A:2184:U:H2'	41:A:2185:G:H8	1.70	0.56
46:H:43:LEU:HD21	46:H:85:ILE:HD11	1.87	0.56
52:N:55:ARG:NH1	52:N:73:ARG:O	2.37	0.56
71:i:76:TYR:HB2	71:i:80:ARG:HB2	1.87	0.56
82:v:749:LYS:O	82:v:893:ILE:HD12	2.06	0.56
5:SD:134:SER:HA	5:SD:137:MET:HE1	1.88	0.56
29:Sb:37:PHE:HD1	29:Sb:41:MET:HE2	1.70	0.56
35:s:61:A:OP1	35:s:62:C:N4	2.39	0.56
41:A:347:G:N7	74:l:55:ARG:NH1	2.54	0.56
41:A:1191:U:OP2	55:Q:49[A]:ARG:NH1	2.36	0.56
41:A:2351:U:H2'	41:A:2352:A:H8	1.71	0.56
41:A:2894:C:H2'	41:A:2895:G:H8	1.71	0.56
82:v:803:ARG:HD3	82:v:838:TRP:CZ3	2.41	0.56
82:v:918:VAL:HG22	82:v:946:ILE:HD13	1.88	0.56
82:v:956:LYS:HD3	82:v:957:ASN:H	1.70	0.56
1:2:331:A:OP2	23:SV:175:GLN:NE2	2.38	0.56
1:2:1755:A:O2'	1:2:1756:A:N3	2.39	0.56
16:SO:103:PHE:HE1	16:SO:138:GLY:HA2	1.71	0.56
32:Se:43:ASN:ND2	32:Se:65:PRO:O	2.39	0.56
34:Sg:55:ARG:HH11	34:Sg:58:PRO:HA	1.70	0.56
41:A:2948:C:H4'	43:E:243:HIS:H	1.71	0.56
41:A:3346:U:H2'	41:A:3347:A:H8	1.71	0.56
56:R:85:ALA:O	56:R:89:LYS:HG3	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:Z:117:ASN:O	76:n:14:ALA:HB1	2.06	0.56
82:v:276:VAL:HG22	82:v:278:ASP:H	1.71	0.56
82:v:526:LEU:HD13	82:v:531:PHE:HD2	1.70	0.56
82:v:758:ARG:HE	82:v:766:GLU:HG2	1.71	0.56
1:2:51:A:C4	81:x:258:GLY:O	2.59	0.55
41:A:491:C:O5'	46:H:112:THR:OG1	2.24	0.55
41:A:1105:A:H2'	41:A:1106:G:C8	2.40	0.55
41:A:2461:A:O2'	41:A:2485:A:N1	2.38	0.55
82:v:666:VAL:HB	82:v:690:CYS:HB3	1.87	0.55
29:Sb:24:GLN:NE2	33:Sf:5:GLN:H	2.05	0.55
54:P:106:VAL:HG11	54:P:132:VAL:HG21	1.88	0.55
81:x:266:ARG:CZ	81:x:305:GLY:HA2	2.36	0.55
82:v:443:ILE:H	82:v:443:ILE:HD12	1.71	0.55
1:2:472:U:O2'	1:2:769:A:N3	2.37	0.55
9:SH:139:LYS:O	9:SH:143:ARG:NH2	2.40	0.55
38:C:28:C:O2'	41:A:691:A:N1	2.39	0.55
41:A:1255:C:H2'	41:A:1256:G:C8	2.41	0.55
41:A:2652:U:OP1	79:q:65:THR:OG1	2.23	0.55
58:U:110:MET:HE3	58:U:121:ILE:HG12	1.87	0.55
65:c:76:ASP:N	65:c:76:ASP:OD1	2.39	0.55
69:g:83:GLU:O	69:g:86:THR:OG1	2.24	0.55
81:x:340:PHE:HB3	81:x:441:VAL:HG23	1.88	0.55
3:SB:188:LYS:HD2	12:SK:63:SER:HB2	1.88	0.55
16:SO:205:SER:HB3	16:SO:210:LEU:HB2	1.88	0.55
38:C:23:U:H5''	63:a:13:ARG:HG3	1.88	0.55
41:A:308:A:H1'	41:A:2222:A:H2	1.72	0.55
41:A:615:U:H2'	41:A:616:G:H8	1.71	0.55
41:A:2815:G:N2	41:A:2818:U:O2	2.37	0.55
41:A:3110:C:H2'	41:A:3111:U:C6	2.41	0.55
38:C:12:A:OP1	56:R:3:ARG:NE	2.39	0.55
41:A:1224:C:H2'	41:A:1225:A:H8	1.69	0.55
41:A:2685:C:H2'	41:A:2686:A:H8	1.70	0.55
51:M:74:PRO:O	51:M:78:GLU:HG2	2.06	0.55
73:k:70:ARG:HG3	73:k:87:VAL:HG21	1.89	0.55
82:v:216:ILE:O	82:v:217:ALA:HB3	2.07	0.55
3:SB:153:GLY:O	3:SB:154:ALA:C	2.50	0.55
5:SD:97:LEU:HA	5:SD:100:TRP:CD1	2.42	0.55
19:SR:158:THR:HG21	19:SR:221:THR:HA	1.89	0.55
41:A:2515:A:H5''	54:P:28:TRP:CD1	2.42	0.55
73:k:58:ILE:HG23	73:k:94:ILE:HD11	1.88	0.55
81:x:262:VAL:CG1	81:x:310:PHE:O	2.54	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:x:342:ALA:CB	81:x:438:ILE:HG12	2.37	0.55
82:v:76:GLN:HG2	82:v:77:SER:H	1.71	0.55
3:SB:21:THR:HG22	3:SB:23:VAL:HG22	1.88	0.55
8:SG:77:GLU:O	8:SG:81:LYS:N	2.32	0.55
17:SP:7:PHE:O	17:SP:54:TRP:NE1	2.32	0.55
17:SP:29:VAL:HG23	17:SP:150:ASP:HB3	1.88	0.55
41:A:517:G:OP1	47:I:67:ARG:NH2	2.32	0.55
41:A:2632:G:H4'	59:V:12:ARG:HD2	1.88	0.55
64:b:10:VAL:HG13	64:b:83:THR:HB	1.89	0.55
82:v:179:TRP:HE1	82:v:217:ALA:CB	2.20	0.55
82:v:430:LEU:HD21	82:v:454:ARG:HE	1.71	0.55
1:2:430:G:OP1	81:x:290:LYS:NZ	2.38	0.55
38:C:42:G:H21	74:l:21:ARG:HA	1.71	0.55
38:C:155:A:H5'	48:J:185:ARG:HD2	1.89	0.55
41:A:1264:G:H1'	41:A:1265:U:C6	2.42	0.55
41:A:2988:C:OP1	55:Q:65[A]:ASN:ND2	2.39	0.55
43:E:143:GLY:O	43:E:147:GLU:HG2	2.07	0.55
48:J:82:LEU:HG	48:J:86:THR:HB	1.89	0.55
51:M:13:LYS:HD3	51:M:134:PRO:HG3	1.87	0.55
81:x:248:LEU:O	81:x:248:LEU:HD12	2.07	0.55
1:2:755:A:O2'	20:SS:39:ARG:NH2	2.40	0.55
2:SA:14:ASP:OD1	2:SA:15:GLY:N	2.39	0.55
41:A:374:A:H4'	41:A:375:A:H5'	1.88	0.55
41:A:1793:C:OP2	80:r:49:ARG:NH2	2.40	0.55
50:L:43:VAL:HG11	50:L:197:VAL:HB	1.87	0.55
70:h:19:SER:OG	70:h:20:LYS:N	2.37	0.55
82:v:802:ARG:HG2	82:v:809:TYR:CD2	2.31	0.55
20:SS:151:ASP:HB3	20:SS:154:ILE:HG13	1.89	0.55
41:A:80:G:O6	41:A:106:A:N6	2.40	0.55
41:A:785:G:H5''	57:S:92:ARG:HH22	1.72	0.55
41:A:919:U:H5''	41:A:920:A:H5'	1.88	0.55
41:A:938:C:O2	41:A:2813:A:O2'	2.25	0.55
49:K:181:VAL:O	77:o:89:TYR:OH	2.20	0.55
81:x:280:PHE:CG	81:x:324:ASN:OD1	2.60	0.55
82:v:473:ARG:NH2	82:v:477:ASN:OD1	2.40	0.55
2:SA:135:GLU:HG2	2:SA:153:ALA:HB2	1.88	0.54
11:SJ:45:ALA:O	11:SJ:50:LEU:HB2	2.07	0.54
17:SP:2:SER:OG	17:SP:3:LEU:N	2.40	0.54
20:SS:107:GLY:HA2	20:SS:189:LEU:HD11	1.88	0.54
41:A:1132:C:H2'	41:A:1133:A:H8	1.72	0.54
41:A:3009:G:N2	43:E:15:GLY:O	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:M:82:ARG:O	51:M:86:VAL:HG23	2.07	0.54
72:j:44:ILE:O	72:j:48:ARG:HG3	2.06	0.54
82:v:263:ARG:NH2	82:v:886:GLU:OE2	2.39	0.54
1:2:416:A:O4'	81:x:37:ARG:NH1	2.40	0.54
19:SR:64:LYS:O	19:SR:65:GLU:HG2	2.07	0.54
30:Sc:63:GLN:O	30:Sc:64:PRO:C	2.48	0.54
40:Y:86:SER:O	40:Y:89:LEU:N	2.40	0.54
40:Y:97:LYS:N	40:Y:98:PRO:HD3	2.22	0.54
41:A:110:G:OP2	52:N:73:ARG:NH2	2.40	0.54
41:A:307:A:O2'	41:A:2223:A:N3	2.33	0.54
41:A:431:U:OP1	70:h:65:ARG:NH1	2.35	0.54
41:A:1662:G:N2	41:A:1787:A:N1	2.46	0.54
58:U:77:VAL:HG22	58:U:126:VAL:HG13	1.89	0.54
63:a:115:ARG:O	63:a:119:ILE:HG12	2.07	0.54
82:v:296:ASN:O	82:v:300:ILE:HG12	2.08	0.54
23:SV:36:THR:HG21	23:SV:173:PRO:HB2	1.89	0.54
24:SW:83:VAL:HG13	24:SW:85:VAL:HG13	1.90	0.54
27:SZ:112:ILE:HD11	32:Se:53:LEU:HG	1.89	0.54
30:Sc:43:PHE:O	30:Sc:46:SER:OG	2.25	0.54
39:T:80:LYS:NZ	41:A:1940:G:OP1	2.40	0.54
41:A:125:C:H2'	41:A:126:U:H6	1.73	0.54
41:A:788:C:H2'	41:A:789:A:H8	1.72	0.54
41:A:1174:G:N2	55:Q:87[A]:MET:HE2	2.22	0.54
41:A:1255:C:H2'	41:A:1256:G:H8	1.72	0.54
41:A:1435:A:N6	41:A:1437:C:O2	2.41	0.54
41:A:2518:C:H2'	41:A:2519:A:C8	2.41	0.54
53:O:115:PHE:O	53:O:119:GLN:HG3	2.07	0.54
58:U:26:ARG:HH22	58:U:28:ARG:HH11	1.54	0.54
81:x:11:VAL:HB	81:x:109:ALA:HB2	1.89	0.54
1:2:545:A:O4'	1:2:594:A:N6	2.40	0.54
1:2:549:G:O2'	1:2:556:A:N1	2.36	0.54
2:SA:72:LEU:HD22	4:SC:65:TYR:HD2	1.73	0.54
7:SF:60:PHE:HD1	7:SF:63:ILE:HD11	1.71	0.54
7:SF:95:LYS:C	16:SO:53:LYS:HE3	2.33	0.54
11:SJ:87:HIS:HB3	11:SJ:89:ARG:HH12	1.72	0.54
16:SO:18:GLY:H	16:SO:308:ASN:HB3	1.73	0.54
18:SQ:30:PHE:HB3	18:SQ:96:LEU:HD22	1.88	0.54
41:A:1322:U:H2'	41:A:1323:G:H8	1.72	0.54
41:A:1438:U:H1'	44:F:94:CYS:HA	1.88	0.54
41:A:1777:U:H2'	41:A:1778:G:C8	2.42	0.54
42:D:54:ARG:HG2	42:D:56:ALA:H	1.71	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:f:15:ASN:HB3	68:f:18:LYS:HG2	1.89	0.54
72:j:76:GLN:O	72:j:81:ARG:NH2	2.37	0.54
75:m:57:ASN:O	75:m:57:ASN:ND2	2.40	0.54
81:x:142:THR:HG21	81:x:425:ALA:HB2	1.89	0.54
81:x:247:ARG:HD3	81:x:325:VAL:CG1	2.33	0.54
81:x:325:VAL:O	81:x:334:PRO:CG	2.55	0.54
82:v:532:THR:HG22	82:v:533:ASP:H	1.73	0.54
1:2:142:G:OP1	21:ST:139:ASN:ND2	2.39	0.54
6:SE:41:VAL:HG13	6:SE:84:ILE:HG21	1.89	0.54
20:SS:212:ASP:OD1	20:SS:213:SER:N	2.39	0.54
41:A:1098:A:OP2	59:V:108:ARG:NH1	2.41	0.54
41:A:2947:G:C2	43:E:250:ALA:HB1	2.42	0.54
54:P:114:ARG:NH1	54:P:151:ILE:O	2.40	0.54
81:x:289:VAL:HG13	81:x:310:PHE:HB2	1.89	0.54
82:v:491:THR:HG22	82:v:563:ILE:HB	1.87	0.54
1:2:155:U:OP2	31:Sd:132:ARG:NH2	2.34	0.54
1:2:392:G:O2'	1:2:1673:G:N3	2.41	0.54
1:2:468:A:N1	1:2:594:A:O2'	2.38	0.54
1:2:1235:C:H5'	15:SN:145:HIS:CE1	2.43	0.54
2:SA:70:THR:HA	2:SA:86:LEU:HD23	1.90	0.54
3:SB:42:LEU:CD1	3:SB:47:SER:HA	2.37	0.54
30:Sc:74:VAL:HG11	30:Sc:104:LEU:HD11	1.89	0.54
41:A:66:A:H61	41:A:76:G:H1'	1.72	0.54
41:A:612:U:H2'	41:A:613:G:H8	1.71	0.54
41:A:674:G:O6	57:S:56:LYS:NZ	2.40	0.54
41:A:947:G:H5''	69:g:55:ILE:HB	1.89	0.54
41:A:1257:C:N3	41:A:1261:G:N1	2.54	0.54
41:A:1339:C:H2'	41:A:1340:G:H8	1.73	0.54
41:A:2434:U:N3	41:A:2594:C:OP2	2.40	0.54
81:x:359:PRO:O	81:x:369:ALA:HA	2.08	0.54
1:2:102:U:H3'	1:2:360:A:H61	1.72	0.54
1:2:1081:A:O2'	1:2:1083:G:O6	2.24	0.54
1:2:1332:C:OP2	8:SG:45:ARG:NH1	2.41	0.54
1:2:1556:A:H4'	1:2:1557:U:H5	1.72	0.54
16:SO:209:THR:O	16:SO:224:ASN:ND2	2.40	0.54
35:s:67:C:H2'	35:s:68:G:H8	1.72	0.54
38:C:103:G:OP2	38:C:105:A:O2'	2.25	0.54
39:T:74:ARG:NE	41:A:1942:U:OP2	2.37	0.54
41:A:32:U:H3	41:A:52:A:H61	1.54	0.54
41:A:2093:A:H2'	41:A:2094:C:C6	2.43	0.54
41:A:3016:A:H2'	41:A:3017:A:H8	1.71	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:3107:U:H2'	41:A:3108:G:C8	2.43	0.54
67:e:47:ASN:HB2	67:e:73:GLY:HA2	1.89	0.54
1:2:215:A:O2'	1:2:216:U:OP1	2.26	0.54
5:SD:42:ALA:HB3	5:SD:122:VAL:HB	1.90	0.54
16:SO:253:ALA:HA	16:SO:262:VAL:HA	1.90	0.54
20:SS:126:VAL:HA	20:SS:141:THR:HA	1.88	0.54
24:SW:37:LYS:HB3	34:Sg:33:ARG:HB2	1.89	0.54
24:SW:86:LEU:HD13	24:SW:99:LEU:HD11	1.89	0.54
35:s:49:C:H2'	35:s:60:A:H1'	1.89	0.54
35:s:64:G:H2'	35:s:65:G:H8	1.73	0.54
41:A:351:A:N6	76:n:37:TYR:O	2.40	0.54
41:A:3107:U:H2'	41:A:3108:G:H8	1.73	0.54
71:i:42:PRO:HB2	71:i:51:LEU:HD12	1.89	0.54
81:x:8:ILE:HD11	81:x:85:TYR:HE1	1.72	0.54
81:x:344:VAL:HG23	81:x:435:VAL:C	2.33	0.54
1:2:51:A:N1	81:x:258:GLY:O	2.41	0.54
1:2:926:A:H2	27:SZ:125:SER:HA	1.73	0.54
2:SA:190:ARG:HH12	2:SA:195:SER:HB2	1.73	0.54
41:A:54:C:H2'	41:A:55:G:H8	1.73	0.54
41:A:500:C:H2'	41:A:501:A:H8	1.73	0.54
41:A:3051:U:H2'	41:A:3052:G:H8	1.72	0.54
41:A:3181:C:H2'	41:A:3182:G:H8	1.73	0.54
49:K:10:ILE:HD13	49:K:75:VAL:HG11	1.89	0.54
50:L:54:SER:HB2	50:L:135:ILE:HD11	1.90	0.54
81:x:249:PRO:HA	81:x:324:ASN:O	2.07	0.54
82:v:382:TRP:CH2	82:v:407:ARG:HG3	2.43	0.54
82:v:481:ASP:N	82:v:481:ASP:OD1	2.40	0.54
82:v:731:ARG:HG2	82:v:915:HIS:CD2	2.43	0.54
8:SG:73:LEU:HA	8:SG:76:GLU:HG2	1.89	0.54
38:C:150:G:H21	48:J:59:GLN:HE22	1.55	0.54
41:A:276:U:H2'	41:A:277:G:C8	2.42	0.54
41:A:412:G:N2	56:R:118:GLN:OE1	2.33	0.54
41:A:700:C:H2'	41:A:701:G:H8	1.73	0.54
41:A:994:G:N2	41:A:995:U:O4	2.34	0.54
41:A:1011:A:H2'	41:A:1012:G:H8	1.73	0.54
43:E:113:GLU:HB3	43:E:176:ALA:HB2	1.90	0.54
51:M:101:ASN:HB3	51:M:128:TYR:CE1	2.43	0.54
60:W:14:THR:O	60:W:14:THR:HG22	2.07	0.54
60:W:58:GLU:HB2	60:W:63:VAL:HG22	1.90	0.54
70:h:38:PRO:HA	70:h:41:ALA:HB3	1.89	0.54
78:p:2:ARG:HH21	78:p:4:LYS:HD3	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:v:611:ASN:O	82:v:618:ARG:N	2.40	0.54
1:2:819:G:H4'	1:2:820:U:O5'	2.08	0.53
7:SF:52:LEU:HA	7:SF:60:PHE:CE2	2.42	0.53
27:SZ:87:GLY:HA3	27:SZ:120:PRO:HG2	1.89	0.53
41:A:381:U:H3	41:A:388:G:H1	1.56	0.53
41:A:616:G:H2'	41:A:617:G:H8	1.73	0.53
41:A:2423:U:H2'	41:A:2424:A:C8	2.42	0.53
81:x:142:THR:HG23	81:x:435:VAL:HG13	1.89	0.53
81:x:347:LEU:O	81:x:348:ASN:HB3	2.08	0.53
82:v:764:ASP:HB2	82:v:767:THR:CG2	2.38	0.53
1:2:1534:G:N2	1:2:1535:U:O4	2.40	0.53
7:SF:60:PHE:CD1	7:SF:63:ILE:HD11	2.43	0.53
10:SI:108:LEU:HD12	10:SI:113:ILE:HB	1.89	0.53
17:SP:125:ASP:HB3	17:SP:128:SER:HB2	1.90	0.53
23:SV:34:ALA:HB2	23:SV:56:ARG:HD2	1.91	0.53
41:A:196:G:N1	41:A:199:A:OP2	2.36	0.53
41:A:2812:C:H2'	41:A:2813:A:C8	2.44	0.53
42:D:180:LEU:HD22	80:r:26:VAL:HG11	1.89	0.53
54:P:46:ASP:OD1	54:P:46:ASP:N	2.40	0.53
1:2:51:A:N3	81:x:258:GLY:O	2.41	0.53
9:SH:131:LEU:HA	9:SH:145:ARG:HH22	1.73	0.53
16:SO:46:LYS:HD2	16:SO:58:VAL:HG21	1.89	0.53
27:SZ:115:ILE:HD11	32:Se:53:LEU:HD11	1.91	0.53
41:A:565:U:H2'	41:A:566:G:H8	1.72	0.53
41:A:1132:C:H2'	41:A:1133:A:C8	2.44	0.53
41:A:1717:U:H2'	41:A:1718:G:H8	1.72	0.53
41:A:2282:U:OP1	41:A:2973:G:O2'	2.20	0.53
57:S:99:THR:OG1	57:S:100:THR:N	2.39	0.53
81:x:158:THR:OG1	81:x:166:ARG:HG2	2.08	0.53
81:x:347:LEU:N	81:x:433:VAL:O	2.41	0.53
7:SF:52:LEU:HA	7:SF:60:PHE:HE2	1.73	0.53
23:SV:48:THR:OG1	23:SV:52:ASN:O	2.27	0.53
35:s:53:G:H5'	81:x:357:TYR:HD1	1.74	0.53
41:A:957:C:H1'	65:c:43:ILE:HD11	1.90	0.53
44:F:196:ASN:ND2	63:a:11:ASP:OD1	2.39	0.53
47:I:185:ILE:O	47:I:189:ILE:HG22	2.08	0.53
70:h:16:TYR:OH	70:h:89:LEU:O	2.25	0.53
81:x:345:ILE:C	81:x:346:ILE:HG23	2.33	0.53
82:v:226:VAL:HG12	82:v:264:LYS:NZ	2.23	0.53
1:2:1490:C:H5'	1:2:1492:A:H1'	1.90	0.53
18:SQ:27:LYS:NZ	18:SQ:49:ASN:OD1	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:491:C:OP1	46:H:115:GLU:N	2.35	0.53
41:A:1046:A:O2'	41:A:1048:A:OP2	2.23	0.53
41:A:1244:A:H4'	41:A:1245:A:H5''	1.91	0.53
41:A:2699:G:O2'	59:V:15:PHE:O	2.27	0.53
41:A:2941:A:OP2	43:E:256:HIS:ND1	2.41	0.53
65:c:101:VAL:HG22	65:c:124:ILE:HB	1.90	0.53
69:g:97:ALA:O	69:g:105:ARG:NH2	2.41	0.53
82:v:852:VAL:HA	82:v:855:VAL:HG12	1.91	0.53
6:SE:29:SER:OG	6:SE:30:THR:N	2.42	0.53
41:A:894:G:H4'	41:A:895:A:H5'	1.90	0.53
41:A:2129:U:H2'	41:A:2130:G:C8	2.44	0.53
41:A:2559:U:H5''	41:A:2561:A:H5'	1.90	0.53
41:A:2681:U:H2'	41:A:2682:C:C6	2.43	0.53
41:A:2724:U:OP2	41:A:2726:C:N4	2.42	0.53
41:A:3385:U:H2'	41:A:3386:G:H8	1.74	0.53
47:I:224:ILE:HA	58:U:36:ILE:HG12	1.89	0.53
48:J:184:ALA:O	48:J:188:THR:HG23	2.08	0.53
73:k:79:SER:HB3	73:k:82:ARG:HG3	1.89	0.53
82:v:407:ARG:O	82:v:411:VAL:HG22	2.09	0.53
82:v:456:ARG:HD2	82:v:608:TYR:HE2	1.73	0.53
1:2:50:C:OP1	1:2:423:G:N2	2.41	0.53
41:A:571:U:H2'	41:A:572:A:H8	1.74	0.53
41:A:1040:A:N3	50:L:198:LYS:NZ	2.56	0.53
43:E:238:LEU:HD21	43:E:250:ALA:HB2	1.89	0.53
48:J:173:MET:HA	48:J:173:MET:HE3	1.89	0.53
53:O:119:GLN:O	53:O:123:LEU:HG	2.08	0.53
81:x:262:VAL:HA	81:x:311:ASN:CB	2.39	0.53
81:x:311:ASN:C	81:x:311:ASN:OD1	2.52	0.53
81:x:361:LEU:N	81:x:368:ILE:O	2.42	0.53
82:v:578:VAL:O	82:v:582:VAL:HG23	2.09	0.53
1:2:1699:G:H2'	1:2:1701:A:H62	1.73	0.53
16:SO:53:LYS:H	16:SO:53:LYS:HE2	1.73	0.53
16:SO:80:ALA:HB3	16:SO:92:TRP:HB2	1.91	0.53
19:SR:157:LYS:HE2	19:SR:170:ILE:HG23	1.91	0.53
41:A:158:G:H2'	41:A:159:A:H8	1.73	0.53
41:A:1223:A:H1'	41:A:1287:A:H2	1.73	0.53
58:U:71:LYS:HE3	58:U:73:LYS:HG2	1.90	0.53
61:X:57:MET:HE1	61:X:105:PRO:HA	1.89	0.53
61:X:57:MET:HE3	61:X:75:PRO:HB3	1.89	0.53
81:x:11:VAL:HB	81:x:109:ALA:CB	2.39	0.53
82:v:456:ARG:O	82:v:591:THR:HA	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:SC:55:VAL:HG12	4:SC:68:LEU:HA	1.91	0.53
11:SJ:89:ARG:HH11	11:SJ:89:ARG:HG3	1.74	0.53
41:A:937:G:N2	41:A:961:C:OP1	2.42	0.53
56:R:175:ARG:O	56:R:179:GLN:HG2	2.09	0.53
65:c:75:LEU:HG	65:c:114:GLY:HA2	1.91	0.53
81:x:247:ARG:HA	81:x:325:VAL:CG1	2.39	0.53
82:v:795:ARG:O	82:v:816:LEU:N	2.42	0.53
82:v:919:LEU:HD13	82:v:947:ILE:HB	1.90	0.53
82:v:976:ASN:HB3	82:v:977:TRP:CE3	2.44	0.53
1:2:541:A:O2'	1:2:542:A:OP1	2.22	0.53
7:SF:39:VAL:HG21	7:SF:45:ARG:HA	1.90	0.53
16:SO:220:ILE:HD12	16:SO:234:LEU:HD11	1.90	0.53
18:SQ:136:ARG:HB2	18:SQ:218:LEU:HD11	1.90	0.53
41:A:911:C:H5''	42:D:15:ILE:HD13	1.91	0.53
41:A:929:A:OP1	44:F:61:SER:OG	2.26	0.53
47:I:77:VAL:HB	59:V:139:ARG:HG2	1.90	0.53
74:l:39:TYR:CD1	74:l:40:PRO:HA	2.43	0.53
81:x:247:ARG:HG3	81:x:418:TYR:CZ	2.44	0.53
81:x:263:PRO:HG3	81:x:320:VAL:HG11	1.91	0.53
1:2:1699:G:H8	1:2:1702:A:H62	1.57	0.52
7:SF:63:ILE:HG22	7:SF:92:TYR:CE2	2.44	0.52
9:SH:80:LYS:NZ	82:v:306:ARG:HE	2.07	0.52
23:SV:39:GLY:HA2	23:SV:61:GLU:HB3	1.90	0.52
37:B:121:U:OP2	45:G:259:LYS:NZ	2.42	0.52
41:A:2282:U:H5''	41:A:2973:G:H1'	1.91	0.52
41:A:3225:C:H2'	41:A:3226:A:C8	2.43	0.52
41:A:3233:C:H2'	41:A:3234:A:C8	2.44	0.52
80:r:33:GLN:HG3	80:r:49:ARG:HD3	1.91	0.52
82:v:80:SER:N	82:v:84:GLU:OE2	2.39	0.52
82:v:583:ASN:HA	82:v:586:ASN:ND2	2.23	0.52
1:2:590:C:H2'	1:2:591:A:H8	1.74	0.52
8:SG:111:LYS:HA	8:SG:115:LEU:HB3	1.90	0.52
17:SP:48:ILE:HG12	17:SP:149:LEU:HD21	1.91	0.52
20:SS:163:ASP:OD2	20:SS:166:SER:OG	2.27	0.52
23:SV:194:ARG:HG2	23:SV:194:ARG:HH11	1.75	0.52
41:A:2228:A:H2'	41:A:2229:A:C8	2.44	0.52
74:l:34:CYS:SG	74:l:37:CYS:SG	3.07	0.52
81:x:149:ILE:HD12	81:x:231:ALA:HB1	1.90	0.52
81:x:328:ASP:C	81:x:330:LYS:N	2.65	0.52
82:v:696:ILE:HG23	82:v:963:TRP:HD1	1.73	0.52
82:v:711:ASN:HD22	82:v:717:LEU:CD1	2.22	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:SB:109:LYS:O	3:SB:113:ILE:HD12	2.09	0.52
12:SK:65:LEU:HD12	12:SK:71:ILE:HD12	1.90	0.52
17:SP:98:ILE:HG21	17:SP:102:PHE:HD1	1.74	0.52
25:SX:122:ILE:O	25:SX:143:SER:OG	2.25	0.52
26:SY:48:SER:OG	26:SY:86:GLU:OE2	2.21	0.52
35:s:1:G:O6	35:s:72:A:N6	2.42	0.52
41:A:36:C:H4'	41:A:808:A:H2	1.75	0.52
41:A:533:A:H2'	41:A:535:G:C8	2.44	0.52
41:A:695:C:OP2	44:F:115:HIS:NE2	2.29	0.52
41:A:1106:G:OP1	66:d:22:LYS:NZ	2.42	0.52
41:A:1942:U:H4'	41:A:3345:G:H21	1.74	0.52
41:A:2837:A:H2'	41:A:2845:A:C2	2.44	0.52
50:L:138:VAL:HG11	50:L:148:VAL:HB	1.91	0.52
64:b:48:ARG:HB3	64:b:69:LYS:HB3	1.90	0.52
79:q:92:GLU:OE2	79:q:94:GLY:N	2.41	0.52
82:v:149:LEU:HD21	82:v:192:ALA:HB2	1.92	0.52
8:SG:41:ILE:HG23	8:SG:46:LEU:HD23	1.92	0.52
16:SO:117:LYS:HZ3	16:SO:158:PRO:HA	1.73	0.52
24:SW:37:LYS:HG2	24:SW:126:ARG:HH12	1.74	0.52
41:A:85:A:H61	41:A:99:A:H3'	1.74	0.52
41:A:1188:U:OP1	41:A:1210:U:O2'	2.20	0.52
41:A:2552:C:N4	67:e:54:SER:OG	2.43	0.52
41:A:3232:G:H1	41:A:3255:U:H3	1.56	0.52
43:E:47:LEU:HD11	43:E:179:ALA:HB3	1.91	0.52
50:L:168:SER:HA	59:V:160:ILE:HD13	1.92	0.52
79:q:2:VAL:N	79:q:90:HIS:O	2.43	0.52
82:v:506:SER:HB3	82:v:540:ILE:HG12	1.91	0.52
82:v:661:LYS:HB3	82:v:693:SER:OG	2.09	0.52
82:v:687:ASN:N	82:v:687:ASN:OD1	2.42	0.52
18:SQ:64:ARG:O	18:SQ:88:VAL:N	2.40	0.52
41:A:2294:U:O2'	41:A:2296:A:N7	2.38	0.52
41:A:3006:A:H62	41:A:3140:G:H21	1.58	0.52
50:L:23:ASN:O	50:L:25:ALA:N	2.41	0.52
55:Q:54[A]:TYR:OH	55:Q:73[A]:PHE:O	2.27	0.52
55:Q:125[A]:ARG:HG3	55:Q:129[A]:LEU:HD12	1.90	0.52
74:l:66:TYR:OH	74:l:73:ARG:NH2	2.42	0.52
82:v:240:PRO:HB3	82:v:284:PRO:HG3	1.92	0.52
82:v:445:LEU:HD13	82:v:615:LEU:O	2.10	0.52
1:2:453:U:H2'	1:2:454:U:H5''	1.91	0.52
1:2:593:U:H4'	1:2:595:G:H4'	1.91	0.52
1:2:826:U:N3	1:2:846:G:O6	2.30	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1044:U:H5''	18:SQ:153:HIS:HE1	1.75	0.52
1:2:1102:G:OP1	29:Sb:76:SER:OG	2.28	0.52
1:2:1584:G:N2	1:2:1611:A:OP2	2.42	0.52
7:SF:94:GLN:C	16:SO:53:LYS:HD2	2.34	0.52
13:SL:18:ARG:HB2	13:SL:18:ARG:NH1	2.24	0.52
23:SV:84:HIS:NE2	23:SV:97:THR:OG1	2.34	0.52
37:B:28:C:OP1	51:M:137:ARG:NH1	2.41	0.52
39:T:158:GLU:O	39:T:162:ARG:HB3	2.10	0.52
41:A:519:A:OP2	47:I:70:LYS:NZ	2.32	0.52
41:A:2424:A:H61	42:D:230:VAL:HG11	1.75	0.52
41:A:3026:G:N2	41:A:3029:A:OP2	2.41	0.52
50:L:153:ARG:NH1	50:L:157:TYR:OH	2.42	0.52
81:x:247:ARG:HG3	81:x:418:TYR:CE1	2.45	0.52
81:x:247:ARG:O	81:x:249:PRO:HD3	2.09	0.52
82:v:430:LEU:HD21	82:v:454:ARG:NE	2.24	0.52
1:2:430:G:P	81:x:290:LYS:NZ	2.83	0.52
1:2:430:G:P	81:x:290:LYS:HZ1	2.32	0.52
1:2:499:U:H5''	1:2:500:C:H5	1.75	0.52
1:2:600:U:OP2	30:Sc:110:LYS:NZ	2.43	0.52
2:SA:23:GLU:OE2	4:SC:61:TRP:NE1	2.34	0.52
3:SB:216:GLU:OE2	3:SB:219:ARG:NH2	2.42	0.52
17:SP:110:TYR:HA	17:SP:115:PHE:CD1	2.45	0.52
20:SS:94:ALA:HB3	31:Sd:17:LEU:HD23	1.90	0.52
35:s:77:A:C4	81:x:293:GLU:CB	2.93	0.52
41:A:501:A:H2'	41:A:502:U:C6	2.45	0.52
41:A:911:C:H42	42:D:3:ARG:HD3	1.74	0.52
41:A:1311:G:H2'	41:A:1312:C:C6	2.44	0.52
41:A:1370:G:H2'	41:A:1371:G:C8	2.43	0.52
41:A:1679:A:H2'	41:A:1680:G:H8	1.74	0.52
46:H:142:ASP:HA	46:H:145:LEU:HB2	1.91	0.52
65:c:126:LYS:HB3	65:c:148:ILE:HD13	1.92	0.52
81:x:11:VAL:HG12	81:x:111:CYS:O	2.10	0.52
82:v:821:ILE:HA	82:v:826:GLU:HG3	1.92	0.52
1:2:5:U:H2'	1:2:6:G:H8	1.75	0.52
5:SD:103:LEU:HD22	5:SD:116:VAL:H	1.75	0.52
11:SJ:100:VAL:HG23	11:SJ:100:VAL:O	2.10	0.52
20:SS:31:PRO:HG3	20:SS:43:PRO:HG3	1.91	0.52
20:SS:103:TYR:O	20:SS:182:TYR:OH	2.28	0.52
27:SZ:16:VAL:N	27:SZ:31:THR:O	2.39	0.52
29:Sb:28:ARG:HD2	29:Sb:28:ARG:O	2.09	0.52
41:A:217:U:O2	63:a:103:LYS:NZ	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:1463:U:O4	41:A:1467:A:N7	2.43	0.52
41:A:1934:G:N1	41:A:1935:G:N7	2.58	0.52
41:A:2265:C:H2'	41:A:2266:U:C6	2.44	0.52
41:A:2364:G:N2	41:A:2376:G:N7	2.57	0.52
42:D:117:GLU:HG2	42:D:124:GLY:H	1.73	0.52
43:E:183:LEU:O	43:E:191:LYS:NZ	2.43	0.52
43:E:347:SER:OG	43:E:348:ARG:N	2.41	0.52
44:F:126:ILE:O	44:F:129:THR:OG1	2.26	0.52
82:v:436:SER:OG	82:v:447:LYS:N	2.43	0.52
1:2:647:G:H22	1:2:687:G:H22	1.58	0.52
11:SJ:97:VAL:HA	11:SJ:100:VAL:HG22	1.92	0.52
41:A:3123:A:O2'	49:K:40:HIS:ND1	2.43	0.52
43:E:261:MET:HB2	43:E:264:VAL:HG23	1.92	0.52
61:X:131:SER:OG	61:X:132:ASN:OD1	2.28	0.52
66:d:46:ALA:O	66:d:50:THR:HG22	2.10	0.52
81:x:88:THR:HG21	81:x:307:ASN:ND2	2.25	0.52
1:2:1688:U:H3	1:2:1713:G:H22	1.57	0.52
19:SR:141:ARG:HH11	19:SR:141:ARG:HG3	1.74	0.52
22:SU:29:ASN:OD1	22:SU:30:SER:N	2.41	0.52
24:SW:129:ILE:HD13	24:SW:134:ILE:HG21	1.91	0.52
39:T:21:LYS:HE3	39:T:55:VAL:HA	1.91	0.52
41:A:56:G:H2'	41:A:57:A:C8	2.45	0.52
41:A:1207:G:O2'	41:A:1209:G:OP1	2.26	0.52
41:A:2941:A:OP2	43:E:255:TRP:HB3	2.10	0.52
43:E:44:THR:HG21	43:E:184:ASN:ND2	2.25	0.52
1:2:1777:G:N7	78:p:8:LYS:NZ	2.56	0.51
4:SC:54:TYR:HD2	4:SC:72:GLY:HA2	1.75	0.51
17:SP:83:GLN:HE22	17:SP:100:GLY:HA2	1.75	0.51
23:SV:37:LYS:HB2	23:SV:59:ARG:HG2	1.92	0.51
41:A:207:U:H2'	41:A:208:C:C6	2.45	0.51
41:A:1941:C:H42	41:A:2107:A:H61	1.59	0.51
45:G:232:ASP:OD1	45:G:235:SER:OG	2.22	0.51
50:L:72:ALA:O	50:L:76:MET:HG2	2.10	0.51
81:x:325:VAL:HB	81:x:334:PRO:CB	2.41	0.51
82:v:472:MET:O	82:v:475:ILE:HG13	2.10	0.51
15:SN:132:LEU:HB3	15:SN:139:LEU:HD11	1.92	0.51
16:SO:19:TRP:HB2	16:SO:38:ARG:HE	1.75	0.51
31:Sd:27:VAL:HG21	31:Sd:35:VAL:HG21	1.93	0.51
41:A:596:C:O2	44:F:326:ARG:NH1	2.43	0.51
41:A:1361:U:H2'	41:A:1362:G:C8	2.45	0.51
41:A:1472:U:H2'	41:A:1473:G:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:1741:A:H4'	71:i:38:LEU:HD21	1.91	0.51
41:A:3007:U:O4	41:A:3008:A:N6	2.43	0.51
82:v:526:LEU:HB3	82:v:531:PHE:HB2	1.91	0.51
3:SB:100:ASN:HB2	3:SB:180:ARG:HD3	1.92	0.51
4:SC:54:TYR:O	4:SC:69:THR:OG1	2.27	0.51
20:SS:163:ASP:O	20:SS:165:ALA:N	2.43	0.51
41:A:946:U:H2'	41:A:947:G:H8	1.75	0.51
41:A:1364:C:O2	57:S:10:HIS:NE2	2.40	0.51
41:A:1533:U:H2'	41:A:1534:A:H8	1.75	0.51
44:F:131:VAL:HB	44:F:134:LEU:HD12	1.92	0.51
67:e:99:ASP:O	67:e:103:THR:HG22	2.10	0.51
81:x:155:MET:O	81:x:158:THR:HG22	2.10	0.51
81:x:315:VAL:HG23	81:x:316:SER:N	2.26	0.51
81:x:341:THR:HB	81:x:440:ALA:HB3	1.91	0.51
82:v:76:GLN:HG2	82:v:77:SER:N	2.26	0.51
82:v:168:PRO:HG3	82:v:241:ALA:HA	1.90	0.51
82:v:769:ASP:HA	82:v:773:ARG:NH2	2.26	0.51
3:SB:41:LYS:HA	3:SB:69:PHE:CE1	2.44	0.51
23:SV:121:LEU:HD13	23:SV:160:PHE:CG	2.45	0.51
33:Sf:31:TYR:O	33:Sf:48:SER:OG	2.25	0.51
41:A:1339:C:H2'	41:A:1340:G:C8	2.45	0.51
41:A:2457:G:H5'	41:A:2482:U:H1'	1.92	0.51
41:A:2957:G:H1	41:A:2975:U:H3	1.57	0.51
48:J:90:THR:HG22	48:J:214:LEU:HD11	1.91	0.51
61:X:30:GLY:HA3	61:X:66:LYS:HE2	1.91	0.51
79:q:38:GLN:OE1	79:q:41:ARG:NH1	2.42	0.51
82:v:673:PHE:CZ	82:v:717:LEU:HD23	2.46	0.51
1:2:334:G:O6	23:SV:5:ARG:NH2	2.43	0.51
1:2:513:U:H2'	1:2:514:G:H8	1.76	0.51
1:2:1382:A:O2'	1:2:1383:G:OP1	2.27	0.51
1:2:1405:G:H2'	1:2:1406:A:C8	2.46	0.51
3:SB:40:ILE:O	3:SB:42:LEU:N	2.44	0.51
23:SV:76:THR:HG21	23:SV:104:ILE:HB	1.93	0.51
38:C:126:A:O2'	38:C:128:U:OP2	2.29	0.51
41:A:1146:C:H2'	41:A:1147:G:H8	1.76	0.51
41:A:2697:A:H2'	41:A:2698:G:C8	2.46	0.51
54:P:112:ASN:OD1	54:P:113:LEU:HG	2.10	0.51
68:f:6:ASP:O	68:f:77:ARG:NH1	2.43	0.51
69:g:121:ASN:N	69:g:121:ASN:OD1	2.44	0.51
81:x:6:THR:O	81:x:85:TYR:HB2	2.11	0.51
81:x:278:VAL:HG11	81:x:326:ALA:HB1	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:x:347:LEU:H	81:x:433:VAL:C	2.18	0.51
82:v:153:SER:HA	82:v:156:VAL:HG22	1.92	0.51
82:v:756:GLN:O	82:v:760:GLN:HG3	2.10	0.51
1:2:1198:G:OP1	1:2:1199:G:O2'	2.21	0.51
1:2:1484:G:H21	1:2:1606:C:H1'	1.76	0.51
1:2:1552:U:O2'	1:2:1597:A:N3	2.38	0.51
6:SE:22:LEU:H	6:SE:22:LEU:HD12	1.76	0.51
7:SF:99:GLU:HG3	16:SO:9:LEU:CD2	2.41	0.51
22:SU:64:VAL:HG22	22:SU:94:ALA:HB1	1.92	0.51
31:Sd:22:GLN:HB3	31:Sd:72:PHE:CZ	2.45	0.51
41:A:1176:C:H2'	41:A:1177:G:N2	2.25	0.51
41:A:1321:G:N2	58:U:112:ALA:HB2	2.26	0.51
41:A:2831:G:N1	41:A:2858:U:O4	2.43	0.51
41:A:3385:U:H2'	41:A:3386:G:C8	2.44	0.51
45:G:60:ILE:HD11	45:G:93:THR:HA	1.92	0.51
55:Q:89[A]:SER:O	55:Q:89[A]:SER:OG	2.25	0.51
76:n:15:LYS:O	76:n:19:GLN:HG3	2.11	0.51
81:x:349:HIS:HA	81:x:433:VAL:HG12	1.92	0.51
81:x:367:HIS:C	81:x:368:ILE:HG13	2.36	0.51
1:2:1672:G:H2'	1:2:1673:G:C8	2.46	0.51
18:SQ:4:GLY:H	27:SZ:49:LYS:NZ	2.08	0.51
22:SU:17:GLU:OE2	22:SU:17:GLU:N	2.27	0.51
22:SU:17:GLU:HG3	22:SU:46:ILE:HG12	1.93	0.51
35:s:27:G:H1	35:s:45:A:N6	2.02	0.51
38:C:75:G:OP2	63:a:74:TYR:OH	2.28	0.51
41:A:1803:C:H2'	41:A:1804:A:H8	1.75	0.51
57:S:110:ALA:O	57:S:114:ILE:HG13	2.10	0.51
82:v:769:ASP:OD1	82:v:773:ARG:NH2	2.44	0.51
8:SG:104:ASN:O	8:SG:107:SER:OG	2.23	0.51
11:SJ:24:ILE:HG21	11:SJ:41:ILE:HD13	1.92	0.51
18:SQ:135:LEU:HD22	18:SQ:215:VAL:HG12	1.93	0.51
18:SQ:144:ARG:HB3	18:SQ:208:GLN:HB3	1.93	0.51
38:C:154:C:H2'	38:C:155:A:C8	2.45	0.51
41:A:314:U:H2'	41:A:315:C:C6	2.45	0.51
41:A:647:A:OP1	41:A:649:A:N6	2.44	0.51
41:A:2173:U:H5''	42:D:18:SER:HB3	1.92	0.51
41:A:2339:C:H4'	41:A:2340:U:O5'	2.11	0.51
41:A:2574:G:H2'	41:A:2575:G:H8	1.75	0.51
41:A:3163:A:N6	41:A:3288:G:O6	2.44	0.51
41:A:3231:U:O2	41:A:3256:G:O6	2.29	0.51
81:x:287:THR:HB	81:x:315:VAL:CG1	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:v:45:VAL:HG23	82:v:86:TYR:OH	2.11	0.51
1:2:5:U:O2'	1:2:553:G:O2'	2.25	0.51
1:2:680:U:O4	1:2:682:C:N4	2.44	0.51
1:2:1443:U:H4'	1:2:1446:A:H1'	1.92	0.51
26:SY:67:THR:OG1	26:SY:69:ASN:O	2.29	0.51
37:B:89:G:H4'	58:U:84:ARG:HD3	1.93	0.51
41:A:1643:A:O2'	41:A:1644:C:O4'	2.27	0.51
41:A:2676:A:N6	51:M:22:SER:O	2.32	0.51
41:A:3023:U:H2'	41:A:3024:A:H8	1.75	0.51
43:E:54:THR:OG1	43:E:55:THR:N	2.44	0.51
48:J:61:GLN:HA	48:J:64:ILE:HB	1.92	0.51
75:m:15:THR:HG23	75:m:73:LEU:HD22	1.93	0.51
1:2:258:C:O2	23:SV:178:ARG:NH1	2.38	0.51
1:2:477:A:H2'	1:2:478:A:C8	2.46	0.51
3:SB:42:LEU:HD11	3:SB:47:SER:HA	1.92	0.51
7:SF:107:LYS:HD2	16:SO:277:GLU:HG2	1.93	0.51
16:SO:52:GLN:O	16:SO:53:LYS:C	2.51	0.51
20:SS:23:LEU:O	24:SW:3:ARG:NH2	2.42	0.51
41:A:341:G:N2	41:A:349:A:H61	2.06	0.51
41:A:364:G:O6	74:l:56:ARG:NE	2.43	0.51
41:A:1491:A:OP1	74:l:14:LYS:NZ	2.44	0.51
41:A:1590:G:O2'	41:A:1797:A:N6	2.44	0.51
49:K:151:VAL:O	49:K:155:SER:OG	2.24	0.51
75:m:58:ASP:OD1	75:m:61:LYS:HG2	2.11	0.51
81:x:11:VAL:HG23	81:x:90:ILE:CG2	2.41	0.51
82:v:28:ILE:HD11	82:v:65:ASN:HB3	1.93	0.51
82:v:473:ARG:HH21	82:v:477:ASN:CG	2.19	0.51
1:2:1407:U:H2'	16:SO:284:ALA:O	2.10	0.50
41:A:1061:A:H4'	59:V:102:ARG:HH22	1.76	0.50
41:A:1765:U:H2'	41:A:1766:G:H8	1.76	0.50
62:Z:100:LYS:NZ	62:Z:106:ASP:OD1	2.42	0.50
75:m:17:ARG:O	75:m:19:ASP:N	2.43	0.50
82:v:390:MET:HE1	82:v:394:LEU:HB3	1.94	0.50
1:2:76:A:N3	1:2:80:A:N6	2.59	0.50
1:2:1232:U:H4'	4:SC:2:LEU:HD13	1.92	0.50
1:2:1662:G:H2'	1:2:1663:G:H8	1.76	0.50
9:SH:87:ASN:ND2	9:SH:100:THR:OG1	2.37	0.50
11:SJ:50:LEU:O	11:SJ:52:LYS:HG3	2.12	0.50
16:SO:68:VAL:HA	16:SO:84:SER:HA	1.92	0.50
16:SO:276:PRO:HD3	16:SO:313:TRP:HH2	1.76	0.50
18:SQ:142:PHE:O	18:SQ:208:GLN:N	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:SY:11:ILE:HG13	26:SY:11:ILE:O	2.09	0.50
41:A:1362:G:H2'	41:A:1363:A:H8	1.76	0.50
41:A:1597:C:H5'	41:A:1696:A:H1'	1.93	0.50
41:A:3324:C:OP1	68:f:19:ARG:NH2	2.44	0.50
48:J:30:THR:O	48:J:30:THR:OG1	2.26	0.50
50:L:86:HIS:HB3	50:L:139:ARG:HG2	1.94	0.50
58:U:77:VAL:HG11	58:U:106:LEU:HD22	1.92	0.50
64:b:104:PRO:O	64:b:108:GLU:HG2	2.11	0.50
81:x:246:LEU:HD23	81:x:326:ALA:O	2.11	0.50
82:v:63:ALA:O	82:v:66:ALA:N	2.44	0.50
82:v:132:LEU:HD13	82:v:148:ILE:HD11	1.92	0.50
82:v:222:VAL:O	82:v:226:VAL:HG23	2.11	0.50
82:v:509:ASP:C	82:v:511:VAL:H	2.17	0.50
1:2:343:C:H2'	1:2:344:A:H8	1.75	0.50
1:2:513:U:H2'	1:2:514:G:C8	2.46	0.50
1:2:815:G:H21	39:T:162:ARG:HH22	1.59	0.50
8:SG:81:LYS:HZ1	17:SP:205:ARG:HH11	1.59	0.50
18:SQ:61:LEU:HD21	18:SQ:96:LEU:HD13	1.93	0.50
18:SQ:134:VAL:HG12	18:SQ:218:LEU:HD12	1.92	0.50
41:A:87:U:H2'	41:A:88:A:H8	1.76	0.50
41:A:143:G:H2'	41:A:144:A:H8	1.76	0.50
41:A:518:G:H3'	41:A:519:A:H3'	1.93	0.50
41:A:594:U:P	41:A:609:G:H1	2.35	0.50
41:A:1459:C:H2'	41:A:1460:A:H8	1.75	0.50
41:A:2166:A:H4'	54:P:72:LYS:HD3	1.92	0.50
41:A:3082:C:H2'	41:A:3083:G:C8	2.45	0.50
67:e:26:GLY:O	67:e:30:THR:OG1	2.29	0.50
81:x:280:PHE:CG	81:x:324:ASN:CB	2.93	0.50
82:v:91:VAL:HA	82:v:94:ILE:HG22	1.93	0.50
82:v:413:ASN:C	82:v:414:ILE:HD13	2.37	0.50
1:2:351:C:N4	1:2:631:G:OP1	2.43	0.50
8:SG:18:GLU:OE1	8:SG:19:ARG:NE	2.45	0.50
16:SO:115:ILE:HG22	16:SO:122:ILE:HG12	1.93	0.50
41:A:1100:U:H2'	41:A:1101:G:C8	2.46	0.50
41:A:1886:A:H2'	41:A:1887:A:H8	1.76	0.50
41:A:2432:A:N6	41:A:2598:G:O6	2.44	0.50
41:A:3283:U:H2'	41:A:3284:G:C8	2.46	0.50
47:I:87:VAL:HG21	47:I:243:MET:HE1	1.93	0.50
67:e:57:GLU:OE2	67:e:69:TYR:OH	2.27	0.50
70:h:51:TYR:CE2	70:h:93:THR:HG21	2.46	0.50
74:l:22:CYS:CB	74:l:37:CYS:SG	2.86	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:v:434:GLU:OE2	82:v:449:GLN:HB2	2.11	0.50
82:v:708:THR:O	82:v:712:VAL:HG12	2.11	0.50
1:2:680:U:H2'	1:2:681:U:C5	2.47	0.50
1:2:1280:C:H2'	1:2:1281:G:H8	1.77	0.50
1:2:1408:G:H2'	1:2:1409:G:O4'	2.11	0.50
4:SC:46:LEU:HA	4:SC:49:LEU:HD12	1.93	0.50
6:SE:86:VAL:H	6:SE:89:MET:HE3	1.76	0.50
41:A:612:U:H2'	41:A:613:G:C8	2.47	0.50
41:A:1362:G:H2'	41:A:1363:A:C8	2.47	0.50
41:A:1889:G:OP1	43:E:246:LEU:N	2.44	0.50
41:A:1948:G:H2'	41:A:1949:G:C8	2.46	0.50
41:A:2890:A:O2'	41:A:2933:A:N3	2.37	0.50
41:A:2975:U:H2'	41:A:2976:A:H8	1.75	0.50
50:L:31:ILE:HB	50:L:66:GLU:HB2	1.93	0.50
64:b:32:GLY:HA2	64:b:40:HIS:CE1	2.47	0.50
1:2:523:G:N1	1:2:528:U:OP2	2.35	0.50
1:2:929:A:H5''	1:2:931:C:H41	1.77	0.50
15:SN:107:LYS:HG2	15:SN:108:VAL:H	1.75	0.50
21:ST:130:PRO:HB2	40:Y:83:THR:H	1.77	0.50
25:SX:72:THR:HG23	25:SX:124:THR:HG22	1.94	0.50
25:SX:109:VAL:HG12	25:SX:137:PHE:HB2	1.92	0.50
41:A:544:C:O2	41:A:547:G:N2	2.26	0.50
41:A:1039:U:H2'	41:A:1040:A:C8	2.47	0.50
48:J:82:LEU:HD13	48:J:222:PHE:HE2	1.75	0.50
51:M:117:ASP:HB3	51:M:120:ILE:HG12	1.94	0.50
64:b:83:THR:HG23	71:i:93:PHE:CE1	2.46	0.50
82:v:358:LYS:O	82:v:362:GLU:HG2	2.12	0.50
82:v:540:ILE:O	82:v:541:SER:C	2.54	0.50
82:v:735:ILE:O	82:v:920:ASP:HB2	2.11	0.50
2:SA:72:LEU:HD22	4:SC:65:TYR:CD2	2.47	0.50
16:SO:307:ASP:O	16:SO:309:VAL:HG13	2.11	0.50
18:SQ:106:THR:HG23	18:SQ:109:LYS:H	1.75	0.50
41:A:1447:G:O2'	41:A:2355:G:O6	2.28	0.50
41:A:2177:G:N2	42:D:118:GLU:OE1	2.43	0.50
41:A:2768:U:H2'	41:A:2769:A:H8	1.76	0.50
54:P:35:VAL:HG12	54:P:36:ILE:HG13	1.93	0.50
80:r:59:CYS:SG	80:r:60:CYS:N	2.85	0.50
82:v:893:ILE:HD12	82:v:893:ILE:H	1.77	0.50
1:2:479:C:H5'	24:SW:124:HIS:HB2	1.94	0.50
1:2:1774:G:OP1	78:p:7:LYS:NZ	2.45	0.50
16:SO:238:ASP:OD2	16:SO:258:THR:N	2.39	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:SZ:15:GLY:H	27:SZ:79:VAL:HA	1.76	0.50
27:SZ:79:VAL:HG13	27:SZ:110:LEU:HD21	1.94	0.50
41:A:610:G:N1	41:A:1337:A:OP1	2.45	0.50
41:A:625:G:N2	41:A:1401:A:OP1	2.37	0.50
41:A:1117:G:O6	41:A:1142:G:N2	2.44	0.50
41:A:1226:G:H4'	41:A:3117:C:H1'	1.93	0.50
41:A:1718:G:H2'	41:A:1719:G:C8	2.46	0.50
42:D:80:GLU:HG2	42:D:170:ALA:HA	1.94	0.50
74:l:34:CYS:C	74:l:36:SER:N	2.70	0.50
81:x:342:ALA:HA	81:x:438:ILE:HA	1.93	0.50
82:v:833:SER:C	82:v:835:ASP:H	2.20	0.50
1:2:60:U:N3	1:2:63:G:OP1	2.37	0.50
1:2:360:A:O2'	1:2:362:G:OP1	2.27	0.50
1:2:499:U:H5''	1:2:500:C:C5	2.47	0.50
1:2:1357:A:H2'	1:2:1358:G:C8	2.47	0.50
9:SH:64:GLU:OE1	82:v:871:ARG:HA	2.12	0.50
12:SK:90:LYS:HG2	12:SK:104:ALA:HB2	1.94	0.50
16:SO:8:VAL:HG12	16:SO:314:GLN:NE2	2.26	0.50
16:SO:31:ASN:O	16:SO:47:LEU:N	2.45	0.50
19:SR:105:GLY:HA3	19:SR:111:VAL:HA	1.94	0.50
20:SS:246:LEU:HD12	20:SS:246:LEU:H	1.77	0.50
41:A:1778:G:O2'	41:A:1780:G:OP2	2.29	0.50
41:A:2099:A:H2'	41:A:2100:A:C8	2.47	0.50
41:A:2147:A:OP2	42:D:200:ARG:NH2	2.45	0.50
41:A:2413:A:H2'	41:A:2414:G:H8	1.77	0.50
41:A:2735:U:H2'	41:A:2736:A:C8	2.47	0.50
41:A:3252:G:H2'	41:A:3253:G:C8	2.47	0.50
41:A:3252:G:H2'	41:A:3253:G:H8	1.77	0.50
42:D:168:VAL:HG23	80:r:79:VAL:HG11	1.93	0.50
47:I:151:ARG:HD2	47:I:207:LEU:HD23	1.93	0.50
54:P:149:ASN:ND2	72:j:96:GLU:O	2.43	0.50
59:V:86:GLU:OE2	59:V:88:ARG:NH1	2.40	0.50
82:v:74:ALA:HB2	82:v:116:ILE:HD13	1.94	0.50
1:2:1056:U:O2'	18:SQ:202:LYS:NZ	2.44	0.49
5:SD:87:PRO:O	5:SD:88:LEU:HD23	2.11	0.49
7:SF:95:LYS:HG2	7:SF:96:TYR:CD1	2.47	0.49
11:SJ:28:SER:OG	11:SJ:29:THR:N	2.45	0.49
21:ST:67:VAL:HB	21:ST:99:GLY:HA2	1.94	0.49
21:ST:71:THR:OG1	21:ST:72:ARG:N	2.42	0.49
37:B:118:A:H5''	45:G:253:PHE:CZ	2.47	0.49
41:A:2190:U:H2'	41:A:2191:U:C6	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:3108:G:N3	49:K:163:GLN:NE2	2.54	0.49
43:E:85:VAL:HB	43:E:163:HIS:CD2	2.46	0.49
48:J:97:TYR:OH	48:J:207:ASP:OD1	2.26	0.49
82:v:324:GLU:N	82:v:324:GLU:OE2	2.44	0.49
82:v:658:VAL:HB	82:v:663:LYS:HD3	1.94	0.49
82:v:921:GLU:OE2	82:v:924:ASN:ND2	2.45	0.49
1:2:477:A:H2'	1:2:478:A:H8	1.77	0.49
1:2:861:U:O2'	29:Sb:56:HIS:O	2.26	0.49
1:2:1173:C:HO2'	1:2:1601:G:H1	1.59	0.49
1:2:1357:A:H2'	1:2:1358:G:H8	1.77	0.49
3:SB:113:ILE:HD12	3:SB:113:ILE:H	1.77	0.49
7:SF:69:VAL:HB	7:SF:81:ILE:HD11	1.94	0.49
9:SH:36:LYS:HB3	9:SH:102:ALA:HA	1.94	0.49
10:SI:131:ASP:CB	82:v:181:THR:HG21	2.31	0.49
24:SW:99:LEU:HD23	24:SW:104:PHE:CE1	2.41	0.49
27:SZ:16:VAL:HG12	27:SZ:18:ARG:HG3	1.93	0.49
27:SZ:29:HIS:CD2	27:SZ:38:THR:HG23	2.47	0.49
31:Sd:18:LEU:HB3	31:Sd:20:ARG:HD3	1.94	0.49
35:s:61:A:OP1	35:s:63:C:N4	2.45	0.49
41:A:103:G:OP1	52:N:70:ARG:NE	2.45	0.49
41:A:727:G:O6	41:A:742:G:O2'	2.23	0.49
41:A:2141:U:O2'	41:A:2976:A:N3	2.38	0.49
41:A:2685:C:H2'	41:A:2686:A:C8	2.46	0.49
41:A:3332:U:H2'	41:A:3333:G:O4'	2.12	0.49
45:G:23:ARG:O	45:G:23:ARG:NH1	2.40	0.49
49:K:86:TYR:CE2	49:K:151:VAL:HB	2.46	0.49
59:V:89:LEU:HD12	59:V:91:LEU:HD21	1.95	0.49
81:x:10:ILE:HD12	81:x:87:VAL:HG21	1.94	0.49
81:x:250:LEU:CD1	81:x:280:PHE:HE1	2.25	0.49
82:v:435:PHE:CE2	82:v:480:VAL:HG13	2.46	0.49
82:v:553:LEU:HD13	82:v:580:TRP:HZ3	1.76	0.49
1:2:127:G:N2	1:2:178:U:O2	2.45	0.49
1:2:1225:U:O2	1:2:1230:A:O2'	2.22	0.49
1:2:1387:G:OP1	8:SG:32:LYS:NZ	2.44	0.49
2:SA:22:ASN:O	2:SA:26:THR:OG1	2.27	0.49
19:SR:69:ILE:HB	19:SR:133:LYS:HG2	1.95	0.49
29:Sb:53:ILE:HD12	29:Sb:60:LYS:HB2	1.93	0.49
37:B:11:A:N1	37:B:67:G:O2'	2.40	0.49
41:A:2442:G:H3'	41:A:2443:A:H8	1.77	0.49
41:A:2779:A:O2'	52:N:180:ARG:NH2	2.44	0.49
41:A:3160:U:H3	41:A:3290:G:H1	1.61	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:F:311:HIS:HE1	44:F:314:LYS:HB2	1.78	0.49
53:O:14:LEU:H	53:O:14:LEU:HD12	1.77	0.49
59:V:95:HIS:O	59:V:96:ILE:HG13	2.11	0.49
62:Z:72:ALA:O	62:Z:76:VAL:HG13	2.12	0.49
70:h:31:LYS:NZ	70:h:78:SER:O	2.45	0.49
82:v:687:ASN:H	82:v:970:MET:CE	2.24	0.49
1:2:166:C:O2'	21:ST:133:LEU:O	2.30	0.49
1:2:1175:U:H2'	1:2:1176:G:H8	1.76	0.49
1:2:1388:A:N7	1:2:1411:A:N6	2.60	0.49
9:SH:67:GLU:OE1	82:v:870:THR:CA	2.60	0.49
14:SM:8:PHE:HE1	14:SM:12:ARG:HE	1.60	0.49
28:Sa:2:GLU:OE1	28:Sa:2:GLU:N	2.44	0.49
41:A:624:G:H2'	41:A:625:G:H8	1.78	0.49
41:A:631:U:H2'	41:A:632:G:C8	2.47	0.49
41:A:794:U:H2'	41:A:795:G:H8	1.76	0.49
41:A:980:A:H2	41:A:1104:G:H1'	1.77	0.49
41:A:2249:G:H1	41:A:2266:U:H3	1.60	0.49
41:A:2710:C:H2'	41:A:2711:C:C6	2.48	0.49
59:V:44:ALA:HA	59:V:95:HIS:HB3	1.95	0.49
74:l:22:CYS:HB2	74:l:34:CYS:HG	1.76	0.49
77:o:127:LEU:HD12	77:o:128:LYS:H	1.77	0.49
79:q:18:ARG:HH11	79:q:18:ARG:HG3	1.78	0.49
81:x:345:ILE:HG12	81:x:435:VAL:O	2.13	0.49
1:2:394:C:N4	1:2:401:A:H62	2.08	0.49
1:2:1220:C:H2'	1:2:1221:A:H8	1.77	0.49
1:2:1314:U:H4'	1:2:1315:U:H5	1.77	0.49
9:SH:24:GLY:HA2	9:SH:58:ALA:HB3	1.95	0.49
10:SI:73:VAL:HG11	10:SI:102:ARG:HG2	1.95	0.49
15:SN:120:GLU:HG3	15:SN:130:VAL:O	2.13	0.49
22:SU:6:ALA:HA	22:SU:9:LEU:HB3	1.94	0.49
41:A:412:G:H2'	41:A:413:U:C6	2.48	0.49
41:A:712:G:N2	41:A:754:G:O3'	2.46	0.49
41:A:1472:U:H2'	41:A:1473:G:H8	1.78	0.49
41:A:1729:A:O4'	67:e:52:ARG:NH1	2.46	0.49
41:A:1785:U:H2'	41:A:1786:G:C8	2.48	0.49
41:A:2245:C:O2'	42:D:220:GLY:O	2.28	0.49
41:A:2999:U:H2'	41:A:3000:A:C8	2.47	0.49
47:I:30:ARG:O	47:I:34:LYS:HG2	2.12	0.49
64:b:74:VAL:HB	64:b:101:PHE:HE2	1.77	0.49
81:x:299:LEU:CD1	81:x:308:VAL:HG12	2.42	0.49
82:v:109:ALA:O	82:v:113:LEU:HD23	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:v:472:MET:SD	82:v:493:TYR:HE1	2.35	0.49
1:2:25:C:H5'	1:2:26:A:H5'	1.95	0.49
1:2:1226:A:H4'	1:2:1227:A:OP1	2.12	0.49
1:2:1404:C:H2'	1:2:1405:G:H8	1.77	0.49
3:SB:39:GLU:HG3	3:SB:40:ILE:N	2.27	0.49
7:SF:50:GLU:HB2	7:SF:51:PRO:HD3	1.94	0.49
10:SI:5:SER:H	10:SI:8:ASP:HB2	1.78	0.49
19:SR:63:VAL:HG23	19:SR:68:ILE:HD12	1.93	0.49
21:ST:32:ILE:HA	21:ST:52:ILE:HG23	1.95	0.49
21:ST:131:LYS:N	40:Y:81:PRO:O	2.34	0.49
31:Sd:31:ASN:C	31:Sd:32:ARG:HD3	2.37	0.49
41:A:126:U:OP1	54:P:144:ARG:NH1	2.45	0.49
41:A:797:U:H5''	52:N:2:ALA:HA	1.94	0.49
41:A:1560:G:O2'	41:A:1561:G:O4'	2.21	0.49
41:A:2263:C:H2'	41:A:2264:U:H6	1.77	0.49
41:A:3119:U:H4'	77:o:104:PRO:HG2	1.94	0.49
51:M:84:LEU:HD21	51:M:163:PHE:HE1	1.76	0.49
58:U:14:LEU:HD23	58:U:57:GLU:HG2	1.95	0.49
81:x:250:LEU:HD13	81:x:280:PHE:CE1	2.48	0.49
82:v:624:PHE:HA	82:v:627:PHE:HB3	1.94	0.49
82:v:785:LYS:HG3	82:v:847:SER:HB2	1.94	0.49
1:2:705:U:O2'	1:2:706:A:O5'	2.25	0.49
1:2:944:A:OP2	32:Se:19:LYS:NZ	2.40	0.49
1:2:1483:A:OP2	1:2:1521:G:N2	2.35	0.49
1:2:1537:C:O5'	1:2:1572:G:N2	2.45	0.49
6:SE:76:VAL:O	6:SE:95:GLY:N	2.41	0.49
15:SN:136:LYS:O	15:SN:137:ASP:HB2	2.12	0.49
16:SO:7:LEU:N	16:SO:272:ASP:OD2	2.42	0.49
16:SO:276:PRO:HG2	16:SO:278:PHE:CZ	2.48	0.49
35:s:66:G:OP1	81:x:100:LYS:NZ	2.42	0.49
36:t:11:C:H2'	36:t:12:G:H8	1.76	0.49
41:A:411:U:H2'	41:A:412:G:C8	2.47	0.49
41:A:584:G:H2'	41:A:585:A:H8	1.78	0.49
41:A:790:U:H2'	41:A:791:A:C8	2.48	0.49
41:A:1107:C:H2'	41:A:1108:U:H6	1.77	0.49
41:A:1616:U:H2'	41:A:1617:G:C8	2.47	0.49
50:L:62:SER:HA	50:L:65:LEU:HD12	1.93	0.49
54:P:160:GLU:OE1	54:P:160:GLU:N	2.44	0.49
57:S:158:HIS:H	57:S:186:VAL:HG12	1.78	0.49
62:Z:60:TYR:OH	72:j:26:LYS:NZ	2.39	0.49
67:e:74:ASN:HB2	67:e:86:ARG:HB3	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:v:546:GLY:HA3	82:v:702:ASN:HD21	1.78	0.49
82:v:804:LYS:HA	82:v:809:TYR:CD1	2.48	0.49
1:2:304:U:O2	25:5X:69:LYS:NZ	2.46	0.49
1:2:929:A:OP1	1:2:931:C:N4	2.46	0.49
7:SF:98:ASP:HA	16:SO:51:ASP:HB3	1.95	0.49
19:SR:113:LEU:O	19:SR:135:SER:OG	2.28	0.49
22:SU:82:GLU:OE2	22:SU:164:TYR:OH	2.31	0.49
23:SV:116:HIS:CE1	23:SV:146:ARG:HE	2.31	0.49
38:C:94:C:H5'	74:l:76:ASN:HD21	1.78	0.49
41:A:2098:C:H2'	41:A:2099:A:C8	2.47	0.49
41:A:3004:C:O2'	41:A:3005:A:OP1	2.31	0.49
47:I:100:ARG:O	47:I:104:GLN:HG3	2.13	0.49
60:W:99:LYS:HZ2	60:W:102:GLU:HB2	1.76	0.49
81:x:285:VAL:CG1	81:x:319:ASP:HB3	2.40	0.49
82:v:550:LYS:HD3	82:v:553:LEU:HD11	1.95	0.49
1:2:885:G:N2	27:SZ:123:SER:O	2.46	0.49
2:SA:134:CYS:SG	2:SA:135:GLU:N	2.86	0.49
12:SK:65:LEU:HD21	12:SK:76:ALA:HB1	1.95	0.49
15:SN:121:CYS:SG	15:SN:143:LYS:HE3	2.53	0.49
23:SV:54:LYS:NZ	23:SV:175:GLN:OE1	2.36	0.49
38:C:97:A:OP1	72:j:67:ARG:NH2	2.45	0.49
41:A:307:A:H2'	41:A:308:A:C8	2.48	0.49
41:A:1074:U:O2	66:d:42:ASN:ND2	2.44	0.49
41:A:2601:A:H2'	41:A:2602:G:H8	1.78	0.49
41:A:3218:A:O2'	41:A:3278:C:N4	2.45	0.49
42:D:53:GLY:O	42:D:192:LYS:NZ	2.41	0.49
42:D:70:ARG:HD2	42:D:72:ARG:HH12	1.78	0.49
43:E:343:TYR:CZ	43:E:345:ASN:HB2	2.47	0.49
45:G:235:SER:O	45:G:239:ILE:HG23	2.13	0.49
52:N:102:GLN:HA	52:N:102:GLN:OE1	2.11	0.49
58:U:19:VAL:O	58:U:19:VAL:HG13	2.12	0.49
81:x:346:ILE:HA	81:x:434:ALA:HB2	1.91	0.49
82:v:25:ARG:N	82:v:25:ARG:HD2	2.28	0.49
82:v:227:HIS:ND1	82:v:892:ARG:HD2	2.28	0.49
82:v:664:ALA:HA	82:v:690:CYS:O	2.12	0.49
1:2:1408:G:C4	16:SO:284:ALA:HB3	2.48	0.49
1:2:1601:G:OP1	10:SI:86:ARG:NH1	2.46	0.49
41:A:165:A:H2'	41:A:166:C:C6	2.48	0.49
41:A:1390:A:N6	41:A:1418:A:O2'	2.46	0.49
41:A:2359:C:H4'	41:A:2399:A:H4'	1.95	0.49
41:A:2555:G:H21	64:b:136:PHE:HA	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:2631:U:OP2	59:V:4:SER:OG	2.31	0.49
41:A:2960:C:H2'	41:A:2961:G:C8	2.46	0.49
51:M:47:GLN:HB2	51:M:64:LYS:HD3	1.94	0.49
57:S:170:ARG:HD2	65:c:57:GLY:HA3	1.94	0.49
64:b:23:VAL:HG12	64:b:45:GLY:HA3	1.95	0.49
74:l:21:ARG:HD3	74:l:39:TYR:CD1	2.47	0.49
81:x:278:VAL:CB	81:x:326:ALA:HB1	2.42	0.49
82:v:136:ILE:CD1	82:v:145:LYS:HD2	2.43	0.49
82:v:435:PHE:HE2	82:v:480:VAL:HG13	1.78	0.49
1:2:539:G:H5'	1:2:542:A:C8	2.44	0.48
1:2:1044:U:H5''	18:SQ:153:HIS:CE1	2.48	0.48
2:SA:34:TYR:OH	2:SA:37:VAL:HB	2.13	0.48
11:SJ:48:HIS:HB2	11:SJ:50:LEU:CD2	2.43	0.48
13:SL:10:ALA:HA	13:SL:32:PHE:HA	1.94	0.48
17:SP:79:ARG:NH1	17:SP:164:ASN:O	2.46	0.48
20:SS:72:VAL:HG22	20:SS:90:ILE:HG12	1.94	0.48
41:A:1718:G:H2'	41:A:1719:G:H8	1.76	0.48
41:A:2423:U:O4	41:A:2607:G:O6	2.31	0.48
41:A:3190:C:H2'	41:A:3191:G:C8	2.47	0.48
48:J:140:VAL:HG21	54:P:3:ALA:HB2	1.95	0.48
48:J:177:TYR:CE1	48:J:222:PHE:HB3	2.48	0.48
53:O:83:LYS:HB3	53:O:83:LYS:HE2	1.68	0.48
60:W:35:LYS:HA	60:W:38:ILE:HG12	1.94	0.48
68:f:36:ILE:HD12	68:f:59:ILE:HD11	1.94	0.48
81:x:160:PRO:HG2	81:x:163:SER:CB	2.43	0.48
81:x:250:LEU:HD22	81:x:280:PHE:HE1	1.78	0.48
82:v:530:GLY:HA2	82:v:547:TRP:CZ3	2.48	0.48
1:2:467:G:O2'	1:2:469:C:OP2	2.25	0.48
4:SC:80:LEU:O	4:SC:82:LEU:HD22	2.14	0.48
21:ST:63:MET:HA	21:ST:98:ARG:HB3	1.95	0.48
41:A:308:A:H1'	41:A:2222:A:C2	2.47	0.48
41:A:629:U:H2'	41:A:630:A:C8	2.47	0.48
41:A:1175:C:H2'	41:A:1176:C:C6	2.47	0.48
41:A:1383:G:H4'	44:F:138:ARG:HH12	1.77	0.48
41:A:1746:U:H2'	41:A:1747:G:H8	1.77	0.48
41:A:2129:U:H2'	41:A:2130:G:H8	1.78	0.48
46:H:82:ARG:HH11	70:h:104:PRO:HB2	1.77	0.48
51:M:15:GLU:HB3	51:M:130:VAL:HG23	1.94	0.48
54:P:39:ALA:HB3	54:P:61:ILE:HG22	1.95	0.48
54:P:114:ARG:HG2	54:P:137:PRO:HG3	1.95	0.48
81:x:263:PRO:CD	81:x:311:ASN:HA	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:x:291:SER:O	81:x:311:ASN:HB3	2.13	0.48
82:v:121:ASN:HD21	82:v:123:VAL:HB	1.78	0.48
82:v:187:ALA:O	82:v:190:THR:OG1	2.25	0.48
82:v:360:VAL:O	82:v:364:ILE:HG23	2.13	0.48
82:v:599:SER:HA	82:v:624:PHE:CE2	2.48	0.48
1:2:733:A:N3	1:2:736:C:N4	2.62	0.48
1:2:1267:G:OP1	1:2:1435:G:N2	2.47	0.48
1:2:1298:U:O2	19:SR:209:ASN:ND2	2.46	0.48
1:2:1408:G:O4'	16:SO:285:ALA:N	2.28	0.48
1:2:1756:A:C2	35:s:38:A:H4'	2.48	0.48
16:SO:14:GLU:HB2	16:SO:309:VAL:HG12	1.96	0.48
18:SQ:97:LEU:HB3	18:SQ:232:HIS:ND1	2.28	0.48
20:SS:42:LEU:N	20:SS:84:ALA:O	2.42	0.48
21:ST:7:TYR:HD2	21:ST:12:SER:OG	1.96	0.48
23:SV:162:ALA:HA	41:A:3352:U:C4	2.48	0.48
29:Sb:112:ASP:OD1	29:Sb:112:ASP:N	2.45	0.48
38:C:58:G:O6	74:l:63:ARG:NH1	2.46	0.48
41:A:631:U:H2'	41:A:632:G:H8	1.77	0.48
41:A:1109:U:H2'	41:A:1110:U:C6	2.48	0.48
41:A:1203:A:H2'	41:A:1204:A:C8	2.48	0.48
41:A:1249:G:H2'	41:A:1250:G:H8	1.78	0.48
41:A:1403:C:H2'	41:A:1404:G:C8	2.47	0.48
41:A:1738:C:H1'	71:i:52:GLN:HG3	1.95	0.48
41:A:1919:G:N2	41:A:1933:A:H62	2.10	0.48
41:A:2244:A:O2'	42:D:223:SER:OG	2.29	0.48
41:A:2469:G:N1	41:A:2477:G:O6	2.46	0.48
41:A:3160:U:C2	41:A:3291:G:N1	2.82	0.48
46:H:60:ASP:OD1	46:H:62:THR:OG1	2.25	0.48
81:x:342:ALA:HB2	81:x:438:ILE:HG12	1.95	0.48
82:v:535:MET:HE2	82:v:535:MET:HA	1.95	0.48
1:2:628:G:H21	1:2:971:A:H62	1.61	0.48
1:2:1274:C:H4'	1:2:1275:A:O5'	2.14	0.48
20:SS:9:LEU:HB2	20:SS:30:ARG:HB2	1.95	0.48
26:SY:87:ASP:OD1	26:SY:87:ASP:N	2.46	0.48
41:A:932:U:O4'	41:A:934:G:H5'	2.12	0.48
41:A:1497:C:H2'	41:A:1498:A:C8	2.47	0.48
41:A:2676:A:N1	51:M:22:SER:OG	2.40	0.48
41:A:3138:U:H2'	41:A:3139:A:H8	1.78	0.48
45:G:217:GLU:OE2	82:v:662:GLN:N	2.46	0.48
56:R:56:ARG:NH2	56:R:75:GLU:OE1	2.42	0.48
65:c:88:ASP:N	65:c:88:ASP:OD1	2.40	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:j:35:LYS:O	72:j:35:LYS:HD2	2.14	0.48
82:v:80:SER:O	82:v:82:SER:N	2.46	0.48
82:v:120:VAL:HG13	82:v:121:ASN:H	1.77	0.48
82:v:136:ILE:HD12	82:v:145:LYS:HD2	1.95	0.48
82:v:208:PHE:O	82:v:211:SER:OG	2.24	0.48
82:v:533:ASP:O	82:v:536:ILE:HG22	2.14	0.48
1:2:143:G:OP2	21:ST:139:ASN:ND2	2.42	0.48
1:2:1216:C:O2'	1:2:1217:A:H2'	2.13	0.48
1:2:1667:A:H2'	1:2:1668:G:H8	1.79	0.48
11:SJ:106:ILE:HB	11:SJ:108:ILE:HG12	1.94	0.48
18:SQ:145:LYS:HE3	18:SQ:152:ARG:HA	1.96	0.48
35:s:77:A:N9	81:x:293:GLU:CB	2.69	0.48
41:A:32:U:H2'	41:A:33:G:O4'	2.14	0.48
41:A:797:U:H2'	41:A:798:G:C8	2.48	0.48
41:A:1439:U:H2'	41:A:1440:G:C8	2.49	0.48
41:A:2446:U:H2'	41:A:2447:A:C8	2.47	0.48
41:A:2632:G:H5''	59:V:12:ARG:HB2	1.94	0.48
43:E:283:TYR:N	43:E:323:MET:O	2.46	0.48
58:U:78:TRP:O	58:U:124:LEU:HB2	2.13	0.48
74:l:34:CYS:HB2	74:l:38:GLY:H	1.78	0.48
81:x:250:LEU:CD2	81:x:280:PHE:HE1	2.26	0.48
82:v:37:ASN:OD1	82:v:38:GLY:N	2.43	0.48
82:v:948:ILE:O	82:v:948:ILE:HG22	2.13	0.48
9:SH:127:HIS:CD2	9:SH:133:VAL:HG11	2.49	0.48
11:SJ:40:ASN:HA	11:SJ:43:LYS:HE2	1.95	0.48
14:SM:15:GLY:O	14:SM:18:SER:OG	2.32	0.48
16:SO:224:ASN:O	16:SO:228:LYS:N	2.41	0.48
17:SP:198:MET:HG3	17:SP:199:PRO:HD2	1.96	0.48
23:SV:92:ARG:HH12	41:A:2106:A:H2	1.60	0.48
23:SV:159:GLN:HB3	23:SV:164:ARG:O	2.14	0.48
26:SY:140:LYS:NZ	41:A:847:A:OP1	2.46	0.48
35:s:24:C:H2'	35:s:25:A:C8	2.48	0.48
41:A:591:G:O2'	46:H:17:ALA:O	2.26	0.48
41:A:1598:G:H2'	41:A:1599:G:C8	2.48	0.48
54:P:27:VAL:HB	54:P:122:ASN:ND2	2.28	0.48
60:W:29:ASP:HB3	60:W:32:SER:OG	2.12	0.48
81:x:310:PHE:CD1	81:x:310:PHE:N	2.76	0.48
81:x:362:ASP:HA	81:x:366:ALA:O	2.14	0.48
82:v:32:VAL:O	82:v:35:PHE:HB3	2.13	0.48
1:2:897:C:H1'	27:SZ:41:ARG:HH21	1.79	0.48
2:SA:42:THR:HB	2:SA:43:PRO:HD2	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:SA:74:GLN:OE1	2:SA:74:GLN:HA	2.13	0.48
10:SI:73:VAL:O	10:SI:77:ASN:ND2	2.47	0.48
16:SO:123:ILE:HG22	16:SO:133:VAL:HG12	1.96	0.48
20:SS:127:LYS:HD3	20:SS:142:HIS:HA	1.94	0.48
26:SY:84:ILE:HD11	26:SY:89:TYR:HD1	1.78	0.48
41:A:201:A:H2'	41:A:202:G:H8	1.78	0.48
41:A:2227:C:H2'	41:A:2228:A:H8	1.78	0.48
41:A:2389:C:H2'	41:A:2390:A:H8	1.79	0.48
41:A:2526:C:H2'	41:A:2527:G:C8	2.49	0.48
41:A:2697:A:H2'	41:A:2698:G:H8	1.79	0.48
41:A:2827:U:O2'	41:A:2829:U:O4	2.30	0.48
41:A:3211:C:H2'	41:A:3212:C:C6	2.48	0.48
72:j:57:VAL:O	72:j:60:GLU:HG3	2.12	0.48
75:m:77:ARG:HH11	75:m:77:ARG:HG3	1.79	0.48
81:x:263:PRO:HD2	81:x:311:ASN:HA	1.95	0.48
81:x:321:ARG:NE	81:x:322:ARG:O	2.47	0.48
81:x:357:TYR:OH	81:x:428:ASP:HB2	2.13	0.48
82:v:490:ARG:HH21	82:v:561:ALA:HA	1.78	0.48
82:v:508:LEU:HD23	82:v:519:LYS:HE3	1.96	0.48
1:2:30:G:H5'	30:Sc:126:LYS:HD2	1.96	0.48
1:2:209:U:H2'	1:2:210:A:C8	2.48	0.48
7:SF:41:PRO:C	7:SF:43:ILE:H	2.21	0.48
17:SP:150:ASP:OD2	17:SP:165:ARG:NH2	2.42	0.48
19:SR:79:GLU:O	19:SR:103:VAL:HG12	2.14	0.48
41:A:158:G:H2'	41:A:159:A:C8	2.47	0.48
41:A:519:A:N6	58:U:65:ASN:O	2.45	0.48
41:A:1918:C:N4	41:A:1935:G:O6	2.47	0.48
41:A:2415:C:OP1	42:D:2:GLY:N	2.47	0.48
50:L:108:ALA:O	50:L:112:GLN:HG2	2.13	0.48
53:O:21:VAL:HG12	53:O:65:LEU:HA	1.95	0.48
55:Q:110[A]:PRO:HA	55:Q:113[A]:ASP:OD2	2.14	0.48
82:v:135:ALA:O	82:v:139:THR:HG23	2.14	0.48
82:v:322:VAL:HG12	82:v:328:ILE:HA	1.94	0.48
1:2:17:C:O2'	1:2:1137:A:N1	2.46	0.48
1:2:50:C:N4	1:2:424:C:H2'	2.29	0.48
1:2:230:C:O2	1:2:235:G:N2	2.36	0.48
9:SH:67:GLU:CD	82:v:870:THR:HB	2.39	0.48
41:A:286:U:H2'	41:A:287:G:C8	2.49	0.48
41:A:746:A:H2'	41:A:747:A:C8	2.49	0.48
41:A:988:U:H2'	41:A:989:A:C8	2.48	0.48
41:A:1011:A:H2'	41:A:1012:G:C8	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:1201:C:N4	41:A:2857:C:OP1	2.36	0.48
42:D:3:ARG:HB2	42:D:207:VAL:HG22	1.96	0.48
46:H:104:GLU:H	46:H:104:GLU:CD	2.21	0.48
54:P:162:ARG:HB3	54:P:164:LEU:HD13	1.95	0.48
64:b:22:LYS:HE2	64:b:134:LEU:HB2	1.96	0.48
64:b:92:PHE:HD1	64:b:114:VAL:HG22	1.77	0.48
81:x:8:ILE:HG12	81:x:85:TYR:CD1	2.48	0.48
82:v:235:VAL:HB	82:v:479:GLN:HB3	1.96	0.48
1:2:463:U:O2'	1:2:527:A:N6	2.46	0.48
1:2:565:C:H1'	30:Sc:66:SER:HB2	1.95	0.48
1:2:1217:A:C5	4:SC:40:LEU:HD11	2.49	0.48
1:2:1594:G:OP2	1:2:1596:C:N4	2.47	0.48
9:SH:86:LEU:HD12	9:SH:97:ASP:HB3	1.96	0.48
11:SJ:63:LEU:HD11	11:SJ:86:ILE:HD11	1.95	0.48
16:SO:295:SER:OG	16:SO:300:THR:OG1	2.31	0.48
25:SX:17:PRO:HG3	25:SX:63:LEU:HD11	1.96	0.48
26:SY:98:VAL:HB	26:SY:115:LEU:HD13	1.96	0.48
35:s:19:G:O4'	35:s:58:G:N2	2.39	0.48
41:A:355:A:N1	44:F:82:THR:HG22	2.29	0.48
41:A:1459:C:H2'	41:A:1460:A:C8	2.49	0.48
41:A:1920:U:O2'	41:A:1932:A:N7	2.43	0.48
41:A:3008:A:N1	41:A:3139:A:N6	2.61	0.48
41:A:3138:U:H2'	41:A:3139:A:C8	2.48	0.48
42:D:147:ARG:HG2	42:D:157:VAL:HG22	1.95	0.48
43:E:59:ASP:OD1	43:E:59:ASP:N	2.38	0.48
52:N:109:PHE:CG	73:k:20:MET:HE1	2.49	0.48
56:R:131:ARG:HG3	56:R:137:ASN:ND2	2.29	0.48
62:Z:134:ASP:O	62:Z:138:ARG:HG3	2.13	0.48
81:x:11:VAL:CG2	81:x:90:ILE:HB	2.37	0.48
81:x:266:ARG:HA	81:x:306:ASP:O	2.14	0.48
81:x:289:VAL:HG11	81:x:310:PHE:CB	2.39	0.48
1:2:30:G:H4'	30:Sc:131:SER:HB3	1.96	0.47
16:SO:52:GLN:HG2	16:SO:53:LYS:N	2.28	0.47
35:s:54:G:OP1	81:x:351:GLY:HA3	2.14	0.47
41:A:1567:U:H3	41:A:1571:A:H1'	1.79	0.47
41:A:2116:G:OP1	41:A:2118:C:N4	2.46	0.47
41:A:2374:C:OP1	41:A:2823:G:O2'	2.28	0.47
42:D:103:PRO:HA	42:D:163:ARG:HA	1.96	0.47
82:v:241:ALA:O	82:v:244:SER:OG	2.28	0.47
82:v:544:SER:OG	82:v:545:GLY:N	2.46	0.47
82:v:686:ILE:HD13	82:v:970:MET:HE2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:51:A:C6	81:x:258:GLY:O	2.67	0.47
1:2:768:C:C2	24:SW:143:ILE:HG21	2.49	0.47
1:2:950:C:O2'	26:SY:104:ARG:NH2	2.47	0.47
1:2:1025:A:OP2	1:2:1027:A:N6	2.34	0.47
3:SB:149:VAL:HG23	3:SB:156:ARG:HG3	1.96	0.47
8:SG:69:ILE:HB	8:SG:71:PHE:CD2	2.50	0.47
32:Se:43:ASN:HD22	32:Se:66:LYS:HG2	1.79	0.47
36:t:60:A:H5''	36:t:61:C:H5	1.78	0.47
41:A:242:C:HO2'	41:A:243:G:H8	1.62	0.47
41:A:616:G:H2'	41:A:617:G:C8	2.49	0.47
41:A:1224:C:H2'	41:A:1225:A:C8	2.48	0.47
41:A:2501:U:H2'	41:A:2502:A:H5''	1.96	0.47
41:A:2900:A:O2'	41:A:3025:C:O2'	2.29	0.47
41:A:3076:C:H2'	41:A:3077:A:C8	2.49	0.47
81:x:250:LEU:HD13	81:x:280:PHE:HE1	1.79	0.47
82:v:549:MET:O	82:v:553:LEU:HG	2.14	0.47
82:v:802:ARG:NH2	82:v:859:GLU:HB2	2.26	0.47
82:v:884:ASP:O	82:v:887:ILE:HG22	2.14	0.47
1:2:783:G:C8	31:Sd:12:VAL:HG22	2.50	0.47
1:2:851:U:H1'	1:2:852:C:H5	1.79	0.47
1:2:1227:A:N6	1:2:1256:A:H2'	2.25	0.47
1:2:1280:C:H2'	1:2:1281:G:C8	2.49	0.47
18:SQ:106:THR:OG1	27:SZ:116:GLU:OE2	2.24	0.47
22:SU:153:LEU:HB3	22:SU:186:PRO:HG3	1.96	0.47
40:Y:82:ILE:H	40:Y:85:ALA:HB2	1.78	0.47
41:A:760:G:N2	41:A:770:G:N3	2.62	0.47
41:A:1663:C:H2'	41:A:1664:G:H8	1.79	0.47
41:A:2389:C:H2'	41:A:2390:A:C8	2.50	0.47
45:G:65:ILE:HG12	45:G:74:VAL:HG22	1.96	0.47
51:M:79:ILE:HG22	51:M:127:PHE:HE2	1.78	0.47
53:O:91:CYS:SG	53:O:92:GLU:N	2.88	0.47
57:S:170:ARG:O	57:S:171:LYS:HG2	2.14	0.47
72:j:68:GLN:O	72:j:71:LYS:HD3	2.14	0.47
81:x:163:SER:O	81:x:164:GLN:HB2	2.14	0.47
82:v:168:PRO:HA	82:v:244:SER:CB	2.44	0.47
41:A:127:G:H2'	41:A:128:G:H8	1.80	0.47
41:A:2338:C:OP1	43:E:236:LYS:NZ	2.43	0.47
42:D:7:ASN:OD1	42:D:8:GLN:N	2.48	0.47
46:H:59:GLU:OE2	46:H:59:GLU:N	2.28	0.47
53:O:127:LYS:HD3	55:Q:194[A]:LEU:HD12	1.96	0.47
82:v:642:ASN:HB2	82:v:929:ASP:OD1	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:v:714:THR:OG1	82:v:734:TYR:HB2	2.15	0.47
82:v:824:LYS:C	82:v:826:GLU:N	2.71	0.47
1:2:1779:U:O4	78:p:12:ARG:NH2	2.46	0.47
8:SG:109:LEU:HD11	17:SP:49:ASN:HA	1.95	0.47
16:SO:84:SER:O	16:SO:110:VAL:HG22	2.14	0.47
20:SS:22:LYS:HG3	20:SS:23:LEU:HD22	1.97	0.47
26:SY:23:PRO:O	26:SY:25:TRP:N	2.43	0.47
41:A:359:U:H2'	41:A:360:G:O4'	2.15	0.47
41:A:981:U:O2'	41:A:1105:A:O2'	2.20	0.47
41:A:1307:G:C2	55:Q:60[A]:LYS:HG3	2.50	0.47
41:A:2308:C:H5''	41:A:2309:A:H2'	1.96	0.47
41:A:3069:G:C2	41:A:3070:A:C8	3.02	0.47
41:A:3084:C:H2'	41:A:3085:G:O4'	2.15	0.47
41:A:3213:A:H62	53:O:124:ARG:NH2	2.13	0.47
43:E:86:VAL:HG22	43:E:162:VAL:HG12	1.97	0.47
43:E:222:LYS:HB3	43:E:331:ASN:HB3	1.96	0.47
46:H:40:LEU:HD11	46:H:54:TYR:HB2	1.94	0.47
47:I:121:LYS:O	47:I:125:GLU:HG2	2.14	0.47
62:Z:117:ASN:O	76:n:18:LYS:HE3	2.13	0.47
82:v:72:HIS:HA	82:v:75:ASN:OD1	2.15	0.47
1:2:1185:U:H4'	1:2:1186:U:H5''	1.95	0.47
16:SO:132:LYS:HG2	16:SO:143:THR:HG23	1.96	0.47
41:A:354:U:H2'	41:A:355:A:H8	1.80	0.47
41:A:1318:A:N7	55:Q:18[A]:ARG:NH1	2.62	0.47
41:A:1596:C:H2'	41:A:1597:C:C6	2.50	0.47
41:A:1733:G:H2'	41:A:1734:G:H8	1.79	0.47
43:E:68:HIS:CD2	43:E:69:LYS:HG3	2.50	0.47
47:I:39:GLU:O	47:I:43:ILE:HD12	2.15	0.47
59:V:110:LYS:HD3	59:V:110:LYS:HA	1.77	0.47
82:v:494:VAL:HA	82:v:555:ARG:HH12	1.80	0.47
82:v:803:ARG:HD3	82:v:838:TRP:CH2	2.49	0.47
1:2:623:A:H3'	1:2:624:G:H5''	1.95	0.47
1:2:647:G:N2	1:2:687:G:H1	2.07	0.47
1:2:1026:A:N7	1:2:1772:C:O2'	2.41	0.47
1:2:1182:U:H4'	6:SE:124:THR:HB	1.97	0.47
1:2:1292:G:H21	17:SP:111:ILE:HD11	1.79	0.47
3:SB:25:LEU:HB3	7:SF:27:GLY:O	2.15	0.47
16:SO:38:ARG:HG3	16:SO:67:ILE:HG12	1.96	0.47
19:SR:170:ILE:HB	19:SR:197:TYR:HB2	1.96	0.47
20:SS:115:THR:HG23	20:SS:118:GLU:H	1.79	0.47
24:SW:62:ARG:HH21	24:SW:68:LYS:HB3	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:SW:106:GLU:O	24:SW:111:THR:OG1	2.32	0.47
26:SY:99:ARG:NH2	26:SY:119:GLU:OE2	2.45	0.47
30:Sc:86:PHE:HB2	30:Sc:120:VAL:HG11	1.96	0.47
35:s:1:G:N2	35:s:74:A:H1'	2.29	0.47
37:B:94:C:H2'	37:B:95:A:H8	1.79	0.47
38:C:95:G:O2'	74:l:81:GLY:O	2.33	0.47
41:A:1413:G:H2'	41:A:1414:G:H8	1.78	0.47
41:A:1433:A:N7	69:g:19:ARG:NH2	2.63	0.47
41:A:1592:G:OP1	71:i:58:ARG:NH2	2.47	0.47
41:A:1886:A:O4'	41:A:3307:A:H5'	2.14	0.47
41:A:2103:U:H2'	41:A:2104:A:C8	2.49	0.47
41:A:2344:U:H2'	41:A:2345:A:C8	2.47	0.47
41:A:2526:C:H2'	41:A:2527:G:H8	1.80	0.47
41:A:2586:G:O2'	41:A:2588:U:OP2	2.32	0.47
41:A:3006:A:H2'	41:A:3007:U:O4'	2.14	0.47
41:A:3333:G:H22	41:A:3369:G:H1'	1.79	0.47
45:G:282:ARG:O	45:G:286:VAL:HG23	2.15	0.47
46:H:47:PHE:CD2	46:H:74:VAL:HG13	2.49	0.47
54:P:23:GLN:HG2	54:P:122:ASN:ND2	2.29	0.47
58:U:30:PHE:CD1	58:U:103:VAL:HG21	2.50	0.47
80:r:11:THR:HB	80:r:14:TYR:CD2	2.50	0.47
82:v:24:ASN:HB3	82:v:25:ARG:NH1	2.29	0.47
82:v:149:LEU:HD22	82:v:188:ALA:HB1	1.96	0.47
82:v:167:MET:HB3	82:v:168:PRO:HD3	1.97	0.47
82:v:554:ALA:HA	82:v:557:VAL:HG22	1.96	0.47
82:v:737:GLN:HG2	82:v:738:HIS:HD1	1.79	0.47
1:2:209:U:H5'	23:SV:171:SER:HB2	1.96	0.47
1:2:352:A:H4'	1:2:353:A:O5'	2.14	0.47
1:2:1202:A:N6	1:2:1457:C:O5'	2.48	0.47
5:SD:85:LYS:O	5:SD:87:PRO:HD3	2.15	0.47
16:SO:243:LEU:HA	16:SO:254:ALA:HA	1.97	0.47
16:SO:257:ALA:HA	16:SO:288:HIS:HB2	1.96	0.47
21:ST:52:ILE:HD11	21:ST:109:LEU:HD23	1.97	0.47
37:B:21:G:O2'	37:B:22:A:N7	2.48	0.47
41:A:57:A:H2'	41:A:58:G:H8	1.80	0.47
41:A:1186:G:N3	58:U:112:ALA:HB1	2.30	0.47
41:A:1595:U:O2'	41:A:1606:U:O2	2.31	0.47
41:A:1709:C:H2'	41:A:1710:C:C6	2.50	0.47
41:A:2193:U:H5'	41:A:2194:G:OP1	2.14	0.47
41:A:2527:G:H2'	41:A:2528:G:C8	2.50	0.47
48:J:144:GLU:OE1	54:P:6:TYR:OH	2.28	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:V:41:ASP:OD1	59:V:61:THR:OG1	2.26	0.47
62:Z:88:MET:HE2	62:Z:88:MET:HB2	1.85	0.47
68:f:79:ARG:HA	68:f:89:LEU:HD23	1.96	0.47
82:v:475:ILE:HG22	82:v:480:VAL:HG21	1.97	0.47
82:v:781:GLU:HA	82:v:848:HIS:ND1	2.30	0.47
1:2:323:A:OP2	23:SV:10:LYS:NZ	2.27	0.47
1:2:445:A:N6	1:2:462:G:N3	2.57	0.47
1:2:888:U:H1'	27:SZ:126:THR:HG21	1.96	0.47
1:2:1674:C:OP1	21:ST:92:ARG:NH1	2.41	0.47
24:SW:107:ARG:NH2	24:SW:148:VAL:O	2.48	0.47
37:B:52:G:O2'	37:B:53:U:OP1	2.31	0.47
41:A:286:U:O2'	54:P:179:LYS:O	2.33	0.47
41:A:499:G:H2'	41:A:500:C:C6	2.50	0.47
41:A:809:G:H2'	41:A:810:A:H8	1.80	0.47
41:A:1744:G:H2'	41:A:1745:C:C6	2.50	0.47
41:A:1803:C:H2'	41:A:1804:A:C8	2.50	0.47
41:A:2270:A:H2'	41:A:2271:A:C8	2.50	0.47
41:A:2597:U:H2'	41:A:2598:G:H8	1.80	0.47
41:A:2825:C:H42	41:A:2864:A:H61	1.61	0.47
41:A:3346:U:H3	41:A:3359:A:H61	1.62	0.47
43:E:6:TYR:HB2	61:X:46:LEU:HD11	1.96	0.47
57:S:170:ARG:HH11	65:c:57:GLY:H	1.61	0.47
81:x:138:LEU:HD21	81:x:347:LEU:CD1	2.29	0.47
81:x:328:ASP:C	81:x:330:LYS:H	2.23	0.47
82:v:655:LEU:HD11	82:v:730:CYS:HA	1.96	0.47
1:2:187:G:H3'	23:SV:138:ASN:HD22	1.80	0.47
1:2:609:U:H4'	1:2:610:G:O5'	2.15	0.47
1:2:895:G:N3	27:SZ:38:THR:OG1	2.41	0.47
3:SB:208:SER:HB2	3:SB:211:ILE:HB	1.97	0.47
11:SJ:24:ILE:HB	11:SJ:91:ILE:HB	1.97	0.47
16:SO:10:ARG:O	16:SO:52:GLN:HA	2.15	0.47
18:SQ:32:ILE:HB	18:SQ:43:VAL:HB	1.96	0.47
20:SS:127:LYS:N	20:SS:140:VAL:O	2.36	0.47
38:C:13:A:O2'	56:R:121:GLN:O	2.28	0.47
39:T:62:ARG:HH22	41:A:3067:C:H3'	1.80	0.47
41:A:2754:G:O6	79:q:86:LYS:NZ	2.45	0.47
63:a:116:LYS:O	63:a:120:GLN:HG2	2.14	0.47
81:x:8:ILE:HG12	81:x:85:TYR:CE1	2.50	0.47
81:x:259:ILE:O	81:x:311:ASN:ND2	2.48	0.47
82:v:142:TRP:HA	82:v:145:LYS:HG2	1.97	0.47
1:2:1273:G:H4'	1:2:1274:C:O5'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1534:G:OP2	12:SK:74:SER:OG	2.25	0.46
1:2:1775:U:P	78:p:11:ARG:HH12	2.38	0.46
2:SA:217:ILE:HG13	2:SA:218:LEU:N	2.30	0.46
3:SB:146:THR:HA	3:SB:159:ALA:HA	1.97	0.46
17:SP:139:VAL:HG23	17:SP:141:ILE:HD12	1.95	0.46
19:SR:41:LEU:HD23	19:SR:68:ILE:HD13	1.97	0.46
19:SR:159:THR:HG22	19:SR:168:ARG:HA	1.96	0.46
22:SU:140:VAL:HA	22:SU:150:GLN:HA	1.96	0.46
29:Sb:14:ILE:HG23	29:Sb:65:LEU:HD21	1.97	0.46
37:B:40:C:H4'	82:v:804:LYS:HZ2	1.80	0.46
41:A:1525:G:H5'	41:A:1830:G:OP2	2.15	0.46
41:A:1553:U:H4'	41:A:1554:U:H5'	1.96	0.46
41:A:2812:C:H2'	41:A:2813:A:H8	1.78	0.46
41:A:3014:U:H2'	41:A:3015:G:H8	1.80	0.46
42:D:29:LEU:HB2	42:D:123:ARG:HA	1.97	0.46
57:S:33:TYR:HE2	57:S:124:LEU:HB3	1.81	0.46
59:V:68:THR:HG22	59:V:69:LYS:N	2.25	0.46
68:f:75:ILE:HG12	68:f:93:VAL:HG13	1.96	0.46
82:v:125:ILE:O	82:v:129:LEU:HD23	2.15	0.46
1:2:55:A:OP1	31:Sd:112:LYS:NZ	2.43	0.46
2:SA:53:THR:HB	2:SA:94:ARG:HH11	1.80	0.46
16:SO:64:HIS:HD2	16:SO:90:ARG:HH21	1.62	0.46
19:SR:76:LEU:HD22	19:SR:104:VAL:HG13	1.97	0.46
20:SS:9:LEU:O	20:SS:28:ALA:N	2.37	0.46
20:SS:174:LYS:HB3	20:SS:174:LYS:HE3	1.73	0.46
35:s:63:C:H2'	35:s:64:G:C8	2.49	0.46
41:A:207:U:H2'	41:A:208:C:H6	1.81	0.46
41:A:899:U:H2'	41:A:900:G:H8	1.80	0.46
41:A:1948:G:H2'	41:A:1949:G:H8	1.79	0.46
41:A:2157:G:H4'	41:A:2158:A:H8	1.79	0.46
41:A:2163:C:N3	41:A:2172:A:N6	2.62	0.46
41:A:2270:A:H8	41:A:2270:A:OP1	1.98	0.46
41:A:3057:U:O2'	41:A:3058:U:H4'	2.15	0.46
41:A:3137:C:H5''	43:E:276:THR:HG21	1.97	0.46
43:E:292:ALA:HB1	43:E:295:ALA:HB3	1.98	0.46
43:E:306:THR:HG21	43:E:316:GLU:HA	1.98	0.46
50:L:91:VAL:HG21	50:L:135:ILE:HG23	1.97	0.46
77:o:110:CYS:SG	77:o:111:ARG:N	2.87	0.46
82:v:92:PRO:HG3	82:v:131:HIS:HB3	1.97	0.46
82:v:106:GLN:NE2	82:v:143:GLN:HB3	2.30	0.46
82:v:433:CYS:HB3	82:v:435:PHE:CE2	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:v:495:GLU:H	82:v:555:ARG:HH22	1.62	0.46
1:2:364:G:H21	1:2:756:A:H61	1.61	0.46
1:2:1318:G:H2'	1:2:1319:A:H8	1.79	0.46
1:2:1357:A:H4'	10:SI:126:GLU:OE1	2.16	0.46
1:2:1785:U:H2'	1:2:1786:G:H8	1.80	0.46
4:SC:15:LEU:HG	4:SC:68:LEU:HD13	1.97	0.46
5:SD:129:GLU:HG3	5:SD:129:GLU:O	2.14	0.46
8:SG:81:LYS:HD2	8:SG:81:LYS:C	2.41	0.46
19:SR:49:LYS:HA	19:SR:49:LYS:HD3	1.67	0.46
23:SV:37:LYS:C	23:SV:59:ARG:HA	2.39	0.46
29:Sb:77:PRO:HD3	30:Sc:7:ARG:HG2	1.97	0.46
30:Sc:121:ARG:HG3	30:Sc:122:PHE:CE2	2.50	0.46
31:Sd:23:PHE:HE1	31:Sd:75:VAL:HG22	1.80	0.46
37:B:81:U:H2'	37:B:82:G:H8	1.80	0.46
38:C:47:C:H1'	38:C:61:A:H2'	1.96	0.46
40:Y:16:GLY:O	41:A:3050:U:O2'	2.29	0.46
41:A:1224:C:C2	41:A:1225:A:C8	3.03	0.46
41:A:1363:A:OP1	47:I:160:ARG:NH1	2.47	0.46
41:A:1364:C:H2'	41:A:1365:G:C8	2.50	0.46
41:A:1619:A:H2'	41:A:1620:U:O4'	2.16	0.46
41:A:3338:C:H2'	41:A:3339:A:C8	2.51	0.46
42:D:113:VAL:HG12	42:D:166:ILE:HD13	1.98	0.46
52:N:90:ALA:HB1	52:N:95:ILE:HB	1.96	0.46
56:R:138:LYS:HB3	56:R:138:LYS:HE2	1.73	0.46
63:a:73:VAL:O	63:a:73:VAL:HG12	2.14	0.46
68:f:25:PHE:HB3	68:f:65:LYS:HG2	1.96	0.46
82:v:340:THR:O	82:v:344:VAL:HG23	2.15	0.46
82:v:392:ILE:HG13	82:v:393:PHE:HD1	1.81	0.46
82:v:574:ASP:CG	82:v:702:ASN:HB2	2.40	0.46
82:v:752:SER:O	82:v:756:GLN:HG3	2.15	0.46
1:2:313:U:H4'	1:2:314:C:O5'	2.15	0.46
1:2:430:G:O3'	81:x:260:GLY:HA2	2.15	0.46
2:SA:23:GLU:OE1	2:SA:27:ARG:NH2	2.48	0.46
4:SC:10:LYS:HA	4:SC:13:GLN:HB3	1.96	0.46
5:SD:86:VAL:HG23	5:SD:86:VAL:O	2.16	0.46
16:SO:252:LEU:O	16:SO:263:PHE:N	2.45	0.46
18:SQ:137:ILE:HG12	18:SQ:215:VAL:HG13	1.97	0.46
27:SZ:46:MET:HE2	27:SZ:46:MET:HB3	1.79	0.46
38:C:8:C:H2'	38:C:9:A:H8	1.79	0.46
41:A:1380:G:OP1	44:F:191:LYS:N	2.48	0.46
41:A:1604:G:H5''	41:A:1835:A:H4'	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:2351:U:H2'	41:A:2352:A:C8	2.49	0.46
41:A:2985:C:H2'	41:A:2986:U:H6	1.80	0.46
41:A:2986:U:C2	41:A:2987:A:C8	3.04	0.46
43:E:148:LEU:HD13	43:E:196:ARG:HE	1.79	0.46
44:F:26:PHE:CD1	44:F:130:ALA:HB2	2.51	0.46
48:J:75:ILE:HD11	54:P:18:VAL:HG23	1.97	0.46
63:a:31:LEU:HG	63:a:101:PRO:HG3	1.96	0.46
81:x:247:ARG:HA	81:x:325:VAL:HG13	1.97	0.46
1:2:67:A:N6	1:2:83:G:O2'	2.49	0.46
1:2:451:A:N6	1:2:453:U:O2	2.49	0.46
1:2:710:U:N3	1:2:729:G:OP2	2.47	0.46
1:2:815:G:H1'	39:T:162:ARG:NH1	2.31	0.46
1:2:907:A:N3	1:2:997:G:O2'	2.48	0.46
1:2:1727:G:H2'	1:2:1728:A:C8	2.51	0.46
6:SE:30:THR:HG22	6:SE:86:VAL:HG21	1.96	0.46
9:SH:14:ILE:HD11	9:SH:21:ASN:HD21	1.80	0.46
16:SO:38:ARG:HA	16:SO:67:ILE:HG23	1.97	0.46
21:ST:182:GLN:OE1	21:ST:186:ARG:NE	2.49	0.46
35:s:35:A:O2'	35:s:36:A:H8	1.98	0.46
38:C:94:C:H5''	74:l:76:ASN:ND2	2.30	0.46
39:T:86:GLU:OE2	39:T:91:SER:OG	2.34	0.46
41:A:147:U:H5'	48:J:136:LEU:HB2	1.96	0.46
41:A:675:C:O2'	41:A:679:U:OP1	2.31	0.46
41:A:787:G:H2'	41:A:788:C:C6	2.51	0.46
41:A:2376:G:H2'	41:A:2377:G:C8	2.51	0.46
43:E:67:PHE:CE2	61:X:88:ARG:HB2	2.50	0.46
45:G:34:LYS:HD3	45:G:34:LYS:C	2.40	0.46
81:x:346:ILE:C	81:x:434:ALA:HA	2.40	0.46
82:v:313:LEU:O	82:v:317:ARG:HG2	2.15	0.46
82:v:936:LYS:HD3	82:v:936:LYS:C	2.41	0.46
1:2:44:U:OP2	1:2:437:A:N6	2.29	0.46
1:2:87:C:O2'	1:2:169:A:N1	2.44	0.46
1:2:802:G:H21	29:Sb:107:SER:HB2	1.80	0.46
1:2:1041:G:H2'	1:2:1042:G:C8	2.50	0.46
1:2:1335:U:H5'	11:SJ:85:ARG:HH22	1.80	0.46
1:2:1684:U:H2'	1:2:1685:G:H8	1.80	0.46
13:SL:15:VAL:HG13	13:SL:28:VAL:HG12	1.98	0.46
15:SN:135:HIS:N	15:SN:138:ARG:O	2.35	0.46
16:SO:153:GLN:HE21	16:SO:201:THR:HA	1.80	0.46
30:Sc:42:PRO:O	30:Sc:79:ASN:ND2	2.49	0.46
41:A:787:G:H2'	41:A:788:C:H6	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:843:A:H2'	41:A:844:G:H8	1.80	0.46
41:A:1141:C:H2'	41:A:1142:G:O4'	2.15	0.46
41:A:1144:U:OP1	41:A:1367:G:O2'	2.25	0.46
41:A:2094:C:H2'	41:A:2095:G:C8	2.50	0.46
41:A:2196:C:H2'	41:A:2242:A:N6	2.30	0.46
41:A:2676:A:H5'	41:A:2677:G:N7	2.30	0.46
43:E:57:VAL:HG22	43:E:73:VAL:HG22	1.96	0.46
80:r:11:THR:O	80:r:11:THR:OG1	2.33	0.46
82:v:219:PRO:HA	82:v:222:VAL:HG23	1.97	0.46
82:v:287:GLY:HA3	82:v:288:LYS:NZ	2.30	0.46
82:v:403:LEU:HA	82:v:403:LEU:HD23	1.63	0.46
1:2:100:A:H61	1:2:385:A:H1'	1.79	0.46
19:SR:52:THR:HB	19:SR:54:GLU:HG2	1.98	0.46
28:Sa:79:LEU:HD13	28:Sa:82:VAL:HG11	1.97	0.46
41:A:34:A:H3'	41:A:48:A:H61	1.81	0.46
41:A:261:U:H2'	41:A:262:U:C6	2.51	0.46
41:A:684:G:H2'	41:A:685:G:H8	1.80	0.46
41:A:900:G:H1'	41:A:1589:A:H62	1.81	0.46
41:A:1246:G:H2'	41:A:1247:U:C6	2.51	0.46
41:A:1556:C:O2'	48:J:54:GLU:OE2	2.29	0.46
41:A:2154:U:H2'	41:A:2155:G:C8	2.51	0.46
41:A:3121:U:H1'	41:A:3122:A:H5''	1.98	0.46
48:J:88:ALA:O	48:J:92:LYS:HG2	2.16	0.46
51:M:12:LEU:HD11	51:M:154:THR:HG23	1.97	0.46
53:O:93:LYS:HE3	53:O:93:LYS:HB2	1.74	0.46
72:j:100:VAL:HG22	72:j:104:GLN:HB3	1.98	0.46
81:x:103:ILE:HD13	81:x:362:ASP:OD2	2.15	0.46
82:v:121:ASN:CG	82:v:123:VAL:H	2.24	0.46
82:v:133:THR:HA	82:v:136:ILE:HG22	1.97	0.46
82:v:355:PRO:O	82:v:358:LYS:HG2	2.15	0.46
82:v:382:TRP:HB3	82:v:386:ILE:HD13	1.98	0.46
82:v:793:PRO:HG2	82:v:818:GLY:HA3	1.97	0.46
1:2:864:U:O4	29:Sb:60:LYS:NZ	2.36	0.46
1:2:1641:C:H2'	1:2:1642:G:C8	2.50	0.46
4:SC:77:ARG:HG3	4:SC:82:LEU:HB2	1.97	0.46
12:SK:76:ALA:O	12:SK:80:LEU:N	2.29	0.46
19:SR:56:ILE:HG23	19:SR:61:LEU:HB2	1.97	0.46
27:SZ:81:VAL:HG11	27:SZ:102:LEU:HD12	1.98	0.46
28:Sa:9:VAL:O	28:Sa:10:GLU:HB3	2.16	0.46
30:Sc:90:ASP:O	30:Sc:136:TRP:NE1	2.49	0.46
41:A:738:A:OP1	41:A:1093:A:N6	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:1342:C:H2'	41:A:1343:A:H8	1.79	0.46
41:A:1597:C:H2'	41:A:1598:G:C8	2.51	0.46
41:A:1869:C:H2'	41:A:1870:C:C6	2.51	0.46
41:A:1949:G:H2'	41:A:1950:U:O4'	2.16	0.46
41:A:2184:U:H2'	41:A:2185:G:C8	2.49	0.46
43:E:10:ARG:NH1	43:E:263:SER:HB2	2.28	0.46
44:F:26:PHE:HA	44:F:127:ALA:HA	1.97	0.46
55:Q:62[A]:THR:HG22	55:Q:65[A]:ASN:H	1.80	0.46
69:g:98:HIS:H	69:g:98:HIS:HD1	1.63	0.46
70:h:16:TYR:HA	70:h:28:SER:HA	1.96	0.46
81:x:302:ALA:HB1	81:x:308:VAL:HG11	1.98	0.46
81:x:327:GLY:O	81:x:328:ASP:C	2.56	0.46
82:v:577:ASN:HD22	82:v:702:ASN:HD22	1.64	0.46
82:v:648:LYS:HB2	82:v:880:MET:HG3	1.96	0.46
1:2:1274:C:H1'	1:2:1275:A:OP2	2.16	0.46
1:2:1523:G:OP2	1:2:1523:G:N2	2.25	0.46
3:SB:69:PHE:HB3	7:SF:46:PHE:HB3	1.98	0.46
4:SC:52:LYS:HB3	4:SC:54:TYR:CD1	2.51	0.46
7:SF:92:TYR:CE2	7:SF:96:TYR:HE2	2.34	0.46
15:SN:85:TYR:C	15:SN:87:THR:HG22	2.41	0.46
16:SO:68:VAL:HG22	16:SO:84:SER:HB2	1.98	0.46
41:A:201:A:OP1	41:A:220:G:O2'	2.30	0.46
41:A:213:A:N6	41:A:228:U:O4'	2.48	0.46
41:A:307:A:H2'	41:A:308:A:H8	1.81	0.46
41:A:1355:A:H4'	41:A:1356:U:H5''	1.97	0.46
41:A:1711:C:H2'	41:A:1712:G:O4'	2.15	0.46
41:A:2180:G:H2'	41:A:2181:C:C6	2.51	0.46
41:A:2366:C:H2'	41:A:2367:A:H8	1.81	0.46
41:A:2837:A:H2'	41:A:2845:A:H2	1.78	0.46
41:A:3251:U:H2'	41:A:3252:G:C8	2.50	0.46
44:F:47:ARG:HH21	44:F:109:TRP:HA	1.80	0.46
47:I:116:PHE:O	47:I:199:ASN:ND2	2.46	0.46
49:K:9:GLN:OE1	49:K:52:LEU:HD11	2.16	0.46
82:v:94:ILE:HG13	82:v:113:LEU:HD21	1.97	0.46
82:v:229:LEU:O	82:v:232:THR:HG22	2.15	0.46
82:v:711:ASN:O	82:v:716:GLU:HB2	2.15	0.46
1:2:61:A:O2'	1:2:62:A:O4'	2.34	0.46
1:2:88:U:H4'	1:2:171:A:H4'	1.97	0.46
1:2:851:U:O2	1:2:852:C:N4	2.29	0.46
1:2:1122:G:N2	1:2:1125:A:OP2	2.43	0.46
19:SR:111:VAL:HG11	19:SR:218:ILE:HD12	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:788:C:H2'	41:A:789:A:C8	2.50	0.46
41:A:939:U:H2'	41:A:940:G:H8	1.81	0.46
41:A:1009:A:H2'	41:A:1010:G:C8	2.51	0.46
42:D:179:LEU:O	42:D:181:LYS:N	2.49	0.46
43:E:153:LYS:HD3	43:E:154:TYR:CZ	2.51	0.46
59:V:112:ASN:OD1	59:V:128:LEU:HD22	2.16	0.46
60:W:27:VAL:O	60:W:27:VAL:HG13	2.15	0.46
65:c:34:MET:HE3	65:c:34:MET:HB2	1.88	0.46
75:m:7:ASP:HB3	75:m:10:GLN:HB2	1.98	0.46
82:v:775:ILE:HD12	82:v:777:GLU:CD	2.41	0.46
82:v:799:ILE:HG12	82:v:813:CYS:SG	2.56	0.46
1:2:783:G:H8	31:Sd:12:VAL:HG22	1.81	0.45
1:2:956:C:OP1	1:2:1072:C:O2'	2.33	0.45
1:2:1173:C:OP1	9:SH:132:ARG:NH2	2.49	0.45
1:2:1561:U:H2'	1:2:1562:G:H8	1.80	0.45
1:2:1584:G:C6	7:SF:14:LYS:HE2	2.51	0.45
3:SB:118:LEU:CD2	3:SB:129:PRO:HB2	2.46	0.45
10:SI:37:VAL:HG11	10:SI:100:ILE:HD11	1.97	0.45
10:SI:61:VAL:O	10:SI:65:ILE:HG12	2.16	0.45
23:SV:76:THR:HG23	23:SV:105:ASP:HB3	1.98	0.45
25:SX:132:SER:OG	25:SX:133:LYS:N	2.48	0.45
26:SY:60:VAL:HG13	26:SY:66:ILE:HG13	1.97	0.45
41:A:665:A:H2'	41:A:666:A:C8	2.51	0.45
41:A:1084:A:H2'	41:A:1085:A:H8	1.79	0.45
41:A:1388:U:O2'	69:g:99:ASN:O	2.33	0.45
41:A:2369:G:H2'	41:A:2370:G:C8	2.51	0.45
41:A:2431:C:N4	41:A:2432:A:H62	2.14	0.45
41:A:3346:U:H2'	41:A:3347:A:C8	2.50	0.45
46:H:13:GLU:HA	69:g:4:LEU:HD11	1.98	0.45
54:P:9:GLU:OE2	73:k:41:ARG:NH1	2.50	0.45
82:v:670:ASN:O	82:v:722:GLY:HA3	2.16	0.45
1:2:1042:G:H2'	1:2:1043:A:H8	1.81	0.45
3:SB:80:LYS:HB2	3:SB:83:ARG:HH22	1.82	0.45
5:SD:133:LEU:HA	5:SD:136:ILE:HG12	1.97	0.45
10:SI:18:TYR:HD2	10:SI:59:ALA:HA	1.82	0.45
10:SI:131:ASP:O	10:SI:135:ILE:HG12	2.16	0.45
16:SO:178:VAL:HG22	16:SO:199:ILE:HD13	1.97	0.45
21:ST:142:ARG:NH1	21:ST:148:SER:O	2.39	0.45
24:SW:159:ALA:HB3	24:SW:162:SER:OG	2.16	0.45
25:SX:94:ILE:N	25:SX:94:ILE:HD12	2.31	0.45
41:A:199:A:C4	41:A:201:A:C8	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:721:G:N2	41:A:750:G:H1'	2.30	0.45
41:A:1748:G:OP1	75:m:44:LYS:HE3	2.16	0.45
41:A:3016:A:H2'	41:A:3017:A:C8	2.50	0.45
41:A:3303:G:O2'	41:A:3305:A:N6	2.49	0.45
43:E:161:LEU:HG	43:E:180:GLU:HG2	1.98	0.45
43:E:284:ARG:HH21	43:E:296:THR:HG22	1.80	0.45
47:I:184:LEU:O	47:I:188:ILE:HG12	2.16	0.45
48:J:133:LYS:HB3	48:J:138:HIS:CD2	2.51	0.45
53:O:72:LEU:HD21	53:O:81:VAL:HG22	1.97	0.45
62:Z:58:ASP:O	62:Z:62:VAL:HG13	2.16	0.45
68:f:86:LYS:HG2	68:f:87:ASN:ND2	2.31	0.45
82:v:97:ASN:OD1	82:v:97:ASN:N	2.47	0.45
1:2:142:G:N7	21:ST:177:ARG:NH2	2.64	0.45
1:2:361:C:H2'	1:2:362:G:C8	2.52	0.45
1:2:434:G:N2	1:2:437:A:OP2	2.49	0.45
4:SC:30:ALA:HB1	4:SC:38:LYS:HG2	1.98	0.45
9:SH:49:LYS:HE3	82:v:301:ALA:HB2	1.97	0.45
16:SO:70:ASP:OD1	16:SO:70:ASP:C	2.59	0.45
22:SU:111:LYS:HE2	22:SU:111:LYS:HB3	1.81	0.45
41:A:500:C:H4'	46:H:80:ASN:HD21	1.80	0.45
41:A:987:U:H2'	41:A:988:U:C6	2.51	0.45
41:A:2897:A:H2'	41:A:2899:C:H5'	1.97	0.45
55:Q:23[A]:VAL:HG13	55:Q:33[A]:ILE:HG21	1.98	0.45
68:f:85:ALA:O	68:f:87:ASN:N	2.48	0.45
1:2:513:U:H3	1:2:538:A:H62	1.64	0.45
18:SQ:116:LYS:HG3	18:SQ:117:TRP:CD1	2.52	0.45
21:ST:10:ASN:HB3	21:ST:128:THR:HG23	1.97	0.45
22:SU:9:LEU:HD12	22:SU:10:SER:H	1.81	0.45
30:Sc:30:LYS:O	30:Sc:34:LEU:HB2	2.17	0.45
35:s:22:A:H2'	35:s:23:U:C6	2.52	0.45
37:B:40:C:O2	51:M:72:ARG:NH1	2.38	0.45
37:B:91:G:N2	50:L:56:GLU:OE1	2.48	0.45
38:C:100:U:HO2'	62:Z:89:LYS:HZ1	1.54	0.45
41:A:117:U:O2'	41:A:119:U:OP2	2.32	0.45
41:A:1907:C:O2	43:E:240:ARG:NH2	2.47	0.45
41:A:2744:U:H2'	41:A:2745:G:C8	2.51	0.45
43:E:43:LEU:O	43:E:340:LYS:NZ	2.45	0.45
43:E:140:ASP:OD1	43:E:140:ASP:N	2.49	0.45
49:K:57:VAL:HG23	49:K:68:LEU:HD13	1.97	0.45
72:j:5:LYS:O	72:j:9:LEU:HG	2.16	0.45
75:m:25:VAL:HG22	75:m:43:PHE:CD1	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:v:833:SER:C	82:v:835:ASP:N	2.72	0.45
1:2:95:G:O2'	1:2:460:A:O2'	2.29	0.45
1:2:486:G:N2	1:2:501:U:O2'	2.50	0.45
1:2:912:U:H5'	1:2:913:G:H2'	1.98	0.45
1:2:1382:A:H1'	11:SJ:57:ARG:HB3	1.98	0.45
7:SF:63:ILE:HG22	7:SF:92:TYR:CZ	2.51	0.45
20:SS:139:VAL:HG13	20:SS:150:PRO:HG3	1.99	0.45
20:SS:206:ASP:HB3	20:SS:222:LEU:HB2	1.99	0.45
22:SU:125:ILE:O	22:SU:129:LEU:HB2	2.16	0.45
29:Sb:81:VAL:HG23	29:Sb:85:ASP:HB2	1.98	0.45
32:Se:41:ILE:HG22	32:Se:41:ILE:O	2.16	0.45
38:C:8:C:H2'	38:C:9:A:C8	2.51	0.45
41:A:72:C:H4'	52:N:63:VAL:HB	1.98	0.45
41:A:907:G:C5	41:A:926:A:C8	3.04	0.45
41:A:1138:U:H2'	41:A:1139:G:C8	2.52	0.45
41:A:1498:A:H2'	41:A:1499:C:C6	2.51	0.45
41:A:3110:C:H2'	41:A:3111:U:H6	1.80	0.45
47:I:147:LEU:HD11	47:I:240:VAL:HG11	1.98	0.45
48:J:60:ARG:O	48:J:63:LYS:HG2	2.16	0.45
50:L:103:LEU:HB2	50:L:112:GLN:NE2	2.31	0.45
82:v:380:GLN:HA	82:v:383:PHE:CD2	2.43	0.45
1:2:209:U:O3'	23:SV:170:SER:OG	2.30	0.45
1:2:647:G:N2	1:2:687:G:H22	2.13	0.45
7:SF:132:LYS:HB2	7:SF:132:LYS:HE3	1.65	0.45
16:SO:47:LEU:HA	16:SO:54:PHE:O	2.16	0.45
18:SQ:82:ARG:HD2	18:SQ:103:MET:HE3	1.98	0.45
35:s:27:G:C2'	35:s:28:U:H5'	2.47	0.45
41:A:341:G:C2	41:A:349:A:N6	2.84	0.45
41:A:632:G:H21	70:h:23:ASN:HD21	1.64	0.45
41:A:726:G:N2	41:A:743:C:OP2	2.40	0.45
41:A:985:U:H2'	41:A:986:U:C6	2.50	0.45
41:A:1709:C:H2'	41:A:1710:C:H6	1.81	0.45
41:A:2265:C:H2'	41:A:2266:U:H6	1.81	0.45
41:A:2367:A:H2'	41:A:2368:A:C8	2.52	0.45
41:A:3044:G:H2'	41:A:3045:G:C8	2.48	0.45
41:A:3236:U:H3	41:A:3251:U:H3	1.65	0.45
46:H:34:LEU:HD23	46:H:34:LEU:HA	1.85	0.45
46:H:62:THR:OG1	46:H:78:ARG:HD3	2.16	0.45
57:S:76:ALA:HA	57:S:79:LYS:HD2	1.99	0.45
81:x:312:VAL:HG21	81:x:320:VAL:CG2	2.35	0.45
81:x:355:ALA:C	81:x:357:TYR:H	2.25	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:v:178:MET:HG3	82:v:179:TRP:CD1	2.51	0.45
82:v:286:LEU:HD13	82:v:316:LEU:HD21	1.99	0.45
82:v:506:SER:OG	82:v:538:MET:O	2.31	0.45
1:2:1609:U:H5''	7:SF:75:VAL:HG22	1.98	0.45
1:2:1789:G:H2'	1:2:1790:A:H8	1.82	0.45
3:SB:96:SER:HB2	3:SB:176:THR:HG21	1.99	0.45
8:SG:45:ARG:O	8:SG:49:LYS:HG3	2.17	0.45
25:SX:94:ILE:HG22	25:SX:96:LYS:H	1.81	0.45
29:Sb:14:ILE:HG12	29:Sb:25:VAL:HG11	1.98	0.45
31:Sd:41:ARG:NH2	31:Sd:52:LYS:O	2.50	0.45
35:s:18:G:H4'	35:s:61:A:C6	2.52	0.45
35:s:30:C:H2'	35:s:31:G:C8	2.51	0.45
35:s:67:C:H2'	35:s:68:G:C8	2.52	0.45
41:A:1074:U:H1'	66:d:46:ALA:HB2	1.99	0.45
41:A:1508:C:H2'	41:A:1509:A:C8	2.52	0.45
41:A:2676:A:H5'	41:A:2677:G:C8	2.52	0.45
41:A:2727:A:OP2	41:A:2728:G:N2	2.49	0.45
41:A:3060:C:H2'	41:A:3061:G:H8	1.81	0.45
41:A:3160:U:H5''	41:A:3396:U:H3'	1.98	0.45
41:A:3181:C:HO2'	55:Q:164[A]:SER:HG	1.55	0.45
45:G:156:GLY:HA2	45:G:181:PRO:HD3	1.98	0.45
48:J:91:PHE:CE2	48:J:185:ARG:HB3	2.51	0.45
50:L:31:ILE:HG22	50:L:62:SER:HB2	1.98	0.45
53:O:17:VAL:HG11	53:O:74:ARG:HA	1.97	0.45
72:j:66:VAL:HG12	72:j:80:LEU:HD11	1.99	0.45
82:v:300:ILE:O	82:v:300:ILE:HG13	2.16	0.45
82:v:318:ARG:HG3	82:v:319:VAL:N	2.30	0.45
82:v:535:MET:SD	82:v:543:LEU:HG	2.57	0.45
1:2:1158:C:H42	1:2:1163:A:H61	1.65	0.45
1:2:1680:G:O2'	1:2:1681:A:O4'	2.32	0.45
2:SA:217:ILE:O	2:SA:219:ALA:N	2.50	0.45
3:SB:140:THR:HA	3:SB:214:LYS:HD3	1.99	0.45
6:SE:53:PRO:HB3	6:SE:83:MET:HE1	1.99	0.45
10:SI:138:GLN:O	10:SI:141:GLU:HG3	2.16	0.45
37:B:4:U:H2'	37:B:5:G:H8	1.82	0.45
38:C:83:C:N4	63:a:52:ARG:HH22	2.15	0.45
41:A:651:G:H2'	41:A:652:G:C8	2.52	0.45
41:A:750:G:C2	41:A:751:A:C8	3.05	0.45
41:A:987:U:H2'	41:A:988:U:H6	1.81	0.45
41:A:1905:G:O6	43:E:241:LYS:NZ	2.50	0.45
41:A:2457:G:H2'	41:A:2458:A:H2'	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:3193:C:H2'	41:A:3194:C:H6	1.82	0.45
42:D:30:ARG:HH21	42:D:36:GLU:HB2	1.82	0.45
53:O:23:ILE:HG21	53:O:28:SER:HB2	1.98	0.45
82:v:213:ILE:H	82:v:213:ILE:HG13	1.52	0.45
82:v:870:THR:OG1	82:v:873:GLU:N	2.45	0.45
1:2:1584:G:H1'	1:2:1585:U:H5	1.82	0.45
3:SB:74:ALA:HB1	7:SF:122:ARG:HH22	1.81	0.45
22:SU:163:ASP:OD1	22:SU:163:ASP:N	2.48	0.45
28:Sa:86:SER:O	28:Sa:86:SER:OG	2.33	0.45
31:Sd:11:LYS:HB2	31:Sd:24:VAL:HG12	1.98	0.45
41:A:127:G:H2'	41:A:128:G:C8	2.52	0.45
41:A:354:U:H2'	41:A:355:A:C8	2.52	0.45
41:A:428:A:H2'	41:A:429:U:C6	2.52	0.45
41:A:714:G:O2'	41:A:753:C:O2'	2.28	0.45
41:A:2367:A:H2'	41:A:2368:A:H8	1.82	0.45
41:A:2615:G:H2'	41:A:2616:C:C6	2.52	0.45
41:A:2713:U:H5''	79:q:9:LYS:O	2.17	0.45
45:G:40:HIS:HB3	45:G:43:LYS:HG3	1.99	0.45
48:J:93:LEU:HA	48:J:96:LYS:HE3	1.98	0.45
48:J:186:LEU:HD23	48:J:189:LEU:HD12	1.98	0.45
64:b:67:LYS:HD3	64:b:67:LYS:HA	1.79	0.45
81:x:357:TYR:OH	81:x:359:PRO:HB3	2.17	0.45
82:v:867:ARG:HH12	82:v:876:GLU:HB3	1.82	0.45
1:2:687:G:P	29:Sb:118:ARG:HH12	2.39	0.45
1:2:1331:A:OP1	8:SG:45:ARG:NH2	2.40	0.45
5:SD:30:VAL:O	5:SD:34:THR:OG1	2.33	0.45
6:SE:57:MET:HA	6:SE:57:MET:HE2	1.98	0.45
41:A:171:G:N1	41:A:248:U:O2	2.50	0.45
41:A:500:C:H2'	41:A:501:A:C8	2.51	0.45
41:A:1128:U:O4'	50:L:4:ARG:NH2	2.50	0.45
41:A:1177:G:N2	41:A:1177:G:OP1	2.44	0.45
41:A:1206:G:OP1	50:L:157:TYR:OH	2.26	0.45
41:A:2105:G:H2'	41:A:2106:A:C8	2.52	0.45
43:E:287:LYS:HE3	43:E:287:LYS:HB3	1.81	0.45
49:K:120:ASP:OD2	49:K:124:ARG:NH1	2.48	0.45
58:U:42:TRP:O	58:U:46:GLN:HG2	2.17	0.45
82:v:624:PHE:O	82:v:627:PHE:HB3	2.17	0.45
1:2:686:C:H2'	1:2:687:G:C8	2.52	0.44
1:2:959:U:H5''	26:SY:14:SER:HB2	2.00	0.44
2:SA:223:LYS:HE2	16:SO:142:ALA:HA	1.99	0.44
8:SG:18:GLU:HG2	8:SG:70:SER:O	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:SU:130:VAL:HB	22:SU:133:THR:HG22	1.99	0.44
23:SV:168:CYS:HB2	23:SV:184:LEU:HD21	1.98	0.44
41:A:837:A:OP1	80:r:5:THR:OG1	2.27	0.44
41:A:1157:G:H2'	41:A:1158:A:O4'	2.17	0.44
41:A:1361:U:O2	47:I:159:GLN:NE2	2.49	0.44
41:A:1705:U:O2	41:A:1786:G:O2'	2.34	0.44
41:A:1882:G:H2'	41:A:1883:A:C8	2.53	0.44
41:A:2177:G:H2'	42:D:128:ARG:HB2	1.98	0.44
41:A:2237:C:H2'	41:A:2238:G:H8	1.83	0.44
41:A:3234:A:N1	41:A:3253:G:N2	2.55	0.44
44:F:14:GLU:OE1	44:F:14:GLU:N	2.46	0.44
45:G:124:GLU:OE2	45:G:124:GLU:N	2.48	0.44
46:H:170:LYS:HB3	46:H:172:HIS:CE1	2.52	0.44
56:R:175:ARG:CZ	56:R:179:GLN:HE21	2.30	0.44
81:x:261:THR:O	81:x:311:ASN:C	2.59	0.44
1:2:606:A:H4'	1:2:607:G:H3'	1.98	0.44
1:2:1204:A:H61	14:SM:15:GLY:HA3	1.82	0.44
1:2:1415:U:H2'	1:2:1416:G:H8	1.83	0.44
10:SI:131:ASP:HB2	82:v:181:THR:CG2	2.32	0.44
14:SM:7:TRP:CD1	14:SM:8:PHE:HD2	2.35	0.44
18:SQ:65:VAL:HA	18:SQ:87:ARG:HA	1.99	0.44
22:SU:63:PRO:O	22:SU:64:VAL:HB	2.17	0.44
23:SV:39:GLY:O	23:SV:59:ARG:HB3	2.16	0.44
36:t:9:G:H2'	36:t:11:C:H41	1.82	0.44
41:A:41:G:N2	41:A:2803:A:H62	2.15	0.44
41:A:1219:C:H4'	41:A:1223:A:H5'	2.00	0.44
41:A:1264:G:H1'	41:A:1265:U:C5	2.52	0.44
41:A:1475:A:H4'	68:f:57:GLN:HG3	1.99	0.44
41:A:3072:C:H2'	41:A:3073:A:O4'	2.18	0.44
44:F:23:PRO:HG2	44:F:25:VAL:HG12	1.97	0.44
44:F:219:LEU:HD22	44:F:225:VAL:HG11	1.98	0.44
45:G:206:GLN:O	45:G:210:GLU:HG2	2.17	0.44
53:O:65:LEU:HD12	58:U:172:TYR:OH	2.17	0.44
54:P:113:LEU:HB2	54:P:134:LEU:HD22	2.00	0.44
57:S:23:ASN:HB3	57:S:26:LEU:HB3	1.98	0.44
72:j:14:LYS:HZ1	72:j:61:GLN:HG2	1.82	0.44
80:r:14:TYR:HB3	80:r:18:TYR:HD2	1.83	0.44
82:v:227:HIS:CE1	82:v:892:ARG:HD2	2.53	0.44
82:v:549:MET:HE1	82:v:571:ASN:HB3	1.96	0.44
82:v:969:ARG:HA	82:v:969:ARG:HD2	1.75	0.44
1:2:614:C:OP2	30:Sc:5:LYS:NZ	2.45	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:SB:45:LYS:HE3	3:SB:45:LYS:HB3	1.74	0.44
7:SF:55:VAL:HG11	7:SF:105:LEU:HD12	1.99	0.44
22:SU:51:VAL:HG23	22:SU:53:GLY:H	1.82	0.44
35:s:61:A:H5''	35:s:62:C:H5	1.81	0.44
39:T:64:ARG:NE	41:A:1672:U:OP1	2.50	0.44
41:A:105:C:H2'	41:A:106:A:H8	1.82	0.44
41:A:1163:A:H2'	41:A:1164:G:H8	1.83	0.44
41:A:2759:U:H5''	41:A:2760:C:H5'	1.99	0.44
45:G:263:GLU:HG3	45:G:264:GLN:OE1	2.17	0.44
50:L:19:LYS:HB3	50:L:19:LYS:HE3	1.79	0.44
71:i:56:THR:O	71:i:56:THR:OG1	2.34	0.44
82:v:39:ASN:O	82:v:42:GLU:HG2	2.17	0.44
82:v:458:TYR:CE1	82:v:608:TYR:HB2	2.52	0.44
82:v:506:SER:HB3	82:v:540:ILE:CG1	2.47	0.44
82:v:680:LYS:HD2	82:v:681:PRO:HD2	2.00	0.44
1:2:311:U:OP1	30:Sc:24:TRP:NE1	2.40	0.44
1:2:603:U:H2'	1:2:604:A:C8	2.52	0.44
1:2:1406:A:H2'	1:2:1407:U:C6	2.53	0.44
3:SB:114:ILE:O	3:SB:118:LEU:HB2	2.17	0.44
12:SK:52:LYS:HB2	12:SK:52:LYS:HE3	1.74	0.44
17:SP:10:THR:OG1	17:SP:13:ASP:OD2	2.35	0.44
22:SU:84:LYS:HE2	22:SU:84:LYS:HB2	1.89	0.44
36:t:58:A:O2'	36:t:60:A:OP2	2.35	0.44
39:T:7:GLN:NE2	39:T:35:ALA:O	2.50	0.44
41:A:16:A:H2'	41:A:17:G:C8	2.53	0.44
41:A:155:G:H21	73:k:26:ILE:HD11	1.82	0.44
41:A:342:A:H5'	41:A:344:A:C8	2.53	0.44
41:A:1015:U:O4	41:A:1036:A:N6	2.50	0.44
41:A:1263:A:N3	41:A:1263:A:H2'	2.33	0.44
41:A:1433:A:H5'	69:g:27:ARG:HB2	1.99	0.44
41:A:2503:G:H2'	41:A:2503:G:N3	2.32	0.44
41:A:2578:U:H2'	41:A:2579:G:O4'	2.17	0.44
41:A:3356:G:H2'	41:A:3357:U:O4'	2.17	0.44
44:F:61:SER:OG	44:F:61:SER:O	2.35	0.44
50:L:215:GLU:N	50:L:215:GLU:OE2	2.49	0.44
54:P:46:ASP:O	54:P:50:ARG:HG3	2.17	0.44
61:X:15:LEU:HD23	61:X:53:SER:HB3	2.00	0.44
76:n:14:ALA:O	76:n:18:LYS:HG2	2.16	0.44
81:x:302:ALA:CB	81:x:308:VAL:HG11	2.48	0.44
82:v:25:ARG:HH12	82:v:68:GLN:HE21	1.65	0.44
82:v:207:ARG:C	82:v:210:PRO:HD2	2.43	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1785:U:OP1	27:SZ:136:ARG:NH2	2.49	0.44
7:SF:39:VAL:HG23	7:SF:45:ARG:HE	1.82	0.44
7:SF:65:ILE:HG21	7:SF:85:ILE:HG22	1.99	0.44
23:SV:56:ARG:HD3	23:SV:56:ARG:HA	1.73	0.44
23:SV:61:GLU:HG3	23:SV:62:THR:HG22	2.00	0.44
29:Sb:23:ARG:HD3	33:Sf:4:VAL:HG22	2.00	0.44
29:Sb:31:SER:OG	29:Sb:32:LYS:N	2.50	0.44
35:s:21:U:OP1	35:s:49:C:N4	2.51	0.44
35:s:27:G:N2	35:s:45:A:N1	2.64	0.44
37:B:13:A:OP2	37:B:67:G:N2	2.49	0.44
37:B:76:A:N3	58:U:50:LYS:NZ	2.64	0.44
40:Y:12:LYS:HD3	40:Y:12:LYS:HA	1.78	0.44
41:A:879:U:H4'	56:R:132:ALA:HB3	1.98	0.44
41:A:928:C:H2'	41:A:929:A:H8	1.81	0.44
41:A:988:U:H2'	41:A:989:A:H8	1.83	0.44
41:A:1499:C:H2'	41:A:1500:G:C8	2.52	0.44
41:A:1666:G:H2'	41:A:1667:A:H8	1.81	0.44
41:A:2900:A:HO2'	41:A:3025:C:HO2'	1.65	0.44
57:S:126:GLN:O	57:S:130:ARG:HG3	2.18	0.44
82:v:457:ARG:NH1	82:v:586:ASN:HA	2.32	0.44
82:v:802:ARG:HG3	82:v:810:GLU:O	2.18	0.44
1:2:332:U:OP1	23:SV:31:ARG:NH1	2.39	0.44
1:2:1797:A:OP1	32:Se:10:ARG:NE	2.51	0.44
3:SB:144:GLU:HG2	3:SB:221:ALA:HB1	2.00	0.44
9:SH:68:ARG:O	9:SH:72:ILE:HG13	2.18	0.44
15:SN:130:VAL:HG11	15:SN:143:LYS:HA	2.00	0.44
35:s:26:C:H2'	35:s:27:G:O4'	2.18	0.44
35:s:57:C:H3'	35:s:58:G:H8	1.82	0.44
41:A:733:G:N2	41:A:736:A:OP2	2.48	0.44
41:A:1104:G:H8	41:A:1104:G:OP2	2.01	0.44
41:A:1342:C:H2'	41:A:1343:A:C8	2.53	0.44
41:A:2226:U:H2'	41:A:2227:C:H6	1.83	0.44
41:A:2471:U:O4	41:A:2475:G:O6	2.35	0.44
41:A:3095:U:H2'	41:A:3096:C:C6	2.53	0.44
42:D:5:ILE:HG13	42:D:8:GLN:HG3	2.00	0.44
42:D:225:ILE:HG21	42:D:234:LYS:HA	1.98	0.44
43:E:35:ASP:HA	43:E:184:ASN:HB3	1.98	0.44
50:L:103:LEU:HB2	50:L:112:GLN:HE22	1.83	0.44
51:M:32:ARG:HB3	51:M:120:ILE:HA	2.00	0.44
81:x:313:LYS:HZ3	81:x:313:LYS:HB2	1.83	0.44
82:v:669:THR:O	82:v:687:ASN:HB3	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:10:G:H21	19:SR:88:LYS:HA	1.82	0.44
1:2:94:U:O2'	20:SS:8:HIS:ND1	2.50	0.44
1:2:145:A:H61	1:2:169:A:H62	1.64	0.44
1:2:251:A:H2	20:SS:131:LEU:HD12	1.83	0.44
1:2:333:A:H5'	23:SV:48:THR:HB	1.98	0.44
1:2:1398:U:H3'	1:2:1399:C:H4'	1.99	0.44
9:SH:45:LEU:O	9:SH:49:LYS:HG2	2.18	0.44
10:SI:138:GLN:O	10:SI:142:GLU:HG3	2.17	0.44
15:SN:105:TYR:O	15:SN:118:ARG:NH1	2.49	0.44
16:SO:112:SER:HB3	16:SO:154:VAL:H	1.83	0.44
19:SR:54:GLU:OE2	28:Sa:11:LEU:HD13	2.18	0.44
22:SU:114:ARG:O	22:SU:117:THR:OG1	2.34	0.44
39:T:105:LEU:HD23	39:T:138:LEU:HD23	2.00	0.44
41:A:129:U:H3	41:A:139:G:H1	1.66	0.44
41:A:1288:U:H2'	41:A:1289:G:H8	1.83	0.44
41:A:1480:G:O4'	41:A:1483:G:N2	2.46	0.44
41:A:1576:G:H2'	41:A:1577:G:C8	2.53	0.44
41:A:1616:U:H2'	41:A:1617:G:H8	1.82	0.44
41:A:1804:A:H2'	41:A:1805:C:H6	1.82	0.44
42:D:177:LYS:HB2	80:r:29:LEU:HD12	1.98	0.44
46:H:42:LEU:HD23	46:H:84:VAL:HG12	1.99	0.44
58:U:38:LYS:HG2	58:U:58:ILE:HD13	1.99	0.44
62:Z:58:ASP:OD1	62:Z:58:ASP:N	2.43	0.44
66:d:32:LEU:HD23	66:d:32:LEU:HA	1.82	0.44
69:g:4:LEU:HD12	69:g:91:THR:HG22	2.00	0.44
71:i:74:ARG:HD2	71:i:75:ALA:H	1.83	0.44
81:x:280:PHE:CE1	81:x:320:VAL:HG13	2.51	0.44
81:x:289:VAL:HG22	81:x:310:PHE:HD2	1.82	0.44
82:v:28:ILE:HG23	82:v:69:ALA:HA	1.99	0.44
82:v:82:SER:O	82:v:85:PRO:HD2	2.17	0.44
82:v:162:GLN:OE1	82:v:162:GLN:N	2.51	0.44
82:v:270:ASP:OD1	82:v:312:ALA:HA	2.17	0.44
1:2:482:U:H2'	1:2:483:A:H8	1.83	0.44
4:SC:68:LEU:HD23	4:SC:73:VAL:HG22	1.99	0.44
8:SG:27:ASP:HB3	8:SG:30:THR:HG22	2.00	0.44
19:SR:214:ALA:O	19:SR:218:ILE:HG12	2.18	0.44
24:SW:109:LEU:HB2	24:SW:146:PHE:HB3	1.99	0.44
33:Sf:46:VAL:HG22	33:Sf:54:VAL:HG21	2.00	0.44
40:Y:37:ALA:O	40:Y:41:LYS:HG2	2.18	0.44
41:A:692:A:H4'	44:F:46:LYS:HB2	1.99	0.44
41:A:790:U:H2'	41:A:791:A:H8	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:1324:U:H5'	58:U:2:ALA:HA	2.00	0.44
41:A:3015:G:H2'	41:A:3016:A:C8	2.50	0.44
41:A:3051:U:H2'	41:A:3052:G:C8	2.53	0.44
46:H:154:LEU:HD23	53:O:119:GLN:HG2	1.99	0.44
55:Q:27[A]:LEU:HD11	55:Q:102[A]:LEU:HD13	1.99	0.44
58:U:6:GLU:HG3	58:U:30:PHE:CE1	2.53	0.44
62:Z:77:GLU:HA	62:Z:133:LEU:HD13	2.00	0.44
77:o:126:LYS:HA	77:o:126:LYS:HD3	1.82	0.44
81:x:263:PRO:HG2	81:x:312:VAL:CG1	2.31	0.44
81:x:347:LEU:O	81:x:348:ASN:CB	2.65	0.44
82:v:804:LYS:HA	82:v:809:TYR:CE1	2.52	0.44
1:2:647:G:H1	1:2:687:G:H1	1.65	0.44
2:SA:48:VAL:HB	2:SA:86:LEU:HD13	2.00	0.44
10:SI:49:ASP:O	10:SI:51:GLU:N	2.51	0.44
11:SJ:28:SER:HB2	11:SJ:112:VAL:HA	1.99	0.44
18:SQ:35:PRO:HG2	18:SQ:38:PHE:HE2	1.82	0.44
27:SZ:17:ALA:N	27:SZ:80:HIS:O	2.49	0.44
31:Sd:27:VAL:HG13	31:Sd:69:SER:HB2	2.00	0.44
35:s:77:A:H5'	81:x:254:TYR:HD2	1.78	0.44
41:A:938:C:OP1	41:A:962:A:O2'	2.26	0.44
41:A:992:A:H5''	59:V:43:LYS:HD2	1.99	0.44
41:A:1477:A:OP1	41:A:3075:G:O2'	2.27	0.44
41:A:1806:A:H2'	41:A:1807:G:O4'	2.18	0.44
41:A:1842:A:H5''	76:n:45:ARG:HH22	1.83	0.44
41:A:2160:G:H2'	41:A:2161:G:H8	1.82	0.44
41:A:2769:A:H2'	41:A:2770:G:C8	2.53	0.44
41:A:2936:A:H2'	41:A:2937:G:C8	2.53	0.44
56:R:116:HIS:HB3	56:R:149:VAL:HB	2.00	0.44
59:V:69:LYS:HB3	59:V:69:LYS:HE3	1.84	0.44
61:X:108:GLU:HG3	61:X:128:ARG:HG2	2.00	0.44
67:e:32:LYS:O	67:e:36:GLN:HG3	2.17	0.44
70:h:37:THR:HG23	70:h:39:GLN:H	1.83	0.44
81:x:357:TYR:CZ	81:x:359:PRO:HB3	2.53	0.44
82:v:815:PHE:HB2	82:v:831:MET:HE2	2.00	0.44
2:SA:97:SER:O	2:SA:101:GLN:HG2	2.17	0.43
4:SC:16:PHE:CE2	4:SC:82:LEU:HG	2.53	0.43
5:SD:47:GLU:O	5:SD:51:ALA:N	2.49	0.43
9:SH:16:ARG:NH1	51:M:111:ASP:OD2	2.51	0.43
16:SO:23:LEU:HD11	16:SO:293:ALA:HB3	2.00	0.43
16:SO:83:ALA:HB1	16:SO:110:VAL:HG23	2.00	0.43
16:SO:147:HIS:CE1	16:SO:179:LYS:HG2	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:SP:88:LYS:HA	17:SP:88:LYS:HD3	1.90	0.43
17:SP:188:LEU:HD11	17:SP:195:TRP:CD1	2.53	0.43
31:Sd:44:LEU:HD23	31:Sd:44:LEU:HA	1.80	0.43
32:Se:63:ALA:C	32:Se:64:LEU:HD23	2.43	0.43
41:A:37:U:OP1	41:A:934:G:N2	2.44	0.43
41:A:247:C:H2'	41:A:248:U:O4'	2.18	0.43
41:A:370:U:H2'	41:A:371:G:O4'	2.18	0.43
41:A:1596:C:H2'	41:A:1597:C:H6	1.83	0.43
41:A:1609:C:N4	41:A:1610:G:O6	2.51	0.43
41:A:2557:A:OP1	42:D:69:TYR:OH	2.33	0.43
41:A:2785:A:H2'	41:A:2786:G:C8	2.53	0.43
41:A:3105:U:C2	41:A:3106:A:C8	3.06	0.43
41:A:3173:G:O6	70:h:92:LYS:NZ	2.42	0.43
43:E:236:LYS:HE2	43:E:236:LYS:HB2	1.76	0.43
48:J:165:PHE:HZ	54:P:3:ALA:HB1	1.83	0.43
52:N:49:ARG:O	52:N:137:GLN:NE2	2.51	0.43
59:V:102:ARG:O	59:V:106:LEU:HD22	2.18	0.43
81:x:11:VAL:HG22	81:x:12:VAL:N	2.32	0.43
81:x:326:ALA:O	81:x:327:GLY:C	2.58	0.43
81:x:346:ILE:HB	81:x:433:VAL:O	2.17	0.43
82:v:183:LYS:O	82:v:185:VAL:N	2.51	0.43
82:v:737:GLN:HG2	82:v:738:HIS:CE1	2.52	0.43
82:v:832:MET:CG	82:v:834:VAL:HG22	2.48	0.43
82:v:832:MET:O	82:v:835:ASP:HB2	2.18	0.43
82:v:939:LYS:HG2	82:v:958:LEU:HD12	2.00	0.43
1:2:458:G:OP1	31:Sd:109:LYS:NZ	2.41	0.43
1:2:629:U:H2'	1:2:630:A:H8	1.83	0.43
1:2:646:C:H2'	1:2:647:G:C8	2.53	0.43
1:2:993:A:H62	1:2:1011:G:H21	1.66	0.43
1:2:1650:U:H2'	1:2:1651:A:C8	2.53	0.43
7:SF:82:ARG:HH12	7:SF:115:THR:HG23	1.83	0.43
7:SF:143:ARG:HD3	7:SF:143:ARG:HA	1.62	0.43
16:SO:153:GLN:C	16:SO:153:GLN:OE1	2.61	0.43
16:SO:253:ALA:HB2	16:SO:262:VAL:HG23	1.99	0.43
18:SQ:191:GLU:O	18:SQ:195:LYS:NZ	2.51	0.43
25:SX:13:PHE:HD2	25:SX:15:LYS:HD2	1.82	0.43
30:Sc:109:ARG:HG3	30:Sc:114:LYS:HA	1.99	0.43
35:s:21:U:H1'	35:s:22:A:C8	2.52	0.43
37:B:52:G:H2'	37:B:53:U:C6	2.52	0.43
38:C:100:U:O2'	62:Z:89:LYS:NZ	2.32	0.43
41:A:250:U:H5''	41:A:251:G:H2'	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:286:U:H2'	41:A:287:G:H8	1.82	0.43
41:A:656:A:H2'	41:A:657:A:H8	1.83	0.43
41:A:746:A:H2'	41:A:747:A:H8	1.82	0.43
41:A:1254:C:H2'	41:A:1255:C:H6	1.83	0.43
41:A:1328:C:OP1	70:h:82:ARG:NH2	2.51	0.43
41:A:1393:A:N6	41:A:1417:G:H1'	2.33	0.43
41:A:1429:G:C4	44:F:99:MET:HE1	2.53	0.43
41:A:1551:C:H2'	41:A:1552:G:O4'	2.18	0.43
48:J:142:LEU:HD22	48:J:147:LYS:HB2	2.00	0.43
64:b:88:ASP:O	64:b:121:ARG:NH2	2.51	0.43
79:q:92:GLU:OE2	79:q:93:LEU:N	2.51	0.43
82:v:120:VAL:HG13	82:v:121:ASN:N	2.33	0.43
1:2:59:C:O2'	1:2:60:U:O4'	2.34	0.43
1:2:1701:A:H2'	1:2:1702:A:C8	2.54	0.43
3:SB:56:ALA:HA	3:SB:59:VAL:HG23	2.01	0.43
3:SB:80:LYS:HB2	3:SB:83:ARG:NH2	2.32	0.43
5:SD:125:ASN:C	5:SD:127:GLY:H	2.26	0.43
8:SG:23:LYS:HA	8:SG:23:LYS:HE3	2.00	0.43
8:SG:71:PHE:C	8:SG:73:LEU:H	2.26	0.43
8:SG:106:THR:O	8:SG:110:VAL:HG23	2.18	0.43
16:SO:31:ASN:HA	16:SO:47:LEU:HB2	2.00	0.43
17:SP:69:ASN:HB3	17:SP:71:GLU:OE1	2.18	0.43
17:SP:179:ARG:HH21	17:SP:183:ARG:HH12	1.65	0.43
22:SU:107:ARG:HD2	22:SU:107:ARG:HA	1.66	0.43
26:SY:103:GLU:HG2	26:SY:104:ARG:HG3	2.00	0.43
41:A:58:G:O2'	41:A:61:A:H5'	2.18	0.43
41:A:153:U:OP2	72:j:103:LYS:HE3	2.17	0.43
41:A:209:A:O2'	41:A:211:A:OP2	2.36	0.43
41:A:415:G:H2'	41:A:416:A:H8	1.83	0.43
41:A:665:A:N6	41:A:798:G:O6	2.51	0.43
41:A:721:G:H2'	41:A:722:G:H8	1.82	0.43
41:A:2181:C:H2'	41:A:2182:A:C8	2.54	0.43
41:A:2217:U:H2'	41:A:2218:G:C8	2.50	0.43
41:A:2428:U:H2'	41:A:2429:G:H8	1.83	0.43
41:A:3132:C:H2'	41:A:3133:C:C6	2.52	0.43
41:A:3139:A:H2'	41:A:3140:G:O4'	2.19	0.43
41:A:3333:G:H1'	41:A:3370:A:N6	2.33	0.43
44:F:42:VAL:HG12	44:F:236:LEU:HD21	2.00	0.43
44:F:161:LYS:HA	44:F:161:LYS:HD2	1.70	0.43
57:S:35:PHE:CE1	57:S:39:ARG:HD3	2.54	0.43
82:v:86:TYR:CE2	82:v:359:ILE:HD13	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:496:G:H2'	1:2:497:G:C8	2.52	0.43
1:2:1220:C:H2'	1:2:1221:A:C8	2.53	0.43
1:2:1636:C:H4'	1:2:1637:C:O5'	2.17	0.43
2:SA:80:ALA:O	2:SA:83:THR:OG1	2.26	0.43
7:SF:55:VAL:HG21	7:SF:105:LEU:HD11	1.99	0.43
11:SJ:43:LYS:HA	11:SJ:46:GLU:OE2	2.18	0.43
16:SO:182:ASN:HD22	16:SO:189:GLU:CD	2.26	0.43
16:SO:273:ASP:OD1	16:SO:275:ARG:NH1	2.51	0.43
20:SS:31:PRO:HA	20:SS:81:THR:HB	1.98	0.43
24:SW:42:ILE:HA	24:SW:45:ILE:HG22	2.00	0.43
24:SW:107:ARG:NH2	24:SW:148:VAL:HG23	2.34	0.43
24:SW:135:ALA:HB2	24:SW:159:ALA:HB2	1.99	0.43
38:C:140:G:H1	41:A:19:U:H3	1.67	0.43
41:A:1242:G:H2'	41:A:1243:G:O4'	2.19	0.43
41:A:1368:U:C2	41:A:1369:A:C8	3.06	0.43
41:A:1598:G:H2'	41:A:1599:G:H8	1.82	0.43
41:A:2389:C:O2'	41:A:3307:A:N1	2.49	0.43
41:A:2467:G:H1'	41:A:2468:A:C8	2.53	0.43
41:A:2708:C:C2	41:A:2709:C:C5	3.06	0.43
41:A:2729:U:C2	41:A:2730:G:C8	3.07	0.43
41:A:3042:U:H2'	41:A:3043:C:H6	1.81	0.43
41:A:3139:A:OP1	43:E:274:SER:OG	2.34	0.43
42:D:114:SER:N	42:D:165:VAL:O	2.50	0.43
43:E:213:GLU:HG2	43:E:215:ILE:HG23	2.00	0.43
46:H:145:LEU:HD23	46:H:145:LEU:HA	1.85	0.43
49:K:31:ARG:HG2	49:K:149:ASN:HD21	1.83	0.43
55:Q:15[A]:LEU:HD11	55:Q:128[A]:ARG:HB2	2.00	0.43
61:X:12:ARG:HH11	61:X:12:ARG:HG3	1.82	0.43
61:X:86:ARG:HB2	61:X:92:PHE:CE2	2.53	0.43
75:m:25:VAL:HB	75:m:77:ARG:HD2	2.00	0.43
81:x:12:VAL:HG22	81:x:113:VAL:HB	2.00	0.43
81:x:344:VAL:HG21	81:x:426:VAL:CG2	2.48	0.43
82:v:160:LYS:HG3	82:v:161:ASP:N	2.34	0.43
82:v:486:GLN:HE22	82:v:490:ARG:HG3	1.82	0.43
82:v:781:GLU:HA	82:v:848:HIS:CE1	2.53	0.43
1:2:835:U:H2'	1:2:836:U:H5	1.83	0.43
1:2:1587:A:H2'	1:2:1588:G:H8	1.82	0.43
6:SE:75:PRO:HA	6:SE:93:VAL:HG23	2.00	0.43
18:SQ:205:PHE:HB3	18:SQ:207:LEU:HD13	2.01	0.43
21:ST:115:LYS:HD2	21:ST:115:LYS:HA	1.80	0.43
40:Y:35:LYS:O	40:Y:39:LEU:HG	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:77:A:H5'	52:N:100:ARG:CZ	2.48	0.43
41:A:225:C:H2'	41:A:226:C:C6	2.53	0.43
41:A:411:U:H2'	41:A:412:G:H8	1.83	0.43
41:A:647:A:OP2	41:A:647:A:H8	2.01	0.43
41:A:1372:C:H2'	41:A:1373:A:H8	1.82	0.43
41:A:1446:A:N1	41:A:2356:A:H5''	2.33	0.43
41:A:1543:G:O2'	41:A:2168:A:O2'	2.21	0.43
41:A:1651:U:H2'	41:A:1652:G:H8	1.82	0.43
41:A:2356:A:N3	56:R:131:ARG:NH2	2.64	0.43
41:A:2666:C:OP2	41:A:2687:G:N1	2.52	0.43
41:A:3018:C:C4	41:A:3019:U:C4	3.06	0.43
41:A:3295:A:H2'	41:A:3296:A:C8	2.53	0.43
56:R:167:ARG:HB2	70:h:60:ARG:HD3	2.00	0.43
70:h:51:TYR:O	70:h:66:VAL:HA	2.19	0.43
74:l:34:CYS:HB2	74:l:37:CYS:SG	2.57	0.43
75:m:19:ASP:OD2	75:m:48:SER:OG	2.31	0.43
82:v:458:TYR:CD1	82:v:608:TYR:HB2	2.53	0.43
82:v:824:LYS:H	82:v:824:LYS:HG3	1.57	0.43
1:2:992:A:O2'	1:2:1785:U:O2	2.35	0.43
3:SB:205:SER:OG	3:SB:207:THR:HG22	2.18	0.43
7:SF:60:PHE:CZ	7:SF:89:LEU:HD22	2.54	0.43
10:SI:115:GLU:OE1	10:SI:125:SER:OG	2.35	0.43
16:SO:59:ARG:NE	16:SO:59:ARG:HA	2.34	0.43
18:SQ:97:LEU:HB3	18:SQ:232:HIS:HD1	1.84	0.43
34:Sg:13:LYS:O	34:Sg:17:GLN:HG3	2.18	0.43
40:Y:4:GLU:HB3	40:Y:30:ARG:HD3	2.00	0.43
41:A:230:U:H2'	41:A:231:G:O4'	2.18	0.43
41:A:786:A:O3'	41:A:787:G:H8	2.01	0.43
41:A:927:C:C2	41:A:928:C:C5	3.07	0.43
41:A:1031:C:H2'	41:A:1032:C:C5	2.53	0.43
41:A:1211:U:O2'	58:U:113:ARG:HD2	2.19	0.43
41:A:1263:A:O3'	41:A:1264:G:H8	2.02	0.43
41:A:1363:A:H2'	41:A:1364:C:C6	2.54	0.43
41:A:2396:G:OP1	41:A:2397:A:O2'	2.30	0.43
42:D:33:ASP:O	42:D:37:ARG:HB3	2.18	0.43
45:G:215:ASP:HA	82:v:662:GLN:O	2.17	0.43
49:K:20:ILE:HG12	49:K:25:VAL:HG13	1.99	0.43
50:L:86:HIS:HB3	50:L:139:ARG:CG	2.48	0.43
61:X:80:ARG:HB2	61:X:99:ALA:HB3	2.00	0.43
69:g:83:GLU:OE2	69:g:111:ARG:NE	2.46	0.43
69:g:98:HIS:O	69:g:125:ARG:NH1	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:j:115:LYS:HE2	72:j:115:LYS:HB3	1.73	0.43
81:x:154:LYS:HB3	81:x:157:SER:OG	2.18	0.43
81:x:306:ASP:CB	81:x:308:VAL:HG13	2.48	0.43
1:2:168:A:OP1	21:ST:136:LYS:N	2.50	0.43
1:2:1465:C:H5'	7:SF:139:GLN:HB3	2.00	0.43
3:SB:118:LEU:HD23	3:SB:129:PRO:HB2	2.01	0.43
7:SF:98:ASP:OD1	7:SF:98:ASP:N	2.50	0.43
7:SF:99:GLU:OE2	7:SF:102:LYS:HE3	2.17	0.43
10:SI:22:LEU:HD23	10:SI:22:LEU:HA	1.88	0.43
16:SO:234:LEU:HD22	16:SO:263:PHE:CE2	2.54	0.43
16:SO:260:ILE:HG12	16:SO:292:LEU:HD23	2.00	0.43
18:SQ:194:ASN:ND2	18:SQ:211:HIS:HA	2.33	0.43
19:SR:83:ILE:HD12	19:SR:83:ILE:N	2.34	0.43
21:ST:186:ARG:O	21:ST:190:GLN:HG2	2.18	0.43
22:SU:16:LEU:H	22:SU:16:LEU:HD12	1.83	0.43
23:SV:162:ALA:HA	41:A:3352:U:C5	2.53	0.43
28:Sa:76:ASP:OD1	28:Sa:76:ASP:N	2.51	0.43
29:Sb:37:PHE:CD1	29:Sb:41:MET:HE2	2.52	0.43
35:s:67:C:C5'	81:x:408:LYS:HD2	2.48	0.43
39:T:4:LEU:HD13	39:T:24:LEU:HD23	2.01	0.43
41:A:98:G:N7	52:N:13:HIS:NE2	2.67	0.43
41:A:228:U:H5''	63:a:8:VAL:HG21	2.00	0.43
41:A:357:A:H2'	41:A:358:G:C8	2.54	0.43
41:A:1146:C:H2'	41:A:1147:G:C8	2.54	0.43
41:A:1300:G:OP2	41:A:1301:A:O2'	2.32	0.43
41:A:1535:A:H62	41:A:1586:G:H21	1.66	0.43
41:A:1776:G:H2'	41:A:1777:U:C6	2.53	0.43
41:A:2183:A:H5''	42:D:7:ASN:HB3	2.01	0.43
41:A:2264:U:H2'	41:A:2265:C:C6	2.53	0.43
41:A:2446:U:H2'	41:A:2447:A:H8	1.83	0.43
41:A:2561:A:H2'	41:A:2562:A:H8	1.82	0.43
41:A:2731:U:H2'	41:A:2732:G:C8	2.54	0.43
41:A:2895:G:H5''	77:o:102:ARG:HH21	1.83	0.43
41:A:3150:A:OP1	43:E:132:LYS:HB2	2.19	0.43
41:A:3379:C:H2'	41:A:3380:U:C6	2.53	0.43
42:D:137:ILE:HD11	42:D:149:ARG:HB2	2.01	0.43
64:b:47:GLU:HB3	64:b:69:LYS:HG2	2.00	0.43
71:i:18:ASN:O	71:i:18:ASN:ND2	2.49	0.43
72:j:67:ARG:HG3	72:j:80:LEU:HD13	1.99	0.43
75:m:12:LEU:HD23	75:m:12:LEU:HA	1.84	0.43
81:x:263:PRO:CG	81:x:312:VAL:HG13	2.32	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:x:344:VAL:CA	81:x:436:GLY:HA3	2.38	0.43
82:v:530:GLY:HA2	82:v:547:TRP:HZ3	1.84	0.43
82:v:546:GLY:HA3	82:v:702:ASN:ND2	2.34	0.43
82:v:572:HIS:H	82:v:924:ASN:HD21	1.67	0.43
82:v:661:LYS:HD2	82:v:692:LEU:CD2	2.49	0.43
1:2:167:U:H1'	21:ST:133:LEU:HD23	1.99	0.43
1:2:553:G:H3'	1:2:554:C:H2'	2.01	0.43
3:SB:51:VAL:HG22	3:SB:131:GLN:HB2	2.00	0.43
4:SC:30:ALA:O	4:SC:31:LYS:HD2	2.18	0.43
16:SO:76:ASP:OD1	16:SO:76:ASP:N	2.37	0.43
35:s:67:C:H5''	81:x:408:LYS:HZ3	1.82	0.43
36:t:3:C:H2'	36:t:4:G:C8	2.54	0.43
41:A:106:A:C2	41:A:325:A:H1'	2.53	0.43
41:A:1088:U:C2	41:A:1089:G:C8	3.06	0.43
41:A:1107:C:H2'	41:A:1108:U:C6	2.52	0.43
41:A:1192:C:N4	41:A:1301:A:O2'	2.50	0.43
41:A:1558:A:H1'	62:Z:34:LEU:HD13	2.00	0.43
41:A:1677:G:H1	41:A:1691:U:H3	1.66	0.43
41:A:1860:G:H2'	41:A:1861:G:H8	1.83	0.43
41:A:3268:A:N1	46:H:135:VAL:HG22	2.34	0.43
42:D:111:THR:HG22	42:D:113:VAL:HG13	2.01	0.43
45:G:64:ILE:HD12	45:G:144:VAL:HG11	2.00	0.43
45:G:82:GLU:O	45:G:85:ARG:HG2	2.19	0.43
49:K:38:LEU:HD13	49:K:71:VAL:HG13	2.01	0.43
49:K:138:THR:OG1	49:K:139:ASN:N	2.52	0.43
50:L:71:CYS:SG	50:L:72:ALA:N	2.91	0.43
50:L:185:ARG:HG2	50:L:185:ARG:HH11	1.83	0.43
56:R:118:GLN:HB3	56:R:147:GLU:HG3	2.00	0.43
63:a:52:ARG:HE	63:a:52:ARG:HB3	1.57	0.43
67:e:95:ALA:HB2	67:e:101:LEU:HG	2.01	0.43
74:l:2:GLY:O	74:l:7:SER:OG	2.28	0.43
79:q:61:LYS:NZ	79:q:63:LYS:O	2.52	0.43
81:x:13:ILE:C	81:x:20:LYS:HD3	2.44	0.43
81:x:280:PHE:CD1	81:x:324:ASN:OD1	2.70	0.43
82:v:718:LEU:HD11	82:v:850:LYS:NZ	2.34	0.43
82:v:921:GLU:O	82:v:921:GLU:CD	2.62	0.43
1:2:1533:C:H4'	1:2:1539:G:O6	2.19	0.43
5:SD:44:GLY:O	5:SD:48:SER:OG	2.30	0.43
8:SG:103:ASP:OD2	17:SP:41:ARG:NH2	2.52	0.43
9:SH:52:VAL:HG12	9:SH:65:GLU:HB3	2.00	0.43
17:SP:133:ILE:HG12	17:SP:143:VAL:HG11	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:SR:188:LEU:HD13	19:SR:196:VAL:HG11	2.01	0.43
40:Y:57:LYS:HE3	40:Y:57:LYS:HB3	1.68	0.43
41:A:94:G:OP1	41:A:2763:U:O2'	2.37	0.43
41:A:1063:G:C6	59:V:109:VAL:HG22	2.54	0.43
41:A:1203:A:OP2	41:A:1301:A:N6	2.41	0.43
41:A:1411:C:H2'	41:A:1412:G:H8	1.82	0.43
41:A:1471:U:H2'	41:A:1472:U:C6	2.54	0.43
41:A:1665:C:H2'	41:A:1666:G:C8	2.49	0.43
41:A:1791:C:H2'	41:A:1792:C:C6	2.54	0.43
41:A:2731:U:H2'	41:A:2732:G:H8	1.83	0.43
42:D:10:LYS:HA	42:D:16:PHE:CD2	2.54	0.43
42:D:46:LYS:HB2	42:D:46:LYS:HE2	1.82	0.43
49:K:70:THR:O	49:K:74:LEU:HG	2.18	0.43
49:K:76:ASP:N	49:K:76:ASP:OD1	2.45	0.43
49:K:90:MET:HE2	49:K:179:ILE:HG22	2.00	0.43
55:Q:121[A]:PRO:HA	55:Q:124[A]:LEU:HD12	2.00	0.43
61:X:89:ASP:OD1	61:X:89:ASP:N	2.36	0.43
67:e:14:LEU:O	67:e:18:ILE:HG12	2.18	0.43
81:x:346:ILE:H	81:x:435:VAL:H	1.65	0.43
82:v:24:ASN:C	82:v:25:ARG:HD2	2.44	0.43
82:v:149:LEU:HD11	82:v:189:ALA:HA	2.01	0.43
82:v:430:LEU:HB3	82:v:431:CYS:SG	2.59	0.43
82:v:588:CYS:C	82:v:590:ILE:H	2.27	0.43
82:v:892:ARG:O	82:v:894:ARG:N	2.51	0.43
1:2:953:G:H2'	1:2:954:G:H8	1.84	0.43
1:2:1171:A:H2'	1:2:1172:G:C8	2.53	0.43
2:SA:96:LEU:HD22	2:SA:131:ALA:HB2	2.01	0.43
5:SD:36:LEU:HB2	5:SD:41:LEU:HD22	2.00	0.43
8:SG:81:LYS:NZ	17:SP:205:ARG:HH11	2.16	0.43
19:SR:70:ASP:OD1	19:SR:71:THR:N	2.52	0.43
22:SU:12:ALA:HA	22:SU:13:PRO:HD3	1.83	0.43
23:SV:140:GLU:OE1	23:SV:140:GLU:HA	2.19	0.43
32:Se:39:MET:HE2	32:Se:39:MET:HB2	1.83	0.43
41:A:716:A:N7	65:c:117:ARG:HG3	2.34	0.43
41:A:897:U:H2'	41:A:898:U:C6	2.54	0.43
41:A:1086:C:H2'	41:A:1087:G:O4'	2.19	0.43
41:A:1378:U:H2'	41:A:1379:G:H8	1.84	0.43
41:A:1682:U:C5	60:W:85:LYS:HG2	2.54	0.43
41:A:2163:C:H4'	42:D:8:GLN:HA	2.00	0.43
41:A:2599:U:H2'	41:A:2600:C:C6	2.54	0.43
41:A:2963:C:H2'	41:A:2964:G:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:O:8:LYS:HE2	53:O:8:LYS:HB2	1.72	0.43
64:b:126:LYS:HB3	64:b:126:LYS:HE3	1.72	0.43
71:i:91:ARG:O	71:i:95:ILE:HG23	2.19	0.43
81:x:24:THR:HG23	81:x:89:ILE:HG21	2.01	0.43
82:v:180:ASP:CG	82:v:181:THR:H	2.26	0.43
82:v:803:ARG:NE	82:v:810:GLU:OE1	2.42	0.43
1:2:635:A:H2'	1:2:636:A:C8	2.54	0.42
6:SE:18:ARG:HH21	9:SH:90:ASN:HB3	1.82	0.42
7:SF:22:VAL:HG22	7:SF:65:ILE:HG23	2.00	0.42
16:SO:177:MET:SD	16:SO:179:LYS:HD3	2.59	0.42
16:SO:243:LEU:HD12	16:SO:252:LEU:HD11	2.01	0.42
19:SR:58:LEU:HD21	19:SR:236:PRO:HG3	2.01	0.42
19:SR:181:SER:HB2	19:SR:184:VAL:HG22	2.00	0.42
24:SW:123:HIS:NE2	34:Sg:37:ARG:HB2	2.34	0.42
25:SX:7:VAL:HG13	25:SX:8:GLN:HG2	2.01	0.42
31:Sd:12:VAL:HG12	31:Sd:23:PHE:HB3	2.00	0.42
35:s:15:G:H2'	35:s:16:C:C6	2.54	0.42
41:A:589:A:H1'	41:A:1337:A:H5''	2.01	0.42
41:A:707:U:O2	41:A:754:G:O2'	2.36	0.42
41:A:809:G:H2'	41:A:810:A:C8	2.54	0.42
41:A:1345:G:H2'	41:A:1346:G:H8	1.84	0.42
41:A:2280:A:N6	41:A:2282:U:O2'	2.49	0.42
41:A:2441:A:H2'	41:A:2442:G:C8	2.54	0.42
61:X:120:LYS:N	61:X:137:VAL:O	2.51	0.42
63:a:86:THR:HG22	63:a:96:PRO:HA	2.01	0.42
82:v:193:MET:HA	82:v:193:MET:HE3	2.01	0.42
82:v:642:ASN:HD21	82:v:933:ALA:N	2.16	0.42
82:v:699:ILE:HD11	82:v:977:TRP:HE3	1.84	0.42
1:2:153:G:H21	21:ST:56:ASN:HD21	1.66	0.42
1:2:388:G:H5''	1:2:425:A:N6	2.34	0.42
1:2:435:C:H1'	30:Sc:48:HIS:HB2	2.00	0.42
1:2:640:U:H2'	1:2:641:G:O4'	2.18	0.42
2:SA:4:LEU:O	2:SA:5:ILE:HD13	2.20	0.42
2:SA:105:MET:HE2	2:SA:105:MET:HB3	1.97	0.42
3:SB:225:ARG:HH11	13:SL:61:ARG:HD2	1.84	0.42
8:SG:22:PRO:C	16:SO:150:TRP:HH2	2.27	0.42
11:SJ:98:GLN:CD	11:SJ:99:ILE:HG23	2.44	0.42
18:SQ:202:LYS:HB2	18:SQ:202:LYS:HE2	1.87	0.42
21:ST:16:PHE:HE2	21:ST:124:LEU:HD22	1.84	0.42
22:SU:91:ILE:HG21	22:SU:129:LEU:HD23	2.01	0.42
35:s:53:G:H5'	81:x:357:TYR:CD1	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:s:64:G:H2'	35:s:65:G:C8	2.52	0.42
41:A:946:U:H2'	41:A:947:G:C8	2.52	0.42
41:A:1615:C:H2'	41:A:1616:U:C6	2.54	0.42
41:A:1837:U:H2'	41:A:1838:G:O4'	2.19	0.42
41:A:2373:A:N3	41:A:2824:G:O2'	2.48	0.42
41:A:2557:A:H8	41:A:2557:A:OP2	2.02	0.42
41:A:3120:C:H2'	77:o:111:ARG:HD3	2.01	0.42
45:G:30:TYR:HA	45:G:33:ARG:HB3	2.01	0.42
46:H:67:GLY:O	46:H:68:PRO:C	2.62	0.42
53:O:102:LYS:HE3	53:O:102:LYS:HB3	1.87	0.42
57:S:54:LEU:HD13	57:S:58:ASN:HB3	2.01	0.42
82:v:293:LEU:HD12	82:v:293:LEU:HA	1.81	0.42
82:v:340:THR:HA	82:v:343:VAL:HG23	2.01	0.42
82:v:472:MET:HE1	82:v:565:LEU:HD22	2.01	0.42
82:v:751:PRO:HG3	82:v:893:ILE:HG13	2.01	0.42
82:v:758:ARG:CZ	82:v:764:ASP:HB3	2.49	0.42
82:v:916:LEU:HD11	82:v:946:ILE:HD12	2.01	0.42
82:v:971:THR:HG22	82:v:973:SER:H	1.84	0.42
9:SH:29:VAL:O	9:SH:43:SER:OG	2.25	0.42
9:SH:41:ARG:HD2	10:SI:38:LYS:HD3	2.00	0.42
16:SO:37:SER:OG	16:SO:38:ARG:N	2.52	0.42
16:SO:197:SER:OG	16:SO:198:ASN:N	2.51	0.42
19:SR:140:ARG:HB2	19:SR:222:TYR:CE2	2.54	0.42
34:Sg:56:MET:HE2	34:Sg:56:MET:HB2	1.98	0.42
35:s:77:A:C6	81:x:293:GLU:HG3	2.45	0.42
41:A:229:G:H2'	41:A:230:U:C6	2.54	0.42
41:A:277:G:OP1	79:q:49:GLY:N	2.53	0.42
41:A:346:C:O2	41:A:348:A:N6	2.51	0.42
41:A:821:U:H2'	41:A:822:G:C8	2.51	0.42
41:A:1345:G:H2'	41:A:1346:G:C8	2.54	0.42
41:A:1529:A:OP2	41:A:1592:G:N2	2.49	0.42
41:A:2152:A:H2'	41:A:2153:U:C6	2.54	0.42
41:A:2328:U:H2'	41:A:2329:C:H6	1.83	0.42
41:A:2434:U:H5'	41:A:2593:A:C2	2.54	0.42
41:A:2577:C:H2'	41:A:2578:U:C6	2.54	0.42
41:A:2881:C:H2'	41:A:2882:U:C6	2.54	0.42
41:A:2891:U:O2'	41:A:3014:U:H5''	2.19	0.42
41:A:3213:A:OP2	53:O:128:ARG:NE	2.53	0.42
41:A:3338:C:H2'	41:A:3339:A:H8	1.84	0.42
42:D:37:ARG:HG2	42:D:38:HIS:ND1	2.35	0.42
47:I:58:ALA:O	47:I:62:ILE:HG12	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:I:90:LYS:HB3	47:I:133:TYR:HB3	2.00	0.42
50:L:185:ARG:HA	50:L:190:VAL:HG21	2.01	0.42
60:W:89:LEU:HB3	60:W:93:ILE:HG12	2.01	0.42
61:X:84:SER:HA	61:X:94:TYR:HB3	2.01	0.42
64:b:89:VAL:HG23	64:b:92:PHE:CD2	2.51	0.42
81:x:288:GLU:O	81:x:313:LYS:N	2.52	0.42
81:x:325:VAL:CG1	81:x:334:PRO:HG3	2.47	0.42
81:x:360:VAL:O	81:x:361:LEU:C	2.61	0.42
82:v:382:TRP:O	82:v:386:ILE:HG12	2.19	0.42
82:v:582:VAL:HG11	82:v:604:ASN:OD1	2.19	0.42
82:v:649:PHE:CD1	82:v:910:THR:HG21	2.54	0.42
1:2:539:G:HO2'	1:2:540:G:P	2.39	0.42
1:2:1318:G:H2'	1:2:1319:A:C8	2.54	0.42
1:2:1499:G:OP2	10:SI:73:VAL:HG22	2.19	0.42
5:SD:61:VAL:HB	5:SD:121:VAL:HG12	2.00	0.42
7:SF:106:LYS:CD	16:SO:279:ALA:HB2	2.45	0.42
8:SG:82:ASP:OD1	8:SG:83:GLN:HG3	2.19	0.42
8:SG:110:VAL:HG11	8:SG:119:LEU:HD21	2.02	0.42
20:SS:100:ARG:HB2	20:SS:114:ILE:HD13	2.00	0.42
21:ST:141:ILE:HD13	21:ST:157:VAL:HG23	2.00	0.42
22:SU:84:LYS:HG3	22:SU:85:PHE:N	2.34	0.42
24:SW:65:LYS:HA	24:SW:70:LEU:HD11	2.01	0.42
28:Sa:79:LEU:HD12	28:Sa:82:VAL:HG21	2.01	0.42
38:C:85:G:H4'	38:C:86:U:OP1	2.20	0.42
41:A:429:U:H2'	41:A:430:U:H6	1.84	0.42
41:A:868:C:H2'	41:A:869:G:C8	2.54	0.42
41:A:1489:A:OP1	71:i:10:ARG:NH1	2.53	0.42
41:A:1610:G:P	62:Z:125:ARG:HH22	2.42	0.42
41:A:2368:A:H2'	41:A:2369:G:H8	1.84	0.42
41:A:2407:C:H2'	41:A:2408:U:C6	2.54	0.42
41:A:2745:G:N2	41:A:2748:A:OP2	2.50	0.42
41:A:2766:U:H2'	41:A:2767:U:C6	2.55	0.42
41:A:2883:U:H2'	41:A:2884:C:C6	2.54	0.42
41:A:2999:U:H2'	41:A:3000:A:H8	1.84	0.42
41:A:3185:U:HO2'	58:U:170:THR:HG1	1.55	0.42
41:A:3231:U:H2'	41:A:3232:G:H8	1.85	0.42
45:G:236:LEU:HA	45:G:239:ILE:HG12	2.00	0.42
46:H:130:ILE:HD12	46:H:131:LYS:H	1.85	0.42
51:M:93:ASP:HB2	51:M:173:ASP:HA	2.02	0.42
64:b:76:ASN:OD1	64:b:77:TYR:N	2.53	0.42
71:i:92:ALA:O	71:i:96:GLU:HG2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:p:2:ARG:HB2	78:p:5:TRP:CD1	2.54	0.42
81:x:306:ASP:HB3	81:x:308:VAL:HG13	2.00	0.42
82:v:568:GLU:N	82:v:595:ILE:O	2.37	0.42
82:v:669:THR:HG1	82:v:670:ASN:CG	2.27	0.42
82:v:674:GLN:OE1	82:v:678:THR:OG1	2.25	0.42
1:2:142:G:H5''	21:ST:139:ASN:HD21	1.83	0.42
1:2:351:C:OP1	1:2:630:A:O2'	2.28	0.42
1:2:1350:U:H2'	1:2:1351:G:C8	2.54	0.42
6:SE:38:PRO:HG2	6:SE:41:VAL:HG23	2.00	0.42
10:SI:22:LEU:HD13	10:SI:55:TYR:HD2	1.85	0.42
16:SO:17:ASN:O	16:SO:39:ASP:HB3	2.19	0.42
16:SO:214:ALA:HB2	16:SO:220:ILE:HG12	2.01	0.42
16:SO:239:GLU:HB3	16:SO:257:ALA:HB2	2.01	0.42
17:SP:27:ARG:HG2	17:SP:28:ASN:H	1.85	0.42
18:SQ:69:CYS:HA	18:SQ:83:LYS:HA	2.02	0.42
18:SQ:77:GLU:OE1	18:SQ:77:GLU:N	2.47	0.42
39:T:171:ASP:OD1	39:T:172:ARG:N	2.52	0.42
41:A:73:C:H5''	73:k:4:LYS:HE2	2.01	0.42
41:A:562:C:H2'	41:A:563:U:C6	2.54	0.42
41:A:926:A:H2'	41:A:927:C:H6	1.84	0.42
41:A:1733:G:H2'	41:A:1734:G:C8	2.54	0.42
41:A:2327:U:H2'	41:A:2328:U:H6	1.85	0.42
41:A:2407:C:H2'	41:A:2408:U:H6	1.84	0.42
41:A:2714:G:H4'	41:A:2715:A:H3'	2.01	0.42
50:L:19:LYS:HG2	50:L:26:VAL:HG11	1.99	0.42
57:S:50:LYS:HB3	57:S:50:LYS:HE2	1.78	0.42
60:W:19:VAL:C	60:W:22:PRO:HD2	2.44	0.42
61:X:104:ASN:HD21	61:X:106:LYS:HD3	1.85	0.42
64:b:18:TYR:HE2	64:b:73:LYS:HD3	1.84	0.42
82:v:938:LEU:HD22	82:v:945:VAL:HG11	2.02	0.42
1:2:32:U:O2'	1:2:594:A:N1	2.51	0.42
1:2:637:C:OP1	29:Sb:32:LYS:N	2.53	0.42
4:SC:36:ASP:OD1	4:SC:36:ASP:N	2.42	0.42
13:SL:18:ARG:HD3	13:SL:23:GLY:O	2.20	0.42
16:SO:9:LEU:HB2	16:SO:313:TRP:CZ3	2.55	0.42
16:SO:135:THR:OG1	16:SO:136:ILE:N	2.52	0.42
23:SV:81:VAL:HG23	23:SV:91:VAL:HA	2.02	0.42
41:A:278:U:H3	41:A:287:G:H1	1.67	0.42
41:A:561:C:H2'	41:A:562:C:C6	2.54	0.42
41:A:863:C:H2'	41:A:864:G:O4'	2.20	0.42
41:A:907:G:O6	41:A:919:U:H2'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:1138:U:H2'	41:A:1139:G:H8	1.84	0.42
41:A:1254:C:H2'	41:A:1255:C:C6	2.54	0.42
41:A:1565:G:H1'	41:A:1576:G:C5	2.54	0.42
41:A:1566:A:N6	41:A:1571:A:N3	2.67	0.42
41:A:1666:G:H2'	41:A:1667:A:C8	2.54	0.42
41:A:1921:A:OP2	41:A:1930:A:N6	2.41	0.42
41:A:2552:C:OP1	71:i:102:LYS:NZ	2.38	0.42
41:A:3183:A:H2'	41:A:3184:A:C8	2.55	0.42
43:E:76:VAL:HB	43:E:323:MET:HG2	2.02	0.42
50:L:44:ASP:OD1	50:L:181:TYR:OH	2.34	0.42
53:O:99:TRP:O	53:O:103:ILE:HG13	2.19	0.42
62:Z:97:LYS:HB3	62:Z:97:LYS:HE3	1.76	0.42
63:a:79:ALA:HB1	63:a:98:ASN:HB3	2.02	0.42
81:x:8:ILE:O	81:x:87:VAL:HA	2.20	0.42
81:x:100:LYS:HB2	81:x:367:HIS:CD2	2.55	0.42
81:x:312:VAL:CG2	81:x:320:VAL:HG21	2.36	0.42
82:v:378:ASP:CG	82:v:381:ALA:HB3	2.44	0.42
1:2:629:U:H2'	1:2:630:A:C8	2.54	0.42
1:2:1187:U:H2'	1:2:1188:G:H8	1.85	0.42
1:2:1227:A:C8	5:SD:43:ARG:HG3	2.55	0.42
1:2:1553:G:N1	1:2:1556:A:OP2	2.52	0.42
1:2:1760:G:H1'	1:2:1781:A:C2	2.55	0.42
12:SK:86:GLU:HA	12:SK:86:GLU:OE1	2.20	0.42
12:SK:91:PRO:HA	12:SK:101:TYR:CD1	2.55	0.42
38:C:21:C:OP1	44:F:193:LYS:NZ	2.29	0.42
41:A:220:G:O2'	41:A:221:A:H5'	2.20	0.42
41:A:738:A:H2'	41:A:739:G:H8	1.84	0.42
41:A:873:C:H4'	41:A:1908:A:H5'	2.02	0.42
41:A:900:G:H1'	41:A:1589:A:N6	2.33	0.42
41:A:1660:C:H2'	41:A:1661:G:H8	1.84	0.42
41:A:3164:C:H2'	41:A:3165:A:C8	2.54	0.42
47:I:88:ARG:NH1	47:I:108:LEU:O	2.53	0.42
51:M:89:TYR:HB3	51:M:169:ALA:HB2	2.01	0.42
51:M:165:GLN:HG3	51:M:166:LYS:N	2.34	0.42
58:U:8:GLN:HE22	58:U:10:ILE:HG13	1.85	0.42
65:c:60:TYR:HE2	65:c:68:PHE:HZ	1.66	0.42
65:c:70:LYS:HE3	65:c:111:LYS:HD2	2.02	0.42
81:x:104:THR:OG1	81:x:367:HIS:HE1	2.03	0.42
82:v:24:ASN:HD21	82:v:64:ALA:C	2.26	0.42
82:v:162:GLN:N	82:v:162:GLN:CD	2.78	0.42
82:v:310:LEU:HD11	82:v:314:LYS:HE2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:v:471:LEU:HD12	82:v:471:LEU:O	2.18	0.42
82:v:655:LEU:HA	82:v:655:LEU:HD12	1.79	0.42
82:v:703:GLY:N	82:v:706:LYS:HE3	2.34	0.42
82:v:916:LEU:HD11	82:v:946:ILE:CD1	2.49	0.42
1:2:5:U:H2'	1:2:6:G:C8	2.53	0.42
1:2:139:C:H4'	1:2:140:A:O5'	2.20	0.42
1:2:680:U:H2'	1:2:681:U:H5	1.84	0.42
1:2:1245:G:O2'	1:2:1246:C:P	2.77	0.42
1:2:1382:A:N3	11:57:ARG:HG3	2.33	0.42
3:SB:143:ARG:HG2	13:SL:55:VAL:HG11	2.01	0.42
4:SC:77:ARG:CZ	4:SC:85:HIS:HA	2.50	0.42
8:SG:81:LYS:HZ1	17:SP:205:ARG:NH1	2.18	0.42
16:SO:113:VAL:HG12	16:SO:124:SER:HA	2.02	0.42
19:SR:35:TRP:CE2	19:SR:37:PRO:HB3	2.55	0.42
24:SW:38:ASN:HD22	24:SW:38:ASN:HA	1.63	0.42
25:SX:109:VAL:HG11	25:SX:125:VAL:HG11	2.00	0.42
27:SZ:102:LEU:HD21	32:Se:53:LEU:HD12	2.01	0.42
37:B:6:C:O2'	45:G:50:ARG:NH2	2.52	0.42
38:C:36:G:H22	41:A:21:G:P	2.43	0.42
38:C:59:A:H5''	38:C:61:A:C8	2.55	0.42
38:C:139:U:H2'	38:C:140:G:C8	2.55	0.42
41:A:713:U:H2'	41:A:714:G:O4'	2.20	0.42
41:A:876:A:H4'	41:A:1890:U:H4'	2.01	0.42
41:A:1226:G:H2'	41:A:1227:C:C6	2.54	0.42
41:A:1382:G:P	44:F:188:ARG:HH12	2.43	0.42
41:A:1460:A:H2'	41:A:1461:A:H8	1.85	0.42
41:A:2629:U:O2'	41:A:2758:A:O2'	2.37	0.42
41:A:3146:G:H2'	41:A:3147:G:C8	2.55	0.42
41:A:3313:U:H2'	41:A:3314:A:C8	2.55	0.42
43:E:89:VAL:HG12	43:E:199:PHE:HZ	1.85	0.42
46:H:60:ASP:OD1	46:H:60:ASP:C	2.63	0.42
55:Q:140[A]:LYS:HA	55:Q:143[A]:THR:HG22	2.02	0.42
56:R:168:LEU:HD23	56:R:168:LEU:HA	1.81	0.42
81:x:163:SER:O	81:x:164:GLN:CB	2.68	0.42
81:x:263:PRO:O	81:x:310:PHE:O	2.37	0.42
82:v:63:ALA:HB1	82:v:67:MET:SD	2.59	0.42
82:v:91:VAL:CG1	82:v:92:PRO:HD3	2.49	0.42
82:v:302:ASP:CG	82:v:305:ALA:H	2.28	0.42
82:v:490:ARG:HD2	82:v:559:ARG:NH1	2.35	0.42
82:v:805:PHE:CB	82:v:810:GLU:HG3	2.44	0.42
82:v:811:TYR:OH	82:v:841:ARG:NH1	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:v:906:LEU:HD12	82:v:906:LEU:HA	1.77	0.42
1:2:299:A:OP1	20:SS:30:ARG:NH2	2.52	0.42
1:2:310:C:H4'	30:Sc:33:LEU:HD23	2.02	0.42
1:2:609:U:H1'	1:2:610:G:OP2	2.19	0.42
1:2:804:A:C2	29:Sb:105:THR:HG23	2.55	0.42
1:2:953:G:H2'	1:2:954:G:C8	2.54	0.42
1:2:1218:G:N2	1:2:1444:A:OP2	2.29	0.42
1:2:1667:A:H2'	1:2:1668:G:C8	2.54	0.42
2:SA:219:ALA:HA	2:SA:220:PRO:HD3	1.92	0.42
4:SC:20:VAL:HG12	4:SC:67:THR:HG22	2.02	0.42
9:SH:144:ARG:HD3	9:SH:144:ARG:HA	1.89	0.42
15:SN:138:ARG:HG2	15:SN:139:LEU:N	2.34	0.42
16:SO:134:TRP:CZ3	16:SO:140:CYS:HB2	2.54	0.42
19:SR:84:LYS:HB3	19:SR:84:LYS:HE3	1.78	0.42
20:SS:47:PHE:O	20:SS:51:ARG:HB2	2.19	0.42
27:SZ:82:LYS:HE3	27:SZ:118:VAL:HG11	2.01	0.42
30:Sc:57:LEU:HD12	30:Sc:57:LEU:HA	1.93	0.42
37:B:64:A:N7	50:L:209:ASN:ND2	2.68	0.42
39:T:86:GLU:HB3	41:A:833:G:OP1	2.20	0.42
41:A:77:A:N1	41:A:324:A:N6	2.68	0.42
41:A:106:A:N3	41:A:325:A:H1'	2.35	0.42
41:A:629:U:H2'	41:A:630:A:H8	1.83	0.42
41:A:1804:A:H2'	41:A:1805:C:C6	2.55	0.42
41:A:1813:A:H2'	41:A:1814:A:C8	2.54	0.42
41:A:1836:C:H2'	41:A:1837:U:H6	1.83	0.42
41:A:2103:U:H2'	41:A:2104:A:H8	1.85	0.42
41:A:2585:G:H1'	48:J:48:ARG:HG3	2.02	0.42
41:A:2611:U:H2'	41:A:2612:U:C6	2.55	0.42
41:A:2864:A:H2'	41:A:2865:U:C6	2.55	0.42
41:A:2933:A:H2'	41:A:2934:A:C4	2.54	0.42
42:D:149:ARG:NH1	42:D:155:LYS:HG2	2.34	0.42
48:J:183:LYS:HB3	48:J:183:LYS:HE2	1.82	0.42
51:M:75:LYS:HE2	82:v:656:GLU:OE1	2.20	0.42
61:X:67:PRO:HD2	61:X:68:GLU:H	1.85	0.42
71:i:74:ARG:HD2	71:i:75:ALA:N	2.34	0.42
72:j:31:LEU:HB3	72:j:44:ILE:CD1	2.50	0.42
72:j:79:ASP:OD1	72:j:79:ASP:N	2.51	0.42
81:x:357:TYR:OH	81:x:433:VAL:HG21	2.19	0.42
82:v:505:THR:O	82:v:506:SER:OG	2.38	0.42
82:v:599:SER:HA	82:v:624:PHE:HE2	1.85	0.42
1:2:2:A:N3	19:SR:199:GLN:NE2	2.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:116:U:H2'	1:2:117:U:C6	2.55	0.42
1:2:1023:A:H4'	1:2:1024:U:O5'	2.19	0.42
1:2:1113:A:N1	1:2:1131:A:H5''	2.35	0.42
1:2:1358:G:OP1	10:SI:130:ARG:NH2	2.52	0.42
1:2:1458:G:N3	1:2:1458:G:H2'	2.35	0.42
3:SB:45:LYS:HG3	3:SB:46:TRP:CD2	2.55	0.42
3:SB:71:ALA:O	3:SB:91:GLU:HG3	2.20	0.42
7:SF:39:VAL:HG12	7:SF:40:GLU:H	1.85	0.42
16:SO:178:VAL:C	16:SO:179:LYS:HD2	2.45	0.42
20:SS:210:ILE:HB	20:SS:218:PHE:CE1	2.55	0.42
22:SU:26:GLU:O	22:SU:30:SER:OG	2.26	0.42
22:SU:124:LYS:HD3	22:SU:124:LYS:HA	1.90	0.42
27:SZ:29:HIS:HB2	27:SZ:41:ARG:HG2	2.01	0.42
35:s:77:A:C2	81:x:292:VAL:C	2.98	0.42
39:T:133:LYS:HG3	39:T:134:HIS:CD2	2.55	0.42
41:A:903:U:H2'	41:A:904:A:C8	2.54	0.42
41:A:1246:G:P	41:A:1246:G:H8	2.43	0.42
41:A:1615:C:H2'	41:A:1616:U:H6	1.85	0.42
41:A:1651:U:H2'	41:A:1652:G:C8	2.55	0.42
41:A:1887:A:C2	41:A:2391:G:H4'	2.54	0.42
41:A:2186:U:H2'	41:A:2187:G:O4'	2.19	0.42
41:A:2368:A:H2'	41:A:2369:G:C8	2.55	0.42
41:A:2877:G:H2'	41:A:2878:G:H8	1.85	0.42
43:E:106:TRP:HB2	43:E:133:TYR:CE2	2.55	0.42
48:J:158:ASP:HB2	48:J:159:PRO:CD	2.46	0.42
51:M:12:LEU:HD22	51:M:131:MET:HE3	2.01	0.42
52:N:179:PHE:O	52:N:183:ARG:HG3	2.19	0.42
53:O:133:LYS:NZ	53:O:137:LYS:HE2	2.35	0.42
64:b:4:PHE:HE2	67:e:63:SER:HB2	1.85	0.42
64:b:123:GLN:OE1	64:b:123:GLN:HA	2.20	0.42
82:v:671:MET:HE1	82:v:719:PRO:HB2	2.02	0.42
1:2:547:U:O2'	1:2:596:C:O2	2.36	0.41
1:2:850:A:OP1	39:T:165:LYS:HG2	2.20	0.41
1:2:894:U:H2'	1:2:895:G:C8	2.55	0.41
1:2:1760:G:H1'	1:2:1781:A:H2	1.85	0.41
2:SA:224:ASP:OD1	2:SA:225:TYR:N	2.49	0.41
8:SG:84:TYR:CD2	8:SG:86:PRO:HD3	2.55	0.41
11:SJ:82:TYR:HB3	14:SM:52:PHE:HB3	2.02	0.41
16:SO:90:ARG:NH2	16:SO:102:ARG:HH21	2.18	0.41
18:SQ:88:VAL:HG22	18:SQ:98:THR:HG22	2.01	0.41
19:SR:187:LEU:HD13	19:SR:211:LEU:HD22	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:SS:21:ASP:OD1	20:SS:21:ASP:C	2.62	0.41
20:SS:175:PHE:C	20:SS:175:PHE:CD1	2.98	0.41
20:SS:183:VAL:HG13	20:SS:220:THR:HG21	2.01	0.41
30:Sc:19:ARG:O	30:Sc:23:ARG:HG3	2.20	0.41
37:B:94:C:H2'	37:B:95:A:C8	2.55	0.41
41:A:293:C:H2'	41:A:294:U:O4'	2.20	0.41
41:A:1157:G:O2'	41:A:1169:A:N3	2.51	0.41
41:A:1247:U:N3	41:A:1267:U:OP2	2.49	0.41
41:A:2225:U:H2'	41:A:2226:U:H6	1.85	0.41
41:A:2441:A:H2'	41:A:2442:G:H8	1.85	0.41
41:A:2680:A:C2	51:M:57:PHE:HE2	2.38	0.41
41:A:3292:A:H2'	41:A:3293:U:C6	2.55	0.41
44:F:205:PRO:HB3	44:F:247:PHE:CD2	2.55	0.41
44:F:299:ILE:HD12	57:S:39:ARG:HB2	2.01	0.41
46:H:172:HIS:CD2	70:h:40:ASP:HB3	2.55	0.41
47:I:40:LYS:HD3	47:I:170:GLU:OE1	2.20	0.41
47:I:216:VAL:HG21	47:I:227:GLY:HA2	2.01	0.41
57:S:140:LEU:HD23	57:S:140:LEU:HA	1.87	0.41
72:j:80:LEU:HD23	72:j:80:LEU:HA	1.89	0.41
82:v:73:ILE:O	82:v:76:GLN:HB3	2.20	0.41
82:v:673:PHE:CD2	82:v:720:THR:HG23	2.54	0.41
82:v:867:ARG:HD3	82:v:873:GLU:CG	2.50	0.41
1:2:66:U:H3	21:ST:160:ARG:HG2	1.84	0.41
1:2:153:G:H1	1:2:161:U:H3	1.66	0.41
1:2:1184:A:HO2'	1:2:1209:C:HO2'	1.62	0.41
1:2:1713:G:H2'	1:2:1714:A:H8	1.85	0.41
7:SF:39:VAL:CG1	7:SF:41:PRO:HD2	2.48	0.41
7:SF:40:GLU:H	7:SF:41:PRO:CD	2.32	0.41
8:SG:105:GLN:NE2	17:SP:42:PRO:HD3	2.34	0.41
11:SJ:70:THR:O	14:SM:40:ARG:NH1	2.52	0.41
17:SP:116:LYS:HE2	17:SP:116:LYS:HB2	1.83	0.41
18:SQ:33:LYS:HD2	18:SQ:41:ARG:CZ	2.50	0.41
18:SQ:138:PHE:CD1	18:SQ:214:LYS:HB2	2.54	0.41
24:SW:35:GLY:O	24:SW:110:GLN:NE2	2.52	0.41
28:Sa:8:LEU:HD23	28:Sa:9:VAL:O	2.20	0.41
41:A:633:C:O2'	70:h:21:ARG:O	2.38	0.41
41:A:836:A:H2'	41:A:837:A:H8	1.85	0.41
41:A:884:A:OP2	41:A:2139:A:N6	2.53	0.41
41:A:920:A:OP1	41:A:923:C:N4	2.40	0.41
41:A:1194:G:H2'	41:A:1195:A:C8	2.55	0.41
41:A:1554:U:H1'	41:A:1555:U:C5	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:1629:U:H1'	64:b:115:LYS:HE3	2.03	0.41
41:A:2281:A:N1	41:A:2959:C:H1'	2.35	0.41
41:A:2711:C:H2'	41:A:2712:U:C6	2.55	0.41
41:A:3304:U:P	43:E:332:ARG:HH22	2.43	0.41
42:D:211:HIS:NE2	42:D:235:ALA:O	2.53	0.41
51:M:87:LYS:HE3	51:M:87:LYS:HB3	1.80	0.41
51:M:101:ASN:HD22	51:M:101:ASN:N	2.18	0.41
51:M:117:ASP:OD2	51:M:119:SER:OG	2.34	0.41
54:P:98:LEU:HA	54:P:101:THR:HG22	2.02	0.41
54:P:122:ASN:OD1	54:P:123:GLN:N	2.52	0.41
70:h:45:LEU:HD23	70:h:45:LEU:HA	1.87	0.41
81:x:342:ALA:HB3	81:x:404:MET:HE3	2.02	0.41
82:v:215:CYS:SG	82:v:221:GLU:HB2	2.60	0.41
82:v:585:LEU:CB	82:v:605:VAL:HG21	2.50	0.41
82:v:696:ILE:O	82:v:946:ILE:HA	2.20	0.41
1:2:270:C:H41	21:ST:182:GLN:HE22	1.68	0.41
1:2:284:G:O6	21:ST:188:ARG:NH2	2.53	0.41
1:2:343:C:H2'	1:2:344:A:C8	2.54	0.41
1:2:611:U:OP1	30:Sc:19:ARG:NH2	2.52	0.41
1:2:891:A:H2'	1:2:892:A:H8	1.85	0.41
1:2:1307:U:H3	1:2:1319:A:H1'	1.84	0.41
1:2:1774:G:OP2	78:p:4:LYS:HG3	2.20	0.41
5:SD:125:ASN:C	5:SD:126:TRP:CG	2.98	0.41
8:SG:73:LEU:O	8:SG:73:LEU:HD23	2.21	0.41
8:SG:81:LYS:NZ	17:SP:205:ARG:HG3	2.35	0.41
19:SR:141:ARG:HG3	19:SR:141:ARG:NH1	2.34	0.41
23:SV:21:PHE:CD2	23:SV:22:ARG:HG3	2.55	0.41
23:SV:188:GLU:H	23:SV:188:GLU:HG3	1.73	0.41
30:Sc:29:TYR:CZ	30:Sc:33:LEU:HD22	2.54	0.41
39:T:133:LYS:HG3	39:T:134:HIS:HD2	1.85	0.41
41:A:19:U:H2'	41:A:20:A:C8	2.55	0.41
41:A:249:U:O2	41:A:250:U:N3	2.53	0.41
41:A:702:C:H2'	41:A:703:G:C8	2.55	0.41
41:A:792:G:C2	41:A:793:C:C5	3.09	0.41
41:A:1757:A:H2'	41:A:1758:G:H8	1.85	0.41
41:A:1886:A:H2'	41:A:1887:A:C8	2.54	0.41
41:A:2709:C:C2	41:A:2710:C:C5	3.08	0.41
42:D:45:VAL:HG22	42:D:61:VAL:HG22	2.02	0.41
42:D:96:LEU:HD22	80:r:83:ILE:HG23	2.01	0.41
51:M:77:GLU:HA	51:M:80:LEU:HB3	2.02	0.41
52:N:62:THR:HG23	52:N:64:LYS:H	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:S:29:LEU:HD12	57:S:29:LEU:HA	1.93	0.41
60:W:10:LYS:HA	60:W:10:LYS:HD3	1.81	0.41
60:W:49:ASN:OD1	60:W:49:ASN:O	2.39	0.41
81:x:263:PRO:HD3	81:x:312:VAL:HG22	2.01	0.41
82:v:180:ASP:CG	82:v:181:THR:N	2.79	0.41
1:2:555:A:N6	24:SW:19:TYR:OH	2.54	0.41
1:2:1253:U:H5''	15:SN:130:VAL:HG12	2.02	0.41
2:SA:120:TYR:HA	2:SA:123:VAL:HG12	2.02	0.41
5:SD:52:LEU:HD12	5:SD:52:LEU:HA	1.89	0.41
10:SI:25:GLN:NE2	82:v:179:TRP:CG	2.89	0.41
17:SP:179:ARG:HG3	17:SP:195:TRP:CE3	2.56	0.41
19:SR:148:LEU:HD11	24:SW:92:LYS:HE3	2.03	0.41
35:s:77:A:H2	81:x:292:VAL:CA	2.25	0.41
41:A:29:C:H4'	41:A:62:A:H4'	2.03	0.41
41:A:35:A:H2'	41:A:36:C:C6	2.55	0.41
41:A:138:U:H2'	41:A:139:G:H8	1.86	0.41
41:A:1035:G:H2'	41:A:1036:A:C8	2.44	0.41
41:A:1373:A:H2'	41:A:1374:G:H8	1.86	0.41
41:A:1415:U:H2'	41:A:1416:C:O4'	2.21	0.41
41:A:2226:U:H2'	41:A:2227:C:C6	2.56	0.41
41:A:2457:G:H1	41:A:2485:A:H61	1.67	0.41
41:A:2948:C:H5''	43:E:243:HIS:HB3	2.01	0.41
41:A:3127:A:H2'	41:A:3128:G:O4'	2.20	0.41
41:A:3132:C:H2'	41:A:3133:C:H6	1.85	0.41
41:A:3183:A:P	55:Q:12[A]:LYS:HE3	2.61	0.41
41:A:3345:G:H2'	41:A:3346:U:C6	2.54	0.41
43:E:343:TYR:CE2	43:E:345:ASN:HB2	2.55	0.41
44:F:299:ILE:HD13	44:F:299:ILE:HA	1.86	0.41
45:G:56:THR:O	45:G:56:THR:OG1	2.35	0.41
45:G:215:ASP:OD2	82:v:660:THR:HG21	2.19	0.41
46:H:131:LYS:O	46:H:135:VAL:HG23	2.20	0.41
55:Q:9[A]:ILE:HA	55:Q:118[A]:VAL:O	2.20	0.41
70:h:53:TYR:CZ	70:h:65:ARG:HB2	2.55	0.41
75:m:63:LYS:HB2	75:m:63:LYS:HE3	1.78	0.41
82:v:247:VAL:CG2	82:v:248:PRO:HD3	2.49	0.41
1:2:29:U:H2'	1:2:30:G:H8	1.84	0.41
1:2:1222:C:H2'	1:2:1223:A:C8	2.55	0.41
1:2:1234:A:H4'	15:SN:145:HIS:CD2	2.55	0.41
1:2:1780:G:N3	41:A:2261:G:O2'	2.50	0.41
3:SB:149:VAL:O	3:SB:150:GLY:C	2.61	0.41
6:SE:50:THR:OG1	6:SE:51:SER:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:SV:44:HIS:O	23:SV:56:ARG:N	2.53	0.41
24:SW:123:HIS:CE1	34:Sg:37:ARG:HE	2.39	0.41
37:B:77:G:O2'	37:B:101:G:O6	2.32	0.41
39:T:4:LEU:HD22	39:T:32:ILE:HG22	2.03	0.41
39:T:62:ARG:NH2	41:A:3067:C:H3'	2.35	0.41
41:A:125:C:H2'	41:A:126:U:C6	2.53	0.41
41:A:166:C:H2'	41:A:167:U:C6	2.55	0.41
41:A:371:G:O2'	41:A:396:A:N6	2.53	0.41
41:A:664:U:H2'	41:A:665:A:C8	2.54	0.41
41:A:702:C:H2'	41:A:703:G:H8	1.84	0.41
41:A:775:A:H3'	41:A:776:U:H5''	2.01	0.41
41:A:1226:G:H2'	41:A:1227:C:H6	1.85	0.41
41:A:1927:G:N2	41:A:1928:G:N7	2.68	0.41
41:A:2659:G:H2'	41:A:2660:G:H8	1.84	0.41
41:A:3002:C:OP1	43:E:26:ARG:NH2	2.49	0.41
41:A:3152:U:OP2	41:A:3395:G:N1	2.46	0.41
45:G:104:LEU:HB2	45:G:247:ILE:HD13	2.02	0.41
45:G:257:GLU:C	45:G:259:LYS:H	2.29	0.41
45:G:294:ALA:HB1	50:L:217:PHE:HB3	2.01	0.41
52:N:77:LEU:HA	52:N:80:VAL:HG22	2.02	0.41
56:R:60:PHE:HB3	56:R:64:ASN:HB3	2.00	0.41
57:S:57:ILE:HG13	57:S:58:ASN:N	2.35	0.41
81:x:346:ILE:O	81:x:346:ILE:HG12	2.21	0.41
82:v:129:LEU:O	82:v:133:THR:HG22	2.21	0.41
82:v:824:LYS:HE3	82:v:824:LYS:HB2	1.74	0.41
82:v:966:LYS:HB2	82:v:966:LYS:HE3	1.77	0.41
1:2:455:C:H3'	1:2:456:A:H8	1.85	0.41
1:2:996:U:H3	1:2:1008:G:H1	1.69	0.41
1:2:1417:A:O2'	7:SF:128:LYS:NZ	2.53	0.41
8:SG:82:ASP:OD1	8:SG:82:ASP:C	2.63	0.41
10:SI:47:PRO:HG2	10:SI:53:TRP:CE2	2.56	0.41
11:SJ:45:ALA:HB1	11:SJ:52:LYS:HG2	2.02	0.41
14:SM:36:LEU:HD23	14:SM:36:LEU:HA	1.93	0.41
21:ST:21:GLU:O	21:ST:25:ARG:NH2	2.53	0.41
28:Sa:5:LYS:HE2	28:Sa:7:GLN:HE22	1.85	0.41
41:A:786:A:H1'	41:A:787:G:C8	2.55	0.41
41:A:913:A:H5''	41:A:914:A:C8	2.55	0.41
41:A:1246:G:H8	41:A:1246:G:OP1	2.02	0.41
41:A:1260:A:H5'	41:A:1280:C:H4'	2.02	0.41
41:A:1436:U:H5''	41:A:1437:C:H5''	2.02	0.41
41:A:1602:A:H8	41:A:1602:A:OP1	2.04	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:1785:U:H2'	41:A:1786:G:H8	1.85	0.41
41:A:2412:G:H2'	41:A:2413:A:H8	1.85	0.41
41:A:3074:G:H2'	41:A:3075:G:H8	1.86	0.41
41:A:3116:G:H5'	41:A:3117:C:H5	1.86	0.41
42:D:71:LEU:HD23	42:D:71:LEU:HA	1.92	0.41
44:F:31:ARG:O	44:F:35:VAL:HG23	2.21	0.41
45:G:287:ALA:O	45:G:290:ILE:HG22	2.21	0.41
47:I:74:SER:OG	59:V:141:VAL:O	2.20	0.41
51:M:93:ASP:N	51:M:172:LEU:O	2.54	0.41
54:P:153:ASP:OD1	54:P:154:PRO:HD2	2.20	0.41
55:Q:10[A]:ASP:OD2	55:Q:37[A]:ARG:NH2	2.47	0.41
57:S:98:LYS:HE3	57:S:98:LYS:HB2	1.71	0.41
59:V:103:GLN:O	59:V:107:GLU:HG2	2.21	0.41
71:i:8:ARG:HB2	71:i:34:HIS:CD2	2.56	0.41
72:j:45:LYS:O	72:j:49:LYS:HG2	2.20	0.41
82:v:228:LEU:HA	82:v:231:ALA:HB3	2.02	0.41
82:v:287:GLY:C	82:v:288:LYS:HD3	2.45	0.41
82:v:567:ASP:CG	82:v:595:ILE:HD12	2.45	0.41
82:v:642:ASN:HD21	82:v:933:ALA:H	1.69	0.41
82:v:674:GLN:NE2	82:v:679:SER:O	2.52	0.41
1:2:849:C:H2'	1:2:850:A:H8	1.85	0.41
1:2:1175:U:H2'	1:2:1176:G:C8	2.55	0.41
1:2:1217:A:H61	14:SM:7:TRP:NE1	2.19	0.41
1:2:1345:A:H1'	11:SJ:56:VAL:HG22	2.03	0.41
4:SC:52:LYS:HA	4:SC:52:LYS:HD3	1.90	0.41
4:SC:77:ARG:HG3	4:SC:82:LEU:CB	2.50	0.41
7:SF:90:VAL:O	7:SF:94:GLN:N	2.54	0.41
9:SH:106:GLU:O	9:SH:110:ARG:HG3	2.20	0.41
20:SS:100:ARG:HG2	20:SS:102:VAL:HG13	2.02	0.41
24:SW:96:VAL:HA	24:SW:99:LEU:HD13	2.03	0.41
26:SY:22:ALA:HB1	26:SY:23:PRO:HA	2.02	0.41
26:SY:36:GLN:OE1	26:SY:36:GLN:HA	2.20	0.41
28:Sa:73:ALA:O	28:Sa:78:LEU:N	2.54	0.41
35:s:77:A:N7	81:x:293:GLU:HG3	2.26	0.41
38:C:154:C:H2'	38:C:155:A:H8	1.85	0.41
41:A:171:G:H2'	41:A:172:G:O4'	2.21	0.41
41:A:229:G:H5''	63:a:4:GLN:H	1.84	0.41
41:A:623:U:O3'	70:h:86:ARG:NH2	2.53	0.41
41:A:797:U:H2'	41:A:798:G:H8	1.85	0.41
41:A:1112:A:H2	41:A:1369:A:C2	2.39	0.41
41:A:1214:U:H2'	41:A:1215:U:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:1895:A:O2'	41:A:3053:G:H4'	2.20	0.41
41:A:2524:A:H5'	48:J:49:TYR:HB3	2.03	0.41
41:A:2805:G:H2'	41:A:2806:U:C6	2.56	0.41
41:A:3019:U:H2'	41:A:3020:U:O4'	2.21	0.41
41:A:3195:U:O2'	41:A:3197:G:N2	2.50	0.41
42:D:136:ILE:HD13	42:D:148:VAL:HG12	2.02	0.41
43:E:94:GLU:CD	55:Q:152[A]:VAL:HG22	2.45	0.41
45:G:55:PHE:HE1	45:G:159:VAL:HG13	1.86	0.41
45:G:124:GLU:HG2	45:G:124:GLU:O	2.21	0.41
50:L:135:ILE:HG22	50:L:136:PHE:CD1	2.56	0.41
50:L:202:LYS:HD2	50:L:202:LYS:HA	1.92	0.41
52:N:105:ASN:HB3	52:N:108:ILE:HB	2.02	0.41
68:f:96:VAL:HG12	68:f:98:VAL:HG13	2.02	0.41
69:g:102:ALA:HA	69:g:105:ARG:HB2	2.02	0.41
82:v:661:LYS:HE2	82:v:692:LEU:HG	2.02	0.41
82:v:799:ILE:HD12	82:v:851:MET:HG2	2.02	0.41
1:2:520:A:H2'	1:2:521:A:C8	2.56	0.41
1:2:635:A:H2'	1:2:636:A:H8	1.86	0.41
1:2:1087:A:H2'	1:2:1088:A:C8	2.55	0.41
1:2:1522:U:H4'	1:2:1523:G:OP2	2.21	0.41
1:2:1775:U:H2'	1:2:1776:A:C8	2.55	0.41
4:SC:82:LEU:HA	4:SC:83:PRO:HD3	1.89	0.41
5:SD:66:VAL:HG13	5:SD:67:THR:HG22	2.02	0.41
12:SK:60:VAL:HG12	12:SK:101:TYR:HB2	2.02	0.41
20:SS:246:LEU:HB3	20:SS:250:GLU:HB2	2.03	0.41
21:ST:137:ARG:O	21:ST:141:ILE:HG13	2.20	0.41
24:SW:114:TYR:HE2	24:SW:121:SER:HA	1.86	0.41
31:Sd:22:GLN:HB3	31:Sd:72:PHE:HZ	1.84	0.41
35:s:77:A:O2'	81:x:293:GLU:CA	2.67	0.41
35:s:77:A:C8	81:x:293:GLU:HG3	2.55	0.41
37:B:81:U:O2'	41:A:1055:A:N3	2.53	0.41
41:A:388:G:H4'	56:R:18:ARG:HG2	2.03	0.41
41:A:783:A:H5''	41:A:784:A:H5'	2.02	0.41
41:A:836:A:O2'	80:r:10:ILE:O	2.37	0.41
41:A:1127:G:N2	41:A:1130:A:OP2	2.43	0.41
41:A:1198:C:OP2	41:A:1199:C:O2'	2.25	0.41
41:A:1223:A:H1'	41:A:1287:A:C2	2.53	0.41
41:A:1307:G:N3	55:Q:60[A]:LYS:HE2	2.36	0.41
41:A:1495:U:H2'	41:A:1842:A:C2	2.55	0.41
41:A:1508:C:H5''	41:A:2353:G:H21	1.86	0.41
41:A:2683:U:H2'	41:A:2684:C:H6	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:D:30:ARG:HG3	42:D:74:GLU:HG2	2.02	0.41
42:D:102:LEU:HD12	42:D:102:LEU:H	1.85	0.41
48:J:160:ILE:O	48:J:164:VAL:HG13	2.21	0.41
48:J:203:VAL:HG21	48:J:211:LEU:HD22	2.02	0.41
53:O:33:ALA:HB3	53:O:46:ILE:HD12	2.01	0.41
54:P:22:LEU:O	54:P:26:ARG:HG3	2.20	0.41
56:R:43:LYS:HE3	56:R:43:LYS:HB3	1.64	0.41
58:U:77:VAL:HG12	58:U:79:VAL:HG13	2.02	0.41
69:g:71:HIS:HB3	69:g:93:ALA:HB2	2.03	0.41
71:i:22:VAL:HG12	71:i:30:LEU:HD22	2.03	0.41
81:x:293:GLU:O	81:x:309:GLY:N	2.53	0.41
82:v:208:PHE:HD1	82:v:228:LEU:HD23	1.86	0.41
82:v:269:ILE:HG22	82:v:285:PHE:HZ	1.85	0.41
82:v:664:ALA:C	82:v:666:VAL:N	2.77	0.41
82:v:743:ILE:HG22	82:v:747:LEU:HD23	2.01	0.41
82:v:769:ASP:HA	82:v:773:ARG:HH21	1.86	0.41
1:2:569:C:H2'	1:2:570:A:H8	1.86	0.41
1:2:575:C:N4	30:Sc:65:ASN:OD1	2.53	0.41
1:2:1042:G:H2'	1:2:1043:A:C8	2.55	0.41
1:2:1210:C:H2'	1:2:1211:A:H8	1.86	0.41
1:2:1220:C:OP1	4:SC:48:SER:OG	2.25	0.41
1:2:1408:G:N9	16:SO:284:ALA:HB3	2.35	0.41
1:2:1585:U:H3	1:2:1611:A:H2	1.69	0.41
1:2:1588:G:H1	1:2:1608:U:H3	1.69	0.41
2:SA:7:LYS:HD3	2:SA:7:LYS:HA	1.77	0.41
2:SA:161:GLY:O	2:SA:164:VAL:HG12	2.20	0.41
3:SB:63:GLN:HB3	3:SB:87:CYS:O	2.21	0.41
5:SD:52:LEU:HB3	5:SD:78:LEU:HD21	2.03	0.41
6:SE:54:ALA:O	6:SE:58:LYS:HG2	2.21	0.41
7:SF:26:LYS:HD2	7:SF:26:LYS:N	2.35	0.41
8:SG:69:ILE:HB	8:SG:71:PHE:CE2	2.56	0.41
8:SG:91:LEU:HG	17:SP:168:HIS:NE2	2.35	0.41
8:SG:115:LEU:H	8:SG:115:LEU:HD23	1.85	0.41
11:SJ:108:ILE:HD11	11:SJ:114:VAL:HG12	2.03	0.41
14:SM:33:LYS:HG2	14:SM:34:TYR:CD2	2.55	0.41
16:SO:9:LEU:HB2	16:SO:313:TRP:CE3	2.56	0.41
16:SO:33:LEU:HD12	16:SO:33:LEU:HA	1.79	0.41
17:SP:121:VAL:HG23	17:SP:141:ILE:HG21	2.03	0.41
18:SQ:78:ASP:OD1	18:SQ:78:ASP:N	2.35	0.41
19:SR:88:LYS:HD3	19:SR:95:ARG:CZ	2.50	0.41
19:SR:174:ARG:O	24:SW:97:LEU:HB3	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:ST:137:ARG:HB3	21:ST:140:ASN:OD1	2.21	0.41
26:SY:61:THR:OG1	26:SY:62:GLN:N	2.54	0.41
26:SY:129:TYR:HA	26:SY:132:VAL:HG12	2.03	0.41
27:SZ:21:ALA:O	27:SZ:85:ALA:HA	2.21	0.41
28:Sa:4:ASP:OD1	28:Sa:4:ASP:N	2.52	0.41
31:Sd:14:SER:HA	31:Sd:21:LYS:HG3	2.03	0.41
35:s:77:A:C5	81:x:293:GLU:CG	2.71	0.41
39:T:188:ASP:OD1	39:T:189:ALA:N	2.53	0.41
41:A:356:C:H2'	41:A:357:A:H8	1.86	0.41
41:A:413:U:OP1	56:R:30:ARG:NH1	2.54	0.41
41:A:639:G:H2'	41:A:640:U:H6	1.86	0.41
41:A:644:G:H21	41:A:2372:A:H5'	1.85	0.41
41:A:736:A:C2	41:A:737:G:H1'	2.56	0.41
41:A:904:A:H2'	41:A:905:U:C6	2.56	0.41
41:A:1341:U:H2'	41:A:1342:C:H6	1.86	0.41
41:A:1742:U:H2'	41:A:1743:G:H8	1.86	0.41
41:A:1856:C:H2'	41:A:1857:C:C6	2.55	0.41
41:A:1900:A:H2	41:A:1907:C:H41	1.69	0.41
41:A:2180:G:H2'	41:A:2181:C:H6	1.84	0.41
41:A:2207:A:H61	41:A:2236:G:H1	1.69	0.41
41:A:2241:U:O2'	42:D:243:THR:N	2.48	0.41
41:A:2276:G:OP1	78:p:19:LYS:NZ	2.54	0.41
41:A:2492:C:H2'	41:A:2493:U:H4'	2.03	0.41
41:A:2722:U:H2'	41:A:2723:U:H6	1.85	0.41
41:A:2768:U:H2'	41:A:2769:A:C8	2.55	0.41
41:A:2858:U:H1'	41:A:2887:A:H61	1.86	0.41
41:A:3049:A:C8	43:E:53:MET:HE2	2.56	0.41
41:A:3153:U:OP2	41:A:3293:U:O2'	2.22	0.41
41:A:3301:U:H2'	41:A:3302:U:C6	2.56	0.41
41:A:3343:G:O2'	41:A:3362:A:N6	2.54	0.41
42:D:104:LEU:HD22	42:D:136:ILE:HD11	2.01	0.41
52:N:116:LEU:HD23	52:N:116:LEU:HA	1.92	0.41
57:S:89:ASP:HB2	57:S:110:ALA:N	2.36	0.41
58:U:109:ASP:OD1	58:U:113:ARG:NH2	2.54	0.41
60:W:22:PRO:HA	60:W:107:PHE:CZ	2.56	0.41
60:W:34:ALA:O	60:W:38:ILE:HG23	2.21	0.41
60:W:104:ARG:HG2	60:W:105:LEU:N	2.35	0.41
63:a:27:ARG:NH1	63:a:75:ARG:O	2.42	0.41
63:a:48:LEU:HG	63:a:49:PRO:HD2	2.01	0.41
63:a:110:HIS:O	63:a:115:ARG:HD2	2.21	0.41
67:e:13:LYS:HZ2	67:e:104:LEU:HD23	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:e:51:LEU:HD12	67:e:51:LEU:HA	1.88	0.41
74:l:22:CYS:SG	74:l:36:SER:OG	2.70	0.41
80:r:29:LEU:HD23	80:r:29:LEU:HA	1.86	0.41
80:r:74:ALA:O	80:r:78:THR:HG23	2.21	0.41
81:x:60:LEU:HD22	81:x:91:ASP:HB2	2.03	0.41
81:x:292:VAL:HA	81:x:309:GLY:O	2.21	0.41
81:x:342:ALA:HB1	81:x:438:ILE:HG12	2.01	0.41
82:v:45:VAL:HG22	82:v:46:PRO:O	2.21	0.41
82:v:218:ASP:OD1	82:v:218:ASP:N	2.53	0.41
82:v:287:GLY:HA3	82:v:288:LYS:HZ3	1.86	0.41
82:v:733:ALA:HB2	82:v:914:PRO:HG3	2.01	0.41
82:v:785:LYS:HG3	82:v:847:SER:CB	2.51	0.41
2:SA:169:ASP:OD1	2:SA:169:ASP:C	2.64	0.41
7:SF:79:TYR:HA	7:SF:82:ARG:HD3	2.03	0.41
10:SI:24:ARG:NH2	82:v:179:TRP:CH2	2.89	0.41
22:SU:63:PRO:C	22:SU:65:PRO:HD2	2.46	0.41
29:Sb:86:ILE:HD13	29:Sb:86:ILE:HA	1.85	0.41
30:Sc:69:ARG:HD3	30:Sc:69:ARG:HA	1.78	0.41
35:s:27:G:H2'	35:s:28:U:H5'	2.02	0.41
35:s:52:C:H5'	81:x:371:LYS:HE2	2.03	0.41
35:s:61:A:P	35:s:62:C:H41	2.44	0.41
39:T:73:GLY:O	39:T:74:ARG:HG2	2.20	0.41
41:A:59:G:H4'	41:A:60:A:H4'	2.02	0.41
41:A:594:U:OP1	41:A:609:G:N1	2.34	0.41
41:A:939:U:H2'	41:A:940:G:C8	2.56	0.41
41:A:1096:U:OP2	59:V:116:ARG:NH2	2.49	0.41
41:A:1257:C:H5''	41:A:1258:U:OP2	2.21	0.41
41:A:1463:U:H2'	41:A:1464:G:O4'	2.21	0.41
41:A:1534:A:OP2	41:A:1586:G:N1	2.33	0.41
41:A:1802:C:H2'	41:A:1803:C:H6	1.86	0.41
41:A:2227:C:H2'	41:A:2228:A:C8	2.54	0.41
41:A:2266:U:H2'	41:A:2267:C:O4'	2.21	0.41
41:A:2546:C:H2'	41:A:2547:A:O4'	2.21	0.41
41:A:2785:A:H2'	41:A:2786:G:H8	1.84	0.41
41:A:2936:A:H2'	41:A:2937:G:H8	1.86	0.41
41:A:2956:A:H61	41:A:2977:G:H1'	1.85	0.41
43:E:107:ALA:HB1	43:E:200:GLU:HG3	2.02	0.41
45:G:179:ARG:HA	45:G:179:ARG:HD3	1.80	0.41
49:K:109:ALA:HB3	49:K:111:PHE:CE1	2.56	0.41
49:K:120:ASP:C	49:K:120:ASP:OD1	2.64	0.41
52:N:171:ARG:HD2	52:N:171:ARG:HA	1.93	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:P:8:GLU:OE2	54:P:12:ARG:NH1	2.54	0.41
55:Q:9[A]:ILE:HD11	55:Q:33[A]:ILE:HD13	2.03	0.41
60:W:37:LEU:HD23	60:W:37:LEU:HA	1.86	0.41
62:Z:131:ASP:O	62:Z:135:ILE:HG12	2.21	0.41
73:k:60:LEU:HD23	73:k:60:LEU:HA	1.87	0.41
82:v:383:PHE:CZ	82:v:400:LYS:HG3	2.56	0.41
82:v:970:MET:HE3	82:v:970:MET:HB3	1.65	0.41
1:2:82:U:H2'	1:2:83:G:O4'	2.21	0.40
1:2:409:C:H2'	1:2:410:A:C8	2.56	0.40
1:2:568:G:O2'	1:2:583:C:O2'	2.37	0.40
1:2:800:U:H2'	1:2:801:G:C8	2.57	0.40
1:2:810:G:O2'	22:SU:111:LYS:HG3	2.21	0.40
1:2:947:U:H2'	1:2:948:G:H8	1.86	0.40
1:2:1042:G:H22	1:2:1076:A:H2	1.69	0.40
1:2:1082:C:H1'	28:Sa:62:ARG:NH2	2.36	0.40
1:2:1256:A:H1'	1:2:1257:U:OP2	2.21	0.40
9:SH:16:ARG:NH2	9:SH:19:ASN:OD1	2.54	0.40
11:SJ:34:LEU:HD12	11:SJ:112:VAL:HG23	2.03	0.40
16:SO:206:PRO:HG2	16:SO:247:PRO:HA	2.02	0.40
19:SR:40:LYS:HZ2	19:SR:247:ALA:HB1	1.86	0.40
24:SW:154:LYS:H	24:SW:154:LYS:HG2	1.72	0.40
28:Sa:12:TYR:CG	28:Sa:12:TYR:O	2.74	0.40
28:Sa:68:SER:O	28:Sa:72:LEU:HG	2.20	0.40
29:Sb:33:VAL:HG22	29:Sb:110:ILE:HD11	2.03	0.40
36:t:15:G:H22	36:t:48:C:H42	1.69	0.40
38:C:126:A:N1	41:A:1618:G:O2'	2.54	0.40
41:A:56:G:H4'	54:P:158:HIS:CG	2.56	0.40
41:A:174:C:H2'	41:A:175:C:C6	2.55	0.40
41:A:953:G:H5'	41:A:954:U:O5'	2.21	0.40
41:A:998:A:H2'	41:A:999:G:C8	2.56	0.40
41:A:1174:G:H22	55:Q:87[A]:MET:HE2	1.85	0.40
41:A:1503:A:N3	41:A:1503:A:H2'	2.36	0.40
41:A:1909:A:H2'	41:A:1910:A:C8	2.56	0.40
41:A:1927:G:C8	80:r:16:VAL:HG12	2.56	0.40
44:F:157:GLU:HG3	44:F:251:THR:HG21	2.02	0.40
46:H:66:THR:HG21	46:H:145:LEU:HD11	2.02	0.40
46:H:78:ARG:NH2	46:H:106:PHE:HB2	2.37	0.40
47:I:208:SER:OG	47:I:209:ASN:N	2.54	0.40
51:M:55:ARG:CZ	51:M:55:ARG:HB3	2.50	0.40
56:R:67:ILE:HD11	56:R:80:LYS:HB3	2.03	0.40
57:S:155:MET:HE1	57:S:163:PRO:HG3	2.01	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:e:86:ARG:NE	80:r:44:LYS:HG2	2.36	0.40
71:i:55:SER:O	71:i:62:TYR:OH	2.26	0.40
71:i:76:TYR:HD1	71:i:85:VAL:HG22	1.85	0.40
74:l:28:HIS:HB3	74:l:31:LYS:HB3	2.02	0.40
82:v:167:MET:HE2	82:v:167:MET:HA	2.03	0.40
82:v:303:PRO:HB3	82:v:306:ARG:HH22	1.85	0.40
82:v:402:ILE:HD13	82:v:402:ILE:HA	1.92	0.40
82:v:553:LEU:HD12	82:v:554:ALA:N	2.36	0.40
82:v:624:PHE:CD1	82:v:624:PHE:C	2.97	0.40
1:2:430:G:H5'	81:x:290:LYS:HE3	1.97	0.40
1:2:1245:G:O2'	1:2:1246:C:O5'	2.40	0.40
1:2:1480:G:O2'	7:SF:40:GLU:OE1	2.22	0.40
2:SA:141:LYS:HB3	2:SA:141:LYS:HE2	1.92	0.40
5:SD:29:LYS:HD2	5:SD:100:TRP:CD2	2.56	0.40
12:SK:57:TYR:CD2	12:SK:60:VAL:HG23	2.54	0.40
16:SO:128:ASP:C	16:SO:129:LYS:HG2	2.46	0.40
16:SO:242:SER:O	16:SO:255:ALA:N	2.37	0.40
22:SU:44:LYS:HE2	22:SU:63:PRO:HB3	2.03	0.40
25:SX:96:LYS:HD3	25:SX:97:TYR:CZ	2.56	0.40
30:Sc:18:HIS:O	30:Sc:22:ASN:ND2	2.52	0.40
35:s:19:G:H3'	35:s:20:U:O2	2.21	0.40
37:B:24:A:H2'	37:B:25:G:O4'	2.21	0.40
37:B:60:G:H2'	37:B:61:G:H8	1.86	0.40
41:A:123:A:OP1	48:J:105:LYS:NZ	2.54	0.40
41:A:501:A:H2'	41:A:502:U:H6	1.86	0.40
41:A:840:C:H2'	41:A:841:A:C8	2.57	0.40
41:A:1225:A:C4	41:A:1226:G:C8	3.09	0.40
41:A:1682:U:O4	60:W:90:ARG:NH1	2.55	0.40
41:A:2188:A:N3	41:A:2188:A:H2'	2.35	0.40
41:A:2284:C:H41	41:A:2308:C:P	2.45	0.40
41:A:2482:U:H2'	41:A:2483:G:H8	1.87	0.40
41:A:2684:C:H2'	41:A:2685:C:H6	1.85	0.40
41:A:3049:A:C6	43:E:75:ALA:HB2	2.56	0.40
41:A:3305:A:H2'	41:A:3306:U:C2	2.57	0.40
50:L:200:LEU:HD12	50:L:213:PHE:CD2	2.56	0.40
52:N:62:THR:HG23	52:N:64:LYS:N	2.35	0.40
62:Z:81:ILE:HG21	62:Z:123:TYR:HB3	2.03	0.40
63:a:54:ASP:O	63:a:70:ILE:HG12	2.21	0.40
73:k:44:VAL:HA	73:k:47:ILE:HG12	2.02	0.40
81:x:263:PRO:HB2	81:x:310:PHE:CD2	2.56	0.40
81:x:359:PRO:CG	81:x:426:VAL:HG13	2.52	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:v:490:ARG:O	82:v:561:ALA:HB1	2.20	0.40
82:v:660:THR:CG2	82:v:663:LYS:HB2	2.44	0.40
82:v:661:LYS:O	82:v:693:SER:N	2.54	0.40
1:2:1226:A:HO2'	1:2:1227:A:C5'	2.30	0.40
1:2:1379:C:HO2'	7:SF:17:THR:HG1	1.64	0.40
2:SA:164:VAL:HG23	2:SA:168:ILE:HD12	2.04	0.40
7:SF:93:HIS:HB3	7:SF:102:LYS:HG3	2.03	0.40
7:SF:103:ASN:OD1	7:SF:104:GLU:N	2.54	0.40
8:SG:108:ASP:OD1	8:SG:108:ASP:N	2.55	0.40
9:SH:67:GLU:H	9:SH:67:GLU:HG2	1.70	0.40
13:SL:60:GLU:O	13:SL:61:ARG:HG3	2.21	0.40
23:SV:41:LYS:HA	23:SV:59:ARG:O	2.21	0.40
24:SW:107:ARG:HH22	24:SW:148:VAL:HG23	1.85	0.40
35:s:48:U:H3	35:s:52:C:P	2.44	0.40
36:t:74:C:C5	50:L:110:ARG:HB3	2.56	0.40
37:B:11:A:H4'	37:B:13:A:C8	2.56	0.40
41:A:224:C:H2'	41:A:225:C:C6	2.55	0.40
41:A:1336:U:H2'	41:A:1337:A:C8	2.45	0.40
41:A:1343:A:H2'	41:A:1344:G:H8	1.86	0.40
41:A:1394:A:H4'	41:A:1420:C:H4'	2.02	0.40
41:A:2429:G:H2'	41:A:2430:A:H8	1.86	0.40
41:A:2845:A:O2'	41:A:2846:U:O4'	2.27	0.40
41:A:3060:C:H2'	41:A:3061:G:C8	2.56	0.40
41:A:3101:G:H2'	41:A:3102:G:C8	2.56	0.40
41:A:3111:U:H2'	41:A:3112:G:O4'	2.21	0.40
48:J:65:LEU:HG	48:J:69:LEU:HD13	2.02	0.40
53:O:43:LYS:HE3	53:O:43:LYS:HB2	1.75	0.40
53:O:65:LEU:HD12	53:O:65:LEU:H	1.86	0.40
54:P:56:LYS:HB2	54:P:56:LYS:HE3	1.97	0.40
59:V:57:TYR:HA	59:V:60:LYS:HG3	2.03	0.40
64:b:6:LYS:HB2	64:b:6:LYS:HE2	1.76	0.40
81:x:278:VAL:HB	81:x:326:ALA:CB	2.49	0.40
81:x:279:THR:O	81:x:325:VAL:O	2.40	0.40
82:v:305:ALA:O	82:v:308:VAL:HG12	2.21	0.40
82:v:456:ARG:HA	82:v:456:ARG:HD3	1.89	0.40
1:2:1276:U:N3	1:2:1437:U:O2	2.54	0.40
1:2:1566:U:H5''	9:SH:39:GLY:N	2.35	0.40
1:2:1610:G:H5''	3:SB:107:LYS:HD2	2.02	0.40
3:SB:161:ASP:HB2	13:SL:43:ASN:O	2.21	0.40
6:SE:15:HIS:NE2	6:SE:110:GLU:HA	2.36	0.40
9:SH:109:LEU:O	9:SH:113:LEU:HG	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:SJ:24:ILE:HG23	11:SJ:114:VAL:HG23	2.02	0.40
16:SO:192:PHE:HB3	16:SO:223:TRP:CZ3	2.56	0.40
34:Sg:23:LYS:HE2	34:Sg:23:LYS:HB2	1.94	0.40
35:s:67:C:H4'	81:x:408:LYS:HD2	2.04	0.40
41:A:75:G:H1'	52:N:61:PRO:HG3	2.02	0.40
41:A:869:G:N1	41:A:891:G:C6	2.90	0.40
41:A:922:U:N3	41:A:926:A:O2'	2.54	0.40
41:A:1290:A:H2'	41:A:1291:A:C8	2.56	0.40
41:A:1353:U:H3	46:H:9:TRP:CD1	2.38	0.40
41:A:1637:A:N3	41:A:1709:C:O2'	2.43	0.40
41:A:2874:G:N2	41:A:2875:U:O4	2.51	0.40
41:A:3393:U:H2'	41:A:3394:U:C6	2.57	0.40
42:D:40:TYR:HA	42:D:91:GLY:HA3	2.03	0.40
46:H:55:LEU:HD11	46:H:66:THR:HB	2.03	0.40
47:I:170:GLU:HA	47:I:179:LEU:HA	2.04	0.40
47:I:224:ILE:HD12	47:I:224:ILE:H	1.86	0.40
49:K:69:ARG:HA	49:K:69:ARG:HD2	1.88	0.40
49:K:113:GLU:HG3	49:K:123:ILE:HG23	2.04	0.40
64:b:22:LYS:HE3	64:b:132:SER:O	2.21	0.40
82:v:125:ILE:O	82:v:125:ILE:HG13	2.22	0.40
82:v:588:CYS:C	82:v:590:ILE:N	2.78	0.40
82:v:757:TRP:CH2	82:v:765:ARG:HB2	2.57	0.40
82:v:832:MET:HG3	82:v:834:VAL:HG22	2.02	0.40
1:2:215:A:HO2'	1:2:216:U:P	2.44	0.40
1:2:479:C:P	34:Sg:37:ARG:HH22	2.45	0.40
1:2:540:G:O2'	1:2:541:A:O3'	2.32	0.40
1:2:1018:U:O4	1:2:1019:A:N6	2.54	0.40
1:2:1135:U:P	30:Sc:121:ARG:HH22	2.43	0.40
1:2:1394:G:C2	1:2:1405:G:C2	3.10	0.40
1:2:1501:C:H2'	1:2:1502:G:H8	1.86	0.40
8:SG:10:LYS:O	8:SG:14:LYS:HG3	2.22	0.40
9:SH:64:GLU:CD	82:v:756:GLN:HE21	2.26	0.40
16:SO:272:ASP:HB3	16:SO:274:LEU:HG	2.04	0.40
18:SQ:2:ALA:N	27:SZ:45:GLY:O	2.54	0.40
26:SY:78:ASN:OD1	26:SY:78:ASN:N	2.54	0.40
31:Sd:49:LYS:HE2	31:Sd:49:LYS:HB2	1.93	0.40
38:C:40:A:N1	41:A:22:G:O2'	2.49	0.40
39:T:95:TRP:NE1	41:A:855:U:H4'	2.37	0.40
41:A:626:U:H2'	41:A:627:U:H6	1.85	0.40
41:A:794:U:H2'	41:A:795:G:C8	2.55	0.40
41:A:966:U:H2'	41:A:967:A:H8	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:1279:C:H2'	41:A:1280:C:H6	1.85	0.40
41:A:1363:A:H2'	41:A:1364:C:H6	1.87	0.40
41:A:2407:C:H1'	41:A:2818:U:H3	1.86	0.40
41:A:2428:U:H2'	41:A:2429:G:C8	2.57	0.40
41:A:3193:C:H2'	41:A:3194:C:C6	2.55	0.40
47:I:145:ARG:HA	47:I:185:ILE:HD13	2.03	0.40
49:K:21:LYS:C	49:K:22:SER:HG	2.29	0.40
49:K:36:LYS:HE3	49:K:74:LEU:HD13	2.04	0.40
54:P:23:GLN:HG2	54:P:122:ASN:HD21	1.86	0.40
54:P:176:LYS:HE3	54:P:176:LYS:HB2	1.94	0.40
55:Q:78[A]:ARG:HA	55:Q:78[A]:ARG:HD2	1.84	0.40
60:W:93:ILE:HG22	60:W:105:LEU:HD22	2.03	0.40
81:x:248:LEU:HB3	81:x:267:VAL:HA	2.04	0.40
82:v:450:LEU:O	82:v:451:ARG:HD2	2.22	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	SA	220/222 (99%)	208 (94%)	11 (5%)	1 (0%)	25	59
3	SB	204/206 (99%)	186 (91%)	13 (6%)	5 (2%)	4	29
4	SC	90/92 (98%)	76 (84%)	12 (13%)	2 (2%)	5	32
5	SD	119/121 (98%)	99 (83%)	20 (17%)	0	100	100
6	SE	115/117 (98%)	104 (90%)	11 (10%)	0	100	100
7	SF	139/141 (99%)	130 (94%)	7 (5%)	2 (1%)	9	40
8	SG	119/121 (98%)	108 (91%)	11 (9%)	0	100	100
9	SH	143/145 (99%)	137 (96%)	6 (4%)	0	100	100
10	SI	141/143 (99%)	132 (94%)	8 (6%)	1 (1%)	19	53

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
11	SJ	98/100 (98%)	87 (89%)	11 (11%)	0	100	100
12	SK	80/108 (74%)	64 (80%)	14 (18%)	2 (2%)	4	29
13	SL	61/63 (97%)	58 (95%)	3 (5%)	0	100	100
14	SM	51/53 (96%)	47 (92%)	4 (8%)	0	100	100
15	SN	71/73 (97%)	49 (69%)	21 (30%)	1 (1%)	9	40
16	SO	310/312 (99%)	285 (92%)	24 (8%)	1 (0%)	37	67
17	SP	204/206 (99%)	191 (94%)	12 (6%)	1 (0%)	25	59
18	SQ	222/232 (96%)	203 (91%)	19 (9%)	0	100	100
19	SR	214/216 (99%)	204 (95%)	10 (5%)	0	100	100
20	SS	256/258 (99%)	240 (94%)	16 (6%)	0	100	100
21	ST	226/228 (99%)	220 (97%)	5 (2%)	1 (0%)	30	63
22	SU	182/184 (99%)	170 (93%)	11 (6%)	1 (0%)	25	59
23	SV	183/200 (92%)	172 (94%)	11 (6%)	0	100	100
24	SW	182/184 (99%)	176 (97%)	6 (3%)	0	100	100
25	SX	140/142 (99%)	132 (94%)	7 (5%)	1 (1%)	19	53
26	SY	148/150 (99%)	142 (96%)	6 (4%)	0	100	100
27	SZ	125/127 (98%)	113 (90%)	12 (10%)	0	100	100
28	Sa	85/87 (98%)	77 (91%)	8 (9%)	0	100	100
29	Sb	127/129 (98%)	119 (94%)	7 (6%)	1 (1%)	16	51
30	Sc	142/144 (99%)	136 (96%)	4 (3%)	2 (1%)	9	40
31	Sd	132/134 (98%)	126 (96%)	6 (4%)	0	100	100
32	Se	92/94 (98%)	79 (86%)	13 (14%)	0	100	100
33	Sf	79/81 (98%)	76 (96%)	3 (4%)	0	100	100
34	Sg	58/60 (97%)	53 (91%)	5 (9%)	0	100	100
39	T	186/188 (99%)	184 (99%)	2 (1%)	0	100	100
40	Y	124/126 (98%)	111 (90%)	11 (9%)	2 (2%)	8	38
42	D	249/251 (99%)	239 (96%)	10 (4%)	0	100	100
43	E	384/386 (100%)	370 (96%)	14 (4%)	0	100	100
44	F	359/361 (99%)	348 (97%)	11 (3%)	0	100	100
45	G	292/294 (99%)	279 (96%)	13 (4%)	0	100	100
46	H	163/175 (93%)	151 (93%)	12 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
47	I	220/223 (99%)	216 (98%)	4 (2%)	0	100	100
48	J	231/233 (99%)	217 (94%)	13 (6%)	1 (0%)	30	63
49	K	189/191 (99%)	181 (96%)	8 (4%)	0	100	100
50	L	216/218 (99%)	207 (96%)	9 (4%)	0	100	100
51	M	167/169 (99%)	157 (94%)	10 (6%)	0	100	100
52	N	191/193 (99%)	178 (93%)	11 (6%)	2 (1%)	13	46
53	O	134/136 (98%)	128 (96%)	6 (4%)	0	100	100
54	P	201/203 (99%)	196 (98%)	5 (2%)	0	100	100
55	Q	195/197 (99%)	189 (97%)	6 (3%)	0	100	100
56	R	181/183 (99%)	172 (95%)	9 (5%)	0	100	100
57	S	183/185 (99%)	175 (96%)	7 (4%)	1 (0%)	25	59
58	U	169/171 (99%)	161 (95%)	8 (5%)	0	100	100
59	V	157/159 (99%)	149 (95%)	8 (5%)	0	100	100
60	W	98/100 (98%)	89 (91%)	9 (9%)	0	100	100
61	X	134/136 (98%)	133 (99%)	1 (1%)	0	100	100
62	Z	119/121 (98%)	113 (95%)	6 (5%)	0	100	100
63	a	123/125 (98%)	120 (98%)	3 (2%)	0	100	100
64	b	133/135 (98%)	127 (96%)	6 (4%)	0	100	100
65	c	146/148 (99%)	138 (94%)	8 (6%)	0	100	100
66	d	56/58 (97%)	54 (96%)	2 (4%)	0	100	100
67	e	94/96 (98%)	92 (98%)	2 (2%)	0	100	100
68	f	107/109 (98%)	102 (95%)	5 (5%)	0	100	100
69	g	125/127 (98%)	124 (99%)	1 (1%)	0	100	100
70	h	104/106 (98%)	97 (93%)	7 (7%)	0	100	100
71	i	110/112 (98%)	104 (94%)	6 (6%)	0	100	100
72	j	117/119 (98%)	114 (97%)	3 (3%)	0	100	100
73	k	97/99 (98%)	93 (96%)	4 (4%)	0	100	100
74	l	79/81 (98%)	74 (94%)	5 (6%)	0	100	100
75	m	75/77 (97%)	69 (92%)	6 (8%)	0	100	100
76	n	48/50 (96%)	47 (98%)	1 (2%)	0	100	100
77	o	50/52 (96%)	48 (96%)	2 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
78	p	23/25 (92%)	23 (100%)	0	0	100	100
79	q	101/103 (98%)	96 (95%)	5 (5%)	0	100	100
80	r	89/91 (98%)	84 (94%)	5 (6%)	0	100	100
81	x	439/462 (95%)	402 (92%)	30 (7%)	7 (2%)	8	38
82	v	975/1044 (93%)	872 (89%)	99 (10%)	4 (0%)	30	63
All	All	12391/12691 (98%)	11622 (94%)	730 (6%)	39 (0%)	38	67

All (39) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	SC	83	PRO
4	SC	88	PRO
7	SF	39	VAL
7	SF	40	GLU
12	SK	33	LYS
12	SK	88	ILE
22	SU	64	VAL
25	SX	30	ARG
29	Sb	30	SER
30	Sc	64	PRO
48	J	158	ASP
81	x	164	GLN
82	v	181	THR
10	SI	50	ALA
16	SO	51	ASP
30	Sc	63	GLN
81	x	346	ILE
81	x	348	ASN
82	v	48	HIS
17	SP	189	VAL
40	Y	76	VAL
40	Y	83	THR
2	SA	218	LEU
52	N	136	GLU
81	x	259	ILE
81	x	315	VAL
82	v	664	ALA
3	SB	41	LYS
3	SB	156	ARG
21	ST	171	LYS

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Mol	Chain	Res	Type
52	N	47	ALA
81	x	310	PHE
81	x	326	ALA
82	v	825	SER
15	SN	114	VAL
3	SB	151	GLY
3	SB	153	GLY
3	SB	149	VAL
57	S	18	ALA

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	SA	182/182 (100%)	182 (100%)	0	100	100
3	SB	172/173 (99%)	170 (99%)	2 (1%)	67	82
4	SC	77/85 (91%)	76 (99%)	1 (1%)	65	81
5	SD	88/98 (90%)	87 (99%)	1 (1%)	70	83
6	SE	95/98 (97%)	95 (100%)	0	100	100
7	SF	117/117 (100%)	117 (100%)	0	100	100
8	SG	105/110 (96%)	104 (99%)	1 (1%)	73	85
9	SH	127/128 (99%)	127 (100%)	0	100	100
10	SI	115/115 (100%)	114 (99%)	1 (1%)	75	87
11	SJ	93/93 (100%)	93 (100%)	0	100	100
12	SK	67/89 (75%)	67 (100%)	0	100	100
13	SL	55/56 (98%)	55 (100%)	0	100	100
14	SM	47/47 (100%)	46 (98%)	1 (2%)	48	71
15	SN	56/64 (88%)	56 (100%)	0	100	100
16	SO	250/257 (97%)	247 (99%)	3 (1%)	67	82
17	SP	170/173 (98%)	170 (100%)	0	100	100
18	SQ	200/205 (98%)	198 (99%)	2 (1%)	73	85

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
19	SR	175/175 (100%)	173 (99%)	2 (1%)	70	83
20	SS	220/220 (100%)	220 (100%)	0	100	100
21	ST	189/195 (97%)	189 (100%)	0	100	100
22	SU	163/165 (99%)	163 (100%)	0	100	100
23	SV	148/161 (92%)	148 (100%)	0	100	100
24	SW	156/157 (99%)	155 (99%)	1 (1%)	84	92
25	SX	126/127 (99%)	126 (100%)	0	100	100
26	SY	127/127 (100%)	126 (99%)	1 (1%)	79	88
27	SZ	81/96 (84%)	80 (99%)	1 (1%)	67	82
28	Sa	71/74 (96%)	71 (100%)	0	100	100
29	Sb	110/110 (100%)	110 (100%)	0	100	100
30	Sc	119/119 (100%)	119 (100%)	0	100	100
31	Sd	112/112 (100%)	111 (99%)	1 (1%)	75	87
32	Se	81/81 (100%)	81 (100%)	0	100	100
33	Sf	70/70 (100%)	70 (100%)	0	100	100
34	Sg	50/51 (98%)	50 (100%)	0	100	100
39	T	152/153 (99%)	152 (100%)	0	100	100
40	Y	56/108 (52%)	56 (100%)	0	100	100
42	D	190/193 (98%)	190 (100%)	0	100	100
43	E	319/322 (99%)	316 (99%)	3 (1%)	75	87
44	F	288/288 (100%)	287 (100%)	1 (0%)	91	96
45	G	241/243 (99%)	239 (99%)	2 (1%)	79	88
46	H	139/154 (90%)	139 (100%)	0	100	100
47	I	186/187 (100%)	186 (100%)	0	100	100
48	J	187/191 (98%)	187 (100%)	0	100	100
49	K	168/171 (98%)	168 (100%)	0	100	100
50	L	185/185 (100%)	184 (100%)	1 (0%)	86	93
51	M	145/147 (99%)	144 (99%)	1 (1%)	81	90
52	N	154/154 (100%)	153 (99%)	1 (1%)	84	92
53	O	107/107 (100%)	106 (99%)	1 (1%)	75	87
54	P	175/175 (100%)	175 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
55	Q	160/160 (100%)	160 (100%)	0	100	100
56	R	138/145 (95%)	138 (100%)	0	100	100
57	S	150/150 (100%)	149 (99%)	1 (1%)	81	90
58	U	155/155 (100%)	153 (99%)	2 (1%)	65	81
59	V	135/136 (99%)	134 (99%)	1 (1%)	81	90
60	W	87/87 (100%)	87 (100%)	0	100	100
61	X	104/104 (100%)	104 (100%)	0	100	100
62	Z	104/105 (99%)	104 (100%)	0	100	100
63	a	108/108 (100%)	108 (100%)	0	100	100
64	b	112/115 (97%)	111 (99%)	1 (1%)	75	87
65	c	117/118 (99%)	117 (100%)	0	100	100
66	d	46/46 (100%)	46 (100%)	0	100	100
67	e	81/81 (100%)	81 (100%)	0	100	100
68	f	92/96 (96%)	92 (100%)	0	100	100
69	g	107/109 (98%)	107 (100%)	0	100	100
70	h	90/90 (100%)	90 (100%)	0	100	100
71	i	95/95 (100%)	94 (99%)	1 (1%)	70	83
72	j	104/104 (100%)	103 (99%)	1 (1%)	73	85
73	k	80/81 (99%)	79 (99%)	1 (1%)	65	81
74	l	67/67 (100%)	66 (98%)	1 (2%)	60	78
75	m	68/68 (100%)	68 (100%)	0	100	100
76	n	45/45 (100%)	45 (100%)	0	100	100
77	o	45/47 (96%)	45 (100%)	0	100	100
78	p	22/23 (96%)	22 (100%)	0	100	100
79	q	87/88 (99%)	87 (100%)	0	100	100
80	r	71/71 (100%)	71 (100%)	0	100	100
81	x	366/379 (97%)	349 (95%)	17 (5%)	23	52
82	v	789/890 (89%)	777 (98%)	12 (2%)	60	78
All	All	10331/10671 (97%)	10265 (99%)	66 (1%)	82	92

All (66) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	SB	149	VAL
3	SB	156	ARG
4	SC	81	ASN
5	SD	52	LEU
8	SG	32	LYS
10	SI	13	ASP
14	SM	28	THR
16	SO	17	ASN
16	SO	52	GLN
16	SO	316	MET
18	SQ	95	ASN
18	SQ	198	GLU
19	SR	104	VAL
19	SR	208	GLU
24	SW	121	SER
26	SY	86	GLU
27	SZ	12	GLN
31	Sd	96	LEU
43	E	53	MET
43	E	104	THR
43	E	161	LEU
44	F	59	GLN
45	G	45	ASN
45	G	221	GLU
50	L	140	THR
51	M	28	ASP
52	N	175	SER
53	O	14	LEU
57	S	17	THR
58	U	8	GLN
58	U	48	LEU
59	V	90	ASN
64	b	118	PHE
71	i	18	ASN
72	j	99	GLN
73	k	21	THR
74	l	19	CYS
81	x	6	THR
81	x	30	LYS
81	x	34	ILE
81	x	75	ILE
81	x	102	MET
81	x	148	LEU

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Mol	Chain	Res	Type
81	x	232	LEU
81	x	248	LEU
81	x	250	LEU
81	x	310	PHE
81	x	311	ASN
81	x	313	LYS
81	x	344	VAL
81	x	346	ILE
81	x	360	VAL
81	x	392	LYS
81	x	394	LEU
82	v	57	ILE
82	v	173	VAL
82	v	181	THR
82	v	475	ILE
82	v	658	VAL
82	v	660	THR
82	v	686	ILE
82	v	823	MET
82	v	824	LYS
82	v	870	THR
82	v	873	GLU
82	v	880	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (107) such sidechains are listed below:

Mol	Chain	Res	Type
2	SA	22	ASN
2	SA	67	ASN
2	SA	101	GLN
5	SD	80	ASN
6	SE	103	ASN
7	SF	8	GLN
7	SF	100	GLN
8	SG	29	GLN
8	SG	48	ASN
9	SH	21	ASN
9	SH	89	GLN
10	SI	16	ASN
11	SJ	33	GLN
11	SJ	87	HIS
14	SM	27	HIS

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Mol	Chain	Res	Type
14	SM	53	ASN
15	SN	151	ASN
16	SO	153	GLN
16	SO	187	GLN
16	SO	314	GLN
18	SQ	95	ASN
18	SQ	153	HIS
18	SQ	209	ASN
20	SS	197	HIS
20	SS	216	ASN
22	SU	180	GLN
23	SV	138	ASN
24	SW	48	GLN
24	SW	112	GLN
27	SZ	29	HIS
29	Sb	12	ASN
29	Sb	42	GLN
29	Sb	120	HIS
31	Sd	22	GLN
32	Se	72	HIS
33	Sf	42	ASN
39	T	3	ASN
39	T	7	GLN
39	T	58	HIS
42	D	8	GLN
42	D	97	ASN
43	E	109	HIS
43	E	165	GLN
44	F	9	HIS
44	F	59	GLN
44	F	311	HIS
45	G	32	GLN
45	G	244	HIS
46	H	97	ASN
46	H	138	GLN
48	J	28	HIS
48	J	33	ASN
48	J	45	ASN
49	K	51	GLN
50	L	123	HIS
51	M	43	GLN
51	M	101	ASN

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Mol	Chain	Res	Type
52	N	12	ASN
52	N	99	HIS
53	O	56	GLN
53	O	59	ASN
54	P	11	GLN
54	P	86	ASN
54	P	87	GLN
54	P	95	GLN
54	P	117	ASN
54	P	149	ASN
54	P	182	ASN
55	Q	122[A]	GLN
56	R	97	ASN
56	R	137	ASN
57	S	23	ASN
57	S	126	GLN
58	U	108	GLN
61	X	4	ASN
62	Z	65	GLN
62	Z	80	ASN
64	b	103	GLN
64	b	128	GLN
65	c	120	ASN
66	d	6	ASN
66	d	12	GLN
66	d	48	HIS
68	f	15	ASN
68	f	80	ASN
68	f	87	ASN
68	f	105	GLN
71	i	11	ASN
71	i	83	ASN
72	j	61	GLN
76	n	19	GLN
77	o	120	GLN
81	x	9	ASN
81	x	15	HIS
81	x	324	ASN
81	x	343	GLN
81	x	348	ASN
81	x	352	GLN
81	x	367	HIS

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Mol	Chain	Res	Type
82	v	395	HIS
82	v	577	ASN
82	v	689	GLN
82	v	711	ASN
82	v	756	GLN
82	v	772	ASN
82	v	877	HIS
82	v	890	HIS

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	2	1768/1799 (98%)	408 (23%)	40 (2%)
35	s	74/77 (96%)	32 (43%)	0
36	t	74/75 (98%)	18 (24%)	0
37	B	120/121 (99%)	9 (7%)	1 (0%)
38	C	157/158 (99%)	26 (16%)	1 (0%)
41	A	3180/3394 (93%)	506 (15%)	9 (0%)
All	All	5373/5624 (95%)	999 (18%)	51 (0%)

All (999) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	2	2	A
1	2	4	C
1	2	25	C
1	2	26	A
1	2	34	G
1	2	42	G
1	2	43	A
1	2	45	U
1	2	47	A
1	2	56	U
1	2	57	G
1	2	62	A
1	2	65	A
1	2	66	U
1	2	67	A
1	2	68	A
1	2	69	G
1	2	73	U

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Mol	Chain	Res	Type
1	2	74	U
1	2	75	U
1	2	76	A
1	2	77	U
1	2	78	A
1	2	80	A
1	2	81	G
1	2	104	A
1	2	114	C
1	2	116	U
1	2	121	U
1	2	126	A
1	2	127	G
1	2	129	U
1	2	130	C
1	2	131	C
1	2	132	U
1	2	134	U
1	2	135	A
1	2	138	A
1	2	140	A
1	2	141	U
1	2	142	G
1	2	153	G
1	2	158	U
1	2	168	A
1	2	171	A
1	2	172	C
1	2	176	C
1	2	178	U
1	2	182	A
1	2	185	U
1	2	186	C
1	2	191	C
1	2	192	U
1	2	193	U
1	2	194	U
1	2	195	G
1	2	204	G
1	2	216	U
1	2	217	A
1	2	218	A

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Mol	Chain	Res	Type
1	2	224	C
1	2	225	A
1	2	227	U
1	2	228	G
1	2	230	C
1	2	232	U
1	2	233	C
1	2	234	G
1	2	238	U
1	2	240	U
1	2	241	U
1	2	250	C
1	2	260	U
1	2	261	U
1	2	265	A
1	2	272	U
1	2	276	C
1	2	277	U
1	2	278	U
1	2	279	G
1	2	280	U
1	2	281	G
1	2	287	G
1	2	299	A
1	2	313	U
1	2	314	C
1	2	316	A
1	2	321	C
1	2	322	G
1	2	323	A
1	2	337	G
1	2	338	C
1	2	352	A
1	2	353	A
1	2	359	A
1	2	361	C
1	2	369	A
1	2	370	A
1	2	388	G
1	2	400	A
1	2	401	A
1	2	402	C

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Mol	Chain	Res	Type
1	2	404	G
1	2	417	A
1	2	423	G
1	2	424	C
1	2	425	A
1	2	426	G
1	2	435	C
1	2	439	U
1	2	444	C
1	2	446	A
1	2	448	C
1	2	460	A
1	2	482	U
1	2	483	A
1	2	485	A
1	2	487	G
1	2	492	A
1	2	493	U
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	510	G
1	2	511	A
1	2	517	U
1	2	518	A
1	2	534	A
1	2	538	A
1	2	540	G
1	2	541	A
1	2	542	A
1	2	543	C
1	2	554	C
1	2	555	A
1	2	556	A
1	2	557	G
1	2	558	U
1	2	565	C
1	2	568	G

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Mol	Chain	Res	Type
1	2	578	U
1	2	579	A
1	2	594	A
1	2	595	G
1	2	609	U
1	2	610	G
1	2	611	U
1	2	617	U
1	2	619	A
1	2	620	A
1	2	622	A
1	2	623	A
1	2	624	G
1	2	638	U
1	2	639	U
1	2	640	U
1	2	643	G
1	2	645	C
1	2	651	G
1	2	653	C
1	2	654	C
1	2	655	G
1	2	656	G
1	2	677	G
1	2	678	A
1	2	680	U
1	2	681	U
1	2	684	A
1	2	687	G
1	2	694	U
1	2	696	C
1	2	697	C
1	2	698	U
1	2	700	C
1	2	702	G
1	2	703	G
1	2	704	C
1	2	705	U
1	2	706	A
1	2	707	A
1	2	708	C
1	2	709	C

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Mol	Chain	Res	Type
1	2	710	U
1	2	711	U
1	2	712	G
1	2	713	A
1	2	728	U
1	2	730	G
1	2	732	G
1	2	733	A
1	2	734	A
1	2	736	C
1	2	738	G
1	2	741	C
1	2	742	U
1	2	743	U
1	2	756	A
1	2	765	G
1	2	766	U
1	2	767	U
1	2	774	A
1	2	775	G
1	2	778	G
1	2	781	U
1	2	782	U
1	2	783	G
1	2	787	G
1	2	789	A
1	2	807	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	823	G
1	2	833	U
1	2	836	U
1	2	837	G
1	2	839	U
1	2	840	U
1	2	841	U

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Mol	Chain	Res	Type
1	2	846	G
1	2	852	C
1	2	856	A
1	2	857	U
1	2	863	A
1	2	864	U
1	2	873	U
1	2	881	A
1	2	886	U
1	2	898	A
1	2	899	G
1	2	901	G
1	2	902	G
1	2	912	U
1	2	913	G
1	2	929	A
1	2	933	A
1	2	934	C
1	2	935	U
1	2	942	G
1	2	966	A
1	2	970	A
1	2	988	A
1	2	989	U
1	2	992	A
1	2	1004	U
1	2	1024	U
1	2	1026	A
1	2	1028	C
1	2	1039	A
1	2	1052	U
1	2	1053	G
1	2	1058	U
1	2	1059	U
1	2	1060	U
1	2	1061	A
1	2	1062	A
1	2	1074	G
1	2	1076	A
1	2	1080	U
1	2	1081	A
1	2	1082	C

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Mol	Chain	Res	Type
1	2	1092	A
1	2	1096	C
1	2	1100	G
1	2	1138	A
1	2	1158	C
1	2	1160	A
1	2	1164	G
1	2	1167	G
1	2	1170	G
1	2	1185	U
1	2	1186	U
1	2	1194	A
1	2	1199	G
1	2	1200	G
1	2	1208	A
1	2	1212	G
1	2	1217	A
1	2	1218	G
1	2	1227	A
1	2	1229	G
1	2	1241	G
1	2	1243	G
1	2	1244	A
1	2	1245	G
1	2	1246	C
1	2	1256	A
1	2	1257	U
1	2	1274	C
1	2	1275	A
1	2	1276	U
1	2	1285	U
1	2	1301	U
1	2	1307	U
1	2	1314	U
1	2	1315	U
1	2	1321	A
1	2	1322	A
1	2	1325	A
1	2	1337	A
1	2	1341	A
1	2	1344	A
1	2	1345	A

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Mol	Chain	Res	Type
1	2	1346	A
1	2	1348	A
1	2	1349	G
1	2	1361	U
1	2	1363	U
1	2	1364	G
1	2	1367	G
1	2	1370	U
1	2	1371	A
1	2	1372	U
1	2	1373	C
1	2	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	1402	G
1	2	1407	U
1	2	1408	G
1	2	1414	U
1	2	1415	U
1	2	1427	A
1	2	1431	C
1	2	1432	U
1	2	1433	G
1	2	1436	A
1	2	1445	G
1	2	1446	A
1	2	1459	C
1	2	1460	A
1	2	1469	A
1	2	1471	A
1	2	1472	C
1	2	1491	U
1	2	1493	A
1	2	1496	U
1	2	1514	U
1	2	1516	A
1	2	1517	U
1	2	1518	C

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Mol	Chain	Res	Type
1	2	1521	G
1	2	1523	G
1	2	1524	A
1	2	1528	U
1	2	1531	G
1	2	1537	C
1	2	1540	G
1	2	1542	G
1	2	1543	A
1	2	1545	A
1	2	1556	A
1	2	1557	U
1	2	1558	U
1	2	1559	A
1	2	1573	A
1	2	1574	G
1	2	1575	G
1	2	1583	A
1	2	1585	U
1	2	1601	G
1	2	1611	A
1	2	1614	A
1	2	1631	A
1	2	1634	C
1	2	1635	A
1	2	1637	C
1	2	1657	U
1	2	1658	G
1	2	1682	U
1	2	1689	A
1	2	1693	A
1	2	1700	C
1	2	1701	A
1	2	1708	U
1	2	1709	C
1	2	1715	G
1	2	1717	G
1	2	1736	G
1	2	1754	A
1	2	1755	A
1	2	1757	G
1	2	1762	A

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Mol	Chain	Res	Type
1	2	1766	A
1	2	1767	G
1	2	1769	U
1	2	1770	U
1	2	1780	G
1	2	1782	A
1	2	1783	C
1	2	1792	G
1	2	1793	G
1	2	1794	A
1	2	1796	C
1	2	1799	U
35	s	10	G
35	s	13	U
35	s	15	G
35	s	19	G
35	s	20	U
35	s	21	U
35	s	22	A
35	s	25	A
35	s	27	G
35	s	28	U
35	s	29	U
35	s	31	G
35	s	33	C
35	s	36	A
35	s	37	C
35	s	41	C
35	s	42	G
35	s	45	A
35	s	46	G
35	s	47	G
35	s	48	U
35	s	49	C
35	s	50	C
35	s	54	G
35	s	56	U
35	s	59	A
35	s	60	A
35	s	62	C
35	s	72	A
35	s	75	C

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Mol	Chain	Res	Type
35	s	76	C
35	s	77	A
36	t	2	G
36	t	9	G
36	t	14	A
36	t	16	U
36	t	18	G
36	t	19	G
36	t	21	A
36	t	42	U
36	t	46	G
36	t	47	U
36	t	48	C
36	t	53	G
36	t	59	A
36	t	61	C
36	t	63	G
36	t	64	A
36	t	69	C
36	t	76	A
37	B	7	G
37	B	26	C
37	B	53	U
37	B	54	U
37	B	55	A
37	B	65	G
37	B	76	A
37	B	102	A
37	B	112	G
38	C	16	G
38	C	23	U
38	C	34	U
38	C	35	C
38	C	39	G
38	C	59	A
38	C	62	C
38	C	63	G
38	C	80	A
38	C	81	U
38	C	82	U
38	C	83	C
38	C	84	C

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Mol	Chain	Res	Type
38	C	86	U
38	C	87	G
38	C	90	U
38	C	95	G
38	C	104	A
38	C	106	C
38	C	111	A
38	C	112	U
38	C	113	U
38	C	116	G
38	C	125	U
38	C	126	A
38	C	158	U
41	A	16	A
41	A	26	A
41	A	30	G
41	A	40	A
41	A	43	A
41	A	49	A
41	A	57	A
41	A	59	G
41	A	60	A
41	A	65	A
41	A	66	A
41	A	67	A
41	A	72	C
41	A	75	G
41	A	77	A
41	A	85	A
41	A	92	G
41	A	99	A
41	A	109	A
41	A	110	G
41	A	111	C
41	A	116	A
41	A	117	U
41	A	118	U
41	A	122	A
41	A	135	C
41	A	136	G
41	A	148	G
41	A	156	G

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Mol	Chain	Res	Type
41	A	157	A
41	A	172	G
41	A	173	G
41	A	190	U
41	A	191	U
41	A	219	A
41	A	231	G
41	A	240	U
41	A	243	G
41	A	245	U
41	A	252	U
41	A	263	C
41	A	269	G
41	A	286	U
41	A	295	A
41	A	305	U
41	A	315	C
41	A	323	A
41	A	329	U
41	A	346	C
41	A	376	G
41	A	398	A
41	A	401	U
41	A	402	A
41	A	403	C
41	A	420	G
41	A	421	G
41	A	422	A
41	A	490	A
41	A	491	C
41	A	492	U
41	A	518	G
41	A	521	A
41	A	530	G
41	A	531	G
41	A	533	A
41	A	547	G
41	A	555	U
41	A	557	A
41	A	558	U
41	A	559	A
41	A	589	A

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Mol	Chain	Res	Type
41	A	601	U
41	A	602	A
41	A	611	A
41	A	636	C
41	A	649	A
41	A	667	C
41	A	677	A
41	A	678	G
41	A	681	U
41	A	690	A
41	A	691	A
41	A	705	A
41	A	758	C
41	A	761	A
41	A	766	U
41	A	767	U
41	A	780	A
41	A	781	G
41	A	785	G
41	A	786	A
41	A	799	G
41	A	817	A
41	A	830	A
41	A	836	A
41	A	846	A
41	A	848	A
41	A	849	C
41	A	857	G
41	A	861	C
41	A	874	U
41	A	879	U
41	A	880	G
41	A	896	A
41	A	907	G
41	A	908	G
41	A	914	A
41	A	916	G
41	A	917	A
41	A	921	A
41	A	937	G
41	A	938	C
41	A	944	C

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Mol	Chain	Res	Type
41	A	960	U
41	A	974	G
41	A	977	C
41	A	979	U
41	A	980	A
41	A	1016	C
41	A	1018	G
41	A	1020	G
41	A	1021	G
41	A	1022	U
41	A	1032	C
41	A	1037	C
41	A	1047	A
41	A	1063	G
41	A	1064	A
41	A	1072	G
41	A	1081	U
41	A	1082	U
41	A	1087	G
41	A	1093	A
41	A	1094	U
41	A	1096	U
41	A	1097	G
41	A	1098	A
41	A	1103	A
41	A	1117	G
41	A	1131	G
41	A	1143	A
41	A	1153	A
41	A	1159	A
41	A	1178	G
41	A	1179	A
41	A	1180	A
41	A	1181	U
41	A	1182	A
41	A	1193	A
41	A	1196	C
41	A	1201	C
41	A	1209	G
41	A	1217	A
41	A	1222	G
41	A	1232	C

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Mol	Chain	Res	Type
41	A	1235	U
41	A	1236	G
41	A	1244	A
41	A	1245	A
41	A	1246	G
41	A	1248	C
41	A	1253	U
41	A	1257	C
41	A	1258	U
41	A	1262	G
41	A	1263	A
41	A	1265	U
41	A	1266	G
41	A	1285	G
41	A	1287	A
41	A	1302	A
41	A	1307	G
41	A	1308	A
41	A	1309	U
41	A	1317	A
41	A	1330	A
41	A	1331	U
41	A	1348	U
41	A	1349	G
41	A	1350	A
41	A	1352	A
41	A	1353	U
41	A	1355	A
41	A	1357	G
41	A	1386	A
41	A	1392	G
41	A	1399	A
41	A	1400	G
41	A	1417	G
41	A	1418	A
41	A	1425	U
41	A	1434	G
41	A	1437	C
41	A	1446	A
41	A	1483	G
41	A	1495	U
41	A	1496	C

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Mol	Chain	Res	Type
41	A	1503	A
41	A	1507	G
41	A	1508	C
41	A	1556	C
41	A	1557	A
41	A	1560	G
41	A	1561	G
41	A	1562	C
41	A	1563	C
41	A	1564	U
41	A	1567	U
41	A	1569	U
41	A	1570	U
41	A	1571	A
41	A	1573	G
41	A	1576	G
41	A	1578	C
41	A	1579	C
41	A	1581	C
41	A	1582	C
41	A	1583	A
41	A	1589	A
41	A	1593	A
41	A	1594	A
41	A	1605	A
41	A	1630	U
41	A	1643	A
41	A	1645	U
41	A	1657	C
41	A	1694	U
41	A	1713	G
41	A	1724	U
41	A	1740	U
41	A	1741	A
41	A	1750	A
41	A	1751	G
41	A	1759	C
41	A	1762	C
41	A	1763	U
41	A	1765	U
41	A	1767	C
41	A	1769	G

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Mol	Chain	Res	Type
41	A	1773	C
41	A	1796	G
41	A	1797	A
41	A	1808	G
41	A	1812	G
41	A	1815	U
41	A	1816	A
41	A	1820	U
41	A	1821	U
41	A	1840	U
41	A	1842	A
41	A	1866	C
41	A	1878	G
41	A	1879	A
41	A	1880	U
41	A	1906	G
41	A	1952	G
41	A	2093	A
41	A	2096	A
41	A	2101	C
41	A	2102	U
41	A	2111	G
41	A	2112	U
41	A	2114	C
41	A	2122	G
41	A	2131	A
41	A	2158	A
41	A	2167	A
41	A	2169	G
41	A	2170	U
41	A	2188	A
41	A	2194	G
41	A	2205	U
41	A	2206	G
41	A	2223	A
41	A	2244	A
41	A	2249	G
41	A	2251	G
41	A	2253	G
41	A	2256	A
41	A	2257	C
41	A	2261	G

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Mol	Chain	Res	Type
41	A	2268	U
41	A	2270	A
41	A	2273	G
41	A	2274	U
41	A	2281	A
41	A	2306	C
41	A	2307	G
41	A	2310	U
41	A	2315	G
41	A	2319	U
41	A	2320	A
41	A	2335	G
41	A	2336	U
41	A	2339	C
41	A	2340	U
41	A	2372	A
41	A	2373	A
41	A	2374	C
41	A	2375	G
41	A	2376	G
41	A	2388	U
41	A	2393	G
41	A	2394	G
41	A	2397	A
41	A	2402	A
41	A	2403	G
41	A	2404	A
41	A	2411	U
41	A	2418	G
41	A	2436	U
41	A	2437	G
41	A	2438	A
41	A	2439	A
41	A	2440	G
41	A	2441	A
41	A	2442	G
41	A	2444	C
41	A	2445	A
41	A	2453	U
41	A	2454	G
41	A	2455	U
41	A	2456	A

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Mol	Chain	Res	Type
41	A	2457	G
41	A	2458	A
41	A	2459	A
41	A	2461	A
41	A	2462	A
41	A	2463	G
41	A	2468	A
41	A	2469	G
41	A	2471	U
41	A	2474	G
41	A	2477	G
41	A	2480	A
41	A	2484	A
41	A	2487	U
41	A	2488	A
41	A	2489	C
41	A	2491	A
41	A	2492	C
41	A	2493	U
41	A	2494	A
41	A	2495	C
41	A	2499	U
41	A	2501	U
41	A	2502	A
41	A	2504	U
41	A	2505	U
41	A	2507	C
41	A	2508	U
41	A	2509	U
41	A	2511	A
41	A	2514	U
41	A	2515	A
41	A	2522	G
41	A	2523	A
41	A	2526	C
41	A	2533	G
41	A	2534	G
41	A	2535	A
41	A	2540	A
41	A	2541	U
41	A	2547	A
41	A	2549	G

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Mol	Chain	Res	Type
41	A	2552	C
41	A	2557	A
41	A	2560	C
41	A	2561	A
41	A	2570	U
41	A	2571	U
41	A	2585	G
41	A	2593	A
41	A	2600	C
41	A	2606	G
41	A	2607	G
41	A	2614	G
41	A	2617	U
41	A	2652	U
41	A	2656	A
41	A	2657	A
41	A	2672	G
41	A	2674	A
41	A	2677	G
41	A	2678	A
41	A	2689	A
41	A	2696	A
41	A	2704	A
41	A	2712	U
41	A	2713	U
41	A	2728	G
41	A	2729	U
41	A	2737	C
41	A	2753	G
41	A	2755	C
41	A	2772	C
41	A	2773	C
41	A	2777	G
41	A	2778	G
41	A	2779	A
41	A	2795	U
41	A	2796	G
41	A	2799	A
41	A	2800	G
41	A	2801	A
41	A	2804	A
41	A	2808	A

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Mol	Chain	Res	Type
41	A	2810	C
41	A	2817	A
41	A	2821	C
41	A	2838	A
41	A	2843	U
41	A	2844	C
41	A	2845	A
41	A	2847	A
41	A	2860	U
41	A	2867	C
41	A	2871	G
41	A	2872	A
41	A	2887	A
41	A	2889	C
41	A	2899	C
41	A	2911	A
41	A	2935	U
41	A	2936	A
41	A	2941	A
41	A	2951	G
41	A	2971	A
41	A	2979	U
41	A	2983	C
41	A	2990	G
41	A	2997	G
41	A	3003	G
41	A	3005	A
41	A	3012	A
41	A	3039	C
41	A	3049	A
41	A	3057	U
41	A	3059	G
41	A	3078	U
41	A	3079	U
41	A	3092	C
41	A	3094	A
41	A	3101	G
41	A	3113	A
41	A	3115	C
41	A	3122	A
41	A	3130	A
41	A	3131	U

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Mol	Chain	Res	Type
41	A	3142	A
41	A	3143	C
41	A	3153	U
41	A	3154	C
41	A	3156	U
41	A	3157	U
41	A	3168	A
41	A	3170	A
41	A	3172	A
41	A	3173	G
41	A	3176	G
41	A	3179	U
41	A	3181	C
41	A	3187	A
41	A	3198	U
41	A	3207	U
41	A	3210	A
41	A	3213	A
41	A	3214	U
41	A	3217	C
41	A	3218	A
41	A	3219	G
41	A	3224	G
41	A	3227	A
41	A	3228	C
41	A	3229	G
41	A	3235	C
41	A	3243	A
41	A	3244	A
41	A	3247	G
41	A	3260	G
41	A	3268	A
41	A	3270	U
41	A	3271	G
41	A	3273	A
41	A	3276	G
41	A	3277	U
41	A	3278	C
41	A	3279	A
41	A	3281	U
41	A	3304	U
41	A	3313	U

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Mol	Chain	Res	Type
41	A	3316	A
41	A	3319	U
41	A	3334	U
41	A	3335	A
41	A	3341	U
41	A	3350	C
41	A	3351	U
41	A	3352	U
41	A	3353	G
41	A	3368	U
41	A	3369	G
41	A	3375	A
41	A	3378	C
41	A	3382	U
41	A	3390	G

All (51) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	2	68	A
1	2	77	U
1	2	139	C
1	2	141	U
1	2	215	A
1	2	224	C
1	2	237	C
1	2	278	U
1	2	313	U
1	2	322	G
1	2	352	A
1	2	387	A
1	2	400	A
1	2	539	G
1	2	541	A
1	2	554	C
1	2	555	A
1	2	609	U
1	2	639	U
1	2	677	G
1	2	705	U
1	2	711	U
1	2	819	G

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Mol	Chain	Res	Type
1	2	912	U
1	2	928	U
1	2	1023	A
1	2	1226	A
1	2	1245	G
1	2	1256	A
1	2	1273	G
1	2	1274	C
1	2	1344	A
1	2	1382	A
1	2	1430	U
1	2	1471	A
1	2	1557	U
1	2	1573	A
1	2	1584	G
1	2	1633	A
1	2	1636	C
37	B	52	G
38	C	85	G
41	A	916	G
41	A	1264	G
41	A	1820	U
41	A	2193	U
41	A	2255	A
41	A	2339	C
41	A	2533	G
41	A	3004	C
41	A	3121	U

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.