



Full wwPDB EM Validation Report ⓘ

Mar 24, 2026 – 05:03 PM UTC

PDB ID : 6GZZ / pdb_00006gzz
EMDB ID : EMD-0105
Title : T. thermophilus hibernating 100S ribosome (amc)
Authors : Flygaard, R.K.; Jenner, L.B.
Deposited on : 2018-07-05
Resolution : 4.13 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

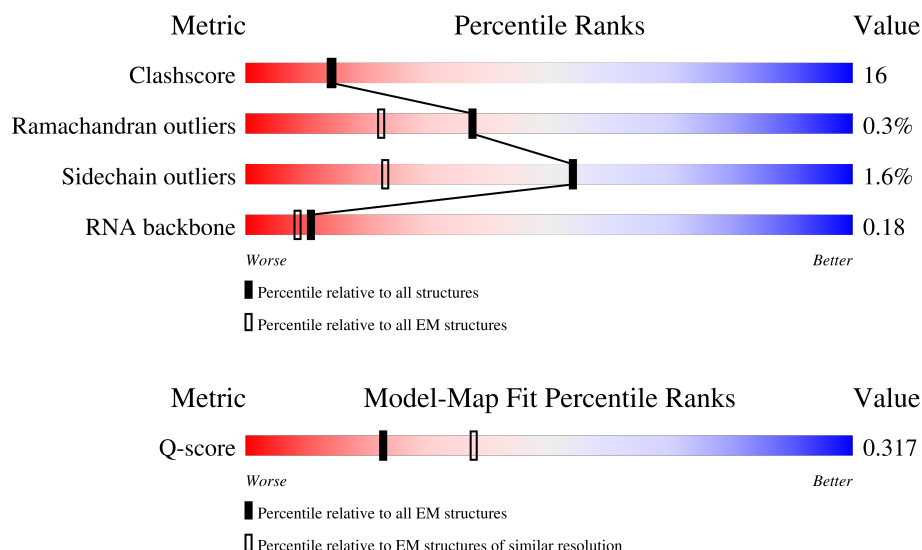
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 4.13 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	5607 (3.63 - 4.63)

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

Mol	Chain	Length	Quality of chain
1	C1	272	22% 65% 34% .
1	C2	272	21% 58% 39% .
2	D1	205	15% 70% 30%

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Mol	Chain	Length	Quality of chain
2	D2	205	
3	E1	208	
3	E2	208	
4	F1	181	
4	F2	181	
5	G1	170	
5	G2	170	
6	H1	50	
6	H2	50	
7	I1	138	
7	I2	138	
8	J1	122	
8	J2	122	
9	K1	150	
9	K2	150	
10	L1	141	
10	L2	141	
11	M1	117	
11	M2	117	
12	N1	111	
12	N2	111	
13	O1	137	
13	O2	137	
14	P1	117	
14	P2	117	

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Mol	Chain	Length	Quality of chain
15	Q1	101	29% 77% 23%
15	Q2	101	27% 76% 23%
16	R1	113	12% 60% 39%
16	R2	113	16% 68% 30%
17	S1	92	23% 67% 32%
17	S2	92	24% 65% 34%
18	T1	102	15% 64% 35%
18	T2	102	16% 72% 28%
19	U1	179	42% 69% 30%
19	U2	179	42% 63% 36%
20	V1	77	10% 60% 39%
20	V2	77	10% 61% 39%
21	W1	97	34% 73% 27%
21	W2	97	35% 65% 34%
22	X1	69	22% 59% 38%
22	X2	69	29% 71% 29%
23	Y1	59	12% 78% 22%
23	Y2	59	10% 64% 36%
24	Z1	63	84% 51% 41% 6%
24	Z2	63	79% 57% 37% 6%
25	a1	59	10% 76% 20%
25	a2	59	10% 71% 27%
26	b1	45	18% 58% 40%
26	b2	45	13% 51% 42% 7%
27	c1	49	12% 63% 37%

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Mol	Chain	Length	Quality of chain
27	c2	49	
28	d1	61	
28	d2	61	
29	A1	2912	
29	A2	2912	
30	B1	122	
30	B2	122	
31	e1	36	
31	e2	36	
32	B3	237	
32	B4	237	
33	C3	206	
33	C4	206	
34	D3	208	
34	D4	208	
35	E3	151	
35	E4	151	
36	F3	101	
36	F4	101	
37	G3	155	
37	G4	155	
38	H3	138	
38	H4	138	
39	I3	127	
39	I4	127	

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Mol	Chain	Length	Quality of chain
40	J3	99	
40	J4	99	
41	K3	118	
41	K4	118	
42	L3	125	
42	L4	125	
43	M3	117	
43	M4	117	
44	N3	60	
44	N4	60	
45	O3	88	
45	O4	88	
46	P3	84	
46	P4	84	
47	Q3	100	
47	Q4	100	
48	R3	62	
48	R4	62	
49	S3	78	
49	S4	78	
50	T3	99	
50	T4	99	
51	U3	25	
51	U4	25	
52	W4	57	

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Mol	Chain	Length	Quality of chain
52	X3	57	26% 26% 42% 28% .
53	A3	1506	25% 49% 27%
53	A4	1506	24% 50% 26%
54	V3	119	10% 60% 33% 8%
54	V4	119	9% 59% 39% ..

2 Entry composition [i](#)

There are 54 unique types of molecules in this entry. The entry contains 289175 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	C1	272	Total	C	N	O	S	0	0
			2116	1335	420	358	3		
1	C2	272	Total	C	N	O	S	0	0
			2116	1335	420	358	3		

- Molecule 2 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	D1	205	Total	C	N	O	S	0	0
			1569	991	300	272	6		
2	D2	205	Total	C	N	O	S	0	0
			1569	991	300	272	6		

- Molecule 3 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	E1	208	Total	C	N	O	S	0	0
			1628	1037	304	284	3		
3	E2	208	Total	C	N	O	S	0	0
			1628	1037	304	284	3		

- Molecule 4 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	F1	181	Total	C	N	O	S	0	0
			1474	942	268	260	4		
4	F2	181	Total	C	N	O	S	0	0
			1474	942	268	260	4		

- Molecule 5 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	G1	170	Total	C	N	O	S	0	0
			1308	829	245	233	1		
5	G2	170	Total	C	N	O	S	0	0
			1308	829	245	233	1		

- Molecule 6 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	H1	50	Total	C	N	O	S	0	0
			383	245	66	71	1		
6	H2	50	Total	C	N	O	S	0	0
			383	245	66	71	1		

- Molecule 7 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	I1	138	Total	C	N	O	S	0	0
			1105	712	206	183	4		
7	I2	138	Total	C	N	O	S	0	0
			1105	712	206	183	4		

- Molecule 8 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	J1	122	Total	C	N	O	S	0	0
			933	588	171	170	4		
8	J2	122	Total	C	N	O	S	0	0
			933	588	171	170	4		

- Molecule 9 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	K1	150	Total	C	N	O	S	0	0
			1145	712	232	198	3		
9	K2	150	Total	C	N	O	S	0	0
			1145	712	232	198	3		

- Molecule 10 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	L1	141	Total	C	N	O	S	0	0
			1122	715	212	188	7		

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Mol	Chain	Residues	Atoms					AltConf	Trace
10	L2	141	Total	C	N	O	S	0	0
			1122	715	212	188	7		

- Molecule 11 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	M1	117	Total	C	N	O		0	0
			960	599	202	159			
11	M2	117	Total	C	N	O		0	0
			960	599	202	159			

- Molecule 12 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	N1	111	Total	C	N	O		0	0
			882	556	176	150			
12	N2	111	Total	C	N	O		0	0
			882	556	176	150			

- Molecule 13 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	O1	137	Total	C	N	O	S	0	0
			1142	710	234	197	1		
13	O2	137	Total	C	N	O	S	0	0
			1142	710	234	197	1		

- Molecule 14 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	P1	117	Total	C	N	O	S	0	0
			964	610	202	151	1		
14	P2	117	Total	C	N	O	S	0	0
			964	610	202	151	1		

- Molecule 15 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	Q1	101	Total	C	N	O	S	0	0
			779	501	142	135	1		
15	Q2	101	Total	C	N	O	S	0	0
			779	501	142	135	1		

- Molecule 16 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	R1	113	Total	C	N	O	S	0	0
			900	566	177	155	2		
16	R2	113	Total	C	N	O	S	0	0
			900	566	177	155	2		

- Molecule 17 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms				AltConf	Trace
17	S1	92	Total	C	N	O	0	0
			726	471	131	124		
17	S2	92	Total	C	N	O	0	0
			726	471	131	124		

- Molecule 18 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	T1	102	Total	C	N	O	S	0	0
			786	505	150	126	5		
18	T2	102	Total	C	N	O	S	0	0
			786	505	150	126	5		

- Molecule 19 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	U1	179	Total	C	N	O	S	0	0
			1429	911	255	260	3		
19	U2	179	Total	C	N	O	S	0	0
			1429	911	255	260	3		

- Molecule 20 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	V1	77	Total	C	N	O	S	0	0
			613	379	129	104	1		
20	V2	77	Total	C	N	O	S	0	0
			613	379	129	104	1		

- Molecule 21 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	W1	97	Total	C	N	O	S	0	0
			763	481	150	131	1		
21	W2	97	Total	C	N	O	S	0	0
			763	481	150	131	1		

- Molecule 22 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	X1	69	Total	C	N	O	S	0	0
			581	358	118	104	1		
22	X2	69	Total	C	N	O	S	0	0
			581	358	118	104	1		

- Molecule 23 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms				AltConf	Trace
23	Y1	59	Total	C	N	O	0	0
			469	298	90	81		
23	Y2	59	Total	C	N	O	0	0
			469	298	90	81		

- Molecule 24 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	Z1	63	Total	C	N	O	S	0	0
			516	326	93	92	5		
24	Z2	63	Total	C	N	O	S	0	0
			516	326	93	92	5		

- Molecule 25 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	a1	59	Total	C	N	O	S	0	0
			459	288	90	76	5		
25	a2	59	Total	C	N	O	S	0	0
			459	288	90	76	5		

- Molecule 26 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	b1	45	Total	C	N	O	S	0	0
			390	241	79	66	4		

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Mol	Chain	Residues	Atoms					AltConf	Trace
26	b2	45	Total	C	N	O	S	0	0
			390	241	79	66	4		

- Molecule 27 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	c1	49	Total	C	N	O	S	0	0
			430	263	108	57	2		
27	c2	49	Total	C	N	O	S	0	0
			430	263	108	57	2		

- Molecule 28 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	d1	61	Total	C	N	O	S	0	0
			489	312	99	76	2		
28	d2	61	Total	C	N	O	S	0	0
			489	312	99	76	2		

- Molecule 29 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	A1	2912	Total	C	N	O	P	0	0
			62707	27911	11722	20163	2911		
29	A2	2912	Total	C	N	O	P	0	0
			62707	27911	11722	20163	2911		

There are 14 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A1	156	U	UNK	conflict	GB 55771382
A1	682	A	G	conflict	GB 55771382
A1	686	C	G	conflict	GB 55771382
A1	697	G	C	conflict	GB 55771382
A1	701	A	C	conflict	GB 55771382
A1	1106	U	G	conflict	GB 55771382
A1	1128	A	C	conflict	GB 55771382
A2	156	U	UNK	conflict	GB 55771382
A2	682	A	G	conflict	GB 55771382
A2	686	C	G	conflict	GB 55771382
A2	697	G	C	conflict	GB 55771382
A2	701	A	C	conflict	GB 55771382

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Chain	Residue	Modelled	Actual	Comment	Reference
A2	1106	U	G	conflict	GB 55771382
A2	1128	A	C	conflict	GB 55771382

- Molecule 30 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	B1	122	Total	C	N	O	P	0	0
			2617	1166	486	844	121		
30	B2	122	Total	C	N	O	P	0	0
			2617	1166	486	844	121		

- Molecule 31 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	e1	36	Total	C	N	O	S	0	0
			299	183	67	46	3		
31	e2	36	Total	C	N	O	S	0	0
			299	183	67	46	3		

- Molecule 32 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	B3	237	Total	C	N	O	S	0	0
			1925	1228	344	348	5		
32	B4	237	Total	C	N	O	S	0	0
			1925	1228	344	348	5		

- Molecule 33 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	C3	206	Total	C	N	O	S	0	0
			1613	1016	314	282	1		
33	C4	206	Total	C	N	O	S	0	0
			1613	1016	314	282	1		

- Molecule 34 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	D3	208	Total	C	N	O	S	0	0
			1703	1066	339	291	7		
34	D4	208	Total	C	N	O	S	0	0
			1703	1066	339	291	7		

- Molecule 35 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	E3	151	Total	C	N	O	S	0	0
			1156	729	218	205	4		
35	E4	151	Total	C	N	O	S	0	0
			1156	729	218	205	4		

- Molecule 36 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	F3	101	Total	C	N	O	S	0	0
			843	531	155	154	3		
36	F4	101	Total	C	N	O	S	0	0
			843	531	155	154	3		

- Molecule 37 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	G3	155	Total	C	N	O	S	0	0
			1257	781	252	218	6		
37	G4	155	Total	C	N	O	S	0	0
			1257	781	252	218	6		

- Molecule 38 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	H3	138	Total	C	N	O	S	0	0
			1116	705	215	193	3		
38	H4	138	Total	C	N	O	S	0	0
			1116	705	215	193	3		

- Molecule 39 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				AltConf	Trace
39	I3	127	Total	C	N	O	0	0
			1010	639	197	174		
39	I4	127	Total	C	N	O	0	0
			1010	639	197	174		

- Molecule 40 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	J3	99	Total	C	N	O	S	0	0
			802	504	157	140	1		
40	J4	99	Total	C	N	O	S	0	0
			802	504	157	140	1		

- Molecule 41 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	K3	118	Total	C	N	O	S	0	0
			879	546	167	163	3		
41	K4	118	Total	C	N	O	S	0	0
			879	546	167	163	3		

- Molecule 42 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	L3	125	Total	C	N	O	S	0	0
			976	614	196	165	1		
42	L4	125	Total	C	N	O	S	0	0
			976	614	196	165	1		

- Molecule 43 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	M3	117	Total	C	N	O	S	0	0
			934	577	192	163	2		
43	M4	117	Total	C	N	O	S	0	0
			934	577	192	163	2		

- Molecule 44 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	N3	60	Total	C	N	O	S	0	0
			492	312	104	72	4		
44	N4	60	Total	C	N	O	S	0	0
			492	312	104	72	4		

- Molecule 45 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	O3	88	Total	C	N	O	S	0	0
			734	459	147	126	2		

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Mol	Chain	Residues	Atoms					AltConf	Trace
45	O4	88	Total	C	N	O	S	0	0
			734	459	147	126	2		

- Molecule 46 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	P3	84	Total	C	N	O	S	0	0
			706	446	140	119	1		
46	P4	84	Total	C	N	O	S	0	0
			706	446	140	119	1		

- Molecule 47 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	Q3	100	Total	C	N	O	S	0	0
			835	534	155	144	2		
47	Q4	100	Total	C	N	O	S	0	0
			835	534	155	144	2		

- Molecule 48 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				AltConf	Trace
48	R3	62	Total	C	N	O	0	0
			515	328	101	86		
48	R4	62	Total	C	N	O	0	0
			515	328	101	86		

- Molecule 49 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	S3	78	Total	C	N	O	S	0	0
			625	398	115	110	2		
49	S4	78	Total	C	N	O	S	0	0
			625	398	115	110	2		

- Molecule 50 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	T3	99	Total	C	N	O	S	0	0
			763	470	162	129	2		
50	T4	99	Total	C	N	O	S	0	0
			763	470	162	129	2		

- Molecule 51 is a protein called 30S ribosomal protein Thx.

Mol	Chain	Residues	Atoms				AltConf	Trace
51	U3	25	Total	C	N	O	0	0
			218	134	52	32		
51	U4	25	Total	C	N	O	0	0
			218	134	52	32		

- Molecule 52 is a protein called Ribosome hibernation promoting factor.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	X3	57	Total	C	N	O	S	0	0
			476	304	85	84	3		
52	W4	57	Total	C	N	O	S	0	0
			476	304	85	84	3		

- Molecule 53 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	A3	1506	Total	C	N	O	P	0	0
			32369	14408	5997	10459	1505		
53	A4	1506	Total	C	N	O	P	0	0
			32369	14408	5997	10459	1505		

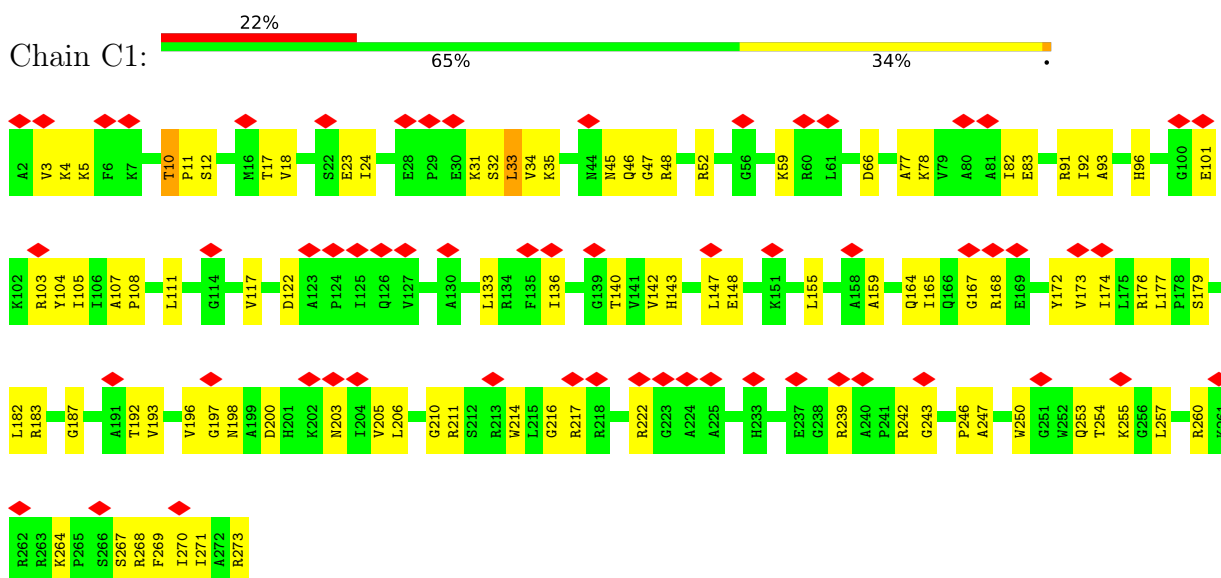
- Molecule 54 is a protein called Ribosome hibernation promoting factor.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	V3	119	Total	C	N	O	S	0	0
			963	603	179	180	1		
54	V4	117	Total	C	N	O	S	0	0
			950	594	177	178	1		

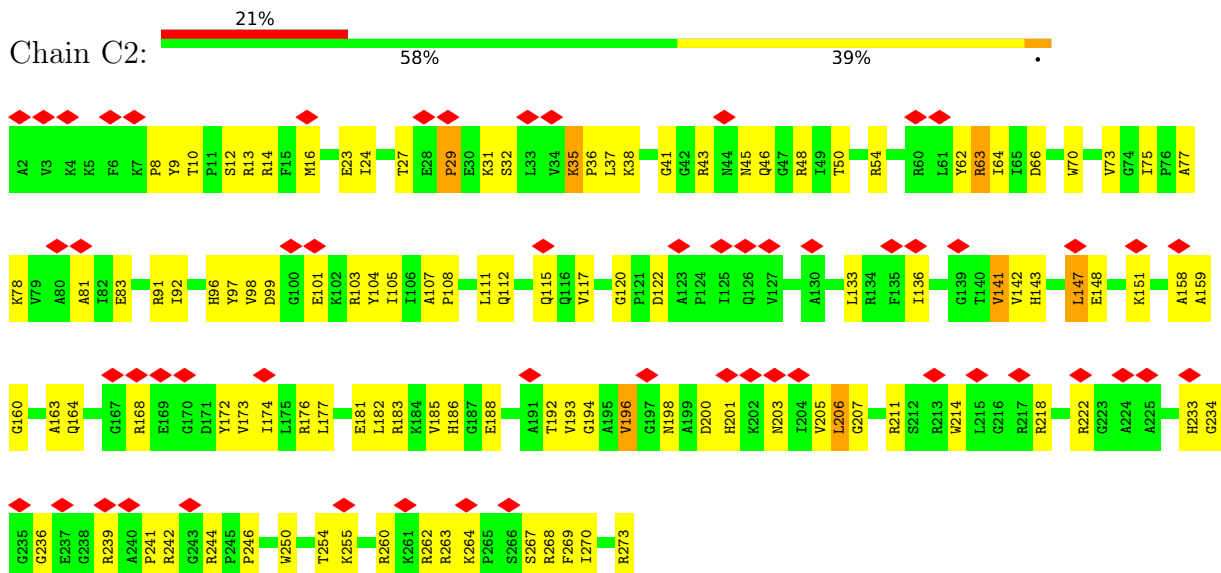
3 Residue-property plots

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

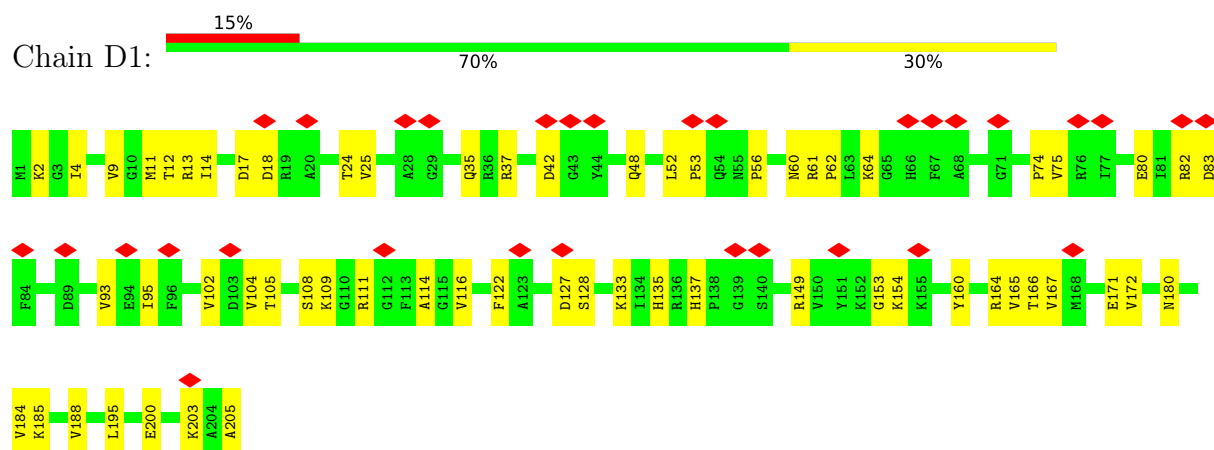
• Molecule 1: 50S ribosomal protein L2



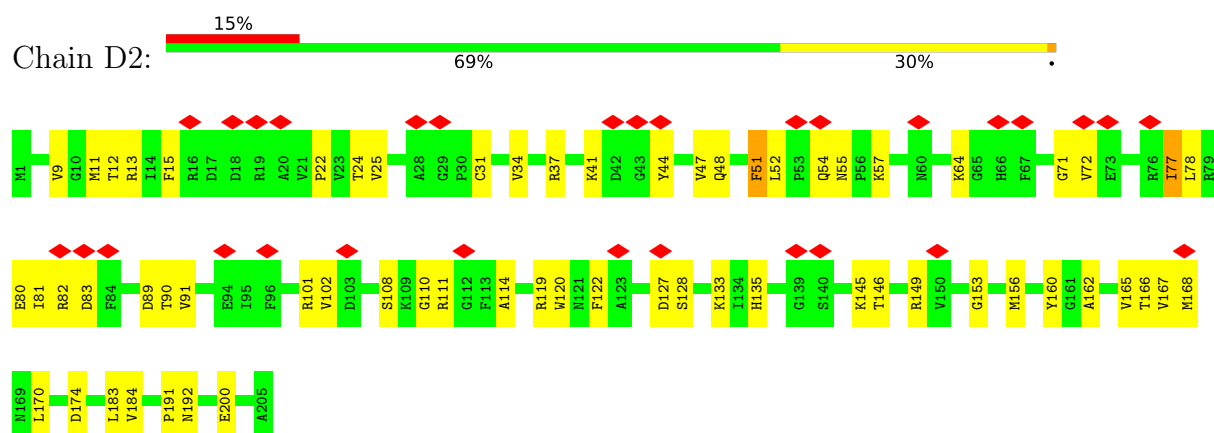
• Molecule 1: 50S ribosomal protein L2



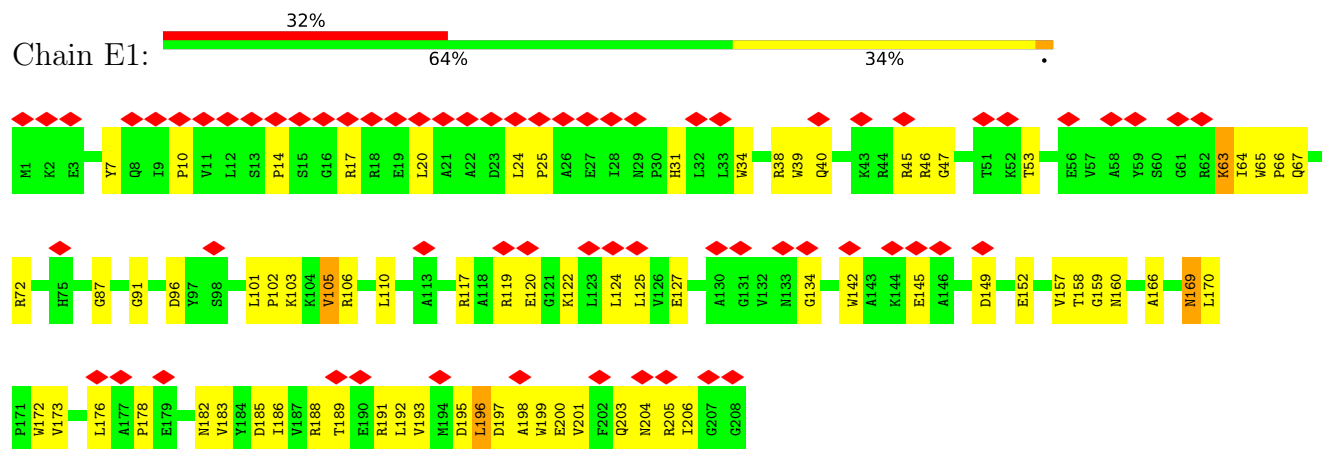
• Molecule 2: 50S ribosomal protein L3



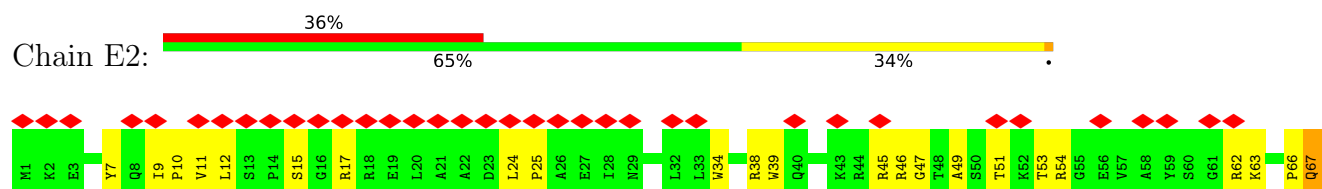
• Molecule 2: 50S ribosomal protein L3

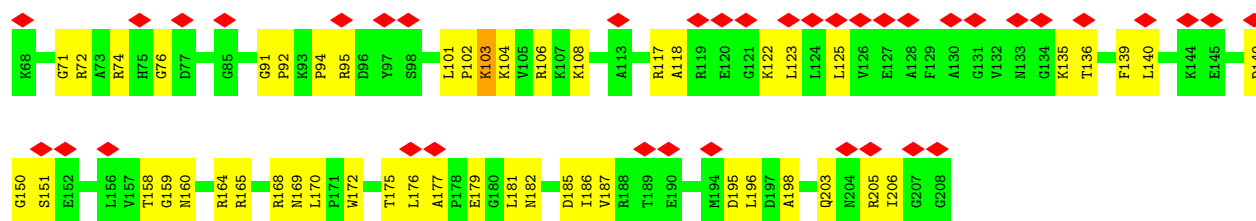


• Molecule 3: 50S ribosomal protein L4



• Molecule 3: 50S ribosomal protein L4

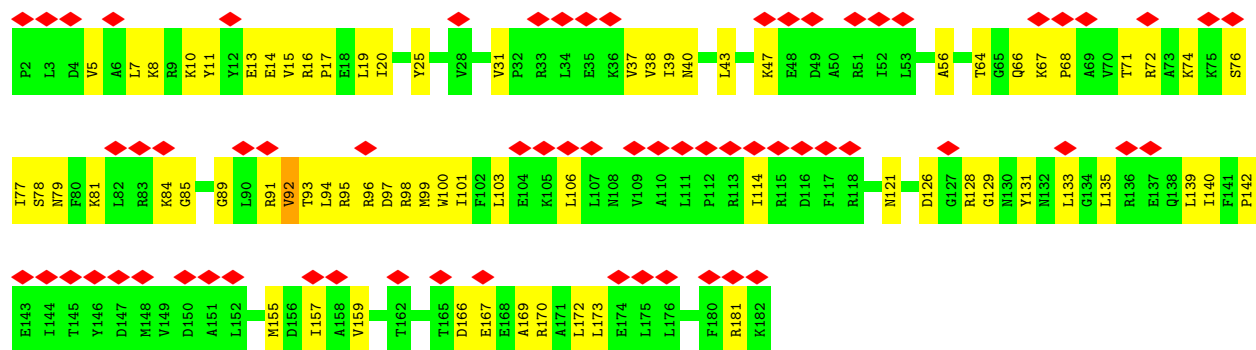




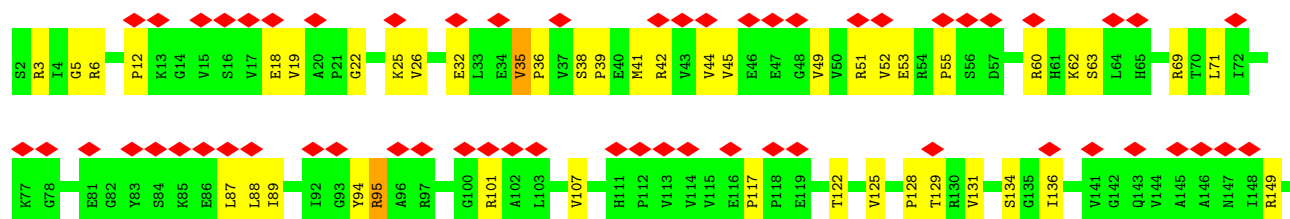
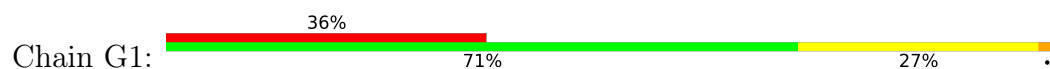
• Molecule 4: 50S ribosomal protein L5

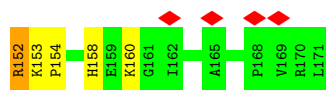


• Molecule 4: 50S ribosomal protein L5

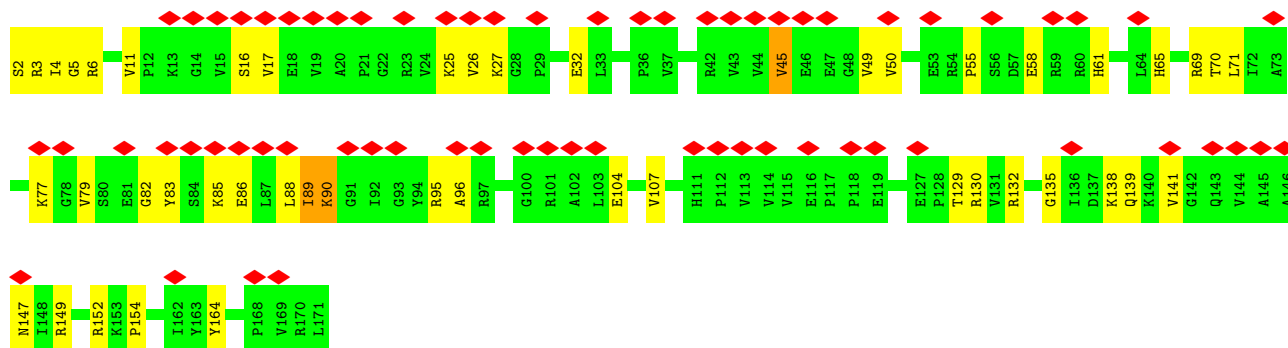
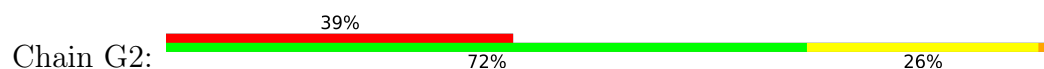


• Molecule 5: 50S ribosomal protein L6

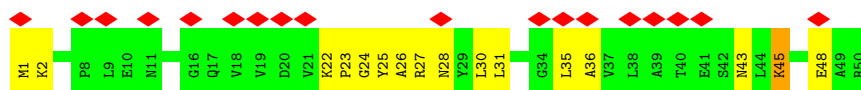




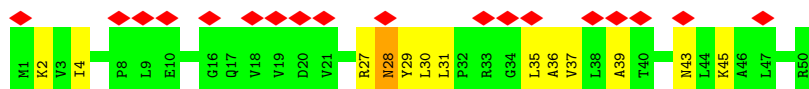
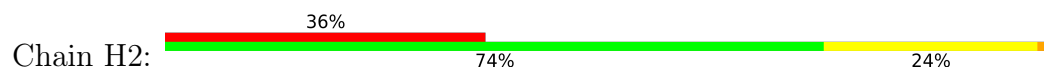
- Molecule 5: 50S ribosomal protein L6



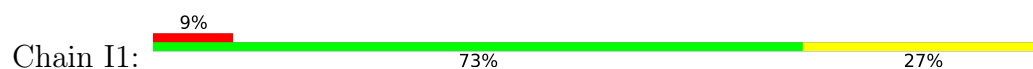
- Molecule 6: 50S ribosomal protein L9



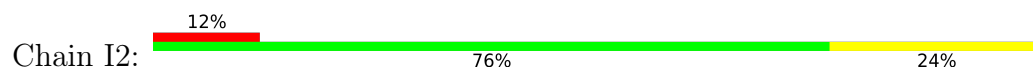
- Molecule 6: 50S ribosomal protein L9

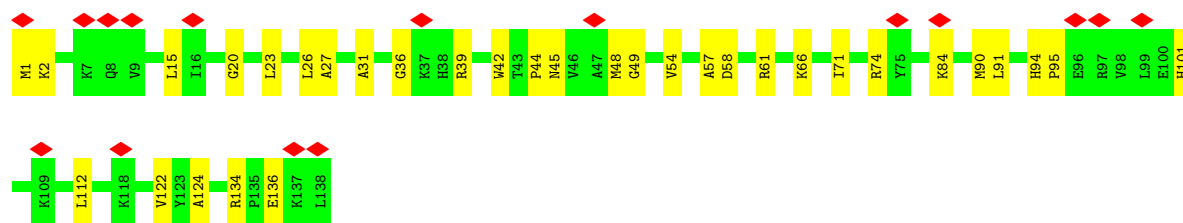


- Molecule 7: 50S ribosomal protein L13

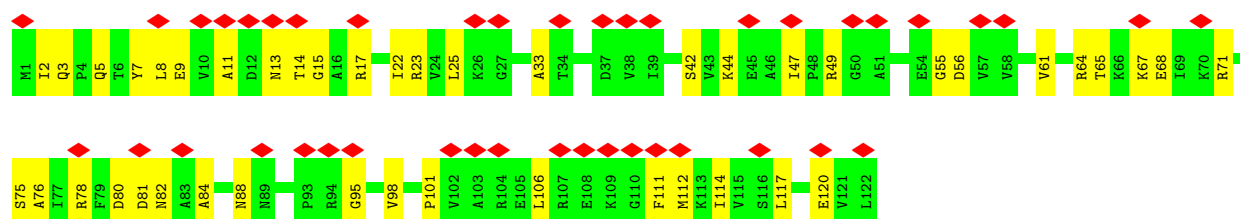


- Molecule 7: 50S ribosomal protein L13

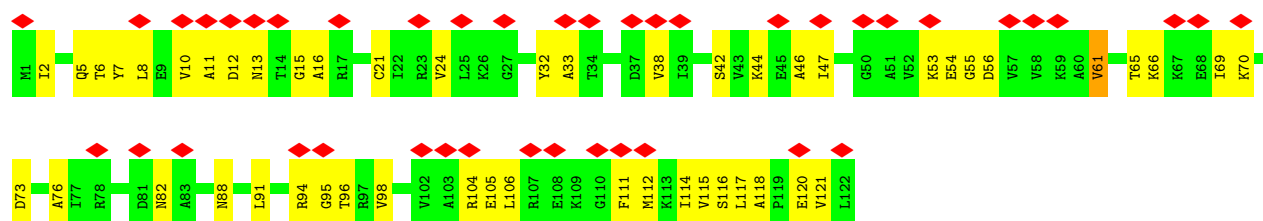




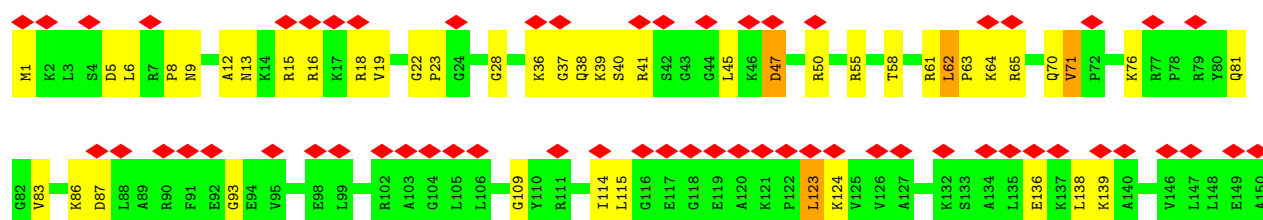
• Molecule 8: 50S ribosomal protein L14



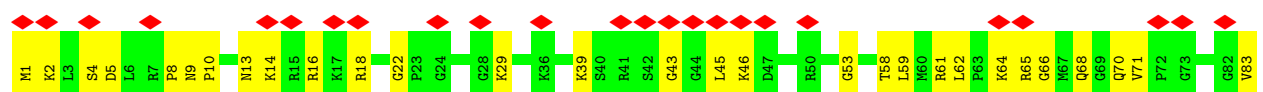
• Molecule 8: 50S ribosomal protein L14

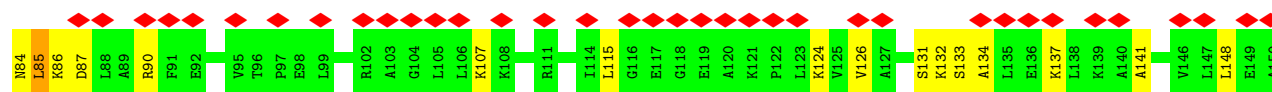


• Molecule 9: 50S ribosomal protein L15

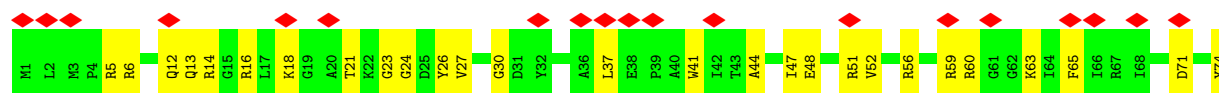


• Molecule 9: 50S ribosomal protein L15

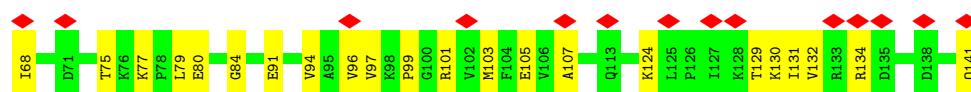
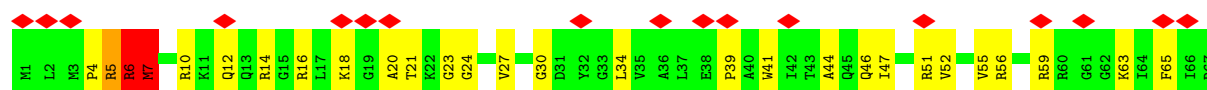




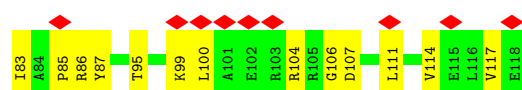
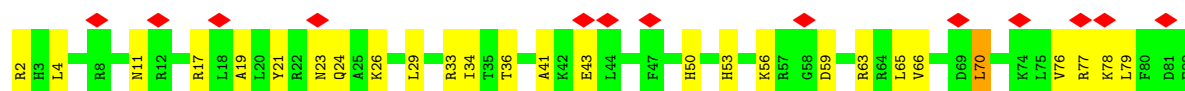
- Molecule 10: 50S ribosomal protein L16



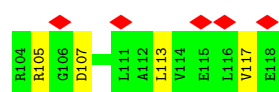
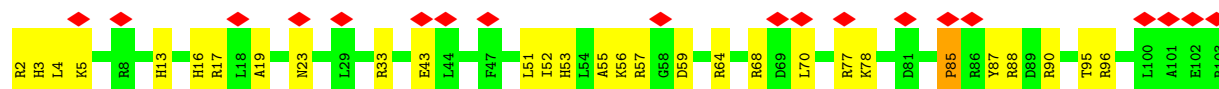
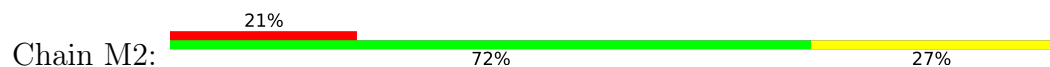
- Molecule 10: 50S ribosomal protein L16



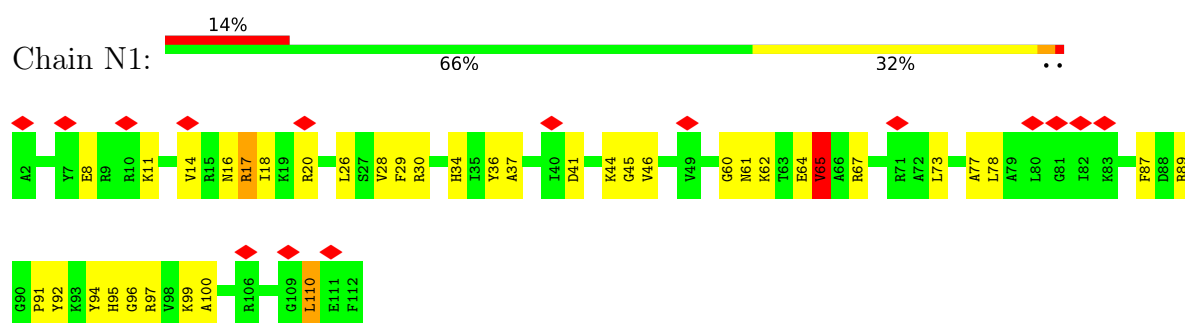
- Molecule 11: 50S ribosomal protein L17



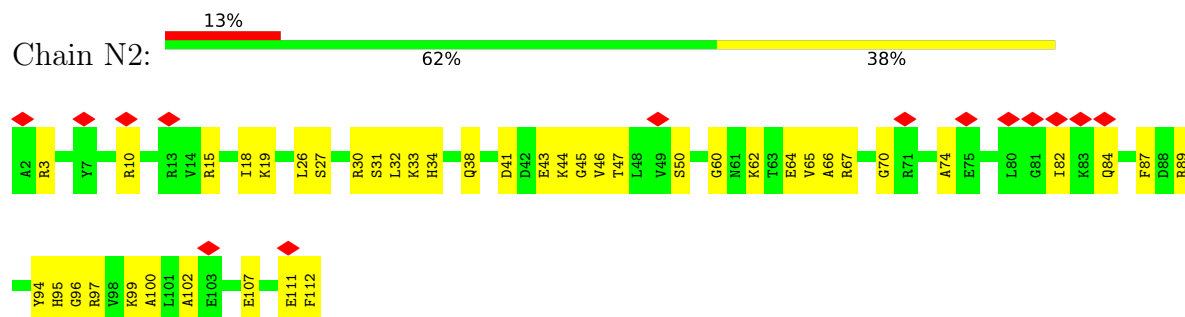
- Molecule 11: 50S ribosomal protein L17



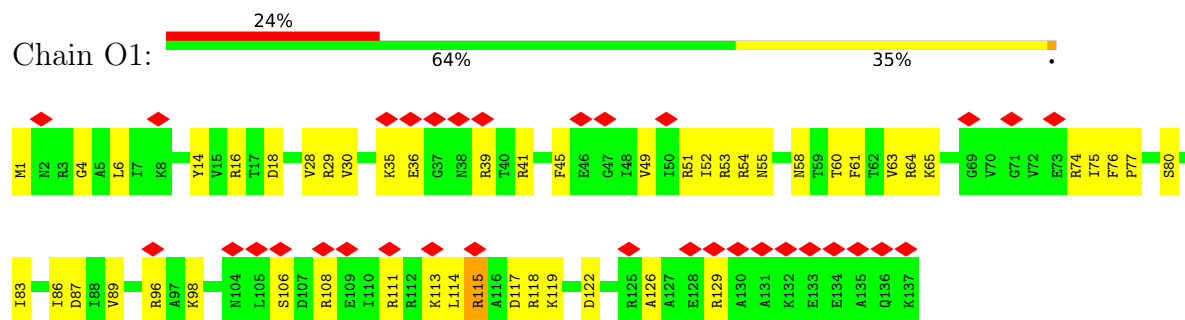
- Molecule 12: 50S ribosomal protein L18



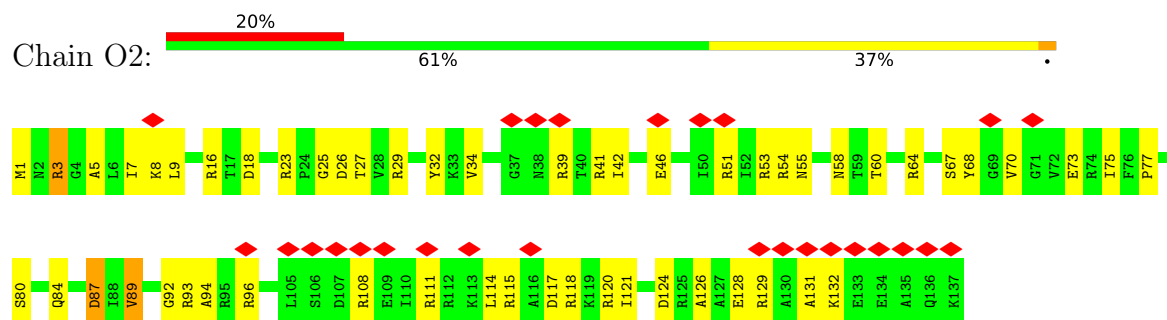
- Molecule 12: 50S ribosomal protein L18



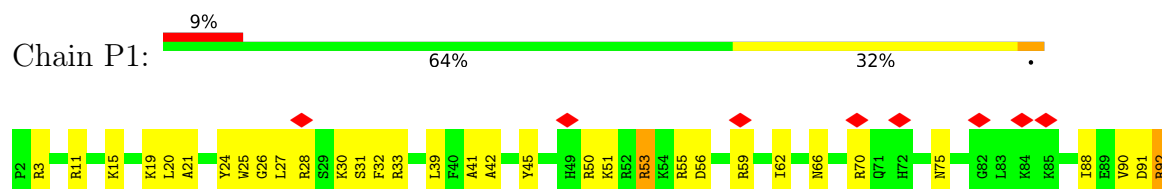
- Molecule 13: 50S ribosomal protein L19

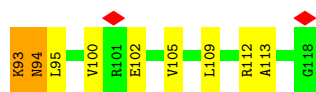


- Molecule 13: 50S ribosomal protein L19



- Molecule 14: 50S ribosomal protein L20

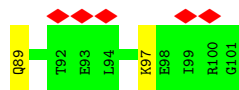
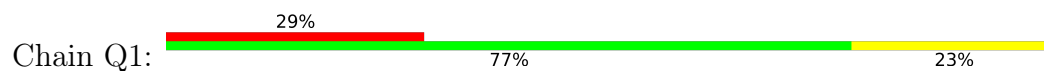




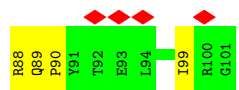
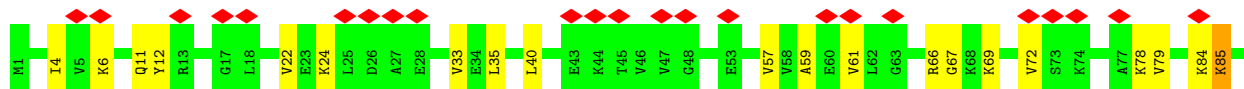
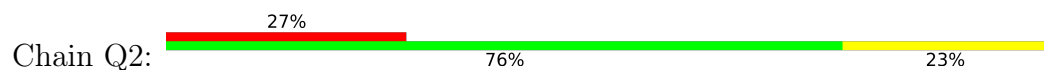
- Molecule 14: 50S ribosomal protein L20



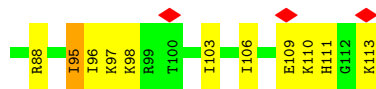
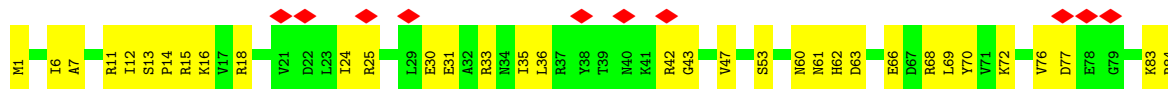
- Molecule 15: 50S ribosomal protein L21



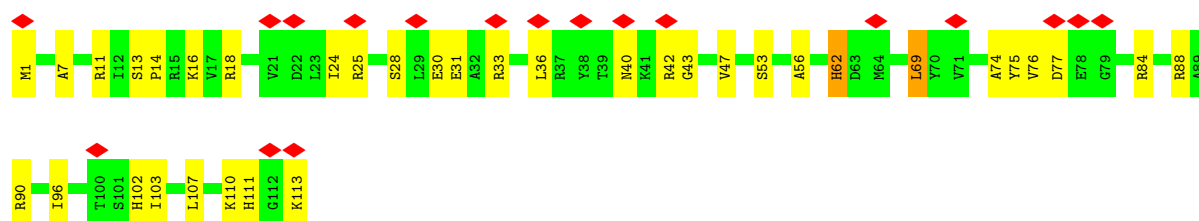
- Molecule 15: 50S ribosomal protein L21



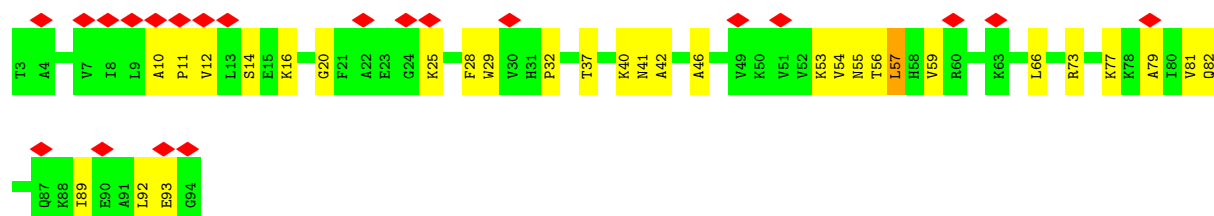
- Molecule 16: 50S ribosomal protein L22



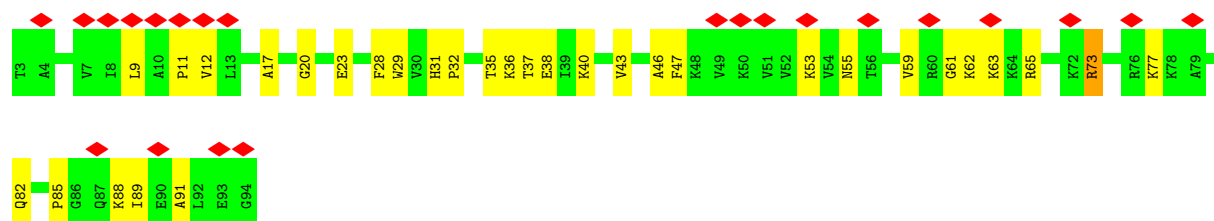
- Molecule 16: 50S ribosomal protein L22



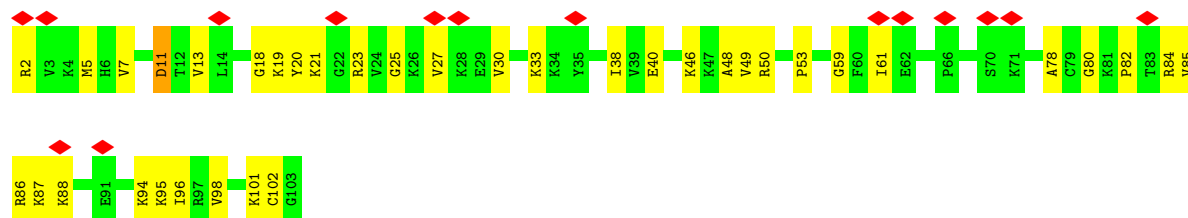
- Molecule 17: 50S ribosomal protein L23



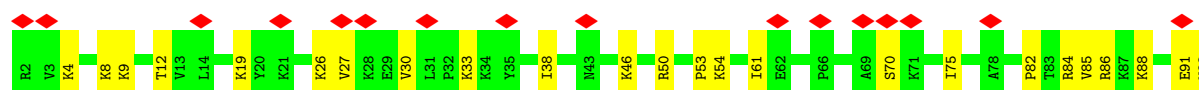
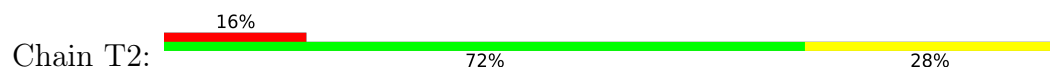
- Molecule 17: 50S ribosomal protein L23



- Molecule 18: 50S ribosomal protein L24



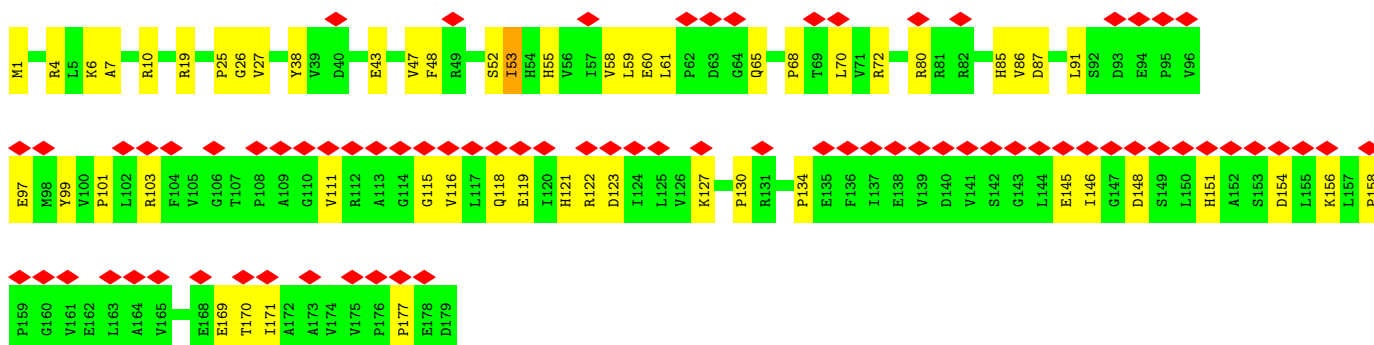
- Molecule 18: 50S ribosomal protein L24





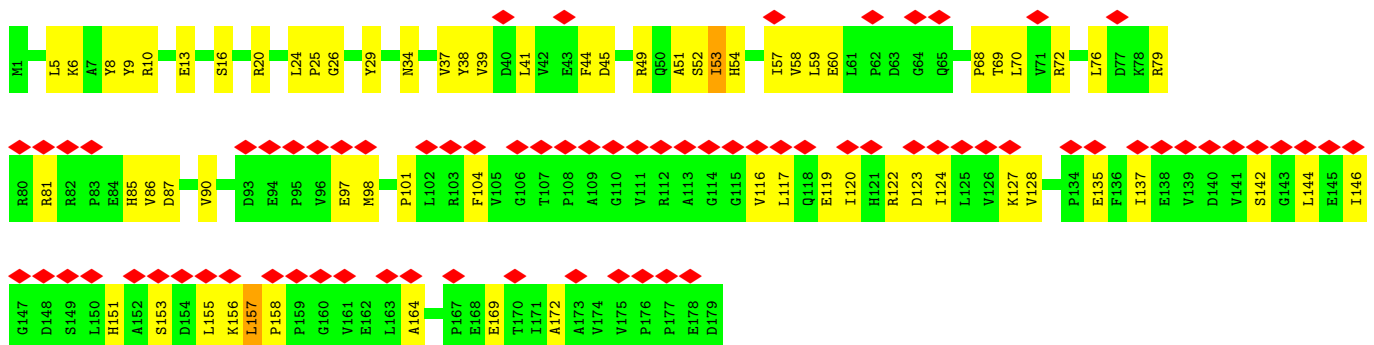
• Molecule 19: 50S ribosomal protein L25

Chain U1: 42% 69% 30%



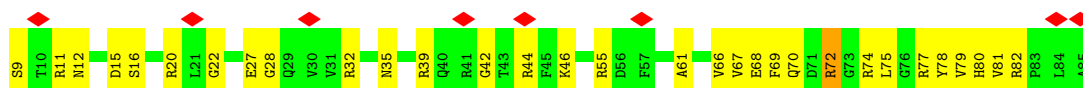
• Molecule 19: 50S ribosomal protein L25

Chain U2: 42% 63% 36%



• Molecule 20: 50S ribosomal protein L27

Chain V1: 10% 60% 39%

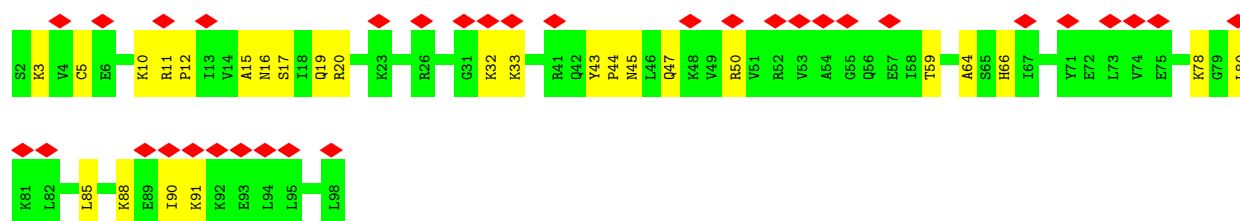
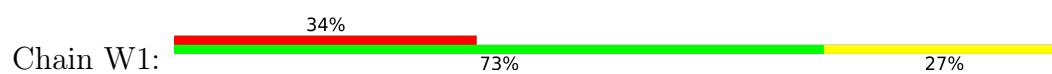


• Molecule 20: 50S ribosomal protein L27

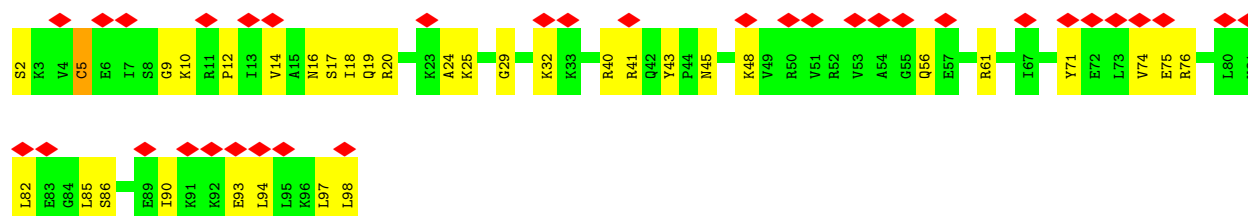
Chain V2: 10% 61% 39%



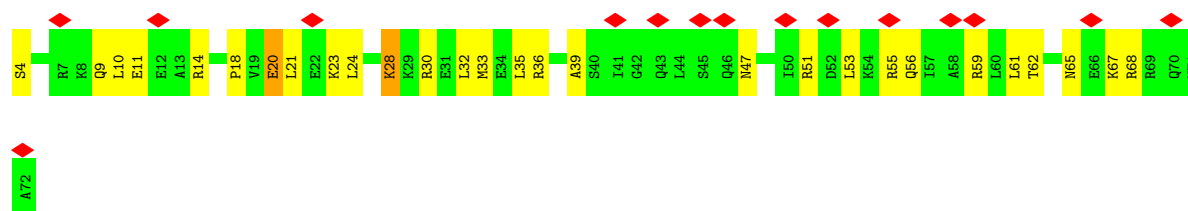
• Molecule 21: 50S ribosomal protein L28



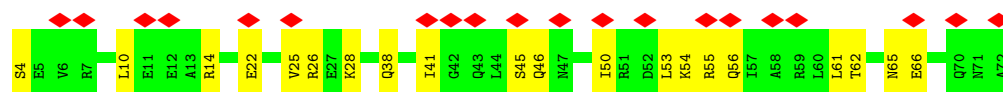
- Molecule 21: 50S ribosomal protein L28



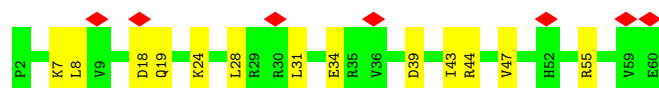
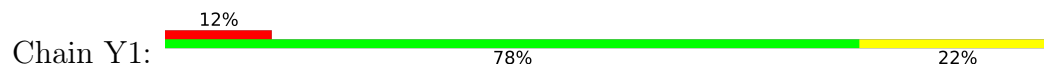
- Molecule 22: 50S ribosomal protein L29



- Molecule 22: 50S ribosomal protein L29

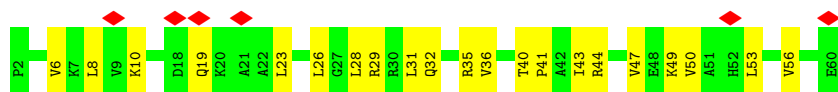


- Molecule 23: 50S ribosomal protein L30

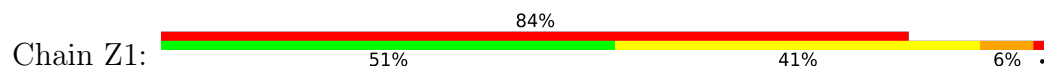


- Molecule 23: 50S ribosomal protein L30

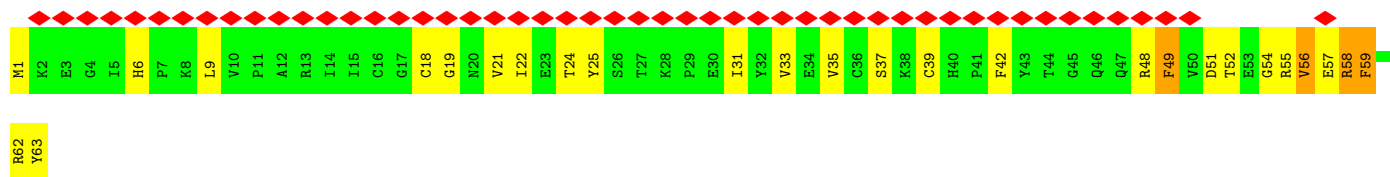
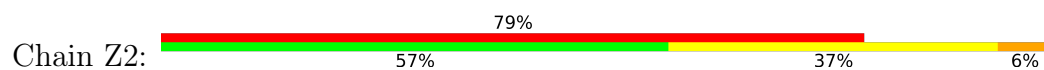




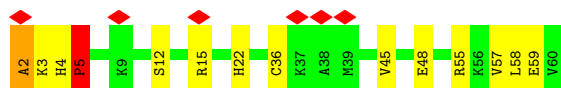
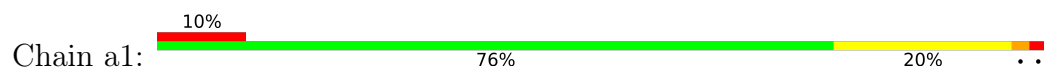
- Molecule 24: 50S ribosomal protein L31



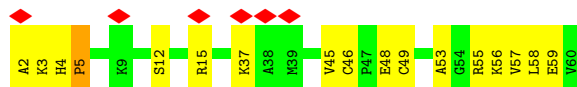
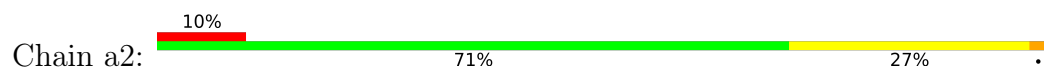
- Molecule 24: 50S ribosomal protein L31



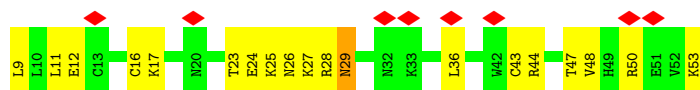
- Molecule 25: 50S ribosomal protein L32



- Molecule 25: 50S ribosomal protein L32

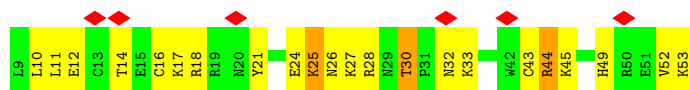


- Molecule 26: 50S ribosomal protein L33

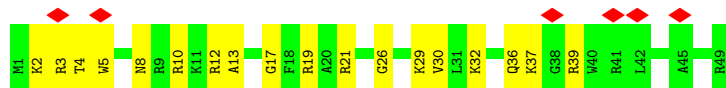


- Molecule 26: 50S ribosomal protein L33

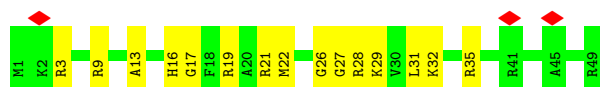




- Molecule 27: 50S ribosomal protein L34



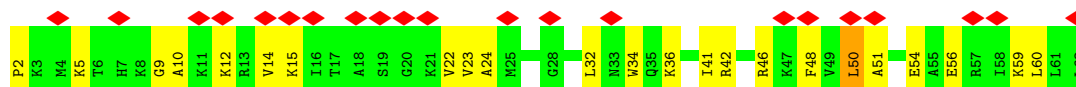
- Molecule 27: 50S ribosomal protein L34



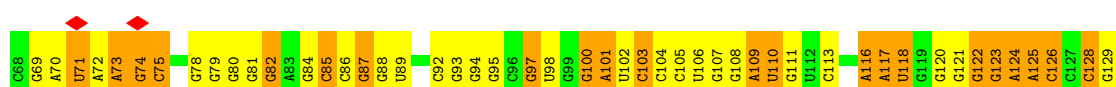
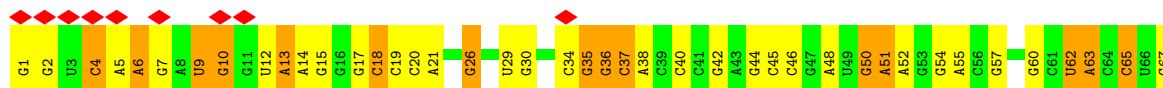
- Molecule 28: 50S ribosomal protein L35

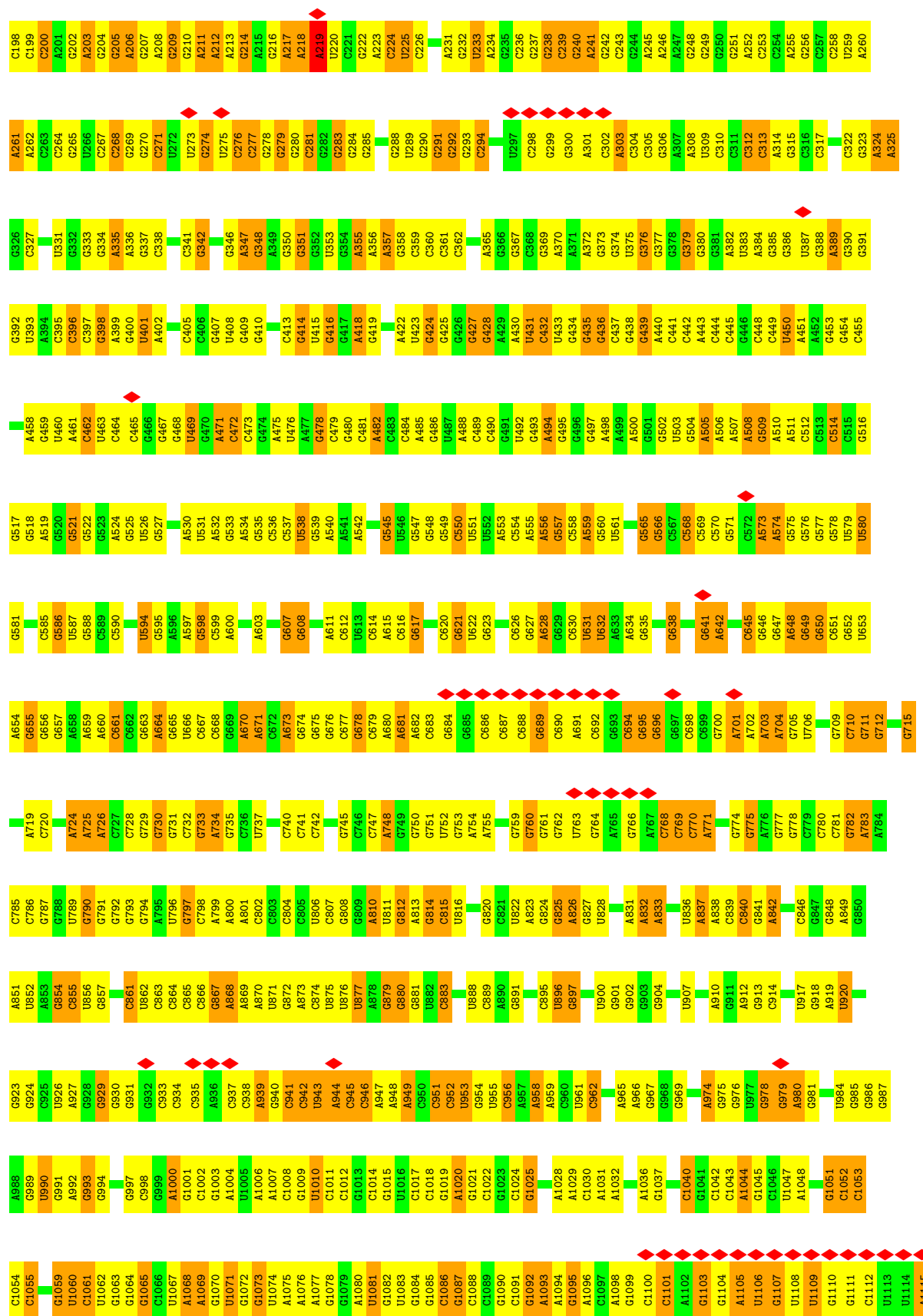


- Molecule 28: 50S ribosomal protein L35

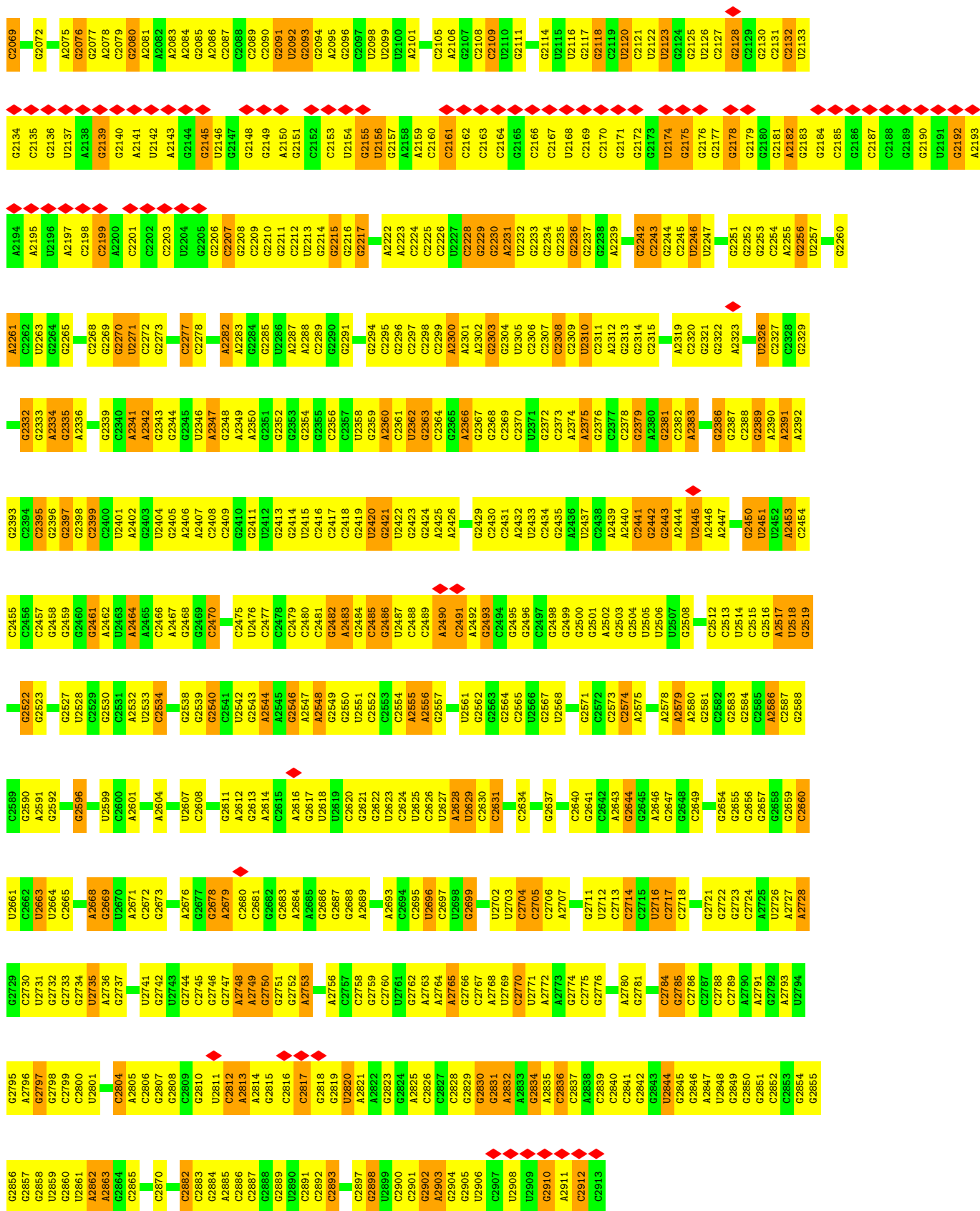


- Molecule 29: 23S ribosomal RNA

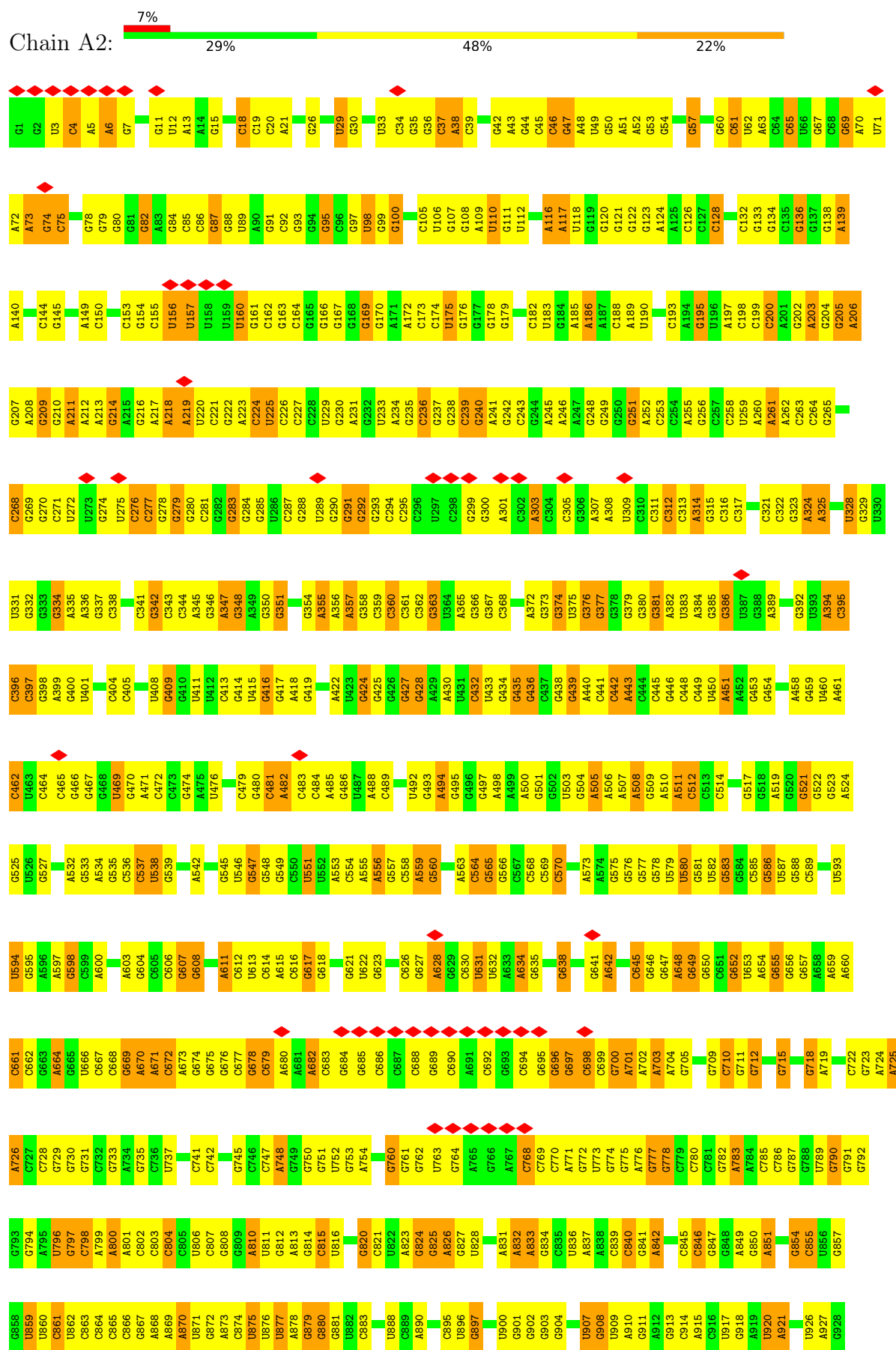




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A2005	C1938	C1870	A1806	C1735	U1589	G1589	U1463	G1392	A1327	C1249	G1184	A1118
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	A1940	G1872	U1808	U1737	A1592	G1592	G1465	G1394	G1331	U1251	C1186	G1120
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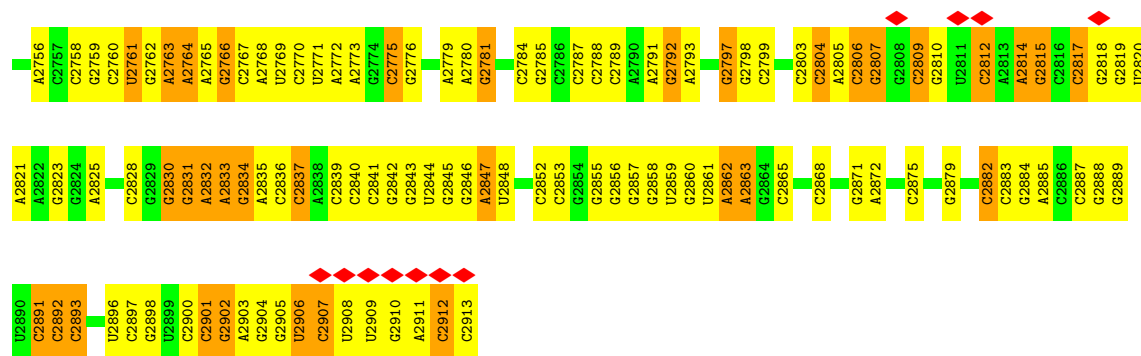


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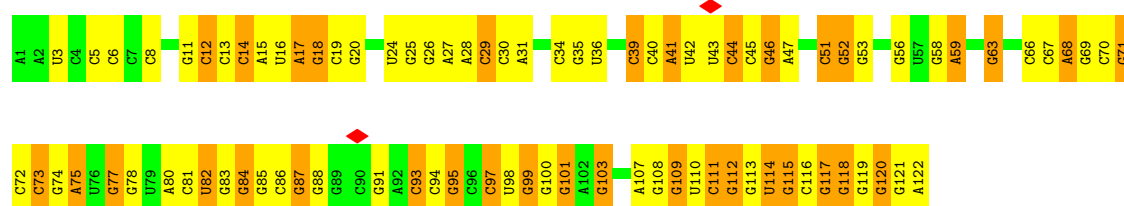


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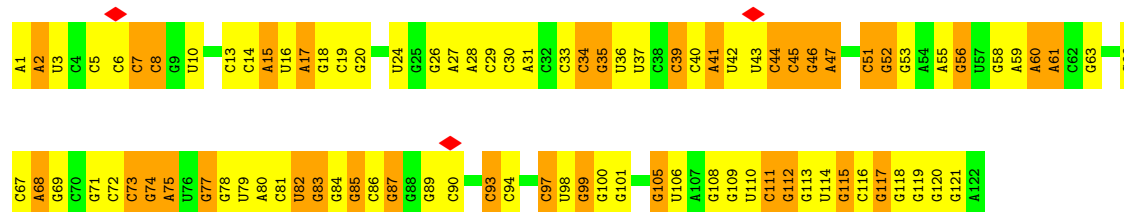
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U1941	A1942	A1943	C1944	C1945	U1946	U1947	C1948	G1953	U1954	C1955	A1956	C1958	G1959	A1960	A1961	U1962	U1963	U1964	C1965	C1966	G1969	U1970	C1971	G1972	C1973	C1974	U1975	A1976	C1977	G1978	U1979	U1980	C1981	C1985	C1986	U1987	C1988	C1989	A1990	C1991	C1992	A1993	A1994	A1995	A1996	G2004	A2005	C2006	G2009	C2013	C2014	U2015	C2016																								



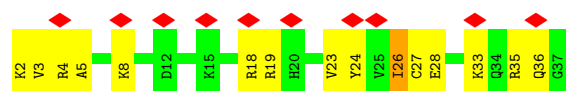
- Molecule 30: 5S ribosomal RNA



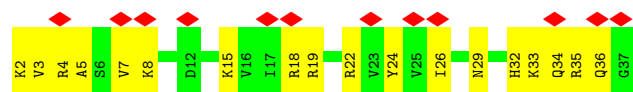
- Molecule 30: 5S ribosomal RNA



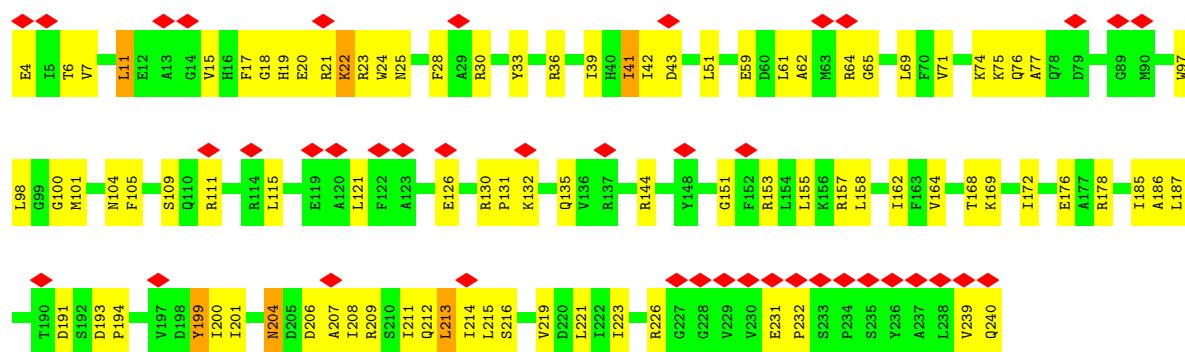
- Molecule 31: 50S ribosomal protein L36



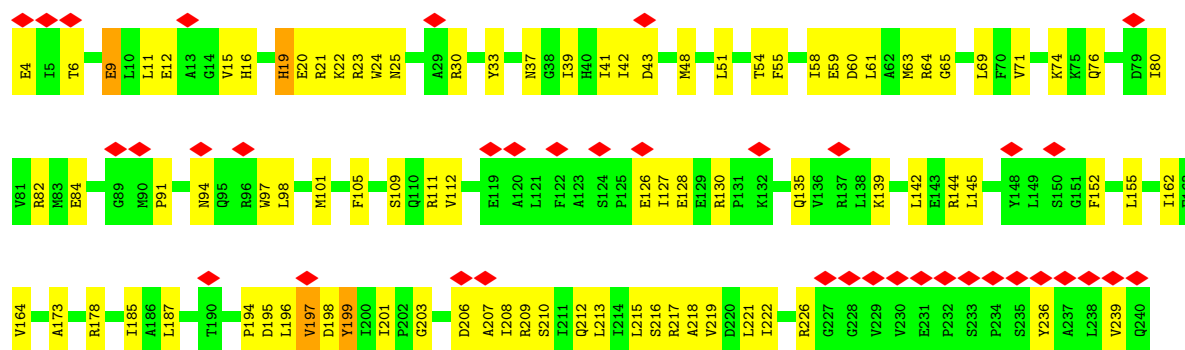
- Molecule 31: 50S ribosomal protein L36



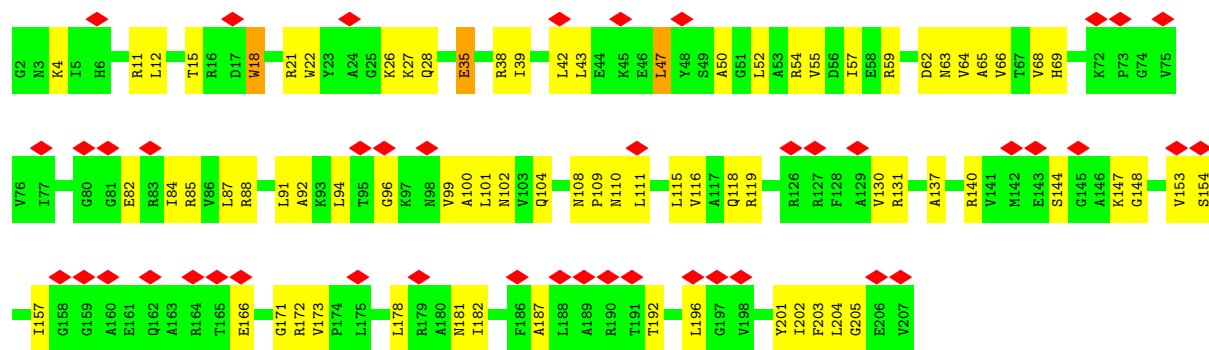
- Molecule 32: 30S ribosomal protein S2



• Molecule 32: 30S ribosomal protein S2

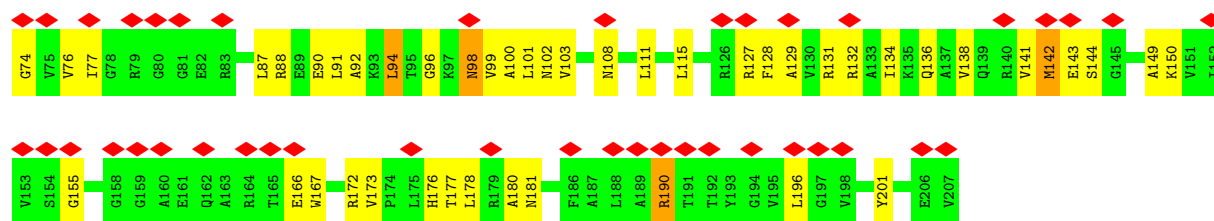


• Molecule 33: 30S ribosomal protein S3

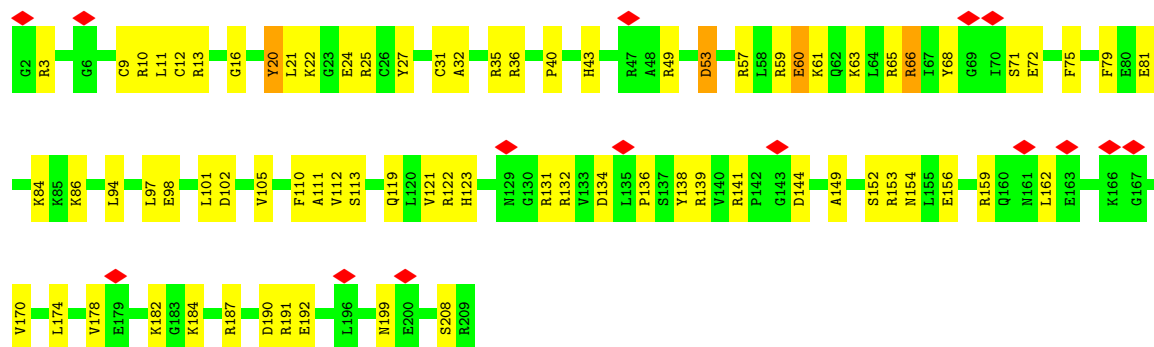


• Molecule 33: 30S ribosomal protein S3

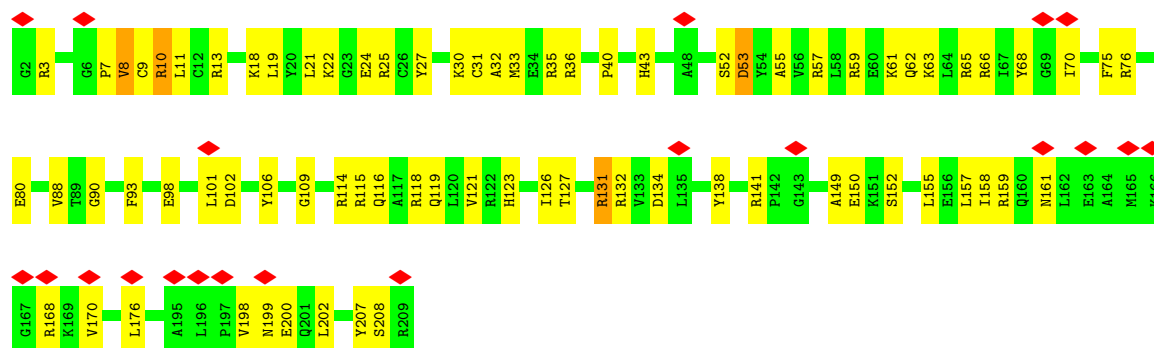




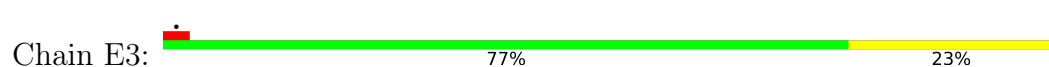
- Molecule 34: 30S ribosomal protein S4



- Molecule 34: 30S ribosomal protein S4

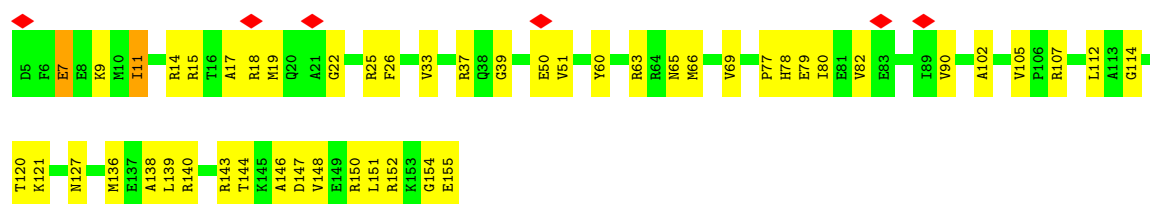


- Molecule 35: 30S ribosomal protein S5



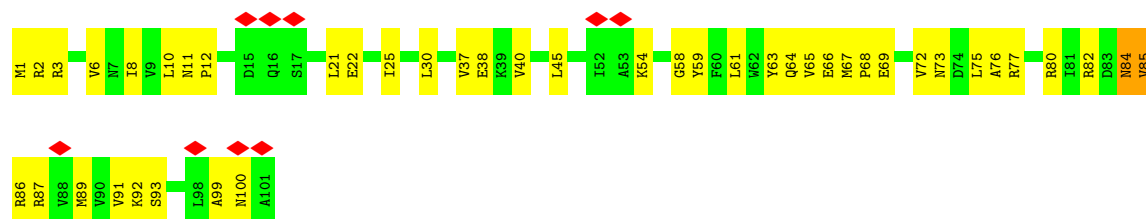
- Molecule 35: 30S ribosomal protein S5

Chain E4: 

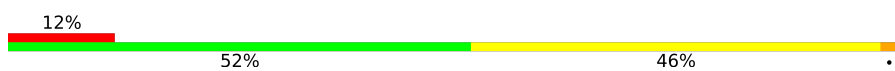


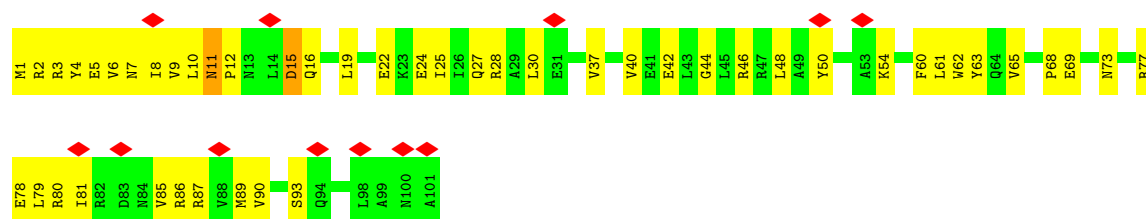
• Molecule 36: 30S ribosomal protein S6

Chain F3: 



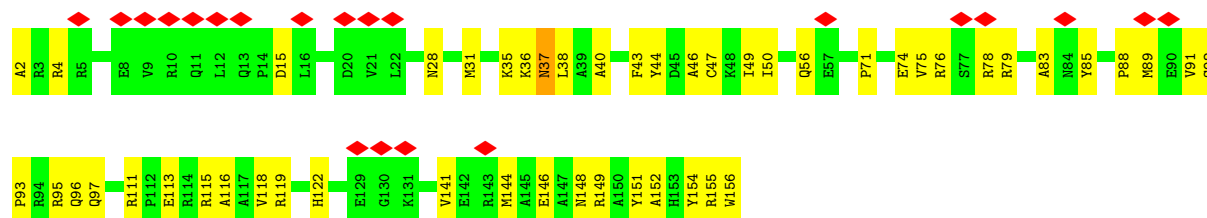
• Molecule 36: 30S ribosomal protein S6

Chain F4: 



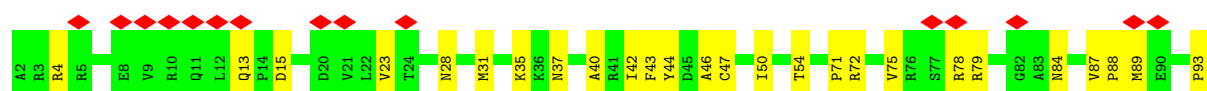
• Molecule 37: 30S ribosomal protein S7

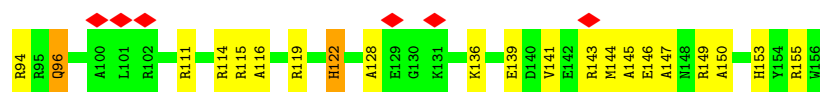
Chain G3: 



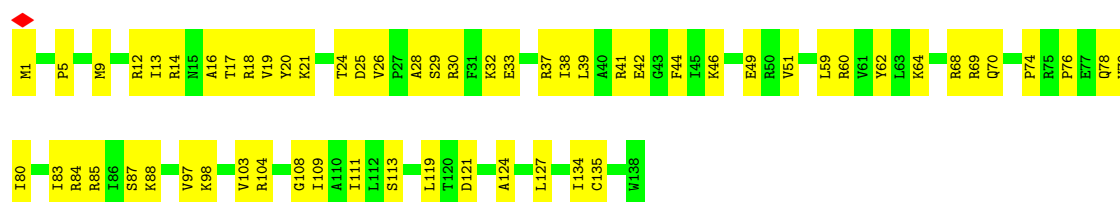
• Molecule 37: 30S ribosomal protein S7

Chain G4: 

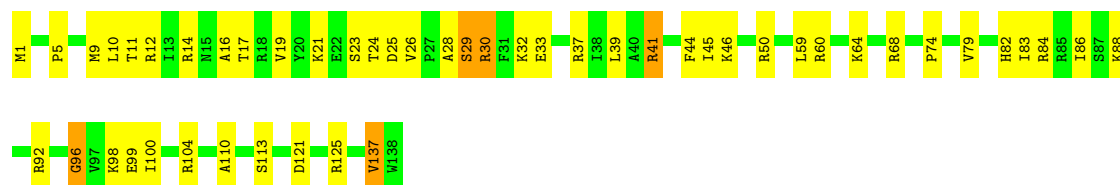




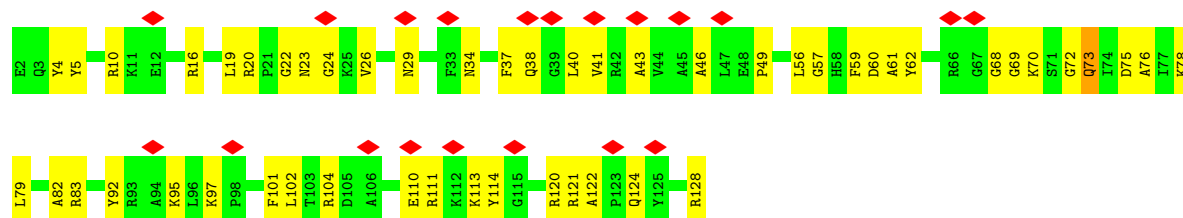
- Molecule 38: 30S ribosomal protein S8



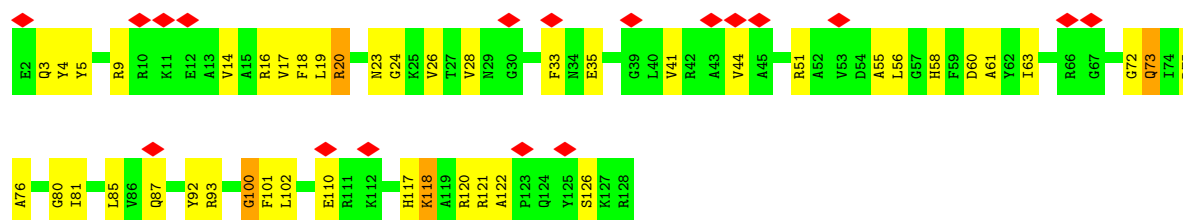
- Molecule 38: 30S ribosomal protein S8



- Molecule 39: 30S ribosomal protein S9

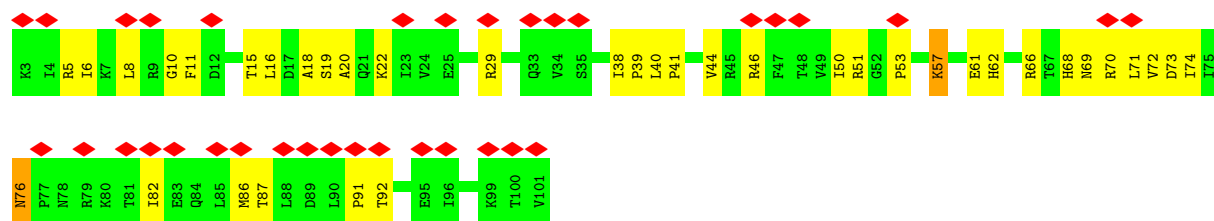


- Molecule 39: 30S ribosomal protein S9

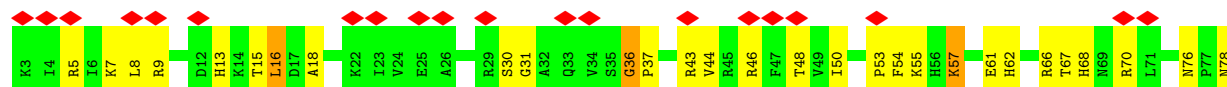


- Molecule 40: 30S ribosomal protein S10





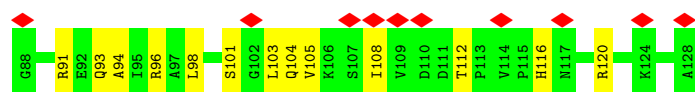
- Molecule 40: 30S ribosomal protein S10



- Molecule 41: 30S ribosomal protein S11



- Molecule 41: 30S ribosomal protein S11



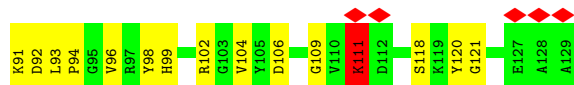
- Molecule 42: 30S ribosomal protein S12





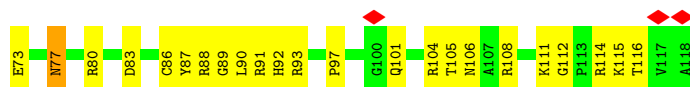
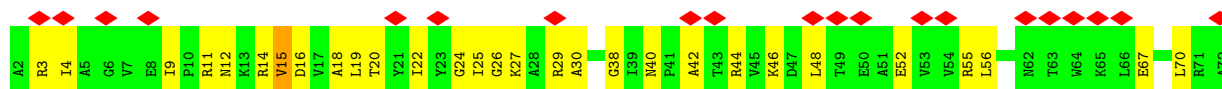
- Molecule 42: 30S ribosomal protein S12

Chain L4: 59% 40%



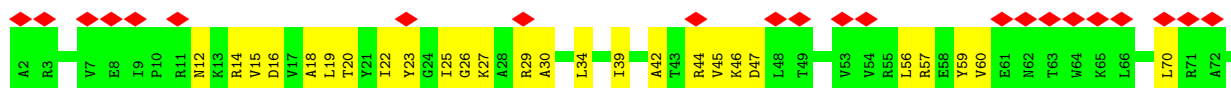
- Molecule 43: 30S ribosomal protein S13

Chain M3: 20% 56% 43%



- Molecule 43: 30S ribosomal protein S13

Chain M4: 22% 61% 39%



- Molecule 44: 30S ribosomal protein S14 type Z

Chain N3: 8% 50% 48%

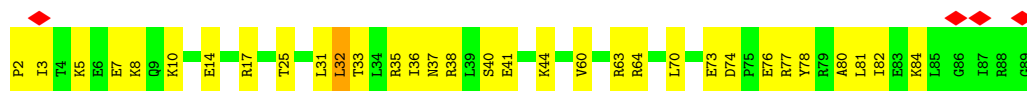


- Molecule 44: 30S ribosomal protein S14 type Z

Chain N4: 8% 57% 43%



- Molecule 45: 30S ribosomal protein S15



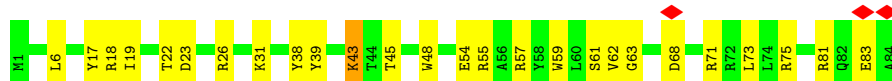
- Molecule 45: 30S ribosomal protein S15



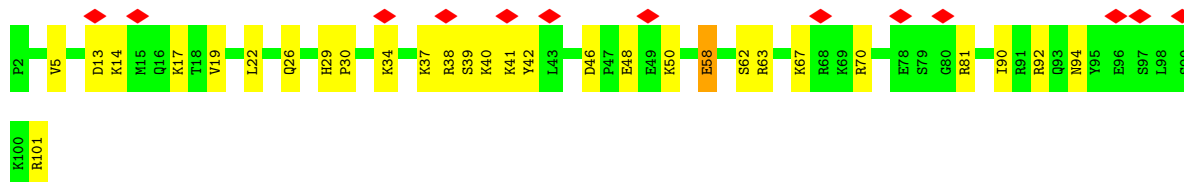
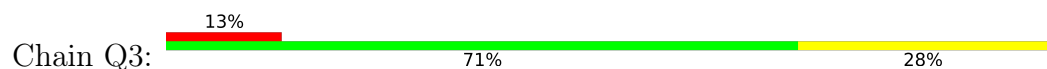
- Molecule 46: 30S ribosomal protein S16



- Molecule 46: 30S ribosomal protein S16

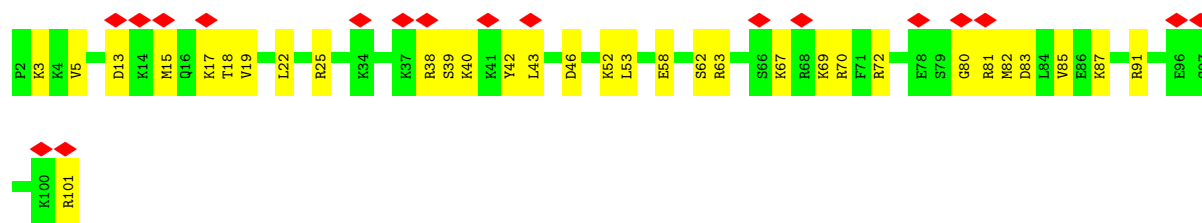


- Molecule 47: 30S ribosomal protein S17

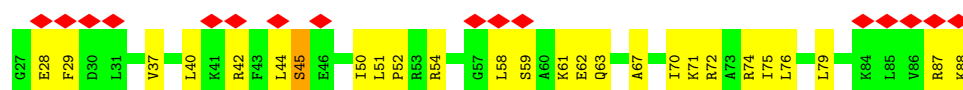


- Molecule 47: 30S ribosomal protein S17

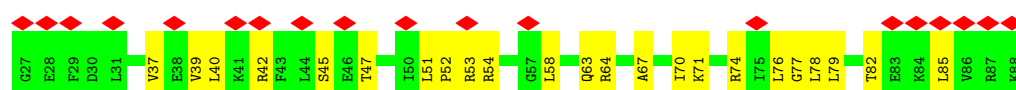




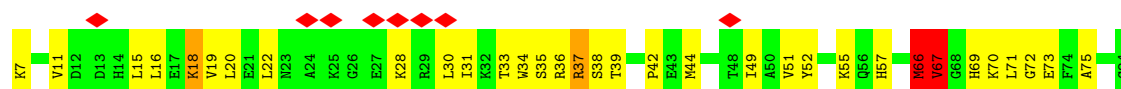
- Molecule 48: 30S ribosomal protein S18



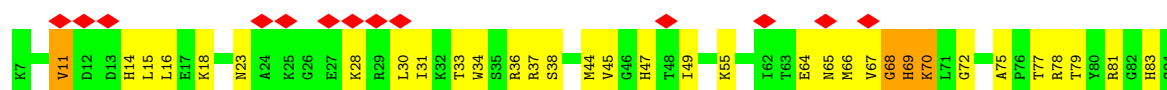
- Molecule 48: 30S ribosomal protein S18



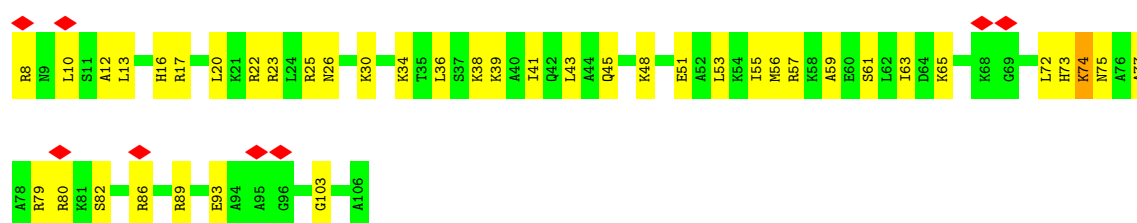
- Molecule 49: 30S ribosomal protein S19



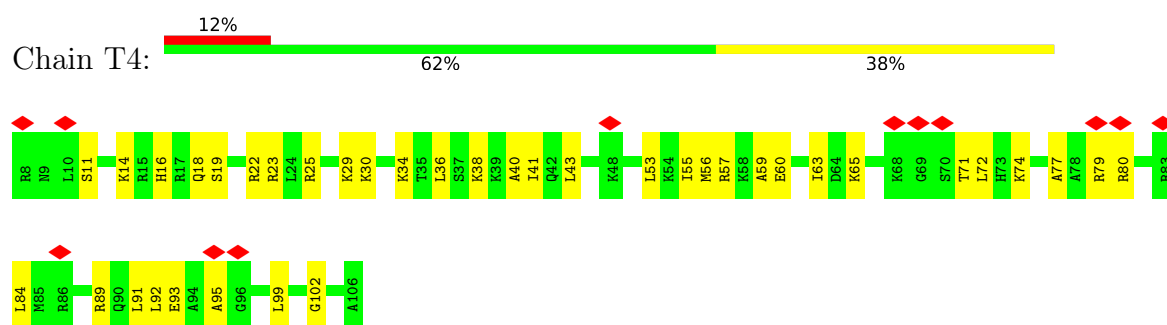
- Molecule 49: 30S ribosomal protein S19



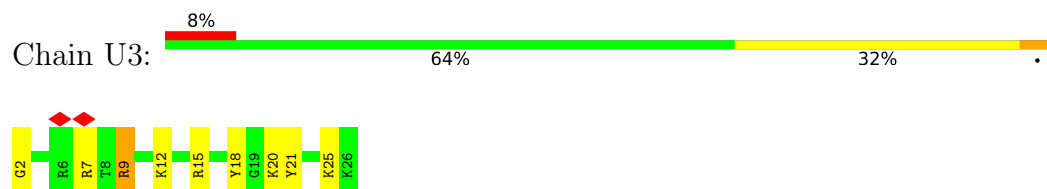
- Molecule 50: 30S ribosomal protein S20



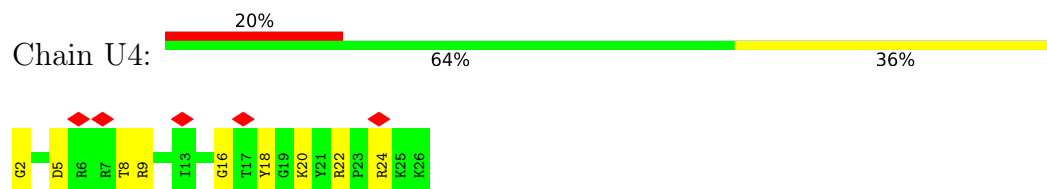
- Molecule 50: 30S ribosomal protein S20



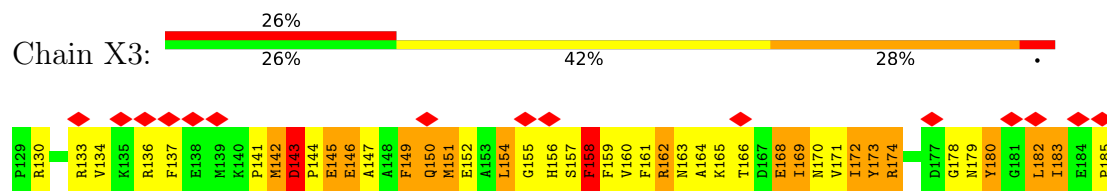
- Molecule 51: 30S ribosomal protein Thx



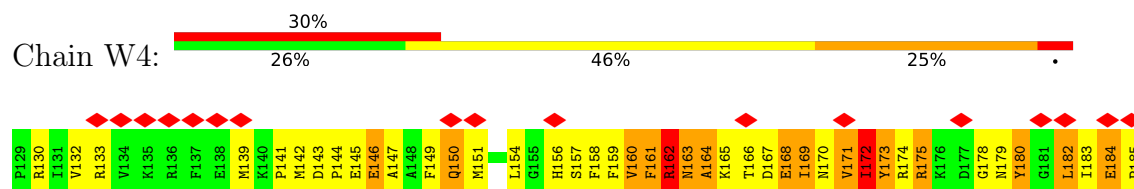
- Molecule 51: 30S ribosomal protein Thx



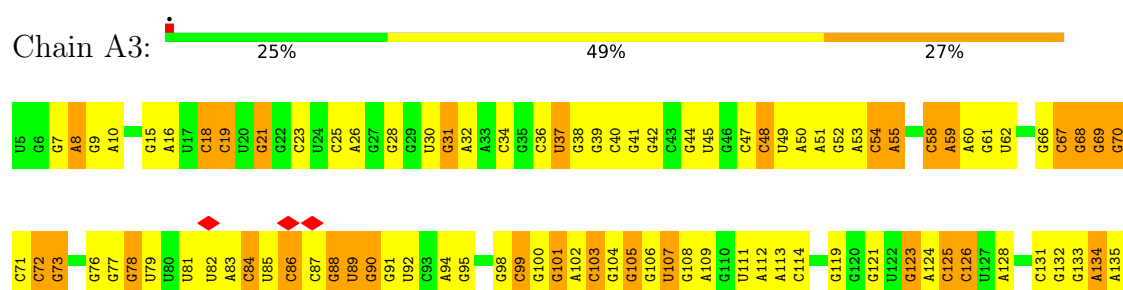
- Molecule 52: Ribosome hibernation promoting factor



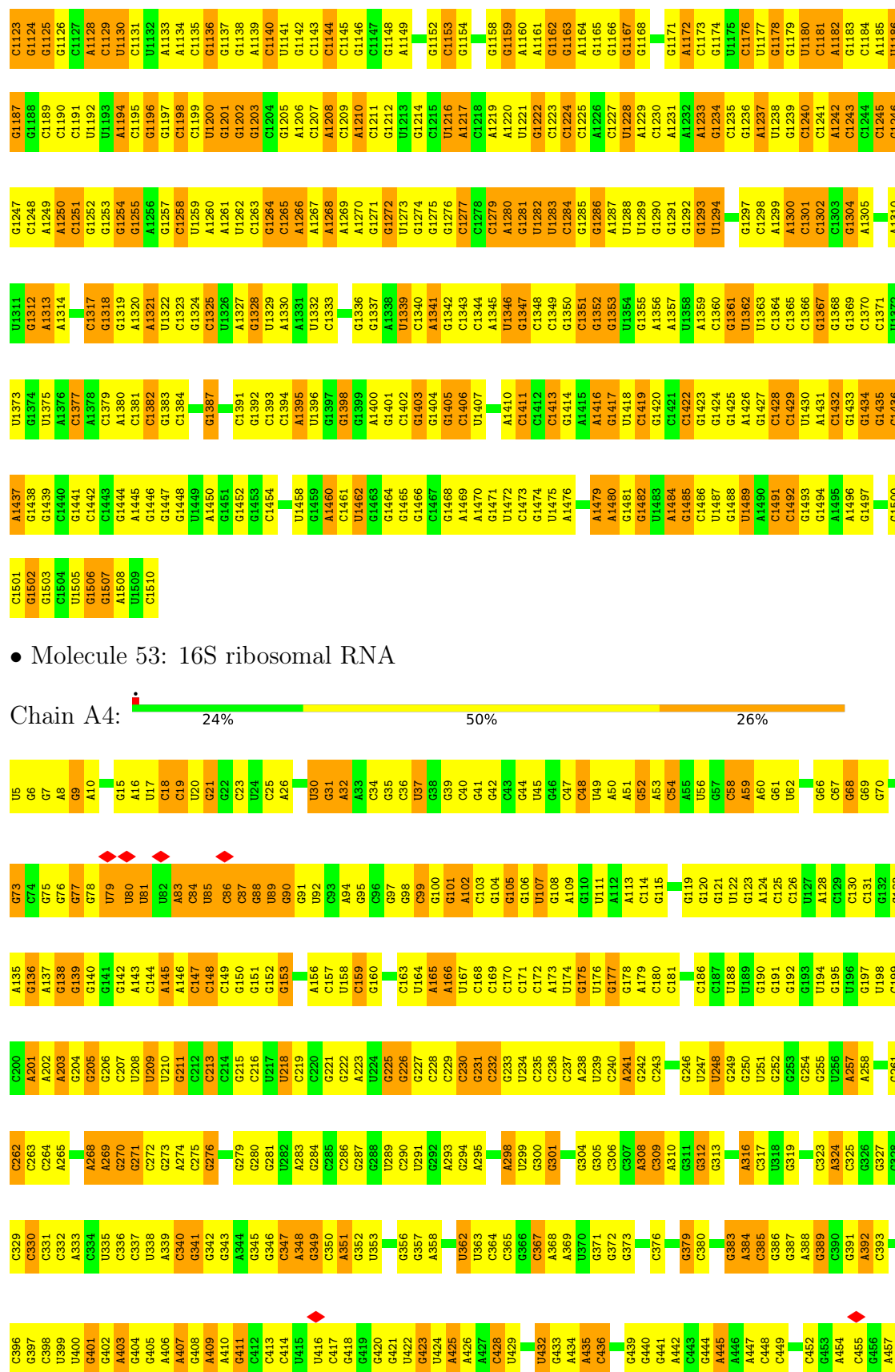
- Molecule 52: Ribosome hibernation promoting factor



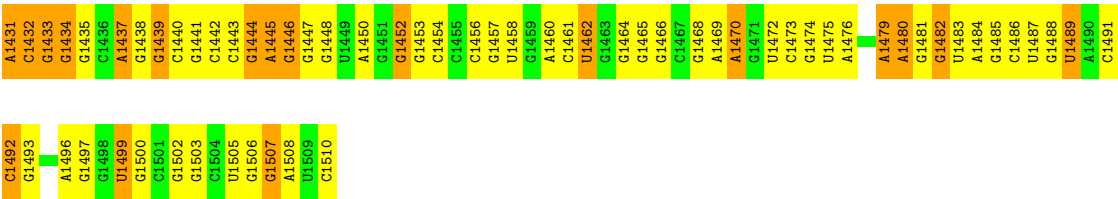
- Molecule 53: 16S ribosomal RNA



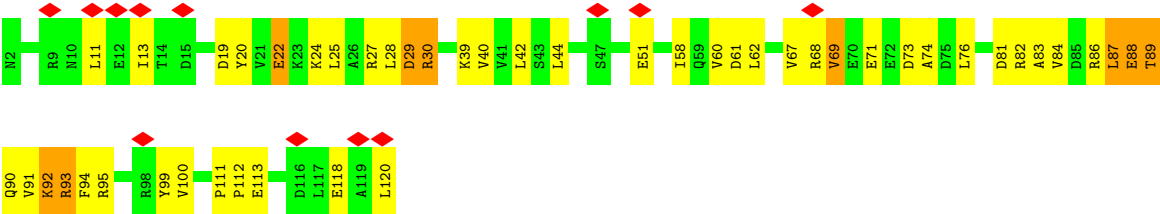
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G1061	G138	G204	G270	U335	G408	U470	A536	U602	G676	G738	A802	A869	U933	G995	G1061
A1062	G139	G205	A471	C336	A409	A471	C537	A604	A678	G739	U803	G870	A935	C996	A1062
G1063	G140	G206	C272	C337	A410	C472	C538	G607	A679	U740	G804	G871	A936	C997	G1063
U1064	G141	G207	A273	U338	G411	C473	C539	G608	U680	G741	G805	G872	U937	G998	U1064
U1065	G142	U208	G274	A339	C412	G474	C540	G609	G681	G742	G806	G873	U938	G999	U1065
G1066	A143	U209	C275	C340	C413	G475	G541	U682	G682	G743	G807	G874	U939	G1000	G1066
U1067	C144	U210	G276	G341	C414	U476	G542	U683	G683	G744	G808	G875	C939	G1001	U1067
U1068	G145	U211	U211	G342	U415	A479	A543	G610	G684	G745	G809	G876	G940	G1002	U1068
G1069	A146	C212	G279	A343	U416	A480	U544	G611	C684	G746	U810	A877	A941	U1003	G1069
U1070	C147	C213	G280	A344	C417	U481	U545	G612	A685	G747	U811	A878	A942	U1004	U1070
G1071	C148	C214	G281	G345	G418	A482	C546	G613	G686	G748	G812	G879	G943	C1005	G1071
	C149	C215	U282	G346	G419	G483	A547	G614	A687	G749	G813	G880			
	G150	C216	U283	C347	G420	C484	C548	A615	U688	A750	U814	C881	A946	C1006	
	G151	G217	U218	A348	G421	G485	G549	U619	A689	A751	C815		C947	C1007	A1074
	G152	U218		G349	U422	G488	G553	U620	C690	G752	U816	A884	G948	C1008	A1075
	G153	G222		C350	G423	G489	G554	G621	G691	G753	U817	A885	G949	C1009	G1076
	A154	G223		A351	U424	C490	U555	G622	G692	G754	U818	A886	G950	C1010	U1077
	A155	U224		G352	A426	C491	A556	G623	G693		G819	C887	A951	C1011	C1078
	A156	U225		U353	A427	A492	A557	G624	G694	G757	G820	U888	A952	C1012	G1080
	C157	G226		U354	A428	A493	A558	G625	G697	G758	G821	C889	G953	G1013	G1081
	U158	G227		A355	U429	A494	A559	G626	A698	G759	U822	A890	A954	G1014	C1082
	C159	C228		G356	U432	C496	G560	G627	C700	A760	C823	A891	A955	G1015	G1083
		C229		G357	U433	U495	G561	G628	G701	A761	U824	A892	C956	G1016	A1084
		C230		U362	A434	U496	C562	G629	G702	A762	C825	G893	C957	A1017	C1085
		C231		U363	A435	U497	C563	G630	C703	A763	G826	G894	U958	G1018	G1086
		C232		C365	C436	U498	G564	A631	G704	A764	G827	A895	U959	C1019	A1087
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				C367		A500	A566	G633	A706	G766	G829	U897	C961	G1021	C1089
				U370		C501	G567	G634	A707	G767	U831	U898	C962	C1022	G1090
				G371		C502	G568	G635	U706	G768	G835	G899	A963	U1022	
				G372		C503	G569	A636	G707	G769	G836	A900		A1023	
				G373		C504	G570	G640	G708	A770	A837	C901	C966	G1024	C1094
						C505	G571	G641	C709	U771	A838	G902	C967	C1025	C1095
						C506	G572	G642	G710	U772	G839	G903	U968	G1026	C1096
						C507	G573	G643	A711	G773	U840	G904	U969	G1027	C1097
						C508	G574	G644	A712	G774	A841		G970	G1028	G1098
						C509	G575	G645	G713	A775	A842	C907	A971	G1029	G1099
						C510	G576	G646	G714	U776		C908	C972	U1030	C1100
						C511	G577	G647	C715	U777		C909	A973	U1031	C1101
						C512	G578	G648	A716	A778	G846	C910	U974	G1032	G1102
						C513	G579	G649	G717	C779	U847	G911	G975	C1033	C1103
						C514	G580	G650	G718	G780	U848	C912	C976	U1034	U1104
						C515	U581	G651	C719	G781	A849	C913	U977	G1035	A1105
						C516	U582	G652	A720	G782	A850	C914	A978	C1036	G1106
						C517	U583	G653	C721	G783	G851	A915	G979	G1039	U1107
						C518	U584	G654	C722	U784	C852	A916	G980	G1040	U1108
						C519	U585	G655	U723	A785	G853	G917	C981	C1041	G1109
						C520	U586	G656	G724	G786	C854	G919	A982	U1042	C1111
						C521	U587	G657	G725	U787	C855	U920	A983	G1043	A1112
						C522	U588	G658	U726	U788	C856	G921	C984	U1044	G1113
						C523	U589	G659	C727	G789	C857	G922	C985	C1114	C1115
						C524	A590	G660	C728	A790	C858	G923	C986	G1116	G1117
						C525	A591	G661	C729	C730	C859	G924	G987	U1049	U1118
						C526	A592	G662	C731	C732	C860	C925	A988	U1050	C1119
						C527	A593	G663	C732	G733	U861	A926	G989	G1051	G1120
						C528	A594	G664	G733	G734	U862	U927	C990	U1052	C1121
						C529	A595	G665	U734	G735	G863	G928	U991	G1053	G1122
						C530	A596	G666	U735	G736	U864		A992	U1054	
						C531	A597	G667	G736	G737	U865		A993	U1055	
						C532		G674	A736	C800	A866	G931	A994	G1056	
											G867			U1057	



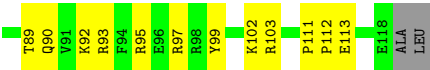
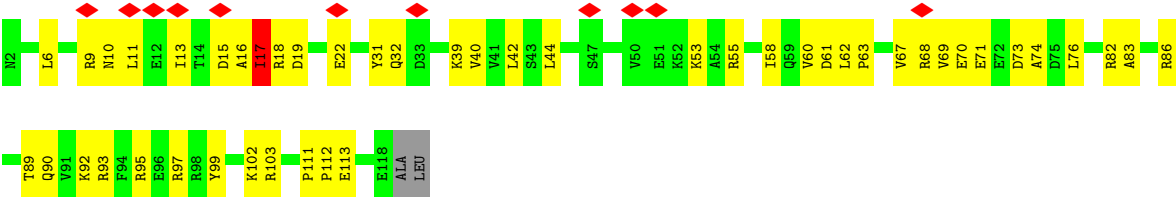
G1368	G1369	C1370	C1371	C1308	C1309	U1372	U1373	G1374	U1311	G1312	A1313	A1314	G1375	G1376	G1377	G1378	C1379	A1380	C1381	G1318	G1319	A1320	G1382	G1383	A1321	C1384	C1385	C1386	G1387	U1388	C1391	G1392	C1393	C1394	U1395	U1396	G1397	G1398	G1399	A1400	G1401	C1402	G1403	G1404	G1405	C1406	U1407	A1410	C1411	C1412	C1413	G1414	A1415	G1416	G1417	U1418	C1419	G1420	A1359	C1421	C1360	G1361	U1362	G1424	G1425	A1426	G1427	U1430
C1181	A1182	C1243	C1244	C1245	G1246	G1247	C1248	A1249	A1250	C1190	C1191	U1192	U1193	A1194	C1195	G1196	G1197	G1198	C1199	U1200	G1201	G1202	U1262	C1263	G1264	C1265	A1266	A1267	A1268	A1269	A1270	C1271	G1272	U1273	C1274	G1275	G1276	C1277	C1278	C1279	A1280	G1281	U1282	U1283	C1284	G1285	G1286	U1289	G1290	G1291	G1292	G1293	U1294	C1295	U1296	G1297	C1298	A1299	A1300	C1301	C1302							
U1118	C1119	G1120	G1121	C1122	C1123	G1124	G1125	G1126	C1127	C1128	G1129	U1130	C1131	U1132	U1133	A1134	G1135	G1136	G1137	G1138	A1139	C1140	U1141	G1142	C1143	C1144	C1145	G1146	C1147	G1148	A1149	G1152	C1153	G1154	G1155	G1156	G1159	A1160	G1161	G1162	G1163	A1164	G1165	G1166	G1167	G1168	A1169	C1170	G1171	A1172	C1173	G1174	U1177	G1178	G1179	U1180												
C1053	G1054	C1057	A1058	G1059	C1060	G1061	U1060	A1061	A1062	G1000	A935	G1001	G1002	U1003	U1067	G1068	G1069	G1070	G1071	U1072	U1076	U1077	C1078	C1079	C1080	G1081	C1082	A1083	A1084	C1085	G1086	U1087	G1088	C1089	G1090	G1091	A1092	A1093	C1094	C1095	C1096	C1100	C1101	G1102	U1103	A1104	A1105	G1106	U1107	U1108	G1109	C1110	C1111	A1112	G1113	C1114	G1115	G1116	U1117									
G991	A992	A993	A994	G995	G996	C997	U998	G999	G1000	A935	G1001	G1002	U1003	G1004	A941	A942	G943	A946	G947	G948	C949	A951	A952	G953	A954	A955	C956	G957	U958	U959	A960	C961	A962	A963	G964	G965	C966	A1026	A1027	C967	A1028	U968	G1029	G1030	U1031	G1032	C1033	U1034	G1035	C1036	A1037	U1038	G1039	G1040	C1041	U1044	A983	U1046	U1047	C1048	A1049	U990						
G864	G865	A866	G867	U868	A869	U870	C871	G872	C873	A874	G875	C876	A877	A878	C879	C880	C881	A884	A885	C1010	A886	C887	U888	G889	A890	A891	A892	G893	C894	A895	A896	G899	C900	A900	G1024	C839	G902	G903	G904	G905	C906	A841	C907	C908	G909	G910	C911	A912	G918	C919	U920	C858	G921	A923	G924	C925												
U796	C800	G801	A802	U803	G804	C807	G808	C809	U810	A811	G812	U816	A817	A818	U819	G820	C821	U822	C823	U824	C825	G826	G829	G830	C831	G835	A836	G837	G838	C839	U840	A842	C843	G844	C845	G846	U847	U848	A849	G851	C852	G853	C854	G855	C856	C857	C858	C859	C860	U861	G862	G863																
G733	U734	G735	A736	C737	G738	U739	U740	G741	A742	G743	G744	C747	G748	A749	A750	A751	G752	C753	G754	U755	G756	G757	C758	A759	G760	C761	G762	A763	C764	A765	A766	C767	G768	G769	A770	U771	U772	A773	G774	A775	U776	A777	C778	C779	C780	G783	G786	U787	G788	C789	A790	C791	C792	U793	G794	C795												
G603	A604	G605	C606	C607	G608	U609	G610	G611	C612	G613	C614	A615	G616	A617	U618	G619	G620	G621	G622	A623	A624	A625	C626	G627	G628	U629	A630	A631	G632	G633	C634	U635	A636	G640	G644	C647	A712	A648	C649	G650	U654	G655	U657	G658	C659	G660	C661	C662	U663	G664	G665	G666	A667	C668	U669	C670	G671	C672										
G527	C528	G529	A530	C531	C532	G533	U534	U535	A536	C537	G538	C539	A542	U543	U544	C545	A546	C547	U548	G549	G553	U554	A555	A556	A557	G558	G559	C560	U561	G562	U563	G564	G567	C568	C569	G570	A506	C507	G507	C508	C509	G510	C511	C512	G513	U514	A515	A516	U517	A518	C519	A522	G523	G524	G525	C526												



• Molecule 54: Ribosome hibernation promoting factor



• Molecule 54: Ribosome hibernation promoting factor



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	12126	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	1.06	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	16.115	Depositor
Minimum map value	-7.302	Depositor
Average map value	0.038	Depositor
Map value standard deviation	0.495	Depositor
Recommended contour level	3.1	Depositor
Map size ($\text{\AA}$)	770.0, 770.0, 770.0	wwPDB
Map dimensions	700, 700, 700	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.1, 1.1, 1.1	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	C1	0.61	0/2166	0.94	2/2919 (0.1%)
1	C2	0.60	0/2166	0.92	0/2919
2	D1	0.63	1/1602 (0.1%)	0.90	0/2160
2	D2	0.61	0/1602	0.98	4/2160 (0.2%)
3	E1	0.56	0/1663	0.89	0/2249
3	E2	0.56	0/1663	0.89	1/2249 (0.0%)
4	F1	0.47	0/1499	0.84	1/2016 (0.0%)
4	F2	0.48	0/1499	0.84	0/2016
5	G1	0.44	0/1333	0.84	2/1802 (0.1%)
5	G2	0.43	0/1333	0.85	2/1802 (0.1%)
6	H1	0.53	0/387	0.89	0/523
6	H2	0.47	0/387	0.92	1/523 (0.2%)
7	I1	0.53	0/1132	0.81	0/1525
7	I2	0.54	0/1132	0.83	0/1525
8	J1	0.64	0/943	0.86	0/1269
8	J2	0.62	0/943	0.85	0/1269
9	K1	0.54	0/1162	0.99	5/1544 (0.3%)
9	K2	0.57	0/1162	0.95	0/1544
10	L1	0.54	0/1143	0.89	0/1527
10	L2	0.53	0/1143	0.96	3/1527 (0.2%)
11	M1	0.52	0/974	0.87	0/1302
11	M2	0.54	0/974	0.87	0/1302
12	N1	0.46	0/892	0.84	0/1187
12	N2	0.49	0/892	0.85	0/1187
13	O1	0.61	0/1156	0.88	0/1542
13	O2	0.58	0/1156	0.92	1/1542 (0.1%)
14	P1	0.57	0/982	0.86	1/1306 (0.1%)
14	P2	0.57	0/982	0.84	0/1306
15	Q1	0.46	0/790	0.83	2/1057 (0.2%)
15	Q2	0.47	0/790	0.84	1/1057 (0.1%)
16	R1	0.56	0/911	0.80	0/1220
16	R2	0.53	0/911	0.83	2/1220 (0.2%)
17	S1	0.49	0/740	0.86	1/993 (0.1%)
17	S2	0.48	0/740	0.88	0/993

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
18	T1	0.42	0/799	0.86	0/1064
18	T2	0.44	0/799	0.90	2/1064 (0.2%)
19	U1	0.45	0/1461	0.87	1/1982 (0.1%)
19	U2	0.46	0/1461	0.81	1/1982 (0.1%)
20	V1	0.52	0/621	0.87	0/827
20	V2	0.50	0/621	0.87	0/827
21	W1	0.54	0/770	0.88	0/1022
21	W2	0.60	0/770	0.93	0/1022
22	X1	0.43	0/583	0.80	0/771
22	X2	0.45	0/583	0.85	0/771
23	Y1	0.54	0/474	0.87	0/635
23	Y2	0.54	0/474	0.82	0/635
24	Z1	0.48	0/528	1.05	2/709 (0.3%)
24	Z2	0.49	0/528	1.10	2/709 (0.3%)
25	a1	0.66	0/473	0.98	1/639 (0.2%)
25	a2	0.60	0/473	0.87	0/639
26	b1	0.53	0/397	1.15	0/529
26	b2	0.57	0/397	1.17	2/529 (0.4%)
27	c1	0.61	0/438	0.84	0/575
27	c2	0.57	0/438	0.86	0/575
28	d1	0.54	0/495	1.04	2/649 (0.3%)
28	d2	0.57	0/495	0.99	1/649 (0.2%)
29	A1	0.62	0/70233	0.71	11/109643 (0.0%)
29	A2	0.62	0/70233	0.71	8/109643 (0.0%)
30	B1	0.49	0/2928	0.64	0/4568
30	B2	0.48	0/2928	0.63	0/4568
31	e1	0.49	0/302	1.01	0/397
31	e2	0.45	0/302	0.91	0/397
32	B3	0.60	0/1960	1.11	6/2642 (0.2%)
32	B4	0.58	0/1960	0.90	1/2642 (0.0%)
33	C3	0.47	0/1637	0.92	0/2205
33	C4	0.49	0/1637	0.89	1/2205 (0.0%)
34	D3	0.52	0/1733	0.91	0/2318
34	D4	0.55	0/1733	0.96	2/2318 (0.1%)
35	E3	0.57	0/1172	0.88	0/1576
35	E4	0.58	0/1172	0.93	0/1576
36	F3	0.51	0/856	0.86	1/1154 (0.1%)
36	F4	0.49	0/856	0.82	0/1154
37	G3	0.56	0/1276	0.89	0/1709
37	G4	0.57	0/1276	0.91	0/1709
38	H3	0.68	0/1136	0.92	0/1527
38	H4	0.66	0/1136	0.92	1/1527 (0.1%)
39	I3	0.53	0/1029	0.93	0/1379

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
39	I4	0.56	0/1029	0.96	4/1379 (0.3%)
40	J3	0.46	0/815	0.88	0/1095
40	J4	0.50	0/815	0.95	4/1095 (0.4%)
41	K3	0.53	0/894	0.86	0/1205
41	K4	0.52	0/894	0.80	1/1205 (0.1%)
42	L3	0.58	0/992	0.96	0/1327
42	L4	0.59	0/992	0.96	0/1327
43	M3	0.47	0/944	0.86	0/1265
43	M4	0.46	0/944	0.90	0/1265
44	N3	0.51	0/501	0.91	0/664
44	N4	0.53	0/501	0.89	0/664
45	O3	0.56	0/745	0.92	1/992 (0.1%)
45	O4	0.56	0/745	0.89	0/992
46	P3	0.57	0/722	0.89	0/970
46	P4	0.57	0/722	0.95	0/970
47	Q3	0.56	0/848	0.96	2/1131 (0.2%)
47	Q4	0.56	0/848	0.85	2/1131 (0.2%)
48	R3	0.58	1/520 (0.2%)	0.89	0/690
48	R4	0.57	0/520	0.89	0/690
49	S3	0.49	0/639	0.90	0/860
49	S4	0.48	0/639	0.88	1/860 (0.1%)
50	T3	0.56	0/765	0.87	0/1007
50	T4	0.53	0/765	0.86	0/1007
51	U3	0.44	0/222	0.75	0/288
51	U4	0.45	0/222	0.74	0/288
52	W4	0.74	0/487	1.30	8/650 (1.2%)
52	X3	0.53	0/487	1.05	4/650 (0.6%)
53	A3	0.64	0/36234	0.74	5/56554 (0.0%)
53	A4	0.64	0/36234	0.75	6/56554 (0.0%)
54	V3	0.56	0/977	1.08	2/1316 (0.2%)
54	V4	0.55	0/964	1.11	0/1298
All	All	0.60	2/314149 (0.0%)	0.78	114/469332 (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
1	C1	0	6
1	C2	0	10
2	D1	0	2

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Mol	Chain	#Chirality outliers	#Planarity outliers
2	D2	0	4
3	E1	0	4
3	E2	0	6
4	F1	0	2
4	F2	0	2
5	G1	0	6
5	G2	0	3
6	H1	0	2
6	H2	0	2
7	I1	0	1
8	J1	0	3
8	J2	0	2
9	K1	0	5
9	K2	0	1
10	L1	0	3
10	L2	0	6
11	M1	0	4
11	M2	0	2
12	N1	0	3
12	N2	0	2
13	O1	0	4
13	O2	0	3
14	P1	0	3
14	P2	0	1
15	Q2	0	1
16	R2	0	1
18	T1	0	3
18	T2	0	1
19	U2	0	3
20	V1	0	1
21	W1	0	2
21	W2	0	2
22	X1	0	2
22	X2	0	1
23	Y2	0	1
24	Z1	0	9
24	Z2	0	5
25	a1	0	2
26	b2	0	1
27	c2	0	1
28	d1	0	2
28	d2	0	3

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Mol	Chain	#Chirality outliers	#Planarity outliers
32	B3	0	9
32	B4	0	7
33	C3	0	4
33	C4	0	6
34	D3	0	5
34	D4	0	7
35	E3	0	3
35	E4	0	3
36	F3	0	1
36	F4	0	1
37	G3	0	1
37	G4	0	4
38	H4	0	3
39	I3	0	3
39	I4	0	3
40	J3	0	4
40	J4	0	5
41	K3	0	2
42	L3	0	3
42	L4	0	4
43	M3	0	2
44	N3	0	1
44	N4	0	3
45	O3	0	3
45	O4	0	3
46	P3	0	2
46	P4	0	3
47	Q3	0	1
47	Q4	0	1
48	R3	0	2
48	R4	0	1
49	S3	0	2
49	S4	0	2
54	V3	0	2
54	V4	0	2
All	All	0	241

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D1	52	LEU	C-O	6.35	1.26	1.23
48	R3	50	ILE	C-N	-5.00	1.25	1.33

All (114) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	B3	232	PRO	CA-C-N	23.05	157.78	121.83
32	B3	232	PRO	C-N-CA	23.05	157.78	121.83
13	O2	7	ILE	N-CA-C	-9.58	103.79	113.47
52	W4	162	ARG	N-CA-C	7.87	121.22	108.63
39	I4	100	GLY	CA-C-N	7.76	135.67	121.70
39	I4	100	GLY	C-N-CA	7.76	135.67	121.70
36	F3	84	ASN	N-CA-C	-7.19	105.43	114.56
52	W4	172	ILE	N-CA-C	6.94	117.85	107.51
53	A3	749	A	P-O3'-C3'	6.91	130.57	120.20
10	L2	6	ARG	CA-C-N	6.80	134.54	121.54
10	L2	6	ARG	C-N-CA	6.80	134.54	121.54
32	B3	172	ILE	N-CA-CB	-6.72	100.14	111.23
9	K1	22	GLY	N-CA-C	6.68	120.02	112.00
53	A4	749	A	P-O3'-C3'	6.67	130.21	120.20
40	J4	53	PRO	CA-C-N	6.65	134.24	121.54
40	J4	53	PRO	C-N-CA	6.65	134.24	121.54
28	d2	41	ILE	N-CA-C	-6.58	103.72	113.39
52	X3	136	ARG	N-CA-C	6.47	118.48	110.91
9	K1	47	ASP	C-N-CD	-6.37	106.58	120.60
24	Z2	22	ILE	CA-C-N	6.25	133.48	121.54
24	Z2	22	ILE	C-N-CA	6.25	133.48	121.54
29	A1	2016	G	P-O3'-C3'	6.13	129.39	120.20
10	L2	84	GLY	N-CA-C	6.12	119.54	111.52
52	X3	143	ASP	CA-C-N	6.11	125.59	119.24
52	X3	143	ASP	C-N-CA	6.11	125.59	119.24
34	D4	8	VAL	CA-C-N	6.08	133.14	121.54
34	D4	8	VAL	C-N-CA	6.08	133.14	121.54
40	J4	55	LYS	CA-C-N	6.07	133.14	121.54
40	J4	55	LYS	C-N-CA	6.07	133.14	121.54
6	H2	29	TYR	N-CA-C	-6.07	105.11	113.18
52	W4	162	ARG	O-C-N	6.04	130.70	122.48
19	U1	111	VAL	N-CA-C	-6.04	106.92	112.96
1	C1	197	GLY	CA-C-N	6.00	133.00	121.54
1	C1	197	GLY	C-N-CA	6.00	133.00	121.54
47	Q3	67	LYS	CA-C-N	5.95	132.90	121.54
47	Q3	67	LYS	C-N-CA	5.95	132.90	121.54
28	d1	50	LEU	CA-C-N	5.91	132.34	121.70
28	d1	50	LEU	C-N-CA	5.91	132.34	121.70
29	A2	2016	G	P-O3'-C3'	5.91	129.06	120.20
9	K1	47	ASP	CA-C-N	5.89	141.13	127.00
9	K1	47	ASP	C-N-CA	5.89	141.13	127.00
24	Z1	18	CYS	CA-C-N	5.88	132.28	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	Z1	18	CYS	C-N-CA	5.88	132.28	121.70
52	W4	162	ARG	CA-C-N	5.84	132.69	121.54
52	W4	162	ARG	C-N-CA	5.84	132.69	121.54
9	K1	28	GLY	N-CA-C	5.83	127.00	113.18
49	S4	69	HIS	N-CA-C	5.77	123.09	110.80
29	A2	219	A	P-O3'-C3'	5.76	128.84	120.20
45	O3	73	GLU	N-CA-C	-5.76	107.25	114.56
29	A1	728	C	C2-N1-C1'	5.75	136.04	118.80
29	A2	1743	C	P-O3'-C3'	5.68	128.73	120.20
39	I4	92	TYR	CA-C-N	5.68	132.40	121.54
39	I4	92	TYR	C-N-CA	5.68	132.40	121.54
17	S1	93	GLU	N-CA-C	-5.66	107.37	114.56
29	A1	1743	C	P-O3'-C3'	5.62	128.63	120.20
29	A1	1607	A	P-O3'-C3'	5.61	128.62	120.20
26	b2	30	THR	CA-C-N	5.60	140.44	127.00
26	b2	30	THR	C-N-CA	5.60	140.44	127.00
52	W4	173	TYR	CA-C-N	5.59	132.22	121.54
52	W4	173	TYR	C-N-CA	5.59	132.22	121.54
52	X3	158	PHE	N-CA-C	-5.57	103.92	111.55
29	A2	1607	A	P-O3'-C3'	5.53	128.49	120.20
5	G1	152	ARG	CA-C-N	5.52	135.26	121.80
5	G1	152	ARG	C-N-CA	5.52	135.26	121.80
29	A1	1475	A	P-O3'-C3'	5.52	128.47	120.20
53	A4	670	A	P-O3'-C3'	5.51	128.47	120.20
54	V3	51	GLU	CA-C-N	-5.48	115.33	123.11
54	V3	51	GLU	C-N-CA	-5.48	115.33	123.11
32	B3	100	GLY	N-CA-C	-5.45	100.27	113.18
29	A1	2054	A	O4'-C1'-N9	5.44	116.66	108.50
5	G2	89	ILE	CA-C-N	5.43	131.90	121.54
5	G2	89	ILE	C-N-CA	5.43	131.90	121.54
52	W4	161	PHE	O-C-N	5.42	129.40	123.22
18	T2	54	LYS	CA-C-N	5.41	128.90	120.68
18	T2	54	LYS	C-N-CA	5.41	128.90	120.68
32	B3	172	ILE	CB-CA-C	5.39	120.13	111.29
4	F1	10	LYS	N-CA-C	-5.38	108.49	114.62
29	A1	2016	G	C2'-C3'-O3'	5.33	117.50	109.50
29	A2	1932	C	C2-N1-C1'	5.32	134.75	118.80
38	H4	30	ARG	N-CA-C	-5.29	105.89	114.09
2	D2	77	ILE	CA-C-N	5.29	128.35	120.90
2	D2	77	ILE	C-N-CA	5.29	128.35	120.90
3	E2	67	GLN	N-CA-C	5.27	122.02	110.80
16	R2	62	HIS	CA-C-N	5.27	131.60	121.54

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
16	R2	62	HIS	C-N-CA	5.27	131.60	121.54
53	A3	468	G	P-O3'-C3'	5.26	128.09	120.20
53	A4	241	A	P-O3'-C3'	5.26	128.09	120.20
29	A1	219	A	P-O3'-C3'	5.25	128.07	120.20
32	B4	112	VAL	N-CA-C	-5.25	107.24	111.91
29	A1	1832	G	C2'-C3'-O3'	5.20	117.30	109.50
53	A4	1005	C	P-O3'-C3'	5.19	127.99	120.20
41	K4	14	VAL	N-CA-C	-5.19	107.29	111.91
29	A2	1108	U	P-O3'-C3'	5.19	127.98	120.20
53	A3	241	A	P-O3'-C3'	5.19	127.98	120.20
32	B3	41	ILE	N-CA-CB	-5.18	102.68	111.23
53	A4	1047	U	P-O3'-C3'	5.18	127.97	120.20
53	A3	670	A	P-O3'-C3'	5.15	127.92	120.20
33	C4	115	LEU	CA-CB-CG	-5.14	98.32	116.30
29	A2	2016	G	C2'-C3'-O3'	5.12	117.19	109.50
15	Q2	79	VAL	N-CA-C	-5.08	98.77	109.34
19	U2	158	PRO	N-CA-C	5.08	116.90	110.70
2	D2	51	PHE	CA-C-N	5.08	134.20	121.80
2	D2	51	PHE	C-N-CA	5.08	134.20	121.80
25	a1	5	PRO	CA-N-CD	-5.08	104.89	112.00
47	Q4	67	LYS	CA-C-N	5.07	131.23	121.54
47	Q4	67	LYS	C-N-CA	5.07	131.23	121.54
53	A3	407	A	P-O3'-C3'	5.05	127.78	120.20
29	A1	2702	U	C6-N1-C1'	-5.05	106.05	121.20
14	P1	92	ARG	CA-CB-CG	5.04	124.19	114.10
53	A4	148	C	P-O3'-C3'	5.03	127.75	120.20
15	Q1	36	PRO	CA-C-N	5.03	127.43	120.49
15	Q1	36	PRO	C-N-CA	5.03	127.43	120.49
29	A1	728	C	C6-N1-C1'	-5.02	105.73	120.80
29	A2	2702	U	C6-N1-C1'	-5.02	106.13	121.20

There are no chirality outliers.

All (241) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
32	B3	155	LEU	Peptide
32	B3	169	LYS	Peptide
32	B3	199	TYR	Peptide
32	B3	204	ASN	Peptide
32	B3	212	GLN	Peptide
32	B3	213	LEU	Peptide
32	B3	22	LYS	Peptide

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Mol	Chain	Res	Type	Group
32	B3	59	GLU	Peptide
32	B3	77	ALA	Peptide
32	B4	127	ILE	Peptide
32	B4	139	LYS	Peptide
32	B4	19	HIS	Peptide
32	B4	195	ASP	Peptide
32	B4	199	TYR	Peptide
32	B4	207	ALA	Peptide
32	B4	9	GLU	Peptide
1	C1	10	THR	Peptide
1	C1	148	GLU	Peptide
1	C1	242	ARG	Peptide
1	C1	246	PRO	Peptide
1	C1	247	ALA	Peptide
1	C1	33	LEU	Peptide
1	C2	172	TYR	Peptide
1	C2	201	HIS	Peptide
1	C2	206	LEU	Peptide
1	C2	218	ARG	Peptide
1	C2	244	ARG	Peptide
1	C2	246	PRO	Peptide
1	C2	35	LYS	Peptide
1	C2	36	PRO	Peptide
1	C2	63	ARG	Peptide
1	C2	70	TRP	Peptide
33	C3	18	TRP	Peptide
33	C3	192	THR	Peptide
33	C3	35	GLU	Peptide
33	C3	47	LEU	Peptide
33	C4	127	ARG	Peptide
33	C4	142	MET	Peptide
33	C4	143	GLU	Peptide
33	C4	190	ARG	Peptide
33	C4	94	LEU	Peptide
33	C4	98	ASN	Peptide
2	D1	128	SER	Peptide
2	D1	133	LYS	Peptide
2	D2	128	SER	Peptide
2	D2	133	LYS	Peptide
2	D2	15	PHE	Peptide
2	D2	51	PHE	Peptide
34	D3	131	ARG	Peptide

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Mol	Chain	Res	Type	Group
34	D3	154	ASN	Peptide
34	D3	20	TYR	Peptide
34	D3	60	GLU	Peptide
34	D3	66	ARG	Peptide
34	D4	126	ILE	Peptide
34	D4	131	ARG	Peptide
34	D4	149	ALA	Peptide
34	D4	150	GLU	Peptide
34	D4	158	ILE	Peptide
34	D4	207	TYR	Peptide
34	D4	66	ARG	Peptide
3	E1	10	PRO	Peptide
3	E1	24	LEU	Peptide
3	E1	25	PRO	Peptide
3	E1	66	PRO	Peptide
3	E2	24	LEU	Peptide
3	E2	25	PRO	Peptide
3	E2	62	ARG	Peptide
3	E2	66	PRO	Peptide
3	E2	9	ILE	Peptide
3	E2	91	GLY	Peptide
35	E3	130	ASN	Peptide
35	E3	153	LYS	Peptide
35	E3	51	VAL	Peptide
35	E4	11	ILE	Peptide
35	E4	51	VAL	Peptide
35	E4	7	GLU	Peptide
4	F1	128	ARG	Peptide
4	F1	35	GLU	Peptide
4	F2	167	GLU	Peptide
4	F2	47	LYS	Peptide
36	F3	85	VAL	Peptide
36	F4	11	ASN	Peptide
5	G1	160	LYS	Peptide
5	G1	35	VAL	Peptide
5	G1	63	SER	Peptide
5	G1	88	LEU	Peptide
5	G1	89	ILE	Peptide
5	G1	94	TYR	Peptide
5	G2	88	LEU	Peptide
5	G2	89	ILE	Peptide
5	G2	90	LYS	Peptide

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Mol	Chain	Res	Type	Group
37	G3	15	ASP	Peptide
37	G4	122	HIS	Peptide
37	G4	128	ALA	Peptide
37	G4	15	ASP	Peptide
37	G4	96	GLN	Peptide
6	H1	36	ALA	Peptide
6	H1	45	LYS	Peptide
6	H2	28	ASN	Peptide
6	H2	36	ALA	Peptide
38	H4	29	SER	Peptide
38	H4	41	ARG	Peptide
38	H4	96	GLY	Peptide
7	I1	66	LYS	Peptide
39	I3	124	GLN	Peptide
39	I3	73	GLN	Peptide
39	I3	97	LYS	Peptide
39	I4	118	LYS	Peptide
39	I4	35	GLU	Peptide
39	I4	73	GLN	Peptide
8	J1	112	MET	Peptide
8	J1	14	THR	Peptide
8	J1	25	LEU	Peptide
8	J2	112	MET	Peptide
8	J2	115	VAL	Peptide
40	J3	29	ARG	Peptide
40	J3	53	PRO	Peptide
40	J3	57	LYS	Peptide
40	J3	76	ASN	Peptide
40	J4	16	LEU	Peptide
40	J4	36	GLY	Peptide
40	J4	57	LYS	Peptide
40	J4	83	GLU	Peptide
40	J4	87	THR	Peptide
9	K1	109	GLY	Peptide
9	K1	12	ALA	Peptide
9	K1	123	LEU	Peptide
9	K1	23	PRO	Peptide
9	K1	87	ASP	Peptide
9	K2	90	ARG	Peptide
41	K3	109	VAL	Peptide
41	K3	61	ALA	Peptide
10	L1	13	GLN	Peptide

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Mol	Chain	Res	Type	Group
10	L1	137	TYR	Peptide
10	L1	71	ASP	Peptide
10	L2	134	ARG	Peptide
10	L2	4	PRO	Peptide
10	L2	5	ARG	Peptide
10	L2	6	ARG	Peptide
10	L2	7	MET	Peptide
10	L2	94	VAL	Peptide
42	L3	111	LYS	Peptide
42	L3	121	GLY	Peptide
42	L3	8	ASN	Peptide
42	L4	111	LYS	Peptide
42	L4	16	GLU	Peptide
42	L4	26	ALA	Peptide
42	L4	91	LYS	Peptide
11	M1	43	GLU	Peptide
11	M1	70	LEU	Peptide
11	M1	77	ARG	Peptide
11	M1	85	PRO	Peptide
11	M2	43	GLU	Peptide
11	M2	85	PRO	Peptide
43	M3	15	VAL	Peptide
43	M3	77	ASN	Peptide
12	N1	16	ASN	Peptide
12	N1	17	ARG	Peptide
12	N1	65	VAL	Peptide
12	N2	111	GLU	Peptide
12	N2	43	GLU	Peptide
44	N3	26	ARG	Peptide
44	N4	28	GLY	Peptide
44	N4	4	LYS	Peptide
44	N4	8	GLU	Peptide
13	O1	106	SER	Peptide
13	O1	113	LYS	Peptide
13	O1	115	ARG	Peptide
13	O1	6	LEU	Peptide
13	O2	131	ALA	Peptide
13	O2	3	ARG	Peptide
13	O2	87	ASP	Peptide
45	O3	32	LEU	Peptide
45	O3	76	GLU	Peptide
45	O3	82	ILE	Peptide

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Mol	Chain	Res	Type	Group
45	O4	21	ASP	Peptide
45	O4	71	GLN	Peptide
45	O4	72	ARG	Peptide
14	P1	53	ARG	Peptide
14	P1	93	LYS	Peptide
14	P1	94	ASN	Peptide
14	P2	93	LYS	Peptide
46	P3	21	VAL	Peptide
46	P3	73	LEU	Peptide
46	P4	22	THR	Peptide
46	P4	43	LYS	Peptide
46	P4	73	LEU	Peptide
15	Q2	85	LYS	Peptide
47	Q3	58	GLU	Peptide
47	Q4	63	ARG	Peptide
16	R2	69	LEU	Peptide
48	R3	28	GLU	Peptide
48	R3	45	SER	Peptide
48	R4	45	SER	Peptide
49	S3	18	LYS	Peptide
49	S3	66	MET	Peptide
49	S4	65	ASN	Peptide
49	S4	68	GLY	Peptide
18	T1	101	LYS	Peptide
18	T1	40	GLU	Peptide
18	T1	82	PRO	Peptide
18	T2	82	PRO	Peptide
19	U2	157	LEU	Peptide
19	U2	52	SER	Peptide
19	U2	53	ILE	Peptide
20	V1	72	ARG	Peptide
54	V3	22	GLU	Peptide
54	V3	24	LYS	Peptide
54	V4	102	LYS	Peptide
54	V4	32	GLN	Peptide
21	W1	15	ALA	Peptide
21	W1	5	CYS	Peptide
21	W2	5	CYS	Peptide
21	W2	93	GLU	Peptide
22	X1	20	GLU	Peptide
22	X1	28	LYS	Peptide
22	X2	28	LYS	Peptide

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Mol	Chain	Res	Type	Group
23	Y2	23	LEU	Peptide
24	Z1	15	ILE	Peptide
24	Z1	20	ASN	Peptide
24	Z1	37	SER	Peptide
24	Z1	39	CYS	Peptide
24	Z1	40	HIS	Peptide
24	Z1	42	PHE	Peptide
24	Z1	43	TYR	Peptide
24	Z1	49	PHE	Peptide
24	Z1	55	ARG	Peptide
24	Z2	21	VAL	Peptide
24	Z2	49	PHE	Peptide
24	Z2	54	GLY	Peptide
24	Z2	58	ARG	Peptide
24	Z2	59	PHE	Peptide
25	a1	2	ALA	Peptide
25	a1	36	CYS	Peptide
26	b2	44	ARG	Peptide
27	c2	26	GLY	Peptide
28	d1	30	ARG	Peptide
28	d1	40	GLU	Peptide
28	d2	46	ARG	Peptide
28	d2	48	PHE	Peptide
28	d2	50	LEU	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	C1	2116	0	2195	72	0
1	C2	2116	0	2195	86	0
2	D1	1569	0	1634	44	0
2	D2	1569	0	1634	42	0
3	E1	1628	0	1680	54	0
3	E2	1628	0	1680	45	0
4	F1	1474	0	1535	65	0
4	F2	1474	0	1535	53	0
5	G1	1308	0	1382	31	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	G2	1308	0	1382	34	0
6	H1	383	0	410	15	0
6	H2	383	0	410	8	0
7	I1	1105	0	1180	26	0
7	I2	1105	0	1180	23	0
8	J1	933	0	996	26	0
8	J2	933	0	996	34	0
9	K1	1145	0	1228	39	0
9	K2	1145	0	1228	38	0
10	L1	1122	0	1179	34	0
10	L2	1122	0	1179	35	0
11	M1	960	0	1021	29	0
11	M2	960	0	1021	26	0
12	N1	882	0	943	28	0
12	N2	882	0	943	32	0
13	O1	1142	0	1202	43	0
13	O2	1142	0	1202	43	0
14	P1	964	0	1022	33	0
14	P2	964	0	1022	33	0
15	Q1	779	0	852	15	0
15	Q2	779	0	852	19	0
16	R1	900	0	964	32	0
16	R2	900	0	964	30	0
17	S1	726	0	778	20	0
17	S2	726	0	778	23	0
18	T1	786	0	878	27	0
18	T2	786	0	878	22	0
19	U1	1429	0	1454	38	0
19	U2	1429	0	1454	49	0
20	V1	613	0	633	32	0
20	V2	613	0	633	22	0
21	W1	763	0	848	19	0
21	W2	763	0	848	24	0
22	X1	581	0	629	27	0
22	X2	581	0	629	15	0
23	Y1	469	0	518	12	0
23	Y2	469	0	518	12	0
24	Z1	516	0	514	29	0
24	Z2	516	0	514	27	0
25	a1	459	0	480	11	0
25	a2	459	0	480	13	0
26	b1	390	0	404	22	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
26	b2	390	0	404	20	0
27	c1	430	0	480	14	0
27	c2	430	0	480	14	0
28	d1	489	0	560	15	0
28	d2	489	0	560	17	0
29	A1	62707	0	31614	1069	0
29	A2	62707	0	31614	1099	0
30	B1	2617	0	1328	60	0
30	B2	2617	0	1328	66	0
31	e1	299	0	326	15	0
31	e2	299	0	326	15	0
32	B3	1925	0	1975	70	0
32	B4	1925	0	1975	59	0
33	C3	1613	0	1677	59	0
33	C4	1613	0	1677	59	0
34	D3	1703	0	1767	59	0
34	D4	1703	0	1766	54	0
35	E3	1156	0	1213	23	0
35	E4	1156	0	1213	36	0
36	F3	843	0	857	33	0
36	F4	843	0	857	33	0
37	G3	1257	0	1295	46	0
37	G4	1257	0	1296	38	0
38	H3	1116	0	1177	42	0
38	H4	1116	0	1177	40	0
39	I3	1010	0	1037	39	0
39	I4	1010	0	1037	38	0
40	J3	802	0	849	33	0
40	J4	802	0	849	22	0
41	K3	879	0	899	39	0
41	K4	879	0	899	41	0
42	L3	976	0	1062	27	0
42	L4	976	0	1062	33	0
43	M3	934	0	992	47	0
43	M4	934	0	992	41	0
44	N3	492	0	533	32	0
44	N4	492	0	533	22	0
45	O3	734	0	771	24	0
45	O4	734	0	771	21	0
46	P3	706	0	725	19	0
46	P4	706	0	725	17	0
47	Q3	835	0	904	24	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
47	Q4	835	0	904	24	0
48	R3	515	0	568	21	0
48	R4	515	0	568	17	0
49	S3	625	0	636	40	0
49	S4	625	0	636	42	0
50	T3	763	0	861	28	0
50	T4	763	0	861	27	0
51	U3	218	0	234	8	0
51	U4	218	0	234	8	0
52	W4	476	0	470	237	0
52	X3	476	0	470	201	0
53	A3	32369	0	16337	652	0
53	A4	32369	0	16338	675	0
54	V3	963	0	982	53	0
54	V4	950	0	966	34	0
All	All	289175	0	197361	6224	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 16.

All (6224) 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)
52:X3:154:LEU:HD12	52:W4:173:TYR:CE2	1.11	1.63
52:X3:147:ALA:HB2	52:X3:161:PHE:CD2	1.23	1.63
52:X3:173:TYR:CE2	52:W4:158:PHE:CB	1.77	1.60
52:X3:147:ALA:HB1	52:X3:161:PHE:CE2	1.37	1.56
52:W4:160:VAL:CG1	52:W4:169:ILE:HG22	1.35	1.54
52:X3:147:ALA:CB	52:X3:161:PHE:CE2	1.83	1.53
52:W4:147:ALA:HB2	52:W4:161:PHE:CB	1.10	1.52
52:X3:147:ALA:CB	52:X3:161:PHE:CD2	1.90	1.51
52:X3:173:TYR:CE2	52:W4:158:PHE:HB2	0.99	1.50
52:X3:154:LEU:CD1	52:W4:173:TYR:CE2	1.93	1.50
52:W4:147:ALA:CB	52:W4:161:PHE:CB	1.93	1.46
52:X3:154:LEU:HD12	52:W4:173:TYR:CD2	1.49	1.45
52:W4:160:VAL:CG1	52:W4:169:ILE:CG2	2.01	1.38
52:X3:159:PHE:N	52:X3:172:ILE:HG21	1.05	1.38
52:X3:159:PHE:N	52:X3:172:ILE:CG2	1.84	1.37
52:X3:173:TYR:CE2	52:W4:154:LEU:HD12	1.59	1.35
52:W4:143:ASP:O	52:W4:161:PHE:CE2	1.79	1.34
52:X3:159:PHE:CA	52:X3:172:ILE:HG21	1.53	1.34

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:X3:173:TYR:CD2	52:W4:158:PHE:CB	2.12	1.31
52:X3:156:HIS:N	52:W4:173:TYR:OH	1.65	1.29
52:W4:163:ASN:HD21	52:W4:166:THR:CG2	1.44	1.29
52:X3:182:LEU:HB2	52:W4:133:ARG:O	1.30	1.26
52:W4:147:ALA:CB	52:W4:161:PHE:HB2	1.54	1.26
52:W4:151:MET:HE2	52:W4:180:TYR:OH	1.15	1.25
52:W4:163:ASN:ND2	52:W4:168:GLU:H	1.35	1.25
52:W4:171:VAL:O	52:W4:183:ILE:HD12	1.32	1.25
52:X3:159:PHE:O	52:X3:172:ILE:CG2	1.83	1.25
52:X3:143:ASP:CB	52:X3:144:PRO:HD3	1.67	1.24
52:X3:143:ASP:CB	52:X3:144:PRO:CD	2.12	1.23
52:X3:173:TYR:CD2	52:W4:158:PHE:HB3	1.70	1.23
52:W4:163:ASN:CG	52:W4:166:THR:HB	1.65	1.21
52:W4:147:ALA:CA	52:W4:161:PHE:HB2	1.71	1.21
52:W4:157:SER:O	52:W4:172:ILE:O	1.58	1.20
52:X3:159:PHE:C	52:X3:172:ILE:CG2	2.13	1.20
52:X3:146:GLU:C	52:X3:159:PHE:HE2	1.48	1.20
52:X3:157:SER:O	52:X3:172:ILE:CG1	1.92	1.17
52:W4:147:ALA:CB	52:W4:161:PHE:HB3	1.61	1.17
52:X3:154:LEU:CD1	52:W4:173:TYR:CD2	2.18	1.15
52:W4:163:ASN:HD21	52:W4:166:THR:CB	1.59	1.15
52:X3:173:TYR:CZ	52:W4:154:LEU:HD12	1.81	1.15
52:W4:163:ASN:ND2	52:W4:166:THR:HB	1.60	1.14
52:W4:163:ASN:HB2	52:W4:168:GLU:O	0.99	1.14
52:W4:163:ASN:CB	52:W4:168:GLU:O	1.95	1.14
54:V4:13:ILE:HB	54:V4:17:ILE:HG21	1.18	1.14
52:X3:157:SER:O	52:X3:172:ILE:HG13	0.98	1.13
52:W4:159:PHE:O	52:W4:172:ILE:HD11	1.46	1.13
52:W4:160:VAL:HG13	52:W4:169:ILE:CG2	1.65	1.13
52:W4:163:ASN:OD1	52:W4:166:THR:HB	1.47	1.13
52:X3:157:SER:C	52:X3:172:ILE:HG13	1.72	1.13
52:W4:151:MET:HG2	52:W4:157:SER:CA	1.78	1.12
52:W4:143:ASP:O	52:W4:161:PHE:CD2	2.00	1.12
52:X3:143:ASP:HB2	52:X3:144:PRO:CD	1.74	1.12
53:A3:1382:C:O2	54:V3:90:GLN:NE2	1.80	1.12
52:X3:143:ASP:HB2	52:X3:144:PRO:HD2	1.26	1.11
52:X3:133:ARG:O	52:W4:182:LEU:HB2	1.47	1.11
52:X3:166:THR:HG22	52:X3:168:GLU:HG3	1.32	1.11
52:X3:159:PHE:C	52:X3:172:ILE:HG21	1.73	1.10
52:W4:157:SER:HB3	52:W4:172:ILE:O	1.49	1.10
52:X3:133:ARG:O	52:W4:182:LEU:CB	1.99	1.09

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:X3:160:VAL:HG23	52:X3:170:ASN:O	1.50	1.09
52:X3:163:ASN:C	52:X3:165:LYS:H	1.61	1.08
52:X3:146:GLU:C	52:X3:159:PHE:CE2	2.32	1.07
52:W4:163:ASN:HD22	52:W4:168:GLU:N	1.52	1.07
52:W4:151:MET:HG2	52:W4:157:SER:HA	1.08	1.06
52:W4:146:GLU:HG2	52:W4:161:PHE:CE1	1.91	1.05
52:X3:163:ASN:O	52:X3:165:LYS:N	1.87	1.05
52:X3:174:ARG:HH11	52:X3:174:ARG:HB2	1.17	1.05
52:X3:146:GLU:O	52:X3:159:PHE:CE2	2.09	1.05
52:X3:147:ALA:CA	52:X3:161:PHE:CE2	2.40	1.05
52:X3:159:PHE:O	52:X3:172:ILE:CB	2.04	1.05
54:V3:92:LYS:HE2	54:V3:92:LYS:HA	1.36	1.04
52:X3:159:PHE:O	52:X3:172:ILE:HB	1.58	1.04
52:X3:151:MET:HE2	52:X3:174:ARG:NH2	1.72	1.03
52:W4:142:MET:N	52:W4:161:PHE:CE1	2.27	1.03
52:W4:163:ASN:ND2	52:W4:166:THR:CB	2.19	1.02
52:X3:173:TYR:CZ	52:W4:158:PHE:HB2	1.95	1.02
53:A3:1382:C:OP2	54:V3:93:ARG:NH1	1.92	1.02
54:V3:86:ARG:O	54:V3:89:THR:HG23	1.59	1.02
52:X3:143:ASP:HB3	52:X3:144:PRO:HD3	1.04	1.01
52:W4:142:MET:SD	52:W4:146:GLU:OE1	2.17	1.01
52:W4:151:MET:HG3	52:W4:157:SER:OG	1.59	1.01
52:W4:151:MET:CG	52:W4:157:SER:OG	2.09	1.01
52:W4:151:MET:CE	52:W4:180:TYR:OH	2.09	1.01
52:X3:159:PHE:C	52:X3:172:ILE:HG22	1.85	1.01
52:W4:163:ASN:ND2	52:W4:166:THR:CG2	2.23	1.00
32:B3:240:GLN:O	52:X3:145:GLU:OE2	1.80	0.99
52:X3:173:TYR:CE2	52:W4:154:LEU:CD1	2.46	0.99
52:X3:158:PHE:CZ	52:W4:158:PHE:CE1	2.50	0.99
52:X3:143:ASP:HB3	52:X3:144:PRO:CD	1.84	0.99
52:X3:147:ALA:HB2	52:X3:161:PHE:HD2	1.21	0.97
52:W4:147:ALA:HB2	52:W4:161:PHE:CG	1.99	0.97
52:X3:159:PHE:O	52:X3:172:ILE:HG22	1.60	0.97
52:W4:147:ALA:HA	52:W4:161:PHE:HB2	1.46	0.97
52:X3:147:ALA:HA	52:X3:159:PHE:CD2	1.99	0.96
52:X3:147:ALA:CB	52:X3:161:PHE:HE2	1.74	0.96
52:W4:159:PHE:O	52:W4:172:ILE:CD1	2.12	0.96
52:W4:160:VAL:HG12	52:W4:169:ILE:CG2	1.92	0.96
52:W4:163:ASN:HD22	52:W4:168:GLU:H	0.98	0.96
52:W4:163:ASN:HB2	52:W4:168:GLU:C	1.91	0.95
52:W4:163:ASN:CG	52:W4:168:GLU:H	1.75	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:W4:166:THR:O	52:W4:167:ASP:HB2	1.66	0.94
52:X3:141:PRO:HA	52:X3:162:ARG:HB2	1.50	0.93
52:W4:142:MET:N	52:W4:161:PHE:CZ	2.35	0.93
52:W4:163:ASN:CB	52:W4:168:GLU:N	2.33	0.92
52:W4:142:MET:H	52:W4:161:PHE:HE1	1.14	0.92
52:W4:151:MET:CG	52:W4:157:SER:HA	1.99	0.92
52:X3:147:ALA:CA	52:X3:161:PHE:CD2	2.53	0.92
52:W4:163:ASN:ND2	52:W4:166:THR:HG22	1.84	0.92
52:X3:159:PHE:H	52:X3:172:ILE:HG21	1.12	0.91
52:W4:151:MET:HB2	52:W4:172:ILE:HG13	1.52	0.91
52:X3:154:LEU:HD12	52:W4:173:TYR:HE2	1.25	0.91
52:X3:156:HIS:HB2	52:X3:158:PHE:HE1	1.33	0.91
52:W4:163:ASN:HD21	52:W4:166:THR:HG22	1.33	0.90
52:W4:163:ASN:ND2	52:W4:168:GLU:N	2.13	0.90
52:W4:170:ASN:ND2	52:W4:182:LEU:CA	2.35	0.90
52:X3:173:TYR:CE2	52:W4:158:PHE:CG	2.59	0.89
52:X3:173:TYR:OH	52:W4:154:LEU:HB3	1.72	0.89
52:W4:157:SER:CB	52:W4:172:ILE:O	2.21	0.89
52:W4:160:VAL:HG11	52:W4:169:ILE:HB	1.55	0.89
52:X3:133:ARG:HH22	52:W4:179:ASN:ND2	1.71	0.89
52:W4:147:ALA:HA	52:W4:159:PHE:CE2	2.09	0.87
52:X3:158:PHE:CE1	52:W4:158:PHE:CZ	2.61	0.87
52:X3:173:TYR:HD2	52:W4:158:PHE:HB3	1.38	0.87
52:W4:168:GLU:HB3	52:W4:185:PRO:HD2	1.57	0.87
52:X3:174:ARG:HH11	52:X3:174:ARG:CB	1.88	0.87
54:V3:27:ARG:NH2	54:V3:88:GLU:OE2	2.07	0.86
52:W4:163:ASN:HD22	52:W4:168:GLU:HB2	1.41	0.86
52:X3:166:THR:HG22	52:X3:168:GLU:CG	2.04	0.86
29:A2:1073:G:H1	29:A2:1186:G:H1	1.23	0.85
52:X3:158:PHE:CD1	52:W4:173:TYR:CE2	2.65	0.85
52:X3:147:ALA:HA	52:X3:161:PHE:CE2	2.12	0.84
52:X3:158:PHE:C	52:X3:172:ILE:CG2	2.50	0.84
52:W4:146:GLU:HG2	52:W4:161:PHE:CD1	2.11	0.83
52:X3:147:ALA:N	52:X3:159:PHE:HE2	1.76	0.83
52:X3:141:PRO:HA	52:X3:162:ARG:CB	2.09	0.83
52:X3:173:TYR:CD2	52:W4:158:PHE:CG	2.66	0.83
52:X3:147:ALA:CA	52:X3:161:PHE:HE2	1.83	0.83
52:W4:160:VAL:CG1	52:W4:169:ILE:CB	2.56	0.83
52:W4:163:ASN:O	52:W4:165:LYS:N	2.11	0.83
52:X3:158:PHE:CD2	52:W4:173:TYR:HA	2.13	0.83
52:X3:169:ILE:HG13	52:W4:169:ILE:HD13	1.61	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:X3:169:ILE:HG12	52:X3:185:PRO:HB2	1.60	0.82
52:X3:154:LEU:CD1	52:W4:173:TYR:CZ	2.63	0.81
52:X3:154:LEU:HD11	52:W4:173:TYR:CD2	2.15	0.81
52:W4:163:ASN:CB	52:W4:168:GLU:H	1.93	0.81
52:W4:163:ASN:HD22	52:W4:168:GLU:CB	1.94	0.81
52:X3:151:MET:HE2	52:X3:174:ARG:HH22	1.43	0.81
52:W4:151:MET:HE2	52:W4:180:TYR:HH	1.42	0.81
52:X3:133:ARG:O	52:W4:182:LEU:HB3	1.81	0.81
52:X3:158:PHE:CD1	52:W4:173:TYR:CD2	2.68	0.81
52:W4:168:GLU:N	52:W4:168:GLU:OE2	2.14	0.81
52:X3:161:PHE:N	52:X3:170:ASN:HB2	1.94	0.80
52:W4:163:ASN:ND2	52:W4:168:GLU:HB2	1.95	0.80
34:D3:12:CYS:HB3	34:D3:16:GLY:H	1.46	0.80
52:W4:151:MET:CG	52:W4:157:SER:HG	1.91	0.80
52:X3:182:LEU:CB	52:W4:133:ARG:O	2.24	0.80
52:X3:147:ALA:HB1	52:X3:161:PHE:HE2	1.32	0.80
52:W4:184:GLU:OE1	52:W4:185:PRO:HD2	1.82	0.80
29:A2:1363:C:H42	29:A2:1385:G:H22	1.28	0.79
52:X3:146:GLU:HG3	52:X3:159:PHE:HZ	1.45	0.79
33:C3:82:GLU:H	33:C3:85:ARG:HD3	1.48	0.79
52:X3:156:HIS:H	52:W4:173:TYR:HH	1.30	0.79
53:A4:365:C:H42	53:A4:386:G:H1	1.31	0.79
52:W4:147:ALA:HB2	52:W4:161:PHE:HB3	0.79	0.79
52:W4:169:ILE:H	52:W4:185:PRO:HG3	1.48	0.79
52:W4:157:SER:HB3	52:W4:172:ILE:C	2.08	0.78
11:M2:105:ARG:HG3	29:A2:1334:A:H5''	1.65	0.78
52:W4:163:ASN:OD1	52:W4:166:THR:CB	2.29	0.78
52:X3:147:ALA:HA	52:X3:159:PHE:CE2	2.18	0.78
29:A1:397:C:H41	29:A1:431:U:H1'	1.46	0.78
52:W4:169:ILE:H	52:W4:185:PRO:CG	1.97	0.78
29:A1:1895:G:H1	29:A1:1904:C:H42	1.32	0.78
52:W4:163:ASN:HB3	52:W4:168:GLU:N	1.99	0.78
53:A4:444:G:H1	53:A4:467:C:H42	1.28	0.78
52:W4:163:ASN:HD22	52:W4:168:GLU:CA	1.95	0.77
52:X3:157:SER:HB3	52:X3:172:ILE:HD11	1.66	0.77
53:A3:1382:C:OP2	54:V3:93:ARG:CZ	2.31	0.77
52:X3:166:THR:CG2	52:X3:168:GLU:HG3	2.12	0.77
52:W4:160:VAL:HG11	52:W4:169:ILE:CB	2.14	0.77
29:A1:2486:G:H22	29:A1:2489:C:H41	1.32	0.77
41:K3:20:TYR:HB2	41:K3:31:THR:HB	1.65	0.77
53:A3:177:G:H21	53:A3:218:U:H4'	1.49	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:X3:133:ARG:NH2	52:W4:179:ASN:ND2	2.32	0.77
52:X3:157:SER:O	52:X3:172:ILE:O	2.03	0.77
53:A3:444:G:H1	53:A3:467:C:H42	1.33	0.76
29:A1:26:G:H1'	29:A1:542:A:H61	1.50	0.76
53:A4:765:A:H62	53:A4:783:G:H21	1.33	0.76
52:W4:170:ASN:HD21	52:W4:182:LEU:CA	1.75	0.76
30:B1:82:U:H2'	30:B1:83:G:H21	1.50	0.76
4:F1:18:GLU:HA	4:F1:21:ARG:HG2	1.66	0.76
13:O1:39:ARG:HG3	13:O1:41:ARG:HH21	1.51	0.76
52:X3:158:PHE:HE2	52:W4:156:HIS:O	1.69	0.75
29:A2:488:A:H62	29:A2:497:G:H21	1.34	0.75
52:W4:160:VAL:HG12	52:W4:169:ILE:HG21	1.67	0.75
29:A1:872:G:H1	29:A1:883:C:H42	1.35	0.75
35:E4:127:ASN:HD21	53:A4:18:C:H5''	1.51	0.75
13:O1:53:ARG:HH12	29:A1:2697:C:H5''	1.50	0.75
29:A1:2671:A:H62	29:A1:2678:G:H21	1.34	0.75
52:X3:158:PHE:CE2	52:W4:158:PHE:CE1	2.75	0.75
29:A1:2562:G:H1	29:A1:2574:C:H42	1.33	0.74
52:X3:151:MET:CE	52:X3:174:ARG:HH22	1.99	0.74
17:S2:11:PRO:HB3	17:S2:28:PHE:HA	1.68	0.74
43:M4:90:LEU:HA	43:M4:93:ARG:HB2	1.70	0.74
29:A1:654:A:N3	29:A1:678:G:N2	2.36	0.74
29:A1:750:G:H1	29:A1:780:C:H42	1.33	0.74
42:L3:124:LYS:HE2	42:L3:126:LYS:HD2	1.68	0.74
20:V2:9:SER:N	29:A2:2270:G:N3	2.35	0.74
29:A1:927:A:N1	29:A1:946:C:N4	2.34	0.74
29:A2:383:U:H3'	29:A2:384:A:H8	1.52	0.74
52:W4:163:ASN:CG	52:W4:166:THR:CB	2.52	0.74
53:A3:365:C:H42	53:A3:386:G:H1	1.35	0.74
52:X3:147:ALA:HA	52:X3:159:PHE:HD2	1.49	0.74
52:X3:158:PHE:C	52:X3:172:ILE:HG23	2.13	0.74
29:A1:2386:G:H22	29:A1:2395:C:H42	1.35	0.74
52:X3:157:SER:C	52:X3:172:ILE:CG1	2.53	0.74
36:F4:42:GLU:HG2	36:F4:44:GLY:H	1.51	0.74
20:V1:9:SER:N	29:A1:2270:G:HO2'	1.86	0.74
52:X3:169:ILE:CG1	52:X3:185:PRO:HB2	2.10	0.74
52:W4:160:VAL:HG13	52:W4:169:ILE:HG22	0.75	0.74
54:V3:27:ARG:CZ	54:V3:88:GLU:OE2	2.36	0.73
29:A1:1213:U:O2	29:A1:1231:G:N2	2.20	0.73
52:X3:154:LEU:HD13	52:W4:173:TYR:CE2	2.19	0.73
53:A3:1039:G:H1	53:A3:1184:C:H42	1.35	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A1:2106:A:H62	29:A1:2251:G:H21	1.36	0.73
4:F2:11:TYR:HA	4:F2:15:VAL:HB	1.70	0.73
34:D3:156:GLU:HB3	34:D3:159:ARG:HB2	1.68	0.73
54:V3:86:ARG:O	54:V3:89:THR:CG2	2.35	0.73
34:D3:13:ARG:HH22	34:D3:36:ARG:HH11	1.34	0.73
52:X3:158:PHE:CZ	52:W4:158:PHE:CZ	2.76	0.73
29:A2:210:G:H21	29:A2:458:A:H62	1.34	0.73
43:M3:77:ASN:HD22	43:M3:80:ARG:HB3	1.52	0.73
29:A2:2386:G:H22	29:A2:2395:C:H42	1.33	0.73
52:X3:159:PHE:N	52:X3:172:ILE:HG23	1.99	0.73
53:A3:142:G:N1	53:A3:168:C:N3	2.36	0.73
52:W4:142:MET:HB2	52:W4:161:PHE:CZ	2.24	0.73
54:V4:13:ILE:HB	54:V4:17:ILE:CG2	2.09	0.73
1:C1:164:GLN:HB2	1:C1:176:ARG:HB3	1.70	0.73
53:A4:59:A:H61	53:A4:347:C:H41	1.35	0.73
53:A4:1039:G:H1	53:A4:1184:C:H42	1.34	0.73
29:A1:488:A:H62	29:A1:497:G:H21	1.34	0.73
52:X3:150:GLN:OE1	52:X3:150:GLN:HA	1.89	0.72
52:W4:146:GLU:CG	52:W4:161:PHE:CE1	2.72	0.72
29:A1:2480:C:H5'	31:e1:5:ALA:HB3	1.70	0.72
52:W4:157:SER:C	52:W4:172:ILE:O	2.32	0.72
29:A2:750:G:H1	29:A2:780:C:H42	1.37	0.72
29:A2:1923:G:H21	29:A2:1925:A:H62	1.34	0.72
52:W4:170:ASN:HD21	52:W4:182:LEU:C	1.96	0.72
29:A1:210:G:H21	29:A1:458:A:H62	1.35	0.72
29:A1:1363:C:H42	29:A1:1385:G:H22	1.36	0.72
54:V3:84:VAL:HA	54:V3:87:LEU:HB3	1.72	0.72
27:c1:37:LYS:HE2	27:c1:39:ARG:HH21	1.52	0.72
52:X3:172:ILE:O	52:W4:158:PHE:CE2	2.42	0.72
14:P1:51:LYS:O	14:P1:55:ARG:NH1	2.23	0.72
29:A2:2106:A:H62	29:A2:2251:G:H21	1.38	0.72
52:W4:150:GLN:HG3	52:W4:159:PHE:CE1	2.24	0.72
29:A1:1621:A:H2'	29:A1:1622:G:H8	1.55	0.72
2:D2:31:CYS:H	2:D2:91:VAL:HG22	1.55	0.71
14:P2:51:LYS:O	14:P2:55:ARG:NH1	2.23	0.71
29:A2:872:G:H1	29:A2:883:C:H42	1.39	0.71
34:D4:32:ALA:H	34:D4:35:ARG:HH11	1.37	0.71
52:W4:151:MET:CB	52:W4:172:ILE:HG13	2.21	0.71
54:V3:83:ALA:O	54:V3:87:LEU:N	2.22	0.71
53:A4:18:C:H1'	53:A4:1061:G:H21	1.54	0.71
25:a1:45:VAL:HG11	25:a1:55:ARG:H	1.54	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A1:2821:A:H61	29:A1:2902:G:H2'	1.56	0.71
29:A2:1824:A:N6	29:A2:1861:G:O2'	2.23	0.71
36:F3:6:VAL:HB	36:F3:63:TYR:HB2	1.73	0.71
53:A4:1218:C:N3	53:A4:1318:G:N1	2.33	0.71
32:B3:178:ARG:HH12	38:H3:74:PRO:HB3	1.55	0.71
40:J3:44:VAL:HG22	40:J3:66:ARG:HG2	1.72	0.71
52:W4:163:ASN:O	52:W4:164:ALA:C	2.33	0.71
53:A3:18:C:H1'	53:A3:1061:G:H21	1.55	0.71
53:A3:444:G:H2'	53:A3:465:G:H22	1.54	0.71
29:A1:1824:A:N6	29:A1:1861:G:O2'	2.23	0.71
6:H2:4:ILE:HG12	6:H2:37:VAL:H	1.54	0.71
41:K3:99:GLN:HA	41:K3:105:VAL:HG21	1.73	0.71
52:X3:134:VAL:HA	52:W4:182:LEU:O	1.91	0.71
53:A3:59:A:H61	53:A3:347:C:H41	1.38	0.71
24:Z2:1:MET:N	30:B2:41:A:N1	2.37	0.71
52:X3:161:PHE:CA	52:X3:170:ASN:CB	2.69	0.71
35:E4:155:GLU:HB3	38:H4:64:LYS:HB2	1.72	0.71
29:A1:138:G:N2	29:A1:140:A:N1	2.39	0.70
38:H3:46:LYS:HG3	38:H3:64:LYS:HB3	1.73	0.70
33:C4:35:GLU:HG3	33:C4:38:ARG:HH21	1.56	0.70
52:W4:143:ASP:C	52:W4:161:PHE:CD2	2.45	0.70
33:C3:55:VAL:HG22	33:C3:68:VAL:HG13	1.72	0.70
24:Z2:55:ARG:HA	49:S4:66:MET:HA	1.73	0.70
29:A2:179:G:H21	29:A2:197:A:H62	1.38	0.70
29:A2:1328:G:H1	29:A2:1338:C:H42	1.39	0.70
30:B2:82:U:H2'	30:B2:83:G:H21	1.56	0.70
52:X3:156:HIS:O	52:W4:158:PHE:HZ	1.74	0.70
5:G2:2:SER:N	29:A2:1098:A:HO2'	1.89	0.70
25:a2:4:HIS:O	29:A2:2080:G:N2	2.25	0.70
29:A2:26:G:H1'	29:A2:542:A:H61	1.54	0.70
35:E3:127:ASN:HD21	53:A3:18:C:H5''	1.56	0.70
19:U1:1:MET:O	19:U1:55:HIS:ND1	2.25	0.70
29:A1:2480:C:H42	29:A1:2498:G:H1	1.40	0.70
19:U2:97:GLU:HA	19:U2:127:LYS:HA	1.73	0.70
29:A2:2318:G:N2	29:A2:2327:C:N3	2.39	0.70
39:I3:5:TYR:HH	53:A3:1129:C:HO2'	1.33	0.70
53:A3:132:G:N7	53:A3:222:G:N2	2.40	0.70
3:E2:170:LEU:HD22	3:E2:172:TRP:HE1	1.57	0.70
29:A2:138:G:N2	29:A2:140:A:N1	2.40	0.70
53:A3:1233:A:H61	53:A3:1266:A:H62	1.39	0.70
53:A4:25:C:H2'	53:A4:26:A:H8	1.56	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:a1:3:LYS:HG3	25:a1:5:PRO:HD2	1.74	0.69
29:A2:317:C:H42	29:A2:373:G:H1	1.38	0.69
49:S4:37:ARG:NH2	53:A4:1298:C:N3	2.40	0.69
29:A1:1523:C:H42	29:A1:1567:G:H1	1.38	0.69
32:B3:240:GLN:C	52:X3:145:GLU:OE2	2.34	0.69
18:T2:30:VAL:HG12	18:T2:38:ILE:HG12	1.75	0.69
29:A2:2190:G:N3	29:A2:2192:G:N2	2.40	0.69
52:X3:161:PHE:N	52:X3:170:ASN:CB	2.55	0.69
53:A4:136:G:N2	53:A4:216:C:O2	2.25	0.69
3:E1:188:ARG:NH1	29:A1:641:G:N7	2.36	0.69
29:A1:1768:G:H8	29:A1:1772:A:H62	1.41	0.69
29:A2:1621:A:H2'	29:A2:1622:G:H8	1.57	0.69
8:J1:2:ILE:HB	8:J1:33:ALA:HB3	1.75	0.69
17:S1:32:PRO:HB3	17:S1:77:LYS:HD3	1.74	0.69
29:A1:871:U:H2'	29:A1:872:G:H8	1.56	0.69
53:A4:800:C:H42	53:A4:1506:G:H1	1.38	0.69
24:Z1:55:ARG:HE	49:S3:70:LYS:HG2	1.58	0.69
27:c2:9:ARG:NH2	29:A2:1359:G:N7	2.41	0.69
44:N3:29:ARG:HH22	44:N3:41:ARG:H	1.39	0.69
52:X3:172:ILE:HD12	52:X3:172:ILE:C	2.18	0.69
53:A3:1289:U:N3	53:A3:1310:A:N1	2.41	0.69
54:V3:87:LEU:HA	54:V3:90:GLN:HG3	1.75	0.69
29:A1:303:A:N6	29:A1:385:G:N7	2.39	0.69
29:A2:397:C:H41	29:A2:432:C:H5''	1.56	0.69
29:A2:871:U:H2'	29:A2:872:G:H8	1.58	0.69
29:A2:2370:C:O2	29:A2:2376:G:N2	2.25	0.69
32:B3:185:ILE:HG23	32:B3:199:TYR:HB2	1.75	0.69
47:Q3:92:ARG:NH1	53:A3:273:G:N7	2.41	0.69
53:A3:106:G:H1	53:A3:309:C:H42	1.39	0.69
53:A3:553:G:O6	53:A3:842:A:N6	2.26	0.69
32:B4:71:VAL:HB	32:B4:164:VAL:HG12	1.73	0.69
1:C1:179:SER:O	1:C1:273:ARG:NH2	2.26	0.69
52:W4:170:ASN:HA	52:W4:183:ILE:O	1.93	0.69
53:A4:1286:G:H2'	53:A4:1312:G:H21	1.57	0.69
19:U1:134:PRO:HB3	19:U1:158:PRO:HD2	1.74	0.69
20:V1:28:GLY:H	20:V1:67:VAL:HB	1.58	0.69
38:H3:28:ALA:HB2	38:H3:59:LEU:HD11	1.75	0.69
53:A4:1123:C:H2'	53:A4:1124:G:H2'	1.74	0.69
13:O1:41:ARG:NH1	53:A3:341:G:OP1	2.26	0.68
24:Z1:1:MET:N	30:B1:41:A:N1	2.41	0.68
29:A1:2519:G:N2	29:A1:2590:G:N7	2.40	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C2:164:GLN:HB2	1:C2:176:ARG:HB3	1.75	0.68
21:W2:90:ILE:HG13	21:W2:94:LEU:HB2	1.75	0.68
40:J3:62:HIS:HE2	53:A3:1349:C:HO2'	1.37	0.68
41:K4:58:PRO:HB3	41:K4:93:GLN:HE21	1.58	0.68
8:J1:114:ILE:HA	8:J1:117:LEU:HD13	1.72	0.68
17:S1:10:ALA:HB3	17:S1:29:TRP:HB2	1.74	0.68
21:W1:45:ASN:HB3	21:W1:64:ALA:HB2	1.74	0.68
53:A3:1112:A:H61	53:A3:1126:G:H1'	1.58	0.68
41:K4:20:TYR:HB2	41:K4:31:THR:HB	1.74	0.68
29:A2:1409:G:H1	29:A2:1417:G:H22	1.42	0.68
50:T3:8:ARG:NH2	53:A3:328:G:OP1	2.26	0.68
53:A3:497:C:N4	53:A3:520:G:O6	2.25	0.68
37:G4:28:ASN:ND2	53:A4:1356:A:OP1	2.26	0.68
43:M4:15:VAL:HG13	43:M4:18:ALA:HB3	1.74	0.68
50:T3:53:LEU:HD23	50:T3:56:MET:HB2	1.75	0.68
33:C4:55:VAL:HG22	33:C4:68:VAL:HG13	1.75	0.68
53:A4:106:G:H1	53:A4:309:C:H42	1.40	0.68
53:A4:954:A:O3'	53:A4:957:C:N4	2.27	0.68
53:A4:1230:C:H41	53:A4:1268:A:H5''	1.59	0.68
29:A2:1349:A:H62	29:A2:1690:A:H61	1.42	0.68
45:O3:74:ASP:HB3	45:O3:77:ARG:HB2	1.75	0.68
36:F4:8:ILE:HB	36:F4:61:LEU:HB3	1.76	0.68
52:W4:167:ASP:C	52:W4:168:GLU:OE2	2.37	0.68
29:A2:1095:G:N2	29:A2:1158:G:N7	2.42	0.68
34:D3:10:ARG:NH2	53:A3:425:A:OP1	2.27	0.68
29:A2:13:A:N6	29:A2:553:A:OP2	2.27	0.68
53:A4:553:G:O6	53:A4:842:A:N6	2.27	0.68
53:A4:753:C:H2'	53:A4:754:G:H8	1.58	0.68
1:C2:107:ALA:HB1	1:C2:111:LEU:HD11	1.74	0.68
10:L2:65:PHE:HB2	10:L2:105:GLU:HB2	1.76	0.68
26:b2:10:LEU:HD12	26:b2:27:LYS:HG3	1.75	0.68
38:H4:33:GLU:OE1	38:H4:50:ARG:NH1	2.27	0.68
13:O2:3:ARG:NH1	29:A2:2889:G:OP1	2.27	0.67
43:M4:19:LEU:HB3	43:M4:25:ILE:HB	1.76	0.67
29:A1:1349:A:H62	29:A1:1690:A:H61	1.42	0.67
5:G2:6:ARG:HA	5:G2:69:ARG:HH12	1.59	0.67
29:A2:900:U:H3	29:A2:974:A:H61	1.42	0.67
35:E3:71:LEU:HD12	35:E3:74:GLY:H	1.57	0.67
33:C4:28:GLN:HE21	33:C4:32:LEU:HG	1.60	0.67
22:X1:55:ARG:HH22	29:A1:74:G:H5'	1.59	0.67
29:A1:1517:C:H42	29:A1:1572:G:H1	1.41	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:2088:C:O2'	29:A2:2265:G:N2	2.27	0.67
53:A3:589:G:N2	53:A3:614:G:OP1	2.27	0.67
53:A3:1395:A:N1	53:A3:1464:G:N2	2.42	0.67
53:A4:1110:C:N4	53:A4:1120:G:OP1	2.27	0.67
53:A4:1285:G:O2'	53:A4:1314:A:N6	2.28	0.67
16:R2:13:SER:HB2	16:R2:16:LYS:HB2	1.75	0.67
35:E3:78:HIS:HB2	38:H3:104:ARG:HD2	1.77	0.67
38:H3:28:ALA:HA	38:H3:32:LYS:HD2	1.76	0.67
53:A4:203:A:N7	53:A4:215:G:O2'	2.27	0.67
53:A4:409:A:H62	53:A4:425:A:H61	1.42	0.67
53:A4:1236:G:H3'	53:A4:1260:A:H62	1.59	0.67
29:A1:62:U:O2'	29:A1:63:A:N7	2.26	0.67
29:A1:122:G:N2	29:A1:124:A:O2'	2.28	0.67
46:P3:68:ASP:OD1	46:P3:71:ARG:NH2	2.27	0.67
53:A3:753:C:H2'	53:A3:754:G:H8	1.59	0.67
34:D4:9:CYS:SG	34:D4:115:ARG:NH2	2.68	0.67
41:K4:13:GLN:HG3	41:K4:15:ALA:H	1.60	0.67
29:A1:2128:G:OP1	29:A1:2211:G:N2	2.28	0.67
29:A2:725:A:N6	29:A2:2093:G:O2'	2.26	0.67
36:F3:80:ARG:HE	36:F3:87:ARG:HA	1.59	0.67
32:B4:21:ARG:NH1	52:W4:139:MET:SD	2.67	0.67
16:R1:68:ARG:HD2	16:R1:111:HIS:HE1	1.60	0.67
29:A2:1519:G:N2	29:A2:1569:G:N7	2.43	0.67
49:S3:34:TRP:NE1	53:A3:992:A:OP1	2.24	0.67
52:X3:146:GLU:OE1	52:X3:146:GLU:HA	1.93	0.67
52:W4:169:ILE:O	52:W4:185:PRO:HG3	1.94	0.67
26:b1:17:LYS:HB3	26:b1:44:ARG:HB2	1.76	0.67
29:A1:2820:U:N3	29:A1:2903:A:N7	2.42	0.67
13:O2:25:GLY:HA3	13:O2:94:ALA:HB2	1.76	0.67
18:T2:19:LYS:HA	29:A2:334:G:H4'	1.74	0.67
29:A2:4:C:H41	29:A2:2907:C:H5''	1.58	0.67
29:A2:2296:G:N2	29:A2:2441:C:N3	2.42	0.67
33:C3:27:LYS:HG3	33:C3:28:GLN:HG3	1.77	0.67
24:Z1:21:VAL:HG22	24:Z1:23:GLU:H	1.59	0.67
52:X3:180:TYR:O	52:W4:133:ARG:HG2	1.95	0.67
50:T4:79:ARG:HH21	53:A4:257:A:H5''	1.60	0.67
52:W4:160:VAL:HG12	52:W4:169:ILE:HG22	1.52	0.67
53:A4:635:U:O4	53:A4:735:G:O2'	2.13	0.67
3:E1:46:ARG:NH1	3:E1:96:ASP:OD2	2.28	0.67
22:X1:51:ARG:NH1	29:A1:60:G:N7	2.42	0.67
29:A1:413:C:O2'	29:A1:416:G:N2	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:323:G:H21	29:A2:365:A:H62	1.41	0.67
29:A2:1772:A:OP2	29:A2:1774:C:N4	2.28	0.67
52:X3:157:SER:CB	52:X3:172:ILE:HD11	2.24	0.67
52:X3:160:VAL:CG2	52:X3:170:ASN:O	2.37	0.67
52:X3:174:ARG:HB2	52:X3:174:ARG:NH1	2.01	0.67
53:A3:249:G:H2'	53:A3:250:G:H8	1.60	0.67
53:A3:773:A:O2'	54:V3:30:ARG:O	2.12	0.67
7:I1:35:ARG:NH1	29:A1:1055:C:OP1	2.28	0.66
26:b1:12:GLU:HB3	26:b1:53:LYS:HE3	1.77	0.66
11:M2:96:ARG:HH21	11:M2:117:VAL:HG23	1.59	0.66
20:V2:27:GLU:HA	20:V2:68:GLU:HA	1.76	0.66
29:A2:728:C:H42	29:A2:847:G:H1	1.43	0.66
52:X3:147:ALA:HB1	52:X3:161:PHE:CZ	2.18	0.66
52:X3:156:HIS:HB2	52:X3:158:PHE:CE1	2.24	0.66
43:M4:104:ARG:HB3	53:A4:1207:C:H5'	1.77	0.66
45:O4:21:ASP:HB3	45:O4:23:GLY:H	1.59	0.66
41:K3:126:ARG:HH22	53:A3:1500:G:H5''	1.60	0.66
53:A3:564:G:N2	53:A3:742:A:OP2	2.28	0.66
3:E1:91:GLY:HA2	29:A1:1296:G:H5'	1.76	0.66
17:S1:73:ARG:NH1	29:A1:63:A:OP1	2.28	0.66
29:A1:1331:G:N2	29:A1:1334:A:OP2	2.27	0.66
29:A1:1519:G:N2	29:A1:1569:G:N7	2.44	0.66
29:A1:1958:C:H4'	29:A1:1998:C:H4'	1.77	0.66
13:O1:49:VAL:HG12	13:O1:63:VAL:HG22	1.76	0.66
38:H4:28:ALA:HB2	38:H4:59:LEU:HD11	1.77	0.66
2:D1:48:GLN:HG2	2:D1:80:GLU:HG2	1.77	0.66
29:A1:279:G:N2	29:A1:280:G:N7	2.43	0.66
29:A2:216:G:H22	29:A2:438:G:H21	1.43	0.66
53:A3:831:G:H5''	53:A3:848:U:H3	1.61	0.66
54:V3:71:GLU:OE2	54:V3:82:ARG:NH1	2.28	0.66
53:A4:969:U:O2	53:A4:975:G:N2	2.29	0.66
8:J2:42:SER:HB3	8:J2:55:GLY:HA2	1.77	0.66
30:B2:68:A:H62	30:B2:110:U:H2'	1.60	0.66
50:T3:41:ILE:O	50:T3:45:GLN:NE2	2.29	0.66
52:X3:158:PHE:CG	52:W4:173:TYR:CD2	2.83	0.66
32:B4:185:ILE:HG23	32:B4:199:TYR:HB2	1.78	0.66
9:K2:62:LEU:H	29:A2:2407:A:H4'	1.61	0.66
9:K2:107:LYS:NZ	29:A2:652:G:N7	2.43	0.66
11:M2:3:HIS:H	11:M2:5:LYS:HZ3	1.44	0.66
12:N2:96:GLY:H	12:N2:99:LYS:HD2	1.61	0.66
29:A2:2535:C:N3	29:A2:2558:G:N2	2.40	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:F4:37:VAL:HA	36:F4:65:VAL:HG12	1.78	0.66
53:A4:444:G:H2'	53:A4:465:G:H22	1.58	0.66
53:A4:1395:A:H61	53:A4:1464:G:H1	1.40	0.66
16:R1:11:ARG:HH22	16:R1:98:LYS:HB3	1.61	0.66
29:A1:179:G:H21	29:A1:197:A:H62	1.42	0.66
29:A1:1515:G:H2'	29:A1:1596:C:H41	1.61	0.66
31:e1:27:CYS:SG	31:e1:28:GLU:N	2.69	0.66
10:L2:12:GLN:HA	29:A2:958:A:H62	1.60	0.66
37:G3:111:ARG:NH2	37:G3:122:HIS:O	2.29	0.66
53:A3:70:G:O6	53:A3:86:C:N4	2.29	0.66
53:A3:986:C:H2'	53:A3:999:G:H1	1.61	0.66
53:A4:80:U:H5''	53:A4:84:C:H41	1.60	0.66
29:A1:2303:G:H1	29:A1:2358:U:H3	1.44	0.66
27:c2:22:MET:O	27:c2:28:ARG:NH1	2.28	0.66
29:A2:413:C:O2'	29:A2:416:G:N2	2.28	0.66
29:A2:1331:G:N2	29:A2:1334:A:OP2	2.29	0.66
52:X3:161:PHE:H	52:X3:170:ASN:CB	2.08	0.66
38:H4:29:SER:OG	38:H4:30:ARG:N	2.24	0.66
41:K4:40:ILE:O	41:K4:71:LYS:NZ	2.29	0.66
37:G3:115:ARG:NH1	53:A3:1220:A:N3	2.43	0.66
37:G3:149:ARG:HG2	37:G3:152:ALA:HB2	1.76	0.66
44:N4:29:ARG:NH1	44:N4:40:CYS:SG	2.69	0.66
6:H1:27:ARG:HA	6:H1:31:LEU:HD12	1.78	0.65
29:A1:1068:A:N6	29:A1:1189:U:OP2	2.29	0.65
29:A2:854:G:N2	29:A2:880:G:N3	2.44	0.65
5:G1:3:ARG:NH1	29:A1:1096:A:N1	2.44	0.65
29:A1:1870:C:N4	29:A1:1923:G:N7	2.45	0.65
5:G2:95:ARG:NH1	5:G2:129:THR:OG1	2.28	0.65
53:A3:1400:A:N1	53:A3:1460:A:N6	2.45	0.65
41:K4:22:HIS:HB3	41:K4:29:ILE:HG23	1.76	0.65
9:K1:55:ARG:NH1	29:A1:2442:G:N3	2.42	0.65
29:A1:264:C:N3	29:A1:283:G:N1	2.43	0.65
29:A1:1461:G:H1	29:A1:1637:C:H42	1.44	0.65
29:A2:65:C:N4	29:A2:87:G:O6	2.30	0.65
29:A2:1336:U:H5''	29:A2:1337:C:H5	1.61	0.65
29:A2:1517:C:H42	29:A2:1572:G:H1	1.44	0.65
29:A2:1523:C:H42	29:A2:1567:G:H1	1.44	0.65
40:J4:61:GLU:OE1	44:N4:45:ARG:NH2	2.28	0.65
52:W4:142:MET:HB2	52:W4:146:GLU:CB	2.26	0.65
52:W4:151:MET:HG2	52:W4:157:SER:CB	2.25	0.65
9:K1:93:GLY:H	9:K1:124:LYS:HE2	1.61	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:O2:128:GLU:HG2	13:O2:132:LYS:HB3	1.79	0.65
29:A2:2095:A:H2'	29:A2:2096:G:H8	1.61	0.65
38:H4:5:PRO:HB2	38:H4:32:LYS:HD3	1.76	0.65
21:W1:85:LEU:HA	21:W1:88:LYS:HD3	1.78	0.65
29:A1:1409:G:H1	29:A1:1417:G:H22	1.43	0.65
29:A2:1068:A:N6	29:A2:1189:U:OP2	2.30	0.65
53:A3:749:A:O2'	53:A3:750:A:N7	2.28	0.65
32:B4:12:GLU:OE2	32:B4:217:ARG:NH1	2.29	0.65
29:A2:430:A:N3	29:A2:434:G:O2'	2.28	0.65
34:D3:31:CYS:SG	34:D3:32:ALA:N	2.64	0.65
29:A1:120:G:N2	29:A1:128:C:N3	2.45	0.65
4:F2:40:ASN:HD21	29:A2:2327:C:H1'	1.62	0.65
29:A2:2655:G:N2	29:A2:2789:C:N3	2.43	0.65
53:A3:248:U:H1'	53:A3:271:G:H5'	1.79	0.65
53:A4:1207:C:H5''	53:A4:1209:C:H41	1.60	0.65
17:S1:41:ASN:ND2	29:A1:136:G:N3	2.45	0.65
29:A1:1354:C:O2	29:A1:1671:G:N2	2.30	0.65
29:A2:669:G:N2	29:A2:674:G:O6	2.30	0.65
29:A2:1064:G:N2	29:A2:1195:C:O2	2.30	0.65
29:A2:1678:G:H22	29:A2:1685:C:H42	1.44	0.65
29:A2:2089:C:O2	29:A2:2460:G:N2	2.30	0.65
29:A2:2255:A:H2'	29:A2:2256:G:H8	1.62	0.65
52:X3:154:LEU:HD13	52:X3:155:GLY:H	1.62	0.65
40:J4:61:GLU:HB3	44:N4:45:ARG:HH12	1.61	0.65
52:W4:146:GLU:HB3	52:W4:161:PHE:CE1	2.32	0.65
53:A4:709:C:H42	53:A4:714:G:H22	1.45	0.65
29:A1:725:A:N6	29:A1:2093:G:O2'	2.29	0.65
29:A1:1000:A:H61	29:A1:1011:C:H42	1.41	0.65
45:O3:33:THR:O	45:O3:37:ASN:ND2	2.30	0.65
35:E4:127:ASN:ND2	53:A4:19:C:OP2	2.29	0.65
52:W4:151:MET:HB2	52:W4:172:ILE:CG1	2.27	0.65
53:A4:498:G:H1	53:A4:519:C:H42	1.45	0.65
53:A4:1007:C:N3	53:A4:1013:G:N2	2.45	0.65
53:A4:1041:C:N4	53:A4:1179:G:O6	2.30	0.65
29:A1:2306:C:OP1	29:A1:2393:G:N2	2.30	0.65
10:L2:46:GLN:NE2	29:A2:2499:G:OP1	2.28	0.65
43:M3:52:GLU:HB3	43:M3:56:LEU:HD22	1.79	0.65
52:X3:146:GLU:CG	52:X3:159:PHE:HZ	2.10	0.65
53:A3:261:G:H5'	53:A3:263:C:H41	1.62	0.65
53:A3:978:A:O2'	53:A3:1024:G:N2	2.30	0.65
49:S4:64:GLU:HA	49:S4:66:MET:HE2	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:1104:G:N2	29:A2:1151:A:OP2	2.30	0.64
29:A2:2663:U:O2	29:A2:2686:G:N2	2.30	0.64
32:B3:65:GLY:HA2	32:B3:226:ARG:HH22	1.62	0.64
33:C4:173:VAL:HG11	33:C4:201:TYR:HB3	1.80	0.64
47:Q4:81:ARG:HH12	53:A4:630:C:H4'	1.62	0.64
51:U4:24:ARG:NH2	53:A4:1243:C:OP2	2.29	0.64
53:A4:749:A:O2'	53:A4:750:A:N7	2.31	0.64
29:A1:1469:G:O2'	29:A1:1541:C:N4	2.29	0.64
29:A1:2834:G:O2'	29:A1:2837:C:N4	2.30	0.64
12:N2:97:ARG:NE	30:B2:51:C:OP2	2.29	0.64
24:Z2:48:ARG:HA	43:M4:76:ALA:HB1	1.79	0.64
27:c2:35:ARG:NH2	29:A2:169:G:O2'	2.30	0.64
31:e2:2:LYS:HG3	31:e2:3:VAL:HG23	1.79	0.64
53:A4:515:A:H2'	53:A4:516:A:H3'	1.79	0.64
3:E1:170:LEU:HD22	3:E1:172:TRP:HE1	1.62	0.64
28:d1:31:HIS:NE2	29:A1:2435:G:N7	2.45	0.64
29:A1:748:A:H62	29:A1:782:G:H21	1.44	0.64
29:A2:435:G:H1	29:A2:449:C:H42	1.45	0.64
29:A2:1895:G:N2	29:A2:1896:G:N3	2.45	0.64
29:A2:2457:C:H2'	29:A2:2458:G:H8	1.61	0.64
53:A3:287:G:O2'	53:A3:591:A:N6	2.30	0.64
32:B4:21:ARG:NH2	32:B4:37:ASN:O	2.30	0.64
4:F1:91:ARG:HH22	30:B1:44:C:H42	1.46	0.64
14:P1:112:ARG:O	14:P1:112:ARG:NH1	2.31	0.64
29:A2:748:A:H62	29:A2:782:G:H21	1.44	0.64
29:A2:1120:C:H41	29:A2:1145:U:H5'	1.62	0.64
54:V3:11:LEU:HD23	54:V3:44:LEU:HB2	1.80	0.64
54:V3:92:LYS:O	54:V3:94:PHE:N	2.31	0.64
52:W4:151:MET:CG	52:W4:157:SER:CB	2.75	0.64
5:G1:122:THR:HG1	5:G1:134:SER:HG	1.41	0.64
22:X1:65:ASN:ND2	29:A1:110:U:OP1	2.31	0.64
29:A1:259:U:H3	29:A1:398:G:H1	1.46	0.64
29:A1:2296:G:N2	29:A1:2441:C:N3	2.44	0.64
29:A2:92:C:H2'	29:A2:93:G:H8	1.62	0.64
29:A2:178:G:HO2'	29:A2:1413:A:N6	1.96	0.64
29:A2:2414:G:N2	29:A2:2431:C:O2	2.31	0.64
33:C3:21:ARG:NH1	33:C3:22:TRP:O	2.30	0.64
38:H3:21:LYS:NZ	53:A3:810:U:OP1	2.31	0.64
43:M3:89:GLY:O	43:M3:93:ARG:N	2.30	0.64
53:A3:1237:A:N6	53:A3:1258:C:OP2	2.30	0.64
53:A4:312:G:OP1	53:A4:348:A:N6	2.30	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A4:1433:G:N2	53:A4:1434:G:N7	2.45	0.64
18:T1:5:MET:HG3	18:T1:7:VAL:H	1.62	0.64
29:A1:869:A:N3	29:A1:990:U:O2'	2.31	0.64
29:A1:1471:G:H1	29:A1:1624:C:H41	1.46	0.64
15:Q2:78:LYS:NZ	29:A2:597:A:OP2	2.30	0.64
29:A2:2660:C:H42	29:A2:2688:G:H1	1.44	0.64
32:B3:18:GLY:H	32:B3:42:ILE:HG12	1.62	0.64
40:J3:39:PRO:O	53:A3:1106:G:N2	2.30	0.64
45:O3:17:ARG:HH22	53:A3:734:U:H5''	1.60	0.64
29:A1:734:A:OP2	29:A1:823:A:N6	2.31	0.64
29:A1:2731:U:H2'	29:A1:2732:G:H8	1.62	0.64
19:U2:20:ARG:NH2	30:B2:97:C:OP2	2.31	0.64
25:a2:15:ARG:NH2	29:A2:2046:U:OP2	2.31	0.64
45:O3:17:ARG:NH1	53:A3:734:U:OP1	2.30	0.64
20:V1:67:VAL:HG22	20:V1:81:VAL:HG22	1.79	0.64
29:A1:1849:G:O2'	29:A1:1850:G:N7	2.26	0.64
29:A2:120:G:N2	29:A2:128:C:N3	2.46	0.64
29:A2:2478:C:O2	29:A2:2500:G:N2	2.27	0.64
30:B2:77:G:H22	30:B2:105:G:H1	1.46	0.64
54:V3:83:ALA:O	54:V3:87:LEU:HB2	1.98	0.64
53:A4:1395:A:N1	53:A4:1464:G:N2	2.42	0.64
20:V1:15:ASP:OD2	29:A1:2278:C:N4	2.31	0.64
25:a1:12:SER:HB3	29:A1:2044:A:H5'	1.80	0.64
15:Q2:85:LYS:NZ	29:A2:1212:G:O2'	2.30	0.64
19:U2:16:SER:O	19:U2:20:ARG:NH1	2.31	0.64
29:A2:1354:C:O2	29:A2:1671:G:N2	2.30	0.64
52:X3:151:MET:CE	52:X3:174:ARG:NH2	2.53	0.64
53:A3:1403:G:N7	53:A3:1404:G:N2	2.44	0.64
33:C4:138:VAL:HG13	33:C4:149:ALA:HB3	1.79	0.64
36:F4:48:LEU:HD22	48:R4:77:GLY:HA3	1.80	0.64
10:L1:21:THR:OG1	10:L1:99:PRO:O	2.13	0.64
1:C2:24:ILE:HG23	1:C2:83:GLU:HA	1.80	0.64
29:A2:1894:G:H1	29:A2:1904:C:H42	1.45	0.64
34:D3:153:ARG:HG2	34:D3:159:ARG:HH12	1.63	0.64
36:F3:11:ASN:ND2	36:F3:84:ASN:OD1	2.31	0.64
41:K3:122:LYS:HB2	41:K3:124:LYS:HE2	1.80	0.64
53:A4:435:A:OP2	53:A4:436:C:N4	2.31	0.64
29:A1:304:C:N4	29:A1:385:G:O6	2.32	0.63
29:A1:313:C:H42	29:A1:376:G:H2'	1.63	0.63
29:A1:724:A:N6	29:A1:2093:G:O2'	2.31	0.63
29:A1:1435:C:H2'	29:A1:1436:G:H8	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:L2:21:THR:OG1	10:L2:99:PRO:O	2.12	0.63
29:A2:167:G:OP2	29:A2:167:G:N2	2.31	0.63
53:A3:1422:C:O2	53:A3:1424:G:N1	2.31	0.63
38:H4:37:ARG:O	38:H4:41:ARG:N	2.29	0.63
3:E1:158:THR:HG23	3:E1:160:ASN:H	1.62	0.63
9:K1:13:ASN:ND2	29:A1:710:C:O2'	2.31	0.63
10:L1:23:GLY:O	10:L1:101:ARG:NH1	2.31	0.63
25:a1:4:HIS:O	29:A1:2080:G:N2	2.27	0.63
29:A1:2414:G:N2	29:A1:2431:C:O2	2.30	0.63
4:F2:76:SER:O	4:F2:84:LYS:NZ	2.28	0.63
29:A2:1515:G:H2'	29:A2:1596:C:H41	1.63	0.63
29:A2:2157:G:H1'	29:A2:2181:G:H22	1.63	0.63
35:E4:148:VAL:O	35:E4:152:ARG:N	2.32	0.63
1:C1:31:LYS:NZ	1:C1:104:TYR:OH	2.31	0.63
8:J1:114:ILE:HG22	8:J1:117:LEU:HD22	1.78	0.63
12:N1:97:ARG:NE	30:B1:51:C:OP2	2.28	0.63
29:A1:2132:C:OP2	29:A1:2203:C:N4	2.32	0.63
29:A1:2663:U:O2	29:A1:2686:G:N2	2.31	0.63
29:A2:1931:G:OP2	29:A2:1947:U:N3	2.26	0.63
53:A3:312:G:OP1	53:A3:348:A:N6	2.31	0.63
49:S4:34:TRP:NE1	53:A4:992:A:OP1	2.24	0.63
52:W4:170:ASN:ND2	52:W4:182:LEU:HA	2.13	0.63
12:N1:62:LYS:NZ	30:B1:53:G:O6	2.31	0.63
21:W1:3:LYS:O	21:W1:11:ARG:NH1	2.32	0.63
29:A1:78:G:N2	29:A1:105:C:N3	2.45	0.63
29:A1:383:U:H3'	29:A1:384:A:H8	1.63	0.63
29:A1:696:G:N1	29:A1:698:C:N3	2.45	0.63
8:J2:13:ASN:HB2	8:J2:96:THR:H	1.63	0.63
27:c2:16:HIS:ND1	29:A2:733:G:OP1	2.31	0.63
53:A3:367:C:H42	53:A3:384:A:H62	1.45	0.63
53:A4:1045:C:N4	53:A4:1174:G:O6	2.31	0.63
53:A4:1465:G:H2'	53:A4:1466:G:H8	1.62	0.63
29:A1:1678:G:H22	29:A1:1685:C:H42	1.45	0.63
1:C2:211:ARG:NH2	29:A2:1615:A:OP2	2.32	0.63
4:F2:13:GLU:HG2	4:F2:14:GLU:HG3	1.80	0.63
24:Z2:49:PHE:O	43:M4:77:ASN:ND2	2.32	0.63
25:a2:53:ALA:O	25:a2:55:ARG:NH1	2.30	0.63
29:A2:178:G:H1	29:A2:198:C:H42	1.44	0.63
52:X3:159:PHE:H	52:X3:172:ILE:CG2	1.76	0.63
53:A3:254:G:H1	53:A3:262:C:H42	1.45	0.63
43:M4:89:GLY:O	43:M4:93:ARG:N	2.32	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:F1:77:ILE:HD12	4:F1:79:ASN:HB2	1.81	0.63
11:M1:107:ASP:OD1	11:M1:107:ASP:N	2.28	0.63
30:B1:80:A:H62	30:B1:101:G:H21	1.45	0.63
35:E3:149:GLU:HA	35:E3:152:ARG:HB2	1.81	0.63
36:F3:11:ASN:OD1	36:F3:86:ARG:NH1	2.31	0.63
37:G4:79:ARG:O	37:G4:84:ASN:ND2	2.32	0.63
52:W4:142:MET:CB	52:W4:161:PHE:CZ	2.71	0.63
52:W4:151:MET:N	52:W4:159:PHE:HD2	1.94	0.63
8:J1:17:ARG:NH1	53:A3:1448:G:OP1	2.32	0.63
13:O1:115:ARG:NH2	29:A1:1785:C:OP1	2.32	0.63
29:A1:2300:A:N3	29:A1:2301:A:N6	2.47	0.63
53:A3:1395:A:H61	53:A3:1464:G:H1	1.44	0.63
53:A4:954:A:H3'	53:A4:1205:G:H1	1.62	0.63
53:A4:1111:C:H4'	53:A4:1112:A:H5'	1.80	0.63
10:L1:12:GLN:HA	29:A1:958:A:H62	1.64	0.63
25:a1:15:ARG:NH2	29:A1:2046:U:OP2	2.31	0.63
29:A1:2844:U:OP1	29:A1:2845:G:N2	2.32	0.63
1:C2:273:ARG:NH1	29:A2:1852:A:N1	2.46	0.63
3:E2:179:GLU:O	3:E2:205:ARG:NH2	2.32	0.63
29:A2:791:G:H1	29:A2:804:C:H42	1.47	0.63
29:A2:870:A:H62	29:A2:1019:G:H21	1.46	0.63
31:e2:8:LYS:O	31:e2:34:GLN:NE2	2.32	0.63
52:X3:147:ALA:CA	52:X3:159:PHE:CE2	2.82	0.63
52:X3:156:HIS:CB	52:X3:158:PHE:HE1	2.10	0.63
52:X3:172:ILE:O	52:W4:158:PHE:HE2	1.82	0.63
53:A3:18:C:H42	53:A3:894:G:H1	1.46	0.63
53:A3:55:A:H62	53:A3:352:G:H21	1.46	0.63
53:A3:317:C:N4	53:A3:324:A:N7	2.47	0.63
53:A3:982:A:O2'	53:A3:1020:C:N4	2.32	0.63
51:U4:2:GLY:N	51:U4:5:ASP:OD2	2.32	0.63
53:A4:955:A:O2'	53:A4:1302:C:N4	2.32	0.63
4:F1:19:LEU:HB3	4:F1:25:TYR:HE2	1.64	0.63
12:N1:20:ARG:NH2	30:B1:12:C:OP1	2.31	0.63
13:O1:41:ARG:HH12	53:A3:340:C:H3'	1.63	0.63
9:K2:18:ARG:NH2	29:A2:1240:G:OP2	2.32	0.63
39:I3:92:TYR:HB3	39:I3:95:LYS:HB2	1.81	0.63
47:Q3:90:ILE:HG22	47:Q3:94:ASN:HD21	1.64	0.63
8:J1:64:ARG:NH1	8:J1:101:PRO:O	2.31	0.62
20:V1:72:ARG:HH21	20:V1:75:LEU:HB3	1.64	0.62
29:A1:571:G:N2	29:A1:574:A:OP2	2.30	0.62
29:A1:1374:U:O2'	29:A1:2034:G:N3	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A1:1581:C:O2	29:A1:1587:G:N2	2.31	0.62
3:E2:164:ARG:NH1	3:E2:176:LEU:O	2.30	0.62
29:A2:1000:A:H61	29:A2:1011:C:H42	1.44	0.62
37:G3:115:ARG:NH1	53:A3:1220:A:O2'	2.31	0.62
38:H3:29:SER:OG	38:H3:30:ARG:N	2.32	0.62
52:X3:158:PHE:CE2	52:W4:156:HIS:O	2.50	0.62
32:B4:76:GLN:HG3	32:B4:206:ASP:HA	1.80	0.62
44:N4:25:VAL:HG23	44:N4:26:ARG:HG2	1.79	0.62
54:V4:13:ILE:CB	54:V4:17:ILE:HG21	2.12	0.62
29:A1:874:C:H42	29:A1:881:G:H1	1.47	0.62
29:A1:1923:G:H21	29:A1:1925:A:H62	1.45	0.62
25:a2:3:LYS:HE3	25:a2:5:PRO:HD2	1.81	0.62
29:A2:1374:U:O2'	29:A2:2034:G:N3	2.32	0.62
33:C3:69:HIS:HA	33:C3:104:GLN:HB2	1.82	0.62
52:X3:147:ALA:HB2	52:X3:161:PHE:CG	2.18	0.62
53:A3:435:A:OP2	53:A3:436:C:N4	2.32	0.62
53:A3:635:U:O4	53:A3:735:G:O2'	2.16	0.62
34:D4:116:GLN:HA	34:D4:119:GLN:HB3	1.80	0.62
52:W4:142:MET:HB2	52:W4:146:GLU:HB3	1.81	0.62
1:C1:45:ASN:OD1	1:C1:46:GLN:N	2.31	0.62
29:A1:81:G:N1	29:A1:101:A:OP2	2.32	0.62
29:A2:560:G:H1	29:A2:585:C:H42	1.48	0.62
34:D3:86:LYS:NZ	53:A3:596:C:OP1	2.32	0.62
49:S3:18:LYS:HD2	53:A3:992:A:H5'	1.82	0.62
53:A3:139:G:N2	53:A3:173:A:N1	2.47	0.62
53:A3:1398:G:N1	53:A3:1462:U:O2	2.32	0.62
53:A4:701:G:OP2	53:A4:703:C:N4	2.32	0.62
8:J1:5:GLN:NE2	29:A1:1717:A:OP1	2.32	0.62
10:L1:65:PHE:HB2	10:L1:105:GLU:HB2	1.81	0.62
29:A1:2491:C:N4	31:e1:8:LYS:O	2.31	0.62
4:F2:66:GLN:NE2	30:B2:44:C:O2'	2.32	0.62
29:A2:2052:U:H2'	29:A2:2053:G:H8	1.65	0.62
32:B4:128:GLU:HA	32:B4:135:GLN:HE21	1.65	0.62
34:D4:25:ARG:NH1	34:D4:30:LYS:O	2.33	0.62
41:K4:98:LEU:HB3	41:K4:105:VAL:HG21	1.80	0.62
45:O4:32:LEU:HB3	45:O4:63:ARG:HH11	1.63	0.62
12:N1:14:VAL:HG11	12:N1:89:ARG:HH21	1.65	0.62
19:U1:101:PRO:O	19:U1:103:ARG:NH1	2.32	0.62
29:A1:219:A:N6	29:A1:445:C:O2'	2.33	0.62
3:E2:165:ARG:NH2	29:A2:346:G:N3	2.47	0.62
4:F2:17:PRO:HA	4:F2:20:ILE:HG22	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:I2:58:ASP:OD1	7:I2:58:ASP:N	2.28	0.62
15:Q2:84:LYS:NZ	29:A2:1039:C:O2'	2.32	0.62
40:J3:16:LEU:HB3	40:J3:70:ARG:HH21	1.64	0.62
40:J3:46:ARG:NH1	53:A3:1234:G:OP1	2.32	0.62
53:A3:510:G:N2	53:A3:518:A:O2'	2.31	0.62
53:A4:575:G:N1	53:A4:631:A:N1	2.47	0.62
19:U1:25:PRO:HA	19:U1:38:TYR:HA	1.81	0.62
24:Z1:58:ARG:NH1	49:S3:38:SER:O	2.32	0.62
26:b1:11:LEU:HB2	26:b1:28:ARG:H	1.64	0.62
29:A1:237:G:OP2	29:A1:239:C:N4	2.28	0.62
29:A1:1117:A:H62	29:A1:1121:A:H61	1.47	0.62
29:A1:1214:C:H42	29:A1:1230:G:H22	1.46	0.62
24:Z2:55:ARG:HD2	49:S4:69:HIS:HB2	1.80	0.62
29:A2:1119:G:N7	29:A2:1148:C:N4	2.46	0.62
29:A2:1395:G:H1	29:A2:1647:C:H42	1.46	0.62
30:B2:33:C:O2	30:B2:56:G:N2	2.33	0.62
43:M3:12:ASN:HA	43:M3:46:LYS:HB3	1.80	0.62
43:M3:70:LEU:HA	43:M3:73:GLU:HB2	1.79	0.62
7:I2:74:ARG:HH21	29:A2:2654:G:H5'	1.64	0.62
19:U2:6:LYS:NZ	19:U2:8:TYR:OH	2.33	0.62
29:A2:5:A:OP2	29:A2:6:A:N6	2.32	0.62
29:A2:2834:G:O2'	29:A2:2837:C:N4	2.33	0.62
36:F3:92:LYS:NZ	53:A3:720:A:OP1	2.29	0.62
53:A3:1230:C:H41	53:A3:1268:A:H5''	1.64	0.62
33:C4:4:LYS:HD3	53:A4:1172:A:H5'	1.80	0.62
6:H1:24:GLY:O	6:H1:28:ASN:ND2	2.33	0.62
7:I1:10:GLU:HG2	7:I1:39:ARG:HH22	1.64	0.62
1:C2:133:LEU:HD22	1:C2:173:VAL:HG11	1.82	0.62
29:A2:985:G:H2'	29:A2:986:G:H8	1.65	0.62
52:X3:173:TYR:HE2	52:W4:158:PHE:HB2	0.81	0.62
52:X3:174:ARG:HH11	52:X3:174:ARG:CG	2.13	0.62
49:S4:18:LYS:HD2	53:A4:992:A:H5'	1.80	0.62
53:A4:775:A:N7	53:A4:777:A:N6	2.48	0.62
19:U1:43:GLU:O	19:U1:47:VAL:N	2.32	0.62
29:A2:724:A:N6	29:A2:2093:G:O2'	2.33	0.62
29:A2:2306:C:OP1	29:A2:2393:G:N2	2.33	0.62
53:A3:575:G:N1	53:A3:631:A:N1	2.48	0.62
53:A3:1382:C:OP2	54:V3:93:ARG:NH2	2.32	0.62
43:M4:79:LYS:HA	43:M4:82:MET:HB2	1.82	0.62
53:A4:249:G:H2'	53:A4:250:G:H8	1.63	0.62
53:A4:1047:U:N3	53:A4:1171:G:N3	2.48	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:F1:66:GLN:OE1	24:Z1:6:HIS:ND1	2.33	0.62
6:H1:30:LEU:HA	6:H1:35:LEU:HD12	1.81	0.62
13:O1:51:ARG:NH2	29:A1:2699:G:OP2	2.32	0.62
19:U1:145:GLU:HA	29:A1:944:A:H62	1.65	0.62
29:A1:1753:G:H2'	29:A1:1754:G:C8	2.35	0.62
17:S2:61:GLY:O	17:S2:63:LYS:NZ	2.33	0.62
43:M3:91:ARG:NE	43:M3:97:PRO:O	2.33	0.62
53:A3:657:G:H22	53:A3:700:C:H5	1.46	0.62
45:O4:33:THR:O	45:O4:37:ASN:ND2	2.32	0.62
52:W4:163:ASN:HB3	52:W4:167:ASP:C	2.25	0.62
53:A4:75:G:N2	53:A4:85:U:O2'	2.33	0.62
2:D1:172:VAL:HG22	2:D1:184:VAL:HG22	1.81	0.61
17:S1:53:LYS:HB3	17:S1:82:GLN:HB3	1.82	0.61
26:b1:9:LEU:N	26:b1:28:ARG:O	2.33	0.61
29:A1:323:G:H21	29:A1:365:A:H62	1.48	0.61
29:A1:2072:G:H1	29:A1:2634:C:H42	1.48	0.61
18:T2:86:ARG:NH1	29:A2:324:A:OP1	2.33	0.61
21:W2:16:ASN:ND2	29:A2:408:U:O3'	2.33	0.61
29:A2:920:U:H2'	29:A2:921:A:H8	1.64	0.61
29:A2:2817:C:N4	29:A2:2819:G:N7	2.47	0.61
33:C3:173:VAL:HG22	33:C3:203:PHE:H	1.65	0.61
53:A3:203:A:N7	53:A3:215:G:O2'	2.32	0.61
53:A3:351:A:N3	53:A3:363:U:O2'	2.32	0.61
54:V3:87:LEU:HD12	54:V3:87:LEU:O	2.00	0.61
52:W4:146:GLU:HB3	52:W4:161:PHE:CZ	2.35	0.61
53:A4:1000:G:N2	53:A4:1001:G:N7	2.48	0.61
24:Z1:1:MET:N	30:B1:46:G:N7	2.48	0.61
26:b1:17:LYS:O	26:b1:44:ARG:NE	2.33	0.61
29:A1:313:C:OP2	29:A1:380:G:N2	2.33	0.61
29:A1:926:U:O4	29:A1:946:C:N4	2.31	0.61
7:I2:57:ALA:H	7:I2:124:ALA:HA	1.64	0.61
8:J2:5:GLN:NE2	29:A2:1717:A:OP1	2.32	0.61
21:W2:45:ASN:HA	29:A2:2244:G:H1'	1.82	0.61
28:d2:50:LEU:HB3	28:d2:51:ALA:HB2	1.81	0.61
37:G3:56:GLN:HE22	39:I4:56:LEU:H	1.48	0.61
39:I3:72:GLY:HA2	39:I3:75:ASP:HB2	1.82	0.61
54:V3:118:GLU:HB2	54:V3:120:LEU:HD23	1.82	0.61
1:C1:83:GLU:N	1:C1:92:ILE:O	2.32	0.61
3:E1:14:PRO:HB2	3:E1:17:ARG:HH21	1.64	0.61
29:A1:985:G:H2'	29:A1:986:G:H8	1.65	0.61
29:A1:1888:G:H1	29:A1:1911:C:H42	1.48	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C2:63:ARG:NH2	29:A2:1617:G:OP2	2.33	0.61
10:L2:97:VAL:HG11	10:L2:103:MET:HE3	1.82	0.61
23:Y2:44:ARG:HA	23:Y2:47:VAL:HG12	1.82	0.61
29:A2:1958:C:H42	29:A2:1988:G:H1	1.48	0.61
30:B2:1:A:O5'	30:B2:6:C:N4	2.31	0.61
32:B3:164:VAL:H	32:B3:186:ALA:HA	1.65	0.61
33:C3:173:VAL:HG11	33:C3:201:TYR:HB3	1.82	0.61
32:B4:20:GLU:OE1	32:B4:23:ARG:NH1	2.34	0.61
34:D4:88:VAL:HG12	34:D4:90:GLY:H	1.65	0.61
43:M4:39:ILE:HD12	43:M4:45:VAL:HG11	1.80	0.61
17:S1:11:PRO:HA	17:S1:28:PHE:HA	1.82	0.61
19:U1:61:LEU:HB2	19:U1:65:GLN:HB2	1.80	0.61
29:A1:929:G:O6	29:A1:942:C:N4	2.32	0.61
29:A1:2457:C:H2'	29:A1:2458:G:H8	1.64	0.61
37:G3:88:PRO:HG2	37:G3:155:ARG:HH21	1.65	0.61
52:X3:158:PHE:CD1	52:W4:158:PHE:CZ	2.87	0.61
53:A3:657:G:H1	53:A3:700:C:H41	1.48	0.61
53:A4:1298:C:H2'	53:A4:1299:A:H8	1.64	0.61
29:A1:1064:G:N2	29:A1:1195:C:O2	2.31	0.61
17:S2:20:GLY:HA2	17:S2:23:GLU:HB2	1.83	0.61
29:A2:205:G:N2	29:A2:461:A:N1	2.49	0.61
29:A2:1897:U:OP1	29:A2:2424:G:O2'	2.18	0.61
36:F3:2:ARG:HH22	45:O3:2:PRO:HG3	1.66	0.61
52:X3:163:ASN:C	52:X3:165:LYS:N	2.26	0.61
34:D4:132:ARG:HH12	34:D4:134:ASP:HB3	1.65	0.61
53:A4:287:G:O2'	53:A4:591:A:N6	2.33	0.61
29:A1:2655:G:N2	29:A1:2789:C:N3	2.48	0.61
29:A1:2714:C:O2	29:A1:2722:G:N2	2.34	0.61
24:Z2:48:ARG:NH2	24:Z2:51:ASP:O	2.33	0.61
29:A2:61:C:O2	29:A2:91:G:N2	2.31	0.61
29:A2:2714:C:O2	29:A2:2722:G:N2	2.34	0.61
33:C3:22:TRP:HB3	33:C3:59:ARG:HD2	1.81	0.61
34:D3:81:GLU:HG2	34:D3:84:LYS:HD3	1.83	0.61
36:F3:84:ASN:O	36:F3:86:ARG:NH1	2.33	0.61
53:A3:411:G:H22	53:A3:421:G:H1	1.45	0.61
53:A3:954:A:O2'	53:A3:958:U:N3	2.34	0.61
52:W4:169:ILE:O	52:W4:185:PRO:HD3	2.00	0.61
53:A4:570:G:N1	53:A4:737:C:OP2	2.33	0.61
18:T1:20:TYR:HB3	18:T1:23:ARG:HG3	1.82	0.61
29:A1:205:G:N2	29:A1:461:A:N1	2.48	0.61
29:A1:267:C:O2	29:A1:279:G:N2	2.32	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A1:2310:U:H3	29:A1:2349:A:H62	1.48	0.61
29:A1:2604:A:H61	29:A1:2618:U:H3	1.49	0.61
30:B1:6:C:O2'	30:B1:28:A:N6	2.34	0.61
1:C2:97:TYR:O	29:A2:1548:G:N2	2.33	0.61
10:L2:7:MET:HE1	10:L2:10:ARG:HB3	1.83	0.61
29:A2:311:C:N4	29:A2:382:A:N1	2.47	0.61
29:A2:396:C:N4	29:A2:432:C:OP2	2.30	0.61
37:G3:43:PHE:O	37:G3:47:CYS:N	2.33	0.61
37:G3:74:GLU:HB2	37:G3:91:VAL:HG12	1.81	0.61
42:L3:71:PRO:O	42:L3:102:ARG:NH1	2.33	0.61
42:L4:118:SER:HB2	53:A4:35:G:H21	1.65	0.61
18:T1:2:ARG:HH12	29:A1:80:G:H21	1.49	0.61
3:E2:38:ARG:NH1	29:A2:709:G:O2'	2.33	0.61
29:A2:190:U:O4	29:A2:240:G:N2	2.33	0.61
29:A2:2830:G:O6	29:A2:2840:C:N4	2.33	0.61
52:X3:156:HIS:N	52:W4:173:TYR:HH	1.93	0.61
53:A3:568:G:O6	53:A3:739:C:N4	2.33	0.61
47:Q4:70:ARG:HH21	53:A4:229:C:H5''	1.65	0.61
52:W4:151:MET:CG	52:W4:172:ILE:HG13	2.31	0.61
53:A4:980:G:O2'	53:A4:981:G:N7	2.33	0.61
53:A4:1397:G:H2'	53:A4:1398:G:H8	1.65	0.61
8:J1:76:ALA:HB3	13:O1:75:ILE:HD12	1.82	0.61
16:R1:69:LEU:HD22	16:R1:109:GLU:HA	1.82	0.61
21:W1:78:LYS:H	21:W1:80:LEU:HD23	1.64	0.61
29:A1:2758:C:N4	29:A1:2776:G:O6	2.34	0.61
12:N2:74:ALA:HB1	12:N2:107:GLU:HB2	1.82	0.61
36:F3:10:LEU:HB2	36:F3:59:TYR:HB2	1.82	0.61
53:A3:409:A:H62	53:A3:425:A:H61	1.47	0.61
53:A3:1279:C:O2	53:A3:1280:A:N6	2.33	0.61
36:F4:15:ASP:N	36:F4:15:ASP:OD1	2.34	0.61
53:A4:1041:C:H42	53:A4:1180:U:H3	1.48	0.61
12:N1:46:VAL:HA	30:B1:116:C:H1'	1.82	0.61
29:A1:167:G:N2	29:A1:167:G:OP2	2.31	0.61
29:A1:646:G:OP2	29:A1:647:G:N2	2.33	0.61
10:L2:47:ILE:O	10:L2:51:ARG:N	2.34	0.61
26:b2:18:ARG:NH1	26:b2:43:CYS:SG	2.74	0.61
29:A2:442:C:H42	29:A2:2423:G:H1	1.49	0.61
29:A2:897:G:N2	29:A2:980:A:O2'	2.33	0.61
29:A2:1607:A:H5''	29:A2:1608:G:H21	1.66	0.61
53:A3:1285:G:O2'	53:A3:1314:A:N6	2.34	0.61
34:D4:13:ARG:HD3	34:D4:40:PRO:HB3	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:H4:11:THR:HA	38:H4:14:ARG:HE	1.66	0.61
39:I4:9:ARG:HE	39:I4:14:VAL:HG13	1.65	0.61
50:T4:40:ALA:HA	50:T4:43:LEU:HB2	1.83	0.61
53:A4:18:C:H42	53:A4:894:G:H1	1.47	0.61
53:A4:904:G:O2'	53:A4:1480:A:N6	2.34	0.61
53:A4:1076:G:O2'	53:A4:1090:G:N2	2.32	0.61
53:A4:1248:C:N3	53:A4:1308:C:O2'	2.34	0.61
4:F1:37:VAL:HG22	4:F1:159:VAL:HG12	1.83	0.60
18:T1:30:VAL:HG12	18:T1:38:ILE:HG12	1.81	0.60
16:R2:88:ARG:H	29:A2:1662:A:H61	1.49	0.60
29:A2:760:G:O6	29:A2:768:C:N4	2.34	0.60
29:A2:1896:G:N2	29:A2:1904:C:O2	2.34	0.60
33:C3:47:LEU:HD12	33:C3:52:LEU:HD23	1.83	0.60
34:D3:59:ARG:O	34:D3:63:LYS:N	2.31	0.60
43:M3:27:LYS:HD3	51:U3:7:ARG:HG2	1.83	0.60
53:A3:938:U:O2	53:A3:1182:A:N6	2.34	0.60
33:C4:42:LEU:HD21	33:C4:90:GLU:HG3	1.82	0.60
34:D4:208:SER:O	53:A4:8:A:N6	2.31	0.60
42:L4:71:PRO:O	42:L4:102:ARG:NH1	2.33	0.60
44:N4:12:ARG:NH1	53:A4:1199:C:OP1	2.34	0.60
53:A4:553:G:N2	53:A4:844:G:O2'	2.34	0.60
20:V1:27:GLU:HG3	20:V1:68:GLU:HA	1.83	0.60
29:A1:238:G:O2'	29:A1:2446:A:N6	2.34	0.60
29:A1:733:G:H3'	29:A1:823:A:H61	1.66	0.60
19:U2:26:GLY:HA2	19:U2:85:HIS:CD2	2.36	0.60
29:A2:2413:G:H1	29:A2:2431:C:H42	1.49	0.60
53:A3:25:C:H2'	53:A3:26:A:H8	1.66	0.60
53:A3:558:G:O2'	53:A3:804:G:OP2	2.17	0.60
36:F4:4:TYR:HB3	36:F4:90:VAL:HG13	1.82	0.60
36:F4:89:MET:HG3	48:R4:76:LEU:HD11	1.83	0.60
52:W4:175:ARG:CB	52:W4:179:ASN:OD1	2.49	0.60
4:F2:166:ASP:HA	4:F2:169:ALA:HB3	1.83	0.60
22:X2:46:GLN:NE2	29:A2:95:G:OP1	2.34	0.60
29:A2:1753:G:H2'	29:A2:1754:G:C8	2.35	0.60
34:D3:9:CYS:SG	34:D3:21:LEU:N	2.73	0.60
53:A3:570:G:N1	53:A3:737:C:OP2	2.34	0.60
53:A3:1032:G:H1	53:A3:1189:C:H2'	1.66	0.60
53:A3:1111:C:O2'	53:A3:1114:C:OP2	2.19	0.60
32:B4:59:GLU:O	32:B4:63:MET:N	2.33	0.60
36:F4:80:ARG:NH1	36:F4:86:ARG:O	2.33	0.60
10:L1:56:ARG:HH21	29:A1:2483:A:HO2'	1.48	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:X1:32:LEU:O	22:X1:36:ARG:NE	2.33	0.60
27:c1:10:ARG:NH2	29:A1:820:G:OP1	2.34	0.60
2:D2:153:GLY:N	29:A2:2634:C:OP1	2.35	0.60
4:F2:103:LEU:HA	4:F2:106:LEU:HB3	1.83	0.60
43:M3:20:THR:HG23	43:M3:26:GLY:HA2	1.84	0.60
47:Q3:101:ARG:NE	53:A3:873:C:OP1	2.34	0.60
53:A3:501:C:N4	53:A3:512:G:OP2	2.35	0.60
33:C4:55:VAL:HG13	33:C4:68:VAL:HG22	1.81	0.60
35:E4:19:MET:SD	53:A4:1380:A:N6	2.74	0.60
13:O1:29:ARG:N	13:O1:87:ASP:O	2.31	0.60
29:A1:2830:G:H2'	29:A1:2831:G:H8	1.65	0.60
2:D2:48:GLN:HG2	2:D2:80:GLU:HG2	1.82	0.60
13:O2:54:ARG:HB3	29:A2:2857:G:H5''	1.83	0.60
34:D4:25:ARG:N	53:A4:404:G:OP1	2.31	0.60
53:A4:1087:A:H2'	53:A4:1088:G:H8	1.67	0.60
7:I1:118:LYS:NZ	29:A1:2795:G:OP2	2.35	0.60
13:O1:36:GLU:O	13:O1:39:ARG:NH1	2.34	0.60
16:R1:76:VAL:HG22	16:R1:103:ILE:HA	1.83	0.60
29:A1:867:G:N3	29:A1:1237:G:N2	2.50	0.60
29:A1:1142:U:O2'	29:A1:1146:A:N6	2.35	0.60
29:A1:2660:C:H42	29:A1:2688:G:H1	1.50	0.60
5:G2:2:SER:N	29:A2:1098:A:O2'	2.35	0.60
16:R2:25:ARG:NH2	16:R2:74:ALA:O	2.32	0.60
20:V2:35:ASN:ND2	29:A2:2368:G:O2'	2.34	0.60
29:A2:556:A:OP1	29:A2:557:G:N2	2.32	0.60
29:A2:2336:A:H3'	29:A2:2337:G:H8	1.65	0.60
52:X3:151:MET:HG3	52:X3:157:SER:OG	2.01	0.60
52:X3:162:ARG:HH11	52:X3:162:ARG:CG	2.14	0.60
53:A3:1101:C:H42	53:A3:1136:G:H1	1.49	0.60
53:A3:1447:G:H2'	53:A3:1448:G:H8	1.67	0.60
32:B4:9:GLU:HG3	32:B4:12:GLU:HB2	1.83	0.60
43:M4:86:CYS:O	43:M4:93:ARG:NH2	2.34	0.60
1:C1:133:LEU:O	1:C1:168:ARG:NH2	2.34	0.60
16:R1:60:ASN:ND2	29:A1:514:C:O2	2.30	0.60
3:E2:102:PRO:O	3:E2:106:ARG:N	2.35	0.60
20:V2:65:GLY:HA2	20:V2:83:PRO:HA	1.81	0.60
29:A2:264:C:O2	29:A2:283:G:N2	2.33	0.60
29:A2:285:G:HO2'	29:A2:292:G:HO2'	1.49	0.60
29:A2:1935:U:O2'	29:A2:1946:G:OP1	2.19	0.60
29:A2:2312:A:N6	29:A2:2332:G:N7	2.50	0.60
29:A2:2843:G:N2	29:A2:2896:U:OP2	2.33	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:J3:38:ILE:HB	40:J3:71:LEU:HB3	1.83	0.60
47:Q3:70:ARG:HH21	53:A3:229:C:H5''	1.66	0.60
53:A3:660:U:H3	53:A3:697:G:H22	1.48	0.60
34:D4:65:ARG:NE	34:D4:70:ILE:O	2.32	0.60
12:N1:96:GLY:O	12:N1:100:ALA:N	2.35	0.60
29:A1:292:G:N2	29:A1:396:C:O2'	2.35	0.60
29:A1:314:A:N6	29:A1:376:G:O2'	2.35	0.60
7:I2:39:ARG:HH12	7:I2:49:GLY:H	1.48	0.60
29:A2:1393:C:H2'	29:A2:1394:G:H8	1.67	0.60
29:A2:1961:A:H62	29:A2:1964:U:H5	1.50	0.60
34:D3:25:ARG:NH1	34:D3:31:CYS:O	2.34	0.60
53:A3:289:U:H3	53:A3:298:A:H61	1.49	0.60
32:B4:54:THR:O	32:B4:58:ILE:N	2.35	0.60
41:K4:20:TYR:O	41:K4:31:THR:N	2.33	0.60
44:N4:31:ARG:NH2	53:A4:958:U:O2	2.34	0.60
52:W4:146:GLU:CG	52:W4:161:PHE:CD1	2.84	0.60
53:A4:471:A:OP2	53:A4:472:C:N4	2.34	0.60
53:A4:747:C:H2'	53:A4:748:G:H8	1.67	0.60
3:E1:7:TYR:HA	3:E1:125:LEU:HB2	1.84	0.60
4:F1:91:ARG:HD3	29:A1:2327:C:H4'	1.82	0.60
20:V1:70:GLN:NE2	30:B1:14:C:OP2	2.35	0.60
2:D2:111:ARG:O	11:M2:2:ARG:NH2	2.35	0.60
26:b2:30:THR:HA	26:b2:32:ASN:HB2	1.84	0.60
49:S3:37:ARG:NH2	53:A3:1298:C:O2	2.35	0.60
53:A3:752:G:N2	53:A3:794:C:O2	2.35	0.60
53:A3:924:G:N2	53:A3:1216:U:O2	2.35	0.60
32:B4:60:ASP:O	32:B4:64:ARG:N	2.34	0.60
33:C4:108:ASN:HB3	33:C4:111:LEU:H	1.65	0.60
53:A4:134:A:H2'	53:A4:135:A:H8	1.66	0.60
53:A4:1101:C:H42	53:A4:1136:G:H1	1.48	0.60
1:C1:239:ARG:NH1	29:A1:1996:A:OP2	2.35	0.60
1:C1:264:LYS:HB2	1:C1:267:SER:HB2	1.84	0.60
12:N1:26:LEU:HB3	12:N1:87:PHE:HD1	1.66	0.60
29:A1:67:G:N2	29:A1:73:A:O4'	2.35	0.60
29:A1:1105:A:H2'	29:A1:1106:U:H4'	1.84	0.60
29:A1:1633:C:OP2	29:A1:1635:A:N6	2.34	0.60
29:A1:2565:C:H42	29:A1:2571:G:H1	1.49	0.60
41:K3:108:ILE:H	48:R3:87:ARG:HH11	1.48	0.60
50:T3:72:LEU:HD21	50:T3:80:ARG:HG3	1.83	0.60
53:A3:641:G:N2	53:A3:730:C:N3	2.50	0.60
53:A3:1234:G:N2	53:A3:1336:G:O2'	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:I4:26:VAL:HG11	39:I4:33:PHE:H	1.67	0.60
40:J4:43:ARG:HB2	40:J4:67:THR:HB	1.84	0.60
49:S4:36:ARG:NH1	49:S4:75:ALA:O	2.35	0.60
53:A4:770:A:H61	53:A4:778:C:H5	1.49	0.60
53:A4:1328:G:N2	53:A4:1356:A:OP2	2.31	0.60
5:G1:158:HIS:HB3	29:A1:2672:C:H5'	1.84	0.59
17:S1:12:VAL:HG13	17:S1:14:SER:HB3	1.83	0.59
25:a1:22:HIS:NE2	29:A1:2069:C:O2	2.35	0.59
29:A1:1716:G:O2'	29:A1:2015:U:O4	2.19	0.59
29:A1:1961:A:H62	29:A1:1964:U:H5	1.50	0.59
9:K2:65:ARG:HH21	28:d2:15:LYS:HG3	1.67	0.59
29:A2:82:G:N1	29:A2:100:G:O2'	2.31	0.59
29:A2:646:G:OP2	29:A2:647:G:N2	2.35	0.59
33:C3:110:ASN:HD21	33:C3:140:ARG:HD3	1.66	0.59
53:A3:327:G:H2'	53:A3:328:G:H8	1.67	0.59
33:C4:38:ARG:HB3	33:C4:94:LEU:HD22	1.84	0.59
39:I4:55:ALA:HA	39:I4:58:HIS:HB2	1.82	0.59
47:Q4:25:ARG:HD3	47:Q4:38:ARG:HD3	1.83	0.59
54:V4:95:ARG:O	54:V4:99:TYR:N	2.35	0.59
1:C1:107:ALA:HB1	1:C1:111:LEU:HD11	1.83	0.59
29:A1:753:G:O2'	29:A1:775:G:N2	2.35	0.59
3:E2:158:THR:HG23	3:E2:160:ASN:H	1.65	0.59
29:A2:2519:G:N2	29:A2:2520:U:O4	2.29	0.59
49:S3:36:ARG:NH1	49:S3:75:ALA:O	2.34	0.59
52:X3:137:PHE:CZ	52:X3:150:GLN:NE2	2.70	0.59
53:A3:67:C:O2'	53:A3:165:A:N3	2.30	0.59
53:A3:991:G:O2'	53:A3:993:A:N7	2.32	0.59
47:Q4:69:LYS:NZ	53:A4:250:G:OP1	2.35	0.59
52:W4:147:ALA:HA	52:W4:159:PHE:HE2	1.66	0.59
52:W4:162:ARG:HH11	52:W4:162:ARG:CG	2.15	0.59
53:A4:411:G:H22	53:A4:421:G:H1	1.48	0.59
53:A4:1053:C:N4	53:A4:1067:U:O4	2.35	0.59
5:G1:18:GLU:HB2	5:G1:25:LYS:HD3	1.82	0.59
6:H1:43:ASN:ND2	29:A1:277:C:O2'	2.36	0.59
29:A1:190:U:O4	29:A1:240:G:N2	2.35	0.59
14:P2:42:ALA:HA	14:P2:45:TYR:HB2	1.83	0.59
15:Q2:66:ARG:HA	15:Q2:90:PRO:HA	1.84	0.59
26:b2:17:LYS:HD3	26:b2:44:ARG:HG2	1.82	0.59
29:A2:139:A:N6	29:A2:1643:G:O2'	2.36	0.59
34:D3:49:ARG:NH2	53:A3:494:C:OP2	2.30	0.59
34:D3:119:GLN:NE2	53:A3:401:G:O2'	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:N3:29:ARG:NH2	44:N3:32:SER:O	2.35	0.59
49:S3:36:ARG:HD3	49:S3:72:GLY:HA2	1.83	0.59
52:X3:147:ALA:CA	52:X3:161:PHE:HD2	2.09	0.59
53:A3:776:U:N3	53:A3:777:A:N3	2.49	0.59
53:A3:1465:G:H2'	53:A3:1466:G:H8	1.67	0.59
53:A4:1403:G:N7	53:A4:1404:G:N2	2.49	0.59
3:E1:38:ARG:NH1	29:A1:709:G:O2'	2.35	0.59
4:F1:154:GLY:O	29:A1:2319:A:N6	2.35	0.59
7:I1:111:PRO:HA	7:I1:114:ARG:HB2	1.85	0.59
23:Y1:44:ARG:HA	23:Y1:47:VAL:HG12	1.83	0.59
29:A1:216:G:H22	29:A1:438:G:H21	1.47	0.59
12:N2:62:LYS:NZ	30:B2:53:G:O6	2.35	0.59
29:A2:794:G:O2'	29:A2:799:A:N6	2.35	0.59
29:A2:832:A:H2'	29:A2:833:A:H4'	1.85	0.59
29:A2:2731:U:H2'	29:A2:2732:G:H8	1.67	0.59
52:W4:163:ASN:CG	52:W4:167:ASP:N	2.60	0.59
53:A4:58:C:O2'	53:A4:383:G:N7	2.35	0.59
53:A4:992:A:H2	53:A4:1200:U:H1'	1.67	0.59
2:D1:185:LYS:NZ	29:A1:2745:C:OP1	2.35	0.59
17:S1:53:LYS:O	17:S1:82:GLN:N	2.34	0.59
29:A1:1508:G:O2'	29:A1:1510:G:OP2	2.18	0.59
4:F2:19:LEU:HD11	4:F2:172:LEU:HD13	1.84	0.59
4:F2:74:LYS:H	29:A2:2326:U:H5'	1.68	0.59
19:U2:124:ILE:HD13	19:U2:155:LEU:HD21	1.85	0.59
24:Z2:59:PHE:HA	49:S4:70:LYS:HA	1.85	0.59
29:A2:186:A:H61	29:A2:880:G:H21	1.50	0.59
37:G3:146:GLU:O	41:K3:59:TYR:OH	2.21	0.59
38:H3:30:ARG:N	53:A3:573:C:OP1	2.33	0.59
38:H3:33:GLU:O	38:H3:37:ARG:NH1	2.35	0.59
39:I3:128:ARG:NH1	53:A3:1212:G:OP1	2.36	0.59
53:A3:203:A:N6	53:A3:216:C:OP1	2.34	0.59
53:A3:747:C:H2'	53:A3:748:G:H8	1.67	0.59
53:A3:1417:G:O6	53:A3:1442:C:N4	2.35	0.59
38:H4:23:SER:OG	38:H4:60:ARG:NH2	2.35	0.59
46:P4:71:ARG:O	46:P4:75:ARG:NH1	2.36	0.59
53:A4:752:G:N2	53:A4:794:C:O2	2.35	0.59
54:V4:19:ASP:HA	54:V4:22:GLU:HB2	1.85	0.59
5:G1:60:ARG:NH1	29:A1:1084:G:OP1	2.36	0.59
28:d2:56:GLU:HB2	28:d2:59:LYS:HE2	1.85	0.59
29:A2:1716:G:N1	29:A2:2016:G:OP2	2.33	0.59
29:A2:2422:U:H2'	29:A2:2423:G:H8	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A3:68:G:O6	53:A3:86:C:N4	2.33	0.59
54:V3:92:LYS:HA	54:V3:92:LYS:CE	2.13	0.59
53:A4:1034:U:N3	53:A4:1187:G:O6	2.36	0.59
12:N1:64:GLU:OE1	12:N1:67:ARG:NH1	2.36	0.59
29:A1:2296:G:H1	29:A1:2441:C:H42	1.49	0.59
30:B1:68:A:H62	30:B1:110:U:H2'	1.67	0.59
1:C2:260:ARG:N	29:A2:1831:U:OP1	2.36	0.59
5:G2:61:HIS:O	5:G2:65:HIS:N	2.29	0.59
29:A2:157:U:N3	29:A2:160:U:O2	2.35	0.59
29:A2:1435:C:H2'	29:A2:1436:G:H8	1.67	0.59
34:D3:208:SER:O	53:A3:8:A:N6	2.35	0.59
36:F3:89:MET:HG3	48:R3:76:LEU:HD11	1.85	0.59
40:J3:10:GLY:O	40:J3:68:HIS:ND1	2.34	0.59
5:G1:41:MET:HE1	5:G1:55:PRO:HD3	1.83	0.59
11:M1:36:THR:HG23	11:M1:41:ALA:HB2	1.85	0.59
29:A1:2817:C:H2'	29:A1:2818:G:H8	1.67	0.59
3:E2:45:ARG:HH21	3:E2:47:GLY:HA3	1.68	0.59
5:G2:3:ARG:HH22	5:G2:6:ARG:HE	1.51	0.59
5:G2:5:GLY:O	5:G2:69:ARG:NH2	2.33	0.59
29:A2:1115:A:O2'	29:A2:1118:A:O2'	2.20	0.59
29:A2:2847:A:N1	29:A2:2892:C:N4	2.45	0.59
53:A3:332:C:H2'	53:A3:333:A:H8	1.67	0.59
53:A3:783:G:N2	53:A3:784:U:O4	2.33	0.59
53:A3:988:G:N2	53:A3:997:C:O2	2.32	0.59
53:A4:510:G:N2	53:A4:518:A:O2'	2.36	0.59
53:A4:601:C:N4	53:A4:604:A:OP2	2.36	0.59
54:V4:11:LEU:HD23	54:V4:44:LEU:HB2	1.84	0.59
4:F1:95:ARG:NH1	30:B1:46:G:OP1	2.35	0.59
9:K1:15:ARG:NH2	29:A1:1294:A:OP1	2.36	0.59
16:R1:63:ASP:O	16:R1:113:LYS:NZ	2.33	0.59
29:A1:317:C:H42	29:A1:373:G:H1	1.49	0.59
29:A1:2841:C:H2'	29:A1:2842:G:H8	1.67	0.59
17:S2:59:VAL:H	17:S2:77:LYS:HD2	1.67	0.59
29:A2:1440:A:N1	29:A2:1441:A:N6	2.51	0.59
29:A2:2072:G:H1	29:A2:2634:C:H42	1.49	0.59
39:I3:49:PRO:HG3	39:I3:82:ALA:HB2	1.85	0.59
53:A3:1104:U:O4	53:A3:1131:C:N4	2.36	0.59
53:A3:1464:G:H2'	53:A3:1465:G:H8	1.68	0.59
41:K4:82:VAL:HB	41:K4:108:ILE:HG12	1.85	0.59
48:R4:67:ALA:HA	48:R4:70:ILE:HD12	1.85	0.59
53:A4:332:C:H2'	53:A4:333:A:H8	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A4:865:G:H3'	53:A4:866:A:H8	1.67	0.59
1:C1:34:VAL:HG11	29:A1:1619:A:H5''	1.84	0.59
4:F1:64:THR:HG23	4:F1:66:GLN:H	1.68	0.59
29:A1:2192:G:H5'	29:A1:2193:A:H5''	1.83	0.59
1:C2:262:ARG:NH1	29:A2:2109:C:O2'	2.35	0.59
9:K2:133:SER:O	9:K2:137:LYS:NZ	2.36	0.59
29:A2:178:G:O2'	29:A2:1413:A:N6	2.35	0.59
29:A2:826:A:H2'	29:A2:827:G:H8	1.68	0.59
29:A2:1372:G:O6	29:A2:1378:C:N4	2.36	0.59
32:B3:144:ARG:NH1	53:A3:1086:G:OP1	2.36	0.59
42:L3:73:GLU:O	42:L3:111:LYS:NZ	2.30	0.59
53:A3:491:C:H42	53:A3:507:G:H1	1.50	0.59
43:M4:29:ARG:HH21	53:A4:1310:A:H5'	1.68	0.59
53:A4:444:G:N2	53:A4:467:C:N3	2.43	0.59
53:A4:870:C:H2'	53:A4:871:G:H8	1.67	0.59
6:H1:22:LYS:NZ	29:A1:2118:G:OP2	2.30	0.58
29:A1:175:U:O2	29:A1:202:G:N2	2.36	0.58
29:A1:2095:A:H2'	29:A1:2096:G:H8	1.68	0.58
17:S2:43:VAL:O	17:S2:47:PHE:N	2.34	0.58
29:A2:712:G:N2	29:A2:986:G:O2'	2.36	0.58
32:B3:61:LEU:O	32:B3:65:GLY:N	2.30	0.58
43:M3:24:GLY:O	43:M3:29:ARG:NH2	2.36	0.58
53:A3:101:G:O6	53:A3:324:A:N6	2.36	0.58
53:A3:442:A:OP1	53:A3:469:G:N1	2.36	0.58
33:C4:36:ASP:HB2	33:C4:59:ARG:HH21	1.67	0.58
53:A4:613:G:H5''	53:A4:614:G:H5'	1.84	0.58
7:I1:59:LYS:O	7:I1:61:ARG:NH1	2.36	0.58
10:L1:14:ARG:NH1	29:A1:1002:C:OP2	2.36	0.58
14:P1:50:ARG:NH1	15:Q1:71:LEU:O	2.35	0.58
29:A1:1938:C:N3	29:A1:1940:A:O2'	2.28	0.58
2:D2:119:ARG:NH1	2:D2:156:MET:O	2.36	0.58
29:A2:209:G:N2	29:A2:225:U:O5'	2.36	0.58
29:A2:842:A:OP1	29:A2:2095:A:O2'	2.20	0.58
29:A2:1047:U:H2'	29:A2:1048:A:H8	1.68	0.58
29:A2:2812:C:O2	29:A2:2906:U:O2'	2.22	0.58
36:F3:91:VAL:HG11	48:R3:72:ARG:HH11	1.68	0.58
52:X3:161:PHE:H	52:X3:170:ASN:HB3	1.69	0.58
52:X3:162:ARG:HG3	52:X3:162:ARG:NH1	2.18	0.58
37:G4:43:PHE:O	37:G4:47:CYS:N	2.36	0.58
53:A4:764:A:H3'	53:A4:765:A:H8	1.66	0.58
53:A4:907:C:N3	53:A4:1370:C:N4	2.51	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A1:285:G:HO2'	29:A1:292:G:HO2'	1.52	0.58
20:V2:74:ARG:NE	30:B2:14:C:O2'	2.36	0.58
29:A2:1891:G:N2	29:A2:1908:A:OP2	2.36	0.58
29:A2:2225:C:N4	29:A2:2236:G:O6	2.36	0.58
29:A2:2230:G:N2	29:A2:2230:G:OP2	2.34	0.58
30:B2:35:G:N2	30:B2:37:U:O4	2.32	0.58
32:B3:157:ARG:NH1	32:B3:158:LEU:O	2.36	0.58
52:X3:147:ALA:HA	52:X3:161:PHE:CD2	2.30	0.58
52:X3:161:PHE:CZ	52:X3:172:ILE:HB	2.38	0.58
53:A3:315:C:HO2'	53:A3:1417:G:HO2'	1.52	0.58
53:A3:415:U:O2'	53:A3:418:G:O6	2.20	0.58
36:F4:16:GLN:NE2	36:F4:42:GLU:OE2	2.36	0.58
42:L4:51:ALA:O	42:L4:53:ARG:NE	2.36	0.58
52:W4:163:ASN:C	52:W4:165:LYS:N	2.60	0.58
6:H1:26:ALA:HA	6:H1:30:LEU:HB2	1.85	0.58
24:Z1:57:GLU:H	49:S3:67:VAL:HG21	1.69	0.58
29:A1:506:A:H61	29:A1:527:G:H4'	1.67	0.58
4:F2:64:THR:HG23	4:F2:66:GLN:H	1.69	0.58
29:A2:1739:A:H62	29:A2:1746:G:H21	1.51	0.58
29:A2:2228:C:N4	29:A2:2234:G:O6	2.36	0.58
30:B2:80:A:H62	30:B2:101:G:H21	1.50	0.58
32:B3:104:ASN:ND2	53:A3:1055:U:O2	2.36	0.58
42:L3:8:ASN:ND2	53:A3:857:C:OP2	2.36	0.58
52:X3:158:PHE:CA	52:X3:172:ILE:HG23	2.34	0.58
53:A3:1254:G:H3'	53:A3:1255:G:H8	1.68	0.58
32:B4:212:GLN:HE21	32:B4:239:VAL:HG21	1.68	0.58
51:U4:2:GLY:N	53:A4:1286:G:OP2	2.35	0.58
53:A4:660:U:H3	53:A4:697:G:H22	1.50	0.58
53:A4:831:G:H5''	53:A4:848:U:H3	1.68	0.58
29:A1:504:G:H21	29:A1:508:A:H62	1.51	0.58
29:A1:726:A:O2'	29:A1:2094:G:O2'	2.20	0.58
14:P2:54:LYS:NZ	29:A2:1042:C:OP2	2.29	0.58
17:S2:36:LYS:O	17:S2:40:LYS:N	2.34	0.58
29:A2:1097:C:O2	29:A2:1161:U:O2'	2.20	0.58
53:A3:764:A:H3'	53:A3:765:A:H8	1.69	0.58
33:C4:87:LEU:O	33:C4:91:LEU:N	2.36	0.58
2:D1:153:GLY:N	29:A1:2634:C:OP1	2.34	0.58
11:M1:87:TYR:OH	11:M1:117:VAL:O	2.22	0.58
21:W1:45:ASN:OD1	21:W1:47:GLN:NE2	2.37	0.58
29:A1:1218:G:O6	29:A1:1225:C:N4	2.37	0.58
29:A1:1932:C:N4	29:A1:1948:C:OP2	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A1:2810:G:N2	29:A1:2813:A:O4'	2.37	0.58
29:A2:156:U:O4	29:A2:160:U:N3	2.37	0.58
29:A2:175:U:O2	29:A2:202:G:N2	2.36	0.58
29:A2:2145:G:N7	29:A2:2146:U:N3	2.51	0.58
33:C3:109:PRO:HB2	33:C3:115:LEU:HB2	1.86	0.58
43:M3:42:ALA:O	43:M3:44:ARG:NH1	2.37	0.58
47:Q3:22:LEU:HD13	47:Q3:41:LYS:HG3	1.85	0.58
40:J4:30:SER:HB2	40:J4:78:ASN:HA	1.85	0.58
9:K1:136:GLU:OE1	9:K1:139:LYS:NZ	2.36	0.58
29:A1:1091:C:HO2'	29:A1:1096:A:HO2'	1.50	0.58
20:V2:28:GLY:N	20:V2:67:VAL:O	2.37	0.58
22:X2:65:ASN:HD21	29:A2:110:U:H5'	1.68	0.58
24:Z2:55:ARG:NH2	43:M4:83:ASP:OD2	2.37	0.58
29:A2:303:A:N6	29:A2:385:G:N7	2.52	0.58
29:A2:563:A:H61	29:A2:582:U:H3	1.51	0.58
47:Q3:17:LYS:HA	47:Q3:46:ASP:HB3	1.86	0.58
53:A3:21:G:H21	53:A3:891:A:H62	1.52	0.58
42:L4:21:LYS:O	42:L4:23:LYS:NZ	2.33	0.58
8:J1:3:GLN:NE2	29:A1:2019:U:O2	2.36	0.58
9:K1:39:LYS:HA	9:K1:45:LEU:HD21	1.86	0.58
9:K1:123:LEU:HD23	9:K1:138:LEU:HD21	1.85	0.58
11:M1:99:LYS:NZ	29:A1:2829:G:OP1	2.27	0.58
19:U1:80:ARG:NH2	30:B1:95:G:OP1	2.37	0.58
29:A1:1739:A:H62	29:A1:1746:G:H21	1.51	0.58
2:D2:64:LYS:HB2	2:D2:71:GLY:HA3	1.85	0.58
29:A2:505:A:H2'	29:A2:506:A:H8	1.69	0.58
29:A2:2857:G:H2'	29:A2:2858:G:H8	1.68	0.58
53:A3:1216:U:O4	53:A3:1217:A:N6	2.37	0.58
33:C4:178:LEU:HB2	53:A4:1094:C:H2'	1.85	0.58
53:A4:568:G:O6	53:A4:739:C:N4	2.37	0.58
7:I1:129:PRO:O	7:I1:134:ARG:NH2	2.36	0.58
16:R1:25:ARG:NH2	29:A1:547:G:OP1	2.35	0.58
29:A1:1312:G:O2'	29:A1:2039:A:N6	2.37	0.58
3:E2:187:VAL:HG13	9:K2:1:MET:H3	1.69	0.58
5:G2:26:VAL:HB	5:G2:32:GLU:HA	1.86	0.58
12:N2:18:ILE:HG22	29:A2:2392:A:H2	1.69	0.58
29:A2:1110:G:N2	29:A2:1124:C:O2'	2.37	0.58
29:A2:1531:G:O2'	29:A2:1559:A:N6	2.36	0.58
34:D3:170:VAL:HG11	34:D3:174:LEU:HB2	1.86	0.58
38:H3:85:ARG:NH1	38:H3:134:ILE:O	2.37	0.58
44:N3:3:ARG:H	53:A3:1030:G:H5'	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:N3:35:ARG:NH1	53:A3:1339:U:OP2	2.37	0.58
53:A3:1076:G:O2'	53:A3:1090:G:N2	2.37	0.58
32:B4:25:ASN:N	32:B4:25:ASN:OD1	2.34	0.58
32:B4:198:ASP:OD1	38:H4:68:ARG:NH1	2.34	0.58
37:G4:88:PRO:O	37:G4:155:ARG:NH2	2.37	0.58
18:T1:86:ARG:NH2	29:A1:324:A:OP1	2.37	0.58
29:A1:50:G:H22	29:A1:118:U:H5	1.50	0.58
29:A1:1182:C:N4	29:A1:1185:G:OP2	2.30	0.58
29:A1:1957:G:N2	29:A1:1958:C:O2	2.37	0.58
12:N2:15:ARG:O	12:N2:19:LYS:NZ	2.37	0.58
17:S2:37:THR:HA	17:S2:40:LYS:HB3	1.86	0.58
17:S2:62:LYS:HE2	17:S2:73:ARG:HH22	1.68	0.58
29:A2:474:G:H21	29:A2:482:A:H61	1.52	0.58
29:A2:1946:G:H2'	29:A2:1947:U:H4'	1.86	0.58
29:A2:2758:C:N4	29:A2:2776:G:O6	2.37	0.58
44:N3:23:ARG:HB3	44:N3:29:ARG:H	1.68	0.58
53:A3:41:G:H2'	53:A3:42:G:H8	1.69	0.58
53:A3:441:G:N3	53:A3:472:C:N4	2.52	0.58
36:F4:80:ARG:HH12	36:F4:87:ARG:HG3	1.69	0.58
53:A4:501:C:N4	53:A4:512:G:OP2	2.37	0.58
53:A4:976:C:N4	53:A4:1025:C:O2'	2.37	0.58
11:M1:33:ARG:NE	29:A1:1327:G:OP1	2.36	0.57
29:A1:1047:U:H2'	29:A1:1048:A:H8	1.69	0.57
1:C2:97:TYR:HE2	1:C2:103:ARG:HG2	1.69	0.57
8:J2:16:ALA:HA	8:J2:46:ALA:HA	1.85	0.57
11:M2:17:ARG:NH2	29:A2:2704:C:OP1	2.36	0.57
12:N2:26:LEU:HD13	12:N2:87:PHE:HD1	1.69	0.57
12:N2:41:ASP:HB3	12:N2:45:GLY:H	1.69	0.57
29:A2:1092:G:H22	29:A2:1160:G:H1'	1.68	0.57
53:A3:800:C:H42	53:A3:1506:G:H1	1.51	0.57
37:G4:47:CYS:HA	37:G4:50:ILE:HG13	1.84	0.57
40:J4:54:PHE:HA	44:N4:41:ARG:HH22	1.68	0.57
8:J1:106:LEU:O	8:J1:111:PHE:N	2.37	0.57
14:P1:88:ILE:HD11	15:Q1:48:GLY:H	1.70	0.57
29:A1:939:A:OP1	29:A1:941:C:N4	2.38	0.57
29:A1:1042:C:N3	29:A1:1044:A:N6	2.51	0.57
29:A1:1439:U:N3	29:A1:1442:U:OP2	2.35	0.57
29:A1:2466:C:N4	29:A1:2518:U:O4	2.37	0.57
29:A1:2830:G:O6	29:A1:2840:C:N4	2.38	0.57
18:T2:33:LYS:HD2	29:A2:85:C:H5'	1.86	0.57
21:W2:10:LYS:HD3	29:A2:424:G:H5''	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:1032:A:H5''	29:A2:1033:C:H5	1.69	0.57
29:A2:1716:G:O2'	29:A2:2015:U:O4	2.22	0.57
29:A2:2539:G:N2	29:A2:2552:C:O2	2.35	0.57
30:B2:112:G:H2'	30:B2:113:G:H8	1.67	0.57
53:A3:1429:C:H1'	53:A3:1435:G:H22	1.69	0.57
32:B4:187:LEU:HA	32:B4:201:ILE:HB	1.86	0.57
35:E4:37:ARG:HG3	35:E4:114:GLY:HA2	1.84	0.57
37:G4:146:GLU:HA	37:G4:149:ARG:HB2	1.84	0.57
38:H4:21:LYS:NZ	53:A4:810:U:OP1	2.32	0.57
39:I4:17:VAL:HG21	39:I4:80:GLY:HA3	1.86	0.57
53:A4:1279:C:O2	53:A4:1280:A:N6	2.37	0.57
2:D1:109:LYS:HD3	29:A1:2832:A:H8	1.69	0.57
12:N1:89:ARG:NH2	29:A1:2308:C:OP2	2.35	0.57
16:R1:24:ILE:HD13	16:R1:36:LEU:HD21	1.86	0.57
25:a1:48:GLU:O	25:a1:58:LEU:N	2.34	0.57
27:c1:13:ALA:O	27:c1:17:GLY:N	2.34	0.57
29:A1:1218:G:N7	29:A1:1223:G:N2	2.47	0.57
29:A1:1652:C:O2'	29:A1:1658:A:N1	2.36	0.57
29:A2:908:G:O2'	29:A2:964:G:O6	2.21	0.57
29:A2:1312:G:O2'	29:A2:2039:A:N6	2.36	0.57
46:P3:22:THR:OG1	46:P3:23:ASP:N	2.36	0.57
51:U3:2:GLY:N	53:A3:1286:G:OP2	2.38	0.57
53:A3:1034:U:N3	53:A3:1187:G:O6	2.37	0.57
53:A3:1114:C:H41	53:A3:1125:G:H21	1.51	0.57
38:H4:46:LYS:HG2	38:H4:64:LYS:HB3	1.85	0.57
53:A4:589:G:N2	53:A4:615:A:OP2	2.37	0.57
13:O1:54:ARG:N	29:A1:2858:G:OP1	2.38	0.57
29:A1:222:G:H22	29:A1:449:C:H5''	1.68	0.57
29:A1:628:A:N6	29:A1:653:U:O4'	2.38	0.57
29:A1:1393:C:H2'	29:A1:1394:G:H8	1.69	0.57
29:A1:2145:G:N7	29:A1:2199:C:N4	2.51	0.57
4:F2:19:LEU:HB3	4:F2:25:TYR:HE2	1.69	0.57
24:Z2:63:TYR:OH	49:S4:23:ASN:ND2	2.37	0.57
29:A2:1235:U:H2'	29:A2:1236:A:H8	1.69	0.57
29:A2:2143:A:OP2	29:A2:2196:U:O2'	2.16	0.57
33:C3:91:LEU:HD23	33:C3:99:VAL:HG21	1.86	0.57
53:A3:500:G:N2	53:A3:512:G:O2'	2.35	0.57
53:A3:902:G:O2'	53:A3:904:G:OP1	2.21	0.57
53:A3:943:G:N7	54:V3:68:ARG:NH2	2.53	0.57
53:A4:77:G:OP1	53:A4:79:U:O2'	2.21	0.57
53:A4:392:A:N6	53:A4:530:A:N3	2.52	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A4:820:G:O6	53:A4:826:C:N4	2.37	0.57
53:A4:902:G:O2'	53:A4:904:G:OP1	2.23	0.57
53:A4:1105:A:N6	53:A4:1130:U:O4	2.37	0.57
53:A4:1254:G:H3'	53:A4:1255:G:H8	1.69	0.57
53:A4:1424:G:O5'	53:A4:1433:G:N2	2.37	0.57
26:b1:36:LEU:HA	26:b1:50:ARG:HA	1.87	0.57
29:A1:832:A:H2'	29:A1:833:A:H4'	1.86	0.57
29:A1:861:C:O2'	29:A1:1274:A:O2'	2.23	0.57
19:U2:10:ARG:HB2	19:U2:13:GLU:HB2	1.86	0.57
20:V2:66:VAL:N	20:V2:82:ARG:O	2.37	0.57
29:A2:67:G:N2	29:A2:73:A:O5'	2.38	0.57
29:A2:2841:C:H2'	29:A2:2842:G:H8	1.69	0.57
30:B2:20:G:H1	30:B2:111:C:H42	1.52	0.57
30:B2:85:G:N1	30:B2:97:C:O2'	2.36	0.57
34:D3:24:GLU:HG3	34:D3:112:VAL:HG11	1.85	0.57
34:D3:68:TYR:OH	34:D3:98:GLU:OE1	2.21	0.57
35:E3:39:GLY:O	35:E3:69:VAL:N	2.36	0.57
43:M3:24:GLY:HA2	53:A3:1310:A:H4'	1.85	0.57
53:A3:612:G:N7	53:A3:613:G:N2	2.53	0.57
35:E4:18:ARG:HH21	35:E4:25:ARG:HE	1.52	0.57
54:V4:73:ASP:OD1	54:V4:74:ALA:N	2.37	0.57
19:U1:58:VAL:HA	19:U1:68:PRO:HA	1.87	0.57
29:A1:2705:C:H42	29:A1:2733:G:H1	1.51	0.57
30:B1:36:U:O2'	30:B1:46:G:N7	2.36	0.57
29:A2:655:G:O2'	29:A2:678:G:N3	2.34	0.57
29:A2:1577:A:N6	29:A2:1590:G:O2'	2.37	0.57
53:A3:1053:C:N4	53:A3:1067:U:O4	2.37	0.57
34:D4:109:GLY:O	34:D4:168:ARG:NH2	2.38	0.57
50:T4:29:LYS:NZ	53:A4:170:C:OP1	2.38	0.57
53:A4:776:U:C4	53:A4:777:A:H1'	2.39	0.57
53:A4:991:G:O2'	53:A4:993:A:N7	2.28	0.57
54:V4:71:GLU:OE1	54:V4:86:ARG:NH2	2.37	0.57
1:C1:82:ILE:HG12	1:C1:111:LEU:HD12	1.86	0.57
1:C1:206:LEU:O	1:C1:211:ARG:NH1	2.38	0.57
2:D1:165:VAL:HG11	29:A1:2693:A:H4'	1.86	0.57
26:b1:11:LEU:HB2	26:b1:27:LYS:HA	1.85	0.57
1:C2:200:ASP:HA	1:C2:203:ASN:HD22	1.69	0.57
4:F2:97:ASP:H	4:F2:100:TRP:HD1	1.51	0.57
15:Q2:67:GLY:N	15:Q2:89:GLN:O	2.37	0.57
19:U2:45:ASP:O	19:U2:49:ARG:NE	2.31	0.57
29:A2:224:C:H42	29:A2:459:G:H22	1.53	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:G4:79:ARG:NH2	53:A4:913:C:O2	2.37	0.57
41:K4:116:HIS:HE1	48:R4:82:THR:HG21	1.69	0.57
42:L4:46:LYS:HG2	42:L4:94:PRO:HD3	1.87	0.57
47:Q4:22:LEU:HD11	47:Q4:39:SER:HB3	1.86	0.57
51:U4:16:GLY:O	51:U4:22:ARG:NH1	2.38	0.57
1:C1:108:PRO:HA	1:C1:196:VAL:HA	1.86	0.57
14:P2:10:ARG:NH2	29:A2:1299:C:OP2	2.37	0.57
24:Z2:62:ARG:HB2	49:S4:70:LYS:HE3	1.87	0.57
29:A2:2296:G:O2'	29:A2:2439:A:N6	2.37	0.57
29:A2:2831:G:H2'	29:A2:2833:A:H62	1.70	0.57
43:M3:3:ARG:HD2	43:M3:9:ILE:HD12	1.85	0.57
46:P3:23:ASP:HB3	46:P3:26:ARG:HB2	1.86	0.57
46:P3:72:ARG:HG2	46:P3:73:LEU:HG	1.87	0.57
47:Q3:63:ARG:NH2	53:A3:124:A:OP2	2.38	0.57
54:V3:86:ARG:O	54:V3:90:GLN:HG3	2.05	0.57
32:B4:196:LEU:HD12	32:B4:197:VAL:HG13	1.86	0.57
33:C4:40:ARG:HA	33:C4:43:LEU:HB3	1.87	0.57
38:H4:29:SER:HB3	38:H4:32:LYS:HZ3	1.70	0.57
2:D1:37:ARG:NH1	2:D1:42:ASP:OD2	2.37	0.57
2:D1:149:ARG:NH1	29:A1:2048:G:O3'	2.38	0.57
10:L1:101:ARG:NH2	29:A1:955:U:O2'	2.38	0.57
29:A1:868:A:OP2	29:A1:1234:G:N2	2.38	0.57
1:C2:239:ARG:NH1	29:A2:1996:A:OP2	2.34	0.57
3:E2:54:ARG:NH1	29:A2:722:C:OP1	2.37	0.57
12:N2:3:ARG:HH12	29:A2:2332:G:H3'	1.70	0.57
17:S2:11:PRO:HA	17:S2:29:TRP:HD1	1.70	0.57
19:U2:146:ILE:O	29:A2:942:C:N4	2.38	0.57
29:A2:226:C:H42	29:A2:251:G:H1	1.52	0.57
29:A2:1137:G:N2	29:A2:1138:U:O4	2.37	0.57
29:A2:1214:C:H42	29:A2:1230:G:H1	1.53	0.57
29:A2:1466:G:O2'	29:A2:1628:A:N6	2.38	0.57
29:A2:2122:U:H3	29:A2:2215:G:H1	1.51	0.57
29:A2:2157:G:N2	29:A2:2181:G:O6	2.38	0.57
32:B3:51:LEU:HD21	32:B3:201:ILE:HG12	1.87	0.57
32:B3:71:VAL:HB	32:B3:164:VAL:HG22	1.86	0.57
38:H3:113:SER:OG	53:A3:625:A:N3	2.32	0.57
39:I3:76:ALA:HA	39:I3:79:LEU:HD12	1.86	0.57
43:M3:83:ASP:OD1	43:M3:83:ASP:N	2.33	0.57
45:O3:7:GLU:OE1	45:O3:38:ARG:NH2	2.38	0.57
52:X3:130:ARG:HE	52:W4:178:GLY:HA2	1.69	0.57
53:A3:679:A:N1	53:A3:780:C:O2'	2.34	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A3:962:C:H42	53:A3:963:A:H62	1.53	0.57
53:A3:1102:G:N2	53:A3:1135:C:N3	2.50	0.57
53:A3:1123:C:H2'	53:A3:1124:G:H2'	1.85	0.57
34:D4:13:ARG:H	34:D4:13:ARG:HD2	1.70	0.57
53:A4:144:C:H42	53:A4:164:U:H2'	1.70	0.57
4:F1:142:PRO:HG3	24:Z1:14:ILE:HD12	1.87	0.57
4:F1:168:GLU:O	4:F1:172:LEU:N	2.37	0.57
8:J1:8:LEU:HD13	8:J1:82:ASN:HB3	1.87	0.57
13:O2:39:ARG:NH2	53:A4:341:G:OP1	2.38	0.57
51:U3:9:ARG:H	51:U3:9:ARG:HD3	1.68	0.57
52:X3:173:TYR:HE2	52:W4:158:PHE:CB	1.58	0.57
38:H4:92:ARG:NH2	53:A4:570:G:OP1	2.37	0.57
41:K4:13:GLN:NE2	41:K4:16:SER:O	2.37	0.57
48:R4:53:ARG:NH1	53:A4:817:C:OP1	2.37	0.57
53:A4:151:G:N2	53:A4:159:C:N3	2.52	0.57
53:A4:901:C:O2'	53:A4:1479:A:N6	2.31	0.57
7:I2:91:LEU:HA	7:I2:95:PRO:HB3	1.85	0.56
34:D3:11:LEU:HB2	34:D3:66:ARG:HH11	1.70	0.56
36:F3:30:LEU:HD13	36:F3:37:VAL:HG22	1.87	0.56
53:A3:1035:G:C5	53:A3:1180:U:H2'	2.40	0.56
53:A3:1424:G:O6	53:A3:1437:A:N6	2.30	0.56
33:C4:91:LEU:HD23	33:C4:99:VAL:HG21	1.86	0.56
53:A4:1096:C:H42	53:A4:1167:G:H1	1.51	0.56
1:C1:210:GLY:O	1:C1:214:TRP:N	2.38	0.56
29:A1:1069:A:O2'	29:A1:1171:C:OP1	2.23	0.56
29:A1:2482:G:N2	29:A1:2496:G:N7	2.54	0.56
29:A1:2668:A:N6	29:A1:2680:C:OP2	2.38	0.56
29:A1:2805:A:N3	29:A1:2904:G:O2'	2.37	0.56
4:F2:98:ARG:HH11	24:Z2:9:LEU:HD23	1.68	0.56
16:R2:42:ARG:HB2	29:A2:2034:G:H5''	1.86	0.56
22:X2:53:LEU:HD13	22:X2:56:GLN:HB3	1.87	0.56
28:d2:5:LYS:NZ	29:A2:243:C:OP2	2.38	0.56
30:B2:1:A:O4'	30:B2:5:C:N4	2.38	0.56
35:E3:127:ASN:ND2	53:A3:19:C:OP2	2.30	0.56
37:G3:79:ARG:NH2	53:A3:1363:U:O4	2.38	0.56
37:G3:93:PRO:HA	37:G3:96:GLN:HB2	1.86	0.56
45:O3:32:LEU:HB3	45:O3:63:ARG:HD3	1.87	0.56
35:E4:121:LYS:NZ	53:A4:9:G:OP2	2.38	0.56
42:L4:93:LEU:HD13	42:L4:96:VAL:HG21	1.87	0.56
53:A4:50:A:N7	53:A4:356:G:O2'	2.31	0.56
53:A4:670:A:N6	53:A4:686:G:N3	2.53	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A4:1246:G:N1	53:A4:1251:C:N3	2.53	0.56
10:L1:47:ILE:O	10:L1:51:ARG:N	2.38	0.56
17:S1:54:VAL:HA	17:S1:81:VAL:HA	1.87	0.56
22:X1:18:PRO:O	22:X1:68:ARG:NH2	2.38	0.56
29:A1:1316:A:H62	29:A1:2036:G:H21	1.52	0.56
29:A1:1497:G:H21	29:A1:1498:A:H62	1.53	0.56
29:A1:1701:A:H62	29:A1:1702:G:H21	1.51	0.56
29:A1:1731:G:C2	29:A1:1790:U:H1'	2.41	0.56
29:A1:2481:C:OP2	31:e1:4:ARG:NH2	2.38	0.56
1:C2:264:LYS:HB2	1:C2:267:SER:HB2	1.87	0.56
3:E2:103:LYS:HA	3:E2:106:ARG:HE	1.69	0.56
3:E2:118:ALA:HB2	3:E2:123:LEU:HD22	1.85	0.56
16:R2:25:ARG:NH1	29:A2:547:G:OP1	2.37	0.56
27:c2:19:ARG:N	29:A2:124:A:OP2	2.38	0.56
29:A2:504:G:N2	29:A2:507:A:OP2	2.38	0.56
29:A2:611:A:H61	29:A2:859:U:H5'	1.71	0.56
29:A2:1069:A:N1	29:A2:1070:G:N2	2.49	0.56
29:A2:1248:C:N4	29:A2:1292:G:O6	2.38	0.56
36:F3:12:PRO:HD3	36:F3:58:GLY:HA2	1.87	0.56
41:K3:13:GLN:HG3	41:K3:15:ALA:H	1.70	0.56
44:N3:61:TRP:NE1	53:A3:1351:C:OP1	2.38	0.56
53:A3:151:G:H1	53:A3:158:U:H3	1.52	0.56
53:A3:1116:G:O6	53:A3:1122:C:N4	2.38	0.56
53:A3:1140:C:H42	53:A3:1162:G:H22	1.52	0.56
53:A3:1286:G:N2	53:A3:1313:A:OP2	2.38	0.56
33:C4:176:HIS:HB3	53:A4:1093:A:H61	1.69	0.56
39:I4:72:GLY:HA2	39:I4:75:ASP:HB2	1.86	0.56
41:K4:13:GLN:HE21	41:K4:16:SER:H	1.54	0.56
48:R4:52:PRO:HG2	48:R4:54:ARG:HB3	1.88	0.56
52:W4:142:MET:N	52:W4:161:PHE:HE1	1.84	0.56
52:W4:160:VAL:HG21	52:W4:171:VAL:HG22	1.87	0.56
53:A4:146:A:OP2	53:A4:147:C:N4	2.39	0.56
53:A4:294:G:H2'	53:A4:295:A:C8	2.40	0.56
53:A4:954:A:N6	53:A4:1205:G:OP1	2.38	0.56
53:A4:1387:G:N2	53:A4:1496:A:O2'	2.37	0.56
3:E1:122:LYS:HB3	3:E1:191:ARG:HG2	1.86	0.56
4:F1:34:LEU:HA	4:F1:161:THR:HG22	1.87	0.56
5:G1:3:ARG:NH2	29:A1:1158:G:O3'	2.39	0.56
7:I1:43:THR:HB	7:I1:45:ASN:H	1.71	0.56
18:T1:13:VAL:O	18:T1:25:GLY:N	2.37	0.56
29:A1:139:A:N6	29:A1:1643:G:O2'	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A1:209:G:N2	29:A1:225:U:O5'	2.34	0.56
29:A1:504:G:N2	29:A1:507:A:OP2	2.34	0.56
29:A1:670:A:N6	29:A1:671:A:N1	2.53	0.56
29:A1:689:G:N1	29:A1:695:G:N7	2.42	0.56
29:A1:1753:G:H2'	29:A1:1754:G:H8	1.70	0.56
7:I2:20:GLY:HA2	7:I2:61:ARG:HD2	1.87	0.56
29:A2:334:G:N2	29:A2:355:A:O5'	2.38	0.56
29:A2:1731:G:C2	29:A2:1790:U:H1'	2.40	0.56
29:A2:1753:G:H2'	29:A2:1754:G:H8	1.70	0.56
37:G3:74:GLU:OE2	37:G3:76:ARG:NH1	2.38	0.56
37:G3:95:ARG:NH2	53:A3:1360:C:O2'	2.37	0.56
47:Q3:81:ARG:NH1	53:A3:630:C:O5'	2.38	0.56
53:A3:901:C:O2'	53:A3:1479:A:N6	2.37	0.56
52:W4:168:GLU:HB3	52:W4:184:GLU:OE1	2.05	0.56
3:E1:110:LEU:HD12	3:E1:205:ARG:HG2	1.87	0.56
4:F1:17:PRO:O	4:F1:21:ARG:N	2.37	0.56
14:P1:27:LEU:HA	14:P1:30:LYS:HE2	1.87	0.56
18:T1:87:LYS:NZ	18:T1:88:LYS:O	2.35	0.56
23:Y1:19:GLN:NE2	30:B1:85:G:OP1	2.39	0.56
29:A1:30:G:N2	29:A1:538:U:O2	2.39	0.56
29:A1:900:U:H2'	29:A1:901:G:H8	1.70	0.56
5:G2:3:ARG:NH1	29:A2:1160:G:O2'	2.36	0.56
17:S2:85:PRO:HB3	17:S2:88:LYS:HZ1	1.70	0.56
29:A2:385:G:OP2	29:A2:386:G:N2	2.38	0.56
29:A2:718:G:N7	29:A2:719:A:N6	2.53	0.56
29:A2:1444:U:OP2	29:A2:1446:C:N4	2.38	0.56
35:E3:77:PRO:HG2	35:E3:142:LEU:HD22	1.87	0.56
50:T3:59:ALA:O	50:T3:63:ILE:N	2.38	0.56
52:X3:171:VAL:O	52:X3:171:VAL:HG23	2.05	0.56
37:G4:136:LYS:NZ	37:G4:139:GLU:OE1	2.35	0.56
43:M4:20:THR:OG1	43:M4:27:LYS:N	2.36	0.56
53:A4:1219:A:C4	53:A4:1284:C:H1'	2.41	0.56
1:C1:24:ILE:HG23	1:C1:83:GLU:HA	1.88	0.56
29:A1:1313:A:H61	29:A1:2037:A:H5''	1.71	0.56
29:A1:1960:A:OP2	29:A1:1986:C:N4	2.39	0.56
2:D2:110:GLY:N	29:A2:2833:A:OP2	2.37	0.56
12:N2:64:GLU:O	12:N2:67:ARG:N	2.37	0.56
29:A2:1712:C:H42	29:A2:2021:G:H1	1.54	0.56
29:A2:1821:C:H2'	29:A2:1822:A:H8	1.70	0.56
34:D3:162:LEU:HD22	34:D3:178:VAL:HG13	1.87	0.56
35:E4:39:GLY:O	35:E4:69:VAL:N	2.27	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:U4:8:THR:HB	53:A4:1224:C:H5'	1.87	0.56
53:A4:1464:G:H2'	53:A4:1465:G:H8	1.70	0.56
26:b1:26:ASN:ND2	29:A1:2300:A:N1	2.52	0.56
29:A1:794:G:O2'	29:A1:799:A:N6	2.39	0.56
29:A1:2389:G:N2	29:A1:2392:A:OP2	2.38	0.56
30:B1:112:G:H2'	30:B1:113:G:H8	1.69	0.56
8:J2:32:TYR:OH	29:A2:2020:C:N4	2.38	0.56
9:K2:66:GLY:O	9:K2:68:GLN:NE2	2.39	0.56
12:N2:34:HIS:NE2	30:B2:29:C:OP1	2.33	0.56
14:P2:112:ARG:NH1	14:P2:112:ARG:O	2.39	0.56
29:A2:1766:G:N2	29:A2:1775:C:O2'	2.38	0.56
32:B3:17:PHE:HB3	32:B3:41:ILE:HG23	1.86	0.56
32:B3:75:LYS:HG3	52:X3:149:PHE:CE1	2.41	0.56
38:H3:24:THR:OG1	38:H3:25:ASP:N	2.38	0.56
50:T3:34:LYS:O	50:T3:38:LYS:N	2.37	0.56
52:X3:150:GLN:NE2	52:X3:159:PHE:CE1	2.69	0.56
32:B4:152:PHE:HZ	32:B4:155:LEU:HG	1.70	0.56
32:B4:219:VAL:HG23	32:B4:222:ILE:HD12	1.86	0.56
42:L4:53:ARG:HG3	42:L4:93:LEU:HD21	1.87	0.56
53:A4:1367:G:H2'	53:A4:1368:G:H8	1.69	0.56
1:C1:268:ARG:HH21	29:A1:2237:G:H5''	1.70	0.56
8:J1:49:ARG:NH1	53:A3:1405:G:OP2	2.39	0.56
20:V1:35:ASN:HA	29:A1:2368:G:H1'	1.88	0.56
29:A1:178:G:H1	29:A1:198:C:H42	1.53	0.56
29:A1:994:G:N2	29:A1:1017:C:O2	2.39	0.56
29:A1:1044:A:H2'	29:A1:1045:G:H8	1.71	0.56
3:E2:158:THR:HA	3:E2:195:ASP:HB2	1.87	0.56
9:K2:131:SER:OG	9:K2:133:SER:N	2.38	0.56
13:O2:60:THR:HG22	13:O2:77:PRO:HA	1.87	0.56
29:A2:46:C:N4	29:A2:47:G:O6	2.38	0.56
37:G3:115:ARG:O	37:G3:119:ARG:N	2.36	0.56
40:J3:5:ARG:NH2	53:A3:1260:A:OP1	2.36	0.56
43:M3:3:ARG:NH2	43:M3:9:ILE:O	2.39	0.56
48:R3:67:ALA:HA	48:R3:70:ILE:HD12	1.87	0.56
53:A3:1110:C:O2	53:A3:1125:G:N2	2.39	0.56
34:D4:106:TYR:OH	34:D4:114:ARG:NH2	2.39	0.56
53:A4:1004:G:H1	53:A4:1019:C:H1'	1.70	0.56
53:A4:1225:C:N3	53:A4:1275:G:N2	2.54	0.56
1:C1:48:ARG:NH1	29:A1:1839:C:O3'	2.38	0.56
5:G1:5:GLY:O	5:G1:69:ARG:NE	2.39	0.56
8:J1:80:ASP:OD2	13:O1:64:ARG:NH2	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:L1:6:ARG:NE	29:A1:919:A:OP1	2.34	0.56
27:c1:8:ASN:O	27:c1:12:ARG:N	2.36	0.56
29:A1:443:A:O2'	29:A1:1899:C:N4	2.38	0.56
29:A1:657:G:N1	29:A1:660:A:OP2	2.27	0.56
29:A1:712:G:N2	29:A1:986:G:O2'	2.39	0.56
29:A1:791:G:H1	29:A1:804:C:H42	1.53	0.56
29:A1:1511:C:H4'	29:A1:2716:U:H4'	1.88	0.56
29:A1:1708:U:O2	29:A1:2026:G:N2	2.39	0.56
29:A1:2052:U:H2'	29:A1:2053:G:H8	1.71	0.56
2:D2:149:ARG:NH1	29:A2:2048:G:O3'	2.39	0.56
29:A2:1068:A:N1	29:A2:1188:U:O2'	2.35	0.56
31:e2:22:ARG:NH2	31:e2:24:TYR:OH	2.39	0.56
39:I3:37:PHE:HE1	39:I3:70:LYS:HD2	1.71	0.56
46:P3:5:ARG:NH2	46:P3:23:ASP:O	2.39	0.56
46:P3:57:ARG:NH2	46:P3:79:VAL:O	2.39	0.56
53:A3:800:C:N4	53:A3:802:A:N3	2.54	0.56
54:V3:73:ASP:OD1	54:V3:74:ALA:N	2.34	0.56
37:G4:71:PRO:O	37:G4:72:ARG:NH1	2.37	0.56
53:A4:468:G:N3	53:A4:469:G:N2	2.54	0.56
53:A4:1382:C:O2	54:V4:90:GLN:NE2	2.38	0.56
14:P1:102:GLU:HB3	14:P1:105:VAL:HB	1.88	0.56
29:A1:682:A:O2'	29:A1:701:A:N6	2.36	0.56
30:B1:81:C:H42	30:B1:100:G:H1	1.52	0.56
31:e1:26:ILE:HG22	31:e1:33:LYS:HG3	1.88	0.56
4:F2:133:LEU:O	4:F2:157:ILE:N	2.39	0.56
14:P2:66:ASN:HD21	14:P2:70:ARG:HH21	1.52	0.56
29:A2:1536:G:H1	29:A2:1549:C:H42	1.54	0.56
33:C3:39:ILE:O	33:C3:43:LEU:N	2.35	0.56
50:T3:22:ARG:HA	50:T3:25:ARG:HE	1.71	0.56
53:A3:1367:G:H2'	53:A3:1368:G:H8	1.71	0.56
38:H4:100:ILE:O	38:H4:125:ARG:NH2	2.39	0.56
44:N4:3:ARG:HB3	44:N4:6:LEU:HB3	1.87	0.56
45:O4:17:ARG:HH22	53:A4:734:U:H5''	1.71	0.56
53:A4:41:G:H2'	53:A4:42:G:H8	1.71	0.56
10:L1:37:LEU:HA	10:L1:99:PRO:HB3	1.87	0.55
13:O1:111:ARG:HG2	13:O1:114:LEU:HD12	1.87	0.55
14:P1:24:TYR:OH	29:A1:561:U:OP1	2.22	0.55
16:R1:15:ARG:NH2	29:A1:1314:G:O4'	2.39	0.55
29:A1:505:A:H2'	29:A1:506:A:H8	1.70	0.55
29:A1:1109:U:O2'	29:A1:1118:A:O2'	2.24	0.55
29:A1:1412:G:N2	29:A1:1415:A:OP2	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:b2:14:THR:O	26:b2:49:HIS:NE2	2.39	0.55
29:A2:1708:U:O2	29:A2:2026:G:N2	2.39	0.55
32:B3:4:GLU:HB3	32:B3:6:THR:HG23	1.87	0.55
36:F3:3:ARG:NE	36:F3:38:GLU:OE2	2.39	0.55
41:K3:101:SER:OG	41:K3:103:LEU:O	2.24	0.55
53:A3:1281:G:O3'	53:A3:1284:C:N4	2.39	0.55
53:A4:670:A:H61	53:A4:686:G:H1'	1.71	0.55
53:A4:740:U:O2'	53:A4:856:C:O2	2.24	0.55
53:A4:1216:U:O4	53:A4:1217:A:N6	2.39	0.55
53:A4:1419:C:O2	53:A4:1441:G:N2	2.39	0.55
29:A1:1326:A:H2'	29:A1:1327:G:H8	1.71	0.55
29:A1:2255:A:H2'	29:A1:2256:G:H8	1.71	0.55
29:A1:2583:G:H2'	29:A1:2584:G:H8	1.71	0.55
26:b2:24:GLU:O	29:A2:2360:A:O2'	2.21	0.55
29:A2:20:C:H2'	29:A2:21:A:H8	1.71	0.55
32:B3:131:PRO:O	32:B3:135:GLN:N	2.39	0.55
41:K3:20:TYR:O	41:K3:31:THR:N	2.34	0.55
41:K3:23:ALA:HA	41:K3:28:THR:HG23	1.89	0.55
42:L3:82:VAL:N	42:L3:106:ASP:OD2	2.39	0.55
50:T3:53:LEU:HD22	50:T3:57:ARG:HG3	1.87	0.55
53:A3:58:C:O2'	53:A3:383:G:N7	2.38	0.55
33:C4:74:GLY:H	33:C4:77:ILE:HG12	1.72	0.55
53:A4:697:G:H21	53:A4:760:A:H1'	1.71	0.55
53:A4:1121:G:O6	53:A4:1129:C:N4	2.31	0.55
53:A4:1422:C:O2	53:A4:1424:G:N1	2.39	0.55
53:A4:1447:G:H2'	53:A4:1448:G:H8	1.72	0.55
54:V4:71:GLU:OE2	54:V4:82:ARG:NH1	2.32	0.55
13:O1:122:ASP:OD1	13:O1:129:ARG:NH2	2.37	0.55
16:R1:6:ILE:HB	29:A1:521:G:H4'	1.89	0.55
29:A1:65:C:N4	29:A1:87:G:O6	2.38	0.55
29:A1:294:C:H42	29:A1:393:U:H3	1.55	0.55
29:A1:2235:G:H2'	29:A1:2236:G:C8	2.41	0.55
29:A2:2150:A:N6	29:A2:2188:C:O2	2.37	0.55
41:K3:69:ALA:HA	41:K3:72:ALA:HB3	1.87	0.55
41:K3:79:SER:HA	41:K3:104:GLN:HB2	1.87	0.55
44:N3:31:ARG:NH2	53:A3:959:U:O4	2.39	0.55
51:U3:18:TYR:O	53:A3:1250:A:O2'	2.23	0.55
53:A3:763:A:N3	53:A3:786:G:N2	2.54	0.55
34:D4:19:LEU:HB3	34:D4:21:LEU:HG	1.89	0.55
36:F4:54:LYS:NZ	53:A4:693:G:OP1	2.35	0.55
37:G4:42:ILE:O	37:G4:46:ALA:N	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:J4:15:THR:HA	40:J4:18:ALA:HB3	1.87	0.55
49:S4:11:VAL:HG11	49:S4:16:LEU:HD13	1.88	0.55
50:T4:59:ALA:O	50:T4:63:ILE:N	2.36	0.55
53:A4:656:G:N2	53:A4:717:G:O2'	2.39	0.55
54:V4:16:ALA:O	54:V4:18:ARG:N	2.39	0.55
1:C1:264:LYS:NZ	29:A1:1832:G:OP1	2.39	0.55
10:L1:63:LYS:HG2	19:U1:116:VAL:HG11	1.88	0.55
12:N1:60:GLY:H	12:N1:65:VAL:HG13	1.70	0.55
29:A1:1821:C:H2'	29:A1:1822:A:H8	1.72	0.55
29:A1:2359:G:H21	29:A1:2395:C:H2'	1.71	0.55
29:A1:2586:A:H3'	29:A1:2588:G:H5''	1.86	0.55
1:C2:268:ARG:NH2	29:A2:2238:G:OP1	2.39	0.55
18:T2:84:ARG:HG2	18:T2:97:ARG:HH21	1.71	0.55
29:A2:1938:C:H3'	29:A2:1940:A:H2	1.70	0.55
39:I3:104:ARG:NH1	53:A3:1101:C:O5'	2.39	0.55
41:K3:66:LEU:O	41:K3:70:LYS:NZ	2.39	0.55
43:M3:86:CYS:SG	43:M3:87:TYR:N	2.79	0.55
44:N3:29:ARG:NE	44:N3:31:ARG:O	2.35	0.55
53:A3:123:G:H21	53:A3:190:G:H5'	1.72	0.55
53:A3:1002:G:N2	53:A3:1013:G:OP2	2.40	0.55
35:E4:79:GLU:O	38:H4:104:ARG:NE	2.39	0.55
39:I4:28:VAL:HG22	39:I4:63:ILE:HB	1.87	0.55
53:A4:955:A:O2'	53:A4:1303:C:N4	2.40	0.55
53:A4:1333:C:N3	53:A4:1353:G:N1	2.54	0.55
54:V4:111:PRO:HA	54:V4:113:GLU:H	1.69	0.55
1:C1:254:THR:OG1	29:A1:1857:G:N2	2.39	0.55
11:M1:21:TYR:HA	11:M1:24:GLN:HB2	1.89	0.55
14:P1:93:LYS:NZ	29:A1:1045:G:OP1	2.37	0.55
26:b1:16:CYS:SG	26:b1:17:LYS:N	2.75	0.55
29:A1:1348:U:N3	29:A1:1683:A:N3	2.55	0.55
29:A1:2004:G:O2'	29:A1:2006:C:OP2	2.20	0.55
29:A1:2857:G:H2'	29:A1:2858:G:H8	1.71	0.55
26:b2:16:CYS:SG	26:b2:17:LYS:N	2.79	0.55
29:A2:322:C:H42	29:A2:366:G:H1	1.54	0.55
29:A2:1120:C:H5''	29:A2:1121:A:H5'	1.89	0.55
29:A2:1824:A:H3'	29:A2:1825:G:H8	1.70	0.55
29:A2:2565:C:H42	29:A2:2571:G:H1	1.55	0.55
43:M3:80:ARG:NH2	53:A3:1291:G:OP1	2.40	0.55
48:R3:42:ARG:NH1	32:B4:236:TYR:O	2.35	0.55
42:L4:33:ARG:NH2	42:L4:61:THR:OG1	2.39	0.55
53:A4:248:U:O4	53:A4:268:A:N6	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:X1:30:ARG:NH1	22:X1:33:MET:SD	2.80	0.55
29:A1:754:A:OP2	29:A1:774:G:N2	2.30	0.55
29:A1:1465:C:O2'	29:A1:1635:A:N3	2.40	0.55
5:G2:26:VAL:HG11	5:G2:79:VAL:HG11	1.87	0.55
5:G2:83:TYR:HE1	5:G2:132:ARG:HB2	1.71	0.55
10:L2:68:ILE:HG22	10:L2:101:ARG:HE	1.72	0.55
24:Z2:35:VAL:HG23	24:Z2:39:CYS:HB2	1.89	0.55
29:A2:907:U:O2'	29:A2:2282:A:N3	2.40	0.55
29:A2:1119:G:N2	29:A2:1138:U:OP2	2.33	0.55
29:A2:2909:U:O4	29:A2:2912:C:N4	2.38	0.55
33:C3:12:LEU:HD13	33:C3:18:TRP:HE1	1.71	0.55
34:D3:119:GLN:OE1	34:D3:123:HIS:NE2	2.40	0.55
39:I3:111:ARG:NH2	53:A3:1350:G:OP1	2.40	0.55
53:A4:929:U:OP1	53:A4:949:C:N4	2.37	0.55
53:A4:975:G:O2'	53:A4:1025:C:N3	2.33	0.55
53:A4:1286:G:N2	53:A4:1313:A:OP2	2.40	0.55
2:D1:11:MET:HA	2:D1:24:THR:HA	1.88	0.55
14:P1:3:ARG:H	29:A1:473:C:H5''	1.71	0.55
16:R1:30:GLU:HG2	16:R1:33:ARG:HD2	1.88	0.55
9:K2:13:ASN:ND2	29:A2:1293:G:OP1	2.40	0.55
29:A2:726:A:O2'	29:A2:2094:G:O2'	2.20	0.55
29:A2:2538:G:H2'	29:A2:2539:G:H8	1.72	0.55
33:C3:59:ARG:HA	33:C3:64:VAL:HG12	1.88	0.55
34:D3:123:HIS:ND1	53:A3:434:A:OP1	2.40	0.55
44:N3:21:TYR:OH	53:A3:959:U:OP2	2.23	0.55
35:E4:15:ARG:HE	35:E4:26:PHE:HB3	1.71	0.55
49:S4:28:LYS:HB3	49:S4:30:LEU:H	1.71	0.55
7:I1:57:ALA:H	7:I1:124:ALA:HA	1.72	0.55
13:O1:74:ARG:HH21	13:O1:76:PHE:HZ	1.55	0.55
19:U1:6:LYS:HA	19:U1:60:GLU:HB3	1.89	0.55
19:U1:7:ALA:HB2	19:U1:59:LEU:HD22	1.88	0.55
20:V1:78:TYR:HB2	20:V1:80:HIS:CE1	2.42	0.55
29:A1:268:C:H2'	29:A1:269:G:H8	1.71	0.55
29:A1:783:A:OP2	29:A1:810:A:N6	2.27	0.55
29:A1:1891:G:OP2	29:A1:2212:C:N4	2.39	0.55
29:A1:2132:C:O5'	29:A1:2175:G:N2	2.40	0.55
8:J2:116:SER:HB2	8:J2:117:LEU:HG	1.89	0.55
10:L2:23:GLY:O	10:L2:101:ARG:NH1	2.40	0.55
11:M2:77:ARG:HE	11:M2:78:LYS:HE3	1.71	0.55
29:A2:305:C:N4	29:A2:382:A:OP1	2.40	0.55
29:A2:670:A:N6	29:A2:671:A:N1	2.54	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:1348:U:N3	29:A2:1683:A:N3	2.54	0.55
29:A2:1774:C:H2'	29:A2:1775:C:H4'	1.89	0.55
29:A2:1974:G:N2	29:A2:1975:U:O4	2.39	0.55
36:F3:8:ILE:HB	36:F3:61:LEU:HB3	1.88	0.55
53:A3:101:G:N2	53:A3:102:A:N1	2.55	0.55
40:J4:50:ILE:HD12	44:N4:41:ARG:HD2	1.89	0.55
53:A4:269:A:O2'	53:A4:271:G:OP2	2.25	0.55
53:A4:969:U:O2'	53:A4:975:G:N2	2.40	0.55
54:V4:40:VAL:HA	54:V4:58:ILE:HG22	1.89	0.55
2:D1:2:LYS:HD2	2:D1:95:ILE:HD12	1.88	0.55
13:O1:18:ASP:N	13:O1:18:ASP:OD1	2.39	0.55
16:R1:43:GLY:O	16:R1:47:VAL:N	2.35	0.55
24:Z1:52:THR:HG21	49:S3:66:MET:HG3	1.89	0.55
29:A1:1141:G:N2	29:A1:1142:U:O2	2.40	0.55
17:S2:89:ILE:HD12	17:S2:91:ALA:HB3	1.88	0.55
18:T2:86:ARG:NH2	29:A2:324:A:O5'	2.37	0.55
21:W2:2:SER:N	29:A2:1412:G:OP2	2.40	0.55
29:A2:1835:A:OP2	29:A2:1848:A:N6	2.30	0.55
29:A2:2359:G:H21	29:A2:2395:C:H2'	1.71	0.55
36:F3:99:ALA:O	48:R3:29:PHE:N	2.40	0.55
42:L3:75:HIS:HD2	42:L3:77:LEU:H	1.55	0.55
53:A3:226:G:H2'	53:A3:227:G:H8	1.71	0.55
53:A3:575:G:N7	53:A3:577:G:N1	2.54	0.55
40:J4:8:LEU:HB2	40:J4:70:ARG:HB3	1.89	0.55
53:A4:198:U:H2'	53:A4:199:C:H6	1.72	0.55
53:A4:913:C:N4	53:A4:1362:U:O4	2.40	0.55
53:A4:1276:G:O2'	53:A4:1283:U:O4	2.25	0.55
3:E1:103:LYS:HD2	3:E1:106:ARG:HD2	1.89	0.55
10:L1:128:LYS:HD2	29:A1:1077:A:H5''	1.87	0.55
26:b1:11:LEU:H	26:b1:27:LYS:HG3	1.72	0.55
29:A1:626:C:O2'	29:A1:630:C:OP1	2.24	0.55
29:A1:2120:U:O2	29:A1:2217:G:N2	2.37	0.55
29:A1:2659:G:H5''	29:A1:2747:G:H21	1.72	0.55
5:G2:77:LYS:HE3	5:G2:82:GLY:HA2	1.89	0.55
9:K2:124:LYS:NZ	9:K2:141:ALA:O	2.39	0.55
11:M2:107:ASP:OD1	29:A2:2033:G:N2	2.40	0.55
29:A2:154:G:H1	29:A2:162:C:H42	1.53	0.55
29:A2:506:A:H61	29:A2:527:G:H4'	1.71	0.55
29:A2:1879:G:H2'	29:A2:1881:A:H62	1.71	0.55
29:A2:2389:G:N2	29:A2:2392:A:OP2	2.40	0.55
41:K3:69:ALA:HB1	41:K3:73:MET:HG3	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:X3:147:ALA:N	52:X3:159:PHE:CE2	2.65	0.55
53:A3:31:G:OP2	53:A3:301:G:N2	2.40	0.55
53:A3:498:G:H1	53:A3:519:C:H42	1.53	0.55
53:A3:740:U:O2'	53:A3:856:C:O2	2.25	0.55
53:A3:1096:C:O2	53:A3:1168:G:N2	2.40	0.55
33:C4:132:ARG:HB3	33:C4:136:GLN:HG2	1.87	0.55
33:C4:155:GLY:HA3	33:C4:196:LEU:HD22	1.89	0.55
39:I4:19:LEU:HD22	39:I4:61:ALA:HA	1.88	0.55
45:O4:24:SER:H	45:O4:27:VAL:HB	1.72	0.55
49:S4:79:THR:O	49:S4:81:ARG:NH1	2.40	0.55
53:A4:227:G:O2'	53:A4:258:A:N1	2.34	0.55
53:A4:304:G:H2'	53:A4:305:G:C8	2.42	0.55
25:a1:2:ALA:N	29:A1:2039:A:HO2'	2.05	0.54
29:A1:621:G:H22	29:A1:710:C:H42	1.53	0.54
29:A1:1411:C:H2'	29:A1:1412:G:H8	1.71	0.54
29:A1:1496:G:H2'	29:A1:1497:G:H8	1.71	0.54
1:C2:159:ALA:O	29:A2:1853:U:O2'	2.25	0.54
11:M2:57:ARG:NH1	29:A2:2882:C:OP2	2.34	0.54
15:Q2:24:LYS:HB3	29:A2:1210:G:H4'	1.88	0.54
21:W2:75:GLU:O	21:W2:76:ARG:NH1	2.40	0.54
29:A2:1102:A:N6	29:A2:1104:G:O6	2.40	0.54
33:C3:130:VAL:HG12	33:C3:157:ILE:HD12	1.89	0.54
40:J3:74:ILE:HG22	40:J3:76:ASN:H	1.71	0.54
41:K3:57:THR:OG1	41:K3:60:ALA:N	2.40	0.54
45:O3:32:LEU:O	45:O3:63:ARG:NH1	2.40	0.54
46:P3:20:VAL:HG12	46:P3:22:THR:HB	1.89	0.54
53:A3:88:G:O2'	53:A3:89:U:O4'	2.24	0.54
43:M4:81:LEU:HD22	43:M4:88:ARG:HB2	1.88	0.54
52:W4:163:ASN:OD1	52:W4:166:THR:N	2.40	0.54
53:A4:392:A:N7	53:A4:530:A:O2'	2.35	0.54
1:C1:159:ALA:HB1	1:C1:198:ASN:HB2	1.89	0.54
8:J1:106:LEU:HB3	8:J1:111:PHE:HB2	1.90	0.54
9:K1:15:ARG:NH1	29:A1:711:G:OP2	2.40	0.54
14:P1:15:LYS:O	14:P1:19:LYS:NZ	2.34	0.54
22:X1:10:LEU:HG	22:X1:14:ARG:HB3	1.89	0.54
22:X1:47:ASN:HB2	29:A1:94:G:H4'	1.89	0.54
29:A1:323:G:O2'	29:A1:347:A:N6	2.29	0.54
1:C2:66:ASP:OD2	1:C2:104:TYR:N	2.37	0.54
1:C2:73:VAL:HG13	1:C2:120:GLY:HA3	1.88	0.54
1:C2:133:LEU:HD23	1:C2:136:ILE:HG13	1.89	0.54
2:D2:114:ALA:O	29:A2:1704:A:O2'	2.21	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:J2:8:LEU:HD13	8:J2:82:ASN:HB3	1.89	0.54
40:J3:41:PRO:O	40:J3:69:ASN:ND2	2.40	0.54
52:X3:160:VAL:HG13	52:X3:160:VAL:O	2.06	0.54
46:P4:18:ARG:NE	53:A4:609:U:OP1	2.39	0.54
49:S4:28:LYS:NZ	49:S4:30:LEU:O	2.37	0.54
52:W4:157:SER:HB3	52:W4:172:ILE:HB	1.88	0.54
52:W4:170:ASN:ND2	52:W4:182:LEU:C	2.63	0.54
53:A4:1234:G:N2	53:A4:1336:G:O2'	2.40	0.54
53:A4:1468:G:H21	53:A4:1470:A:H62	1.55	0.54
29:A1:1:G:H21	29:A1:2812:C:H1'	1.72	0.54
29:A1:696:G:O6	29:A1:698:C:N4	2.40	0.54
29:A1:1856:G:H2'	29:A1:1857:G:C8	2.43	0.54
29:A1:1988:G:O2'	29:A1:1991:C:OP2	2.25	0.54
29:A1:2419:G:N2	29:A1:2425:A:OP2	2.41	0.54
6:H2:43:ASN:OD1	29:A2:277:C:O2'	2.25	0.54
12:N2:96:GLY:O	12:N2:100:ALA:N	2.39	0.54
13:O2:55:ASN:HB2	13:O2:58:ASN:HB2	1.89	0.54
29:A2:1536:G:N1	29:A2:1537:U:O2	2.40	0.54
29:A2:1892:A:H8	29:A2:1907:G:H21	1.55	0.54
29:A2:1924:A:N1	29:A2:1994:A:N6	2.56	0.54
29:A2:2583:G:H2'	29:A2:2584:G:H8	1.73	0.54
29:A2:2830:G:H2'	29:A2:2831:G:H8	1.72	0.54
33:C3:153:VAL:HB	33:C3:166:GLU:HB2	1.90	0.54
54:V3:111:PRO:HA	54:V3:113:GLU:H	1.70	0.54
32:B4:197:VAL:O	38:H4:68:ARG:NH2	2.39	0.54
47:Q4:5:VAL:HG12	47:Q4:58:GLU:HB3	1.88	0.54
53:A4:31:G:N2	53:A4:48:C:OP1	2.40	0.54
5:G1:22:GLY:HA3	5:G1:39:PRO:HB3	1.88	0.54
9:K1:62:LEU:HB2	28:d1:27:THR:HG22	1.89	0.54
17:S1:41:ASN:OD1	29:A1:142:G:N2	2.41	0.54
18:T1:84:ARG:HH22	18:T1:102:CYS:HA	1.72	0.54
29:A1:2854:G:H1	29:A1:2887:C:H42	1.55	0.54
19:U2:57:ILE:N	19:U2:69:THR:O	2.38	0.54
29:A2:1879:G:H1	29:A2:1918:C:H42	1.55	0.54
29:A2:2341:A:H2'	29:A2:2342:A:C8	2.42	0.54
29:A2:2728:A:O2'	29:A2:2730:C:OP2	2.25	0.54
33:C3:172:ARG:NH2	53:A3:1089:C:OP2	2.41	0.54
34:D3:60:GLU:OE1	34:D3:199:ASN:ND2	2.40	0.54
39:I3:122:ALA:N	53:A3:1324:G:O2'	2.41	0.54
40:J3:61:GLU:HB3	44:N3:45:ARG:HH12	1.71	0.54
49:S3:18:LYS:NZ	53:A3:992:A:OP2	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:X3:156:HIS:O	52:W4:158:PHE:CZ	2.59	0.54
53:A3:870:C:H2'	53:A3:871:G:H8	1.72	0.54
53:A3:974:U:O4	53:A3:1027:C:O2'	2.24	0.54
32:B4:16:HIS:O	32:B4:210:SER:OG	2.24	0.54
46:P4:31:LYS:HD3	53:A4:305:G:H4'	1.89	0.54
53:A4:575:G:N7	53:A4:577:G:N1	2.56	0.54
16:R1:53:SER:OG	29:A1:521:G:N2	2.40	0.54
29:A1:172:A:O2'	29:A1:462:C:O2'	2.25	0.54
29:A1:1095:G:OP1	29:A1:1158:G:N2	2.41	0.54
29:A1:1772:A:H3'	29:A1:1773:G:H8	1.72	0.54
29:A1:2228:C:O2'	29:A1:2230:G:N2	2.40	0.54
31:e1:3:VAL:HG13	31:e1:36:GLN:HA	1.89	0.54
2:D2:54:GLN:HE22	2:D2:72:VAL:HG11	1.72	0.54
4:F2:39:ILE:N	4:F2:92:VAL:O	2.39	0.54
19:U2:25:PRO:HA	19:U2:38:TYR:HA	1.89	0.54
29:A2:438:G:O6	29:A2:445:C:N4	2.41	0.54
43:M3:101:GLN:NE2	53:A3:1288:U:OP1	2.40	0.54
47:Q3:70:ARG:NE	53:A3:229:C:O3'	2.40	0.54
53:A3:511:C:OP1	53:A3:518:A:N6	2.40	0.54
33:C4:22:TRP:HE3	33:C4:24:ALA:H	1.53	0.54
33:C4:172:ARG:NH1	53:A4:1088:G:OP1	2.41	0.54
36:F4:10:LEU:O	36:F4:86:ARG:NH2	2.41	0.54
45:O4:63:ARG:O	45:O4:67:LEU:N	2.40	0.54
53:A4:776:U:N3	53:A4:777:A:N3	2.55	0.54
29:A1:102:U:H5''	29:A1:103:C:H5	1.72	0.54
29:A1:212:A:O2'	29:A1:214:G:O4'	2.24	0.54
29:A1:1053:C:H2'	29:A1:1054:C:H6	1.73	0.54
29:A1:1730:G:H21	29:A1:1795:A:H3'	1.73	0.54
29:A2:933:C:N4	29:A2:940:G:O5'	2.40	0.54
53:A3:304:G:H2'	53:A3:305:G:C8	2.42	0.54
53:A3:928:G:O3'	53:A3:949:C:N4	2.41	0.54
53:A3:1101:C:N3	53:A3:1137:G:N2	2.56	0.54
34:D4:7:PRO:HG2	34:D4:10:ARG:HD2	1.89	0.54
44:N4:31:ARG:NH1	53:A4:953:G:OP1	2.41	0.54
53:A4:89:U:OP1	53:A4:90:G:N1	2.41	0.54
53:A4:101:G:O6	53:A4:324:A:N6	2.41	0.54
1:C1:133:LEU:HD23	1:C1:136:ILE:HD12	1.89	0.54
2:D1:111:ARG:O	11:M1:2:ARG:NH1	2.28	0.54
5:G1:87:LEU:HB2	5:G1:131:VAL:HB	1.89	0.54
11:M1:86:ARG:NH1	11:M1:87:TYR:OH	2.41	0.54
29:A1:490:C:H42	29:A1:495:G:H1	1.56	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A1:638:G:N2	29:A1:642:A:N3	2.55	0.54
29:A1:729:G:H2'	29:A1:730:G:C8	2.42	0.54
29:A1:2882:C:N4	29:A1:2883:C:N3	2.56	0.54
1:C2:183:ARG:HH11	1:C2:185:VAL:HG22	1.72	0.54
1:C2:205:VAL:HG13	29:A2:1825:G:H5'	1.88	0.54
5:G2:16:SER:HB2	5:G2:27:LYS:HD2	1.89	0.54
24:Z2:62:ARG:NH2	53:A4:1301:C:O4'	2.40	0.54
29:A2:18:C:O2'	29:A2:579:U:OP1	2.24	0.54
29:A2:1110:G:H1'	29:A2:1136:A:H2'	1.90	0.54
29:A2:1312:G:N2	29:A2:2038:A:OP2	2.39	0.54
30:B2:30:C:H2'	30:B2:31:A:H8	1.73	0.54
46:P3:72:ARG:NH1	53:A3:446:A:O2'	2.41	0.54
39:I4:20:ARG:HD2	39:I4:60:ASP:HB2	1.88	0.54
52:W4:141:PRO:HA	52:W4:162:ARG:HB3	1.89	0.54
52:W4:151:MET:CG	52:W4:157:SER:CA	2.68	0.54
53:A4:10:A:O2'	53:A4:490:C:O2'	2.26	0.54
53:A4:144:C:N4	53:A4:164:U:OP2	2.40	0.54
3:E1:40:GLN:HE22	3:E1:183:VAL:HB	1.72	0.54
19:U1:151:HIS:ND1	19:U1:169:GLU:O	2.30	0.54
29:A1:18:C:O2'	29:A1:579:U:OP1	2.26	0.54
29:A1:1353:C:N4	29:A1:1655:C:OP1	2.41	0.54
11:M2:33:ARG:NH1	29:A2:1327:G:OP1	2.41	0.54
13:O2:53:ARG:HH12	29:A2:2697:C:H5''	1.73	0.54
19:U2:5:LEU:O	19:U2:60:GLU:N	2.39	0.54
20:V2:14:ARG:O	29:A2:2277:C:N4	2.41	0.54
22:X2:55:ARG:NH2	29:A2:74:G:OP1	2.41	0.54
29:A2:236:C:H5''	29:A2:239:C:H42	1.73	0.54
29:A2:1471:G:H1	29:A2:1624:C:H41	1.55	0.54
30:B2:10:U:O2	30:B2:115:G:N2	2.41	0.54
44:N3:26:ARG:HH12	44:N3:39:LEU:HD13	1.73	0.54
52:X3:143:ASP:OD1	52:X3:162:ARG:O	2.26	0.54
53:A3:538:C:H2'	53:A3:539:C:H6	1.72	0.54
53:A3:1191:C:N4	53:A3:1195:C:O2	2.41	0.54
33:C4:172:ARG:NH2	53:A4:1089:C:OP2	2.41	0.54
53:A4:510:G:C2	53:A4:511:C:H1'	2.43	0.54
4:F1:36:LYS:HA	4:F1:93:THR:HG23	1.90	0.54
4:F1:41:GLN:OE1	4:F1:138:GLN:NE2	2.41	0.54
13:O1:126:ALA:HA	13:O1:129:ARG:HB2	1.90	0.54
29:A1:291:G:H2'	29:A1:292:G:C8	2.43	0.54
29:A1:310:C:O2	29:A1:312:C:N4	2.35	0.54
29:A1:967:G:OP1	30:B1:99:G:N2	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A1:1090:G:H1	29:A1:1160:G:H22	1.55	0.54
29:A1:1940:A:H8	29:A1:1987:U:H1'	1.73	0.54
29:A1:2669:G:N2	29:A1:2679:A:OP2	2.41	0.54
1:C2:10:THR:OG1	29:A2:778:G:OP1	2.22	0.54
16:R2:96:ILE:HG22	29:A2:2037:A:H4'	1.89	0.54
34:D3:24:GLU:N	53:A3:404:G:OP1	2.41	0.54
41:K3:61:ALA:HA	41:K3:64:ALA:HB3	1.89	0.54
43:M3:22:ILE:HG23	43:M3:67:GLU:HB3	1.89	0.54
52:X3:169:ILE:HG13	52:W4:169:ILE:CD1	2.37	0.54
52:X3:178:GLY:HA2	52:W4:130:ARG:HE	1.72	0.54
53:A3:1427:G:N2	53:A3:1437:A:O2'	2.41	0.54
39:I4:16:ARG:NH1	53:A4:1109:G:O2'	2.41	0.54
53:A4:1140:C:O2	53:A4:1163:G:N2	2.40	0.54
29:A1:1073:G:H1	29:A1:1186:G:H1	1.55	0.54
29:A1:1459:C:O2	29:A1:1639:G:N2	2.29	0.54
29:A1:1897:U:O2'	29:A1:2423:G:N2	2.36	0.54
29:A1:2139:G:N2	29:A1:2192:G:O6	2.41	0.54
29:A1:2413:G:H1	29:A1:2431:C:H42	1.56	0.54
2:D2:127:ASP:HA	2:D2:135:HIS:HD2	1.72	0.54
14:P2:41:ALA:O	14:P2:45:TYR:N	2.31	0.54
19:U2:24:LEU:O	19:U2:39:VAL:N	2.34	0.54
29:A2:2235:G:H2'	29:A2:2236:G:C8	2.42	0.54
29:A2:2830:G:H2'	29:A2:2831:G:C8	2.43	0.54
33:C3:82:GLU:HA	33:C3:85:ARG:HB2	1.89	0.54
40:J3:8:LEU:H	40:J3:70:ARG:HB3	1.73	0.54
44:N3:47:LEU:HD22	44:N3:52:GLN:HB2	1.90	0.54
52:X3:157:SER:HB3	52:X3:172:ILE:CD1	2.38	0.54
53:A3:372:G:H2'	53:A3:373:G:C8	2.43	0.54
45:O4:82:ILE:HG22	45:O4:85:LEU:HD12	1.90	0.54
53:A4:452:C:O2	53:A4:457:A:N6	2.40	0.54
10:L1:5:ARG:NH1	29:A1:920:U:O5'	2.40	0.53
23:Y1:8:LEU:HD22	23:Y1:28:LEU:HD13	1.89	0.53
29:A1:755:A:N6	29:A1:774:G:O2'	2.37	0.53
29:A1:889:C:OP1	29:A1:979:G:N2	2.41	0.53
29:A1:1083:U:H2'	29:A1:1084:G:H8	1.73	0.53
4:F2:97:ASP:H	4:F2:100:TRP:CD1	2.26	0.53
29:A2:264:C:N3	29:A2:283:G:N1	2.55	0.53
29:A2:647:G:H4'	29:A2:648:A:H5'	1.90	0.53
30:B2:2:A:N6	30:B2:119:G:OP2	2.39	0.53
30:B2:82:U:O2	30:B2:100:G:N2	2.41	0.53
41:K3:92:GLU:OE2	48:R3:88:LYS:NZ	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:B4:33:TYR:HD2	32:B4:43:ASP:HA	1.73	0.53
34:D4:25:ARG:HE	53:A4:424:U:H2'	1.73	0.53
34:D4:132:ARG:NH1	53:A4:602:U:O2	2.40	0.53
37:G4:115:ARG:NH2	53:A4:1221:U:OP2	2.41	0.53
49:S4:83:HIS:HB3	53:A4:933:U:H5'	1.90	0.53
53:A4:747:C:H2'	53:A4:748:G:C8	2.43	0.53
53:A4:924:G:N2	53:A4:1216:U:O2	2.41	0.53
4:F1:2:PRO:HG3	24:Z1:9:LEU:HB2	1.90	0.53
5:G1:122:THR:N	5:G1:134:SER:O	2.40	0.53
9:K1:40:SER:O	29:A1:720:C:N4	2.42	0.53
12:N1:89:ARG:NE	29:A1:2307:C:OP1	2.41	0.53
14:P1:55:ARG:HG3	14:P1:59:ARG:HH12	1.73	0.53
29:A1:681:A:H2'	29:A1:682:A:H8	1.73	0.53
29:A1:855:C:O3'	29:A1:879:G:N2	2.41	0.53
29:A1:897:G:N7	29:A1:976:G:N2	2.56	0.53
29:A1:1344:G:OP1	29:A1:2723:G:O2'	2.26	0.53
29:A1:1359:G:N2	29:A1:1650:U:OP1	2.40	0.53
29:A1:1896:G:N2	29:A1:1903:C:O2'	2.37	0.53
29:A1:2236:G:H2'	29:A1:2237:G:C8	2.43	0.53
31:e1:24:TYR:HB3	31:e1:26:ILE:HG23	1.90	0.53
1:C2:45:ASN:OD1	1:C2:46:GLN:N	2.37	0.53
2:D2:102:VAL:HA	2:D2:200:GLU:HA	1.90	0.53
29:A2:264:C:H2'	29:A2:265:G:H8	1.73	0.53
29:A2:1104:G:O3'	29:A2:1151:A:N6	2.41	0.53
32:B3:209:ARG:HD2	32:B3:239:VAL:HG12	1.89	0.53
35:E3:12:LEU:HB3	35:E3:31:LEU:HB3	1.91	0.53
41:K3:20:TYR:N	41:K3:31:THR:O	2.38	0.53
43:M3:38:GLY:O	43:M3:40:ASN:ND2	2.41	0.53
54:V3:60:VAL:HB	54:V3:67:VAL:HG12	1.90	0.53
33:C4:150:LYS:HD3	33:C4:167:TRP:HE1	1.72	0.53
53:A4:226:G:H2'	53:A4:227:G:H8	1.72	0.53
53:A4:867:G:N2	53:A4:868:U:O4	2.41	0.53
29:A1:770:C:H2'	29:A1:771:A:H8	1.73	0.53
29:A1:842:A:OP2	29:A1:2095:A:O2'	2.23	0.53
29:A1:854:G:H21	29:A1:880:G:H1'	1.73	0.53
29:A1:2157:G:O2'	29:A1:2181:G:N2	2.42	0.53
30:B1:74:G:O2'	30:B1:75:A:O4'	2.25	0.53
1:C2:260:ARG:HE	1:C2:264:LYS:HE3	1.71	0.53
16:R2:69:LEU:HD22	16:R2:107:LEU:HB3	1.91	0.53
29:A2:170:G:N2	29:A2:204:G:O6	2.41	0.53
29:A2:764:G:OP1	29:A2:764:G:N2	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:1077:A:N3	29:A2:2500:G:O2'	2.41	0.53
29:A2:2735:U:H2'	29:A2:2736:A:H8	1.73	0.53
40:J3:19:SER:OG	40:J3:92:THR:OG1	2.26	0.53
41:K3:121:PRO:HB2	41:K3:125:PHE:HE2	1.73	0.53
43:M3:19:LEU:O	43:M3:26:GLY:N	2.41	0.53
53:A3:697:G:H21	53:A3:760:A:H1'	1.73	0.53
34:D4:102:ASP:HB3	34:D4:121:VAL:HG21	1.90	0.53
53:A4:671:G:H1	53:A4:682:C:H42	1.55	0.53
9:K1:65:ARG:HE	28:d1:15:LYS:HE2	1.74	0.53
24:Z1:18:CYS:HB3	24:Z1:38:LYS:HG2	1.89	0.53
28:d1:26:LYS:NZ	29:A1:2375:A:OP1	2.35	0.53
29:A1:1011:C:O2'	29:A1:2287:A:N3	2.38	0.53
29:A1:2640:C:H2'	29:A1:2641:G:C8	2.44	0.53
14:P2:33:ARG:O	29:A2:1300:G:N2	2.42	0.53
19:U2:123:ASP:OD1	19:U2:123:ASP:N	2.39	0.53
29:A2:79:G:H2'	29:A2:80:G:H8	1.73	0.53
29:A2:342:G:H1	29:A2:359:C:H42	1.57	0.53
29:A2:627:G:O2'	29:A2:704:A:N6	2.42	0.53
29:A2:2308:C:N4	29:A2:2352:G:O6	2.41	0.53
29:A2:2669:G:HO2'	29:A2:2678:G:H1	1.56	0.53
32:B3:111:ARG:NH1	53:A3:1086:G:O5'	2.41	0.53
33:C3:57:ILE:HG12	33:C3:66:VAL:HG13	1.90	0.53
42:L3:93:LEU:HB3	42:L3:96:VAL:HB	1.90	0.53
46:P3:6:LEU:HD12	46:P3:17:TYR:HB3	1.90	0.53
42:L4:8:ASN:O	42:L4:8:ASN:ND2	2.39	0.53
53:A4:146:A:N7	53:A4:163:C:N4	2.57	0.53
53:A4:511:C:OP1	53:A4:518:A:N6	2.42	0.53
53:A4:644:G:H22	53:A4:727:C:H41	1.56	0.53
53:A4:1242:A:N6	53:A4:1255:G:O2'	2.41	0.53
4:F1:173:LEU:HD23	4:F1:176:LEU:HD12	1.90	0.53
9:K1:18:ARG:NH2	29:A1:1239:G:OP1	2.41	0.53
29:A1:271:C:O2'	29:A1:274:G:N2	2.42	0.53
29:A1:1262:G:H1	29:A1:1282:U:H3	1.55	0.53
29:A1:1772:A:OP2	29:A1:1774:C:N4	2.42	0.53
1:C2:48:ARG:NH1	29:A2:1839:C:O3'	2.41	0.53
5:G2:82:GLY:O	5:G2:135:GLY:N	2.33	0.53
16:R2:28:SER:HB2	16:R2:31:GLU:HB2	1.89	0.53
24:Z2:56:VAL:HG13	24:Z2:57:GLU:HG3	1.91	0.53
29:A2:1344:G:OP1	29:A2:2723:G:O2'	2.26	0.53
29:A2:1870:C:N4	29:A2:1923:G:N7	2.57	0.53
29:A2:2221:U:N3	29:A2:2239:A:N7	2.57	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:R3:37:VAL:HG12	48:R3:40:LEU:HD12	1.89	0.53
53:A3:593:G:H2'	53:A3:594:A:H8	1.74	0.53
53:A3:683:G:O2'	53:A3:687:A:N3	2.33	0.53
37:G4:143:ARG:O	37:G4:147:ALA:N	2.41	0.53
53:A4:607:C:H2'	53:A4:608:G:H8	1.73	0.53
1:C1:31:LYS:HB2	1:C1:35:LYS:HB3	1.91	0.53
5:G1:95:ARG:HH22	5:G1:129:THR:HA	1.74	0.53
29:A1:1824:A:H61	29:A1:1861:G:HO2'	1.56	0.53
29:A1:2547:A:O2'	29:A1:2678:G:O3'	2.27	0.53
29:A1:2613:G:H2'	29:A1:2614:A:H8	1.73	0.53
4:F2:67:LYS:H	24:Z2:6:HIS:CE1	2.27	0.53
4:F2:91:ARG:HH12	30:B2:44:C:H42	1.55	0.53
5:G2:17:VAL:HB	5:G2:45:VAL:HG21	1.91	0.53
17:S2:37:THR:HG21	29:A2:136:G:H21	1.72	0.53
29:A2:1856:G:H2'	29:A2:1857:G:C8	2.44	0.53
36:F3:22:GLU:OE1	36:F3:82:ARG:NH2	2.41	0.53
37:G3:116:ALA:HA	37:G3:119:ARG:HE	1.73	0.53
40:J3:50:ILE:HD11	44:N3:41:ARG:HD2	1.90	0.53
41:K3:126:ARG:NH1	53:A3:1501:C:OP2	2.42	0.53
46:P3:72:ARG:HA	46:P3:75:ARG:HB2	1.90	0.53
53:A3:1485:G:H2'	53:A3:1486:C:H6	1.74	0.53
34:D4:3:ARG:NH1	53:A4:401:G:OP1	2.42	0.53
36:F4:50:TYR:OH	48:R4:74:ARG:O	2.26	0.53
53:A4:1053:C:H2'	53:A4:1054:G:H8	1.74	0.53
53:A4:1297:G:N2	53:A4:1300:A:O5'	2.42	0.53
3:E1:158:THR:HA	3:E1:195:ASP:HB2	1.91	0.53
5:G1:6:ARG:HD2	5:G1:62:LYS:HE2	1.90	0.53
8:J1:15:GLY:HA2	8:J1:47:ILE:HD12	1.90	0.53
29:A1:116:A:H5'	29:A1:117:A:H8	1.72	0.53
29:A1:1243:C:H2'	29:A1:1244:G:H8	1.74	0.53
29:A1:2161:C:H42	29:A1:2178:G:H22	1.56	0.53
2:D2:111:ARG:NE	29:A2:2739:C:OP1	2.38	0.53
7:I2:15:LEU:HB2	7:I2:134:ARG:HD2	1.90	0.53
11:M2:3:HIS:H	11:M2:5:LYS:NZ	2.05	0.53
18:T2:27:VAL:HG23	18:T2:38:ILE:HB	1.90	0.53
29:A2:556:A:H2	29:A2:2064:C:H42	1.56	0.53
29:A2:683:C:N4	29:A2:685:G:O6	2.42	0.53
29:A2:985:G:H2'	29:A2:986:G:C8	2.44	0.53
29:A2:1391:G:N2	29:A2:1432:A:N3	2.54	0.53
29:A2:2117:G:N2	29:A2:2221:U:O2	2.41	0.53
29:A2:2178:G:N2	29:A2:2179:G:O6	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:2229:G:H21	29:A2:2230:G:H22	1.57	0.53
29:A2:2659:G:OP1	29:A2:2747:G:N2	2.42	0.53
33:C3:178:LEU:HB2	53:A3:1094:C:H2'	1.90	0.53
47:Q3:48:GLU:O	47:Q3:50:LYS:NZ	2.38	0.53
53:A3:134:A:H2'	53:A3:135:A:H8	1.73	0.53
53:A3:709:C:N4	53:A3:710:G:O6	2.42	0.53
53:A3:988:G:H2'	53:A3:989:G:H8	1.74	0.53
54:V3:58:ILE:HG13	54:V3:69:VAL:HG22	1.90	0.53
40:J4:13:HIS:HA	40:J4:16:LEU:HB2	1.89	0.53
52:W4:163:ASN:HB3	52:W4:167:ASP:CA	2.38	0.53
53:A4:1059:G:H1	53:A4:1063:G:N2	2.06	0.53
53:A4:1168:G:C2	53:A4:1169:A:H1'	2.43	0.53
2:D1:154:LYS:NZ	29:A1:2527:G:O2'	2.42	0.53
7:I1:57:ALA:HB3	7:I1:124:ALA:HB2	1.90	0.53
27:c1:19:ARG:HG3	29:A1:123:G:H3'	1.91	0.53
30:B1:88:G:H1	30:B1:93:C:H42	1.56	0.53
1:C2:32:SER:HB2	29:A2:1472:G:H3'	1.91	0.53
8:J2:2:ILE:HB	8:J2:33:ALA:HB3	1.89	0.53
8:J2:91:LEU:HD22	8:J2:111:PHE:HE1	1.73	0.53
9:K2:126:VAL:HG13	9:K2:148:LEU:HD21	1.91	0.53
12:N2:27:SER:HB3	12:N2:38:GLN:HB2	1.90	0.53
13:O2:126:ALA:HA	13:O2:129:ARG:HB3	1.91	0.53
29:A2:504:G:H21	29:A2:508:A:H62	1.56	0.53
29:A2:557:G:O2'	29:A2:559:A:N6	2.42	0.53
29:A2:1262:G:H1	29:A2:1282:U:H3	1.57	0.53
29:A2:1544:A:N6	29:A2:1627:U:OP1	2.41	0.53
29:A2:2862:A:H3'	29:A2:2863:A:H8	1.73	0.53
40:J3:20:ALA:HB1	40:J3:72:VAL:HG21	1.90	0.53
43:M3:16:ASP:HB2	43:M3:27:LYS:HA	1.90	0.53
49:S3:35:SER:OG	49:S3:38:SER:OG	2.26	0.53
53:A3:134:A:H2'	53:A3:135:A:C8	2.43	0.53
53:A3:676:G:N2	54:V3:99:TYR:OH	2.40	0.53
54:V3:84:VAL:HA	54:V3:87:LEU:CB	2.39	0.53
34:D4:59:ARG:O	34:D4:63:LYS:N	2.39	0.53
44:N4:6:LEU:HD11	44:N4:23:ARG:HH12	1.74	0.53
52:W4:160:VAL:HG21	52:W4:171:VAL:CG2	2.38	0.53
2:D1:127:ASP:HA	2:D1:135:HIS:HD2	1.73	0.53
3:E1:134:GLY:HA2	3:E1:166:ALA:HB2	1.91	0.53
11:M1:11:ASN:HD21	29:A1:1702:G:H1	1.56	0.53
12:N1:94:TYR:OH	29:A1:2390:A:O4'	2.27	0.53
13:O1:52:ILE:H	13:O1:98:LYS:HE3	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:U1:53:ILE:HD11	19:U1:99:TYR:HB2	1.91	0.53
29:A1:396:C:N4	29:A1:432:C:OP2	2.41	0.53
29:A1:812:G:O2'	29:A1:814:G:OP2	2.24	0.53
29:A1:1742:U:O4	29:A1:1862:A:N6	2.39	0.53
29:A1:2308:C:N4	29:A1:2352:G:O6	2.42	0.53
2:D2:160:TYR:OH	29:A2:2693:A:OP2	2.25	0.53
3:E2:95:ARG:NH1	29:A2:614:C:O3'	2.42	0.53
29:A2:867:G:H21	29:A2:1236:A:H62	1.56	0.53
30:B2:73:C:N4	30:B2:74:G:O6	2.42	0.53
45:O3:41:GLU:HA	45:O3:44:LYS:HE3	1.91	0.53
52:X3:133:ARG:HH22	52:W4:179:ASN:CG	2.17	0.53
53:A3:928:G:O2'	53:A3:949:C:N4	2.37	0.53
34:D4:24:GLU:N	53:A4:404:G:OP1	2.42	0.53
34:D4:127:THR:OG1	34:D4:131:ARG:O	2.26	0.53
41:K4:120:ARG:HD3	53:A4:761:G:H21	1.73	0.53
52:W4:170:ASN:ND2	52:W4:183:ILE:N	2.57	0.53
52:W4:175:ARG:HB2	52:W4:179:ASN:OD1	2.09	0.53
53:A4:485:G:N2	53:A4:527:G:N3	2.57	0.53
53:A4:502:C:H2'	53:A4:503:A:C8	2.44	0.53
53:A4:1388:U:O4	53:A4:1474:G:N2	2.41	0.53
54:V4:89:THR:O	54:V4:93:ARG:N	2.42	0.53
1:C1:77:ALA:N	1:C1:117:VAL:O	2.42	0.53
9:K1:47:ASP:OD2	9:K1:50:ARG:NH1	2.41	0.53
19:U1:119:GLU:OE2	19:U1:122:ARG:NH1	2.41	0.53
29:A1:82:G:O2'	29:A1:100:G:N2	2.37	0.53
29:A1:2225:C:H5'	29:A1:2242:G:H21	1.74	0.53
4:F2:68:PRO:HA	4:F2:92:VAL:HB	1.91	0.53
10:L2:52:VAL:HG22	10:L2:56:ARG:HG2	1.89	0.53
15:Q2:57:VAL:HG12	15:Q2:99:ILE:HA	1.90	0.53
17:S2:9:LEU:HD11	17:S2:31:HIS:HB3	1.91	0.53
19:U2:58:VAL:HG12	19:U2:68:PRO:HB3	1.91	0.53
19:U2:101:PRO:HA	19:U2:123:ASP:HA	1.91	0.53
29:A2:37:C:O2'	29:A2:479:C:OP1	2.24	0.53
29:A2:321:C:H2'	29:A2:322:C:H6	1.74	0.53
29:A2:1120:C:O2'	29:A2:1139:G:N7	2.42	0.53
29:A2:2077:G:H1	29:A2:2630:C:H42	1.57	0.53
29:A2:2586:A:H3'	29:A2:2588:G:H5''	1.90	0.53
29:A2:2706:C:O2	29:A2:2859:U:O2'	2.27	0.53
32:B3:15:VAL:O	32:B3:204:ASN:ND2	2.42	0.53
34:D3:132:ARG:HH12	53:A3:473:C:H4'	1.74	0.53
44:N3:29:ARG:HH22	44:N3:41:ARG:HG2	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A3:1119:C:O2'	53:A3:1120:G:N2	2.42	0.53
53:A3:1250:A:N1	53:A3:1293:G:O2'	2.37	0.53
53:A3:1419:C:O2	53:A3:1441:G:N2	2.42	0.53
39:I4:102:LEU:HD21	53:A4:1159:G:H5''	1.91	0.53
53:A4:901:C:H2'	53:A4:902:G:C8	2.44	0.53
2:D1:53:PRO:HA	2:D1:74:PRO:HB3	1.91	0.52
9:K1:58:THR:HA	9:K1:61:ARG:HD3	1.91	0.52
18:T1:27:VAL:HG23	18:T1:38:ILE:HB	1.91	0.52
30:B1:30:C:H2'	30:B1:31:A:H8	1.74	0.52
2:D2:108:SER:OG	2:D2:162:ALA:N	2.42	0.52
4:F2:16:ARG:HG3	4:F2:31:VAL:HG21	1.90	0.52
12:N2:60:GLY:H	12:N2:65:VAL:HG12	1.74	0.52
29:A2:1439:U:N3	29:A2:1442:U:OP2	2.39	0.52
29:A2:1832:G:N2	29:A2:1852:A:OP2	2.41	0.52
29:A2:2761:U:O2	29:A2:2773:A:N6	2.39	0.52
31:e2:7:VAL:HG22	31:e2:36:GLN:HE21	1.74	0.52
32:B3:105:PHE:O	32:B3:109:SER:N	2.40	0.52
43:M3:104:ARG:O	43:M3:108:ARG:NH2	2.42	0.52
47:Q3:29:HIS:ND1	47:Q3:30:PRO:O	2.40	0.52
49:S3:34:TRP:O	53:A3:1200:U:O2'	2.21	0.52
53:A3:901:C:H2'	53:A3:902:G:C8	2.44	0.52
53:A3:1041:C:H42	53:A3:1180:U:H3	1.55	0.52
53:A3:1492:C:H2'	53:A3:1493:G:H8	1.73	0.52
1:C1:200:ASP:HA	1:C1:203:ASN:HD22	1.74	0.52
3:E1:186:ILE:HG12	3:E1:192:LEU:HD21	1.91	0.52
4:F1:22:ARG:NH1	4:F1:174:GLU:OE1	2.36	0.52
16:R1:13:SER:HB2	16:R1:16:LYS:HB2	1.91	0.52
16:R1:61:ASN:ND2	29:A1:522:G:O2'	2.42	0.52
2:D2:90:THR:OG1	2:D2:91:VAL:N	2.42	0.52
2:D2:166:THR:HG21	29:A2:2787:C:H5''	1.91	0.52
13:O2:42:ILE:HG12	13:O2:84:GLN:HE21	1.73	0.52
13:O2:115:ARG:NH2	29:A2:1785:C:OP1	2.42	0.52
29:A2:783:A:OP2	29:A2:810:A:N6	2.27	0.52
29:A2:1105:A:OP1	29:A2:1150:C:N4	2.42	0.52
29:A2:1461:G:H1	29:A2:1637:C:H42	1.56	0.52
29:A2:1911:C:O2'	29:A2:2215:G:OP1	2.28	0.52
34:D3:3:ARG:NH1	53:A3:402:G:OP1	2.42	0.52
37:G3:37:ASN:HA	37:G3:40:ALA:HB3	1.92	0.52
42:L3:114:LYS:HA	42:L3:117:ARG:HD3	1.90	0.52
52:X3:154:LEU:HD13	52:W4:173:TYR:CZ	2.43	0.52
53:A3:1351:C:H2'	53:A3:1352:G:C8	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:M4:16:ASP:O	43:M4:20:THR:OG1	2.25	0.52
43:M4:107:ALA:HB1	43:M4:110:ARG:HD3	1.91	0.52
47:Q4:53:LEU:HD12	47:Q4:85:VAL:HG11	1.91	0.52
53:A4:209:U:O3'	53:A4:211:G:N2	2.41	0.52
53:A4:341:G:N1	53:A4:342:G:N3	2.57	0.52
53:A4:500:G:N2	53:A4:512:G:O2'	2.34	0.52
9:K1:63:PRO:HG2	29:A1:2408:C:H5'	1.91	0.52
13:O1:52:ILE:HG23	13:O1:61:PHE:HB3	1.91	0.52
19:U1:123:ASP:OD1	19:U1:123:ASP:N	2.42	0.52
23:Y1:8:LEU:HG	23:Y1:31:LEU:HG	1.90	0.52
29:A1:2236:G:H2'	29:A1:2237:G:H8	1.74	0.52
29:A1:2735:U:H2'	29:A1:2736:A:H8	1.74	0.52
9:K2:71:VAL:H	29:A2:417:G:H1	1.58	0.52
16:R2:24:ILE:HG21	16:R2:36:LEU:HD11	1.91	0.52
29:A2:314:A:H62	29:A2:315:G:H21	1.57	0.52
29:A2:753:G:O2'	29:A2:775:G:N2	2.38	0.52
29:A2:1855:G:H2'	29:A2:1856:G:H8	1.75	0.52
29:A2:2547:A:O2'	29:A2:2678:G:O3'	2.28	0.52
29:A2:2810:G:O4'	29:A2:2815:G:N2	2.42	0.52
37:G3:37:ASN:HD21	39:I3:41:VAL:HG23	1.73	0.52
42:L3:97:ARG:NH2	53:A3:887:C:OP1	2.35	0.52
53:A3:1251:C:N4	53:A3:1252:G:O6	2.42	0.52
54:V3:92:LYS:CE	54:V3:92:LYS:CA	2.85	0.52
33:C4:57:ILE:HG12	33:C4:66:VAL:HG13	1.92	0.52
34:D4:25:ARG:HH21	53:A4:424:U:H5''	1.74	0.52
50:T4:91:LEU:O	50:T4:95:ALA:N	2.42	0.52
54:V4:60:VAL:HB	54:V4:67:VAL:HG12	1.91	0.52
2:D1:60:ASN:O	2:D1:61:ARG:NE	2.38	0.52
27:c1:29:LYS:NZ	29:A1:200:C:OP2	2.40	0.52
29:A1:351:G:N2	29:A1:362:C:O2	2.42	0.52
29:A1:1466:G:N2	29:A1:1628:A:O5'	2.34	0.52
29:A1:2229:G:H2'	29:A1:2230:G:H21	1.74	0.52
29:A1:2673:G:N2	29:A1:2676:A:OP2	2.42	0.52
30:B1:114:U:H2'	30:B1:115:G:C8	2.45	0.52
9:K2:84:ASN:HB3	9:K2:86:LYS:H	1.74	0.52
10:L2:56:ARG:NH2	29:A2:2483:A:O2'	2.40	0.52
19:U2:9:TYR:HA	19:U2:37:VAL:HA	1.92	0.52
20:V2:24:LYS:O	20:V2:25:ARG:NH1	2.38	0.52
29:A2:325:A:H2'	29:A2:359:C:H1'	1.90	0.52
33:C3:172:ARG:NH1	53:A3:1088:G:OP1	2.43	0.52
38:H3:14:ARG:O	38:H3:17:THR:OG1	2.26	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:O3:36:ILE:O	45:O3:40:SER:N	2.42	0.52
52:X3:172:ILE:O	52:W4:158:PHE:CD2	2.63	0.52
32:B4:60:ASP:HA	32:B4:63:MET:HB2	1.90	0.52
43:M4:19:LEU:HA	43:M4:22:ILE:HB	1.91	0.52
6:H1:45:LYS:HA	6:H1:48:GLU:HB3	1.92	0.52
10:L1:77:LYS:N	29:A1:1004:A:OP1	2.43	0.52
19:U1:154:ASP:O	19:U1:156:LYS:NZ	2.32	0.52
29:A1:314:A:H62	29:A1:315:G:H21	1.58	0.52
29:A1:1835:A:OP2	29:A1:1848:A:N6	2.35	0.52
29:A1:2534:C:HO2'	29:A1:2579:A:HO2'	1.52	0.52
12:N2:44:LYS:HG3	12:N2:46:VAL:H	1.75	0.52
13:O2:16:ARG:NH2	13:O2:18:ASP:OD2	2.42	0.52
22:X2:62:THR:OG1	29:A2:75:C:O2	2.23	0.52
29:A2:733:G:N1	29:A2:824:G:O6	2.40	0.52
29:A2:2270:G:N2	29:A2:2289:C:N3	2.57	0.52
29:A2:2366:A:OP2	29:A2:2379:G:N2	2.42	0.52
33:C3:111:LEU:HB3	33:C3:204:LEU:HD11	1.91	0.52
40:J3:50:ILE:HG12	40:J3:57:LYS:HE3	1.92	0.52
48:R3:45:SER:HB3	48:R3:51:LEU:HD11	1.91	0.52
52:X3:158:PHE:CE2	52:W4:173:TYR:HA	2.44	0.52
53:A3:1146:G:H22	53:A3:1152:G:H22	1.56	0.52
35:E4:37:ARG:NH1	35:E4:114:GLY:O	2.43	0.52
47:Q4:40:LYS:NZ	53:A4:232:C:OP1	2.43	0.52
52:W4:146:GLU:HG2	52:W4:161:PHE:HE1	1.68	0.52
53:A4:254:G:H2'	53:A4:255:G:C8	2.45	0.52
53:A4:351:A:N3	53:A4:363:U:O2'	2.38	0.52
53:A4:402:G:O6	53:A4:428:C:N4	2.43	0.52
53:A4:955:A:OP2	53:A4:1205:G:N1	2.43	0.52
16:R1:72:LYS:HB3	16:R1:106:ILE:HG13	1.92	0.52
29:A1:1099:G:O6	29:A1:1155:G:N2	2.36	0.52
29:A1:2830:G:H2'	29:A1:2831:G:C8	2.44	0.52
30:B1:16:U:OP2	30:B1:72:C:O2'	2.27	0.52
2:D2:108:SER:HB3	2:D2:165:VAL:HG21	1.92	0.52
26:b2:11:LEU:HB2	26:b2:27:LYS:HA	1.92	0.52
29:A2:628:A:H5''	29:A2:704:A:H61	1.75	0.52
29:A2:1073:G:N2	29:A2:1186:G:O6	2.41	0.52
49:S3:11:VAL:HG13	49:S3:39:THR:HB	1.92	0.52
53:A3:69:G:N1	53:A3:72:C:OP2	2.42	0.52
39:I4:122:ALA:N	53:A4:1324:G:O2'	2.42	0.52
52:W4:163:ASN:HD21	52:W4:166:THR:HB	1.27	0.52
53:A4:31:G:OP2	53:A4:301:G:N2	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A4:491:C:H42	53:A4:507:G:H1	1.57	0.52
53:A4:941:A:N7	53:A4:942:A:N6	2.58	0.52
53:A4:1424:G:O6	53:A4:1437:A:N6	2.35	0.52
25:a1:48:GLU:HB3	25:a1:58:LEU:HB2	1.91	0.52
26:b1:29:ASN:OD1	26:b1:29:ASN:N	2.42	0.52
29:A1:256:G:H22	29:A1:455:C:H42	1.58	0.52
29:A1:2538:G:H2'	29:A1:2539:G:H8	1.75	0.52
1:C2:174:ILE:HG22	1:C2:182:LEU:HD22	1.92	0.52
2:D2:55:ASN:HB3	2:D2:57:LYS:H	1.75	0.52
13:O2:5:ALA:O	13:O2:9:LEU:N	2.39	0.52
13:O2:108:ARG:NH2	53:A4:1414:G:O5'	2.43	0.52
17:S2:43:VAL:HA	17:S2:46:ALA:HB3	1.91	0.52
29:A2:2847:A:O4'	29:A2:2891:C:N4	2.43	0.52
29:A2:2857:G:H2'	29:A2:2858:G:C8	2.45	0.52
39:I3:121:ARG:NH1	39:I3:122:ALA:O	2.42	0.52
52:X3:161:PHE:HB2	52:X3:170:ASN:HB3	1.91	0.52
53:A3:143:A:N6	53:A3:164:U:O2'	2.42	0.52
53:A3:867:G:N2	53:A3:868:U:O4	2.41	0.52
53:A4:138:G:N1	53:A4:139:G:N3	2.58	0.52
53:A4:349:G:N2	53:A4:383:G:O2'	2.41	0.52
53:A4:1015:G:O2'	53:A4:1019:C:N4	2.33	0.52
1:C1:78:LYS:HE2	29:A1:1549:C:H4'	1.92	0.52
10:L1:56:ARG:HA	10:L1:59:ARG:HA	1.92	0.52
12:N1:61:ASN:H	12:N1:64:GLU:HB3	1.75	0.52
1:C2:41:GLY:HA3	29:A2:741:C:H5''	1.92	0.52
1:C2:160:GLY:N	1:C2:198:ASN:O	2.43	0.52
3:E2:53:THR:OG1	29:A2:850:G:N2	2.38	0.52
7:I2:27:ALA:O	7:I2:31:ALA:N	2.38	0.52
7:I2:39:ARG:NH1	7:I2:49:GLY:O	2.43	0.52
23:Y2:19:GLN:NE2	30:B2:85:G:OP1	2.42	0.52
29:A2:216:G:O3'	29:A2:218:A:N6	2.43	0.52
29:A2:656:G:O2'	29:A2:666:U:O2'	2.23	0.52
30:B2:15:A:O2'	30:B2:17:A:OP2	2.28	0.52
37:G3:151:TYR:HB3	37:G3:154:TYR:HB2	1.92	0.52
50:T3:61:SER:O	50:T3:65:LYS:NZ	2.39	0.52
53:A3:418:G:H3'	53:A3:419:G:H8	1.75	0.52
53:A4:21:G:H21	53:A4:891:A:H62	1.57	0.52
53:A4:101:G:H5''	53:A4:102:A:H5'	1.90	0.52
53:A4:135:A:H4'	53:A4:176:U:H1'	1.92	0.52
53:A4:611:G:O6	53:A4:613:G:N2	2.43	0.52
53:A4:668:G:N1	53:A4:669:U:O4	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A4:1502:G:H2'	53:A4:1503:G:H8	1.75	0.52
4:F1:10:LYS:NZ	4:F1:175:LEU:O	2.37	0.52
5:G1:125:VAL:HB	5:G1:128:PRO:HD2	1.92	0.52
21:W1:16:ASN:HB2	29:A1:408:U:H4'	1.92	0.52
29:A1:741:C:H2'	29:A1:742:C:C6	2.45	0.52
29:A1:985:G:H2'	29:A1:986:G:C8	2.45	0.52
29:A1:1044:A:H2'	29:A1:1045:G:C8	2.45	0.52
29:A1:1661:G:N1	29:A1:1667:G:O6	2.43	0.52
29:A1:2546:G:H2'	29:A1:2547:A:C8	2.45	0.52
29:A2:855:C:O3'	29:A2:879:G:N2	2.42	0.52
29:A2:2120:U:H3	29:A2:2217:G:H1	1.57	0.52
29:A2:2141:A:H61	29:A2:2185:C:H3'	1.74	0.52
29:A2:2229:G:N2	29:A2:2230:G:H22	2.07	0.52
29:A2:2613:G:H2'	29:A2:2614:A:H8	1.74	0.52
32:B3:204:ASN:HB3	32:B3:206:ASP:H	1.75	0.52
35:E3:102:ALA:O	35:E3:107:ARG:NH2	2.42	0.52
39:I3:24:GLY:HA3	39:I3:56:LEU:HD23	1.92	0.52
43:M3:88:ARG:NH2	53:A3:1302:C:OP1	2.43	0.52
53:A3:1228:U:N3	53:A3:1272:G:N3	2.58	0.52
53:A4:289:U:H3	53:A4:298:A:H61	1.57	0.52
53:A4:329:C:O2'	53:A4:1416:A:O3'	2.25	0.52
53:A4:728:C:OP1	53:A4:819:G:N2	2.42	0.52
53:A4:960:A:O2'	53:A4:1031:U:O2	2.23	0.52
3:E1:119:ARG:HE	3:E1:120:GLU:HG3	1.75	0.52
10:L1:27:VAL:HB	10:L1:134:ARG:HH11	1.75	0.52
16:R1:14:PRO:O	16:R1:18:ARG:N	2.39	0.52
17:S1:66:LEU:HD12	29:A1:63:A:C4	2.44	0.52
18:T1:18:GLY:H	29:A1:335:A:H4'	1.74	0.52
29:A1:1930:G:OP2	29:A1:1953:G:O2'	2.27	0.52
29:A1:1974:G:N2	29:A1:1975:U:O4	2.42	0.52
29:A1:2659:G:OP1	29:A1:2747:G:N2	2.43	0.52
3:E2:181:LEU:HD11	3:E2:198:ALA:HB1	1.91	0.52
4:F2:38:VAL:HA	4:F2:93:THR:HA	1.91	0.52
21:W2:56:GLN:NE2	21:W2:86:SER:OG	2.43	0.52
29:A2:38:A:H2'	29:A2:39:C:H6	1.75	0.52
29:A2:270:G:H1	29:A2:276:C:H42	1.56	0.52
29:A2:1818:A:N6	29:A2:1820:A:N3	2.58	0.52
41:K3:21:ILE:O	41:K3:85:ARG:N	2.40	0.52
53:A3:747:C:H2'	53:A3:748:G:C8	2.44	0.52
53:A3:839:C:H2'	53:A3:840:U:H6	1.75	0.52
53:A3:993:A:O2'	53:A3:1198:C:N3	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A3:1341:A:H2'	53:A3:1342:G:H8	1.74	0.52
53:A3:1346:U:H3'	53:A3:1347:G:H8	1.75	0.52
36:F4:78:GLU:HA	36:F4:81:ILE:HD12	1.92	0.52
37:G4:119:ARG:NH1	53:A4:1221:U:OP1	2.41	0.52
53:A4:120:G:N1	53:A4:230:C:N3	2.58	0.52
5:G1:12:PRO:HD2	5:G1:49:VAL:HG13	1.91	0.51
11:M1:53:HIS:HA	11:M1:56:LYS:HD3	1.91	0.51
12:N1:95:HIS:ND1	30:B1:39:C:O2	2.42	0.51
21:W1:50:ARG:HE	21:W1:59:THR:HG1	1.57	0.51
29:A1:264:C:O2	29:A1:283:G:N2	2.42	0.51
29:A1:494:A:H3'	29:A1:495:G:H8	1.75	0.51
29:A1:654:A:H61	29:A1:664:A:H5''	1.75	0.51
29:A1:2121:C:N4	29:A1:2214:G:O6	2.43	0.51
29:A1:2804:C:H4'	29:A1:2903:A:H2	1.74	0.51
30:B1:73:C:N4	30:B1:74:G:O6	2.43	0.51
3:E2:46:ARG:NH1	29:A2:469:U:O2	2.35	0.51
8:J2:106:LEU:O	8:J2:111:PHE:N	2.43	0.51
14:P2:26:GLY:N	29:A2:18:C:OP1	2.42	0.51
29:A2:162:C:N4	29:A2:163:G:O6	2.43	0.51
29:A2:394:A:H4'	29:A2:395:C:H5'	1.91	0.51
29:A2:1809:G:N2	29:A2:1810:U:O2	2.43	0.51
32:B3:11:LEU:HD11	32:B3:209:ARG:HB3	1.90	0.51
41:K3:53:SER:OG	53:A3:678:A:OP2	2.28	0.51
50:T3:36:LEU:HD23	50:T3:39:LYS:HG3	1.92	0.51
52:X3:162:ARG:HH11	52:X3:162:ARG:HG3	1.76	0.51
36:F4:24:GLU:O	36:F4:28:ARG:NH1	2.43	0.51
53:A4:1039:G:N2	53:A4:1185:A:N3	2.57	0.51
53:A4:1240:C:O2	53:A4:1264:G:O2'	2.27	0.51
53:A4:1250:A:N1	53:A4:1293:G:O2'	2.42	0.51
53:A4:1417:G:N2	53:A4:1443:C:O2	2.38	0.51
53:A4:1492:C:H2'	53:A4:1493:G:H8	1.74	0.51
1:C1:101:GLU:OE1	1:C1:103:ARG:NH2	2.43	0.51
7:I1:58:ASP:N	7:I1:58:ASP:OD1	2.42	0.51
14:P1:62:ILE:O	14:P1:66:ASN:N	2.41	0.51
29:A1:20:C:H2'	29:A1:21:A:H8	1.75	0.51
29:A1:305:C:N4	29:A1:382:A:OP1	2.43	0.51
29:A1:1701:A:H62	29:A1:1702:G:N2	2.08	0.51
29:A1:1855:G:H2'	29:A1:1856:G:H8	1.74	0.51
29:A1:2484:G:N2	29:A1:2495:G:O2'	2.43	0.51
29:A1:2522:G:H2'	29:A1:2523:G:C8	2.46	0.51
1:C2:108:PRO:HA	1:C2:196:VAL:HA	1.90	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:J2:38:VAL:HG22	8:J2:61:VAL:HB	1.91	0.51
29:A2:1067:U:OP1	29:A2:1168:G:N2	2.42	0.51
29:A2:2419:G:N2	29:A2:2425:A:OP2	2.44	0.51
29:A2:2604:A:H61	29:A2:2618:U:H3	1.57	0.51
32:B3:69:LEU:HB3	32:B3:162:ILE:HG22	1.92	0.51
32:B3:111:ARG:NH2	53:A3:1086:G:OP1	2.42	0.51
41:K3:53:SER:OG	53:A3:675:U:N3	2.43	0.51
45:O3:64:ARG:NH1	53:A3:565:U:OP1	2.43	0.51
50:T3:16:HIS:CE1	50:T3:23:ARG:HH22	2.27	0.51
44:N4:5:ALA:O	44:N4:9:LYS:N	2.43	0.51
44:N4:61:TRP:O	53:A4:1168:G:O2'	2.28	0.51
52:W4:170:ASN:CG	52:W4:183:ILE:N	2.68	0.51
53:A4:275:C:H5''	53:A4:276:G:H21	1.75	0.51
53:A4:561:C:N4	53:A4:562:G:O6	2.43	0.51
53:A4:1417:G:O6	53:A4:1442:C:N4	2.31	0.51
54:V4:63:PRO:O	54:V4:97:ARG:NH2	2.43	0.51
7:I1:27:ALA:O	7:I1:31:ALA:N	2.38	0.51
13:O1:55:ASN:HD22	13:O1:58:ASN:HB2	1.74	0.51
29:A1:1214:C:N4	29:A1:1230:G:H22	2.08	0.51
29:A1:2362:U:H2'	29:A1:2363:G:C8	2.45	0.51
29:A1:2857:G:H2'	29:A1:2858:G:C8	2.45	0.51
13:O2:111:ARG:HG2	13:O2:114:LEU:HD12	1.92	0.51
29:A2:258:C:H1'	29:A2:454:G:H1	1.76	0.51
29:A2:494:A:H3'	29:A2:495:G:H8	1.75	0.51
40:J3:46:ARG:NH2	53:A3:1234:G:OP2	2.40	0.51
43:M3:111:LYS:NZ	53:A3:1208:A:OP1	2.40	0.51
44:N3:17:LYS:HB2	53:A3:1297:G:H4'	1.92	0.51
45:O3:81:LEU:HA	45:O3:84:LYS:HZ3	1.76	0.51
52:X3:161:PHE:CB	52:X3:170:ASN:HB3	2.40	0.51
53:A3:1143:C:H2'	53:A3:1144:C:H6	1.76	0.51
36:F4:7:ASN:HD21	36:F4:60:PHE:HD1	1.56	0.51
42:L4:70:ILE:HG22	42:L4:102:ARG:HD3	1.93	0.51
52:W4:142:MET:HB2	52:W4:161:PHE:CE1	2.45	0.51
1:C1:260:ARG:N	29:A1:1831:U:OP1	2.44	0.51
4:F1:5:VAL:HG12	4:F1:8:LYS:H	1.75	0.51
9:K1:81:GLN:O	29:A1:663:G:N1	2.44	0.51
19:U1:115:GLY:HA2	19:U1:177:PRO:HG3	1.90	0.51
29:A1:224:C:H42	29:A1:459:G:H22	1.56	0.51
29:A1:237:G:O2'	29:A1:414:G:N1	2.44	0.51
29:A1:2457:C:H2'	29:A1:2458:G:C8	2.46	0.51
30:B1:19:C:N4	30:B1:20:G:O6	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:U2:26:GLY:HA2	19:U2:85:HIS:HD2	1.75	0.51
19:U2:72:ARG:HH22	19:U2:98:MET:HB3	1.75	0.51
19:U2:127:LYS:HB2	19:U2:164:ALA:HB2	1.91	0.51
22:X2:4:SER:HA	29:A2:97:G:H5'	1.91	0.51
24:Z2:35:VAL:HG22	24:Z2:37:SER:H	1.75	0.51
29:A2:1133:A:O3'	29:A2:1152:C:O2'	2.28	0.51
29:A2:1412:G:N2	29:A2:1415:A:OP2	2.41	0.51
33:C3:154:SER:HB2	53:A3:1039:G:H5''	1.93	0.51
37:G3:78:ARG:HE	37:G3:156:TRP:CD1	2.29	0.51
39:I3:128:ARG:NH2	53:A3:1321:A:N1	2.58	0.51
49:S3:7:LYS:N	53:A3:1300:A:OP1	2.44	0.51
53:A3:510:G:C2	53:A3:511:C:H1'	2.44	0.51
53:A3:1046:G:N2	53:A3:1171:G:O3'	2.42	0.51
32:B4:209:ARG:HH12	32:B4:213:LEU:HD13	1.75	0.51
33:C4:30:ARG:NH1	44:N4:35:ARG:O	2.43	0.51
41:K4:19:ALA:HB3	41:K4:82:VAL:HA	1.93	0.51
45:O4:17:ARG:NH1	45:O4:25:THR:OG1	2.43	0.51
49:S4:15:LEU:HD13	49:S4:18:LYS:HD3	1.93	0.51
53:A4:1123:C:N4	53:A4:1125:G:N7	2.58	0.51
19:U1:116:VAL:HG23	19:U1:177:PRO:HB3	1.91	0.51
20:V1:32:ARG:O	20:V1:35:ASN:ND2	2.40	0.51
29:A1:2534:C:O2'	29:A1:2579:A:O2'	2.20	0.51
14:P2:54:LYS:HE3	29:A2:1042:C:H3'	1.92	0.51
20:V2:56:ASP:OD1	20:V2:56:ASP:N	2.41	0.51
29:A2:321:C:H42	29:A2:368:C:H42	1.57	0.51
29:A2:770:C:H2'	29:A2:771:A:H8	1.75	0.51
29:A2:1650:U:H3'	29:A2:1651:A:H8	1.75	0.51
29:A2:2300:A:N3	29:A2:2301:A:N6	2.59	0.51
31:e2:26:ILE:HA	31:e2:33:LYS:HG3	1.92	0.51
43:M3:89:GLY:HA2	43:M3:92:HIS:HB2	1.93	0.51
53:A3:776:U:C4	53:A3:777:A:H1'	2.46	0.51
53:A3:1082:C:N4	53:A3:1085:C:OP1	2.43	0.51
33:C4:63:ASN:HD21	33:C4:98:ASN:HD22	1.58	0.51
34:D4:18:LYS:HA	34:D4:33:MET:HE2	1.92	0.51
44:N4:32:SER:OG	44:N4:41:ARG:N	2.43	0.51
47:Q4:70:ARG:NE	53:A4:229:C:O3'	2.44	0.51
49:S4:31:ILE:HB	49:S4:49:ILE:HG23	1.91	0.51
52:W4:163:ASN:C	52:W4:165:LYS:H	2.19	0.51
11:M1:26:LYS:HA	11:M1:29:LEU:HD12	1.92	0.51
24:Z1:59:PHE:H	49:S3:67:VAL:HG12	1.76	0.51
29:A1:37:C:O2'	29:A1:479:C:OP1	2.29	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A1:1870:C:O2'	29:A1:1951:A:N3	2.44	0.51
29:A1:2271:U:O4	29:A1:2272:C:N4	2.44	0.51
29:A1:2858:G:H2'	29:A1:2859:U:C6	2.46	0.51
4:F2:10:LYS:O	4:F2:15:VAL:N	2.39	0.51
4:F2:126:ASP:OD1	4:F2:129:GLY:N	2.44	0.51
16:R2:84:ARG:NH2	29:A2:1370:A:O3'	2.44	0.51
26:b2:12:GLU:HB3	26:b2:53:LYS:HD3	1.93	0.51
29:A2:1326:A:H2'	29:A2:1327:G:H8	1.75	0.51
29:A2:1621:A:H2'	29:A2:1622:G:C8	2.42	0.51
29:A2:2134:G:N1	29:A2:2144:G:O4'	2.44	0.51
29:A2:2320:C:H2'	29:A2:2321:G:H21	1.75	0.51
38:H3:119:LEU:HD13	38:H3:124:ALA:HA	1.91	0.51
40:J3:61:GLU:OE1	44:N3:45:ARG:NH2	2.41	0.51
43:M3:14:ARG:NH2	53:A3:1277:C:OP1	2.43	0.51
52:X3:155:GLY:C	52:W4:173:TYR:OH	2.45	0.51
53:A3:94:A:H2'	53:A3:95:G:H8	1.75	0.51
53:A3:611:G:H2'	53:A3:612:G:H8	1.76	0.51
53:A3:1087:A:H2'	53:A3:1088:G:H8	1.75	0.51
34:D4:68:TYR:OH	34:D4:98:GLU:OE1	2.18	0.51
37:G4:93:PRO:HA	37:G4:96:GLN:HB2	1.92	0.51
53:A4:604:A:N6	53:A4:605:A:N1	2.59	0.51
53:A4:773:A:H61	54:V4:95:ARG:HD3	1.75	0.51
4:F1:139:LEU:HD22	4:F1:152:LEU:HD22	1.91	0.51
6:H1:26:ALA:HB3	6:H1:27:ARG:HD3	1.93	0.51
8:J1:13:ASN:HD21	8:J1:95:GLY:HA3	1.76	0.51
9:K1:50:ARG:NH2	29:A1:241:A:O3'	2.44	0.51
18:T1:86:ARG:HH12	29:A1:323:G:H5''	1.76	0.51
29:A1:791:G:H2'	29:A1:792:G:C8	2.45	0.51
29:A1:1809:G:N2	29:A1:1810:U:O2	2.44	0.51
29:A1:2450:G:H2'	29:A1:2451:U:C6	2.46	0.51
29:A1:2467:A:H2'	29:A1:2468:G:H8	1.76	0.51
29:A1:2758:C:OP2	29:A1:2770:C:N4	2.43	0.51
4:F2:10:LYS:HA	4:F2:13:GLU:HB3	1.93	0.51
9:K2:59:LEU:O	9:K2:61:ARG:N	2.44	0.51
10:L2:14:ARG:NH1	29:A2:1002:C:OP2	2.43	0.51
10:L2:129:THR:OG1	10:L2:130:LYS:N	2.43	0.51
11:M2:87:TYR:OH	11:M2:117:VAL:O	2.26	0.51
20:V2:67:VAL:HG22	20:V2:81:VAL:HG22	1.92	0.51
30:B2:19:C:N4	30:B2:20:G:O6	2.43	0.51
33:C3:116:VAL:HG13	33:C3:137:ALA:HB1	1.91	0.51
37:G3:71:PRO:HG2	37:G3:91:VAL:HG21	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:I3:29:ASN:OD1	39:I3:62:TYR:OH	2.29	0.51
40:J3:19:SER:HB3	40:J3:22:LYS:HE2	1.92	0.51
43:M3:4:ILE:HA	43:M3:56:LEU:HD21	1.93	0.51
43:M3:4:ILE:HG12	43:M3:9:ILE:HD11	1.93	0.51
47:Q3:17:LYS:NZ	53:A3:251:U:OP1	2.38	0.51
53:A3:502:C:H2'	53:A3:503:A:C8	2.46	0.51
53:A3:1286:G:H21	53:A3:1312:G:H2'	1.75	0.51
35:E4:7:GLU:HG3	35:E4:112:LEU:HD22	1.93	0.51
35:E4:14:ARG:HH21	53:A4:17:U:H5''	1.76	0.51
36:F4:2:ARG:NH2	53:A4:721:C:OP1	2.44	0.51
53:A4:575:G:O6	53:A4:631:A:N6	2.44	0.51
53:A4:773:A:H5''	54:V4:31:TYR:HA	1.93	0.51
54:V4:70:GLU:O	54:V4:86:ARG:NH1	2.44	0.51
4:F1:122:PRO:HD3	4:F1:181:ARG:H	1.76	0.51
7:I1:133:GLN:NE2	29:A1:2910:G:OP1	2.41	0.51
8:J1:68:GLU:HG3	8:J1:78:ARG:HB3	1.91	0.51
19:U1:148:ASP:OD2	19:U1:171:ILE:N	2.38	0.51
29:A1:55:A:N6	29:A1:69:G:O6	2.43	0.51
29:A1:557:G:O2'	29:A1:559:A:N7	2.42	0.51
1:C2:54:ARG:NH2	29:A2:1856:G:OP1	2.43	0.51
3:E2:11:VAL:HG23	3:E2:12:LEU:HB2	1.92	0.51
3:E2:169:ASN:ND2	29:A2:345:A:O2'	2.37	0.51
19:U2:10:ARG:NH2	30:B2:78:G:OP1	2.40	0.51
29:A2:1103:G:N2	29:A2:1132:A:O2'	2.42	0.51
31:e2:15:LYS:HD3	31:e2:26:ILE:HD11	1.93	0.51
39:I3:34:ASN:O	39:I3:38:GLN:NE2	2.35	0.51
50:T3:89:ARG:NH2	50:T3:93:GLU:OE2	2.43	0.51
52:X3:158:PHE:CD1	52:X3:158:PHE:N	2.79	0.51
53:A3:1148:G:N2	53:A3:1152:G:N3	2.59	0.51
53:A3:1464:G:H2'	53:A3:1465:G:C8	2.45	0.51
35:E4:9:LYS:HB3	35:E4:33:VAL:HB	1.92	0.51
52:W4:162:ARG:CG	52:W4:162:ARG:NH1	2.72	0.51
53:A4:143:A:N6	53:A4:165:A:N7	2.59	0.51
53:A4:372:G:H2'	53:A4:373:G:C8	2.46	0.51
53:A4:714:G:N2	53:A4:715:C:N3	2.57	0.51
18:T1:33:LYS:NZ	29:A1:85:C:OP1	2.31	0.51
27:c1:29:LYS:NZ	29:A1:199:C:OP1	2.40	0.51
29:A1:36:G:O6	29:A1:472:C:N4	2.43	0.51
29:A1:929:G:N2	29:A1:946:C:O2	2.37	0.51
9:K2:70:GLN:HB3	29:A2:417:G:N1	2.26	0.51
11:M2:33:ARG:NH2	29:A2:1328:G:OP2	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:T2:75:ILE:HD12	18:T2:96:ILE:HD13	1.91	0.51
29:A2:576:G:H2'	29:A2:577:G:H8	1.75	0.51
29:A2:1007:A:O2'	29:A2:2470:C:O2	2.28	0.51
29:A2:1182:C:N4	29:A2:1185:G:OP2	2.33	0.51
29:A2:1383:U:H2'	29:A2:1384:A:C8	2.46	0.51
29:A2:1399:C:O2'	29:A2:1620:A:N3	2.43	0.51
53:A3:1039:G:N2	53:A3:1185:A:N3	2.59	0.51
54:V3:86:ARG:O	54:V3:90:GLN:CG	2.59	0.51
49:S4:18:LYS:NZ	53:A4:992:A:OP2	2.40	0.51
2:D1:56:PRO:HB3	2:D1:75:VAL:HG22	1.93	0.51
29:A1:1442:U:H4'	29:A1:1651:A:H4'	1.93	0.51
29:A1:2155:G:H5''	29:A1:2156:U:H5''	1.93	0.51
29:A1:2908:U:H3'	29:A1:2912:C:H41	1.75	0.51
29:A2:1228:C:H2'	29:A2:1229:A:C8	2.45	0.51
29:A2:1502:A:H62	29:A2:1510:G:H21	1.58	0.51
29:A2:2405:G:O2'	29:A2:2438:C:N4	2.43	0.51
32:B3:21:ARG:HH12	52:X3:142:MET:HE1	1.76	0.51
32:B3:36:ARG:HE	32:B3:41:ILE:HD11	1.75	0.51
42:L3:29:GLY:O	53:A3:536:A:O2'	2.29	0.51
53:A3:294:G:N2	53:A3:549:G:O6	2.33	0.51
53:A3:1077:U:OP1	53:A3:1090:G:N2	2.44	0.51
53:A3:1432:C:H4'	53:A3:1434:G:C8	2.46	0.51
53:A3:1486:C:O2'	53:A3:1487:U:O4'	2.25	0.51
54:V3:95:ARG:O	54:V3:99:TYR:N	2.43	0.51
40:J4:62:HIS:HB2	44:N4:59:ALA:HB3	1.91	0.51
53:A4:175:G:N2	53:A4:202:A:N1	2.59	0.51
53:A4:1007:C:H42	53:A4:1013:G:H1	1.59	0.51
53:A4:1296:U:H3	53:A4:1300:A:H8	1.59	0.51
2:D1:160:TYR:OH	29:A1:2693:A:OP2	2.29	0.50
4:F1:170:ARG:HD2	4:F1:173:LEU:HD12	1.93	0.50
12:N1:30:ARG:HH12	12:N1:97:ARG:CZ	2.25	0.50
13:O1:55:ASN:ND2	29:A1:2697:C:OP1	2.28	0.50
20:V1:46:LYS:N	20:V1:77:ARG:O	2.44	0.50
24:Z1:55:ARG:HH12	24:Z1:58:ARG:HB2	1.77	0.50
28:d1:14:VAL:HG22	28:d1:24:ALA:HB2	1.91	0.50
29:A1:216:G:O3'	29:A1:218:A:N6	2.44	0.50
29:A1:435:G:H22	29:A1:449:C:H42	1.59	0.50
1:C2:38:LYS:NZ	29:A2:1618:A:O2'	2.44	0.50
3:E2:72:ARG:O	29:A2:1303:U:N3	2.44	0.50
4:F2:72:ARG:NH1	4:F2:85:GLY:O	2.39	0.50
12:N2:10:ARG:HH11	29:A2:2308:C:H5'	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:O2:27:THR:OG1	13:O2:111:ARG:NH2	2.45	0.50
17:S2:62:LYS:NZ	29:A2:1386:G:N7	2.59	0.50
23:Y2:26:LEU:O	23:Y2:35:ARG:NH1	2.44	0.50
25:a2:12:SER:HB3	29:A2:2044:A:H5'	1.93	0.50
29:A2:1742:U:O4	29:A2:1862:A:N6	2.41	0.50
29:A2:2296:G:H1	29:A2:2441:C:H42	1.58	0.50
29:A2:2450:G:H2'	29:A2:2451:U:C6	2.45	0.50
29:A2:2746:G:H2'	29:A2:2747:G:C8	2.47	0.50
30:B2:68:A:N6	30:B2:111:C:O4'	2.44	0.50
32:B3:21:ARG:HH21	32:B3:39:ILE:HD13	1.76	0.50
36:F3:73:ASN:OD1	36:F3:77:ARG:NH1	2.45	0.50
39:I3:20:ARG:NH2	53:A3:1112:A:O3'	2.44	0.50
53:A3:1387:G:N2	53:A3:1496:A:O2'	2.42	0.50
34:D4:13:ARG:NH2	34:D4:36:ARG:HB2	2.26	0.50
42:L4:25:PRO:O	42:L4:98:TYR:OH	2.30	0.50
52:W4:143:ASP:HB3	52:W4:144:PRO:HD2	1.93	0.50
52:W4:160:VAL:CG2	52:W4:171:VAL:HG22	2.41	0.50
53:A4:387:G:O2'	53:A4:467:C:O2'	2.29	0.50
53:A4:1456:C:N3	53:A4:1457:G:N1	2.58	0.50
7:I1:65:LYS:NZ	29:A1:1188:U:O4	2.45	0.50
22:X1:24:LEU:O	22:X1:28:LYS:N	2.44	0.50
28:d1:50:LEU:HB3	28:d1:51:ALA:HB2	1.93	0.50
29:A1:334:G:N2	29:A1:355:A:O5'	2.43	0.50
29:A1:1160:G:N1	29:A1:1161:U:O2	2.44	0.50
29:A1:2261:A:H61	29:A1:2271:U:H3	1.58	0.50
29:A1:2467:A:H2'	29:A1:2468:G:C8	2.46	0.50
29:A1:2567:G:O2'	29:A1:2596:G:N2	2.43	0.50
29:A1:2746:G:H2'	29:A1:2747:G:C8	2.47	0.50
4:F2:78:SER:HA	4:F2:81:LYS:H	1.76	0.50
9:K2:84:ASN:N	9:K2:87:ASP:OD2	2.40	0.50
11:M2:53:HIS:HA	11:M2:56:LYS:HE2	1.94	0.50
13:O2:96:ARG:HH22	29:A2:2708:G:H1'	1.76	0.50
29:A2:30:G:N2	29:A2:538:U:O2	2.44	0.50
29:A2:248:G:H2'	29:A2:249:G:H8	1.76	0.50
29:A2:622:U:H2'	29:A2:623:G:C8	2.46	0.50
29:A2:2443:G:O2'	29:A2:2445:U:OP1	2.24	0.50
33:C3:54:ARG:HB2	33:C3:69:HIS:HB2	1.93	0.50
37:G3:141:VAL:HA	37:G3:144:MET:HB2	1.93	0.50
39:I3:46:ALA:HA	39:I3:78:LYS:HD3	1.93	0.50
53:A3:198:U:H2'	53:A3:199:C:H6	1.75	0.50
53:A3:204:G:H3'	53:A3:205:G:C8	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A3:392:A:N7	53:A3:530:A:O2'	2.42	0.50
53:A3:601:C:N4	53:A3:604:A:O5'	2.44	0.50
52:W4:163:ASN:HB3	52:W4:167:ASP:N	2.26	0.50
53:A4:1236:G:H21	53:A4:1239:G:H22	1.58	0.50
14:P1:91:ASP:HA	14:P1:95:LEU:HB2	1.94	0.50
14:P1:109:LEU:O	14:P1:113:ALA:N	2.45	0.50
19:U1:118:GLN:NE2	29:A1:923:G:O2'	2.43	0.50
26:b1:44:ARG:HD3	26:b1:44:ARG:H	1.76	0.50
29:A1:1566:C:H2'	29:A1:1567:G:C8	2.47	0.50
29:A1:1971:C:H2'	29:A1:1972:G:H8	1.76	0.50
29:A1:2732:G:H2'	29:A1:2733:G:H8	1.77	0.50
2:D2:13:ARG:HA	2:D2:22:PRO:HA	1.93	0.50
12:N2:30:ARG:NH2	12:N2:31:SER:O	2.44	0.50
19:U2:144:LEU:HB3	19:U2:146:ILE:HG22	1.93	0.50
24:Z2:58:ARG:O	49:S4:70:LYS:N	2.44	0.50
29:A2:741:C:O2	29:A2:820:G:N2	2.44	0.50
29:A2:1089:C:N4	29:A2:1163:G:N7	2.60	0.50
29:A2:2362:U:H2'	29:A2:2363:G:C8	2.46	0.50
29:A2:2567:G:O2'	29:A2:2596:G:N2	2.44	0.50
32:B3:213:LEU:O	32:B3:216:SER:OG	2.29	0.50
38:H3:109:ILE:HD12	38:H3:111:ILE:HG13	1.93	0.50
47:Q3:22:LEU:HD11	47:Q3:39:SER:HB3	1.92	0.50
53:A3:349:G:N2	53:A3:383:G:O2'	2.41	0.50
53:A3:836:A:H2'	53:A3:837:A:H8	1.75	0.50
54:V3:92:LYS:HD2	54:V3:92:LYS:N	2.27	0.50
33:C4:92:ALA:HA	33:C4:96:GLY:HA2	1.92	0.50
39:I4:121:ARG:HH22	53:A4:1214:G:H5'	1.76	0.50
42:L4:17:LYS:HB3	42:L4:19:ARG:NH1	2.26	0.50
50:T4:72:LEU:HD21	50:T4:80:ARG:HG3	1.93	0.50
53:A4:134:A:H2	53:A4:218:U:H3	1.59	0.50
53:A4:369:A:N1	53:A4:385:C:O2'	2.44	0.50
53:A4:423:G:H4'	53:A4:424:U:H4'	1.92	0.50
1:C1:77:ALA:HB3	1:C1:117:VAL:HB	1.93	0.50
1:C1:143:HIS:O	1:C1:192:THR:N	2.42	0.50
2:D1:104:VAL:HG21	2:D1:188:VAL:HG22	1.93	0.50
11:M1:33:ARG:NH1	29:A1:1328:G:OP1	2.44	0.50
29:A1:576:G:H21	29:A1:1267:A:H2	1.60	0.50
29:A1:980:A:H2'	29:A1:981:G:H8	1.75	0.50
30:B1:87:G:O6	30:B1:94:C:N4	2.44	0.50
10:L2:20:ALA:HA	19:U2:79:ARG:HD2	1.92	0.50
13:O2:55:ASN:ND2	29:A2:2697:C:OP1	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:U2:120:ILE:HD11	19:U2:169:GLU:HA	1.93	0.50
28:d2:34:TRP:CD1	29:A2:2433:U:H5''	2.46	0.50
29:A2:1633:C:OP1	29:A2:1635:A:N6	2.44	0.50
29:A2:1959:G:H2'	29:A2:1986:C:H42	1.75	0.50
29:A2:2151:G:O2'	29:A2:2186:G:N2	2.43	0.50
29:A2:2295:C:H2'	29:A2:2296:G:C8	2.47	0.50
38:H3:16:ALA:HA	38:H3:19:VAL:HG22	1.93	0.50
40:J3:82:ILE:HA	40:J3:86:MET:HB2	1.94	0.50
47:Q3:5:VAL:HG12	47:Q3:58:GLU:HG3	1.94	0.50
54:V3:69:VAL:CG1	54:V3:87:LEU:HD22	2.42	0.50
38:H4:24:THR:OG1	38:H4:25:ASP:N	2.43	0.50
41:K4:101:SER:OG	41:K4:103:LEU:O	2.29	0.50
46:P4:62:VAL:O	53:A4:222:G:N2	2.44	0.50
52:W4:147:ALA:O	52:W4:159:PHE:CE2	2.65	0.50
52:W4:151:MET:SD	52:W4:151:MET:C	2.94	0.50
53:A4:1148:G:N2	53:A4:1152:G:N3	2.59	0.50
3:E1:102:PRO:O	3:E1:106:ARG:N	2.44	0.50
4:F1:73:ALA:HA	29:A1:2326:U:H5'	1.93	0.50
29:A1:638:G:N2	29:A1:642:A:O2'	2.42	0.50
29:A1:2418:C:N4	29:A1:2419:G:O6	2.45	0.50
30:B1:19:C:N4	30:B1:111:C:O2	2.44	0.50
1:C2:24:ILE:HD11	1:C2:91:ARG:HD2	1.94	0.50
21:W2:5:CYS:HB3	21:W2:9:GLY:HA2	1.94	0.50
29:A2:617:G:N3	29:A2:715:G:N2	2.59	0.50
29:A2:656:G:H1	29:A2:661:C:H42	1.58	0.50
29:A2:1495:C:H2'	29:A2:1496:G:H8	1.76	0.50
29:A2:2023:C:N4	29:A2:2024:G:O6	2.45	0.50
29:A2:2260:G:H1	29:A2:2272:C:H42	1.59	0.50
39:I3:102:LEU:HD21	53:A3:1159:G:H3'	1.93	0.50
42:L3:5:PRO:HD2	42:L3:10:LEU:HD11	1.93	0.50
43:M3:15:VAL:HG13	43:M3:18:ALA:HB3	1.94	0.50
53:A3:955:A:OP1	53:A3:957:C:N4	2.44	0.50
53:A3:1245:C:H2'	53:A3:1246:G:C8	2.47	0.50
34:D4:52:SER:OG	34:D4:55:ALA:N	2.34	0.50
38:H4:96:GLY:N	38:H4:99:GLU:OE1	2.45	0.50
52:W4:151:MET:HG3	52:W4:157:SER:CB	2.40	0.50
53:A4:1059:G:H1	53:A4:1063:G:H22	1.58	0.50
53:A4:1105:A:N1	53:A4:1131:C:N4	2.59	0.50
53:A4:1414:G:N1	53:A4:1444:G:N7	2.58	0.50
1:C1:3:VAL:HG13	1:C1:5:LYS:HE3	1.94	0.50
1:C1:133:LEU:HA	1:C1:136:ILE:HD12	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:183:ARG:HG3	1:C1:269:PHE:HB3	1.93	0.50
3:E1:201:VAL:O	3:E1:205:ARG:N	2.42	0.50
13:O1:80:SER:HB3	13:O1:83:ILE:HG12	1.94	0.50
15:Q1:67:GLY:N	15:Q1:89:GLN:O	2.45	0.50
17:S1:54:VAL:HG13	17:S1:81:VAL:HG12	1.94	0.50
21:W1:20:ARG:HE	21:W1:32:LYS:HD3	1.75	0.50
29:A1:153:C:H42	29:A1:163:G:H1	1.60	0.50
4:F2:39:ILE:HB	4:F2:92:VAL:HG13	1.92	0.50
5:G2:138:LYS:HA	5:G2:141:VAL:HB	1.93	0.50
7:I2:1:MET:HG3	7:I2:2:LYS:HG2	1.94	0.50
16:R2:7:ALA:HB3	16:R2:103:ILE:HB	1.93	0.50
29:A2:1313:A:H61	29:A2:2037:A:H5''	1.77	0.50
43:M3:101:GLN:HE22	53:A3:1288:U:H5''	1.77	0.50
45:O3:3:ILE:HD12	45:O3:8:LYS:HD2	1.92	0.50
47:Q3:34:LYS:NZ	53:A3:569:C:OP1	2.33	0.50
49:S3:36:ARG:NE	53:A3:1201:G:O2'	2.45	0.50
52:X3:158:PHE:HA	52:X3:172:ILE:HG23	1.93	0.50
53:A3:1254:G:H3'	53:A3:1255:G:C8	2.47	0.50
35:E4:102:ALA:O	35:E4:107:ARG:NH2	2.44	0.50
35:E4:150:ARG:O	35:E4:154:GLY:N	2.44	0.50
50:T4:77:ALA:HA	50:T4:80:ARG:HB2	1.94	0.50
52:W4:146:GLU:CB	52:W4:161:PHE:CE1	2.94	0.50
52:W4:169:ILE:N	52:W4:185:PRO:HG3	2.20	0.50
4:F1:111:LEU:HA	4:F1:114:ILE:HB	1.93	0.50
8:J1:9:GLU:O	8:J1:84:ALA:N	2.39	0.50
28:d1:5:LYS:NZ	29:A1:243:C:OP2	2.34	0.50
29:A1:424:G:N1	29:A1:425:G:O6	2.45	0.50
29:A1:511:A:N6	29:A1:524:A:O2'	2.45	0.50
29:A1:855:C:HO2'	29:A1:2459:G:HO2'	1.60	0.50
29:A1:2413:G:H2'	29:A1:2414:G:C8	2.47	0.50
5:G2:70:THR:HG23	5:G2:71:LEU:HD12	1.93	0.50
10:L2:44:ALA:HA	10:L2:47:ILE:HG13	1.94	0.50
14:P2:109:LEU:O	14:P2:113:ALA:N	2.45	0.50
27:c2:29:LYS:NZ	29:A2:200:C:OP2	2.39	0.50
29:A2:911:G:O6	29:A2:964:G:N2	2.45	0.50
35:E3:71:LEU:HD13	35:E3:115:VAL:HG12	1.93	0.50
38:H3:12:ARG:NH2	53:A3:808:G:O2'	2.38	0.50
41:K3:18:ARG:NH2	41:K3:20:TYR:OH	2.45	0.50
42:L3:114:LYS:O	42:L3:117:ARG:NH1	2.45	0.50
43:M3:92:HIS:NE2	53:A3:1290:G:OP1	2.38	0.50
54:V3:20:TYR:OH	54:V3:81:ASP:OD1	2.25	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:D4:62:GLN:NE2	53:A4:527:G:OP1	2.45	0.50
34:D4:152:SER:HA	34:D4:155:LEU:HD13	1.93	0.50
37:G4:114:ARG:NH1	53:A4:1220:A:OP1	2.45	0.50
43:M4:56:LEU:HD23	43:M4:59:TYR:HD2	1.77	0.50
47:Q4:80:GLY:HA2	47:Q4:82:MET:HE2	1.93	0.50
52:W4:147:ALA:O	52:W4:159:PHE:CD2	2.64	0.50
53:A4:153:G:H21	53:A4:156:A:H62	1.58	0.50
53:A4:921:G:H1	53:A4:1319:G:H5'	1.77	0.50
4:F1:19:LEU:HB3	4:F1:25:TYR:CE2	2.46	0.50
4:F1:57:ALA:HA	4:F1:90:LEU:HD11	1.94	0.50
18:T1:88:LYS:HE2	29:A1:322:C:H4'	1.94	0.50
19:U1:91:LEU:HD22	19:U1:130:PRO:HB2	1.92	0.50
22:X1:55:ARG:HH12	29:A1:74:G:H4'	1.76	0.50
29:A1:20:C:H2'	29:A1:21:A:C8	2.47	0.50
29:A1:190:U:H3'	29:A1:191:C:H6	1.77	0.50
29:A1:634:A:H62	29:A1:646:G:H21	1.60	0.50
29:A1:1533:G:N1	29:A1:1553:C:O2	2.44	0.50
29:A1:2732:G:H2'	29:A1:2733:G:C8	2.47	0.50
1:C2:183:ARG:HG3	1:C2:270:ILE:HG12	1.93	0.50
2:D2:11:MET:HA	2:D2:24:THR:HA	1.94	0.50
10:L2:27:VAL:HG21	10:L2:132:VAL:HG21	1.93	0.50
10:L2:41:TRP:CD1	10:L2:96:VAL:HG22	2.47	0.50
29:A2:943:U:O2'	29:A2:945:C:OP1	2.27	0.50
29:A2:2111:G:H1	29:A2:2246:U:H3	1.60	0.50
29:A2:2413:G:H2'	29:A2:2414:G:H8	1.77	0.50
29:A2:2522:G:H2'	29:A2:2523:G:C8	2.46	0.50
36:F3:69:GLU:HA	36:F3:72:VAL:HB	1.94	0.50
53:A3:228:C:H2'	53:A3:229:C:H6	1.76	0.50
53:A3:811:A:N6	53:A3:835:G:O2'	2.44	0.50
53:A3:1351:C:H2'	53:A3:1352:G:H8	1.75	0.50
53:A3:1424:G:H5''	53:A3:1432:C:H1'	1.94	0.50
53:A3:1492:C:H2'	53:A3:1493:G:C8	2.47	0.50
54:V3:60:VAL:O	54:V3:67:VAL:N	2.39	0.50
43:M4:100:GLY:HA3	53:A4:1303:C:H5''	1.94	0.50
53:A4:1146:G:H22	53:A4:1152:G:H22	1.59	0.50
53:A4:1262:U:OP2	53:A4:1263:C:N4	2.45	0.50
8:J1:120:GLU:OE2	13:O1:65:LYS:NZ	2.36	0.50
9:K1:5:ASP:N	9:K1:5:ASP:OD1	2.39	0.50
12:N1:8:GLU:HA	12:N1:11:LYS:HD3	1.93	0.50
15:Q1:78:LYS:NZ	29:A1:597:A:OP2	2.36	0.50
21:W1:3:LYS:HD2	21:W1:44:PRO:HD2	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:e1:18:ARG:HA	31:e1:23:VAL:HA	1.93	0.50
29:A2:348:G:C2	29:A2:358:G:H1'	2.47	0.50
29:A2:855:C:HO2'	29:A2:2459:G:HO2'	1.59	0.50
30:B2:87:G:O6	30:B2:94:C:N4	2.45	0.50
32:B3:194:PRO:HG3	32:B3:200:ILE:HG12	1.94	0.50
34:D3:187:ARG:NH2	34:D3:192:GLU:OE1	2.35	0.50
38:H3:103:VAL:HB	38:H3:108:GLY:HA3	1.94	0.50
41:K3:83:ILE:HA	41:K3:109:VAL:HG22	1.94	0.50
45:O3:5:LYS:HD3	45:O3:8:LYS:HD3	1.94	0.50
52:X3:142:MET:HB2	52:X3:146:GLU:HG2	1.93	0.50
52:X3:160:VAL:HA	52:X3:170:ASN:O	2.12	0.50
53:A3:1153:C:N4	53:A3:1154:G:O6	2.45	0.50
37:G4:35:LYS:NZ	53:A4:1222:G:OP1	2.45	0.50
41:K4:19:ALA:N	41:K4:81:ASP:O	2.41	0.50
47:Q4:18:THR:OG1	47:Q4:69:LYS:NZ	2.34	0.50
49:S4:33:THR:HG1	49:S4:38:SER:HG	1.59	0.50
53:A4:1333:C:O2	53:A4:1353:G:N2	2.45	0.50
4:F1:95:ARG:O	4:F1:99:MET:N	2.44	0.49
7:I1:1:MET:HG3	7:I1:2:LYS:HG2	1.94	0.49
9:K1:1:MET:HG3	9:K1:6:LEU:HD22	1.93	0.49
10:L1:52:VAL:O	10:L1:56:ARG:N	2.34	0.49
11:M1:59:ASP:OD1	11:M1:59:ASP:N	2.43	0.49
29:A1:1124:C:H4'	29:A1:1125:A:H2	1.76	0.49
30:B1:81:C:N4	30:B1:100:G:H1	2.09	0.49
29:A2:20:C:H2'	29:A2:21:A:C8	2.46	0.49
29:A2:356:A:N6	29:A2:1257:A:O2'	2.41	0.49
29:A2:657:G:N1	29:A2:660:A:OP2	2.32	0.49
29:A2:1044:A:H2'	29:A2:1045:G:C8	2.46	0.49
29:A2:1527:G:OP2	29:A2:1558:A:N6	2.38	0.49
29:A2:1894:G:N2	29:A2:1895:G:O6	2.45	0.49
29:A2:2487:U:OP1	29:A2:2543:G:N2	2.44	0.49
29:A2:2821:A:N7	29:A2:2902:G:N1	2.60	0.49
32:B3:97:TRP:HH2	32:B3:176:GLU:HB2	1.77	0.49
33:C3:84:ILE:HG13	33:C3:87:LEU:HD23	1.94	0.49
39:I3:22:GLY:H	39:I3:59:PHE:HA	1.77	0.49
33:C4:35:GLU:HA	33:C4:38:ARG:HB2	1.94	0.49
37:G4:94:ARG:NH2	53:A4:1359:A:O5'	2.41	0.49
46:P4:81:ARG:NE	46:P4:83:GLU:O	2.36	0.49
52:W4:160:VAL:HG11	52:W4:169:ILE:CG2	2.21	0.49
53:A4:1485:G:H2'	53:A4:1486:C:H6	1.77	0.49
1:C1:142:VAL:HG12	1:C1:193:VAL:HA	1.92	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:O1:30:VAL:O	13:O1:45:PHE:N	2.44	0.49
14:P1:75:ASN:ND2	29:A1:1060:U:OP1	2.45	0.49
29:A1:951:C:O2'	29:A1:952:C:O4'	2.28	0.49
29:A1:1444:U:OP2	29:A1:1446:C:N4	2.45	0.49
29:A1:1891:G:H2'	29:A1:1907:G:H22	1.77	0.49
29:A1:1956:A:N6	29:A1:1992:G:O2'	2.45	0.49
29:A1:2413:G:H2'	29:A1:2414:G:H8	1.76	0.49
29:A1:2728:A:O2'	29:A1:2730:C:OP2	2.26	0.49
9:K2:22:GLY:HA3	29:A2:860:U:H3'	1.94	0.49
19:U2:79:ARG:NH2	30:B2:94:C:O5'	2.45	0.49
29:A2:399:A:N6	29:A2:430:A:OP2	2.41	0.49
29:A2:443:A:O2'	29:A2:1899:C:OP1	2.26	0.49
29:A2:1576:A:N7	29:A2:1593:A:N6	2.60	0.49
29:A2:1698:G:H22	29:A2:2032:C:H42	1.60	0.49
29:A2:2489:C:H42	29:A2:2543:G:H1	1.59	0.49
34:D3:61:LYS:HE3	34:D3:72:GLU:HA	1.94	0.49
35:E3:90:VAL:O	35:E3:120:THR:OG1	2.28	0.49
53:A3:575:G:O6	53:A3:631:A:N6	2.44	0.49
53:A3:1100:C:O2	53:A3:1138:G:N1	2.45	0.49
32:B4:69:LEU:HB3	32:B4:162:ILE:HG22	1.94	0.49
53:A4:722:C:N4	53:A4:723:U:O4	2.45	0.49
53:A4:914:A:O2'	53:A4:1361:G:O6	2.22	0.49
4:F1:68:PRO:HA	4:F1:92:VAL:HB	1.94	0.49
9:K1:70:GLN:HG2	29:A1:2420:U:H3	1.77	0.49
18:T1:20:TYR:HD1	18:T1:23:ARG:HE	1.60	0.49
29:A1:163:G:H2'	29:A1:164:C:C6	2.47	0.49
29:A1:556:A:H2	29:A1:2064:C:H42	1.60	0.49
29:A1:855:C:O2'	29:A1:2459:G:O2'	2.29	0.49
1:C2:255:LYS:NZ	29:A2:1875:G:N3	2.58	0.49
2:D2:37:ARG:NH1	2:D2:44:TYR:OH	2.39	0.49
4:F2:67:LYS:NZ	30:B2:44:C:OP2	2.45	0.49
13:O2:18:ASP:N	13:O2:18:ASP:OD1	2.46	0.49
29:A2:116:A:H5'	29:A2:117:A:H8	1.76	0.49
29:A2:1117:A:H4'	29:A2:1118:A:H2'	1.93	0.49
29:A2:1972:G:H2'	29:A2:1973:G:C8	2.48	0.49
30:B2:79:U:H2'	30:B2:80:A:H8	1.77	0.49
52:X3:179:ASN:HD22	52:W4:133:ARG:CZ	2.25	0.49
53:A3:661:U:H2'	53:A3:662:C:H6	1.78	0.49
53:A3:722:C:N4	53:A3:723:U:O4	2.46	0.49
53:A3:1047:U:N3	53:A3:1171:G:N3	2.59	0.49
53:A3:1370:C:H2'	53:A3:1371:C:H6	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:D4:43:HIS:CE1	53:A4:524:G:H21	2.31	0.49
43:M4:83:ASP:OD1	43:M4:83:ASP:N	2.44	0.49
52:W4:147:ALA:CA	52:W4:159:PHE:CE2	2.90	0.49
53:A4:750:A:N6	53:A4:1488:G:O2'	2.46	0.49
53:A4:807:C:N4	53:A4:808:G:O6	2.45	0.49
53:A4:1004:G:N1	53:A4:1019:C:O2	2.45	0.49
2:D1:114:ALA:O	29:A1:1704:A:O2'	2.26	0.49
13:O1:1:MET:HE2	13:O1:4:GLY:HA3	1.95	0.49
15:Q1:13:ARG:NH2	15:Q1:15:GLU:OE2	2.45	0.49
21:W1:50:ARG:NE	21:W1:59:THR:OG1	2.30	0.49
29:A1:1765:G:H2'	29:A1:1766:G:H8	1.77	0.49
29:A1:1832:G:N2	29:A1:1852:A:OP2	2.31	0.49
29:A1:2705:C:N3	29:A1:2733:G:N2	2.58	0.49
1:C2:254:THR:OG1	29:A2:1857:G:N2	2.45	0.49
9:K2:5:ASP:OD1	9:K2:5:ASP:N	2.41	0.49
11:M2:68:ARG:NH2	29:A2:2721:G:OP1	2.46	0.49
13:O2:3:ARG:N	29:A2:2888:G:OP1	2.41	0.49
14:P2:58:ARG:HG2	14:P2:93:LYS:HD2	1.95	0.49
24:Z2:9:LEU:HB3	24:Z2:25:TYR:HB3	1.94	0.49
29:A2:655:G:H21	29:A2:678:G:H22	1.60	0.49
29:A2:2315:C:H2'	29:A2:2316:G:H8	1.76	0.49
32:B3:33:TYR:HD1	32:B3:43:ASP:HA	1.77	0.49
32:B3:178:ARG:NH1	38:H3:74:PRO:HB3	2.25	0.49
43:M3:90:LEU:HD12	43:M3:93:ARG:HB2	1.94	0.49
53:A3:891:A:H2'	53:A3:892:A:H8	1.77	0.49
36:F4:1:MET:HE3	36:F4:68:PRO:HG3	1.94	0.49
38:H4:113:SER:OG	53:A4:625:A:N3	2.43	0.49
53:A4:134:A:H2'	53:A4:135:A:C8	2.47	0.49
53:A4:1140:C:N3	53:A4:1162:G:N1	2.60	0.49
54:V4:89:THR:HA	54:V4:92:LYS:HB2	1.93	0.49
5:G1:42:ARG:NE	5:G1:53:GLU:OE1	2.35	0.49
29:A1:248:G:H2'	29:A1:249:G:H8	1.78	0.49
29:A1:576:G:H2'	29:A1:577:G:H8	1.77	0.49
29:A1:729:G:H1	29:A1:846:C:H42	1.59	0.49
29:A1:907:U:O2'	29:A1:2282:A:N3	2.42	0.49
29:A1:2106:A:H62	29:A1:2251:G:N2	2.07	0.49
1:C2:77:ALA:N	1:C2:117:VAL:O	2.45	0.49
2:D2:149:ARG:HA	29:A2:2076:G:H21	1.76	0.49
3:E2:106:ARG:HH12	29:A2:645:C:H5	1.60	0.49
17:S2:53:LYS:NZ	29:A2:1446:C:OP1	2.36	0.49
18:T2:86:ARG:O	18:T2:88:LYS:NZ	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:c2:9:ARG:NH1	29:A2:1357:G:O5'	2.45	0.49
29:A2:174:C:N4	29:A2:203:A:N1	2.59	0.49
29:A2:2155:G:O4'	29:A2:2182:A:N6	2.45	0.49
30:B2:99:G:C2	30:B2:100:G:H1'	2.48	0.49
52:X3:158:PHE:HB2	52:W4:173:TYR:CD2	2.47	0.49
53:A3:807:C:N4	53:A3:808:G:O6	2.44	0.49
32:B4:82:ARG:HD3	32:B4:94:ASN:HD21	1.77	0.49
33:C4:66:VAL:O	33:C4:102:ASN:N	2.33	0.49
35:E4:63:ARG:HA	35:E4:66:MET:HE2	1.94	0.49
40:J4:5:ARG:HH11	40:J4:99:LYS:HD2	1.77	0.49
48:R4:47:THR:HG21	48:R4:85:LEU:HA	1.95	0.49
1:C1:260:ARG:HH21	1:C1:270:ILE:HD13	1.78	0.49
9:K1:83:VAL:O	9:K1:115:LEU:N	2.40	0.49
10:L1:131:ILE:O	10:L1:133:ARG:NH1	2.46	0.49
21:W1:17:SER:HB3	21:W1:19:GLN:HE21	1.77	0.49
26:b1:25:LYS:HZ2	26:b1:27:LYS:HD3	1.77	0.49
29:A1:2:G:OP2	29:A1:2812:C:O2'	2.31	0.49
29:A1:261:A:OP2	29:A1:281:C:N4	2.46	0.49
29:A1:357:A:O2'	29:A1:359:C:OP2	2.31	0.49
29:A1:603:A:OP1	29:A1:1303:U:O2'	2.26	0.49
29:A1:1119:G:O2'	29:A1:1138:U:OP2	2.26	0.49
29:A1:2174:U:O2	29:A1:2175:G:N2	2.45	0.49
30:B1:20:G:H1	30:B1:111:C:H42	1.60	0.49
1:C2:50:THR:HB	29:A2:1846:G:H21	1.76	0.49
2:D2:191:PRO:HB3	29:A2:2832:A:C8	2.47	0.49
10:L2:18:LYS:HB3	30:B2:93:C:H5'	1.94	0.49
16:R2:76:VAL:HG22	16:R2:103:ILE:HA	1.95	0.49
29:A2:649:G:H3'	29:A2:650:G:H8	1.78	0.49
29:A2:791:G:H1	29:A2:804:C:N4	2.10	0.49
29:A2:1456:C:H42	29:A2:1642:G:H1	1.60	0.49
29:A2:2080:G:N2	29:A2:2081:A:N3	2.61	0.49
29:A2:2457:C:H2'	29:A2:2458:G:C8	2.45	0.49
32:B3:61:LEU:HD12	32:B3:64:ARG:HB2	1.95	0.49
36:F3:87:ARG:HH22	48:R3:75:ILE:HG22	1.75	0.49
47:Q3:26:GLN:OE1	47:Q3:37:LYS:NZ	2.38	0.49
53:A3:350:C:H2'	53:A3:351:A:H8	1.78	0.49
53:A3:969:U:H4'	53:A3:970:G:C2	2.47	0.49
54:V3:92:LYS:C	54:V3:94:PHE:H	2.20	0.49
38:H4:12:ARG:HH21	53:A4:808:G:HO2'	1.59	0.49
43:M4:90:LEU:O	43:M4:94:ARG:N	2.41	0.49
4:F1:5:VAL:O	4:F1:9:ARG:NH1	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:N1:41:ASP:HB3	12:N1:45:GLY:H	1.77	0.49
13:O1:96:ARG:NH1	29:A1:2707:A:N3	2.53	0.49
22:X1:53:LEU:HA	22:X1:56:GLN:HB3	1.94	0.49
24:Z1:14:ILE:HG12	24:Z1:20:ASN:HB3	1.95	0.49
29:A1:760:G:H1	29:A1:768:C:H42	1.61	0.49
29:A1:1575:G:N1	29:A1:1593:A:OP1	2.45	0.49
31:e1:24:TYR:CE1	31:e1:35:ARG:HD3	2.48	0.49
5:G2:45:VAL:HB	5:G2:50:VAL:HA	1.93	0.49
5:G2:139:GLN:NE2	29:A2:2760:C:O2	2.36	0.49
13:O2:67:SER:N	13:O2:70:VAL:O	2.43	0.49
15:Q2:4:ILE:HB	15:Q2:40:LEU:H	1.78	0.49
29:A2:1052:C:N4	29:A2:1059:G:O6	2.46	0.49
29:A2:1495:C:H2'	29:A2:1496:G:C8	2.47	0.49
29:A2:2299:C:H42	29:A2:2397:G:H1	1.59	0.49
29:A2:2544:A:H2	29:A2:2548:A:H61	1.60	0.49
33:C3:21:ARG:HD2	33:C3:22:TRP:H	1.78	0.49
53:A3:105:G:H2'	53:A3:106:G:H8	1.77	0.49
53:A3:370:U:H2'	53:A3:371:G:H8	1.78	0.49
53:A3:607:C:H2'	53:A3:608:G:H8	1.78	0.49
53:A3:671:G:H2'	53:A3:672:C:H6	1.78	0.49
33:C4:129:ALA:HB3	33:C4:132:ARG:HB2	1.94	0.49
35:E4:82:VAL:HG11	35:E4:138:ALA:HB2	1.95	0.49
39:I4:81:ILE:O	39:I4:85:LEU:N	2.39	0.49
40:J4:48:THR:HG21	53:A4:1349:C:H1'	1.94	0.49
44:N4:41:ARG:HG3	44:N4:42:ILE:HG13	1.94	0.49
45:O4:26:GLU:HB3	45:O4:81:LEU:HD22	1.94	0.49
46:P4:18:ARG:NH2	53:A4:609:U:OP2	2.45	0.49
49:S4:72:GLY:HA2	49:S4:75:ALA:HB3	1.94	0.49
53:A4:54:C:N3	53:A4:352:G:N1	2.56	0.49
53:A4:194:U:H2'	53:A4:195:G:C8	2.48	0.49
53:A4:367:C:H42	53:A4:384:A:H62	1.61	0.49
53:A4:818:U:H1'	53:A4:829:G:H22	1.78	0.49
53:A4:1375:U:H2'	53:A4:1377:C:H41	1.78	0.49
53:A4:1492:C:H2'	53:A4:1493:G:C8	2.47	0.49
3:E1:142:TRP:HA	3:E1:145:GLU:HB2	1.93	0.49
5:G1:6:ARG:HA	5:G1:69:ARG:HE	1.78	0.49
16:R1:7:ALA:HB3	16:R1:103:ILE:HB	1.95	0.49
19:U1:19:ARG:NH2	30:B1:97:C:OP2	2.35	0.49
29:A1:217:A:N6	29:A1:438:G:N3	2.61	0.49
29:A1:261:A:H62	29:A1:285:G:H21	1.60	0.49
29:A1:1972:G:H2'	29:A1:1973:G:C8	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A1:2542:U:O4	29:A1:2544:A:N6	2.46	0.49
29:A1:2862:A:H3'	29:A1:2863:A:H8	1.78	0.49
7:I2:54:VAL:HB	7:I2:122:VAL:HG13	1.94	0.49
23:Y2:8:LEU:HG	23:Y2:31:LEU:HG	1.94	0.49
28:d2:9:GLY:HA2	28:d2:12:LYS:HD2	1.95	0.49
29:A2:198:C:H2'	29:A2:199:C:H6	1.77	0.49
29:A2:603:A:OP1	29:A2:1303:U:O2'	2.27	0.49
29:A2:913:G:O2'	29:A2:962:C:N4	2.46	0.49
29:A2:1240:G:H2'	29:A2:1241:A:H8	1.78	0.49
29:A2:1971:C:H2'	29:A2:1972:G:H8	1.78	0.49
34:D3:22:LYS:NZ	53:A3:425:A:OP2	2.30	0.49
53:A3:50:A:N7	53:A3:356:G:O2'	2.35	0.49
53:A3:351:A:H2'	53:A3:352:G:H8	1.78	0.49
41:K4:24:SER:OG	41:K4:25:TYR:N	2.45	0.49
42:L4:81:SER:OG	42:L4:106:ASP:OD2	2.24	0.49
43:M4:34:LEU:HD21	43:M4:56:LEU:HD11	1.94	0.49
50:T4:34:LYS:O	50:T4:38:LYS:N	2.46	0.49
50:T4:38:LYS:HD3	50:T4:41:ILE:HD11	1.95	0.49
53:A4:532:C:N4	53:A4:533:G:O6	2.46	0.49
53:A4:558:G:O2'	53:A4:804:G:OP2	2.23	0.49
53:A4:836:A:H2'	53:A4:837:A:H8	1.78	0.49
3:E1:38:ARG:HH22	29:A1:710:C:P	2.35	0.49
4:F1:37:VAL:HB	4:F1:94:LEU:HB2	1.94	0.49
11:M1:100:LEU:HD12	11:M1:111:LEU:HB2	1.94	0.49
29:A1:1240:G:H2'	29:A1:1241:A:H8	1.78	0.49
29:A1:2443:G:O2'	29:A1:2445:U:OP1	2.27	0.49
16:R2:1:MET:HB3	16:R2:62:HIS:HD2	1.78	0.49
18:T2:84:ARG:HD2	18:T2:97:ARG:HB3	1.94	0.49
22:X2:66:GLU:OE2	29:A2:108:G:O2'	2.31	0.49
24:Z2:52:THR:O	24:Z2:55:ARG:NH2	2.46	0.49
29:A2:626:C:O2'	29:A2:630:C:OP1	2.30	0.49
29:A2:627:G:H22	29:A2:703:A:H2'	1.78	0.49
29:A2:750:G:H2'	29:A2:751:G:H8	1.78	0.49
29:A2:1216:G:N7	29:A2:1224:A:N6	2.60	0.49
29:A2:2413:G:H2'	29:A2:2414:G:C8	2.48	0.49
30:B2:30:C:H2'	30:B2:31:A:C8	2.48	0.49
42:L3:70:ILE:HG22	42:L3:102:ARG:HD3	1.95	0.49
44:N3:41:ARG:HG3	44:N3:42:ILE:HG13	1.95	0.49
52:X3:158:PHE:CE2	52:W4:158:PHE:CD1	3.01	0.49
52:X3:174:ARG:NH1	52:X3:174:ARG:CG	2.73	0.49
53:A3:1033:C:N4	53:A3:1186:U:O4	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:B4:74:LYS:NZ	32:B4:206:ASP:OD1	2.46	0.49
33:C4:196:LEU:HA	53:A4:1039:G:H4'	1.95	0.49
53:A4:221:G:O2'	53:A4:222:G:O4'	2.30	0.49
53:A4:440:G:N2	53:A4:472:C:O2	2.45	0.49
53:A4:525:G:H2'	53:A4:526:C:H6	1.78	0.49
53:A4:548:U:H5''	53:A4:549:G:H2'	1.95	0.49
53:A4:839:C:H2'	53:A4:840:U:H6	1.77	0.49
53:A4:1499:U:H2'	53:A4:1500:G:C8	2.48	0.49
1:C1:133:LEU:HB2	1:C1:187:GLY:HA2	1.95	0.49
9:K1:64:LYS:HE3	28:d1:25:MET:HG2	1.93	0.49
14:P1:53:ARG:HA	14:P1:56:ASP:H	1.78	0.49
16:R1:70:TYR:HE1	16:R1:110:LYS:HB2	1.78	0.49
19:U1:48:PHE:HE1	19:U1:53:ILE:HG23	1.77	0.49
20:V1:66:VAL:N	20:V1:82:ARG:O	2.40	0.49
20:V1:68:GLU:N	20:V1:80:HIS:O	2.28	0.49
20:V1:72:ARG:NE	20:V1:75:LEU:O	2.42	0.49
28:d1:11:LYS:NZ	29:A1:234:A:OP2	2.45	0.49
28:d1:29:LYS:HD3	28:d1:44:LYS:HB3	1.94	0.49
29:A1:170:G:N2	29:A1:204:G:O6	2.46	0.49
29:A1:1698:G:H22	29:A1:2032:C:H42	1.61	0.49
2:D2:101:ARG:NH1	2:D2:170:LEU:O	2.42	0.49
2:D2:149:ARG:NH2	29:A2:1178:U:O2	2.46	0.49
20:V2:46:LYS:N	20:V2:77:ARG:O	2.39	0.49
27:c2:35:ARG:NH1	29:A2:169:G:O3'	2.39	0.49
29:A2:1361:U:N3	29:A2:1652:C:O2	2.46	0.49
29:A2:1472:G:H1	29:A2:1623:C:H42	1.61	0.49
29:A2:1849:G:O2'	29:A2:1850:G:N7	2.43	0.49
29:A2:2809:C:O2'	29:A2:2815:G:N2	2.38	0.49
32:B3:98:LEU:N	32:B3:101:MET:SD	2.86	0.49
49:S3:16:LEU:HA	49:S3:19:VAL:HG23	1.94	0.49
53:A3:662:C:H42	53:A3:694:G:H22	1.60	0.49
38:H4:16:ALA:HA	38:H4:19:VAL:HG22	1.94	0.49
41:K4:20:TYR:N	41:K4:31:THR:O	2.45	0.49
53:A4:94:A:H2'	53:A4:95:G:H8	1.77	0.49
53:A4:138:G:C2	53:A4:139:G:H1'	2.48	0.49
53:A4:719:C:H2'	53:A4:720:A:H8	1.78	0.49
53:A4:789:C:H2'	53:A4:790:A:H8	1.77	0.49
2:D1:203:LYS:HB3	29:A1:2748:A:H61	1.78	0.48
3:E1:45:ARG:NH2	3:E1:47:GLY:O	2.41	0.48
22:X1:53:LEU:HD13	22:X1:56:GLN:HB3	1.94	0.48
29:A1:2554:C:H2'	29:A1:2555:A:C8	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:F2:76:SER:HB2	4:F2:84:LYS:HD2	1.95	0.48
8:J2:7:TYR:HE1	8:J2:44:LYS:HE2	1.78	0.48
12:N2:82:ILE:HG22	12:N2:84:GLN:H	1.79	0.48
16:R2:14:PRO:O	16:R2:18:ARG:N	2.46	0.48
29:A2:2127:C:H2'	29:A2:2211:G:H1	1.78	0.48
29:A2:2499:G:H2'	29:A2:2500:G:C8	2.48	0.48
33:C3:4:LYS:HD3	53:A3:1172:A:H5'	1.94	0.48
35:E3:131:ILE:O	35:E3:135:THR:OG1	2.23	0.48
38:H3:1:MET:N	53:A3:808:G:O4'	2.46	0.48
52:X3:158:PHE:CE1	52:W4:173:TYR:CZ	3.01	0.48
53:A3:37:U:O2'	53:A3:530:A:N1	2.37	0.48
53:A3:141:G:C2	53:A3:142:G:H1'	2.48	0.48
52:W4:172:ILE:HG21	52:W4:180:TYR:HE2	1.77	0.48
53:A4:891:A:H2'	53:A4:892:A:H8	1.76	0.48
53:A4:1386:C:H42	53:A4:1474:G:H1	1.61	0.48
22:X1:62:THR:OG1	29:A1:75:C:O2	2.24	0.48
29:A1:2021:G:H2'	29:A1:2022:G:H8	1.77	0.48
29:A1:2111:G:H1	29:A1:2246:U:H3	1.61	0.48
2:D2:89:ASP:N	2:D2:89:ASP:OD1	2.41	0.48
3:E2:117:ARG:O	3:E2:122:LYS:N	2.46	0.48
4:F2:181:ARG:HA	24:Z2:42:PHE:HZ	1.77	0.48
12:N2:66:ALA:O	12:N2:70:GLY:N	2.46	0.48
14:P2:99:ALA:HA	14:P2:103:PRO:HB3	1.95	0.48
19:U2:137:ILE:HD11	19:U2:156:LYS:H	1.78	0.48
26:b2:25:LYS:NZ	28:d2:34:TRP:O	2.40	0.48
29:A2:2052:U:H2'	29:A2:2053:G:C8	2.45	0.48
30:B2:19:C:N4	30:B2:111:C:O2	2.46	0.48
34:D3:53:ASP:OD1	34:D3:53:ASP:N	2.46	0.48
38:H3:30:ARG:NH1	53:A3:574:U:OP1	2.46	0.48
43:M3:101:GLN:NE2	53:A3:1289:U:OP2	2.46	0.48
48:R3:52:PRO:HG2	48:R3:54:ARG:HB2	1.95	0.48
52:X3:173:TYR:CZ	52:W4:158:PHE:CD1	3.00	0.48
53:A3:134:A:H2	53:A3:218:U:H3	1.61	0.48
53:A3:664:C:N4	53:A3:665:G:O6	2.46	0.48
53:A3:949:C:H2'	53:A3:950:G:H8	1.78	0.48
53:A3:1097:C:H2'	53:A3:1098:C:H6	1.79	0.48
33:C4:66:VAL:HB	33:C4:101:LEU:HG	1.94	0.48
34:D4:76:ARG:O	34:D4:80:GLU:N	2.45	0.48
50:T4:57:ARG:HD3	50:T4:102:GLY:H	1.78	0.48
51:U4:9:ARG:NH2	53:A4:1224:C:OP2	2.46	0.48
53:A4:1153:C:N4	53:A4:1154:G:O6	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A4:1298:C:H2'	53:A4:1299:A:C8	2.48	0.48
14:P1:42:ALA:HA	14:P1:45:TYR:HB2	1.94	0.48
29:A1:375:U:H3'	29:A1:376:G:H8	1.77	0.48
29:A1:907:U:H3	29:A1:967:G:H1	1.60	0.48
29:A1:1077:A:N3	29:A1:2500:G:O2'	2.45	0.48
29:A1:1746:G:O6	29:A1:1747:A:N6	2.47	0.48
29:A1:2646:A:OP1	29:A1:2902:G:O2'	2.31	0.48
10:L2:16:ARG:NH2	30:B2:93:C:OP2	2.46	0.48
21:W2:25:LYS:NZ	29:A2:417:G:OP1	2.35	0.48
29:A2:514:C:H42	29:A2:521:G:H1	1.60	0.48
29:A2:1560:G:OP2	29:A2:1561:C:N4	2.46	0.48
29:A2:1716:G:H1	29:A2:2015:U:H3'	1.79	0.48
37:G3:115:ARG:NH2	53:A3:1222:G:O6	2.40	0.48
44:N3:5:ALA:HB1	44:N3:9:LYS:HZ3	1.78	0.48
44:N3:61:TRP:O	53:A3:1168:G:O2'	2.30	0.48
49:S3:36:ARG:NH2	53:A3:1202:G:O5'	2.42	0.48
52:X3:147:ALA:CA	52:X3:159:PHE:HE2	2.23	0.48
53:A3:673:G:H2'	53:A3:674:G:C8	2.49	0.48
53:A3:904:G:N1	53:A3:1373:U:O2	2.32	0.48
36:F4:2:ARG:HH21	36:F4:69:GLU:HB2	1.77	0.48
38:H4:88:LYS:HE3	53:A4:854:C:H5''	1.94	0.48
45:O4:58:MET:N	45:O4:58:MET:SD	2.86	0.48
46:P4:57:ARG:O	46:P4:61:SER:OG	2.30	0.48
49:S4:44:MET:HB3	49:S4:47:HIS:HB2	1.94	0.48
50:T4:25:ARG:NH1	53:A4:168:C:O2'	2.31	0.48
52:W4:162:ARG:O	52:W4:164:ALA:N	2.46	0.48
53:A4:105:G:H2'	53:A4:106:G:H8	1.78	0.48
53:A4:338:U:O2'	53:A4:340:C:OP1	2.31	0.48
53:A4:632:G:H2'	53:A4:633:G:C8	2.47	0.48
1:C1:172:TYR:OH	1:C1:268:ARG:NH2	2.42	0.48
17:S1:57:LEU:HD21	17:S1:79:ALA:HA	1.95	0.48
29:A1:1495:C:H2'	29:A1:1496:G:C8	2.48	0.48
29:A1:1570:G:H3'	29:A1:1571:U:H4'	1.96	0.48
29:A1:1768:G:N1	29:A1:1771:G:OP2	2.46	0.48
1:C2:101:GLU:OE2	1:C2:103:ARG:NH1	2.46	0.48
1:C2:148:GLU:OE2	29:A2:1834:G:N2	2.47	0.48
8:J2:118:ALA:HB3	8:J2:121:VAL:HG22	1.94	0.48
29:A2:269:G:H22	29:A2:277:C:H42	1.60	0.48
29:A2:845:C:N3	29:A2:846:C:N4	2.60	0.48
29:A2:1855:G:H2'	29:A2:1856:G:C8	2.49	0.48
29:A2:1954:G:N2	29:A2:1993:A:OP2	2.40	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:1972:G:H2'	29:A2:1973:G:H8	1.77	0.48
29:A2:2116:U:N3	29:A2:2240:C:OP2	2.46	0.48
29:A2:2174:U:O2	29:A2:2175:G:N1	2.46	0.48
30:B2:117:G:H2'	30:B2:118:G:C8	2.49	0.48
39:I3:19:LEU:HA	39:I3:61:ALA:HA	1.95	0.48
41:K3:123:LYS:HB3	41:K3:126:ARG:HH21	1.77	0.48
53:A3:99:C:H2'	53:A3:100:G:H8	1.78	0.48
53:A3:415:U:N3	53:A3:419:G:O6	2.46	0.48
53:A3:1053:C:H2'	53:A3:1054:G:H8	1.77	0.48
53:A3:1465:G:H2'	53:A3:1466:G:C8	2.46	0.48
33:C4:23:TYR:HD2	40:J4:9:ARG:HB3	1.77	0.48
36:F4:3:ARG:O	36:F4:93:SER:N	2.40	0.48
42:L4:120:TYR:OH	53:A4:505:C:OP1	2.25	0.48
47:Q4:62:SER:HB2	47:Q4:72:ARG:HG3	1.96	0.48
53:A4:254:G:H2'	53:A4:255:G:H8	1.77	0.48
3:E1:200:GLU:O	3:E1:204:ASN:N	2.45	0.48
4:F1:70:VAL:HB	4:F1:87:PRO:HB2	1.95	0.48
10:L1:48:GLU:O	10:L1:52:VAL:N	2.45	0.48
12:N1:34:HIS:NE2	30:B1:29:C:OP1	2.35	0.48
22:X1:18:PRO:HB3	22:X1:67:LYS:HE2	1.96	0.48
29:A1:98:U:H4'	29:A1:100:G:C8	2.48	0.48
29:A1:438:G:H5''	29:A1:439:G:H5''	1.96	0.48
29:A1:622:U:H2'	29:A1:623:G:C8	2.49	0.48
29:A1:631:U:N3	29:A1:647:G:N7	2.62	0.48
29:A1:2763:A:H2'	29:A1:2764:A:C8	2.49	0.48
4:F2:114:ILE:HD11	4:F2:140:ILE:HD13	1.96	0.48
9:K2:13:ASN:ND2	29:A2:1293:G:H5'	2.29	0.48
26:b2:14:THR:HA	26:b2:21:TYR:HA	1.95	0.48
28:d2:10:ALA:HB3	28:d2:60:LEU:HD21	1.95	0.48
29:A2:57:G:N3	29:A2:69:G:N2	2.60	0.48
29:A2:1214:C:O2	29:A2:1231:G:N2	2.47	0.48
29:A2:2132:C:O2	29:A2:2206:G:N2	2.46	0.48
29:A2:2165:G:O3'	29:A2:2207:C:O2'	2.31	0.48
33:C3:38:ARG:HG2	33:C3:94:LEU:HD22	1.95	0.48
39:I3:40:LEU:HD22	39:I3:43:ALA:HB2	1.95	0.48
53:A3:280:G:H2'	53:A3:281:G:C8	2.49	0.48
53:A3:1240:C:O2'	53:A3:1264:G:N3	2.37	0.48
53:A3:1286:G:H2'	53:A3:1312:G:H21	1.78	0.48
33:C4:131:ARG:HH11	33:C4:166:GLU:HG2	1.78	0.48
34:D4:19:LEU:H	34:D4:33:MET:HG3	1.77	0.48
34:D4:101:LEU:HD13	34:D4:138:TYR:HB3	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:H4:110:ALA:HB3	38:H4:121:ASP:HB3	1.95	0.48
39:I4:17:VAL:HG22	39:I4:63:ILE:HG23	1.94	0.48
44:N4:27:CYS:SG	44:N4:40:CYS:N	2.86	0.48
48:R4:39:VAL:HA	48:R4:42:ARG:HD3	1.95	0.48
53:A4:126:C:N3	53:A4:226:G:N2	2.61	0.48
53:A4:145:A:N6	53:A4:165:A:N1	2.61	0.48
53:A4:959:U:H1'	53:A4:960:A:C4	2.48	0.48
1:C1:216:GLY:O	1:C1:217:ARG:NE	2.47	0.48
2:D1:12:THR:OG1	2:D1:13:ARG:N	2.46	0.48
2:D1:61:ARG:NH1	29:A1:2801:U:O2	2.43	0.48
11:M1:86:ARG:NH1	11:M1:117:VAL:O	2.36	0.48
13:O1:58:ASN:ND2	29:A1:2696:U:O2'	2.47	0.48
29:A1:325:A:H2'	29:A1:359:C:H1'	1.95	0.48
29:A1:864:C:H2'	29:A1:865:C:C6	2.48	0.48
29:A1:1069:A:H61	29:A1:1188:U:H3	1.61	0.48
29:A1:1972:G:H2'	29:A1:1973:G:H8	1.78	0.48
13:O2:29:ARG:HG3	13:O2:46:GLU:HB2	1.95	0.48
29:A2:176:G:H1	29:A2:200:C:H42	1.60	0.48
29:A2:2624:C:H4'	29:A2:2625:U:H5'	1.96	0.48
41:K3:84:VAL:HG11	41:K3:91:ARG:HD2	1.95	0.48
49:S3:52:TYR:HA	49:S3:57:HIS:HA	1.95	0.48
53:A3:31:G:N2	53:A3:48:C:OP1	2.46	0.48
53:A3:510:G:O2'	53:A3:518:A:N1	2.41	0.48
53:A3:1224:C:N4	53:A3:1275:G:H22	2.12	0.48
32:B4:59:GLU:HB2	32:B4:221:LEU:HB3	1.95	0.48
41:K4:87:THR:HG23	41:K4:112:THR:HG21	1.96	0.48
45:O4:36:ILE:O	45:O4:40:SER:N	2.46	0.48
50:T4:19:SER:HB2	50:T4:23:ARG:HH21	1.78	0.48
53:A4:151:G:H1	53:A4:158:U:H3	1.62	0.48
4:F1:91:ARG:NH2	30:B1:44:C:H42	2.11	0.48
15:Q1:6:LYS:HE3	15:Q1:39:LEU:HD11	1.94	0.48
15:Q1:69:LYS:HE3	15:Q1:88:ARG:HE	1.78	0.48
18:T1:49:VAL:O	18:T1:50:ARG:NE	2.46	0.48
20:V1:22:GLY:N	20:V1:39:ARG:O	2.46	0.48
29:A1:116:A:H5'	29:A1:117:A:C8	2.48	0.48
29:A1:598:G:H1	29:A1:2055:A:P	2.36	0.48
29:A1:1243:C:H2'	29:A1:1244:G:C8	2.49	0.48
29:A1:1889:G:H3'	29:A1:1890:G:C8	2.49	0.48
29:A1:2255:A:H2'	29:A1:2256:G:C8	2.48	0.48
24:Z2:55:ARG:HH11	49:S4:69:HIS:CD2	2.32	0.48
29:A2:51:A:H2'	29:A2:52:A:C8	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:741:C:H2'	29:A2:742:C:C6	2.48	0.48
29:A2:934:C:H1'	29:A2:940:G:C8	2.48	0.48
29:A2:1082:G:OP2	31:e2:18:ARG:NH1	2.47	0.48
29:A2:1095:G:H3'	29:A2:1157:C:H42	1.77	0.48
29:A2:1931:G:OP2	29:A2:1945:G:N1	2.45	0.48
32:B3:223:ILE:HA	32:B3:226:ARG:HB2	1.96	0.48
43:M3:11:ARG:HH12	43:M3:48:LEU:HD21	1.79	0.48
35:E4:127:ASN:HD22	53:A4:19:C:P	2.35	0.48
46:P4:6:LEU:HG	46:P4:19:ILE:HG12	1.95	0.48
53:A4:280:G:H2'	53:A4:281:G:C8	2.49	0.48
53:A4:656:G:H2'	53:A4:657:G:C8	2.48	0.48
53:A4:992:A:N6	53:A4:993:A:N1	2.61	0.48
4:F1:101:ILE:HA	4:F1:104:GLU:HB2	1.94	0.48
7:I1:54:VAL:HB	7:I1:122:VAL:HG13	1.94	0.48
29:A1:1437:G:H2'	29:A1:1438:U:C6	2.49	0.48
29:A1:1456:C:H42	29:A1:1642:G:H1	1.62	0.48
29:A1:1564:U:H2'	29:A1:1565:G:H8	1.79	0.48
5:G2:58:GLU:HB2	5:G2:61:HIS:HB2	1.96	0.48
6:H2:2:LYS:O	6:H2:39:ALA:N	2.46	0.48
9:K2:64:LYS:NZ	29:A2:2430:C:OP1	2.38	0.48
18:T2:91:GLU:OE1	18:T2:94:LYS:NZ	2.42	0.48
29:A2:669:G:N1	29:A2:672:C:OP2	2.38	0.48
29:A2:1497:G:N2	29:A2:1498:A:N7	2.61	0.48
29:A2:2100:U:OP2	29:A2:2252:G:N2	2.36	0.48
29:A2:2106:A:H62	29:A2:2251:G:N2	2.08	0.48
29:A2:2538:G:H2'	29:A2:2539:G:C8	2.48	0.48
29:A2:2736:A:H2'	29:A2:2737:G:H8	1.78	0.48
34:D3:101:LEU:HD13	34:D3:138:TYR:HB3	1.94	0.48
37:G3:92:SER:OG	37:G3:95:ARG:NH2	2.44	0.48
40:J4:82:ILE:HA	40:J4:85:LEU:HB2	1.96	0.48
41:K4:79:SER:HA	41:K4:104:GLN:HB2	1.96	0.48
53:A4:1107:U:N3	53:A4:1262:U:O2	2.47	0.48
1:C1:122:ASP:OD1	1:C1:122:ASP:N	2.46	0.48
2:D1:149:ARG:HA	29:A1:2076:G:H21	1.78	0.48
5:G1:44:VAL:O	5:G1:51:ARG:N	2.47	0.48
8:J1:42:SER:HB3	8:J1:55:GLY:HA2	1.96	0.48
29:A1:1360:U:O2	29:A1:1387:G:N2	2.37	0.48
29:A1:1528:G:H4'	29:A1:1609:G:H4'	1.96	0.48
1:C2:108:PRO:HB3	1:C2:143:HIS:HE1	1.79	0.48
21:W2:17:SER:HG	21:W2:19:GLN:HE21	1.60	0.48
29:A2:185:A:H3'	29:A2:186:A:H4'	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:204:G:O2'	29:A2:206:A:O3'	2.32	0.48
29:A2:291:G:H2'	29:A2:292:G:C8	2.49	0.48
29:A2:1411:C:N4	29:A2:1412:G:O6	2.46	0.48
29:A2:1570:G:H3'	29:A2:1571:U:H4'	1.96	0.48
29:A2:2242:G:N7	29:A2:2243:C:N4	2.62	0.48
30:B2:81:C:N4	30:B2:100:G:H1	2.12	0.48
33:C3:21:ARG:HH21	40:J3:11:PHE:H	1.62	0.48
35:E3:127:ASN:HD22	53:A3:19:C:P	2.36	0.48
47:Q3:13:ASP:HA	47:Q3:19:VAL:HG12	1.95	0.48
50:T3:103:GLY:HA2	53:A3:197:G:H21	1.79	0.48
37:G4:31:MET:HE1	53:A4:1355:G:H4'	1.96	0.48
41:K4:69:ALA:HB2	41:K4:103:LEU:HD11	1.96	0.48
43:M4:16:ASP:HB2	43:M4:27:LYS:HA	1.95	0.48
53:A4:1464:G:H2'	53:A4:1465:G:C8	2.47	0.48
2:D1:17:ASP:O	13:O1:35:LYS:NZ	2.47	0.48
3:E1:152:GLU:OE2	3:E1:191:ARG:NH1	2.46	0.48
4:F1:166:ASP:HA	4:F1:169:ALA:H	1.77	0.48
7:I1:3:THR:OG1	29:A1:1043:C:O2	2.32	0.48
7:I1:108:PRO:HD3	29:A1:1055:C:H4'	1.94	0.48
10:L1:41:TRP:HB3	10:L1:94:VAL:HG11	1.96	0.48
29:A1:825:G:H4'	29:A1:826:A:C8	2.49	0.48
29:A1:1101:C:N4	29:A1:1154:G:H1	2.12	0.48
29:A1:1336:U:H5''	29:A1:1337:C:H5	1.77	0.48
29:A1:1383:U:H2'	29:A1:1384:A:C8	2.49	0.48
29:A1:2052:U:H2'	29:A1:2053:G:C8	2.48	0.48
29:A1:2077:G:H1	29:A1:2630:C:H42	1.60	0.48
29:A1:2758:C:OP1	31:e1:33:LYS:NZ	2.38	0.48
30:B1:112:G:H2'	30:B1:113:G:C8	2.48	0.48
1:C2:148:GLU:HB2	1:C2:151:LYS:HD2	1.96	0.48
4:F2:128:ARG:NH2	29:A2:2330:C:O2'	2.47	0.48
25:a2:57:VAL:HG12	25:a2:59:GLU:HB3	1.95	0.48
29:A2:671:A:N1	29:A2:2383:A:H1'	2.28	0.48
29:A2:1209:C:N4	29:A2:1210:G:O6	2.46	0.48
34:D3:182:LYS:HE3	34:D3:184:LYS:HG2	1.96	0.48
36:F3:45:LEU:HA	36:F3:59:TYR:HA	1.96	0.48
39:I3:68:GLY:O	39:I3:73:GLN:NE2	2.47	0.48
44:N3:37:PHE:HB3	44:N3:39:LEU:HD12	1.95	0.48
47:Q3:14:LYS:HD3	53:A3:270:G:H5''	1.95	0.48
53:A3:433:G:N2	53:A3:479:A:OP2	2.47	0.48
53:A3:1097:C:H2'	53:A3:1098:C:C6	2.49	0.48
53:A3:1375:U:H2'	53:A3:1377:C:H41	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A3:1493:G:N2	53:A3:1496:A:OP2	2.34	0.48
53:A4:204:G:H3'	53:A4:205:G:C8	2.48	0.48
53:A4:661:U:H2'	53:A4:662:C:H6	1.78	0.48
53:A4:718:C:H2'	53:A4:719:C:C6	2.49	0.48
54:V4:6:LEU:HB3	54:V4:40:VAL:HG23	1.94	0.48
2:D1:102:VAL:HA	2:D1:200:GLU:HA	1.96	0.47
2:D1:104:VAL:HG11	2:D1:188:VAL:HG13	1.96	0.47
4:F1:51:ARG:NH1	4:F1:54:GLU:OE1	2.47	0.47
11:M1:63:ARG:NH1	29:A1:1503:U:O4'	2.47	0.47
19:U1:97:GLU:HA	19:U1:127:LYS:HA	1.96	0.47
29:A1:836:U:H3'	29:A1:840:C:H42	1.79	0.47
29:A1:1428:G:H21	29:A1:1619:A:H2	1.62	0.47
29:A1:1687:C:OP1	29:A1:2724:C:O2'	2.29	0.47
29:A1:2366:A:OP2	29:A1:2379:G:N2	2.46	0.47
1:C2:142:VAL:HG12	1:C2:193:VAL:HA	1.95	0.47
29:A2:548:G:H2'	29:A2:549:G:H8	1.79	0.47
29:A2:791:G:H2'	29:A2:792:G:C8	2.49	0.47
29:A2:1685:C:O2'	29:A2:1794:C:O4'	2.32	0.47
29:A2:2763:A:H2'	29:A2:2764:A:C8	2.49	0.47
36:F3:77:ARG:HA	36:F3:80:ARG:HB2	1.96	0.47
37:G3:2:ALA:N	53:A3:1362:U:O4	2.47	0.47
52:X3:158:PHE:HB2	52:W4:173:TYR:HD2	1.79	0.47
53:A3:73:G:N2	53:A3:90:G:OP1	2.31	0.47
53:A3:1124:G:O2'	53:A3:1125:G:O4'	2.29	0.47
32:B4:11:LEU:O	32:B4:16:HIS:ND1	2.46	0.47
35:E4:65:ASN:HD21	35:E4:140:ARG:HH22	1.61	0.47
41:K4:93:GLN:HA	41:K4:96:ARG:HB2	1.96	0.47
46:P4:43:LYS:HZ2	46:P4:48:TRP:CG	2.31	0.47
46:P4:68:ASP:OD1	46:P4:71:ARG:NH1	2.46	0.47
49:S4:36:ARG:NE	53:A4:1202:G:OP1	2.47	0.47
50:T4:65:LYS:NZ	53:A4:171:C:OP1	2.37	0.47
53:A4:299:U:H2'	53:A4:300:G:C8	2.49	0.47
13:O1:108:ARG:HH22	53:A3:1413:C:H3'	1.78	0.47
29:A1:204:G:O2'	29:A1:206:A:O3'	2.32	0.47
29:A1:313:C:H1'	29:A1:379:G:H1	1.79	0.47
29:A1:966:A:N3	30:B1:82:U:O2'	2.47	0.47
29:A1:2126:U:O4	29:A1:2209:C:O2'	2.29	0.47
1:C2:29:PRO:HG3	1:C2:63:ARG:HH21	1.78	0.47
3:E2:135:LYS:O	3:E2:139:PHE:N	2.47	0.47
3:E2:164:ARG:HH12	3:E2:177:ALA:HA	1.78	0.47
11:M2:33:ARG:HB2	11:M2:113:LEU:HD11	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:a2:12:SER:OG	29:A2:2045:C:OP1	2.29	0.47
29:A2:357:A:O2'	29:A2:359:C:OP2	2.31	0.47
29:A2:598:G:H1	29:A2:2055:A:P	2.37	0.47
29:A2:638:G:N2	29:A2:642:A:O2'	2.45	0.47
29:A2:659:A:N1	29:A2:2416:C:N4	2.62	0.47
29:A2:666:U:H2'	29:A2:667:C:C6	2.49	0.47
29:A2:1302:A:H5''	29:A2:1304:G:H8	1.79	0.47
29:A2:1864:G:H2'	29:A2:1865:C:C6	2.49	0.47
29:A2:2558:G:H2'	29:A2:2559:G:H8	1.79	0.47
29:A2:2745:C:N4	29:A2:2746:G:O6	2.47	0.47
52:X3:158:PHE:CD2	52:W4:157:SER:O	2.67	0.47
53:A3:264:C:H2'	53:A3:265:A:C8	2.49	0.47
53:A3:351:A:O2'	53:A3:362:U:O2'	2.29	0.47
53:A3:959:U:O2	53:A3:960:A:N6	2.46	0.47
53:A3:1297:G:N1	53:A3:1300:A:OP2	2.25	0.47
54:V3:71:GLU:OE1	54:V3:86:ARG:NH2	2.47	0.47
32:B4:126:GLU:HA	32:B4:130:ARG:HD3	1.96	0.47
34:D4:61:LYS:HZ3	34:D4:75:PHE:HB3	1.77	0.47
35:E4:143:ARG:HB3	35:E4:147:ASP:HB2	1.95	0.47
36:F4:27:GLN:HA	36:F4:30:LEU:HD12	1.95	0.47
37:G4:4:ARG:NH2	53:A4:908:C:O3'	2.47	0.47
41:K4:69:ALA:HA	41:K4:72:ALA:HB3	1.97	0.47
52:W4:147:ALA:CA	52:W4:159:PHE:HE2	2.27	0.47
53:A4:662:C:H42	53:A4:694:G:H22	1.62	0.47
53:A4:904:G:N1	53:A4:1373:U:O2	2.34	0.47
27:c1:2:LYS:O	27:c1:3:ARG:NH1	2.45	0.47
29:A1:671:A:N1	29:A1:2383:A:H1'	2.29	0.47
29:A1:929:G:N2	29:A1:945:C:N3	2.60	0.47
29:A1:969:G:H4'	29:A1:2283:A:C6	2.49	0.47
29:A1:1519:G:O2'	29:A1:1570:G:O6	2.31	0.47
29:A1:1897:U:C4	29:A1:1898:G:H1'	2.49	0.47
29:A1:2120:U:H3	29:A1:2217:G:H1	1.61	0.47
29:A1:2242:G:N7	29:A1:2243:C:N4	2.61	0.47
2:D2:168:MET:HE3	29:A2:2746:G:H4'	1.95	0.47
4:F2:5:VAL:HG12	4:F2:8:LYS:H	1.79	0.47
29:A2:662:C:O2'	29:A2:666:U:OP1	2.25	0.47
29:A2:1566:C:H2'	29:A2:1567:G:C8	2.48	0.47
29:A2:2659:G:H5''	29:A2:2747:G:H21	1.80	0.47
29:A2:2858:G:H2'	29:A2:2859:U:C6	2.49	0.47
33:C3:55:VAL:HG13	33:C3:68:VAL:HG22	1.96	0.47
37:G3:31:MET:HG2	37:G3:36:LYS:HG3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:G3:113:GLU:HB3	37:G3:118:VAL:HG12	1.97	0.47
53:A3:214:C:N4	53:A3:215:G:N7	2.62	0.47
53:A3:226:G:H2'	53:A3:227:G:C8	2.49	0.47
53:A3:870:C:H2'	53:A3:871:G:C8	2.49	0.47
32:B4:84:GLU:OE2	32:B4:212:GLN:NE2	2.47	0.47
34:D4:25:ARG:HH22	34:D4:35:ARG:HH12	1.62	0.47
41:K4:53:SER:OG	53:A4:675:U:N3	2.47	0.47
42:L4:40:VAL:N	42:L4:79:GLU:OE1	2.41	0.47
53:A4:401:G:N2	53:A4:432:U:O2	2.47	0.47
53:A4:499:U:H2'	53:A4:500:G:C4	2.50	0.47
53:A4:917:C:H2'	53:A4:918:G:H8	1.79	0.47
53:A4:1236:G:N2	53:A4:1258:C:O2	2.47	0.47
3:E1:7:TYR:HE1	3:E1:127:GLU:HG2	1.80	0.47
10:L1:24:GLY:H	10:L1:101:ARG:HD2	1.79	0.47
12:N1:28:VAL:HG12	12:N1:37:ALA:HA	1.95	0.47
29:A1:258:C:H1'	29:A1:454:G:H1	1.80	0.47
29:A1:760:G:H1	29:A1:768:C:N4	2.12	0.47
29:A1:1855:G:H2'	29:A1:1856:G:C8	2.48	0.47
10:L2:130:LYS:HG3	10:L2:131:ILE:H	1.80	0.47
16:R2:30:GLU:HA	16:R2:33:ARG:HG2	1.97	0.47
20:V2:15:ASP:OD1	29:A2:2277:C:N4	2.36	0.47
29:A2:261:A:H62	29:A2:285:G:H21	1.61	0.47
29:A2:510:A:O2'	29:A2:512:C:N4	2.48	0.47
29:A2:623:G:N3	29:A2:709:G:N2	2.62	0.47
29:A2:790:G:H2'	29:A2:791:G:H8	1.79	0.47
29:A2:1024:C:H2'	29:A2:1025:G:C8	2.49	0.47
29:A2:1528:G:H4'	29:A2:1609:G:H4'	1.96	0.47
29:A2:2048:G:H2'	29:A2:2049:C:C6	2.49	0.47
29:A2:2082:A:N6	29:A2:2517:A:O2'	2.48	0.47
29:A2:2483:A:N1	29:A2:2495:G:O2'	2.42	0.47
36:F3:38:GLU:HG3	36:F3:66:GLU:H	1.79	0.47
37:G3:144:MET:O	37:G3:148:ASN:ND2	2.48	0.47
44:N3:29:ARG:HG2	44:N3:31:ARG:H	1.80	0.47
46:P3:6:LEU:HB3	46:P3:17:TYR:CD1	2.49	0.47
53:A3:286:C:H2'	53:A3:287:G:H8	1.79	0.47
53:A3:817:C:H2'	53:A3:818:U:H6	1.79	0.47
53:A3:1382:C:P	54:V3:93:ARG:HH22	2.37	0.47
39:I4:73:GLN:HE22	53:A4:1230:C:HO2'	1.55	0.47
41:K4:18:ARG:HG3	41:K4:81:ASP:HB2	1.96	0.47
44:N4:31:ARG:NH1	53:A4:954:A:OP1	2.45	0.47
46:P4:43:LYS:HA	46:P4:45:THR:HG23	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Q4:83:ASP:O	47:Q4:87:LYS:N	2.42	0.47
53:A4:507:G:N7	53:A4:508:C:N4	2.62	0.47
53:A4:1259:U:H4'	53:A4:1260:A:H5'	1.97	0.47
53:A4:1502:G:H2'	53:A4:1503:G:C8	2.50	0.47
5:G1:3:ARG:HH22	29:A1:1159:A:H5'	1.79	0.47
13:O1:4:GLY:O	29:A1:2887:C:O2'	2.28	0.47
20:V1:15:ASP:CG	29:A1:2277:C:H41	2.23	0.47
29:A1:35:G:N1	29:A1:36:G:N3	2.63	0.47
29:A1:285:G:O2'	29:A1:292:G:O2'	2.27	0.47
29:A1:448:C:O2'	29:A1:449:C:O4'	2.30	0.47
29:A1:632:U:N3	29:A1:648:A:N1	2.51	0.47
29:A1:1090:G:H22	29:A1:1160:G:H22	1.62	0.47
30:B1:16:U:O4'	30:B1:109:G:N2	2.47	0.47
2:D2:146:THR:OG1	29:A2:2586:A:OP2	2.29	0.47
11:M2:85:PRO:HG3	11:M2:88:ARG:HH11	1.78	0.47
19:U2:29:TYR:HE2	30:B2:75:A:H61	1.61	0.47
21:W2:71:TYR:HD1	21:W2:74:VAL:HG11	1.79	0.47
23:Y2:32:GLN:OE1	29:A2:1206:C:O2'	2.31	0.47
29:A2:116:A:H5'	29:A2:117:A:C8	2.49	0.47
29:A2:910:A:H2	30:B2:81:C:H1'	1.79	0.47
29:A2:1173:G:H3'	29:A2:1174:A:C8	2.49	0.47
29:A2:1364:U:H2'	29:A2:1365:A:H8	1.79	0.47
29:A2:1687:C:O2	29:A2:2712:U:O2'	2.31	0.47
29:A2:1976:A:N3	29:A2:2574:C:O2'	2.43	0.47
29:A2:2139:G:O2'	29:A2:2192:G:N2	2.48	0.47
29:A2:2499:G:H2'	29:A2:2500:G:H8	1.80	0.47
30:B2:1:A:H3'	30:B2:2:A:H3'	1.96	0.47
33:C3:92:ALA:HA	33:C3:96:GLY:HA2	1.95	0.47
52:X3:161:PHE:HB2	52:X3:170:ASN:CG	2.40	0.47
53:A3:1100:C:O2'	53:A3:1138:G:N2	2.47	0.47
39:I4:16:ARG:HD2	39:I4:18:PHE:HZ	1.79	0.47
53:A4:316:A:OP1	53:A4:1417:G:O2'	2.28	0.47
53:A4:764:A:OP1	53:A4:1499:U:O2'	2.32	0.47
53:A4:1366:C:N4	53:A4:1367:G:O6	2.47	0.47
3:E1:203:GLN:HE22	3:E1:206:ILE:HD11	1.78	0.47
4:F1:63:ILE:HG22	4:F1:144:ILE:HD11	1.97	0.47
17:S1:16:LYS:NZ	29:A1:1387:G:H5''	2.30	0.47
22:X1:55:ARG:NH2	29:A1:74:G:OP1	2.47	0.47
29:A1:770:C:H2'	29:A1:771:A:C8	2.49	0.47
29:A1:1052:C:N4	29:A1:1059:G:O6	2.48	0.47
12:N2:33:LYS:HG3	12:N2:34:HIS:CD2	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:N2:102:ALA:HB1	12:N2:112:PHE:HE2	1.79	0.47
18:T2:85:VAL:HG13	18:T2:94:LYS:HG3	1.97	0.47
25:a2:48:GLU:HG2	25:a2:58:LEU:HB2	1.96	0.47
29:A2:481:C:O2'	29:A2:483:C:N4	2.40	0.47
29:A2:679:C:O2'	29:A2:698:C:OP2	2.29	0.47
29:A2:1652:C:O2'	29:A2:1658:A:N1	2.38	0.47
29:A2:1770:U:H3'	29:A2:1771:G:C8	2.50	0.47
39:I3:16:ARG:HH22	53:A3:1110:C:P	2.37	0.47
40:J3:51:ARG:NE	40:J3:61:GLU:OE1	2.48	0.47
46:P3:42:ARG:HG2	53:A3:444:G:H4'	1.96	0.47
52:X3:182:LEU:HG	52:W4:132:VAL:HB	1.96	0.47
53:A3:459:G:H2'	53:A3:460:G:H8	1.79	0.47
53:A3:871:G:H2'	53:A3:872:G:C8	2.49	0.47
53:A3:1006:C:H42	53:A3:1015:G:H22	1.61	0.47
53:A3:1500:G:H2'	53:A3:1501:C:H6	1.80	0.47
33:C4:132:ARG:HD3	33:C4:136:GLN:HE21	1.79	0.47
36:F4:24:GLU:HB3	36:F4:28:ARG:HH12	1.78	0.47
39:I4:16:ARG:NH2	53:A4:1109:G:O3'	2.48	0.47
45:O4:37:ASN:HD21	45:O4:87:ILE:HD11	1.80	0.47
53:A4:177:G:N3	53:A4:218:U:O2'	2.48	0.47
53:A4:664:C:N4	53:A4:665:G:O6	2.48	0.47
53:A4:794:C:O2'	53:A4:878:A:N1	2.48	0.47
53:A4:1254:G:H3'	53:A4:1255:G:C8	2.49	0.47
1:C1:165:ILE:HG22	1:C1:167:GLY:H	1.79	0.47
2:D1:166:THR:OG1	29:A1:2788:C:OP1	2.31	0.47
4:F1:154:GLY:N	29:A1:2319:A:N1	2.59	0.47
10:L1:52:VAL:HG22	10:L1:56:ARG:HG2	1.95	0.47
10:L1:74:TYR:HD2	10:L1:91:GLU:HB2	1.80	0.47
13:O1:49:VAL:HA	13:O1:63:VAL:HA	1.97	0.47
14:P1:28:ARG:NH2	29:A1:559:A:OP2	2.41	0.47
14:P1:66:ASN:HD21	14:P1:70:ARG:HE	1.63	0.47
18:T1:78:ALA:HB2	18:T1:98:VAL:HG22	1.97	0.47
24:Z1:53:GLU:HG2	49:S3:69:HIS:HB2	1.95	0.47
28:d1:10:ALA:HB3	28:d1:60:LEU:HD21	1.97	0.47
29:A1:190:U:OP2	29:A1:191:C:N4	2.47	0.47
29:A1:740:C:O2	29:A1:820:G:N2	2.35	0.47
29:A1:1061:C:H2'	29:A1:1062:U:H6	1.79	0.47
29:A1:1128:A:N6	29:A1:1129:U:O2	2.47	0.47
1:C2:16:MET:HG2	1:C2:207:GLY:HA3	1.96	0.47
3:E2:51:THR:HG23	3:E2:92:PRO:HG3	1.97	0.47
4:F2:11:TYR:O	4:F2:16:ARG:N	2.41	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:K2:13:ASN:HD21	29:A2:1293:G:H5'	1.79	0.47
9:K2:43:GLY:HA2	29:A2:719:A:H5''	1.97	0.47
10:L2:5:ARG:NE	29:A2:920:U:OP2	2.36	0.47
14:P2:50:ARG:HH12	15:Q2:72:VAL:HA	1.80	0.47
18:T2:46:LYS:O	18:T2:61:ILE:N	2.46	0.47
22:X2:53:LEU:HA	22:X2:56:GLN:HB3	1.96	0.47
29:A2:645:C:H2'	29:A2:646:G:H8	1.79	0.47
29:A2:1593:A:H8	29:A2:1594:A:C8	2.32	0.47
29:A2:2228:C:H2'	29:A2:2231:A:H61	1.80	0.47
29:A2:2554:C:H2'	29:A2:2555:A:C8	2.50	0.47
29:A2:2721:G:H2'	29:A2:2722:G:C8	2.50	0.47
31:e2:24:TYR:HA	31:e2:35:ARG:HG3	1.97	0.47
33:C3:15:THR:HG21	33:C3:181:ASN:HA	1.97	0.47
34:D3:13:ARG:HH22	34:D3:36:ARG:NH1	2.07	0.47
34:D3:94:LEU:HB2	34:D3:191:ARG:HH12	1.80	0.47
36:F3:100:ASN:HB3	48:R3:29:PHE:HD2	1.80	0.47
40:J3:82:ILE:O	40:J3:87:THR:N	2.48	0.47
43:M3:108:ARG:HB2	53:A3:924:G:H5'	1.97	0.47
43:M3:115:LYS:NZ	53:A3:1208:A:O2'	2.33	0.47
52:X3:147:ALA:CA	52:X3:159:PHE:CD2	2.88	0.47
53:A3:194:U:H2'	53:A3:195:G:C8	2.49	0.47
53:A3:247:U:H3	53:A3:269:A:H62	1.62	0.47
53:A3:275:C:H5''	53:A3:276:G:H21	1.80	0.47
53:A3:1045:C:H3'	53:A3:1046:G:H8	1.79	0.47
33:C4:12:LEU:HD13	33:C4:18:TRP:HE1	1.79	0.47
33:C4:16:ARG:HH11	33:C4:181:ASN:HD21	1.61	0.47
34:D4:157:LEU:HD12	34:D4:161:ASN:HD21	1.79	0.47
34:D4:198:VAL:HG13	34:D4:202:LEU:HB2	1.96	0.47
35:E4:22:GLY:O	53:A4:1174:G:O2'	2.28	0.47
39:I4:120:ARG:HB3	53:A4:1325:C:H5'	1.97	0.47
42:L4:17:LYS:HB3	42:L4:19:ARG:HH11	1.80	0.47
42:L4:89:ARG:NH2	53:A4:508:C:OP1	2.48	0.47
43:M4:26:GLY:O	43:M4:30:ALA:N	2.35	0.47
43:M4:98:VAL:HB	53:A4:1289:U:H5'	1.96	0.47
52:W4:139:MET:SD	52:W4:139:MET:N	2.79	0.47
53:A4:77:G:N2	53:A4:85:U:OP1	2.48	0.47
53:A4:99:C:H2'	53:A4:100:G:H8	1.79	0.47
53:A4:891:A:H2'	53:A4:892:A:C8	2.50	0.47
53:A4:1100:C:O2	53:A4:1138:G:N1	2.48	0.47
53:A4:1250:A:H2	53:A4:1293:G:H21	1.62	0.47
53:A4:1293:G:H2'	53:A4:1294:U:H6	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A4:1351:C:H2'	53:A4:1352:G:C8	2.49	0.47
53:A4:1431:A:H8	53:A4:1432:C:H5'	1.79	0.47
9:K1:86:LYS:NZ	29:A1:689:G:O2'	2.42	0.47
24:Z1:58:ARG:HG2	49:S3:39:THR:HG23	1.96	0.47
26:b1:26:ASN:O	26:b1:28:ARG:NH1	2.48	0.47
29:A1:649:G:H3'	29:A1:650:G:H8	1.79	0.47
29:A1:862:U:H2'	29:A1:863:C:C6	2.50	0.47
29:A1:1103:G:N2	29:A1:1132:A:O2'	2.48	0.47
29:A1:1339:C:O2'	29:A1:1584:A:OP1	2.31	0.47
29:A1:1736:G:N2	29:A1:1737:U:O2	2.47	0.47
29:A1:2228:C:N4	29:A1:2234:G:O6	2.48	0.47
29:A1:2745:C:N4	29:A1:2746:G:O6	2.47	0.47
8:J2:76:ALA:H	13:O2:75:ILE:HB	1.79	0.47
29:A2:448:C:O2'	29:A2:449:C:O4'	2.27	0.47
29:A2:2116:U:OP1	29:A2:2223:A:O2'	2.28	0.47
32:B3:62:ALA:O	32:B3:226:ARG:NH1	2.48	0.47
33:C3:66:VAL:O	33:C3:102:ASN:N	2.47	0.47
41:K3:24:SER:OG	41:K3:25:TYR:N	2.47	0.47
44:N3:58:LYS:HG3	44:N3:60:SER:HB3	1.96	0.47
46:P3:48:TRP:HH2	46:P3:76:GLN:HE22	1.63	0.47
53:A3:658:A:H2'	53:A3:659:A:H8	1.80	0.47
53:A3:1106:G:N7	53:A3:1109:G:N2	2.63	0.47
53:A3:1317:C:O4'	53:A3:1318:G:N2	2.48	0.47
42:L4:15:ARG:NH2	53:A4:547:C:OP2	2.37	0.47
16:R1:77:ASP:OD1	29:A1:545:G:O2'	2.29	0.47
19:U1:26:GLY:HA2	19:U1:85:HIS:CD2	2.49	0.47
20:V1:20:ARG:HG2	29:A1:2370:C:H4'	1.96	0.47
26:b1:24:GLU:O	29:A1:2360:A:O2'	2.32	0.47
29:A1:13:A:N6	29:A1:553:A:OP2	2.47	0.47
29:A1:177:G:H21	29:A1:1414:A:H2	1.63	0.47
29:A1:416:G:O2'	29:A1:418:A:N6	2.48	0.47
29:A1:427:G:H3'	29:A1:428:G:C8	2.50	0.47
29:A1:975:G:C2	29:A1:976:G:H1'	2.50	0.47
29:A1:2048:G:H2'	29:A1:2049:C:C6	2.50	0.47
1:C2:45:ASN:HD21	29:A2:1839:C:H1'	1.80	0.47
2:D2:174:ASP:HB2	2:D2:183:LEU:HD12	1.96	0.47
3:E2:203:GLN:HA	3:E2:206:ILE:HG12	1.97	0.47
4:F2:121:ASN:O	4:F2:131:TYR:OH	2.28	0.47
12:N2:89:ARG:NE	29:A2:2307:C:OP1	2.48	0.47
20:V2:71:ASP:HA	20:V2:77:ARG:HA	1.97	0.47
23:Y2:49:LYS:HE2	29:A2:900:U:H5''	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:696:G:H22	29:A2:699:C:N4	2.13	0.47
29:A2:2315:C:H2'	29:A2:2316:G:C8	2.50	0.47
29:A2:2643:A:N6	29:A2:2906:U:O4	2.43	0.47
29:A2:2779:A:H2'	29:A2:2781:G:N7	2.30	0.47
30:B2:35:G:N1	30:B2:51:C:O2	2.47	0.47
39:I3:23:ASN:H	39:I3:60:ASP:CG	2.23	0.47
39:I3:110:GLU:OE1	39:I3:113:LYS:NZ	2.45	0.47
42:L3:15:ARG:NH2	53:A3:547:C:OP2	2.47	0.47
46:P3:6:LEU:N	53:A3:371:G:OP1	2.47	0.47
52:X3:137:PHE:CE1	52:X3:150:GLN:NE2	2.83	0.47
52:X3:141:PRO:HA	52:X3:162:ARG:HB3	1.91	0.47
53:A3:38:G:H1	53:A3:392:A:H5''	1.80	0.47
53:A3:835:G:N1	53:A3:847:U:OP2	2.40	0.47
54:V3:83:ALA:HA	54:V3:86:ARG:HG2	1.97	0.47
33:C4:141:VAL:HG21	33:C4:149:ALA:HB2	1.97	0.47
34:D4:90:GLY:HA2	34:D4:93:PHE:HB3	1.97	0.47
36:F4:6:VAL:HB	36:F4:63:TYR:HB2	1.96	0.47
42:L4:78:GLN:H	42:L4:78:GLN:HG2	1.44	0.47
49:S4:77:THR:HG21	53:A4:1202:G:H5'	1.96	0.47
52:W4:147:ALA:CA	52:W4:161:PHE:CB	2.57	0.47
53:A4:800:C:N4	53:A4:802:A:N3	2.63	0.47
53:A4:870:C:H2'	53:A4:871:G:C8	2.50	0.47
2:D1:149:ARG:NH2	29:A1:1178:U:O2	2.48	0.47
4:F1:113:ARG:HD2	4:F1:140:ILE:HD12	1.96	0.47
7:I1:101:HIS:ND1	29:A1:1186:G:OP2	2.48	0.47
8:J1:65:THR:HG22	8:J1:67:LYS:H	1.79	0.47
14:P1:91:ASP:OD1	14:P1:95:LEU:N	2.48	0.47
21:W1:16:ASN:OD1	29:A1:408:U:O2'	2.24	0.47
29:A1:132:C:H2'	29:A1:133:G:C8	2.50	0.47
29:A1:1940:A:C8	29:A1:1987:U:H1'	2.50	0.47
29:A1:2181:G:N2	29:A1:2182:A:N1	2.63	0.47
29:A1:2303:G:H1'	29:A1:2397:G:H21	1.78	0.47
29:A1:2705:C:N4	29:A1:2733:G:H1	2.13	0.47
29:A1:2862:A:H3'	29:A1:2863:A:C8	2.50	0.47
5:G2:96:ALA:HB3	5:G2:104:GLU:HB2	1.97	0.47
18:T2:4:LYS:NZ	29:A2:363:G:OP1	2.39	0.47
29:A2:435:G:H2'	29:A2:436:G:C8	2.50	0.47
29:A2:594:U:HO2'	29:A2:993:G:H21	1.58	0.47
29:A2:622:U:H2'	29:A2:623:G:H8	1.80	0.47
29:A2:634:A:H62	29:A2:646:G:H21	1.63	0.47
29:A2:745:G:H1	29:A2:815:C:H42	1.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:1051:G:N2	29:A2:1052:C:O2	2.48	0.47
29:A2:2410:G:H2'	29:A2:2411:G:H8	1.78	0.47
29:A2:2418:C:N4	29:A2:2419:G:O6	2.48	0.47
33:C3:38:ARG:HB3	33:C3:94:LEU:HD13	1.96	0.47
42:L3:93:LEU:HD22	42:L3:96:VAL:HG21	1.97	0.47
49:S3:28:LYS:H	49:S3:44:MET:HE2	1.80	0.47
53:A3:153:G:H21	53:A3:156:A:H62	1.61	0.47
53:A3:689:A:N6	53:A3:690:C:N3	2.62	0.47
53:A3:750:A:N6	53:A3:1488:G:O2'	2.45	0.47
33:C4:128:PHE:HE2	33:C4:136:GLN:HG3	1.80	0.47
51:U4:20:LYS:HB3	53:A4:1249:A:H4'	1.97	0.47
52:W4:162:ARG:HH11	52:W4:162:ARG:HG3	1.80	0.47
53:A4:168:C:H2'	53:A4:169:C:H6	1.79	0.47
53:A4:1159:G:N1	53:A4:1162:G:OP2	2.40	0.47
3:E1:124:LEU:HB3	3:E1:192:LEU:O	2.15	0.46
9:K1:16:ARG:HH22	29:A1:1240:G:H3'	1.80	0.46
10:L1:134:ARG:HH21	19:U1:122:ARG:HD3	1.79	0.46
20:V1:15:ASP:OD1	29:A1:2277:C:N4	2.42	0.46
29:A1:509:G:H21	29:A1:533:G:N2	2.13	0.46
29:A1:759:G:C2	29:A1:760:G:H1'	2.50	0.46
29:A1:820:G:O2'	29:A1:1403:G:O2'	2.33	0.46
29:A1:1356:A:H62	29:A1:1654:G:H21	1.63	0.46
30:B1:20:G:H22	30:B1:111:C:H42	1.62	0.46
1:C2:151:LYS:NZ	29:A2:1834:G:OP1	2.43	0.46
1:C2:241:PRO:HD3	29:A2:1995:A:C2	2.50	0.46
9:K2:53:GLY:O	29:A2:875:U:O2'	2.29	0.46
13:O2:23:ARG:HH11	13:O2:120:ARG:HH21	1.63	0.46
17:S2:65:ARG:HH21	29:A2:1383:U:H5''	1.80	0.46
29:A2:82:G:O2'	29:A2:100:G:N2	2.42	0.46
29:A2:226:C:H42	29:A2:251:G:H22	1.63	0.46
29:A2:351:G:N2	29:A2:362:C:O2	2.48	0.46
29:A2:864:C:H2'	29:A2:865:C:C6	2.50	0.46
29:A2:931:G:N1	29:A2:941:C:N3	2.63	0.46
29:A2:1466:G:N2	29:A2:1628:A:OP2	2.48	0.46
29:A2:1646:C:H2'	29:A2:1647:C:H6	1.80	0.46
29:A2:1975:U:N3	29:A2:1977:A:OP2	2.48	0.46
34:D3:141:ARG:N	34:D3:144:ASP:OD2	2.47	0.46
35:E3:15:ARG:HE	35:E3:26:PHE:HB3	1.80	0.46
45:O3:80:ALA:O	45:O3:84:LYS:NZ	2.48	0.46
46:P3:8:ARG:HH22	53:A3:386:G:H5''	1.80	0.46
46:P3:18:ARG:NH2	53:A3:609:U:OP2	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:R3:71:LYS:NZ	53:A3:718:C:OP1	2.48	0.46
52:X3:154:LEU:CD1	52:X3:155:GLY:H	2.26	0.46
53:A3:412:C:H2'	53:A3:413:C:C6	2.50	0.46
53:A3:1276:G:O2'	53:A3:1283:U:O4	2.33	0.46
38:H4:39:LEU:HD22	38:H4:44:PHE:HB2	1.97	0.46
50:T4:60:GLU:HA	50:T4:63:ILE:HD12	1.97	0.46
53:A4:247:U:H3	53:A4:269:A:N6	2.13	0.46
53:A4:816:U:H2'	53:A4:817:C:C6	2.51	0.46
53:A4:1251:C:N4	53:A4:1252:G:O6	2.48	0.46
53:A4:1398:G:N1	53:A4:1462:U:O2	2.47	0.46
3:E1:72:ARG:O	29:A1:1303:U:N3	2.48	0.46
3:E1:124:LEU:HG	3:E1:193:VAL:HG13	1.97	0.46
6:H1:23:PRO:O	6:H1:27:ARG:NE	2.48	0.46
16:R1:70:TYR:CE1	16:R1:110:LYS:HB2	2.49	0.46
20:V1:66:VAL:O	20:V1:82:ARG:N	2.44	0.46
21:W1:10:LYS:HB3	29:A1:424:G:H5''	1.97	0.46
29:A1:216:G:H21	29:A1:218:A:H2	1.63	0.46
29:A1:750:G:N2	29:A1:780:C:N3	2.42	0.46
29:A1:1306:C:N4	29:A1:1307:G:O6	2.48	0.46
29:A1:1583:U:OP1	29:A1:1586:G:N2	2.43	0.46
29:A1:2098:U:H1'	29:A1:2450:G:H22	1.80	0.46
4:F2:40:ASN:ND2	29:A2:2327:C:O2'	2.48	0.46
4:F2:135:LEU:HD12	4:F2:155:MET:HG2	1.96	0.46
6:H2:30:LEU:HA	6:H2:35:LEU:HD12	1.97	0.46
10:L2:30:GLY:HA2	10:L2:107:ALA:HB2	1.96	0.46
25:a2:4:HIS:NE2	29:A2:2626:C:OP1	2.47	0.46
29:A2:172:A:HO2'	29:A2:462:C:HO2'	1.60	0.46
29:A2:522:G:H2'	29:A2:523:G:H8	1.80	0.46
29:A2:1890:G:H21	29:A2:1909:A:H62	1.61	0.46
29:A2:2068:C:H42	29:A2:2638:G:H1	1.63	0.46
29:A2:2805:A:N3	29:A2:2904:G:O2'	2.48	0.46
32:B3:21:ARG:HG3	32:B3:39:ILE:HA	1.96	0.46
36:F3:38:GLU:OE1	36:F3:64:GLN:NE2	2.48	0.46
39:I3:4:TYR:H	39:I3:19:LEU:HD12	1.79	0.46
53:A3:532:C:N4	53:A3:533:G:O6	2.47	0.46
53:A3:1029:G:N2	53:A3:1196:G:OP1	2.48	0.46
35:E4:80:ILE:HD12	35:E4:138:ALA:HB1	1.97	0.46
53:A4:41:G:H2'	53:A4:42:G:C8	2.50	0.46
53:A4:736:A:H5'	53:A4:737:C:C6	2.50	0.46
53:A4:1069:G:N2	53:A4:1081:G:H1'	2.30	0.46
1:C1:96:HIS:NE2	29:A1:1548:G:O2'	2.35	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:250:TRP:CE2	29:A1:1838:U:H4'	2.50	0.46
2:D1:171:GLU:HB3	2:D1:185:LYS:HE3	1.97	0.46
4:F1:69:ALA:N	4:F1:91:ARG:O	2.38	0.46
7:I1:91:LEU:HA	7:I1:95:PRO:HB3	1.97	0.46
9:K1:37:GLY:O	9:K1:41:ARG:NH2	2.47	0.46
10:L1:30:GLY:HA2	10:L1:107:ALA:HB2	1.97	0.46
11:M1:95:THR:O	29:A1:2893:C:O2'	2.31	0.46
21:W1:10:LYS:HE2	21:W1:66:HIS:CE1	2.50	0.46
24:Z1:55:ARG:HH21	49:S3:70:LYS:HD2	1.80	0.46
27:c1:32:LYS:O	27:c1:36:GLN:N	2.42	0.46
29:A1:292:G:H22	29:A1:396:C:H1'	1.80	0.46
29:A1:585:C:H2'	29:A1:586:G:C8	2.50	0.46
29:A1:2381:G:HO2'	29:A1:2382:C:H6	1.63	0.46
1:C2:122:ASP:N	1:C2:122:ASP:OD1	2.47	0.46
1:C2:236:GLY:HA3	29:A2:2613:G:C8	2.50	0.46
2:D2:12:THR:OG1	2:D2:13:ARG:N	2.48	0.46
3:E2:15:SER:HB3	3:E2:17:ARG:HE	1.81	0.46
4:F2:96:ARG:HA	4:F2:99:MET:HE2	1.96	0.46
13:O2:5:ALA:HA	13:O2:8:LYS:HG2	1.97	0.46
19:U2:5:LEU:HB3	19:U2:59:LEU:HD23	1.95	0.46
25:a2:2:ALA:N	29:A2:2625:U:O2	2.49	0.46
29:A2:375:U:H3'	29:A2:376:G:H8	1.81	0.46
29:A2:1390:A:O2'	29:A2:1392:G:OP2	2.28	0.46
53:A3:463:C:H2'	53:A3:464:U:C2	2.50	0.46
53:A3:1029:G:N1	53:A3:1194:A:N1	2.63	0.46
54:V3:87:LEU:HD12	54:V3:87:LEU:C	2.41	0.46
39:I4:16:ARG:HH22	53:A4:1109:G:H4'	1.80	0.46
53:A4:6:G:OP2	53:A4:6:G:N2	2.48	0.46
53:A4:575:G:O6	53:A4:577:G:N2	2.48	0.46
13:O1:39:ARG:HG3	13:O1:41:ARG:NH2	2.26	0.46
19:U1:52:SER:OG	19:U1:53:ILE:N	2.48	0.46
23:Y1:18:ASP:OD1	23:Y1:18:ASP:N	2.42	0.46
29:A1:240:G:O6	29:A1:241:A:N6	2.48	0.46
29:A1:314:A:H62	29:A1:315:G:N2	2.14	0.46
29:A1:815:C:H2'	29:A1:816:U:C6	2.50	0.46
29:A1:2613:G:H2'	29:A1:2614:A:C8	2.51	0.46
6:H2:45:LYS:O	29:A2:276:C:O2'	2.30	0.46
8:J2:88:ASN:OD1	8:J2:94:ARG:NH2	2.48	0.46
14:P2:27:LEU:HD23	14:P2:30:LYS:HD2	1.98	0.46
19:U2:58:VAL:HA	19:U2:68:PRO:HA	1.96	0.46
29:A2:132:C:H2'	29:A2:133:G:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:1076:A:O2'	29:A2:2501:G:OP1	2.34	0.46
29:A2:1564:U:H2'	29:A2:1565:G:H8	1.80	0.46
29:A2:2132:C:H42	29:A2:2206:G:H1'	1.80	0.46
50:T3:82:SER:O	50:T3:86:ARG:NE	2.49	0.46
52:X3:155:GLY:CA	52:W4:173:TYR:OH	2.63	0.46
52:X3:161:PHE:HB2	52:X3:170:ASN:CB	2.45	0.46
53:A3:112:A:OP2	53:A3:283:A:N6	2.33	0.46
53:A3:119:G:OP1	53:A3:588:U:O2'	2.28	0.46
53:A3:444:G:N2	53:A3:467:C:N3	2.59	0.46
34:D4:9:CYS:O	34:D4:11:LEU:N	2.48	0.46
43:M4:42:ALA:O	53:A4:1276:G:O2'	2.24	0.46
43:M4:57:ARG:HA	43:M4:60:VAL:HG23	1.97	0.46
53:A4:1100:C:H1'	53:A4:1138:G:H22	1.80	0.46
3:E1:72:ARG:HD2	3:E1:72:ARG:HA	1.76	0.46
12:N1:73:LEU:O	12:N1:77:ALA:N	2.49	0.46
29:A1:185:A:H3'	29:A1:186:A:H4'	1.96	0.46
29:A1:620:C:H2'	29:A1:621:G:C8	2.50	0.46
29:A1:696:G:N2	29:A1:698:C:O2	2.48	0.46
29:A1:1007:A:O2'	29:A1:2470:C:O2	2.31	0.46
29:A1:1076:A:O2'	29:A1:2501:G:OP1	2.32	0.46
29:A1:2228:C:O2	29:A1:2230:G:N1	2.48	0.46
29:A1:2453:A:O2'	29:A1:2614:A:OP1	2.29	0.46
30:B1:30:C:H2'	30:B1:31:A:C8	2.50	0.46
10:L2:41:TRP:HD1	10:L2:96:VAL:HG22	1.81	0.46
13:O2:54:ARG:HB2	29:A2:2858:G:P	2.55	0.46
13:O2:87:ASP:HB3	13:O2:89:VAL:HG13	1.96	0.46
14:P2:55:ARG:NH1	29:A2:1204:A:OP1	2.48	0.46
29:A2:815:C:H2'	29:A2:816:U:C6	2.50	0.46
29:A2:862:U:H2'	29:A2:863:C:C6	2.50	0.46
29:A2:896:U:H3	29:A2:981:G:N2	2.14	0.46
29:A2:1356:A:H3'	29:A2:1357:G:C8	2.51	0.46
29:A2:1937:A:H8	29:A2:1944:C:H5''	1.81	0.46
33:C3:12:LEU:HB3	33:C3:18:TRP:CZ2	2.50	0.46
53:A3:144:C:H42	53:A3:164:U:H2'	1.81	0.46
34:D4:53:ASP:O	34:D4:57:ARG:NH1	2.48	0.46
34:D4:170:VAL:HG12	34:D4:176:LEU:HD22	1.98	0.46
47:Q4:15:MET:HE2	53:A4:270:G:H5'	1.97	0.46
49:S4:33:THR:OG1	49:S4:38:SER:OG	2.30	0.46
49:S4:45:VAL:HG12	49:S4:66:MET:HE3	1.97	0.46
49:S4:77:THR:OG1	53:A4:1202:G:O3'	2.27	0.46
52:W4:169:ILE:H	52:W4:185:PRO:HG2	1.76	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A4:671:G:H1	53:A4:682:C:N4	2.13	0.46
53:A4:1109:G:H3'	53:A4:1121:G:H22	1.79	0.46
5:G1:149:ARG:HH22	5:G1:154:PRO:HG3	1.79	0.46
10:L1:77:LYS:NZ	10:L1:82:ARG:O	2.48	0.46
11:M1:66:VAL:HG13	11:M1:70:LEU:HD12	1.98	0.46
20:V1:42:GLY:HA2	29:A1:2344:G:H21	1.81	0.46
29:A1:565:G:H3'	29:A1:566:G:H8	1.79	0.46
29:A1:1051:G:N2	29:A1:1052:C:O2	2.49	0.46
29:A1:1105:A:H1'	29:A1:1134:A:N3	2.31	0.46
7:I2:15:LEU:HB3	7:I2:136:GLU:HG2	1.98	0.46
13:O2:26:ASP:OD1	13:O2:92:GLY:N	2.48	0.46
16:R2:110:LYS:HB3	16:R2:111:HIS:CD2	2.49	0.46
25:a2:46:CYS:SG	25:a2:49:CYS:N	2.76	0.46
29:A2:347:A:H5''	29:A2:365:A:H1'	1.97	0.46
29:A2:673:A:O2'	29:A2:2382:C:O2	2.33	0.46
29:A2:790:G:H2'	29:A2:791:G:C8	2.51	0.46
29:A2:1646:C:H2'	29:A2:1647:C:C6	2.51	0.46
29:A2:1692:G:N2	29:A2:1693:C:O2	2.49	0.46
29:A2:1825:G:O2'	29:A2:1863:C:OP1	2.32	0.46
32:B3:19:HIS:CD2	32:B3:20:GLU:HB2	2.51	0.46
33:C3:147:LYS:O	33:C3:172:ARG:N	2.32	0.46
34:D3:43:HIS:NE2	53:A3:494:C:O2	2.48	0.46
53:A3:1000:G:H2'	53:A3:1001:G:H8	1.80	0.46
53:A3:1233:A:N6	53:A3:1266:A:H62	2.12	0.46
33:C4:76:VAL:HG11	33:C4:103:VAL:HG11	1.98	0.46
36:F4:19:LEU:HD12	36:F4:22:GLU:HB2	1.97	0.46
42:L4:27:LEU:HG	42:L4:64:TYR:CE2	2.51	0.46
42:L4:90:VAL:HG12	42:L4:92:ASP:H	1.79	0.46
53:A4:226:G:H2'	53:A4:227:G:C8	2.50	0.46
53:A4:371:G:H2'	53:A4:372:G:C8	2.51	0.46
53:A4:699:A:N6	53:A4:717:G:O6	2.48	0.46
53:A4:971:A:OP1	53:A4:1196:G:N2	2.49	0.46
53:A4:1486:C:O2'	53:A4:1487:U:O4'	2.25	0.46
1:C1:10:THR:O	1:C1:12:SER:N	2.48	0.46
5:G1:26:VAL:HB	5:G1:32:GLU:HA	1.98	0.46
10:L1:112:GLU:HA	10:L1:115:MET:HG2	1.97	0.46
15:Q1:29:PRO:HG3	15:Q1:63:GLY:HA2	1.97	0.46
20:V1:44:ARG:NH2	29:A1:2344:G:O2'	2.48	0.46
23:Y1:39:ASP:OD1	23:Y1:44:ARG:NH2	2.49	0.46
25:a1:5:PRO:HG3	29:A1:2628:A:C8	2.51	0.46
29:A1:348:G:C2	29:A1:358:G:H1'	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A1:651:C:O2'	29:A1:706:U:OP1	2.27	0.46
29:A1:876:U:O2'	29:A1:2092:U:O4	2.34	0.46
29:A1:1495:C:H2'	29:A1:1496:G:H8	1.80	0.46
29:A1:2749:A:C5	29:A1:2750:G:H1'	2.50	0.46
3:E2:158:THR:OG1	3:E2:159:GLY:N	2.48	0.46
10:L2:24:GLY:N	10:L2:101:ARG:HD2	2.31	0.46
11:M2:13:HIS:H	11:M2:16:HIS:HB3	1.80	0.46
11:M2:95:THR:O	29:A2:2893:C:O2'	2.32	0.46
14:P2:11:ARG:NH1	29:A2:29:U:O2'	2.49	0.46
16:R2:77:ASP:O	16:R2:102:HIS:N	2.46	0.46
18:T2:12:THR:HA	18:T2:26:LYS:HA	1.97	0.46
29:A2:328:U:H2'	29:A2:329:G:C8	2.50	0.46
29:A2:696:G:O2'	29:A2:697:G:O4'	2.29	0.46
29:A2:1140:C:H3'	29:A2:1141:G:C8	2.51	0.46
29:A2:1848:A:N3	29:A2:1849:G:O2'	2.49	0.46
29:A2:2105:C:H2'	29:A2:2106:A:C8	2.51	0.46
32:B3:36:ARG:HH21	32:B3:41:ILE:HD11	1.81	0.46
37:G3:78:ARG:HH21	37:G3:156:TRP:CG	2.34	0.46
44:N3:2:ALA:HA	53:A3:1030:G:H4'	1.97	0.46
47:Q3:40:LYS:NZ	53:A3:232:C:OP1	2.48	0.46
49:S3:51:VAL:HG21	49:S3:71:LEU:HD22	1.98	0.46
53:A3:582:C:O2	53:A3:622:G:N1	2.49	0.46
53:A3:1126:G:N2	53:A3:1128:A:N7	2.50	0.46
34:D4:141:ARG:HD3	34:D4:141:ARG:HA	1.71	0.46
40:J4:46:ARG:NH1	53:A4:1234:G:OP1	2.47	0.46
45:O4:36:ILE:HG23	45:O4:56:LEU:HD11	1.97	0.46
52:W4:147:ALA:HB2	52:W4:161:PHE:CD2	2.49	0.46
53:A4:254:G:H1	53:A4:262:C:H42	1.62	0.46
53:A4:980:G:O2'	53:A4:1020:C:N4	2.49	0.46
54:V4:58:ILE:HG13	54:V4:69:VAL:HG22	1.96	0.46
4:F1:138:GLN:NE2	4:F1:153:ARG:O	2.46	0.46
11:M1:17:ARG:NH2	29:A1:2704:C:OP1	2.38	0.46
13:O1:30:VAL:HG23	13:O1:86:ILE:HA	1.98	0.46
29:A1:232:G:H4'	29:A1:233:U:H5'	1.97	0.46
29:A1:674:G:H2'	29:A1:675:G:C8	2.50	0.46
29:A1:1119:G:N2	29:A1:1148:C:N3	2.61	0.46
29:A1:2668:A:H2	29:A1:2669:G:H21	1.63	0.46
1:C2:177:LEU:N	1:C2:181:GLU:OE1	2.49	0.46
2:D2:41:LYS:NZ	29:A2:2799:C:O3'	2.47	0.46
3:E2:117:ARG:NH2	3:E2:186:ILE:O	2.49	0.46
8:J2:12:ASP:HB2	8:J2:95:GLY:HA3	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:P2:24:TYR:HB2	14:P2:29:SER:HB3	1.98	0.46
21:W2:16:ASN:O	21:W2:40:ARG:NE	2.49	0.46
27:c2:31:LEU:O	27:c2:35:ARG:N	2.38	0.46
29:A2:2305:U:H2'	29:A2:2306:C:C6	2.51	0.46
29:A2:2485:C:N3	29:A2:2490:A:O2'	2.48	0.46
34:D3:13:ARG:HD2	34:D3:40:PRO:HB3	1.98	0.46
36:F3:54:LYS:HD3	36:F3:54:LYS:HA	1.72	0.46
38:H3:38:ILE:HD12	38:H3:41:ARG:HH21	1.81	0.46
38:H3:121:ASP:N	38:H3:121:ASP:OD1	2.47	0.46
49:S3:15:LEU:HD13	49:S3:18:LYS:HD3	1.97	0.46
53:A3:125:C:H2'	53:A3:126:C:C6	2.50	0.46
53:A3:751:A:N3	53:A3:1489:U:O2'	2.47	0.46
37:G4:43:PHE:HA	37:G4:46:ALA:HB3	1.97	0.46
37:G4:115:ARG:NH2	53:A4:1220:A:N3	2.64	0.46
38:H4:96:GLY:H	38:H4:99:GLU:HB2	1.81	0.46
43:M4:90:LEU:HG	43:M4:93:ARG:HH21	1.80	0.46
46:P4:17:TYR:O	46:P4:39:TYR:N	2.48	0.46
50:T4:36:LEU:HD22	50:T4:55:ILE:HD12	1.98	0.46
53:A4:650:G:H1	53:A4:723:U:H3	1.61	0.46
53:A4:751:A:N3	53:A4:1489:U:O2'	2.49	0.46
53:A4:943:G:N7	54:V4:68:ARG:NH2	2.63	0.46
1:C1:23:GLU:OE1	1:C1:91:ARG:NH2	2.41	0.46
9:K1:115:LEU:HD21	29:A1:663:G:C5	2.51	0.46
11:M1:19:ALA:O	11:M1:23:ASN:ND2	2.49	0.46
29:A1:211:A:O2'	29:A1:256:G:N7	2.43	0.46
29:A1:1077:A:H61	29:A1:1173:G:H2'	1.81	0.46
29:A1:1391:G:N2	29:A1:1432:A:N3	2.64	0.46
29:A1:1923:G:H4'	29:A1:1925:A:H5''	1.97	0.46
29:A1:2479:C:H2'	29:A1:2480:C:H6	1.81	0.46
29:A1:2834:G:N2	29:A1:2836:C:OP1	2.49	0.46
2:D2:47:VAL:HG13	2:D2:81:ILE:HB	1.98	0.46
3:E2:34:TRP:CD2	9:K2:8:PRO:HB3	2.51	0.46
6:H2:27:ARG:HA	6:H2:31:LEU:HD12	1.98	0.46
14:P2:66:ASN:OD1	14:P2:70:ARG:NE	2.43	0.46
16:R2:77:ASP:N	16:R2:102:HIS:O	2.41	0.46
21:W2:82:LEU:HD13	21:W2:85:LEU:HD12	1.98	0.46
25:a2:45:VAL:HG11	25:a2:56:LYS:HG2	1.97	0.46
29:A2:418:A:H1'	29:A2:439:G:H21	1.81	0.46
29:A2:825:G:O2'	29:A2:2255:A:OP1	2.33	0.46
29:A2:1081:U:O2	29:A2:2765:A:N6	2.48	0.46
29:A2:2806:C:O2	29:A2:2819:G:N1	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:C3:11:ARG:CZ	33:C3:182:ILE:HG13	2.46	0.46
48:R3:59:SER:O	48:R3:63:GLN:N	2.44	0.46
53:A3:632:G:H2'	53:A3:633:G:C8	2.51	0.46
53:A3:773:A:O2'	54:V3:30:ARG:HG3	2.16	0.46
53:A3:817:C:H2'	53:A3:818:U:C6	2.51	0.46
53:A3:903:G:N1	53:A3:1482:G:N7	2.64	0.46
33:C4:56:ASP:HB2	33:C4:69:HIS:HE1	1.80	0.46
36:F4:79:LEU:HB3	36:F4:85:VAL:HG11	1.96	0.46
38:H4:10:LEU:O	38:H4:14:ARG:NH2	2.32	0.46
38:H4:88:LYS:NZ	53:A4:855:G:OP2	2.36	0.46
39:I4:110:GLU:N	53:A4:1329:U:OP1	2.47	0.46
47:Q4:91:ARG:NH2	53:A4:274:A:OP1	2.49	0.46
49:S4:14:HIS:HB2	53:A4:992:A:H4'	1.98	0.46
53:A4:700:C:O2'	53:A4:717:G:O4'	2.33	0.46
53:A4:990:U:H2'	53:A4:991:G:C8	2.51	0.46
1:C1:222:ARG:NE	29:A1:1822:A:OP1	2.44	0.46
1:C1:253:GLN:NE2	29:A1:1875:G:O3'	2.49	0.46
1:C1:255:LYS:HD2	29:A1:1925:A:H1'	1.97	0.46
3:E1:124:LEU:HD23	3:E1:193:VAL:HG22	1.98	0.46
3:E1:149:ASP:N	3:E1:149:ASP:OD1	2.48	0.46
3:E1:185:ASP:O	3:E1:189:THR:OG1	2.26	0.46
8:J1:42:SER:OG	8:J1:56:ASP:O	2.28	0.46
8:J1:64:ARG:NE	8:J1:81:ASP:OD2	2.49	0.46
17:S1:56:THR:N	29:A1:1390:A:OP1	2.48	0.46
18:T1:46:LYS:HB3	18:T1:61:ILE:HG13	1.99	0.46
29:A1:1180:A:N3	29:A1:1181:U:N3	2.63	0.46
29:A1:2295:C:H2'	29:A1:2296:G:C8	2.51	0.46
29:A1:2544:A:H2	29:A1:2548:A:H61	1.63	0.46
1:C2:83:GLU:N	1:C2:92:ILE:O	2.47	0.46
1:C2:99:ASP:OD1	29:A2:1539:G:O2'	2.33	0.46
11:M2:19:ALA:O	11:M2:23:ASN:ND2	2.49	0.46
29:A2:1536:G:C2	29:A2:1537:U:H1'	2.50	0.46
29:A2:1687:C:OP1	29:A2:2724:C:O2'	2.31	0.46
29:A2:2334:A:H8	29:A2:2347:A:N7	2.13	0.46
32:B3:151:GLY:H	32:B3:153:ARG:HG2	1.80	0.46
34:D3:31:CYS:O	34:D3:35:ARG:NH1	2.46	0.46
34:D3:187:ARG:NH1	34:D3:190:ASP:OD2	2.49	0.46
38:H3:14:ARG:NH1	38:H3:83:ILE:O	2.49	0.46
49:S3:70:LYS:HG3	53:A3:1301:C:H5'	1.97	0.46
52:X3:172:ILE:HG13	52:X3:172:ILE:O	2.16	0.46
53:A3:249:G:H2'	53:A3:250:G:C8	2.47	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A3:329:C:O2	53:A3:1416:A:O2'	2.33	0.46
53:A3:1069:G:N2	53:A3:1081:G:H1'	2.31	0.46
36:F4:9:VAL:HG12	36:F4:86:ARG:HH21	1.80	0.46
41:K4:25:TYR:OH	54:V4:112:PRO:O	2.31	0.46
41:K4:41:THR:OG1	41:K4:42:TRP:N	2.49	0.46
46:P4:59:TRP:O	46:P4:63:GLY:N	2.44	0.46
53:A4:1004:G:H22	53:A4:1019:C:H1'	1.81	0.46
3:E1:169:ASN:ND2	29:A1:348:G:OP2	2.49	0.45
7:I1:4:TYR:CG	14:P1:100:VAL:HG11	2.51	0.45
14:P1:33:ARG:O	29:A1:1300:G:N2	2.49	0.45
20:V1:12:ASN:HD22	29:A1:2291:G:P	2.39	0.45
21:W1:45:ASN:ND2	29:A1:2244:G:N3	2.64	0.45
26:b1:43:CYS:HB3	26:b1:44:ARG:HD3	1.99	0.45
29:A1:673:A:H3'	29:A1:674:G:H8	1.82	0.45
29:A1:1076:A:N6	29:A1:1174:A:OP1	2.44	0.45
29:A1:1856:G:H2'	29:A1:1857:G:H8	1.81	0.45
29:A1:2078:A:H5''	29:A1:2079:C:H5''	1.98	0.45
4:F2:8:LYS:HA	4:F2:11:TYR:HB2	1.98	0.45
8:J2:106:LEU:HB3	8:J2:111:PHE:HB2	1.96	0.45
14:P2:20:LEU:HD23	14:P2:20:LEU:HA	1.82	0.45
18:T2:19:LYS:NZ	29:A2:334:G:OP1	2.49	0.45
21:W2:45:ASN:HB2	29:A2:425:G:H5''	1.97	0.45
23:Y2:40:THR:OG1	23:Y2:43:ILE:N	2.36	0.45
29:A2:449:C:H2'	29:A2:450:U:C6	2.51	0.45
29:A2:449:C:H2'	29:A2:450:U:H6	1.80	0.45
29:A2:585:C:H2'	29:A2:586:G:C8	2.50	0.45
29:A2:1383:U:H2'	29:A2:1384:A:H8	1.81	0.45
29:A2:1487:A:H62	29:A2:1601:G:H21	1.63	0.45
29:A2:1661:G:N1	29:A2:1667:G:O6	2.49	0.45
29:A2:1707:C:N4	29:A2:2026:G:O6	2.48	0.45
32:B3:28:PHE:HD1	32:B3:194:PRO:HD3	1.81	0.45
33:C3:47:LEU:HD21	33:C3:50:ALA:HB3	1.98	0.45
35:E3:123:LEU:HD23	35:E3:123:LEU:HA	1.81	0.45
42:L3:120:TYR:O	42:L3:122:THR:OG1	2.32	0.45
43:M3:106:ASN:HD21	53:A3:926:A:H8	1.64	0.45
50:T3:17:ARG:HG2	50:T3:20:LEU:HD12	1.98	0.45
53:A3:736:A:H5'	53:A3:737:C:C4	2.51	0.45
53:A3:859:C:H2'	53:A3:860:C:H6	1.80	0.45
53:A3:891:A:H2'	53:A3:892:A:C8	2.50	0.45
53:A3:1365:C:H2'	53:A3:1366:C:H6	1.80	0.45
32:B4:51:LEU:O	32:B4:55:PHE:N	2.44	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:G4:75:VAL:HG22	37:G4:88:PRO:HA	1.98	0.45
39:I4:117:HIS:NE2	53:A4:1348:C:OP1	2.49	0.45
42:L4:37:CYS:HA	42:L4:58:VAL:HG22	1.98	0.45
48:R4:64:ARG:O	48:R4:67:ALA:N	2.49	0.45
52:W4:169:ILE:O	52:W4:185:PRO:CG	2.62	0.45
53:A4:264:C:H2'	53:A4:265:A:C8	2.51	0.45
53:A4:1465:G:H2'	53:A4:1466:G:C8	2.47	0.45
1:C1:82:ILE:HA	1:C1:93:ALA:HA	1.97	0.45
26:b1:28:ARG:HH22	29:A1:2360:A:H61	1.64	0.45
29:A1:4:C:N4	29:A1:2912:C:N3	2.63	0.45
29:A1:1081:U:O2	29:A1:2765:A:N6	2.49	0.45
29:A1:1398:C:O2'	29:A1:1621:A:O2'	2.35	0.45
29:A1:1807:C:H41	29:A1:1823:C:H1'	1.81	0.45
8:J2:53:LYS:HE2	8:J2:53:LYS:HB2	1.82	0.45
8:J2:73:ASP:OD2	13:O2:32:TYR:OH	2.31	0.45
10:L2:79:LEU:HD12	10:L2:80:GLU:HG2	1.98	0.45
13:O2:64:ARG:HB3	13:O2:73:GLU:HG2	1.97	0.45
14:P2:37:GLU:OE2	29:A2:589:C:O2'	2.25	0.45
29:A2:1069:A:O2'	29:A2:1171:C:OP1	2.25	0.45
29:A2:1939:U:H6	29:A2:1940:A:H5'	1.82	0.45
32:B3:25:ASN:ND2	32:B3:193:ASP:OD2	2.49	0.45
38:H3:18:ARG:HH22	53:A3:852:C:H5''	1.81	0.45
43:M3:14:ARG:HH21	43:M3:44:ARG:HH21	1.63	0.45
49:S3:22:LEU:HD13	49:S3:31:ILE:HG12	1.98	0.45
52:X3:157:SER:O	52:W4:158:PHE:HE2	1.97	0.45
53:A3:316:A:O2'	53:A3:317:C:O4'	2.29	0.45
35:E4:11:ILE:HD13	35:E4:105:VAL:HG13	1.98	0.45
41:K4:116:HIS:CE1	48:R4:82:THR:HG21	2.51	0.45
50:T4:53:LEU:HA	50:T4:56:MET:HB3	1.98	0.45
52:W4:151:MET:HB2	52:W4:172:ILE:CD1	2.46	0.45
53:A4:280:G:H2'	53:A4:281:G:H8	1.82	0.45
53:A4:929:U:O4	53:A4:1210:A:N6	2.50	0.45
2:D1:62:PRO:O	29:A1:2801:U:O2'	2.34	0.45
19:U1:91:LEU:HD23	19:U1:91:LEU:HA	1.81	0.45
29:A1:269:G:H1	29:A1:277:C:N4	2.14	0.45
29:A1:705:G:H2'	29:A1:706:U:O4'	2.16	0.45
29:A1:1842:A:H2'	29:A1:1843:A:H8	1.80	0.45
29:A1:2065:U:H2'	29:A1:2066:A:C8	2.51	0.45
29:A1:2157:G:H1'	29:A1:2181:G:H22	1.81	0.45
29:A1:2538:G:H2'	29:A1:2539:G:C8	2.51	0.45
3:E2:49:ALA:H	3:E2:94:PRO:HA	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:P2:53:ARG:HB2	14:P2:57:PHE:HE2	1.82	0.45
29:A2:674:G:H2'	29:A2:675:G:C8	2.51	0.45
29:A2:674:G:O2'	29:A2:675:G:O4'	2.33	0.45
29:A2:997:G:H1	29:A2:1014:C:H42	1.64	0.45
29:A2:2613:G:H2'	29:A2:2614:A:C8	2.50	0.45
32:B3:215:LEU:O	32:B3:219:VAL:N	2.49	0.45
34:D3:53:ASP:HB3	34:D3:57:ARG:HH12	1.81	0.45
42:L3:74:GLY:O	42:L3:102:ARG:NH2	2.49	0.45
42:L3:75:HIS:CD2	42:L3:77:LEU:H	2.34	0.45
45:O3:37:ASN:O	45:O3:40:SER:OG	2.32	0.45
48:R3:61:LYS:NZ	48:R3:62:GLU:OE2	2.49	0.45
50:T3:30:LYS:NZ	53:A3:318:U:OP1	2.50	0.45
53:A3:1006:C:N4	53:A3:1015:G:H1	2.14	0.45
33:C4:65:ALA:HA	33:C4:100:ALA:HB3	1.99	0.45
43:M4:90:LEU:HD23	43:M4:93:ARG:HB2	1.98	0.45
45:O4:17:ARG:HH12	53:A4:734:U:H4'	1.81	0.45
53:A4:5:U:N3	53:A4:6:G:N7	2.64	0.45
53:A4:516:A:O2'	53:A4:518:A:OP1	2.29	0.45
53:A4:611:G:H2'	53:A4:612:G:C8	2.51	0.45
2:D1:48:GLN:NE2	29:A1:2649:C:O2'	2.49	0.45
4:F1:42:GLY:HA2	4:F1:89:GLY:HA2	1.98	0.45
4:F1:59:GLU:HA	4:F1:148:MET:HB3	1.99	0.45
11:M1:65:LEU:HD23	11:M1:65:LEU:HA	1.84	0.45
29:A1:174:C:N4	29:A1:203:A:N1	2.63	0.45
29:A1:750:G:H2'	29:A1:751:G:H8	1.81	0.45
29:A1:1515:G:O3'	29:A1:1595:C:O2'	2.34	0.45
29:A1:1899:C:O2'	29:A1:1900:A:N7	2.41	0.45
29:A1:1931:G:N2	29:A1:1948:C:OP2	2.49	0.45
29:A1:2736:A:H2'	29:A1:2737:G:H8	1.81	0.45
1:C2:158:ALA:HB2	29:A2:1851:U:H5'	1.98	0.45
5:G2:4:ILE:HG21	29:A2:2766:G:H5'	1.98	0.45
10:L2:124:LYS:HD3	29:A2:2498:G:H21	1.81	0.45
11:M2:2:ARG:HG3	11:M2:3:HIS:ND1	2.31	0.45
14:P2:98:LEU:O	14:P2:102:GLU:N	2.39	0.45
26:b2:12:GLU:H	26:b2:53:LYS:HB2	1.80	0.45
29:A2:645:C:H2'	29:A2:646:G:C8	2.52	0.45
29:A2:1331:G:O2'	29:A2:1333:G:N7	2.48	0.45
29:A2:1746:G:O6	29:A2:1747:A:N6	2.50	0.45
31:e2:19:ARG:NH1	31:e2:24:TYR:O	2.49	0.45
40:J3:38:ILE:HG13	53:A3:1105:A:H2'	1.98	0.45
53:A3:1240:C:C4	53:A3:1241:C:H1'	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:G4:44:TYR:HA	37:G4:47:CYS:HB2	1.98	0.45
39:I4:126:SER:HB2	53:A4:947:C:H41	1.81	0.45
45:O4:36:ILE:HD13	45:O4:60:VAL:HG22	1.98	0.45
53:A4:151:G:H2'	53:A4:152:G:H8	1.82	0.45
53:A4:673:G:H2'	53:A4:674:G:C8	2.51	0.45
1:C1:33:LEU:HD11	29:A1:1472:G:C8	2.51	0.45
14:P1:41:ALA:O	14:P1:45:TYR:N	2.33	0.45
19:U1:4:ARG:HA	19:U1:58:VAL:HG22	1.97	0.45
19:U1:72:ARG:H	19:U1:87:ASP:HB2	1.81	0.45
27:c1:19:ARG:N	29:A1:124:A:OP2	2.44	0.45
29:A1:2016:G:H8	29:A1:2016:G:H2'	1.63	0.45
29:A1:2132:C:N3	29:A1:2206:G:H1'	2.31	0.45
10:L2:75:THR:HA	10:L2:91:GLU:HB2	1.99	0.45
16:R2:90:ARG:NH1	29:A2:800:A:O2'	2.49	0.45
21:W2:18:ILE:HG22	21:W2:20:ARG:HE	1.80	0.45
29:A2:325:A:O3'	29:A2:343:C:O2'	2.28	0.45
29:A2:411:U:H2'	29:A2:413:C:H5	1.81	0.45
29:A2:836:U:OP1	29:A2:1813:A:N6	2.49	0.45
29:A2:959:A:N1	29:A2:2291:G:O2'	2.49	0.45
29:A2:1318:C:O2'	29:A2:1697:C:OP2	2.26	0.45
29:A2:1462:G:H2'	29:A2:1463:U:C6	2.52	0.45
29:A2:2116:U:H5''	29:A2:2223:A:H1'	1.97	0.45
29:A2:2562:G:H22	29:A2:2574:C:H42	1.62	0.45
33:C3:202:ILE:HG22	33:C3:204:LEU:HD22	1.97	0.45
38:H3:87:SER:OG	38:H3:88:LYS:N	2.50	0.45
41:K3:25:TYR:OH	54:V3:112:PRO:O	2.30	0.45
43:M3:19:LEU:HB3	43:M3:25:ILE:HB	1.98	0.45
51:U3:25:LYS:NZ	53:A3:1265:C:OP1	2.47	0.45
53:A3:286:C:O2	53:A3:304:G:N2	2.34	0.45
53:A3:485:G:N2	53:A3:527:G:N3	2.64	0.45
53:A3:499:U:H2'	53:A3:500:G:C4	2.52	0.45
53:A3:525:G:H2'	53:A3:526:C:H6	1.81	0.45
53:A3:1247:G:N2	53:A3:1249:A:H3'	2.32	0.45
53:A3:1329:U:H2'	53:A3:1330:A:H8	1.81	0.45
33:C4:132:ARG:O	33:C4:136:GLN:N	2.44	0.45
42:L4:82:VAL:N	42:L4:106:ASP:OD2	2.49	0.45
52:W4:157:SER:HB3	52:W4:172:ILE:CB	2.46	0.45
52:W4:169:ILE:O	52:W4:185:PRO:CD	2.65	0.45
53:A4:98:G:H2'	53:A4:99:C:C6	2.52	0.45
53:A4:852:C:H2'	53:A4:853:G:C8	2.51	0.45
1:C1:47:GLY:O	29:A1:822:U:O2'	2.30	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E1:203:GLN:HA	3:E1:206:ILE:HG12	1.98	0.45
4:F1:112:PRO:HG3	4:F1:117:PHE:CE1	2.52	0.45
16:R1:88:ARG:NE	29:A1:797:G:OP2	2.47	0.45
19:U1:121:HIS:ND1	19:U1:169:GLU:OE1	2.49	0.45
29:A1:1460:A:H3'	29:A1:1461:G:H8	1.80	0.45
29:A1:1577:A:N6	29:A1:1590:G:O2'	2.50	0.45
29:A1:2721:G:H2'	29:A1:2722:G:C8	2.51	0.45
1:C2:23:GLU:OE1	1:C2:91:ARG:NH2	2.49	0.45
1:C2:143:HIS:O	1:C2:192:THR:N	2.49	0.45
13:O2:51:ARG:NH2	29:A2:2699:G:OP2	2.47	0.45
17:S2:32:PRO:HB3	17:S2:77:LYS:HE2	1.98	0.45
18:T2:33:LYS:NZ	29:A2:85:C:OP1	2.35	0.45
22:X2:10:LEU:O	22:X2:14:ARG:N	2.50	0.45
26:b2:14:THR:HG23	26:b2:52:VAL:H	1.81	0.45
29:A2:216:G:H21	29:A2:218:A:H2	1.64	0.45
29:A2:654:A:N6	29:A2:664:A:O4'	2.47	0.45
29:A2:869:A:N3	29:A2:990:U:O2'	2.43	0.45
29:A2:1101:C:H41	29:A2:1154:G:H1	1.63	0.45
29:A2:1141:G:N2	29:A2:1145:U:OP2	2.49	0.45
29:A2:1842:A:H2'	29:A2:1843:A:H8	1.82	0.45
29:A2:2233:G:H2'	29:A2:2234:G:C8	2.52	0.45
29:A2:2660:C:N4	29:A2:2688:G:H1	2.12	0.45
29:A2:2791:A:N6	29:A2:2797:G:N3	2.64	0.45
37:G3:93:PRO:O	37:G3:97:GLN:N	2.48	0.45
45:O3:40:SER:OG	45:O3:41:GLU:N	2.50	0.45
46:P3:18:ARG:NE	53:A3:609:U:OP1	2.45	0.45
38:H4:14:ARG:NH1	38:H4:83:ILE:O	2.50	0.45
40:J4:7:LYS:HE2	40:J4:70:ARG:H	1.81	0.45
42:L4:29:GLY:O	53:A4:536:A:O2'	2.35	0.45
47:Q4:15:MET:HE1	53:A4:269:A:H1'	1.98	0.45
49:S4:78:ARG:NH2	53:A4:1206:A:H2'	2.32	0.45
53:A4:901:C:H42	53:A4:1374:G:H1	1.64	0.45
53:A4:1111:C:H5''	53:A4:1119:C:N3	2.32	0.45
1:C1:140:THR:O	1:C1:164:GLN:NE2	2.50	0.45
3:E1:39:TRP:CD1	3:E1:101:LEU:HB2	2.52	0.45
4:F1:143:GLU:HA	24:Z1:28:LYS:HB2	1.98	0.45
18:T1:50:ARG:NH1	29:A1:512:C:OP2	2.50	0.45
20:V1:35:ASN:O	20:V1:61:ALA:N	2.49	0.45
28:d1:28:GLY:N	29:A1:2407:A:OP1	2.47	0.45
29:A1:978:G:O2'	29:A1:980:A:OP1	2.28	0.45
29:A1:1068:A:N1	29:A1:1188:U:O2'	2.41	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A1:1364:U:H2'	29:A1:1365:A:H8	1.82	0.45
29:A1:2042:G:N2	29:A1:2043:A:N3	2.64	0.45
5:G2:25:LYS:HD3	5:G2:27:LYS:HE2	1.97	0.45
7:I2:36:GLY:N	7:I2:48:MET:SD	2.71	0.45
28:d2:2:PRO:O	29:A2:616:C:O2'	2.34	0.45
29:A2:163:G:H2'	29:A2:164:C:C6	2.52	0.45
29:A2:343:C:O2	29:A2:358:G:N2	2.48	0.45
29:A2:866:C:H2'	29:A2:867:G:C8	2.51	0.45
37:G3:83:ALA:HB3	37:G3:85:TYR:CZ	2.51	0.45
49:S3:69:HIS:NE2	49:S3:73:GLU:OE1	2.49	0.45
52:X3:162:ARG:HD2	52:X3:162:ARG:HA	1.50	0.45
53:A3:381:C:O2'	53:A3:382:U:O4'	2.34	0.45
53:A3:1485:G:H2'	53:A3:1486:C:C6	2.51	0.45
34:D4:118:ARG:HA	34:D4:121:VAL:HB	1.99	0.45
35:E4:78:HIS:HB2	38:H4:104:ARG:HD2	1.99	0.45
39:I4:44:VAL:HG21	39:I4:51:ARG:HH12	1.81	0.45
39:I4:72:GLY:O	39:I4:76:ALA:N	2.35	0.45
47:Q4:17:LYS:O	47:Q4:46:ASP:N	2.41	0.45
52:W4:175:ARG:HB3	52:W4:179:ASN:OD1	2.15	0.45
53:A4:202:A:H5''	53:A4:203:A:C2	2.52	0.45
53:A4:351:A:H2'	53:A4:352:G:H8	1.80	0.45
3:E1:196:LEU:O	3:E1:200:GLU:N	2.50	0.45
4:F1:15:VAL:O	4:F1:19:LEU:N	2.31	0.45
11:M1:34:ILE:HG23	11:M1:114:VAL:HB	1.98	0.45
29:A1:86:C:H5''	29:A1:87:G:H5'	1.99	0.45
29:A1:655:G:N3	29:A1:678:G:N1	2.65	0.45
29:A1:688:C:H41	29:A1:694:C:H2'	1.82	0.45
29:A1:1174:A:H5'	29:A1:1175:A:H2	1.81	0.45
29:A1:1305:C:H2'	29:A1:1306:C:C6	2.52	0.45
29:A1:1412:G:N2	29:A1:1414:A:O5'	2.50	0.45
29:A1:1590:G:H8	29:A1:1591:A:H2'	1.80	0.45
29:A1:1621:A:H2'	29:A1:1622:G:C8	2.42	0.45
29:A1:1692:G:N2	29:A1:1693:C:O2	2.49	0.45
29:A1:2105:C:H2'	29:A1:2106:A:C8	2.51	0.45
29:A1:2461:G:H21	29:A1:2464:A:P	2.39	0.45
18:T2:93:GLY:HA3	18:T2:103:GLY:HA3	1.98	0.45
19:U2:85:HIS:CD2	19:U2:86:VAL:H	2.35	0.45
29:A2:316:C:H42	29:A2:374:G:H1	1.65	0.45
29:A2:861:C:O2'	29:A2:1274:A:O2'	2.24	0.45
29:A2:969:G:H4'	29:A2:2283:A:C6	2.52	0.45
29:A2:1238:G:H3'	29:A2:1239:G:H8	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:1306:C:N4	29:A2:1307:G:O6	2.50	0.45
29:A2:1631:C:H4'	29:A2:1634:A:H62	1.82	0.45
29:A2:1923:G:H4'	29:A2:1925:A:H5''	1.99	0.45
29:A2:2057:A:O2'	29:A2:2059:G:OP2	2.35	0.45
37:G3:35:LYS:HB3	37:G3:38:LEU:HB3	1.98	0.45
40:J3:15:THR:HA	40:J3:18:ALA:HB3	1.97	0.45
53:A3:98:G:H2'	53:A3:99:C:C6	2.51	0.45
53:A3:816:U:H2'	53:A3:817:C:C6	2.52	0.45
53:A3:904:G:O3'	53:A3:1480:A:N6	2.49	0.45
53:A3:1472:U:H2'	53:A3:1473:C:C6	2.52	0.45
33:C4:65:ALA:HB1	33:C4:102:ASN:HD21	1.81	0.45
53:A4:236:C:H2'	53:A4:237:C:C6	2.52	0.45
53:A4:313:G:H22	53:A4:330:C:N4	2.15	0.45
53:A4:385:C:H2'	53:A4:386:G:H8	1.82	0.45
53:A4:665:G:H2'	53:A4:666:G:H8	1.82	0.45
53:A4:676:G:O6	54:V4:103:ARG:NH1	2.50	0.45
53:A4:1234:G:N2	53:A4:1336:G:O3'	2.49	0.45
2:D1:108:SER:HB3	2:D1:165:VAL:HG21	1.97	0.45
4:F1:121:ASN:O	4:F1:131:TYR:OH	2.23	0.45
7:I1:82:LEU:HG	7:I1:84:LYS:HG2	1.99	0.45
11:M1:78:LYS:HE2	11:M1:83:ILE:HD11	1.99	0.45
29:A1:19:C:H2'	29:A1:20:C:C6	2.52	0.45
29:A1:264:C:H2'	29:A1:265:G:H8	1.81	0.45
29:A1:268:C:H2'	29:A1:269:G:C8	2.51	0.45
29:A1:548:G:H2'	29:A1:549:G:H8	1.82	0.45
29:A1:647:G:H4'	29:A1:648:A:H5'	1.99	0.45
29:A1:790:G:H2'	29:A1:791:G:H8	1.82	0.45
29:A1:910:A:H2	30:B1:81:C:H1'	1.81	0.45
29:A1:1086:C:H2'	29:A1:1087:G:H8	1.81	0.45
1:C2:27:THR:HG22	1:C2:29:PRO:HD3	1.99	0.45
2:D2:165:VAL:HG11	29:A2:2693:A:H4'	1.99	0.45
2:D2:192:ASN:HB2	29:A2:2832:A:H62	1.81	0.45
12:N2:33:LYS:NZ	30:B2:29:C:OP2	2.48	0.45
19:U2:76:LEU:HD12	19:U2:81:ARG:HA	1.99	0.45
20:V2:50:ASN:HA	20:V2:62:LEU:HD12	1.99	0.45
29:A2:427:G:H3'	29:A2:428:G:C8	2.52	0.45
29:A2:582:U:H2'	29:A2:583:G:H8	1.82	0.45
29:A2:1140:C:H3'	29:A2:1141:G:H8	1.82	0.45
29:A2:1437:G:H2'	29:A2:1438:U:C6	2.52	0.45
29:A2:1579:C:N4	29:A2:1580:C:O2	2.50	0.45
29:A2:1932:C:OP1	29:A2:1946:G:N1	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:2042:G:N2	29:A2:2043:A:N3	2.65	0.45
29:A2:2731:U:H2'	29:A2:2732:G:C8	2.51	0.45
32:B3:187:LEU:HA	32:B3:201:ILE:HB	1.99	0.45
34:D3:25:ARG:NE	53:A3:424:U:H2'	2.32	0.45
43:M3:90:LEU:HA	43:M3:93:ARG:HB2	1.99	0.45
49:S3:70:LYS:NZ	53:A3:1301:C:OP1	2.50	0.45
53:A3:806:G:H1	53:A3:854:C:H42	1.62	0.45
53:A3:1070:G:H2'	53:A3:1071:G:H8	1.82	0.45
34:D4:35:ARG:HA	53:A4:407:A:H61	1.82	0.45
35:E4:144:THR:HG23	35:E4:146:ALA:H	1.82	0.45
53:A4:270:G:H21	53:A4:271:G:H4'	1.81	0.45
53:A4:846:G:H4'	53:A4:849:A:C8	2.52	0.45
3:E1:102:PRO:HB2	3:E1:105:VAL:HG23	1.98	0.45
19:U1:10:ARG:NH2	30:B1:78:G:OP1	2.50	0.45
22:X1:10:LEU:O	22:X1:14:ARG:N	2.50	0.45
29:A1:86:C:H42	29:A1:94:G:H1	1.64	0.45
29:A1:1141:G:N3	29:A1:1146:A:N6	2.64	0.45
29:A1:1945:G:C5	29:A1:1947:U:H1'	2.52	0.45
29:A1:1965:C:H2'	29:A1:1966:C:H6	1.82	0.45
29:A1:2021:G:H2'	29:A1:2022:G:C8	2.52	0.45
29:A1:2064:C:H2'	29:A1:2065:U:H6	1.82	0.45
29:A1:2341:A:H2'	29:A1:2342:A:C8	2.52	0.45
3:E2:71:GLY:N	29:A2:2084:A:OP1	2.49	0.45
8:J2:15:GLY:O	8:J2:47:ILE:N	2.50	0.45
9:K2:29:LYS:HA	29:A2:859:U:H2'	1.99	0.45
10:L2:101:ARG:NH1	29:A2:955:U:O2'	2.50	0.45
19:U2:29:TYR:HA	19:U2:34:ASN:HA	1.98	0.45
19:U2:69:THR:HG22	19:U2:90:VAL:HA	1.99	0.45
19:U2:104:PHE:HZ	19:U2:117:LEU:HD13	1.82	0.45
20:V2:36:ILE:HA	20:V2:60:PHE:HA	1.97	0.45
21:W2:48:LYS:HZ3	21:W2:61:ARG:HG2	1.82	0.45
29:A2:877:U:H4'	29:A2:880:G:C2	2.52	0.45
29:A2:2120:U:O2	29:A2:2217:G:N2	2.37	0.45
29:A2:2558:G:H2'	29:A2:2559:G:C8	2.51	0.45
37:G3:146:GLU:OE2	41:K3:59:TYR:OH	2.35	0.45
42:L3:10:LEU:HA	42:L3:10:LEU:HD23	1.79	0.45
43:M3:52:GLU:HG2	43:M3:55:ARG:HE	1.80	0.45
53:A3:107:U:O4	53:A3:308:A:N6	2.50	0.45
53:A3:794:C:O2'	53:A3:878:A:N1	2.50	0.45
32:B4:178:ARG:NH2	38:H4:74:PRO:HB3	2.31	0.45
34:D4:123:HIS:CE1	53:A4:479:A:H61	2.36	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:G4:37:ASN:HA	37:G4:40:ALA:HB3	1.99	0.45
53:A4:903:G:N1	53:A4:1482:G:N7	2.65	0.45
29:A1:9:U:H2'	29:A1:10:G:C8	2.52	0.44
29:A1:442:C:O2	29:A1:1897:U:O2'	2.28	0.44
29:A1:594:U:HO2'	29:A1:993:G:H21	1.56	0.44
29:A1:930:G:H1	29:A1:943:U:H3	1.64	0.44
29:A1:1076:A:N6	29:A1:1174:A:N7	2.64	0.44
29:A1:1566:C:H2'	29:A1:1567:G:H8	1.82	0.44
29:A1:1896:G:H1	29:A1:1903:C:H1'	1.82	0.44
30:B1:99:G:C2	30:B1:100:G:H1'	2.52	0.44
3:E2:63:LYS:HB3	3:E2:76:GLY:HA2	1.99	0.44
9:K2:2:LYS:O	9:K2:4:SER:N	2.50	0.44
14:P2:31:SER:OG	29:A2:606:C:OP1	2.35	0.44
19:U2:6:LYS:HA	19:U2:60:GLU:HB3	1.99	0.44
20:V2:71:ASP:OD1	20:V2:73:GLY:N	2.49	0.44
21:W2:12:PRO:HB3	21:W2:43:TYR:HA	1.99	0.44
23:Y2:8:LEU:HB2	23:Y2:28:LEU:HD13	1.99	0.44
29:A2:443:A:N6	29:A2:2421:G:O6	2.49	0.44
30:B2:119:G:H2'	30:B2:120:G:H8	1.82	0.44
38:H3:14:ARG:NH2	38:H3:83:ILE:HG12	2.32	0.44
40:J3:6:ILE:N	40:J3:73:ASP:OD1	2.47	0.44
42:L3:111:LYS:HG2	42:L3:112:ASP:HB2	1.99	0.44
43:M3:105:THR:O	43:M3:108:ARG:NE	2.50	0.44
43:M3:108:ARG:O	43:M3:112:GLY:N	2.50	0.44
49:S3:55:LYS:HA	53:A3:963:A:H1'	1.99	0.44
53:A3:142:G:H2'	53:A3:143:A:O4'	2.17	0.44
54:V3:69:VAL:HG13	54:V3:87:LEU:HD22	1.98	0.44
32:B4:74:LYS:HE2	32:B4:74:LYS:HB3	1.78	0.44
32:B4:111:ARG:NH1	53:A4:1086:G:O5'	2.34	0.44
35:E4:136:MET:O	35:E4:139:LEU:N	2.50	0.44
36:F4:46:ARG:HB2	36:F4:60:PHE:CE2	2.52	0.44
47:Q4:39:SER:OG	53:A4:275:C:N4	2.50	0.44
50:T4:11:SER:O	50:T4:14:LYS:NZ	2.36	0.44
53:A4:81:U:OP1	53:A4:83:A:O2'	2.35	0.44
53:A4:85:U:O2'	53:A4:87:C:N4	2.50	0.44
53:A4:275:C:H5''	53:A4:276:G:N2	2.32	0.44
53:A4:491:C:N4	53:A4:507:G:H1	2.16	0.44
1:C1:34:VAL:HG12	29:A1:1475:A:N1	2.32	0.44
4:F1:12:TYR:HD1	4:F1:16:ARG:HB2	1.82	0.44
24:Z1:1:MET:HB2	30:B1:41:A:H61	1.81	0.44
29:A1:184:G:OP1	29:A1:852:U:O2'	2.35	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A1:656:G:H1	29:A1:661:C:H42	1.64	0.44
29:A1:745:G:H1	29:A1:815:C:H42	1.64	0.44
29:A1:1924:A:C8	29:A1:1924:A:H5'	2.53	0.44
4:F2:71:THR:OG1	29:A2:2326:U:O2'	2.20	0.44
4:F2:170:ARG:HG3	4:F2:173:LEU:HD12	1.99	0.44
8:J2:65:THR:HB	8:J2:69:ILE:HD11	1.99	0.44
12:N2:38:GLN:HG2	12:N2:50:SER:HA	1.98	0.44
22:X2:22:GLU:O	22:X2:26:ARG:NH1	2.50	0.44
28:d2:42:ARG:HH12	29:A2:2396:G:H22	1.65	0.44
29:A2:303:A:H62	29:A2:386:G:H21	1.64	0.44
29:A2:383:U:H3'	29:A2:384:A:C8	2.42	0.44
29:A2:754:A:N6	29:A2:775:G:O4'	2.50	0.44
30:B2:36:U:O2'	30:B2:46:G:N7	2.48	0.44
33:C3:62:ASP:O	33:C3:63:ASN:ND2	2.50	0.44
34:D3:68:TYR:CE2	34:D3:97:LEU:HB3	2.52	0.44
34:D3:105:VAL:O	34:D3:110:PHE:N	2.51	0.44
46:P3:47:ASP:OD2	46:P3:50:LYS:NZ	2.50	0.44
48:R3:52:PRO:HB3	53:A3:703:C:H5''	1.98	0.44
53:A3:78:G:N2	53:A3:84:C:N3	2.65	0.44
53:A3:270:G:N3	53:A3:271:G:H5''	2.32	0.44
53:A4:789:C:H2'	53:A4:790:A:C8	2.52	0.44
53:A4:1006:C:N3	53:A4:1015:G:N1	2.65	0.44
53:A4:1103:U:H3	53:A4:1133:A:H62	1.64	0.44
22:X1:35:LEU:O	22:X1:39:ALA:N	2.40	0.44
29:A1:1160:G:H2'	29:A1:1161:U:H4'	2.00	0.44
29:A1:1618:A:N6	29:A1:1619:A:N1	2.65	0.44
29:A1:1934:G:O2'	29:A1:1937:A:N6	2.50	0.44
29:A1:1938:C:N4	29:A1:1987:U:O4'	2.50	0.44
29:A1:2539:G:H2'	29:A1:2540:G:C8	2.53	0.44
29:A1:2564:G:N1	29:A1:2573:C:N3	2.66	0.44
29:A1:2900:C:H2'	29:A1:2901:C:C6	2.52	0.44
5:G2:86:GLU:HB3	5:G2:130:ARG:HH12	1.81	0.44
8:J2:10:VAL:HG21	8:J2:16:ALA:HB3	1.99	0.44
9:K2:39:LYS:HA	9:K2:45:LEU:HD21	1.99	0.44
14:P2:62:ILE:HD13	29:A2:1201:C:H5''	1.99	0.44
15:Q2:84:LYS:HG3	15:Q2:85:LYS:H	1.82	0.44
16:R2:11:ARG:NE	29:A2:1370:A:OP1	2.50	0.44
23:Y2:29:ARG:CZ	29:A2:1230:G:H4'	2.47	0.44
29:A2:688:C:O2	29:A2:697:G:N1	2.50	0.44
29:A2:1053:C:H2'	29:A2:1054:C:C6	2.53	0.44
29:A2:1482:A:N6	29:A2:1607:A:H62	2.15	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:2233:G:H2'	29:A2:2234:G:H8	1.82	0.44
29:A2:2480:C:H5'	31:e2:5:ALA:HB3	1.98	0.44
30:B2:60:A:H3'	30:B2:61:A:C8	2.52	0.44
32:B3:36:ARG:O	32:B3:39:ILE:N	2.48	0.44
34:D3:101:LEU:HD23	34:D3:121:VAL:HG11	1.99	0.44
36:F3:21:LEU:HD22	36:F3:25:ILE:HD11	1.99	0.44
37:G3:4:ARG:NE	53:A3:909:C:H5'	2.32	0.44
37:G3:47:CYS:HA	37:G3:50:ILE:HD12	1.99	0.44
39:I4:118:LYS:NZ	53:A4:1332:U:OP2	2.41	0.44
42:L4:5:PRO:HD2	42:L4:10:LEU:HD11	2.00	0.44
43:M4:12:ASN:HB3	43:M4:44:ARG:HD3	1.99	0.44
53:A4:1053:C:H41	53:A4:1066:G:N2	2.16	0.44
53:A4:1244:C:N4	53:A4:1245:C:O2	2.50	0.44
53:A4:1245:C:H2'	53:A4:1246:G:N7	2.32	0.44
13:O1:60:THR:HG22	13:O1:77:PRO:HA	1.99	0.44
18:T1:2:ARG:NH1	29:A1:80:G:H21	2.16	0.44
20:V1:55:ARG:HG2	29:A1:2378:C:H5''	1.99	0.44
28:d1:40:GLU:HA	28:d1:43:GLN:HB2	1.99	0.44
29:A1:375:U:H3'	29:A1:376:G:C8	2.52	0.44
29:A1:439:G:H3'	29:A1:2420:U:C4	2.52	0.44
29:A1:443:A:N6	29:A1:2421:G:O6	2.51	0.44
29:A1:1408:A:H3'	29:A1:1409:G:C8	2.53	0.44
29:A1:1792:A:N1	29:A1:2711:G:H1'	2.33	0.44
29:A1:1910:C:H2'	29:A1:1911:C:H5	1.82	0.44
29:A1:2299:C:N4	29:A1:2397:G:O6	2.41	0.44
29:A1:2485:C:H2'	29:A1:2486:G:C8	2.52	0.44
4:F2:7:LEU:HA	4:F2:10:LYS:HB3	1.99	0.44
8:J2:46:ALA:N	8:J2:54:GLU:OE2	2.42	0.44
8:J2:76:ALA:HB3	13:O2:75:ILE:HD12	1.99	0.44
9:K2:85:LEU:HD21	9:K2:134:ALA:HB1	1.98	0.44
12:N2:46:VAL:HA	30:B2:116:C:H4'	1.98	0.44
23:Y2:10:LYS:HB2	23:Y2:53:LEU:HB2	1.98	0.44
26:b2:11:LEU:HD12	26:b2:28:ARG:HB2	2.00	0.44
29:A2:19:C:H2'	29:A2:20:C:C6	2.52	0.44
29:A2:1345:C:O2'	29:A2:1350:A:N1	2.50	0.44
29:A2:1409:G:N2	29:A2:1418:C:O2	2.50	0.44
29:A2:2182:A:H4'	29:A2:2183:G:H4'	1.99	0.44
30:B2:34:C:H1'	30:B2:53:G:H21	1.82	0.44
41:K3:44:SER:OG	53:A3:672:C:OP1	2.29	0.44
53:A3:279:G:H2'	53:A3:280:G:C8	2.52	0.44
53:A3:280:G:H2'	53:A3:281:G:H8	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A3:445:A:N6	53:A3:465:G:O5'	2.45	0.44
53:A3:671:G:H1'	53:A3:687:A:N1	2.32	0.44
53:A3:767:C:H2'	53:A3:768:G:C8	2.52	0.44
32:B4:97:TRP:HZ3	32:B4:173:ALA:HA	1.82	0.44
39:I4:16:ARG:HD2	39:I4:18:PHE:CZ	2.52	0.44
51:U4:18:TYR:O	53:A4:1250:A:O2'	2.33	0.44
53:A4:119:G:OP1	53:A4:588:U:O2'	2.28	0.44
53:A4:938:U:O2	53:A4:1182:A:N6	2.50	0.44
5:G1:36:PRO:HG2	5:G1:71:LEU:HD13	2.00	0.44
17:S1:55:ASN:ND2	29:A1:1390:A:O5'	2.50	0.44
22:X1:61:LEU:O	29:A1:71:U:N3	2.51	0.44
29:A1:900:U:H3	29:A1:974:A:H61	1.64	0.44
29:A1:1487:A:H62	29:A1:1601:G:H21	1.64	0.44
29:A1:2228:C:H2'	29:A1:2231:A:N1	2.33	0.44
30:B1:15:A:O2'	30:B1:17:A:OP2	2.34	0.44
1:C2:176:ARG:HG3	1:C2:181:GLU:H	1.81	0.44
7:I2:90:MET:HE1	7:I2:94:HIS:NE2	2.33	0.44
11:M2:64:ARG:HH12	29:A2:2719:A:H2	1.64	0.44
29:A2:42:G:H2'	29:A2:43:A:H8	1.83	0.44
29:A2:1179:G:O2'	29:A2:1180:A:O5'	2.35	0.44
29:A2:1448:G:H2'	29:A2:1449:G:C8	2.53	0.44
29:A2:1792:A:N1	29:A2:2711:G:H1'	2.32	0.44
29:A2:1854:A:H2'	29:A2:1855:G:C8	2.53	0.44
29:A2:2236:G:H2'	29:A2:2237:G:H8	1.83	0.44
29:A2:2561:U:H2'	29:A2:2562:G:C8	2.52	0.44
32:B3:74:LYS:HE2	32:B3:74:LYS:HB3	1.77	0.44
33:C3:35:GLU:HB3	33:C3:38:ARG:NH1	2.32	0.44
33:C3:39:ILE:HG12	33:C3:91:LEU:HD11	1.99	0.44
34:D3:149:ALA:O	34:D3:152:SER:OG	2.29	0.44
41:K3:108:ILE:H	48:R3:87:ARG:HD2	1.82	0.44
43:M3:87:TYR:HA	43:M3:90:LEU:HB3	1.99	0.44
53:A3:371:G:H2'	53:A3:372:G:C8	2.53	0.44
53:A3:751:A:O2'	53:A3:1489:U:O2	2.33	0.44
32:B4:24:TRP:CD1	32:B4:24:TRP:H	2.34	0.44
35:E4:147:ASP:O	35:E4:151:LEU:N	2.39	0.44
43:M4:16:ASP:HA	43:M4:30:ALA:HB3	1.99	0.44
52:W4:163:ASN:HB2	52:W4:168:GLU:N	2.21	0.44
53:A4:201:A:H8	53:A4:202:A:C8	2.34	0.44
53:A4:251:U:H2'	53:A4:252:G:C8	2.53	0.44
53:A4:767:C:H2'	53:A4:768:G:C8	2.52	0.44
53:A4:1446:G:H2'	53:A4:1447:G:C8	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:F1:12:TYR:CE1	4:F1:31:VAL:HG21	2.52	0.44
6:H1:45:LYS:HE3	6:H1:45:LYS:HB3	1.87	0.44
16:R1:95:ILE:H	16:R1:95:ILE:HG13	1.44	0.44
18:T1:49:VAL:HA	29:A1:511:A:H4'	2.00	0.44
23:Y1:7:LYS:O	23:Y1:55:ARG:N	2.49	0.44
29:A1:997:G:H1	29:A1:1014:C:H42	1.66	0.44
29:A1:1302:A:H5''	29:A1:1304:G:H8	1.82	0.44
1:C2:78:LYS:HB2	1:C2:96:HIS:HB3	1.99	0.44
1:C2:250:TRP:CE2	29:A2:1838:U:H4'	2.52	0.44
5:G2:55:PRO:HG3	5:G2:61:HIS:CE1	2.53	0.44
11:M2:51:LEU:HD22	11:M2:70:LEU:HD11	1.99	0.44
14:P2:52:ARG:HH12	29:A2:1204:A:H62	1.65	0.44
24:Z2:18:CYS:HA	24:Z2:19:GLY:HA2	1.69	0.44
29:A2:86:C:N3	29:A2:95:G:N1	2.66	0.44
29:A2:616:C:N4	29:A2:617:G:O6	2.49	0.44
29:A2:678:G:H3'	29:A2:680:A:N6	2.33	0.44
29:A2:685:G:C6	29:A2:686:C:H1'	2.52	0.44
29:A2:2488:C:N4	29:A2:2489:C:N3	2.66	0.44
32:B3:223:ILE:HD12	32:B3:231:GLU:H	1.82	0.44
34:D3:122:ARG:HB3	34:D3:136:PRO:HD3	1.99	0.44
37:G3:75:VAL:HG22	37:G3:88:PRO:HA	1.99	0.44
38:H3:44:PHE:HE1	38:H3:79:VAL:HG12	1.82	0.44
38:H3:85:ARG:HH11	38:H3:135:CYS:HB3	1.82	0.44
39:I3:69:GLY:HA3	53:A3:1353:G:H5'	2.00	0.44
40:J3:40:LEU:HD22	53:A3:1261:A:N7	2.33	0.44
53:A3:53:A:C2	53:A3:54:C:H1'	2.52	0.44
53:A3:261:G:H5'	53:A3:263:C:N4	2.30	0.44
53:A3:1425:G:OP2	53:A3:1428:C:N4	2.51	0.44
54:V3:83:ALA:O	54:V3:87:LEU:CB	2.66	0.44
33:C4:12:LEU:HD22	33:C4:18:TRP:CE2	2.53	0.44
37:G4:153:HIS:CE1	41:K4:58:PRO:HD2	2.52	0.44
39:I4:100:GLY:HA2	39:I4:101:PHE:HB2	1.99	0.44
43:M4:108:ARG:HD2	43:M4:114:ARG:HG2	1.98	0.44
45:O4:35:ARG:NH2	53:A4:724:G:OP2	2.50	0.44
47:Q4:43:LEU:HD23	47:Q4:43:LEU:HA	1.79	0.44
50:T4:56:MET:HE1	50:T4:84:LEU:HD11	2.00	0.44
53:A4:146:A:N6	53:A4:163:C:N3	2.66	0.44
53:A4:542:A:H4'	53:A4:543:U:H3'	1.99	0.44
53:A4:718:C:H2'	53:A4:719:C:H6	1.83	0.44
53:A4:1049:A:N1	53:A4:1090:G:O2'	2.40	0.44
53:A4:1367:G:H2'	53:A4:1368:G:C8	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:17:THR:HB	1:C1:205:VAL:H	1.82	0.44
2:D1:93:VAL:HG13	2:D1:180:ASN:HD22	1.81	0.44
2:D1:203:LYS:NZ	29:A1:2786:C:O2'	2.50	0.44
3:E1:20:LEU:HB3	3:E1:199:TRP:HH2	1.83	0.44
4:F1:12:TYR:HD1	4:F1:16:ARG:HD2	1.82	0.44
6:H1:26:ALA:HA	6:H1:30:LEU:HD12	1.99	0.44
29:A1:645:C:H2'	29:A1:646:G:C8	2.53	0.44
29:A1:919:A:N1	29:A1:956:C:N4	2.65	0.44
29:A1:951:C:O2'	29:A1:952:C:O5'	2.35	0.44
29:A1:953:U:N3	29:A1:954:G:N7	2.66	0.44
29:A1:1559:A:OP2	29:A1:1561:C:N4	2.42	0.44
29:A1:2095:A:H2'	29:A1:2096:G:C8	2.49	0.44
29:A1:2245:C:H2'	29:A1:2246:U:C6	2.53	0.44
1:C2:45:ASN:ND2	29:A2:1839:C:O2	2.51	0.44
5:G2:149:ARG:HH22	5:G2:154:PRO:HG3	1.82	0.44
9:K2:83:VAL:O	9:K2:115:LEU:N	2.51	0.44
12:N2:3:ARG:NH2	29:A2:2333:G:O4'	2.51	0.44
17:S2:55:ASN:ND2	29:A2:1389:U:O2'	2.50	0.44
20:V2:55:ARG:HH12	29:A2:2397:G:H5'	1.83	0.44
21:W2:16:ASN:HD21	29:A2:409:G:H5'	1.82	0.44
29:A2:312:C:O4'	29:A2:381:G:N2	2.51	0.44
29:A2:628:A:N6	29:A2:653:U:O4'	2.49	0.44
29:A2:1469:G:HO2'	29:A2:1541:C:H41	1.59	0.44
29:A2:2310:U:H3	29:A2:2349:A:H62	1.64	0.44
32:B3:6:THR:HG21	32:B3:221:LEU:HD11	1.98	0.44
34:D3:53:ASP:O	34:D3:57:ARG:NH1	2.51	0.44
39:I3:24:GLY:N	39:I3:60:ASP:OD1	2.51	0.44
50:T3:39:LYS:O	50:T3:43:LEU:N	2.40	0.44
52:X3:147:ALA:HA	52:X3:161:PHE:HE2	1.57	0.44
52:X3:158:PHE:HD1	52:W4:173:TYR:CE2	2.32	0.44
52:X3:173:TYR:CZ	52:W4:154:LEU:CD1	2.75	0.44
53:A3:69:G:C8	53:A3:86:C:H5''	2.53	0.44
53:A3:236:C:H2'	53:A3:237:C:C6	2.52	0.44
53:A3:351:A:H2'	53:A3:352:G:C8	2.53	0.44
54:V3:86:ARG:C	54:V3:89:THR:CG2	2.91	0.44
38:H4:1:MET:N	53:A4:808:G:O4'	2.50	0.44
48:R4:71:LYS:HE3	53:A4:702:C:N4	2.33	0.44
49:S4:11:VAL:HB	49:S4:16:LEU:HD22	1.99	0.44
49:S4:78:ARG:NH1	53:A4:1204:C:OP1	2.44	0.44
53:A4:350:C:H2'	53:A4:351:A:H8	1.82	0.44
53:A4:756:G:H1	53:A4:789:C:N4	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A4:1360:C:H2'	53:A4:1361:G:C8	2.53	0.44
9:K1:36:LYS:HG3	29:A1:991:G:H1	1.83	0.44
22:X1:9:GLN:HB2	22:X1:59:ARG:HH12	1.82	0.44
23:Y1:34:GLU:OE2	23:Y1:55:ARG:NH2	2.50	0.44
29:A1:198:C:H2'	29:A1:199:C:H6	1.82	0.44
29:A1:1685:C:H1'	29:A1:1794:C:C2	2.53	0.44
29:A1:2391:A:H2'	29:A1:2392:A:C8	2.53	0.44
29:A1:2644:G:H1'	29:A1:2905:G:C5	2.53	0.44
3:E2:136:THR:O	3:E2:140:LEU:N	2.36	0.44
13:O2:53:ARG:NH1	29:A2:2697:C:H5''	2.32	0.44
22:X2:54:LYS:NZ	29:A2:73:A:OP1	2.38	0.44
29:A2:26:G:H1'	29:A2:542:A:N6	2.29	0.44
29:A2:150:C:N4	29:A2:166:G:H1	2.15	0.44
29:A2:262:A:H8	29:A2:263:C:C6	2.36	0.44
29:A2:631:U:N3	29:A2:647:G:N7	2.66	0.44
29:A2:667:C:H2'	29:A2:668:C:O4'	2.17	0.44
29:A2:902:G:H2'	29:A2:903:G:H8	1.83	0.44
29:A2:1519:G:O2'	29:A2:1570:G:O6	2.33	0.44
29:A2:1935:U:H5'	29:A2:1936:A:H5''	1.99	0.44
29:A2:1954:G:HO2'	29:A2:1992:G:H1	1.62	0.44
29:A2:2422:U:H2'	29:A2:2423:G:C8	2.49	0.44
29:A2:2486:G:H1	29:A2:2491:C:H5'	1.82	0.44
29:A2:2564:G:N1	29:A2:2573:C:N3	2.66	0.44
38:H3:119:LEU:HD21	38:H3:127:LEU:HD22	2.00	0.44
53:A3:1140:C:N3	53:A3:1162:G:N2	2.65	0.44
53:A3:1324:G:N2	53:A3:1330:A:O2'	2.50	0.44
53:A4:99:C:H2'	53:A4:100:G:C8	2.52	0.44
53:A4:1031:U:H4'	53:A4:1032:G:H5''	2.00	0.44
53:A4:1143:C:H2'	53:A4:1144:C:C6	2.53	0.44
53:A4:1332:U:H2'	53:A4:1333:C:C2	2.53	0.44
18:T1:85:VAL:HG22	18:T1:94:LYS:HG3	1.99	0.44
20:V1:9:SER:O	20:V1:11:ARG:NH1	2.50	0.44
29:A1:1367:G:H1	29:A1:1381:C:N4	2.16	0.44
29:A1:1538:A:N7	29:A1:1548:G:N2	2.65	0.44
29:A1:2387:G:H2'	29:A1:2388:C:C6	2.53	0.44
29:A1:2805:A:OP1	29:A1:2904:G:N2	2.51	0.44
1:C2:75:ILE:HG23	1:C2:98:VAL:HG12	1.99	0.44
7:I2:42:TRP:NE1	7:I2:44:PRO:HD3	2.33	0.44
29:A2:11:G:N3	29:A2:2814:A:H1'	2.33	0.44
29:A2:375:U:H3'	29:A2:376:G:C8	2.53	0.44
29:A2:798:C:O2'	29:A2:1666:A:OP1	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:2605:C:N4	29:A2:2606:G:O6	2.51	0.44
29:A2:2640:C:H2'	29:A2:2641:G:C8	2.53	0.44
30:B2:81:C:H42	30:B2:100:G:H1	1.66	0.44
32:B3:11:LEU:HD13	32:B3:11:LEU:HA	1.73	0.44
32:B3:132:LYS:HA	32:B3:135:GLN:HB2	2.00	0.44
44:N3:6:LEU:HD23	44:N3:9:LYS:HD2	2.00	0.44
50:T3:10:LEU:HG	50:T3:12:ALA:H	1.81	0.44
51:U3:12:LYS:HE2	51:U3:21:TYR:C	2.43	0.44
52:X3:159:PHE:H	52:X3:172:ILE:CG1	2.31	0.44
53:A3:443:C:H3'	53:A3:444:G:H8	1.82	0.44
53:A3:1427:G:H1	53:A3:1437:A:H1'	1.82	0.44
54:V3:42:LEU:HD13	54:V3:76:LEU:HD11	2.00	0.44
34:D4:157:LEU:O	34:D4:161:ASN:ND2	2.37	0.44
42:L4:104:VAL:HG22	53:A4:35:G:H5'	1.99	0.44
45:O4:38:ARG:HH21	53:A4:723:U:P	2.40	0.44
52:W4:163:ASN:CG	52:W4:167:ASP:H	2.26	0.44
53:A4:52:G:H2'	53:A4:53:A:O4'	2.18	0.44
53:A4:559:G:N2	53:A4:858:G:H5''	2.32	0.44
53:A4:763:A:N3	53:A4:786:G:N2	2.65	0.44
1:C1:52:ARG:H	1:C1:52:ARG:HG2	1.59	0.43
1:C1:174:ILE:HG22	1:C1:182:LEU:HD22	1.99	0.43
3:E1:203:GLN:NE2	3:E1:206:ILE:HD11	2.33	0.43
19:U1:145:GLU:HB3	19:U1:146:ILE:H	1.70	0.43
29:A1:5:A:OP2	29:A1:2910:G:N2	2.49	0.43
29:A1:1141:G:O2'	29:A1:1146:A:N1	2.46	0.43
29:A1:1448:G:H2'	29:A1:1449:G:C8	2.52	0.43
29:A1:2023:C:H2'	29:A1:2024:G:C8	2.53	0.43
29:A1:2098:U:H1'	29:A1:2450:G:N2	2.32	0.43
29:A1:2807:G:N2	29:A1:2817:C:O2	2.47	0.43
31:e1:2:LYS:HG3	31:e1:3:VAL:HG23	1.99	0.43
3:E2:38:ARG:HH22	29:A2:710:C:P	2.41	0.43
3:E2:149:ASP:OD1	3:E2:151:SER:OG	2.35	0.43
7:I2:45:ASN:O	29:A2:582:U:O2'	2.36	0.43
7:I2:101:HIS:HD2	29:A2:1186:G:P	2.41	0.43
10:L2:59:ARG:HE	29:A2:2483:A:H5'	1.82	0.43
15:Q2:69:LYS:NZ	15:Q2:88:ARG:HG3	2.33	0.43
16:R2:43:GLY:O	16:R2:47:VAL:N	2.49	0.43
29:A2:1018:C:OP1	29:A2:1021:G:O2'	2.35	0.43
29:A2:1460:A:H3'	29:A2:1461:G:C8	2.53	0.43
30:B2:2:A:N6	30:B2:118:G:H3'	2.32	0.43
30:B2:8:C:OP1	30:B2:29:C:O2'	2.29	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:I3:10:ARG:HB3	39:I3:76:ALA:HB2	1.99	0.43
50:T3:22:ARG:O	50:T3:26:ASN:N	2.51	0.43
51:U3:20:LYS:NZ	53:A3:1248:C:O2	2.36	0.43
53:A3:28:G:N2	53:A3:292:G:OP1	2.44	0.43
53:A3:38:G:N2	53:A3:392:A:O4'	2.49	0.43
53:A3:99:C:H2'	53:A3:100:G:C8	2.52	0.43
53:A3:338:U:H2'	53:A3:340:C:C4	2.53	0.43
53:A3:1158:G:N1	53:A3:1159:G:N3	2.66	0.43
32:B4:61:LEU:HA	32:B4:64:ARG:HB2	2.00	0.43
39:I4:5:TYR:CZ	53:A4:1129:C:H4'	2.52	0.43
53:A4:379:G:O2'	53:A4:380:C:O4'	2.34	0.43
53:A4:1336:G:H3'	53:A4:1337:G:H21	1.82	0.43
3:E1:63:LYS:H	3:E1:63:LYS:HD2	1.82	0.43
4:F1:113:ARG:HG2	24:Z1:35:VAL:HB	2.00	0.43
5:G1:107:VAL:HG21	5:G1:152:ARG:HG3	1.99	0.43
6:H1:22:LYS:HB2	6:H1:25:TYR:HB2	2.00	0.43
10:L1:44:ALA:HA	10:L1:47:ILE:HG12	2.00	0.43
12:N1:17:ARG:HB3	12:N1:18:ILE:HG23	2.00	0.43
14:P1:21:ALA:HB2	14:P1:39:LEU:HD21	1.99	0.43
22:X1:4:SER:OG	29:A1:97:G:OP1	2.31	0.43
24:Z1:52:THR:OG1	24:Z1:53:GLU:N	2.49	0.43
27:c1:3:ARG:HD3	27:c1:3:ARG:HA	1.83	0.43
29:A1:153:C:N4	29:A1:163:G:H1	2.16	0.43
29:A1:449:C:H2'	29:A1:450:U:H6	1.82	0.43
29:A1:1734:C:H2'	29:A1:1735:C:O4'	2.18	0.43
1:C2:35:LYS:NZ	1:C2:64:ILE:HD12	2.33	0.43
1:C2:242:ARG:NH2	29:A2:1859:G:H4'	2.33	0.43
8:J2:66:LYS:H	8:J2:82:ASN:HD21	1.66	0.43
13:O2:77:PRO:HB2	13:O2:80:SER:HB2	1.99	0.43
14:P2:95:LEU:HD13	15:Q2:4:ILE:HD12	2.00	0.43
16:R2:88:ARG:NH2	29:A2:797:G:OP1	2.51	0.43
26:b2:12:GLU:HB3	26:b2:53:LYS:HB2	2.00	0.43
26:b2:26:ASN:HB3	26:b2:28:ARG:CZ	2.48	0.43
29:A2:207:G:H2'	29:A2:208:A:C8	2.53	0.43
29:A2:442:C:N4	29:A2:2423:G:H1	2.14	0.43
29:A2:595:G:H2'	29:A2:2054:A:N7	2.32	0.43
29:A2:966:A:N3	30:B2:82:U:O2'	2.50	0.43
29:A2:1717:A:H61	29:A2:1725:A:H61	1.66	0.43
29:A2:2213:U:H2'	29:A2:2214:G:C8	2.53	0.43
33:C3:131:ARG:NH2	35:E3:50:GLU:OE1	2.52	0.43
34:D3:65:ARG:HH21	34:D3:71:SER:HA	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:I3:10:ARG:HH11	39:I3:79:LEU:HD11	1.83	0.43
41:K3:126:ARG:NH2	53:A3:1500:G:H5''	2.30	0.43
43:M3:108:ARG:CZ	43:M3:114:ARG:HD3	2.48	0.43
45:O3:35:ARG:NH2	53:A3:724:G:OP2	2.50	0.43
53:A3:665:G:H2'	53:A3:666:G:C8	2.53	0.43
53:A3:766:C:N4	53:A3:782:G:H1	2.16	0.43
53:A3:773:A:O2'	54:V3:30:ARG:C	2.61	0.43
53:A3:907:C:N3	53:A3:1370:C:N4	2.66	0.43
53:A3:1109:G:H1'	53:A3:1130:U:H3	1.81	0.43
53:A3:1181:C:O2'	53:A3:1186:U:O4	2.29	0.43
32:B4:22:LYS:HA	32:B4:24:TRP:HD1	1.82	0.43
32:B4:60:ASP:C	32:B4:64:ARG:HE	2.26	0.43
32:B4:98:LEU:HB2	32:B4:101:MET:SD	2.58	0.43
35:E4:60:TYR:HA	35:E4:63:ARG:HG2	2.00	0.43
41:K4:68:ALA:O	41:K4:72:ALA:N	2.43	0.43
43:M4:47:ASP:OD1	43:M4:47:ASP:N	2.42	0.43
53:A4:665:G:H2'	53:A4:666:G:C8	2.53	0.43
1:C1:243:GLY:O	29:A1:1926:C:O2'	2.31	0.43
2:D1:137:HIS:HE1	29:A1:1706:C:H5'	1.82	0.43
4:F1:11:TYR:HE1	4:F1:172:LEU:HD11	1.83	0.43
8:J1:11:ALA:O	8:J1:98:VAL:HA	2.19	0.43
18:T1:48:ALA:HB3	18:T1:59:GLY:H	1.82	0.43
29:A1:125:A:H5''	29:A1:126:C:C6	2.53	0.43
29:A1:262:A:N3	29:A1:292:G:N2	2.66	0.43
29:A1:298:C:N3	29:A1:389:A:N6	2.66	0.43
29:A1:1105:A:N6	29:A1:1136:A:O5'	2.47	0.43
29:A1:1488:G:H1	29:A1:1600:C:H42	1.65	0.43
29:A1:2484:G:H22	29:A1:2495:G:H1'	1.83	0.43
29:A1:2505:U:O2'	29:A1:2584:G:OP1	2.36	0.43
31:e1:26:ILE:H	31:e1:26:ILE:HG13	1.62	0.43
3:E2:34:TRP:CE2	9:K2:8:PRO:HB3	2.53	0.43
4:F2:43:LEU:HD21	4:F2:56:ALA:HB3	1.98	0.43
14:P2:94:ASN:HB3	14:P2:95:LEU:HG	2.00	0.43
16:R2:18:ARG:NH2	29:A2:545:G:O5'	2.51	0.43
19:U2:119:GLU:HG3	19:U2:122:ARG:HH11	1.83	0.43
21:W2:20:ARG:HD2	21:W2:32:LYS:HB3	2.00	0.43
29:A2:211:A:O2'	29:A2:256:G:N7	2.45	0.43
29:A2:268:C:H2'	29:A2:269:G:C8	2.53	0.43
29:A2:551:U:H1'	29:A2:580:U:H4'	2.00	0.43
29:A2:984:U:H2'	29:A2:985:G:C8	2.53	0.43
29:A2:2747:G:H3'	29:A2:2748:A:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:2900:C:H2'	29:A2:2901:C:C6	2.53	0.43
49:S3:51:VAL:HG11	49:S3:71:LEU:HD13	1.99	0.43
52:X3:158:PHE:CE1	52:W4:158:PHE:HZ	2.26	0.43
53:A3:299:U:H2'	53:A3:300:G:C8	2.53	0.43
53:A3:548:U:H3'	53:A3:549:G:H2'	1.99	0.43
53:A3:714:G:N2	53:A3:715:C:N3	2.66	0.43
37:G4:141:VAL:HA	37:G4:144:MET:HB2	2.00	0.43
38:H4:19:VAL:HG21	53:A4:810:U:H4'	1.99	0.43
39:I4:24:GLY:HA3	39:I4:56:LEU:HA	1.98	0.43
52:W4:151:MET:HG3	52:W4:172:ILE:HG13	1.99	0.43
53:A4:119:G:O2'	53:A4:231:G:N2	2.44	0.43
53:A4:623:A:N7	53:A4:624:U:N3	2.65	0.43
53:A4:859:C:H2'	53:A4:860:C:H6	1.82	0.43
53:A4:1414:G:H21	53:A4:1445:A:H62	1.65	0.43
53:A4:1492:C:N4	53:A4:1493:G:O6	2.50	0.43
5:G1:19:VAL:HG23	5:G1:45:VAL:HG12	2.00	0.43
14:P1:31:SER:OG	14:P1:32:PHE:N	2.51	0.43
16:R1:1:MET:HE2	16:R1:62:HIS:HD2	1.83	0.43
18:T1:46:LYS:HD3	18:T1:61:ILE:HD11	1.99	0.43
20:V1:32:ARG:C	20:V1:35:ASN:HD21	2.26	0.43
20:V1:74:ARG:CZ	30:B1:15:A:H8	2.31	0.43
26:b1:47:THR:OG1	26:b1:48:VAL:N	2.52	0.43
29:A1:78:G:H1	29:A1:105:C:H42	1.66	0.43
29:A1:356:A:H5'	29:A1:1256:G:H22	1.84	0.43
29:A1:379:G:H2'	29:A1:380:G:C8	2.54	0.43
29:A1:478:G:N1	29:A1:482:A:OP1	2.45	0.43
29:A1:1073:G:N2	29:A1:1186:G:O6	2.49	0.43
29:A1:1086:C:H2'	29:A1:1087:G:C8	2.53	0.43
29:A1:1115:A:O2'	29:A1:1119:G:OP1	2.35	0.43
29:A1:1705:C:H2'	29:A1:1706:C:H6	1.83	0.43
29:A1:1705:C:H2'	29:A1:1706:C:C6	2.54	0.43
29:A1:2080:G:N2	29:A1:2081:A:N3	2.67	0.43
29:A1:2181:G:OP1	40:J4:31:GLY:N	2.51	0.43
4:F2:98:ARG:HA	4:F2:101:ILE:HG12	2.00	0.43
5:G2:17:VAL:HG13	5:G2:25:LYS:H	1.83	0.43
13:O2:23:ARG:NH2	29:A2:2879:G:N7	2.67	0.43
29:A2:262:A:H4'	29:A2:396:C:H4'	2.01	0.43
29:A2:1705:C:H2'	29:A2:1706:C:C6	2.52	0.43
29:A2:1824:A:H61	29:A2:1861:G:HO2'	1.59	0.43
29:A2:1828:C:O2'	29:A2:1925:A:OP1	2.35	0.43
29:A2:2387:G:H2'	29:A2:2388:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:B3:185:ILE:HG12	32:B3:199:TYR:HD2	1.83	0.43
36:F3:10:LEU:N	36:F3:59:TYR:O	2.51	0.43
37:G3:28:ASN:ND2	53:A3:1356:A:H4'	2.34	0.43
39:I3:16:ARG:NH2	53:A3:1110:C:OP1	2.43	0.43
49:S3:31:ILE:HB	49:S3:49:ILE:HG23	2.00	0.43
49:S3:71:LEU:O	49:S3:75:ALA:N	2.50	0.43
50:T3:22:ARG:HH11	53:A3:319:G:P	2.41	0.43
53:A3:406:A:H62	53:A3:408:G:H21	1.66	0.43
53:A3:664:C:H2'	53:A3:665:G:C8	2.54	0.43
53:A3:679:A:H2'	53:A3:680:U:C6	2.53	0.43
53:A3:719:C:H2'	53:A3:720:A:H8	1.84	0.43
53:A3:852:C:H2'	53:A3:853:G:C8	2.53	0.43
36:F4:9:VAL:HG12	36:F4:86:ARG:NH2	2.34	0.43
37:G4:78:ARG:HG3	37:G4:87:VAL:HG22	2.00	0.43
53:A4:497:C:H2'	53:A4:498:G:H8	1.84	0.43
8:J1:22:ILE:HG22	8:J1:23:ARG:HB2	1.99	0.43
12:N1:95:HIS:HA	12:N1:99:LYS:HE3	2.00	0.43
14:P1:55:ARG:O	14:P1:59:ARG:NH1	2.52	0.43
15:Q1:97:LYS:HA	15:Q1:97:LYS:HD3	1.88	0.43
23:Y1:8:LEU:HD23	23:Y1:31:LEU:HA	2.00	0.43
24:Z1:34:GLU:HG3	24:Z1:35:VAL:HG23	2.00	0.43
29:A1:627:G:H2'	29:A1:704:A:H61	1.83	0.43
29:A1:754:A:N6	29:A1:775:G:O4'	2.51	0.43
29:A1:1107:G:H2'	29:A1:1108:U:H6	1.83	0.43
29:A1:1482:A:N6	29:A1:1607:A:H62	2.16	0.43
29:A1:1918:C:H2'	29:A1:1919:C:C6	2.54	0.43
29:A1:2321:G:H5''	29:A1:2322:G:C4	2.54	0.43
3:E2:7:TYR:HD1	3:E2:125:LEU:HB3	1.83	0.43
3:E2:182:ASN:OD1	3:E2:185:ASP:N	2.46	0.43
6:H2:2:LYS:HA	6:H2:2:LYS:HD2	1.82	0.43
10:L2:141:GLN:NE2	29:A2:953:U:O3'	2.40	0.43
12:N2:32:LEU:HD21	30:B2:51:C:N4	2.34	0.43
17:S2:63:LYS:HA	17:S2:63:LYS:HD3	1.85	0.43
19:U2:51:ALA:O	19:U2:54:HIS:N	2.49	0.43
26:b2:25:LYS:H	26:b2:25:LYS:HD2	1.82	0.43
28:d2:14:VAL:HG11	28:d2:22:VAL:HB	1.99	0.43
29:A2:78:G:N2	29:A2:105:C:N3	2.63	0.43
29:A2:576:G:H2'	29:A2:577:G:C8	2.53	0.43
29:A2:582:U:H2'	29:A2:583:G:C8	2.54	0.43
29:A2:750:G:H2'	29:A2:751:G:C8	2.53	0.43
29:A2:753:G:H21	29:A2:776:A:H62	1.65	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:1017:C:H2'	29:A2:1018:C:C6	2.53	0.43
29:A2:1333:G:O6	29:A2:1377:U:N3	2.52	0.43
29:A2:1510:G:H2'	29:A2:1511:C:C2	2.53	0.43
29:A2:1718:A:H4'	29:A2:2563:G:H4'	2.00	0.43
29:A2:2047:G:H2'	29:A2:2048:G:H8	1.82	0.43
29:A2:2546:G:H2'	29:A2:2547:A:C8	2.53	0.43
29:A2:2672:C:H2'	29:A2:2673:G:C8	2.53	0.43
30:B2:42:U:H2'	30:B2:45:C:H5	1.83	0.43
32:B3:11:LEU:HB2	32:B3:213:LEU:HD22	2.00	0.43
32:B3:18:GLY:N	32:B3:42:ILE:HG12	2.33	0.43
33:C3:4:LYS:HA	33:C3:4:LYS:HD2	1.83	0.43
35:E3:18:ARG:HE	35:E3:25:ARG:HG3	1.83	0.43
41:K3:15:ALA:O	41:K3:78:GLN:N	2.38	0.43
41:K3:42:TRP:CD1	53:A3:689:A:H2	2.36	0.43
50:T3:36:LEU:HD22	50:T3:55:ILE:HG23	2.00	0.43
53:A3:41:G:H2'	53:A3:42:G:C8	2.50	0.43
53:A3:350:C:H2'	53:A3:351:A:C8	2.54	0.43
53:A3:674:G:H2'	53:A3:675:U:C6	2.53	0.43
53:A3:675:U:O2'	53:A3:676:G:N7	2.43	0.43
53:A3:952:A:N1	53:A3:1348:C:O2'	2.42	0.43
53:A3:1007:C:H41	53:A3:1011:G:P	2.42	0.43
53:A3:1053:C:H41	53:A3:1066:G:N2	2.15	0.43
53:A3:1078:C:H2'	53:A3:1079:C:C6	2.54	0.43
32:B4:15:VAL:HA	32:B4:41:ILE:HG21	2.00	0.43
33:C4:88:ARG:HB3	33:C4:101:LEU:HD13	1.99	0.43
34:D4:13:ARG:HG2	34:D4:40:PRO:HD3	1.98	0.43
37:G4:31:MET:HE2	37:G4:31:MET:HB3	1.85	0.43
37:G4:37:ASN:HD22	39:I4:41:VAL:HG23	1.83	0.43
40:J4:44:VAL:HG22	40:J4:66:ARG:HG2	2.00	0.43
45:O4:5:LYS:O	45:O4:9:GLN:N	2.38	0.43
49:S4:31:ILE:HB	49:S4:49:ILE:HD12	2.01	0.43
53:A4:290:C:H2'	53:A4:291:U:C6	2.53	0.43
53:A4:841:A:H2'	53:A4:842:A:C8	2.53	0.43
5:G1:35:VAL:HA	5:G1:36:PRO:HD3	1.90	0.43
7:I1:76:SER:HB3	7:I1:81:GLY:HA3	2.00	0.43
16:R1:83:LYS:HE2	16:R1:97:LYS:HG2	2.01	0.43
21:W1:85:LEU:HD23	21:W1:85:LEU:H	1.84	0.43
29:A1:17:G:N2	29:A1:580:U:OP1	2.43	0.43
29:A1:389:A:H2'	29:A1:390:G:H8	1.83	0.43
29:A1:391:G:O2'	29:A1:392:G:O4'	2.29	0.43
29:A1:959:A:H2	29:A1:2291:G:H21	1.67	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A1:1173:G:H3'	29:A1:1174:A:C8	2.54	0.43
29:A1:1687:C:H2'	29:A1:1688:U:C6	2.54	0.43
29:A1:1774:C:H3'	29:A1:1775:C:H4'	2.00	0.43
29:A1:2233:G:H2'	29:A1:2234:G:H8	1.83	0.43
29:A1:2607:U:H2'	29:A1:2608:C:H6	1.84	0.43
2:D2:52:LEU:HD23	2:D2:52:LEU:HA	1.84	0.43
8:J2:104:ARG:HG3	8:J2:105:GLU:HG3	2.01	0.43
8:J2:120:GLU:HG3	13:O2:68:TYR:HE2	1.84	0.43
28:d2:14:VAL:HG13	28:d2:23:VAL:H	1.83	0.43
29:A2:5:A:N6	29:A2:2909:U:H3	2.16	0.43
29:A2:212:A:O2'	29:A2:214:G:O4'	2.24	0.43
29:A2:269:G:H1	29:A2:277:C:N4	2.16	0.43
29:A2:418:A:N3	29:A2:439:G:N2	2.67	0.43
29:A2:1408:A:H3'	29:A2:1409:G:C8	2.54	0.43
29:A2:1711:C:H42	29:A2:2022:G:H1	1.66	0.43
29:A2:1965:C:H2'	29:A2:1966:C:H6	1.83	0.43
29:A2:2139:G:N2	29:A2:2192:G:N7	2.52	0.43
29:A2:2245:C:H2'	29:A2:2246:U:C6	2.53	0.43
29:A2:2683:G:H2'	29:A2:2684:A:H8	1.83	0.43
29:A2:2852:C:H2'	29:A2:2853:C:C6	2.54	0.43
32:B3:21:ARG:HE	32:B3:39:ILE:HG12	1.84	0.43
32:B3:21:ARG:NH2	52:X3:141:PRO:HD2	2.33	0.43
34:D3:20:TYR:HB3	34:D3:27:TYR:HD1	1.84	0.43
35:E3:152:ARG:HH21	38:H3:42:GLU:HB3	1.83	0.43
37:G3:92:SER:HB2	37:G3:95:ARG:HE	1.84	0.43
47:Q3:42:TYR:OH	53:A3:231:G:OP1	2.30	0.43
53:A3:1242:A:C2	53:A3:1243:C:H1'	2.53	0.43
43:M4:108:ARG:HB2	53:A4:924:G:H5'	1.99	0.43
53:A4:351:A:H2'	53:A4:352:G:C8	2.54	0.43
53:A4:1280:A:H2'	53:A4:1282:U:C6	2.53	0.43
9:K1:16:ARG:NH1	29:A1:1241:A:OP2	2.50	0.43
15:Q1:85:LYS:HB3	29:A1:1272:C:H4'	1.99	0.43
16:R1:84:ARG:NH2	29:A1:1370:A:O3'	2.52	0.43
24:Z1:61:ARG:CZ	49:S3:67:VAL:HG22	2.49	0.43
29:A1:1797:G:H22	29:A1:2013:G:H1'	1.83	0.43
29:A1:2486:G:H1	29:A1:2489:C:H5	1.67	0.43
1:C2:8:PRO:HB3	1:C2:14:ARG:HG2	1.98	0.43
4:F2:66:GLN:HA	24:Z2:6:HIS:HD1	1.84	0.43
9:K2:14:LYS:HB2	9:K2:16:ARG:H	1.84	0.43
17:S2:35:THR:H	17:S2:38:GLU:HB2	1.84	0.43
19:U2:142:SER:OG	19:U2:172:ALA:O	2.31	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:U2:151:HIS:O	19:U2:153:SER:N	2.51	0.43
22:X2:25:VAL:HG11	22:X2:61:LEU:HD21	2.00	0.43
22:X2:38:GLN:HA	22:X2:41:ILE:HG12	2.01	0.43
29:A2:424:G:N1	29:A2:425:G:O6	2.52	0.43
29:A2:434:G:H22	29:A2:450:U:H3	1.67	0.43
29:A2:493:G:H2'	29:A2:494:A:C4	2.54	0.43
29:A2:607:G:H2'	29:A2:608:G:H8	1.83	0.43
29:A2:773:U:H2'	29:A2:774:G:C8	2.54	0.43
29:A2:869:A:H2	29:A2:990:U:H4'	1.83	0.43
29:A2:1061:C:H2'	29:A2:1062:U:H6	1.82	0.43
29:A2:1764:G:H2'	29:A2:1765:G:H8	1.83	0.43
29:A2:1918:C:H2'	29:A2:1919:C:C6	2.54	0.43
29:A2:2542:U:O4	29:A2:2544:A:N6	2.51	0.43
29:A2:2804:C:H4'	29:A2:2903:A:H2	1.84	0.43
32:B3:211:ILE:O	32:B3:214:ILE:N	2.50	0.43
33:C3:172:ARG:CZ	53:A3:1088:G:H5''	2.49	0.43
34:D3:75:PHE:O	34:D3:79:PHE:N	2.35	0.43
35:E3:88:LYS:HB2	35:E3:123:LEU:HB2	2.01	0.43
37:G3:74:GLU:OE1	37:G3:95:ARG:NH1	2.51	0.43
53:A3:94:A:H2'	53:A3:95:G:C8	2.52	0.43
53:A3:846:G:H4'	53:A3:849:A:C8	2.54	0.43
53:A3:908:C:N3	53:A3:1369:G:N1	2.67	0.43
53:A3:1176:C:N4	53:A3:1178:G:O6	2.51	0.43
53:A3:1220:A:O2'	53:A3:1279:C:N4	2.51	0.43
53:A3:1487:U:O2	53:A3:1502:G:N2	2.45	0.43
33:C4:52:LEU:HA	33:C4:70:VAL:HG13	2.01	0.43
41:K4:60:ALA:O	41:K4:64:ALA:N	2.49	0.43
47:Q4:3:LYS:NZ	53:A4:121:G:O3'	2.41	0.43
52:W4:170:ASN:OD1	52:W4:183:ILE:N	2.51	0.43
53:A4:279:G:H2'	53:A4:280:G:C8	2.53	0.43
53:A4:331:C:H2'	53:A4:332:C:C6	2.54	0.43
54:V4:13:ILE:HD13	54:V4:17:ILE:HG22	2.01	0.43
3:E1:34:TRP:CD1	9:K1:8:PRO:HD3	2.53	0.43
14:P1:26:GLY:N	29:A1:18:C:OP1	2.40	0.43
15:Q1:12:TYR:HE2	15:Q1:22:VAL:HG23	1.82	0.43
20:V1:69:PHE:HE1	20:V1:79:VAL:HG22	1.83	0.43
22:X1:11:GLU:HA	22:X1:14:ARG:HG2	2.01	0.43
29:A1:537:C:N3	29:A1:538:U:N3	2.67	0.43
29:A1:645:C:H2'	29:A1:646:G:H8	1.83	0.43
29:A1:667:C:H2'	29:A1:668:C:O4'	2.18	0.43
29:A1:1017:C:H2'	29:A1:1018:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A1:1716:G:N1	29:A1:2016:G:OP2	2.44	0.43
29:A1:2660:C:N4	29:A1:2688:G:H1	2.16	0.43
1:C2:147:LEU:HD21	1:C2:183:ARG:HD3	2.01	0.43
18:T2:70:SER:O	29:A2:360:C:O2'	2.27	0.43
20:V2:24:LYS:NZ	29:A2:2369:C:O3'	2.50	0.43
21:W2:98:LEU:HD21	29:A2:278:G:H3'	2.01	0.43
27:c2:17:GLY:O	27:c2:21:ARG:N	2.44	0.43
29:A2:524:A:H2'	29:A2:525:G:H8	1.84	0.43
29:A2:1305:C:H2'	29:A2:1306:C:C6	2.53	0.43
29:A2:1462:G:O6	29:A2:1635:A:N6	2.52	0.43
29:A2:2381:G:HO2'	29:A2:2382:C:H6	1.66	0.43
29:A2:2505:U:O2'	29:A2:2584:G:OP1	2.35	0.43
29:A2:2591:A:N3	29:A2:2628:A:N6	2.67	0.43
53:A3:753:C:H2'	53:A3:754:G:C8	2.47	0.43
53:A3:771:U:O2	53:A3:778:C:N4	2.52	0.43
53:A3:858:G:H2'	53:A3:859:C:C6	2.54	0.43
53:A3:961:C:N4	53:A3:1202:G:H1	2.17	0.43
53:A3:1052:U:O4	53:A3:1067:U:N3	2.52	0.43
53:A3:1223:C:H2'	53:A3:1224:C:C6	2.54	0.43
53:A3:1346:U:H3'	53:A3:1347:G:C8	2.53	0.43
53:A3:1406:C:H2'	53:A3:1407:U:C6	2.54	0.43
53:A3:1432:C:H4'	53:A3:1434:G:N9	2.33	0.43
32:B4:21:ARG:HG3	32:B4:39:ILE:HG12	2.01	0.43
39:I4:23:ASN:N	39:I4:60:ASP:OD1	2.42	0.43
53:A4:368:A:N1	53:A4:466:A:N6	2.67	0.43
53:A4:1182:A:H4'	53:A4:1183:G:H5''	2.00	0.43
54:V4:42:LEU:HD13	54:V4:76:LEU:HD21	2.01	0.43
1:C1:66:ASP:OD2	1:C1:103:ARG:NE	2.52	0.43
14:P1:11:ARG:HH12	29:A1:540:A:H1'	1.83	0.43
14:P1:94:ASN:HB3	14:P1:95:LEU:HG	2.01	0.43
17:S1:89:ILE:HD11	17:S1:92:LEU:HB2	2.01	0.43
29:A1:1336:U:H5''	29:A1:1337:C:C5	2.53	0.43
29:A1:1338:C:O2	29:A1:1584:A:N6	2.51	0.43
29:A1:1355:A:H1'	29:A1:1427:A:N6	2.34	0.43
29:A1:1446:C:H2'	29:A1:1447:C:H6	1.83	0.43
29:A1:1609:G:H2'	29:A1:1610:G:H8	1.83	0.43
29:A1:2485:C:N4	29:A1:2486:G:O6	2.52	0.43
29:A1:2630:C:H2'	29:A1:2631:C:C6	2.54	0.43
30:B1:25:G:N2	30:B1:63:G:N3	2.67	0.43
1:C2:142:VAL:HA	1:C2:193:VAL:HA	2.01	0.43
2:D2:77:ILE:HG13	2:D2:78:LEU:H	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:G2:85:LYS:HD2	5:G2:164:TYR:CZ	2.54	0.43
11:M2:59:ASP:OD1	11:M2:59:ASP:N	2.52	0.43
16:R2:53:SER:HA	16:R2:56:ALA:HB3	2.01	0.43
23:Y2:6:VAL:HG12	23:Y2:56:VAL:HB	2.01	0.43
26:b2:17:LYS:NZ	26:b2:45:LYS:O	2.49	0.43
29:A2:259:U:O2'	29:A2:260:A:O4'	2.36	0.43
29:A2:594:U:O4	29:A2:595:G:N1	2.52	0.43
29:A2:1336:U:O2'	29:A2:1696:G:N2	2.51	0.43
29:A2:1462:G:H2'	29:A2:1463:U:H6	1.84	0.43
37:G3:118:VAL:HG13	37:G3:122:HIS:CE1	2.54	0.43
40:J3:62:HIS:NE2	53:A3:1349:C:O2'	2.29	0.43
42:L3:8:ASN:ND2	42:L3:8:ASN:O	2.49	0.43
45:O3:70:LEU:HG	45:O3:78:TYR:HA	1.99	0.43
52:X3:161:PHE:CB	52:X3:170:ASN:CB	2.96	0.43
53:A3:207:C:H1'	53:A3:212:C:H42	1.84	0.43
53:A3:939:C:H2'	53:A3:940:G:C8	2.53	0.43
34:D4:134:ASP:N	34:D4:134:ASP:OD1	2.51	0.43
40:J4:36:GLY:HA2	40:J4:37:PRO:HD3	1.85	0.43
40:J4:57:LYS:HA	40:J4:57:LYS:HD2	1.88	0.43
43:M4:18:ALA:O	43:M4:22:ILE:N	2.52	0.43
53:A4:40:C:H2'	53:A4:41:G:C8	2.53	0.43
53:A4:632:G:H2'	53:A4:633:G:H8	1.83	0.43
53:A4:1293:G:H2'	53:A4:1294:U:C6	2.53	0.43
2:D1:35:GLN:NE2	2:D1:64:LYS:HE2	2.34	0.43
4:F1:178:PHE:HB2	4:F1:180:PHE:CE2	2.54	0.43
8:J1:71:ARG:N	8:J1:75:SER:O	2.52	0.43
22:X1:9:GLN:HB2	22:X1:59:ARG:NH1	2.33	0.43
29:A1:245:A:H2'	29:A1:246:A:H8	1.84	0.43
29:A1:700:G:H5''	29:A1:703:A:N3	2.34	0.43
29:A1:1019:G:OP2	29:A1:1020:A:O2'	2.35	0.43
29:A1:1040:C:H42	29:A1:1210:G:H1	1.67	0.43
29:A1:1473:G:H3'	29:A1:1474:G:C8	2.54	0.43
5:G2:11:VAL:HB	5:G2:49:VAL:HG13	2.01	0.43
7:I2:66:LYS:NZ	29:A2:1070:G:O6	2.48	0.43
19:U2:41:LEU:HD12	19:U2:44:PHE:HD2	1.84	0.43
24:Z2:55:ARG:HB2	49:S4:67:VAL:C	2.44	0.43
29:A2:183:U:O2'	29:A2:851:A:O2'	2.37	0.43
29:A2:792:G:N2	29:A2:804:C:N3	2.67	0.43
29:A2:863:C:H1'	29:A2:1273:G:H21	1.84	0.43
29:A2:1564:U:H2'	29:A2:1565:G:C8	2.53	0.43
29:A2:2391:A:H2'	29:A2:2392:A:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:2561:U:H2'	29:A2:2562:G:H8	1.84	0.43
36:F3:3:ARG:HB3	36:F3:93:SER:HB2	2.00	0.43
42:L3:60:LEU:HD11	42:L3:66:VAL:HG22	2.01	0.43
49:S3:33:THR:OG1	49:S3:34:TRP:N	2.51	0.43
52:X3:154:LEU:HD11	52:W4:173:TYR:CG	2.53	0.43
53:A3:770:A:H61	53:A3:778:C:H5	1.66	0.43
53:A3:1074:A:N7	53:A3:1075:A:N6	2.67	0.43
32:B4:33:TYR:CD2	32:B4:43:ASP:HA	2.53	0.43
37:G4:4:ARG:NH2	53:A4:908:C:O2'	2.52	0.43
53:A4:444:G:P	53:A4:445:A:H5''	2.59	0.43
53:A4:667:A:H2'	53:A4:668:G:C8	2.54	0.43
53:A4:761:G:H2'	53:A4:762:C:O4'	2.19	0.43
53:A4:1100:C:O2'	53:A4:1138:G:N2	2.52	0.43
54:V4:83:ALA:HA	54:V4:86:ARG:HG2	2.00	0.43
2:D1:105:THR:HG21	2:D1:164:ARG:HE	1.83	0.42
14:P1:92:ARG:NH2	15:Q1:11:GLN:HE22	2.17	0.42
18:T1:11:ASP:N	18:T1:11:ASP:OD1	2.51	0.42
24:Z1:12:ALA:HB2	24:Z1:26:SER:H	1.84	0.42
26:b1:43:CYS:HB3	26:b1:44:ARG:H	1.56	0.42
27:c1:4:THR:OG1	27:c1:5:TRP:N	2.51	0.42
29:A1:1218:G:H2'	29:A1:1219:G:C8	2.54	0.42
29:A1:2042:G:H2'	29:A1:2043:A:C8	2.54	0.42
29:A1:2784:C:H2'	29:A1:2785:G:C8	2.53	0.42
30:B1:18:G:O6	30:B1:71:G:N2	2.52	0.42
1:C2:45:ASN:ND2	29:A2:1839:C:H1'	2.34	0.42
1:C2:222:ARG:HE	29:A2:1822:A:P	2.42	0.42
5:G2:107:VAL:HG11	5:G2:152:ARG:HG2	2.01	0.42
7:I2:91:LEU:HA	7:I2:91:LEU:HD23	1.88	0.42
29:A2:871:U:H2'	29:A2:872:G:C8	2.48	0.42
29:A2:2139:G:N2	29:A2:2194:A:H62	2.17	0.42
29:A2:2255:A:H2'	29:A2:2256:G:C8	2.48	0.42
30:B2:15:A:C8	30:B2:72:C:H4'	2.53	0.42
32:B3:65:GLY:O	32:B3:226:ARG:NH2	2.52	0.42
42:L3:37:CYS:HA	42:L3:58:VAL:HG22	2.00	0.42
45:O3:10:LYS:NZ	45:O3:14:GLU:OE2	2.47	0.42
53:A3:40:C:H2'	53:A3:41:G:C8	2.54	0.42
53:A3:427:A:C5	53:A3:428:C:H1'	2.54	0.42
53:A3:967:C:N3	53:A3:968:U:N3	2.67	0.42
53:A3:1006:C:N4	53:A3:1007:C:O2	2.52	0.42
53:A3:1360:C:H2'	53:A3:1361:G:C8	2.53	0.42
53:A3:1394:C:H2'	53:A3:1395:A:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:V3:87:LEU:CA	54:V3:90:GLN:HG3	2.47	0.42
32:B4:215:LEU:HA	32:B4:218:ALA:HB3	2.01	0.42
35:E4:77:PRO:HG2	35:E4:144:THR:HA	2.01	0.42
42:L4:109:GLY:HA2	42:L4:121:GLY:HA3	2.01	0.42
43:M4:12:ASN:HA	43:M4:46:LYS:HB3	2.01	0.42
49:S4:45:VAL:O	49:S4:47:HIS:ND1	2.50	0.42
53:A4:130:C:H42	53:A4:223:A:H61	1.67	0.42
53:A4:371:G:H2'	53:A4:372:G:H8	1.83	0.42
53:A4:599:G:C5	53:A4:608:G:C6	3.07	0.42
53:A4:838:G:H2'	53:A4:839:C:C6	2.54	0.42
53:A4:963:A:H2'	53:A4:964:G:H8	1.84	0.42
53:A4:1110:C:O2	53:A4:1125:G:N2	2.52	0.42
53:A4:1251:C:H2'	53:A4:1252:G:H8	1.84	0.42
53:A4:1341:A:H2'	53:A4:1342:G:C8	2.54	0.42
3:E1:158:THR:OG1	3:E1:159:GLY:N	2.51	0.42
9:K1:47:ASP:HA	29:A1:715:G:H5'	2.01	0.42
10:L1:110:THR:O	10:L1:114:ALA:N	2.50	0.42
11:M1:100:LEU:HD23	11:M1:100:LEU:HA	1.78	0.42
13:O1:16:ARG:NH2	13:O1:18:ASP:OD2	2.45	0.42
20:V1:9:SER:O	29:A1:2270:G:O2'	2.37	0.42
26:b1:28:ARG:HH12	29:A1:2360:A:N6	2.16	0.42
29:A1:573:A:H2'	29:A1:574:A:C8	2.54	0.42
29:A1:594:U:O4	29:A1:595:G:N1	2.52	0.42
29:A1:700:G:H3'	29:A1:703:A:H1'	2.01	0.42
29:A1:924:G:O6	29:A1:949:A:N6	2.52	0.42
29:A1:1978:G:O2'	29:A1:1980:U:O4	2.34	0.42
29:A1:2791:A:N6	29:A1:2797:G:N3	2.67	0.42
1:C2:211:ARG:HD2	1:C2:214:TRP:HE3	1.84	0.42
4:F2:170:ARG:HA	4:F2:173:LEU:HG	2.01	0.42
8:J2:42:SER:OG	8:J2:56:ASP:O	2.31	0.42
11:M2:4:LEU:HA	11:M2:4:LEU:HD23	1.80	0.42
19:U2:128:VAL:HB	19:U2:157:LEU:HD12	2.00	0.42
29:A2:79:G:H2'	29:A2:80:G:C8	2.53	0.42
29:A2:292:G:H22	29:A2:396:C:H1'	1.84	0.42
29:A2:1924:A:H8	29:A2:1924:A:OP1	2.01	0.42
29:A2:2236:G:H2'	29:A2:2237:G:C8	2.53	0.42
29:A2:2539:G:H2'	29:A2:2540:G:C8	2.54	0.42
32:B3:76:GLN:HE21	32:B3:207:ALA:C	2.27	0.42
33:C3:65:ALA:HA	33:C3:100:ALA:C	2.44	0.42
33:C3:88:ARG:HB3	33:C3:101:LEU:HD11	2.00	0.42
35:E3:7:GLU:OE2	35:E3:37:ARG:NH1	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:H3:68:ARG:HD3	38:H3:70:GLN:HE21	1.84	0.42
48:R3:58:LEU:HD23	48:R3:58:LEU:H	1.83	0.42
53:A3:859:C:H2'	53:A3:860:C:C6	2.53	0.42
53:A3:1293:G:H2'	53:A3:1294:U:C6	2.55	0.42
33:C4:20:SER:HB2	44:N4:54:PRO:HG3	2.00	0.42
44:N4:2:ALA:HA	53:A4:1030:G:H4'	1.99	0.42
48:R4:71:LYS:HE3	53:A4:702:C:H42	1.83	0.42
50:T4:18:GLN:NE2	53:A4:97:G:OP2	2.43	0.42
53:A4:563:U:H3'	53:A4:564:G:C8	2.54	0.42
53:A4:679:A:H2'	53:A4:680:U:C6	2.54	0.42
53:A4:908:C:N3	53:A4:1369:G:N1	2.67	0.42
53:A4:1197:G:H8	53:A4:1199:C:H42	1.66	0.42
53:A4:1382:C:H6	53:A4:1382:C:H2'	1.61	0.42
1:C1:32:SER:HB2	29:A1:1474:G:N7	2.34	0.42
4:F1:56:ALA:HA	4:F1:59:GLU:HB2	2.01	0.42
6:H1:45:LYS:O	29:A1:276:C:O2'	2.32	0.42
16:R1:66:GLU:O	16:R1:68:ARG:N	2.53	0.42
22:X1:20:GLU:HG2	22:X1:23:LYS:HD2	2.02	0.42
22:X1:21:LEU:HD22	22:X1:67:LYS:HD3	2.01	0.42
27:c1:26:GLY:O	27:c1:30:VAL:N	2.52	0.42
29:A1:269:G:H1	29:A1:277:C:H42	1.67	0.42
29:A1:694:C:H1'	29:A1:695:G:H5''	2.01	0.42
29:A1:1769:A:O2'	29:A1:1771:G:N7	2.51	0.42
29:A1:1910:C:H2'	29:A1:1911:C:C5	2.54	0.42
30:B1:51:C:H2'	30:B1:52:G:C8	2.55	0.42
31:e1:19:ARG:HH11	31:e1:24:TYR:HB2	1.83	0.42
3:E2:103:LYS:HB2	3:E2:106:ARG:HH21	1.83	0.42
4:F2:77:ILE:HD12	4:F2:79:ASN:HB2	2.00	0.42
14:P2:55:ARG:NE	29:A2:1203:A:H5''	2.34	0.42
29:A2:524:A:H2'	29:A2:525:G:C8	2.54	0.42
29:A2:1090:G:O6	29:A2:1160:G:N1	2.51	0.42
29:A2:1428:G:H21	29:A2:1619:A:H2	1.65	0.42
29:A2:1894:G:H1	29:A2:1904:C:N4	2.15	0.42
29:A2:2535:C:N4	29:A2:2558:G:H1	2.17	0.42
29:A2:2630:C:H2'	29:A2:2631:C:C6	2.54	0.42
29:A2:2639:G:H1	29:A2:2792:G:H22	1.67	0.42
30:B2:55:A:N6	30:B2:56:G:N3	2.67	0.42
33:C3:4:LYS:NZ	53:A3:1171:G:H5''	2.34	0.42
35:E3:91:LEU:HB3	35:E3:118:ILE:HD11	2.01	0.42
37:G3:116:ALA:HA	37:G3:119:ARG:HH21	1.84	0.42
39:I3:114:TYR:HB2	53:A3:1349:C:H5''	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:K3:55:LYS:HZ2	53:A3:673:G:H22	1.67	0.42
44:N3:59:ALA:HB1	44:N3:61:TRP:HZ3	1.84	0.42
53:A3:154:A:N7	53:A3:339:A:O2'	2.42	0.42
53:A3:201:A:H2'	53:A3:217:U:C2	2.53	0.42
34:D4:90:GLY:HA3	34:D4:200:GLU:HB3	2.00	0.42
36:F4:11:ASN:HA	36:F4:12:PRO:HD3	1.91	0.42
36:F4:73:ASN:O	36:F4:77:ARG:HG2	2.19	0.42
46:P4:17:TYR:N	46:P4:39:TYR:O	2.50	0.42
48:R4:37:VAL:HG11	48:R4:78:LEU:HD22	2.01	0.42
49:S4:83:HIS:ND1	53:A4:932:U:O2'	2.52	0.42
52:W4:151:MET:N	52:W4:159:PHE:CD2	2.79	0.42
53:A4:1246:G:N2	53:A4:1251:C:O2	2.44	0.42
53:A4:1419:C:N4	53:A4:1440:C:H42	2.17	0.42
54:V4:42:LEU:HD13	54:V4:76:LEU:HD11	2.00	0.42
2:D1:205:ALA:C	29:A1:2749:A:H62	2.26	0.42
3:E1:31:HIS:HB2	9:K1:9:ASN:ND2	2.34	0.42
3:E1:182:ASN:OD1	3:E1:185:ASP:N	2.42	0.42
4:F1:43:LEU:HD21	4:F1:56:ALA:HB3	2.02	0.42
5:G1:52:VAL:HG11	5:G1:69:ARG:HB3	2.01	0.42
12:N1:91:PRO:HG2	12:N1:92:TYR:CZ	2.54	0.42
19:U1:148:ASP:HB2	19:U1:170:THR:HA	2.01	0.42
29:A1:51:A:H2'	29:A1:52:A:C8	2.53	0.42
29:A1:449:C:H2'	29:A1:450:U:C6	2.54	0.42
29:A1:569:C:N3	29:A1:577:G:N1	2.68	0.42
29:A1:984:U:H2'	29:A1:985:G:C8	2.54	0.42
29:A1:1345:C:O2'	29:A1:1350:A:N1	2.51	0.42
29:A1:1435:C:H42	29:A1:1448:G:H1	1.67	0.42
29:A1:1837:C:H2'	29:A1:1838:U:C6	2.55	0.42
29:A1:1930:G:O6	29:A1:1953:G:N2	2.51	0.42
29:A1:2334:A:H1'	29:A1:2335:G:N1	2.34	0.42
29:A1:2491:C:H42	31:e1:8:LYS:H	1.66	0.42
8:J2:13:ASN:H	8:J2:95:GLY:HA2	1.84	0.42
13:O2:121:ILE:HA	13:O2:124:ASP:HB2	2.01	0.42
15:Q2:12:TYR:HE2	15:Q2:22:VAL:HG23	1.83	0.42
16:R2:18:ARG:NH1	29:A2:545:G:OP1	2.31	0.42
16:R2:84:ARG:HD3	16:R2:84:ARG:HA	1.74	0.42
29:A2:361:C:H2'	29:A2:362:C:C6	2.54	0.42
29:A2:481:C:HO2'	29:A2:483:C:H41	1.63	0.42
29:A2:682:A:N3	29:A2:701:A:N6	2.67	0.42
29:A2:873:A:H2'	29:A2:874:C:C6	2.54	0.42
29:A2:1011:C:O2'	29:A2:2287:A:N3	2.43	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:1270:C:N3	29:A2:1276:G:N1	2.68	0.42
29:A2:1533:G:H1	29:A2:1553:C:H1'	1.83	0.42
29:A2:1566:C:H2'	29:A2:1567:G:H8	1.83	0.42
29:A2:1893:G:N2	29:A2:1907:G:H1'	2.34	0.42
29:A2:2542:U:N3	29:A2:2544:A:N7	2.67	0.42
29:A2:2810:G:H22	29:A2:2905:G:P	2.42	0.42
41:K3:128:ALA:HB3	53:A3:778:C:H4'	2.01	0.42
51:U3:15:ARG:NH2	53:A3:1305:A:O2'	2.52	0.42
53:A3:543:U:O5'	53:A3:549:G:N2	2.53	0.42
53:A3:1142:G:O6	53:A3:1163:G:N1	2.36	0.42
53:A3:1410:A:H2'	53:A3:1411:C:O4'	2.20	0.42
36:F4:2:ARG:HH22	53:A4:721:C:P	2.42	0.42
38:H4:9:MET:HB2	38:H4:26:VAL:HG11	2.00	0.42
45:O4:47:LYS:NZ	53:A4:792:G:OP2	2.48	0.42
49:S4:49:ILE:HD13	49:S4:49:ILE:HA	1.90	0.42
52:W4:172:ILE:HG21	52:W4:180:TYR:CE2	2.53	0.42
53:A4:107:U:N3	53:A4:308:A:N1	2.68	0.42
53:A4:743:G:H2'	53:A4:744:G:H8	1.84	0.42
53:A4:771:U:O2	53:A4:778:C:N4	2.51	0.42
53:A4:820:G:H2'	53:A4:821:G:O4'	2.18	0.42
53:A4:973:A:N1	53:A4:1027:C:O2'	2.45	0.42
10:L1:118:LEU:HB3	10:L1:131:ILE:HD13	2.02	0.42
13:O1:30:VAL:N	13:O1:45:PHE:O	2.35	0.42
15:Q1:78:LYS:N	29:A1:590:C:OP1	2.50	0.42
29:A1:1092:G:O2'	29:A1:1093:A:O4'	2.37	0.42
29:A1:2607:U:H2'	29:A1:2608:C:C6	2.55	0.42
29:A1:2668:A:N1	29:A1:2679:A:H5'	2.35	0.42
1:C2:133:LEU:O	1:C2:168:ARG:NH2	2.53	0.42
2:D2:122:PHE:HD1	2:D2:122:PHE:HA	1.65	0.42
9:K2:14:LYS:HD2	9:K2:16:ARG:HB3	2.02	0.42
20:V2:67:VAL:HA	20:V2:81:VAL:HA	2.02	0.42
29:A2:376:G:H5'	29:A2:377:G:C2	2.55	0.42
29:A2:997:G:H2'	29:A2:998:C:C6	2.55	0.42
29:A2:1705:C:H2'	29:A2:1706:C:H6	1.84	0.42
29:A2:1734:C:H2'	29:A2:1735:C:O4'	2.19	0.42
29:A2:1924:A:H5'	29:A2:1924:A:C8	2.53	0.42
29:A2:2488:C:H41	29:A2:2543:G:N2	2.17	0.42
29:A2:2564:G:H2'	29:A2:2565:C:C6	2.55	0.42
29:A2:2565:C:N4	29:A2:2571:G:H1	2.18	0.42
36:F3:67:MET:HE1	36:F3:75:LEU:HD13	2.02	0.42
36:F3:76:ALA:HB3	36:F3:77:ARG:HH11	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:H3:39:LEU:HD22	38:H3:44:PHE:HB2	2.02	0.42
53:A3:392:A:N6	53:A3:530:A:N3	2.68	0.42
54:V3:93:ARG:O	54:V3:93:ARG:HG2	2.18	0.42
32:B4:105:PHE:O	32:B4:109:SER:N	2.45	0.42
33:C4:141:VAL:HG12	33:C4:142:MET:H	1.84	0.42
41:K4:33:THR:OG1	41:K4:34:ASP:O	2.30	0.42
50:T4:55:ILE:O	50:T4:59:ALA:N	2.52	0.42
53:A4:756:G:H1	53:A4:789:C:H42	1.66	0.42
53:A4:1070:G:H2'	53:A4:1071:G:H8	1.84	0.42
53:A4:1119:C:OP1	53:A4:1120:G:N2	2.53	0.42
53:A4:1394:C:H2'	53:A4:1395:A:C8	2.55	0.42
2:D1:104:VAL:HG11	2:D1:188:VAL:HG22	2.02	0.42
3:E1:188:ARG:NH2	29:A1:641:G:O6	2.40	0.42
9:K1:58:THR:HG23	9:K1:61:ARG:HH21	1.84	0.42
11:M1:106:GLY:HA3	29:A1:1335:A:N7	2.35	0.42
16:R1:110:LYS:HB3	16:R1:111:HIS:HD2	1.84	0.42
29:A1:1192:G:O2'	29:A1:1193:C:O4'	2.36	0.42
29:A1:1698:G:H1	29:A1:2032:C:N4	2.18	0.42
29:A1:2334:A:H61	29:A1:2347:A:H2'	1.84	0.42
1:C2:269:PHE:CZ	29:A2:2237:G:H5''	2.54	0.42
12:N2:95:HIS:ND1	30:B2:39:C:O2	2.45	0.42
13:O2:117:ASP:OD1	13:O2:118:ARG:N	2.49	0.42
14:P2:49:HIS:HA	14:P2:52:ARG:HG2	2.02	0.42
15:Q2:35:LEU:HB2	15:Q2:57:VAL:HG23	2.02	0.42
15:Q2:85:LYS:HB3	29:A2:1272:C:H4'	2.01	0.42
16:R2:16:LYS:HG3	29:A2:1314:G:N7	2.35	0.42
26:b2:25:LYS:NZ	28:d2:34:TRP:HB3	2.34	0.42
29:A2:446:G:H2'	29:A2:448:C:C6	2.54	0.42
29:A2:792:G:O2'	29:A2:1708:U:OP1	2.37	0.42
29:A2:926:U:H2'	29:A2:945:C:H41	1.84	0.42
29:A2:1135:G:H22	29:A2:1151:A:H1'	1.84	0.42
29:A2:1488:G:H1	29:A2:1600:C:H42	1.66	0.42
29:A2:1739:A:H62	29:A2:1746:G:N2	2.16	0.42
29:A2:1991:C:H2'	29:A2:1992:G:H8	1.85	0.42
29:A2:2386:G:N2	29:A2:2395:C:H42	2.09	0.42
29:A2:2554:C:H2'	29:A2:2555:A:H8	1.83	0.42
33:C3:148:GLY:HA2	33:C3:171:GLY:HA3	2.02	0.42
37:G3:115:ARG:HD3	53:A3:1279:C:H41	1.84	0.42
53:A3:10:A:O2'	53:A3:490:C:O2'	2.38	0.42
53:A3:504:G:O6	53:A3:512:G:N1	2.53	0.42
53:A3:776:U:N3	53:A3:777:A:H1'	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A3:910:G:OP2	53:A3:912:A:N6	2.53	0.42
53:A3:1039:G:H3'	53:A3:1040:G:C8	2.55	0.42
53:A3:1304:G:H1'	53:A3:1342:G:N2	2.35	0.42
54:V3:19:ASP:HA	54:V3:22:GLU:HB2	2.00	0.42
32:B4:4:GLU:HB3	32:B4:6:THR:HG23	2.01	0.42
37:G4:136:LYS:HD3	37:G4:136:LYS:HA	1.88	0.42
43:M4:14:ARG:NH1	53:A4:1277:C:OP1	2.52	0.42
47:Q4:101:ARG:HE	53:A4:874:C:P	2.43	0.42
52:W4:141:PRO:HA	52:W4:162:ARG:O	2.20	0.42
53:A4:86:C:O2'	53:A4:88:G:OP2	2.31	0.42
53:A4:399:U:H2'	53:A4:400:U:C6	2.55	0.42
53:A4:432:U:O4	53:A4:433:G:N2	2.52	0.42
53:A4:482:A:H61	53:A4:529:G:H2'	1.85	0.42
53:A4:562:G:O2'	53:A4:563:U:O4'	2.33	0.42
53:A4:664:C:H2'	53:A4:665:G:C8	2.54	0.42
53:A4:1507:G:O2'	53:A4:1508:A:O4'	2.38	0.42
1:C1:59:LYS:HA	1:C1:59:LYS:HD2	1.90	0.42
3:E1:117:ARG:O	3:E1:122:LYS:N	2.42	0.42
5:G1:101:ARG:HH21	5:G1:117:PRO:HD2	1.85	0.42
11:M1:76:VAL:HG13	11:M1:79:LEU:HD12	2.01	0.42
12:N1:44:LYS:HG3	12:N1:46:VAL:HG13	2.02	0.42
18:T1:50:ARG:HB2	18:T1:53:PRO:HD3	2.02	0.42
22:X1:62:THR:HA	29:A1:109:A:H2	1.85	0.42
26:b1:11:LEU:HG	26:b1:28:ARG:HB2	2.02	0.42
29:A1:207:G:H2'	29:A1:208:A:C8	2.55	0.42
29:A1:913:G:O2'	29:A1:962:C:N4	2.53	0.42
29:A1:1318:C:O2'	29:A1:1697:C:OP2	2.26	0.42
29:A1:1765:G:H1	29:A1:1775:C:HO2'	1.66	0.42
29:A1:1976:A:N3	29:A1:2574:C:O2'	2.45	0.42
29:A1:2752:G:H2'	29:A1:2753:A:C8	2.54	0.42
5:G2:130:ARG:HE	5:G2:132:ARG:NH2	2.17	0.42
6:H2:28:ASN:HB3	29:A2:2222:A:N3	2.35	0.42
17:S2:53:LYS:O	17:S2:82:GLN:N	2.52	0.42
28:d2:14:VAL:HG22	28:d2:24:ALA:HB2	2.02	0.42
29:A2:1024:C:H42	29:A2:1035:G:H1	1.67	0.42
29:A2:1702:G:H21	29:A2:2029:A:H62	1.66	0.42
29:A2:2522:G:H2'	29:A2:2523:G:H8	1.84	0.42
29:A2:2607:U:H2'	29:A2:2608:C:C6	2.54	0.42
29:A2:2667:U:H2'	29:A2:2680:C:H5	1.85	0.42
33:C3:26:LYS:NZ	53:A3:1260:A:N1	2.67	0.42
48:R3:74:ARG:NH1	53:A3:702:C:N3	2.62	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A3:563:U:H2'	53:A3:564:G:O4'	2.19	0.42
53:A3:838:G:H2'	53:A3:839:C:C6	2.54	0.42
53:A3:908:C:N4	53:A3:1369:G:O6	2.53	0.42
39:I4:44:VAL:HB	39:I4:51:ARG:HH22	1.84	0.42
53:A4:538:C:H2'	53:A4:539:C:H6	1.82	0.42
54:V4:68:ARG:NH1	54:V4:70:GLU:OE2	2.53	0.42
1:C1:78:LYS:N	1:C1:96:HIS:O	2.46	0.42
2:D1:9:VAL:HB	2:D1:25:VAL:HG13	2.02	0.42
3:E1:157:VAL:HG22	3:E1:176:LEU:HB3	2.02	0.42
5:G1:71:LEU:HD23	5:G1:71:LEU:HA	1.83	0.42
5:G1:125:VAL:HG23	5:G1:131:VAL:HA	2.00	0.42
13:O1:77:PRO:HB2	13:O1:80:SER:HB2	2.02	0.42
14:P1:25:TRP:H	29:A1:560:G:P	2.42	0.42
24:Z1:60:GLN:C	49:S3:42:PRO:HB3	2.44	0.42
29:A1:442:C:O2'	29:A1:443:A:O4'	2.30	0.42
29:A1:576:G:H2'	29:A1:577:G:C8	2.55	0.42
29:A1:1024:C:H2'	29:A1:1025:G:C8	2.55	0.42
29:A1:1053:C:H2'	29:A1:1054:C:C6	2.52	0.42
29:A1:1787:C:H3'	29:A1:1788:A:H8	1.85	0.42
29:A1:1971:C:H2'	29:A1:1972:G:C8	2.54	0.42
29:A1:2043:A:H61	29:A1:2059:G:H1	1.67	0.42
29:A1:2312:A:N1	29:A1:2313:G:N2	2.68	0.42
29:A1:2590:G:OP2	29:A1:2590:G:N2	2.33	0.42
7:I2:71:ILE:HD13	7:I2:84:LYS:HE3	2.01	0.42
8:J2:73:ASP:OD1	8:J2:73:ASP:N	2.51	0.42
10:L2:77:LYS:N	29:A2:1004:A:OP1	2.52	0.42
12:N2:47:THR:HG22	12:N2:50:SER:HB2	2.02	0.42
29:A2:245:A:H2'	29:A2:246:A:H8	1.84	0.42
29:A2:537:C:N3	29:A2:538:U:N3	2.67	0.42
29:A2:654:A:N3	29:A2:655:G:H1'	2.35	0.42
29:A2:869:A:C2	29:A2:990:U:H4'	2.54	0.42
29:A2:1065:G:H1	29:A2:1193:C:N4	2.17	0.42
29:A2:1837:C:H2'	29:A2:1838:U:C6	2.55	0.42
29:A2:2065:U:H2'	29:A2:2066:A:C8	2.54	0.42
29:A2:2724:C:H2'	29:A2:2725:A:C8	2.55	0.42
34:D3:60:GLU:HG2	34:D3:63:LYS:HD2	2.01	0.42
34:D3:184:LYS:HD2	34:D3:184:LYS:HA	1.88	0.42
41:K3:95:ILE:HG22	41:K3:99:GLN:HG3	2.01	0.42
45:O3:25:THR:HB	45:O3:77:ARG:HH12	1.84	0.42
53:A3:331:C:H2'	53:A3:332:C:C6	2.54	0.42
53:A3:495:U:H2'	53:A3:496:C:H6	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:B4:91:PRO:HB3	32:B4:152:PHE:CE2	2.55	0.42
38:H4:14:ARG:O	38:H4:17:THR:OG1	2.32	0.42
53:A4:543:U:O5'	53:A4:549:G:N2	2.52	0.42
53:A4:1061:G:H2'	53:A4:1062:A:C8	2.54	0.42
53:A4:1485:G:H2'	53:A4:1486:C:C6	2.53	0.42
54:V4:10:ASN:OD1	54:V4:10:ASN:N	2.51	0.42
1:C1:4:LYS:HB3	1:C1:18:VAL:HB	2.02	0.42
1:C1:133:LEU:HD13	1:C1:173:VAL:HG13	2.01	0.42
9:K1:36:LYS:HB3	9:K1:39:LYS:HB3	2.02	0.42
10:L1:16:ARG:HG3	10:L1:18:LYS:HG2	2.02	0.42
12:N1:96:GLY:H	12:N1:99:LYS:HD2	1.84	0.42
13:O1:108:ARG:HH12	53:A3:1413:C:H5'	1.85	0.42
17:S1:20:GLY:HA3	17:S1:25:LYS:HB2	2.02	0.42
29:A1:108:G:H2'	29:A1:109:A:C8	2.54	0.42
29:A1:437:C:H2'	29:A1:438:G:C8	2.54	0.42
29:A1:616:C:N4	29:A1:617:G:O6	2.53	0.42
29:A1:628:A:N6	29:A1:653:U:O2	2.52	0.42
29:A1:841:G:N3	29:A1:2096:G:O2'	2.49	0.42
29:A1:1071:U:O2'	29:A1:1171:C:OP2	2.37	0.42
29:A1:1863:C:H2'	29:A1:1864:G:H8	1.84	0.42
29:A1:1879:G:H2'	29:A1:1881:A:H62	1.84	0.42
29:A1:2564:G:H2'	29:A1:2565:C:C6	2.54	0.42
7:I2:23:LEU:HA	7:I2:26:LEU:HB3	2.00	0.42
13:O2:93:ARG:HB2	13:O2:115:ARG:O	2.20	0.42
17:S2:17:ALA:C	17:S2:20:GLY:H	2.28	0.42
19:U2:70:LEU:HD11	19:U2:98:MET:HE1	2.02	0.42
29:A2:178:G:H1	29:A2:198:C:N4	2.14	0.42
29:A2:604:G:O2'	29:A2:2043:A:OP1	2.38	0.42
29:A2:1687:C:H2'	29:A2:1688:U:C6	2.54	0.42
29:A2:2231:A:H1'	29:A2:2233:G:C4	2.55	0.42
29:A2:2480:C:OP1	31:e2:4:ARG:NE	2.39	0.42
30:B2:16:U:OP2	30:B2:72:C:O2'	2.37	0.42
30:B2:51:C:H2'	30:B2:52:G:C8	2.54	0.42
34:D3:11:LEU:HD13	34:D3:12:CYS:HA	2.01	0.42
34:D3:111:ALA:HB1	34:D3:113:SER:H	1.85	0.42
38:H3:78:GLN:HE21	38:H3:80:ILE:HB	1.85	0.42
39:I3:23:ASN:HD22	39:I3:57:GLY:HA2	1.85	0.42
52:X3:171:VAL:HB	52:X3:183:ILE:HD12	1.60	0.42
53:A3:994:A:H3'	53:A3:995:G:C8	2.54	0.42
34:D4:8:VAL:HG11	34:D4:22:LYS:HE3	2.00	0.42
39:I4:9:ARG:HH21	53:A4:1130:U:H5''	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:J4:16:LEU:HD13	40:J4:68:HIS:CG	2.54	0.42
41:K4:84:VAL:HG11	41:K4:91:ARG:HD2	2.02	0.42
41:K4:93:GLN:CD	41:K4:96:ARG:HE	2.28	0.42
42:L4:111:LYS:HB3	42:L4:111:LYS:HE3	1.82	0.42
45:O4:36:ILE:HD12	45:O4:63:ARG:HH12	1.85	0.42
47:Q4:42:TYR:OH	53:A4:231:G:OP1	2.31	0.42
53:A4:73:G:H1	53:A4:90:G:H21	1.68	0.42
53:A4:204:G:H3'	53:A4:205:G:H8	1.82	0.42
53:A4:522:A:N6	53:A4:523:G:O6	2.53	0.42
53:A4:708:G:N2	53:A4:709:C:N3	2.68	0.42
53:A4:951:A:H5'	53:A4:951:A:N3	2.35	0.42
1:C1:10:THR:HA	1:C1:11:PRO:HD3	1.92	0.42
4:F1:146:TYR:HD1	4:F1:149:VAL:HB	1.84	0.42
10:L1:80:GLU:HB3	29:A1:2508:G:H4'	2.02	0.42
11:M1:53:HIS:CD2	29:A1:2852:C:H5''	2.54	0.42
12:N1:29:PHE:HB3	12:N1:36:TYR:CE2	2.55	0.42
14:P1:51:LYS:HD3	29:A1:1204:A:C8	2.55	0.42
16:R1:84:ARG:HA	16:R1:84:ARG:HD3	1.81	0.42
23:Y1:43:ILE:HD13	23:Y1:43:ILE:HA	1.93	0.42
29:A1:516:G:C2	29:A1:518:G:H5''	2.55	0.42
29:A1:1225:C:H2'	29:A1:1226:C:C6	2.54	0.42
29:A1:1564:U:H2'	29:A1:1565:G:C8	2.55	0.42
29:A1:2123:U:O2	29:A1:2215:G:N2	2.53	0.42
22:X2:45:SER:OG	22:X2:46:GLN:N	2.53	0.42
29:A2:169:G:H2'	29:A2:170:G:H8	1.84	0.42
29:A2:430:A:N6	29:A2:451:A:H61	2.18	0.42
29:A2:1988:G:O2'	29:A2:1991:C:OP2	2.34	0.42
29:A2:2108:C:N3	29:A2:2109:C:N4	2.68	0.42
29:A2:2747:G:H3'	29:A2:2748:A:H8	1.84	0.42
31:e2:19:ARG:HH11	31:e2:24:TYR:HB2	1.85	0.42
34:D3:13:ARG:NH2	34:D3:36:ARG:HH11	2.09	0.42
34:D3:134:ASP:OD1	34:D3:134:ASP:N	2.53	0.42
38:H3:14:ARG:HH12	38:H3:84:ARG:HA	1.85	0.42
39:I3:20:ARG:NH1	53:A3:1113:G:OP1	2.52	0.42
50:T3:73:HIS:O	50:T3:75:ASN:N	2.53	0.42
52:X3:158:PHE:CE2	52:W4:157:SER:O	2.73	0.42
53:A3:727:C:H6	53:A3:727:C:H2'	1.71	0.42
33:C4:40:ARG:C	33:C4:43:LEU:H	2.27	0.42
35:E4:90:VAL:H	35:E4:120:THR:HG23	1.83	0.42
35:E4:151:LEU:HB3	38:H4:79:VAL:HG22	2.02	0.42
41:K4:42:TRP:CD1	53:A4:689:A:H2	2.37	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:P4:23:ASP:HB3	46:P4:26:ARG:HG2	2.02	0.42
50:T4:92:LEU:HD13	50:T4:99:LEU:HD21	2.00	0.42
53:A4:397:G:H2'	53:A4:398:C:O4'	2.20	0.42
53:A4:657:G:H2'	53:A4:658:A:H8	1.85	0.42
53:A4:1082:C:N4	53:A4:1085:C:OP1	2.53	0.42
10:L1:26:TYR:OH	29:A1:954:G:O3'	2.37	0.41
28:d1:6:THR:HG23	28:d1:61:LEU:HD23	2.02	0.41
29:A1:216:G:H1	29:A1:438:G:N2	2.17	0.41
29:A1:259:U:O2'	29:A1:260:A:O4'	2.38	0.41
29:A1:303:A:O2'	29:A1:384:A:N6	2.53	0.41
29:A1:494:A:H3'	29:A1:495:G:C8	2.54	0.41
29:A1:855:C:N4	29:A1:856:U:O4	2.53	0.41
29:A1:1532:G:N2	29:A1:1533:G:O6	2.53	0.41
29:A1:2343:G:H2'	29:A1:2344:G:C8	2.55	0.41
29:A1:2420:U:OP2	29:A1:2425:A:N6	2.46	0.41
29:A1:2502:A:H2'	29:A1:2503:G:C8	2.55	0.41
29:A1:2533:U:N3	29:A1:2556:A:N1	2.68	0.41
30:B1:68:A:N6	30:B1:111:C:O4'	2.52	0.41
1:C2:141:VAL:O	1:C2:194:GLY:N	2.43	0.41
2:D2:119:ARG:HG2	2:D2:120:TRP:CD1	2.55	0.41
2:D2:145:LYS:HE3	2:D2:145:LYS:HB2	1.85	0.41
4:F2:37:VAL:O	4:F2:94:LEU:N	2.43	0.41
10:L2:63:LYS:HE3	19:U2:116:VAL:HG21	2.02	0.41
11:M2:52:ILE:HA	11:M2:55:ALA:HB3	2.01	0.41
28:d2:32:LEU:HD22	28:d2:36:LYS:HD3	2.02	0.41
28:d2:32:LEU:HB3	28:d2:34:TRP:H	1.85	0.41
29:A2:701:A:OP2	29:A2:703:A:N6	2.53	0.41
29:A2:2334:A:H8	29:A2:2347:A:C5	2.38	0.41
32:B3:121:LEU:HD23	32:B3:121:LEU:HA	1.85	0.41
35:E3:89:ILE:HD12	35:E3:89:ILE:HA	1.91	0.41
36:F3:1:MET:HG3	36:F3:68:PRO:HG3	2.02	0.41
36:F3:37:VAL:HA	36:F3:65:VAL:HG12	2.02	0.41
37:G3:2:ALA:N	53:A3:913:C:H42	2.18	0.41
52:X3:158:PHE:N	52:X3:158:PHE:HD1	2.18	0.41
52:X3:162:ARG:HH11	52:X3:162:ARG:HB3	1.85	0.41
53:A3:418:G:H3'	53:A3:419:G:C8	2.54	0.41
53:A3:1427:G:O6	53:A3:1436:C:N4	2.53	0.41
53:A3:1502:G:H2'	53:A3:1503:G:H8	1.84	0.41
54:V3:87:LEU:HD12	54:V3:91:VAL:HG23	2.02	0.41
45:O4:32:LEU:HB3	45:O4:63:ARG:NH1	2.31	0.41
52:W4:169:ILE:N	52:W4:185:PRO:CG	2.74	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A4:68:G:H1	53:A4:94:A:H61	1.67	0.41
53:A4:143:A:N1	53:A4:166:A:N6	2.67	0.41
53:A4:441:G:H1	53:A4:470:U:P	2.42	0.41
53:A4:929:U:P	53:A4:949:C:H41	2.43	0.41
53:A4:937:U:C5	53:A4:1203:G:H4'	2.55	0.41
53:A4:1200:U:H2'	53:A4:1201:G:C2	2.55	0.41
22:X1:51:ARG:HH12	29:A1:93:G:H21	1.68	0.41
29:A1:178:G:H1	29:A1:198:C:N4	2.17	0.41
29:A1:790:G:H2'	29:A1:791:G:C8	2.55	0.41
29:A1:863:C:H2'	29:A1:864:C:H6	1.84	0.41
29:A1:865:C:O2'	29:A1:979:G:O6	2.23	0.41
29:A1:1019:G:O5'	29:A1:1019:G:H8	2.03	0.41
29:A1:2207:C:H2'	29:A1:2208:G:H8	1.85	0.41
30:B1:117:G:H2'	30:B1:118:G:C8	2.56	0.41
2:D2:9:VAL:HB	2:D2:25:VAL:HG13	2.00	0.41
3:E2:39:TRP:CD1	3:E2:101:LEU:HB2	2.55	0.41
10:L2:39:PRO:HB3	10:L2:99:PRO:HD3	2.02	0.41
29:A2:569:C:O2'	29:A2:570:C:O4'	2.34	0.41
29:A2:569:C:N3	29:A2:577:G:N1	2.67	0.41
29:A2:1113:U:H6	29:A2:1113:U:H2'	1.71	0.41
29:A2:1360:U:O2'	29:A2:1362:C:N4	2.52	0.41
37:G3:91:VAL:HG23	37:G3:96:GLN:HG3	2.01	0.41
38:H3:51:VAL:HG11	38:H3:60:ARG:HG2	2.02	0.41
39:I3:26:VAL:HA	39:I3:61:ALA:HB3	2.02	0.41
40:J3:61:GLU:HB3	44:N3:45:ARG:HH22	1.85	0.41
42:L3:5:PRO:HB2	42:L3:6:THR:H	1.66	0.41
47:Q3:14:LYS:HD2	53:A3:270:G:H8	1.85	0.41
50:T3:74:LYS:HA	50:T3:77:ALA:HB3	2.02	0.41
52:X3:157:SER:O	52:X3:172:ILE:CD1	2.64	0.41
53:A3:994:A:H4'	53:A3:1198:C:H42	1.84	0.41
53:A3:1098:C:O2	53:A3:1166:G:N1	2.53	0.41
53:A3:1491:C:H2'	53:A3:1492:C:C6	2.56	0.41
36:F4:5:GLU:HB3	36:F4:62:TRP:HE1	1.85	0.41
41:K4:55:LYS:HZ2	53:A4:673:G:H22	1.68	0.41
43:M4:23:TYR:HB3	43:M4:70:LEU:HB3	2.02	0.41
47:Q4:52:LYS:HE3	47:Q4:52:LYS:HB3	1.87	0.41
53:A4:251:U:H2'	53:A4:252:G:H8	1.85	0.41
53:A4:351:A:O2'	53:A4:362:U:O2'	2.35	0.41
53:A4:538:C:H2'	53:A4:539:C:C6	2.54	0.41
53:A4:1114:C:H2'	53:A4:1115:G:C8	2.55	0.41
53:A4:1223:C:N3	53:A4:1224:C:N4	2.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:155:LEU:HD13	1:C1:177:LEU:HD11	2.02	0.41
2:D1:122:PHE:HD1	2:D1:122:PHE:HA	1.64	0.41
3:E1:65:TRP:O	3:E1:67:GLN:N	2.53	0.41
4:F1:126:ASP:OD1	4:F1:126:ASP:N	2.45	0.41
29:A1:224:C:N4	29:A1:225:U:O4	2.53	0.41
29:A1:292:G:N1	29:A1:396:C:O2	2.53	0.41
29:A1:769:C:O2'	29:A1:770:C:O4'	2.37	0.41
29:A1:1080:A:H2	29:A1:1170:G:H22	1.68	0.41
29:A1:1818:A:N6	29:A1:1820:A:N3	2.68	0.41
29:A1:1923:G:H21	29:A1:1925:A:N6	2.15	0.41
29:A1:2132:C:P	29:A1:2203:C:H42	2.43	0.41
29:A1:2826:C:H42	29:A1:2898:G:H1	1.68	0.41
4:F2:142:PRO:HA	24:Z2:31:ILE:HB	2.01	0.41
5:G2:85:LYS:HD3	5:G2:85:LYS:HA	1.92	0.41
9:K2:46:LYS:NZ	29:A2:185:A:H5''	2.35	0.41
24:Z2:62:ARG:HH21	49:S4:70:LYS:HG3	1.85	0.41
29:A2:1349:A:N6	29:A2:1690:A:H61	2.14	0.41
29:A2:1946:G:N2	29:A2:1947:U:O2'	2.53	0.41
29:A2:2562:G:H1	29:A2:2574:C:H42	1.67	0.41
32:B3:20:GLU:OE1	32:B3:23:ARG:NH2	2.41	0.41
32:B3:33:TYR:HB2	32:B3:42:ILE:C	2.45	0.41
38:H3:9:MET:HB2	38:H3:26:VAL:HG11	2.02	0.41
44:N3:47:LEU:HD23	44:N3:47:LEU:HA	1.88	0.41
49:S3:11:VAL:O	53:A3:1298:C:O2'	2.38	0.41
50:T3:13:LEU:O	50:T3:16:HIS:N	2.51	0.41
53:A3:272:C:H2'	53:A3:273:G:O4'	2.21	0.41
32:B4:48:MET:HE2	32:B4:48:MET:HB2	1.88	0.41
33:C4:108:ASN:HD21	33:C4:144:SER:HB2	1.86	0.41
38:H4:98:LYS:HE2	38:H4:98:LYS:HB3	1.87	0.41
41:K4:53:SER:OG	53:A4:678:A:OP2	2.31	0.41
46:P4:38:TYR:CE1	53:A4:609:U:H5'	2.55	0.41
53:A4:107:U:H3	53:A4:308:A:H61	1.68	0.41
53:A4:205:G:H22	53:A4:213:C:H42	1.69	0.41
53:A4:679:A:H2'	53:A4:680:U:H6	1.86	0.41
53:A4:743:G:H2'	53:A4:744:G:C8	2.55	0.41
53:A4:753:C:H2'	53:A4:754:G:C8	2.48	0.41
53:A4:1071:G:H2'	53:A4:1072:U:C6	2.55	0.41
1:C1:91:ARG:HG2	1:C1:198:ASN:ND2	2.35	0.41
1:C1:96:HIS:HE2	29:A1:1548:G:HO2'	1.65	0.41
2:D1:14:ILE:HB	13:O1:14:TYR:HE2	1.85	0.41
4:F1:12:TYR:HE1	4:F1:31:VAL:HG21	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:a1:57:VAL:HG12	25:a1:59:GLU:H	1.84	0.41
29:A1:178:G:O2'	29:A1:1413:A:N1	2.37	0.41
29:A1:430:A:H2'	29:A1:431:U:C2	2.56	0.41
29:A1:659:A:H2'	29:A1:660:A:C8	2.56	0.41
29:A1:750:G:H2'	29:A1:751:G:C8	2.55	0.41
29:A1:900:U:H3	29:A1:974:A:N6	2.19	0.41
29:A1:1341:C:H2'	29:A1:1342:U:C6	2.55	0.41
29:A1:2344:G:O6	29:A1:2399:C:N4	2.53	0.41
1:C2:112:GLN:H	1:C2:115:GLN:NE2	2.18	0.41
3:E2:150:GLY:HA2	3:E2:172:TRP:CD2	2.55	0.41
7:I2:112:LEU:HD12	7:I2:112:LEU:HA	1.93	0.41
19:U2:151:HIS:ND1	19:U2:169:GLU:O	2.37	0.41
27:c2:21:ARG:HB3	27:c2:27:GLY:HA3	2.01	0.41
29:A2:38:A:H2'	29:A2:39:C:C6	2.55	0.41
29:A2:323:G:O2'	29:A2:347:A:N6	2.38	0.41
29:A2:488:A:H3'	29:A2:489:C:H6	1.86	0.41
29:A2:683:C:H5	29:A2:700:G:C2	2.39	0.41
29:A2:1141:G:H2'	29:A2:1142:U:H4'	2.03	0.41
29:A2:1398:C:H2'	29:A2:1399:C:H6	1.85	0.41
29:A2:1586:G:N2	29:A2:1587:G:O6	2.53	0.41
29:A2:1889:G:H3'	29:A2:1890:G:C8	2.55	0.41
29:A2:2056:G:N2	29:A2:2468:G:H4'	2.35	0.41
29:A2:2600:C:H2'	29:A2:2601:A:C8	2.55	0.41
32:B3:226:ARG:HD3	32:B3:226:ARG:HA	1.93	0.41
33:C3:196:LEU:HA	53:A3:1039:G:H4'	2.02	0.41
38:H3:20:TYR:OH	38:H3:76:PRO:O	2.27	0.41
38:H3:97:VAL:HG23	38:H3:98:LYS:H	1.85	0.41
43:M3:25:ILE:HG22	43:M3:30:ALA:HB2	2.03	0.41
47:Q3:62:SER:OG	47:Q3:63:ARG:N	2.54	0.41
53:A3:107:U:N3	53:A3:308:A:N1	2.68	0.41
53:A3:119:G:O2'	53:A3:231:G:N2	2.48	0.41
53:A3:577:G:N3	53:A3:630:C:N4	2.68	0.41
53:A3:814:U:H2'	53:A3:815:C:H6	1.85	0.41
53:A3:1507:G:O2'	53:A3:1508:A:O4'	2.38	0.41
54:V3:92:LYS:C	54:V3:94:PHE:N	2.78	0.41
32:B4:54:THR:HG22	32:B4:58:ILE:HG12	2.02	0.41
42:L4:86:ARG:HE	42:L4:99:HIS:HB2	1.86	0.41
46:P4:54:GLU:HG2	46:P4:55:ARG:HH21	1.83	0.41
53:A4:32:A:H61	53:A4:535:U:H3	1.69	0.41
53:A4:279:G:H2'	53:A4:280:G:H8	1.86	0.41
53:A4:403:A:H2'	53:A4:404:G:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A4:479:A:H1'	53:A4:480:A:C8	2.55	0.41
53:A4:661:U:H2'	53:A4:662:C:C6	2.55	0.41
53:A4:683:G:O2'	53:A4:687:A:N3	2.37	0.41
53:A4:852:C:H2'	53:A4:853:G:H8	1.86	0.41
1:C1:103:ARG:HB3	1:C1:105:ILE:HD11	2.03	0.41
3:E1:197:ASP:O	3:E1:201:VAL:N	2.45	0.41
4:F1:29:TRP:HB3	30:B1:59:A:C4	2.55	0.41
6:H1:2:LYS:HA	6:H1:2:LYS:HD3	1.87	0.41
12:N1:78:LEU:HD23	12:N1:78:LEU:HA	1.83	0.41
18:T1:95:LYS:HB3	18:T1:95:LYS:HE3	1.81	0.41
29:A1:198:C:H2'	29:A1:199:C:C6	2.56	0.41
29:A1:237:G:H4'	29:A1:414:G:C2	2.56	0.41
29:A1:836:U:H5''	29:A1:837:A:H5''	2.02	0.41
29:A1:912:A:O2'	30:B1:103:G:N3	2.54	0.41
29:A1:1687:C:O2	29:A1:2712:U:O2'	2.38	0.41
29:A1:2386:G:H22	29:A1:2395:C:N4	2.10	0.41
29:A1:2517:A:N3	29:A1:2517:A:H5'	2.36	0.41
29:A1:2716:U:H3	29:A1:2718:C:H5	1.67	0.41
29:A1:2731:U:H2'	29:A1:2732:G:C8	2.49	0.41
30:B1:84:G:H8	30:B1:84:G:H2'	1.68	0.41
1:C2:13:ARG:NH1	29:A2:777:G:H4'	2.36	0.41
1:C2:186:HIS:HE1	1:C2:188:GLU:HB2	1.85	0.41
1:C2:233:HIS:HA	1:C2:234:GLY:HA3	1.84	0.41
2:D2:77:ILE:HD12	2:D2:77:ILE:HA	1.93	0.41
3:E2:149:ASP:OD1	3:E2:149:ASP:N	2.46	0.41
5:G2:65:HIS:O	5:G2:69:ARG:N	2.54	0.41
9:K2:85:LEU:H	9:K2:85:LEU:HG	1.68	0.41
29:A2:47:G:N2	29:A2:167:G:OP2	2.54	0.41
29:A2:229:U:H2'	29:A2:230:G:C4	2.55	0.41
29:A2:654:A:OP2	29:A2:664:A:N6	2.49	0.41
29:A2:1013:G:H2'	29:A2:1014:C:C6	2.56	0.41
29:A2:2666:C:H2'	29:A2:2667:U:O4'	2.19	0.41
31:e2:29:ASN:HB3	31:e2:32:HIS:HB2	2.01	0.41
40:J3:5:ARG:NH1	53:A3:1107:U:H3	2.18	0.41
40:J3:38:ILE:HG12	53:A3:1106:G:O4'	2.20	0.41
47:Q3:81:ARG:HH12	53:A3:630:C:H4'	1.86	0.41
53:A3:448:C:H5''	53:A3:449:C:C6	2.56	0.41
53:A3:1061:G:H2'	53:A3:1062:A:C8	2.56	0.41
33:C4:172:ARG:CZ	53:A4:1088:G:H5''	2.51	0.41
35:E4:155:GLU:HG2	38:H4:64:LYS:HE3	2.02	0.41
49:S4:55:LYS:O	53:A4:963:A:O2'	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:W4:151:MET:CE	52:W4:180:TYR:HH	2.15	0.41
53:A4:502:C:O2'	53:A4:503:A:O4'	2.37	0.41
53:A4:674:G:H2'	53:A4:675:U:C5	2.55	0.41
53:A4:905:G:H1	53:A4:1372:U:H3	1.68	0.41
53:A4:923:A:H2'	53:A4:924:G:H8	1.85	0.41
1:C1:257:LEU:HD12	1:C1:257:LEU:HA	1.91	0.41
2:D1:18:ASP:O	13:O1:35:LYS:NZ	2.52	0.41
7:I1:48:MET:HE2	7:I1:48:MET:HB3	1.99	0.41
19:U1:27:VAL:HG12	19:U1:85:HIS:CE1	2.56	0.41
19:U1:85:HIS:NE2	30:B1:77:G:O2'	2.53	0.41
23:Y1:7:LYS:HB2	23:Y1:34:GLU:HG2	2.02	0.41
23:Y1:24:LYS:NZ	23:Y1:28:LEU:O	2.39	0.41
29:A1:361:C:H2'	29:A1:362:C:C6	2.55	0.41
29:A1:401:U:H5	29:A1:402:A:C6	2.38	0.41
29:A1:1470:G:H2'	29:A1:1471:G:C8	2.55	0.41
29:A1:1924:A:H8	29:A1:1924:A:OP1	2.03	0.41
29:A1:2090:C:N4	29:A1:2091:G:O6	2.53	0.41
29:A1:2108:C:N3	29:A1:2109:C:N4	2.69	0.41
29:A1:2305:U:H2'	29:A1:2306:C:C6	2.56	0.41
1:C2:31:LYS:HZ1	1:C2:35:LYS:HG2	1.84	0.41
15:Q2:69:LYS:HA	15:Q2:69:LYS:HD3	1.87	0.41
16:R2:75:TYR:HB3	29:A2:546:U:H4'	2.03	0.41
16:R2:111:HIS:HB2	16:R2:113:LYS:HG2	2.02	0.41
19:U2:72:ARG:H	19:U2:87:ASP:HB2	1.86	0.41
29:A2:179:G:H2'	29:A2:195:G:H22	1.86	0.41
29:A2:240:G:O6	29:A2:241:A:N6	2.54	0.41
29:A2:672:C:O2'	29:A2:674:G:OP2	2.28	0.41
29:A2:826:A:H2'	29:A2:827:G:C8	2.53	0.41
29:A2:1220:G:H22	29:A2:1223:G:H21	1.67	0.41
29:A2:1764:G:H2'	29:A2:1765:G:C8	2.56	0.41
29:A2:2122:U:H2'	29:A2:2123:U:C6	2.55	0.41
29:A2:2362:U:N3	29:A2:2363:G:O6	2.53	0.41
29:A2:2480:C:H5''	31:e2:4:ARG:HH21	1.85	0.41
32:B3:115:LEU:HD21	32:B3:153:ARG:HD2	2.01	0.41
32:B3:208:ILE:HG22	32:B3:239:VAL:HG13	2.03	0.41
33:C3:118:GLN:HG2	33:C3:187:ALA:HB2	2.02	0.41
38:H3:5:PRO:HB2	38:H3:32:LYS:HE3	2.01	0.41
38:H3:13:ILE:O	38:H3:17:THR:N	2.51	0.41
46:P3:11:SER:HB2	53:A3:607:C:H4'	2.03	0.41
53:A3:172:C:N4	53:A3:199:C:OP1	2.54	0.41
53:A3:253:G:H2'	53:A3:254:G:H8	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A3:313:G:H2'	53:A3:314:G:C8	2.56	0.41
53:A3:423:G:H5'	53:A3:423:G:H8	1.86	0.41
53:A3:665:G:H2'	53:A3:666:G:H8	1.85	0.41
53:A3:1047:U:H5'	53:A3:1171:G:H21	1.86	0.41
53:A3:1114:C:H41	53:A3:1125:G:N2	2.18	0.41
53:A3:1426:A:N7	53:A3:1428:C:N4	2.67	0.41
33:C4:22:TRP:HZ2	33:C4:33:LEU:HD13	1.85	0.41
34:D4:132:ARG:CZ	53:A4:602:U:H3	2.33	0.41
35:E4:17:ALA:HA	35:E4:25:ARG:O	2.21	0.41
38:H4:39:LEU:HB3	38:H4:45:ILE:HG12	2.02	0.41
40:J4:8:LEU:HD13	40:J4:16:LEU:HD23	2.02	0.41
48:R4:51:LEU:HD23	48:R4:51:LEU:HA	1.87	0.41
53:A4:151:G:H2'	53:A4:152:G:C8	2.56	0.41
53:A4:563:U:H3'	53:A4:564:G:H8	1.85	0.41
3:E1:34:TRP:CD2	9:K1:8:PRO:HB3	2.56	0.41
3:E1:178:PRO:HB3	3:E1:198:ALA:HB2	2.02	0.41
4:F1:16:ARG:HH21	4:F1:28:VAL:HB	1.85	0.41
4:F1:120:LEU:HA	4:F1:120:LEU:HD23	1.82	0.41
6:H1:1:MET:O	6:H1:2:LYS:NZ	2.52	0.41
7:I1:91:LEU:HA	7:I1:91:LEU:HD23	1.87	0.41
29:A1:40:C:N3	29:A1:468:G:N2	2.68	0.41
29:A1:323:G:N2	29:A1:365:A:H62	2.14	0.41
29:A1:396:C:H41	29:A1:432:C:P	2.43	0.41
29:A1:549:G:H2'	29:A1:550:C:C6	2.56	0.41
29:A1:549:G:O2'	29:A1:568:C:O2'	2.38	0.41
29:A1:555:A:N1	29:A1:2067:C:H5''	2.36	0.41
29:A1:990:U:H3'	29:A1:991:G:H21	1.86	0.41
29:A1:1065:G:H1	29:A1:1193:C:N4	2.19	0.41
1:C2:81:ALA:HB1	1:C2:83:GLU:HG3	2.03	0.41
1:C2:103:ARG:HG3	1:C2:105:ILE:HD11	2.02	0.41
4:F2:37:VAL:HG22	4:F2:159:VAL:HG12	2.03	0.41
4:F2:43:LEU:H	4:F2:89:GLY:HA2	1.86	0.41
8:J2:11:ALA:O	8:J2:98:VAL:HA	2.20	0.41
14:P2:95:LEU:HD23	14:P2:95:LEU:HA	1.87	0.41
20:V2:23:VAL:HA	20:V2:38:VAL:HG22	2.02	0.41
20:V2:70:GLN:HB2	20:V2:80:HIS:CE1	2.56	0.41
29:A2:221:C:H2'	29:A2:222:G:C8	2.55	0.41
29:A2:930:G:H3'	29:A2:931:G:H8	1.86	0.41
29:A2:1891:G:H2'	29:A2:1907:G:N2	2.35	0.41
29:A2:1955:U:H6	29:A2:1955:U:H2'	1.67	0.41
29:A2:2153:C:H41	29:A2:2197:A:N6	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:2806:C:H2'	29:A2:2807:G:H8	1.86	0.41
30:B2:119:G:H2'	30:B2:120:G:C8	2.56	0.41
32:B3:22:LYS:HA	32:B3:24:TRP:HD1	1.85	0.41
47:Q3:38:ARG:NH1	53:A3:232:C:H5''	2.36	0.41
50:T3:79:ARG:HH11	50:T3:79:ARG:HD2	1.73	0.41
53:A3:254:G:H1	53:A3:262:C:N4	2.14	0.41
53:A3:658:A:H2'	53:A3:659:A:C8	2.54	0.41
53:A3:879:G:H2'	53:A3:880:G:C8	2.56	0.41
53:A3:1069:G:H22	53:A3:1081:G:H1'	1.86	0.41
32:B4:19:HIS:CD2	32:B4:20:GLU:HG3	2.56	0.41
33:C4:40:ARG:O	33:C4:44:GLU:N	2.38	0.41
33:C4:47:LEU:HB2	33:C4:52:LEU:HD23	2.02	0.41
39:I4:3:GLN:NE2	53:A4:1112:A:O2'	2.50	0.41
39:I4:87:GLN:HA	39:I4:93:ARG:HG2	2.03	0.41
52:W4:168:GLU:HB3	52:W4:185:PRO:CD	2.36	0.41
53:A4:1296:U:H3'	53:A4:1297:G:C8	2.56	0.41
11:M1:104:ARG:HG3	11:M1:111:LEU:HD11	2.03	0.41
12:N1:110:LEU:H	12:N1:110:LEU:HG	1.53	0.41
15:Q1:27:ALA:O	15:Q1:64:HIS:NE2	2.44	0.41
16:R1:42:ARG:HB2	29:A1:2034:G:H5''	2.03	0.41
17:S1:37:THR:HG23	17:S1:40:LYS:HE2	2.03	0.41
29:A1:86:C:H42	29:A1:94:G:H22	1.69	0.41
29:A1:133:G:O6	29:A1:144:C:N4	2.54	0.41
29:A1:471:A:O2'	29:A1:1247:C:O2	2.38	0.41
29:A1:666:U:H2'	29:A1:667:C:C6	2.56	0.41
29:A1:780:C:O2'	29:A1:781:C:O4'	2.27	0.41
29:A1:877:U:H4'	29:A1:880:G:C2	2.56	0.41
29:A1:896:U:H3	29:A1:981:G:N2	2.19	0.41
29:A1:1067:U:N3	29:A1:1068:A:N7	2.68	0.41
29:A1:1965:C:H2'	29:A1:1966:C:C6	2.55	0.41
29:A1:2735:U:H2'	29:A1:2736:A:C8	2.55	0.41
29:A1:2799:C:H2'	29:A1:2800:C:C6	2.56	0.41
8:J2:114:ILE:HA	8:J2:114:ILE:HD13	1.85	0.41
9:K2:131:SER:OG	9:K2:132:LYS:N	2.54	0.41
16:R2:88:ARG:HH21	29:A2:796:U:H2'	1.85	0.41
18:T2:86:ARG:H	18:T2:92:ASN:HD21	1.67	0.41
19:U2:54:HIS:CD2	19:U2:135:GLU:HA	2.55	0.41
29:A2:332:G:O2'	29:A2:1258:U:OP1	2.39	0.41
29:A2:984:U:H2'	29:A2:985:G:H8	1.86	0.41
29:A2:2607:U:H2'	29:A2:2608:C:H6	1.85	0.41
30:B2:6:C:C2	30:B2:7:C:H1'	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:C3:108:ASN:HD21	33:C3:144:SER:HB2	1.86	0.41
37:G3:4:ARG:HE	53:A3:909:C:H5'	1.86	0.41
38:H3:49:GLU:OE1	38:H3:62:TYR:OH	2.35	0.41
44:N3:44:LEU:O	44:N3:48:ALA:N	2.54	0.41
45:O3:31:LEU:HD23	45:O3:31:LEU:HA	1.88	0.41
49:S3:28:LYS:HB3	49:S3:30:LEU:H	1.86	0.41
49:S3:36:ARG:HH11	49:S3:72:GLY:HA2	1.85	0.41
52:X3:161:PHE:N	52:X3:170:ASN:HB3	2.31	0.41
32:B4:216:SER:HA	32:B4:219:VAL:HG12	2.03	0.41
41:K4:61:ALA:HB1	41:K4:94:ALA:HB2	2.02	0.41
42:L4:10:LEU:HA	42:L4:10:LEU:HD23	1.80	0.41
42:L4:15:ARG:NE	53:A4:547:C:OP1	2.54	0.41
43:M4:18:ALA:HB1	43:M4:22:ILE:HD12	2.02	0.41
53:A4:811:A:N6	53:A4:835:G:O2'	2.48	0.41
53:A4:917:C:H2'	53:A4:918:G:C8	2.55	0.41
53:A4:1147:C:O2'	53:A4:1148:G:O4'	2.36	0.41
53:A4:1254:G:C2	53:A4:1255:G:H1'	2.56	0.41
53:A4:1406:C:H2'	53:A4:1407:U:C6	2.56	0.41
53:A4:1472:U:H2'	53:A4:1473:C:C6	2.56	0.41
4:F1:36:LYS:HZ1	4:F1:160:VAL:HG21	1.86	0.41
5:G1:38:SER:HB2	5:G1:41:MET:HB2	2.03	0.41
7:I1:43:THR:OG1	7:I1:46:VAL:O	2.39	0.41
9:K1:38:GLN:HA	9:K1:41:ARG:HG2	2.03	0.41
13:O1:117:ASP:OD1	13:O1:118:ARG:N	2.46	0.41
13:O1:119:LYS:HA	13:O1:119:LYS:HD3	1.92	0.41
16:R1:31:GLU:O	16:R1:35:ILE:N	2.32	0.41
20:V1:15:ASP:HB3	20:V1:16:SER:H	1.79	0.41
20:V1:32:ARG:HB3	29:A1:2367:G:O2'	2.20	0.41
21:W1:90:ILE:HG12	21:W1:91:LYS:HE2	2.02	0.41
24:Z1:57:GLU:HA	24:Z1:61:ARG:HB2	2.02	0.41
28:d1:51:ALA:O	28:d1:54:GLU:HB3	2.21	0.41
29:A1:6:A:N6	29:A1:7:G:N3	2.69	0.41
29:A1:30:G:H1	29:A1:502:G:H22	1.66	0.41
29:A1:35:G:C2	29:A1:36:G:H1'	2.56	0.41
29:A1:396:C:H42	29:A1:432:C:H2'	1.86	0.41
29:A1:442:C:H2'	29:A1:443:A:C8	2.55	0.41
29:A1:869:A:H2	29:A1:990:U:H4'	1.86	0.41
29:A1:910:A:C2	30:B1:81:C:H1'	2.56	0.41
29:A1:1009:G:H2'	29:A1:1010:U:O4'	2.21	0.41
29:A1:1707:C:N4	29:A1:2026:G:O6	2.50	0.41
29:A1:1712:C:H42	29:A1:2021:G:H1	1.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A1:2312:A:N6	29:A1:2332:G:O6	2.54	0.41
29:A1:2491:C:O2'	29:A1:2493:G:OP2	2.29	0.41
29:A1:2683:G:H2'	29:A1:2684:A:H8	1.86	0.41
29:A1:2716:U:H1'	29:A1:2717:C:H5'	2.03	0.41
29:A1:2813:A:O2'	29:A1:2905:G:O2'	2.29	0.41
29:A1:2849:G:H2'	29:A1:2850:G:C8	2.56	0.41
29:A1:2854:G:H1	29:A1:2887:C:N4	2.19	0.41
1:C2:62:TYR:OH	29:A2:1850:G:OP2	2.37	0.41
1:C2:263:ARG:NH1	29:A2:2241:A:H5''	2.35	0.41
4:F2:95:ARG:NH2	30:B2:47:A:OP1	2.54	0.41
7:I2:74:ARG:NH2	29:A2:2654:G:OP1	2.54	0.41
8:J2:70:LYS:NZ	29:A2:2698:U:O2'	2.35	0.41
9:K2:16:ARG:HH22	29:A2:1240:G:H3'	1.84	0.41
12:N2:18:ILE:HG22	29:A2:2392:A:C2	2.54	0.41
15:Q2:6:LYS:NZ	15:Q2:11:GLN:HE21	2.19	0.41
15:Q2:33:VAL:HB	15:Q2:59:ALA:HB3	2.03	0.41
18:T2:8:LYS:HB3	18:T2:9:LYS:H	1.70	0.41
25:a2:37:LYS:HD3	25:a2:37:LYS:HA	1.80	0.41
29:A2:321:C:H2'	29:A2:322:C:C6	2.55	0.41
29:A2:504:G:N2	29:A2:508:A:H62	2.18	0.41
29:A2:1269:C:H2'	29:A2:1270:C:C6	2.56	0.41
29:A2:1333:G:H22	29:A2:1376:G:H5''	1.86	0.41
29:A2:1773:G:N7	29:A2:1774:C:N4	2.69	0.41
29:A2:1867:U:H3	29:A2:1924:A:N6	2.18	0.41
29:A2:2004:G:O2'	29:A2:2006:C:OP2	2.29	0.41
29:A2:2529:C:H2'	29:A2:2530:G:C8	2.56	0.41
31:e2:26:ILE:HG22	31:e2:33:LYS:HD2	2.02	0.41
32:B3:51:LEU:HD23	32:B3:51:LEU:HA	1.82	0.41
34:D3:139:ARG:HA	34:D3:139:ARG:HD3	1.79	0.41
42:L3:113:ARG:HB2	42:L3:122:THR:HG21	2.02	0.41
45:O3:36:ILE:HD13	45:O3:60:VAL:HG22	2.03	0.41
45:O3:81:LEU:O	45:O3:84:LYS:N	2.37	0.41
48:R3:44:LEU:HD23	48:R3:79:LEU:HD22	2.02	0.41
50:T3:22:ARG:HD3	53:A3:319:G:OP1	2.20	0.41
52:X3:162:ARG:CB	52:X3:162:ARG:HH11	2.34	0.41
53:A3:69:G:O2'	53:A3:71:C:OP2	2.34	0.41
53:A3:124:A:N1	53:A3:259:U:N3	2.69	0.41
53:A3:491:C:N4	53:A3:507:G:H1	2.18	0.41
53:A3:699:A:N1	53:A3:700:C:N4	2.68	0.41
53:A3:1143:C:H2'	53:A3:1144:C:C6	2.55	0.41
53:A3:1143:C:N4	53:A3:1163:G:O6	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:V3:89:THR:H	54:V3:89:THR:HG22	1.61	0.41
32:B4:30:ARG:HE	32:B4:194:PRO:HG3	1.85	0.41
37:G4:89:MET:SD	37:G4:155:ARG:NH1	2.94	0.41
37:G4:116:ALA:HA	37:G4:119:ARG:HB2	2.02	0.41
43:M4:79:LYS:HD2	43:M4:82:MET:HB2	2.03	0.41
48:R4:63:GLN:OE1	53:A4:703:C:O2'	2.39	0.41
50:T4:16:HIS:CE1	50:T4:23:ARG:HH22	2.39	0.41
50:T4:19:SER:HA	50:T4:22:ARG:HB2	2.03	0.41
50:T4:25:ARG:HH12	53:A4:168:C:HO2'	1.62	0.41
50:T4:30:LYS:HD3	50:T4:71:THR:HB	2.03	0.41
53:A4:707:G:H2'	53:A4:708:G:H8	1.85	0.41
53:A4:1078:C:H2'	53:A4:1079:C:C6	2.56	0.41
53:A4:1228:U:N3	53:A4:1272:G:N3	2.69	0.41
53:A4:1332:U:H2'	53:A4:1333:C:C4	2.56	0.41
53:A4:1438:G:H2'	53:A4:1439:G:C8	2.56	0.41
1:C1:91:ARG:HG2	1:C1:198:ASN:HD21	1.86	0.41
1:C1:142:VAL:HA	1:C1:193:VAL:HA	2.03	0.41
3:E1:53:THR:HA	3:E1:87:GLY:HA3	2.03	0.41
4:F1:101:ILE:O	24:Z1:24:THR:OG1	2.39	0.41
13:O1:28:VAL:HB	13:O1:30:VAL:HB	2.04	0.41
17:S1:42:ALA:O	17:S1:46:ALA:N	2.54	0.41
24:Z1:2:LYS:HA	30:B1:45:C:OP1	2.21	0.41
29:A1:140:A:C5	29:A1:1644:A:H1'	2.56	0.41
29:A1:225:U:H3	29:A1:459:G:N2	2.18	0.41
29:A1:342:G:H1	29:A1:359:C:H42	1.69	0.41
29:A1:435:G:H2'	29:A1:436:G:N7	2.36	0.41
29:A1:1466:G:H22	29:A1:1628:A:P	2.43	0.41
29:A1:1895:G:H1	29:A1:1904:C:N4	2.11	0.41
29:A1:2490:A:H61	31:e1:8:LYS:HD3	1.86	0.41
29:A1:2807:G:H1	29:A1:2816:C:H41	1.67	0.41
30:B1:68:A:N1	30:B1:71:G:N2	2.69	0.41
30:B1:119:G:H2'	30:B1:120:G:H8	1.85	0.41
1:C2:9:TYR:CD2	1:C2:10:THR:HG23	2.56	0.41
1:C2:12:SER:OG	1:C2:13:ARG:N	2.54	0.41
9:K2:16:ARG:NH2	9:K2:18:ARG:HH12	2.19	0.41
10:L2:55:VAL:O	10:L2:59:ARG:N	2.54	0.41
12:N2:89:ARG:CZ	29:A2:2307:C:H5''	2.51	0.41
13:O2:118:ARG:NH2	29:A2:2875:C:O2'	2.54	0.41
19:U2:79:ARG:HH22	30:B2:94:C:P	2.43	0.41
27:c2:3:ARG:HG3	29:A2:1661:G:O4'	2.20	0.41
29:A2:292:G:N1	29:A2:396:C:O2	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:657:G:N1	29:A2:659:A:H3'	2.36	0.41
29:A2:836:U:H3'	29:A2:840:C:H42	1.86	0.41
29:A2:867:G:H21	29:A2:1236:A:N6	2.19	0.41
29:A2:926:U:H3	29:A2:946:C:N4	2.19	0.41
29:A2:1286:G:H2'	29:A2:1287:G:C8	2.56	0.41
29:A2:1965:C:H2'	29:A2:1966:C:C6	2.56	0.41
29:A2:2541:C:H2'	29:A2:2542:U:H6	1.86	0.41
29:A2:2784:C:H2'	29:A2:2785:G:C8	2.55	0.41
30:B2:68:A:N6	30:B2:110:U:H2'	2.32	0.41
33:C3:181:ASN:HB3	33:C3:205:GLY:H	1.86	0.41
37:G3:46:ALA:HA	37:G3:49:ILE:HD12	2.02	0.41
37:G3:74:GLU:HB3	37:G3:89:MET:HB2	2.02	0.41
39:I3:5:TYR:CZ	53:A3:1129:C:H4'	2.56	0.41
41:K3:108:ILE:N	48:R3:87:ARG:HH11	2.17	0.41
53:A3:102:A:N6	53:A3:321:G:O6	2.54	0.41
53:A3:143:A:N6	53:A3:164:U:HO2'	2.18	0.41
53:A3:173:A:H8	53:A3:174:U:C4	2.39	0.41
53:A3:1304:G:H2'	53:A3:1305:A:C8	2.55	0.41
37:G4:79:ARG:HH22	53:A4:913:C:H2'	1.86	0.41
41:K4:21:ILE:O	41:K4:85:ARG:N	2.41	0.41
44:N4:53:LEU:HD12	44:N4:56:VAL:HG21	2.03	0.41
52:W4:166:THR:HG22	52:W4:168:GLU:OE2	2.20	0.41
53:A4:471:A:H3'	53:A4:472:C:C6	2.56	0.41
53:A4:611:G:H2'	53:A4:612:G:H8	1.86	0.41
53:A4:942:A:O2'	54:V4:9:ARG:NH1	2.50	0.41
53:A4:982:A:O2'	53:A4:1019:C:N3	2.47	0.41
53:A4:1039:G:H3'	53:A4:1040:G:C8	2.56	0.41
1:C1:143:HIS:CD2	1:C1:196:VAL:HG22	2.56	0.40
9:K1:70:GLN:HG3	9:K1:71:VAL:H	1.86	0.40
10:L1:75:THR:HA	10:L1:91:GLU:HG2	2.02	0.40
19:U1:80:ARG:HH21	30:B1:95:G:H5''	1.86	0.40
20:V1:70:GLN:HG2	20:V1:72:ARG:HB3	2.03	0.40
27:c1:17:GLY:O	27:c1:21:ARG:N	2.54	0.40
29:A1:443:A:H2'	29:A1:444:C:C6	2.55	0.40
29:A1:741:C:H2'	29:A1:742:C:H6	1.83	0.40
29:A1:1363:C:H42	29:A1:1385:G:N2	2.11	0.40
29:A1:1408:A:H3'	29:A1:1409:G:H8	1.86	0.40
29:A1:1464:G:N2	29:A1:1630:G:H22	2.19	0.40
29:A1:1867:U:H3	29:A1:1924:A:N6	2.18	0.40
29:A1:2051:G:H22	29:A1:2057:A:H62	1.69	0.40
29:A1:2629:U:H2'	29:A1:2630:C:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C2:142:VAL:O	1:C2:163:ALA:N	2.54	0.40
5:G2:4:ILE:HG13	5:G2:6:ARG:HG3	2.03	0.40
8:J2:6:THR:O	8:J2:21:CYS:N	2.51	0.40
10:L2:34:LEU:HB3	10:L2:103:MET:HB2	2.03	0.40
13:O2:34:VAL:HG21	13:O2:41:ARG:HH21	1.86	0.40
14:P2:48:ALA:O	14:P2:52:ARG:NH1	2.54	0.40
15:Q2:35:LEU:HD23	15:Q2:35:LEU:HA	1.95	0.40
21:W2:24:ALA:HB2	21:W2:32:LYS:HE2	2.02	0.40
21:W2:97:LEU:O	29:A2:279:G:H5''	2.21	0.40
26:b2:33:LYS:HA	26:b2:33:LYS:HD2	1.88	0.40
29:A2:1482:A:H61	29:A2:1607:A:H62	1.67	0.40
29:A2:1784:C:H5'	29:A2:2872:A:N6	2.36	0.40
29:A2:1893:G:H22	29:A2:1907:G:H1'	1.86	0.40
29:A2:1935:U:H5	29:A2:1940:A:H4'	1.85	0.40
29:A2:2047:G:H2'	29:A2:2048:G:C8	2.56	0.40
29:A2:2759:G:N1	29:A2:2775:C:O2	2.51	0.40
33:C3:35:GLU:HB3	33:C3:38:ARG:CZ	2.51	0.40
33:C3:66:VAL:N	33:C3:101:LEU:HA	2.37	0.40
34:D3:31:CYS:C	34:D3:35:ARG:HH11	2.29	0.40
35:E3:83:GLU:CD	35:E3:88:LYS:HG2	2.46	0.40
40:J3:22:LYS:NZ	40:J3:91:PRO:HA	2.35	0.40
43:M3:116:THR:OG1	53:A3:1210:A:OP1	2.28	0.40
44:N3:26:ARG:HH12	44:N3:44:LEU:HD13	1.86	0.40
49:S3:20:LEU:HA	49:S3:20:LEU:HD23	1.89	0.40
53:A3:225:G:H2'	53:A3:226:G:C8	2.55	0.40
53:A3:279:G:H2'	53:A3:280:G:H8	1.84	0.40
53:A3:981:G:N1	53:A3:1021:C:O2'	2.54	0.40
53:A3:988:G:H2'	53:A3:989:G:C8	2.55	0.40
53:A3:1048:C:H3'	53:A3:1049:A:C8	2.56	0.40
53:A3:1320:A:N6	53:A3:1321:A:N3	2.69	0.40
53:A3:1484:A:H2'	53:A3:1485:G:C8	2.55	0.40
32:B4:142:LEU:HA	32:B4:145:LEU:HD12	2.03	0.40
34:D4:159:ARG:HD2	34:D4:159:ARG:HA	1.92	0.40
36:F4:22:GLU:HG2	36:F4:25:ILE:HD12	2.03	0.40
37:G4:111:ARG:HE	37:G4:122:HIS:CG	2.39	0.40
38:H4:82:HIS:O	38:H4:137:VAL:HG23	2.21	0.40
38:H4:84:ARG:CZ	38:H4:86:ILE:HD11	2.51	0.40
50:T4:36:LEU:HD23	50:T4:36:LEU:HA	1.90	0.40
53:A4:40:C:H2'	53:A4:41:G:H8	1.86	0.40
53:A4:121:G:H2'	53:A4:122:U:C6	2.57	0.40
53:A4:979:G:H5''	53:A4:980:G:C8	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A4:1311:U:H3'	53:A4:1312:G:H8	1.86	0.40
54:V4:53:LYS:N	54:V4:73:ASP:O	2.54	0.40
2:D1:195:LEU:HD23	2:D1:195:LEU:HA	1.91	0.40
9:K1:64:LYS:NZ	29:A1:2430:C:OP1	2.40	0.40
21:W1:12:PRO:HB3	21:W1:43:TYR:HA	2.01	0.40
29:A1:836:U:H3'	29:A1:840:C:N4	2.36	0.40
29:A1:2527:G:H2'	29:A1:2528:U:C6	2.57	0.40
30:B1:68:A:H2	30:B1:70:C:N4	2.19	0.40
12:N2:94:TYR:OH	29:A2:2390:A:O4'	2.39	0.40
13:O2:96:ARG:NH1	29:A2:2707:A:N3	2.68	0.40
14:P2:3:ARG:HB2	29:A2:1296:G:C6	2.56	0.40
23:Y2:41:PRO:HB2	29:A2:901:G:O2'	2.21	0.40
27:c2:32:LYS:HA	27:c2:35:ARG:HB2	2.04	0.40
29:A2:564:C:N4	29:A2:565:G:O6	2.54	0.40
29:A2:729:G:H22	29:A2:846:C:H42	1.69	0.40
29:A2:966:A:C6	29:A2:967:G:H1'	2.56	0.40
29:A2:1279:G:H2'	29:A2:1280:G:H8	1.86	0.40
29:A2:1356:A:H3'	29:A2:1357:G:H8	1.85	0.40
29:A2:1474:G:H2'	29:A2:1475:A:C8	2.56	0.40
29:A2:1702:G:H21	29:A2:2029:A:N6	2.19	0.40
29:A2:1971:C:H2'	29:A2:1972:G:C8	2.54	0.40
32:B3:126:GLU:OE1	32:B3:130:ARG:NH2	2.54	0.40
32:B3:178:ARG:HA	32:B3:178:ARG:HD3	1.91	0.40
34:D3:102:ASP:HB3	34:D3:121:VAL:HG23	2.03	0.40
39:I3:120:ARG:HB3	53:A3:1325:C:H4'	2.02	0.40
44:N3:24:CYS:SG	44:N3:27:CYS:N	2.82	0.40
50:T3:48:LYS:H	50:T3:51:GLU:CD	2.30	0.40
53:A3:403:A:N6	53:A3:428:C:N3	2.69	0.40
53:A3:458:G:H2'	53:A3:459:G:C8	2.57	0.40
53:A3:560:G:H2'	53:A3:561:C:C6	2.56	0.40
53:A3:937:U:H5	53:A3:1203:G:H4'	1.87	0.40
53:A3:990:U:O2'	53:A3:995:G:N2	2.45	0.40
53:A3:1250:A:H2	53:A3:1293:G:H21	1.69	0.40
53:A3:1282:U:P	53:A3:1284:C:H41	2.44	0.40
33:C4:134:ILE:HD13	33:C4:166:GLU:HB3	2.03	0.40
33:C4:177:THR:HG22	33:C4:180:ALA:H	1.86	0.40
42:L4:47:LYS:O	42:L4:50:SER:OG	2.38	0.40
48:R4:40:LEU:HB3	48:R4:79:LEU:HD21	2.03	0.40
49:S4:28:LYS:HD2	49:S4:30:LEU:HB2	2.03	0.40
52:W4:142:MET:HB2	52:W4:146:GLU:HB2	2.03	0.40
53:A4:30:U:O4	53:A4:32:A:N6	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A4:225:G:H2'	53:A4:226:G:C8	2.56	0.40
53:A4:286:C:H2'	53:A4:287:G:H8	1.86	0.40
53:A4:802:A:H5''	53:A4:802:A:H8	1.86	0.40
4:F1:168:GLU:HA	4:F1:171:ALA:HB3	2.03	0.40
5:G1:153:LYS:H	5:G1:153:LYS:HG3	1.62	0.40
9:K1:83:VAL:HG13	9:K1:114:ILE:HG13	2.03	0.40
15:Q1:78:LYS:H	29:A1:590:C:P	2.44	0.40
16:R1:96:ILE:HG22	29:A1:2037:A:H4'	2.02	0.40
26:b1:23:THR:HG22	26:b1:24:GLU:H	1.85	0.40
29:A1:174:C:N4	29:A1:202:G:O6	2.53	0.40
29:A1:334:G:N2	29:A1:355:A:O4'	2.54	0.40
29:A1:435:G:H22	29:A1:449:C:N4	2.18	0.40
29:A1:488:A:H3'	29:A1:489:C:H6	1.87	0.40
29:A1:1864:G:H2'	29:A1:1865:C:C6	2.57	0.40
3:E2:168:ARG:NH1	3:E2:175:THR:OG1	2.54	0.40
13:O2:1:MET:SD	13:O2:1:MET:N	2.84	0.40
22:X2:55:ARG:HH12	29:A2:74:G:H4'	1.86	0.40
24:Z2:58:ARG:HB3	49:S4:68:GLY:HA2	2.03	0.40
27:c2:13:ALA:O	27:c2:17:GLY:N	2.46	0.40
28:d2:51:ALA:O	28:d2:54:GLU:HB3	2.21	0.40
29:A2:411:U:O2	29:A2:413:C:N4	2.55	0.40
29:A2:1978:G:O2'	29:A2:1980:U:O4	2.33	0.40
29:A2:2136:G:H8	29:A2:2142:U:P	2.44	0.40
34:D3:25:ARG:HH22	53:A3:408:G:N2	2.19	0.40
36:F3:8:ILE:HG23	36:F3:85:VAL:HG13	2.04	0.40
53:A3:102:A:OP2	53:A3:103:C:N4	2.55	0.40
53:A3:253:G:H2'	53:A3:254:G:C8	2.56	0.40
53:A3:467:C:H3'	53:A3:468:G:H2'	2.03	0.40
53:A3:540:G:C5	53:A3:541:G:C5	3.09	0.40
53:A3:1328:G:N2	53:A3:1329:U:O4	2.48	0.40
32:B4:65:GLY:O	32:B4:226:ARG:NH2	2.54	0.40
32:B4:208:ILE:O	32:B4:212:GLN:N	2.35	0.40
33:C4:131:ARG:NE	35:E4:50:GLU:OE2	2.53	0.40
34:D4:27:TYR:C	34:D4:31:CYS:HB3	2.46	0.40
37:G4:150:ALA:HA	41:K4:59:TYR:CD2	2.56	0.40
39:I4:4:TYR:HB2	39:I4:19:LEU:HB2	2.03	0.40
41:K4:28:THR:HG21	41:K4:61:ALA:HB2	2.03	0.40
49:S4:36:ARG:H	53:A4:1201:G:H4'	1.87	0.40
53:A4:388:A:H2'	53:A4:389:G:H8	1.86	0.40
53:A4:475:G:H2'	53:A4:476:G:H8	1.86	0.40
53:A4:964:G:N2	53:A4:992:A:N1	2.69	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A4:979:G:H3'	53:A4:980:G:H8	1.86	0.40
9:K1:76:LYS:HE3	29:A1:217:A:H3'	2.03	0.40
11:M1:4:LEU:HD11	29:A1:2832:A:C2	2.57	0.40
29:A1:270:G:H1	29:A1:276:C:H42	1.69	0.40
29:A1:607:G:H2'	29:A1:608:G:H8	1.86	0.40
29:A1:668:C:O2	29:A1:675:G:N2	2.54	0.40
29:A1:997:G:H2'	29:A1:998:C:C6	2.56	0.40
29:A1:1095:G:H8	29:A1:1095:G:H2'	1.73	0.40
29:A1:1487:A:C5	29:A1:1488:G:H1'	2.55	0.40
29:A1:1711:C:H42	29:A1:2022:G:H1	1.69	0.40
29:A1:1976:A:N6	29:A1:1977:A:N1	2.70	0.40
3:E2:104:LYS:O	3:E2:108:LYS:N	2.48	0.40
11:M2:90:ARG:NE	29:A2:2893:C:OP1	2.48	0.40
19:U2:44:PHE:CE1	19:U2:86:VAL:HG21	2.57	0.40
19:U2:98:MET:HE3	19:U2:98:MET:HB2	1.80	0.40
21:W2:29:GLY:H	29:A2:2411:G:H5'	1.87	0.40
29:A2:11:G:N2	29:A2:2814:A:O2'	2.55	0.40
29:A2:98:U:H1'	29:A2:100:G:C5	2.56	0.40
29:A2:133:G:O6	29:A2:144:C:N4	2.54	0.40
29:A2:436:G:H22	29:A2:446:G:H22	1.69	0.40
29:A2:722:C:H2'	29:A2:723:G:C8	2.57	0.40
29:A2:926:U:H2'	29:A2:945:C:N4	2.37	0.40
29:A2:932:G:N7	29:A2:933:C:O2'	2.54	0.40
29:A2:1408:A:H3'	29:A2:1409:G:H8	1.86	0.40
29:A2:1946:G:C2	29:A2:1947:U:H1'	2.57	0.40
42:L3:15:ARG:HH21	53:A3:547:C:P	2.44	0.40
42:L3:33:ARG:NH2	42:L3:61:THR:OG1	2.55	0.40
44:N3:14:PRO:HG2	44:N3:17:LYS:HE2	2.03	0.40
50:T3:79:ARG:NH1	53:A3:256:U:O4	2.38	0.40
53:A3:164:U:O2	53:A3:165:A:N6	2.54	0.40
53:A3:206:G:H2'	53:A3:207:C:C6	2.56	0.40
53:A3:282:U:O4	53:A3:283:A:N6	2.54	0.40
53:A3:313:G:H22	53:A3:330:C:N4	2.20	0.40
53:A3:371:G:H2'	53:A3:372:G:H8	1.86	0.40
53:A3:657:G:H2'	53:A3:658:A:H8	1.87	0.40
53:A3:659:A:H2'	53:A3:660:U:C6	2.57	0.40
53:A3:790:A:H2'	53:A3:791:C:C6	2.57	0.40
53:A3:933:U:H2'	53:A3:934:U:C6	2.56	0.40
53:A3:1438:G:H2'	53:A3:1439:G:C8	2.56	0.40
32:B4:42:ILE:HG13	32:B4:203:GLY:HA2	2.03	0.40
41:K4:13:GLN:HG3	41:K4:15:ALA:N	2.30	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:L4:36:VAL:HG13	42:L4:81:SER:H	1.86	0.40
43:M4:106:ASN:HD21	53:A4:926:A:H8	1.68	0.40
47:Q4:13:ASP:HA	47:Q4:19:VAL:HG12	2.03	0.40
50:T4:89:ARG:NE	50:T4:93:GLU:OE2	2.55	0.40
53:A4:560:G:H2'	53:A4:561:C:C6	2.56	0.40
53:A4:849:A:C8	53:A4:851:G:C8	3.09	0.40
53:A4:1052:U:O4	53:A4:1067:U:N3	2.54	0.40
53:A4:1091:C:H3'	53:A4:1092:A:C8	2.56	0.40
53:A4:1313:A:H2'	53:A4:1314:A:C8	2.57	0.40
53:A4:1452:G:H3'	53:A4:1453:G:H8	1.87	0.40
1:C1:47:GLY:HA3	29:A1:822:U:H4'	2.03	0.40
1:C1:82:ILE:HG21	1:C1:111:LEU:HG	2.03	0.40
3:E1:106:ARG:NH1	29:A1:645:C:OP2	2.45	0.40
3:E1:172:TRP:CD2	3:E1:173:VAL:HG23	2.57	0.40
7:I1:71:ILE:HD13	7:I1:84:LYS:HE3	2.04	0.40
8:J1:7:TYR:HE1	8:J1:44:LYS:HE2	1.86	0.40
14:P1:20:LEU:HA	14:P1:20:LEU:HD23	1.79	0.40
18:T1:19:LYS:O	18:T1:21:LYS:N	2.52	0.40
21:W1:33:LYS:HA	21:W1:33:LYS:HD2	1.82	0.40
22:X1:32:LEU:HG	22:X1:36:ARG:CZ	2.51	0.40
24:Z1:18:CYS:HA	24:Z1:39:CYS:HB2	2.03	0.40
29:A1:468:G:H2'	29:A1:469:U:C6	2.57	0.40
29:A1:703:A:H2'	29:A1:704:A:C8	2.56	0.40
29:A1:2467:A:H61	29:A1:2514:U:H3	1.68	0.40
1:C2:206:LEU:HD23	1:C2:206:LEU:HA	1.70	0.40
9:K2:9:ASN:HA	9:K2:10:PRO:HD3	1.85	0.40
18:T2:50:ARG:O	29:A2:511:A:O2'	2.33	0.40
21:W2:14:VAL:HG12	21:W2:41:ARG:HG2	2.03	0.40
29:A2:172:A:O2'	29:A2:462:C:O2'	2.26	0.40
29:A2:234:A:H2'	29:A2:235:G:O4'	2.22	0.40
29:A2:1121:A:N7	29:A2:1122:G:N2	2.69	0.40
29:A2:1216:G:H2'	29:A2:1217:G:H8	1.86	0.40
29:A2:1627:U:H2'	29:A2:1628:A:C8	2.57	0.40
29:A2:2317:G:H2'	29:A2:2318:G:H8	1.86	0.40
29:A2:2629:U:H2'	29:A2:2630:C:C6	2.56	0.40
32:B3:168:THR:HG21	32:B3:191:ASP:HB3	2.03	0.40
33:C3:55:VAL:HA	33:C3:68:VAL:HA	2.03	0.40
39:I3:83:ARG:NH1	39:I3:101:PHE:O	2.54	0.40
40:J3:8:LEU:HD12	40:J3:70:ARG:HG2	2.02	0.40
44:N3:50:LYS:HA	44:N3:50:LYS:HD2	1.94	0.40
53:A3:26:A:N6	53:A3:541:G:O2'	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:A3:1096:C:N4	53:A3:1167:G:H1	2.18	0.40
32:B4:111:ARG:NH2	32:B4:144:ARG:HH21	2.19	0.40
33:C4:190:ARG:HH22	53:A4:1186:U:H5'	1.87	0.40
34:D4:61:LYS:O	34:D4:65:ARG:HG2	2.21	0.40
37:G4:23:VAL:H	37:G4:23:VAL:HG23	1.71	0.40
37:G4:145:ALA:HB1	37:G4:149:ARG:HH12	1.87	0.40
39:I4:16:ARG:HB3	39:I4:18:PHE:CE2	2.57	0.40
53:A4:37:U:O2'	53:A4:530:A:N1	2.40	0.40
53:A4:228:C:H2'	53:A4:229:C:H6	1.86	0.40
53:A4:372:G:H2'	53:A4:373:G:H8	1.86	0.40
53:A4:667:A:H2'	53:A4:668:G:H8	1.87	0.40
53:A4:1201:G:H8	53:A4:1202:G:C8	2.40	0.40
53:A4:1304:G:H21	53:A4:1343:C:H5'	1.87	0.40
53:A4:1410:A:H2'	53:A4:1411:C:O4'	2.21	0.40
54:V4:13:ILE:HD13	54:V4:17:ILE:CG2	2.52	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	C1	270/272 (99%)	205 (76%)	65 (24%)	0	100	100
1	C2	270/272 (99%)	210 (78%)	59 (22%)	1 (0%)	30	65
2	D1	203/205 (99%)	152 (75%)	49 (24%)	2 (1%)	12	46
2	D2	203/205 (99%)	144 (71%)	57 (28%)	2 (1%)	12	46
3	E1	206/208 (99%)	163 (79%)	43 (21%)	0	100	100
3	E2	206/208 (99%)	160 (78%)	45 (22%)	1 (0%)	24	61
4	F1	179/181 (99%)	146 (82%)	33 (18%)	0	100	100
4	F2	179/181 (99%)	142 (79%)	37 (21%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
5	G1	168/170 (99%)	127 (76%)	41 (24%)	0	100	100
5	G2	168/170 (99%)	124 (74%)	43 (26%)	1 (1%)	21	58
6	H1	48/50 (96%)	38 (79%)	10 (21%)	0	100	100
6	H2	48/50 (96%)	35 (73%)	13 (27%)	0	100	100
7	I1	136/138 (99%)	110 (81%)	26 (19%)	0	100	100
7	I2	136/138 (99%)	108 (79%)	28 (21%)	0	100	100
8	J1	120/122 (98%)	95 (79%)	25 (21%)	0	100	100
8	J2	120/122 (98%)	103 (86%)	17 (14%)	0	100	100
9	K1	148/150 (99%)	102 (69%)	46 (31%)	0	100	100
9	K2	148/150 (99%)	105 (71%)	42 (28%)	1 (1%)	18	54
10	L1	139/141 (99%)	112 (81%)	27 (19%)	0	100	100
10	L2	139/141 (99%)	106 (76%)	31 (22%)	2 (1%)	9	39
11	M1	115/117 (98%)	97 (84%)	18 (16%)	0	100	100
11	M2	115/117 (98%)	94 (82%)	21 (18%)	0	100	100
12	N1	109/111 (98%)	89 (82%)	20 (18%)	0	100	100
12	N2	109/111 (98%)	88 (81%)	21 (19%)	0	100	100
13	O1	135/137 (98%)	105 (78%)	30 (22%)	0	100	100
13	O2	135/137 (98%)	107 (79%)	28 (21%)	0	100	100
14	P1	115/117 (98%)	100 (87%)	15 (13%)	0	100	100
14	P2	115/117 (98%)	99 (86%)	16 (14%)	0	100	100
15	Q1	99/101 (98%)	75 (76%)	24 (24%)	0	100	100
15	Q2	99/101 (98%)	80 (81%)	19 (19%)	0	100	100
16	R1	111/113 (98%)	92 (83%)	19 (17%)	0	100	100
16	R2	111/113 (98%)	83 (75%)	28 (25%)	0	100	100
17	S1	90/92 (98%)	71 (79%)	19 (21%)	0	100	100
17	S2	90/92 (98%)	71 (79%)	19 (21%)	0	100	100
18	T1	100/102 (98%)	72 (72%)	27 (27%)	1 (1%)	12	46
18	T2	100/102 (98%)	67 (67%)	32 (32%)	1 (1%)	12	46
19	U1	177/179 (99%)	129 (73%)	48 (27%)	0	100	100
19	U2	177/179 (99%)	129 (73%)	47 (27%)	1 (1%)	21	58
20	V1	75/77 (97%)	59 (79%)	16 (21%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
20	V2	75/77 (97%)	55 (73%)	20 (27%)	0	100	100
21	W1	95/97 (98%)	71 (75%)	24 (25%)	0	100	100
21	W2	95/97 (98%)	81 (85%)	14 (15%)	0	100	100
22	X1	67/69 (97%)	56 (84%)	11 (16%)	0	100	100
22	X2	67/69 (97%)	54 (81%)	13 (19%)	0	100	100
23	Y1	57/59 (97%)	46 (81%)	11 (19%)	0	100	100
23	Y2	57/59 (97%)	45 (79%)	12 (21%)	0	100	100
24	Z1	61/63 (97%)	42 (69%)	18 (30%)	1 (2%)	7	37
24	Z2	61/63 (97%)	39 (64%)	21 (34%)	1 (2%)	7	37
25	a1	57/59 (97%)	38 (67%)	19 (33%)	0	100	100
25	a2	57/59 (97%)	42 (74%)	15 (26%)	0	100	100
26	b1	43/45 (96%)	28 (65%)	15 (35%)	0	100	100
26	b2	43/45 (96%)	33 (77%)	10 (23%)	0	100	100
27	c1	47/49 (96%)	42 (89%)	5 (11%)	0	100	100
27	c2	47/49 (96%)	41 (87%)	6 (13%)	0	100	100
28	d1	59/61 (97%)	47 (80%)	12 (20%)	0	100	100
28	d2	59/61 (97%)	44 (75%)	15 (25%)	0	100	100
31	e1	34/36 (94%)	27 (79%)	7 (21%)	0	100	100
31	e2	34/36 (94%)	26 (76%)	8 (24%)	0	100	100
32	B3	235/237 (99%)	184 (78%)	51 (22%)	0	100	100
32	B4	235/237 (99%)	190 (81%)	45 (19%)	0	100	100
33	C3	204/206 (99%)	158 (78%)	46 (22%)	0	100	100
33	C4	204/206 (99%)	162 (79%)	42 (21%)	0	100	100
34	D3	206/208 (99%)	159 (77%)	47 (23%)	0	100	100
34	D4	206/208 (99%)	161 (78%)	44 (21%)	1 (0%)	24	61
35	E3	149/151 (99%)	121 (81%)	28 (19%)	0	100	100
35	E4	149/151 (99%)	119 (80%)	30 (20%)	0	100	100
36	F3	99/101 (98%)	84 (85%)	15 (15%)	0	100	100
36	F4	99/101 (98%)	86 (87%)	13 (13%)	0	100	100
37	G3	153/155 (99%)	129 (84%)	24 (16%)	0	100	100
37	G4	153/155 (99%)	120 (78%)	33 (22%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
38	H3	136/138 (99%)	112 (82%)	24 (18%)	0	100	100
38	H4	136/138 (99%)	113 (83%)	23 (17%)	0	100	100
39	I3	125/127 (98%)	89 (71%)	36 (29%)	0	100	100
39	I4	125/127 (98%)	92 (74%)	33 (26%)	0	100	100
40	J3	97/99 (98%)	74 (76%)	23 (24%)	0	100	100
40	J4	97/99 (98%)	72 (74%)	25 (26%)	0	100	100
41	K3	116/118 (98%)	91 (78%)	25 (22%)	0	100	100
41	K4	116/118 (98%)	97 (84%)	19 (16%)	0	100	100
42	L3	123/125 (98%)	102 (83%)	21 (17%)	0	100	100
42	L4	123/125 (98%)	95 (77%)	28 (23%)	0	100	100
43	M3	115/117 (98%)	99 (86%)	16 (14%)	0	100	100
43	M4	115/117 (98%)	87 (76%)	28 (24%)	0	100	100
44	N3	58/60 (97%)	45 (78%)	13 (22%)	0	100	100
44	N4	58/60 (97%)	46 (79%)	12 (21%)	0	100	100
45	O3	86/88 (98%)	72 (84%)	14 (16%)	0	100	100
45	O4	86/88 (98%)	74 (86%)	12 (14%)	0	100	100
46	P3	82/84 (98%)	69 (84%)	13 (16%)	0	100	100
46	P4	82/84 (98%)	64 (78%)	18 (22%)	0	100	100
47	Q3	98/100 (98%)	78 (80%)	20 (20%)	0	100	100
47	Q4	98/100 (98%)	78 (80%)	20 (20%)	0	100	100
48	R3	60/62 (97%)	50 (83%)	10 (17%)	0	100	100
48	R4	60/62 (97%)	50 (83%)	10 (17%)	0	100	100
49	S3	76/78 (97%)	68 (90%)	6 (8%)	2 (3%)	4	28
49	S4	76/78 (97%)	57 (75%)	18 (24%)	1 (1%)	9	41
50	T3	97/99 (98%)	82 (84%)	14 (14%)	1 (1%)	12	46
50	T4	97/99 (98%)	80 (82%)	16 (16%)	1 (1%)	12	46
51	U3	23/25 (92%)	18 (78%)	5 (22%)	0	100	100
51	U4	23/25 (92%)	19 (83%)	4 (17%)	0	100	100
52	W4	55/57 (96%)	40 (73%)	12 (22%)	3 (6%)	1	17
52	X3	55/57 (96%)	39 (71%)	14 (26%)	2 (4%)	2	22
54	V3	117/119 (98%)	90 (77%)	25 (21%)	2 (2%)	7	36

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
54	V4	115/119 (97%)	90 (78%)	23 (20%)	2 (2%)	7	36
All	All	11544/11750 (98%)	9056 (78%)	2458 (21%)	30 (0%)	37	70

All (30) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
50	T3	74	LYS
52	X3	143	ASP
52	X3	164	ALA
54	V3	93	ARG
50	T4	74	LYS
52	W4	163	ASN
52	W4	174	ARG
54	V4	17	ILE
24	Z1	43	TYR
9	K2	58	THR
19	U2	53	ILE
24	Z2	24	THR
34	D4	10	ARG
49	S4	70	LYS
52	W4	164	ALA
5	G2	90	LYS
10	L2	7	MET
49	S3	67	VAL
54	V3	29	ASP
2	D1	83	ASP
2	D1	82	ARG
54	V4	15	ASP
2	D2	82	ARG
2	D2	83	ASP
10	L2	6	ARG
49	S3	66	MET
1	C2	29	PRO
3	E2	10	PRO
18	T2	53	PRO
18	T1	80	GLY

5.3.2 Protein sidechains ⓘ

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

entries.

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	C1	214/214 (100%)	212 (99%)	2 (1%)	70	76
1	C2	214/214 (100%)	209 (98%)	5 (2%)	44	63
2	D1	165/165 (100%)	162 (98%)	3 (2%)	51	67
2	D2	165/165 (100%)	162 (98%)	3 (2%)	51	67
3	E1	165/165 (100%)	160 (97%)	5 (3%)	36	57
3	E2	165/165 (100%)	161 (98%)	4 (2%)	43	63
4	F1	155/155 (100%)	155 (100%)	0	100	100
4	F2	155/155 (100%)	153 (99%)	2 (1%)	61	72
5	G1	142/142 (100%)	140 (99%)	2 (1%)	59	71
5	G2	142/142 (100%)	140 (99%)	2 (1%)	59	71
6	H1	41/41 (100%)	41 (100%)	0	100	100
6	H2	41/41 (100%)	41 (100%)	0	100	100
7	I1	117/117 (100%)	117 (100%)	0	100	100
7	I2	117/117 (100%)	117 (100%)	0	100	100
8	J1	100/100 (100%)	98 (98%)	2 (2%)	48	66
8	J2	100/100 (100%)	98 (98%)	2 (2%)	48	66
9	K1	116/116 (100%)	113 (97%)	3 (3%)	40	60
9	K2	116/116 (100%)	115 (99%)	1 (1%)	70	76
10	L1	111/111 (100%)	109 (98%)	2 (2%)	51	67
10	L2	111/111 (100%)	111 (100%)	0	100	100
11	M1	100/100 (100%)	99 (99%)	1 (1%)	68	76
11	M2	100/100 (100%)	100 (100%)	0	100	100
12	N1	87/87 (100%)	85 (98%)	2 (2%)	44	63
12	N2	87/87 (100%)	87 (100%)	0	100	100
13	O1	120/120 (100%)	119 (99%)	1 (1%)	73	77
13	O2	120/120 (100%)	119 (99%)	1 (1%)	73	77
14	P1	93/93 (100%)	92 (99%)	1 (1%)	65	74
14	P2	93/93 (100%)	92 (99%)	1 (1%)	65	74
15	Q1	82/82 (100%)	80 (98%)	2 (2%)	43	63

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
15	Q2	82/82 (100%)	81 (99%)	1 (1%)	63	73
16	R1	92/92 (100%)	90 (98%)	2 (2%)	45	64
16	R2	92/92 (100%)	91 (99%)	1 (1%)	65	74
17	S1	74/74 (100%)	72 (97%)	2 (3%)	39	60
17	S2	74/74 (100%)	72 (97%)	2 (3%)	39	60
18	T1	85/85 (100%)	83 (98%)	2 (2%)	43	63
18	T2	85/85 (100%)	85 (100%)	0	100	100
19	U1	158/158 (100%)	155 (98%)	3 (2%)	50	66
19	U2	158/158 (100%)	158 (100%)	0	100	100
20	V1	62/62 (100%)	62 (100%)	0	100	100
20	V2	62/62 (100%)	62 (100%)	0	100	100
21	W1	82/82 (100%)	82 (100%)	0	100	100
21	W2	82/82 (100%)	82 (100%)	0	100	100
22	X1	64/64 (100%)	64 (100%)	0	100	100
22	X2	64/64 (100%)	63 (98%)	1 (2%)	55	69
23	Y1	51/51 (100%)	51 (100%)	0	100	100
23	Y2	51/51 (100%)	49 (96%)	2 (4%)	28	50
24	Z1	57/57 (100%)	56 (98%)	1 (2%)	51	67
24	Z2	57/57 (100%)	55 (96%)	2 (4%)	32	54
25	a1	51/51 (100%)	50 (98%)	1 (2%)	48	66
25	a2	51/51 (100%)	50 (98%)	1 (2%)	48	66
26	b1	44/44 (100%)	43 (98%)	1 (2%)	44	63
26	b2	44/44 (100%)	43 (98%)	1 (2%)	44	63
27	c1	42/42 (100%)	42 (100%)	0	100	100
27	c2	42/42 (100%)	42 (100%)	0	100	100
28	d1	51/51 (100%)	50 (98%)	1 (2%)	48	66
28	d2	51/51 (100%)	51 (100%)	0	100	100
31	e1	33/33 (100%)	32 (97%)	1 (3%)	36	57
31	e2	33/33 (100%)	33 (100%)	0	100	100
32	B3	205/205 (100%)	202 (98%)	3 (2%)	57	70
32	B4	205/205 (100%)	203 (99%)	2 (1%)	68	76

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
33	C3	160/160 (100%)	158 (99%)	2 (1%)	61	72
33	C4	160/160 (100%)	160 (100%)	0	100	100
34	D3	180/180 (100%)	179 (99%)	1 (1%)	78	80
34	D4	180/180 (100%)	178 (99%)	2 (1%)	65	74
35	E3	116/116 (100%)	115 (99%)	1 (1%)	70	76
35	E4	116/116 (100%)	116 (100%)	0	100	100
36	F3	90/90 (100%)	89 (99%)	1 (1%)	65	74
36	F4	90/90 (100%)	88 (98%)	2 (2%)	45	64
37	G3	126/126 (100%)	124 (98%)	2 (2%)	55	69
37	G4	126/126 (100%)	124 (98%)	2 (2%)	55	69
38	H3	119/119 (100%)	118 (99%)	1 (1%)	73	77
38	H4	119/119 (100%)	118 (99%)	1 (1%)	73	77
39	I3	98/98 (100%)	98 (100%)	0	100	100
39	I4	98/98 (100%)	97 (99%)	1 (1%)	68	76
40	J3	89/89 (100%)	89 (100%)	0	100	100
40	J4	89/89 (100%)	88 (99%)	1 (1%)	65	74
41	K3	89/89 (100%)	89 (100%)	0	100	100
41	K4	89/89 (100%)	89 (100%)	0	100	100
42	L3	104/104 (100%)	102 (98%)	2 (2%)	50	66
42	L4	104/104 (100%)	101 (97%)	3 (3%)	37	58
43	M3	94/94 (100%)	94 (100%)	0	100	100
43	M4	94/94 (100%)	94 (100%)	0	100	100
44	N3	49/49 (100%)	49 (100%)	0	100	100
44	N4	49/49 (100%)	49 (100%)	0	100	100
45	O3	79/79 (100%)	79 (100%)	0	100	100
45	O4	79/79 (100%)	79 (100%)	0	100	100
46	P3	72/72 (100%)	71 (99%)	1 (1%)	59	71
46	P4	72/72 (100%)	72 (100%)	0	100	100
47	Q3	95/95 (100%)	95 (100%)	0	100	100
47	Q4	95/95 (100%)	95 (100%)	0	100	100
48	R3	55/55 (100%)	55 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
48	R4	55/55 (100%)	54 (98%)	1 (2%)	51	67
49	S3	67/67 (100%)	65 (97%)	2 (3%)	36	57
49	S4	67/67 (100%)	66 (98%)	1 (2%)	57	70
50	T3	76/76 (100%)	76 (100%)	0	100	100
50	T4	76/76 (100%)	76 (100%)	0	100	100
51	U3	20/20 (100%)	19 (95%)	1 (5%)	22	45
51	U4	20/20 (100%)	20 (100%)	0	100	100
52	W4	50/50 (100%)	36 (72%)	14 (28%)	0	3
52	X3	50/50 (100%)	32 (64%)	18 (36%)	0	1
54	V3	101/101 (100%)	86 (85%)	15 (15%)	3	15
54	V4	100/101 (99%)	95 (95%)	5 (5%)	22	45
All	All	9775/9776 (100%)	9618 (98%)	157 (2%)	54	69

All (157) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	C1	147	LEU
1	C1	271	ILE
2	D1	4	ILE
2	D1	116	VAL
2	D1	167	VAL
3	E1	63	LYS
3	E1	64	ILE
3	E1	105	VAL
3	E1	169	ASN
3	E1	196	LEU
5	G1	95	ARG
5	G1	136	ILE
8	J1	61	VAL
8	J1	88	ASN
9	K1	19	VAL
9	K1	62	LEU
9	K1	71	VAL
10	L1	60	ARG
10	L1	137	TYR
11	M1	50	HIS
12	N1	65	VAL
12	N1	110	LEU

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Mol	Chain	Res	Type
13	O1	89	VAL
14	P1	90	VAL
15	Q1	46	VAL
15	Q1	61	VAL
16	R1	12	ILE
16	R1	95	ILE
17	S1	57	LEU
17	S1	59	VAL
18	T1	11	ASP
18	T1	96	ILE
19	U1	53	ILE
19	U1	70	LEU
19	U1	86	VAL
24	Z1	20	ASN
25	a1	5	PRO
26	b1	29	ASN
28	d1	32	LEU
31	e1	26	ILE
1	C2	37	LEU
1	C2	43	ARG
1	C2	141	VAL
1	C2	147	LEU
1	C2	196	VAL
2	D2	34	VAL
2	D2	167	VAL
2	D2	184	VAL
3	E2	67	GLN
3	E2	74	ARG
3	E2	103	LYS
3	E2	196	LEU
4	F2	92	VAL
4	F2	139	LEU
5	G2	45	VAL
5	G2	147	ASN
8	J2	24	VAL
8	J2	61	VAL
9	K2	85	LEU
13	O2	89	VAL
14	P2	90	VAL
15	Q2	61	VAL
16	R2	40	ASN
17	S2	12	VAL

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Mol	Chain	Res	Type
17	S2	73	ARG
22	X2	50	ILE
23	Y2	36	VAL
23	Y2	50	VAL
24	Z2	33	VAL
24	Z2	56	VAL
25	a2	5	PRO
26	b2	25	LYS
32	B3	7	VAL
32	B3	11	LEU
32	B3	30	ARG
33	C3	42	LEU
33	C3	119	ARG
34	D3	53	ASP
35	E3	37	ARG
36	F3	40	VAL
37	G3	37	ASN
37	G3	44	TYR
38	H3	69	ARG
42	L3	27	LEU
42	L3	111	LYS
46	P3	5	ARG
49	S3	37	ARG
49	S3	67	VAL
51	U3	9	ARG
52	X3	142	MET
52	X3	145	GLU
52	X3	146	GLU
52	X3	149	PHE
52	X3	150	GLN
52	X3	151	MET
52	X3	152	GLU
52	X3	154	LEU
52	X3	158	PHE
52	X3	162	ARG
52	X3	168	GLU
52	X3	169	ILE
52	X3	172	ILE
52	X3	173	TYR
52	X3	174	ARG
52	X3	180	TYR
52	X3	182	LEU

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Mol	Chain	Res	Type
52	X3	183	ILE
54	V3	13	ILE
54	V3	25	LEU
54	V3	28	LEU
54	V3	29	ASP
54	V3	30	ARG
54	V3	39	LYS
54	V3	40	VAL
54	V3	61	ASP
54	V3	62	LEU
54	V3	69	VAL
54	V3	87	LEU
54	V3	88	GLU
54	V3	89	THR
54	V3	92	LYS
54	V3	100	VAL
32	B4	80	ILE
32	B4	197	VAL
34	D4	53	ASP
34	D4	199	ASN
36	F4	15	ASP
36	F4	40	VAL
37	G4	13	GLN
37	G4	54	THR
38	H4	137	VAL
39	I4	20	ARG
40	J4	76	ASN
42	L4	55	VAL
42	L4	84	LEU
42	L4	111	LYS
48	R4	58	LEU
49	S4	11	VAL
52	W4	145	GLU
52	W4	146	GLU
52	W4	149	PHE
52	W4	150	GLN
52	W4	160	VAL
52	W4	162	ARG
52	W4	168	GLU
52	W4	169	ILE
52	W4	171	VAL
52	W4	172	ILE

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Mol	Chain	Res	Type
52	W4	175	ARG
52	W4	180	TYR
52	W4	182	LEU
52	W4	184	GLU
54	V4	17	ILE
54	V4	39	LYS
54	V4	55	ARG
54	V4	61	ASP
54	V4	62	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (179) such sidechains are listed below:

Mol	Chain	Res	Type
1	C1	87	ASN
1	C1	115	GLN
1	C1	116	GLN
1	C1	126	GLN
1	C1	166	GLN
1	C1	203	ASN
1	C1	253	GLN
2	D1	48	GLN
2	D1	54	GLN
2	D1	55	ASN
2	D1	135	HIS
2	D1	137	HIS
2	D1	180	ASN
3	E1	40	GLN
3	E1	169	ASN
3	E1	203	GLN
6	H1	28	ASN
6	H1	43	ASN
7	I1	8	GLN
8	J1	82	ASN
8	J1	88	ASN
9	K1	13	ASN
9	K1	68	GLN
9	K1	70	GLN
11	M1	11	ASN
11	M1	13	HIS
11	M1	23	ASN
11	M1	71	GLN
12	N1	16	ASN

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Mol	Chain	Res	Type
12	N1	68	GLN
13	O1	84	GLN
14	P1	44	ASN
14	P1	66	ASN
14	P1	72	HIS
14	P1	75	ASN
16	R1	61	ASN
16	R1	111	HIS
17	S1	55	ASN
19	U1	32	HIS
19	U1	75	ASN
19	U1	118	GLN
20	V1	12	ASN
20	V1	29	GLN
20	V1	35	ASN
20	V1	50	ASN
21	W1	19	GLN
22	X1	71	ASN
23	Y1	19	GLN
23	Y1	32	GLN
23	Y1	52	HIS
24	Z1	20	ASN
26	b1	26	ASN
28	d1	35	GLN
31	e1	34	GLN
1	C2	115	GLN
1	C2	164	GLN
1	C2	203	ASN
2	D2	54	GLN
2	D2	135	HIS
3	E2	67	GLN
4	F2	40	ASN
4	F2	79	ASN
4	F2	132	ASN
4	F2	138	GLN
5	G2	147	ASN
7	I2	8	GLN
7	I2	101	HIS
8	J2	5	GLN
8	J2	82	ASN
9	K2	27	HIS
9	K2	70	GLN

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Mol	Chain	Res	Type
10	L2	123	HIS
11	M2	11	ASN
12	N2	16	ASN
12	N2	84	GLN
13	O2	2	ASN
13	O2	84	GLN
14	P2	44	ASN
14	P2	72	HIS
15	Q2	11	GLN
15	Q2	89	GLN
16	R2	40	ASN
16	R2	60	ASN
16	R2	61	ASN
16	R2	62	HIS
16	R2	111	HIS
17	S2	41	ASN
17	S2	55	ASN
19	U2	85	HIS
20	V2	70	GLN
21	W2	47	GLN
21	W2	56	GLN
22	X2	46	GLN
22	X2	65	ASN
24	Z2	20	ASN
24	Z2	40	HIS
28	d2	35	GLN
31	e2	36	GLN
32	B3	25	ASN
32	B3	76	GLN
32	B3	113	HIS
32	B3	204	ASN
33	C3	63	ASN
33	C3	110	ASN
36	F3	64	GLN
37	G3	56	GLN
37	G3	64	GLN
37	G3	68	ASN
37	G3	97	GLN
37	G3	148	ASN
38	H3	70	GLN
38	H3	78	GLN
39	I3	23	ASN

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Mol	Chain	Res	Type
39	I3	117	HIS
40	J3	33	GLN
41	K3	22	HIS
41	K3	116	HIS
42	L3	8	ASN
42	L3	75	HIS
43	M3	40	ASN
43	M3	77	ASN
43	M3	101	GLN
43	M3	106	ASN
46	P3	76	GLN
47	Q3	94	ASN
48	R3	36	ASN
49	S3	53	ASN
49	S3	57	HIS
49	S3	83	HIS
50	T3	9	ASN
50	T3	45	GLN
52	X3	179	ASN
54	V3	59	GLN
32	B4	19	HIS
32	B4	37	ASN
32	B4	76	GLN
32	B4	135	GLN
32	B4	146	GLN
32	B4	212	GLN
32	B4	240	GLN
33	C4	28	GLN
33	C4	98	ASN
33	C4	102	ASN
33	C4	108	ASN
33	C4	110	ASN
33	C4	136	GLN
33	C4	162	GLN
34	D4	199	ASN
34	D4	201	GLN
35	E4	56	GLN
35	E4	72	GLN
36	F4	94	GLN
36	F4	100	ASN
37	G4	28	ASN
37	G4	37	ASN

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Mol	Chain	Res	Type
37	G4	68	ASN
37	G4	84	ASN
37	G4	148	ASN
39	I4	38	GLN
40	J4	62	HIS
40	J4	68	HIS
40	J4	69	ASN
40	J4	76	ASN
41	K4	13	GLN
41	K4	93	GLN
41	K4	116	HIS
42	L4	75	HIS
42	L4	99	HIS
43	M4	101	GLN
43	M4	106	ASN
45	O4	28	GLN
45	O4	37	ASN
46	P4	76	GLN
49	S4	23	ASN
50	T4	9	ASN
50	T4	26	ASN
50	T4	75	ASN
52	W4	163	ASN
54	V4	107	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
29	A1	2911/2912 (99%)	1375 (47%)	31 (1%)
29	A2	2911/2912 (99%)	1352 (46%)	39 (1%)
30	B1	121/122 (99%)	61 (50%)	1 (0%)
30	B2	121/122 (99%)	61 (50%)	0
53	A3	1505/1506 (99%)	771 (51%)	28 (1%)
53	A4	1505/1506 (99%)	758 (50%)	27 (1%)
All	All	9074/9080 (99%)	4378 (48%)	126 (1%)

All (4378) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
29	A1	4	C
29	A1	6	A

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Mol	Chain	Res	Type
29	A1	9	U
29	A1	10	G
29	A1	12	U
29	A1	13	A
29	A1	14	A
29	A1	15	G
29	A1	18	C
29	A1	26	G
29	A1	29	U
29	A1	34	C
29	A1	35	G
29	A1	36	G
29	A1	37	C
29	A1	38	A
29	A1	42	G
29	A1	44	G
29	A1	45	C
29	A1	46	C
29	A1	48	A
29	A1	50	G
29	A1	51	A
29	A1	54	G
29	A1	57	G
29	A1	62	U
29	A1	63	A
29	A1	65	C
29	A1	70	A
29	A1	71	U
29	A1	72	A
29	A1	73	A
29	A1	74	G
29	A1	75	C
29	A1	79	G
29	A1	82	G
29	A1	84	G
29	A1	85	C
29	A1	87	G
29	A1	88	G
29	A1	89	U
29	A1	92	C
29	A1	95	G
29	A1	97	G

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Mol	Chain	Res	Type
29	A1	100	G
29	A1	101	A
29	A1	103	C
29	A1	104	C
29	A1	106	U
29	A1	107	G
29	A1	109	A
29	A1	110	U
29	A1	111	G
29	A1	113	C
29	A1	116	A
29	A1	117	A
29	A1	118	U
29	A1	121	G
29	A1	122	G
29	A1	124	A
29	A1	125	A
29	A1	126	C
29	A1	128	C
29	A1	129	G
29	A1	132	C
29	A1	134	G
29	A1	136	G
29	A1	137	G
29	A1	139	A
29	A1	145	G
29	A1	149	A
29	A1	152	G
29	A1	156	U
29	A1	158	U
29	A1	159	U
29	A1	160	U
29	A1	161	G
29	A1	165	G
29	A1	168	G
29	A1	169	G
29	A1	173	C
29	A1	175	U
29	A1	182	C
29	A1	186	A
29	A1	189	A
29	A1	190	U

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Mol	Chain	Res	Type
29	A1	193	C
29	A1	195	G
29	A1	200	C
29	A1	203	A
29	A1	205	G
29	A1	206	A
29	A1	209	G
29	A1	211	A
29	A1	212	A
29	A1	213	A
29	A1	214	G
29	A1	217	A
29	A1	218	A
29	A1	219	A
29	A1	220	U
29	A1	223	A
29	A1	224	C
29	A1	225	U
29	A1	226	C
29	A1	231	A
29	A1	233	U
29	A1	236	C
29	A1	238	G
29	A1	239	C
29	A1	240	G
29	A1	241	A
29	A1	242	G
29	A1	251	G
29	A1	252	A
29	A1	253	C
29	A1	255	A
29	A1	261	A
29	A1	268	C
29	A1	271	C
29	A1	273	U
29	A1	274	G
29	A1	275	U
29	A1	276	C
29	A1	277	C
29	A1	278	G
29	A1	279	G
29	A1	281	C

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Mol	Chain	Res	Type
29	A1	283	G
29	A1	284	G
29	A1	289	U
29	A1	290	G
29	A1	291	G
29	A1	292	G
29	A1	293	G
29	A1	294	C
29	A1	299	G
29	A1	300	G
29	A1	301	A
29	A1	302	C
29	A1	303	A
29	A1	306	G
29	A1	308	A
29	A1	309	U
29	A1	312	C
29	A1	313	C
29	A1	324	A
29	A1	325	A
29	A1	327	C
29	A1	331	U
29	A1	333	G
29	A1	335	A
29	A1	336	A
29	A1	337	G
29	A1	338	C
29	A1	341	C
29	A1	342	G
29	A1	346	G
29	A1	347	A
29	A1	348	G
29	A1	350	G
29	A1	351	G
29	A1	353	U
29	A1	355	A
29	A1	357	A
29	A1	360	C
29	A1	367	G
29	A1	369	G
29	A1	370	A
29	A1	372	A

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Mol	Chain	Res	Type
29	A1	374	G
29	A1	376	G
29	A1	377	G
29	A1	379	G
29	A1	386	G
29	A1	387	U
29	A1	388	G
29	A1	389	A
29	A1	395	C
29	A1	396	C
29	A1	398	G
29	A1	399	A
29	A1	400	G
29	A1	401	U
29	A1	405	C
29	A1	407	G
29	A1	409	G
29	A1	410	G
29	A1	414	G
29	A1	415	U
29	A1	416	G
29	A1	418	A
29	A1	419	G
29	A1	422	A
29	A1	424	G
29	A1	427	G
29	A1	428	G
29	A1	431	U
29	A1	432	C
29	A1	433	U
29	A1	434	G
29	A1	435	G
29	A1	436	G
29	A1	439	G
29	A1	440	A
29	A1	441	C
29	A1	450	U
29	A1	451	A
29	A1	453	G
29	A1	460	U
29	A1	462	C
29	A1	463	U

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Mol	Chain	Res	Type
29	A1	464	C
29	A1	465	C
29	A1	467	G
29	A1	469	U
29	A1	471	A
29	A1	472	C
29	A1	475	A
29	A1	476	U
29	A1	478	G
29	A1	480	G
29	A1	481	C
29	A1	482	A
29	A1	484	C
29	A1	485	A
29	A1	486	G
29	A1	492	U
29	A1	493	G
29	A1	494	A
29	A1	498	A
29	A1	500	A
29	A1	503	U
29	A1	505	A
29	A1	508	A
29	A1	509	G
29	A1	510	A
29	A1	514	C
29	A1	517	G
29	A1	519	A
29	A1	521	G
29	A1	525	G
29	A1	526	U
29	A1	531	U
29	A1	532	A
29	A1	534	A
29	A1	535	G
29	A1	536	C
29	A1	538	U
29	A1	539	G
29	A1	545	G
29	A1	550	C
29	A1	551	U
29	A1	554	C

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Mol	Chain	Res	Type
29	A1	556	A
29	A1	557	G
29	A1	558	C
29	A1	559	A
29	A1	565	G
29	A1	566	G
29	A1	568	C
29	A1	570	C
29	A1	573	A
29	A1	574	A
29	A1	575	G
29	A1	578	G
29	A1	580	U
29	A1	581	G
29	A1	586	G
29	A1	587	U
29	A1	588	G
29	A1	594	U
29	A1	598	G
29	A1	599	C
29	A1	600	A
29	A1	607	G
29	A1	608	G
29	A1	611	A
29	A1	612	C
29	A1	614	C
29	A1	615	A
29	A1	617	G
29	A1	621	G
29	A1	628	A
29	A1	631	U
29	A1	632	U
29	A1	635	G
29	A1	638	G
29	A1	641	G
29	A1	642	A
29	A1	645	C
29	A1	648	A
29	A1	649	G
29	A1	650	G
29	A1	652	G
29	A1	655	G

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Mol	Chain	Res	Type
29	A1	661	C
29	A1	664	A
29	A1	665	G
29	A1	670	A
29	A1	671	A
29	A1	673	A
29	A1	676	G
29	A1	677	C
29	A1	678	G
29	A1	679	C
29	A1	680	A
29	A1	681	A
29	A1	683	C
29	A1	684	G
29	A1	686	C
29	A1	687	C
29	A1	689	G
29	A1	690	C
29	A1	691	A
29	A1	692	C
29	A1	694	C
29	A1	695	G
29	A1	696	G
29	A1	701	A
29	A1	702	A
29	A1	703	A
29	A1	704	A
29	A1	710	C
29	A1	711	G
29	A1	712	G
29	A1	715	G
29	A1	719	A
29	A1	724	A
29	A1	725	A
29	A1	726	A
29	A1	730	G
29	A1	731	G
29	A1	732	C
29	A1	733	G
29	A1	734	A
29	A1	735	G
29	A1	737	U

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Mol	Chain	Res	Type
29	A1	747	C
29	A1	748	A
29	A1	752	U
29	A1	760	G
29	A1	761	G
29	A1	762	G
29	A1	763	U
29	A1	764	G
29	A1	766	G
29	A1	768	C
29	A1	769	C
29	A1	770	C
29	A1	771	A
29	A1	775	G
29	A1	777	G
29	A1	778	G
29	A1	782	G
29	A1	783	A
29	A1	785	C
29	A1	786	C
29	A1	787	G
29	A1	789	U
29	A1	790	G
29	A1	793	G
29	A1	796	U
29	A1	797	G
29	A1	798	C
29	A1	800	A
29	A1	801	A
29	A1	802	C
29	A1	806	U
29	A1	807	C
29	A1	808	G
29	A1	810	A
29	A1	811	U
29	A1	812	G
29	A1	813	A
29	A1	814	G
29	A1	815	C
29	A1	824	G
29	A1	825	G
29	A1	826	A

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Mol	Chain	Res	Type
29	A1	827	G
29	A1	828	U
29	A1	831	A
29	A1	832	A
29	A1	833	A
29	A1	837	A
29	A1	838	A
29	A1	839	C
29	A1	840	C
29	A1	842	A
29	A1	848	G
29	A1	849	A
29	A1	851	A
29	A1	854	G
29	A1	855	C
29	A1	857	G
29	A1	861	C
29	A1	866	C
29	A1	867	G
29	A1	868	A
29	A1	870	A
29	A1	873	A
29	A1	875	U
29	A1	877	U
29	A1	879	G
29	A1	880	G
29	A1	883	C
29	A1	888	U
29	A1	891	G
29	A1	895	C
29	A1	896	U
29	A1	897	G
29	A1	902	G
29	A1	904	G
29	A1	914	C
29	A1	917	U
29	A1	918	G
29	A1	920	U
29	A1	929	G
29	A1	931	G
29	A1	933	C
29	A1	934	C

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Mol	Chain	Res	Type
29	A1	935	C
29	A1	937	C
29	A1	938	C
29	A1	939	A
29	A1	940	G
29	A1	941	C
29	A1	942	C
29	A1	943	U
29	A1	944	A
29	A1	945	C
29	A1	946	C
29	A1	947	A
29	A1	948	A
29	A1	949	A
29	A1	952	C
29	A1	953	U
29	A1	956	C
29	A1	958	A
29	A1	961	U
29	A1	962	C
29	A1	965	A
29	A1	974	A
29	A1	978	G
29	A1	979	G
29	A1	980	A
29	A1	987	G
29	A1	989	G
29	A1	990	U
29	A1	992	A
29	A1	993	G
29	A1	1000	A
29	A1	1001	G
29	A1	1003	G
29	A1	1006	A
29	A1	1008	C
29	A1	1010	U
29	A1	1012	C
29	A1	1015	G
29	A1	1020	A
29	A1	1021	G
29	A1	1022	C
29	A1	1025	G

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Mol	Chain	Res	Type
29	A1	1028	A
29	A1	1029	A
29	A1	1030	C
29	A1	1031	A
29	A1	1032	A
29	A1	1036	A
29	A1	1037	G
29	A1	1040	C
29	A1	1044	A
29	A1	1051	G
29	A1	1052	C
29	A1	1053	C
29	A1	1055	C
29	A1	1059	G
29	A1	1060	U
29	A1	1061	C
29	A1	1063	G
29	A1	1065	G
29	A1	1068	A
29	A1	1069	A
29	A1	1070	G
29	A1	1071	U
29	A1	1072	G
29	A1	1073	G
29	A1	1074	U
29	A1	1075	A
29	A1	1078	G
29	A1	1081	U
29	A1	1082	G
29	A1	1085	G
29	A1	1086	C
29	A1	1087	G
29	A1	1088	C
29	A1	1092	G
29	A1	1093	A
29	A1	1094	A
29	A1	1095	G
29	A1	1098	A
29	A1	1100	C
29	A1	1101	C
29	A1	1103	G
29	A1	1104	G

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Mol	Chain	Res	Type
29	A1	1105	A
29	A1	1106	U
29	A1	1107	G
29	A1	1109	U
29	A1	1110	G
29	A1	1111	G
29	A1	1112	C
29	A1	1115	A
29	A1	1116	G
29	A1	1117	A
29	A1	1118	A
29	A1	1119	G
29	A1	1121	A
29	A1	1122	G
29	A1	1123	C
29	A1	1124	C
29	A1	1125	A
29	A1	1126	U
29	A1	1127	C
29	A1	1129	U
29	A1	1130	U
29	A1	1131	U
29	A1	1132	A
29	A1	1133	A
29	A1	1134	A
29	A1	1135	G
29	A1	1136	A
29	A1	1138	U
29	A1	1139	G
29	A1	1140	C
29	A1	1145	U
29	A1	1146	A
29	A1	1148	C
29	A1	1149	U
29	A1	1150	C
29	A1	1153	U
29	A1	1154	G
29	A1	1158	G
29	A1	1159	A
29	A1	1162	G
29	A1	1173	G
29	A1	1174	A

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Mol	Chain	Res	Type
29	A1	1176	A
29	A1	1177	A
29	A1	1178	U
29	A1	1179	G
29	A1	1180	A
29	A1	1181	U
29	A1	1182	C
29	A1	1183	G
29	A1	1184	G
29	A1	1185	G
29	A1	1186	G
29	A1	1188	U
29	A1	1189	U
29	A1	1190	A
29	A1	1191	A
29	A1	1192	G
29	A1	1196	A
29	A1	1199	G
29	A1	1200	C
29	A1	1203	A
29	A1	1204	A
29	A1	1206	C
29	A1	1208	G
29	A1	1211	G
29	A1	1214	C
29	A1	1219	G
29	A1	1220	G
29	A1	1221	A
29	A1	1222	U
29	A1	1223	G
29	A1	1224	A
29	A1	1225	C
29	A1	1226	C
29	A1	1227	C
29	A1	1228	C
29	A1	1229	A
29	A1	1230	G
29	A1	1233	G
29	A1	1235	U
29	A1	1237	G
29	A1	1249	C
29	A1	1250	G

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Mol	Chain	Res	Type
29	A1	1251	A
29	A1	1252	U
29	A1	1257	A
29	A1	1258	U
29	A1	1259	G
29	A1	1260	A
29	A1	1262	G
29	A1	1267	A
29	A1	1272	C
29	A1	1273	G
29	A1	1277	G
29	A1	1281	C
29	A1	1284	G
29	A1	1289	A
29	A1	1290	A
29	A1	1291	G
29	A1	1292	G
29	A1	1293	G
29	A1	1299	C
29	A1	1301	A
29	A1	1302	A
29	A1	1303	U
29	A1	1304	G
29	A1	1306	C
29	A1	1307	G
29	A1	1309	C
29	A1	1313	A
29	A1	1315	U
29	A1	1319	G
29	A1	1320	A
29	A1	1321	U
29	A1	1323	A
29	A1	1326	A
29	A1	1328	G
29	A1	1336	U
29	A1	1337	C
29	A1	1339	C
29	A1	1348	U
29	A1	1349	A
29	A1	1350	A
29	A1	1351	G
29	A1	1359	G

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Mol	Chain	Res	Type
29	A1	1360	U
29	A1	1361	U
29	A1	1362	C
29	A1	1363	C
29	A1	1364	U
29	A1	1369	A
29	A1	1371	U
29	A1	1373	G
29	A1	1377	U
29	A1	1378	C
29	A1	1381	C
29	A1	1386	G
29	A1	1388	U
29	A1	1390	A
29	A1	1391	G
29	A1	1398	C
29	A1	1401	A
29	A1	1402	A
29	A1	1403	G
29	A1	1404	G
29	A1	1405	U
29	A1	1407	A
29	A1	1408	A
29	A1	1409	G
29	A1	1411	C
29	A1	1413	A
29	A1	1416	G
29	A1	1417	G
29	A1	1418	C
29	A1	1419	G
29	A1	1427	A
29	A1	1428	G
29	A1	1429	G
29	A1	1432	A
29	A1	1433	G
29	A1	1434	C
29	A1	1440	A
29	A1	1441	A
29	A1	1443	A
29	A1	1444	U
29	A1	1445	U
29	A1	1446	C

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Mol	Chain	Res	Type
29	A1	1449	G
29	A1	1451	C
29	A1	1452	C
29	A1	1453	U
29	A1	1457	C
29	A1	1460	A
29	A1	1462	G
29	A1	1464	G
29	A1	1467	A
29	A1	1469	G
29	A1	1472	G
29	A1	1474	G
29	A1	1476	C
29	A1	1480	C
29	A1	1482	A
29	A1	1483	G
29	A1	1485	C
29	A1	1486	U
29	A1	1488	G
29	A1	1489	G
29	A1	1491	G
29	A1	1493	A
29	A1	1494	C
29	A1	1497	G
29	A1	1498	A
29	A1	1499	G
29	A1	1500	C
29	A1	1502	A
29	A1	1503	U
29	A1	1505	G
29	A1	1509	A
29	A1	1510	G
29	A1	1513	C
29	A1	1515	G
29	A1	1516	C
29	A1	1520	A
29	A1	1524	G
29	A1	1525	C
29	A1	1531	G
29	A1	1532	G
29	A1	1533	G
29	A1	1534	A

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Mol	Chain	Res	Type
29	A1	1535	G
29	A1	1536	G
29	A1	1537	U
29	A1	1538	A
29	A1	1539	G
29	A1	1540	G
29	A1	1541	C
29	A1	1542	A
29	A1	1543	A
29	A1	1544	A
29	A1	1545	U
29	A1	1546	C
29	A1	1547	C
29	A1	1548	G
29	A1	1551	U
29	A1	1553	C
29	A1	1554	C
29	A1	1555	A
29	A1	1557	C
29	A1	1558	A
29	A1	1559	A
29	A1	1560	G
29	A1	1561	C
29	A1	1562	U
29	A1	1563	C
29	A1	1565	G
29	A1	1566	C
29	A1	1568	U
29	A1	1569	G
29	A1	1571	U
29	A1	1572	G
29	A1	1573	G
29	A1	1576	A
29	A1	1578	G
29	A1	1580	C
29	A1	1582	G
29	A1	1583	U
29	A1	1584	A
29	A1	1585	C
29	A1	1586	G
29	A1	1589	U
29	A1	1592	C

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Mol	Chain	Res	Type
29	A1	1593	A
29	A1	1594	A
29	A1	1595	C
29	A1	1596	C
29	A1	1603	A
29	A1	1604	G
29	A1	1607	A
29	A1	1608	G
29	A1	1609	G
29	A1	1612	G
29	A1	1615	A
29	A1	1617	G
29	A1	1618	A
29	A1	1620	A
29	A1	1623	C
29	A1	1625	U
29	A1	1626	C
29	A1	1627	U
29	A1	1630	G
29	A1	1631	C
29	A1	1637	C
29	A1	1638	U
29	A1	1639	G
29	A1	1641	G
29	A1	1642	G
29	A1	1648	C
29	A1	1649	G
29	A1	1651	A
29	A1	1655	C
29	A1	1657	A
29	A1	1658	A
29	A1	1659	C
29	A1	1661	G
29	A1	1663	C
29	A1	1664	A
29	A1	1665	C
29	A1	1666	A
29	A1	1667	G
29	A1	1673	C
29	A1	1683	A
29	A1	1684	G
29	A1	1688	U

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Mol	Chain	Res	Type
29	A1	1697	C
29	A1	1701	A
29	A1	1702	G
29	A1	1703	A
29	A1	1708	U
29	A1	1716	G
29	A1	1717	A
29	A1	1721	C
29	A1	1722	U
29	A1	1723	G
29	A1	1726	A
29	A1	1732	C
29	A1	1735	C
29	A1	1740	C
29	A1	1743	C
29	A1	1744	G
29	A1	1746	G
29	A1	1747	A
29	A1	1748	G
29	A1	1749	A
29	A1	1750	A
29	A1	1755	U
29	A1	1756	G
29	A1	1757	C
29	A1	1761	C
29	A1	1762	U
29	A1	1764	G
29	A1	1768	G
29	A1	1770	U
29	A1	1771	G
29	A1	1775	C
29	A1	1776	C
29	A1	1781	G
29	A1	1784	C
29	A1	1786	G
29	A1	1787	C
29	A1	1789	G
29	A1	1790	U
29	A1	1791	G
29	A1	1792	A
29	A1	1793	A
29	A1	1796	G

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Mol	Chain	Res	Type
29	A1	1797	G
29	A1	1798	C
29	A1	1799	U
29	A1	1800	C
29	A1	1806	A
29	A1	1808	U
29	A1	1810	U
29	A1	1811	U
29	A1	1813	A
29	A1	1814	C
29	A1	1815	C
29	A1	1816	A
29	A1	1817	A
29	A1	1818	A
29	A1	1820	A
29	A1	1822	A
29	A1	1824	A
29	A1	1829	U
29	A1	1832	G
29	A1	1833	C
29	A1	1834	G
29	A1	1835	A
29	A1	1838	U
29	A1	1840	G
29	A1	1841	U
29	A1	1842	A
29	A1	1843	A
29	A1	1844	G
29	A1	1846	G
29	A1	1847	G
29	A1	1848	A
29	A1	1849	G
29	A1	1852	A
29	A1	1853	U
29	A1	1854	A
29	A1	1861	G
29	A1	1862	A
29	A1	1867	U
29	A1	1869	C
29	A1	1870	C
29	A1	1872	G
29	A1	1876	C

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Mol	Chain	Res	Type
29	A1	1877	C
29	A1	1879	G
29	A1	1880	A
29	A1	1881	A
29	A1	1885	C
29	A1	1888	G
29	A1	1890	G
29	A1	1891	G
29	A1	1893	G
29	A1	1894	G
29	A1	1895	G
29	A1	1896	G
29	A1	1898	G
29	A1	1900	A
29	A1	1901	A
29	A1	1902	G
29	A1	1903	C
29	A1	1904	C
29	A1	1907	G
29	A1	1911	C
29	A1	1912	G
29	A1	1913	A
29	A1	1916	C
29	A1	1920	G
29	A1	1921	G
29	A1	1924	A
29	A1	1925	A
29	A1	1927	G
29	A1	1930	G
29	A1	1931	G
29	A1	1932	C
29	A1	1933	C
29	A1	1934	G
29	A1	1935	U
29	A1	1936	A
29	A1	1939	U
29	A1	1940	A
29	A1	1941	U
29	A1	1942	A
29	A1	1943	A
29	A1	1946	G
29	A1	1947	U

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Mol	Chain	Res	Type
29	A1	1949	C
29	A1	1950	U
29	A1	1953	G
29	A1	1954	G
29	A1	1955	U
29	A1	1959	G
29	A1	1961	A
29	A1	1962	A
29	A1	1969	G
29	A1	1970	U
29	A1	1976	A
29	A1	1979	U
29	A1	1980	U
29	A1	1981	C
29	A1	1987	U
29	A1	1988	G
29	A1	1989	C
29	A1	1991	C
29	A1	1993	A
29	A1	1994	A
29	A1	1995	A
29	A1	1996	A
29	A1	1999	G
29	A1	2006	C
29	A1	2009	G
29	A1	2013	G
29	A1	2016	G
29	A1	2017	U
29	A1	2018	C
29	A1	2020	C
29	A1	2021	G
29	A1	2023	C
29	A1	2024	G
29	A1	2026	G
29	A1	2027	G
29	A1	2034	G
29	A1	2036	G
29	A1	2039	A
29	A1	2040	U
29	A1	2041	U
29	A1	2042	G
29	A1	2043	A

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Mol	Chain	Res	Type
29	A1	2044	A
29	A1	2045	C
29	A1	2046	U
29	A1	2047	G
29	A1	2050	C
29	A1	2055	A
29	A1	2056	G
29	A1	2057	A
29	A1	2058	U
29	A1	2060	C
29	A1	2063	C
29	A1	2066	A
29	A1	2067	C
29	A1	2069	C
29	A1	2075	A
29	A1	2076	G
29	A1	2080	G
29	A1	2083	A
29	A1	2084	A
29	A1	2085	G
29	A1	2086	A
29	A1	2087	C
29	A1	2089	C
29	A1	2091	G
29	A1	2092	U
29	A1	2093	G
29	A1	2099	U
29	A1	2101	A
29	A1	2109	C
29	A1	2114	G
29	A1	2116	U
29	A1	2117	G
29	A1	2118	G
29	A1	2120	U
29	A1	2122	U
29	A1	2123	U
29	A1	2125	G
29	A1	2127	C
29	A1	2128	G
29	A1	2130	G
29	A1	2131	C
29	A1	2132	C

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Mol	Chain	Res	Type
29	A1	2133	U
29	A1	2134	G
29	A1	2135	C
29	A1	2136	G
29	A1	2137	U
29	A1	2139	G
29	A1	2140	G
29	A1	2141	A
29	A1	2142	U
29	A1	2143	A
29	A1	2145	G
29	A1	2146	U
29	A1	2148	G
29	A1	2149	G
29	A1	2150	A
29	A1	2151	G
29	A1	2153	C
29	A1	2154	U
29	A1	2155	G
29	A1	2156	U
29	A1	2159	A
29	A1	2160	C
29	A1	2161	C
29	A1	2162	C
29	A1	2163	C
29	A1	2164	C
29	A1	2166	C
29	A1	2167	C
29	A1	2168	U
29	A1	2169	C
29	A1	2170	C
29	A1	2171	G
29	A1	2172	G
29	A1	2174	U
29	A1	2175	G
29	A1	2176	G
29	A1	2177	G
29	A1	2178	G
29	A1	2179	G
29	A1	2182	A
29	A1	2183	G
29	A1	2184	G

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Mol	Chain	Res	Type
29	A1	2185	C
29	A1	2187	C
29	A1	2190	G
29	A1	2192	G
29	A1	2195	A
29	A1	2197	A
29	A1	2198	C
29	A1	2199	C
29	A1	2201	C
29	A1	2207	C
29	A1	2210	G
29	A1	2213	U
29	A1	2215	G
29	A1	2216	G
29	A1	2217	G
29	A1	2222	A
29	A1	2223	A
29	A1	2224	C
29	A1	2226	C
29	A1	2228	C
29	A1	2229	G
29	A1	2230	G
29	A1	2231	A
29	A1	2232	U
29	A1	2236	G
29	A1	2239	A
29	A1	2242	G
29	A1	2243	C
29	A1	2246	U
29	A1	2247	U
29	A1	2252	G
29	A1	2253	G
29	A1	2254	C
29	A1	2256	G
29	A1	2257	U
29	A1	2260	G
29	A1	2261	A
29	A1	2263	U
29	A1	2265	G
29	A1	2268	C
29	A1	2269	G
29	A1	2270	G

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Mol	Chain	Res	Type
29	A1	2271	U
29	A1	2273	G
29	A1	2277	C
29	A1	2282	A
29	A1	2285	G
29	A1	2288	A
29	A1	2289	C
29	A1	2294	G
29	A1	2297	C
29	A1	2298	C
29	A1	2300	A
29	A1	2302	A
29	A1	2303	G
29	A1	2304	G
29	A1	2308	C
29	A1	2309	C
29	A1	2310	U
29	A1	2311	C
29	A1	2314	G
29	A1	2315	C
29	A1	2320	C
29	A1	2323	A
29	A1	2326	U
29	A1	2329	G
29	A1	2332	G
29	A1	2333	G
29	A1	2334	A
29	A1	2335	G
29	A1	2336	A
29	A1	2339	G
29	A1	2341	A
29	A1	2342	A
29	A1	2346	U
29	A1	2347	A
29	A1	2348	G
29	A1	2350	A
29	A1	2354	G
29	A1	2356	C
29	A1	2360	A
29	A1	2361	C
29	A1	2362	U
29	A1	2363	G

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Mol	Chain	Res	Type
29	A1	2364	C
29	A1	2366	A
29	A1	2369	C
29	A1	2372	G
29	A1	2373	C
29	A1	2374	A
29	A1	2375	A
29	A1	2376	G
29	A1	2379	G
29	A1	2381	G
29	A1	2383	A
29	A1	2386	G
29	A1	2389	G
29	A1	2391	A
29	A1	2395	C
29	A1	2396	G
29	A1	2397	G
29	A1	2398	G
29	A1	2399	C
29	A1	2401	U
29	A1	2402	A
29	A1	2404	U
29	A1	2405	G
29	A1	2406	A
29	A1	2409	C
29	A1	2411	G
29	A1	2415	U
29	A1	2416	C
29	A1	2417	C
29	A1	2420	U
29	A1	2421	G
29	A1	2422	U
29	A1	2424	G
29	A1	2426	A
29	A1	2429	G
29	A1	2432	A
29	A1	2433	U
29	A1	2434	C
29	A1	2437	U
29	A1	2439	A
29	A1	2440	A
29	A1	2441	C

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Mol	Chain	Res	Type
29	A1	2442	G
29	A1	2443	G
29	A1	2444	A
29	A1	2445	U
29	A1	2447	A
29	A1	2450	G
29	A1	2451	U
29	A1	2453	A
29	A1	2454	C
29	A1	2455	C
29	A1	2461	G
29	A1	2462	A
29	A1	2464	A
29	A1	2470	C
29	A1	2475	C
29	A1	2476	U
29	A1	2477	C
29	A1	2482	G
29	A1	2483	A
29	A1	2485	C
29	A1	2486	G
29	A1	2487	U
29	A1	2488	C
29	A1	2490	A
29	A1	2491	C
29	A1	2492	A
29	A1	2493	G
29	A1	2499	G
29	A1	2504	G
29	A1	2506	U
29	A1	2512	C
29	A1	2513	C
29	A1	2515	C
29	A1	2516	G
29	A1	2517	A
29	A1	2518	U
29	A1	2519	G
29	A1	2522	G
29	A1	2530	G
29	A1	2532	A
29	A1	2534	C
29	A1	2540	G

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Mol	Chain	Res	Type
29	A1	2543	G
29	A1	2544	A
29	A1	2546	G
29	A1	2548	A
29	A1	2549	G
29	A1	2550	G
29	A1	2551	U
29	A1	2552	C
29	A1	2555	A
29	A1	2556	A
29	A1	2557	G
29	A1	2561	U
29	A1	2568	U
29	A1	2574	C
29	A1	2575	A
29	A1	2578	A
29	A1	2579	A
29	A1	2580	A
29	A1	2581	G
29	A1	2586	A
29	A1	2587	C
29	A1	2591	A
29	A1	2592	G
29	A1	2596	G
29	A1	2599	U
29	A1	2601	A
29	A1	2611	G
29	A1	2612	A
29	A1	2616	A
29	A1	2617	G
29	A1	2620	C
29	A1	2621	G
29	A1	2622	G
29	A1	2623	U
29	A1	2625	U
29	A1	2626	C
29	A1	2627	U
29	A1	2628	A
29	A1	2629	U
29	A1	2631	C
29	A1	2637	G
29	A1	2643	A

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Mol	Chain	Res	Type
29	A1	2644	G
29	A1	2647	G
29	A1	2654	G
29	A1	2656	G
29	A1	2657	G
29	A1	2660	C
29	A1	2661	U
29	A1	2663	U
29	A1	2664	U
29	A1	2665	C
29	A1	2668	A
29	A1	2669	G
29	A1	2678	G
29	A1	2679	A
29	A1	2681	C
29	A1	2687	G
29	A1	2689	A
29	A1	2695	C
29	A1	2696	U
29	A1	2699	G
29	A1	2703	U
29	A1	2704	C
29	A1	2705	C
29	A1	2706	C
29	A1	2713	C
29	A1	2714	C
29	A1	2716	U
29	A1	2717	C
29	A1	2726	U
29	A1	2727	A
29	A1	2728	A
29	A1	2734	G
29	A1	2735	U
29	A1	2741	U
29	A1	2742	G
29	A1	2744	G
29	A1	2748	A
29	A1	2749	A
29	A1	2750	G
29	A1	2751	G
29	A1	2753	A
29	A1	2756	A

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Mol	Chain	Res	Type
29	A1	2759	G
29	A1	2760	C
29	A1	2762	G
29	A1	2765	A
29	A1	2766	G
29	A1	2767	C
29	A1	2768	A
29	A1	2769	U
29	A1	2770	C
29	A1	2771	U
29	A1	2772	A
29	A1	2774	G
29	A1	2775	C
29	A1	2780	A
29	A1	2781	G
29	A1	2784	C
29	A1	2785	G
29	A1	2793	A
29	A1	2796	A
29	A1	2797	G
29	A1	2798	G
29	A1	2804	C
29	A1	2806	C
29	A1	2808	G
29	A1	2811	U
29	A1	2812	C
29	A1	2813	A
29	A1	2814	A
29	A1	2815	G
29	A1	2817	C
29	A1	2819	G
29	A1	2820	U
29	A1	2823	G
29	A1	2825	A
29	A1	2828	C
29	A1	2830	G
29	A1	2831	G
29	A1	2832	A
29	A1	2834	G
29	A1	2835	A
29	A1	2836	C
29	A1	2839	C

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Mol	Chain	Res	Type
29	A1	2844	U
29	A1	2846	G
29	A1	2847	A
29	A1	2848	U
29	A1	2851	G
29	A1	2855	G
29	A1	2856	G
29	A1	2860	G
29	A1	2861	U
29	A1	2862	A
29	A1	2863	A
29	A1	2865	C
29	A1	2870	C
29	A1	2882	C
29	A1	2884	G
29	A1	2885	A
29	A1	2886	C
29	A1	2889	G
29	A1	2891	C
29	A1	2892	C
29	A1	2893	C
29	A1	2897	C
29	A1	2898	G
29	A1	2902	G
29	A1	2903	A
29	A1	2906	U
29	A1	2910	G
29	A1	2911	A
29	A1	2912	C
30	B1	3	U
30	B1	5	C
30	B1	8	C
30	B1	11	G
30	B1	12	C
30	B1	13	C
30	B1	14	C
30	B1	17	A
30	B1	18	G
30	B1	24	U
30	B1	26	G
30	B1	27	A
30	B1	29	C

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Mol	Chain	Res	Type
30	B1	34	C
30	B1	35	G
30	B1	39	C
30	B1	40	C
30	B1	41	A
30	B1	42	U
30	B1	43	U
30	B1	44	C
30	B1	46	G
30	B1	47	A
30	B1	51	C
30	B1	52	G
30	B1	56	G
30	B1	58	G
30	B1	59	A
30	B1	63	G
30	B1	66	C
30	B1	67	C
30	B1	68	A
30	B1	69	G
30	B1	71	G
30	B1	73	C
30	B1	75	A
30	B1	77	G
30	B1	82	U
30	B1	84	G
30	B1	86	C
30	B1	87	G
30	B1	91	G
30	B1	93	C
30	B1	95	G
30	B1	97	C
30	B1	98	U
30	B1	99	G
30	B1	101	G
30	B1	103	G
30	B1	107	A
30	B1	108	G
30	B1	109	G
30	B1	111	C
30	B1	112	G
30	B1	114	U

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Mol	Chain	Res	Type
30	B1	115	G
30	B1	117	G
30	B1	118	G
30	B1	120	G
30	B1	121	G
30	B1	122	A
29	A2	3	U
29	A2	4	C
29	A2	6	A
29	A2	7	G
29	A2	12	U
29	A2	15	G
29	A2	18	C
29	A2	29	U
29	A2	33	U
29	A2	34	C
29	A2	35	G
29	A2	36	G
29	A2	37	C
29	A2	38	A
29	A2	44	G
29	A2	45	C
29	A2	46	C
29	A2	47	G
29	A2	48	A
29	A2	49	U
29	A2	50	G
29	A2	53	G
29	A2	54	G
29	A2	57	G
29	A2	60	G
29	A2	61	C
29	A2	62	U
29	A2	63	A
29	A2	65	C
29	A2	69	G
29	A2	70	A
29	A2	71	U
29	A2	72	A
29	A2	73	A
29	A2	74	G
29	A2	75	C

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Mol	Chain	Res	Type
29	A2	82	G
29	A2	84	G
29	A2	87	G
29	A2	88	G
29	A2	89	U
29	A2	95	G
29	A2	98	U
29	A2	99	G
29	A2	100	G
29	A2	106	U
29	A2	107	G
29	A2	109	A
29	A2	110	U
29	A2	111	G
29	A2	112	U
29	A2	116	A
29	A2	117	A
29	A2	118	U
29	A2	121	G
29	A2	122	G
29	A2	123	G
29	A2	126	C
29	A2	128	C
29	A2	134	G
29	A2	136	G
29	A2	139	A
29	A2	145	G
29	A2	149	A
29	A2	153	C
29	A2	155	C
29	A2	156	U
29	A2	157	U
29	A2	160	U
29	A2	161	G
29	A2	169	G
29	A2	173	C
29	A2	175	U
29	A2	182	C
29	A2	186	A
29	A2	188	C
29	A2	189	A
29	A2	193	C

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Mol	Chain	Res	Type
29	A2	195	G
29	A2	200	C
29	A2	203	A
29	A2	205	G
29	A2	206	A
29	A2	209	G
29	A2	211	A
29	A2	213	A
29	A2	214	G
29	A2	217	A
29	A2	218	A
29	A2	219	A
29	A2	220	U
29	A2	223	A
29	A2	224	C
29	A2	225	U
29	A2	227	C
29	A2	231	A
29	A2	233	U
29	A2	236	C
29	A2	237	G
29	A2	238	G
29	A2	239	C
29	A2	240	G
29	A2	242	G
29	A2	251	G
29	A2	252	A
29	A2	253	C
29	A2	255	A
29	A2	261	A
29	A2	268	C
29	A2	271	C
29	A2	272	U
29	A2	274	G
29	A2	275	U
29	A2	276	C
29	A2	277	C
29	A2	279	G
29	A2	280	G
29	A2	281	C
29	A2	283	G
29	A2	284	G

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Mol	Chain	Res	Type
29	A2	287	C
29	A2	288	G
29	A2	289	U
29	A2	290	G
29	A2	291	G
29	A2	292	G
29	A2	293	G
29	A2	294	C
29	A2	295	C
29	A2	299	G
29	A2	300	G
29	A2	301	A
29	A2	303	A
29	A2	307	A
29	A2	308	A
29	A2	309	U
29	A2	312	C
29	A2	313	C
29	A2	314	A
29	A2	324	A
29	A2	325	A
29	A2	328	U
29	A2	331	U
29	A2	334	G
29	A2	335	A
29	A2	336	A
29	A2	337	G
29	A2	338	C
29	A2	341	C
29	A2	342	G
29	A2	344	C
29	A2	347	A
29	A2	348	G
29	A2	350	G
29	A2	351	G
29	A2	354	G
29	A2	355	A
29	A2	357	A
29	A2	360	C
29	A2	363	G
29	A2	367	G
29	A2	372	A

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Mol	Chain	Res	Type
29	A2	374	G
29	A2	376	G
29	A2	377	G
29	A2	379	G
29	A2	380	G
29	A2	381	G
29	A2	386	G
29	A2	389	A
29	A2	392	G
29	A2	394	A
29	A2	395	C
29	A2	396	C
29	A2	397	C
29	A2	398	G
29	A2	400	G
29	A2	401	U
29	A2	404	C
29	A2	405	C
29	A2	409	G
29	A2	414	G
29	A2	415	U
29	A2	416	G
29	A2	419	G
29	A2	422	A
29	A2	424	G
29	A2	427	G
29	A2	428	G
29	A2	432	C
29	A2	433	U
29	A2	435	G
29	A2	436	G
29	A2	439	G
29	A2	440	A
29	A2	441	C
29	A2	442	C
29	A2	443	A
29	A2	451	A
29	A2	453	G
29	A2	460	U
29	A2	462	C
29	A2	464	C
29	A2	465	C

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Mol	Chain	Res	Type
29	A2	466	G
29	A2	467	G
29	A2	469	U
29	A2	470	G
29	A2	471	A
29	A2	472	C
29	A2	476	U
29	A2	480	G
29	A2	481	C
29	A2	482	A
29	A2	484	C
29	A2	485	A
29	A2	486	G
29	A2	492	U
29	A2	494	A
29	A2	498	A
29	A2	500	A
29	A2	501	G
29	A2	503	U
29	A2	505	A
29	A2	508	A
29	A2	509	G
29	A2	511	A
29	A2	512	C
29	A2	517	G
29	A2	519	A
29	A2	521	G
29	A2	532	A
29	A2	533	G
29	A2	534	A
29	A2	535	G
29	A2	536	C
29	A2	537	C
29	A2	538	U
29	A2	539	G
29	A2	547	G
29	A2	551	U
29	A2	554	C
29	A2	555	A
29	A2	556	A
29	A2	558	C
29	A2	559	A

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Mol	Chain	Res	Type
29	A2	560	G
29	A2	564	C
29	A2	565	G
29	A2	566	G
29	A2	568	C
29	A2	570	C
29	A2	573	A
29	A2	575	G
29	A2	578	G
29	A2	580	U
29	A2	581	G
29	A2	583	G
29	A2	586	G
29	A2	587	U
29	A2	588	G
29	A2	593	U
29	A2	594	U
29	A2	598	G
29	A2	600	A
29	A2	607	G
29	A2	608	G
29	A2	611	A
29	A2	612	C
29	A2	613	U
29	A2	615	A
29	A2	617	G
29	A2	618	G
29	A2	621	G
29	A2	628	A
29	A2	631	U
29	A2	632	U
29	A2	634	A
29	A2	635	G
29	A2	638	G
29	A2	641	G
29	A2	642	A
29	A2	645	C
29	A2	648	A
29	A2	649	G
29	A2	652	G
29	A2	655	G
29	A2	661	C

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Mol	Chain	Res	Type
29	A2	664	A
29	A2	669	G
29	A2	670	A
29	A2	671	A
29	A2	672	C
29	A2	676	G
29	A2	677	C
29	A2	678	G
29	A2	679	C
29	A2	682	A
29	A2	684	G
29	A2	689	G
29	A2	690	C
29	A2	692	C
29	A2	694	C
29	A2	695	G
29	A2	696	G
29	A2	697	G
29	A2	698	C
29	A2	700	G
29	A2	701	A
29	A2	702	A
29	A2	703	A
29	A2	705	G
29	A2	710	C
29	A2	711	G
29	A2	712	G
29	A2	715	G
29	A2	718	G
29	A2	725	A
29	A2	726	A
29	A2	730	G
29	A2	731	G
29	A2	735	G
29	A2	737	U
29	A2	747	C
29	A2	748	A
29	A2	752	U
29	A2	760	G
29	A2	761	G
29	A2	762	G
29	A2	763	U

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Mol	Chain	Res	Type
29	A2	768	C
29	A2	769	C
29	A2	772	G
29	A2	777	G
29	A2	778	G
29	A2	783	A
29	A2	785	C
29	A2	786	C
29	A2	787	G
29	A2	789	U
29	A2	790	G
29	A2	796	U
29	A2	797	G
29	A2	798	C
29	A2	800	A
29	A2	801	A
29	A2	802	C
29	A2	803	C
29	A2	804	C
29	A2	806	U
29	A2	807	C
29	A2	808	G
29	A2	810	A
29	A2	811	U
29	A2	812	G
29	A2	813	A
29	A2	814	G
29	A2	815	C
29	A2	820	G
29	A2	821	C
29	A2	823	A
29	A2	824	G
29	A2	825	G
29	A2	826	A
29	A2	828	U
29	A2	831	A
29	A2	832	A
29	A2	833	A
29	A2	834	G
29	A2	837	A
29	A2	839	C
29	A2	840	C

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Mol	Chain	Res	Type
29	A2	841	G
29	A2	842	A
29	A2	846	C
29	A2	849	A
29	A2	851	A
29	A2	854	G
29	A2	855	C
29	A2	857	G
29	A2	859	U
29	A2	861	C
29	A2	868	A
29	A2	870	A
29	A2	875	U
29	A2	876	U
29	A2	877	U
29	A2	878	A
29	A2	879	G
29	A2	880	G
29	A2	881	G
29	A2	888	U
29	A2	890	A
29	A2	895	C
29	A2	897	G
29	A2	904	G
29	A2	907	U
29	A2	908	G
29	A2	909	U
29	A2	914	C
29	A2	915	A
29	A2	917	U
29	A2	918	G
29	A2	920	U
29	A2	921	A
29	A2	927	A
29	A2	929	G
29	A2	931	G
29	A2	932	G
29	A2	933	C
29	A2	934	C
29	A2	936	A
29	A2	937	C
29	A2	940	G

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Mol	Chain	Res	Type
29	A2	941	C
29	A2	942	C
29	A2	943	U
29	A2	944	A
29	A2	945	C
29	A2	946	C
29	A2	947	A
29	A2	949	A
29	A2	953	U
29	A2	958	A
29	A2	961	U
29	A2	962	C
29	A2	963	C
29	A2	965	A
29	A2	974	A
29	A2	978	G
29	A2	979	G
29	A2	980	A
29	A2	981	G
29	A2	988	A
29	A2	991	G
29	A2	992	A
29	A2	993	G
29	A2	1000	A
29	A2	1001	G
29	A2	1003	G
29	A2	1005	U
29	A2	1006	A
29	A2	1008	C
29	A2	1010	U
29	A2	1011	C
29	A2	1012	C
29	A2	1015	G
29	A2	1021	G
29	A2	1022	C
29	A2	1025	G
29	A2	1028	A
29	A2	1029	A
29	A2	1030	C
29	A2	1031	A
29	A2	1033	C
29	A2	1034	C

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Mol	Chain	Res	Type
29	A2	1036	A
29	A2	1044	A
29	A2	1045	G
29	A2	1051	G
29	A2	1052	C
29	A2	1053	C
29	A2	1054	C
29	A2	1056	C
29	A2	1059	G
29	A2	1060	U
29	A2	1061	C
29	A2	1063	G
29	A2	1065	G
29	A2	1068	A
29	A2	1069	A
29	A2	1070	G
29	A2	1071	U
29	A2	1072	G
29	A2	1073	G
29	A2	1074	U
29	A2	1075	A
29	A2	1080	A
29	A2	1081	U
29	A2	1082	G
29	A2	1085	G
29	A2	1090	G
29	A2	1091	C
29	A2	1092	G
29	A2	1095	G
29	A2	1098	A
29	A2	1100	C
29	A2	1101	C
29	A2	1103	G
29	A2	1104	G
29	A2	1105	A
29	A2	1108	U
29	A2	1109	U
29	A2	1110	G
29	A2	1111	G
29	A2	1115	A
29	A2	1117	A
29	A2	1118	A

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Mol	Chain	Res	Type
29	A2	1119	G
29	A2	1120	C
29	A2	1121	A
29	A2	1122	G
29	A2	1123	C
29	A2	1124	C
29	A2	1125	A
29	A2	1127	C
29	A2	1130	U
29	A2	1131	U
29	A2	1132	A
29	A2	1133	A
29	A2	1134	A
29	A2	1135	G
29	A2	1136	A
29	A2	1137	G
29	A2	1138	U
29	A2	1141	G
29	A2	1142	U
29	A2	1143	A
29	A2	1144	A
29	A2	1145	U
29	A2	1146	A
29	A2	1148	C
29	A2	1153	U
29	A2	1156	U
29	A2	1159	A
29	A2	1160	G
29	A2	1162	G
29	A2	1165	G
29	A2	1172	C
29	A2	1173	G
29	A2	1174	A
29	A2	1177	A
29	A2	1178	U
29	A2	1179	G
29	A2	1180	A
29	A2	1182	C
29	A2	1183	G
29	A2	1184	G
29	A2	1185	G
29	A2	1186	G

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Mol	Chain	Res	Type
29	A2	1187	C
29	A2	1188	U
29	A2	1189	U
29	A2	1190	A
29	A2	1191	A
29	A2	1192	G
29	A2	1196	A
29	A2	1199	G
29	A2	1200	C
29	A2	1203	A
29	A2	1204	A
29	A2	1206	C
29	A2	1208	G
29	A2	1211	G
29	A2	1214	C
29	A2	1219	G
29	A2	1220	G
29	A2	1222	U
29	A2	1223	G
29	A2	1224	A
29	A2	1225	C
29	A2	1226	C
29	A2	1227	C
29	A2	1230	G
29	A2	1231	G
29	A2	1233	G
29	A2	1237	G
29	A2	1249	C
29	A2	1251	A
29	A2	1252	U
29	A2	1253	G
29	A2	1257	A
29	A2	1258	U
29	A2	1259	G
29	A2	1260	A
29	A2	1262	G
29	A2	1267	A
29	A2	1272	C
29	A2	1277	G
29	A2	1281	C
29	A2	1284	G
29	A2	1285	A

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Mol	Chain	Res	Type
29	A2	1289	A
29	A2	1290	A
29	A2	1291	G
29	A2	1292	G
29	A2	1293	G
29	A2	1299	C
29	A2	1300	G
29	A2	1301	A
29	A2	1302	A
29	A2	1303	U
29	A2	1304	G
29	A2	1306	C
29	A2	1307	G
29	A2	1309	C
29	A2	1311	U
29	A2	1313	A
29	A2	1314	G
29	A2	1315	U
29	A2	1316	A
29	A2	1319	G
29	A2	1320	A
29	A2	1321	U
29	A2	1323	A
29	A2	1326	A
29	A2	1328	G
29	A2	1333	G
29	A2	1336	U
29	A2	1337	C
29	A2	1348	U
29	A2	1349	A
29	A2	1350	A
29	A2	1351	G
29	A2	1356	A
29	A2	1359	G
29	A2	1360	U
29	A2	1361	U
29	A2	1362	C
29	A2	1363	C
29	A2	1364	U
29	A2	1373	G
29	A2	1377	U
29	A2	1378	C

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Mol	Chain	Res	Type
29	A2	1382	G
29	A2	1386	G
29	A2	1390	A
29	A2	1391	G
29	A2	1397	A
29	A2	1401	A
29	A2	1402	A
29	A2	1403	G
29	A2	1404	G
29	A2	1405	U
29	A2	1407	A
29	A2	1408	A
29	A2	1409	G
29	A2	1411	C
29	A2	1413	A
29	A2	1416	G
29	A2	1418	C
29	A2	1419	G
29	A2	1423	C
29	A2	1427	A
29	A2	1428	G
29	A2	1432	A
29	A2	1433	G
29	A2	1434	C
29	A2	1440	A
29	A2	1441	A
29	A2	1443	A
29	A2	1444	U
29	A2	1445	U
29	A2	1446	C
29	A2	1449	G
29	A2	1451	C
29	A2	1452	C
29	A2	1453	U
29	A2	1457	C
29	A2	1459	C
29	A2	1460	A
29	A2	1462	G
29	A2	1464	G
29	A2	1466	G
29	A2	1467	A
29	A2	1468	U

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Mol	Chain	Res	Type
29	A2	1469	G
29	A2	1473	G
29	A2	1474	G
29	A2	1475	A
29	A2	1476	C
29	A2	1481	U
29	A2	1483	G
29	A2	1485	C
29	A2	1486	U
29	A2	1488	G
29	A2	1489	G
29	A2	1491	G
29	A2	1493	A
29	A2	1494	C
29	A2	1497	G
29	A2	1498	A
29	A2	1499	G
29	A2	1500	C
29	A2	1502	A
29	A2	1505	G
29	A2	1508	G
29	A2	1509	A
29	A2	1510	G
29	A2	1511	C
29	A2	1513	C
29	A2	1515	G
29	A2	1516	C
29	A2	1520	A
29	A2	1524	G
29	A2	1531	G
29	A2	1535	G
29	A2	1537	U
29	A2	1538	A
29	A2	1539	G
29	A2	1540	G
29	A2	1541	C
29	A2	1542	A
29	A2	1543	A
29	A2	1546	C
29	A2	1547	C
29	A2	1550	C
29	A2	1552	C

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Mol	Chain	Res	Type
29	A2	1556	A
29	A2	1557	C
29	A2	1559	A
29	A2	1560	G
29	A2	1561	C
29	A2	1562	U
29	A2	1563	C
29	A2	1564	U
29	A2	1565	G
29	A2	1566	C
29	A2	1568	U
29	A2	1569	G
29	A2	1571	U
29	A2	1572	G
29	A2	1573	G
29	A2	1575	G
29	A2	1577	A
29	A2	1578	G
29	A2	1580	C
29	A2	1582	G
29	A2	1584	A
29	A2	1585	C
29	A2	1586	G
29	A2	1587	G
29	A2	1591	A
29	A2	1592	C
29	A2	1593	A
29	A2	1595	C
29	A2	1596	C
29	A2	1603	A
29	A2	1607	A
29	A2	1608	G
29	A2	1609	G
29	A2	1612	G
29	A2	1615	A
29	A2	1618	A
29	A2	1620	A
29	A2	1623	C
29	A2	1625	U
29	A2	1627	U
29	A2	1630	G
29	A2	1632	A

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Mol	Chain	Res	Type
29	A2	1633	C
29	A2	1634	A
29	A2	1635	A
29	A2	1638	U
29	A2	1639	G
29	A2	1641	G
29	A2	1642	G
29	A2	1644	A
29	A2	1648	C
29	A2	1649	G
29	A2	1655	C
29	A2	1657	A
29	A2	1658	A
29	A2	1659	C
29	A2	1661	G
29	A2	1663	C
29	A2	1664	A
29	A2	1665	C
29	A2	1666	A
29	A2	1667	G
29	A2	1673	C
29	A2	1684	G
29	A2	1686	A
29	A2	1688	U
29	A2	1696	G
29	A2	1697	C
29	A2	1702	G
29	A2	1703	A
29	A2	1708	U
29	A2	1717	A
29	A2	1721	C
29	A2	1722	U
29	A2	1723	G
29	A2	1726	A
29	A2	1732	C
29	A2	1740	C
29	A2	1743	C
29	A2	1744	G
29	A2	1746	G
29	A2	1747	A
29	A2	1748	G
29	A2	1749	A

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Mol	Chain	Res	Type
29	A2	1750	A
29	A2	1755	U
29	A2	1756	G
29	A2	1757	C
29	A2	1761	C
29	A2	1762	U
29	A2	1764	G
29	A2	1765	G
29	A2	1766	G
29	A2	1768	G
29	A2	1769	A
29	A2	1770	U
29	A2	1771	G
29	A2	1774	C
29	A2	1775	C
29	A2	1777	C
29	A2	1781	G
29	A2	1784	C
29	A2	1786	G
29	A2	1787	C
29	A2	1789	G
29	A2	1790	U
29	A2	1791	G
29	A2	1792	A
29	A2	1793	A
29	A2	1794	C
29	A2	1796	G
29	A2	1797	G
29	A2	1798	C
29	A2	1799	U
29	A2	1800	C
29	A2	1806	A
29	A2	1808	U
29	A2	1810	U
29	A2	1811	U
29	A2	1813	A
29	A2	1814	C
29	A2	1815	C
29	A2	1817	A
29	A2	1818	A
29	A2	1822	A
29	A2	1824	A

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Mol	Chain	Res	Type
29	A2	1825	G
29	A2	1829	U
29	A2	1832	G
29	A2	1833	C
29	A2	1834	G
29	A2	1835	A
29	A2	1838	U
29	A2	1840	G
29	A2	1843	A
29	A2	1844	G
29	A2	1846	G
29	A2	1847	G
29	A2	1848	A
29	A2	1849	G
29	A2	1850	G
29	A2	1852	A
29	A2	1853	U
29	A2	1854	A
29	A2	1861	G
29	A2	1862	A
29	A2	1864	G
29	A2	1867	U
29	A2	1869	C
29	A2	1870	C
29	A2	1871	C
29	A2	1876	C
29	A2	1877	C
29	A2	1880	A
29	A2	1881	A
29	A2	1885	C
29	A2	1886	A
29	A2	1888	G
29	A2	1891	G
29	A2	1893	G
29	A2	1895	G
29	A2	1896	G
29	A2	1899	C
29	A2	1900	A
29	A2	1901	A
29	A2	1902	G
29	A2	1904	C
29	A2	1907	G

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Mol	Chain	Res	Type
29	A2	1913	A
29	A2	1916	C
29	A2	1920	G
29	A2	1921	G
29	A2	1923	G
29	A2	1924	A
29	A2	1925	A
29	A2	1927	G
29	A2	1930	G
29	A2	1932	C
29	A2	1933	C
29	A2	1934	G
29	A2	1935	U
29	A2	1936	A
29	A2	1937	A
29	A2	1938	C
29	A2	1939	U
29	A2	1940	A
29	A2	1941	U
29	A2	1942	A
29	A2	1943	A
29	A2	1944	C
29	A2	1945	G
29	A2	1947	U
29	A2	1948	C
29	A2	1953	G
29	A2	1954	G
29	A2	1955	U
29	A2	1958	C
29	A2	1960	A
29	A2	1961	A
29	A2	1962	A
29	A2	1969	G
29	A2	1970	U
29	A2	1976	A
29	A2	1979	U
29	A2	1980	U
29	A2	1981	C
29	A2	1985	C
29	A2	1987	U
29	A2	1988	G
29	A2	1989	C

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Mol	Chain	Res	Type
29	A2	1990	A
29	A2	1991	C
29	A2	1993	A
29	A2	1994	A
29	A2	1995	A
29	A2	1996	A
29	A2	2004	G
29	A2	2005	A
29	A2	2006	C
29	A2	2009	G
29	A2	2013	G
29	A2	2016	G
29	A2	2017	U
29	A2	2018	C
29	A2	2020	C
29	A2	2023	C
29	A2	2024	G
29	A2	2026	G
29	A2	2027	G
29	A2	2036	G
29	A2	2039	A
29	A2	2040	U
29	A2	2042	G
29	A2	2043	A
29	A2	2044	A
29	A2	2045	C
29	A2	2046	U
29	A2	2047	G
29	A2	2050	C
29	A2	2055	A
29	A2	2056	G
29	A2	2057	A
29	A2	2058	U
29	A2	2063	C
29	A2	2067	C
29	A2	2075	A
29	A2	2076	G
29	A2	2079	C
29	A2	2080	G
29	A2	2084	A
29	A2	2085	G
29	A2	2086	A

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Mol	Chain	Res	Type
29	A2	2087	C
29	A2	2089	C
29	A2	2091	G
29	A2	2092	U
29	A2	2093	G
29	A2	2099	U
29	A2	2101	A
29	A2	2109	C
29	A2	2111	G
29	A2	2114	G
29	A2	2115	U
29	A2	2116	U
29	A2	2117	G
29	A2	2120	U
29	A2	2122	U
29	A2	2123	U
29	A2	2124	G
29	A2	2125	G
29	A2	2126	U
29	A2	2127	C
29	A2	2128	G
29	A2	2130	G
29	A2	2131	C
29	A2	2132	C
29	A2	2133	U
29	A2	2134	G
29	A2	2135	C
29	A2	2136	G
29	A2	2137	U
29	A2	2139	G
29	A2	2140	G
29	A2	2141	A
29	A2	2142	U
29	A2	2143	A
29	A2	2145	G
29	A2	2146	U
29	A2	2148	G
29	A2	2149	G
29	A2	2150	A
29	A2	2151	G
29	A2	2152	C
29	A2	2153	C

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Mol	Chain	Res	Type
29	A2	2154	U
29	A2	2155	G
29	A2	2156	U
29	A2	2157	G
29	A2	2160	C
29	A2	2161	C
29	A2	2162	C
29	A2	2163	C
29	A2	2164	C
29	A2	2165	G
29	A2	2166	C
29	A2	2168	U
29	A2	2169	C
29	A2	2170	C
29	A2	2171	G
29	A2	2172	G
29	A2	2174	U
29	A2	2176	G
29	A2	2177	G
29	A2	2178	G
29	A2	2179	G
29	A2	2181	G
29	A2	2183	G
29	A2	2184	G
29	A2	2185	C
29	A2	2186	G
29	A2	2187	C
29	A2	2190	G
29	A2	2192	G
29	A2	2197	A
29	A2	2199	C
29	A2	2200	A
29	A2	2201	C
29	A2	2202	C
29	A2	2204	U
29	A2	2205	G
29	A2	2207	C
29	A2	2209	C
29	A2	2212	C
29	A2	2213	U
29	A2	2215	G
29	A2	2217	G

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Mol	Chain	Res	Type
29	A2	2222	A
29	A2	2224	C
29	A2	2226	C
29	A2	2228	C
29	A2	2229	G
29	A2	2230	G
29	A2	2231	A
29	A2	2232	U
29	A2	2233	G
29	A2	2236	G
29	A2	2239	A
29	A2	2242	G
29	A2	2243	C
29	A2	2246	U
29	A2	2247	U
29	A2	2252	G
29	A2	2253	G
29	A2	2256	G
29	A2	2257	U
29	A2	2260	G
29	A2	2261	A
29	A2	2263	U
29	A2	2265	G
29	A2	2266	G
29	A2	2270	G
29	A2	2271	U
29	A2	2277	C
29	A2	2280	A
29	A2	2282	A
29	A2	2285	G
29	A2	2286	U
29	A2	2288	A
29	A2	2289	C
29	A2	2297	C
29	A2	2298	C
29	A2	2299	C
29	A2	2302	A
29	A2	2303	G
29	A2	2304	G
29	A2	2310	U
29	A2	2311	C
29	A2	2312	A

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Mol	Chain	Res	Type
29	A2	2321	G
29	A2	2322	G
29	A2	2323	A
29	A2	2326	U
29	A2	2329	G
29	A2	2333	G
29	A2	2334	A
29	A2	2336	A
29	A2	2337	G
29	A2	2339	G
29	A2	2341	A
29	A2	2342	A
29	A2	2346	U
29	A2	2347	A
29	A2	2348	G
29	A2	2349	A
29	A2	2350	A
29	A2	2356	C
29	A2	2360	A
29	A2	2361	C
29	A2	2363	G
29	A2	2364	C
29	A2	2366	A
29	A2	2373	C
29	A2	2375	A
29	A2	2379	G
29	A2	2381	G
29	A2	2383	A
29	A2	2386	G
29	A2	2389	G
29	A2	2393	G
29	A2	2394	C
29	A2	2395	C
29	A2	2396	G
29	A2	2397	G
29	A2	2398	G
29	A2	2399	C
29	A2	2402	A
29	A2	2403	G
29	A2	2404	U
29	A2	2405	G
29	A2	2406	A

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Mol	Chain	Res	Type
29	A2	2407	A
29	A2	2409	C
29	A2	2415	U
29	A2	2416	C
29	A2	2417	C
29	A2	2421	G
29	A2	2422	U
29	A2	2424	G
29	A2	2426	A
29	A2	2428	G
29	A2	2429	G
29	A2	2432	A
29	A2	2433	U
29	A2	2434	C
29	A2	2436	A
29	A2	2437	U
29	A2	2439	A
29	A2	2440	A
29	A2	2441	C
29	A2	2442	G
29	A2	2443	G
29	A2	2444	A
29	A2	2445	U
29	A2	2446	A
29	A2	2447	A
29	A2	2450	G
29	A2	2451	U
29	A2	2453	A
29	A2	2454	C
29	A2	2455	C
29	A2	2461	G
29	A2	2462	A
29	A2	2464	A
29	A2	2470	C
29	A2	2474	U
29	A2	2475	C
29	A2	2476	U
29	A2	2477	C
29	A2	2480	C
29	A2	2482	G
29	A2	2483	A
29	A2	2484	G

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Mol	Chain	Res	Type
29	A2	2485	C
29	A2	2490	A
29	A2	2491	C
29	A2	2492	A
29	A2	2494	C
29	A2	2498	G
29	A2	2504	G
29	A2	2506	U
29	A2	2508	G
29	A2	2512	C
29	A2	2516	G
29	A2	2517	A
29	A2	2518	U
29	A2	2519	G
29	A2	2520	U
29	A2	2522	G
29	A2	2532	A
29	A2	2534	C
29	A2	2535	C
29	A2	2543	G
29	A2	2544	A
29	A2	2546	G
29	A2	2547	A
29	A2	2548	A
29	A2	2549	G
29	A2	2550	G
29	A2	2552	C
29	A2	2555	A
29	A2	2556	A
29	A2	2561	U
29	A2	2568	U
29	A2	2574	C
29	A2	2575	A
29	A2	2578	A
29	A2	2579	A
29	A2	2580	A
29	A2	2581	G
29	A2	2586	A
29	A2	2587	C
29	A2	2588	G
29	A2	2591	A
29	A2	2592	G

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Mol	Chain	Res	Type
29	A2	2596	G
29	A2	2599	U
29	A2	2600	C
29	A2	2601	A
29	A2	2606	G
29	A2	2611	G
29	A2	2612	A
29	A2	2616	A
29	A2	2617	G
29	A2	2620	C
29	A2	2621	G
29	A2	2622	G
29	A2	2623	U
29	A2	2625	U
29	A2	2626	C
29	A2	2627	U
29	A2	2628	A
29	A2	2629	U
29	A2	2631	C
29	A2	2637	G
29	A2	2643	A
29	A2	2645	G
29	A2	2646	A
29	A2	2647	G
29	A2	2648	G
29	A2	2654	G
29	A2	2655	G
29	A2	2660	C
29	A2	2661	U
29	A2	2663	U
29	A2	2664	U
29	A2	2665	C
29	A2	2668	A
29	A2	2669	G
29	A2	2677	G
29	A2	2678	G
29	A2	2679	A
29	A2	2680	C
29	A2	2682	G
29	A2	2687	G
29	A2	2689	A
29	A2	2694	C

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Mol	Chain	Res	Type
29	A2	2695	C
29	A2	2696	U
29	A2	2699	G
29	A2	2703	U
29	A2	2704	C
29	A2	2705	C
29	A2	2713	C
29	A2	2717	C
29	A2	2726	U
29	A2	2727	A
29	A2	2728	A
29	A2	2729	G
29	A2	2733	G
29	A2	2734	G
29	A2	2735	U
29	A2	2741	U
29	A2	2742	G
29	A2	2744	G
29	A2	2748	A
29	A2	2749	A
29	A2	2750	G
29	A2	2753	A
29	A2	2756	A
29	A2	2761	U
29	A2	2762	G
29	A2	2763	A
29	A2	2764	A
29	A2	2766	G
29	A2	2767	C
29	A2	2768	A
29	A2	2769	U
29	A2	2770	C
29	A2	2771	U
29	A2	2772	A
29	A2	2775	C
29	A2	2780	A
29	A2	2781	G
29	A2	2788	C
29	A2	2792	G
29	A2	2793	A
29	A2	2797	G
29	A2	2798	G

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Mol	Chain	Res	Type
29	A2	2803	C
29	A2	2804	C
29	A2	2806	C
29	A2	2807	G
29	A2	2809	C
29	A2	2812	C
29	A2	2814	A
29	A2	2815	G
29	A2	2817	C
29	A2	2818	G
29	A2	2820	U
29	A2	2823	G
29	A2	2825	A
29	A2	2828	C
29	A2	2830	G
29	A2	2831	G
29	A2	2832	A
29	A2	2833	A
29	A2	2834	G
29	A2	2835	A
29	A2	2836	C
29	A2	2837	C
29	A2	2839	C
29	A2	2844	U
29	A2	2845	G
29	A2	2846	G
29	A2	2847	A
29	A2	2848	U
29	A2	2855	G
29	A2	2856	G
29	A2	2860	G
29	A2	2861	U
29	A2	2862	A
29	A2	2863	A
29	A2	2865	C
29	A2	2868	C
29	A2	2871	G
29	A2	2882	C
29	A2	2883	C
29	A2	2884	G
29	A2	2885	A
29	A2	2887	C

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Mol	Chain	Res	Type
29	A2	2891	C
29	A2	2892	C
29	A2	2893	C
29	A2	2897	C
29	A2	2898	G
29	A2	2901	C
29	A2	2902	G
29	A2	2906	U
29	A2	2907	C
29	A2	2908	U
29	A2	2910	G
29	A2	2911	A
29	A2	2912	C
29	A2	2913	C
30	B2	2	A
30	B2	3	U
30	B2	7	C
30	B2	8	C
30	B2	13	C
30	B2	15	A
30	B2	17	A
30	B2	18	G
30	B2	24	U
30	B2	26	G
30	B2	27	A
30	B2	28	A
30	B2	34	C
30	B2	35	G
30	B2	39	C
30	B2	40	C
30	B2	41	A
30	B2	43	U
30	B2	44	C
30	B2	45	C
30	B2	46	G
30	B2	47	A
30	B2	51	C
30	B2	52	G
30	B2	56	G
30	B2	58	G
30	B2	59	A
30	B2	60	A

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Mol	Chain	Res	Type
30	B2	61	A
30	B2	63	G
30	B2	66	C
30	B2	67	C
30	B2	68	A
30	B2	69	G
30	B2	71	G
30	B2	73	C
30	B2	74	G
30	B2	75	A
30	B2	77	G
30	B2	82	U
30	B2	83	G
30	B2	84	G
30	B2	85	G
30	B2	86	C
30	B2	87	G
30	B2	89	G
30	B2	90	C
30	B2	93	C
30	B2	97	C
30	B2	98	U
30	B2	99	G
30	B2	105	G
30	B2	106	U
30	B2	108	G
30	B2	109	G
30	B2	111	C
30	B2	112	G
30	B2	114	U
30	B2	115	G
30	B2	117	G
30	B2	121	G
53	A3	7	G
53	A3	8	A
53	A3	9	G
53	A3	15	G
53	A3	16	A
53	A3	18	C
53	A3	19	C
53	A3	21	G
53	A3	23	C

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Mol	Chain	Res	Type
53	A3	30	U
53	A3	31	G
53	A3	32	A
53	A3	34	C
53	A3	36	C
53	A3	37	U
53	A3	39	G
53	A3	44	G
53	A3	45	U
53	A3	47	C
53	A3	48	C
53	A3	49	U
53	A3	51	A
53	A3	52	G
53	A3	54	C
53	A3	55	A
53	A3	58	C
53	A3	59	A
53	A3	60	A
53	A3	61	G
53	A3	62	U
53	A3	66	G
53	A3	67	C
53	A3	68	G
53	A3	69	G
53	A3	70	G
53	A3	72	C
53	A3	73	G
53	A3	76	G
53	A3	77	G
53	A3	78	G
53	A3	79	U
53	A3	81	U
53	A3	82	U
53	A3	83	A
53	A3	84	C
53	A3	85	U
53	A3	86	C
53	A3	87	C
53	A3	88	G
53	A3	89	U
53	A3	90	G

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Mol	Chain	Res	Type
53	A3	91	G
53	A3	92	U
53	A3	99	C
53	A3	101	G
53	A3	103	C
53	A3	104	G
53	A3	107	U
53	A3	108	G
53	A3	109	A
53	A3	111	U
53	A3	113	A
53	A3	114	C
53	A3	121	G
53	A3	123	G
53	A3	125	C
53	A3	126	C
53	A3	128	A
53	A3	131	C
53	A3	133	G
53	A3	134	A
53	A3	137	A
53	A3	138	G
53	A3	139	G
53	A3	140	G
53	A3	145	A
53	A3	147	C
53	A3	148	C
53	A3	149	C
53	A3	151	G
53	A3	153	G
53	A3	157	C
53	A3	159	C
53	A3	164	U
53	A3	165	A
53	A3	166	A
53	A3	167	U
53	A3	168	C
53	A3	170	C
53	A3	172	C
53	A3	173	A
53	A3	174	U
53	A3	175	G

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Mol	Chain	Res	Type
53	A3	176	U
53	A3	178	G
53	A3	180	C
53	A3	181	C
53	A3	186	C
53	A3	188	U
53	A3	189	U
53	A3	190	G
53	A3	191	G
53	A3	192	G
53	A3	197	G
53	A3	201	A
53	A3	202	A
53	A3	203	A
53	A3	204	G
53	A3	206	G
53	A3	207	C
53	A3	208	U
53	A3	209	U
53	A3	210	U
53	A3	211	G
53	A3	213	C
53	A3	215	G
53	A3	218	U
53	A3	224	U
53	A3	225	G
53	A3	226	G
53	A3	230	C
53	A3	231	G
53	A3	232	C
53	A3	235	C
53	A3	238	A
53	A3	239	U
53	A3	240	C
53	A3	242	G
53	A3	243	C
53	A3	246	G
53	A3	248	U
53	A3	254	G
53	A3	261	G
53	A3	262	C
53	A3	263	C

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Mol	Chain	Res	Type
53	A3	264	C
53	A3	268	A
53	A3	269	A
53	A3	270	G
53	A3	271	G
53	A3	272	C
53	A3	276	G
53	A3	283	A
53	A3	284	G
53	A3	293	A
53	A3	298	A
53	A3	301	G
53	A3	306	C
53	A3	308	A
53	A3	309	C
53	A3	310	A
53	A3	312	G
53	A3	317	C
53	A3	319	G
53	A3	323	C
53	A3	324	A
53	A3	325	C
53	A3	327	G
53	A3	330	C
53	A3	335	U
53	A3	337	C
53	A3	339	A
53	A3	340	C
53	A3	343	G
53	A3	345	G
53	A3	346	G
53	A3	347	C
53	A3	348	A
53	A3	349	G
53	A3	351	A
53	A3	353	U
53	A3	354	U
53	A3	356	G
53	A3	357	G
53	A3	362	U
53	A3	364	C
53	A3	367	C

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Mol	Chain	Res	Type
53	A3	376	C
53	A3	379	G
53	A3	380	C
53	A3	381	C
53	A3	382	U
53	A3	383	G
53	A3	384	A
53	A3	385	C
53	A3	391	G
53	A3	392	A
53	A3	393	C
53	A3	396	C
53	A3	401	G
53	A3	402	G
53	A3	406	A
53	A3	408	G
53	A3	409	A
53	A3	410	A
53	A3	411	G
53	A3	413	C
53	A3	414	C
53	A3	416	U
53	A3	417	C
53	A3	418	G
53	A3	420	G
53	A3	423	G
53	A3	424	U
53	A3	425	A
53	A3	426	A
53	A3	428	C
53	A3	429	U
53	A3	432	U
53	A3	434	A
53	A3	435	A
53	A3	436	C
53	A3	439	G
53	A3	442	A
53	A3	443	C
53	A3	445	A
53	A3	447	A
53	A3	448	C
53	A3	450	C

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Mol	Chain	Res	Type
53	A3	452	C
53	A3	454	A
53	A3	456	G
53	A3	462	A
53	A3	465	G
53	A3	466	A
53	A3	469	G
53	A3	471	A
53	A3	473	C
53	A3	475	G
53	A3	479	A
53	A3	480	A
53	A3	481	U
53	A3	482	A
53	A3	483	G
53	A3	488	G
53	A3	489	G
53	A3	491	C
53	A3	492	A
53	A3	493	A
53	A3	494	C
53	A3	498	G
53	A3	499	U
53	A3	500	G
53	A3	501	C
53	A3	502	C
53	A3	506	A
53	A3	507	G
53	A3	508	C
53	A3	509	C
53	A3	511	C
53	A3	512	G
53	A3	513	G
53	A3	514	U
53	A3	515	A
53	A3	517	U
53	A3	518	A
53	A3	520	G
53	A3	521	G
53	A3	524	G
53	A3	528	C
53	A3	530	A

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Mol	Chain	Res	Type
53	A3	532	C
53	A3	533	G
53	A3	537	C
53	A3	542	A
53	A3	543	U
53	A3	544	U
53	A3	545	C
53	A3	547	C
53	A3	548	U
53	A3	549	G
53	A3	555	A
53	A3	556	A
53	A3	558	G
53	A3	559	G
53	A3	560	G
53	A3	562	G
53	A3	563	U
53	A3	565	U
53	A3	567	G
53	A3	575	G
53	A3	576	G
53	A3	577	G
53	A3	578	G
53	A3	579	C
53	A3	580	G
53	A3	586	U
53	A3	590	A
53	A3	597	A
53	A3	601	C
53	A3	602	U
53	A3	603	C
53	A3	604	A
53	A3	607	C
53	A3	609	U
53	A3	612	G
53	A3	613	G
53	A3	614	G
53	A3	615	A
53	A3	619	U
53	A3	620	G
53	A3	622	G
53	A3	627	G

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Mol	Chain	Res	Type
53	A3	629	U
53	A3	630	C
53	A3	633	G
53	A3	634	C
53	A3	636	A
53	A3	640	G
53	A3	646	A
53	A3	647	G
53	A3	650	G
53	A3	653	G
53	A3	657	G
53	A3	663	C
53	A3	664	C
53	A3	669	U
53	A3	670	A
53	A3	671	G
53	A3	674	G
53	A3	681	G
53	A3	683	G
53	A3	684	C
53	A3	685	A
53	A3	686	G
53	A3	687	A
53	A3	691	C
53	A3	692	G
53	A3	693	G
53	A3	694	G
53	A3	702	C
53	A3	705	A
53	A3	706	U
53	A3	707	G
53	A3	709	C
53	A3	711	A
53	A3	712	A
53	A3	713	G
53	A3	714	G
53	A3	715	C
53	A3	716	A
53	A3	717	G
53	A3	718	C
53	A3	719	C
53	A3	722	C

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Mol	Chain	Res	Type
53	A3	724	G
53	A3	725	G
53	A3	726	U
53	A3	727	C
53	A3	730	C
53	A3	731	C
53	A3	732	C
53	A3	734	U
53	A3	735	G
53	A3	736	A
53	A3	737	C
53	A3	738	G
53	A3	740	U
53	A3	741	G
53	A3	744	G
53	A3	745	C
53	A3	749	A
53	A3	750	A
53	A3	751	A
53	A3	752	G
53	A3	757	G
53	A3	759	G
53	A3	760	A
53	A3	762	C
53	A3	766	C
53	A3	768	G
53	A3	773	A
53	A3	775	A
53	A3	776	U
53	A3	777	A
53	A3	778	C
53	A3	780	C
53	A3	782	G
53	A3	786	G
53	A3	788	C
53	A3	789	C
53	A3	790	A
53	A3	794	C
53	A3	795	C
53	A3	796	U
53	A3	800	C
53	A3	801	G

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Mol	Chain	Res	Type
53	A3	802	A
53	A3	804	G
53	A3	807	C
53	A3	810	U
53	A3	811	A
53	A3	812	G
53	A3	820	G
53	A3	823	C
53	A3	824	U
53	A3	825	C
53	A3	829	G
53	A3	836	A
53	A3	842	A
53	A3	847	U
53	A3	848	U
53	A3	850	A
53	A3	851	G
53	A3	854	C
53	A3	855	G
53	A3	857	C
53	A3	861	U
53	A3	863	G
53	A3	866	A
53	A3	874	C
53	A3	876	C
53	A3	879	G
53	A3	880	G
53	A3	881	C
53	A3	884	A
53	A3	885	A
53	A3	886	A
53	A3	888	U
53	A3	890	A
53	A3	891	A
53	A3	893	G
53	A3	894	G
53	A3	896	A
53	A3	897	U
53	A3	899	G
53	A3	900	A
53	A3	904	G
53	A3	909	C

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Mol	Chain	Res	Type
53	A3	911	C
53	A3	912	A
53	A3	914	A
53	A3	915	A
53	A3	916	G
53	A3	919	G
53	A3	920	U
53	A3	922	G
53	A3	924	G
53	A3	925	C
53	A3	926	A
53	A3	931	G
53	A3	932	U
53	A3	933	U
53	A3	935	A
53	A3	937	U
53	A3	942	A
53	A3	943	G
53	A3	946	A
53	A3	948	G
53	A3	949	C
53	A3	950	G
53	A3	952	A
53	A3	953	G
53	A3	954	A
53	A3	955	A
53	A3	957	C
53	A3	958	U
53	A3	959	U
53	A3	960	A
53	A3	962	C
53	A3	966	C
53	A3	967	C
53	A3	968	U
53	A3	969	U
53	A3	970	G
53	A3	972	C
53	A3	974	U
53	A3	975	G
53	A3	976	C
53	A3	977	U
53	A3	978	A

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Mol	Chain	Res	Type
53	A3	979	G
53	A3	980	G
53	A3	981	G
53	A3	982	A
53	A3	983	A
53	A3	984	C
53	A3	985	C
53	A3	988	G
53	A3	990	U
53	A3	994	A
53	A3	998	U
53	A3	999	G
53	A3	1000	G
53	A3	1002	G
53	A3	1003	U
53	A3	1004	G
53	A3	1005	C
53	A3	1006	C
53	A3	1007	C
53	A3	1008	C
53	A3	1009	G
53	A3	1010	C
53	A3	1011	G
53	A3	1012	A
53	A3	1013	G
53	A3	1014	G
53	A3	1015	G
53	A3	1016	G
53	A3	1018	G
53	A3	1019	C
53	A3	1020	C
53	A3	1022	U
53	A3	1023	A
53	A3	1024	G
53	A3	1027	C
53	A3	1029	G
53	A3	1030	G
53	A3	1034	U
53	A3	1035	G
53	A3	1036	C
53	A3	1045	C
53	A3	1046	G

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Mol	Chain	Res	Type
53	A3	1047	U
53	A3	1048	C
53	A3	1049	A
53	A3	1053	C
53	A3	1057	C
53	A3	1060	U
53	A3	1061	G
53	A3	1062	A
53	A3	1064	G
53	A3	1068	U
53	A3	1070	G
53	A3	1076	G
53	A3	1077	U
53	A3	1081	G
53	A3	1082	C
53	A3	1083	A
53	A3	1084	A
53	A3	1094	C
53	A3	1095	C
53	A3	1097	C
53	A3	1100	C
53	A3	1101	C
53	A3	1102	G
53	A3	1104	U
53	A3	1105	A
53	A3	1106	G
53	A3	1107	U
53	A3	1108	U
53	A3	1109	G
53	A3	1110	C
53	A3	1111	C
53	A3	1112	A
53	A3	1113	G
53	A3	1114	C
53	A3	1115	G
53	A3	1116	G
53	A3	1118	U
53	A3	1119	C
53	A3	1120	G
53	A3	1121	G
53	A3	1122	C
53	A3	1123	C

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Mol	Chain	Res	Type
53	A3	1124	G
53	A3	1125	G
53	A3	1128	A
53	A3	1129	C
53	A3	1130	U
53	A3	1133	A
53	A3	1134	A
53	A3	1136	G
53	A3	1139	A
53	A3	1140	C
53	A3	1141	U
53	A3	1145	C
53	A3	1149	A
53	A3	1153	C
53	A3	1159	G
53	A3	1160	A
53	A3	1161	A
53	A3	1162	G
53	A3	1163	G
53	A3	1164	A
53	A3	1165	G
53	A3	1167	G
53	A3	1172	A
53	A3	1173	C
53	A3	1174	G
53	A3	1176	C
53	A3	1177	U
53	A3	1178	G
53	A3	1179	G
53	A3	1180	U
53	A3	1181	C
53	A3	1182	A
53	A3	1183	G
53	A3	1186	U
53	A3	1187	G
53	A3	1190	C
53	A3	1192	U
53	A3	1194	A
53	A3	1196	G
53	A3	1197	G
53	A3	1198	C
53	A3	1199	C

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Mol	Chain	Res	Type
53	A3	1200	U
53	A3	1201	G
53	A3	1202	G
53	A3	1203	G
53	A3	1205	G
53	A3	1206	A
53	A3	1207	C
53	A3	1208	A
53	A3	1209	C
53	A3	1210	A
53	A3	1211	C
53	A3	1214	G
53	A3	1216	U
53	A3	1217	A
53	A3	1219	A
53	A3	1221	U
53	A3	1222	G
53	A3	1224	C
53	A3	1225	C
53	A3	1227	C
53	A3	1228	U
53	A3	1229	A
53	A3	1231	A
53	A3	1233	A
53	A3	1234	G
53	A3	1235	C
53	A3	1236	G
53	A3	1237	A
53	A3	1238	U
53	A3	1239	G
53	A3	1240	C
53	A3	1242	A
53	A3	1243	C
53	A3	1245	C
53	A3	1246	G
53	A3	1250	A
53	A3	1251	C
53	A3	1253	G
53	A3	1254	G
53	A3	1255	G
53	A3	1257	G
53	A3	1258	C

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Mol	Chain	Res	Type
53	A3	1259	U
53	A3	1262	U
53	A3	1263	C
53	A3	1264	G
53	A3	1265	C
53	A3	1266	A
53	A3	1267	A
53	A3	1268	A
53	A3	1269	A
53	A3	1270	A
53	A3	1271	G
53	A3	1272	G
53	A3	1273	U
53	A3	1277	C
53	A3	1279	C
53	A3	1280	A
53	A3	1281	G
53	A3	1282	U
53	A3	1283	U
53	A3	1284	C
53	A3	1286	G
53	A3	1287	A
53	A3	1292	G
53	A3	1293	G
53	A3	1294	U
53	A3	1299	A
53	A3	1300	A
53	A3	1301	C
53	A3	1302	C
53	A3	1304	G
53	A3	1312	G
53	A3	1313	A
53	A3	1317	C
53	A3	1318	G
53	A3	1319	G
53	A3	1321	A
53	A3	1322	U
53	A3	1323	C
53	A3	1325	C
53	A3	1327	A
53	A3	1328	G
53	A3	1332	U

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Mol	Chain	Res	Type
53	A3	1333	C
53	A3	1337	G
53	A3	1339	U
53	A3	1340	C
53	A3	1341	A
53	A3	1343	C
53	A3	1344	C
53	A3	1345	A
53	A3	1346	U
53	A3	1347	G
53	A3	1351	C
53	A3	1352	G
53	A3	1353	G
53	A3	1355	G
53	A3	1357	A
53	A3	1359	A
53	A3	1361	G
53	A3	1362	U
53	A3	1364	C
53	A3	1367	G
53	A3	1377	C
53	A3	1379	C
53	A3	1380	A
53	A3	1381	C
53	A3	1382	C
53	A3	1383	G
53	A3	1384	C
53	A3	1387	G
53	A3	1391	C
53	A3	1392	G
53	A3	1393	C
53	A3	1395	A
53	A3	1396	U
53	A3	1398	G
53	A3	1401	G
53	A3	1402	C
53	A3	1403	G
53	A3	1405	G
53	A3	1406	C
53	A3	1411	C
53	A3	1413	C
53	A3	1414	G

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Mol	Chain	Res	Type
53	A3	1416	A
53	A3	1417	G
53	A3	1418	U
53	A3	1419	C
53	A3	1420	G
53	A3	1422	C
53	A3	1423	G
53	A3	1428	C
53	A3	1429	C
53	A3	1430	U
53	A3	1431	A
53	A3	1432	C
53	A3	1433	G
53	A3	1434	G
53	A3	1435	G
53	A3	1436	C
53	A3	1437	A
53	A3	1444	G
53	A3	1445	A
53	A3	1446	G
53	A3	1450	A
53	A3	1452	G
53	A3	1454	C
53	A3	1458	U
53	A3	1460	A
53	A3	1461	C
53	A3	1462	U
53	A3	1468	G
53	A3	1469	A
53	A3	1470	A
53	A3	1471	G
53	A3	1474	G
53	A3	1476	A
53	A3	1479	A
53	A3	1480	A
53	A3	1481	G
53	A3	1482	G
53	A3	1484	A
53	A3	1485	G
53	A3	1489	U
53	A3	1492	C
53	A3	1494	G

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Mol	Chain	Res	Type
53	A3	1497	G
53	A3	1502	G
53	A3	1505	U
53	A3	1506	G
53	A3	1507	G
53	A3	1510	C
53	A4	7	G
53	A4	9	G
53	A4	15	G
53	A4	16	A
53	A4	18	C
53	A4	19	C
53	A4	20	U
53	A4	21	G
53	A4	23	C
53	A4	30	U
53	A4	31	G
53	A4	32	A
53	A4	34	C
53	A4	36	C
53	A4	37	U
53	A4	39	G
53	A4	44	G
53	A4	45	U
53	A4	47	C
53	A4	48	C
53	A4	49	U
53	A4	51	A
53	A4	52	G
53	A4	54	C
53	A4	56	U
53	A4	58	C
53	A4	59	A
53	A4	60	A
53	A4	61	G
53	A4	62	U
53	A4	66	G
53	A4	67	C
53	A4	68	G
53	A4	69	G
53	A4	70	G
53	A4	73	G

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Mol	Chain	Res	Type
53	A4	76	G
53	A4	77	G
53	A4	78	G
53	A4	79	U
53	A4	80	U
53	A4	81	U
53	A4	83	A
53	A4	84	C
53	A4	85	U
53	A4	86	C
53	A4	87	C
53	A4	88	G
53	A4	89	U
53	A4	90	G
53	A4	91	G
53	A4	92	U
53	A4	99	C
53	A4	101	G
53	A4	102	A
53	A4	103	C
53	A4	104	G
53	A4	107	U
53	A4	109	A
53	A4	111	U
53	A4	113	A
53	A4	114	C
53	A4	115	G
53	A4	123	G
53	A4	124	A
53	A4	125	C
53	A4	128	A
53	A4	131	C
53	A4	133	G
53	A4	134	A
53	A4	136	G
53	A4	137	A
53	A4	138	G
53	A4	139	G
53	A4	140	G
53	A4	142	G
53	A4	145	A
53	A4	147	C

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Mol	Chain	Res	Type
53	A4	148	C
53	A4	149	C
53	A4	150	G
53	A4	153	G
53	A4	157	C
53	A4	159	C
53	A4	160	G
53	A4	165	A
53	A4	166	A
53	A4	167	U
53	A4	172	C
53	A4	173	A
53	A4	174	U
53	A4	175	G
53	A4	177	G
53	A4	178	G
53	A4	179	A
53	A4	180	C
53	A4	181	C
53	A4	186	C
53	A4	188	U
53	A4	190	G
53	A4	191	G
53	A4	192	G
53	A4	197	G
53	A4	201	A
53	A4	203	A
53	A4	206	G
53	A4	207	C
53	A4	208	U
53	A4	209	U
53	A4	210	U
53	A4	211	G
53	A4	213	C
53	A4	218	U
53	A4	219	C
53	A4	225	G
53	A4	226	G
53	A4	230	C
53	A4	231	G
53	A4	232	C
53	A4	233	G

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Mol	Chain	Res	Type
53	A4	234	U
53	A4	235	C
53	A4	238	A
53	A4	239	U
53	A4	240	C
53	A4	242	G
53	A4	243	C
53	A4	246	G
53	A4	248	U
53	A4	257	A
53	A4	261	G
53	A4	262	C
53	A4	263	C
53	A4	268	A
53	A4	269	A
53	A4	270	G
53	A4	271	G
53	A4	272	C
53	A4	273	G
53	A4	276	G
53	A4	283	A
53	A4	284	G
53	A4	293	A
53	A4	298	A
53	A4	301	G
53	A4	306	C
53	A4	308	A
53	A4	309	C
53	A4	310	A
53	A4	312	G
53	A4	316	A
53	A4	317	C
53	A4	319	G
53	A4	323	C
53	A4	324	A
53	A4	325	C
53	A4	327	G
53	A4	330	C
53	A4	335	U
53	A4	336	C
53	A4	337	C
53	A4	339	A

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Mol	Chain	Res	Type
53	A4	340	C
53	A4	341	G
53	A4	343	G
53	A4	345	G
53	A4	346	G
53	A4	347	C
53	A4	348	A
53	A4	349	G
53	A4	351	A
53	A4	353	U
53	A4	357	G
53	A4	358	A
53	A4	362	U
53	A4	364	C
53	A4	367	C
53	A4	376	C
53	A4	379	G
53	A4	383	G
53	A4	384	A
53	A4	385	C
53	A4	389	G
53	A4	391	G
53	A4	392	A
53	A4	393	C
53	A4	396	C
53	A4	401	G
53	A4	403	A
53	A4	405	G
53	A4	406	A
53	A4	408	G
53	A4	409	A
53	A4	410	A
53	A4	411	G
53	A4	413	C
53	A4	414	C
53	A4	416	U
53	A4	417	C
53	A4	418	G
53	A4	420	G
53	A4	422	U
53	A4	423	G
53	A4	425	A

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Mol	Chain	Res	Type
53	A4	426	A
53	A4	428	C
53	A4	429	U
53	A4	432	U
53	A4	434	A
53	A4	435	A
53	A4	436	C
53	A4	439	G
53	A4	442	A
53	A4	445	A
53	A4	447	A
53	A4	448	C
53	A4	449	C
53	A4	454	A
53	A4	455	C
53	A4	458	G
53	A4	459	G
53	A4	465	G
53	A4	466	A
53	A4	469	G
53	A4	471	A
53	A4	472	C
53	A4	475	G
53	A4	478	U
53	A4	479	A
53	A4	480	A
53	A4	481	U
53	A4	482	A
53	A4	483	G
53	A4	488	G
53	A4	489	G
53	A4	491	C
53	A4	492	A
53	A4	494	C
53	A4	499	U
53	A4	500	G
53	A4	501	C
53	A4	503	A
53	A4	506	A
53	A4	507	G
53	A4	508	C
53	A4	509	C

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Mol	Chain	Res	Type
53	A4	510	G
53	A4	511	C
53	A4	512	G
53	A4	513	G
53	A4	516	A
53	A4	517	U
53	A4	518	A
53	A4	523	G
53	A4	528	C
53	A4	529	G
53	A4	530	A
53	A4	532	C
53	A4	533	G
53	A4	537	C
53	A4	542	A
53	A4	543	U
53	A4	544	U
53	A4	545	C
53	A4	547	C
53	A4	548	U
53	A4	553	G
53	A4	555	A
53	A4	556	A
53	A4	558	G
53	A4	559	G
53	A4	560	G
53	A4	562	G
53	A4	563	U
53	A4	567	G
53	A4	574	U
53	A4	575	G
53	A4	576	G
53	A4	577	G
53	A4	578	G
53	A4	579	C
53	A4	580	G
53	A4	595	C
53	A4	603	C
53	A4	604	A
53	A4	607	C
53	A4	612	G
53	A4	613	G

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Mol	Chain	Res	Type
53	A4	614	G
53	A4	615	A
53	A4	616	G
53	A4	617	C
53	A4	620	G
53	A4	621	G
53	A4	622	G
53	A4	623	A
53	A4	626	C
53	A4	627	G
53	A4	629	U
53	A4	630	C
53	A4	633	G
53	A4	634	C
53	A4	636	A
53	A4	640	G
53	A4	644	G
53	A4	647	G
53	A4	648	A
53	A4	650	G
53	A4	656	G
53	A4	657	G
53	A4	663	C
53	A4	664	C
53	A4	668	G
53	A4	669	U
53	A4	670	A
53	A4	671	G
53	A4	674	G
53	A4	683	G
53	A4	685	A
53	A4	686	G
53	A4	691	C
53	A4	692	G
53	A4	693	G
53	A4	694	G
53	A4	695	A
53	A4	699	A
53	A4	700	C
53	A4	701	G
53	A4	702	C
53	A4	705	A

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Mol	Chain	Res	Type
53	A4	706	U
53	A4	707	G
53	A4	709	C
53	A4	711	A
53	A4	712	A
53	A4	713	G
53	A4	714	G
53	A4	716	A
53	A4	717	G
53	A4	718	C
53	A4	719	C
53	A4	722	C
53	A4	724	G
53	A4	725	G
53	A4	727	C
53	A4	728	C
53	A4	730	C
53	A4	731	C
53	A4	732	C
53	A4	733	G
53	A4	734	U
53	A4	735	G
53	A4	736	A
53	A4	737	C
53	A4	738	G
53	A4	740	U
53	A4	741	G
53	A4	749	A
53	A4	750	A
53	A4	751	A
53	A4	752	G
53	A4	757	G
53	A4	759	G
53	A4	760	A
53	A4	766	C
53	A4	768	G
53	A4	773	A
53	A4	775	A
53	A4	776	U
53	A4	777	A
53	A4	778	C
53	A4	780	C

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Mol	Chain	Res	Type
53	A4	786	G
53	A4	788	C
53	A4	789	C
53	A4	794	C
53	A4	795	C
53	A4	796	U
53	A4	800	C
53	A4	801	G
53	A4	802	A
53	A4	804	G
53	A4	807	C
53	A4	810	U
53	A4	811	A
53	A4	812	G
53	A4	817	C
53	A4	818	U
53	A4	821	G
53	A4	822	U
53	A4	823	C
53	A4	824	U
53	A4	825	C
53	A4	829	G
53	A4	831	G
53	A4	836	A
53	A4	842	A
53	A4	847	U
53	A4	848	U
53	A4	849	A
53	A4	850	A
53	A4	851	G
53	A4	854	C
53	A4	857	C
53	A4	859	C
53	A4	861	U
53	A4	863	G
53	A4	865	G
53	A4	866	A
53	A4	872	G
53	A4	874	C
53	A4	876	C
53	A4	879	G
53	A4	880	G

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Mol	Chain	Res	Type
53	A4	881	C
53	A4	884	A
53	A4	885	A
53	A4	886	A
53	A4	888	U
53	A4	890	A
53	A4	891	A
53	A4	893	G
53	A4	894	G
53	A4	896	A
53	A4	899	G
53	A4	900	A
53	A4	903	G
53	A4	904	G
53	A4	909	C
53	A4	911	C
53	A4	912	A
53	A4	914	A
53	A4	915	A
53	A4	916	G
53	A4	919	G
53	A4	920	U
53	A4	922	G
53	A4	926	A
53	A4	928	G
53	A4	930	G
53	A4	931	G
53	A4	935	A
53	A4	937	U
53	A4	938	U
53	A4	942	A
53	A4	943	G
53	A4	946	A
53	A4	948	G
53	A4	951	A
53	A4	952	A
53	A4	953	G
53	A4	954	A
53	A4	955	A
53	A4	956	C
53	A4	959	U
53	A4	960	A

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Mol	Chain	Res	Type
53	A4	961	C
53	A4	962	C
53	A4	964	G
53	A4	966	C
53	A4	968	U
53	A4	969	U
53	A4	970	G
53	A4	971	A
53	A4	972	C
53	A4	973	A
53	A4	974	U
53	A4	975	G
53	A4	976	C
53	A4	977	U
53	A4	980	G
53	A4	981	G
53	A4	982	A
53	A4	983	A
53	A4	984	C
53	A4	985	C
53	A4	993	A
53	A4	995	G
53	A4	996	C
53	A4	998	U
53	A4	1000	G
53	A4	1001	G
53	A4	1002	G
53	A4	1004	G
53	A4	1005	C
53	A4	1006	C
53	A4	1008	C
53	A4	1009	G
53	A4	1010	C
53	A4	1011	G
53	A4	1012	A
53	A4	1013	G
53	A4	1014	G
53	A4	1015	G
53	A4	1016	G
53	A4	1018	G
53	A4	1021	C
53	A4	1022	U

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Mol	Chain	Res	Type
53	A4	1023	A
53	A4	1024	G
53	A4	1027	C
53	A4	1029	G
53	A4	1030	G
53	A4	1031	U
53	A4	1032	G
53	A4	1034	U
53	A4	1035	G
53	A4	1036	C
53	A4	1037	A
53	A4	1038	U
53	A4	1044	U
53	A4	1046	G
53	A4	1047	U
53	A4	1048	C
53	A4	1049	A
53	A4	1053	C
53	A4	1057	C
53	A4	1060	U
53	A4	1061	G
53	A4	1064	G
53	A4	1068	U
53	A4	1070	G
53	A4	1076	G
53	A4	1077	U
53	A4	1078	C
53	A4	1081	G
53	A4	1082	C
53	A4	1083	A
53	A4	1093	A
53	A4	1100	C
53	A4	1101	C
53	A4	1102	G
53	A4	1106	G
53	A4	1107	U
53	A4	1108	U
53	A4	1109	G
53	A4	1110	C
53	A4	1111	C
53	A4	1112	A
53	A4	1113	G

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Mol	Chain	Res	Type
53	A4	1114	C
53	A4	1115	G
53	A4	1116	G
53	A4	1117	U
53	A4	1118	U
53	A4	1119	C
53	A4	1120	G
53	A4	1121	G
53	A4	1123	C
53	A4	1124	G
53	A4	1125	G
53	A4	1126	G
53	A4	1128	A
53	A4	1133	A
53	A4	1134	A
53	A4	1136	G
53	A4	1137	G
53	A4	1139	A
53	A4	1140	C
53	A4	1141	U
53	A4	1145	C
53	A4	1149	A
53	A4	1153	C
53	A4	1156	G
53	A4	1160	A
53	A4	1162	G
53	A4	1163	G
53	A4	1164	A
53	A4	1165	G
53	A4	1166	G
53	A4	1169	A
53	A4	1171	G
53	A4	1172	A
53	A4	1174	G
53	A4	1177	U
53	A4	1179	G
53	A4	1180	U
53	A4	1181	C
53	A4	1187	G
53	A4	1190	C
53	A4	1191	C
53	A4	1193	U

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Mol	Chain	Res	Type
53	A4	1194	A
53	A4	1195	C
53	A4	1196	G
53	A4	1197	G
53	A4	1198	C
53	A4	1199	C
53	A4	1201	G
53	A4	1204	C
53	A4	1206	A
53	A4	1207	C
53	A4	1208	A
53	A4	1209	C
53	A4	1210	A
53	A4	1212	G
53	A4	1214	G
53	A4	1216	U
53	A4	1217	A
53	A4	1219	A
53	A4	1221	U
53	A4	1222	G
53	A4	1224	C
53	A4	1225	C
53	A4	1227	C
53	A4	1228	U
53	A4	1229	A
53	A4	1231	A
53	A4	1232	A
53	A4	1233	A
53	A4	1234	G
53	A4	1235	C
53	A4	1236	G
53	A4	1237	A
53	A4	1238	U
53	A4	1239	G
53	A4	1242	A
53	A4	1243	C
53	A4	1245	C
53	A4	1246	G
53	A4	1247	G
53	A4	1249	A
53	A4	1250	A
53	A4	1251	C

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Mol	Chain	Res	Type
53	A4	1253	G
53	A4	1254	G
53	A4	1255	G
53	A4	1257	G
53	A4	1259	U
53	A4	1260	A
53	A4	1261	A
53	A4	1262	U
53	A4	1264	G
53	A4	1265	C
53	A4	1267	A
53	A4	1268	A
53	A4	1269	A
53	A4	1270	A
53	A4	1272	G
53	A4	1273	U
53	A4	1274	G
53	A4	1275	G
53	A4	1276	G
53	A4	1278	C
53	A4	1279	C
53	A4	1280	A
53	A4	1281	G
53	A4	1283	U
53	A4	1284	C
53	A4	1286	G
53	A4	1291	G
53	A4	1292	G
53	A4	1293	G
53	A4	1294	U
53	A4	1296	U
53	A4	1298	C
53	A4	1300	A
53	A4	1311	U
53	A4	1312	G
53	A4	1313	A
53	A4	1316	C
53	A4	1317	C
53	A4	1318	G
53	A4	1319	G
53	A4	1321	A
53	A4	1322	U

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Mol	Chain	Res	Type
53	A4	1323	C
53	A4	1324	G
53	A4	1325	C
53	A4	1327	A
53	A4	1328	G
53	A4	1329	U
53	A4	1337	G
53	A4	1339	U
53	A4	1340	C
53	A4	1341	A
53	A4	1342	G
53	A4	1343	C
53	A4	1344	C
53	A4	1345	A
53	A4	1346	U
53	A4	1347	G
53	A4	1351	C
53	A4	1352	G
53	A4	1353	G
53	A4	1359	A
53	A4	1361	G
53	A4	1362	U
53	A4	1364	C
53	A4	1369	G
53	A4	1370	C
53	A4	1379	C
53	A4	1380	A
53	A4	1381	C
53	A4	1382	C
53	A4	1383	G
53	A4	1384	C
53	A4	1387	G
53	A4	1391	C
53	A4	1392	G
53	A4	1393	C
53	A4	1395	A
53	A4	1396	U
53	A4	1398	G
53	A4	1399	G
53	A4	1401	G
53	A4	1402	C
53	A4	1403	G

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Mol	Chain	Res	Type
53	A4	1404	G
53	A4	1406	C
53	A4	1411	C
53	A4	1412	C
53	A4	1413	C
53	A4	1415	A
53	A4	1416	A
53	A4	1417	G
53	A4	1418	U
53	A4	1419	C
53	A4	1420	G
53	A4	1422	C
53	A4	1423	G
53	A4	1424	G
53	A4	1426	A
53	A4	1427	G
53	A4	1430	U
53	A4	1431	A
53	A4	1432	C
53	A4	1433	G
53	A4	1434	G
53	A4	1435	G
53	A4	1437	A
53	A4	1439	G
53	A4	1444	G
53	A4	1445	A
53	A4	1446	G
53	A4	1450	A
53	A4	1452	G
53	A4	1454	C
53	A4	1458	U
53	A4	1460	A
53	A4	1461	C
53	A4	1462	U
53	A4	1469	A
53	A4	1470	A
53	A4	1476	A
53	A4	1479	A
53	A4	1480	A
53	A4	1481	G
53	A4	1482	G
53	A4	1483	U

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Mol	Chain	Res	Type
53	A4	1484	A
53	A4	1489	U
53	A4	1492	C
53	A4	1497	G
53	A4	1499	U
53	A4	1505	U
53	A4	1507	G
53	A4	1510	C

All (126) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
29	A1	123	G
29	A1	219	A
29	A1	240	G
29	A1	288	G
29	A1	423	U
29	A1	432	C
29	A1	485	A
29	A1	530	A
29	A1	951	C
29	A1	1070	G
29	A1	1179	G
29	A1	1225	C
29	A1	1257	A
29	A1	1418	C
29	A1	1475	A
29	A1	1607	A
29	A1	1743	C
29	A1	1832	G
29	A1	1852	A
29	A1	1890	G
29	A1	1930	G
29	A1	2004	G
29	A1	2016	G
29	A1	2041	U
29	A1	2042	G
29	A1	2059	G
29	A1	2453	A
29	A1	2556	A
29	A1	2580	A
29	A1	2624	C

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Mol	Chain	Res	Type
29	A1	2771	U
30	B1	17	A
29	A2	111	G
29	A2	219	A
29	A2	271	C
29	A2	288	G
29	A2	833	A
29	A2	854	G
29	A2	1070	G
29	A2	1108	U
29	A2	1179	G
29	A2	1180	A
29	A2	1181	U
29	A2	1257	A
29	A2	1390	A
29	A2	1412	G
29	A2	1427	A
29	A2	1475	A
29	A2	1545	U
29	A2	1607	A
29	A2	1702	G
29	A2	1743	C
29	A2	1832	G
29	A2	1852	A
29	A2	1890	G
29	A2	1937	A
29	A2	1942	A
29	A2	2004	G
29	A2	2016	G
29	A2	2041	U
29	A2	2042	G
29	A2	2084	A
29	A2	2168	U
29	A2	2296	G
29	A2	2408	C
29	A2	2453	A
29	A2	2580	A
29	A2	2616	A
29	A2	2623	U
29	A2	2624	C
29	A2	2771	U
53	A3	105	G

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Mol	Chain	Res	Type
53	A3	108	G
53	A3	205	G
53	A3	241	A
53	A3	339	A
53	A3	407	A
53	A3	424	U
53	A3	468	G
53	A3	480	A
53	A3	562	G
53	A3	670	A
53	A3	705	A
53	A3	749	A
53	A3	890	A
53	A3	942	A
53	A3	948	G
53	A3	1005	C
53	A3	1047	U
53	A3	1111	C
53	A3	1117	U
53	A3	1144	C
53	A3	1272	G
53	A3	1274	G
53	A3	1317	C
53	A3	1433	G
53	A3	1469	A
53	A3	1475	U
53	A3	1491	C
53	A4	101	G
53	A4	105	G
53	A4	108	G
53	A4	148	C
53	A4	205	G
53	A4	241	A
53	A4	407	A
53	A4	468	G
53	A4	615	A
53	A4	670	A
53	A4	705	A
53	A4	717	G
53	A4	749	A
53	A4	890	A
53	A4	969	U

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Mol	Chain	Res	Type
53	A4	1005	C
53	A4	1015	G
53	A4	1047	U
53	A4	1111	C
53	A4	1144	C
53	A4	1206	A
53	A4	1272	G
53	A4	1317	C
53	A4	1433	G
53	A4	1469	A
53	A4	1475	U
53	A4	1491	C

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
37	G3	1
34	D4	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	G3	12:LEU	C	13:GLN	N	1.08
1	D4	187:ARG	C	188:LEU	N	1.06

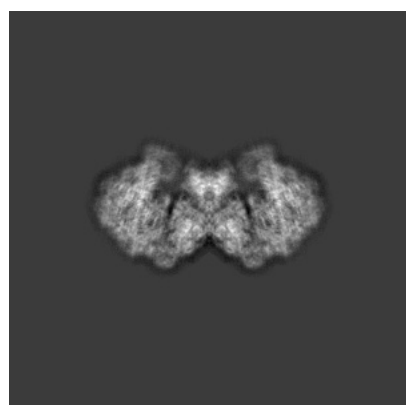
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-0105. These allow visual inspection of the internal detail of the map and identification of artifacts.

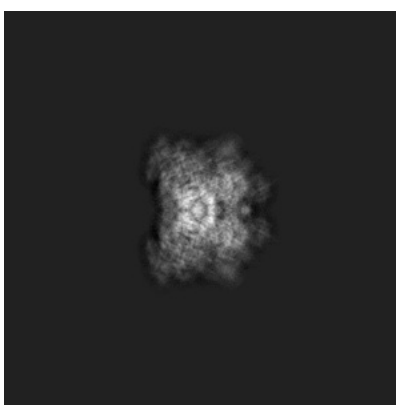
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

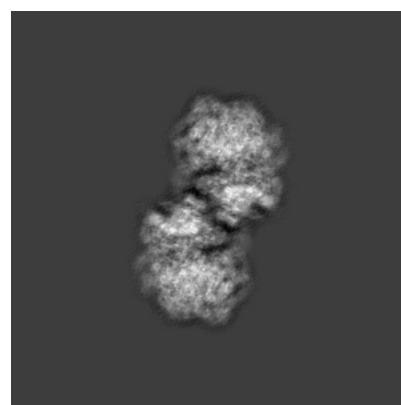
6.1.1 Primary map



X



Y

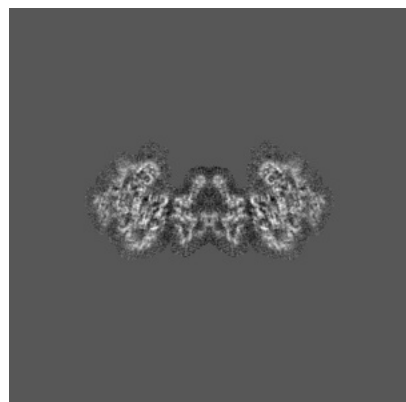


Z

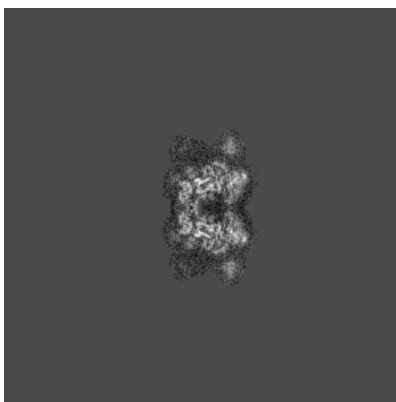
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

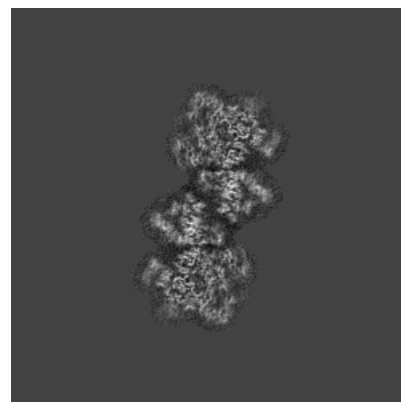
6.2.1 Primary map



X Index: 350



Y Index: 350

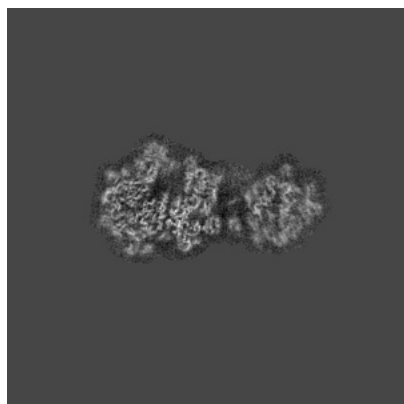


Z Index: 350

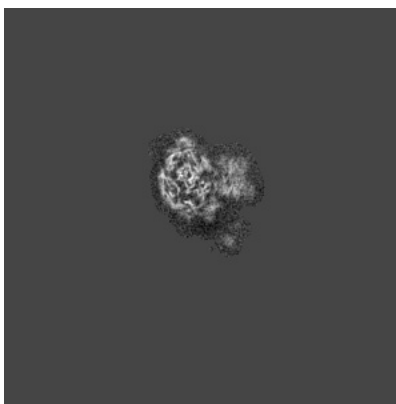
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

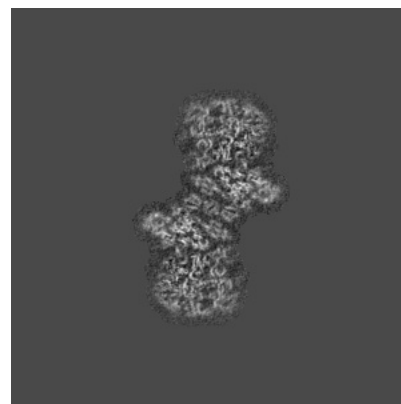
6.3.1 Primary map



X Index: 324



Y Index: 384

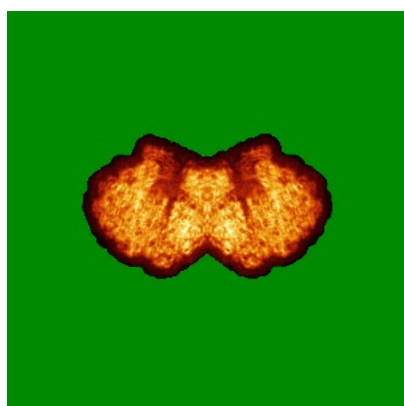


Z Index: 327

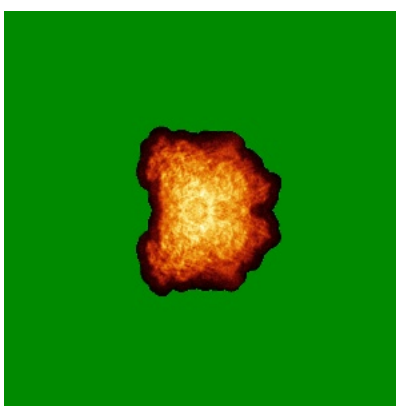
The images above show the largest variance slices of the map in three orthogonal directions.

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

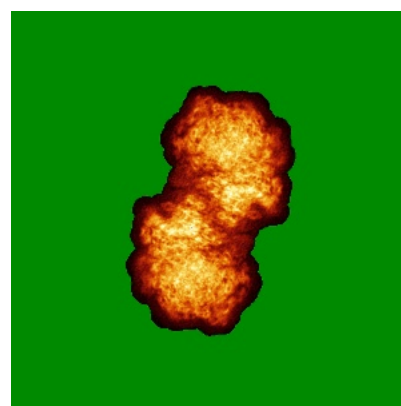
6.4.1 Primary map



X



Y

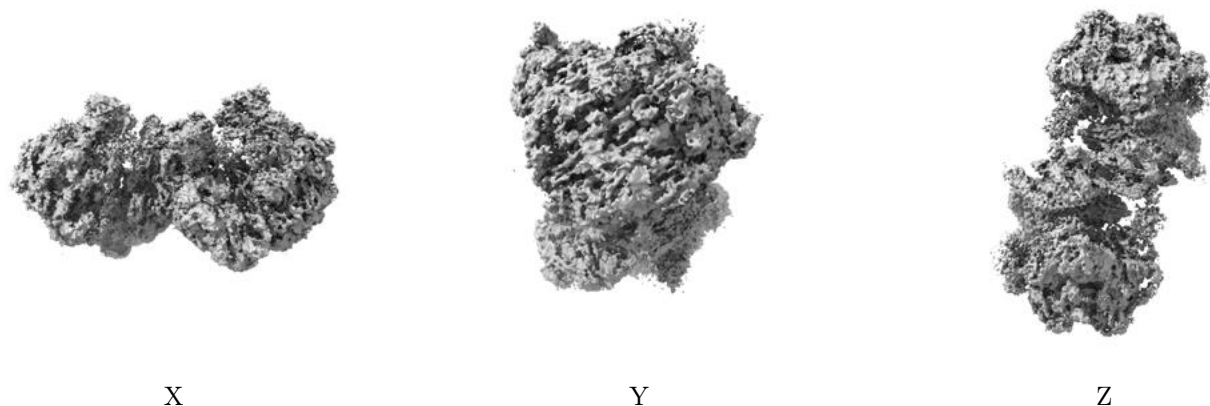


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 3.1. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

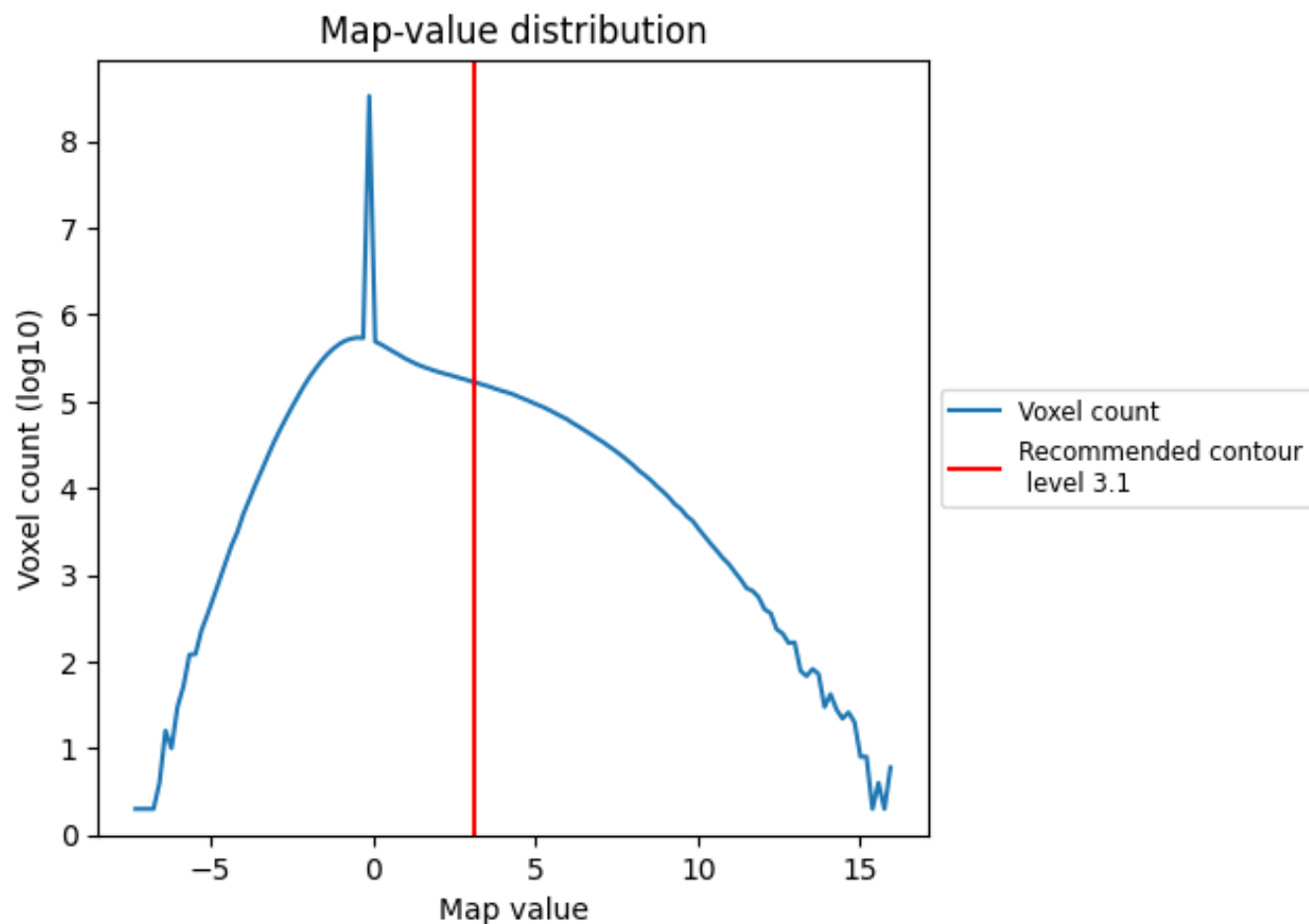
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

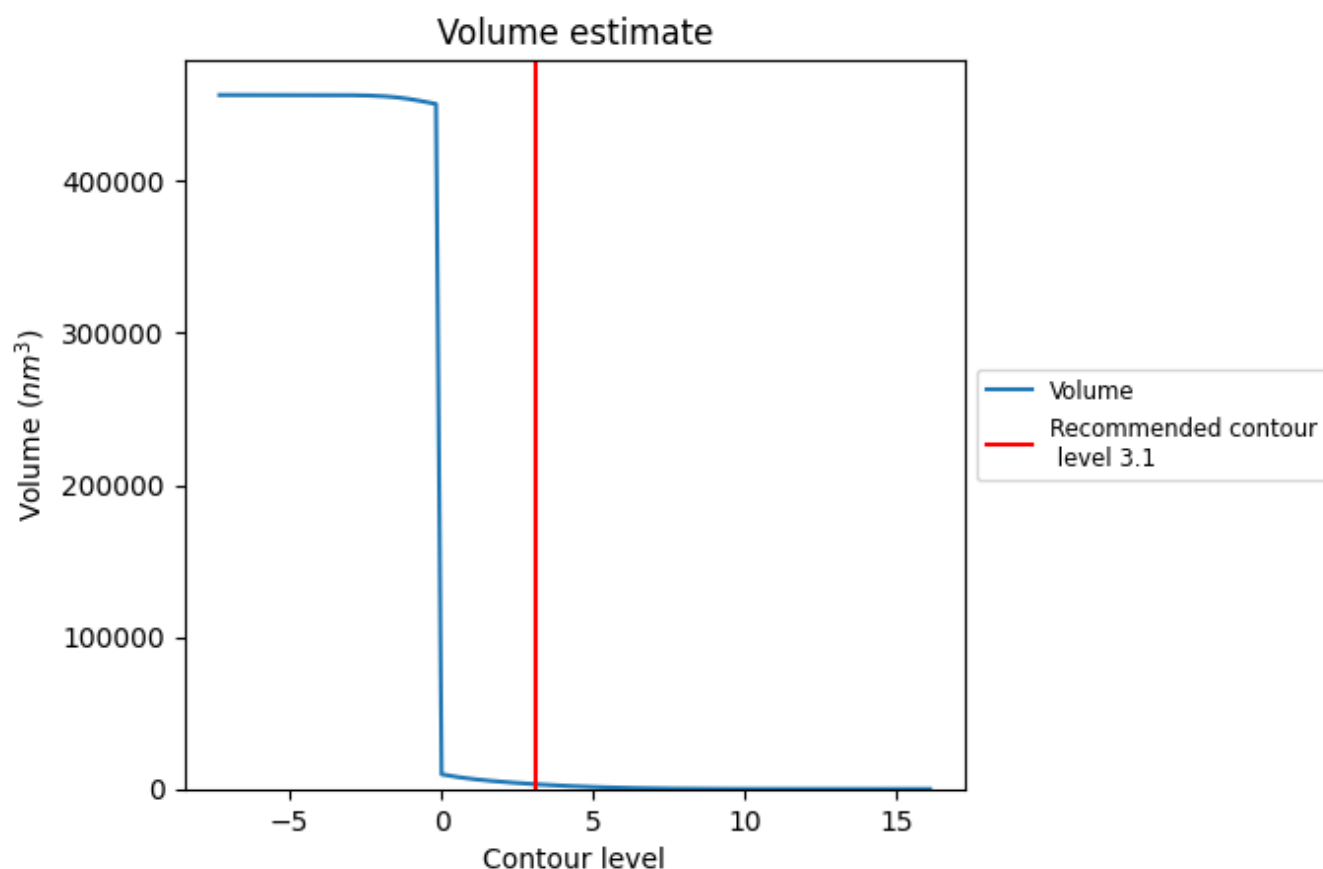
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

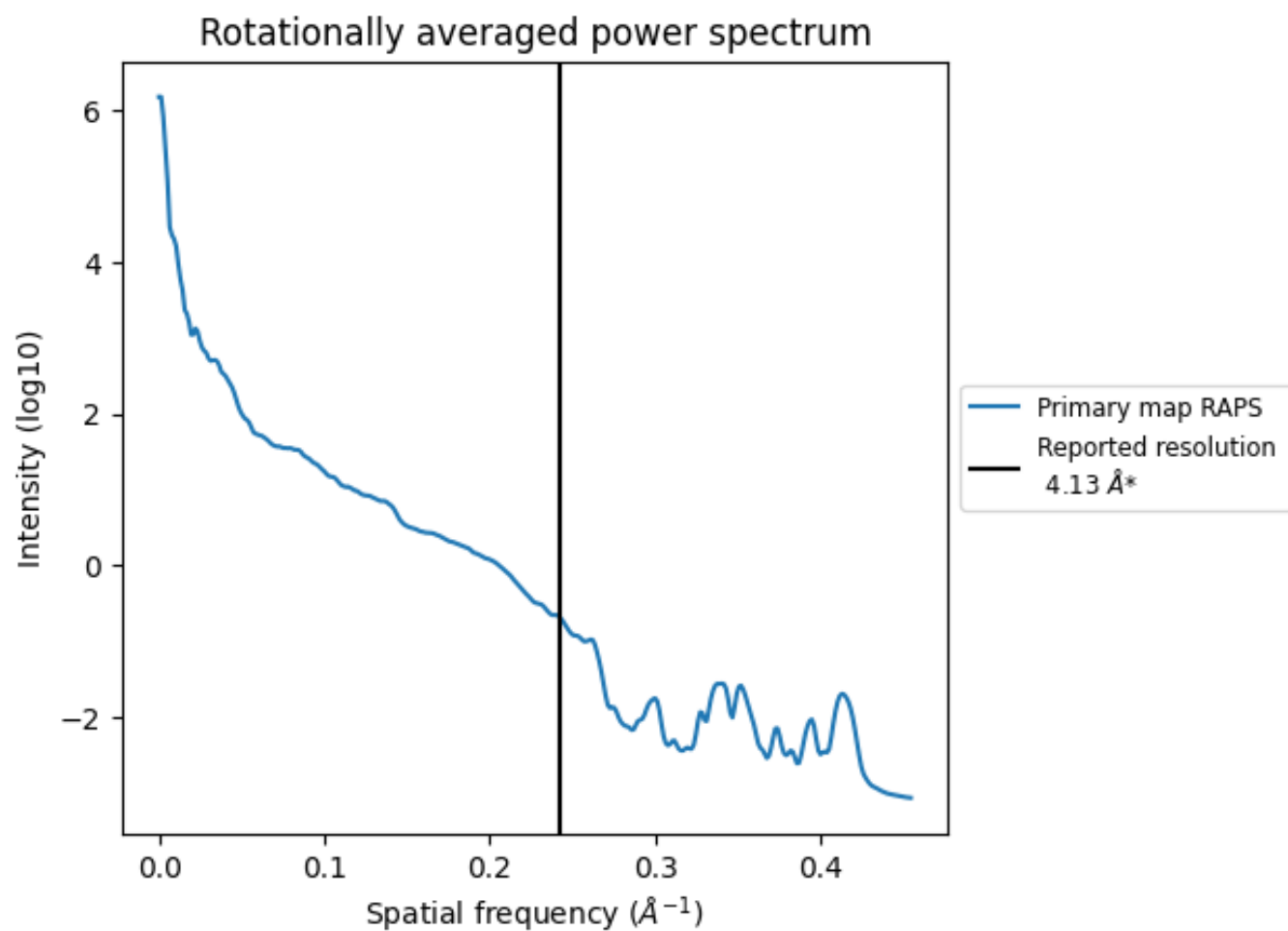
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 3146 nm³; this corresponds to an approximate mass of 2842 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum ⓘ



*Reported resolution corresponds to spatial frequency of 0.242 Å⁻¹

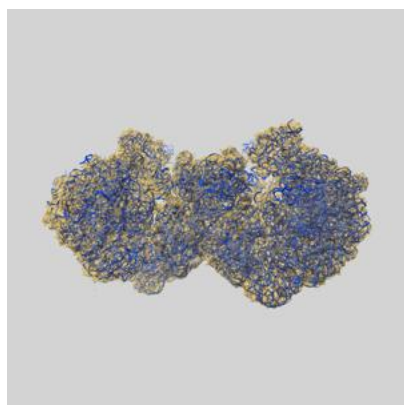
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

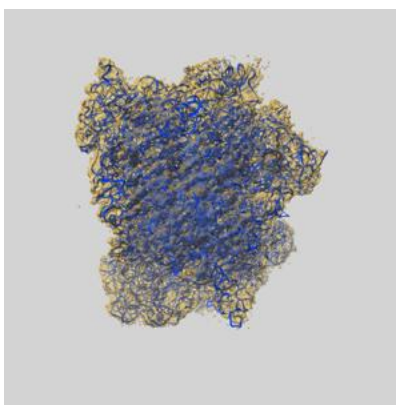
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-0105 and PDB model 6GZZ. Per-residue inclusion information can be found in [section 3](#) on [page 19](#).

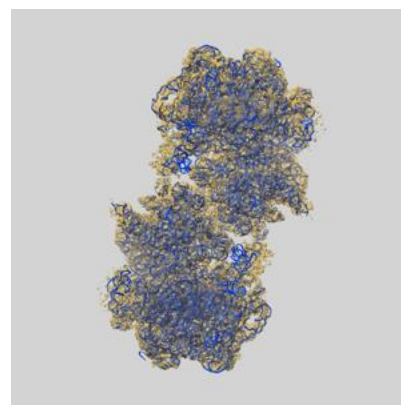
9.1 Map-model overlay [i](#)



X



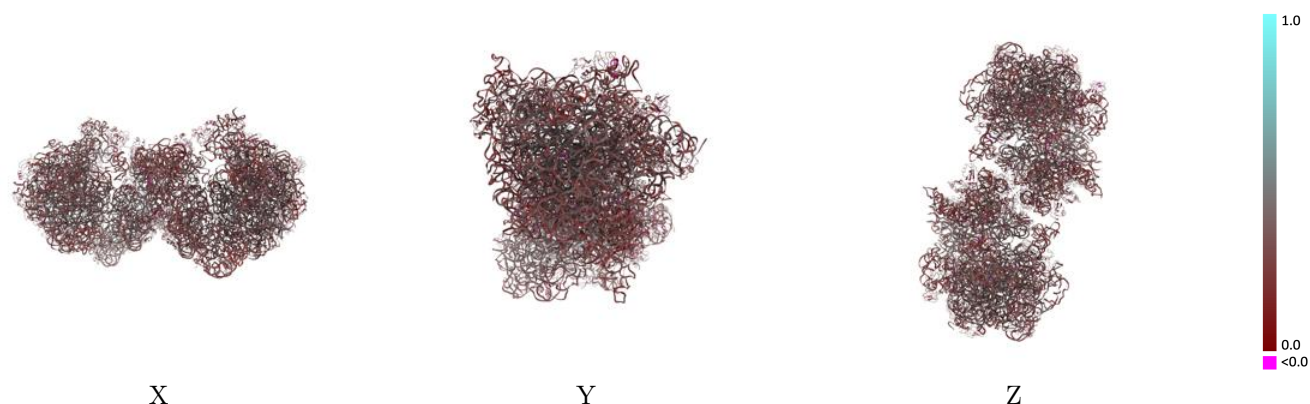
Y



Z

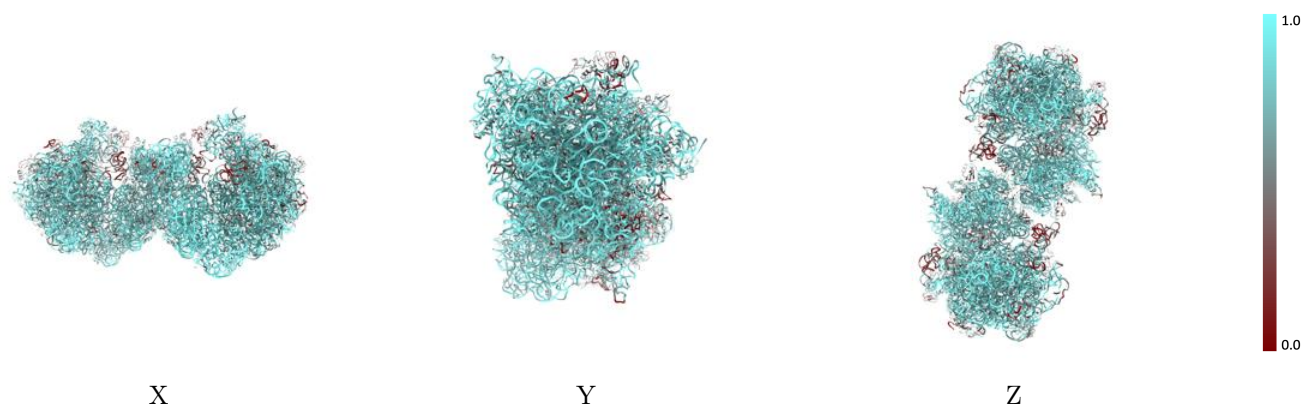
The images above show the 3D surface view of the map at the recommended contour level 3.1 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



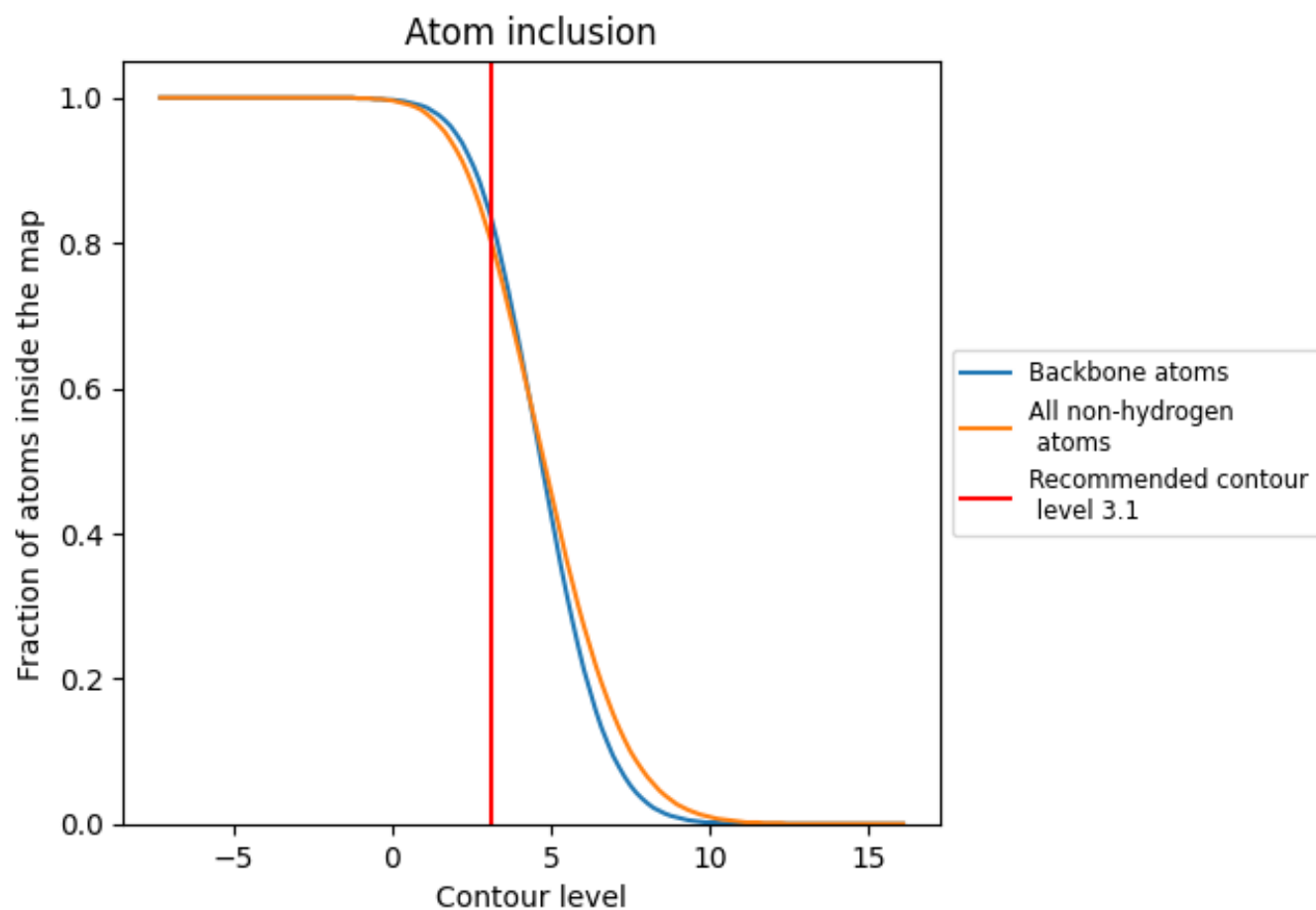
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (3.1).

9.4 Atom inclusion [i](#)



At the recommended contour level, 84% of all backbone atoms, 81% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (3.1) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8060	 0.3170
A1	 0.8440	 0.3320
A2	 0.8450	 0.3330
A3	 0.9340	 0.3190
A4	 0.9320	 0.3200
B1	 0.8960	 0.2920
B2	 0.9010	 0.2950
B3	 0.7010	 0.2960
B4	 0.6960	 0.2900
C1	 0.6580	 0.3220
C2	 0.6530	 0.3320
C3	 0.6390	 0.2870
C4	 0.6340	 0.2840
D1	 0.6560	 0.3400
D2	 0.6510	 0.3470
D3	 0.8080	 0.2650
D4	 0.8040	 0.2600
E1	 0.5360	 0.3020
E2	 0.5430	 0.3040
E3	 0.8210	 0.3280
E4	 0.8220	 0.3330
F1	 0.5440	 0.2530
F2	 0.5330	 0.2540
F3	 0.7150	 0.2650
F4	 0.7320	 0.2600
G1	 0.5270	 0.2670
G2	 0.5370	 0.2700
G3	 0.7060	 0.2940
G4	 0.7130	 0.3000
H1	 0.4830	 0.2930
H2	 0.4850	 0.2940
H3	 0.8600	 0.3210
H4	 0.8560	 0.3260
I1	 0.6890	 0.3250
I2	 0.7020	 0.3330



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Chain	Atom inclusion	Q-score
I3	 0.7110	 0.2810
I4	 0.7320	 0.2790
J1	 0.4920	 0.3600
J2	 0.5030	 0.3650
J3	 0.5270	 0.2370
J4	 0.5490	 0.2530
K1	 0.4820	 0.3110
K2	 0.4730	 0.3130
K3	 0.6760	 0.2940
K4	 0.6850	 0.3010
L1	 0.6560	 0.3190
L2	 0.6360	 0.3150
L3	 0.8060	 0.3260
L4	 0.8000	 0.3310
M1	 0.6340	 0.3170
M2	 0.6410	 0.3180
M3	 0.6570	 0.2640
M4	 0.6440	 0.2450
N1	 0.7630	 0.2860
N2	 0.7590	 0.2970
N3	 0.7300	 0.2420
N4	 0.7280	 0.2440
O1	 0.6480	 0.3300
O2	 0.6470	 0.3260
O3	 0.7940	 0.2790
O4	 0.7950	 0.2930
P1	 0.7060	 0.2950
P2	 0.6970	 0.2980
P3	 0.8190	 0.3120
P4	 0.8310	 0.3210
Q1	 0.5620	 0.3240
Q2	 0.5770	 0.3230
Q3	 0.6940	 0.3090
Q4	 0.6860	 0.3160
R1	 0.6740	 0.3260
R2	 0.6560	 0.3210
R3	 0.5750	 0.3050
R4	 0.5490	 0.2890
S1	 0.6260	 0.2830
S2	 0.6230	 0.2910
S3	 0.8020	 0.2330
S4	 0.7770	 0.2300

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Chain	Atom inclusion	Q-score
T1	 0.6870	 0.2750
T2	 0.7020	 0.2860
T3	 0.6790	 0.2830
T4	 0.6860	 0.2860
U1	 0.5180	 0.2520
U2	 0.5300	 0.2610
U3	 0.7070	 0.2710
U4	 0.6970	 0.2680
V1	 0.7730	 0.2890
V2	 0.7710	 0.2880
V3	 0.6950	 0.2990
V4	 0.7140	 0.3000
W1	 0.5200	 0.3120
W2	 0.5050	 0.3020
W4	 0.6210	 0.2710
X1	 0.6110	 0.2770
X2	 0.6010	 0.2820
X3	 0.6320	 0.2780
Y1	 0.6840	 0.3300
Y2	 0.6600	 0.3210
Z1	 0.1540	 0.1940
Z2	 0.2160	 0.1880
a1	 0.7630	 0.3140
a2	 0.7360	 0.3190
b1	 0.7470	 0.2680
b2	 0.7790	 0.2410
c1	 0.6860	 0.2960
c2	 0.7110	 0.2980
d1	 0.5690	 0.3180
d2	 0.5500	 0.3160
e1	 0.6150	 0.2360
e2	 0.5940	 0.2760