Full wwPDB EM Validation Report

Mar 12, 2026 – 06:38 PM UTC

PDB ID	:	7NWG / pdb_00007nwg
EMDB ID	:	EMD-12631
Title	:	Mammalian pre-termination 80S ribosome with Hybrid P/E- and A/P-site tRNA's bound by Blasticidin S.
Authors	:	Powers, K.T.; Yadav, S.K.N.; Bufton, J.C.; Schaffitzel, C.
Deposited on	:	2021-03-16
Resolution	:	3.80 Å(reported)
Based on initial model	:	6HCJ

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 (i) 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 (1)) were used in the production of this report:

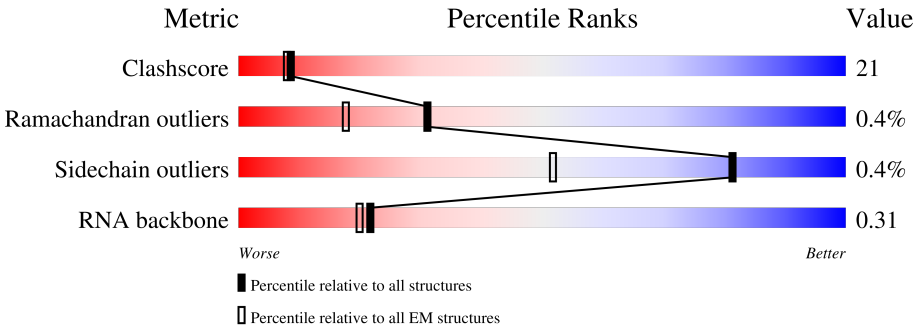
EMDB validation analysis	:	0.0.1.dev132
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data 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

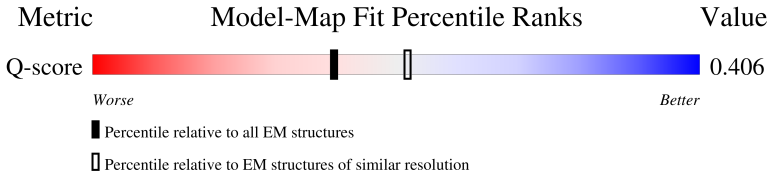
1 Overall quality at a glance

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

The reported resolution of this entry is 3.80 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	10198 (3.30 - 4.30)

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 <=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	51	3788	30% 46% 20%
2	71	120	32% 47% 21%
3	81	151	38% 42% 19%

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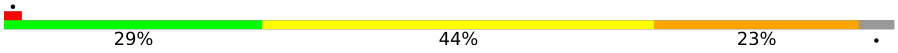
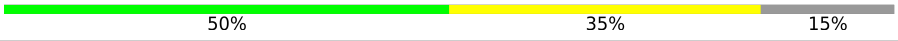
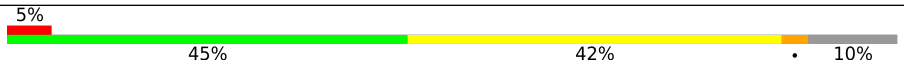
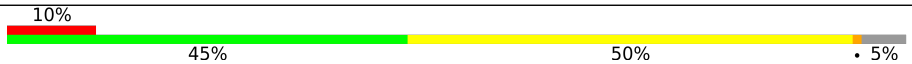
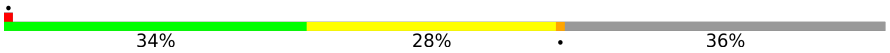
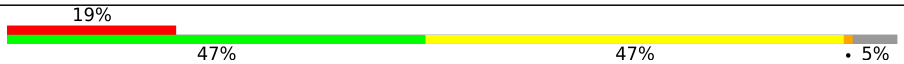
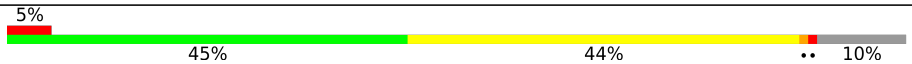
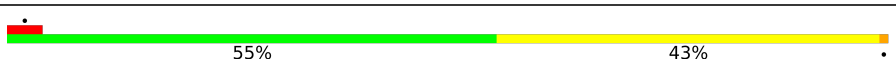
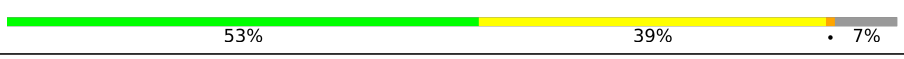
Mol	Chain	Length	Quality of chain
4	A2	1818	
5	B2	295	
6	C2	264	
7	D2	259	
8	E2	281	
9	F2	262	
10	G2	205	
11	H2	262	
12	I2	190	
13	J2	206	
14	K2	194	
15	L2	151	
16	M2	158	
17	N2	123	
18	O2	149	
19	P2	168	
20	Q2	145	
21	R2	157	
22	S2	145	
23	T2	152	
24	U2	145	
25	V2	130	
26	W2	83	
27	X2	139	
28	Y2	141	

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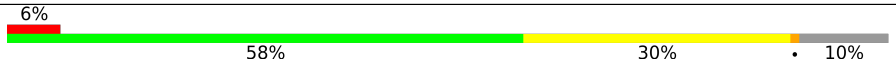
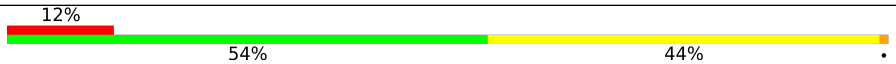
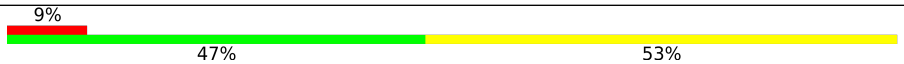
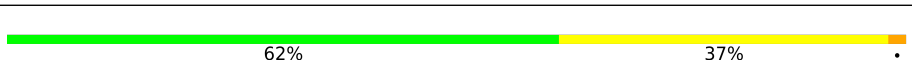
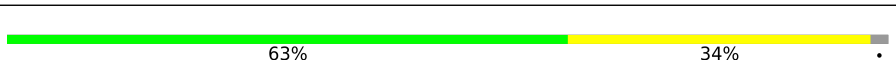
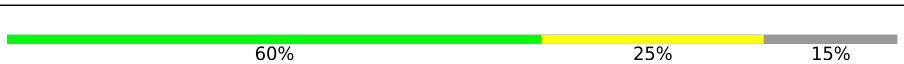
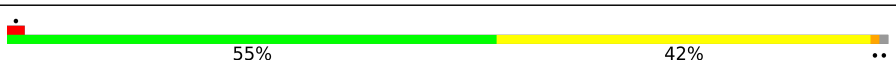
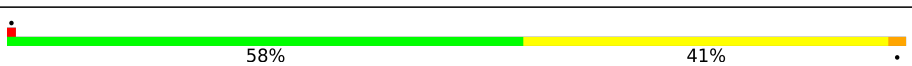
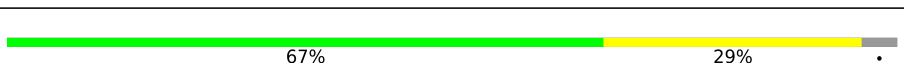
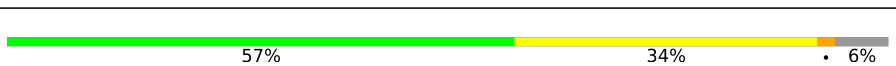
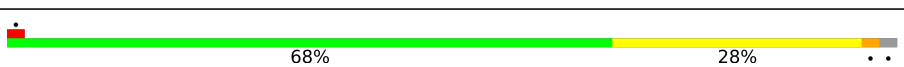
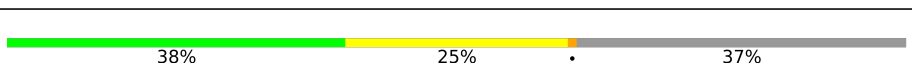
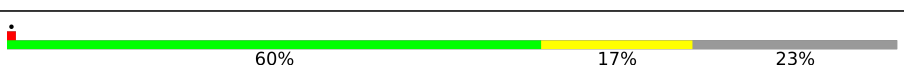
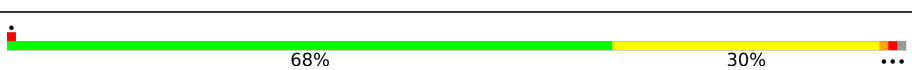
Mol	Chain	Length	Quality of chain
29	Z2	146	
30	a2	198	
31	b2	117	
32	c2	84	
33	d2	69	
34	e2	55	
35	f2	133	
36	g2	68	
37	h2	313	
38	A3	246	
39	B3	403	
40	C3	425	
41	D3	297	
42	E3	291	
43	F3	249	
44	G3	241	
45	H3	190	
46	I3	214	
47	J3	181	
48	L3	211	
49	M3	218	
50	N3	203	
51	O3	203	
52	P3	199	
53	Q3	188	

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Mol	Chain	Length	Quality of chain
54	R3	196	5% 48% 39% 5% 8%
55	S3	176	63% 36%
56	T3	159	66% 34%
57	U3	128	41% 35% 23%
58	V3	131	79% 20%
59	X3	156	52% 22% 24%
60	Y3	132	70% 30%
61	Z3	135	52% 46%
62	a3	160	70% 22% 8%
63	b3	245	25% 16% 58%
64	c3	115	52% 31% 15%
65	d3	107	72% 28%
66	e3	128	82% 17%
67	f3	109	64% 35%
68	g3	126	6% 60% 30% 10%
69	h3	122	69% 30%
70	i3	117	57% 30% 13%
71	j3	97	60% 28% 11%
72	k3	69	61% 39%
73	l3	50	62% 36%
74	m3	128	22% 19% 59%
75	n3	25	56% 36% 8%
76	o3	142	53% 20% 27%
77	p3	109	45% 35% 17%
78	r3	137	61% 28% 9%

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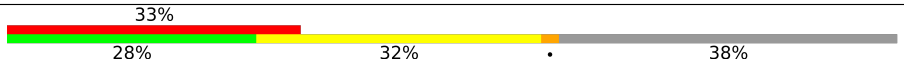
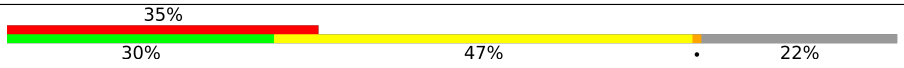
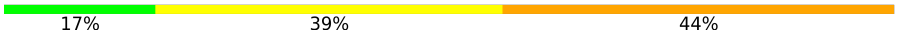
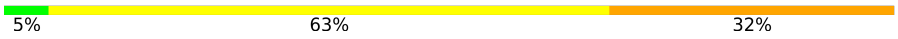
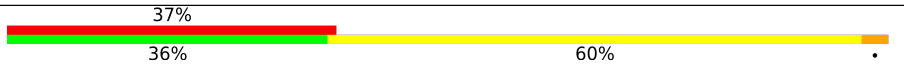
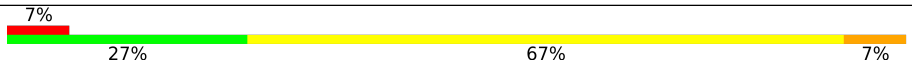
Mol	Chain	Length	Quality of chain
79	q3	74	
80	t3	318	
81	u3	195	
82	v3	18	
83	33	75	
84	w3	217	
85	1	15	
86	W	134	

2 Entry composition

There are 89 unique types of molecules in this entry. The entry contains 383415 atoms, of which 163452 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 28S Ribosomal RNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	P		
1	51	3626	116849	34571	39208	14211	25233	3626	0	0

- Molecule 2 is a RNA chain called 5S Ribosomal RNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	P		
2	71	120	3853	1141	1295	456	842	119	0	0

- Molecule 3 is a RNA chain called 5.8S Ribosomal RNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	P		
3	81	151	4835	1432	1627	564	1062	150	0	0

- Molecule 4 is a RNA chain called 18S Ribosomal RNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	P		
4	A2	1740	55909	16578	18768	6668	12156	1739	0	0

- Molecule 5 is a protein called 40S ribosomal protein SA.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
5	B2	217	3418	1086	1708	300	316	8	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B2	114	THR	ALA	conflict	UNP G1TLT8

- Molecule 6 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms						AltConf	Trace
6	C2	213	Total	C	H	N	O	S	0	0
			3532	1098	1803	309	308	14		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C2	236	GLY	SER	conflict	UNP G1SS70
C2	242	ALA	THR	conflict	UNP G1SS70

- Molecule 7 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms						AltConf	Trace
7	D2	221	Total	C	H	N	O	S	0	0
			3522	1111	1806	295	301	9		

- Molecule 8 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms						AltConf	Trace
8	E2	228	Total	C	H	N	O	S	0	0
			3624	1125	1859	316	316	8		

- Molecule 9 is a protein called S4.

Mol	Chain	Residues	Atoms						AltConf	Trace
9	F2	262	Total	C	H	N	O	S	0	0
			4252	1324	2176	386	358	8		

- Molecule 10 is a protein called Ribosomal protein S5.

Mol	Chain	Residues	Atoms						AltConf	Trace
10	G2	185	Total	C	H	N	O	S	0	0
			2993	921	1522	277	266	7		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
G2	0	MET	-	initiating methionine	UNP G1TFM5

- Molecule 11 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms						AltConf	Trace
11	H2	237	Total	C	H	N	O	S	0	0
			4008	1200	2085	387	329	7		

There are 13 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
H2	-12	LEU	-	expression tag	UNP A0A5K1UJS7
H2	-11	PHE	-	expression tag	UNP A0A5K1UJS7
H2	-10	ARG	-	expression tag	UNP A0A5K1UJS7
H2	-9	GLY	-	expression tag	UNP A0A5K1UJS7
H2	-8	ALA	-	expression tag	UNP A0A5K1UJS7
H2	-7	SER	-	expression tag	UNP A0A5K1UJS7
H2	-6	GLU	-	expression tag	UNP A0A5K1UJS7
H2	-5	ALA	-	expression tag	UNP A0A5K1UJS7
H2	-4	VAL	-	expression tag	UNP A0A5K1UJS7
H2	-3	GLY	-	expression tag	UNP A0A5K1UJS7
H2	-2	SER	-	expression tag	UNP A0A5K1UJS7
H2	-1	LEU	-	expression tag	UNP A0A5K1UJS7
H2	0	LYS	-	expression tag	UNP A0A5K1UJS7

- Molecule 12 is a protein called ribosomal protein eS7.

Mol	Chain	Residues	Atoms						AltConf	Trace
12	I2	185	Total	C	H	N	O	S	0	0
			3070	952	1582	271	264	1		

- Molecule 13 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms						AltConf	Trace
13	J2	206	Total	C	H	N	O	S	0	0
			3457	1058	1771	332	291	5		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
J2	47	ARG	GLY	variant	UNP G1TJW1

- Molecule 14 is a protein called 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms						AltConf	Trace
14	K2	185	Total	C	H	N	O	S	0	0
			3165	969	1640	306	248	2		

- Molecule 15 is a protein called 40S ribosomal protein S10.

Mol	Chain	Residues	Atoms						AltConf	Trace
15	L2	96	Total	C	H	N	O	S	0	0
			1646	530	836	143	131	6		

- Molecule 16 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms						AltConf	Trace
16	M2	143	Total	C	H	N	O	S	0	0
			2424	749	1249	222	198	6		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
M2	25	GLN	LEU	conflict	UNP G1TRM4
M2	29	SER	GLY	conflict	UNP G1TRM4

- Molecule 17 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms						AltConf	Trace
17	N2	117	Total	C	H	N	O	S	0	0
			1847	570	939	161	169	8		

- Molecule 18 is a protein called ribosomal protein uS15.

Mol	Chain	Residues	Atoms						AltConf	Trace
18	O2	149	Total	C	H	N	O	S	0	0
			2491	770	1289	228	203	1		

- Molecule 19 is a protein called uS11.

Mol	Chain	Residues	Atoms						AltConf	Trace
19	P2	136	Total	C	H	N	O	S	0	0
			2055	621	1039	199	190	6		

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
P2	-16	MET	-	initiating methionine	UNP G1T1F0
P2	-15	LYS	-	expression tag	UNP G1T1F0
P2	-14	ALA	-	expression tag	UNP G1T1F0
P2	-13	ARG	-	expression tag	UNP G1T1F0

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Chain	Residue	Modelled	Actual	Comment	Reference
P2	-12	ALA	-	expression tag	UNP G1T1F0
P2	-11	LEU	-	expression tag	UNP G1T1F0
P2	-10	SER	-	expression tag	UNP G1T1F0
P2	-9	GLY	-	expression tag	UNP G1T1F0
P2	-8	SER	-	expression tag	UNP G1T1F0
P2	-7	GLY	-	expression tag	UNP G1T1F0
P2	-6	VAL	-	expression tag	UNP G1T1F0
P2	-5	ARG	-	expression tag	UNP G1T1F0

- Molecule 20 is a protein called 40S ribosomal protein uS19.

Mol	Chain	Residues	Atoms						AltConf	Trace
20	Q2	120	Total	C	H	N	O	S	0	0
			2042	635	1045	187	168	7		

- Molecule 21 is a protein called Ribosomal protein S16.

Mol	Chain	Residues	Atoms						AltConf	Trace
21	R2	142	Total	C	H	N	O	S	0	0
			2323	717	1195	213	195	3		

There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
R2	-8	VAL	GLU	conflict	UNP G1SGX4
R2	-7	GLU	ASP	conflict	UNP G1SGX4
R2	-6	LEU	ARG	conflict	UNP G1SGX4
R2	-5	VAL	HIS	conflict	UNP G1SGX4
R2	-4	LEU	SER	conflict	UNP G1SGX4
R2	-3	VAL	SER	conflict	UNP G1SGX4
R2	-2	LEU	ALA	conflict	UNP G1SGX4
R2	-1	GLY	ALA	conflict	UNP G1SGX4

- Molecule 22 is a protein called 40S ribosomal protein S17.

Mol	Chain	Residues	Atoms						AltConf	Trace
22	S2	132	Total	C	H	N	O	S	0	0
			2189	670	1121	199	195	4		

- Molecule 23 is a protein called 40S ribosomal protein uS13.

Mol	Chain	Residues	Atoms						AltConf	Trace
23	T2	144	Total	C	H	N	O	S	0	0
			2439	746	1249	241	202	1		

- Molecule 24 is a protein called S19.

Mol	Chain	Residues	Atoms						AltConf	Trace
24	U2	141	Total	C	H	N	O	S	0	0
			2227	688	1130	211	195	3		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
U2	119	GLY	TRP	conflict	UNP G1TN62

- Molecule 25 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms						AltConf	Trace
25	V2	100	Total	C	H	N	O	S	0	0
			1657	498	862	152	141	4		

- Molecule 26 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms						AltConf	Trace
26	W2	83	Total	C	H	N	O	S	0	0
			1273	393	637	117	121	5		

- Molecule 27 is a protein called Ribosomal protein S15a.

Mol	Chain	Residues	Atoms						AltConf	Trace
27	X2	129	Total	C	H	N	O	S	0	0
			2114	659	1080	193	176	6		

- Molecule 28 is a protein called Ribosomal protein S23.

Mol	Chain	Residues	Atoms						AltConf	Trace
28	Y2	141	Total	C	H	N	O	S	0	0
			2263	693	1165	219	183	3		

- Molecule 29 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms						AltConf	Trace
29	Z2	124	Total	C	H	N	O	S	0	0
			2094	640	1083	198	168	5		

- Molecule 30 is a protein called ribosomal protein eS25.

Mol	Chain	Residues	Atoms						AltConf	Trace
30	a2	75	Total	C	H	N	O	S	0	0
			1254	382	656	111	104	1		

- Molecule 31 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms						AltConf	Trace
31	b2	101	Total	C	H	N	O	S	0	0
			1678	507	864	170	132	5		

- Molecule 32 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms						AltConf	Trace
32	c2	83	Total	C	H	N	O	S	0	0
			1323	408	672	121	115	7		

- Molecule 33 is a protein called 40S ribosomal protein S28.

Mol	Chain	Residues	Atoms						AltConf	Trace
33	d2	62	Total	C	H	N	O	S	0	0
			1002	297	514	97	92	2		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
d2	5	HIS	ARG	conflict	UNP G1TIB4

- Molecule 34 is a protein called uS14.

Mol	Chain	Residues	Atoms						AltConf	Trace
34	e2	55	Total	C	H	N	O	S	0	0
			911	286	452	94	74	5		

- Molecule 35 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms						AltConf	Trace
35	f2	55	Total	C	H	N	O	S	0	0
			935	274	492	97	71	1		

- Molecule 36 is a protein called eS31.

Mol	Chain	Residues	Atoms						AltConf	Trace
36	g2	68	Total	C	H	N	O	S	0	0
			1122	351	567	103	94	7		

- Molecule 37 is a protein called ribosomal protein RACK1.

Mol	Chain	Residues	Atoms						AltConf	Trace
37	h2	313	Total	C	H	N	O	S	0	0
			4829	1535	2393	424	465	12		

- Molecule 38 is a protein called L8.

Mol	Chain	Residues	Atoms						AltConf	Trace
38	A3	246	Total	C	H	N	O	S	0	0
			3870	1183	1983	387	311	6		

- Molecule 39 is a protein called uL3.

Mol	Chain	Residues	Atoms						AltConf	Trace
39	B3	394	Total	C	H	N	O	S	0	0
			6482	2020	3310	597	542	13		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B3	1	MET	-	initiating methionine	UNP G1TL06

- Molecule 40 is a protein called uL4.

Mol	Chain	Residues	Atoms						AltConf	Trace
40	C3	362	Total	C	H	N	O	S	0	0
			5937	1812	3054	577	480	14		

There are 47 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C3	379	VAL	-	expression tag	UNP G1SVW5

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Chain	Residue	Modelled	Actual	Comment	Reference
C3	380	LYS	-	expression tag	UNP G1SVW5
C3	381	LYS	-	expression tag	UNP G1SVW5
C3	382	PRO	-	expression tag	UNP G1SVW5
C3	383	ARG	-	expression tag	UNP G1SVW5
C3	384	ALA	-	expression tag	UNP G1SVW5
C3	385	VAL	-	expression tag	UNP G1SVW5
C3	386	GLY	-	expression tag	UNP G1SVW5
C3	387	ILE	-	expression tag	UNP G1SVW5
C3	388	LYS	-	expression tag	UNP G1SVW5
C3	389	GLN	-	expression tag	UNP G1SVW5
C3	390	LYS	-	expression tag	UNP G1SVW5
C3	391	LYS	-	expression tag	UNP G1SVW5
C3	392	LYS	-	expression tag	UNP G1SVW5
C3	393	PRO	-	expression tag	UNP G1SVW5
C3	394	VAL	-	expression tag	UNP G1SVW5
C3	395	VAL	-	expression tag	UNP G1SVW5
C3	396	GLY	-	expression tag	UNP G1SVW5
C3	397	ARG	-	expression tag	UNP G1SVW5
C3	398	LYS	-	expression tag	UNP G1SVW5
C3	399	ALA	-	expression tag	UNP G1SVW5
C3	400	ALA	-	expression tag	UNP G1SVW5
C3	401	ALA	-	expression tag	UNP G1SVW5
C3	402	ALA	-	expression tag	UNP G1SVW5
C3	403	LYS	-	expression tag	UNP G1SVW5
C3	404	LYS	-	expression tag	UNP G1SVW5
C3	405	PRO	-	expression tag	UNP G1SVW5
C3	406	ALA	-	expression tag	UNP G1SVW5
C3	407	ALA	-	expression tag	UNP G1SVW5
C3	408	ASP	-	expression tag	UNP G1SVW5
C3	409	LYS	-	expression tag	UNP G1SVW5
C3	410	LYS	-	expression tag	UNP G1SVW5
C3	411	ALA	-	expression tag	UNP G1SVW5
C3	412	ALA	-	expression tag	UNP G1SVW5
C3	413	ASP	-	expression tag	UNP G1SVW5
C3	414	LYS	-	expression tag	UNP G1SVW5
C3	415	ARG	-	expression tag	UNP G1SVW5
C3	416	ALA	-	expression tag	UNP G1SVW5
C3	417	GLY	-	expression tag	UNP G1SVW5
C3	418	PRO	-	expression tag	UNP G1SVW5
C3	419	GLU	-	expression tag	UNP G1SVW5
C3	420	ASP	-	expression tag	UNP G1SVW5
C3	421	LYS	-	expression tag	UNP G1SVW5

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Chain	Residue	Modelled	Actual	Comment	Reference
C3	422	LYS	-	expression tag	UNP G1SVW5
C3	423	PRO	-	expression tag	UNP G1SVW5
C3	424	ALA	-	expression tag	UNP G1SVW5
C3	425	ALA	-	expression tag	UNP G1SVW5

- Molecule 41 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms						AltConf	Trace
41	D3	293	Total	C	H	N	O	S	0	0
			4815	1512	2424	438	427	14		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
D3	1	MET	-	initiating methionine	UNP G1SYJ6

- Molecule 42 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms						AltConf	Trace
42	E3	216	Total	C	H	N	O	S	0	0
			3616	1115	1887	329	282	3		

- Molecule 43 is a protein called uL30.

Mol	Chain	Residues	Atoms						AltConf	Trace
43	F3	225	Total	C	H	N	O	S	0	0
			3870	1205	1995	358	303	9		

- Molecule 44 is a protein called L7a.

Mol	Chain	Residues	Atoms						AltConf	Trace
44	G3	233	Total	C	H	N	O	S	0	0
			3905	1199	2026	361	315	4		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
G3	244	GLY	CYS	conflict	UNP G1STW0

- Molecule 45 is a protein called L9.

Mol	Chain	Residues	Atoms						AltConf	Trace
45	H3	190	Total	C	H	N	O	S	0	0
			3113	954	1597	284	272	6		

- Molecule 46 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms						AltConf	Trace
46	I3	205	Total	C	H	N	O	S	0	0
			3376	1056	1712	321	274	13		

- Molecule 47 is a protein called 60S ribosomal protein L11.

Mol	Chain	Residues	Atoms						AltConf	Trace
47	J3	170	Total	C	H	N	O	S	0	0
			2761	861	1399	254	241	6		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
J3	0	GLN	-	insertion	UNP G1TUB8
J3	1	ARG	-	insertion	UNP G1TUB8
J3	2	PRO	-	insertion	UNP G1TUB8

- Molecule 48 is a protein called L13.

Mol	Chain	Residues	Atoms						AltConf	Trace
48	L3	207	Total	C	H	N	O	S	0	0
			3455	1047	1781	348	275	4		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
L3	74	ARG	HIS	conflict	UNP G1TKB3
L3	190	ARG	HIS	conflict	UNP G1TKB3

- Molecule 49 is a protein called Ribosomal protein L14.

Mol	Chain	Residues	Atoms						AltConf	Trace
49	M3	138	Total	C	H	N	O	S	0	0
			2348	727	1211	221	182	7		

- Molecule 50 is a protein called Ribosomal protein L15.

Mol	Chain	Residues	Atoms						AltConf	Trace
50	N3	203	Total	C	H	N	O	S	0	0
			3450	1072	1749	359	266	4		

- Molecule 51 is a protein called 60S RIBOSOMAL PROTEIN UL13.

Mol	Chain	Residues	Atoms						AltConf	Trace
51	O3	199	Total	C	H	N	O	S	0	0
			3408	1051	1778	319	255	5		

- Molecule 52 is a protein called uL22.

Mol	Chain	Residues	Atoms						AltConf	Trace
52	P3	153	Total	C	H	N	O	S	0	0
			2516	777	1274	241	215	9		

- Molecule 53 is a protein called L18.

Mol	Chain	Residues	Atoms						AltConf	Trace
53	Q3	187	Total	C	H	N	O	S	0	0
			3149	946	1634	315	250	4		

- Molecule 54 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms						AltConf	Trace
54	R3	180	Total	C	H	N	O	S	0	0
			3172	933	1664	328	238	9		

- Molecule 55 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms						AltConf	Trace
55	S3	176	Total	C	H	N	O	S	0	0
			2970	930	1508	285	236	11		

- Molecule 56 is a protein called eL21.

Mol	Chain	Residues	Atoms						AltConf	Trace
56	T3	159	Total	C	H	N	O	S	0	0
			2664	823	1366	252	217	6		

- Molecule 57 is a protein called L22.

Mol	Chain	Residues	Atoms						AltConf	Trace
57	U3	99	Total	C	H	N	O	S	0	0
			1642	519	833	141	147	2		

- Molecule 58 is a protein called eL14.

Mol	Chain	Residues	Atoms						AltConf	Trace
58	V3	131	Total	C	H	N	O	S	0	0
			2018	618	1039	184	172	5		

- Molecule 59 is a protein called uL23.

Mol	Chain	Residues	Atoms						AltConf	Trace
59	X3	118	Total	C	H	N	O	S	0	0
			2003	618	1036	181	167	1		

- Molecule 60 is a protein called Ribosomal protein L26.

Mol	Chain	Residues	Atoms						AltConf	Trace
60	Y3	132	Total	C	H	N	O	S	0	0
			2291	692	1189	223	184	3		

- Molecule 61 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms						AltConf	Trace
61	Z3	135	Total	C	H	N	O	S	0	0
			2289	714	1182	208	182	3		

- Molecule 62 is a protein called uL15.

Mol	Chain	Residues	Atoms						AltConf	Trace
62	a3	147	Total	C	H	N	O	S	0	0
			2372	734	1210	239	185	4		

- Molecule 63 is a protein called eL29.

Mol	Chain	Residues	Atoms						AltConf	Trace
63	b3	104	Total	C	H	N	O	S	0	0
			1768	527	920	189	129	3		

There are 19 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
b3	227	ALA	-	expression tag	UNP G1SGR6
b3	228	PRO	-	expression tag	UNP G1SGR6
b3	229	VAL	-	expression tag	UNP G1SGR6
b3	230	PRO	-	expression tag	UNP G1SGR6
b3	231	ALA	-	expression tag	UNP G1SGR6
b3	232	GLN	-	expression tag	UNP G1SGR6
b3	233	ALA	-	expression tag	UNP G1SGR6
b3	234	PRO	-	expression tag	UNP G1SGR6
b3	235	PRO	-	expression tag	UNP G1SGR6
b3	236	LYS	-	expression tag	UNP G1SGR6
b3	237	GLY	-	expression tag	UNP G1SGR6
b3	238	ALA	-	expression tag	UNP G1SGR6
b3	239	GLN	-	expression tag	UNP G1SGR6
b3	240	PRO	-	expression tag	UNP G1SGR6
b3	241	PRO	-	expression tag	UNP G1SGR6
b3	242	ALA	-	expression tag	UNP G1SGR6
b3	243	LYS	-	expression tag	UNP G1SGR6
b3	244	ALA	-	expression tag	UNP G1SGR6
b3	245	PRO	-	expression tag	UNP G1SGR6

- Molecule 64 is a protein called eL30.

Mol	Chain	Residues	Atoms						AltConf	Trace
64	c3	98	Total	C	H	N	O	S	0	0
			1555	481	794	134	140	6		

- Molecule 65 is a protein called eL31.

Mol	Chain	Residues	Atoms						AltConf	Trace
65	d3	107	Total	C	H	N	O	S	0	0
			1818	560	930	171	155	2		

- Molecule 66 is a protein called eL32.

Mol	Chain	Residues	Atoms						AltConf	Trace
66	e3	128	Total	C	H	N	O	S	0	0
			2200	667	1147	216	165	5		

- Molecule 67 is a protein called eL33.

Mol	Chain	Residues	Atoms						AltConf	Trace
67	f3	109	Total	C	H	N	O	S	0	0
			1788	555	912	174	143	4		

- Molecule 68 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms						AltConf	Trace
68	g3	114	Total	C	H	N	O	S	0	0
			1905	566	999	187	147	6		

- Molecule 69 is a protein called uL29.

Mol	Chain	Residues	Atoms						AltConf	Trace
69	h3	122	Total	C	H	N	O	S	0	0
			2160	640	1147	204	168	1		

- Molecule 70 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms						AltConf	Trace
70	i3	102	Total	C	H	N	O	S	0	0
			1746	520	916	176	129	5		

- Molecule 71 is a protein called Ribosomal protein L37.

Mol	Chain	Residues	Atoms						AltConf	Trace
71	j3	86	Total	C	H	N	O	S	0	0
			1442	434	737	155	111	5		

- Molecule 72 is a protein called L38.

Mol	Chain	Residues	Atoms						AltConf	Trace
72	k3	69	Total	C	H	N	O	S	0	0
			1206	366	637	103	99	1		

- Molecule 73 is a protein called eL39.

Mol	Chain	Residues	Atoms						AltConf	Trace
73	l3	50	Total	C	H	N	O	S	0	0
			927	286	480	96	64	1		

- Molecule 74 is a protein called 60S RIBOSOMAL PROTEIN EL40.

Mol	Chain	Residues	Atoms						AltConf	Trace
74	m3	52	Total	C	H	N	O	S	0	0
			895	266	466	90	67	6		

- Molecule 75 is a protein called 60s ribosomal protein l41.

Mol	Chain	Residues	Atoms						AltConf	Trace
75	n3	25	Total	C	H	N	O	S	0	0
			528	145	289	64	27	3		

- Molecule 76 is a protein called eL42.

Mol	Chain	Residues	Atoms						AltConf	Trace
76	o3	104	Total	C	H	N	O	S	0	0
			1775	533	924	174	138	6		

- Molecule 77 is a protein called ribosomal protein eL43.

Mol	Chain	Residues	Atoms						AltConf	Trace
77	p3	91	Total	C	H	N	O	S	0	0
			1466	445	758	136	120	7		

- Molecule 78 is a protein called eL28.

Mol	Chain	Residues	Atoms						AltConf	Trace
78	r3	124	Total	C	H	N	O	S	0	0
			2045	616	1051	205	167	6		

- Molecule 79 is a RNA chain called A/P-Site tRNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
79	q3	74	Total	C	H	N	O	P	0	0
			2381	705	805	286	512	73		

- Molecule 80 is a protein called 60S acidic ribosomal protein P0.

Mol	Chain	Residues	Atoms						AltConf	Trace
80	t3	196	Total	C	H	N	O	S	0	0
			3071	959	1564	263	276	9		

- Molecule 81 is a protein called uL12.

Mol	Chain	Residues	Atoms						AltConf	Trace
81	u3	153	Total	C	H	N	O	S	0	0
			2378	722	1218	218	217	3		

- Molecule 82 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
82	v3	18	Total	C	H	N	O	P	0	0
			573	171	192	65	127	18		

- Molecule 83 is a RNA chain called P/E-Site tRNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
83	33	75	Total	C	H	N	O	P	0	0
			2403	712	809	281	527	74		

- Molecule 84 is a protein called Ribosomal protein.

Mol	Chain	Residues	Atoms						AltConf	Trace
84	w3	217	Total	C	H	N	O	S	0	0
			3595	1113	1854	312	307	9		

- Molecule 85 is a protein called Sec61Beta.

Mol	Chain	Residues	Atoms						AltConf	Trace
85	1	15	Total	C	H	N	O	S	0	0
			242	82	117	20	22	1		

- Molecule 86 is a protein called 60S ribosomal protein L24-like protein.

Mol	Chain	Residues	Atoms						AltConf	Trace
86	W	63	Total	C	H	N	O	S	0	0
			1069	337	541	103	85	3		

- Molecule 87 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
87	51	193	Total	Mg	0
			193	193	
87	71	6	Total	Mg	0
			6	6	
87	81	7	Total	Mg	0
			7	7	
87	A2	74	Total	Mg	0
			74	74	
87	F2	1	Total	Mg	0
			1	1	
87	K2	1	Total	Mg	0
			1	1	

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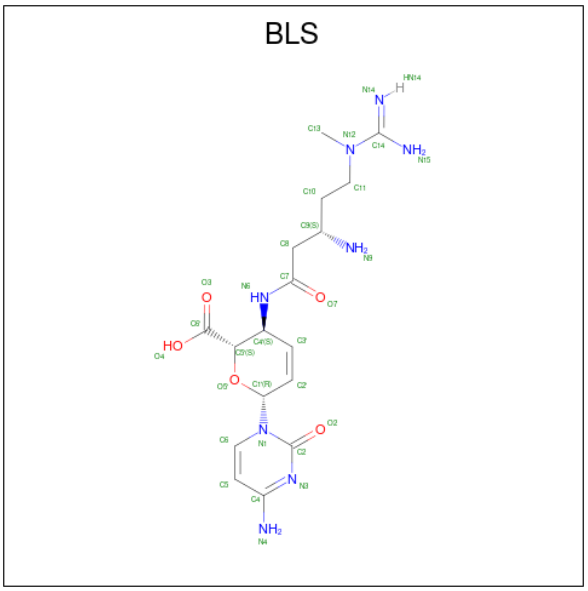
Mol	Chain	Residues	Atoms	AltConf
87	M2	1	Total Mg 1 1	0
87	b2	1	Total Mg 1 1	0
87	g2	1	Total Mg 1 1	0
87	B3	3	Total Mg 3 3	0
87	J3	1	Total Mg 1 1	0
87	N3	1	Total Mg 1 1	0
87	P3	2	Total Mg 2 2	0
87	R3	1	Total Mg 1 1	0
87	V3	2	Total Mg 2 2	0
87	a3	1	Total Mg 1 1	0
87	e3	1	Total Mg 1 1	0
87	g3	1	Total Mg 1 1	0
87	33	1	Total Mg 1 1	0

- Molecule 88 is BLASTICIDIN S (CCD ID: BLS) (formula: $C_{17}H_{26}N_8O_5$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
88	51	1	Total	C	H	N	O	0
			55	17	25	8	5	

- Molecule 89 is ZINC ION (CCD ID: ZN) (formula: Zn).

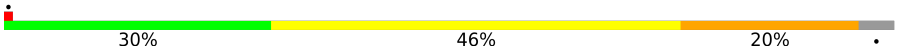
Mol	Chain	Residues	Atoms		AltConf
89	A2	2	Total	Zn	0
			2	2	
89	b2	1	Total	Zn	0
			1	1	
89	g3	1	Total	Zn	0
			1	1	
89	j3	1	Total	Zn	0
			1	1	
89	m3	1	Total	Zn	0
			1	1	
89	o3	1	Total	Zn	0
			1	1	
89	p3	1	Total	Zn	0
			1	1	

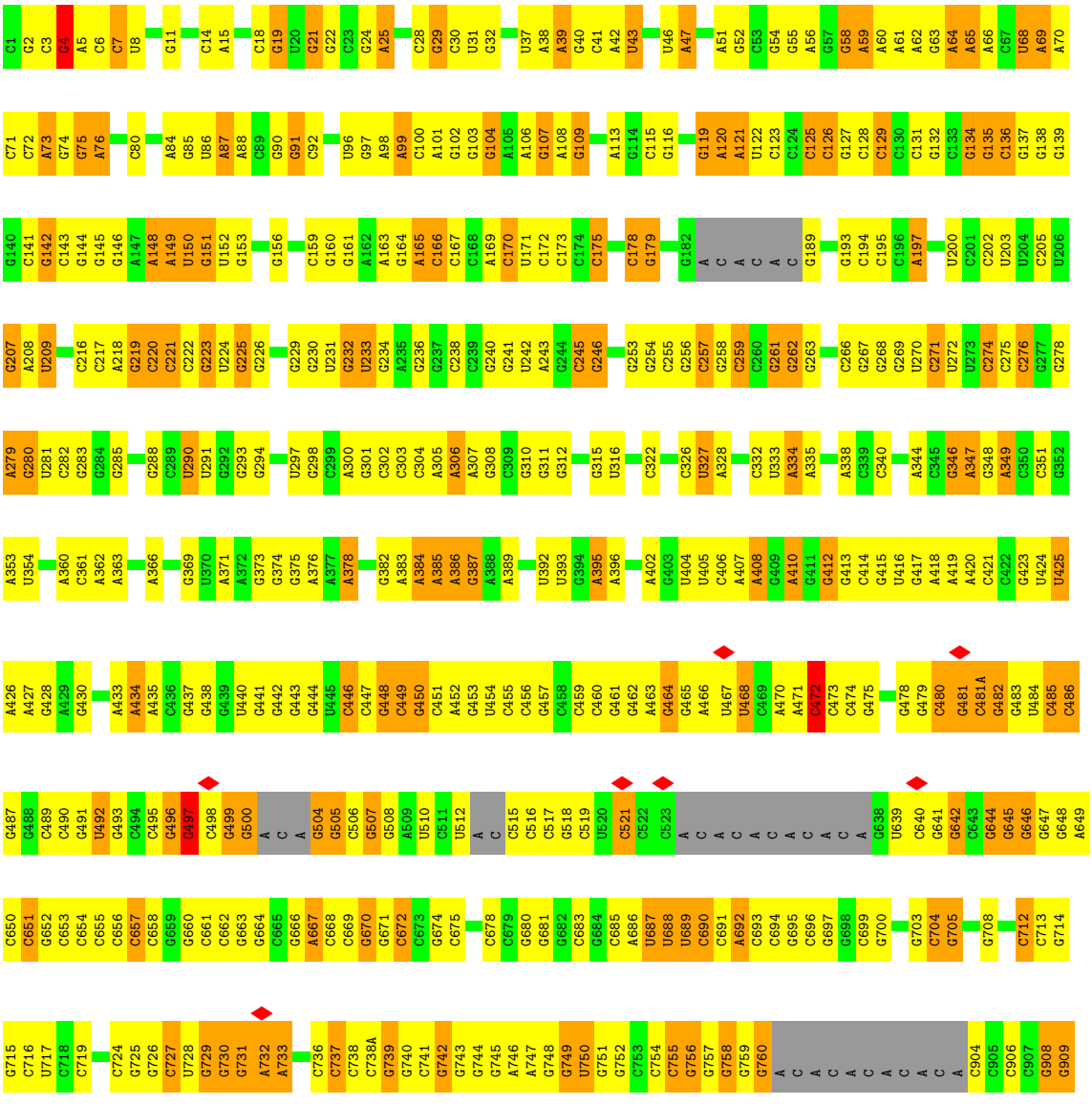
3 Residue-property plots (i)

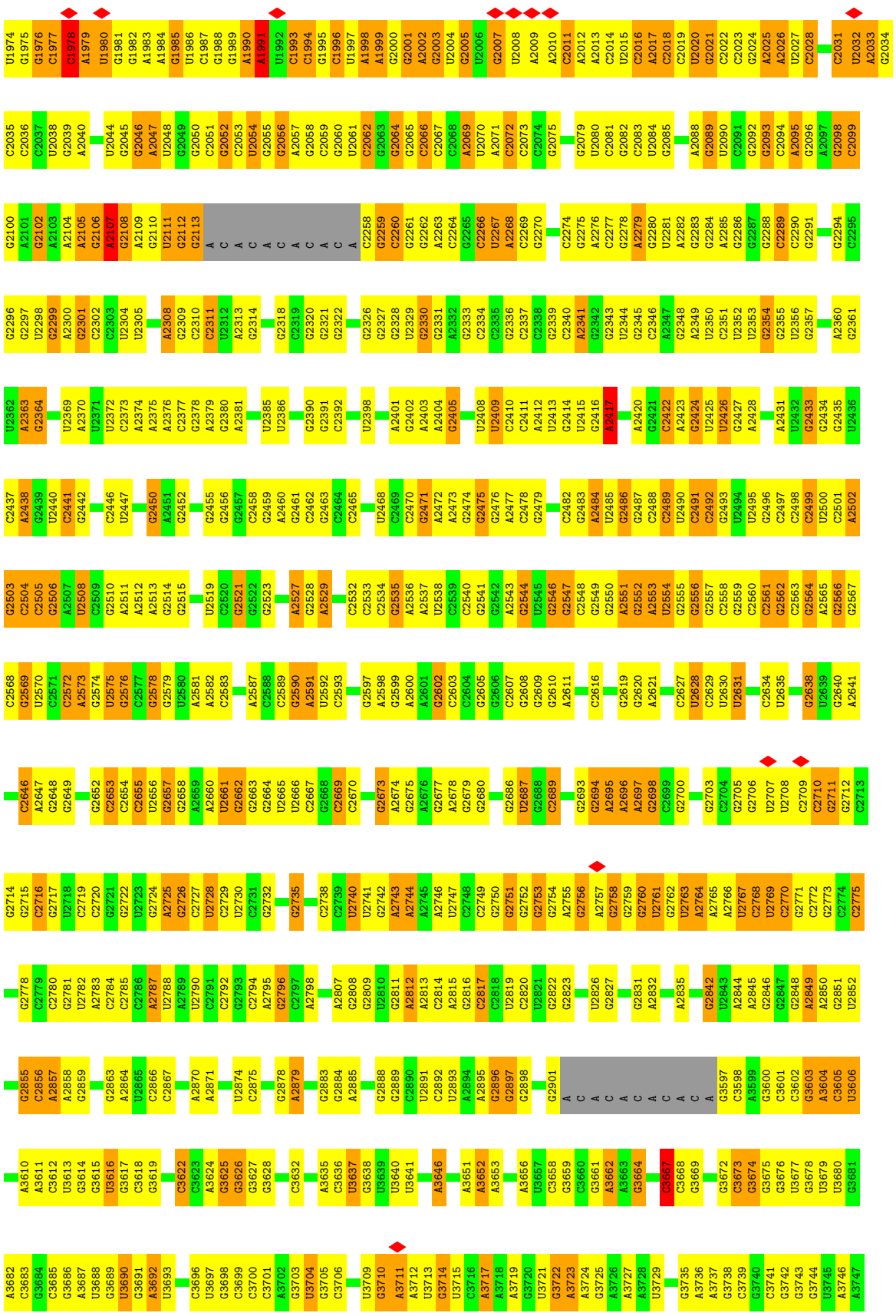
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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.

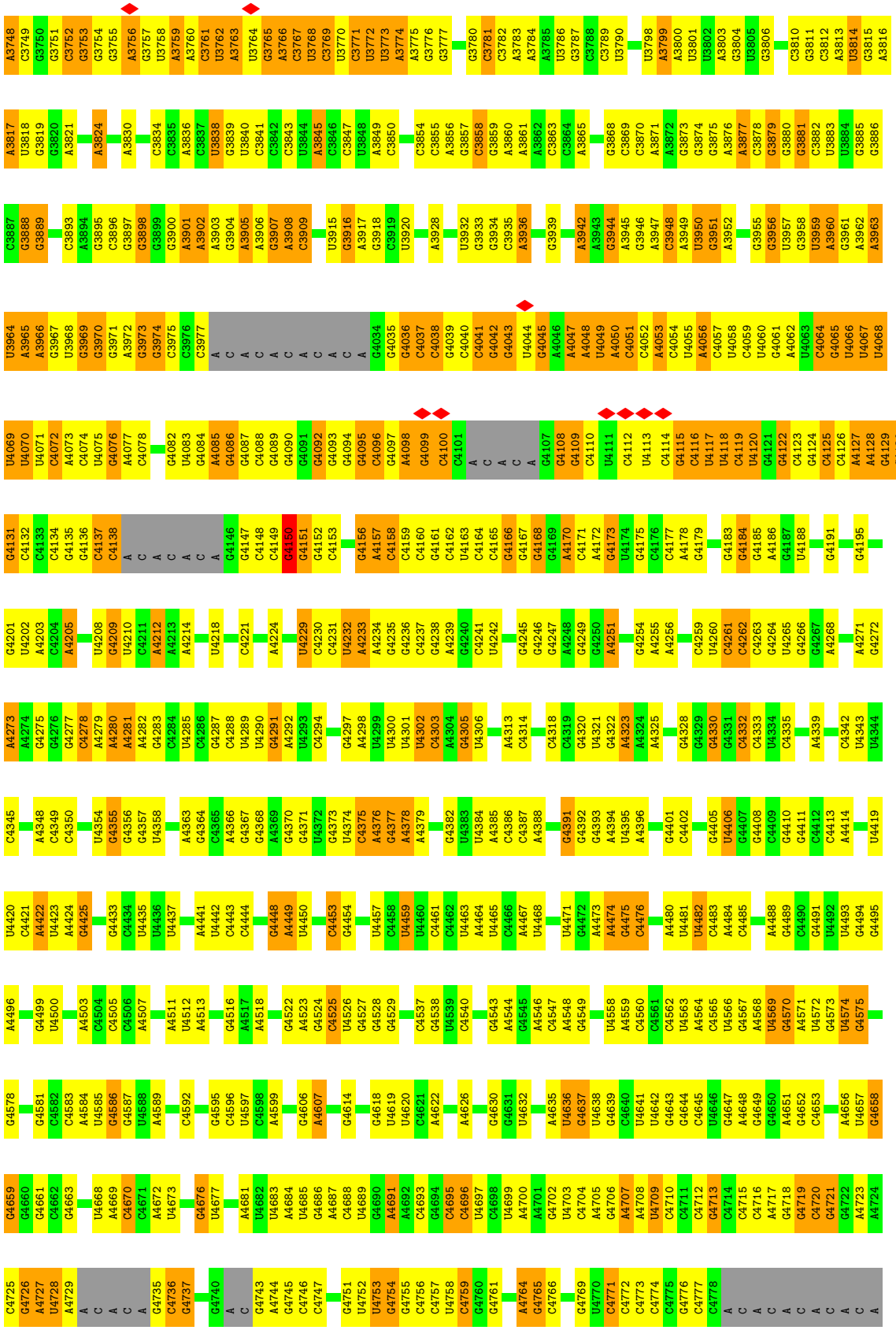
- Molecule 1: 28S Ribosomal RNA

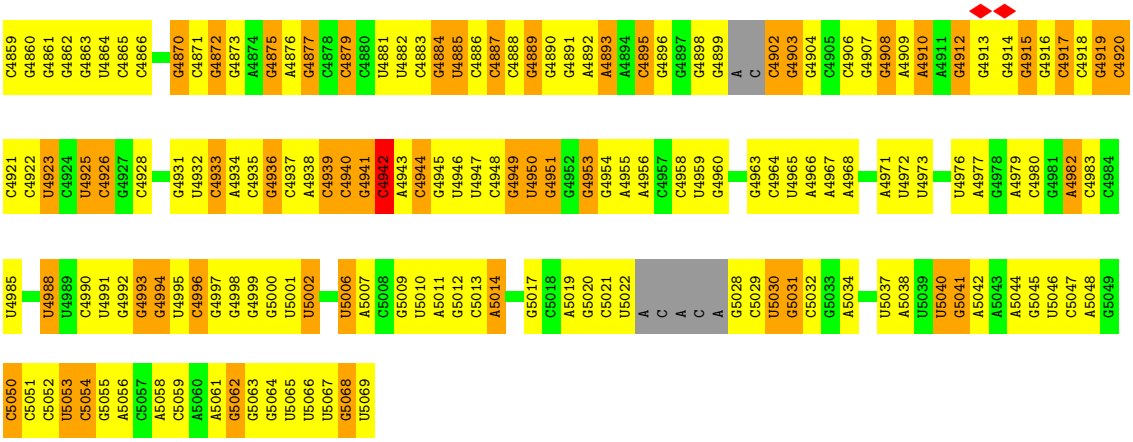
Chain 51:





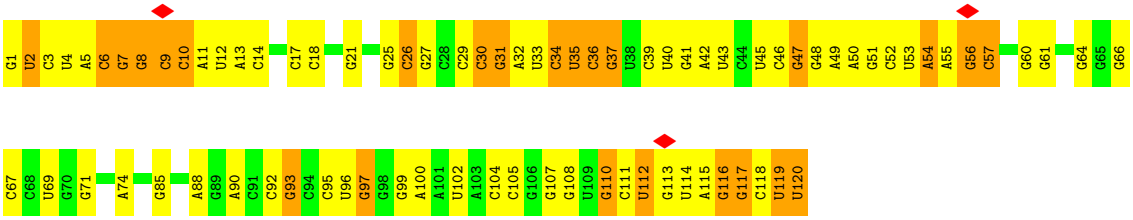






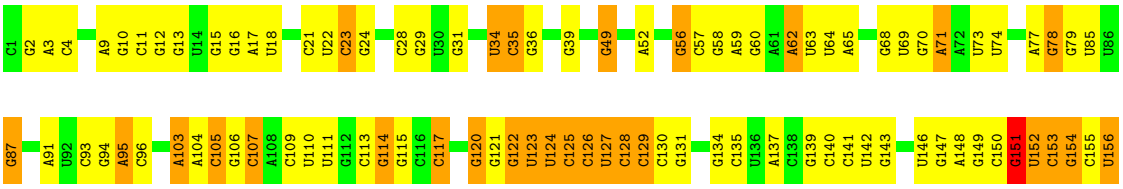
• Molecule 2: 5S Ribosomal RNA

Chain 71:



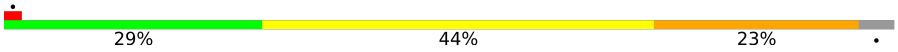
• Molecule 3: 5.8S Ribosomal RNA

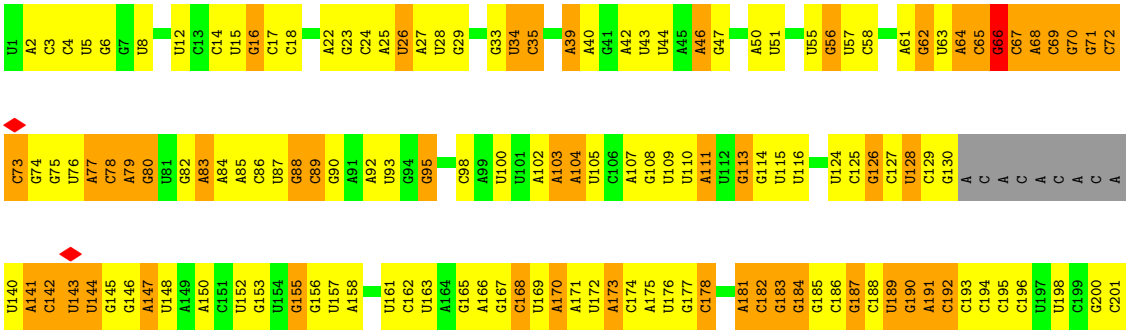
Chain 81:

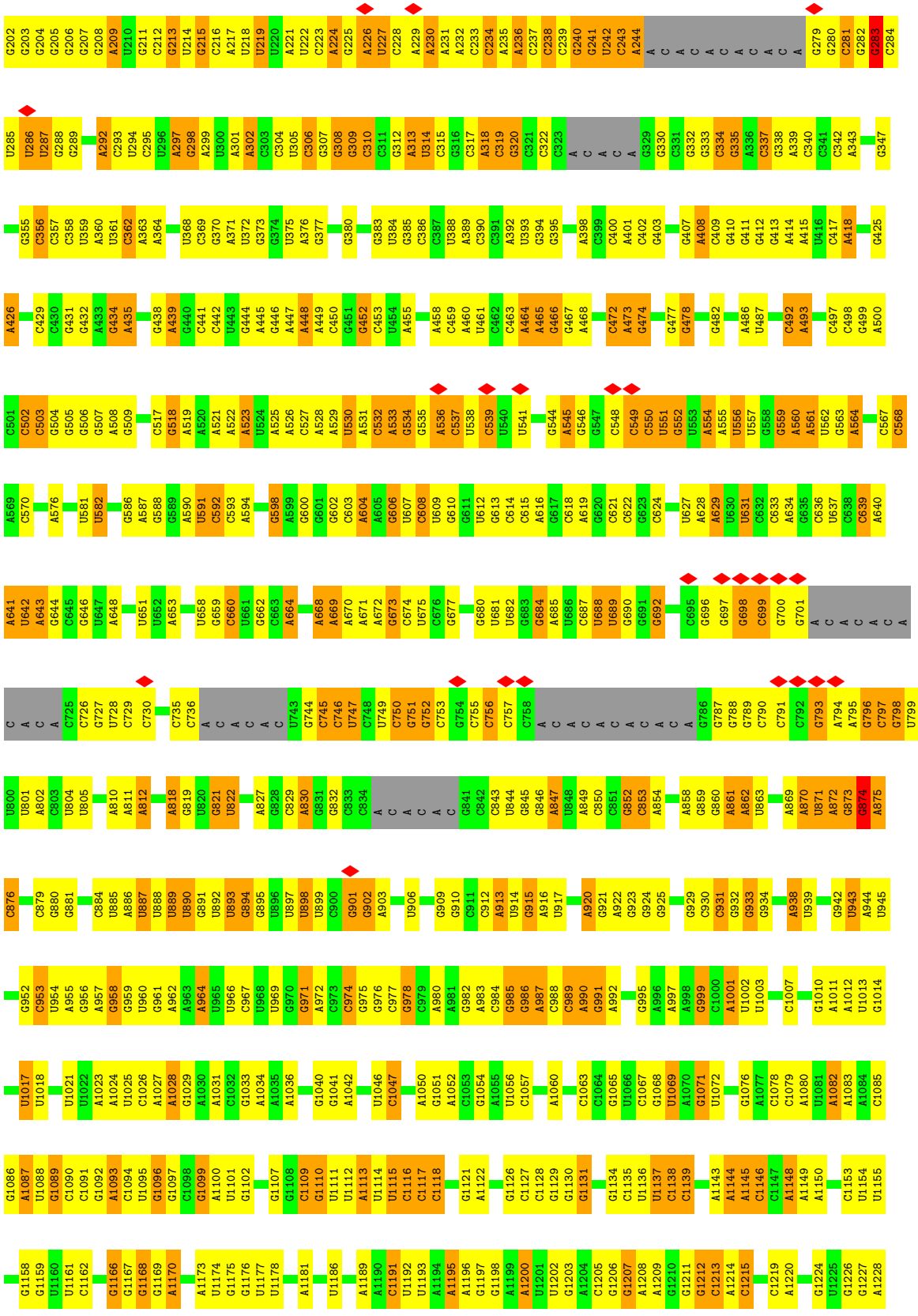


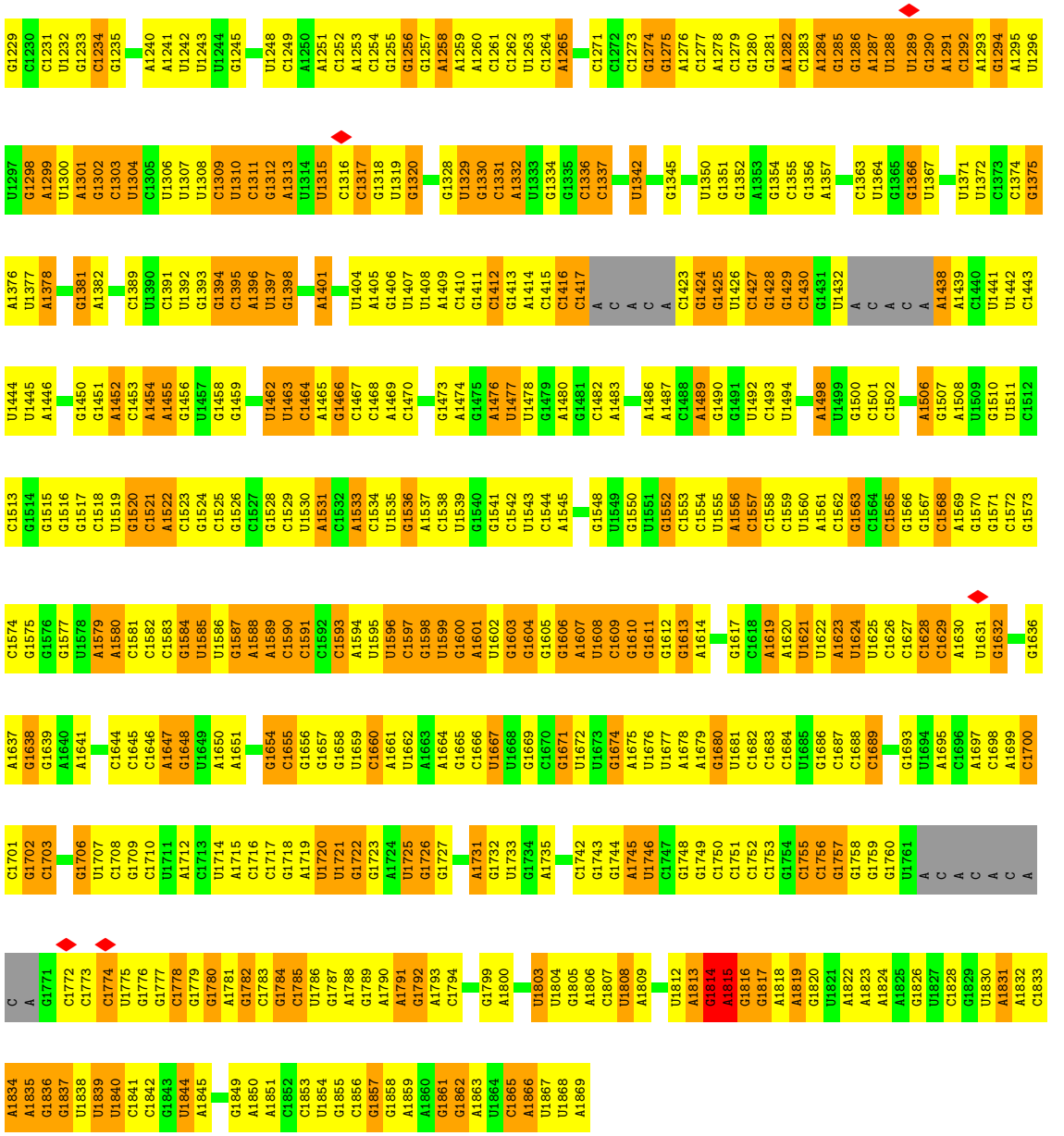
• Molecule 4: 18S Ribosomal RNA

Chain A2:



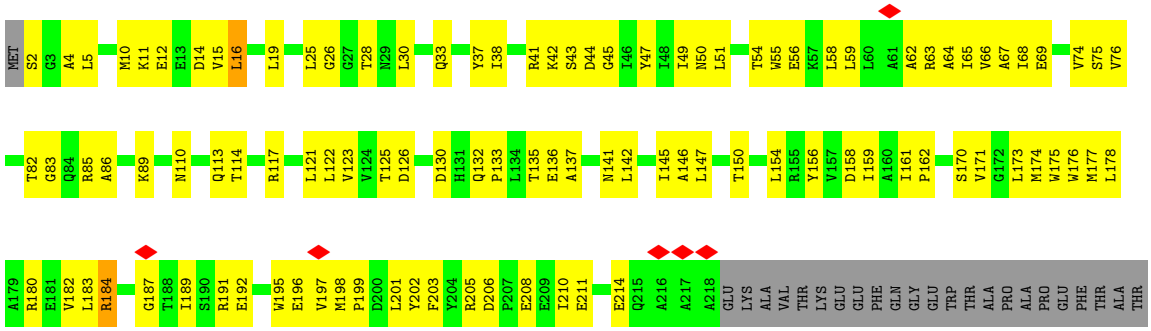


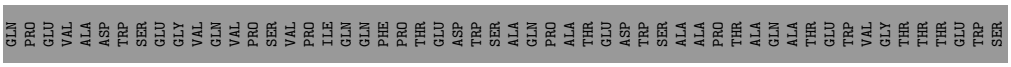




• Molecule 5: 40S ribosomal protein SA

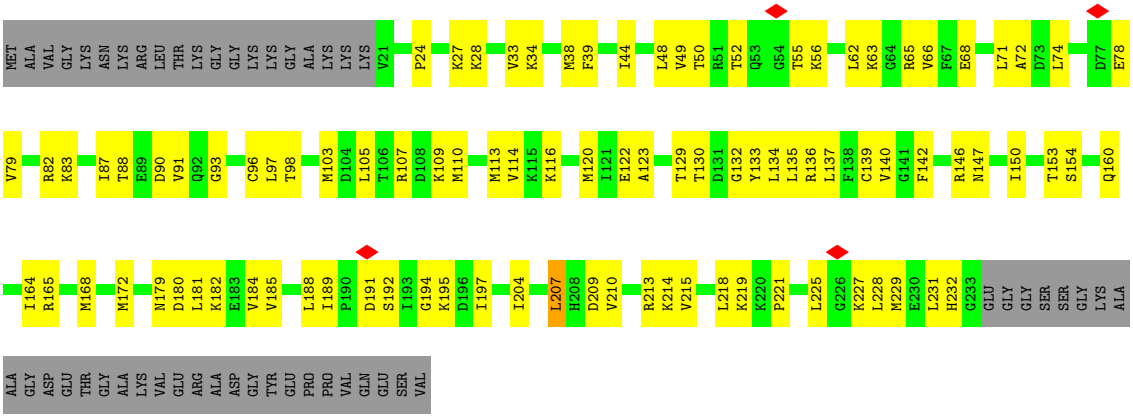
Chain B2:





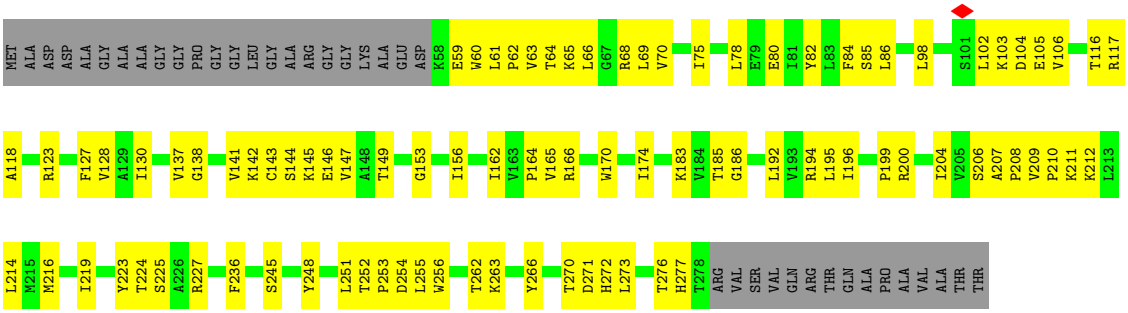
• Molecule 6: 40S ribosomal protein S3a

Chain C2:



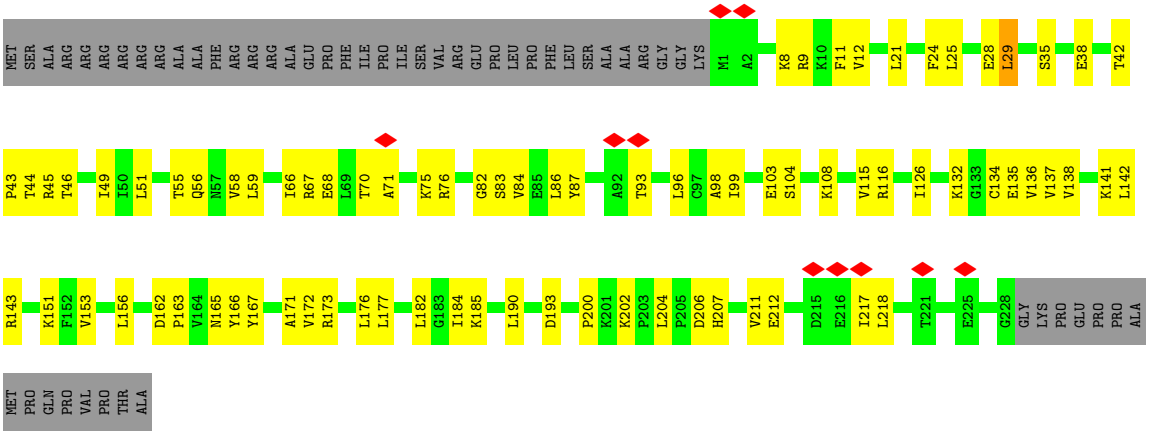
• Molecule 7: 40S ribosomal protein S2

Chain D2:



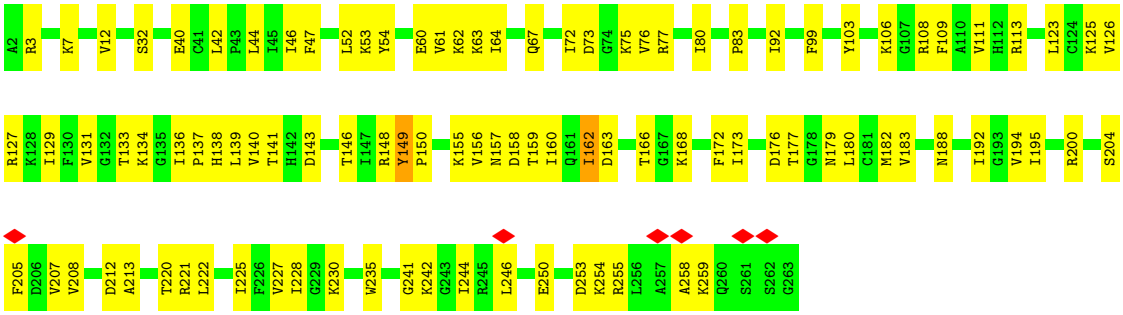
• Molecule 8: 40S ribosomal protein S3

Chain E2:



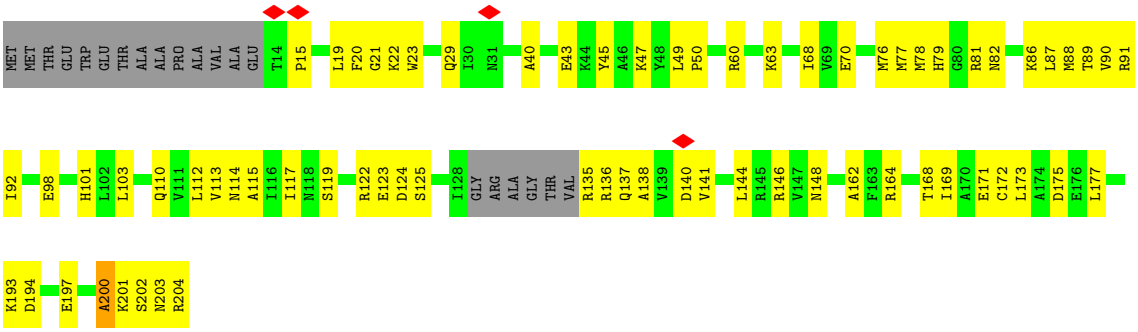
• Molecule 9: S4

Chain F2:



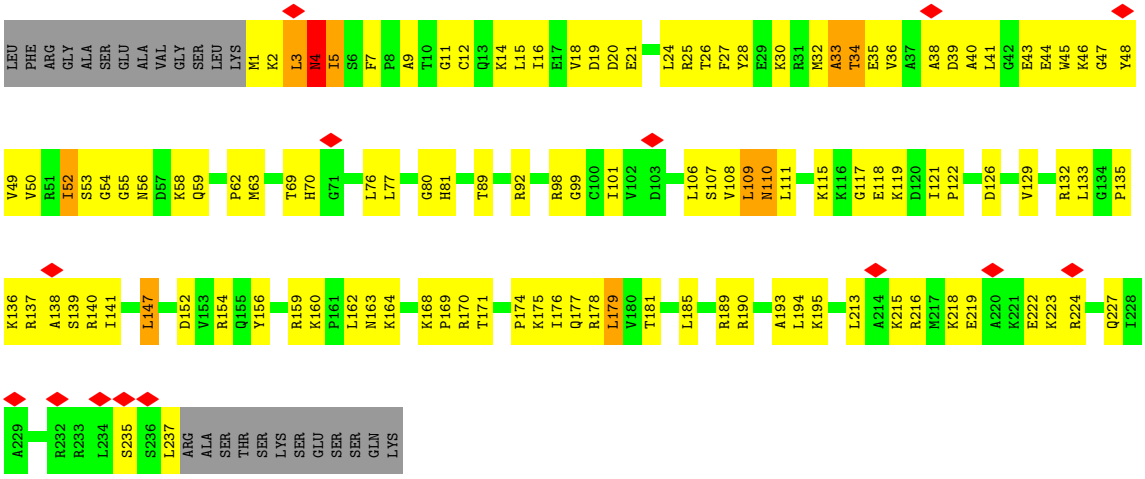
• Molecule 10: Ribosomal protein S5

Chain G2:



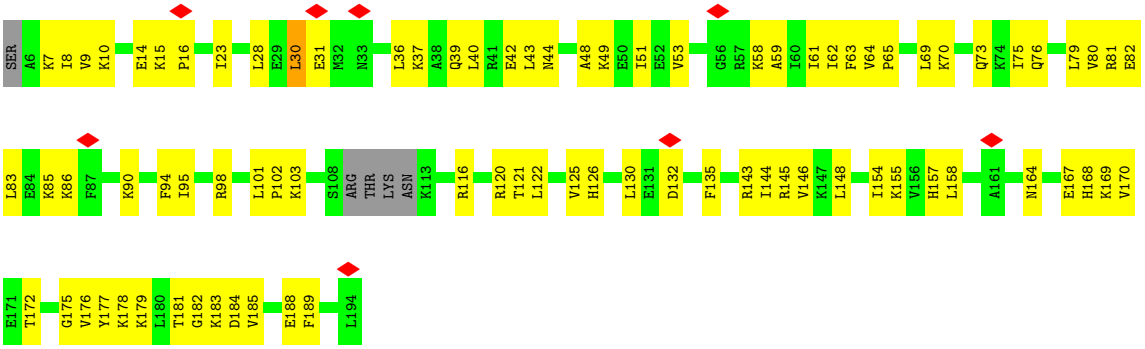
• Molecule 11: 40S ribosomal protein S6

Chain H2:



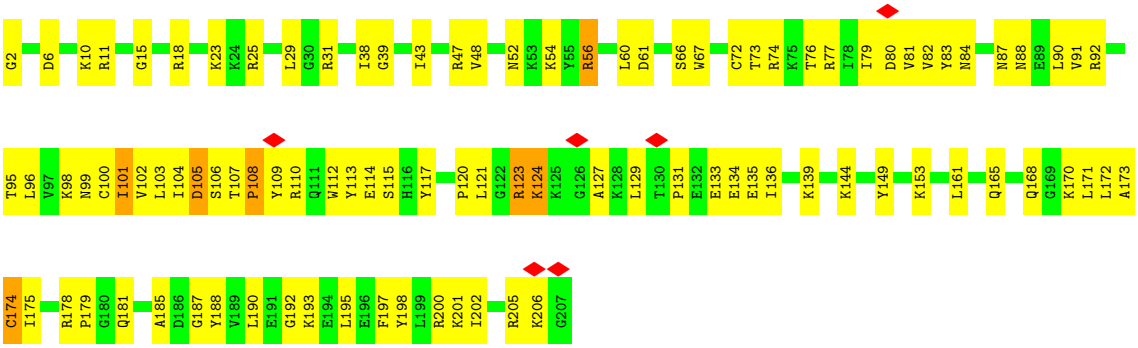
• Molecule 12: ribosomal protein eS7

Chain I2:



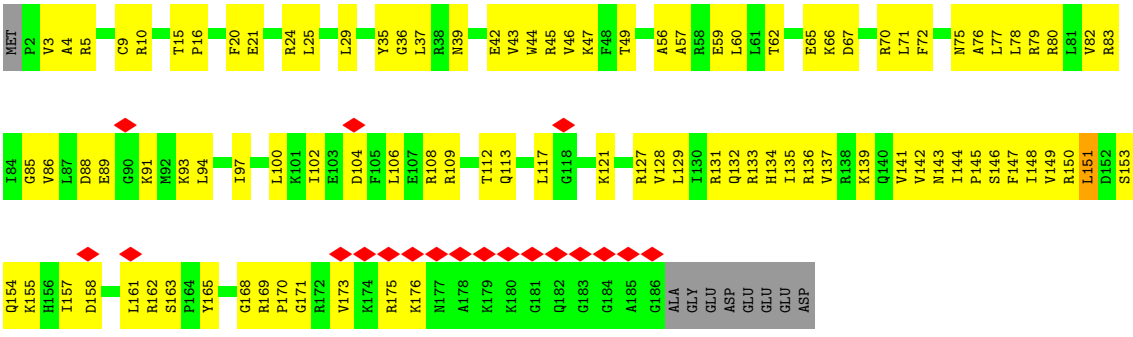
• Molecule 13: 40S ribosomal protein S8

Chain J2:



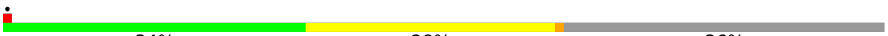
• Molecule 14: 40S ribosomal protein S9

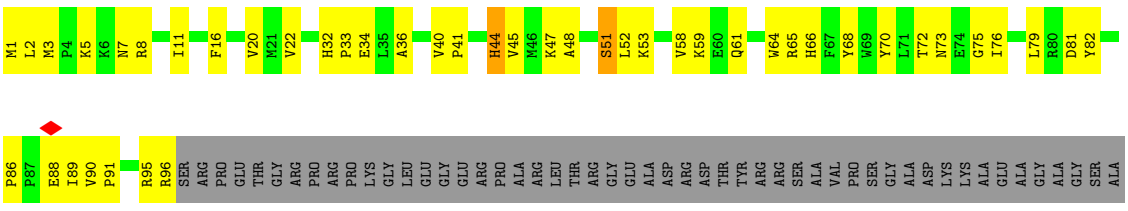
Chain K2:



• Molecule 15: 40S ribosomal protein S10

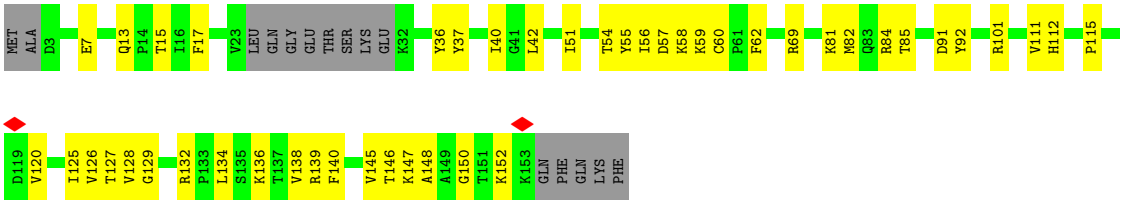
Chain L2:





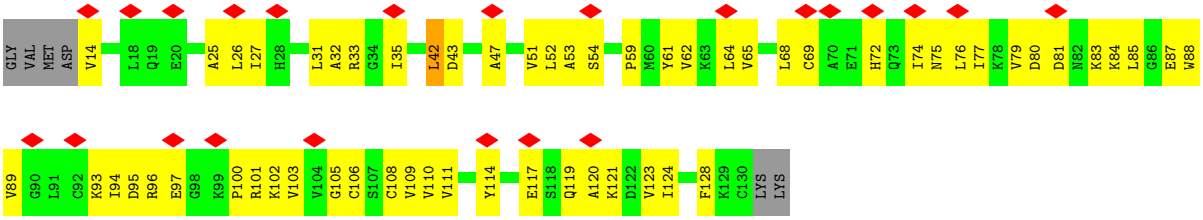
• Molecule 16: 40S ribosomal protein S11

Chain M2:



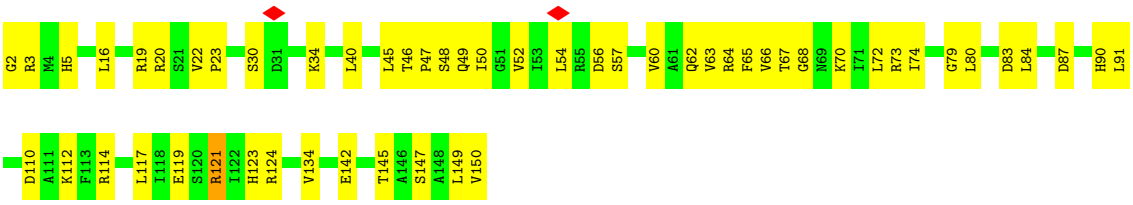
• Molecule 17: 40S ribosomal protein S12

Chain N2:



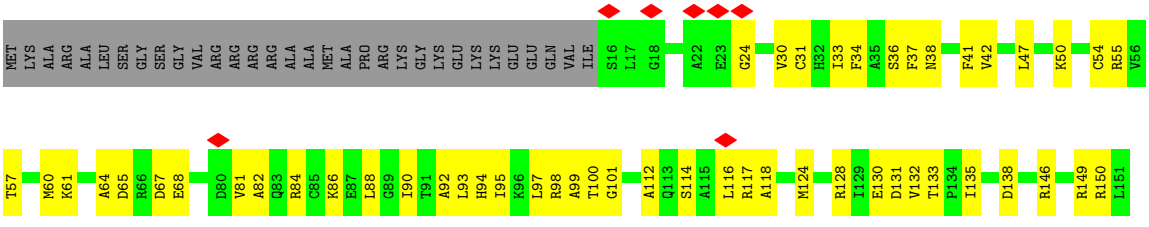
• Molecule 18: ribosomal protein uS15

Chain O2:



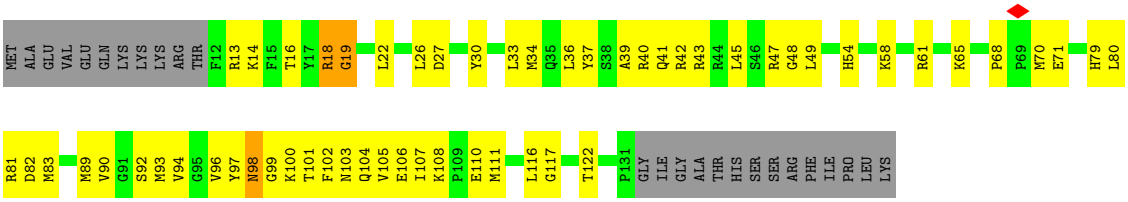
• Molecule 19: uS11

Chain P2:



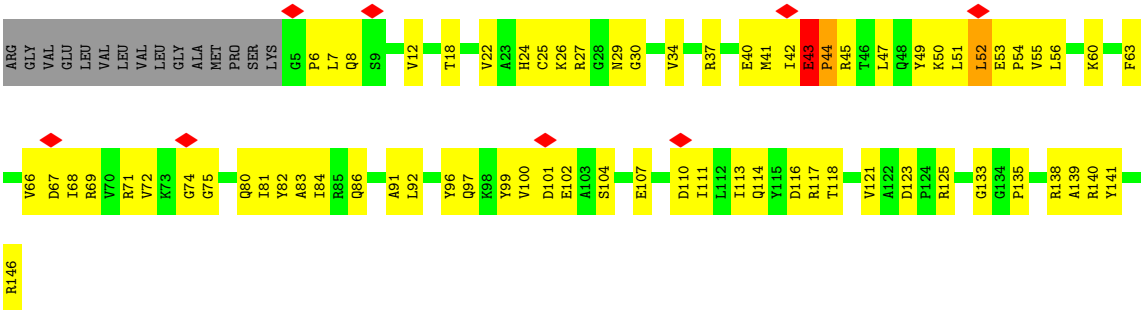
• Molecule 20: 40S ribosomal protein uS19

Chain Q2:



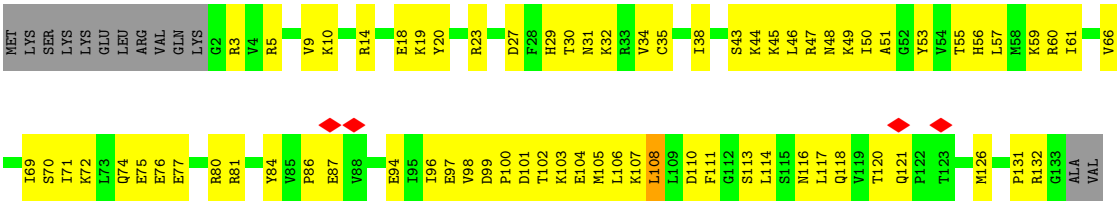
• Molecule 21: Ribosomal protein S16

Chain R2:



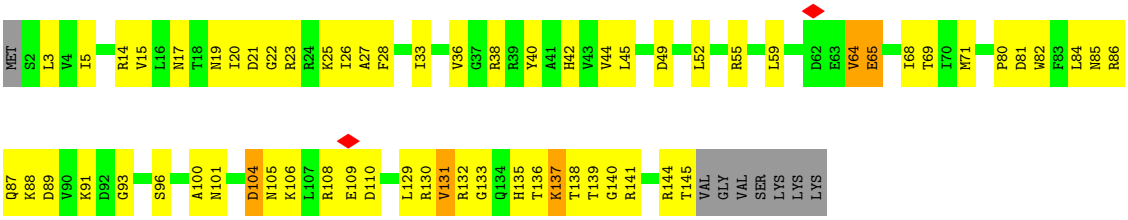
• Molecule 22: 40S ribosomal protein S17

Chain S2:



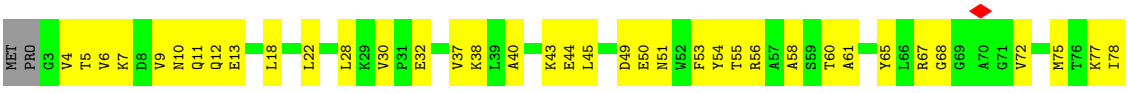
• Molecule 23: 40S ribosomal protein uS13

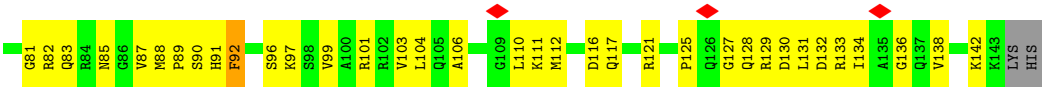
Chain T2:



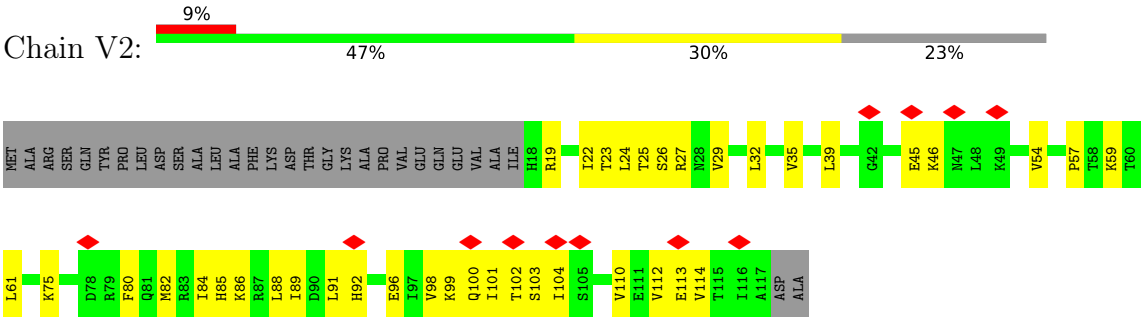
• Molecule 24: S19

Chain U2:

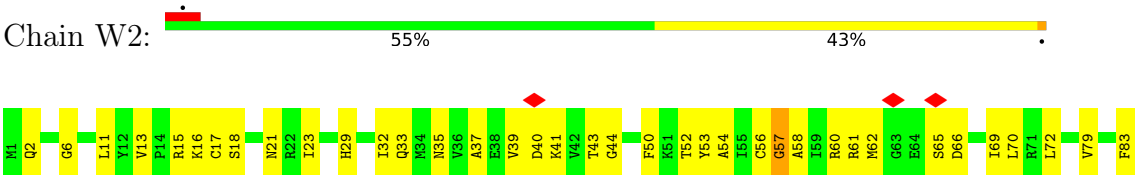




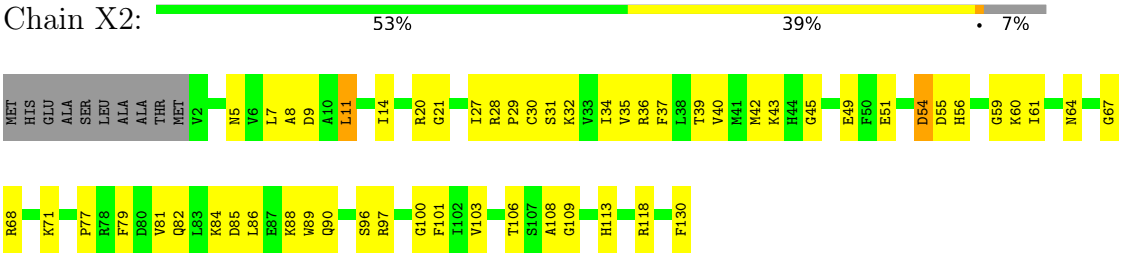
• Molecule 25: 40S ribosomal protein S20



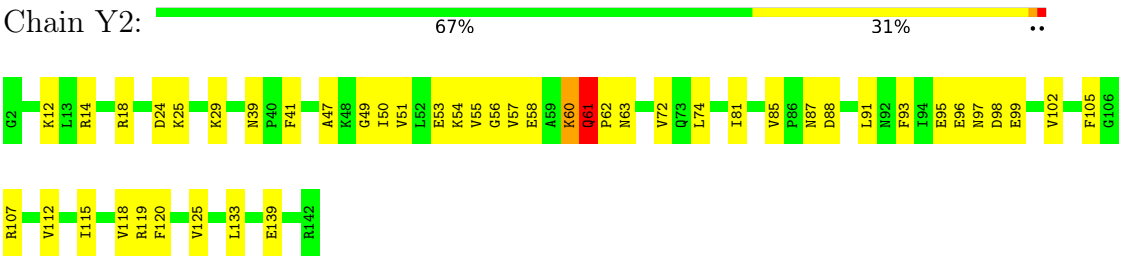
• Molecule 26: 40S ribosomal protein S21



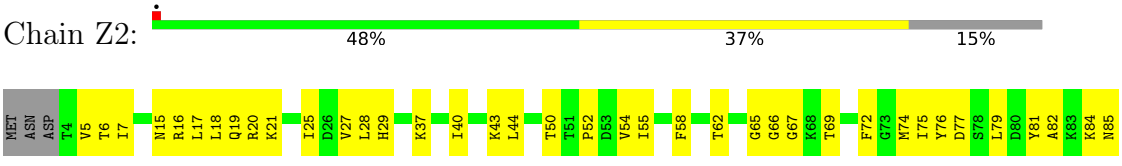
• Molecule 27: Ribosomal protein S15a

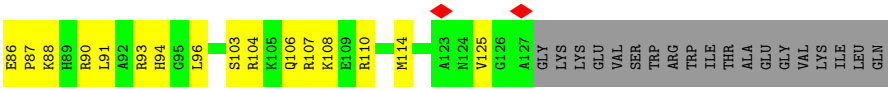


• Molecule 28: Ribosomal protein S23



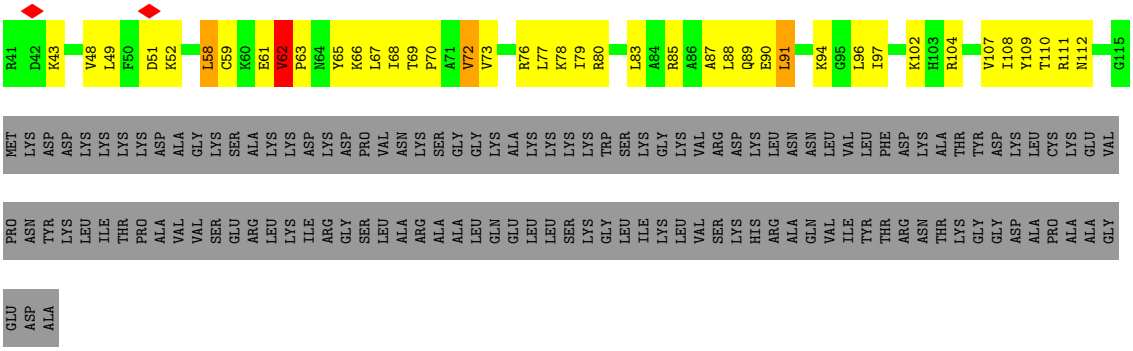
• Molecule 29: 40S ribosomal protein S24





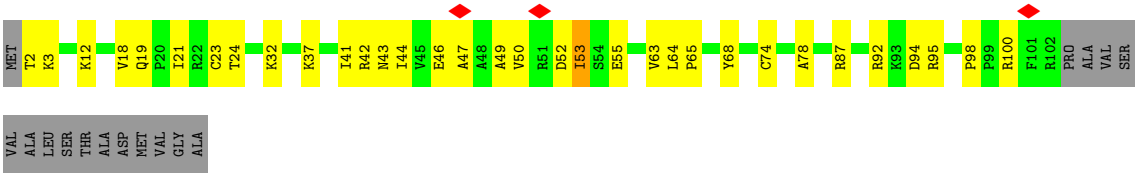
• Molecule 30: ribosomal protein eS25

Chain a2:



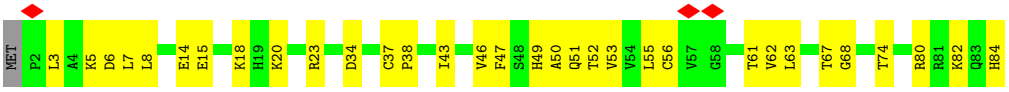
• Molecule 31: 40S ribosomal protein S26

Chain b2:



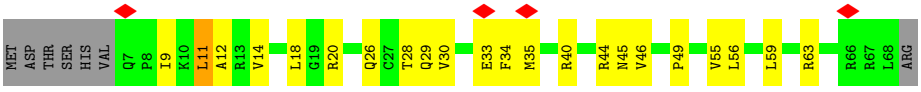
• Molecule 32: 40S ribosomal protein S27

Chain c2:



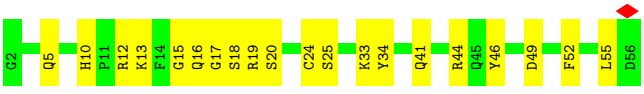
• Molecule 33: 40S ribosomal protein S28

Chain d2:



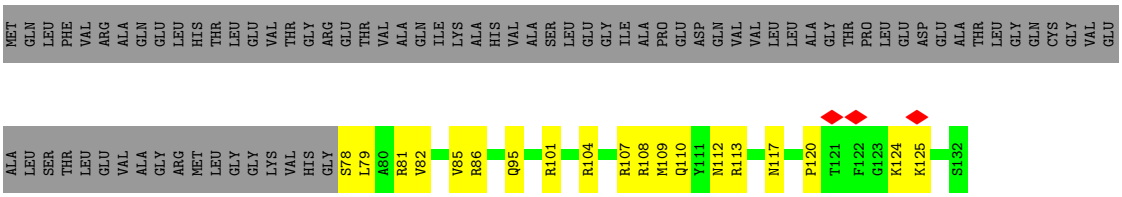
• Molecule 34: uS14

Chain e2:



• Molecule 35: 40S ribosomal protein S30

Chain f2:

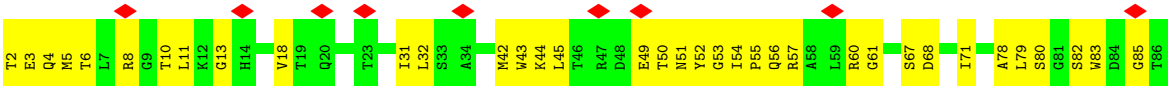


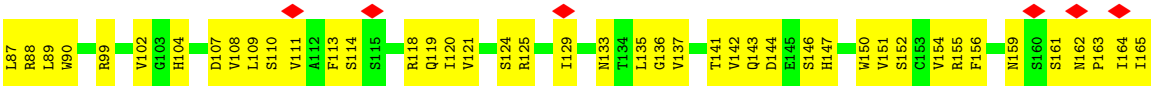
• Molecule 36: eS31

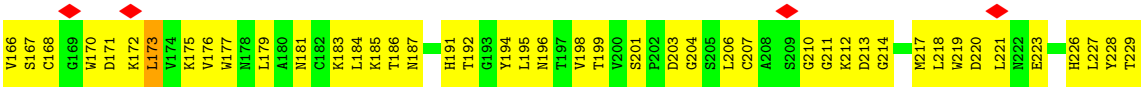
Chain g2:

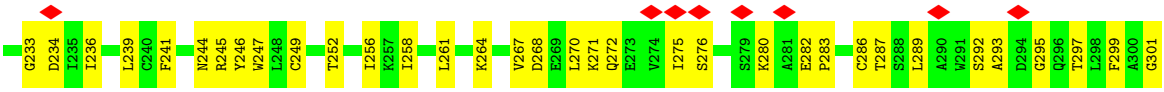
• Molecule 37: ribosomal protein RACK1

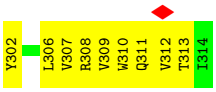
Chain h2:





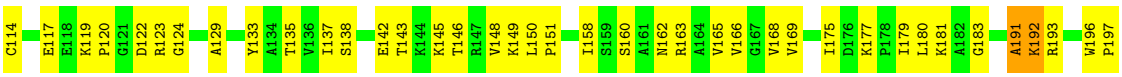


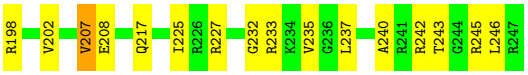




• Molecule 38: L8

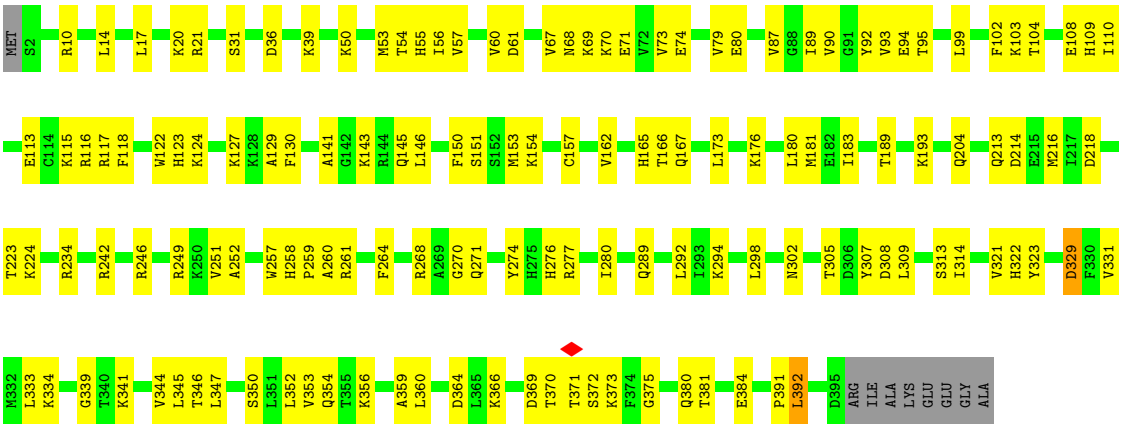
Chain A3:





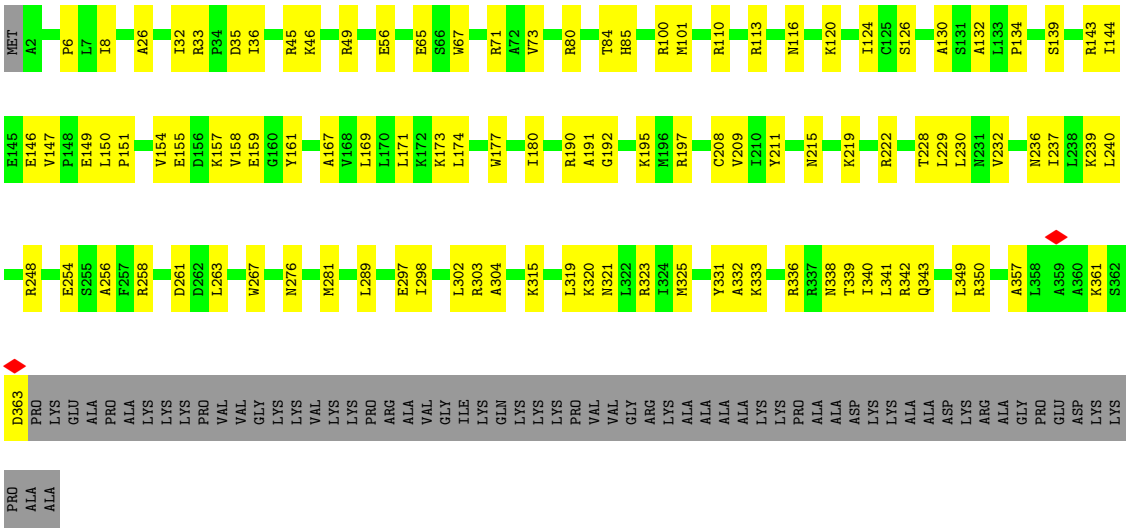
• Molecule 39: uL3

Chain B3:



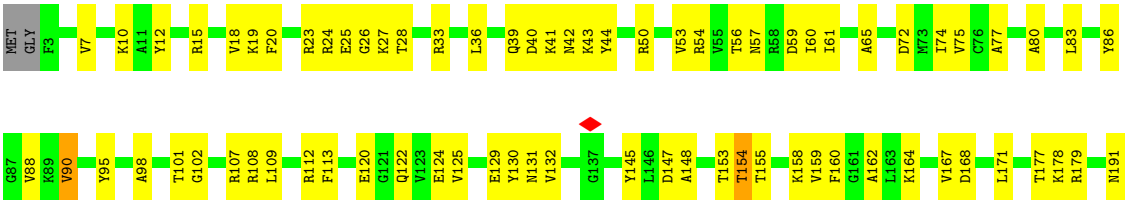
• Molecule 40: uL4

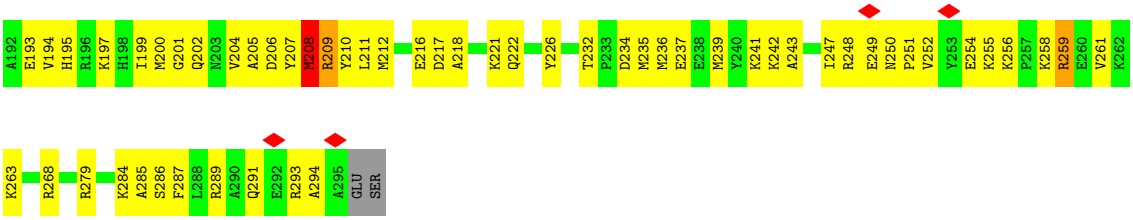
Chain C3:



• Molecule 41: 60S ribosomal protein L5

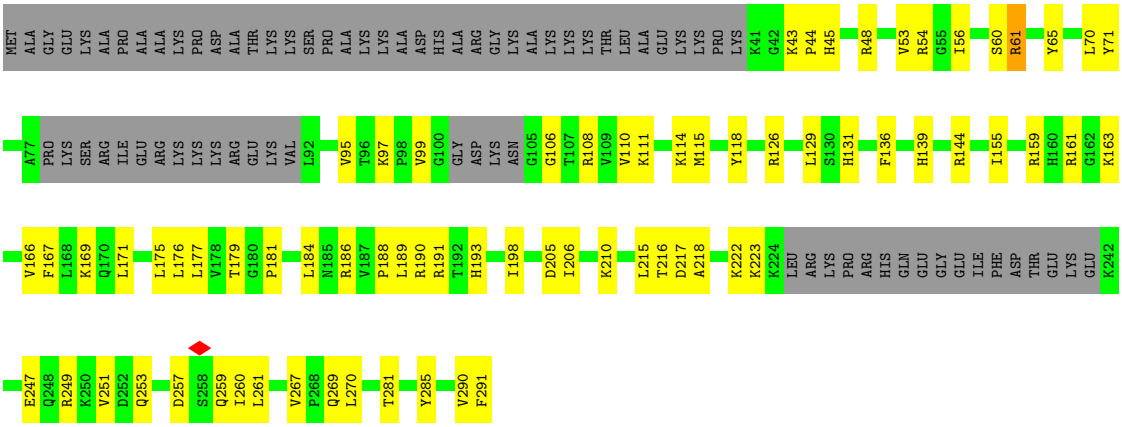
Chain D3:





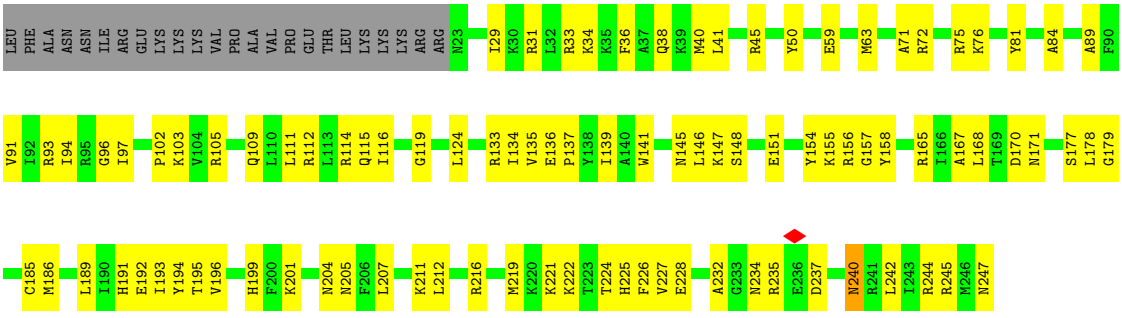
• Molecule 42: 60S ribosomal protein L6

Chain E3:



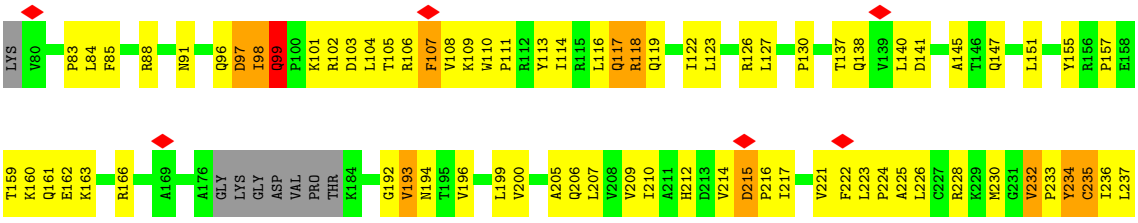
• Molecule 43: uL30

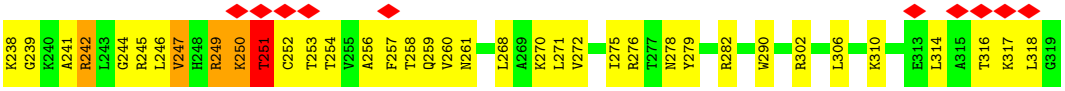
Chain F3:



• Molecule 44: L7a

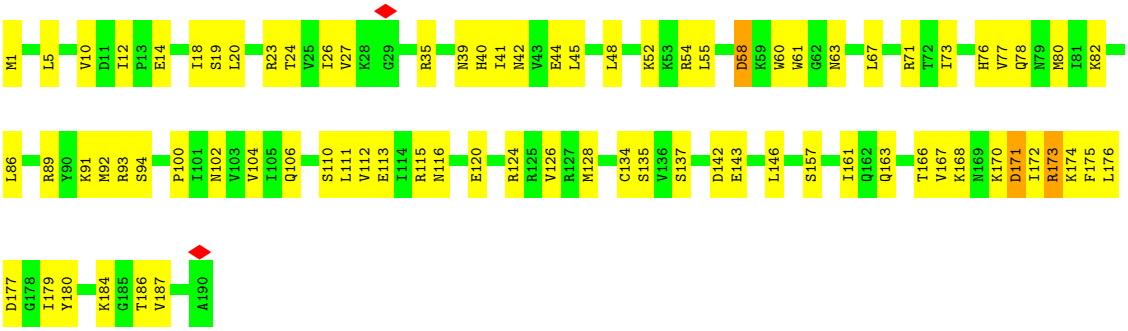
Chain G3:





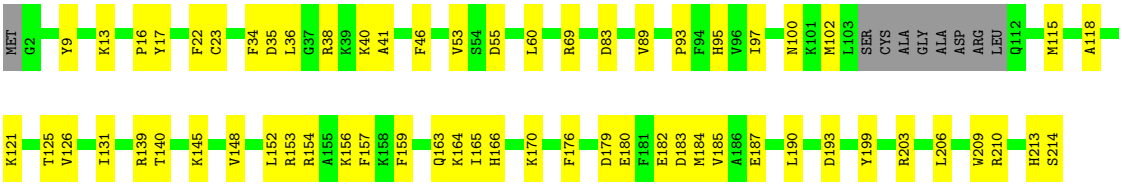
• Molecule 45: L9

Chain H3:



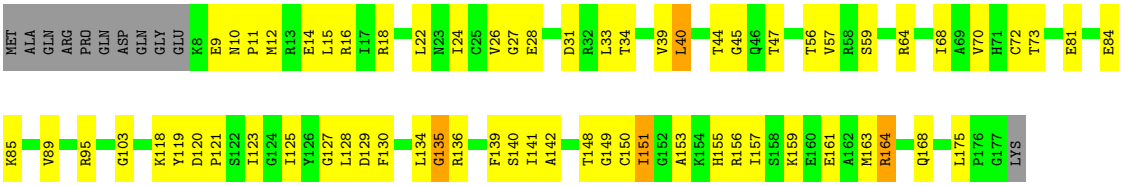
• Molecule 46: 60S ribosomal protein L10

Chain I3:



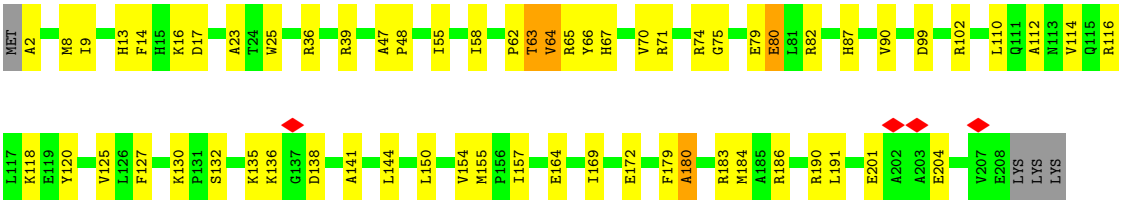
• Molecule 47: 60S ribosomal protein L11

Chain J3:



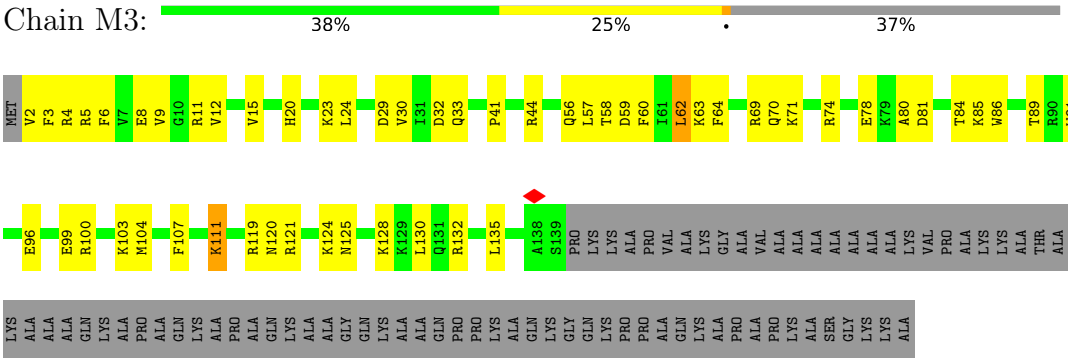
• Molecule 48: L13

Chain L3:



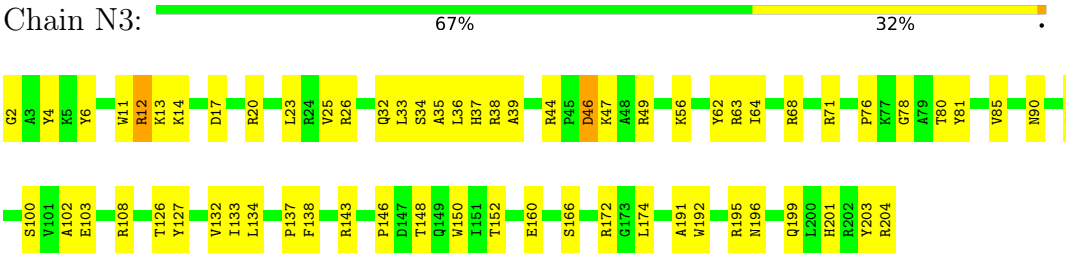
• Molecule 49: Ribosomal protein L14

Chain M3:



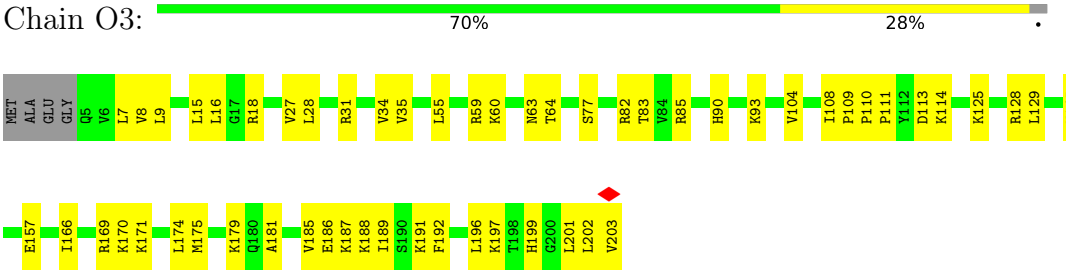
• Molecule 50: Ribosomal protein L15

Chain N3:



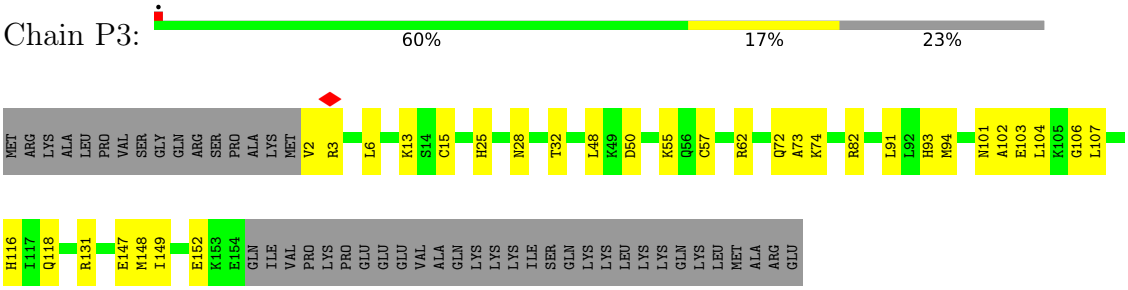
• Molecule 51: 60S RIBOSOMAL PROTEIN UL13

Chain O3:



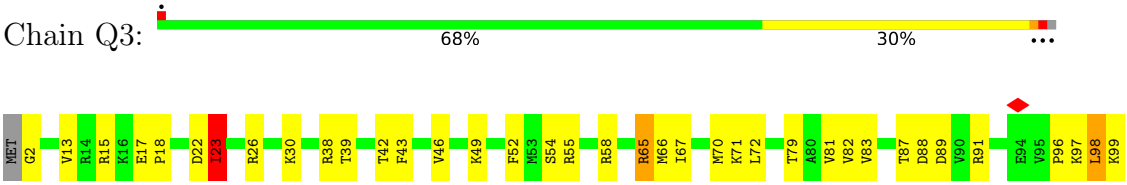
• Molecule 52: uL22

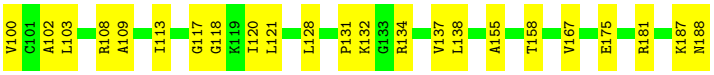
Chain P3:



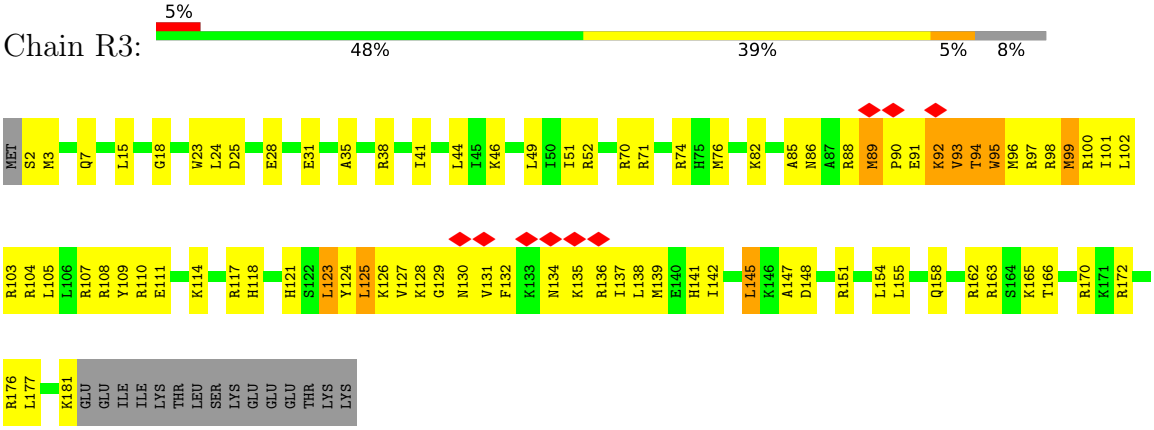
• Molecule 53: L18

Chain Q3:

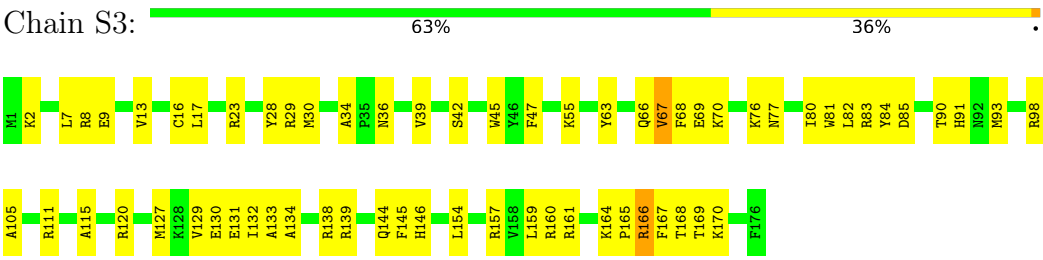




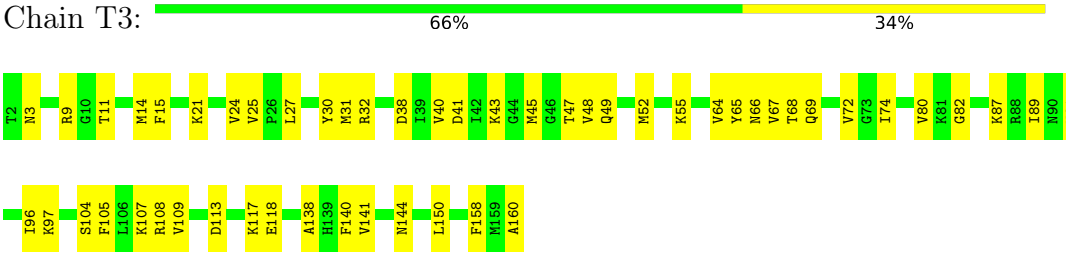
• Molecule 54: 60S ribosomal protein L19



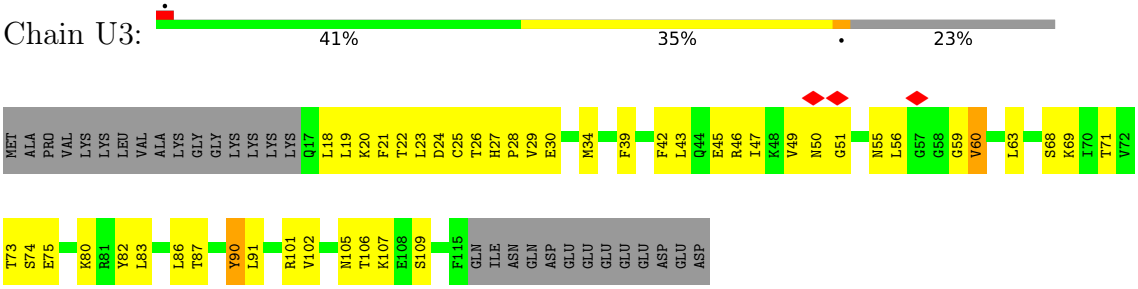
• Molecule 55: 60S ribosomal protein L18a



• Molecule 56: eL21

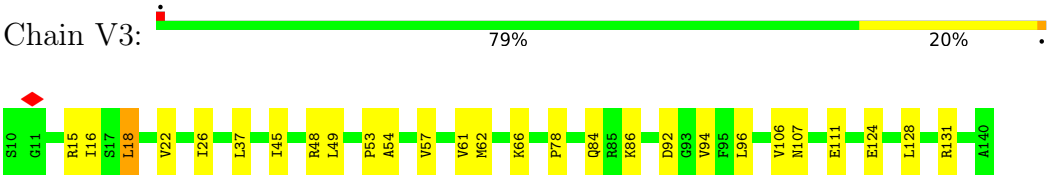


• Molecule 57: L22



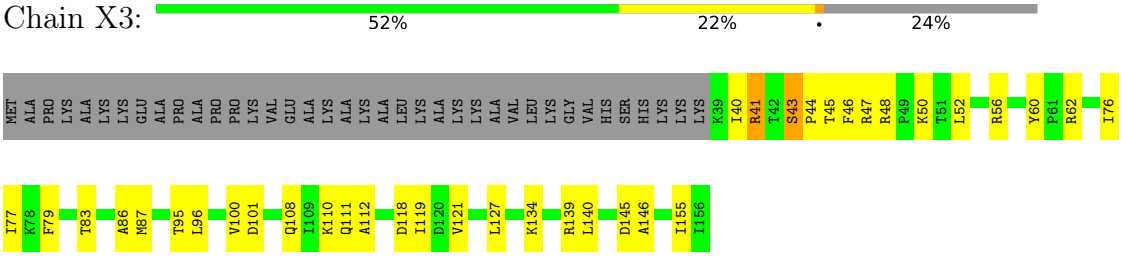
• Molecule 58: eL14

Chain V3:



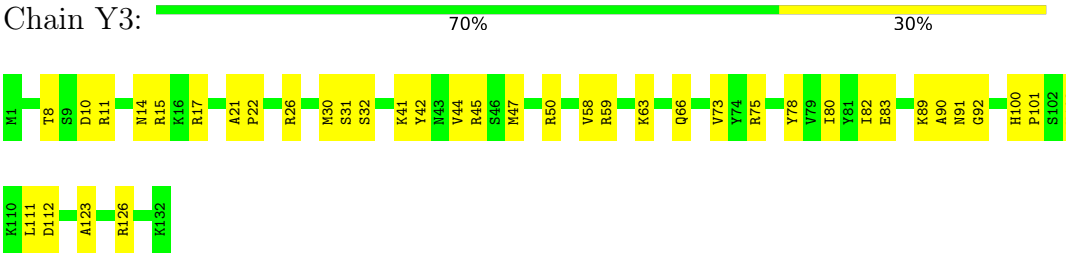
• Molecule 59: uL23

Chain X3:



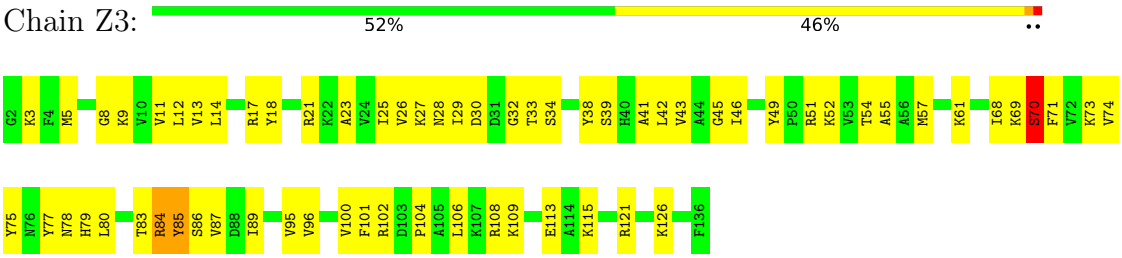
• Molecule 60: Ribosomal protein L26

Chain Y3:



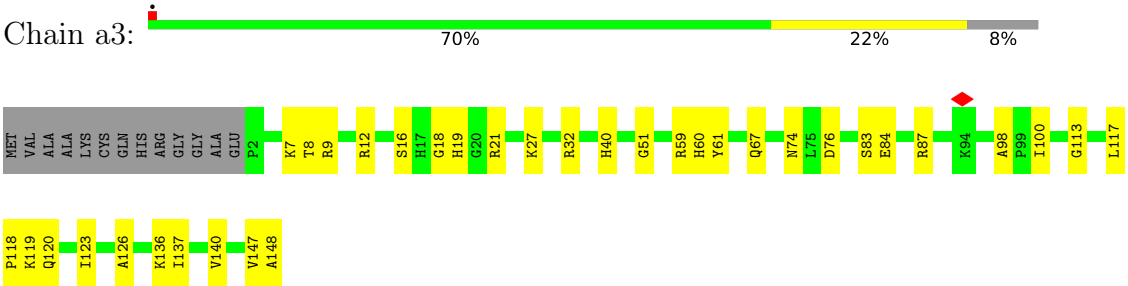
• Molecule 61: 60S ribosomal protein L27

Chain Z3:



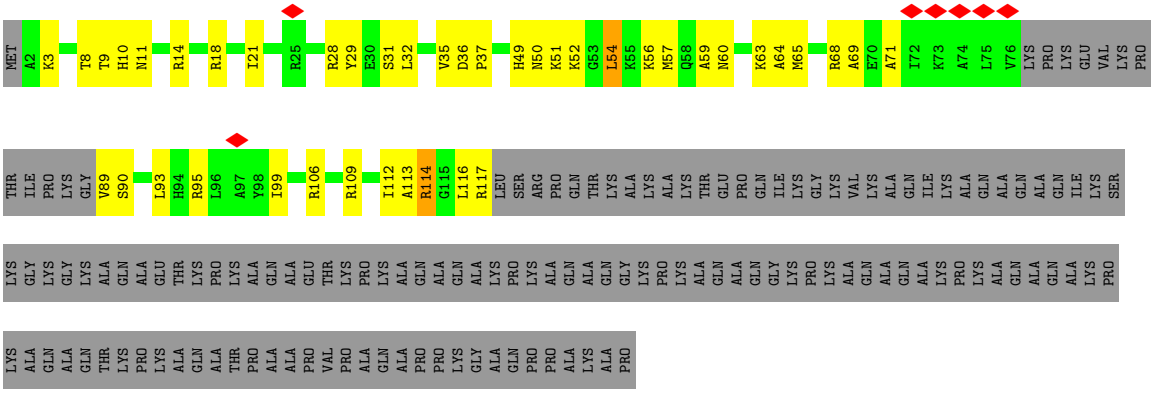
• Molecule 62: uL15

Chain a3:



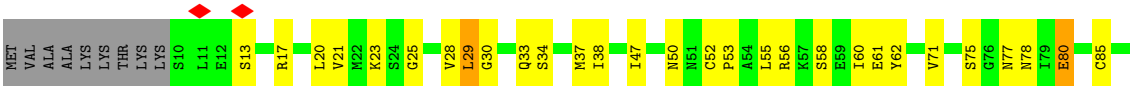
• Molecule 63: eL29

Chain b3:



• Molecule 64: eL30

Chain c3:

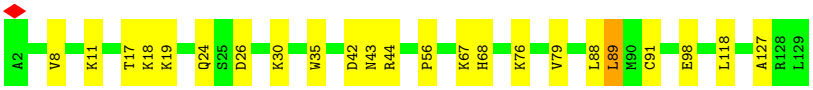


• Molecule 65: eL31

Chain d3:

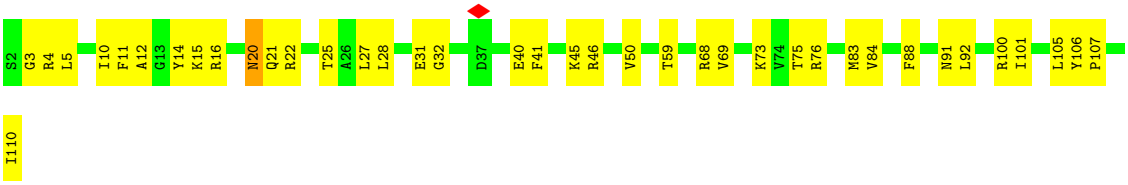
• Molecule 66: eL32

Chain e3:



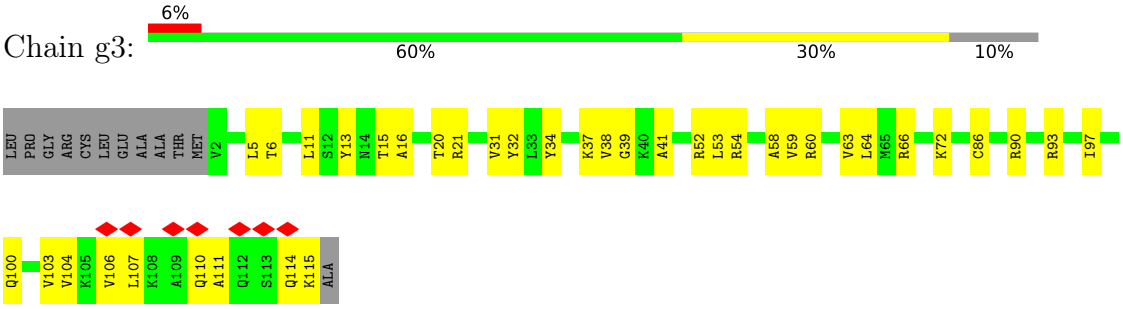
• Molecule 67: eL33

Chain f3:



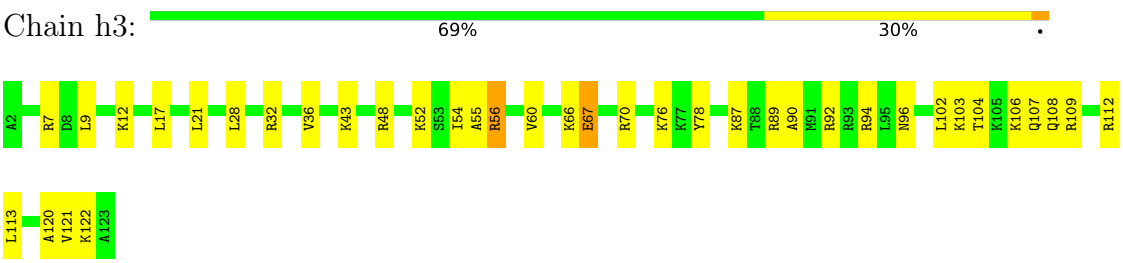
• Molecule 68: 60S ribosomal protein L34

Chain g3:



• Molecule 69: uL29

Chain h3:

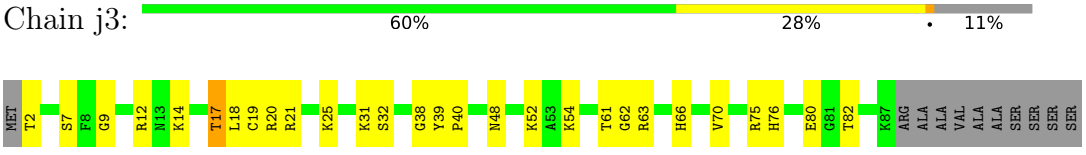


• Molecule 70: 60S ribosomal protein L36

Chain i3:

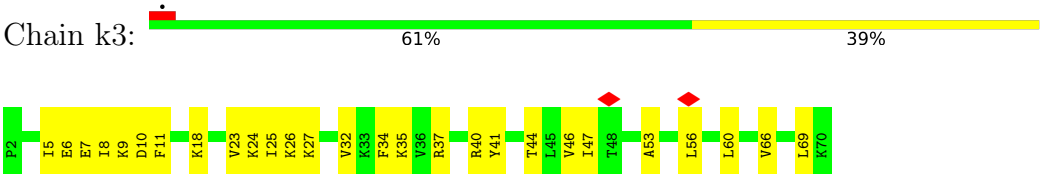
• Molecule 71: Ribosomal protein L37

Chain j3:



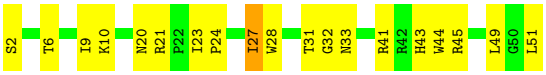
• Molecule 72: L38

Chain k3:



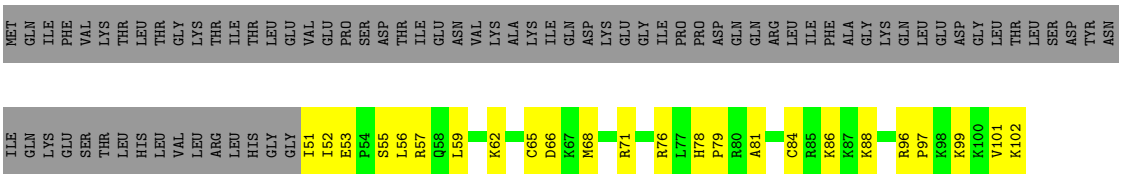
• Molecule 73: eL39

Chain l3:



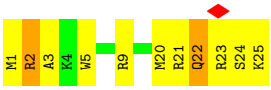
• Molecule 74: 60S RIBOSOMAL PROTEIN EL40

Chain m3:



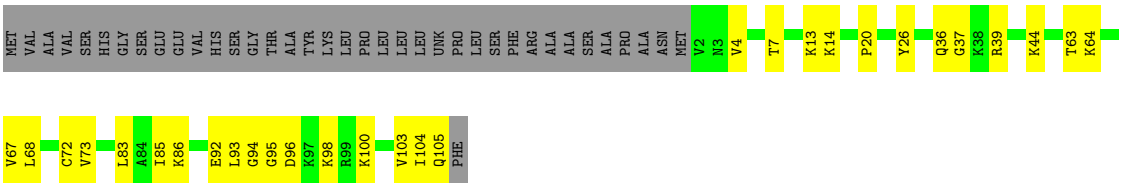
• Molecule 75: 60s ribosomal protein l41

Chain n3:



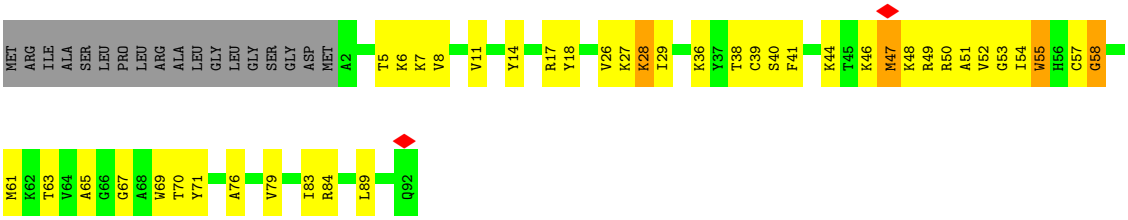
• Molecule 76: eL42

Chain o3:



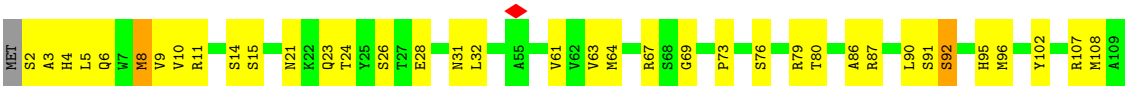
• Molecule 77: ribosomal protein eL43

Chain p3:



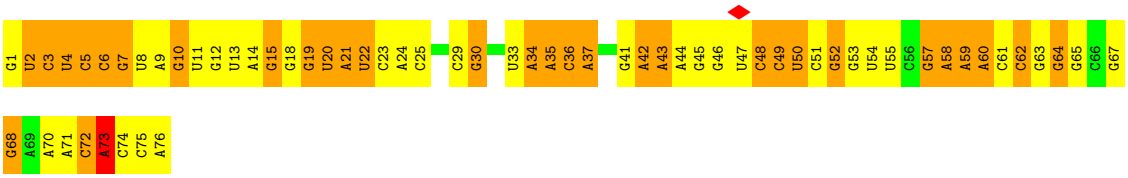
• Molecule 78: eL28

Chain r3:



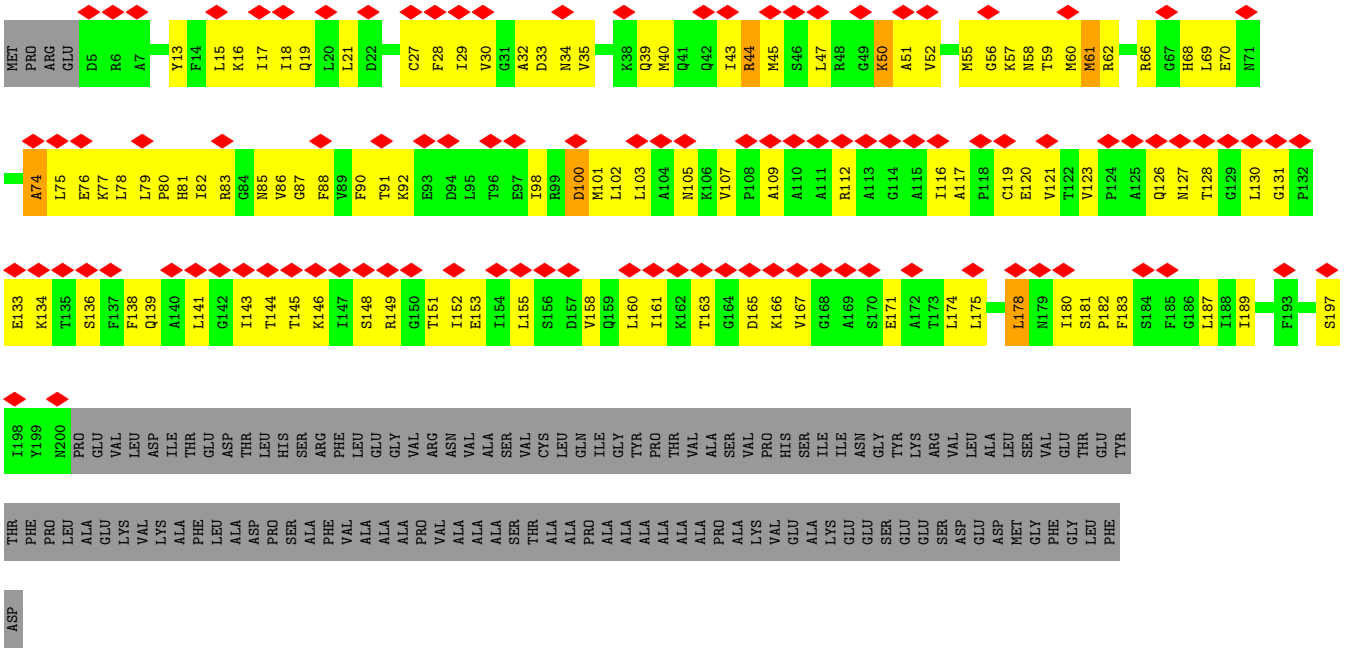
• Molecule 79: A/P-Site tRNA

Chain q3:



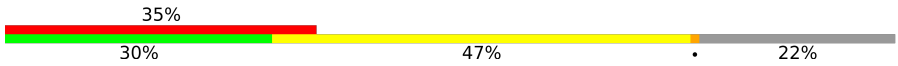
• Molecule 80: 60S acidic ribosomal protein P0

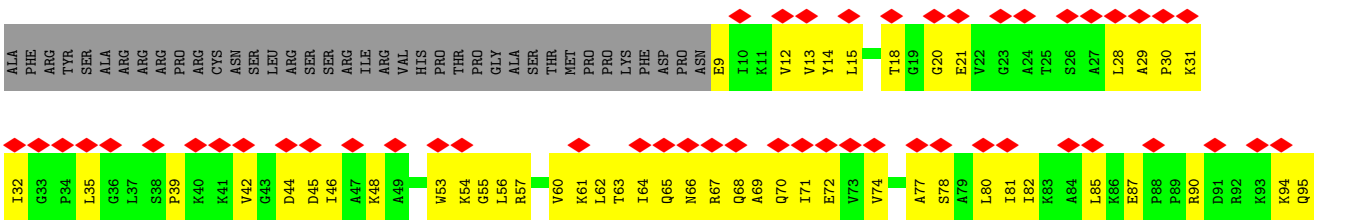
Chain t3:

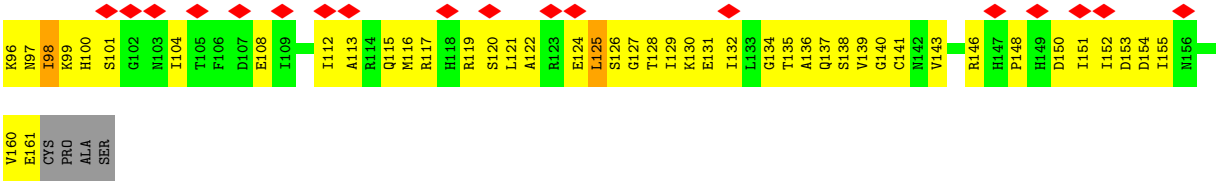


• Molecule 81: uL12

Chain u3:

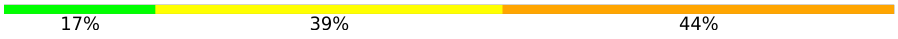


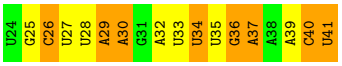




• Molecule 82: mRNA

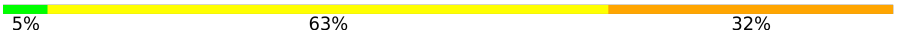
Chain v3:

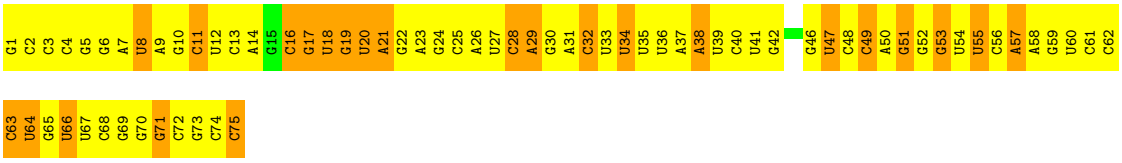




• Molecule 83: P/E-Site tRNA

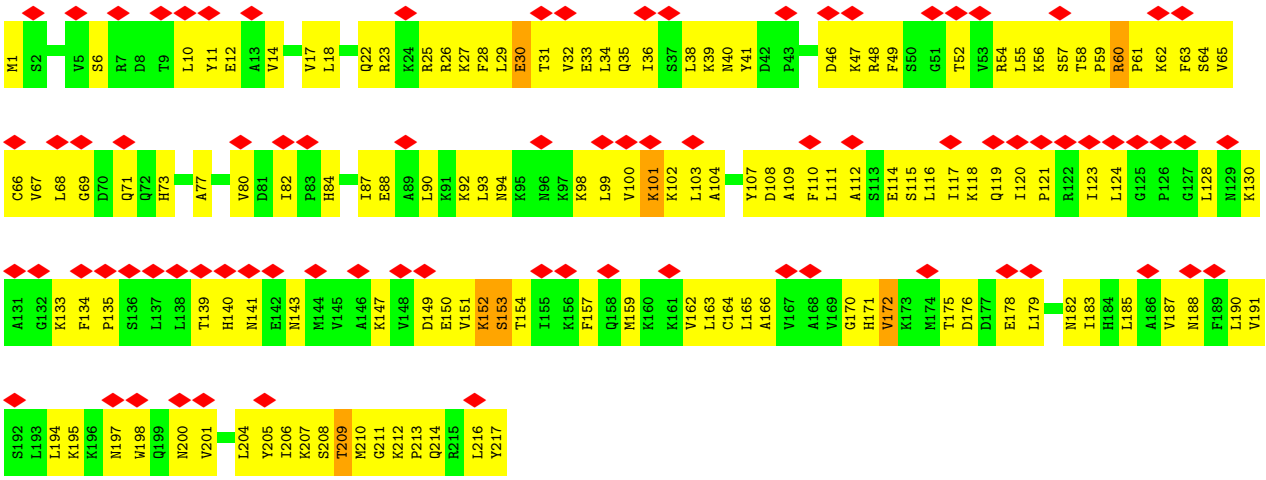
Chain 33:





• Molecule 84: Ribosomal protein

Chain w3:

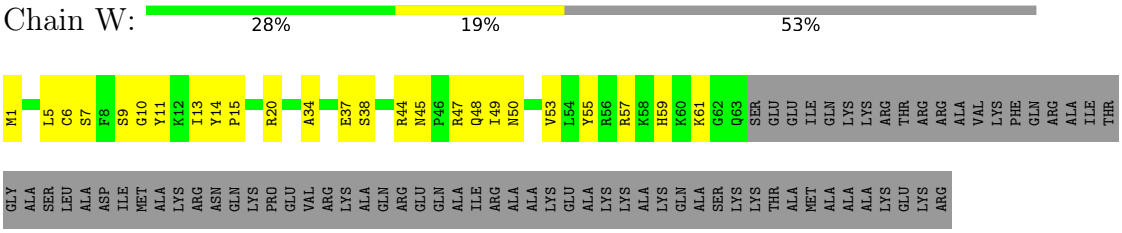


• Molecule 85: Sec61Beta

Chain 1:

• Molecule 86: 60S ribosomal protein L24-like protein

Chain W:


28%
19%
53%
M1 L5 C6 S7 F8 S9 G10 Y11 K12 I13 Y14 P15 R20 A34 E37 S38 R44 N45 P46 R47 Q48 I49 N50 V53 L54 Y55 R56 R57 K58 H59 K60 K61 G62 Q63 SER GLU GLU ILE GLN LYS LYS ARG THR ARG ARG ALA VAL LYS PHE GLN ARG ALA ILE THR
GLY ALA SER LEU ALA ASP ILE MET ALA LYS ARG ASN GLN LYS PRO GLU VAL ARG LYS ALA GLN ARG GLU GLN ALA ILE ARG ALA ALA LYS GLU ALA LYS LYS ALA LYS GLN ALA SER LYS LYS THR ALA MET ALA ALA ALA LYS GLU LYS ARG

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	29879	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TECNAI ARCTICA	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/Å^2$)	41.9	Depositor
Minimum defocus (nm)	400	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	79000	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.172	Depositor
Minimum map value	-0.107	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.008	Depositor
Recommended contour level	0.014	Depositor
Map size (Å)	405.0, 405.0, 405.0	wwPDB
Map dimensions	300, 300, 300	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.35, 1.35, 1.35	Depositor

5 Model quality

5.1 Standard geometry

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

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	51	0.54	3/86836 (0.0%)	0.72	33/135406 (0.0%)
2	71	0.50	0/2858	0.70	1/4455 (0.0%)
3	81	0.64	6/3581 (0.2%)	0.66	0/5577
4	A2	0.47	0/41517	0.70	10/64674 (0.0%)
5	B2	0.58	0/1747	0.95	2/2374 (0.1%)
6	C2	0.60	0/1756	0.94	0/2350
7	D2	0.69	1/1753 (0.1%)	0.91	0/2369
8	E2	0.53	0/1793	0.93	0/2413
9	F2	0.55	1/2118 (0.0%)	0.84	0/2849
10	G2	0.54	0/1492	0.99	3/2005 (0.1%)
11	H2	0.52	0/1946	1.06	5/2590 (0.2%)
12	I2	0.52	0/1510	0.94	2/2022 (0.1%)
13	J2	0.56	0/1715	0.99	1/2287 (0.0%)
14	K2	0.56	0/1550	1.03	2/2069 (0.1%)
15	L2	0.54	0/834	1.00	2/1125 (0.2%)
16	M2	0.61	0/1195	0.82	0/1597
17	N2	0.47	0/918	1.10	2/1233 (0.2%)
18	O2	0.66	0/1226	0.93	0/1649
19	P2	0.59	0/1029	0.92	1/1380 (0.1%)
20	Q2	0.62	1/1017 (0.1%)	0.95	1/1358 (0.1%)
21	R2	0.54	1/1146 (0.1%)	0.92	0/1534
22	S2	0.51	0/1082	0.96	0/1452
23	T2	0.56	0/1208	0.94	0/1618
24	U2	0.54	0/1115	1.05	2/1493 (0.1%)
25	V2	0.53	0/805	1.01	0/1081
26	W2	0.56	0/643	0.92	1/860 (0.1%)
27	X2	0.69	0/1051	0.95	1/1406 (0.1%)
28	Y2	0.67	0/1116	0.93	3/1490 (0.2%)
29	Z2	0.53	0/1028	0.96	0/1366
30	a2	0.55	1/604 (0.2%)	1.02	4/810 (0.5%)
31	b2	0.69	1/828 (0.1%)	0.89	1/1109 (0.1%)
32	c2	0.55	0/665	0.84	0/891

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	d2	0.53	0/490	0.97	0/656
34	e2	0.63	0/470	0.93	0/623
35	f2	0.49	0/447	1.00	0/587
36	g2	0.42	0/567	0.97	0/753
37	h2	0.45	0/2493	0.90	0/3394
38	A3	0.82	0/1925	0.95	0/2581
39	B3	0.72	0/3240	0.88	1/4339 (0.0%)
40	C3	0.84	2/2937 (0.1%)	0.94	0/3946
41	D3	0.62	0/2437	0.98	4/3264 (0.1%)
42	E3	0.66	0/1762	0.91	0/2362
43	F3	0.86	1/1911 (0.1%)	0.95	0/2549
44	G3	1.44	1/1909 (0.1%)	1.15	9/2566 (0.4%)
45	H3	0.68	0/1535	0.95	1/2063 (0.0%)
46	I3	0.72	0/1702	0.89	0/2272
47	J3	0.71	1/1385 (0.1%)	1.00	3/1852 (0.2%)
48	L3	0.69	0/1705	0.97	3/2283 (0.1%)
49	M3	0.72	1/1158 (0.1%)	1.06	1/1547 (0.1%)
50	N3	0.83	2/1746 (0.1%)	0.92	3/2338 (0.1%)
51	O3	0.81	0/1662	0.98	0/2222
52	P3	0.86	3/1268 (0.2%)	0.89	0/1700
53	Q3	0.83	0/1539	0.94	1/2054 (0.0%)
54	R3	0.72	1/1524 (0.1%)	1.12	2/2013 (0.1%)
55	S3	0.80	1/1501 (0.1%)	0.93	0/2012
56	T3	0.74	0/1326	0.89	0/1770
57	U3	0.57	0/823	0.96	0/1104
58	V3	0.78	0/993	0.87	0/1332
59	X3	0.75	1/984 (0.1%)	0.99	3/1323 (0.2%)
60	Y3	0.74	1/1119 (0.1%)	0.94	0/1488
61	Z3	0.62	0/1130	0.93	1/1507 (0.1%)
62	a3	0.82	1/1191 (0.1%)	0.83	0/1590
63	b3	0.60	0/861	1.06	2/1138 (0.2%)
64	c3	0.70	1/771 (0.1%)	0.98	0/1034
65	d3	0.69	0/903	0.89	0/1216
66	e3	0.79	0/1071	0.92	0/1429
67	f3	0.82	0/895	0.92	2/1198 (0.2%)
68	g3	0.67	0/916	0.97	1/1220 (0.1%)
69	h3	0.75	2/1021 (0.2%)	0.97	0/1348
70	i3	0.69	1/841 (0.1%)	1.05	2/1112 (0.2%)
71	j3	0.82	0/720	0.87	0/952
72	k3	0.61	0/575	0.98	0/761
73	l3	0.77	0/459	0.97	1/608 (0.2%)
74	m3	0.63	0/435	0.89	0/575
75	n3	0.67	0/240	1.32	2/305 (0.7%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
76	o3	0.66	0/864	0.92	0/1140
77	p3	0.83	1/718 (0.1%)	1.06	1/953 (0.1%)
78	r3	0.80	1/1010 (0.1%)	1.00	3/1354 (0.2%)
79	q3	0.32	0/1759	0.45	1/2733 (0.0%)
80	t3	0.40	0/1530	0.99	0/2064
81	u3	0.40	0/1174	1.04	2/1582 (0.1%)
82	v3	0.30	0/425	0.38	0/659
83	33	0.34	0/1780	0.44	0/2773
84	w3	0.40	0/1769	1.07	6/2371 (0.3%)
85	1	0.34	0/129	0.62	0/173
86	W	0.65	0/541	0.54	0/720
All	All	0.59	37/235968 (0.0%)	0.81	132/346400 (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	51	0	14
2	71	0	1
3	81	0	1
4	A2	0	4
5	B2	0	1
8	E2	0	1
9	F2	0	1
10	G2	0	1
11	H2	0	7
12	I2	0	1
13	J2	0	4
15	L2	0	2
18	O2	0	3
20	Q2	0	2
21	R2	0	2
22	S2	0	1
23	T2	0	3
24	U2	0	1
27	X2	0	2
29	Z2	0	1
30	a2	0	1
37	h2	0	1
38	A3	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
39	B3	0	1
40	C3	0	4
42	E3	0	1
43	F3	0	1
44	G3	0	11
45	H3	0	2
47	J3	0	2
48	L3	0	3
49	M3	0	2
50	N3	0	5
51	O3	0	3
52	P3	0	1
53	Q3	0	2
54	R3	0	2
55	S3	0	2
56	T3	0	2
57	U3	0	2
59	X3	0	1
61	Z3	0	2
63	b3	0	2
64	c3	0	3
66	e3	0	1
67	f3	0	1
69	h3	0	2
70	i3	0	3
75	n3	0	1
76	o3	0	1
77	p3	0	1
78	r3	0	1
80	t3	0	6
84	w3	0	2
All	All	0	129

All (37) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
44	G3	117	GLN	CB-CG	56.05	3.20	1.52
1	51	1966	C	N1-C6	12.37	1.61	1.37
1	51	1966	C	N1-C2	-10.68	1.18	1.40
3	81	151	G	C6-N1	10.45	1.60	1.39
3	81	151	G	N1-C2	10.24	1.58	1.37
78	r3	110	ALA	CA-C	-9.84	1.38	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	J3	139	PHE	CA-C	-9.68	1.39	1.52
55	S3	145	PHE	CA-C	-9.43	1.39	1.52
62	a3	8	THR	CA-C	-9.05	1.40	1.52
1	51	1966	C	C2-N3	9.04	1.53	1.35
3	81	151	G	C2-N3	8.81	1.50	1.32
59	X3	87	MET	CA-C	-8.66	1.40	1.52
50	N3	80	THR	CA-CB	-8.28	1.42	1.52
3	81	151	G	N3-C4	8.04	1.51	1.35
43	F3	199	HIS	CA-CB	-8.02	1.41	1.53
69	h3	78	TYR	C-N	-7.84	1.23	1.32
40	C3	332	ALA	CA-C	-7.38	1.42	1.52
3	81	151	G	C5-C6	7.00	1.56	1.42
3	81	151	G	C5-C4	6.82	1.51	1.38
20	Q2	98	ASN	CA-CB	-6.75	1.41	1.52
64	c3	13	SER	CA-C	-6.54	1.43	1.52
52	P3	48	LEU	CA-C	-6.49	1.43	1.52
70	i3	27	SER	CA-C	-6.30	1.44	1.52
9	F2	149	TYR	C-O	-6.28	1.21	1.23
49	M3	130	LEU	CA-C	-5.91	1.45	1.52
30	a2	59	CYS	CA-C	-5.86	1.44	1.52
54	R3	145	LEU	CA-C	-5.71	1.43	1.52
52	P3	93	HIS	CA-C	-5.54	1.43	1.52
69	h3	78	TYR	CA-CB	-5.50	1.46	1.53
52	P3	6	LEU	C-N	-5.40	1.23	1.33
21	R2	80	GLN	CA-C	-5.32	1.43	1.52
31	b2	63	VAL	C-N	-5.32	1.25	1.33
50	N3	166	SER	CA-C	-5.28	1.45	1.52
77	p3	28	LYS	CA-C	-5.17	1.45	1.52
7	D2	245	SER	CA-C	-5.11	1.45	1.52
60	Y3	17	ARG	CA-C	-5.10	1.44	1.52
40	C3	139	SER	CA-C	-5.02	1.45	1.52

All (132) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	51	1966	C	N1-C2-N3	-31.73	24.00	119.20
1	51	1966	C	C6-N1-C2	-24.98	45.27	120.20
1	51	1966	C	C6-N1-C1'	11.73	155.99	120.80
10	G2	202	SER	N-CA-C	-11.18	99.06	111.14
1	51	1966	C	C4-C5-C6	-9.52	88.85	117.40
44	G3	117	GLN	CA-CB-CG	9.50	133.10	114.10
24	U2	68	GLY	N-CA-C	9.07	123.45	112.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
26	W2	57	GLY	N-CA-C	8.99	124.28	112.77
1	51	1966	C	N3-C4-C5	-8.72	95.74	121.90
1	51	4569	U	O4'-C1'-N1	-8.35	95.97	108.50
1	51	1978	C	O5'-C5'-C4'	-7.86	99.71	111.50
44	G3	247	VAL	N-CA-C	-7.78	103.67	111.77
44	G3	99	GLN	N-CA-C	7.57	126.53	109.81
44	G3	234	TYR	CA-CB-CG	-7.42	100.55	113.90
1	51	2417	A	C4'-C3'-O3'	-7.40	101.90	113.00
59	X3	155	ILE	N-CA-C	-7.32	105.22	112.17
15	L2	53	LYS	N-CA-C	-7.30	102.71	111.69
20	Q2	41	GLN	N-CA-C	-6.96	105.32	113.88
49	M3	64	PHE	N-CA-C	6.95	114.47	108.22
47	J3	151	ILE	N-CA-C	6.94	117.06	110.74
44	G3	117	GLN	CB-CG-CD	6.78	124.13	112.60
41	D3	12	TYR	N-CA-C	-6.60	105.77	113.88
27	X2	118	ARG	N-CA-C	-6.50	103.47	111.40
54	R3	89	MET	N-CA-C	6.50	119.36	109.41
19	P2	24	GLY	N-CA-C	-6.50	104.62	112.49
17	N2	42	LEU	CA-C-N	-6.46	111.45	122.56
17	N2	42	LEU	C-N-CA	-6.46	111.45	122.56
47	J3	157	ILE	N-CA-C	6.42	117.83	108.58
12	I2	65	PRO	CA-C-N	6.32	125.38	120.33
12	I2	65	PRO	C-N-CA	6.32	125.38	120.33
44	G3	98	ILE	CA-C-N	6.28	137.13	121.80
44	G3	98	ILE	C-N-CA	6.28	137.13	121.80
1	51	2856	C	O3'-P-O5'	6.25	113.38	104.00
4	A2	283	G	O3'-P-O5'	-6.25	94.63	104.00
50	N3	103	GLU	CA-C-N	-6.23	111.48	122.26
50	N3	103	GLU	C-N-CA	-6.23	111.48	122.26
15	L2	52	LEU	N-CA-C	-6.21	106.02	113.97
78	r3	86	ALA	N-CA-C	6.20	120.05	112.23
84	w3	10	LEU	N-CA-C	-6.09	100.58	110.20
28	Y2	29	LYS	N-CA-C	6.04	117.94	111.36
73	l3	27	ILE	N-CA-C	-6.01	104.15	112.50
28	Y2	61	GLN	N-CA-C	5.97	123.00	109.81
1	51	472	C	O3'-P-O5'	-5.94	95.09	104.00
59	X3	41	ARG	CA-C-N	5.91	132.83	121.54
59	X3	41	ARG	C-N-CA	5.91	132.83	121.54
1	51	1966	C	N3-C2-O2	5.90	139.61	121.90
81	u3	98	ILE	N-CA-C	-5.90	107.75	113.53
1	51	3909	C	O5'-P-OP2	5.90	125.70	108.00
1	51	4632	U	N1-C1'-C2'	5.89	120.83	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	51	4994	G	O3'-P-O5'	-5.85	95.22	104.00
81	u3	125	LEU	N-CA-C	-5.85	104.99	111.36
77	p3	55	TRP	N-CA-C	5.80	118.42	110.24
1	51	2106	G	C4'-C3'-O3'	5.79	118.09	109.40
1	51	2417	A	C8-N9-C1'	-5.79	110.33	127.70
1	51	4993	G	N9-C1'-C2'	5.78	120.67	112.00
4	A2	1309	C	O3'-P-O5'	-5.75	95.38	104.00
44	G3	235	CYS	N-CA-C	5.73	117.38	107.93
45	H3	173	ARG	N-CA-C	-5.72	106.85	113.88
41	D3	259	ARG	CA-C-N	-5.71	113.45	121.72
41	D3	259	ARG	C-N-CA	-5.71	113.45	121.72
4	A2	66	G	N9-C1'-C2'	5.66	120.49	112.00
28	Y2	60	LYS	N-CA-C	5.66	122.85	110.80
30	a2	62	VAL	N-CA-CB	5.62	114.04	110.50
4	A2	1815	A	N9-C1'-C2'	5.61	120.41	112.00
84	w3	30	GLU	CA-C-N	-5.60	114.18	122.41
84	w3	30	GLU	C-N-CA	-5.60	114.18	122.41
5	B2	184	ARG	N-CA-C	-5.59	106.32	113.02
70	i3	39	PHE	CA-C-N	-5.57	117.26	122.66
70	i3	39	PHE	C-N-CA	-5.57	117.26	122.66
1	51	1363	C	N1-C1'-C2'	5.57	120.35	112.00
63	b3	54	LEU	N-CA-C	5.53	117.39	111.36
1	51	4150	G	O3'-P-O5'	-5.52	95.72	104.00
30	a2	72	VAL	N-CA-C	-5.50	106.83	111.56
1	51	2417	A	C4-N9-C1'	5.46	142.68	126.30
1	51	3908	A	OP1-P-O3'	-5.44	91.67	108.00
1	51	497	G	C4'-C3'-O3'	5.43	117.55	109.40
61	Z3	21	ARG	CB-CG-CD	5.43	123.80	111.30
63	b3	71	ALA	N-CA-C	-5.41	106.36	113.12
84	w3	11	TYR	CA-C-N	5.41	129.43	120.94
84	w3	11	TYR	C-N-CA	5.41	129.43	120.94
13	J2	101	ILE	N-CA-C	-5.40	101.87	109.21
50	N3	46	ASP	N-CA-C	-5.40	105.09	110.97
14	K2	173	VAL	CA-C-N	5.38	134.12	121.52
14	K2	173	VAL	C-N-CA	5.38	134.12	121.52
1	51	1072	C	P-O3'-C3'	5.38	128.27	120.20
39	B3	392	LEU	N-CA-C	5.37	118.33	109.85
30	a2	61	GLU	CA-C-N	-5.37	116.86	120.24
30	a2	61	GLU	C-N-CA	-5.37	116.86	120.24
44	G3	161	GLN	N-CA-C	-5.36	106.00	112.54
4	A2	66	G	C4'-C3'-O3'	-5.35	104.98	113.00
4	A2	604	A	N9-C1'-C2'	5.35	120.02	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	A2	80	G	C4'-C3'-O3'	5.34	121.01	113.00
75	n3	22	GLN	CA-C-N	5.34	131.74	121.54
75	n3	22	GLN	C-N-CA	5.34	131.74	121.54
48	L3	80	GLU	N-CA-C	-5.29	106.60	113.16
1	51	4893	A	N9-C1'-C2'	5.29	119.94	112.00
53	Q3	23	ILE	N-CA-CB	-5.29	105.44	112.26
67	f3	91	ASN	CA-C-N	5.26	128.67	120.68
67	f3	91	ASN	C-N-CA	5.26	128.67	120.68
2	71	34	C	C4'-C3'-O3'	5.25	120.88	113.00
1	51	2528	G	N9-C1'-C2'	5.24	119.87	112.00
54	R3	95	TRP	N-CA-C	5.22	121.92	110.80
5	B2	187	GLY	N-CA-C	-5.21	100.84	113.18
1	51	2728	U	N1-C1'-C2'	5.20	119.80	112.00
31	b2	53	ILE	N-CA-C	-5.20	106.61	111.45
1	51	4	G	O5'-C5'-C4'	-5.19	103.72	111.50
78	r3	8	MET	CA-C-N	-5.19	117.63	122.66
78	r3	8	MET	C-N-CA	-5.19	117.63	122.66
68	g3	86	CYS	N-CA-C	-5.18	106.81	113.23
4	A2	874	G	P-O3'-C3'	5.18	127.96	120.20
4	A2	1814	G	O3'-P-O5'	-5.17	96.25	104.00
24	U2	97	LYS	N-CA-C	5.16	116.91	111.28
11	H2	193	ALA	N-CA-C	-5.16	107.65	114.31
1	51	4942	C	P-O5'-C5'	-5.12	113.22	120.90
11	H2	135	PRO	CA-C-N	5.12	131.31	121.54
11	H2	135	PRO	C-N-CA	5.12	131.31	121.54
4	A2	173	A	O4'-C1'-N9	-5.09	100.86	108.50
1	51	1105	C	N1-C1'-C2'	5.09	119.63	112.00
11	H2	147	LEU	CA-C-N	5.08	131.00	122.15
11	H2	147	LEU	C-N-CA	5.08	131.00	122.15
1	51	2417	A	N9-C1'-C2'	5.08	119.61	112.00
84	w3	172	VAL	N-CA-C	-5.07	106.64	112.98
79	q3	73	A	P-O3'-C3'	5.06	127.80	120.20
1	51	2107	A	P-O5'-C5'	-5.05	113.32	120.90
48	L3	141	ALA	CA-C-N	5.05	127.31	120.44
48	L3	141	ALA	C-N-CA	5.05	127.31	120.44
1	51	2417	A	P-O3'-C3'	5.05	127.77	120.20
1	51	1941	A	O3'-P-O5'	-5.04	96.44	104.00
10	G2	201	LYS	CA-C-N	-5.01	113.62	120.44
10	G2	201	LYS	C-N-CA	-5.01	113.62	120.44
41	D3	208	MET	CB-CG-SD	5.00	127.70	112.70
47	J3	135	GLY	N-CA-C	5.00	117.78	110.38

There are no chirality outliers.

All (129) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	51	1106	A	Sidechain
1	51	1363	C	Sidechain
1	51	1806	G	Sidechain
1	51	1991	A	Sidechain
1	51	221	C	Sidechain
1	51	2311	C	Sidechain
1	51	2417	A	Sidechain
1	51	2893	U	Sidechain
1	51	3667	C	Sidechain
1	51	41	C	Sidechain
1	51	4261	C	Sidechain
1	51	4968	A	Sidechain
1	51	497	G	Sidechain
1	51	727	C	Sidechain
2	71	95	C	Sidechain
3	81	21	C	Sidechain
4	A2	1389	C	Sidechain
4	A2	1412	C	Sidechain
4	A2	612	U	Sidechain
4	A2	633	C	Sidechain
38	A3	191	ALA	Peptide
5	B2	42	LYS	Peptide
39	B3	143	LYS	Mainchain
40	C3	167	ALA	Mainchain
40	C3	171	LEU	Mainchain
40	C3	341	LEU	Mainchain
40	C3	35	ASP	Mainchain
8	E2	44	THR	Peptide
42	E3	61	ARG	Mainchain
9	F2	138	HIS	Mainchain
43	F3	240	ASN	Mainchain
10	G2	200	ALA	Mainchain
44	G3	105	THR	Peptide
44	G3	118	ARG	Mainchain
44	G3	193	VAL	Mainchain
44	G3	194	ASN	Mainchain
44	G3	215	ASP	Peptide
44	G3	242	ARG	Peptide
44	G3	249	ARG	Peptide
44	G3	250	LYS	Peptide
44	G3	251	THR	Peptide
44	G3	97	ASP	Peptide

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Mol	Chain	Res	Type	Group
44	G3	99	GLN	Peptide
11	H2	109	LEU	Peptide
11	H2	110	ASN	Peptide
11	H2	179	LEU	Peptide
11	H2	3	LEU	Peptide
11	H2	33	ALA	Peptide
11	H2	4	ASN	Peptide
11	H2	52	ILE	Peptide
45	H3	171	ASP	Mainchain
45	H3	76	HIS	Mainchain
12	I2	30	LEU	Mainchain
13	J2	107	THR	Peptide
13	J2	123	ARG	Peptide
13	J2	124	LYS	Peptide
13	J2	56	ARG	Mainchain
47	J3	140	SER	Mainchain
47	J3	164	ARG	Mainchain
15	L2	44	HIS	Mainchain
15	L2	51	SER	Mainchain
48	L3	112	ALA	Mainchain
48	L3	180	ALA	Mainchain
48	L3	183	ARG	Mainchain
49	M3	111	LYS	Mainchain
49	M3	120	ASN	Mainchain
50	N3	100	SER	Mainchain
50	N3	11	TRP	Peptide
50	N3	12	ARG	Peptide
50	N3	76	PRO	Peptide
50	N3	78	GLY	Peptide
18	O2	121	ARG	Mainchain
18	O2	90	HIS	Mainchain
18	O2	91	LEU	Mainchain
51	O3	15	LEU	Mainchain
51	O3	170	LYS	Mainchain
51	O3	179	LYS	Mainchain
52	P3	101	ASN	Mainchain
20	Q2	18	ARG	Peptide
20	Q2	19	GLY	Peptide
53	Q3	23	ILE	Mainchain
53	Q3	65	ARG	Mainchain
21	R2	43	GLU	Peptide
21	R2	83	ALA	Mainchain

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Mol	Chain	Res	Type	Group
54	R3	92	LYS	Peptide
54	R3	99	MET	Mainchain
22	S2	29	HIS	Mainchain
55	S3	105	ALA	Mainchain
55	S3	45	TRP	Mainchain
23	T2	131	VAL	Peptide
23	T2	64	VAL	Mainchain
23	T2	65	GLU	Mainchain
56	T3	104	SER	Mainchain
56	T3	107	LYS	Mainchain
24	U2	61	ALA	Mainchain
57	U3	60	VAL	Peptide
57	U3	90	TYR	Mainchain
27	X2	54	ASP	Peptide
27	X2	9	ASP	Mainchain
59	X3	112	ALA	Mainchain
29	Z2	106	GLN	Mainchain
61	Z3	70	SER	Peptide
61	Z3	84	ARG	Peptide
30	a2	58	LEU	Mainchain
63	b3	114	ARG	Peptide
63	b3	69	ALA	Mainchain
64	c3	52	CYS	Peptide
64	c3	61	GLU	Mainchain
64	c3	78	ASN	Mainchain
66	e3	42	ASP	Peptide
67	f3	20	ASN	Peptide
37	h2	219	TRP	Mainchain
69	h3	56	ARG	Mainchain
69	h3	67	GLU	Mainchain
70	i3	71	LYS	Mainchain
70	i3	90	LEU	Mainchain
70	i3	91	SER	Mainchain
75	n3	2	ARG	Peptide
76	o3	37	GLY	Mainchain
77	p3	47	MET	Peptide
78	r3	92	SER	Mainchain
80	t3	100	ASP	Peptide
80	t3	40	MET	Peptide
80	t3	44	ARG	Peptide
80	t3	50	LYS	Peptide
80	t3	74	ALA	Peptide

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Mol	Chain	Res	Type	Group
80	t3	76	GLU	Peptide
84	w3	209	THR	Peptide
84	w3	60	ARG	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	51	77641	39208	39205	2502	0
2	71	2558	1295	1295	74	0
3	81	3208	1627	1628	138	0
4	A2	37141	18768	18768	1223	0
5	B2	1710	1708	1708	98	0
6	C2	1729	1803	1803	97	0
7	D2	1716	1806	1806	77	0
8	E2	1765	1859	1861	68	0
9	F2	2076	2176	2177	96	0
10	G2	1471	1522	1522	72	0
11	H2	1923	2085	2089	127	0
12	I2	1488	1582	1582	86	0
13	J2	1686	1771	1772	117	0
14	K2	1525	1640	1640	99	0
15	L2	810	836	836	40	0
16	M2	1175	1249	1249	45	0
17	N2	908	939	939	69	0
18	O2	1202	1289	1289	45	0
19	P2	1016	1039	1039	47	0
20	Q2	997	1045	1045	62	0
21	R2	1128	1195	1195	73	0
22	S2	1068	1121	1121	84	0
23	T2	1190	1249	1249	78	0
24	U2	1097	1130	1132	75	0
25	V2	795	862	862	35	0
26	W2	636	637	637	38	0
27	X2	1034	1080	1080	48	0
28	Y2	1098	1165	1167	40	0
29	Z2	1011	1083	1083	60	0
30	a2	598	656	656	44	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
31	b2	814	864	864	33	0
32	c2	651	672	672	26	0
33	d2	488	514	514	24	0
34	e2	459	452	452	28	0
35	f2	443	492	492	18	0
36	g2	555	567	567	33	0
37	h2	2436	2393	2393	170	0
38	A3	1887	1983	1983	83	0
39	B3	3172	3310	3310	122	0
40	C3	2883	3054	3053	94	0
41	D3	2391	2424	2424	147	0
42	E3	1729	1887	1887	80	0
43	F3	1875	1995	1995	81	0
44	G3	1879	2026	2026	172	0
45	H3	1516	1597	1597	70	0
46	I3	1664	1712	1712	53	0
47	J3	1362	1399	1399	53	0
48	L3	1674	1781	1781	61	0
49	M3	1137	1211	1211	57	0
50	N3	1701	1749	1749	77	0
51	O3	1630	1778	1778	54	0
52	P3	1242	1274	1274	29	0
53	Q3	1515	1634	1634	55	0
54	R3	1508	1664	1664	132	0
55	S3	1462	1508	1508	59	0
56	T3	1298	1366	1366	53	0
57	U3	809	833	833	53	0
58	V3	979	1039	1039	25	0
59	X3	967	1036	1040	34	0
60	Y3	1102	1189	1189	28	0
61	Z3	1107	1182	1182	60	0
62	a3	1162	1210	1209	31	0
63	b3	848	920	920	37	0
64	c3	761	794	794	24	0
65	d3	888	930	930	27	0
66	e3	1053	1147	1147	22	0
67	f3	876	912	912	38	0
68	g3	906	999	1000	46	0
69	h3	1013	1147	1147	37	0
70	i3	830	916	916	40	0
71	j3	705	737	737	19	0
72	k3	569	637	637	39	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
73	l3	447	480	480	20	0
74	m3	429	466	466	19	0
75	n3	239	289	289	10	0
76	o3	851	924	924	28	0
77	p3	708	758	758	42	0
78	r3	994	1051	1051	36	0
79	q3	1576	805	805	95	0
80	t3	1507	1564	1564	106	0
81	u3	1160	1218	1218	138	0
82	v3	381	192	192	12	0
83	33	1594	809	809	85	0
84	w3	1741	1854	1854	193	0
85	1	125	117	117	21	0
86	W	528	541	541	23	0
87	33	1	0	0	0	0
87	51	193	0	0	0	0
87	71	6	0	0	0	0
87	81	7	0	0	0	0
87	A2	74	0	0	0	0
87	B3	3	0	0	0	0
87	F2	1	0	0	0	0
87	J3	1	0	0	0	0
87	K2	1	0	0	0	0
87	M2	1	0	0	0	0
87	N3	1	0	0	0	0
87	P3	2	0	0	0	0
87	R3	1	0	0	0	0
87	V3	2	0	0	0	0
87	a3	1	0	0	0	0
87	b2	1	0	0	0	0
87	e3	1	0	0	0	0
87	g2	1	0	0	0	0
87	g3	1	0	0	0	0
88	51	30	25	24	3	0
89	A2	2	0	0	0	0
89	b2	1	0	0	0	0
89	g3	1	0	0	0	0
89	j3	1	0	0	0	0
89	m3	1	0	0	0	0
89	o3	1	0	0	0	0
89	p3	1	0	0	0	0
All	All	219963	163452	163464	7954	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 21.

All (7954) 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)
3:81:151:G:C2	44:G3:117:GLN:CG	2.14	1.29
3:81:151:G:C2	44:G3:117:GLN:CB	2.17	1.26
3:81:151:G:N1	44:G3:117:GLN:CG	2.03	1.21
3:81:151:G:C6	44:G3:117:GLN:CB	2.24	1.19
3:81:151:G:C6	44:G3:117:GLN:CG	2.26	1.18
3:81:151:G:N1	44:G3:117:GLN:CB	2.06	1.18
1:51:3944:G:C6	1:51:3945:A:N7	2.11	1.17
3:81:151:G:C4	44:G3:117:GLN:CG	2.30	1.15
3:81:151:G:C5	44:G3:117:GLN:CG	2.32	1.13
1:51:1077:C:O2	1:51:1234:G:N2	1.83	1.12
61:Z3:68:ILE:O	61:Z3:115:LYS:NZ	1.84	1.11
4:A2:1563:G:OP1	24:U2:121:ARG:NH2	1.87	1.08
1:51:4136:G:N2	1:51:4148:C:O2	1.87	1.08
3:81:151:G:C4	44:G3:117:GLN:CB	2.36	1.07
1:51:1970:A:N1	1:51:2018:C:N4	2.03	1.07
1:51:1398:A:H62	1:51:1419:G:N2	1.52	1.07
41:D3:54:ARG:NH2	41:D3:148:ALA:O	1.88	1.06
1:51:5030:U:O4	1:51:5032:C:N4	1.88	1.06
4:A2:1757:G:O6	4:A2:1775:U:C2	2.09	1.06
3:81:151:G:C5	44:G3:117:GLN:CB	2.37	1.05
1:51:115:C:OP1	50:N3:2:GLY:N	1.88	1.05
39:B3:57:VAL:HG22	39:B3:73:VAL:HG12	1.29	1.04
1:51:1985:G:N2	1:51:2005:G:N7	2.04	1.04
68:g3:111:ALA:O	68:g3:115:LYS:NZ	1.91	1.03
1:51:4940:C:N3	42:E3:223:LYS:NZ	2.06	1.03
3:81:124:U:OP1	3:81:126:C:N4	1.91	1.03
47:J3:81:GLU:OE2	47:J3:85:LYS:NZ	1.88	1.03
1:51:3759:A:N6	4:A2:1709:G:O2'	1.90	1.03
4:A2:527:C:O2'	14:K2:121:LYS:NZ	1.92	1.03
84:w3:26:ARG:NE	84:w3:209:THR:O	1.92	1.03
1:51:1398:A:N6	1:51:1419:G:H21	1.57	1.02
4:A2:1465:A:OP1	22:S2:60:ARG:NH1	1.92	1.02
1:51:2318:G:O6	66:e3:19:LYS:NZ	1.93	1.02
18:O2:40:LEU:HD11	18:O2:45:LEU:HD12	1.40	1.02
1:51:279:A:N3	50:N3:12:ARG:NE	2.08	1.02
42:E3:191:ARG:NH2	42:E3:217:ASP:OD1	1.93	1.02
1:51:2553:A:OP1	1:51:2765:A:N6	1.93	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:874:G:O2'	4:A2:875:A:O5'	1.78	1.01
3:81:151:G:N3	44:G3:117:GLN:CG	2.23	1.01
4:A2:1620:A:O2'	20:Q2:40:ARG:NH1	1.94	1.01
4:A2:111:A:O2'	16:M2:69:ARG:NH1	1.93	1.00
4:A2:830:A:OP2	4:A2:846:G:N2	1.94	1.00
44:G3:244:GLY:O	44:G3:254:THR:OG1	1.79	1.00
84:w3:40:ASN:O	84:w3:197:ASN:ND2	1.95	1.00
1:51:1083:U:O2	1:51:1216:C:N4	1.94	0.99
3:81:151:G:C2	44:G3:117:GLN:HG3	1.95	0.99
1:51:1959:U:O2	1:51:1961:G:N2	1.94	0.99
1:51:311:G:OP1	70:i3:85:ARG:NH2	1.96	0.99
2:71:120:U:H3'	41:D3:261:VAL:HG11	1.42	0.99
1:51:3698:G:OP1	38:A3:245:ARG:NH1	1.96	0.98
1:51:1398:A:H62	1:51:1419:G:H21	0.99	0.98
1:51:3766:A:OP1	1:51:3767:C:N4	1.95	0.98
1:51:3960:A:N6	1:51:3965:A:N7	2.10	0.98
4:A2:506:G:OP1	29:Z2:108:LYS:NZ	1.96	0.98
4:A2:797:C:O2'	4:A2:798:G:OP1	1.81	0.98
4:A2:502:C:O3'	9:F2:62:LYS:NZ	1.96	0.98
1:51:1976:G:N2	81:u3:138:SER:O	1.97	0.98
83:33:7:A:N1	83:33:65:G:N2	2.12	0.98
1:51:1840:G:OP2	43:F3:201:LYS:NZ	1.95	0.97
37:h2:6:THR:O	37:h2:311:GLN:NE2	1.96	0.97
4:A2:238:C:N4	4:A2:892:U:O2	1.96	0.97
27:X2:84:LYS:O	27:X2:88:LYS:NZ	1.96	0.97
1:51:1175:A:N1	1:51:1187:G:N2	2.13	0.97
1:51:1349:G:OP2	53:Q3:54:SER:OG	1.83	0.97
1:51:4942:C:OP1	42:E3:190:ARG:NH2	1.98	0.96
4:A2:150:A:N6	4:A2:169:U:O2	1.98	0.96
83:33:13:C:O2	83:33:21:A:N6	1.98	0.96
4:A2:1610:G:N7	23:T2:132:ARG:NH2	2.13	0.96
13:J2:103:LEU:O	13:J2:103:LEU:HD23	1.65	0.96
1:51:1973:G:O6	1:51:2002:A:N6	1.98	0.96
13:J2:100:CYS:N	13:J2:174:CYS:SG	2.37	0.96
1:51:3757:G:N2	1:51:3768:U:O2	1.98	0.96
20:Q2:108:LYS:H	20:Q2:111:MET:HE1	1.28	0.96
4:A2:1394:G:O2'	4:A2:1395:C:OP1	1.83	0.96
1:51:3870:C:C2	1:51:3886:G:N2	2.34	0.96
14:K2:21:GLU:OE2	14:K2:24:ARG:NE	1.99	0.95
59:X3:110:LYS:NZ	59:X3:121:VAL:O	1.99	0.95
1:51:4994:G:N2	1:51:5058:A:N1	2.14	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:1721:U:OP1	4:A2:1722:G:O2'	1.83	0.95
69:h3:87:LYS:O	69:h3:92:ARG:NH1	2.00	0.95
4:A2:1290:G:N2	4:A2:1310:U:O2'	2.00	0.95
79:q3:63:G:O2'	79:q3:64:G:O4'	1.84	0.95
1:51:3870:C:O2	1:51:3886:G:N2	2.00	0.95
3:81:151:G:C2	44:G3:117:GLN:HB2	2.00	0.95
1:51:4908:G:N2	1:51:4913:G:O6	1.98	0.95
83:33:55:U:O4'	84:w3:130:LYS:NZ	1.99	0.94
1:51:3896:C:O2'	39:B3:268:ARG:NH1	2.00	0.94
4:A2:1597:C:OP2	30:a2:85:ARG:NH1	2.00	0.94
1:51:4641:U:O2	1:51:4659:G:N2	2.01	0.94
1:51:3811:G:O2'	1:51:3814:U:OP2	1.86	0.94
3:81:151:G:N3	44:G3:117:GLN:CB	2.31	0.94
1:51:1927:U:O2	1:51:2058:G:N2	2.01	0.94
13:J2:104:ILE:O	13:J2:106:SER:N	2.01	0.94
5:B2:67:ALA:HB2	26:W2:37:ALA:HB2	1.47	0.93
12:I2:148:LEU:O	27:X2:43:LYS:NZ	2.00	0.93
24:U2:38:LYS:NZ	24:U2:43:LYS:O	2.01	0.93
42:E3:115:MET:O	78:r3:87:ARG:NH1	2.00	0.93
1:51:209:U:OP1	60:Y3:63:LYS:NZ	2.02	0.93
41:D3:40:ASP:OD2	56:T3:69:GLN:NE2	2.00	0.93
16:M2:82:MET:SD	16:M2:85:THR:OG1	2.25	0.93
81:u3:117:ARG:O	81:u3:120:SER:OG	1.86	0.93
1:51:1896:A:OP1	43:F3:222:LYS:NZ	2.00	0.93
1:51:3766:A:O2'	4:A2:1708:C:O2	1.85	0.93
37:h2:261:LEU:O	37:h2:264:LYS:NZ	2.02	0.93
64:c3:80:GLU:N	64:c3:80:GLU:OE1	2.00	0.93
4:A2:1364:U:O4	4:A2:1375:G:N2	2.01	0.93
4:A2:1619:A:O2'	20:Q2:82:ASP:OD2	1.86	0.93
61:Z3:27:LYS:HE2	61:Z3:29:ILE:HD11	1.50	0.93
83:33:11:C:N4	83:33:23:A:N1	2.16	0.93
1:51:2263:A:OP1	78:r3:107:ARG:NH1	2.01	0.93
1:51:4772:C:H42	1:51:4863:G:H22	1.14	0.93
1:51:4285:U:OP1	76:o3:100:LYS:NZ	2.02	0.92
4:A2:1522:A:OP2	23:T2:144:ARG:NH2	2.02	0.92
29:Z2:86:GLU:OE2	29:Z2:90:ARG:NH1	2.01	0.92
1:51:1079:C:N4	1:51:1221:G:O6	2.00	0.92
40:C3:124:ILE:HD11	40:C3:237:ILE:HD11	1.51	0.92
54:R3:89:MET:HE3	54:R3:90:PRO:HD2	1.50	0.92
4:A2:1677:U:OP2	10:G2:63:LYS:NZ	2.03	0.92
1:51:3641:U:OP2	1:51:3646:A:N6	2.03	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:990:A:OP2	31:b2:37:LYS:NZ	2.02	0.92
5:B2:158:ASP:OD2	26:W2:32:ILE:HD13	1.70	0.92
13:J2:109:TYR:OH	13:J2:170:LYS:O	1.88	0.92
4:A2:744:G:N2	4:A2:745:C:O2	2.03	0.92
4:A2:886:A:N1	4:A2:901:G:N2	2.18	0.92
4:A2:1097:G:N2	4:A2:1136:U:O2	2.02	0.92
1:51:4209:G:N7	1:51:4210:U:N3	2.17	0.91
1:51:1444:G:N2	1:51:1445:U:O4	2.04	0.91
2:71:85:G:OP1	43:F3:221:LYS:NZ	2.03	0.91
1:51:1953:U:OP2	55:S3:139:ARG:NH1	2.04	0.91
1:51:4776:G:N2	1:51:4859:C:O2	2.03	0.91
4:A2:439:A:OP2	13:J2:23:LYS:NZ	2.02	0.91
79:q3:2:U:O2	79:q3:71:A:N6	2.03	0.91
1:51:2046:G:O2'	1:51:2047:A:OP2	1.88	0.91
1:51:4098:A:N6	1:51:4108:G:N7	2.17	0.91
3:81:151:G:C4	44:G3:117:GLN:HG2	2.03	0.91
5:B2:121:LEU:HD21	5:B2:145:ILE:HD13	1.52	0.90
1:51:1867:A:OP1	46:I3:13:LYS:NZ	2.05	0.90
1:51:4053:A:N3	84:w3:207:LYS:NZ	2.19	0.90
1:51:2007:G:H21	1:51:2012:A:N6	1.69	0.90
4:A2:412:G:OP2	4:A2:425:G:N2	2.05	0.90
4:A2:1609:C:OP2	23:T2:131:VAL:N	2.05	0.90
6:C2:207:LEU:HD23	6:C2:207:LEU:H	1.37	0.90
49:M3:80:ALA:O	49:M3:85:LYS:NZ	2.05	0.90
1:51:3597:G:N2	54:R3:147:ALA:HB2	1.86	0.90
13:J2:172:LEU:HD11	13:J2:195:LEU:HD21	1.54	0.90
81:u3:12:VAL:HG22	81:u3:63:THR:HG22	1.54	0.90
1:51:704:C:O2'	1:51:705:G:OP1	1.88	0.90
1:51:1459:A:OP1	53:Q3:65:ARG:NH2	2.05	0.90
1:51:4408:G:N2	1:51:4435:U:O2	2.04	0.90
4:A2:1613:G:OP1	23:T2:88:LYS:NZ	2.05	0.90
37:h2:152:SER:OG	37:h2:196:ASN:O	1.88	0.90
61:Z3:5:MET:O	61:Z3:28:ASN:ND2	2.05	0.90
21:R2:12:VAL:HG21	21:R2:91:ALA:HB2	1.54	0.90
1:51:1107:C:N4	1:51:1163:G:O6	2.05	0.89
20:Q2:37:TYR:OH	20:Q2:45:LEU:HD12	1.72	0.89
40:C3:146:GLU:OE1	40:C3:146:GLU:N	2.06	0.89
1:51:173:C:O2	69:h3:112:ARG:NH1	2.05	0.89
1:51:3597:G:H22	54:R3:147:ALA:HB2	1.35	0.89
4:A2:1608:U:O4	4:A2:1631:U:N3	2.06	0.89
81:u3:13:VAL:HG21	81:u3:32:ILE:HD11	1.55	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:R2:40:GLU:OE1	21:R2:45:ARG:NH1	2.06	0.89
84:w3:64:SER:O	84:w3:108:ASP:N	2.06	0.89
1:51:280:G:OP2	50:N3:14:LYS:NZ	2.04	0.89
1:51:1653:A:OP1	62:a3:32:ARG:NH2	2.06	0.89
4:A2:1395:C:O2'	4:A2:1396:A:OP1	1.90	0.89
1:51:2416:G:N2	1:51:2426:U:O4	2.06	0.89
1:51:175:C:N4	1:51:261:G:O6	2.06	0.88
1:51:2568:C:N4	1:51:2569:G:O6	2.06	0.88
81:u3:32:ILE:HD12	81:u3:64:ILE:HD11	1.54	0.88
47:J3:85:LYS:O	47:J3:89:VAL:HG23	1.73	0.88
4:A2:448:A:H61	13:J2:29:LEU:HD21	1.38	0.88
4:A2:1378:A:N6	5:B2:136:GLU:OE2	2.06	0.88
9:F2:255:ARG:O	9:F2:259:LYS:NZ	2.07	0.88
33:d2:11:LEU:HD21	33:d2:55:VAL:HG13	1.55	0.88
1:51:732:A:H3'	1:51:733:A:H5"	1.56	0.88
4:A2:1646:C:OP1	21:R2:138:ARG:NH2	2.07	0.88
79:q3:34:A:O2'	79:q3:35:A:OP1	1.91	0.88
2:71:6:C:O3'	41:D3:33:ARG:NH2	2.07	0.88
1:51:2455:G:N2	1:51:2471:G:N7	2.21	0.88
81:u3:134:GLY:O	81:u3:137:GLN:NE2	2.05	0.88
38:A3:97:ASN:OD1	38:A3:100:ASN:ND2	2.07	0.88
23:T2:65:GLU:O	23:T2:69:THR:HG23	1.73	0.88
4:A2:1452:A:H61	4:A2:1473:G:H21	1.21	0.87
1:51:2523:G:N2	1:51:2533:C:O2	2.07	0.87
64:c3:50:ASN:ND2	64:c3:75:SER:O	2.07	0.87
1:51:4771:C:N4	1:51:4860:G:N7	2.23	0.87
57:U3:105:ASN:OD1	57:U3:109:SER:OG	1.92	0.87
1:51:151:G:OP2	50:N3:4:TYR:OH	1.93	0.87
1:51:1106:A:N1	1:51:1164:G:O6	2.08	0.87
41:D3:209:ARG:HA	41:D3:209:ARG:HE	1.38	0.87
4:A2:380:G:OP1	13:J2:56:ARG:NH2	2.08	0.87
1:51:1827:C:O2'	63:b3:50:ASN:ND2	2.07	0.86
1:51:3973:G:N2	1:51:4038:C:O2	2.06	0.86
4:A2:1473:G:N2	4:A2:1476:A:OP2	2.07	0.86
1:51:1893:C:O2	1:51:1936:C:N4	2.09	0.86
43:F3:34:LYS:O	43:F3:38:GLN:NE2	2.08	0.86
4:A2:226:A:N1	4:A2:295:C:N4	2.23	0.86
4:A2:1155:U:O2'	27:X2:71:LYS:NZ	2.09	0.86
28:Y2:61:GLN:HB3	28:Y2:62:PRO:HD3	1.57	0.86
62:a3:148:ALA:HA	70:i3:8:ALA:HB2	1.57	0.86
1:51:751:G:O3'	1:51:752:G:OP1	1.94	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:3973:G:N1	1:51:4038:C:N3	2.22	0.86
1:51:1902:G:C5	1:51:2075:G:N2	2.44	0.86
13:J2:172:LEU:HD11	13:J2:195:LEU:CD2	2.06	0.86
36:g2:133:ALA:HB1	36:g2:135:HIS:CD2	2.11	0.86
9:F2:54:TYR:O	29:Z2:15:ASN:ND2	2.08	0.86
68:g3:63:VAL:HG13	68:g3:66:ARG:NH2	1.91	0.86
70:i3:73:ILE:O	70:i3:77:VAL:HG12	1.76	0.86
1:51:1315:C:OP1	66:e3:44:ARG:NH2	2.09	0.85
3:81:151:G:C5	44:G3:117:GLN:HG2	2.11	0.85
4:A2:794:A:O2'	4:A2:795:A:O4'	1.93	0.85
4:A2:519:A:O2'	14:K2:9:CYS:SG	2.33	0.85
79:q3:2:U:O2	79:q3:72:C:N4	2.09	0.85
63:b3:113:ALA:HA	63:b3:116:LEU:HD22	1.56	0.85
79:q3:5:C:N4	79:q3:68:G:O6	2.08	0.85
3:81:151:G:N1	44:G3:117:GLN:HB3	1.89	0.85
1:51:2561:C:O2'	1:51:2566:G:N2	2.09	0.85
1:51:3605:C:OP2	54:R3:71:ARG:NH1	2.09	0.85
4:A2:1732:G:N1	4:A2:1803:U:O4	2.10	0.85
1:51:725:G:OP2	40:C3:350:ARG:NH2	2.09	0.85
4:A2:872:A:O5'	54:R3:170:ARG:NH1	2.10	0.85
27:X2:106:THR:HG23	27:X2:108:ALA:H	1.40	0.85
72:k3:5:ILE:HG22	72:k3:44:THR:O	1.77	0.85
1:51:1993:C:O2	81:u3:137:GLN:NE2	2.08	0.85
4:A2:1677:U:OP1	10:G2:148:ASN:ND2	2.09	0.85
1:51:2461:G:O3'	50:N3:108:ARG:NH1	2.10	0.84
4:A2:1456:G:OP1	22:S2:59:LYS:NZ	2.09	0.84
14:K2:149:VAL:HG22	14:K2:150:ARG:HD3	1.60	0.84
1:51:2260:C:O2	1:51:2261:G:N1	2.09	0.84
40:C3:239:LYS:O	40:C3:248:ARG:NH1	2.10	0.84
61:Z3:12:LEU:HD23	61:Z3:13:VAL:N	1.93	0.84
1:51:3948:C:N4	1:51:3951:G:O6	2.10	0.84
4:A2:1401:A:N6	4:A2:1441:U:O2'	2.11	0.84
1:51:3944:G:O6	1:51:4069:U:N3	2.11	0.84
4:A2:1522:A:HO2'	23:T2:145:THR:HG1	0.93	0.84
84:w3:29:LEU:HD12	84:w3:29:LEU:O	1.78	0.84
3:81:151:G:O4'	44:G3:118:ARG:NH1	2.09	0.84
4:A2:1543:U:O2'	21:R2:43:GLU:OE2	1.96	0.84
15:L2:73:ASN:HA	15:L2:76:ILE:HD12	1.60	0.84
1:51:163:A:N6	1:51:272:U:O4	2.09	0.84
1:51:3973:G:N3	1:51:4039:G:N2	2.25	0.84
4:A2:1620:A:O2'	4:A2:1624:U:OP2	1.95	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:150:U:C5	44:G3:253:THR:HG21	2.13	0.84
1:51:438:G:O6	1:51:1309:C:N4	2.11	0.84
7:D2:214:LEU:HD22	7:D2:219:ILE:HD11	1.58	0.84
2:71:99:G:N7	55:S3:55:LYS:NZ	2.25	0.83
13:J2:188:TYR:CE2	13:J2:190:LEU:HD21	2.12	0.83
1:51:4754:G:N7	42:E3:281:THR:OG1	2.11	0.83
4:A2:185:G:O2'	4:A2:186:C:O4'	1.94	0.83
4:A2:1232:U:OP2	23:T2:135:HIS:NE2	2.11	0.83
9:F2:253:ASP:OD1	9:F2:254:LYS:N	2.11	0.83
41:D3:108:ARG:NH1	41:D3:251:PRO:O	2.11	0.83
1:51:4895:C:O2'	49:M3:132:ARG:NH2	2.12	0.83
2:71:1:G:H22	2:71:118:C:H2'	1.42	0.83
10:G2:204:ARG:OXT	33:d2:63:ARG:NH1	2.10	0.83
1:51:716:C:OP2	40:C3:320:LYS:NZ	2.10	0.83
1:51:2487:G:O6	1:51:2489:C:O2'	1.95	0.83
24:U2:88:MET:HE3	24:U2:89:PRO:HD2	1.59	0.83
56:T3:68:THR:HG22	56:T3:69:GLN:H	1.43	0.83
1:51:1570:G:N2	54:R3:129:GLY:O	2.12	0.83
1:51:2573:A:N6	1:51:2761:U:O2'	2.11	0.83
5:B2:184:ARG:O	5:B2:191:ARG:NH2	2.12	0.83
80:t3:19:GLN:N	80:t3:19:GLN:OE1	2.12	0.83
84:w3:87:ILE:HA	84:w3:90:LEU:HD13	1.61	0.83
1:51:1184:A:O2'	1:51:1185:G:O4'	1.96	0.83
1:51:2669:C:OP2	54:R3:124:TYR:OH	1.97	0.83
37:h2:217:MET:SD	37:h2:226:HIS:NE2	2.51	0.83
41:D3:53:VAL:HG11	41:D3:159:VAL:HG23	1.60	0.83
1:51:4371:G:OP1	76:o3:64:LYS:NZ	2.12	0.83
11:H2:190:ARG:O	11:H2:194:LEU:HD12	1.79	0.83
42:E3:210:LYS:NZ	42:E3:259:GLN:OE1	2.11	0.83
43:F3:115:GLN:OE1	43:F3:211:LYS:NZ	2.12	0.83
80:t3:109:ALA:O	80:t3:181:SER:OG	1.95	0.83
1:51:308:G:O2'	70:i3:32:ARG:O	1.96	0.83
1:51:3711:A:N6	1:51:3736:A:OP1	2.12	0.83
57:U3:60:VAL:HG23	57:U3:74:SER:HB2	1.59	0.83
1:51:3870:C:C2	1:51:3886:G:C2	2.65	0.82
2:71:119:U:H3'	2:71:120:U:H4'	1.60	0.82
4:A2:642:U:O2'	4:A2:643:A:O5'	1.97	0.82
58:V3:18:LEU:HD12	58:V3:54:ALA:HB3	1.61	0.82
84:w3:12:GLU:HB2	84:w3:17:VAL:HG12	1.62	0.82
41:D3:50:ARG:NH2	41:D3:147:ASP:OD2	2.12	0.82
1:51:3703:G:O6	1:51:3749:C:N4	2.12	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J2:135:GLU:OE1	13:J2:139:LYS:NZ	2.12	0.82
1:51:1106:A:O2'	1:51:1107:C:OP1	1.98	0.82
1:51:2716:C:O2'	57:U3:107:LYS:NZ	2.12	0.82
5:B2:4:ALA:O	5:B2:5:LEU:HD12	1.80	0.82
1:51:2021:G:OP2	80:t3:57:LYS:NZ	2.12	0.82
1:51:2552:G:H21	1:51:2766:A:H62	1.27	0.82
4:A2:1614:A:OP2	20:Q2:42:ARG:NH1	2.12	0.82
2:71:2:U:N3	2:71:118:C:O2	2.11	0.82
23:T2:26:ILE:HD11	23:T2:52:LEU:HA	1.60	0.82
81:u3:126:SER:OG	81:u3:160:VAL:O	1.97	0.82
39:B3:80:GLU:OE1	39:B3:323:TYR:OH	1.97	0.82
52:P3:2:VAL:HG12	52:P3:3:ARG:H	1.45	0.82
4:A2:244:A:O2'	4:A2:279:G:N2	2.12	0.82
30:a2:88:LEU:HD13	30:a2:109:TYR:CD2	2.14	0.82
84:w3:17:VAL:HG21	84:w3:216:LEU:HD22	1.61	0.81
4:A2:1290:G:N1	4:A2:1310:U:O2	2.13	0.81
4:A2:1462:U:O2'	4:A2:1463:U:OP1	1.98	0.81
4:A2:1522:A:O2'	23:T2:145:THR:OG1	1.84	0.81
22:S2:94:GLU:O	22:S2:116:ASN:ND2	2.14	0.81
42:E3:43:LYS:NZ	42:E3:44:PRO:O	2.14	0.81
49:M3:81:ASP:OD2	49:M3:84:THR:OG1	1.97	0.81
79:q3:18:G:O2'	79:q3:57:G:N2	2.11	0.81
84:w3:34:LEU:HD21	84:w3:36:ILE:HD11	1.63	0.81
64:c3:47:ILE:HD12	64:c3:94:LEU:HD22	1.61	0.81
1:51:442:G:N2	1:51:1306:C:O2	2.14	0.81
1:51:468:U:O2	1:51:688:U:N3	2.12	0.81
1:51:942:G:OP1	43:F3:244:ARG:NH1	2.13	0.81
1:51:978:G:N1	1:51:1278:C:N3	2.27	0.81
1:51:1570:G:O2'	54:R3:130:ASN:ND2	2.12	0.81
3:81:151:G:H1'	44:G3:118:ARG:HA	1.62	0.81
63:b3:11:ASN:OD1	63:b3:14:ARG:NE	2.14	0.81
4:A2:66:G:O6	4:A2:82:G:O2'	1.97	0.81
4:A2:796:G:OP1	9:F2:200:ARG:NH1	2.14	0.81
1:51:4099:G:O6	1:51:4108:G:N2	2.14	0.81
45:H3:12:ILE:HD11	45:H3:52:LYS:O	1.80	0.81
1:51:156:G:OP2	69:h3:106:LYS:NZ	2.13	0.81
1:51:4044:U:O2'	1:51:4048:A:N6	2.12	0.81
1:51:4195:G:OP2	63:b3:3:LYS:NZ	2.13	0.81
4:A2:65:C:C4	11:H2:133:LEU:HD23	2.16	0.81
1:51:2088:A:OP2	53:Q3:38:ARG:NH2	2.14	0.81
4:A2:124:U:OP1	9:F2:148:ARG:NE	2.14	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:847:A:O2'	9:F2:106:LYS:NZ	2.13	0.81
1:51:1836:G:O2'	56:T3:108:ARG:NH2	2.14	0.81
1:51:2666:U:OP1	54:R3:107:ARG:NH2	2.13	0.81
1:51:3870:C:N3	1:51:3886:G:N1	2.29	0.81
38:A3:146:THR:HG1	38:A3:160:SER:HG	1.24	0.81
45:H3:44:GLU:OE2	49:M3:2:VAL:N	2.14	0.81
49:M3:24:LEU:HD11	49:M3:86:TRP:CG	2.15	0.81
1:51:1082:C:O2	1:51:1218:G:N2	2.14	0.80
54:R3:99:MET:SD	54:R3:123:LEU:HD21	2.20	0.80
1:51:1554:A:P	77:p3:5:THR:HG21	2.21	0.80
4:A2:1286:G:OP1	36:g2:99:LYS:NZ	2.13	0.80
21:R2:40:GLU:O	21:R2:45:ARG:NH1	2.14	0.80
4:A2:522:A:O3'	14:K2:131:ARG:NH2	2.13	0.80
79:q3:34:A:N6	82:v3:34:U:O4	2.14	0.80
4:A2:846:G:OP2	9:F2:108:ARG:NH1	2.15	0.80
1:51:2536:A:O5'	72:k3:37:ARG:NH2	2.15	0.80
4:A2:591:U:H4'	4:A2:592:C:H5'	1.63	0.80
1:51:281:U:O4	50:N3:12:ARG:NH2	2.15	0.80
43:F3:112:ARG:NH2	43:F3:204:ASN:O	2.14	0.80
61:Z3:69:LYS:O	61:Z3:70:SER:OG	2.00	0.80
62:a3:117:LEU:HD12	62:a3:118:PRO:HD2	1.63	0.80
69:h3:104:THR:HG23	69:h3:107:GLN:H	1.46	0.80
39:B3:141:ALA:O	39:B3:145:GLN:NE2	2.13	0.80
4:A2:72:C:N3	11:H2:168:LYS:NZ	2.29	0.80
56:T3:118:GLU:OE1	56:T3:118:GLU:N	2.15	0.80
4:A2:804:U:OP1	27:X2:82:GLN:NE2	2.15	0.79
4:A2:1758:G:O6	4:A2:1774:C:N4	2.14	0.79
1:51:1481:C:O2'	1:51:1482:G:N3	2.15	0.79
1:51:4525:C:OP1	39:B3:246:ARG:NH1	2.16	0.79
6:C2:123:ALA:HB3	6:C2:139:CYS:SG	2.21	0.79
31:b2:18:VAL:HG12	31:b2:19:GLN:H	1.47	0.79
37:h2:119:GLN:OE1	37:h2:119:GLN:N	2.15	0.79
42:E3:253:GLN:NE2	42:E3:257:ASP:OD2	2.15	0.79
39:B3:50:LYS:NZ	39:B3:339:GLY:O	2.15	0.79
4:A2:83:A:N1	4:A2:150:A:O2'	2.15	0.79
14:K2:108:ARG:O	14:K2:148:ILE:HG22	1.81	0.79
44:G3:207:LEU:O	44:G3:258:THR:HG23	1.83	0.79
1:51:1374:G:OP2	40:C3:120:LYS:NZ	2.15	0.79
1:51:2891:U:OP2	54:R3:74:ARG:NH2	2.15	0.79
4:A2:442:C:N3	4:A2:452:G:N2	2.31	0.79
9:F2:64:ILE:HG12	29:Z2:18:LEU:HD21	1.63	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:F2:180:LEU:HD23	9:F2:228:ILE:HD11	1.65	0.79
1:51:3972:A:OP1	84:w3:62:LYS:NZ	2.16	0.79
4:A2:1455:A:OP1	22:S2:5:ARG:NH1	2.15	0.79
13:J2:103:LEU:HD12	13:J2:170:LYS:NZ	1.98	0.79
1:51:442:G:OP1	67:f3:68:ARG:NH1	2.15	0.79
44:G3:108:VAL:HG23	44:G3:109:LYS:H	1.46	0.79
3:81:65:A:OP1	69:h3:56:ARG:NH1	2.15	0.79
1:51:2578:G:N7	61:Z3:17:ARG:NH2	2.31	0.79
4:A2:1162:C:OP2	28:Y2:12:LYS:NZ	2.16	0.79
32:c2:67:THR:HG22	32:c2:68:GLY:H	1.47	0.79
84:w3:175:THR:O	84:w3:179:LEU:HD13	1.83	0.79
1:51:4083:U:O2'	1:51:4086:G:OP1	2.00	0.79
1:51:4902:C:O2'	1:51:4903:G:O5'	2.01	0.79
58:V3:57:VAL:HG23	58:V3:84:GLN:OE1	1.82	0.79
1:51:3687:A:O2'	38:A3:235:VAL:O	2.00	0.78
40:C3:32:ILE:HD12	40:C3:130:ALA:HB2	1.62	0.78
83:33:30:G:O2'	83:33:31:A:O4'	2.00	0.78
1:51:480:C:OP1	78:r3:67:ARG:NH1	2.16	0.78
4:A2:286:U:O2	11:H2:224:ARG:NH1	2.15	0.78
6:C2:63:LYS:O	6:C2:88:THR:OG1	2.00	0.78
1:51:2550:G:H2'	1:51:2551:A:O4'	1.84	0.78
4:A2:158:A:HO2'	4:A2:464:A:N6	1.81	0.78
24:U2:5:THR:HG23	24:U2:7:LYS:H	1.46	0.78
45:H3:92:MET:HE2	45:H3:179:ILE:HG22	1.64	0.78
1:51:4323:A:C2	41:D3:153:THR:HG21	2.18	0.78
2:71:105:C:OP2	46:I3:203:ARG:NH2	2.15	0.78
1:51:4301:U:OP2	56:T3:87:LYS:NZ	2.17	0.78
2:71:5:A:O2'	41:D3:72:ASP:OD2	2.02	0.78
4:A2:72:C:O2'	4:A2:74:G:OP2	2.02	0.78
79:q3:18:G:N1	79:q3:55:U:O2'	2.16	0.78
20:Q2:110:GLU:OE1	20:Q2:110:GLU:N	2.16	0.78
30:a2:96:LEU:O	30:a2:112:ASN:ND2	2.17	0.78
81:u3:81:ILE:HD11	81:u3:131:GLU:O	1.84	0.78
4:A2:1757:G:O6	4:A2:1775:U:O2	2.01	0.77
6:C2:103:MET:HB3	6:C2:215:VAL:HG12	1.66	0.77
30:a2:62:VAL:HG12	30:a2:63:PRO:HD3	1.66	0.77
42:E3:167:PHE:HE1	42:E3:176:LEU:HD22	1.49	0.77
1:51:465:G:N3	1:51:691:C:N4	2.30	0.77
3:81:60:G:N2	3:81:64:U:O2	2.17	0.77
12:I2:10:LYS:NZ	12:I2:15:LYS:O	2.16	0.77
60:Y3:10:ASP:OD1	60:Y3:11:ARG:N	2.17	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:v3:33:U:O2'	82:v3:34:U:O5'	2.01	0.77
1:51:312:G:N2	1:51:326:C:O2	2.17	0.77
1:51:1902:G:C4	1:51:2075:G:N2	2.52	0.77
1:51:2386:U:H4'	54:R3:24:LEU:HD11	1.66	0.77
1:51:3879:G:O2'	1:51:3881:G:OP2	2.03	0.77
4:A2:885:U:O2	4:A2:902:G:N2	2.17	0.77
8:E2:126:ILE:HD12	8:E2:134:CYS:SG	2.23	0.77
21:R2:12:VAL:CG2	21:R2:91:ALA:HB2	2.15	0.77
37:h2:236:ILE:HD11	37:h2:239:LEU:HG	1.65	0.77
49:M3:6:PHE:O	49:M3:11:ARG:NE	2.17	0.77
4:A2:244:A:N6	4:A2:280:G:O2'	2.18	0.77
4:A2:1722:G:O6	4:A2:1813:A:N6	2.17	0.77
8:E2:142:LEU:HD21	8:E2:182:LEU:HD21	1.66	0.77
49:M3:86:TRP:O	49:M3:89:THR:HG22	1.85	0.77
61:Z3:8:GLY:O	61:Z3:86:SER:OG	2.02	0.77
1:51:3973:G:N2	1:51:4050:A:O2'	2.17	0.77
5:B2:69:GLU:OE1	5:B2:69:GLU:N	2.17	0.77
53:Q3:97:LYS:C	53:Q3:98:LEU:HD22	2.10	0.77
1:51:2007:G:N2	1:51:2012:A:H62	1.83	0.77
1:51:2812:A:N6	1:51:2813:A:N1	2.32	0.77
3:81:141:C:OP1	50:N3:38:ARG:NH1	2.17	0.77
4:A2:492:C:O2'	4:A2:493:A:OP2	2.02	0.77
1:51:2007:G:N2	1:51:2012:A:N6	2.33	0.77
1:51:3970:G:N2	84:w3:33:GLU:OE1	2.17	0.77
27:X2:49:GLU:O	27:X2:64:ASN:ND2	2.18	0.77
46:I3:41:ALA:HB3	46:I3:139:ARG:HH22	1.50	0.77
80:t3:160:LEU:HD11	80:t3:171:GLU:OE1	1.85	0.77
84:w3:40:ASN:ND2	84:w3:197:ASN:OD1	2.16	0.77
1:51:2674:A:N6	77:p3:41:PHE:O	2.18	0.77
1:51:4235:G:N2	1:51:4290:U:O2	2.17	0.77
35:f2:109:MET:SD	35:f2:113:ARG:NH2	2.58	0.77
38:A3:117:GLU:OE2	38:A3:123:ARG:N	2.18	0.77
81:u3:152:ILE:HD12	81:u3:155:ILE:HD11	1.66	0.77
1:51:3870:C:N3	1:51:3886:G:C2	2.52	0.76
39:B3:289:GLN:O	39:B3:302:ASN:ND2	2.17	0.76
1:51:334:A:N6	1:51:335:A:N1	2.34	0.76
23:T2:23:ARG:O	23:T2:55:ARG:NH2	2.19	0.76
43:F3:59:GLU:OE1	43:F3:191:HIS:NE2	2.18	0.76
81:u3:151:ILE:O	81:u3:155:ILE:HG23	1.86	0.76
55:S3:82:LEU:HD23	55:S3:83:ARG:N	2.01	0.76
81:u3:78:SER:O	81:u3:82:ILE:HD12	1.83	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:153:G:OP1	50:N3:56:LYS:NZ	2.15	0.76
1:51:754:C:O2	1:51:910:G:N2	2.17	0.76
54:R3:158:GLN:OE1	54:R3:162:ARG:NH1	2.19	0.76
1:51:732:A:H3'	1:51:733:A:C5'	2.14	0.76
1:51:1106:A:N1	1:51:1164:G:C6	2.54	0.76
4:A2:235:A:N6	4:A2:893:U:O2'	2.18	0.76
9:F2:173:ILE:HD11	9:F2:235:TRP:CZ3	2.21	0.76
9:F2:180:LEU:CD2	9:F2:228:ILE:HD11	2.15	0.76
81:u3:126:SER:N	81:u3:161:GLU:O	2.19	0.76
1:51:481(A):C:O2'	1:51:482:G:OP2	2.03	0.76
1:51:1369:C:OP2	1:51:1370:G:O2'	2.03	0.76
4:A2:1275:G:N2	4:A2:1506:A:OP2	2.15	0.76
8:E2:38:GLU:N	8:E2:38:GLU:OE2	2.19	0.76
24:U2:22:LEU:HB3	24:U2:28:LEU:HD11	1.67	0.76
55:S3:90:THR:O	55:S3:91:HIS:ND1	2.18	0.76
79:q3:12:G:H22	79:q3:23:C:H41	1.33	0.76
1:51:165:A:H61	1:51:270:U:H3	1.31	0.76
4:A2:230:A:N6	4:A2:888:U:O4	2.19	0.76
11:H2:2:LYS:HG3	11:H2:108:VAL:HG12	1.67	0.76
13:J2:172:LEU:HB2	13:J2:190:LEU:HB2	1.68	0.76
54:R3:24:LEU:HD12	54:R3:24:LEU:O	1.86	0.76
17:N2:59:PRO:HA	17:N2:62:VAL:HG12	1.66	0.76
47:J3:136:ARG:NH2	47:J3:161:GLU:OE2	2.19	0.76
80:t3:28:PHE:CZ	80:t3:91:THR:HG21	2.21	0.76
1:51:410:A:O2'	1:51:414:C:O2'	2.04	0.75
1:51:2416:G:N2	1:51:2427:G:O6	2.19	0.75
12:I2:10:LYS:NZ	12:I2:14:GLU:O	2.15	0.75
13:J2:99:ASN:N	13:J2:174:CYS:SG	2.58	0.75
16:M2:146:THR:HG22	16:M2:147:LYS:H	1.50	0.75
1:51:423:G:OP1	52:P3:62:ARG:NH2	2.18	0.75
1:51:4475:G:O4'	74:m3:102:LYS:NZ	2.19	0.75
68:g3:103:VAL:O	68:g3:107:LEU:HD23	1.87	0.75
1:51:2378:G:N2	1:51:2381:A:OP2	2.18	0.75
1:51:3972:A:N1	1:51:4040:C:O2'	2.16	0.75
4:A2:1722:G:O6	4:A2:1812:U:O4	2.03	0.75
22:S2:97:GLU:OE1	22:S2:97:GLU:N	2.18	0.75
80:t3:35:VAL:HG22	80:t3:187:LEU:HD23	1.68	0.75
1:51:448:G:H1	1:51:1298:C:H42	1.32	0.75
1:51:1558:A:OP1	54:R3:121:HIS:NE2	2.19	0.75
1:51:1559:G:H21	1:51:1570:G:H22	1.34	0.75
1:51:1979:A:O2'	1:51:1988:G:N2	2.19	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C2:184:VAL:O	6:C2:188:LEU:HD13	1.85	0.75
1:51:3956:G:OP1	1:51:3964:U:N3	2.19	0.75
74:m3:52:ILE:HD12	74:m3:57:ARG:HD2	1.68	0.75
79:q3:2:U:O2'	79:q3:3:C:OP1	2.05	0.75
1:51:278:G:OP2	70:i3:30:ARG:NH2	2.20	0.75
1:51:290:U:O2	1:51:298:G:N1	2.20	0.75
1:51:1814:C:OP1	63:b3:52:LYS:NZ	2.12	0.75
4:A2:1391:C:O4'	34:e2:55:LEU:HD11	1.86	0.75
11:H2:5:ILE:HG22	11:H2:14:LYS:H	1.52	0.75
11:H2:54:GLY:HA3	11:H2:110:ASN:HD22	1.51	0.75
1:51:969:C:H41	1:51:2095:A:H61	1.35	0.75
24:U2:32:GLU:OE1	24:U2:32:GLU:N	2.18	0.75
24:U2:85:ASN:ND2	24:U2:90:SER:OG	2.19	0.75
51:O3:145:VAL:O	51:O3:145:VAL:HG12	1.86	0.75
56:T3:93:ILE:O	56:T3:96:ILE:HG22	1.87	0.75
2:71:35:U:O2'	2:71:36:C:OP2	2.03	0.75
4:A2:1648:G:O2'	4:A2:1674:G:O6	2.02	0.75
10:G2:19:LEU:HD22	10:G2:22:LYS:HA	1.68	0.75
1:51:2665:U:OP2	54:R3:117:ARG:NH1	2.20	0.75
17:N2:69:CYS:HA	17:N2:74:ILE:HD13	1.68	0.75
55:S3:132:ILE:HG22	55:S3:133:ALA:O	1.86	0.75
13:J2:171:LEU:HD22	13:J2:173:ALA:HB2	1.68	0.74
24:U2:44:GLU:C	24:U2:45:LEU:HD22	2.11	0.74
49:M3:100:ARG:NH1	51:O3:197:LYS:O	2.20	0.74
1:51:326:C:OP2	70:i3:28:ARG:NH2	2.20	0.74
1:51:113:A:OP2	1:51:156:G:N2	2.19	0.74
1:51:4122:G:H22	68:g3:97:ILE:CG1	2.00	0.74
1:51:4471:U:OP2	45:H3:168:LYS:NZ	2.20	0.74
1:51:4712:C:O3'	51:O3:148:LYS:NZ	2.20	0.74
37:h2:79:LEU:HD22	37:h2:87:LEU:HD21	1.70	0.74
44:G3:159:THR:O	44:G3:162:GLU:N	2.19	0.74
67:f3:27:LEU:C	67:f3:28:LEU:HD12	2.12	0.74
1:51:4985:U:OP1	39:B3:117:ARG:NH1	2.20	0.74
23:T2:108:ARG:NH2	47:J3:125:ILE:HD12	2.02	0.74
1:51:109:G:O6	1:51:332:C:N4	2.20	0.74
1:51:978:G:N2	1:51:1278:C:O2	2.20	0.74
4:A2:1854:U:OP1	19:P2:150:ARG:NH1	2.20	0.74
5:B2:183:LEU:HB3	5:B2:189:ILE:HD12	1.69	0.74
8:E2:45:ARG:NH1	8:E2:82:GLY:O	2.20	0.74
20:Q2:108:LYS:N	20:Q2:111:MET:HE1	2.03	0.74
38:A3:109:GLU:N	38:A3:109:GLU:OE2	2.20	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:q3:3:C:O2'	79:q3:4:U:O5'	2.04	0.74
80:t3:28:PHE:CE2	80:t3:91:THR:HG21	2.22	0.74
1:51:1436:C:H42	1:51:1449:C:H42	1.35	0.74
1:51:2016:C:O2'	1:51:2017:A:O5'	2.06	0.74
1:51:3944:G:N1	1:51:4069:U:C4	2.55	0.74
39:B3:14:LEU:HD22	39:B3:17:LEU:HD11	1.70	0.74
4:A2:1816:G:O6	4:A2:1818:A:N6	2.21	0.74
7:D2:106:VAL:HG22	7:D2:128:VAL:HG12	1.69	0.74
22:S2:120:THR:HG22	22:S2:121:GLN:H	1.52	0.74
1:51:4052:C:O2'	84:w3:211:GLY:O	2.05	0.74
1:51:4635:A:O2'	1:51:4637:G:OP1	2.06	0.74
6:C2:82:ARG:NH1	6:C2:191:ASP:OD2	2.20	0.74
38:A3:146:THR:OG1	38:A3:160:SER:OG	2.00	0.74
80:t3:18:ILE:HG23	80:t3:21:LEU:HD12	1.69	0.74
1:51:1989:G:H21	81:u3:98:ILE:HG23	1.53	0.74
1:51:1991:A:O2'	81:u3:146:ARG:NH2	2.21	0.74
3:81:151:G:C6	44:G3:117:GLN:HB3	2.23	0.74
4:A2:1298:G:O2'	4:A2:1299:A:O4'	2.06	0.74
39:B3:234:ARG:NH2	39:B3:271:GLN:O	2.16	0.74
79:q3:48:C:O2'	79:q3:49:C:OP2	2.05	0.74
84:w3:14:VAL:HA	84:w3:216:LEU:HD11	1.68	0.74
1:51:4122:G:N2	68:g3:93:ARG:O	2.21	0.74
42:E3:177:LEU:HD11	42:E3:189:LEU:HD11	1.70	0.74
4:A2:1585:U:O4	24:U2:67:ARG:NE	2.20	0.73
1:51:4670:C:O2'	58:V3:15:ARG:NH2	2.21	0.73
4:A2:1170:A:N6	4:A2:1189:A:OP2	2.21	0.73
81:u3:152:ILE:CD1	81:u3:155:ILE:HD11	2.18	0.73
11:H2:34:THR:N	11:H2:50:VAL:O	2.21	0.73
1:51:1077:C:OP1	1:51:1215:C:O2'	2.06	0.73
4:A2:535:G:H22	4:A2:549:C:H42	1.34	0.73
4:A2:1391:C:H4'	34:e2:55:LEU:HD21	1.71	0.73
9:F2:136:ILE:HG21	9:F2:149:TYR:CE1	2.24	0.73
33:d2:11:LEU:HD23	33:d2:12:ALA:N	2.03	0.73
43:F3:177:SER:C	43:F3:178:LEU:HD12	2.14	0.73
13:J2:81:VAL:HG12	13:J2:91:VAL:HG23	1.70	0.73
50:N3:64:ILE:HD11	50:N3:102:ALA:HB1	1.70	0.73
1:51:5063:G:O6	39:B3:124:LYS:NZ	2.16	0.73
4:A2:88:G:O6	4:A2:500:A:N6	2.22	0.73
79:q3:34:A:HO2'	79:q3:35:A:P	2.10	0.73
80:t3:30:VAL:O	80:t3:86:VAL:HG13	1.89	0.73
4:A2:434:G:OP2	13:J2:25:ARG:NH1	2.22	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:F2:126:VAL:HG13	9:F2:156:VAL:O	1.89	0.73
11:H2:58:LYS:HD2	11:H2:106:LEU:HD11	1.68	0.73
80:t3:35:VAL:HG22	80:t3:187:LEU:CD2	2.19	0.73
1:51:1347:G:N2	1:51:1510:G:N3	2.37	0.73
3:81:151:G:C6	44:G3:117:GLN:CD	2.66	0.73
4:A2:1596:U:O3'	23:T2:25:LYS:NZ	2.22	0.73
1:51:4940:C:O2	42:E3:249:ARG:NH2	2.21	0.73
1:51:4129:G:N2	1:51:4156:G:O4'	2.20	0.72
17:N2:72:HIS:HB2	17:N2:74:ILE:HD11	1.71	0.72
39:B3:36:ASP:OD1	39:B3:39:LYS:NZ	2.22	0.72
44:G3:145:ALA:O	44:G3:238:LYS:NZ	2.21	0.72
68:g3:15:THR:OG1	68:g3:16:ALA:N	2.15	0.72
1:51:4772:C:H42	1:51:4863:G:N2	1.87	0.72
19:P2:98:ARG:NH1	19:P2:99:ALA:O	2.22	0.72
23:T2:108:ARG:HH22	47:J3:125:ILE:HD12	1.54	0.72
38:A3:3:ARG:NH1	38:A3:4:VAL:O	2.22	0.72
41:D3:232:THR:OG1	41:D3:234:ASP:OD1	2.06	0.72
1:51:1280:C:O2'	40:C3:321:ASN:OD1	2.07	0.72
54:R3:111:GLU:OE1	54:R3:111:GLU:N	2.23	0.72
4:A2:442:C:H42	4:A2:449:A:H62	1.34	0.72
29:Z2:17:LEU:HD12	29:Z2:18:LEU:CD2	2.20	0.72
37:h2:164:ILE:O	37:h2:165:ILE:HD13	1.90	0.72
51:O3:181:ALA:O	51:O3:185:VAL:HG22	1.89	0.72
1:51:1999:A:OP1	1:51:2019:C:O2'	2.07	0.72
8:E2:173:ARG:O	8:E2:184:ILE:HG22	1.88	0.72
44:G3:228:ARG:HD2	44:G3:235:CYS:CB	2.18	0.72
1:51:2422:C:O2'	1:51:3857:G:O2'	2.07	0.72
1:51:3949:A:H1'	1:51:4065:G:H22	1.53	0.72
1:51:5007:A:OP2	1:51:5040:U:N3	2.22	0.72
4:A2:1569:A:O2'	4:A2:1626:C:O2	2.08	0.72
4:A2:1722:G:C6	4:A2:1813:A:N6	2.58	0.72
1:51:663:G:H2'	1:51:664:G:C8	2.25	0.72
4:A2:1011:A:C6	4:A2:1012:A:C2	2.78	0.72
49:M3:57:LEU:HD23	49:M3:57:LEU:H	1.53	0.72
77:p3:70:THR:HG22	77:p3:71:TYR:H	1.52	0.72
1:51:1979:A:N7	81:u3:57:ARG:NH2	2.37	0.72
9:F2:182:MET:SD	9:F2:192:ILE:HD11	2.29	0.72
28:Y2:61:GLN:HB3	28:Y2:62:PRO:CD	2.20	0.72
45:H3:120:GLU:OE1	45:H3:124:ARG:NH2	2.22	0.72
80:t3:143:ILE:HG13	80:t3:158:VAL:HG11	1.70	0.72
1:51:2552:G:C8	1:51:2553:A:H2'	2.25	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:4681:A:H61	1:51:4710:C:H42	1.35	0.72
29:Z2:110:ARG:NH2	29:Z2:114:MET:SD	2.63	0.72
1:51:1106:A:C2	1:51:1164:G:N1	2.55	0.71
1:51:1902:G:C6	1:51:2075:G:C2	2.78	0.71
24:U2:4:VAL:HG21	24:U2:136:GLY:HA2	1.72	0.71
54:R3:91:GLU:HG2	54:R3:93:VAL:HA	1.72	0.71
57:U3:50:ASN:O	57:U3:56:LEU:HD21	1.89	0.71
1:51:121:A:OP1	44:G3:160:LYS:NZ	2.22	0.71
1:51:2007:G:N1	1:51:2013:A:N6	2.37	0.71
6:C2:225:LEU:O	6:C2:228:LEU:HG	1.89	0.71
83:33:6:G:N2	83:33:66:U:O2	2.18	0.71
1:51:496:G:N1	1:51:497:G:N7	2.37	0.71
1:51:1918:U:O2	1:51:2065:G:N2	2.23	0.71
14:K2:113:GLN:O	14:K2:117:LEU:HD13	1.89	0.71
17:N2:43:ASP:OD2	36:g2:116:ARG:NH1	2.22	0.71
45:H3:166:THR:HG22	45:H3:167:VAL:H	1.54	0.71
48:L3:55:ILE:HG22	48:L3:154:VAL:CG2	2.20	0.71
3:81:151:G:N2	3:81:152:U:O2'	2.23	0.71
20:Q2:104:GLN:OE1	20:Q2:104:GLN:N	2.23	0.71
41:D3:218:ALA:HA	41:D3:221:LYS:HG2	1.72	0.71
48:L3:80:GLU:OE2	48:L3:102:ARG:NH1	2.23	0.71
76:o3:36:GLN:OE1	76:o3:39:ARG:NH2	2.22	0.71
1:51:715:G:OP1	40:C3:321:ASN:ND2	2.22	0.71
1:51:1632:A:O2'	1:51:1634:A:OP1	2.02	0.71
4:A2:568:C:H42	4:A2:582:U:H3	1.38	0.71
5:B2:49:ILE:O	22:S2:105:MET:HE1	1.91	0.71
11:H2:32:MET:HE1	11:H2:63:MET:CE	2.20	0.71
37:h2:155:ARG:NE	37:h2:198:VAL:O	2.22	0.71
1:51:2082:G:N2	1:51:2083:C:N3	2.39	0.71
1:51:4765:G:O6	49:M3:4:ARG:NH2	2.24	0.71
1:51:4909:A:N7	1:51:4912:G:N2	2.38	0.71
67:f3:88:PHE:CE2	67:f3:92:LEU:HD11	2.25	0.71
80:t3:174:LEU:HD12	80:t3:175:LEU:HG	1.73	0.71
1:51:3870:C:O2	1:51:3886:G:C2	2.44	0.71
11:H2:76:LEU:HD23	11:H2:77:LEU:N	2.05	0.71
15:L2:41:PRO:O	15:L2:45:VAL:HG23	1.89	0.71
37:h2:147:HIS:NE2	37:h2:168:CYS:O	2.24	0.71
54:R3:15:LEU:HD22	54:R3:52:ARG:HD2	1.73	0.71
65:d3:20:VAL:O	65:d3:20:VAL:HG13	1.91	0.71
81:u3:124:GLU:O	81:u3:127:GLY:N	2.22	0.71
1:51:387:G:O2'	1:51:412:G:O6	2.07	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:438:G:OP2	66:e3:18:LYS:NZ	2.23	0.71
1:51:1928:C:N4	1:51:2054:U:O2'	2.23	0.71
25:V2:61:LEU:HD23	34:e2:34:TYR:CE2	2.25	0.71
1:51:1433:A:N7	1:51:1434:G:N2	2.38	0.70
4:A2:677:G:OP1	18:O2:124:ARG:NH2	2.24	0.70
4:A2:1452:A:H61	4:A2:1473:G:N2	1.88	0.70
1:51:4055:U:O2'	84:w3:162:VAL:HB	1.91	0.70
4:A2:1520:G:O2'	4:A2:1521:C:OP1	2.09	0.70
5:B2:50:ASN:O	5:B2:54:THR:HG23	1.91	0.70
17:N2:26:LEU:O	17:N2:26:LEU:HD23	1.91	0.70
25:V2:22:ILE:HD12	25:V2:114:VAL:HG22	1.71	0.70
72:k3:7:GLU:OE1	72:k3:9:LYS:N	2.25	0.70
84:w3:210:MET:N	84:w3:210:MET:SD	2.64	0.70
1:51:5020:G:N2	1:51:5030:U:O2'	2.24	0.70
4:A2:1040:G:N2	4:A2:1076:G:N3	2.39	0.70
9:F2:125:LYS:NZ	9:F2:225:ILE:O	2.21	0.70
81:u3:48:LYS:HA	81:u3:48:LYS:HE2	1.73	0.70
1:51:2541:G:H1	1:51:2775:C:H42	1.39	0.70
1:51:3888:G:O2'	1:51:3889:G:OP1	2.08	0.70
1:51:1951:G:H1	1:51:2031:C:H42	1.37	0.70
1:51:1998:A:O2'	1:51:2020:U:OP1	2.06	0.70
1:51:3717:A:OP2	1:51:3735:G:N2	2.23	0.70
1:51:4982:A:OP1	52:P3:74:LYS:NZ	2.20	0.70
4:A2:795:A:H5"	4:A2:796:G:OP2	1.90	0.70
13:J2:161:LEU:HD23	13:J2:195:LEU:HD13	1.74	0.70
43:F3:156:ARG:NH2	43:F3:211:LYS:O	2.23	0.70
47:J3:39:VAL:HG13	47:J3:40:LEU:HD22	1.72	0.70
4:A2:812:A:O2'	9:F2:12:VAL:O	2.09	0.70
15:L2:3:MET:HE3	15:L2:44:HIS:HB3	1.73	0.70
58:V3:18:LEU:HD23	58:V3:18:LEU:H	1.54	0.70
1:51:2268:A:OP2	78:r3:11:ARG:NE	2.17	0.70
1:51:3603:G:N2	1:51:3604:A:N1	2.38	0.70
1:51:3944:G:O6	1:51:3945:A:N7	2.24	0.70
25:V2:22:ILE:CD1	25:V2:114:VAL:HG13	2.21	0.70
44:G3:196:VAL:HG21	44:G3:256:ALA:HB1	1.74	0.70
57:U3:69:LYS:O	57:U3:71:THR:HG23	1.91	0.70
68:g3:100:GLN:O	68:g3:104:VAL:HG23	1.91	0.70
84:w3:183:ILE:O	84:w3:187:VAL:HG12	1.92	0.70
4:A2:158:A:O2'	4:A2:464:A:N6	2.25	0.70
4:A2:448:A:N6	13:J2:29:LEU:HD21	2.06	0.70
4:A2:1606:G:N2	4:A2:1632:G:O2'	2.24	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:B3:115:LYS:HD2	39:B3:129:ALA:HB1	1.73	0.70
1:51:977:C:N4	1:51:978:G:O6	2.25	0.70
4:A2:1036:A:N3	4:A2:1844:U:O2'	2.24	0.70
9:F2:173:ILE:HD11	9:F2:235:TRP:CH2	2.27	0.70
22:S2:110:ASP:OD1	22:S2:111:PHE:N	2.24	0.70
28:Y2:99:GLU:N	28:Y2:99:GLU:OE2	2.25	0.70
40:C3:297:GLU:OE2	53:Q3:128:LEU:HD23	1.91	0.70
41:D3:53:VAL:HG11	41:D3:159:VAL:CG2	2.22	0.70
42:E3:99:VAL:HG12	42:E3:106:GLY:O	1.92	0.70
80:t3:35:VAL:HG13	80:t3:187:LEU:HD21	1.74	0.70
1:51:2476:G:O6	59:X3:50:LYS:NZ	2.25	0.70
10:G2:103:LEU:O	30:a2:66:LYS:NZ	2.24	0.70
25:V2:91:LEU:O	25:V2:92:HIS:ND1	2.24	0.70
26:W2:11:LEU:HD23	26:W2:11:LEU:H	1.57	0.70
27:X2:85:ASP:OD1	27:X2:89:TRP:NE1	2.24	0.70
55:S3:165:PRO:O	55:S3:168:THR:HG23	1.91	0.70
61:Z3:41:ALA:HB2	61:Z3:77:TYR:HE1	1.56	0.70
1:51:690:C:OP1	78:r3:87:ARG:NE	2.25	0.69
26:W2:17:CYS:SG	26:W2:18:SER:N	2.65	0.69
40:C3:289:LEU:HD23	40:C3:289:LEU:H	1.56	0.69
60:Y3:50:ARG:NH1	60:Y3:112:ASP:OD2	2.25	0.69
77:p3:55:TRP:NE1	77:p3:70:THR:O	2.24	0.69
1:51:1291:G:O2'	1:51:1292:C:OP1	2.09	0.69
1:51:2007:G:C2	1:51:2013:A:C6	2.80	0.69
5:B2:65:ILE:HD11	5:B2:74:VAL:HG11	1.75	0.69
14:K2:59:GLU:O	14:K2:62:THR:OG1	2.08	0.69
55:S3:134:ALA:HB1	55:S3:146:HIS:CE1	2.26	0.69
57:U3:43:LEU:HD21	57:U3:90:TYR:CE2	2.26	0.69
80:t3:79:LEU:O	80:t3:83:ARG:NH2	2.26	0.69
1:51:2092:G:O2'	1:51:2262:G:O6	2.10	0.69
37:h2:236:ILE:HD11	37:h2:239:LEU:CG	2.22	0.69
44:G3:205:ALA:HB1	44:G3:258:THR:HG21	1.74	0.69
84:w3:116:LEU:HD23	84:w3:119:GLN:HE21	1.56	0.69
1:51:941:C:N4	1:51:942:G:O6	2.26	0.69
5:B2:2:SER:OG	26:W2:79:VAL:HG22	1.93	0.69
11:H2:147:LEU:HD11	11:H2:156:TYR:CD2	2.27	0.69
54:R3:15:LEU:HD13	54:R3:52:ARG:CG	2.22	0.69
1:51:267:G:OP1	69:h3:109:ARG:NH2	2.25	0.69
1:51:2334:C:OP2	40:C3:195:LYS:NZ	2.18	0.69
9:F2:42:LEU:HG	9:F2:46:ILE:HD11	1.74	0.69
13:J2:120:PRO:O	13:J2:121:LEU:HD22	1.93	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A3:51:ASP:OD1	38:A3:53:GLY:N	2.26	0.69
47:J3:10:ASN:O	47:J3:12:MET:N	2.26	0.69
1:51:2552:G:N2	1:51:2766:A:H62	1.91	0.69
1:51:3974:G:H5'	84:w3:27:LYS:HB2	1.75	0.69
4:A2:1252:C:OP1	25:V2:75:LYS:NZ	2.26	0.69
6:C2:207:LEU:HD23	6:C2:207:LEU:N	2.08	0.69
84:w3:68:LEU:HD22	84:w3:120:ILE:HD12	1.73	0.69
1:51:2738:C:O2'	1:51:2740:U:O2	2.10	0.69
4:A2:1432:U:O3'	4:A2:1438:A:OP2	2.09	0.69
21:R2:52:LEU:HB3	21:R2:56:LEU:HD23	1.75	0.69
25:V2:22:ILE:HD11	25:V2:114:VAL:HG13	1.75	0.69
36:g2:120:GLU:HG3	36:g2:121:CYS:H	1.56	0.69
49:M3:29:ASP:OD2	49:M3:30:VAL:N	2.26	0.69
50:N3:33:LEU:HD13	50:N3:37:HIS:NE2	2.08	0.69
53:Q3:67:ILE:O	53:Q3:71:LYS:HG2	1.93	0.69
71:j3:2:THR:O	71:j3:7:SER:OG	2.04	0.69
78:r3:61:VAL:HG13	78:r3:80:THR:O	1.93	0.69
80:t3:149:ARG:NH1	80:t3:151:THR:OG1	2.26	0.69
1:51:3917:A:N6	1:51:3918:G:O6	2.25	0.69
10:G2:144:LEU:HD23	33:d2:49:PRO:HG2	1.72	0.69
29:Z2:20:ARG:HA	29:Z2:75:ILE:HB	1.75	0.69
37:h2:163:PRO:HA	37:h2:179:LEU:HD12	1.75	0.69
1:51:2289:C:N4	78:r3:23:GLN:O	2.26	0.69
64:c3:106:ARG:O	64:c3:107:SER:OG	2.09	0.69
1:51:1979:A:HO2'	1:51:1988:G:N2	1.89	0.68
6:C2:38:MET:HE1	6:C2:182:LYS:O	1.93	0.68
43:F3:219:MET:HE1	43:F3:242:LEU:HD11	1.74	0.68
80:t3:126:GLN:OE1	80:t3:180:ILE:HD12	1.93	0.68
1:51:4280:A:OP2	41:D3:23:ARG:NH1	2.25	0.68
54:R3:162:ARG:O	54:R3:166:THR:HG23	1.92	0.68
1:51:755:C:N4	1:51:908:G:O6	2.25	0.68
1:51:4125:C:H4'	44:G3:98:ILE:HD11	1.73	0.68
1:51:4195:G:O5'	63:b3:3:LYS:NZ	2.26	0.68
4:A2:1427:C:N4	4:A2:1429:G:O6	2.27	0.68
14:K2:135:ILE:HG22	14:K2:136:ARG:N	2.09	0.68
17:N2:97:GLU:OE1	17:N2:97:GLU:N	2.27	0.68
31:b2:18:VAL:HG12	31:b2:19:GLN:N	2.08	0.68
75:n3:1:MET:SD	75:n3:9:ARG:NH2	2.67	0.68
80:t3:174:LEU:O	80:t3:178:LEU:HD23	1.93	0.68
48:L3:16:LYS:NZ	50:N3:196:ASN:OD1	2.26	0.68
49:M3:135:LEU:HD23	49:M3:135:LEU:O	1.94	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:l3:6:THR:HG22	73:l3:9:ILE:HD12	1.75	0.68
1:51:4302:U:O2'	1:51:4303:C:OP1	2.09	0.68
1:51:4524:G:N2	1:51:4525:C:O2	2.27	0.68
4:A2:1332:A:H62	4:A2:1493:C:N4	1.92	0.68
4:A2:1600:G:H2'	4:A2:1601:A:H4'	1.76	0.68
22:S2:5:ARG:O	22:S2:10:LYS:NZ	2.26	0.68
39:B3:87:VAL:O	39:B3:87:VAL:HG12	1.91	0.68
45:H3:77:VAL:HA	45:H3:80:MET:HE3	1.76	0.68
80:t3:82:ILE:HD11	80:t3:88:PHE:CZ	2.28	0.68
1:51:730:G:N7	43:F3:76:LYS:NZ	2.36	0.68
4:A2:591:U:H4'	4:A2:592:C:C5'	2.24	0.68
4:A2:1568:C:OP1	24:U2:96:SER:OG	2.11	0.68
10:G2:70:GLU:OE2	10:G2:86:LYS:NZ	2.27	0.68
20:Q2:45:LEU:CD2	20:Q2:49:LEU:HD21	2.23	0.68
28:Y2:51:VAL:HG12	28:Y2:98:ASP:H	1.58	0.68
81:u3:108:GLU:O	81:u3:112:ILE:HG22	1.93	0.68
82:v3:36:G:O2'	82:v3:37:A:O5'	2.05	0.68
1:51:2749:C:O3'	68:g3:72:LYS:NZ	2.26	0.68
1:51:3754:G:O6	1:51:3772:U:C4	2.47	0.68
5:B2:145:ILE:N	5:B2:145:ILE:HD12	2.09	0.68
9:F2:180:LEU:HD23	9:F2:228:ILE:CD1	2.24	0.68
32:c2:55:LEU:HD23	32:c2:55:LEU:H	1.59	0.68
1:51:3944:G:C6	1:51:4069:U:N3	2.62	0.68
19:P2:54:CYS:SG	19:P2:81:VAL:HG13	2.34	0.68
70:i3:30:ARG:HG2	70:i3:31:GLY:H	1.57	0.68
1:51:85:G:O2'	1:51:97:G:O6	2.12	0.68
1:51:4122:G:H22	68:g3:97:ILE:HG13	1.59	0.68
39:B3:166:THR:HG22	39:B3:167:GLN:H	1.58	0.68
54:R3:92:LYS:O	54:R3:94:THR:N	2.25	0.68
85:1:59:TYR:O	85:1:61:GLU:N	2.27	0.68
1:51:485:C:O2'	1:51:486:C:OP1	2.10	0.68
1:51:1217:G:N2	1:51:1218:G:N3	2.42	0.68
1:51:3757:G:N2	1:51:3758:U:O2	2.27	0.68
17:N2:47:ALA:HB1	17:N2:110:VAL:HG12	1.75	0.68
37:h2:249:CYS:HB3	37:h2:258:ILE:HG22	1.77	0.68
47:J3:56:THR:OG1	47:J3:64:ARG:N	2.27	0.68
1:51:87:A:C2	1:51:88:A:H1'	2.29	0.67
1:51:1211:G:O2'	1:51:1212:G:OP1	2.12	0.67
1:51:3625:G:O2'	1:51:3626:G:OP1	2.13	0.67
1:51:3969:G:N1	1:51:4053:A:C2	2.62	0.67
5:B2:121:LEU:HD23	5:B2:121:LEU:C	2.20	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:h2:129:ILE:HD11	37:h2:151:VAL:HG11	1.76	0.67
49:M3:63:LYS:HE2	49:M3:63:LYS:HA	1.74	0.67
4:A2:221:A:C2	4:A2:301:A:N1	2.63	0.67
37:h2:165:ILE:HD11	37:h2:179:LEU:HD11	1.75	0.67
71:j3:14:LYS:NZ	73:l3:51:LEU:HD23	2.09	0.67
81:u3:61:LYS:C	81:u3:62:LEU:HD12	2.18	0.67
8:E2:70:THR:HG22	8:E2:86:LEU:HD13	1.76	0.67
14:K2:135:ILE:HG22	14:K2:136:ARG:H	1.58	0.67
21:R2:43:GLU:HB3	21:R2:44:PRO:HD3	1.76	0.67
39:B3:292:LEU:HD23	39:B3:292:LEU:H	1.57	0.67
73:l3:24:PRO:O	73:l3:27:ILE:HG22	1.94	0.67
81:u3:78:SER:HA	81:u3:81:ILE:HD12	1.75	0.67
1:51:4735:G:O2'	1:51:4736:C:O5'	2.12	0.67
17:N2:77:ILE:H	17:N2:77:ILE:HD12	1.59	0.67
44:G3:241:ALA:O	44:G3:245:ARG:HD3	1.95	0.67
1:51:2759:G:O2'	1:51:2764:A:N3	2.23	0.67
4:A2:383:G:O3'	16:M2:132:ARG:NH1	2.27	0.67
37:h2:245:ARG:HH22	37:h2:312:VAL:HG11	1.60	0.67
39:B3:90:VAL:HG23	39:B3:104:THR:HG22	1.76	0.67
80:t3:82:ILE:HD11	80:t3:88:PHE:CE1	2.29	0.67
1:51:2695:A:O2'	1:51:2696:A:OP2	2.12	0.67
1:51:3769:C:C4	1:51:3770:U:H1'	2.30	0.67
3:81:151:G:C6	44:G3:117:GLN:OE1	2.48	0.67
6:C2:27:LYS:N	6:C2:27:LYS:HD2	2.09	0.67
40:C3:228:THR:OG1	40:C3:248:ARG:NH2	2.28	0.67
4:A2:986:G:O2'	4:A2:987:A:OP1	2.12	0.67
11:H2:152:ASP:OD2	11:H2:154:ARG:NE	2.25	0.67
38:A3:246:LEU:HD12	38:A3:246:LEU:O	1.94	0.67
54:R3:123:LEU:HD23	54:R3:124:TYR:HA	1.76	0.67
1:51:4405:G:N1	1:51:4406:U:O2	2.28	0.67
26:W2:56:CYS:SG	26:W2:57:GLY:N	2.68	0.67
27:X2:7:LEU:O	27:X2:11:LEU:HD23	1.94	0.67
1:51:2027:U:O2	1:51:2027:U:O2'	2.10	0.67
4:A2:876:C:N4	4:A2:910:G:O6	2.27	0.67
11:H2:50:VAL:HG22	11:H2:111:LEU:HA	1.76	0.67
19:P2:34:PHE:HB3	19:P2:41:PHE:HB2	1.77	0.67
32:c2:34:ASP:HB3	32:c2:43:ILE:HG21	1.77	0.67
48:L3:55:ILE:HG22	48:L3:154:VAL:HG21	1.77	0.67
57:U3:25:CYS:N	57:U3:68:SER:OG	2.26	0.67
59:X3:45:THR:HG22	59:X3:45:THR:O	1.93	0.67
83:33:2:C:O2	83:33:71:G:N2	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
83:33:8:U:O4	83:33:14:A:N7	2.28	0.67
1:51:2019:C:N4	1:51:2020:U:O4	2.27	0.66
1:51:2593:C:N4	1:51:2753:G:H22	1.92	0.66
1:51:4944:C:H1'	67:f3:69:VAL:HG11	1.77	0.66
4:A2:171:A:C5	4:A2:173:A:C2	2.82	0.66
4:A2:821:G:O2'	14:K2:150:ARG:NH1	2.28	0.66
29:Z2:79:LEU:H	29:Z2:79:LEU:HD12	1.60	0.66
41:D3:42:ASN:ND2	56:T3:69:GLN:OE1	2.24	0.66
54:R3:123:LEU:HD23	54:R3:124:TYR:CA	2.25	0.66
2:71:29:C:O2'	2:71:51:G:N2	2.28	0.66
1:51:19:G:OP2	69:h3:89:ARG:NH1	2.28	0.66
1:51:3951:G:H22	1:51:4061:G:H1	1.43	0.66
2:71:36:C:H6	2:71:36:C:H5'	1.60	0.66
4:A2:235:A:N6	4:A2:894:G:O4'	2.28	0.66
4:A2:1552:G:O2'	4:A2:1555:U:O2'	2.12	0.66
7:D2:61:LEU:HD12	7:D2:62:PRO:HD2	1.76	0.66
29:Z2:125:VAL:O	29:Z2:125:VAL:HG13	1.94	0.66
37:h2:229:THR:HG23	37:h2:229:THR:O	1.96	0.66
44:G3:108:VAL:HB	59:X3:43:SER:O	1.94	0.66
54:R3:158:GLN:O	54:R3:162:ARG:NH1	2.27	0.66
56:T3:48:VAL:HG13	56:T3:48:VAL:O	1.95	0.66
74:m3:71:ARG:HE	74:m3:96:ARG:HB3	1.59	0.66
1:51:2082:G:N2	1:51:2275:G:H22	1.93	0.66
38:A3:158:ILE:HG21	38:A3:162:ASN:HD21	1.59	0.66
42:E3:179:THR:O	42:E3:179:THR:HG23	1.95	0.66
54:R3:123:LEU:HD23	54:R3:123:LEU:C	2.20	0.66
68:g3:38:VAL:HG23	68:g3:39:GLY:H	1.60	0.66
71:j3:66:HIS:O	71:j3:70:VAL:HG23	1.96	0.66
78:r3:2:SER:OG	78:r3:3:ALA:N	2.22	0.66
86:W:9:SER:OG	86:W:10:GLY:N	2.28	0.66
1:51:3961:G:C6	1:51:3963:A:H5"	2.30	0.66
21:R2:133:GLY:O	21:R2:140:ARG:NH2	2.28	0.66
81:u3:13:VAL:HG22	81:u3:62:LEU:O	1.95	0.66
1:51:3751:G:N2	1:51:3752:C:O2	2.29	0.66
1:51:3946:G:N1	1:51:4067:U:O2	2.28	0.66
1:51:4291:G:H2'	1:51:4328:G:H21	1.60	0.66
4:A2:441:C:OP2	13:J2:2:GLY:N	2.28	0.66
4:A2:797:C:H2'	4:A2:798:G:O4'	1.96	0.66
4:A2:932:G:O2'	4:A2:934:G:OP2	2.09	0.66
4:A2:1587:G:OP1	24:U2:77:LYS:NZ	2.28	0.66
13:J2:100:CYS:O	13:J2:102:VAL:HG13	1.96	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:j3:25:LYS:NZ	73:l3:51:LEU:O	2.28	0.66
1:51:2572:C:HO2'	1:51:2573:A:P	2.19	0.66
1:51:2638:G:N3	1:51:2698:G:N2	2.43	0.66
1:51:4569:U:C4	1:51:4570:G:C2	2.84	0.66
1:51:4586:G:O6	1:51:4717:A:N6	2.28	0.66
1:51:5030:U:N3	1:51:5031:G:O6	2.27	0.66
2:71:1:G:H22	2:71:118:C:C2'	2.07	0.66
4:A2:1550:G:H2'	4:A2:1579:A:H61	1.61	0.66
4:A2:1756:C:O2	4:A2:1777:G:N1	2.29	0.66
13:J2:102:VAL:HB	13:J2:104:ILE:HG23	1.77	0.66
22:S2:72:LYS:O	22:S2:75:GLU:HG3	1.96	0.66
77:p3:8:VAL:O	77:p3:27:LYS:NZ	2.29	0.66
1:51:257:C:H2'	1:51:258:G:H8	1.60	0.66
1:51:435:A:O2'	66:e3:26:ASP:OD2	2.13	0.66
1:51:1920:C:O2	1:51:2064:G:N2	2.29	0.66
1:51:2486:G:H2'	1:51:2487:G:H8	1.60	0.66
1:51:4302:U:OP2	1:51:4303:C:N4	2.28	0.66
1:51:4753:U:HO2'	1:51:4946:U:H3	1.40	0.66
4:A2:1609:C:P	23:T2:130:ARG:HA	2.36	0.66
21:R2:29:ASN:OD1	21:R2:30:GLY:N	2.26	0.66
28:Y2:47:ALA:O	28:Y2:102:VAL:HG22	1.95	0.66
54:R3:23:TRP:CD1	54:R3:25:ASP:OD1	2.49	0.66
83:33:51:G:N1	83:33:62:C:N3	2.44	0.66
4:A2:95:G:H21	4:A2:474:G:C4'	2.09	0.66
13:J2:82:VAL:O	13:J2:91:VAL:HG21	1.95	0.66
65:d3:101:LYS:C	65:d3:102:LEU:HD12	2.20	0.66
1:51:704:C:HO2'	1:51:705:G:P	2.18	0.66
18:O2:5:HIS:CD2	18:O2:117:LEU:HD22	2.31	0.66
63:b3:65:MET:SD	63:b3:68:ARG:NH2	2.69	0.66
12:I2:181:THR:HB	12:I2:183:LYS:HZ1	1.60	0.65
68:g3:41:ALA:O	68:g3:52:ARG:NH1	2.29	0.65
78:r3:31:ASN:OD1	78:r3:32:LEU:N	2.28	0.65
81:u3:104:ILE:HB	81:u3:143:VAL:HG22	1.78	0.65
83:33:49:C:N4	83:33:64:U:O4	2.29	0.65
1:51:4683:U:OP2	1:51:4706:G:N1	2.28	0.65
3:81:151:G:C5	44:G3:117:GLN:N	2.64	0.65
4:A2:1556:A:C8	34:e2:13:LYS:HD2	2.31	0.65
6:C2:109:LYS:NZ	6:C2:113:MET:HE3	2.10	0.65
24:U2:28:LEU:O	24:U2:106:ALA:HB1	1.97	0.65
80:t3:127:ASN:HB3	80:t3:153:GLU:HG2	1.78	0.65
81:u3:9:GLU:N	81:u3:66:ASN:OD1	2.29	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:1449:C:O2	1:51:2105:A:O2'	2.14	0.65
10:G2:173:LEU:O	10:G2:177:LEU:HD23	1.96	0.65
14:K2:56:ALA:O	14:K2:60:LEU:HD23	1.95	0.65
1:51:2034:G:C6	1:51:2035:C:N4	2.64	0.65
5:B2:67:ALA:CB	26:W2:37:ALA:HB2	2.24	0.65
6:C2:28:LYS:HZ3	6:C2:50:THR:HG23	1.60	0.65
10:G2:86:LYS:O	10:G2:90:VAL:HG13	1.97	0.65
22:S2:31:ASN:HA	22:S2:34:VAL:HG22	1.78	0.65
24:U2:30:VAL:HG12	24:U2:53:PHE:CD2	2.31	0.65
41:D3:205:ALA:O	41:D3:208:MET:HG2	1.96	0.65
49:M3:74:ARG:O	49:M3:78:GLU:OE1	2.14	0.65
81:u3:35:LEU:HD22	81:u3:64:ILE:HD13	1.78	0.65
1:51:745:G:N2	1:51:920:C:O2	2.29	0.65
1:51:973:G:N2	1:51:1282:G:N7	2.44	0.65
1:51:1377:G:H21	1:51:1380:G:H5'	1.60	0.65
4:A2:1296:U:H3	4:A2:1303:C:H41	1.42	0.65
4:A2:1606:G:N2	4:A2:1632:G:HO2'	1.92	0.65
80:t3:21:LEU:HD11	80:t3:68:HIS:CD2	2.31	0.65
80:t3:69:LEU:N	80:t3:70:GLU:OE1	2.29	0.65
1:51:3688:U:OP2	38:A3:198:ARG:NH2	2.28	0.65
4:A2:1414:A:O2'	24:U2:125:PRO:HB3	1.96	0.65
4:A2:1617:G:O6	20:Q2:43:ARG:NH1	2.29	0.65
45:H3:111:LEU:HD23	45:H3:112:VAL:N	2.11	0.65
51:O3:125:LYS:HG2	51:O3:129:LEU:HD12	1.79	0.65
77:p3:28:LYS:HG3	77:p3:29:ILE:HG13	1.79	0.65
79:q3:36:C:H42	82:v3:32:A:H61	1.43	0.65
80:t3:51:ALA:O	80:t3:52:VAL:HG13	1.96	0.65
84:w3:30:GLU:OE1	84:w3:30:GLU:N	2.26	0.65
1:51:751:G:H2'	1:51:752:G:O4'	1.97	0.65
16:M2:147:LYS:NZ	16:M2:150:GLY:O	2.28	0.65
44:G3:101:LYS:HG2	44:G3:102:ARG:H	1.62	0.65
44:G3:232:VAL:HG23	44:G3:233:PRO:HD2	1.78	0.65
1:51:2108:G:H2'	1:51:2109:A:H8	1.61	0.65
1:51:2579:G:N2	1:51:2582:A:OP2	2.26	0.65
5:B2:51:LEU:O	5:B2:54:THR:OG1	2.15	0.65
84:w3:36:ILE:HD12	84:w3:165:LEU:HD23	1.78	0.65
84:w3:157:PHE:HB2	84:w3:165:LEU:HD11	1.79	0.65
1:51:1989:G:N2	81:u3:98:ILE:HG23	2.11	0.65
1:51:3768:U:H2'	1:51:3769:C:O4'	1.96	0.65
4:A2:925:G:H22	4:A2:1017:U:H3	1.45	0.65
37:h2:54:ILE:HD12	37:h2:55:PRO:HD2	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:D3:109:LEU:HD11	41:D3:113:PHE:CZ	2.31	0.65
44:G3:114:ILE:O	44:G3:114:ILE:HG22	1.96	0.65
55:S3:82:LEU:HD21	55:S3:84:TYR:HB3	1.79	0.65
73:l3:31:THR:HG23	73:l3:32:GLY:H	1.61	0.65
79:q3:20:U:H3	79:q3:21:A:HO2'	1.40	0.65
79:q3:59:A:H2'	79:q3:60:A:O4'	1.97	0.65
1:51:1447:C:N3	1:51:2108:G:N2	2.44	0.65
7:D2:63:VAL:HG23	7:D2:64:THR:HG23	1.78	0.65
13:J2:96:LEU:HD12	13:J2:96:LEU:N	2.11	0.65
39:B3:14:LEU:CD2	39:B3:17:LEU:HD11	2.26	0.65
1:51:1080:C:N4	1:51:1221:G:N7	2.45	0.64
1:51:2007:G:C6	1:51:2013:A:N6	2.65	0.64
1:51:5046:U:OP2	65:d3:83:ARG:NH2	2.30	0.64
4:A2:1623:A:H5"	23:T2:133:GLY:HA3	1.77	0.64
14:K2:94:LEU:HD23	14:K2:94:LEU:H	1.62	0.64
19:P2:92:ALA:C	19:P2:93:LEU:HD12	2.22	0.64
23:T2:129:LEU:HG	23:T2:130:ARG:H	1.62	0.64
40:C3:124:ILE:CD1	40:C3:237:ILE:HD11	2.24	0.64
43:F3:240:ASN:O	43:F3:244:ARG:HD3	1.97	0.64
84:w3:216:LEU:HD12	84:w3:217:TYR:H	1.61	0.64
1:51:1693:U:OP2	53:Q3:49:LYS:NZ	2.25	0.64
1:51:1961:G:H5"	80:t3:59:THR:HG22	1.80	0.64
1:51:2031:C:O2'	1:51:2033:A:OP1	2.10	0.64
1:51:3944:G:N1	1:51:3945:A:N7	2.45	0.64
9:F2:222:LEU:O	9:F2:222:LEU:HD23	1.97	0.64
11:H2:33:ALA:O	11:H2:35:GLU:N	2.27	0.64
16:M2:125:ILE:HD12	16:M2:125:ILE:H	1.61	0.64
39:B3:380:GLN:N	39:B3:384:GLU:OE2	2.29	0.64
48:L3:150:LEU:HD23	48:L3:154:VAL:HG12	1.79	0.64
56:T3:80:VAL:O	56:T3:80:VAL:HG13	1.96	0.64
71:j3:17:THR:HG22	71:j3:18:LEU:H	1.61	0.64
83:33:72:C:N3	83:33:73:G:N2	2.45	0.64
84:w3:32:VAL:CG1	84:w3:206:ILE:HD11	2.28	0.64
4:A2:1608:U:OP2	4:A2:1609:C:N4	2.31	0.64
9:F2:131:VAL:HA	9:F2:137:PRO:HA	1.79	0.64
12:I2:143:ARG:HB2	12:I2:155:LYS:HG3	1.79	0.64
84:w3:38:LEU:HD23	84:w3:194:LEU:HD13	1.79	0.64
1:51:1437:C:H42	63:b3:106:ARG:CD	2.10	0.64
1:51:1993:C:H1'	81:u3:137:GLN:NE2	2.13	0.64
4:A2:1621:U:OP2	20:Q2:40:ARG:NH1	2.29	0.64
57:U3:50:ASN:ND2	57:U3:55:ASN:O	2.29	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:2459:G:N2	1:51:2462:C:OP2	2.30	0.64
1:51:3918:G:C2	1:51:4384:U:O2	2.51	0.64
1:51:4729:A:OP2	1:51:5068:G:N2	2.30	0.64
3:81:126:C:C2	3:81:127:U:C5	2.86	0.64
4:A2:1816:G:N3	4:A2:1817:G:N7	2.46	0.64
19:P2:36:SER:OG	19:P2:37:PHE:N	2.30	0.64
44:G3:245:ARG:HH21	44:G3:253:THR:HG23	1.62	0.64
51:O3:16:LEU:HD21	51:O3:83:THR:HG21	1.79	0.64
58:V3:94:VAL:HG11	86:W:20:ARG:NH2	2.13	0.64
4:A2:1031:A:O3'	18:O2:112:LYS:NZ	2.31	0.64
4:A2:1288:U:H4'	4:A2:1316:C:H4'	1.78	0.64
12:I2:101:LEU:HD23	12:I2:116:ARG:HG3	1.79	0.64
20:Q2:34:MET:HE3	20:Q2:45:LEU:O	1.98	0.64
44:G3:222:PHE:CE2	44:G3:223:LEU:HG	2.32	0.64
1:51:3965:A:N6	1:51:4047:A:N7	2.46	0.64
1:51:4122:G:N1	68:g3:97:ILE:HD12	2.12	0.64
2:71:71:G:O6	2:71:104:C:N4	2.30	0.64
14:K2:165:TYR:HA	14:K2:168:GLY:HA3	1.79	0.64
65:d3:86:VAL:HG22	65:d3:88:LEU:HD12	1.78	0.64
1:51:1990:A:C5	1:51:1991:A:H1'	2.33	0.64
1:51:4899:G:C6	1:51:4920:C:C5	2.85	0.64
13:J2:104:ILE:O	13:J2:106:SER:OG	2.08	0.64
84:w3:102:LYS:C	84:w3:103:LEU:HD22	2.22	0.64
1:51:732:A:H62	55:S3:68:PHE:HB2	1.62	0.64
1:51:1570:G:N1	54:R3:128:LYS:O	2.31	0.64
1:51:1998:A:H4'	80:t3:55:MET:HE1	1.80	0.64
1:51:4620:U:OP2	1:51:4670:C:N4	2.31	0.64
1:51:4681:A:N6	1:51:4710:C:H42	1.95	0.64
44:G3:83:PRO:C	44:G3:84:LEU:HD12	2.22	0.64
44:G3:108:VAL:HG23	44:G3:109:LYS:N	2.11	0.64
51:O3:174:LEU:O	51:O3:174:LEU:HD23	1.97	0.64
55:S3:7:LEU:O	55:S3:103:ALA:HB1	1.98	0.64
71:j3:21:ARG:NH2	71:j3:38:GLY:O	2.31	0.64
1:51:1990:A:OP2	1:51:1991:A:C2	2.50	0.64
1:51:2811:G:N2	1:51:2814:C:OP2	2.29	0.64
4:A2:79:A:C5	4:A2:80:G:N7	2.66	0.64
8:E2:98:ALA:HB1	8:E2:171:ALA:HB2	1.80	0.64
12:I2:154:ILE:HB	12:I2:185:VAL:HG12	1.79	0.64
13:J2:90:LEU:HD22	13:J2:95:THR:HG21	1.80	0.64
41:D3:41:LYS:NZ	56:T3:30:TYR:O	2.23	0.64
53:Q3:23:ILE:HD12	78:r3:5:LEU:HD12	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:448:G:H5”	1:51:449:C:OP2	1.98	0.63
1:51:4636:U:O4	65:d3:78:ARG:NE	2.31	0.63
3:81:151:G:C5	44:G3:117:GLN:CA	2.80	0.63
4:A2:942:G:N2	19:P2:138:ASP:OD2	2.31	0.63
4:A2:1757:G:C6	4:A2:1775:U:O2	2.51	0.63
9:F2:254:LYS:O	9:F2:258:ALA:HB2	1.98	0.63
11:H2:159:ARG:CZ	11:H2:171:THR:HG21	2.29	0.63
30:a2:78:LYS:O	30:a2:79:ILE:HD13	1.98	0.63
48:L3:169:ILE:H	48:L3:169:ILE:HD12	1.61	0.63
79:q3:62:C:O2’	79:q3:63:G:O4’	2.15	0.63
8:E2:176:LEU:O	8:E2:177:LEU:HD12	1.97	0.63
12:I2:157:HIS:NE2	12:I2:188:GLU:OE2	2.31	0.63
15:L2:1:MET:HG3	15:L2:2:LEU:H	1.63	0.63
27:X2:36:ARG:O	27:X2:40:VAL:HG23	1.98	0.63
29:Z2:5:VAL:O	29:Z2:5:VAL:HG23	1.97	0.63
38:A3:180:LEU:HD13	77:p3:18:TYR:CD2	2.34	0.63
41:D3:222:GLN:HG2	41:D3:222:GLN:O	1.97	0.63
48:L3:79:GLU:HG2	48:L3:82:ARG:HH22	1.63	0.63
54:R3:7:GLN:NE2	54:R3:35:ALA:HB3	2.13	0.63
54:R3:123:LEU:HD23	54:R3:124:TYR:N	2.13	0.63
1:51:1627:G:N1	1:51:1636:U:N3	2.46	0.63
4:A2:1018:U:OP2	18:O2:62:GLN:NE2	2.31	0.63
4:A2:1752:C:O2	4:A2:1782:G:N1	2.31	0.63
6:C2:146:ARG:HG3	6:C2:147:ASN:H	1.63	0.63
16:M2:59:LYS:HD3	16:M2:134:LEU:HD22	1.79	0.63
37:h2:79:LEU:HD22	37:h2:87:LEU:CD2	2.28	0.63
40:C3:65:GLU:OE2	40:C3:80:ARG:NH1	2.31	0.63
41:D3:209:ARG:HA	41:D3:209:ARG:NE	2.13	0.63
1:51:3652:A:H2’	1:51:3653:A:C8	2.34	0.63
1:51:4039:G:O2’	1:51:4040:C:O4’	2.16	0.63
1:51:4054:C:OP1	84:w3:1:MET:HE1	1.98	0.63
12:I2:121:THR:O	12:I2:125:VAL:HG23	1.98	0.63
20:Q2:93:MET:HE3	20:Q2:104:GLN:O	1.98	0.63
35:f2:107:ARG:NH1	35:f2:110:GLN:OE1	2.31	0.63
37:h2:156:PHE:CD1	37:h2:165:ILE:HD12	2.33	0.63
4:A2:1609:C:OP1	23:T2:130:ARG:HA	1.99	0.63
5:B2:86:ALA:HA	5:B2:202:TYR:HD1	1.64	0.63
13:J2:172:LEU:HD21	13:J2:195:LEU:HG	1.79	0.63
15:L2:90:VAL:HG22	15:L2:91:PRO:HD2	1.80	0.63
34:e2:41:GLN:N	34:e2:41:GLN:OE1	2.31	0.63
37:h2:207:CYS:SG	37:h2:221:LEU:HD11	2.38	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:r3:91:SER:O	78:r3:95:HIS:ND1	2.22	0.63
1:51:233:U:O2'	1:51:2304:U:O4	2.12	0.63
18:O2:142:GLU:HB3	18:O2:145:THR:HG22	1.81	0.63
24:U2:6:VAL:O	24:U2:9:VAL:HG22	1.99	0.63
27:X2:31:SER:O	27:X2:35:VAL:HG23	1.97	0.63
37:h2:199:THR:HG23	37:h2:241:PHE:CE2	2.34	0.63
38:A3:129:ALA:O	38:A3:169:VAL:HG11	1.99	0.63
56:T3:11:THR:HG22	56:T3:14:MET:HE2	1.81	0.63
81:u3:61:LYS:HB2	81:u3:72:GLU:HG3	1.81	0.63
23:T2:136:THR:O	23:T2:138:THR:N	2.27	0.63
24:U2:60:THR:HG23	24:U2:75:MET:CE	2.29	0.63
44:G3:214:VAL:HG22	44:G3:215:ASP:O	1.98	0.63
57:U3:75:GLU:OE2	57:U3:75:GLU:N	2.32	0.63
81:u3:12:VAL:HG22	81:u3:63:THR:CG2	2.28	0.63
1:51:120:A:C5	44:G3:251:THR:HG21	2.34	0.63
1:51:415:G:N1	1:51:416:U:O2	2.32	0.63
1:51:1572:U:H5	1:51:1573:G:C5	2.16	0.63
1:51:1668:A:OP2	1:51:2280:G:N2	2.18	0.63
1:51:2895:A:H4'	54:R3:136:ARG:HE	1.64	0.63
5:B2:49:ILE:HD11	5:B2:162:PRO:HB2	1.81	0.63
39:B3:218:ASP:OD2	39:B3:280:ILE:HG22	1.98	0.63
48:L3:63:THR:O	48:L3:65:ARG:N	2.32	0.63
70:i3:61:LEU:HD23	70:i3:65:LYS:O	1.99	0.63
1:51:2758:G:O2'	1:51:2759:G:O4'	2.12	0.63
4:A2:372:U:OP1	16:M2:136:LYS:NZ	2.31	0.63
4:A2:521:A:OP1	14:K2:45:ARG:NH1	2.32	0.63
24:U2:60:THR:HG23	24:U2:75:MET:HE2	1.80	0.63
34:e2:16:GLN:OE1	34:e2:16:GLN:N	2.31	0.63
43:F3:157:GLY:O	43:F3:168:LEU:HD13	1.97	0.63
45:H3:174:LYS:O	45:H3:176:LEU:HD12	1.99	0.63
51:O3:35:VAL:O	51:O3:35:VAL:HG13	1.98	0.63
77:p3:29:ILE:HG22	77:p3:29:ILE:O	1.98	0.63
1:51:2:G:N1	3:81:156:U:C4	2.66	0.62
1:51:120:A:C6	44:G3:251:THR:HG21	2.34	0.62
1:51:1199:G:H2'	1:51:1200:G:H8	1.64	0.62
1:51:1577:G:C8	38:A3:181:LYS:HD2	2.33	0.62
1:51:3969:G:C6	1:51:4053:A:N1	2.67	0.62
24:U2:28:LEU:HD12	24:U2:54:TYR:CE1	2.34	0.62
24:U2:88:MET:HE3	24:U2:89:PRO:CD	2.27	0.62
38:A3:135:THR:O	38:A3:148:VAL:HG23	1.98	0.62
44:G3:102:ARG:HD2	44:G3:103:ASP:N	2.13	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:H3:40:HIS:CE1	45:H3:41:ILE:HD11	2.33	0.62
48:L3:172:GLU:CD	70:i3:3:LEU:HD23	2.24	0.62
55:S3:164:LYS:HB3	55:S3:165:PRO:HD3	1.80	0.62
72:k3:24:LYS:HG3	72:k3:35:LYS:HG3	1.79	0.62
1:51:3701:C:N4	1:51:3746:A:O4'	2.33	0.62
4:A2:1139:C:O2	4:A2:1139:C:O4'	2.17	0.62
4:A2:1853:C:H41	75:n3:5:TRP:HH2	1.48	0.62
8:E2:212:GLU:OE2	22:S2:19:LYS:NZ	2.31	0.62
15:L2:75:GLY:O	15:L2:79:LEU:HD13	1.99	0.62
22:S2:43:SER:OG	22:S2:44:LYS:N	2.29	0.62
37:h2:306:LEU:HD23	37:h2:307:VAL:N	2.13	0.62
67:f3:46:ARG:NH1	67:f3:106:TYR:OH	2.32	0.62
79:q3:61:C:O2'	79:q3:62:C:O5'	2.15	0.62
84:w3:206:ILE:O	84:w3:213:PRO:HA	1.99	0.62
1:51:257:C:H2'	1:51:258:G:C8	2.34	0.62
1:51:2696:A:H62	72:k3:35:LYS:NZ	1.97	0.62
1:51:3759:A:H2	4:A2:1709:G:H21	1.47	0.62
3:81:142:U:OP1	50:N3:38:ARG:NH2	2.28	0.62
4:A2:187:G:C6	4:A2:213:G:N2	2.66	0.62
4:A2:788:G:OP2	11:H2:237:LEU:HD21	2.00	0.62
4:A2:1284:A:O2'	17:N2:33:ARG:NH2	2.29	0.62
7:D2:273:LEU:HB2	7:D2:277:HIS:HE2	1.63	0.62
37:h2:68:ASP:OD2	37:h2:111:VAL:HG22	1.99	0.62
39:B3:344:VAL:O	39:B3:345:LEU:HD12	1.99	0.62
48:L3:135:LYS:N	48:L3:138:ASP:OD2	2.32	0.62
53:Q3:43:PHE:CE1	53:Q3:138:LEU:HD12	2.35	0.62
67:f3:28:LEU:HD21	67:f3:101:ILE:HD11	1.81	0.62
84:w3:111:LEU:HD13	84:w3:143:ASN:OD1	1.99	0.62
1:51:1482:G:H22	70:i3:4:ARG:HH12	1.47	0.62
1:51:2503:G:O4'	1:51:2503:G:OP2	2.17	0.62
4:A2:125:C:OP1	4:A2:127:C:N4	2.33	0.62
4:A2:1477:U:OP1	22:S2:3:ARG:NH2	2.31	0.62
42:E3:269:GLN:O	42:E3:270:LEU:HD12	1.99	0.62
43:F3:219:MET:CE	43:F3:242:LEU:HD11	2.29	0.62
44:G3:212:HIS:ND1	44:G3:239:GLY:O	2.31	0.62
1:51:1817:U:O3'	41:D3:43:LYS:NZ	2.32	0.62
4:A2:442:C:H42	4:A2:449:A:N6	1.98	0.62
6:C2:65:ARG:O	6:C2:87:ILE:HD12	1.98	0.62
7:D2:262:THR:HG22	7:D2:263:LYS:H	1.64	0.62
78:r3:5:LEU:O	78:r3:9:VAL:HG23	1.98	0.62
84:w3:112:ALA:HB2	84:w3:135:PRO:CG	2.30	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:125:C:H2'	1:51:126:C:H6	1.64	0.62
1:51:2020:U:H3'	1:51:2021:G:H21	1.63	0.62
10:G2:22:LYS:NZ	10:G2:98:GLU:OE2	2.31	0.62
12:I2:36:LEU:HD23	12:I2:36:LEU:H	1.64	0.62
23:T2:131:VAL:HG13	23:T2:131:VAL:O	2.00	0.62
33:d2:28:THR:HG22	33:d2:29:GLN:H	1.63	0.62
59:X3:52:LEU:HD23	59:X3:52:LEU:C	2.24	0.62
80:t3:62:ARG:HE	80:t3:79:LEU:HD11	1.64	0.62
1:51:1101:C:O5'	1:51:1167:C:OP2	2.17	0.62
1:51:2299:G:N2	1:51:2336:G:C4	2.68	0.62
1:51:4128:A:H62	1:51:4156:G:H21	1.46	0.62
1:51:4681:A:H61	1:51:4710:C:N4	1.98	0.62
41:D3:65:ALA:HB2	41:D3:74:ILE:HD13	1.82	0.62
44:G3:225:ALA:HA	44:G3:228:ARG:HE	1.63	0.62
1:51:2696:A:C4	72:k3:69:LEU:HD21	2.35	0.62
6:C2:129:THR:HG23	6:C2:132:GLY:H	1.65	0.62
49:M3:62:LEU:HD23	49:M3:62:LEU:N	2.14	0.62
57:U3:60:VAL:O	57:U3:60:VAL:HG13	2.00	0.62
4:A2:1589:A:O3'	24:U2:82:ARG:HD2	1.99	0.62
4:A2:1751:C:O2	4:A2:1784:G:N2	2.31	0.62
4:A2:1816:G:O2'	4:A2:1817:G:O4'	2.16	0.62
58:V3:48:ARG:HG2	58:V3:49:LEU:N	2.13	0.62
83:33:20:U:O2'	83:33:21:A:O5'	2.17	0.62
84:w3:46:ASP:O	84:w3:48:ARG:HD3	2.00	0.62
84:w3:56:LYS:HD3	84:w3:185:LEU:HD11	1.82	0.62
1:51:3806:G:OP1	75:n3:23:ARG:NH1	2.33	0.62
1:51:4129:G:O2'	1:51:4130:C:C5	2.51	0.62
2:71:48:G:O2'	41:D3:222:GLN:HG3	2.00	0.62
4:A2:165:G:H4'	11:H2:52:ILE:HD12	1.80	0.62
34:e2:24:CYS:O	34:e2:25:SER:OG	2.18	0.62
48:L3:191:LEU:HD22	48:L3:191:LEU:N	2.15	0.62
1:51:1841:C:OP2	43:F3:205:ASN:ND2	2.33	0.61
1:51:4725:C:H2'	1:51:4726:G:O4'	2.00	0.61
4:A2:1139:C:H4'	26:W2:62:MET:HE1	1.82	0.61
4:A2:1231:C:OP2	23:T2:139:THR:HG21	2.00	0.61
5:B2:161:ILE:HG23	5:B2:161:ILE:O	2.00	0.61
64:c3:20:LEU:HD23	64:c3:23:LYS:HE3	1.82	0.61
84:w3:164:CYS:SG	84:w3:165:LEU:N	2.72	0.61
1:51:1441:C:H42	1:51:2113:G:H21	1.47	0.61
2:71:56:G:H3'	2:71:57:C:H5"	1.82	0.61
4:A2:616:A:OP1	35:f2:78:SER:N	2.32	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:1280:G:H22	4:A2:1317:C:H42	1.48	0.61
8:E2:29:LEU:N	8:E2:29:LEU:HD22	2.15	0.61
9:F2:134:LYS:HG3	9:F2:134:LYS:O	1.98	0.61
9:F2:177:THR:HG23	9:F2:177:THR:O	1.99	0.61
32:c2:56:CYS:SG	32:c2:63:LEU:HD11	2.40	0.61
39:B3:298:LEU:HD23	39:B3:298:LEU:H	1.65	0.61
40:C3:144:ILE:O	40:C3:144:ILE:HG22	1.98	0.61
41:D3:252:VAL:HG13	41:D3:254:GLU:H	1.65	0.61
44:G3:241:ALA:HB1	44:G3:245:ARG:CZ	2.29	0.61
60:Y3:73:VAL:HG23	60:Y3:80:ILE:HG22	1.82	0.61
80:t3:91:THR:C	80:t3:92:LYS:HD2	2.25	0.61
84:w3:34:LEU:CD2	84:w3:36:ILE:HD11	2.30	0.61
84:w3:36:ILE:HD13	84:w3:190:LEU:CD1	2.29	0.61
1:51:1548:G:H1	1:51:1580:C:H42	1.46	0.61
1:51:1907:A:C2	1:51:2069:A:C6	2.88	0.61
1:51:2082:G:N3	1:51:2275:G:N2	2.46	0.61
1:51:2473:A:OP1	59:X3:46:PHE:HB3	2.00	0.61
1:51:2848:G:O2'	1:51:3838:U:O4	2.19	0.61
1:51:4117:U:H5"	1:51:4118:U:OP2	2.01	0.61
3:81:151:G:C8	44:G3:118:ARG:HG2	2.36	0.61
4:A2:1112:U:O2	4:A2:1121:G:N2	2.31	0.61
6:C2:49:VAL:HG21	6:C2:62:LEU:HB2	1.80	0.61
10:G2:103:LEU:HD12	30:a2:67:LEU:HD12	1.82	0.61
37:h2:218:LEU:CD2	37:h2:227:LEU:HD23	2.29	0.61
49:M3:15:VAL:HG23	49:M3:15:VAL:O	2.00	0.61
68:g3:59:VAL:HG12	68:g3:60:ARG:N	2.14	0.61
76:o3:95:GLY:O	76:o3:96:ASP:OD1	2.19	0.61
1:51:2657:G:OP2	61:Z3:38:TYR:OH	2.19	0.61
1:51:4348:A:O2'	1:51:4350:C:OP2	2.16	0.61
4:A2:394:G:OP2	16:M2:81:LYS:NZ	2.31	0.61
22:S2:61:ILE:HD11	22:S2:69:ILE:CD1	2.30	0.61
53:Q3:79:THR:HG22	53:Q3:99:LYS:HG2	1.82	0.61
77:p3:14:TYR:O	77:p3:17:ARG:NH1	2.30	0.61
81:u3:15:LEU:HD12	81:u3:62:LEU:HD13	1.82	0.61
83:33:29:A:N1	83:33:30:G:N2	2.48	0.61
1:51:1349:G:C2	1:51:1508:A:C2	2.89	0.61
1:51:1978:C:H2'	1:51:1979:A:O4'	2.00	0.61
4:A2:318:A:N6	4:A2:333:G:C6	2.69	0.61
4:A2:442:C:N4	4:A2:449:A:H62	1.98	0.61
4:A2:757:C:N3	4:A2:789:G:N2	2.47	0.61
4:A2:1213:C:H42	4:A2:1686:G:H1	1.48	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:D2:78:LEU:HD23	7:D2:78:LEU:H	1.65	0.61
8:E2:93:THR:O	8:E2:96:LEU:HD23	2.01	0.61
9:F2:222:LEU:O	9:F2:225:ILE:HG22	2.00	0.61
13:J2:103:LEU:HD12	13:J2:170:LYS:HZ3	1.64	0.61
22:S2:55:THR:O	22:S2:59:LYS:HE3	2.01	0.61
39:B3:93:VAL:HG22	39:B3:94:GLU:H	1.64	0.61
43:F3:216:ARG:O	43:F3:245:ARG:HD3	2.00	0.61
54:R3:7:GLN:CD	54:R3:35:ALA:HB3	2.25	0.61
58:V3:22:VAL:HG23	58:V3:53:PRO:O	2.00	0.61
68:g3:31:VAL:HG12	68:g3:32:TYR:N	2.15	0.61
81:u3:129:ILE:HD12	81:u3:154:ASP:HB3	1.83	0.61
1:51:1433:A:N7	1:51:1434:G:C2	2.69	0.61
1:51:2848:G:H21	1:51:3841:C:H42	1.48	0.61
6:C2:184:VAL:HG12	6:C2:188:LEU:CD1	2.30	0.61
14:K2:39:ASN:OD1	14:K2:42:GLU:OE1	2.19	0.61
17:N2:31:LEU:HA	17:N2:111:VAL:HA	1.82	0.61
25:V2:61:LEU:HD23	34:e2:34:TYR:HE2	1.66	0.61
50:N3:6:TYR:CE1	70:i3:40:VAL:HB	2.35	0.61
81:u3:28:LEU:HD13	81:u3:39:PRO:HB2	1.83	0.61
1:51:3799:A:N6	1:51:3800:A:N1	2.48	0.61
1:51:4164:C:H4'	44:G3:107:PHE:HB2	1.83	0.61
4:A2:83:A:C5	4:A2:84:A:C8	2.89	0.61
4:A2:1316:C:N4	4:A2:1319:U:O4	2.33	0.61
4:A2:1679:A:OP1	33:d2:20:ARG:NH2	2.33	0.61
23:T2:104:ASP:OD2	47:J3:121:PRO:HG3	2.01	0.61
25:V2:25:THR:HG22	25:V2:86:LYS:HG3	1.83	0.61
41:D3:75:VAL:O	41:D3:112:ARG:NH1	2.33	0.61
3:81:151:G:N1	44:G3:117:GLN:CD	2.59	0.61
4:A2:875:A:H2	4:A2:912:C:N3	1.99	0.61
14:K2:136:ARG:HE	14:K2:157:ILE:C	2.08	0.61
30:a2:69:THR:O	30:a2:72:VAL:HG12	2.00	0.61
37:h2:11:LEU:HD22	37:h2:53:GLY:HA3	1.83	0.61
44:G3:140:LEU:HD12	44:G3:140:LEU:N	2.15	0.61
61:Z3:45:GLY:O	61:Z3:71:PHE:N	2.33	0.61
77:p3:89:LEU:O	77:p3:89:LEU:HD23	2.00	0.61
1:51:4:G:H22	3:81:154:G:N2	1.98	0.61
1:51:4569:U:C4	1:51:4570:G:N1	2.69	0.61
1:51:5019:A:C6	1:51:5031:G:C6	2.88	0.61
4:A2:873:G:N7	16:M2:152:LYS:NZ	2.49	0.61
16:M2:128:VAL:CG1	16:M2:140:PHE:HB3	2.31	0.61
22:S2:87:GLU:OE2	22:S2:87:GLU:N	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:T2:21:ASP:OD1	23:T2:22:GLY:N	2.32	0.61
29:Z2:55:ILE:HD12	29:Z2:76:TYR:CD2	2.36	0.61
49:M3:9:VAL:O	49:M3:9:VAL:HG13	1.99	0.61
1:51:2544:G:H1'	3:81:126:C:O2	2.00	0.61
1:51:2578:G:O6	61:Z3:17:ARG:NH2	2.34	0.61
1:51:3755:G:H22	1:51:3771:C:H1'	1.66	0.61
2:71:56:G:H3'	2:71:57:C:C5'	2.31	0.61
4:A2:821:G:N7	14:K2:150:ARG:HD2	2.15	0.61
4:A2:1117:C:O2'	4:A2:1117:C:O2	2.17	0.61
4:A2:1354:G:O2'	4:A2:1356:G:O6	2.19	0.61
4:A2:1718:G:N2	4:A2:1815:A:C8	2.68	0.61
15:L2:90:VAL:HG13	15:L2:91:PRO:O	2.01	0.61
37:h2:210:GLY:HA3	37:h2:236:ILE:HD13	1.82	0.61
39:B3:373:LYS:O	39:B3:375:GLY:N	2.34	0.61
53:Q3:42:THR:O	53:Q3:46:VAL:HG23	2.01	0.61
1:51:716:C:OP2	40:C3:320:LYS:CE	2.49	0.60
1:51:3723:A:OP2	70:i3:68:ARG:NH1	2.34	0.60
11:H2:160:LYS:O	11:H2:162:LEU:HD12	2.01	0.60
17:N2:32:ALA:O	17:N2:109:VAL:HG23	1.99	0.60
22:S2:18:GLU:OE1	22:S2:70:SER:N	2.30	0.60
42:E3:269:GLN:C	42:E3:270:LEU:HD12	2.25	0.60
54:R3:132:PHE:CG	54:R3:137:ILE:HG12	2.36	0.60
1:51:19:G:N2	3:81:139:G:N3	2.49	0.60
1:51:119:G:O6	44:G3:166:ARG:NH1	2.34	0.60
1:51:307:A:N7	1:51:308:G:N1	2.48	0.60
4:A2:1166:G:N7	28:Y2:25:LYS:NZ	2.49	0.60
4:A2:1208:A:O2'	4:A2:1835:A:N6	2.27	0.60
4:A2:1598:G:C2'	4:A2:1598:G:N3	2.64	0.60
5:B2:16:LEU:HD11	22:S2:114:LEU:HD12	1.83	0.60
5:B2:55:TRP:NE1	5:B2:59:LEU:HD11	2.15	0.60
6:C2:28:LYS:HE3	6:C2:48:LEU:HD13	1.82	0.60
9:F2:123:LEU:N	9:F2:123:LEU:HD12	2.16	0.60
10:G2:135:ARG:HA	10:G2:135:ARG:HE	1.66	0.60
17:N2:69:CYS:SG	17:N2:74:ILE:HG21	2.41	0.60
44:G3:232:VAL:HG23	44:G3:233:PRO:CD	2.30	0.60
64:c3:29:LEU:H	64:c3:29:LEU:HD23	1.66	0.60
73:l3:31:THR:HG23	73:l3:32:GLY:N	2.16	0.60
81:u3:74:VAL:HG23	81:u3:74:VAL:O	2.00	0.60
1:51:382:G:N2	1:51:385:A:OP2	2.33	0.60
1:51:1279:A:O2'	40:C3:323:ARG:NH2	2.35	0.60
1:51:1572:U:H1'	54:R3:125:LEU:HD11	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:2401:A:C6	1:51:2402:G:N7	2.69	0.60
1:51:4122:G:H21	68:g3:93:ARG:C	2.09	0.60
4:A2:1566:G:O6	24:U2:101:ARG:NH1	2.33	0.60
40:C3:229:LEU:HD22	40:C3:229:LEU:N	2.16	0.60
44:G3:271:LEU:HD12	44:G3:272:VAL:HG23	1.82	0.60
63:b3:54:LEU:HD12	63:b3:57:MET:HE3	1.84	0.60
70:i3:30:ARG:O	70:i3:32:ARG:N	2.33	0.60
84:w3:36:ILE:HD13	84:w3:190:LEU:HD12	1.81	0.60
1:51:1977:C:H5'	81:u3:56:LEU:CD1	2.31	0.60
4:A2:1446:A:H5'	25:V2:57:PRO:HA	1.83	0.60
6:C2:150:ILE:HG23	22:S2:131:PRO:HA	1.83	0.60
44:G3:206:GLN:CG	44:G3:260:VAL:HG12	2.31	0.60
1:51:1090:G:N2	1:51:1207:C:O2	2.34	0.60
1:51:4195:G:P	63:b3:3:LYS:NZ	2.75	0.60
5:B2:65:ILE:HD12	5:B2:121:LEU:HD13	1.82	0.60
33:d2:28:THR:HG22	33:d2:29:GLN:N	2.16	0.60
53:Q3:13:VAL:O	53:Q3:13:VAL:HG12	2.01	0.60
1:51:1902:G:C5	1:51:2075:G:C2	2.90	0.60
1:51:1983:A:O2'	1:51:2011:C:OP1	2.20	0.60
1:51:2572:C:O2'	1:51:2573:A:OP1	2.15	0.60
1:51:2741:U:N3	77:p3:50:ARG:O	2.34	0.60
4:A2:89:C:H2'	4:A2:90:G:C8	2.37	0.60
4:A2:1544:C:O2'	21:R2:75:GLY:O	2.19	0.60
27:X2:28:ARG:HB2	27:X2:29:PRO:HD3	1.83	0.60
41:D3:239:MET:HA	41:D3:242:LYS:HE2	1.83	0.60
62:a3:126:ALA:O	62:a3:147:VAL:HG12	2.02	0.60
80:t3:39:GLN:NE2	80:t3:107:VAL:O	2.35	0.60
84:w3:12:GLU:HB2	84:w3:17:VAL:CG1	2.31	0.60
1:51:86:U:O2	1:51:98:A:N6	2.35	0.60
1:51:134:G:O2'	71:j3:80:GLU:OE2	2.20	0.60
1:51:730:G:OP2	43:F3:75:ARG:NE	2.33	0.60
1:51:3918:G:N2	1:51:4384:U:O2	2.34	0.60
1:51:4036:G:O2'	1:51:4037:C:OP1	2.20	0.60
31:b2:41:ILE:HG22	31:b2:68:TYR:CD1	2.36	0.60
84:w3:90:LEU:HB3	84:w3:123:ILE:CD1	2.32	0.60
3:81:151:G:H8	44:G3:118:ARG:HG2	1.67	0.60
4:A2:1143:A:C5	4:A2:1144:A:N1	2.69	0.60
5:B2:12:GLU:O	5:B2:16:LEU:HD23	2.00	0.60
10:G2:115:ALA:O	10:G2:119:SER:OG	2.07	0.60
11:H2:35:GLU:C	11:H2:49:VAL:HG13	2.26	0.60
13:J2:192:GLY:O	13:J2:193:LYS:HG2	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A3:5:ILE:HG22	38:A3:208:GLU:O	2.02	0.60
39:B3:69:LYS:C	39:B3:70:LYS:HD2	2.26	0.60
63:b3:51:LYS:HE2	63:b3:54:LEU:HD22	1.82	0.60
1:51:490:C:H42	1:51:663:G:H1	1.49	0.60
1:51:1105:C:O2'	1:51:1166:G:O6	2.05	0.60
1:51:1985:G:N1	1:51:2005:G:O6	2.35	0.60
1:51:3756:A:O2'	1:51:3757:G:O5'	2.20	0.60
3:81:151:G:N3	44:G3:117:GLN:HB2	2.10	0.60
13:J2:109:TYR:O	13:J2:113:TYR:HB3	2.01	0.60
22:S2:56:HIS:HA	22:S2:59:LYS:HE3	1.84	0.60
22:S2:71:ILE:HG22	22:S2:74:GLN:H	1.65	0.60
29:Z2:55:ILE:HG13	29:Z2:75:ILE:O	2.02	0.60
45:H3:63:ASN:O	45:H3:67:LEU:HD23	2.02	0.60
80:t3:13:TYR:CZ	80:t3:17:ILE:HG22	2.36	0.60
1:51:2259:G:O2'	1:51:2261:G:N2	2.33	0.60
1:51:3951:G:H21	1:51:4062:A:N6	1.99	0.60
1:51:4051:C:H2'	1:51:4052:C:C5	2.37	0.60
6:C2:24:PRO:HA	6:C2:27:LYS:HD3	1.84	0.60
7:D2:116:THR:OG1	7:D2:117:ARG:N	2.31	0.60
14:K2:169:ARG:O	14:K2:171:GLY:N	2.35	0.60
17:N2:72:HIS:HB2	17:N2:74:ILE:CD1	2.32	0.60
37:h2:159:ASN:OD1	37:h2:161:SER:OG	2.08	0.60
45:H3:77:VAL:HG22	45:H3:80:MET:CE	2.31	0.60
69:h3:43:LYS:HG2	69:h3:43:LYS:O	2.01	0.60
1:51:4755:G:N2	1:51:4879:C:C2	2.70	0.59
4:A2:394:G:P	16:M2:81:LYS:HZ1	2.25	0.59
13:J2:10:LYS:O	13:J2:18:ARG:NH1	2.34	0.59
14:K2:78:LEU:O	14:K2:82:VAL:HG13	2.01	0.59
20:Q2:45:LEU:HD23	20:Q2:49:LEU:HD21	1.83	0.59
20:Q2:80:LEU:HD23	20:Q2:82:ASP:H	1.66	0.59
37:h2:297:THR:HG23	37:h2:310:TRP:O	2.02	0.59
44:G3:106:ARG:O	44:G3:107:PHE:C	2.44	0.59
45:H3:5:LEU:HD13	45:H3:60:TRP:CZ3	2.37	0.59
50:N3:64:ILE:CD1	50:N3:102:ALA:HB1	2.32	0.59
54:R3:138:LEU:HD12	54:R3:138:LEU:N	2.17	0.59
57:U3:25:CYS:O	57:U3:29:VAL:HG13	2.02	0.59
66:e3:89:LEU:HG	66:e3:89:LEU:O	2.02	0.59
72:k3:60:LEU:HD13	72:k3:66:VAL:HG11	1.84	0.59
75:n3:21:ARG:O	75:n3:25:LYS:HG2	2.01	0.59
1:51:1828:C:N4	1:51:1829:G:N7	2.50	0.59
1:51:2468:U:C2	1:51:2506:G:N7	2.71	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:875:A:H2'	4:A2:876:C:O4'	2.02	0.59
4:A2:1095:U:O2'	27:X2:20:ARG:NH2	2.36	0.59
5:B2:2:SER:OG	5:B2:56:GLU:OE1	2.05	0.59
9:F2:61:VAL:HG12	9:F2:80:ILE:HG23	1.84	0.59
14:K2:147:PHE:CE2	14:K2:149:VAL:HG11	2.37	0.59
29:Z2:55:ILE:HB	29:Z2:76:TYR:CE1	2.37	0.59
40:C3:232:VAL:HG21	40:C3:256:ALA:HB1	1.83	0.59
40:C3:297:GLU:CD	40:C3:298:ILE:HG13	2.27	0.59
41:D3:243:ALA:O	41:D3:248:ARG:CZ	2.50	0.59
68:g3:38:VAL:HG23	68:g3:39:GLY:N	2.16	0.59
1:51:969:C:N4	1:51:2095:A:H61	1.99	0.59
1:51:1296:G:O2'	1:51:1297:U:O5'	2.20	0.59
1:51:2556:G:H2'	1:51:2557:G:H8	1.67	0.59
2:71:119:U:OP2	2:71:120:U:H1'	2.01	0.59
4:A2:902:G:N1	4:A2:903:A:N7	2.51	0.59
13:J2:123:ARG:O	13:J2:127:ALA:HB3	2.02	0.59
21:R2:107:GLU:OE1	21:R2:107:GLU:N	2.29	0.59
30:a2:65:TYR:OH	30:a2:76:ARG:NH2	2.35	0.59
1:51:1518:A:OP1	62:a3:27:LYS:NZ	2.33	0.59
1:51:1570:G:C6	54:R3:128:LYS:O	2.56	0.59
1:51:4209:G:N7	1:51:4210:U:C2	2.70	0.59
4:A2:1168:G:N2	4:A2:1192:U:O2	2.35	0.59
21:R2:60:LYS:HG3	21:R2:60:LYS:O	2.03	0.59
30:a2:69:THR:HG22	30:a2:107:VAL:O	2.03	0.59
30:a2:88:LEU:HD13	30:a2:109:TYR:CE2	2.37	0.59
33:d2:11:LEU:CD2	33:d2:55:VAL:HG13	2.29	0.59
39:B3:173:LEU:HD12	39:B3:173:LEU:N	2.16	0.59
41:D3:7:VAL:O	41:D3:7:VAL:HG22	2.02	0.59
42:E3:181:PRO:HB2	42:E3:184:LEU:HD13	1.84	0.59
45:H3:86:LEU:HB3	45:H3:186:THR:OG1	2.01	0.59
45:H3:110:SER:O	45:H3:110:SER:OG	2.18	0.59
53:Q3:43:PHE:HE1	53:Q3:138:LEU:HD12	1.67	0.59
1:51:178:C:H42	1:51:259:C:N4	2.00	0.59
1:51:3803:A:N1	1:51:3804:G:C2	2.70	0.59
4:A2:1206:G:C4	4:A2:1693:G:N2	2.71	0.59
10:G2:68:ILE:H	10:G2:68:ILE:HD12	1.67	0.59
12:I2:80:VAL:HG13	12:I2:81:ARG:HD2	1.84	0.59
23:T2:130:ARG:NH2	23:T2:140:GLY:HA3	2.17	0.59
37:h2:8:ARG:HH12	37:h2:297:THR:HG21	1.66	0.59
37:h2:42:MET:HE2	37:h2:56:GLN:OE1	2.01	0.59
58:V3:106:VAL:HG12	58:V3:107:ASN:O	2.03	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:227:U:OP1	4:A2:227:U:H4'	2.01	0.59
23:T2:104:ASP:OD1	23:T2:105:ASN:N	2.36	0.59
36:g2:146:LEU:HD21	36:g2:148:TYR:CZ	2.37	0.59
45:H3:100:PRO:O	45:H3:116:ASN:ND2	2.28	0.59
80:t3:77:LYS:HD3	80:t3:77:LYS:N	2.17	0.59
1:51:2856:C:O2	39:B3:242:ARG:NH2	2.35	0.59
11:H2:147:LEU:HD11	11:H2:156:TYR:HD2	1.65	0.59
17:N2:93:LYS:HA	17:N2:100:PRO:HA	1.85	0.59
27:X2:30:CYS:SG	27:X2:59:GLY:N	2.75	0.59
39:B3:87:VAL:HG21	39:B3:165:HIS:CD2	2.38	0.59
44:G3:196:VAL:O	44:G3:200:VAL:HG23	2.02	0.59
1:51:87:A:C2	1:51:98:A:H2	2.20	0.59
1:51:1976:G:H1'	1:51:2002:A:N7	2.18	0.59
1:51:2755:A:H62	1:51:2756:G:H21	1.49	0.59
1:51:3757:G:O6	1:51:3765:G:H3'	2.03	0.59
1:51:3974:G:C5'	84:w3:27:LYS:HB2	2.32	0.59
1:51:4942:C:H5"	1:51:4942:C:O2	2.03	0.59
4:A2:191:A:H5"	4:A2:192:C:O4'	2.03	0.59
7:D2:66:LEU:O	7:D2:70:VAL:HG23	2.03	0.59
9:F2:136:ILE:HD12	9:F2:149:TYR:H	1.68	0.59
12:I2:83:LEU:HD22	12:I2:83:LEU:N	2.18	0.59
36:g2:117:LEU:O	36:g2:118:ARG:NH1	2.29	0.59
42:E3:257:ASP:HA	42:E3:260:ILE:HG22	1.83	0.59
46:I3:60:LEU:HD22	46:I3:159:PHE:HD1	1.67	0.59
50:N3:6:TYR:CZ	70:i3:40:VAL:HB	2.38	0.59
55:S3:84:TYR:HE1	55:S3:93:MET:HE3	1.68	0.59
70:i3:69:ALA:O	70:i3:73:ILE:HG13	2.03	0.59
1:51:1746:A:H2'	1:51:1747:U:O5'	2.03	0.59
1:51:1977:C:C5	1:51:1978:C:N4	2.71	0.59
1:51:1999:A:OP2	1:51:2019:C:H4'	2.02	0.59
4:A2:982:G:N2	4:A2:983:A:N3	2.50	0.59
43:F3:192:GLU:O	43:F3:195:THR:O	2.20	0.59
54:R3:142:ILE:HG22	54:R3:142:ILE:O	2.03	0.59
81:u3:126:SER:OG	81:u3:161:GLU:O	2.17	0.59
1:51:1910:G:N2	1:51:2067:C:N3	2.51	0.59
37:h2:246:TYR:CE2	37:h2:261:LEU:HB2	2.38	0.59
40:C3:325:MET:HE1	40:C3:336:ARG:NH2	2.18	0.59
52:P3:106:GLY:C	52:P3:107:LEU:HD22	2.27	0.59
79:q3:5:C:H2'	79:q3:6:C:C5'	2.33	0.59
80:t3:13:TYR:O	80:t3:17:ILE:HG23	2.03	0.59
1:51:1219:G:H2'	1:51:1220:G:H4'	1.83	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:1214:A:H62	4:A2:1682:C:H42	1.48	0.58
4:A2:1255:G:OP1	4:A2:1256:G:O2'	2.18	0.58
19:P2:93:LEU:HD11	19:P2:124:MET:CE	2.33	0.58
22:S2:98:VAL:HG21	22:S2:117:LEU:HD22	1.85	0.58
44:G3:226:LEU:O	44:G3:226:LEU:HD23	2.03	0.58
46:I3:34:PHE:O	46:I3:89:VAL:HG22	2.03	0.58
50:N3:46:ASP:OD1	50:N3:47:LYS:N	2.33	0.58
54:R3:145:LEU:O	54:R3:145:LEU:HG	2.03	0.58
84:w3:47:LYS:HD2	84:w3:195:LYS:HE2	1.85	0.58
84:w3:62:LYS:N	84:w3:62:LYS:HD2	2.17	0.58
1:51:1977:C:H5'	81:u3:56:LEU:HD11	1.86	0.58
1:51:3944:G:O6	1:51:3945:A:N6	2.29	0.58
1:51:4936:G:H2'	42:E3:186:ARG:NH2	2.17	0.58
3:81:87:G:OP2	69:h3:7:ARG:NH2	2.35	0.58
5:B2:121:LEU:HD23	5:B2:122:LEU:N	2.19	0.58
11:H2:69:THR:HG22	11:H2:70:HIS:N	2.18	0.58
12:I2:48:ALA:O	12:I2:49:LYS:HD2	2.04	0.58
22:S2:106:LEU:HD21	22:S2:114:LEU:HD23	1.84	0.58
80:t3:148:SER:O	80:t3:149:ARG:NH1	2.36	0.58
1:51:960:A:H62	42:E3:129:LEU:H	1.52	0.58
1:51:1750:G:N2	46:I3:193:ASP:OD2	2.35	0.58
1:51:4238:G:H2'	1:51:4239:A:H8	1.69	0.58
4:A2:1293:A:C6	4:A2:1307:U:N3	2.71	0.58
12:I2:143:ARG:HB2	12:I2:155:LYS:CG	2.34	0.58
19:P2:84:ARG:O	19:P2:84:ARG:HD3	2.03	0.58
24:U2:134:ILE:O	24:U2:138:VAL:HG23	2.03	0.58
28:Y2:105:PHE:HB2	28:Y2:119:ARG:O	2.03	0.58
29:Z2:29:HIS:O	29:Z2:67:GLY:HA2	2.04	0.58
39:B3:71:GLU:OE2	39:B3:366:LYS:NZ	2.37	0.58
84:w3:120:ILE:HG22	84:w3:121:PRO:HD3	1.85	0.58
1:51:1354:A:N7	1:51:1503:A:C2	2.71	0.58
1:51:4096:C:O2	1:51:4096:C:H2'	2.03	0.58
7:D2:127:PHE:CD1	7:D2:141:VAL:HG12	2.38	0.58
17:N2:108:CYS:SG	17:N2:109:VAL:N	2.77	0.58
41:D3:218:ALA:CA	41:D3:221:LYS:HG2	2.33	0.58
55:S3:84:TYR:CE1	55:S3:93:MET:HE3	2.38	0.58
1:51:423:G:H21	52:P3:118:GLN:HE22	1.50	0.58
1:51:1500:A:H5"	1:51:1501:C:H5'	1.84	0.58
1:51:1557:C:C4	1:51:1558:A:N1	2.72	0.58
1:51:3969:G:O2'	1:51:3970:G:O4'	2.18	0.58
1:51:4041:C:O2	84:w3:101:LYS:NZ	2.26	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:1745:A:N6	4:A2:1789:G:O2'	2.36	0.58
4:A2:1839:U:C4	4:A2:1862:G:N2	2.72	0.58
40:C3:339:THR:HG22	40:C3:342:ARG:NH2	2.19	0.58
48:L3:169:ILE:HD11	62:a3:98:ALA:HB2	1.84	0.58
84:w3:149:ASP:O	84:w3:154:THR:HG22	2.03	0.58
1:51:464:G:H22	1:51:691:C:N4	2.00	0.58
1:51:2653:C:OP1	68:g3:54:ARG:NH2	2.36	0.58
1:51:3759:A:O4'	1:51:3766:A:N6	2.36	0.58
4:A2:1117:C:N3	4:A2:1118:C:N4	2.52	0.58
9:F2:42:LEU:CG	9:F2:46:ILE:HD11	2.34	0.58
17:N2:120:ALA:O	17:N2:124:ILE:HG12	2.04	0.58
23:T2:33:ILE:HG23	23:T2:100:ALA:HB2	1.85	0.58
39:B3:391:PRO:C	39:B3:392:LEU:HD22	2.27	0.58
42:E3:247:GLU:O	42:E3:251:VAL:HG23	2.04	0.58
59:X3:47:ARG:O	59:X3:48:ARG:C	2.46	0.58
1:51:302:C:OP1	50:N3:68:ARG:NE	2.34	0.58
6:C2:96:CYS:C	6:C2:97:LEU:HD12	2.28	0.58
14:K2:149:VAL:HG22	14:K2:150:ARG:CD	2.30	0.58
27:X2:35:VAL:O	27:X2:39:THR:HG22	2.03	0.58
37:h2:32:LEU:HD22	37:h2:71:ILE:HD11	1.84	0.58
39:B3:151:SER:HA	39:B3:154:LYS:HD2	1.85	0.58
43:F3:151:GLU:HG3	43:F3:151:GLU:O	2.03	0.58
43:F3:151:GLU:O	43:F3:247:ASN:ND2	2.24	0.58
81:u3:85:LEU:HD13	81:u3:141:CYS:SG	2.42	0.58
1:51:956:A:H62	1:51:1283:G:H1'	1.68	0.58
1:51:1590:C:O2	1:51:1605:G:N2	2.36	0.58
1:51:2456:G:H1	1:51:2465:C:H42	1.52	0.58
1:51:2714:G:H2'	1:51:2715:G:C8	2.39	0.58
3:81:151:G:O5'	3:81:152:U:H5"	2.03	0.58
4:A2:1234:C:H42	4:A2:1525:C:H42	1.51	0.58
4:A2:1857:G:H1	4:A2:1858:G:H21	1.52	0.58
8:E2:162:ASP:OD1	8:E2:165:ASN:ND2	2.37	0.58
10:G2:162:ALA:HB2	10:G2:172:CYS:SG	2.44	0.58
11:H2:106:LEU:HD23	11:H2:106:LEU:H	1.67	0.58
15:L2:5:LYS:NZ	15:L2:82:TYR:OH	2.36	0.58
15:L2:16:PHE:HB2	15:L2:79:LEU:HD23	1.84	0.58
23:T2:44:VAL:HG11	23:T2:71:MET:HG3	1.85	0.58
44:G3:140:LEU:HD23	44:G3:237:LEU:O	2.04	0.58
45:H3:89:ARG:O	45:H3:89:ARG:HG3	2.02	0.58
45:H3:92:MET:HE2	45:H3:179:ILE:CG2	2.32	0.58
48:L3:120:TYR:HB2	48:L3:155:MET:HE1	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:M3:104:MET:HE2	51:O3:199:HIS:HB3	1.84	0.58
53:Q3:23:ILE:CD1	78:r3:5:LEU:HD12	2.33	0.58
64:c3:29:LEU:HD23	64:c3:29:LEU:N	2.19	0.58
81:u3:64:ILE:HG12	81:u3:69:ALA:HB2	1.84	0.58
1:51:1315:C:O5'	66:e3:24:GLN:NE2	2.36	0.58
1:51:2345:G:OP2	62:a3:12:ARG:NH1	2.37	0.58
1:51:2559:G:C2	1:51:2560:C:C2	2.92	0.58
1:51:3973:G:H2'	1:51:3974:G:C8	2.38	0.58
1:51:4622:A:N3	1:51:4676:G:N2	2.51	0.58
17:N2:94:ILE:HG22	17:N2:95:ASP:H	1.68	0.58
21:R2:123:ASP:OD2	21:R2:125:ARG:NH2	2.35	0.58
29:Z2:103:SER:OG	29:Z2:104:ARG:N	2.26	0.58
37:h2:162:ASN:HB2	37:h2:164:ILE:HD12	1.86	0.58
62:a3:59:ARG:NH1	62:a3:61:TYR:OH	2.37	0.58
80:t3:127:ASN:HA	80:t3:153:GLU:HA	1.86	0.58
1:51:1558:A:C4	1:51:1559:G:N2	2.72	0.58
1:51:2082:G:H21	1:51:2275:G:H22	1.51	0.58
4:A2:1566:G:N7	24:U2:101:ARG:NH2	2.43	0.58
15:L2:61:GLN:HB3	15:L2:68:TYR:HB2	1.85	0.58
37:h2:125:ARG:HG2	37:h2:150:TRP:CE3	2.39	0.58
38:A3:133:TYR:HB3	38:A3:168:VAL:HG12	1.86	0.58
63:b3:93:LEU:N	63:b3:93:LEU:HD12	2.19	0.58
68:g3:5:LEU:HD23	68:g3:5:LEU:H	1.69	0.58
1:51:464:G:H22	1:51:691:C:H41	1.51	0.57
1:51:1855:G:N2	1:51:1856:C:O2	2.37	0.57
1:51:2007:G:N2	1:51:2012:A:C5	2.72	0.57
1:51:3780:G:N2	1:51:3781:C:O2	2.36	0.57
1:51:4686:G:C2	1:51:4705:A:N1	2.72	0.57
3:81:151:G:H1'	44:G3:118:ARG:CA	2.32	0.57
4:A2:337:C:N4	4:A2:338:G:O6	2.37	0.57
4:A2:1366:G:C2	4:A2:1367:U:O2	2.57	0.57
4:A2:1865:C:OP1	31:b2:87:ARG:NE	2.32	0.57
10:G2:200:ALA:O	10:G2:204:ARG:HB3	2.04	0.57
14:K2:15:THR:HG23	14:K2:16:PRO:HD2	1.85	0.57
15:L2:72:THR:O	15:L2:76:ILE:HG13	2.04	0.57
16:M2:54:THR:O	16:M2:56:ILE:HD12	2.04	0.57
37:h2:234:ASP:HB2	37:h2:252:THR:HB	1.86	0.57
41:D3:154:THR:HG23	41:D3:155:THR:H	1.69	0.57
82:v3:40:C:H2'	82:v3:41:U:O4'	2.04	0.57
84:w3:120:ILE:CG2	84:w3:121:PRO:HD3	2.34	0.57
1:51:375:G:OP2	71:j3:52:LYS:NZ	2.35	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:3710:G:N2	1:51:3712:A:N1	2.52	0.57
4:A2:1726:G:H22	4:A2:1808:U:H3	1.52	0.57
7:D2:224:THR:HG22	7:D2:225:SER:H	1.69	0.57
14:K2:109:ARG:O	14:K2:112:THR:HG22	2.04	0.57
21:R2:47:LEU:HD22	21:R2:50:LYS:HG3	1.86	0.57
45:H3:48:LEU:HD11	45:H3:54:ARG:HD2	1.86	0.57
46:I3:46:PHE:HD1	46:I3:140:THR:HA	1.70	0.57
50:N3:34:SER:OG	50:N3:35:ALA:N	2.36	0.57
83:33:26:A:H2	83:33:42:G:H22	1.52	0.57
1:51:512:U:N3	1:51:647:G:O6	2.38	0.57
1:51:1184:A:H2'	1:51:1185:G:C8	2.39	0.57
1:51:4068:U:H2'	1:51:4069:U:H4'	1.86	0.57
1:51:4461:C:O2	1:51:4516:G:C2	2.57	0.57
4:A2:446:G:OP2	13:J2:47:ARG:NH1	2.30	0.57
4:A2:1259:A:N7	4:A2:1518:C:O2	2.37	0.57
13:J2:11:ARG:NH1	13:J2:15:GLY:O	2.37	0.57
17:N2:95:ASP:HB2	17:N2:101:ARG:HE	1.69	0.57
29:Z2:17:LEU:HD12	29:Z2:18:LEU:HD23	1.87	0.57
39:B3:381:THR:N	39:B3:384:GLU:OE2	2.33	0.57
40:C3:261:ASP:N	40:C3:261:ASP:OD1	2.36	0.57
41:D3:88:VAL:O	41:D3:88:VAL:HG13	2.03	0.57
41:D3:205:ALA:O	41:D3:207:TYR:N	2.37	0.57
43:F3:237:ASP:N	43:F3:237:ASP:OD1	2.36	0.57
69:h3:9:LEU:HD22	69:h3:17:LEU:HD21	1.86	0.57
84:w3:102:LYS:O	84:w3:103:LEU:HD22	2.03	0.57
84:w3:112:ALA:HB2	84:w3:135:PRO:HG2	1.86	0.57
86:W:55:TYR:CE1	86:W:59:HIS:CE1	2.93	0.57
1:51:930:G:O2'	1:51:931:C:OP1	2.23	0.57
1:51:2411:C:N4	1:51:2433:G:O6	2.37	0.57
1:51:2756:G:H2'	1:51:2757:A:C8	2.39	0.57
1:51:3638:G:N1	1:51:3651:A:C2	2.72	0.57
3:81:151:G:C4	44:G3:117:GLN:C	2.82	0.57
4:A2:613:G:N2	4:A2:629:A:OP2	2.34	0.57
4:A2:955:A:H62	4:A2:971:G:H21	1.52	0.57
7:D2:105:GLU:HB3	7:D2:216:MET:HE1	1.87	0.57
11:H2:5:ILE:HD12	11:H2:111:LEU:HB3	1.86	0.57
13:J2:66:SER:CB	13:J2:73:THR:HG22	2.34	0.57
22:S2:113:SER:C	22:S2:114:LEU:HD22	2.29	0.57
32:c2:61:THR:HG22	32:c2:62:VAL:N	2.19	0.57
39:B3:353:VAL:O	39:B3:353:VAL:HG13	2.03	0.57
53:Q3:83:VAL:O	53:Q3:103:LEU:HD12	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:1074:G:C2	1:51:1238:A:C2	2.93	0.57
1:51:1456:C:N4	1:51:1457:G:N3	2.52	0.57
1:51:1837:A:P	56:T3:108:ARG:NH2	2.78	0.57
1:51:4099:G:OP2	1:51:4100:C:O4'	2.21	0.57
1:51:4157:A:C2	44:G3:101:LYS:HD2	2.38	0.57
4:A2:297:A:O3'	9:F2:133:THR:OG1	2.21	0.57
4:A2:1065:G:P	19:P2:149:ARG:HE	2.27	0.57
4:A2:1816:G:C4	4:A2:1817:G:N7	2.73	0.57
11:H2:213:LEU:O	11:H2:213:LEU:HG	2.05	0.57
12:I2:69:LEU:O	12:I2:73:GLN:HG2	2.03	0.57
13:J2:121:LEU:H	13:J2:123:ARG:HH22	1.53	0.57
13:J2:172:LEU:CB	13:J2:190:LEU:HB2	2.34	0.57
14:K2:108:ARG:HH22	14:K2:151:LEU:HB2	1.69	0.57
15:L2:32:HIS:N	15:L2:40:VAL:O	2.36	0.57
67:f3:14:TYR:OH	67:f3:92:LEU:O	2.23	0.57
84:w3:52:THR:HG23	84:w3:140:HIS:ND1	2.19	0.57
84:w3:88:GLU:O	84:w3:92:LYS:HG3	2.05	0.57
1:51:4413:C:H4'	46:I3:157:PHE:CD2	2.39	0.57
88:51:5294:BLS:O4	88:51:5294:BLS:H111	2.04	0.57
4:A2:1232:U:P	23:T2:135:HIS:HE2	2.28	0.57
4:A2:1235:G:O6	23:T2:137:LYS:NZ	2.30	0.57
5:B2:41:ARG:HE	5:B2:45:GLY:HA2	1.69	0.57
12:I2:154:ILE:O	12:I2:185:VAL:HA	2.05	0.57
21:R2:6:PRO:C	21:R2:7:LEU:HD22	2.30	0.57
59:X3:76:ILE:HG23	59:X3:77:ILE:HG13	1.85	0.57
67:f3:27:LEU:O	67:f3:28:LEU:HD12	2.04	0.57
84:w3:114:GLU:OE1	84:w3:114:GLU:N	2.30	0.57
85:1:63:SER:OG	85:1:66:LEU:HD22	2.04	0.57
1:51:1195:G:H2'	1:51:1196:G:C8	2.40	0.57
1:51:1627:G:C6	1:51:1636:U:N3	2.73	0.57
1:51:2007:G:N2	1:51:2012:A:C6	2.73	0.57
1:51:4043:G:OP1	84:w3:100:VAL:HG22	2.05	0.57
1:51:4459:U:O3'	39:B3:10:ARG:NH2	2.38	0.57
4:A2:85:A:C2	4:A2:86:C:C4	2.93	0.57
4:A2:1206:G:N3	4:A2:1693:G:N2	2.53	0.57
4:A2:1287:A:C5	4:A2:1315:U:H1'	2.39	0.57
4:A2:1516:G:C6	4:A2:1517:G:C2	2.93	0.57
8:E2:98:ALA:CB	8:E2:171:ALA:HB2	2.34	0.57
8:E2:99:ILE:O	8:E2:103:GLU:HG2	2.04	0.57
30:a2:97:ILE:HD12	30:a2:109:TYR:CE1	2.39	0.57
36:g2:133:ALA:O	36:g2:139:HIS:HA	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:D3:250:ASN:OD1	41:D3:254:GLU:N	2.38	0.57
53:Q3:79:THR:HG22	53:Q3:99:LYS:CG	2.34	0.57
57:U3:63:LEU:N	57:U3:63:LEU:HD12	2.18	0.57
72:k3:60:LEU:HD23	72:k3:60:LEU:H	1.69	0.57
1:51:60:A:C6	1:51:61:A:C2	2.92	0.57
1:51:280:G:H5"	50:N3:14:LYS:NZ	2.19	0.57
1:51:489:C:H2'	1:51:490:C:C6	2.39	0.57
1:51:732:A:O5'	1:51:733:A:H5"	2.04	0.57
1:51:952:G:H5"	67:f3:73:LYS:HZ3	1.69	0.57
1:51:1571:G:O3'	54:R3:127:VAL:CG1	2.53	0.57
1:51:3944:G:C6	1:51:4069:U:C4	2.92	0.57
1:51:3955:G:O2'	1:51:3956:G:H5'	2.05	0.57
1:51:4272:G:OP2	1:51:4272:G:N2	2.28	0.57
1:51:4639:G:N7	1:51:4661:G:N1	2.53	0.57
1:51:5041:G:OP2	86:W:61:LYS:NZ	2.27	0.57
4:A2:67:C:N3	11:H2:164:LYS:HG2	2.19	0.57
4:A2:143:U:OP2	11:H2:178:ARG:NH1	2.35	0.57
4:A2:441:C:H42	4:A2:453:C:H42	1.51	0.57
7:D2:84:PHE:HB2	7:D2:86:LEU:CD1	2.35	0.57
28:Y2:118:VAL:HG23	28:Y2:118:VAL:O	2.03	0.57
37:h2:43:TRP:O	37:h2:44:LYS:HE2	2.04	0.57
40:C3:33:ARG:HH21	40:C3:36:ILE:HD11	1.70	0.57
41:D3:243:ALA:HB1	41:D3:248:ARG:NH2	2.20	0.57
60:Y3:109:LEU:HD23	60:Y3:111:LEU:HD21	1.86	0.57
66:e3:43:ASN:OD1	66:e3:44:ARG:N	2.37	0.57
82:v3:36:G:O2'	82:v3:37:A:O4'	2.22	0.57
1:51:150:U:H5	44:G3:253:THR:HG21	1.66	0.57
1:51:1441:C:H42	1:51:2113:G:N2	2.02	0.57
1:51:2007:G:N1	1:51:2013:A:C6	2.73	0.57
1:51:2089:G:N1	1:51:2098:G:N7	2.51	0.57
1:51:2574:G:O2'	1:51:2576:G:OP1	2.14	0.57
1:51:2897:G:H4'	54:R3:101:ILE:HD13	1.86	0.57
1:51:4212:A:N1	56:T3:3:ASN:ND2	2.53	0.57
1:51:4925:U:H4'	1:51:4926:C:O5'	2.05	0.57
1:51:5029:C:C4	1:51:5030:U:H1'	2.40	0.57
11:H2:69:THR:HG22	11:H2:70:HIS:H	1.70	0.57
17:N2:83:LYS:O	17:N2:103:VAL:HG21	2.05	0.57
44:G3:137:THR:HG22	44:G3:137:THR:O	2.04	0.57
47:J3:26:VAL:O	47:J3:28:GLU:OE1	2.23	0.57
51:O3:185:VAL:O	51:O3:187:LYS:N	2.38	0.57
69:h3:9:LEU:HA	69:h3:12:LYS:HE2	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:1981:G:OP2	81:u3:94:LYS:NZ	2.35	0.57
1:51:3920:U:C2	1:51:4382:G:N2	2.73	0.57
1:51:5001:U:H5	1:51:5002:U:C4	2.23	0.57
4:A2:1293:A:O2'	36:g2:138:ARG:NE	2.38	0.57
4:A2:1391:C:C4'	34:e2:55:LEU:HD11	2.35	0.57
49:M3:57:LEU:HD23	49:M3:57:LEU:N	2.19	0.57
50:N3:94:PHE:HE2	50:N3:96:ARG:HB2	1.70	0.57
54:R3:126:LYS:HE2	54:R3:132:PHE:CE1	2.39	0.57
56:T3:40:VAL:HG11	56:T3:96:ILE:HD11	1.87	0.57
61:Z3:104:PRO:O	61:Z3:108:ARG:HD3	2.05	0.57
1:51:2442:G:N3	1:51:2781:G:N2	2.52	0.56
1:51:4231:C:O3'	76:o3:98:LYS:NZ	2.37	0.56
1:51:4305:G:H22	56:T3:87:LYS:NZ	2.03	0.56
1:51:4947:U:O4	1:51:4948:C:N4	2.37	0.56
4:A2:67:C:O2'	4:A2:69:C:O5'	2.21	0.56
4:A2:1426:U:H2'	4:A2:1427:C:C5	2.40	0.56
4:A2:1609:C:H2'	4:A2:1610:G:C8	2.40	0.56
31:b2:46:GLU:HG2	31:b2:47:ALA:H	1.71	0.56
39:B3:369:ASP:OD1	39:B3:370:THR:N	2.38	0.56
49:M3:121:ARG:O	49:M3:125:ASN:ND2	2.38	0.56
56:T3:15:PHE:CD2	56:T3:52:MET:HE1	2.40	0.56
81:u3:113:ALA:HB2	81:u3:128:THR:HG21	1.86	0.56
84:w3:54:ARG:HA	84:w3:154:THR:HA	1.86	0.56
1:51:3656:A:C2	1:51:3689:G:C2	2.93	0.56
88:51:5294:BLS:O7	85:1:68:VAL:CG1	2.53	0.56
4:A2:63:U:O2'	4:A2:170:A:N3	2.38	0.56
4:A2:1813:A:N6	4:A2:1814:G:C2	2.73	0.56
10:G2:114:ASN:HA	10:G2:117:ILE:HG12	1.87	0.56
11:H2:21:GLU:OE2	11:H2:28:TYR:OH	2.16	0.56
19:P2:138:ASP:OD1	19:P2:138:ASP:N	2.38	0.56
20:Q2:61:ARG:O	20:Q2:65:LYS:HG2	2.04	0.56
22:S2:9:VAL:HG13	22:S2:50:ILE:CD1	2.35	0.56
37:h2:2:THR:OG1	37:h2:3:GLU:N	2.34	0.56
41:D3:108:ARG:HE	41:D3:251:PRO:HB3	1.70	0.56
41:D3:129:GLU:OE2	41:D3:177:THR:HG23	2.04	0.56
47:J3:24:ILE:HD12	47:J3:40:LEU:HD21	1.87	0.56
61:Z3:41:ALA:HB2	61:Z3:77:TYR:CE1	2.39	0.56
80:t3:131:GLY:O	80:t3:152:ILE:HD11	2.05	0.56
1:51:102:G:OP1	48:L3:71:ARG:NH2	2.38	0.56
1:51:127:G:C6	1:51:142:G:C6	2.93	0.56
1:51:415:G:C2	1:51:416:U:O2	2.58	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:1982:G:N3	1:51:2009:A:O2'	2.38	0.56
1:51:3773:U:O2'	1:51:3774:A:OP1	2.23	0.56
1:51:4568:A:O3'	39:B3:21:ARG:NH2	2.38	0.56
1:51:4626:A:OP2	39:B3:224:LYS:NZ	2.26	0.56
1:51:5044:A:N6	1:51:5045:G:O6	2.38	0.56
4:A2:183:G:O2'	4:A2:184:G:O5'	2.23	0.56
4:A2:185:G:C2'	4:A2:186:C:O4'	2.52	0.56
4:A2:241:G:H1	4:A2:281:C:H1'	1.71	0.56
4:A2:874:G:H2'	4:A2:875:A:N7	2.21	0.56
4:A2:924:G:P	18:O2:3:ARG:HE	2.28	0.56
4:A2:1208:A:HO2'	4:A2:1835:A:H62	1.52	0.56
4:A2:1289:U:O2'	15:L2:2:LEU:HD22	2.04	0.56
5:B2:62:ALA:HA	5:B2:65:ILE:HG22	1.86	0.56
6:C2:110:MET:O	6:C2:114:VAL:HG13	2.05	0.56
13:J2:74:ARG:HG3	13:J2:112:TRP:HD1	1.71	0.56
18:O2:70:LYS:O	18:O2:74:ILE:HG13	2.06	0.56
19:P2:93:LEU:HD11	19:P2:124:MET:HE3	1.85	0.56
20:Q2:54:HIS:O	20:Q2:58:LYS:HG2	2.06	0.56
29:Z2:16:ARG:NH2	29:Z2:77:ASP:OD2	2.36	0.56
37:h2:44:LYS:CG	37:h2:56:GLN:HB2	2.35	0.56
45:H3:73:ILE:O	45:H3:77:VAL:HG23	2.06	0.56
45:H3:104:VAL:HG13	45:H3:113:GLU:HB2	1.87	0.56
50:N3:12:ARG:O	50:N3:13:LYS:HE2	2.05	0.56
61:Z3:74:VAL:HG23	61:Z3:101:PHE:HE2	1.68	0.56
84:w3:38:LEU:HD12	84:w3:38:LEU:H	1.70	0.56
1:51:671:G:H2'	1:51:672:C:C6	2.41	0.56
1:51:2554:U:C2	1:51:2762:G:N7	2.73	0.56
1:51:2696:A:H62	72:k3:35:LYS:HZ3	1.54	0.56
1:51:4658:G:N1	1:51:4659:G:C2	2.73	0.56
1:51:5000:G:N2	1:51:5051:C:C2	2.73	0.56
4:A2:126:G:O2'	4:A2:127:C:H5'	2.06	0.56
4:A2:182:C:C6	4:A2:183:G:C6	2.93	0.56
6:C2:153:THR:O	6:C2:154:SER:OG	2.19	0.56
6:C2:184:VAL:O	6:C2:188:LEU:CD1	2.53	0.56
29:Z2:20:ARG:CA	29:Z2:75:ILE:HB	2.35	0.56
45:H3:58:ASP:OD1	45:H3:58:ASP:N	2.38	0.56
48:L3:87:HIS:O	48:L3:90:VAL:HG22	2.06	0.56
50:N3:36:LEU:HG	50:N3:64:ILE:HG22	1.88	0.56
69:h3:28:LEU:HD21	69:h3:32:ARG:HE	1.71	0.56
81:u3:13:VAL:HG21	81:u3:32:ILE:CD1	2.34	0.56
81:u3:119:ARG:NH2	81:u3:121:LEU:HD13	2.20	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:3947:A:N6	1:51:3948:C:O2'	2.37	0.56
1:51:4884:G:N1	1:51:4936:G:C6	2.73	0.56
4:A2:1355:C:N4	4:A2:1356:G:C2	2.74	0.56
4:A2:1750:C:H2'	4:A2:1751:C:O4'	2.05	0.56
4:A2:1815:A:H3'	4:A2:1816:G:O4'	2.04	0.56
5:B2:205:ARG:CZ	5:B2:210:ILE:HG12	2.35	0.56
8:E2:98:ALA:HB1	8:E2:171:ALA:CB	2.35	0.56
37:h2:177:TRP:HA	37:h2:184:LEU:HA	1.87	0.56
37:h2:249:CYS:CB	37:h2:258:ILE:HG22	2.36	0.56
42:E3:115:MET:SD	42:E3:115:MET:N	2.77	0.56
44:G3:113:TYR:CZ	44:G3:114:ILE:HD11	2.40	0.56
53:Q3:54:SER:O	53:Q3:58:ARG:HG2	2.05	0.56
54:R3:154:LEU:HD23	54:R3:154:LEU:C	2.30	0.56
83:33:13:C:O2'	83:33:14:A:O5'	2.21	0.56
1:51:437:G:C4	1:51:1311:G:N2	2.73	0.56
1:51:1971:U:H2'	1:51:1972:G:OP2	2.05	0.56
4:A2:141:A:H2'	4:A2:178:C:O2	2.05	0.56
4:A2:1718:G:N1	4:A2:1814:G:H2'	2.21	0.56
4:A2:1722:G:H1	4:A2:1812:U:H3	1.53	0.56
14:K2:36:GLY:C	14:K2:37:LEU:HD12	2.31	0.56
21:R2:25:CYS:SG	21:R2:66:VAL:HG13	2.45	0.56
42:E3:167:PHE:CE1	42:E3:176:LEU:HD22	2.35	0.56
43:F3:94:ILE:O	43:F3:116:ILE:HD11	2.06	0.56
49:M3:12:VAL:HG13	49:M3:12:VAL:O	2.05	0.56
49:M3:124:LYS:O	49:M3:128:LYS:HG2	2.06	0.56
54:R3:93:VAL:O	54:R3:95:TRP:N	2.39	0.56
73:l3:23:ILE:HB	73:l3:27:ILE:HG21	1.87	0.56
1:51:4294:C:O3'	76:o3:13:LYS:NZ	2.33	0.56
1:51:4606:G:O2'	1:51:4607:A:O5'	2.21	0.56
2:71:26:C:H5'	41:D3:56:THR:HG21	1.87	0.56
11:H2:32:MET:HE1	11:H2:63:MET:HE2	1.88	0.56
16:M2:128:VAL:HG12	16:M2:129:GLY:N	2.19	0.56
25:V2:23:THR:OG1	25:V2:113:GLU:HB3	2.05	0.56
30:a2:87:ALA:O	30:a2:91:LEU:HD23	2.05	0.56
40:C3:33:ARG:N	40:C3:126:SER:OG	2.38	0.56
60:Y3:31:SER:HG	60:Y3:47:MET:C	2.10	0.56
63:b3:113:ALA:CA	63:b3:116:LEU:HD22	2.34	0.56
64:c3:17:ARG:O	64:c3:21:VAL:HG23	2.05	0.56
81:u3:32:ILE:HG23	81:u3:64:ILE:HD11	1.87	0.56
1:51:459:C:OP1	42:E3:114:LYS:NZ	2.39	0.56
1:51:3690:U:O2'	1:51:3817:A:N3	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:4581:G:N2	1:51:4723:A:C6	2.74	0.56
4:A2:1226:G:N1	4:A2:1639:G:OP2	2.38	0.56
6:C2:114:VAL:HG12	6:C2:142:PHE:HZ	1.70	0.56
12:I2:172:THR:O	12:I2:176:VAL:HG23	2.06	0.56
13:J2:76:THR:HG21	13:J2:106:SER:HB3	1.86	0.56
15:L2:58:VAL:HG23	15:L2:70:TYR:O	2.06	0.56
16:M2:40:ILE:HD11	16:M2:62:PHE:CE1	2.41	0.56
35:f2:78:SER:OG	35:f2:81:ARG:NH2	2.38	0.56
40:C3:33:ARG:NH2	40:C3:36:ILE:HD11	2.20	0.56
60:Y3:66:GLN:OE1	60:Y3:66:GLN:N	2.38	0.56
65:d3:33:ILE:HD11	65:d3:41:ARG:HB3	1.88	0.56
1:51:307:A:N6	1:51:308:G:O6	2.39	0.56
1:51:985:C:N4	1:51:1070:G:O6	2.39	0.56
1:51:1395:U:OP1	48:L3:186:ARG:NH1	2.38	0.56
1:51:4755:G:N2	1:51:4879:C:O2	2.39	0.56
4:A2:874:G:H2'	4:A2:875:A:C8	2.41	0.56
5:B2:206:ASP:OD2	5:B2:208:GLU:N	2.29	0.56
6:C2:52:THR:HG23	6:C2:52:THR:O	2.04	0.56
6:C2:133:TYR:CE2	6:C2:181:LEU:HD22	2.41	0.56
7:D2:84:PHE:HB2	7:D2:86:LEU:HD12	1.88	0.56
17:N2:119:GLN:O	17:N2:123:VAL:HG12	2.06	0.56
39:B3:150:PHE:O	39:B3:154:LYS:HG3	2.05	0.56
81:u3:46:ILE:HD11	81:u3:62:LEU:HD21	1.88	0.56
81:u3:136:ALA:HA	81:u3:139:VAL:CG2	2.36	0.56
84:w3:111:LEU:CD1	84:w3:141:ASN:HB3	2.36	0.56
85:1:58:PHE:O	85:1:59:TYR:C	2.49	0.56
1:51:975:C:N4	1:51:1281:G:H21	2.04	0.56
1:51:3886:G:OP2	51:O3:90:HIS:NE2	2.38	0.56
1:51:4064:C:C4	1:51:4065:G:N7	2.74	0.56
2:71:85:G:H1	2:71:92:C:H42	1.53	0.56
4:A2:1012:A:H2'	4:A2:1013:U:O4'	2.06	0.56
4:A2:1395:C:HO2'	4:A2:1396:A:P	2.26	0.56
4:A2:1629:C:O2'	23:T2:85:ASN:HB2	2.06	0.56
7:D2:84:PHE:HA	26:W2:15:ARG:NH2	2.21	0.56
20:Q2:83:MET:HB3	20:Q2:116:LEU:HD12	1.88	0.56
22:S2:76:GLU:O	22:S2:80:ARG:HG2	2.06	0.56
27:X2:14:ILE:HG22	27:X2:14:ILE:O	2.06	0.56
38:A3:142:GLU:O	38:A3:143:THR:OG1	2.16	0.56
41:D3:248:ARG:O	41:D3:251:PRO:HG3	2.06	0.56
44:G3:118:ARG:O	44:G3:122:ILE:HG13	2.06	0.56
44:G3:317:LYS:O	44:G3:318:LEU:HD22	2.07	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:Q3:99:LYS:HE2	53:Q3:121:LEU:HD11	1.86	0.56
81:u3:104:ILE:HD13	81:u3:132:ILE:CG2	2.36	0.56
83:33:12:U:H3	83:33:22:G:H22	1.54	0.56
1:51:229:G:C2	1:51:240:G:C2	2.93	0.55
1:51:760:G:N2	1:51:904:C:O2	2.38	0.55
1:51:971(A):G:N3	1:51:971(A):G:O2'	2.35	0.55
1:51:979:C:C4	1:51:1277:G:N2	2.74	0.55
1:51:1102:U:O4	1:51:1166:G:O2'	2.23	0.55
1:51:1347:G:C2	1:51:1510:G:C2	2.95	0.55
1:51:3761:C:C2'	1:51:3762:U:H5'	2.35	0.55
1:51:3966:A:N6	1:51:3967:G:O6	2.39	0.55
3:81:36:G:N2	69:h3:89:ARG:CZ	2.70	0.55
3:81:122:G:O6	3:81:129:C:N4	2.39	0.55
4:A2:1857:G:N7	19:P2:146:ARG:NH1	2.54	0.55
9:F2:126:VAL:HG12	9:F2:158:ASP:O	2.06	0.55
12:I2:39:GLN:HB3	12:I2:75:ILE:HD11	1.88	0.55
13:J2:82:VAL:HG13	13:J2:83:TYR:N	2.21	0.55
14:K2:46:VAL:O	14:K2:49:THR:HG22	2.06	0.55
18:O2:47:PRO:HA	18:O2:50:ILE:HD12	1.88	0.55
20:Q2:26:LEU:HD12	20:Q2:27:ASP:N	2.21	0.55
33:d2:11:LEU:HD22	33:d2:35:MET:SD	2.46	0.55
37:h2:218:LEU:HD22	37:h2:228:TYR:CE1	2.41	0.55
37:h2:271:LYS:HG2	37:h2:272:GLN:O	2.06	0.55
38:A3:33:ASP:OD2	38:A3:35:ALA:N	2.39	0.55
43:F3:102:PRO:HA	43:F3:105:ARG:HE	1.71	0.55
44:G3:236:ILE:HG21	44:G3:275:ILE:HD12	1.89	0.55
65:d3:87:ARG:HB3	65:d3:107:THR:OG1	2.06	0.55
84:w3:56:LYS:HD3	84:w3:185:LEU:CD1	2.36	0.55
1:51:103:G:O2'	1:51:1381:U:O2	2.24	0.55
1:51:135:G:O2'	1:51:136:C:OP1	2.24	0.55
1:51:1772:C:N4	1:51:1773:U:C4	2.74	0.55
1:51:3653:A:O2'	38:A3:180:LEU:HA	2.06	0.55
1:51:4089:G:C4	1:51:4161:G:N2	2.74	0.55
2:71:4:U:C2	2:71:116:G:N2	2.74	0.55
4:A2:669:A:N7	4:A2:670:A:N6	2.54	0.55
7:D2:103:LYS:O	7:D2:130:ILE:HG13	2.06	0.55
10:G2:29:GLN:HA	10:G2:29:GLN:OE1	2.05	0.55
13:J2:83:TYR:HB3	13:J2:101:ILE:CG1	2.35	0.55
13:J2:103:LEU:HD12	13:J2:170:LYS:HZ2	1.70	0.55
26:W2:70:LEU:HD11	26:W2:83:PHE:CZ	2.41	0.55
29:Z2:96:LEU:HG	29:Z2:96:LEU:O	2.05	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:h2:85:GLY:O	37:h2:104:HIS:HB2	2.05	0.55
42:E3:161:ARG:HH21	67:f3:5:LEU:HD12	1.71	0.55
45:H3:126:VAL:HG11	45:H3:161:ILE:HG22	1.88	0.55
57:U3:26:THR:HG23	57:U3:27:HIS:N	2.20	0.55
77:p3:36:LYS:HG2	77:p3:47:MET:CB	2.36	0.55
81:u3:104:ILE:HD13	81:u3:132:ILE:HG22	1.86	0.55
1:51:132:G:N1	1:51:137:G:C6	2.74	0.55
1:51:2039:G:O6	1:51:2040:A:N6	2.39	0.55
1:51:2403:A:N6	1:51:2404:A:C6	2.75	0.55
1:51:3973:G:N2	1:51:4050:A:HO2'	2.03	0.55
1:51:4035:G:C2	1:51:4036:G:C5	2.94	0.55
2:71:5:A:C2	2:71:115:A:H2	2.24	0.55
2:71:9:C:H41	2:71:13:A:H61	1.52	0.55
8:E2:46:THR:OG1	8:E2:83:SER:O	2.14	0.55
12:I2:122:LEU:HD21	12:I2:126:HIS:CE1	2.41	0.55
22:S2:32:LYS:HD2	22:S2:48:ASN:OD1	2.06	0.55
25:V2:26:SER:HB3	25:V2:32:LEU:HD22	1.88	0.55
46:I3:35:ASP:C	46:I3:36:LEU:HD12	2.31	0.55
54:R3:15:LEU:HD13	54:R3:52:ARG:HG2	1.86	0.55
54:R3:132:PHE:HZ	54:R3:142:ILE:HD11	1.71	0.55
57:U3:39:PHE:CD1	57:U3:43:LEU:HD12	2.40	0.55
69:h3:9:LEU:HD23	69:h3:12:LYS:CE	2.37	0.55
79:q3:10:G:C2	79:q3:11:U:C6	2.95	0.55
79:q3:18:G:N2	79:q3:55:U:HO2'	2.05	0.55
1:51:1098:G:C2	1:51:1099:C:C2	2.95	0.55
1:51:1590:C:C4	1:51:1592:G:N7	2.75	0.55
1:51:1811:G:O2'	1:51:1812:C:H5'	2.06	0.55
1:51:2410:C:H42	1:51:2434:G:H1	1.55	0.55
1:51:4129:G:H22	1:51:4156:G:C4'	2.19	0.55
1:51:4208:U:C6	1:51:4209:G:C2	2.94	0.55
1:51:4371:G:N2	83:33:75:C:C2	2.75	0.55
1:51:4473:A:P	74:m3:76:ARG:HH21	2.30	0.55
4:A2:1293:A:N6	4:A2:1307:U:N3	2.54	0.55
4:A2:1302:G:N2	4:A2:1306:U:O4	2.40	0.55
4:A2:1332:A:O2'	8:E2:141:LYS:NZ	2.35	0.55
10:G2:49:LEU:HD23	10:G2:49:LEU:H	1.70	0.55
12:I2:181:THR:HB	12:I2:183:LYS:NZ	2.21	0.55
21:R2:116:ASP:OD2	21:R2:118:THR:OG1	2.20	0.55
26:W2:53:TYR:CE1	26:W2:72:LEU:HB3	2.42	0.55
37:h2:142:VAL:HG21	37:h2:177:TRP:CH2	2.41	0.55
39:B3:314:ILE:HG13	39:B3:314:ILE:O	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:d3:112:THR:HG23	65:d3:113:THR:N	2.21	0.55
86:W:49:ILE:HD12	86:W:49:ILE:N	2.22	0.55
1:51:1434:G:H1	1:51:1451:G:H21	1.54	0.55
1:51:1990:A:OP2	1:51:1991:A:H2	1.88	0.55
1:51:2102:G:H5'	43:F3:45:ARG:HH22	1.71	0.55
1:51:4322:G:N2	1:51:4325:A:OP2	2.40	0.55
1:51:4639:G:OP2	1:51:4639:G:N2	2.39	0.55
3:81:78:G:O6	3:81:79:G:N1	2.40	0.55
4:A2:830:A:C2	4:A2:845:G:N1	2.74	0.55
6:C2:228:LEU:HD12	6:C2:229:MET:N	2.21	0.55
13:J2:43:ILE:HG23	13:J2:56:ARG:O	2.06	0.55
14:K2:149:VAL:CG2	14:K2:150:ARG:HD3	2.32	0.55
26:W2:15:ARG:HG2	26:W2:16:LYS:H	1.71	0.55
45:H3:171:ASP:OD1	45:H3:172:ILE:N	2.39	0.55
84:w3:205:TYR:CG	84:w3:213:PRO:HB3	2.42	0.55
1:51:230:G:C2	1:51:231:U:O2	2.60	0.55
1:51:1855:G:C2	1:51:1856:C:C2	2.95	0.55
1:51:4094:G:N2	1:51:4115:G:C4	2.74	0.55
4:A2:1033:G:N1	4:A2:1080:A:O2'	2.35	0.55
4:A2:1590:C:O2'	4:A2:1591:C:OP1	2.19	0.55
4:A2:1816:G:C2'	4:A2:1817:G:H8	2.20	0.55
6:C2:28:LYS:NZ	6:C2:50:THR:HG23	2.21	0.55
6:C2:136:ARG:C	6:C2:137:LEU:HD12	2.31	0.55
11:H2:52:ILE:O	11:H2:54:GLY:N	2.39	0.55
29:Z2:81:TYR:O	29:Z2:85:ASN:OD1	2.24	0.55
38:A3:75:LEU:O	38:A3:76:PHE:HD2	1.90	0.55
41:D3:40:ASP:OD1	41:D3:41:LYS:N	2.40	0.55
44:G3:196:VAL:HG21	44:G3:256:ALA:CB	2.35	0.55
79:q3:50:U:O4	79:q3:51:C:N4	2.40	0.55
80:t3:18:ILE:O	80:t3:18:ILE:HG22	2.07	0.55
84:w3:119:GLN:O	84:w3:123:ILE:HG12	2.07	0.55
1:51:450:G:O6	1:51:1298:C:N4	2.39	0.55
1:51:1573:G:N7	1:51:1574:G:C6	2.74	0.55
1:51:1855:G:N1	1:51:1856:C:N3	2.55	0.55
1:51:3974:G:HO2'	84:w3:28:PHE:HE1	1.52	0.55
4:A2:152:U:H2'	4:A2:153:G:O4'	2.06	0.55
4:A2:897:U:H2'	4:A2:898:U:O4'	2.07	0.55
8:E2:21:LEU:O	8:E2:25:LEU:HD13	2.07	0.55
9:F2:159:THR:HG21	9:F2:227:VAL:O	2.06	0.55
17:N2:47:ALA:CB	17:N2:110:VAL:HG12	2.36	0.55
18:O2:63:VAL:O	18:O2:67:THR:HG22	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:S2:35:CYS:HA	22:S2:38:ILE:CG1	2.37	0.55
26:W2:43:THR:HG23	26:W2:44:GLY:N	2.21	0.55
29:Z2:17:LEU:HD12	29:Z2:18:LEU:HD22	1.88	0.55
47:J3:31:ASP:HA	47:J3:34:THR:HG22	1.89	0.55
65:d3:122:VAL:HG22	65:d3:123:ASP:H	1.71	0.55
67:f3:31:GLU:HG3	67:f3:31:GLU:O	2.05	0.55
67:f3:75:THR:HG23	67:f3:76:ARG:N	2.21	0.55
81:u3:61:LYS:HB2	81:u3:72:GLU:CG	2.37	0.55
83:33:2:C:C2	83:33:71:G:N2	2.74	0.55
84:w3:190:LEU:O	84:w3:190:LEU:HD23	2.06	0.55
1:51:2102:G:H5'	43:F3:45:ARG:NH2	2.22	0.55
1:51:4251:A:N6	47:J3:127:GLY:O	2.39	0.55
1:51:4691:A:C2	1:51:4700:A:C5	2.95	0.55
4:A2:146:G:N2	4:A2:147:A:C4	2.74	0.55
4:A2:223:C:C2	4:A2:224:A:C2	2.95	0.55
4:A2:1101:U:OP1	22:S2:132:ARG:NH1	2.31	0.55
4:A2:1337:C:OP1	34:e2:44:ARG:NH2	2.39	0.55
4:A2:1752:C:O2'	4:A2:1782:G:N2	2.40	0.55
8:E2:176:LEU:C	8:E2:177:LEU:HD12	2.31	0.55
9:F2:99:PHE:CE1	9:F2:113:ARG:HG2	2.41	0.55
11:H2:2:LYS:O	11:H2:108:VAL:HG12	2.07	0.55
11:H2:59:GLN:OE1	11:H2:59:GLN:N	2.39	0.55
12:I2:103:LYS:HA	12:I2:116:ARG:NH1	2.21	0.55
14:K2:35:TYR:CD2	14:K2:106:LEU:HD13	2.41	0.55
41:D3:83:LEU:HB3	41:D3:88:VAL:CG1	2.37	0.55
54:R3:28:GLU:OE2	54:R3:31:GLU:N	2.39	0.55
61:Z3:33:THR:OG1	61:Z3:34:SER:N	2.39	0.55
61:Z3:46:ILE:HD11	61:Z3:49:TYR:CE1	2.42	0.55
61:Z3:109:LYS:O	61:Z3:113:GLU:HG2	2.07	0.55
70:i3:36:HIS:O	70:i3:40:VAL:HG23	2.06	0.55
79:q3:44:A:N6	79:q3:45:G:N7	2.55	0.55
81:u3:18:THR:OG1	81:u3:21:GLU:O	2.21	0.55
1:51:152:U:C4	1:51:153:G:N7	2.74	0.55
1:51:1332:C:H5"	66:e3:30:LYS:HB3	1.89	0.55
1:51:1990:A:N1	81:u3:140:GLY:HA2	2.22	0.55
1:51:2016:C:O2'	1:51:2017:A:O4'	2.24	0.55
16:M2:120:VAL:O	16:M2:120:VAL:HG23	2.07	0.55
38:A3:75:LEU:O	38:A3:76:PHE:CD2	2.59	0.55
47:J3:81:GLU:O	47:J3:84:GLU:HG3	2.07	0.55
60:Y3:31:SER:OG	60:Y3:32:SER:N	2.36	0.55
86:W:5:LEU:HD23	86:W:5:LEU:H	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:1391:A:OP1	53:Q3:181:ARG:NH1	2.40	0.55
3:81:155:C:C5	3:81:156:U:O2	2.60	0.55
4:A2:282:G:N7	4:A2:891:G:O2'	2.40	0.55
4:A2:698:G:N2	4:A2:729:C:O2	2.39	0.55
4:A2:1746:U:C4	4:A2:1789:G:N2	2.75	0.55
5:B2:208:GLU:O	5:B2:211:GLU:HG3	2.06	0.55
9:F2:183:VAL:HG11	9:F2:188:ASN:HB2	1.89	0.55
11:H2:58:LYS:CD	11:H2:106:LEU:HD11	2.34	0.55
21:R2:101:ASP:OD1	21:R2:104:SER:OG	2.25	0.55
27:X2:42:MET:HE2	27:X2:49:GLU:HA	1.89	0.55
33:d2:14:VAL:HG22	33:d2:30:VAL:HG21	1.89	0.55
54:R3:137:ILE:HD12	54:R3:141:HIS:CG	2.42	0.55
80:t3:117:ALA:HB3	80:t3:161:ILE:HG21	1.89	0.55
85:1:59:TYR:O	85:1:62:ASP:N	2.40	0.55
1:51:1428:U:C5	1:51:1429:C:C5	2.95	0.54
1:51:1907:A:H62	1:51:1908:A:N6	2.05	0.54
1:51:2098:G:H2'	1:51:2099:C:C6	2.41	0.54
1:51:3839:G:N2	1:51:3843:C:O2	2.38	0.54
1:51:3959:U:O2'	1:51:3960:A:O5'	2.23	0.54
1:51:4060:U:H2'	1:51:4061:G:C8	2.42	0.54
1:51:4122:G:H1	68:g3:97:ILE:HD12	1.69	0.54
2:71:47:G:C2	2:71:48:G:H1'	2.41	0.54
4:A2:1563:G:P	24:U2:72:VAL:HG21	2.47	0.54
14:K2:135:ILE:CG2	14:K2:136:ARG:H	2.20	0.54
18:O2:134:VAL:O	18:O2:134:VAL:HG22	2.06	0.54
25:V2:39:LEU:HD23	25:V2:39:LEU:O	2.08	0.54
78:r3:64:MET:HE1	78:r3:102:TYR:CE2	2.42	0.54
81:u3:80:LEU:HB3	81:u3:112:ILE:HG13	1.88	0.54
83:33:68:C:HO2'	83:33:69:G:C5'	2.19	0.54
1:51:209:U:N3	1:51:233:U:C4	2.76	0.54
1:51:267:G:C2	1:51:268:G:C8	2.95	0.54
1:51:745:G:C2	1:51:920:C:O2	2.60	0.54
1:51:979:C:C5	1:51:1277:G:N2	2.75	0.54
1:51:1950:U:C2	1:51:2034:G:N1	2.75	0.54
1:51:3754:G:O6	1:51:3772:U:O4	2.24	0.54
1:51:3856:A:OP1	52:P3:82:ARG:HG2	2.06	0.54
1:51:3898:G:N2	39:B3:260:ALA:O	2.34	0.54
1:51:3936:A:N6	1:51:4175:G:O6	2.40	0.54
1:51:3961:G:H1'	1:51:4049:U:O4	2.08	0.54
1:51:4448:G:O2'	1:51:4449:A:OP2	2.18	0.54
1:51:4518:A:N7	39:B3:257:TRP:NE1	2.55	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:103:A:N6	4:A2:356:C:O2	2.40	0.54
4:A2:225:G:H21	4:A2:297:A:H61	1.55	0.54
4:A2:1177:U:H2'	4:A2:1178:U:C6	2.43	0.54
4:A2:1287:A:H2'	4:A2:1315:U:C6	2.42	0.54
6:C2:160:GLN:O	6:C2:164:ILE:HG13	2.08	0.54
25:V2:22:ILE:O	25:V2:89:ILE:HG22	2.07	0.54
28:Y2:133:LEU:O	28:Y2:133:LEU:HD23	2.07	0.54
33:d2:55:VAL:C	33:d2:56:LEU:HD12	2.31	0.54
37:h2:154:VAL:C	37:h2:155:ARG:HG2	2.32	0.54
37:h2:211:GLY:O	37:h2:236:ILE:HG22	2.06	0.54
39:B3:166:THR:HG22	39:B3:167:GLN:N	2.22	0.54
45:H3:134:CYS:SG	45:H3:135:SER:N	2.80	0.54
54:R3:177:LEU:HD12	54:R3:181:LYS:HD2	1.87	0.54
1:51:2:G:H2'	1:51:3:C:C6	2.42	0.54
1:51:2027:U:C3'	1:51:2028:C:H5"	2.37	0.54
1:51:4066:U:H4'	1:51:4067:U:OP2	2.08	0.54
1:51:4489:G:N1	1:51:4708:A:N7	2.54	0.54
4:A2:42:A:C6	4:A2:43:U:H5	2.26	0.54
4:A2:640:A:H2'	4:A2:641:A:H8	1.72	0.54
4:A2:1332:A:C2	4:A2:1500:G:C4	2.95	0.54
4:A2:1817:G:H2'	4:A2:1818:A:O4'	2.08	0.54
7:D2:138:GLY:HA3	7:D2:162:ILE:HG22	1.90	0.54
8:E2:55:THR:HA	8:E2:58:VAL:HG22	1.90	0.54
11:H2:43:GLU:HG3	11:H2:44:GLU:H	1.71	0.54
12:I2:177:TYR:O	12:I2:181:THR:OG1	2.21	0.54
29:Z2:82:ALA:O	29:Z2:86:GLU:HB3	2.08	0.54
32:c2:63:LEU:HA	32:c2:74:THR:OG1	2.08	0.54
37:h2:82:SER:O	37:h2:108:VAL:HB	2.07	0.54
39:B3:223:THR:OG1	39:B3:274:TYR:N	2.39	0.54
41:D3:25:GLU:O	41:D3:27:LYS:HG3	2.07	0.54
55:S3:36:ASN:OD1	55:S3:39:VAL:HG22	2.08	0.54
68:g3:110:GLN:OE1	68:g3:114:GLN:NE2	2.36	0.54
83:33:17:G:N2	83:33:56:C:C2	2.75	0.54
1:51:222:C:C4	1:51:236:G:N2	2.75	0.54
1:51:430:G:H1	3:81:4:C:H42	1.54	0.54
1:51:504:G:N2	1:51:505:G:C4	2.76	0.54
1:51:2552:G:H5"	1:51:2553:A:H5"	1.89	0.54
1:51:2771:G:C6	1:51:2772:C:C4	2.96	0.54
1:51:4044:U:H1'	1:51:4048:A:H62	1.73	0.54
1:51:4772:C:N4	1:51:4863:G:H22	1.94	0.54
4:A2:1063:C:O2'	19:P2:150:ARG:O	2.24	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:1718:G:C2	4:A2:1814:G:H2'	2.42	0.54
7:D2:68:ARG:NH1	7:D2:276:THR:OG1	2.32	0.54
7:D2:105:GLU:CB	7:D2:216:MET:HE1	2.38	0.54
16:M2:128:VAL:HG11	16:M2:140:PHE:HB3	1.90	0.54
32:c2:6:ASP:OD1	32:c2:8:LEU:N	2.41	0.54
38:A3:158:ILE:HG21	38:A3:162:ASN:ND2	2.23	0.54
39:B3:313:SER:OG	39:B3:314:ILE:N	2.40	0.54
44:G3:228:ARG:HD2	44:G3:235:CYS:HB3	1.88	0.54
46:I3:190:LEU:HD21	46:I3:199:TYR:HD1	1.72	0.54
52:P3:2:VAL:HG12	52:P3:3:ARG:N	2.20	0.54
65:d3:57:MET:O	65:d3:59:THR:N	2.38	0.54
79:q3:33:U:H2'	79:q3:34:A:H3'	1.89	0.54
1:51:385:A:C2	1:51:386:A:C5	2.96	0.54
1:51:652:G:H2'	1:51:653:C:C6	2.42	0.54
1:51:1204:C:H2'	1:51:1205:G:C8	2.42	0.54
1:51:1787:A:N3	1:51:4210:U:O2'	2.40	0.54
1:51:2832:A:C2	1:51:3854:C:N3	2.75	0.54
1:51:4719:G:O2'	1:51:4720:C:O5'	2.18	0.54
4:A2:517:C:C5	4:A2:518:G:C8	2.96	0.54
4:A2:1277:C:H42	4:A2:1320:G:H1	1.56	0.54
4:A2:1331:C:OP2	4:A2:1489:A:O2'	2.25	0.54
4:A2:1840:U:N3	4:A2:1841:C:C5	2.75	0.54
14:K2:46:VAL:HG11	14:K2:102:ILE:HD11	1.90	0.54
28:Y2:74:LEU:HD11	28:Y2:81:ILE:HD11	1.90	0.54
29:Z2:54:VAL:HG13	29:Z2:75:ILE:O	2.07	0.54
39:B3:90:VAL:CG2	39:B3:104:THR:HG22	2.36	0.54
42:E3:155:ILE:HG22	42:E3:163:LYS:O	2.07	0.54
44:G3:199:LEU:CD1	44:G3:205:ALA:HB2	2.36	0.54
53:Q3:88:ASP:OD2	53:Q3:89:ASP:N	2.40	0.54
55:S3:169:THR:HG23	55:S3:170:LYS:N	2.22	0.54
56:T3:113:ASP:C	56:T3:117:LYS:HZ3	2.15	0.54
1:51:464:G:N2	1:51:691:C:H41	2.06	0.54
1:51:1402:C:H2'	1:51:1403:G:C8	2.43	0.54
1:51:2046:G:N2	51:O3:60:LYS:HD3	2.23	0.54
1:51:2070:U:OP1	67:f3:22:ARG:NH2	2.40	0.54
1:51:2487:G:H1'	3:81:126:C:OP2	2.07	0.54
1:51:2553:A:H5'	1:51:2574:G:C6	2.43	0.54
1:51:4122:G:H22	68:g3:97:ILE:CB	2.20	0.54
4:A2:472:C:O2'	4:A2:474:G:OP1	2.21	0.54
4:A2:1273:C:N3	4:A2:1510:G:N2	2.56	0.54
4:A2:1415:C:C2	4:A2:1425:G:N2	2.76	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:1515:G:N2	20:Q2:99:GLY:O	2.39	0.54
11:H2:2:LYS:HG3	11:H2:108:VAL:CG1	2.37	0.54
13:J2:39:GLY:O	13:J2:61:ASP:HB3	2.08	0.54
19:P2:114:SER:O	19:P2:118:ALA:HB2	2.08	0.54
22:S2:27:ASP:O	22:S2:31:ASN:ND2	2.40	0.54
31:b2:23:CYS:SG	31:b2:24:THR:N	2.75	0.54
44:G3:230:MET:O	44:G3:232:VAL:HG13	2.07	0.54
46:I3:152:LEU:O	46:I3:156:LYS:HG3	2.08	0.54
50:N3:6:TYR:CD2	70:i3:40:VAL:HG11	2.43	0.54
61:Z3:9:LYS:HD3	61:Z3:86:SER:HB2	1.90	0.54
63:b3:109:ARG:HA	63:b3:112:ILE:HG22	1.90	0.54
84:w3:38:LEU:HD12	84:w3:38:LEU:N	2.22	0.54
1:51:269:G:H2'	1:51:270:U:C6	2.43	0.54
1:51:2898:G:OP2	54:R3:139:MET:HE1	2.07	0.54
1:51:3780:G:N1	1:51:3781:C:N3	2.55	0.54
1:51:4572:U:O2'	1:51:4573:G:H8	1.89	0.54
1:51:4573:G:N2	1:51:4574:U:C4	2.72	0.54
1:51:4993:G:N2	1:51:5059:C:O2	2.41	0.54
1:51:5037:U:H2'	1:51:5038:A:H8	1.72	0.54
3:81:127:U:C4	3:81:128:C:C4	2.96	0.54
4:A2:560:A:H5'	14:K2:165:TYR:CE2	2.42	0.54
4:A2:1109:C:H2'	4:A2:1110:G:O4'	2.08	0.54
4:A2:1293:A:C2	4:A2:1302:G:C6	2.96	0.54
4:A2:1599:U:O5'	4:A2:1600:G:C8	2.61	0.54
4:A2:1607:A:N6	4:A2:1631:U:C4	2.76	0.54
8:E2:104:SER:O	8:E2:108:LYS:HG3	2.07	0.54
39:B3:122:TRP:CE2	39:B3:127:LYS:HE3	2.43	0.54
40:C3:26:ALA:HB1	40:C3:267:TRP:CZ3	2.42	0.54
51:O3:27:VAL:HG13	51:O3:28:LEU:N	2.23	0.54
52:P3:107:LEU:HD22	52:P3:107:LEU:N	2.22	0.54
53:Q3:30:LYS:NZ	78:r3:8:MET:SD	2.81	0.54
68:g3:11:LEU:HD23	68:g3:11:LEU:C	2.32	0.54
80:t3:136:SER:HA	80:t3:139:GLN:HG3	1.90	0.54
81:u3:87:GLU:N	81:u3:87:GLU:OE1	2.40	0.54
81:u3:151:ILE:HG23	81:u3:152:ILE:N	2.23	0.54
1:51:5:A:C2	3:81:154:G:N2	2.76	0.54
1:51:465:G:C2	1:51:466:A:C5	2.96	0.54
1:51:1627:G:N1	1:51:1636:U:C2	2.76	0.54
1:51:1974:U:O4	81:u3:135:THR:HG21	2.07	0.54
1:51:4546:A:C6	1:51:4547:C:N3	2.76	0.54
3:81:78:G:C6	3:81:79:G:N1	2.76	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:23:G:N1	4:A2:24:C:O2	2.40	0.54
4:A2:72:C:O2'	4:A2:72:C:O2	2.26	0.54
4:A2:1095:U:O2	4:A2:1095:U:H2'	2.08	0.54
4:A2:1611:G:C2	4:A2:1629:C:O4'	2.61	0.54
5:B2:89:LYS:HG3	5:B2:201:LEU:HD21	1.89	0.54
9:F2:67:GLN:OE1	9:F2:67:GLN:N	2.41	0.54
9:F2:136:ILE:HD13	9:F2:149:TYR:CE1	2.43	0.54
16:M2:82:MET:HG3	16:M2:85:THR:O	2.07	0.54
23:T2:59:LEU:HD23	23:T2:59:LEU:H	1.73	0.54
41:D3:108:ARG:NE	41:D3:251:PRO:HB3	2.23	0.54
42:E3:198:ILE:HG21	42:E3:291:PHE:HE2	1.72	0.54
43:F3:134:ILE:HG23	43:F3:135:VAL:HG13	1.89	0.54
1:51:131:C:N4	1:51:132:G:O6	2.40	0.54
1:51:649:A:C6	1:51:650:C:C4	2.96	0.54
1:51:2060:G:O3'	55:S3:120:ARG:NH1	2.34	0.54
1:51:2355:G:N2	1:51:2356:U:O2	2.41	0.54
1:51:2700:G:N2	1:51:2717:G:N3	2.56	0.54
1:51:3956:G:N2	1:51:4056:A:N1	2.56	0.54
1:51:4238:G:H2'	1:51:4239:A:C8	2.42	0.54
1:51:4260:U:H2'	1:51:4261:C:C6	2.43	0.54
1:51:4305:G:H22	56:T3:87:LYS:HZ2	1.54	0.54
2:71:66:G:OP1	41:D3:10:LYS:HE3	2.07	0.54
4:A2:64:A:N6	4:A2:84:A:N7	2.56	0.54
4:A2:286:U:O2'	4:A2:287:U:OP1	2.25	0.54
4:A2:1720:U:O5'	4:A2:1722:G:H4'	2.07	0.54
6:C2:28:LYS:HZ3	6:C2:50:THR:CG2	2.19	0.54
10:G2:19:LEU:HD13	10:G2:22:LYS:HA	1.90	0.54
14:K2:77:LEU:HD13	14:K2:80:ARG:HH22	1.73	0.54
32:c2:67:THR:HG22	32:c2:68:GLY:N	2.20	0.54
37:h2:99:ARG:HH22	37:h2:136:GLY:N	2.06	0.54
37:h2:185:LYS:HG2	37:h2:186:THR:HG23	1.90	0.54
40:C3:158:VAL:HA	40:C3:161:TYR:CD2	2.43	0.54
44:G3:210:ILE:HB	44:G3:237:LEU:HD23	1.90	0.54
48:L3:125:VAL:HB	69:h3:120:ALA:O	2.08	0.54
53:Q3:155:ALA:O	53:Q3:158:THR:HB	2.07	0.54
55:S3:80:ILE:HG12	55:S3:129:VAL:HG12	1.89	0.54
72:k3:7:GLU:OE1	72:k3:10:ASP:N	2.39	0.54
84:w3:107:TYR:HB2	84:w3:110:PHE:HE2	1.72	0.54
1:51:1099:C:H2'	1:51:1100:U:O4'	2.07	0.54
1:51:1387:A:H62	62:a3:74:ASN:HD21	1.54	0.54
1:51:2046:G:HO2'	1:51:2047:A:P	2.24	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:2533:C:OP1	59:X3:139:ARG:NH2	2.41	0.54
1:51:2563:C:N4	1:51:2564:G:O6	2.41	0.54
1:51:4122:G:H22	68:g3:97:ILE:HB	1.72	0.54
4:A2:1261:C:O2	34:e2:10:HIS:NE2	2.41	0.54
4:A2:1416:C:H5"	4:A2:1417:C:OP2	2.08	0.54
10:G2:122:ARG:C	10:G2:141:VAL:HG22	2.33	0.54
11:H2:215:LYS:O	11:H2:218:LYS:HG2	2.08	0.54
50:N3:137:PRO:O	50:N3:152:THR:OG1	2.26	0.54
59:X3:46:PHE:O	59:X3:48:ARG:N	2.39	0.54
59:X3:95:THR:OG1	59:X3:96:LEU:N	2.41	0.54
72:k3:56:LEU:O	72:k3:56:LEU:HD23	2.07	0.54
79:q3:12:G:H1	79:q3:23:C:N4	2.06	0.54
81:u3:152:ILE:HA	81:u3:155:ILE:HG12	1.89	0.54
1:51:1291:G:HO2'	1:51:1292:C:P	2.30	0.53
1:51:1322:A:N1	1:51:3876:A:C2	2.76	0.53
1:51:1828:C:C4	1:51:1829:G:N7	2.76	0.53
1:51:1973:G:N2	81:u3:78:SER:OG	2.40	0.53
1:51:3668:C:O2	1:51:3675:G:N2	2.41	0.53
1:51:4064:C:H2'	1:51:4065:G:O4'	2.08	0.53
4:A2:65:C:N4	11:H2:133:LEU:HD23	2.23	0.53
4:A2:688:U:H1'	4:A2:689:U:OP2	2.08	0.53
4:A2:1523:C:C5	23:T2:141:ARG:NH2	2.77	0.53
4:A2:1610:G:C2	4:A2:1629:C:C4	2.96	0.53
4:A2:1731:A:N6	4:A2:1732:G:O6	2.42	0.53
4:A2:1751:C:O2	4:A2:1784:G:C2	2.61	0.53
4:A2:1787:G:H2'	4:A2:1788:A:C8	2.43	0.53
7:D2:166:ARG:HB2	7:D2:248:TYR:CZ	2.43	0.53
8:E2:99:ILE:HD12	8:E2:173:ARG:CZ	2.38	0.53
9:F2:103:TYR:CE1	9:F2:109:PHE:CZ	2.96	0.53
14:K2:143:ASN:C	14:K2:144:ILE:HD12	2.33	0.53
40:C3:211:TYR:CE1	40:C3:230:LEU:O	2.61	0.53
41:D3:254:GLU:O	41:D3:255:LYS:C	2.51	0.53
43:F3:109:GLN:HG2	43:F3:109:GLN:O	2.08	0.53
45:H3:78:GLN:O	45:H3:82:LYS:HG2	2.08	0.53
45:H3:102:ASN:HB3	45:H3:115:ARG:HB2	1.89	0.53
54:R3:91:GLU:HG2	54:R3:93:VAL:CA	2.36	0.53
54:R3:99:MET:O	54:R3:103:ARG:HG3	2.08	0.53
84:w3:31:THR:HG23	84:w3:31:THR:O	2.08	0.53
1:51:1353:G:N2	1:51:1504:G:C6	2.76	0.53
1:51:1746:A:C2'	1:51:1747:U:O5'	2.56	0.53
1:51:2082:G:N2	1:51:2083:C:C4	2.76	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:2438:A:O2'	1:51:2440:U:OP2	2.27	0.53
1:51:2551:A:N1	1:51:2767:U:C4	2.76	0.53
1:51:4066:U:H3'	1:51:4067:U:O4'	2.08	0.53
1:51:4410:G:N3	1:51:4433:G:N2	2.55	0.53
2:71:107:G:C2	2:71:108:G:C8	2.96	0.53
4:A2:983:A:C6	4:A2:984:C:N3	2.76	0.53
4:A2:1130:G:HO2'	4:A2:1131:G:H8	1.56	0.53
11:H2:176:ILE:CG2	11:H2:177:GLN:N	2.72	0.53
20:Q2:89:MET:C	20:Q2:107:ILE:HD12	2.33	0.53
37:h2:218:LEU:HD22	37:h2:227:LEU:HD23	1.89	0.53
39:B3:216:MET:O	39:B3:350:SER:HB2	2.09	0.53
43:F3:225:HIS:CE1	43:F3:227:VAL:HG23	2.43	0.53
46:I3:182:GLU:HA	46:I3:185:VAL:HG12	1.89	0.53
54:R3:105:LEU:HD12	54:R3:139:MET:HE2	1.90	0.53
72:k3:5:ILE:HG21	72:k3:11:PHE:HD1	1.73	0.53
81:u3:113:ALA:HA	81:u3:116:MET:HG3	1.91	0.53
84:w3:67:VAL:HG23	84:w3:84:HIS:HA	1.90	0.53
84:w3:69:GLY:CA	84:w3:116:LEU:HD12	2.39	0.53
1:51:407:A:N7	1:51:410:A:N6	2.56	0.53
1:51:465:G:C2	1:51:691:C:N4	2.76	0.53
1:51:481(A):C:HO2'	1:51:482:G:P	2.28	0.53
1:51:714:G:N2	1:51:715:G:C4	2.76	0.53
1:51:2423:A:H2'	1:51:2424:G:O4'	2.08	0.53
1:51:2486:G:H2'	1:51:2487:G:C8	2.42	0.53
1:51:2487:G:O2'	3:81:126:C:OP1	2.12	0.53
1:51:2560:C:N3	1:51:2567:G:O6	2.42	0.53
1:51:2716:C:O3'	57:U3:107:LYS:NZ	2.38	0.53
4:A2:1528:G:C6	4:A2:1529:C:N4	2.76	0.53
4:A2:1856:C:H2'	4:A2:1857:G:C8	2.43	0.53
5:B2:113:GLN:CG	5:B2:114:THR:H	2.22	0.53
6:C2:184:VAL:HG12	6:C2:188:LEU:HD13	1.90	0.53
7:D2:170:TRP:CZ3	7:D2:199:PRO:HB3	2.43	0.53
11:H2:18:VAL:HG11	11:H2:24:LEU:HD12	1.91	0.53
12:I2:61:ILE:HD12	12:I2:63:PHE:CE1	2.43	0.53
14:K2:127:ARG:O	14:K2:131:ARG:HG2	2.09	0.53
29:Z2:37:LYS:HA	29:Z2:40:ILE:HG22	1.91	0.53
30:a2:79:ILE:HG22	30:a2:80:ARG:N	2.23	0.53
39:B3:352:LEU:HD22	39:B3:354:GLN:OE1	2.07	0.53
50:N3:25:VAL:HG13	50:N3:26:ARG:N	2.22	0.53
55:S3:159:LEU:HG	55:S3:160:ARG:N	2.23	0.53
66:e3:17:THR:O	66:e3:17:THR:HG22	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:q3:1:G:N2	79:q3:72:C:C4	2.76	0.53
1:51:657:C:H2'	1:51:658:C:C6	2.43	0.53
1:51:1188:C:H2'	1:51:1189:G:H8	1.73	0.53
3:81:117:C:C2	3:81:134:G:C2	2.96	0.53
4:A2:306:C:O2	4:A2:308:G:N1	2.42	0.53
4:A2:530:U:O2	4:A2:530:U:H2'	2.07	0.53
4:A2:1580:A:OP1	25:V2:86:LYS:NZ	2.41	0.53
4:A2:1816:G:N2	4:A2:1817:G:O6	2.41	0.53
7:D2:224:THR:HG22	7:D2:225:SER:N	2.24	0.53
9:F2:162:ILE:HG13	9:F2:163:ASP:H	1.73	0.53
13:J2:104:ILE:CG1	13:J2:171:LEU:HD12	2.39	0.53
15:L2:3:MET:HE3	15:L2:44:HIS:CB	2.37	0.53
37:h2:133:ASN:ND2	37:h2:135:LEU:HB2	2.23	0.53
42:E3:53:VAL:HG12	42:E3:54:ARG:N	2.23	0.53
46:I3:183:ASP:OD1	46:I3:184:MET:HG3	2.09	0.53
76:o3:103:VAL:HG23	76:o3:103:VAL:O	2.08	0.53
1:51:690:C:H2'	1:51:691:C:O4'	2.09	0.53
1:51:1104:C:H2'	1:51:1105:C:C6	2.44	0.53
1:51:1232:G:O2'	1:51:1233:G:N7	2.41	0.53
1:51:1456:C:N4	1:51:1457:G:C4	2.77	0.53
1:51:3974:G:O6	1:51:4037:C:N4	2.41	0.53
4:A2:79:A:N6	4:A2:80:G:O6	2.42	0.53
5:B2:113:GLN:HG2	5:B2:114:THR:H	1.73	0.53
6:C2:38:MET:SD	6:C2:185:VAL:HB	2.48	0.53
18:O2:66:VAL:HG23	18:O2:67:THR:N	2.24	0.53
41:D3:236:MET:HE2	41:D3:236:MET:HA	1.91	0.53
42:E3:110:VAL:HG12	42:E3:111:LYS:N	2.23	0.53
44:G3:271:LEU:O	44:G3:275:ILE:HG12	2.09	0.53
48:L3:190:ARG:C	48:L3:191:LEU:HD22	2.34	0.53
76:o3:63:THR:HG22	76:o3:64:LYS:N	2.23	0.53
1:51:1482:G:H22	70:i3:4:ARG:NH1	2.06	0.53
1:51:1976:G:H3'	1:51:1977:C:C6	2.44	0.53
1:51:2107:A:N7	43:F3:31:ARG:NH2	2.57	0.53
1:51:2753:G:N7	1:51:2754:G:C6	2.76	0.53
1:51:3692:A:N7	1:51:3693:U:C5	2.77	0.53
1:51:4994:G:H2'	1:51:4995:U:O4'	2.09	0.53
1:51:5020:G:O3'	1:51:5021:C:H5'	2.09	0.53
4:A2:562:U:H2'	4:A2:563:G:C8	2.44	0.53
4:A2:1143:A:C5	4:A2:1144:A:C2	2.96	0.53
4:A2:1758:G:H2'	4:A2:1759:G:C8	2.44	0.53
5:B2:154:LEU:N	5:B2:154:LEU:HD12	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:N2:72:HIS:C	17:N2:74:ILE:HD12	2.34	0.53
17:N2:79:VAL:HG12	17:N2:80:ASP:N	2.24	0.53
17:N2:81:ASP:HB3	17:N2:84:LYS:HB2	1.91	0.53
22:S2:106:LEU:HD11	22:S2:111:PHE:O	2.09	0.53
28:Y2:61:GLN:CB	28:Y2:62:PRO:HD3	2.34	0.53
54:R3:102:LEU:HD21	54:R3:138:LEU:O	2.08	0.53
57:U3:49:VAL:O	57:U3:51:GLY:N	2.42	0.53
79:q3:20:U:N3	79:q3:21:A:O2'	2.38	0.53
83:33:28:C:H2'	83:33:29:A:C8	2.44	0.53
84:w3:49:PHE:HB3	84:w3:159:MET:HB3	1.91	0.53
1:51:37:U:H4'	62:a3:32:ARG:HD2	1.90	0.53
1:51:255:C:H2'	1:51:256:G:H8	1.73	0.53
1:51:922(B):C:O2'	1:51:923:C:P	2.65	0.53
1:51:1774:C:C5	1:51:1775:A:C8	2.96	0.53
1:51:1983:A:H1'	1:51:2010:A:O3'	2.09	0.53
1:51:2046:G:O5'	51:O3:60:LYS:NZ	2.33	0.53
1:51:2502:A:O2'	1:51:2503:G:O5'	2.26	0.53
1:51:3968:U:H2'	1:51:3969:G:C5	2.43	0.53
1:51:4208:U:C5	1:51:4209:G:C6	2.97	0.53
1:51:4910:A:H4'	39:B3:95:THR:HG22	1.89	0.53
3:81:70:G:O2'	3:81:87:G:N2	2.41	0.53
4:A2:66:G:H3'	4:A2:68:A:H62	1.74	0.53
4:A2:68:A:H61	4:A2:82:G:H21	1.55	0.53
4:A2:1427:C:O3'	4:A2:1428:G:H2'	2.08	0.53
4:A2:1702:G:O6	4:A2:1836:G:N2	2.39	0.53
12:I2:61:ILE:HD12	12:I2:63:PHE:CZ	2.43	0.53
13:J2:129:LEU:H	13:J2:129:LEU:HD23	1.74	0.53
13:J2:129:LEU:HG	13:J2:131:PRO:O	2.09	0.53
39:B3:181:MET:HE1	39:B3:346:THR:HG23	1.90	0.53
42:E3:177:LEU:HD11	42:E3:189:LEU:CD1	2.39	0.53
43:F3:41:LEU:HD21	43:F3:45:ARG:NH1	2.24	0.53
58:V3:48:ARG:HG2	58:V3:49:LEU:H	1.73	0.53
64:c3:28:VAL:HG13	64:c3:95:SER:HB2	1.90	0.53
1:51:1773:U:H2'	1:51:1774:C:C6	2.44	0.53
1:51:1858:A:C2	1:51:1877:G:C2	2.97	0.53
1:51:2661:U:O2'	1:51:2662:G:O5'	2.27	0.53
1:51:3970:G:N2	1:51:4053:A:N1	2.50	0.53
1:51:4126:C:OP1	1:51:4127:A:C4	2.62	0.53
4:A2:1790:A:H2'	4:A2:1791:A:O4'	2.09	0.53
11:H2:41:LEU:HD12	11:H2:41:LEU:N	2.23	0.53
14:K2:137:VAL:HG12	14:K2:142:VAL:HG23	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:V2:104:ILE:O	25:V2:104:ILE:HG23	2.07	0.53
30:a2:91:LEU:HD13	30:a2:94:LYS:HD3	1.91	0.53
32:c2:80:ARG:HG3	32:c2:80:ARG:O	2.09	0.53
39:B3:110:ILE:HB	39:B3:115:LYS:HE3	1.91	0.53
41:D3:201:GLY:O	41:D3:204:VAL:HG13	2.09	0.53
51:O3:166:ILE:HA	51:O3:169:ARG:HG2	1.90	0.53
55:S3:8:ARG:HD3	55:S3:66:GLN:HE22	1.73	0.53
77:p3:57:CYS:SG	77:p3:58:GLY:N	2.81	0.53
78:r3:14:SER:OG	78:r3:15:SER:N	2.42	0.53
79:q3:4:U:C2	79:q3:5:C:C6	2.97	0.53
80:t3:47:LEU:HA	80:t3:50:LYS:HD3	1.89	0.53
80:t3:161:ILE:HD11	80:t3:167:VAL:HA	1.91	0.53
1:51:87:A:C6	1:51:98:A:C2	2.97	0.53
1:51:441:G:C2	1:51:1307:A:N1	2.77	0.53
1:51:2654:C:C4	1:51:2655:C:N4	2.76	0.53
1:51:3960:A:O2'	1:51:4044:U:O3'	2.25	0.53
1:51:4076:G:OP1	44:G3:126:ARG:NH1	2.37	0.53
1:51:4686:G:N1	1:51:4705:A:N6	2.56	0.53
4:A2:1286:G:H1'	4:A2:1313:A:H61	1.73	0.53
4:A2:1598:G:N3	4:A2:1598:G:H2'	2.24	0.53
4:A2:1646:C:C2	4:A2:1678:A:C2	2.96	0.53
7:D2:207:ALA:HB3	7:D2:210:PRO:HD2	1.89	0.53
8:E2:29:LEU:N	8:E2:29:LEU:CD2	2.72	0.53
22:S2:35:CYS:HA	22:S2:38:ILE:HG12	1.90	0.53
29:Z2:7:ILE:HD12	29:Z2:43:LYS:HD2	1.91	0.53
29:Z2:21:LYS:N	29:Z2:75:ILE:HB	2.23	0.53
30:a2:65:TYR:O	30:a2:68:ILE:HD11	2.09	0.53
37:h2:203:ASP:OD1	37:h2:204:GLY:N	2.42	0.53
37:h2:249:CYS:SG	37:h2:258:ILE:HG22	2.49	0.53
80:t3:15:LEU:HD12	80:t3:15:LEU:N	2.24	0.53
81:u3:112:ILE:O	81:u3:116:MET:HG3	2.09	0.53
83:33:53:G:H2'	83:33:54:U:C6	2.44	0.53
84:w3:17:VAL:CG2	84:w3:216:LEU:HD22	2.37	0.53
1:51:5:A:C2	1:51:6:C:N4	2.77	0.53
1:51:1427:A:N6	1:51:1458:C:C2	2.77	0.53
1:51:1558:A:P	54:R3:121:HIS:HE2	2.32	0.53
1:51:1626:G:C6	1:51:1627:G:N7	2.76	0.53
1:51:1650:A:N1	40:C3:100:ARG:NH1	2.56	0.53
1:51:1858:A:C6	1:51:1859:C:N4	2.77	0.53
1:51:1958:A:C2	1:51:2026:A:N1	2.77	0.53
1:51:1983:A:H2'	1:51:1986:U:OP1	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:2475:G:N7	59:X3:48:ARG:NH2	2.57	0.53
1:51:3701:C:N4	1:51:3746:A:C4	2.77	0.53
1:51:4453:C:C2	1:51:4529:G:N2	2.77	0.53
4:A2:14:C:O2	4:A2:1198:G:C2	2.62	0.53
4:A2:1214:A:H62	4:A2:1682:C:N4	2.07	0.53
13:J2:38:ILE:HG13	13:J2:96:LEU:HD11	1.91	0.53
14:K2:65:GLU:OE1	14:K2:70:ARG:NH1	2.42	0.53
19:P2:33:ILE:HB	19:P2:97:LEU:HD12	1.90	0.53
37:h2:165:ILE:HG13	37:h2:179:LEU:HD21	1.91	0.53
38:A3:145:LYS:C	38:A3:146:THR:HG1	2.17	0.53
40:C3:143:ARG:O	40:C3:144:ILE:HD13	2.09	0.53
41:D3:77:ALA:O	41:D3:108:ARG:NH2	2.42	0.53
49:M3:99:GLU:O	49:M3:103:LYS:NZ	2.42	0.53
60:Y3:31:SER:HG	60:Y3:32:SER:H	1.55	0.53
64:c3:103:ASP:OD1	64:c3:106:ARG:NH1	2.42	0.53
76:o3:4:VAL:O	76:o3:94:GLY:N	2.42	0.53
78:r3:63:VAL:HG22	78:r3:79:ARG:HG2	1.90	0.53
79:q3:5:C:H2'	79:q3:6:C:H5"	1.90	0.53
79:q3:12:G:N2	79:q3:23:C:H41	2.04	0.53
84:w3:23:ARG:HH22	84:w3:207:LYS:HA	1.74	0.53
1:51:59:A:N1	1:51:60:A:C2	2.77	0.52
1:51:62:A:N7	1:51:63:G:C5	2.77	0.52
1:51:1441:C:H41	1:51:2113:G:C3'	2.22	0.52
1:51:1627:G:C2	1:51:1636:U:O2	2.62	0.52
1:51:2551:A:H5"	1:51:2554:U:OP2	2.08	0.52
1:51:2813:A:N6	1:51:2815:A:C6	2.77	0.52
1:51:4089:G:C2	1:51:4090:G:C4	2.97	0.52
1:51:4892:A:O3'	51:O3:188:LYS:NZ	2.34	0.52
4:A2:356:C:O2	4:A2:356:C:O4'	2.27	0.52
4:A2:360:A:N1	4:A2:402:C:N4	2.56	0.52
4:A2:373:G:N1	4:A2:392:A:C6	2.77	0.52
4:A2:832:G:C2	4:A2:843:C:O2	2.62	0.52
4:A2:1274:G:C8	15:L2:1:MET:HE1	2.44	0.52
5:B2:132:GLN:O	5:B2:135:THR:OG1	2.20	0.52
7:D2:204:ILE:HD11	7:D2:219:ILE:O	2.09	0.52
9:F2:129:ILE:HG22	9:F2:139:LEU:HD23	1.91	0.52
11:H2:118:GLU:HG2	11:H2:119:LYS:HG2	1.89	0.52
13:J2:202:ILE:O	13:J2:202:ILE:HG22	2.10	0.52
16:M2:138:VAL:C	16:M2:139:ARG:HD2	2.34	0.52
22:S2:56:HIS:O	22:S2:59:LYS:HG2	2.09	0.52
37:h2:150:TRP:HB2	37:h2:170:TRP:CD1	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A3:225:ILE:CD1	38:A3:233:ARG:HG3	2.40	0.52
44:G3:314:LEU:HA	44:G3:318:LEU:HB2	1.91	0.52
1:51:1332:C:N4	1:51:2354:G:O6	2.40	0.52
1:51:2263:A:C6	1:51:2264:C:C4	2.97	0.52
1:51:4410:G:C4	1:51:4433:G:N2	2.78	0.52
1:51:4572:U:O2'	1:51:4573:G:C8	2.62	0.52
5:B2:178:LEU:O	5:B2:182:VAL:HG23	2.09	0.52
7:D2:204:ILE:HG21	7:D2:211:LYS:HG3	1.90	0.52
14:K2:161:LEU:HD12	14:K2:161:LEU:O	2.09	0.52
17:N2:68:LEU:HD23	17:N2:72:HIS:CE1	2.44	0.52
30:a2:91:LEU:HA	30:a2:94:LYS:HB3	1.92	0.52
37:h2:214:GLY:O	37:h2:233:GLY:N	2.42	0.52
39:B3:71:GLU:OE1	86:W:1:MET:N	2.42	0.52
44:G3:106:ARG:O	44:G3:107:PHE:O	2.26	0.52
44:G3:245:ARG:HE	44:G3:253:THR:HA	1.74	0.52
46:I3:93:PRO:HB2	46:I3:125:THR:HG22	1.90	0.52
53:Q3:100:VAL:CG2	53:Q3:120:ILE:HG12	2.39	0.52
58:V3:57:VAL:HG23	58:V3:84:GLN:CD	2.34	0.52
61:Z3:121:ARG:HH12	61:Z3:126:LYS:HD3	1.73	0.52
79:q3:50:U:C4	79:q3:51:C:N4	2.77	0.52
1:51:87:A:N1	1:51:88:A:H1'	2.25	0.52
1:51:120:A:N7	1:51:149:A:C6	2.77	0.52
1:51:164:G:N2	1:51:272:U:N3	2.57	0.52
1:51:218:A:HO2'	1:51:219:G:C5'	2.23	0.52
1:51:965:G:N2	1:51:2096:G:O2'	2.42	0.52
1:51:1182:C:OP2	1:51:1183:C:C5	2.62	0.52
1:51:1436:C:N4	1:51:1449:C:H42	2.04	0.52
1:51:1902:G:C6	1:51:2075:G:N1	2.77	0.52
1:51:1918:U:C2	1:51:2065:G:N2	2.78	0.52
1:51:2045:G:O2'	1:51:2046:G:H5"	2.08	0.52
1:51:2503:G:N2	1:51:4084:G:C4	2.77	0.52
1:51:3667:C:O2	1:51:3676:G:C2	2.62	0.52
1:51:3753:G:O6	1:51:3776:G:C6	2.62	0.52
2:71:47:G:H21	41:D3:222:GLN:NE2	2.08	0.52
4:A2:147:A:H2'	4:A2:148:U:C6	2.44	0.52
4:A2:1427:C:O2'	4:A2:1428:G:H2'	2.10	0.52
4:A2:1533:A:OP2	10:G2:164:ARG:NH2	2.42	0.52
4:A2:1752:C:O2	4:A2:1782:G:C6	2.62	0.52
16:M2:125:ILE:HD12	16:M2:125:ILE:N	2.24	0.52
39:B3:347:LEU:N	39:B3:347:LEU:HD12	2.25	0.52
40:C3:169:LEU:O	40:C3:173:LYS:HG2	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:D3:41:LYS:NZ	56:T3:32:ARG:O	2.43	0.52
41:D3:210:TYR:C	41:D3:211:LEU:HD22	2.33	0.52
67:f3:50:VAL:HG22	67:f3:69:VAL:HG12	1.91	0.52
71:j3:19:CYS:SG	71:j3:20:ARG:N	2.82	0.52
84:w3:110:PHE:CE2	84:w3:133:LYS:HD2	2.44	0.52
1:51:311:G:H2'	1:51:312:G:C8	2.44	0.52
1:51:728:U:P	43:F3:72:ARG:HH21	2.33	0.52
1:51:920:C:OP2	49:M3:69:ARG:NH2	2.43	0.52
1:51:1907:A:H62	1:51:1908:A:H61	1.57	0.52
1:51:1933:G:H2'	1:51:1934:A:C8	2.44	0.52
1:51:4287:G:N7	1:51:4288:C:N4	2.57	0.52
1:51:4558:U:OP2	39:B3:246:ARG:NH2	2.43	0.52
1:51:4777:C:N4	1:51:4859:C:C2	2.77	0.52
1:51:5030:U:C4	1:51:5031:G:N7	2.78	0.52
4:A2:533:A:H2'	4:A2:534:G:C8	2.44	0.52
4:A2:561:A:O2'	14:K2:132:GLN:OE1	2.25	0.52
4:A2:822:U:O2	4:A2:827:A:N1	2.42	0.52
4:A2:1683:C:H2'	4:A2:1684:C:H6	1.73	0.52
9:F2:194:VAL:HG22	9:F2:195:ILE:N	2.25	0.52
13:J2:175:ILE:HG22	13:J2:187:GLY:N	2.25	0.52
21:R2:52:LEU:N	21:R2:52:LEU:CD2	2.72	0.52
27:X2:84:LYS:HD3	27:X2:84:LYS:N	2.25	0.52
37:h2:194:TYR:CE1	37:h2:212:LYS:HB2	2.44	0.52
39:B3:74:GLU:OE1	39:B3:334:LYS:NZ	2.41	0.52
42:E3:269:GLN:OE1	49:M3:111:LYS:HG2	2.09	0.52
43:F3:29:ILE:O	43:F3:33:ARG:HG2	2.09	0.52
77:p3:8:VAL:O	77:p3:11:VAL:HG12	2.08	0.52
79:q3:53:G:N2	79:q3:62:C:N3	2.58	0.52
79:q3:59:A:H2'	79:q3:60:A:O5'	2.09	0.52
80:t3:98:ILE:HG12	80:t3:101:MET:HE2	1.91	0.52
1:51:441:G:C2	1:51:1307:A:C2	2.97	0.52
1:51:727:C:H5"	43:F3:72:ARG:NH2	2.24	0.52
1:51:736:C:H42	1:51:929:A:N6	2.07	0.52
1:51:1167:C:H2'	1:51:1168:G:C8	2.44	0.52
1:51:1493:G:C6	1:51:1494:U:N3	2.77	0.52
1:51:1978:C:OP1	81:u3:56:LEU:HD21	2.10	0.52
1:51:2511:A:C2	1:51:2514:G:C8	2.98	0.52
4:A2:1609:C:C2	23:T2:132:ARG:NH2	2.78	0.52
5:B2:126:ASP:O	5:B2:130:ASP:HB2	2.08	0.52
23:T2:15:VAL:HB	23:T2:20:ILE:HD12	1.91	0.52
24:U2:13:GLU:OE1	24:U2:13:GLU:N	2.38	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:Z2:88:LYS:HD3	29:Z2:91:LEU:HD12	1.91	0.52
41:D3:153:THR:O	41:D3:153:THR:HG23	2.10	0.52
41:D3:191:ASN:ND2	41:D3:194:VAL:HG21	2.24	0.52
45:H3:24:THR:HG23	45:H3:24:THR:O	2.08	0.52
46:I3:41:ALA:HB3	46:I3:139:ARG:NH2	2.21	0.52
49:M3:8:GLU:OE1	49:M3:11:ARG:NE	2.42	0.52
52:P3:104:LEU:HD23	52:P3:104:LEU:C	2.34	0.52
63:b3:8:THR:CG2	63:b3:9:THR:N	2.73	0.52
72:k3:34:PHE:CE2	72:k3:56:LEU:HD22	2.44	0.52
80:t3:131:GLY:O	80:t3:152:ILE:CD1	2.58	0.52
81:u3:150:ASP:HA	81:u3:153:ASP:HB2	1.91	0.52
1:51:59:A:C6	1:51:60:A:C6	2.98	0.52
1:51:164:G:C6	1:51:165:A:N7	2.77	0.52
1:51:2593:C:H42	1:51:2753:G:H22	1.54	0.52
1:51:2726:G:C6	1:51:2727:C:N4	2.78	0.52
1:51:4658:G:H22	1:51:4659:G:N2	2.08	0.52
2:71:18:C:C2	2:71:61:G:C2	2.97	0.52
3:81:52:A:N6	73:l3:27:ILE:HG12	2.25	0.52
4:A2:183:G:O2'	4:A2:184:G:P	2.68	0.52
4:A2:872:A:C6	4:A2:874:G:C6	2.97	0.52
4:A2:1092:G:N2	4:A2:1158:G:C5	2.77	0.52
4:A2:1857:G:H1	4:A2:1858:G:N2	2.07	0.52
4:A2:1866:A:C2	31:b2:87:ARG:NH2	2.77	0.52
5:B2:76:VAL:HG12	5:B2:123:VAL:HB	1.91	0.52
6:C2:182:LYS:HD2	6:C2:231:LEU:HD21	1.91	0.52
21:R2:49:TYR:O	21:R2:53:GLU:CD	2.52	0.52
24:U2:130:ASP:OD2	24:U2:131:LEU:N	2.43	0.52
30:a2:48:VAL:HG13	30:a2:49:LEU:N	2.23	0.52
37:h2:79:LEU:HD12	37:h2:113:PHE:CE1	2.44	0.52
39:B3:108:GLU:HG2	39:B3:109:HIS:H	1.75	0.52
43:F3:192:GLU:O	43:F3:196:VAL:HA	2.09	0.52
48:L3:191:LEU:N	48:L3:191:LEU:CD2	2.72	0.52
49:M3:119:ARG:NH1	51:O3:189:ILE:HD12	2.24	0.52
68:g3:13:TYR:O	68:g3:15:THR:HG23	2.10	0.52
83:33:51:G:C4	83:33:52:G:C8	2.97	0.52
84:w3:170:GLY:O	84:w3:171:HIS:CD2	2.63	0.52
1:51:1086:C:N3	1:51:1212:G:C2	2.78	0.52
1:51:1323:A:C2	1:51:3879:G:C2	2.97	0.52
1:51:2379:A:N6	1:51:2380:G:C6	2.77	0.52
1:51:2504:C:H2'	1:51:2505:C:C6	2.45	0.52
1:51:2559:G:C2	1:51:2569:G:C2	2.97	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:3803:A:N6	1:51:3804:G:N1	2.57	0.52
3:81:122:G:C5	3:81:123:U:H1'	2.44	0.52
4:A2:338:G:H2'	4:A2:339:A:H8	1.73	0.52
4:A2:1427:C:N3	4:A2:1429:G:N7	2.56	0.52
4:A2:1719:A:C8	4:A2:1720:U:O4	2.63	0.52
5:B2:67:ALA:HB2	26:W2:37:ALA:CB	2.30	0.52
5:B2:154:LEU:HD23	26:W2:66:ASP:OD1	2.10	0.52
7:D2:209:VAL:HB	7:D2:210:PRO:HD3	1.91	0.52
11:H2:147:LEU:HD11	11:H2:156:TYR:CE2	2.45	0.52
11:H2:181:THR:HG23	11:H2:181:THR:O	2.10	0.52
14:K2:147:PHE:CZ	14:K2:149:VAL:HG11	2.45	0.52
29:Z2:62:THR:HA	29:Z2:69:THR:HG22	1.91	0.52
37:h2:5:MET:HE2	37:h2:312:VAL:O	2.10	0.52
37:h2:49:GLU:OE1	37:h2:49:GLU:N	2.37	0.52
37:h2:167:SER:OG	37:h2:177:TRP:NE1	2.43	0.52
38:A3:29:LEU:O	38:A3:123:ARG:NH2	2.43	0.52
41:D3:25:GLU:O	41:D3:27:LYS:N	2.43	0.52
54:R3:92:LYS:O	54:R3:94:THR:HG23	2.09	0.52
56:T3:80:VAL:O	56:T3:80:VAL:CG1	2.58	0.52
1:51:1757:U:H5"	1:51:1768:C:N4	2.24	0.52
1:51:3799:A:OP1	58:V3:66:LYS:NZ	2.39	0.52
1:51:3873:G:N2	1:51:3883:U:C2	2.78	0.52
1:51:4543:G:O6	1:51:4544:A:N6	2.43	0.52
1:51:5011:A:N6	1:51:5038:A:N6	2.57	0.52
2:71:46:C:H5"	41:D3:158:LYS:HE2	1.91	0.52
4:A2:581:U:OP1	14:K2:133:ARG:NH2	2.43	0.52
4:A2:853:C:O2	4:A2:853:C:H2'	2.10	0.52
4:A2:1424:G:O2'	4:A2:1425:G:P	2.68	0.52
4:A2:1679:A:OP2	10:G2:60:ARG:NE	2.43	0.52
7:D2:145:LYS:HD3	7:D2:145:LYS:N	2.25	0.52
7:D2:255:LEU:O	26:W2:16:LYS:NZ	2.33	0.52
9:F2:180:LEU:HD11	9:F2:192:ILE:CG2	2.40	0.52
11:H2:89:THR:HG23	11:H2:89:THR:O	2.10	0.52
16:M2:126:VAL:HG22	16:M2:127:THR:N	2.25	0.52
21:R2:51:LEU:C	21:R2:52:LEU:HD22	2.35	0.52
23:T2:38:ARG:O	23:T2:42:HIS:ND1	2.40	0.52
37:h2:213:ASP:OD1	37:h2:214:GLY:N	2.43	0.52
46:I3:121:LYS:HD2	46:I3:121:LYS:N	2.25	0.52
48:L3:58:ILE:HG23	48:L3:70:VAL:CG1	2.40	0.52
49:M3:89:THR:HG23	49:M3:91:TRP:H	1.74	0.52
53:Q3:187:LYS:O	53:Q3:188:ASN:CG	2.53	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:T3:82:GLY:O	63:b3:21:ILE:HD12	2.10	0.52
79:q3:48:C:N4	79:q3:59:A:C4	2.78	0.52
84:w3:98:LYS:HA	84:w3:103:LEU:CD1	2.39	0.52
1:51:65:A:H62	1:51:75:G:H21	1.58	0.52
1:51:482:G:O2'	1:51:484:U:H3'	2.09	0.52
1:51:1107:C:C4	1:51:1108:C:C4	2.98	0.52
1:51:1348:U:H2'	1:51:1349:G:C8	2.45	0.52
1:51:2504:C:H2'	1:51:2505:C:H6	1.74	0.52
1:51:3710:G:N3	1:51:3712:A:N6	2.58	0.52
1:51:3757:G:O2'	1:51:3758:U:O4'	2.25	0.52
1:51:3814:U:C5	1:51:3815:G:N7	2.78	0.52
1:51:4054:C:O2	84:w3:35:GLN:NE2	2.42	0.52
3:81:105:C:H4'	3:81:106:G:H5"	1.92	0.52
4:A2:1332:A:H62	4:A2:1493:C:H42	1.57	0.52
4:A2:1396:A:O2'	4:A2:1398:G:N7	2.43	0.52
6:C2:107:ARG:NH2	19:P2:133:THR:O	2.43	0.52
7:D2:195:LEU:HD23	7:D2:224:THR:HG23	1.91	0.52
10:G2:89:THR:HA	10:G2:92:ILE:CD1	2.39	0.52
22:S2:9:VAL:HG13	22:S2:50:ILE:HD13	1.91	0.52
34:e2:33:LYS:HG2	34:e2:34:TYR:CD1	2.45	0.52
36:g2:146:LEU:HD21	36:g2:148:TYR:CE2	2.45	0.52
38:A3:114:CYS:SG	38:A3:165:VAL:CG2	2.98	0.52
41:D3:195:HIS:CD2	41:D3:199:ILE:HD11	2.44	0.52
53:Q3:81:VAL:HG12	53:Q3:138:LEU:HA	1.92	0.52
57:U3:18:LEU:HG	57:U3:19:LEU:H	1.75	0.52
1:51:149:A:N7	44:G3:250:LYS:HD3	2.25	0.52
1:51:714:G:C4	1:51:955:G:N2	2.78	0.52
1:51:1105:C:N3	1:51:1165:G:N2	2.58	0.52
1:51:1364:U:OP2	48:L3:36:ARG:NH2	2.35	0.52
1:51:2261:G:C8	1:51:2262:G:C2	2.98	0.52
1:51:2725:A:N3	54:R3:89:MET:SD	2.83	0.52
1:51:3659:G:C2	1:51:3686:G:C2	2.97	0.52
4:A2:18:C:O2'	28:Y2:107:ARG:NH1	2.43	0.52
4:A2:146:G:O2'	4:A2:147:A:O5'	2.21	0.52
4:A2:746:C:H2'	4:A2:747:U:H4'	1.92	0.52
4:A2:1722:G:C6	4:A2:1813:A:C6	2.98	0.52
4:A2:1785:C:H2'	4:A2:1786:U:O4'	2.10	0.52
4:A2:1868:U:O2'	31:b2:100:ARG:NH2	2.43	0.52
20:Q2:30:TYR:O	20:Q2:34:MET:HG3	2.10	0.52
20:Q2:105:VAL:HG22	20:Q2:106:GLU:N	2.23	0.52
21:R2:41:MET:HA	21:R2:45:ARG:NH2	2.24	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:c2:3:LEU:HD12	32:c2:3:LEU:N	2.25	0.52
32:c2:5:LYS:O	32:c2:7:LEU:HD12	2.10	0.52
37:h2:56:GLN:OE1	37:h2:57:ARG:HB2	2.10	0.52
38:A3:117:GLU:HG2	38:A3:124:GLY:H	1.75	0.52
46:I3:100:ASN:ND2	46:I3:118:ALA:HB1	2.25	0.52
56:T3:45:MET:O	56:T3:52:MET:HE3	2.09	0.52
59:X3:46:PHE:C	59:X3:48:ARG:H	2.18	0.52
63:b3:51:LYS:HG3	63:b3:51:LYS:O	2.10	0.52
75:n3:22:GLN:C	75:n3:24:SER:H	2.18	0.52
79:q3:12:G:H22	79:q3:23:C:N4	2.06	0.52
79:q3:53:G:C2	79:q3:62:C:N3	2.78	0.52
80:t3:30:VAL:HG12	80:t3:87:GLY:O	2.10	0.52
84:w3:90:LEU:HB3	84:w3:123:ILE:HD13	1.91	0.52
1:51:222:C:H2'	1:51:223:G:O4'	2.11	0.51
1:51:245:C:O2'	1:51:246:G:OP2	2.23	0.51
1:51:952:G:C6	1:51:953:C:N4	2.78	0.51
1:51:964:A:C5	1:51:965:G:C5	2.98	0.51
1:51:1073:G:N1	1:51:1238:A:C2	2.73	0.51
1:51:1441:C:N4	1:51:2113:G:H2'	2.25	0.51
1:51:1910:G:N2	1:51:2067:C:C2	2.77	0.51
1:51:3845:A:OP2	39:B3:249:ARG:NH2	2.43	0.51
1:51:4035:G:H2'	1:51:4036:G:C8	2.45	0.51
1:51:4494:G:OP1	58:V3:49:LEU:HD12	2.10	0.51
3:81:152:U:C4	3:81:153:C:N4	2.78	0.51
4:A2:288:G:N2	4:A2:289:G:N3	2.57	0.51
4:A2:1231:C:C2	4:A2:1528:G:N2	2.78	0.51
4:A2:1609:C:N3	4:A2:1630:A:N1	2.58	0.51
7:D2:144:SER:OG	7:D2:149:THR:CG2	2.58	0.51
7:D2:192:LEU:HD23	7:D2:192:LEU:C	2.35	0.51
8:E2:206:ASP:OD1	8:E2:207:HIS:N	2.43	0.51
24:U2:88:MET:HB3	24:U2:89:PRO:HD2	1.91	0.51
30:a2:79:ILE:HG22	30:a2:80:ARG:H	1.74	0.51
31:b2:2:THR:OG1	31:b2:3:LYS:N	2.42	0.51
37:h2:165:ILE:CG1	37:h2:179:LEU:HD21	2.40	0.51
39:B3:321:VAL:HG12	39:B3:322:HIS:ND1	2.25	0.51
41:D3:44:TYR:OH	56:T3:67:VAL:HG21	2.10	0.51
54:R3:154:LEU:HD23	54:R3:154:LEU:O	2.10	0.51
1:51:478:G:C2	1:51:479:G:C5	2.99	0.51
1:51:499:G:H2'	1:51:499:G:N3	2.24	0.51
1:51:1691:G:C2	1:51:1846:G:C2	2.98	0.51
1:51:1976:G:H3'	1:51:1977:C:C5	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:4051:C:H4'	84:w3:210:MET:SD	2.49	0.51
1:51:4236:G:C2	1:51:4289:U:O2	2.62	0.51
1:51:5029:C:N4	1:51:5030:U:O2	2.42	0.51
88:51:5294:BLS:O7	85:1:68:VAL:HG13	2.09	0.51
4:A2:309:G:C4	4:A2:310:C:C5	2.98	0.51
4:A2:1288:U:HO2'	4:A2:1315:U:C2'	2.15	0.51
12:I2:23:ILE:H	12:I2:23:ILE:HD12	1.75	0.51
13:J2:149:TYR:O	13:J2:153:LYS:HB2	2.10	0.51
13:J2:175:ILE:HD13	13:J2:185:ALA:HB1	1.92	0.51
19:P2:90:ILE:O	19:P2:124:MET:HE1	2.10	0.51
36:g2:132:MET:HE2	36:g2:139:HIS:HB3	1.92	0.51
37:h2:44:LYS:HG2	37:h2:56:GLN:HB2	1.93	0.51
44:G3:244:GLY:O	44:G3:257:PHE:CZ	2.64	0.51
44:G3:278:ASN:O	44:G3:282:ARG:NE	2.43	0.51
45:H3:93:ARG:O	45:H3:179:ILE:HG23	2.10	0.51
48:L3:55:ILE:HG22	48:L3:154:VAL:HG23	1.91	0.51
58:V3:18:LEU:HD12	58:V3:54:ALA:CB	2.37	0.51
59:X3:111:GLN:HG3	59:X3:111:GLN:O	2.10	0.51
76:o3:20:PRO:HG2	76:o3:73:VAL:HG11	1.91	0.51
1:51:29:G:C2	1:51:54:G:C2	2.99	0.51
1:51:59:A:N6	1:51:338:A:C4	2.78	0.51
1:51:667:A:OP1	1:51:668:C:N4	2.42	0.51
1:51:751:G:C8	1:51:915:A:C8	2.98	0.51
1:51:1199:G:H2'	1:51:1200:G:C8	2.44	0.51
1:51:1411(A):G:H2'	1:51:1411(B):C:C6	2.46	0.51
1:51:1962:A:N6	1:51:2025:A:N3	2.57	0.51
1:51:2098:G:N2	1:51:2107:A:C8	2.78	0.51
1:51:2363:A:C2	1:51:3860:A:C4	2.98	0.51
1:51:2376:A:H2'	1:51:2377:C:C6	2.46	0.51
1:51:2678:A:H2'	1:51:2679:G:H8	1.76	0.51
1:51:3758:U:O2	1:51:3767:C:O2	2.28	0.51
1:51:4077:A:N6	1:51:4170:A:N7	2.58	0.51
1:51:4130:C:H2'	1:51:4131:G:C8	2.45	0.51
4:A2:598:G:N2	4:A2:639:C:O2	2.43	0.51
4:A2:1395:C:H2'	4:A2:1396:A:N3	2.26	0.51
4:A2:1541:G:H2'	4:A2:1542:C:C6	2.45	0.51
4:A2:1617:G:N7	20:Q2:47:ARG:NH2	2.58	0.51
7:D2:153:GLY:HA2	7:D2:156:ILE:HD12	1.93	0.51
7:D2:270:THR:HA	7:D2:273:LEU:CD2	2.40	0.51
8:E2:66:ILE:O	8:E2:70:THR:HG23	2.10	0.51
9:F2:60:GLU:O	9:F2:64:ILE:HG13	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:F2:126:VAL:HA	9:F2:141:THR:HA	1.93	0.51
10:G2:103:LEU:CD1	30:a2:67:LEU:HD12	2.40	0.51
24:U2:116:ASP:OD1	24:U2:117:GLN:NE2	2.43	0.51
34:e2:16:GLN:NE2	34:e2:19:ARG:HH12	2.07	0.51
41:D3:98:ALA:O	41:D3:162:ALA:HA	2.11	0.51
41:D3:243:ALA:O	41:D3:248:ARG:NH1	2.43	0.51
44:G3:207:LEU:HD12	44:G3:234:TYR:HB2	1.92	0.51
55:S3:82:LEU:HB3	55:S3:93:MET:HB2	1.91	0.51
78:r3:92:SER:O	78:r3:96:MET:HG3	2.10	0.51
81:u3:67:ARG:HD2	81:u3:68:GLN:N	2.24	0.51
84:w3:57:SER:CB	84:w3:178:GLU:HG3	2.41	0.51
84:w3:94:ASN:HA	84:w3:124:LEU:CD2	2.41	0.51
1:51:1558:A:N3	54:R3:129:GLY:HA2	2.26	0.51
1:51:1761:G:N3	1:51:1761:G:H2'	2.26	0.51
1:51:1821:G:H4'	1:51:1822:U:H5"	1.93	0.51
1:51:1989:G:C2	81:u3:99:LYS:HE3	2.46	0.51
1:51:4354:U:O2	1:51:4354:U:H2'	2.08	0.51
4:A2:143:U:O2'	11:H2:178:ARG:HG3	2.11	0.51
4:A2:1482:C:C5	4:A2:1483:A:N7	2.79	0.51
5:B2:82:THR:HG23	5:B2:83:GLY:N	2.25	0.51
10:G2:168:THR:HG22	10:G2:171:GLU:HG3	1.92	0.51
10:G2:172:CYS:O	10:G2:175:ASP:OD1	2.27	0.51
14:K2:75:ASN:OD1	14:K2:76:ALA:N	2.44	0.51
16:M2:146:THR:HG22	16:M2:147:LYS:N	2.21	0.51
45:H3:18:ILE:HG22	45:H3:19:SER:N	2.25	0.51
56:T3:25:VAL:O	56:T3:25:VAL:HG23	2.10	0.51
79:q3:61:C:HO2'	79:q3:62:C:C5'	2.23	0.51
81:u3:68:GLN:HG3	81:u3:69:ALA:H	1.74	0.51
81:u3:70:GLN:CD	81:u3:71:ILE:H	2.19	0.51
84:w3:32:VAL:HG11	84:w3:206:ILE:HD11	1.91	0.51
84:w3:59:PRO:HG2	84:w3:61:PRO:HD3	1.91	0.51
1:51:106:A:P	48:L3:39:ARG:HH21	2.33	0.51
1:51:179:G:N1	1:51:258:G:C6	2.79	0.51
1:51:280:G:H5"	50:N3:14:LYS:HZ3	1.76	0.51
1:51:1572:U:H1'	54:R3:125:LEU:CD1	2.41	0.51
1:51:1976:G:H22	81:u3:99:LYS:NZ	2.08	0.51
1:51:2010:A:N7	1:51:2011:C:C4	2.79	0.51
1:51:2052:G:C2	1:51:2053:C:O2	2.63	0.51
1:51:2550:G:N2	1:51:2770:C:C4	2.79	0.51
1:51:3870:C:O3'	39:B3:261:ARG:NH1	2.43	0.51
1:51:3973:G:O3'	84:w3:28:PHE:HB3	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:4689:U:OP1	45:H3:184:LYS:NZ	2.29	0.51
1:51:4719:G:O6	1:51:4721:G:N1	2.43	0.51
2:71:1:G:N3	2:71:119:U:O4'	2.44	0.51
4:A2:797:C:HO2'	4:A2:798:G:P	2.22	0.51
9:F2:111:VAL:HG23	9:F2:111:VAL:O	2.09	0.51
10:G2:136:ARG:HG3	10:G2:203:ASN:ND2	2.26	0.51
11:H2:98:ARG:NH2	11:H2:101:ILE:O	2.43	0.51
16:M2:15:THR:O	16:M2:15:THR:HG22	2.09	0.51
18:O2:110:ASP:O	18:O2:114:ARG:HD2	2.11	0.51
29:Z2:21:LYS:H	29:Z2:75:ILE:HB	1.75	0.51
37:h2:50:THR:HG23	37:h2:51:ASN:N	2.25	0.51
37:h2:236:ILE:HD11	37:h2:239:LEU:CD2	2.40	0.51
40:C3:150:LEU:HB3	40:C3:151:PRO:HD3	1.91	0.51
44:G3:246:LEU:O	44:G3:246:LEU:HG	2.10	0.51
49:M3:24:LEU:HD11	49:M3:86:TRP:CD2	2.45	0.51
49:M3:135:LEU:HD23	49:M3:135:LEU:C	2.36	0.51
51:O3:82:ARG:HA	51:O3:85:ARG:HG2	1.93	0.51
84:w3:55:LEU:HB2	84:w3:153:SER:OG	2.10	0.51
1:51:291:U:C2	1:51:293:G:OP2	2.63	0.51
1:51:699:C:H2'	1:51:700:G:C8	2.45	0.51
1:51:917:A:N6	1:51:918:G:N3	2.59	0.51
1:51:1597:G:P	52:P3:131:ARG:HH21	2.34	0.51
1:51:1601:A:N6	85:1:59:TYR:OH	2.44	0.51
1:51:1761:G:O6	1:51:1771:U:O2'	2.29	0.51
1:51:2695:A:C5	1:51:2697:A:C5	2.99	0.51
1:51:3893:C:C2	1:51:4568:A:C2	2.99	0.51
1:51:4085:A:C8	44:G3:108:VAL:O	2.63	0.51
1:51:4367:G:C2	1:51:4368:G:C5	2.99	0.51
1:51:4485:C:O2'	74:m3:88:LYS:NZ	2.42	0.51
1:51:4686:G:C2	1:51:4705:A:C6	2.98	0.51
3:81:151:G:C4	44:G3:117:GLN:CA	2.94	0.51
4:A2:86:C:H2'	4:A2:87:U:C6	2.45	0.51
4:A2:902:G:C2	4:A2:903:A:C8	2.99	0.51
5:B2:15:VAL:O	5:B2:19:LEU:CD1	2.59	0.51
6:C2:33:VAL:HG23	6:C2:44:ILE:HB	1.92	0.51
7:D2:98:LEU:O	7:D2:102:LEU:HB2	2.10	0.51
8:E2:167:TYR:O	8:E2:190:LEU:HD12	2.11	0.51
9:F2:40:GLU:N	9:F2:40:GLU:OE2	2.43	0.51
11:H2:47:GLY:O	11:H2:49:VAL:HG23	2.11	0.51
19:P2:117:ARG:HD2	31:b2:49:ALA:HB2	1.91	0.51
37:h2:8:ARG:HD2	37:h2:52:TYR:CD1	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:G3:245:ARG:HG2	44:G3:249:ARG:NH1	2.26	0.51
48:L3:62:PRO:C	48:L3:63:THR:HG22	2.36	0.51
49:M3:91:TRP:CD1	49:M3:91:TRP:O	2.64	0.51
59:X3:100:VAL:HG12	59:X3:101:ASP:O	2.11	0.51
72:k3:46:VAL:HG13	72:k3:46:VAL:O	2.10	0.51
80:t3:28:PHE:CE2	80:t3:91:THR:CG2	2.92	0.51
84:w3:17:VAL:CG1	84:w3:216:LEU:HD13	2.40	0.51
1:51:161:G:O6	1:51:274:C:N4	2.44	0.51
1:51:1589:C:H2'	1:51:1589:C:O2	2.10	0.51
1:51:2502:A:H4'	1:51:2503:G:OP1	2.11	0.51
1:51:2561:C:C2'	1:51:2566:G:H22	2.20	0.51
1:51:3756:A:HO2'	1:51:3757:G:C4'	2.23	0.51
1:51:3815:G:O2'	1:51:3816:A:O4'	2.25	0.51
1:51:3973:G:H2'	1:51:3974:G:O4'	2.11	0.51
4:A2:563:G:O2'	4:A2:564:A:O5'	2.23	0.51
4:A2:875:A:H2'	4:A2:876:C:C6	2.46	0.51
4:A2:1607:A:C6	4:A2:1631:U:N3	2.79	0.51
9:F2:156:VAL:HG13	9:F2:157:ASN:H	1.74	0.51
37:h2:61:GLY:O	37:h2:88:ARG:NH2	2.43	0.51
38:A3:137:ILE:HD11	38:A3:149:LYS:HB2	1.91	0.51
43:F3:148:SER:O	43:F3:148:SER:OG	2.29	0.51
44:G3:217:ILE:HG22	44:G3:221:VAL:CG2	2.39	0.51
54:R3:126:LYS:HZ2	54:R3:131:VAL:HB	1.76	0.51
66:e3:88:LEU:HD23	66:e3:91:CYS:SG	2.50	0.51
69:h3:90:ALA:O	69:h3:94:ARG:HG3	2.11	0.51
76:o3:92:GLU:C	76:o3:93:LEU:HD12	2.36	0.51
78:r3:28:GLU:OE1	78:r3:31:ASN:ND2	2.43	0.51
79:q3:52:G:N3	79:q3:63:G:N2	2.58	0.51
80:t3:121:VAL:N	80:t3:161:ILE:O	2.36	0.51
84:w3:111:LEU:HD12	84:w3:141:ASN:HB3	1.93	0.51
1:51:1358:G:N2	1:51:1381:U:O4	2.44	0.51
1:51:1568:C:H2'	1:51:1569:U:C6	2.46	0.51
1:51:1860:U:C5	1:51:1861:U:C5	2.99	0.51
1:51:2092:G:N2	1:51:2262:G:C2	2.79	0.51
1:51:2275:G:C5	1:51:2276:A:C2	2.99	0.51
1:51:3928:A:C6	1:51:4184:G:C2	2.98	0.51
1:51:4087:G:N3	1:51:4157:A:N1	2.59	0.51
1:51:4363:A:C6	1:51:4364:G:C8	2.99	0.51
2:71:10:C:C5	41:D3:20:PHE:HD1	2.28	0.51
4:A2:43:U:O2	4:A2:43:U:O2'	2.25	0.51
4:A2:58:C:C5	4:A2:500:A:C5	2.99	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:533:A:C4	4:A2:552:G:N2	2.78	0.51
4:A2:1397:U:O2'	4:A2:1398:G:OP1	2.25	0.51
6:C2:120:MET:HG3	6:C2:142:PHE:HE1	1.76	0.51
11:H2:45:TRP:O	11:H2:118:GLU:OE2	2.28	0.51
18:O2:56:ASP:OD1	18:O2:57:SER:N	2.44	0.51
21:R2:6:PRO:O	21:R2:7:LEU:HD22	2.10	0.51
24:U2:87:VAL:O	24:U2:88:MET:SD	2.69	0.51
41:D3:164:LYS:HA	41:D3:167:VAL:HG12	1.93	0.51
51:O3:34:VAL:HG23	51:O3:34:VAL:O	2.10	0.51
56:T3:47:THR:O	56:T3:49:GLN:NE2	2.44	0.51
57:U3:20:LYS:HG3	57:U3:73:THR:CG2	2.40	0.51
61:Z3:95:VAL:HG13	61:Z3:96:VAL:N	2.25	0.51
83:33:12:U:H3	83:33:22:G:N2	2.09	0.51
1:51:1200:G:C5	1:51:1201:U:C4	2.99	0.51
1:51:1544:G:N2	1:51:1545:G:C4	2.78	0.51
1:51:1558:A:OP1	54:R3:121:HIS:CD2	2.64	0.51
1:51:2552:G:C6	1:51:2553:A:C6	2.99	0.51
1:51:3974:G:H3'	1:51:3975:C:C5	2.46	0.51
3:81:117:C:N3	3:81:134:G:N1	2.59	0.51
4:A2:225:G:N2	4:A2:297:A:H61	2.08	0.51
4:A2:954:U:O4	4:A2:971:G:N1	2.43	0.51
11:H2:50:VAL:CG2	11:H2:111:LEU:HA	2.38	0.51
12:I2:182:GLY:C	12:I2:183:LYS:HD3	2.35	0.51
13:J2:88:ASN:O	13:J2:91:VAL:HG12	2.11	0.51
14:K2:44:TRP:HA	14:K2:47:LYS:HG2	1.93	0.51
20:Q2:48:GLY:C	20:Q2:49:LEU:HD22	2.36	0.51
37:h2:43:TRP:HA	37:h2:55:PRO:HA	1.92	0.51
38:A3:90:CYS:SG	38:A3:101:VAL:HG13	2.51	0.51
40:C3:56:GLU:OE1	40:C3:56:GLU:N	2.41	0.51
44:G3:155:TYR:CE2	44:G3:261:ASN:ND2	2.79	0.51
61:Z3:54:THR:HG22	61:Z3:55:ALA:O	2.10	0.51
76:o3:72:CYS:SG	76:o3:73:VAL:N	2.84	0.51
1:51:279:A:C2	50:N3:12:ARG:HG2	2.46	0.51
1:51:1272:C:H4'	1:51:1273:G:OP1	2.11	0.51
1:51:1920:C:C2	1:51:2064:G:N2	2.79	0.51
1:51:1942:A:H2'	1:51:1942:A:N3	2.26	0.51
1:51:2591:A:C2	1:51:2592:U:C4	2.99	0.51
4:A2:216:C:C4	4:A2:217:A:N7	2.79	0.51
4:A2:955:A:C2	4:A2:972:A:C6	3.00	0.51
4:A2:1092:G:H5"	4:A2:1093:A:OP2	2.10	0.51
4:A2:1212:G:C2	4:A2:1688:C:N3	2.79	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:1350:U:O2'	5:B2:110:ASN:OD1	2.16	0.51
4:A2:1489:A:O2'	4:A2:1490:G:OP1	2.27	0.51
8:E2:162:ASP:N	8:E2:163:PRO:CD	2.75	0.51
10:G2:43:GLU:H	10:G2:43:GLU:CD	2.19	0.51
11:H2:43:GLU:CG	11:H2:44:GLU:H	2.24	0.51
12:I2:178:LYS:HD2	12:I2:182:GLY:HA2	1.93	0.51
14:K2:109:ARG:NH1	14:K2:145:PRO:O	2.40	0.51
17:N2:72:HIS:HE1	36:g2:114:ILE:HD13	1.76	0.51
17:N2:117:GLU:OE2	17:N2:117:GLU:N	2.38	0.51
17:N2:121:LYS:C	17:N2:121:LYS:HD3	2.36	0.51
24:U2:49:ASP:OD1	24:U2:51:ASN:OD1	2.29	0.51
28:Y2:55:VAL:HG12	28:Y2:56:GLY:N	2.25	0.51
37:h2:61:GLY:O	37:h2:88:ARG:NH1	2.39	0.51
40:C3:116:ASN:O	40:C3:120:LYS:HG3	2.11	0.51
46:I3:38:ARG:HD3	46:I3:83:ASP:O	2.11	0.51
77:p3:84:ARG:HG2	77:p3:84:ARG:HH21	1.76	0.51
78:r3:24:THR:O	78:r3:24:THR:HG23	2.10	0.51
80:t3:100:ASP:O	80:t3:103:LEU:HD13	2.11	0.51
81:u3:151:ILE:CG2	81:u3:152:ILE:N	2.74	0.51
1:51:279:A:N3	50:N3:12:ARG:CZ	2.72	0.50
1:51:725:G:C2	1:51:942:G:C2	2.99	0.50
1:51:4391:G:C2	1:51:4392:G:C4	2.99	0.50
2:71:56:G:C3'	2:71:57:C:H5"	2.40	0.50
4:A2:176:U:H2'	4:A2:177:G:O4'	2.11	0.50
4:A2:227:U:O4	4:A2:887:U:H4'	2.11	0.50
4:A2:1024:A:C2	4:A2:1025:U:O2	2.64	0.50
4:A2:1534:C:N4	4:A2:1598:G:N7	2.59	0.50
7:D2:68:ARG:HH11	7:D2:276:THR:HG1	1.54	0.50
9:F2:131:VAL:HG22	9:F2:137:PRO:HB3	1.93	0.50
17:N2:14:VAL:CG2	17:N2:124:ILE:HD13	2.41	0.50
17:N2:25:ALA:HB2	17:N2:31:LEU:HD23	1.93	0.50
36:g2:118:ARG:HG3	36:g2:131:PHE:HB2	1.93	0.50
37:h2:299:PHE:HD1	37:h2:309:VAL:HG23	1.75	0.50
43:F3:158:TYR:CE1	43:F3:167:ALA:HB2	2.47	0.50
44:G3:226:LEU:HD22	70:i3:43:MET:HG3	1.92	0.50
52:P3:50:ASP:HB3	52:P3:55:LYS:HB2	1.93	0.50
79:q3:3:C:C2	79:q3:4:U:C5	3.00	0.50
1:51:60:A:C6	1:51:61:A:N1	2.78	0.50
1:51:222:C:N3	1:51:236:G:N2	2.59	0.50
1:51:506:C:H42	1:51:652:G:H1	1.58	0.50
1:51:1328:G:O5'	1:51:1328:G:H8	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:1481:C:H2'	1:51:1482:G:C2	2.47	0.50
1:51:2031:C:H2'	1:51:2033:A:H5'	1.93	0.50
1:51:2563:C:N3	1:51:2564:G:C6	2.79	0.50
1:51:2696:A:H5'	72:k3:26:LYS:HE3	1.93	0.50
1:51:4371:G:N2	83:33:75:C:C4	2.79	0.50
1:51:5029:C:H2'	1:51:5030:U:H4'	1.93	0.50
4:A2:34:U:O4	4:A2:35:C:N4	2.44	0.50
4:A2:146:G:N2	4:A2:147:A:N3	2.59	0.50
4:A2:1169:G:N2	4:A2:1191:C:N4	2.59	0.50
4:A2:1228:A:C2	4:A2:1229:G:C5	2.98	0.50
4:A2:1718:G:H21	4:A2:1815:A:C1'	2.23	0.50
10:G2:21:GLY:O	10:G2:22:LYS:HG2	2.11	0.50
11:H2:4:ASN:OD1	11:H2:15:LEU:HD13	2.11	0.50
13:J2:101:ILE:HG21	13:J2:198:TYR:CD2	2.46	0.50
21:R2:82:TYR:O	21:R2:86:GLN:NE2	2.31	0.50
39:B3:356:LYS:O	39:B3:360:LEU:HD12	2.11	0.50
42:E3:181:PRO:HB2	42:E3:184:LEU:CD1	2.41	0.50
45:H3:91:LYS:HB3	45:H3:143:GLU:OE2	2.12	0.50
54:R3:95:TRP:CZ2	54:R3:125:LEU:HD13	2.47	0.50
54:R3:98:ARG:NH2	54:R3:127:VAL:HG21	2.26	0.50
57:U3:27:HIS:HA	57:U3:30:GLU:HG2	1.93	0.50
60:Y3:58:VAL:HG22	60:Y3:103:LYS:O	2.12	0.50
68:g3:31:VAL:CG1	68:g3:32:TYR:N	2.74	0.50
80:t3:82:ILE:HG12	80:t3:86:VAL:HB	1.93	0.50
81:u3:80:LEU:HD11	81:u3:115:GLN:HB3	1.93	0.50
83:33:69:G:H2'	83:33:70:G:C8	2.46	0.50
84:w3:36:ILE:HG21	84:w3:190:LEU:HD11	1.92	0.50
86:W:9:SER:HG	86:W:11:TYR:HD1	1.59	0.50
1:51:31:U:C5	1:51:32:G:C5	2.99	0.50
1:51:103:G:OP1	48:L3:71:ARG:HD2	2.12	0.50
1:51:516:C:C2	1:51:517:C:C5	3.00	0.50
1:51:1406(C):G:N2	1:51:1411:C:C2	2.80	0.50
1:51:1745:G:N1	1:51:1746:A:C2	2.79	0.50
1:51:3934:G:C2	1:51:4177:C:O2	2.64	0.50
1:51:4084:G:N7	38:A3:72:ARG:NH2	2.58	0.50
1:51:4178:A:C2	1:51:4179:G:C5	2.99	0.50
1:51:4474:A:H5'	74:m3:99:LYS:HB2	1.93	0.50
4:A2:215:G:H2'	4:A2:216:C:O4'	2.10	0.50
4:A2:1658:G:OP2	4:A2:1660:C:N4	2.44	0.50
11:H2:2:LYS:HB2	11:H2:16:ILE:O	2.11	0.50
13:J2:201:LYS:O	13:J2:205:ARG:HG3	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:U2:83:GLN:HB3	24:U2:90:SER:CB	2.41	0.50
27:X2:5:ASN:HB3	27:X2:8:ALA:HB3	1.93	0.50
29:Z2:25:ILE:HD12	29:Z2:72:PHE:O	2.11	0.50
41:D3:195:HIS:NE2	41:D3:199:ILE:HD11	2.27	0.50
44:G3:206:GLN:HG2	44:G3:260:VAL:HG12	1.93	0.50
55:S3:23:ARG:N	55:S3:23:ARG:HD2	2.26	0.50
61:Z3:84:ARG:CD	61:Z3:85:TYR:H	2.24	0.50
72:k3:35:LYS:HB3	72:k3:44:THR:HG22	1.94	0.50
73:l3:20:ASN:O	73:l3:41:ARG:NE	2.44	0.50
79:q3:12:G:H1	79:q3:23:C:H41	1.58	0.50
1:51:202:C:H2'	1:51:203:U:C6	2.46	0.50
1:51:504:G:C2	1:51:655:C:N3	2.79	0.50
1:51:729:G:C5	1:51:732:A:C8	2.99	0.50
1:51:971(A):G:H4'	1:51:972:C:OP1	2.10	0.50
1:51:1682:A:N7	1:51:1683:U:C5	2.79	0.50
1:51:1866:U:OP1	46:I3:100:ASN:N	2.45	0.50
1:51:2279:A:H2'	1:51:2280:G:O4'	2.12	0.50
1:51:2290:C:H2'	1:51:2291:G:O4'	2.12	0.50
1:51:2548:C:H2'	1:51:2549:G:C8	2.46	0.50
1:51:4413:C:H42	1:51:4414:A:N6	2.10	0.50
1:51:4570:G:C5	1:51:4571:A:C2	2.99	0.50
1:51:4992:G:H2'	1:51:4993:G:C8	2.46	0.50
3:81:23:C:OP1	60:Y3:15:ARG:NE	2.43	0.50
4:A2:503:C:P	9:F2:62:LYS:HZ1	2.32	0.50
4:A2:533:A:C5	4:A2:552:G:N2	2.79	0.50
4:A2:750:C:H5"	4:A2:751:G:C2	2.47	0.50
4:A2:1577:G:O2'	4:A2:1579:A:N3	2.35	0.50
4:A2:1758:G:C2	4:A2:1775:U:C2	3.00	0.50
7:D2:273:LEU:HB2	7:D2:277:HIS:NE2	2.26	0.50
9:F2:136:ILE:HD13	9:F2:149:TYR:CZ	2.46	0.50
11:H2:41:LEU:HD12	11:H2:41:LEU:H	1.76	0.50
19:P2:64:ALA:HB3	19:P2:67:ASP:OD1	2.12	0.50
39:B3:344:VAL:C	39:B3:345:LEU:HD12	2.36	0.50
40:C3:124:ILE:CG1	40:C3:237:ILE:HD11	2.41	0.50
41:D3:217:ASP:OD1	41:D3:217:ASP:N	2.42	0.50
42:E3:210:LYS:HG2	42:E3:259:GLN:HE22	1.75	0.50
44:G3:224:PRO:O	44:G3:228:ARG:HD3	2.11	0.50
54:R3:44:LEU:HD11	54:R3:49:LEU:HD12	1.93	0.50
54:R3:165:LYS:NZ	54:R3:166:THR:HG22	2.25	0.50
61:Z3:28:ASN:O	61:Z3:29:ILE:HD13	2.11	0.50
61:Z3:84:ARG:HD3	61:Z3:85:TYR:H	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:g3:63:VAL:O	68:g3:63:VAL:HG12	2.11	0.50
74:m3:53:GLU:HG3	74:m3:55:SER:H	1.76	0.50
84:w3:56:LYS:O	84:w3:152:LYS:HE3	2.11	0.50
1:51:953:C:OP1	67:f3:73:LYS:NZ	2.43	0.50
1:51:1178:G:O2'	41:D3:286:SER:CB	2.59	0.50
1:51:1993:C:H1'	81:u3:137:GLN:CD	2.37	0.50
1:51:2773:G:P	72:k3:40:ARG:HD2	2.52	0.50
1:51:3759:A:H61	4:A2:1709:G:C2'	2.25	0.50
1:51:3944:G:N1	1:51:4069:U:N3	2.60	0.50
1:51:4540:C:O2	1:51:4540:C:H2'	2.10	0.50
4:A2:243:C:H2'	4:A2:244:A:C2	2.47	0.50
4:A2:952:G:H1	4:A2:974:C:H42	1.59	0.50
4:A2:991:G:C6	31:b2:95:ARG:NH1	2.79	0.50
8:E2:184:ILE:HG23	8:E2:184:ILE:O	2.12	0.50
24:U2:87:VAL:HG23	24:U2:88:MET:N	2.26	0.50
36:g2:120:GLU:OE1	36:g2:128:ALA:HA	2.10	0.50
39:B3:113:GLU:OE1	39:B3:176:LYS:O	2.30	0.50
48:L3:127:PHE:CD1	48:L3:144:LEU:CD2	2.95	0.50
52:P3:28:ASN:O	52:P3:32:THR:HG22	2.12	0.50
77:p3:36:LYS:HG2	77:p3:47:MET:HB3	1.93	0.50
78:r3:10:VAL:O	78:r3:10:VAL:HG12	2.10	0.50
85:1:59:TYR:HB3	85:1:62:ASP:HB2	1.94	0.50
1:51:2:G:N1	3:81:156:U:C5	2.80	0.50
1:51:961:G:HO2'	1:51:973:G:HO2'	1.57	0.50
1:51:963:G:C4	1:51:964:A:C8	2.99	0.50
1:51:1571:G:H1'	54:R3:128:LYS:HD2	1.93	0.50
1:51:1693:U:C2	1:51:1844:G:N2	2.79	0.50
1:51:1723:A:C2	1:51:1840:G:C2	3.00	0.50
1:51:1788:A:C5	46:I3:22:PHE:CD2	2.99	0.50
1:51:1979:A:N3	1:51:1988:G:O6	2.44	0.50
1:51:2706:G:O6	54:R3:46:LYS:NZ	2.41	0.50
1:51:2889:G:N2	1:51:3613:U:O2	2.45	0.50
1:51:3668:C:H5	1:51:3669:G:C5	2.30	0.50
1:51:4209:G:N7	1:51:4210:U:C4	2.79	0.50
1:51:4635:A:H1'	65:d3:34:HIS:HE2	1.76	0.50
3:81:34:U:O2	3:81:34:U:O2'	2.23	0.50
3:81:56:G:N2	3:81:62:A:N3	2.59	0.50
4:A2:191:A:H3'	4:A2:192:C:O4'	2.12	0.50
4:A2:660:C:O2'	16:M2:101:ARG:NH1	2.45	0.50
4:A2:1107:G:C6	4:A2:1126:G:C6	2.99	0.50
4:A2:1206:G:C2	4:A2:1693:G:N2	2.80	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:1260:A:C6	4:A2:1619:A:C6	3.00	0.50
5:B2:150:THR:O	5:B2:150:THR:HG22	2.11	0.50
6:C2:139:CYS:HB3	6:C2:172:MET:HE1	1.93	0.50
12:I2:116:ARG:HH21	12:I2:121:THR:CB	2.25	0.50
13:J2:6:ASP:OD1	13:J2:6:ASP:N	2.45	0.50
14:K2:100:LEU:HD22	14:K2:104:ASP:OD1	2.11	0.50
17:N2:120:ALA:HA	17:N2:123:VAL:HG12	1.94	0.50
29:Z2:54:VAL:HG22	29:Z2:54:VAL:O	2.12	0.50
37:h2:165:ILE:HG22	37:h2:166:VAL:N	2.27	0.50
39:B3:213:GLN:O	39:B3:214:ASP:OD1	2.30	0.50
41:D3:53:VAL:HG13	41:D3:53:VAL:O	2.12	0.50
42:E3:179:THR:O	42:E3:179:THR:CG2	2.59	0.50
80:t3:128:THR:HG22	80:t3:178:LEU:CD2	2.42	0.50
81:u3:136:ALA:HA	81:u3:139:VAL:HG22	1.93	0.50
81:u3:148:PRO:O	81:u3:151:ILE:HG22	2.11	0.50
81:u3:155:ILE:O	81:u3:155:ILE:HG13	2.12	0.50
1:51:303:C:OP2	50:N3:68:ARG:NH2	2.44	0.50
1:51:1095:A:H2'	1:51:1096:C:C6	2.47	0.50
1:51:1185:G:C5	1:51:1186:U:C5	3.00	0.50
1:51:1989:G:C2	81:u3:99:LYS:HG2	2.47	0.50
1:51:3662:A:N7	1:51:3664:G:N2	2.60	0.50
1:51:3755:G:N2	1:51:3771:C:OP1	2.44	0.50
1:51:3780:G:C2	1:51:3781:C:C2	3.00	0.50
1:51:4052:C:O2	84:w3:208:SER:O	2.29	0.50
1:51:4581:G:N2	1:51:4723:A:C2	2.80	0.50
1:51:4693:C:O2'	1:51:4695:C:N4	2.35	0.50
2:71:85:G:C2	2:71:93:G:N1	2.79	0.50
4:A2:92:A:N6	4:A2:446:G:C6	2.80	0.50
4:A2:677:G:N2	4:A2:1029:G:C6	2.80	0.50
4:A2:923:G:OP1	18:O2:2:GLY:N	2.45	0.50
4:A2:1096:G:N7	4:A2:1148:A:N7	2.60	0.50
4:A2:1831:A:C2	4:A2:1832:A:C8	3.00	0.50
5:B2:43:SER:O	5:B2:44:ASP:HB2	2.12	0.50
9:F2:241:GLY:O	9:F2:244:ILE:HG13	2.12	0.50
11:H2:18:VAL:HG13	11:H2:19:ASP:N	2.26	0.50
20:Q2:81:ARG:HH12	20:Q2:122:THR:HG22	1.76	0.50
35:f2:109:MET:SD	35:f2:113:ARG:NE	2.85	0.50
45:H3:128:MET:SD	45:H3:157:SER:HB2	2.51	0.50
54:R3:88:ARG:HB2	54:R3:92:LYS:HD2	1.93	0.50
57:U3:105:ASN:OD1	57:U3:109:SER:CB	2.60	0.50
58:V3:94:VAL:HG11	86:W:20:ARG:HH21	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:q3:44:A:H2'	79:q3:45:G:H5'	1.92	0.50
80:t3:148:SER:O	80:t3:149:ARG:HG2	2.11	0.50
1:51:61:A:N7	1:51:62:A:C2	2.80	0.50
1:51:1979:A:O3'	81:u3:94:LYS:HD3	2.11	0.50
1:51:2285:A:OP2	62:a3:7:LYS:HE2	2.12	0.50
1:51:2301:G:N2	1:51:2302:C:O2	2.44	0.50
1:51:3757:G:H1	1:51:3767:C:H42	1.58	0.50
1:51:4872:G:N2	51:O3:201:LEU:O	2.44	0.50
4:A2:72:C:N4	11:H2:170:ARG:HD3	2.27	0.50
4:A2:170:A:N6	4:A2:171:A:N6	2.59	0.50
4:A2:202:G:H2'	4:A2:202:G:N3	2.26	0.50
4:A2:288:G:C2	4:A2:289:G:C4	3.00	0.50
4:A2:942:G:N3	4:A2:985:G:N2	2.59	0.50
4:A2:1121:G:O2'	6:C2:204:ILE:O	2.18	0.50
4:A2:1718:G:C5	4:A2:1814:G:C2	2.99	0.50
7:D2:166:ARG:HB2	7:D2:248:TYR:CE1	2.47	0.50
7:D2:210:PRO:HD3	7:D2:236:PHE:HE2	1.76	0.50
14:K2:136:ARG:HH11	14:K2:139:LYS:H	1.59	0.50
19:P2:65:ASP:HA	19:P2:68:GLU:HG3	1.94	0.50
23:T2:81:ASP:O	23:T2:87:GLN:NE2	2.45	0.50
28:Y2:24:ASP:OD1	28:Y2:25:LYS:N	2.45	0.50
39:B3:89:ILE:HG22	39:B3:90:VAL:N	2.27	0.50
42:E3:99:VAL:HG13	42:E3:99:VAL:O	2.10	0.50
43:F3:145:ASN:OD1	43:F3:146:LEU:N	2.43	0.50
44:G3:141:ASP:CG	44:G3:145:ALA:HB2	2.37	0.50
45:H3:27:VAL:HG23	45:H3:27:VAL:O	2.12	0.50
58:V3:26:ILE:HG13	58:V3:37:LEU:HB2	1.93	0.50
64:c3:29:LEU:HD11	64:c3:89:TYR:OH	2.12	0.50
77:p3:51:ALA:H	77:p3:54:ILE:CG2	2.25	0.50
78:r3:28:GLU:HB2	78:r3:31:ASN:HB2	1.93	0.50
81:u3:113:ALA:HA	81:u3:116:MET:SD	2.51	0.50
1:51:645:G:C2	1:51:646:G:H1'	2.46	0.50
1:51:1433:A:C6	1:51:1452:A:C4	3.00	0.50
1:51:1728:U:C5	1:51:1729:A:N7	2.80	0.50
1:51:1829:G:H2'	1:51:1830:G:C8	2.46	0.50
1:51:2756:G:H2'	1:51:2757:A:H8	1.77	0.50
1:51:2787:A:H2'	1:51:2787:A:N3	2.26	0.50
1:51:4949:G:H4'	1:51:4950:U:H5'	1.93	0.50
4:A2:875:A:C2'	4:A2:876:C:O4'	2.60	0.50
10:G2:87:LEU:O	10:G2:87:LEU:HD23	2.11	0.50
12:I2:31:GLU:HG2	12:I2:40:LEU:HB2	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:N2:51:VAL:HG12	17:N2:109:VAL:HG13	1.93	0.50
20:Q2:80:LEU:HD23	20:Q2:80:LEU:C	2.37	0.50
22:S2:45:LYS:O	22:S2:49:LYS:HG2	2.11	0.50
24:U2:10:ASN:O	24:U2:12:GLN:N	2.43	0.50
26:W2:35:ASN:OD1	26:W2:52:THR:HG22	2.12	0.50
29:Z2:27:VAL:HG22	29:Z2:28:LEU:N	2.26	0.50
29:Z2:52:PRO:HA	29:Z2:76:TYR:CE1	2.47	0.50
44:G3:140:LEU:HD23	44:G3:237:LEU:C	2.37	0.50
47:J3:95:ARG:HH12	47:J3:175:LEU:HD11	1.77	0.50
48:L3:201:GLU:O	48:L3:204:GLU:HG2	2.11	0.50
63:b3:59:ALA:O	63:b3:63:LYS:HG2	2.12	0.50
78:r3:90:LEU:HD12	78:r3:90:LEU:N	2.26	0.50
84:w3:93:LEU:HD22	84:w3:124:LEU:HD13	1.92	0.50
1:51:43:U:OP1	50:N3:85:VAL:HG23	2.12	0.49
1:51:120:A:H1'	1:51:121:A:C2	2.48	0.49
1:51:220:C:O2	1:51:220:C:H2'	2.12	0.49
1:51:671:G:C6	1:51:672:C:N4	2.79	0.49
1:51:1745:G:C2	1:51:1786:A:N1	2.79	0.49
1:51:2350:U:C4	40:C3:73:VAL:O	2.64	0.49
1:51:2477:A:C6	1:51:2478:C:C4	2.99	0.49
1:51:2572:C:H2'	1:51:2573:A:O5'	2.11	0.49
1:51:3659:G:O2'	38:A3:227:ARG:NH2	2.45	0.49
1:51:3705:G:N2	1:51:3748:A:C5	2.80	0.49
1:51:4413:C:N4	1:51:4414:A:C6	2.80	0.49
1:51:4585:U:H2'	1:51:4586:G:H8	1.77	0.49
2:71:120:U:O4	41:D3:259:ARG:N	2.33	0.49
4:A2:43:U:O2	4:A2:43:U:C2'	2.59	0.49
4:A2:664:A:O2'	4:A2:670:A:N1	2.28	0.49
4:A2:872:A:H3'	54:R3:170:ARG:HH11	1.77	0.49
4:A2:1129:G:C2	4:A2:1130:G:N7	2.80	0.49
9:F2:241:GLY:O	9:F2:242:LYS:CG	2.60	0.49
10:G2:204:ARG:OXT	33:d2:63:ARG:CZ	2.60	0.49
11:H2:53:SER:OG	11:H2:63:MET:HE1	2.12	0.49
11:H2:56:ASN:H	11:H2:62:PRO:HA	1.76	0.49
17:N2:124:ILE:HG22	17:N2:128:PHE:CE2	2.48	0.49
19:P2:88:LEU:HG	19:P2:88:LEU:O	2.12	0.49
23:T2:26:ILE:HD12	23:T2:45:LEU:HD22	1.93	0.49
23:T2:144:ARG:O	23:T2:145:THR:OG1	2.29	0.49
26:W2:2:GLN:CG	26:W2:6:GLY:HA2	2.41	0.49
26:W2:21:ASN:HB3	27:X2:67:GLY:HA3	1.94	0.49
29:Z2:55:ILE:HA	29:Z2:74:MET:HB2	1.92	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:a2:85:ARG:O	30:a2:89:GLN:HG3	2.12	0.49
30:a2:88:LEU:HB3	30:a2:109:TYR:CE2	2.47	0.49
32:c2:37:CYS:SG	32:c2:38:PRO:HD2	2.53	0.49
34:e2:46:TYR:O	34:e2:49:ASP:OD1	2.29	0.49
37:h2:11:LEU:CD2	37:h2:53:GLY:HA3	2.42	0.49
37:h2:121:VAL:HG13	37:h2:121:VAL:O	2.11	0.49
37:h2:256:ILE:HD11	37:h2:289:LEU:HD11	1.94	0.49
38:A3:48:ILE:HD12	77:p3:63:THR:HG22	1.94	0.49
38:A3:150:LEU:HB3	38:A3:151:PRO:HD2	1.94	0.49
42:E3:144:ARG:NH1	67:f3:110:ILE:OXT	2.40	0.49
44:G3:214:VAL:HG13	44:G3:217:ILE:HA	1.94	0.49
51:O3:196:LEU:HD12	51:O3:196:LEU:N	2.27	0.49
53:Q3:26:ARG:O	53:Q3:30:LYS:HG3	2.11	0.49
58:V3:124:GLU:O	58:V3:128:LEU:HD12	2.12	0.49
77:p3:52:VAL:O	77:p3:52:VAL:HG13	2.10	0.49
81:u3:116:MET:HE1	81:u3:122:ALA:HB3	1.94	0.49
83:33:41:U:C2	83:33:42:G:C8	3.00	0.49
84:w3:147:LYS:O	84:w3:151:VAL:HG23	2.11	0.49
1:51:920:C:C2	1:51:921:C:C5	3.00	0.49
1:51:1178:G:C6	1:51:1179:U:C4	3.00	0.49
1:51:2452:G:N2	1:51:2508:U:O4	2.45	0.49
1:51:2755:A:N7	1:51:2756:G:N2	2.60	0.49
1:51:4537:C:H2'	1:51:4538:G:C8	2.46	0.49
1:51:4945:G:N1	67:f3:3:GLY:O	2.37	0.49
1:51:5000:G:C2	1:51:5001:U:O2	2.64	0.49
4:A2:50:A:N7	4:A2:51:U:C2	2.80	0.49
4:A2:241:G:N1	4:A2:281:C:O2	2.44	0.49
4:A2:536:A:O2'	4:A2:537:C:OP1	2.27	0.49
4:A2:1466:G:C2	4:A2:1467:C:C4	3.00	0.49
5:B2:176:TRP:CD2	5:B2:199:PRO:HB3	2.46	0.49
18:O2:64:ARG:CG	18:O2:70:LYS:HG2	2.42	0.49
18:O2:147:SER:O	18:O2:150:VAL:HG22	2.13	0.49
38:A3:138:SER:O	38:A3:146:THR:HG23	2.11	0.49
40:C3:177:TRP:CZ3	40:C3:180:ILE:HG21	2.47	0.49
42:E3:45:HIS:CE1	42:E3:48:ARG:HE	2.31	0.49
49:M3:11:ARG:NH2	49:M3:58:THR:O	2.45	0.49
61:Z3:74:VAL:HG23	61:Z3:101:PHE:CE2	2.46	0.49
62:a3:137:ILE:HA	62:a3:140:VAL:HG12	1.93	0.49
69:h3:67:GLU:HA	69:h3:70:ARG:HG2	1.95	0.49
71:j3:39:TYR:HB3	71:j3:40:PRO:HD3	1.94	0.49
80:t3:74:ALA:O	80:t3:77:LYS:NZ	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
83:33:60:U:C2	83:33:61:C:C5	3.00	0.49
1:51:98:A:C6	1:51:99:A:N1	2.81	0.49
1:51:169:A:H2'	1:51:170:C:O4'	2.13	0.49
1:51:1079:C:N4	1:51:1221:G:C6	2.75	0.49
1:51:1105:C:C4	1:51:1106:A:N6	2.80	0.49
1:51:1570:G:H1'	54:R3:130:ASN:ND2	2.27	0.49
1:51:1907:A:N6	1:51:1908:A:N6	2.60	0.49
1:51:1994:C:H1'	81:u3:130:LYS:HE2	1.92	0.49
1:51:2296:G:C6	1:51:2297:G:N7	2.80	0.49
1:51:2664:G:OP1	54:R3:110:ARG:NH2	2.45	0.49
4:A2:190:G:P	4:A2:190:G:O4'	2.70	0.49
4:A2:688:U:OP2	12:I2:116:ARG:NH2	2.34	0.49
4:A2:1206:G:C2	4:A2:1208:A:C5	3.00	0.49
4:A2:1412:C:N3	4:A2:1430:C:N3	2.61	0.49
4:A2:1725:U:O2	4:A2:1725:U:H2'	2.12	0.49
4:A2:1731:A:N6	4:A2:1732:G:C6	2.80	0.49
13:J2:102:VAL:HB	13:J2:104:ILE:CG2	2.42	0.49
18:O2:84:LEU:CD2	18:O2:149:LEU:HD21	2.42	0.49
20:Q2:68:PRO:HB2	20:Q2:71:GLU:OE2	2.11	0.49
29:Z2:27:VAL:CG1	29:Z2:69:THR:OG1	2.60	0.49
37:h2:80:SER:O	37:h2:87:LEU:HD12	2.12	0.49
42:E3:60:SER:OG	42:E3:61:ARG:N	2.45	0.49
55:S3:165:PRO:O	55:S3:167:PHE:N	2.45	0.49
59:X3:83:THR:HG22	59:X3:86:ALA:CB	2.43	0.49
63:b3:8:THR:HG22	63:b3:9:THR:N	2.27	0.49
69:h3:56:ARG:O	69:h3:60:VAL:HG23	2.12	0.49
78:r3:64:MET:HE1	78:r3:102:TYR:CD2	2.47	0.49
79:q3:1:G:N2	79:q3:72:C:C5	2.80	0.49
80:t3:128:THR:O	80:t3:130:LEU:HD12	2.12	0.49
81:u3:132:ILE:HG22	81:u3:132:ILE:O	2.11	0.49
84:w3:55:LEU:N	84:w3:153:SER:O	2.45	0.49
84:w3:194:LEU:HD23	84:w3:200:ASN:CG	2.37	0.49
85:1:56:TRP:CD1	85:1:59:TYR:HB2	2.46	0.49
1:51:64:A:C2	1:51:76:A:C4	3.00	0.49
1:51:495:C:N4	1:51:660:G:C6	2.80	0.49
1:51:518:G:H2'	1:51:519:C:C6	2.47	0.49
1:51:1539:G:C6	1:51:1540:C:C4	3.00	0.49
1:51:1597:G:C8	1:51:1599:G:N7	2.80	0.49
1:51:1617:G:O3'	71:j3:12:ARG:NH2	2.45	0.49
1:51:1668:A:C2	1:51:2282:A:C2	3.00	0.49
1:51:2605:G:C2	1:51:2735:G:C2	3.00	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:2653:C:P	68:g3:54:ARG:HH22	2.34	0.49
1:51:3755:G:H22	1:51:3771:C:C1'	2.25	0.49
1:51:4384:U:O2'	1:51:4386:C:OP1	2.30	0.49
1:51:4948:C:O2	1:51:4948:C:O4'	2.30	0.49
2:71:56:G:O4'	47:J3:149:GLY:HA2	2.13	0.49
4:A2:235:A:C6	4:A2:894:G:O4'	2.65	0.49
4:A2:1050:A:C6	4:A2:1069:U:C2	2.99	0.49
4:A2:1813:A:C4	4:A2:1814:G:H1'	2.48	0.49
17:N2:64:LEU:O	17:N2:64:LEU:HG	2.13	0.49
17:N2:84:LYS:O	17:N2:87:GLU:HB2	2.13	0.49
18:O2:22:VAL:HG22	18:O2:23:PRO:O	2.12	0.49
28:Y2:61:GLN:CB	28:Y2:62:PRO:CD	2.88	0.49
42:E3:43:LYS:HD2	42:E3:44:PRO:HD2	1.93	0.49
43:F3:196:VAL:O	43:F3:196:VAL:HG23	2.13	0.49
45:H3:173:ARG:HH12	74:m3:101:VAL:HG23	1.76	0.49
47:J3:161:GLU:HG3	47:J3:164:ARG:NH1	2.27	0.49
65:d3:122:VAL:HG22	65:d3:123:ASP:N	2.28	0.49
81:u3:113:ALA:CB	81:u3:125:LEU:HD23	2.43	0.49
83:33:8:U:O4	83:33:14:A:C8	2.66	0.49
1:51:361:C:C5	1:51:378:A:C6	3.00	0.49
1:51:2561:C:H5"	1:51:2562:G:OP2	2.13	0.49
1:51:3741:C:C4	1:51:3742:G:N7	2.81	0.49
1:51:3949:A:H1'	1:51:4065:G:N2	2.25	0.49
1:51:4277:G:N2	1:51:4332:C:C4	2.80	0.49
1:51:5029:C:N3	1:51:5030:U:H1'	2.28	0.49
1:51:5066:U:H2'	1:51:5067:U:C6	2.48	0.49
4:A2:194:C:C2	4:A2:206:G:C2	3.00	0.49
7:D2:142:LYS:NZ	7:D2:144:SER:HB3	2.27	0.49
8:E2:9:ARG:HA	8:E2:12:VAL:HG22	1.94	0.49
14:K2:46:VAL:CG1	14:K2:102:ILE:HD11	2.43	0.49
17:N2:74:ILE:HG22	17:N2:75:ASN:O	2.12	0.49
25:V2:54:VAL:CG2	25:V2:88:LEU:O	2.61	0.49
27:X2:31:SER:HG	27:X2:34:ILE:HG13	1.77	0.49
29:Z2:21:LYS:HE2	29:Z2:75:ILE:HG13	1.94	0.49
31:b2:18:VAL:CG1	31:b2:19:GLN:H	2.22	0.49
39:B3:108:GLU:HG2	39:B3:109:HIS:N	2.26	0.49
41:D3:90:VAL:HG11	41:D3:226:TYR:CD1	2.47	0.49
44:G3:242:ARG:O	44:G3:242:ARG:NE	2.41	0.49
62:a3:83:SER:OG	62:a3:84:GLU:N	2.45	0.49
80:t3:60:MET:C	80:t3:62:ARG:H	2.20	0.49
81:u3:113:ALA:O	81:u3:117:ARG:HG3	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:59:A:C6	1:51:338:A:N3	2.81	0.49
1:51:680:G:H2'	1:51:681:G:C8	2.48	0.49
1:51:1103:C:H3'	1:51:1104:C:C6	2.47	0.49
1:51:1653:A:OP2	62:a3:27:LYS:HE2	2.13	0.49
1:51:2572:C:C2'	1:51:2573:A:O5'	2.60	0.49
1:51:3653:A:C2	1:51:3692:A:H4'	2.48	0.49
1:51:3767:C:OP1	4:A2:1708:C:H1'	2.12	0.49
1:51:3775:A:C2	1:51:3776:G:C6	3.00	0.49
1:51:4128:A:H2'	1:51:4128:A:N3	2.26	0.49
1:51:4172:A:C2	1:51:4173:G:C8	3.01	0.49
1:51:4302:U:C5	1:51:4303:C:C6	3.00	0.49
4:A2:222:U:H5"	16:M2:17:PHE:HB2	1.94	0.49
4:A2:538:U:C2	4:A2:546:G:C2	3.01	0.49
4:A2:1290:G:N2	4:A2:1310:U:C2'	2.74	0.49
6:C2:97:LEU:HD12	6:C2:97:LEU:N	2.28	0.49
8:E2:67:ARG:O	8:E2:70:THR:OG1	2.30	0.49
10:G2:92:ILE:HG21	10:G2:169:ILE:HG13	1.94	0.49
11:H2:20:ASP:OD1	11:H2:21:GLU:N	2.45	0.49
11:H2:223:LYS:O	11:H2:227:GLN:OE1	2.30	0.49
13:J2:170:LYS:HG3	13:J2:171:LEU:N	2.27	0.49
13:J2:172:LEU:HD22	13:J2:190:LEU:CB	2.42	0.49
17:N2:31:LEU:HD12	17:N2:31:LEU:O	2.13	0.49
22:S2:46:LEU:O	22:S2:50:ILE:HG12	2.12	0.49
30:a2:48:VAL:O	30:a2:83:LEU:CD1	2.60	0.49
40:C3:209:VAL:HB	40:C3:229:LEU:HD13	1.93	0.49
44:G3:108:VAL:CB	59:X3:43:SER:O	2.60	0.49
52:P3:116:HIS:HB3	52:P3:149:ILE:HB	1.93	0.49
68:g3:20:THR:HG22	68:g3:34:TYR:CD1	2.46	0.49
71:j3:80:GLU:O	71:j3:82:THR:N	2.45	0.49
79:q3:18:G:HO2'	79:q3:57:G:N2	2.05	0.49
79:q3:48:C:HO2'	79:q3:49:C:P	2.31	0.49
79:q3:52:G:C2	79:q3:63:G:C2	3.00	0.49
1:51:99:A:OP1	50:N3:195:ARG:NH2	2.44	0.49
1:51:138:G:H2'	1:51:139:G:C8	2.47	0.49
1:51:1183:C:C5	1:51:1184:A:C6	3.00	0.49
1:51:1570:G:H1'	54:R3:130:ASN:HD22	1.78	0.49
1:51:2026:A:C5	1:51:2027:U:H5	2.31	0.49
1:51:2060:G:N2	55:S3:115:ALA:HB2	2.28	0.49
1:51:2544:G:C2	3:81:126:C:N3	2.81	0.49
1:51:2558:C:N4	1:51:2559:G:O6	2.45	0.49
1:51:3698:G:C6	1:51:3699:C:N4	2.81	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:4039:G:C2’	1:51:4040:C:O4’	2.60	0.49
1:51:4159:C:H2’	1:51:4160:C:C6	2.48	0.49
1:51:4237:C:N4	1:51:4287:G:O6	2.45	0.49
4:A2:98:C:OP2	4:A2:426:A:O2’	2.27	0.49
4:A2:173:A:N6	4:A2:174:C:H42	2.11	0.49
4:A2:217:A:C6	4:A2:309:G:O6	2.66	0.49
4:A2:434:G:O2’	4:A2:435:A:OP1	2.31	0.49
4:A2:640:A:H2’	4:A2:641:A:C8	2.48	0.49
4:A2:852:G:N3	4:A2:852:G:O4’	2.45	0.49
4:A2:860:G:C6	4:A2:861:A:N1	2.81	0.49
4:A2:1610:G:H21	4:A2:1629:C:H2’	1.78	0.49
4:A2:1679:A:OP2	10:G2:60:ARG:CZ	2.61	0.49
7:D2:82:TYR:CE2	7:D2:164:PRO:HD3	2.48	0.49
13:J2:173:ALA:HB1	13:J2:188:TYR:H	1.78	0.49
31:b2:100:ARG:O	31:b2:100:ARG:HG2	2.13	0.49
37:h2:143:GLN:HG2	37:h2:144:ASP:N	2.28	0.49
37:h2:164:ILE:C	37:h2:165:ILE:HD13	2.38	0.49
37:h2:176:VAL:O	37:h2:185:LYS:N	2.32	0.49
37:h2:206:LEU:HD23	37:h2:206:LEU:H	1.77	0.49
37:h2:275:ILE:HG23	37:h2:276:SER:N	2.28	0.49
37:h2:292:SER:OG	37:h2:293:ALA:N	2.43	0.49
41:D3:124:GLU:CG	41:D3:125:VAL:H	2.26	0.49
41:D3:284:LYS:HG2	46:I3:209:TRP:CZ3	2.48	0.49
43:F3:71:ALA:O	43:F3:75:ARG:HG3	2.12	0.49
46:I3:165:ILE:N	46:I3:165:ILE:HD12	2.28	0.49
54:R3:70:ARG:CD	54:R3:76:MET:HE2	2.43	0.49
54:R3:155:LEU:HA	54:R3:158:GLN:HG2	1.94	0.49
55:S3:69:GLU:CD	55:S3:69:GLU:N	2.71	0.49
67:f3:10:ILE:HD11	67:f3:100:ARG:HE	1.78	0.49
79:q3:5:C:H2’	79:q3:6:C:H5’	1.95	0.49
79:q3:52:G:C2	79:q3:63:G:N1	2.81	0.49
80:t3:30:VAL:C	80:t3:86:VAL:HG13	2.36	0.49
1:51:518:G:N1	1:51:644:G:C2	2.81	0.49
1:51:725:G:P	40:C3:350:ARG:HH21	2.36	0.49
1:51:1470:G:N2	1:51:1495:G:C4	2.80	0.49
1:51:2402:G:H21	1:51:2403:A:H1’	1.78	0.49
1:51:2434:G:O2’	1:51:2527:A:N1	2.34	0.49
1:51:3705:G:C6	1:51:3706:C:N3	2.81	0.49
1:51:4058:U:H2’	1:51:4059:C:H6	1.78	0.49
4:A2:62:G:C6	4:A2:63:U:N3	2.81	0.49
4:A2:223:C:N3	4:A2:224:A:N1	2.61	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:241:G:O2'	4:A2:242:U:O4'	2.27	0.49
4:A2:337:C:N4	4:A2:338:G:C6	2.81	0.49
4:A2:922:A:OP1	27:X2:28:ARG:NH2	2.46	0.49
4:A2:1518:C:H5"	4:A2:1519:U:H5"	1.95	0.49
4:A2:1756:C:H2'	4:A2:1757:G:H5"	1.95	0.49
7:D2:144:SER:OG	7:D2:149:THR:HG23	2.12	0.49
10:G2:110:GLN:HA	10:G2:113:VAL:HG12	1.94	0.49
37:h2:142:VAL:HG22	37:h2:146:SER:HB3	1.94	0.49
37:h2:154:VAL:O	37:h2:155:ARG:HG2	2.12	0.49
40:C3:232:VAL:HG12	40:C3:263:LEU:HD11	1.93	0.49
40:C3:338:ASN:C	40:C3:340:ILE:H	2.21	0.49
41:D3:207:TYR:CD2	41:D3:211:LEU:HD23	2.48	0.49
41:D3:209:ARG:HE	41:D3:209:ARG:CA	2.17	0.49
41:D3:239:MET:HA	41:D3:242:LYS:CE	2.42	0.49
83:33:57:A:C6	83:33:60:U:C5	3.01	0.49
84:w3:118:LYS:HG3	84:w3:119:GLN:OE1	2.13	0.49
1:51:207:G:N2	1:51:383:A:N7	2.61	0.49
1:51:461:G:C6	1:51:695:G:C6	3.01	0.49
1:51:726:G:C2	1:51:941:C:O2	2.66	0.49
1:51:745:G:N2	1:51:920:C:C2	2.81	0.49
1:51:746:A:C8	1:51:913:U:N3	2.78	0.49
1:51:956:A:N6	1:51:1283:G:H1'	2.27	0.49
1:51:1078:A:C2	1:51:1233:G:N1	2.80	0.49
1:51:1403:G:H3'	1:51:1404:G:C8	2.48	0.49
1:51:1803:G:H22	1:51:1806:G:H21	1.61	0.49
1:51:2489:C:O2'	1:51:2491:C:N4	2.46	0.49
1:51:4067:U:N3	1:51:4068:U:O4	2.46	0.49
1:51:4292:A:C2	1:51:4330:G:N1	2.80	0.49
1:51:4686:G:N1	1:51:4705:A:C6	2.80	0.49
4:A2:334:C:C4	4:A2:335:G:C8	3.01	0.49
4:A2:538:U:N3	4:A2:546:G:C2	2.81	0.49
4:A2:797:C:H3'	4:A2:798:G:C8	2.48	0.49
4:A2:1519:U:O2'	4:A2:1520:G:H5'	2.13	0.49
4:A2:1612:G:C2	4:A2:1613:G:C8	3.01	0.49
6:C2:93:GLY:HA3	44:G3:317:LYS:NZ	2.28	0.49
9:F2:156:VAL:HG13	9:F2:157:ASN:N	2.28	0.49
11:H2:32:MET:O	11:H2:34:THR:N	2.42	0.49
17:N2:62:VAL:HA	17:N2:65:VAL:HG12	1.94	0.49
19:P2:42:VAL:HG23	19:P2:42:VAL:O	2.13	0.49
39:B3:146:LEU:HD12	39:B3:150:PHE:HE2	1.76	0.49
41:D3:195:HIS:O	41:D3:199:ILE:HG13	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:G3:119:GLN:O	44:G3:123:LEU:HG	2.13	0.49
44:G3:235:CYS:O	44:G3:279:TYR:HD2	1.96	0.49
77:p3:5:THR:O	77:p3:6:LYS:HG2	2.13	0.49
79:q3:35:A:N7	79:q3:36:C:C6	2.81	0.49
79:q3:36:C:N4	82:v3:32:A:H61	2.10	0.49
81:u3:56:LEU:HD21	81:u3:82:ILE:HG21	1.94	0.49
83:33:23:A:C4	83:33:24:G:C8	3.01	0.49
83:33:66:U:H2'	83:33:67:U:C6	2.47	0.49
1:51:516:C:H2'	1:51:517:C:C6	2.48	0.49
1:51:731:G:C6	1:51:932:A:C4	3.01	0.49
1:51:1177:U:H4'	41:D3:279:ARG:NH2	2.28	0.49
1:51:1322:A:C6	1:51:3876:A:N1	2.81	0.49
1:51:1427:A:N7	1:51:1458:C:N4	2.60	0.49
1:51:1624:G:C5	1:51:1643:A:N7	2.81	0.49
1:51:1660:U:C2	1:51:2346:C:C5	3.01	0.49
1:51:1745:G:C2	1:51:1786:A:C2	3.01	0.49
1:51:1985:G:O5'	1:51:1985:G:H8	1.95	0.49
1:51:3782:C:N3	1:51:3811:G:N2	2.61	0.49
1:51:4719:G:O6	1:51:4721:G:C2	2.66	0.49
2:71:54:A:O2'	47:J3:155:HIS:HB2	2.13	0.49
4:A2:62:G:C2	4:A2:87:U:O2	2.66	0.49
4:A2:181:A:N7	4:A2:182:C:C4	2.80	0.49
4:A2:1857:G:N1	4:A2:1858:G:N2	2.61	0.49
10:G2:124:ASP:OD1	10:G2:125:SER:N	2.45	0.49
10:G2:140:ASP:OD1	33:d2:46:VAL:HG12	2.13	0.49
12:I2:51:ILE:HD11	12:I2:176:VAL:HG22	1.95	0.49
14:K2:128:VAL:O	14:K2:132:GLN:HG3	2.12	0.49
22:S2:120:THR:HG22	22:S2:121:GLN:N	2.25	0.49
27:X2:54:ASP:OD1	27:X2:55:ASP:O	2.29	0.49
37:h2:282:GLU:CD	37:h2:283:PRO:O	2.56	0.49
45:H3:89:ARG:O	45:H3:89:ARG:CG	2.61	0.49
45:H3:170:LYS:HD3	45:H3:175:PHE:HE2	1.78	0.49
51:O3:35:VAL:O	51:O3:35:VAL:CG1	2.61	0.49
57:U3:24:ASP:OD1	57:U3:68:SER:OG	2.27	0.49
57:U3:50:ASN:HB2	57:U3:59:GLY:HA3	1.95	0.49
58:V3:45:ILE:O	58:V3:45:ILE:HG23	2.13	0.49
80:t3:66:ARG:HA	80:t3:69:LEU:HG	1.95	0.49
81:u3:53:TRP:C	81:u3:55:GLY:H	2.20	0.49
83:33:29:A:H61	83:33:40:C:N4	2.11	0.49
1:51:120:A:N7	1:51:149:A:C5	2.81	0.48
1:51:742:G:C6	1:51:922(A):G:O6	2.66	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:1446:C:H2'	1:51:1447:C:C6	2.48	0.48
1:51:1571:G:O3'	54:R3:127:VAL:HG12	2.13	0.48
1:51:1577:G:O2'	1:51:1612:G:H4'	2.11	0.48
1:51:1590:C:N4	1:51:1592:G:N7	2.61	0.48
1:51:1771:U:H3'	1:51:1772:C:C5	2.48	0.48
1:51:2081:C:H2'	1:51:2082:G:H8	1.78	0.48
1:51:2364:G:O6	1:51:3859:G:N2	2.46	0.48
1:51:2550:G:H8	1:51:2550:G:O5'	1.96	0.48
1:51:2714:G:H2'	1:51:2715:G:H8	1.77	0.48
1:51:3949:A:N1	1:51:4064:C:N3	2.61	0.48
1:51:4526:U:H5	1:51:4527:G:C6	2.31	0.48
1:51:4726:G:H2'	39:B3:130:PHE:CE1	2.48	0.48
4:A2:42:A:C2	4:A2:426:A:C6	3.00	0.48
4:A2:334:C:H41	11:H2:190:ARG:NH2	2.10	0.48
4:A2:563:G:N7	4:A2:586:G:N2	2.60	0.48
4:A2:1556:A:N7	34:e2:13:LYS:HD2	2.27	0.48
13:J2:172:LEU:HD22	13:J2:190:LEU:HB2	1.95	0.48
23:T2:89:ASP:O	23:T2:93:GLY:HA2	2.12	0.48
34:e2:20:SER:OG	34:e2:25:SER:HA	2.13	0.48
37:h2:82:SER:OG	37:h2:83:TRP:N	2.45	0.48
38:A3:166:VAL:HG23	38:A3:166:VAL:O	2.11	0.48
39:B3:90:VAL:HG23	39:B3:104:THR:CG2	2.42	0.48
47:J3:164:ARG:O	47:J3:168:GLN:HB2	2.14	0.48
48:L3:64:VAL:HA	48:L3:67:HIS:HD2	1.77	0.48
54:R3:91:GLU:CG	54:R3:93:VAL:HA	2.40	0.48
57:U3:22:THR:C	57:U3:23:LEU:HD12	2.38	0.48
57:U3:43:LEU:HD21	57:U3:90:TYR:HE2	1.76	0.48
70:i3:29:ARG:HD2	70:i3:29:ARG:C	2.37	0.48
81:u3:13:VAL:CG2	81:u3:32:ILE:HD11	2.34	0.48
84:w3:59:PRO:O	84:w3:171:HIS:ND1	2.46	0.48
1:51:164:G:C2	1:51:165:A:C8	3.01	0.48
1:51:392:U:H2'	1:51:393:U:C6	2.48	0.48
1:51:1169:G:N1	1:51:1193:C:N3	2.61	0.48
1:51:2283:G:C2	1:51:2284:G:C8	3.01	0.48
1:51:2575:U:O4	1:51:2757:A:N6	2.45	0.48
1:51:3970:G:C6	1:51:3971:G:N2	2.81	0.48
1:51:4333:C:O2	1:51:4333:C:H2'	2.13	0.48
4:A2:556:U:H2'	4:A2:557:U:C6	2.48	0.48
4:A2:745:C:O2'	4:A2:747:U:O5'	2.31	0.48
4:A2:943:U:OP1	6:C2:214:LYS:NZ	2.46	0.48
4:A2:1203:G:N2	4:A2:1697:A:C4	2.81	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:1262:C:O2	34:e2:17:GLY:HA3	2.13	0.48
4:A2:1589:A:O3'	24:U2:82:ARG:CD	2.61	0.48
5:B2:195:TRP:CD1	5:B2:196:GLU:N	2.81	0.48
6:C2:134:LEU:CD2	6:C2:219:LYS:HZ1	2.26	0.48
13:J2:80:ASP:O	13:J2:104:ILE:HG22	2.13	0.48
14:K2:144:ILE:HG22	14:K2:146:SER:H	1.78	0.48
19:P2:112:ALA:O	19:P2:116:LEU:HD13	2.12	0.48
44:G3:228:ARG:HD2	44:G3:235:CYS:HB2	1.95	0.48
45:H3:63:ASN:O	45:H3:67:LEU:CD2	2.60	0.48
47:J3:128:LEU:C	47:J3:128:LEU:HD12	2.38	0.48
48:L3:180:ALA:O	48:L3:184:MET:HG3	2.13	0.48
51:O3:7:LEU:HD21	51:O3:31:ARG:NH2	2.27	0.48
52:P3:2:VAL:CG1	52:P3:3:ARG:H	2.21	0.48
71:j3:21:ARG:NH2	71:j3:39:TYR:HA	2.28	0.48
84:w3:123:ILE:HG13	84:w3:124:LEU:N	2.27	0.48
1:51:39:A:C2	62:a3:40:HIS:CE1	3.01	0.48
1:51:641:G:H2'	1:51:642:G:C8	2.48	0.48
1:51:1745:G:H2'	1:51:1746:A:H5'	1.95	0.48
1:51:1813:U:O2'	63:b3:49:HIS:O	2.29	0.48
1:51:2089:G:H22	1:51:2098:G:H8	1.61	0.48
1:51:2390:G:N1	1:51:2391:G:C5	2.81	0.48
1:51:2657:G:P	61:Z3:38:TYR:HH	2.35	0.48
1:51:3958:G:H2'	1:51:3959:U:C5	2.49	0.48
1:51:3968:U:H4'	1:51:3969:G:OP2	2.14	0.48
1:51:3970:G:H1	1:51:4053:A:H61	1.59	0.48
1:51:4904:G:C2	1:51:4918:C:C2	3.01	0.48
4:A2:141:A:C4	4:A2:178:C:C2	3.01	0.48
4:A2:282:G:O3'	4:A2:890:U:OP1	2.31	0.48
4:A2:560:A:H5'	14:K2:165:TYR:CD2	2.48	0.48
4:A2:1011:A:C6	4:A2:1012:A:N1	2.81	0.48
4:A2:1127:C:H2'	4:A2:1128:C:C6	2.48	0.48
4:A2:1235:G:C2	4:A2:1524:G:N1	2.82	0.48
4:A2:1530:U:OP1	24:U2:88:MET:HE1	2.14	0.48
4:A2:1603:G:C5	23:T2:28:PHE:CE2	3.01	0.48
5:B2:177:MET:CE	5:B2:180:ARG:HH21	2.25	0.48
14:K2:137:VAL:HG13	14:K2:137:VAL:O	2.12	0.48
17:N2:77:ILE:HD12	17:N2:77:ILE:N	2.27	0.48
24:U2:4:VAL:HG21	24:U2:136:GLY:CA	2.42	0.48
29:Z2:90:ARG:HG2	29:Z2:93:ARG:HE	1.78	0.48
31:b2:52:ASP:O	31:b2:52:ASP:OD1	2.31	0.48
38:A3:47:ASP:OD1	38:A3:48:ILE:N	2.42	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:C3:157:LYS:HD3	40:C3:157:LYS:N	2.28	0.48
40:C3:254:GLU:OE2	40:C3:258:ARG:NH2	2.47	0.48
41:D3:222:GLN:O	41:D3:222:GLN:CG	2.61	0.48
43:F3:224:THR:OG1	43:F3:228:GLU:OE2	2.32	0.48
44:G3:209:VAL:HG13	44:G3:238:LYS:HB2	1.95	0.48
50:N3:39:ALA:HB2	50:N3:63:ARG:HH12	1.78	0.48
50:N3:126:THR:HG23	50:N3:127:TYR:CD2	2.47	0.48
53:Q3:175:GLU:HA	62:a3:51:GLY:O	2.14	0.48
64:c3:33:GLN:O	64:c3:37:MET:HG2	2.13	0.48
64:c3:56:ARG:O	64:c3:60:ILE:HG12	2.12	0.48
72:k3:32:VAL:HG13	72:k3:32:VAL:O	2.12	0.48
1:51:750:U:O2	1:51:915:A:N6	2.46	0.48
1:51:1329:G:O2'	1:51:1330:A:OP1	2.21	0.48
1:51:1443:A:H61	1:51:2110:G:N2	2.11	0.48
1:51:1596:U:H2'	52:P3:131:ARG:NH2	2.28	0.48
1:51:1886:G:O2'	1:51:1909:G:O2'	2.31	0.48
1:51:2098:G:H2'	1:51:2099:C:C2	2.48	0.48
1:51:2856:C:O2'	1:51:2857:A:H5'	2.13	0.48
1:51:2856:C:H2'	1:51:2857:A:O4'	2.13	0.48
1:51:3700:C:H2'	1:51:3746:A:H61	1.79	0.48
1:51:3895:G:C6	1:51:3896:C:O2	2.67	0.48
1:51:4039:G:H2'	1:51:4040:C:O4'	2.13	0.48
1:51:4719:G:H4'	1:51:4720:C:OP1	2.13	0.48
2:71:41:G:N2	2:71:45:U:C2	2.82	0.48
4:A2:523:A:P	14:K2:131:ARG:HH21	2.35	0.48
4:A2:659:G:HO2'	4:A2:662:G:HO2'	1.61	0.48
4:A2:858:A:C6	4:A2:859:G:N7	2.81	0.48
4:A2:871:U:H1'	54:R3:163:ARG:NH2	2.28	0.48
4:A2:1219:C:C2	4:A2:1680:G:N2	2.82	0.48
4:A2:1287:A:C2	4:A2:1315:U:O2	2.67	0.48
6:C2:71:LEU:HD21	6:C2:78:GLU:CD	2.39	0.48
6:C2:72:ALA:HB3	19:P2:128:ARG:HH12	1.79	0.48
12:I2:15:LYS:HD3	12:I2:16:PRO:CD	2.43	0.48
13:J2:110:ARG:NH2	13:J2:121:LEU:O	2.47	0.48
14:K2:37:LEU:HD12	14:K2:37:LEU:N	2.28	0.48
21:R2:52:LEU:N	21:R2:52:LEU:HD22	2.29	0.48
27:X2:45:GLY:O	27:X2:68:ARG:HD2	2.13	0.48
28:Y2:55:VAL:CG1	28:Y2:56:GLY:N	2.77	0.48
41:D3:154:THR:HG23	41:D3:155:THR:N	2.27	0.48
43:F3:136:GLU:CD	43:F3:137:PRO:HD3	2.37	0.48
45:H3:44:GLU:O	45:H3:58:ASP:OD1	2.32	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:J3:159:LYS:HG2	47:J3:163:MET:HE2	1.95	0.48
60:Y3:22:PRO:O	60:Y3:26:ARG:HG2	2.12	0.48
63:b3:89:VAL:HG13	63:b3:90:SER:N	2.28	0.48
65:d3:42:ALA:HB3	65:d3:43:PRO:HD3	1.95	0.48
68:g3:58:ALA:C	68:g3:59:VAL:HG23	2.38	0.48
79:q3:19:G:O5'	79:q3:60:A:N6	2.43	0.48
81:u3:101:SER:HA	81:u3:141:CYS:SG	2.53	0.48
1:51:5:A:N3	3:81:154:G:N2	2.60	0.48
1:51:415:G:OP1	1:51:417:G:O6	2.32	0.48
1:51:1745:G:C2'	1:51:1746:A:H5'	2.43	0.48
1:51:1771:U:C2	1:51:1772:C:N4	2.81	0.48
1:51:1968:G:H1	1:51:2020:U:H2'	1.78	0.48
1:51:2476:G:H2'	1:51:2477:A:C8	2.47	0.48
1:51:2523:G:N1	1:51:2533:C:N3	2.62	0.48
1:51:3970:G:N3	84:w3:33:GLU:OE2	2.46	0.48
1:51:4208:U:C2	1:51:4209:G:N2	2.81	0.48
1:51:4343:U:C2	1:51:4370:G:C2	3.01	0.48
1:51:4457:U:O2	39:B3:252:ALA:HB3	2.12	0.48
1:51:4907:G:N2	1:51:4915:G:C4	2.82	0.48
2:71:9:C:O2'	56:T3:21:LYS:NZ	2.29	0.48
2:71:33:U:C5	41:D3:207:TYR:OH	2.66	0.48
3:81:9:A:H2'	3:81:10:G:H8	1.78	0.48
3:81:49:G:OP1	69:h3:48:ARG:HD2	2.13	0.48
4:A2:152:U:H1'	11:H2:132:ARG:HD2	1.95	0.48
4:A2:192:C:O2'	4:A2:193:C:H5'	2.13	0.48
4:A2:195:C:H2'	4:A2:196:C:C6	2.49	0.48
4:A2:231:A:N7	4:A2:890:U:C4	2.81	0.48
4:A2:870:A:N1	4:A2:915:G:C2	2.81	0.48
5:B2:141:ASN:HD21	26:W2:29:HIS:HA	1.79	0.48
18:O2:22:VAL:HG23	18:O2:23:PRO:HD2	1.95	0.48
18:O2:110:ASP:OD2	18:O2:114:ARG:NE	2.47	0.48
19:P2:30:VAL:HG23	19:P2:94:HIS:HB2	1.96	0.48
22:S2:53:TYR:CE1	22:S2:57:LEU:HD11	2.48	0.48
37:h2:60:ARG:O	37:h2:90:TRP:CH2	2.67	0.48
38:A3:44:ILE:HG22	38:A3:44:ILE:O	2.12	0.48
39:B3:146:LEU:O	39:B3:150:PHE:HD2	1.96	0.48
42:E3:136:PHE:HA	42:E3:139:HIS:CE1	2.48	0.48
45:H3:1:MET:HE3	55:S3:144:GLN:OE1	2.13	0.48
49:M3:15:VAL:HG22	49:M3:23:LYS:H	1.78	0.48
50:N3:17:ASP:OD1	50:N3:20:ARG:NH2	2.47	0.48
54:R3:118:HIS:ND1	54:R3:118:HIS:O	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:S3:154:LEU:HD13	55:S3:157:ARG:NH1	2.28	0.48
60:Y3:41:LYS:HE3	60:Y3:42:TYR:CE2	2.48	0.48
69:h3:104:THR:O	69:h3:108:GLN:HG3	2.14	0.48
84:w3:32:VAL:HB	84:w3:170:GLY:C	2.39	0.48
84:w3:179:LEU:O	84:w3:183:ILE:HG13	2.13	0.48
1:51:197:A:C2	1:51:225:G:C4	3.01	0.48
1:51:301:G:H2'	1:51:302:C:C6	2.49	0.48
1:51:507:G:C2	1:51:652:G:C2	3.02	0.48
1:51:1302:U:H2'	1:51:1303:A:C8	2.49	0.48
1:51:1397:A:H5'	62:a3:113:GLY:O	2.14	0.48
1:51:1575:A:N6	1:51:1576:G:N2	2.62	0.48
1:51:1921:C:H4'	1:51:1922:G:OP2	2.12	0.48
1:51:1953:U:H2'	1:51:1953:U:O2	2.14	0.48
1:51:2408:U:O2	1:51:2783:A:N1	2.46	0.48
1:51:2485:U:H2'	1:51:2486:G:C8	2.48	0.48
1:51:2756:G:O2'	1:51:2757:A:O4'	2.17	0.48
1:51:3771:C:O2'	1:51:3772:U:C2	2.62	0.48
1:51:4726:G:O6	1:51:4727:A:C6	2.67	0.48
1:51:4899:G:C2	1:51:4922:C:O2	2.67	0.48
2:71:31:G:N1	2:71:47:G:C6	2.82	0.48
4:A2:183:G:C6	4:A2:184:G:N2	2.81	0.48
4:A2:322:C:N3	4:A2:330:G:C6	2.82	0.48
4:A2:539:C:O2	4:A2:545:A:C2	2.67	0.48
4:A2:933:G:N9	4:A2:1001:A:C2	2.81	0.48
4:A2:955:A:N1	4:A2:972:A:C6	2.82	0.48
4:A2:989:C:O2	4:A2:1001:A:N6	2.46	0.48
4:A2:1243:U:C2	4:A2:1265:A:C5	3.01	0.48
4:A2:1489:A:O2'	4:A2:1490:G:P	2.71	0.48
4:A2:1516:G:H1	4:A2:1517:G:N2	2.12	0.48
4:A2:1599:U:P	4:A2:1600:G:C8	3.07	0.48
4:A2:1610:G:O6	4:A2:1630:A:C6	2.67	0.48
5:B2:196:GLU:HG3	5:B2:197:VAL:H	1.77	0.48
6:C2:78:GLU:HG2	6:C2:79:VAL:H	1.77	0.48
6:C2:78:GLU:OE2	6:C2:189:ILE:O	2.32	0.48
9:F2:60:GLU:OE1	9:F2:60:GLU:HA	2.13	0.48
9:F2:63:LYS:NZ	29:Z2:84:LYS:O	2.38	0.48
9:F2:176:ASP:OD1	9:F2:177:THR:N	2.47	0.48
10:G2:19:LEU:CD2	10:G2:22:LYS:HA	2.40	0.48
10:G2:77:MET:HB2	10:G2:82:ASN:HB3	1.96	0.48
13:J2:77:ARG:O	13:J2:106:SER:HA	2.13	0.48
14:K2:75:ASN:OD1	14:K2:75:ASN:C	2.56	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:N2:89:VAL:O	17:N2:89:VAL:HG12	2.13	0.48
21:R2:24:HIS:HB3	21:R2:69:ARG:O	2.13	0.48
29:Z2:55:ILE:HD12	29:Z2:76:TYR:CG	2.49	0.48
37:h2:44:LYS:HE2	37:h2:44:LYS:HA	1.95	0.48
37:h2:102:VAL:HG13	37:h2:102:VAL:O	2.13	0.48
38:A3:15:VAL:O	38:A3:15:VAL:HG22	2.13	0.48
41:D3:200:MET:HB2	41:D3:202:GLN:HE22	1.78	0.48
44:G3:84:LEU:HD12	44:G3:84:LEU:N	2.28	0.48
44:G3:160:LYS:O	44:G3:163:LYS:HB3	2.12	0.48
50:N3:160:GLU:OE1	50:N3:160:GLU:N	2.41	0.48
51:O3:109:PRO:HB2	51:O3:111:PRO:HD2	1.96	0.48
53:Q3:131:PRO:HD2	53:Q3:134:ARG:HH22	1.78	0.48
83:33:65:G:H2'	83:33:65:G:N3	2.29	0.48
1:51:4:G:H2'	1:51:4:G:N3	2.28	0.48
1:51:21:G:O6	3:81:36:G:C6	2.66	0.48
1:51:351:C:OP2	40:C3:197:ARG:NH2	2.42	0.48
1:51:1176:C:H5'	41:D3:268:ARG:NH2	2.29	0.48
1:51:1322:A:N6	1:51:1326:A:C4	2.82	0.48
1:51:1432:G:N3	1:51:1451:G:N2	2.62	0.48
1:51:1481:C:H2'	1:51:1482:G:N2	2.29	0.48
1:51:1728:U:O4	1:51:1729:A:N6	2.47	0.48
1:51:1972:G:N3	1:51:1972:G:H2'	2.28	0.48
1:51:2017:A:OP2	1:51:2018:C:N4	2.46	0.48
1:51:2050:G:C2	1:51:2051:C:C2	3.01	0.48
1:51:2515:G:H21	1:51:2746:A:H2	1.61	0.48
1:51:2816:G:C6	1:51:2817:C:N4	2.82	0.48
1:51:3946:G:O6	1:51:4066:U:C4	2.67	0.48
1:51:3974:G:H4'	84:w3:28:PHE:HD1	1.79	0.48
1:51:4886:C:H42	1:51:4933:C:H42	1.62	0.48
1:51:5042:A:OP2	39:B3:392:LEU:HD12	2.13	0.48
2:71:56:G:N1	41:D3:25:GLU:C	2.72	0.48
3:81:65:A:C6	3:81:95:A:N6	2.81	0.48
3:81:93:C:O2'	3:81:94:G:H8	1.97	0.48
4:A2:124:U:O2	4:A2:124:U:H2'	2.13	0.48
4:A2:126:G:H1	11:H2:195:LYS:NZ	2.12	0.48
4:A2:1299:A:N7	4:A2:1301:A:C2	2.82	0.48
4:A2:1452:A:N6	4:A2:1473:G:H21	1.99	0.48
4:A2:1516:G:N1	4:A2:1517:G:C2	2.82	0.48
4:A2:1517:G:C5	4:A2:1518:C:C5	3.01	0.48
5:B2:89:LYS:HB2	5:B2:202:TYR:CE1	2.48	0.48
9:F2:63:LYS:O	9:F2:67:GLN:NE2	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:I2:36:LEU:O	12:I2:40:LEU:CD1	2.62	0.48
12:I2:82:GLU:O	12:I2:86:LYS:HG2	2.14	0.48
12:I2:164:ASN:OD1	12:I2:164:ASN:N	2.44	0.48
25:V2:46:LYS:HG2	25:V2:46:LYS:O	2.14	0.48
27:X2:86:LEU:HD21	27:X2:113:HIS:HB2	1.96	0.48
29:Z2:5:VAL:O	29:Z2:5:VAL:CG2	2.62	0.48
34:e2:16:GLN:N	34:e2:16:GLN:CD	2.71	0.48
42:E3:65:TYR:CD1	42:E3:70:LEU:HD12	2.48	0.48
44:G3:205:ALA:HB1	44:G3:258:THR:CG2	2.44	0.48
46:I3:16:PRO:HA	46:I3:95:HIS:CD2	2.48	0.48
49:M3:2:VAL:HG22	49:M3:3:PHE:N	2.28	0.48
53:Q3:132:LYS:H	53:Q3:134:ARG:NH2	2.12	0.48
79:q3:14:A:H2'	79:q3:14:A:N3	2.28	0.48
80:t3:17:ILE:HG13	80:t3:18:ILE:HG13	1.96	0.48
80:t3:79:LEU:N	80:t3:80:PRO:HD2	2.29	0.48
1:51:978:G:N2	1:51:1278:C:C2	2.80	0.48
1:51:1563:A:N6	4:A2:1028:A:H61	2.12	0.48
1:51:1915:C:O2	1:51:1915:C:O4'	2.30	0.48
1:51:2023:C:N4	1:51:2024:G:N1	2.62	0.48
1:51:2083:C:C4	1:51:2085:G:C8	3.02	0.48
1:51:2412:A:H2'	1:51:2413:U:C6	2.48	0.48
1:51:2549:G:N1	1:51:2771:G:C6	2.82	0.48
1:51:2638:G:C2	1:51:2698:G:N2	2.82	0.48
1:51:2696:A:C2	72:k3:69:LEU:HD11	2.48	0.48
1:51:3951:G:H21	1:51:4062:A:H62	1.61	0.48
1:51:4747:C:C2	1:51:4954:G:N2	2.81	0.48
3:81:36:G:H21	69:h3:89:ARG:CZ	2.27	0.48
4:A2:231:A:C6	4:A2:232:A:N6	2.81	0.48
4:A2:533:A:H2'	4:A2:534:G:H8	1.79	0.48
4:A2:747:U:H1'	4:A2:750:C:C5	2.49	0.48
4:A2:1212:G:N2	4:A2:1688:C:C2	2.82	0.48
4:A2:1500:G:C6	4:A2:1501:C:N4	2.82	0.48
4:A2:1726:G:C2	4:A2:1809:A:C2	3.02	0.48
4:A2:1857:G:OP2	19:P2:146:ARG:HD3	2.13	0.48
5:B2:170:SER:O	5:B2:174:MET:HG2	2.13	0.48
7:D2:252:THR:HG22	7:D2:254:ASP:OD1	2.14	0.48
13:J2:115:SER:O	13:J2:117:TYR:CD2	2.67	0.48
20:Q2:90:VAL:O	20:Q2:107:ILE:O	2.32	0.48
35:f2:120:PRO:HB3	35:f2:125:LYS:HE3	1.94	0.48
39:B3:116:ARG:O	39:B3:117:ARG:C	2.57	0.48
42:E3:95:VAL:O	42:E3:95:VAL:HG13	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:F3:81:TYR:HD1	56:T3:140:PHE:CE1	2.32	0.48
46:I3:210:ARG:O	46:I3:214:SER:OG	2.27	0.48
48:L3:110:LEU:O	48:L3:114:VAL:HG23	2.14	0.48
49:M3:6:PHE:O	49:M3:8:GLU:OE2	2.32	0.48
52:P3:13:LYS:HG2	52:P3:152:GLU:HB3	1.94	0.48
55:S3:13:VAL:HG12	55:S3:63:TYR:HB3	1.96	0.48
56:T3:141:VAL:O	56:T3:141:VAL:HG23	2.14	0.48
57:U3:101:ARG:HD2	57:U3:102:VAL:N	2.29	0.48
80:t3:57:LYS:O	80:t3:61:MET:HG3	2.13	0.48
1:51:443:G:N1	1:51:444:G:C5	2.82	0.48
1:51:2017:A:OP2	1:51:2018:C:C4	2.66	0.48
1:51:2537:A:N3	1:51:2537:A:H2'	2.27	0.48
1:51:4086:G:C2	44:G3:99:GLN:NE2	2.82	0.48
1:51:4648:A:C6	1:51:4649:G:C6	3.02	0.48
1:51:4889:G:C6	1:51:4931:G:C6	3.01	0.48
1:51:4903:G:C2	1:51:4919:G:C4	3.01	0.48
2:71:1:G:H1'	2:71:119:U:H1'	1.95	0.48
4:A2:40:A:C2	4:A2:486:A:C5	3.01	0.48
4:A2:56:G:C4	4:A2:90:G:N2	2.82	0.48
4:A2:76:U:O2'	4:A2:77:A:H5'	2.13	0.48
4:A2:198:U:C2	4:A2:202:G:O6	2.66	0.48
4:A2:642:U:H4'	4:A2:643:A:OP1	2.13	0.48
4:A2:729:C:H2'	4:A2:730:C:C5	2.49	0.48
4:A2:804:U:H2'	4:A2:805:U:C6	2.49	0.48
4:A2:850:C:O5'	4:A2:850:C:H6	1.96	0.48
4:A2:1610:G:N2	4:A2:1629:C:H2'	2.29	0.48
4:A2:1655:C:OP1	24:U2:91:HIS:CD2	2.67	0.48
7:D2:84:PHE:O	7:D2:85:SER:OG	2.30	0.48
12:I2:42:GLU:C	12:I2:43:LEU:HD12	2.38	0.48
17:N2:27:ILE:HD12	17:N2:27:ILE:N	2.28	0.48
17:N2:53:ALA:HB1	17:N2:81:ASP:C	2.39	0.48
18:O2:46:THR:O	18:O2:50:ILE:HG13	2.14	0.48
19:P2:38:ASN:O	19:P2:68:GLU:HB2	2.14	0.48
20:Q2:40:ARG:HG2	20:Q2:40:ARG:O	2.13	0.48
23:T2:14:ARG:NH2	23:T2:19:ASN:OD1	2.47	0.48
25:V2:61:LEU:HD23	34:e2:34:TYR:CD2	2.49	0.48
32:c2:20:LYS:HA	32:c2:23:ARG:NH1	2.29	0.48
37:h2:78:ALA:O	37:h2:89:LEU:HD12	2.13	0.48
37:h2:104:HIS:CE1	37:h2:124:SER:HB2	2.48	0.48
38:A3:29:LEU:HG	38:A3:30:ARG:H	1.77	0.48
41:D3:56:THR:HG22	41:D3:57:ASN:H	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:F3:112:ARG:NH2	43:F3:207:LEU:O	2.47	0.48
51:O3:171:LYS:O	51:O3:175:MET:HE3	2.14	0.48
52:P3:94:MET:SD	52:P3:148:MET:SD	3.12	0.48
64:c3:71:VAL:O	64:c3:71:VAL:HG13	2.14	0.48
80:t3:57:LYS:HB2	80:t3:60:MET:SD	2.53	0.48
84:w3:14:VAL:HG23	84:w3:183:ILE:HG21	1.94	0.48
85:1:57:ARG:O	85:1:58:PHE:HB3	2.14	0.48
1:51:59:A:C6	1:51:60:A:N1	2.82	0.48
1:51:66:A:C2	1:51:328:A:C8	3.02	0.48
1:51:254:G:C6	1:51:255:C:C4	3.02	0.48
1:51:282:C:O2	1:51:306:A:C2	2.67	0.48
1:51:1175:A:C6	1:51:1187:G:N2	2.81	0.48
1:51:2693:G:O6	1:51:2694:G:N2	2.46	0.48
1:51:2757:A:N7	1:51:2758:G:C5	2.81	0.48
1:51:2822:G:H5’	54:R3:18:GLY:HA3	1.96	0.48
1:51:3700:C:C2	1:51:3746:A:N6	2.82	0.48
1:51:3722:G:H5”	70:i3:68:ARG:NH1	2.28	0.48
1:51:4233:A:C6	1:51:4235:G:C5	3.02	0.48
1:51:4683:U:OP2	1:51:4706:G:N2	2.46	0.48
4:A2:201:C:C5	4:A2:202:G:H1’	2.49	0.48
4:A2:301:A:C6	4:A2:302:A:N1	2.82	0.48
4:A2:449:A:C4	4:A2:452:G:C6	3.02	0.48
4:A2:624:C:N4	28:Y2:63:ASN:OD1	2.41	0.48
4:A2:687:C:OP1	27:X2:32:LYS:NZ	2.38	0.48
4:A2:858:A:N1	4:A2:859:G:C5	2.82	0.48
4:A2:1276:A:H4’	15:L2:47:LYS:HZ1	1.79	0.48
4:A2:1543:U:HO2’	21:R2:43:GLU:CD	2.09	0.48
4:A2:1556:A:N6	34:e2:13:LYS:O	2.47	0.48
4:A2:1654:G:C4	4:A2:1671:G:N2	2.82	0.48
4:A2:1719:A:C8	4:A2:1720:U:C4	3.01	0.48
9:F2:129:ILE:HG22	9:F2:139:LEU:CD2	2.44	0.48
13:J2:198:TYR:O	13:J2:202:ILE:HG12	2.14	0.48
19:P2:93:LEU:HD12	19:P2:93:LEU:N	2.28	0.48
21:R2:8:GLN:HG2	21:R2:99:TYR:CE1	2.49	0.48
27:X2:27:ILE:CG1	27:X2:61:ILE:HB	2.44	0.48
29:Z2:19:GLN:O	29:Z2:75:ILE:HG21	2.14	0.48
37:h2:206:LEU:HD23	37:h2:206:LEU:N	2.29	0.48
42:E3:53:VAL:HG12	42:E3:54:ARG:H	1.79	0.48
42:E3:110:VAL:HG12	42:E3:111:LYS:H	1.79	0.48
43:F3:136:GLU:N	43:F3:137:PRO:HD2	2.29	0.48
45:H3:44:GLU:OE1	45:H3:45:LEU:N	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:R3:98:ARG:HH11	54:R3:137:ILE:HG21	1.79	0.48
57:U3:45:GLU:O	57:U3:47:ILE:N	2.44	0.48
60:Y3:109:LEU:HD23	60:Y3:111:LEU:CD2	2.43	0.48
69:h3:9:LEU:HD23	69:h3:12:LYS:NZ	2.29	0.48
79:q3:61:C:C2'	79:q3:62:C:O5'	2.61	0.48
83:33:8:U:O4	83:33:14:A:OP2	2.32	0.48
84:w3:22:GLN:OE1	84:w3:22:GLN:N	2.47	0.48
1:51:457:G:C6	1:51:700:G:N1	2.82	0.47
1:51:462:G:C2	1:51:694:C:O2	2.67	0.47
1:51:1097:C:C2	1:51:1200:G:N1	2.82	0.47
1:51:2558:C:H2'	1:51:2559:G:C8	2.49	0.47
1:51:2719:C:N4	1:51:2720:C:H41	2.12	0.47
1:51:2756:G:C2	1:51:2757:A:C5	3.02	0.47
1:51:2897:G:OP1	54:R3:138:LEU:HB2	2.14	0.47
1:51:3903:A:N6	1:51:3904:G:O6	2.47	0.47
1:51:4092:G:C2	1:51:4158:C:C2	3.02	0.47
1:51:4232:U:H4'	1:51:4233:A:O5'	2.15	0.47
1:51:4595:G:H2'	1:51:4596:C:C6	2.49	0.47
2:71:117:G:C5'	41:D3:255:LYS:HE2	2.44	0.47
4:A2:230:A:N6	4:A2:888:U:C4	2.81	0.47
4:A2:283:G:OP2	4:A2:890:U:P	2.71	0.47
4:A2:924:G:OP2	18:O2:3:ARG:NH2	2.47	0.47
4:A2:1283:C:N4	17:N2:102:LYS:HD3	2.29	0.47
4:A2:1424:G:H3'	4:A2:1425:G:N7	2.29	0.47
5:B2:211:GLU:O	5:B2:214:GLU:HG3	2.14	0.47
7:D2:252:THR:HB	7:D2:255:LEU:HD13	1.95	0.47
22:S2:10:LYS:O	22:S2:14:ARG:NH1	2.47	0.47
22:S2:34:VAL:O	22:S2:38:ILE:HG12	2.15	0.47
29:Z2:19:GLN:HG2	29:Z2:81:TYR:CD2	2.49	0.47
37:h2:2:THR:N	37:h2:268:ASP:OD2	2.47	0.47
37:h2:4:GLN:HG2	37:h2:5:MET:N	2.29	0.47
38:A3:36:GLU:OE2	38:A3:91:GLY:HA2	2.14	0.47
38:A3:246:LEU:HD12	38:A3:246:LEU:C	2.39	0.47
41:D3:241:LYS:HG3	41:D3:242:LYS:HD3	1.95	0.47
44:G3:193:VAL:O	44:G3:193:VAL:HG22	2.14	0.47
44:G3:271:LEU:HD12	44:G3:272:VAL:N	2.29	0.47
45:H3:10:VAL:CG2	45:H3:55:LEU:HB3	2.44	0.47
72:k3:25:ILE:HG23	72:k3:34:PHE:CE1	2.48	0.47
76:o3:85:ILE:HG22	76:o3:86:LYS:N	2.29	0.47
83:33:74:C:O2'	83:33:75:C:O5'	2.26	0.47
84:w3:57:SER:HB3	84:w3:178:GLU:HG3	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
84:w3:71:GLN:OE1	84:w3:115:SER:OG	2.26	0.47
1:51:504:G:N2	1:51:655:C:C2	2.82	0.47
1:51:713:C:H2'	1:51:714:G:H8	1.79	0.47
1:51:740:G:C2	1:51:923:C:C2	3.01	0.47
1:51:1354:A:OP1	53:Q3:108:ARG:NH1	2.47	0.47
1:51:1555:G:C6	1:51:1556:C:C4	3.02	0.47
1:51:1592:G:C2	1:51:1604:G:C2	3.02	0.47
1:51:1874:A:C6	1:51:1875:C:N4	2.82	0.47
1:51:1912:G:C6	1:51:2057:A:C2	3.01	0.47
1:51:2344:U:C6	62:a3:9:ARG:NH1	2.82	0.47
1:51:2527:A:OP2	54:R3:38:ARG:NH2	2.47	0.47
1:51:2602:G:C5	1:51:2742:G:C6	3.02	0.47
1:51:2634:C:H2'	1:51:2635:U:C6	2.49	0.47
1:51:4086:G:N1	44:G3:99:GLN:NE2	2.62	0.47
1:51:5013:C:N4	1:51:5028:G:H5'	2.29	0.47
3:81:56:G:N2	3:81:62:A:C4	2.82	0.47
4:A2:560:A:H2'	4:A2:560:A:N3	2.29	0.47
4:A2:1366:G:N1	4:A2:1367:U:O2	2.47	0.47
4:A2:1714:U:N3	4:A2:1820:G:N2	2.62	0.47
9:F2:160:ILE:HG22	9:F2:172:PHE:HB3	1.95	0.47
9:F2:253:ASP:OD1	9:F2:253:ASP:C	2.57	0.47
10:G2:89:THR:O	10:G2:89:THR:HG22	2.14	0.47
12:I2:122:LEU:HD21	12:I2:126:HIS:ND1	2.29	0.47
18:O2:30:SER:O	18:O2:34:LYS:HG3	2.14	0.47
20:Q2:82:ASP:OD1	20:Q2:82:ASP:N	2.47	0.47
30:a2:87:ALA:O	30:a2:90:GLU:HG3	2.14	0.47
33:d2:30:VAL:O	33:d2:30:VAL:HG13	2.14	0.47
37:h2:302:TYR:CE2	37:h2:308:ARG:HD2	2.49	0.47
39:B3:53:MET:O	39:B3:54:THR:HG23	2.14	0.47
39:B3:352:LEU:HD23	39:B3:353:VAL:N	2.29	0.47
42:E3:166:VAL:CG1	42:E3:179:THR:O	2.62	0.47
47:J3:27:GLY:HA2	47:J3:68:ILE:HG23	1.95	0.47
84:w3:30:GLU:HB3	84:w3:208:SER:HB2	1.94	0.47
85:1:61:GLU:N	85:1:61:GLU:OE2	2.39	0.47
86:W:14:TYR:HB3	86:W:15:PRO:HD2	1.97	0.47
1:51:86:U:C2	1:51:98:A:N6	2.82	0.47
1:51:262:G:C6	1:51:263:G:C5	3.03	0.47
1:51:979:C:C4	1:51:1277:G:C2	3.02	0.47
1:51:1073:G:O6	1:51:1238:A:N1	2.48	0.47
1:51:1221:G:H5'	1:51:1222:A:H2'	1.96	0.47
1:51:1774:C:H5"	1:51:1775:A:OP2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:3757:G:O6	1:51:3765:G:C3'	2.62	0.47
1:51:3782:C:C2	1:51:3811:G:N2	2.82	0.47
2:71:3:C:N3	2:71:117:G:N1	2.63	0.47
2:71:6:C:C3'	41:D3:33:ARG:HH22	2.27	0.47
3:81:60:G:N2	3:81:64:U:C2	2.82	0.47
4:A2:465:A:H4'	4:A2:466:G:O5'	2.13	0.47
4:A2:860:G:C5	4:A2:861:A:N1	2.83	0.47
4:A2:956:G:O5'	19:P2:60:MET:HG2	2.14	0.47
4:A2:1109:C:C5	4:A2:1110:G:C8	3.02	0.47
4:A2:1117:C:O2	4:A2:1117:C:C2'	2.61	0.47
4:A2:1535:U:O3'	10:G2:88:MET:HE1	2.14	0.47
4:A2:1661:A:C6	4:A2:1662:U:O2	2.67	0.47
4:A2:1707:U:C4	4:A2:1708:C:C5	3.02	0.47
4:A2:1813:A:C6	4:A2:1814:G:N3	2.81	0.47
5:B2:33:GLN:CB	5:B2:154:LEU:HD13	2.44	0.47
12:I2:184:ASP:OD1	12:I2:185:VAL:N	2.47	0.47
23:T2:137:LYS:HG3	23:T2:138:THR:HG23	1.94	0.47
38:A3:98:ILE:HA	38:A3:166:VAL:HG23	1.96	0.47
39:B3:93:VAL:HG22	39:B3:94:GLU:N	2.28	0.47
39:B3:181:MET:HE1	39:B3:346:THR:CG2	2.45	0.47
41:D3:239:MET:HA	41:D3:242:LYS:NZ	2.28	0.47
43:F3:93:ARG:NH1	43:F3:96:GLY:O	2.47	0.47
43:F3:158:TYR:CD2	43:F3:165:ARG:NH2	2.83	0.47
44:G3:245:ARG:HH21	44:G3:253:THR:HA	1.79	0.47
45:H3:177:ASP:O	45:H3:180:TYR:OH	2.28	0.47
47:J3:33:LEU:HD13	47:J3:68:ILE:O	2.14	0.47
53:Q3:96:PRO:O	53:Q3:98:LEU:CD2	2.62	0.47
58:V3:16:ILE:HD12	58:V3:57:VAL:HB	1.97	0.47
67:f3:16:ARG:HH11	67:f3:16:ARG:HG3	1.79	0.47
79:q3:55:U:C2	79:q3:57:G:OP2	2.68	0.47
81:u3:53:TRP:O	81:u3:55:GLY:N	2.47	0.47
1:51:189:G:C6	1:51:253:G:C6	3.02	0.47
1:51:282:C:H2'	1:51:283:G:O4'	2.14	0.47
1:51:1406(C):G:N2	1:51:1411:C:O2	2.47	0.47
1:51:1993:C:C2	81:u3:137:GLN:NE2	2.81	0.47
1:51:2019:C:C4	1:51:2020:U:O4	2.67	0.47
1:51:2440:U:O2'	1:51:2441:C:OP1	2.31	0.47
1:51:2638:G:H22	1:51:2697:A:H61	1.61	0.47
1:51:3600:G:C2	1:51:3601:C:C2	3.03	0.47
1:51:4137:C:O2'	1:51:4138:C:OP1	2.29	0.47
4:A2:165:G:H2'	4:A2:166:A:H8	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:1012:A:N7	4:A2:1013:U:C4	2.82	0.47
4:A2:1071:G:C2	4:A2:1072:U:O2	2.68	0.47
4:A2:1099:G:C2	4:A2:1134:G:N2	2.82	0.47
5:B2:195:TRP:HE1	5:B2:197:VAL:HG22	1.78	0.47
6:C2:68:GLU:OE1	6:C2:83:LYS:NZ	2.44	0.47
8:E2:35:SER:HB2	8:E2:51:LEU:O	2.14	0.47
8:E2:218:LEU:HG	37:h2:172:LYS:NZ	2.29	0.47
15:L2:1:MET:CG	15:L2:2:LEU:H	2.27	0.47
32:c2:61:THR:HG22	32:c2:62:VAL:H	1.78	0.47
33:d2:33:GLU:OE1	33:d2:34:PHE:O	2.31	0.47
37:h2:155:ARG:O	37:h2:166:VAL:HG12	2.14	0.47
38:A3:192:LYS:HG3	38:A3:193:ARG:N	2.29	0.47
39:B3:305:THR:HG23	39:B3:307:TYR:H	1.80	0.47
40:C3:147:VAL:O	78:r3:73:PRO:HD2	2.14	0.47
43:F3:147:LYS:HE3	43:F3:244:ARG:NH1	2.29	0.47
55:S3:29:ARG:NH1	56:T3:150:LEU:HD13	2.29	0.47
59:X3:83:THR:HG23	59:X3:86:ALA:N	2.29	0.47
61:Z3:11:VAL:HG21	61:Z3:80:LEU:HD13	1.96	0.47
63:b3:109:ARG:O	63:b3:112:ILE:HG22	2.14	0.47
1:51:1187:G:H2'	1:51:1188:C:C6	2.49	0.47
1:51:1948:G:C2	1:51:2036:C:O2	2.68	0.47
1:51:1990:A:C4	1:51:1991:A:H1'	2.48	0.47
1:51:2759:G:H2'	1:51:2760:G:C8	2.50	0.47
1:51:4044:U:H1'	1:51:4048:A:N6	2.29	0.47
1:51:4890:G:C6	1:51:4891:G:C5	3.03	0.47
4:A2:458:A:C6	4:A2:459:C:C4	3.02	0.47
4:A2:821:G:C8	14:K2:150:ARG:HD2	2.48	0.47
4:A2:1601:A:N6	4:A2:1636:G:C4	2.83	0.47
4:A2:1644:C:H2'	4:A2:1645:C:C6	2.50	0.47
4:A2:1702:G:C6	4:A2:1703:C:O2	2.67	0.47
4:A2:1792:G:H2'	4:A2:1793:A:H8	1.80	0.47
5:B2:33:GLN:HB2	5:B2:154:LEU:HD13	1.96	0.47
9:F2:136:ILE:HD12	9:F2:149:TYR:N	2.29	0.47
10:G2:19:LEU:HB3	10:G2:22:LYS:H	1.78	0.47
14:K2:9:CYS:SG	14:K2:10:ARG:N	2.87	0.47
18:O2:79:GLY:C	18:O2:80:LEU:HD22	2.39	0.47
21:R2:24:HIS:O	21:R2:68:ILE:HD13	2.14	0.47
29:Z2:16:ARG:HH21	29:Z2:19:GLN:HG3	1.80	0.47
37:h2:289:LEU:HB2	37:h2:299:PHE:O	2.14	0.47
38:A3:51:ASP:CG	38:A3:53:GLY:H	2.22	0.47
54:R3:98:ARG:HH11	54:R3:137:ILE:CG2	2.27	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:a3:84:GLU:HG2	62:a3:87:ARG:HH21	1.80	0.47
64:c3:94:LEU:HD21	64:c3:96:ILE:HG13	1.96	0.47
76:o3:96:ASP:CG	76:o3:96:ASP:O	2.58	0.47
79:q3:24:A:C6	79:q3:25:C:C4	3.02	0.47
1:51:496:G:C2	1:51:497:G:C8	3.02	0.47
1:51:1167:C:H2'	1:51:1168:G:H8	1.79	0.47
1:51:1186:U:H2'	1:51:1187:G:C8	2.49	0.47
1:51:2414:G:C2	1:51:2431:A:C2	3.03	0.47
1:51:3918:G:N1	1:51:4384:U:C2	2.83	0.47
1:51:4622:A:C2	1:51:4676:G:C2	3.03	0.47
1:51:4915:G:N2	1:51:4916:G:C4	2.83	0.47
4:A2:146:G:OP2	11:H2:140:ARG:NH2	2.47	0.47
4:A2:375:U:O2'	16:M2:7:GLU:OE2	2.29	0.47
4:A2:1284:A:O2'	17:N2:33:ARG:NH1	2.47	0.47
11:H2:46:LYS:HB2	11:H2:117:GLY:HA2	1.95	0.47
12:I2:75:ILE:O	12:I2:75:ILE:CG2	2.63	0.47
20:Q2:45:LEU:HD22	20:Q2:49:LEU:HD21	1.94	0.47
22:S2:98:VAL:HG13	22:S2:102:THR:HG23	1.95	0.47
24:U2:99:VAL:HG22	24:U2:99:VAL:O	2.14	0.47
26:W2:32:ILE:HD11	26:W2:60:ARG:NH1	2.29	0.47
30:a2:88:LEU:HD13	30:a2:109:TYR:HD2	1.72	0.47
31:b2:50:VAL:HG23	31:b2:64:LEU:HD11	1.97	0.47
40:C3:32:ILE:CD1	40:C3:130:ALA:HB2	2.39	0.47
43:F3:192:GLU:OE1	43:F3:193:ILE:HD13	2.15	0.47
44:G3:316:THR:O	44:G3:317:LYS:HG3	2.15	0.47
57:U3:25:CYS:C	57:U3:28:PRO:HD2	2.39	0.47
60:Y3:82:ILE:HG22	60:Y3:83:GLU:N	2.29	0.47
67:f3:20:ASN:O	67:f3:21:GLN:HB2	2.14	0.47
74:m3:78:HIS:CE1	74:m3:81:ALA:HB2	2.49	0.47
83:33:71:G:H2'	83:33:72:C:O4'	2.15	0.47
84:w3:28:PHE:HZ	84:w3:209:THR:CG2	2.28	0.47
84:w3:58:THR:H	84:w3:153:SER:HB2	1.80	0.47
1:51:25:A:H61	1:51:58:G:H1	1.62	0.47
1:51:68:U:O4	1:51:69:A:C2	2.68	0.47
1:51:480:C:H2'	1:51:481:G:O4'	2.15	0.47
1:51:644:G:C6	1:51:645:G:C6	3.02	0.47
1:51:732:A:N1	55:S3:70:LYS:HA	2.30	0.47
1:51:756:G:N1	1:51:757:G:O6	2.48	0.47
1:51:922:C:H2'	1:51:922(A):G:H8	1.79	0.47
1:51:957:G:H8	1:51:957:G:O5'	1.98	0.47
1:51:1433:A:N6	1:51:1452:A:C8	2.83	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:1437:C:H42	63:b3:106:ARG:HD2	1.80	0.47
1:51:1502:G:H2'	1:51:1503:A:C8	2.50	0.47
1:51:1919:G:C5	55:S3:166:ARG:NH2	2.83	0.47
1:51:1967:A:H2'	1:51:1968:G:C8	2.49	0.47
1:51:1993:C:H1'	81:u3:137:GLN:HE22	1.80	0.47
1:51:2082:G:H21	1:51:2275:G:N2	2.13	0.47
1:51:2088:A:C5	1:51:2268:A:N1	2.83	0.47
1:51:2258:C:H3'	1:51:2259:G:H8	1.79	0.47
1:51:2276:A:N7	1:51:2277:C:C5	2.82	0.47
1:51:2404:A:N7	1:51:2405:G:N7	2.63	0.47
1:51:2478:C:H2'	1:51:2479:G:C8	2.50	0.47
1:51:2589:C:HO2'	1:51:2590:G:P	2.38	0.47
1:51:2607:C:H2'	1:51:2608:G:H8	1.79	0.47
1:51:2616:C:C2	1:51:2722:G:N2	2.83	0.47
1:51:2646:C:N3	1:51:2689:C:N4	2.60	0.47
1:51:3653:A:H4'	38:A3:179:ILE:O	2.14	0.47
1:51:3904:G:H21	85:1:58:PHE:HA	1.79	0.47
1:51:4098:A:N1	1:51:4108:G:O6	2.48	0.47
2:71:14:C:N4	2:71:66:G:N2	2.63	0.47
4:A2:2:A:C6	4:A2:418:A:C2	3.03	0.47
4:A2:128:U:OP1	4:A2:215:G:O4'	2.32	0.47
4:A2:140:U:O2	4:A2:143:U:H4'	2.15	0.47
4:A2:1130:G:H2'	4:A2:1130:G:N3	2.30	0.47
4:A2:1211:G:N2	4:A2:1689:C:O2	2.47	0.47
4:A2:1234:C:N4	4:A2:1525:C:H42	2.12	0.47
4:A2:1261:C:O2	4:A2:1261:C:H2'	2.15	0.47
4:A2:1550:G:C2'	4:A2:1579:A:H61	2.27	0.47
8:E2:56:GLN:O	8:E2:59:LEU:HG	2.14	0.47
8:E2:193:ASP:O	8:E2:200:PRO:O	2.33	0.47
9:F2:76:VAL:O	9:F2:76:VAL:HG23	2.14	0.47
12:I2:31:GLU:HA	12:I2:40:LEU:HD22	1.96	0.47
12:I2:83:LEU:N	12:I2:83:LEU:CD2	2.78	0.47
13:J2:79:ILE:CG2	13:J2:105:ASP:HB2	2.44	0.47
13:J2:121:LEU:O	13:J2:123:ARG:NH2	2.48	0.47
14:K2:137:VAL:HG12	14:K2:142:VAL:CG2	2.44	0.47
18:O2:19:ARG:NH2	32:c2:84:HIS:OXT	2.47	0.47
19:P2:132:VAL:O	19:P2:132:VAL:HG12	2.15	0.47
20:Q2:39:ALA:HB2	20:Q2:42:ARG:NH1	2.29	0.47
22:S2:20:TYR:HD1	22:S2:23:ARG:HD3	1.79	0.47
22:S2:96:ILE:HG22	22:S2:98:VAL:HG23	1.96	0.47
23:T2:129:LEU:CD1	23:T2:130:ARG:HH11	2.27	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:V2:45:GLU:OE1	25:V2:45:GLU:O	2.32	0.47
26:W2:16:LYS:HG3	26:W2:23:ILE:HG22	1.97	0.47
27:X2:77:PRO:HG2	27:X2:79:PHE:CE1	2.49	0.47
36:g2:98:VAL:HG23	36:g2:98:VAL:O	2.14	0.47
37:h2:244:ASN:HB3	37:h2:295:GLY:HA3	1.96	0.47
38:A3:112:ILE:HG23	38:A3:133:TYR:CD2	2.50	0.47
40:C3:297:GLU:OE2	53:Q3:128:LEU:HA	2.14	0.47
45:H3:23:ARG:HH21	45:H3:39:ASN:HA	1.79	0.47
46:I3:17:TYR:HE2	46:I3:23:CYS:HG	1.60	0.47
51:O3:191:LYS:HG3	51:O3:192:PHE:CD1	2.48	0.47
54:R3:7:GLN:OE1	54:R3:41:ILE:HD11	2.15	0.47
54:R3:114:LYS:HD3	54:R3:114:LYS:N	2.30	0.47
55:S3:77:ASN:OD1	55:S3:98:ARG:NH1	2.47	0.47
57:U3:63:LEU:N	57:U3:63:LEU:CD1	2.78	0.47
59:X3:79:PHE:CD2	69:h3:36:VAL:HG21	2.49	0.47
65:d3:20:VAL:O	65:d3:20:VAL:CG1	2.61	0.47
68:g3:5:LEU:HD23	68:g3:5:LEU:N	2.27	0.47
68:g3:63:VAL:O	68:g3:64:LEU:HD23	2.15	0.47
79:q3:59:A:C2'	79:q3:60:A:O5'	2.62	0.47
83:33:11:C:N4	83:33:12:U:O4	2.47	0.47
1:51:19:G:C2	3:81:139:G:C2	3.03	0.47
1:51:461:G:C5	1:51:695:G:N1	2.83	0.47
1:51:1080:C:N3	1:51:1221:G:C8	2.83	0.47
1:51:1175:A:N1	1:51:1187:G:C2	2.81	0.47
1:51:1539:G:C2	1:51:1621:A:C2	3.03	0.47
1:51:2061:U:O2	55:S3:111:ARG:HD2	2.14	0.47
1:51:3974:G:H3'	1:51:3975:C:H5	1.80	0.47
1:51:4165:C:C2	1:51:4166:G:C8	3.02	0.47
1:51:4298:A:C2	1:51:4313:A:C2	3.02	0.47
1:51:4947:U:C4	1:51:4948:C:N3	2.83	0.47
4:A2:113:G:C2	4:A2:293:C:N3	2.82	0.47
4:A2:195:C:C2	4:A2:205:G:C2	3.03	0.47
4:A2:1363:C:N4	4:A2:1376:A:H61	2.13	0.47
4:A2:1534:C:C5	4:A2:1598:G:N7	2.83	0.47
4:A2:1573:G:C6	4:A2:1574:C:C2	3.03	0.47
4:A2:1630:A:H2'	4:A2:1631:U:H6	1.79	0.47
4:A2:1782:G:C6	4:A2:1784:G:C5	3.03	0.47
5:B2:85:ARG:HD3	5:B2:203:PHE:O	2.15	0.47
13:J2:105:ASP:O	13:J2:106:SER:C	2.57	0.47
14:K2:109:ARG:NH1	14:K2:146:SER:HA	2.30	0.47
26:W2:2:GLN:OE1	26:W2:6:GLY:HA2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:a2:70:PRO:HA	30:a2:73:VAL:HG22	1.96	0.47
39:B3:189:THR:O	39:B3:193:LYS:HG3	2.14	0.47
39:B3:292:LEU:H	39:B3:292:LEU:CD2	2.27	0.47
39:B3:352:LEU:HD23	39:B3:353:VAL:C	2.40	0.47
40:C3:154:VAL:HG22	40:C3:155:GLU:N	2.30	0.47
40:C3:236:ASN:O	40:C3:240:LEU:HD12	2.14	0.47
45:H3:5:LEU:HD13	45:H3:60:TRP:CE3	2.49	0.47
45:H3:106:GLN:HB2	45:H3:111:LEU:HD22	1.97	0.47
47:J3:153:ALA:HB2	47:J3:156:ARG:HH12	1.79	0.47
84:w3:60:ARG:O	84:w3:171:HIS:CE1	2.68	0.47
1:51:420:A:C8	1:51:421:C:C6	3.03	0.47
1:51:423:G:H21	52:P3:118:GLN:NE2	2.12	0.47
1:51:645:G:C6	1:51:646:G:C8	3.03	0.47
1:51:1394:G:C2	1:51:1395:U:O2	2.67	0.47
1:51:1406:G:H2'	1:51:1406(A):G:C8	2.50	0.47
1:51:1812:C:H2'	1:51:1813:U:H6	1.79	0.47
1:51:2361:G:O6	52:P3:25:HIS:ND1	2.47	0.47
1:51:2412:A:H2'	1:51:2413:U:H6	1.79	0.47
1:51:2497:C:H2'	1:51:2498:C:C6	2.50	0.47
1:51:3669:G:N2	1:51:3674:G:C6	2.83	0.47
1:51:3932:U:C2	1:51:4179:G:N2	2.82	0.47
1:51:4044:U:O2	1:51:4048:A:N7	2.47	0.47
1:51:4482:U:N3	1:51:4483:C:C5	2.83	0.47
1:51:5006:U:O2	1:51:5006:U:O2'	2.28	0.47
2:71:10:C:O2	2:71:13:A:N1	2.47	0.47
3:81:147:G:C2	3:81:148:A:C5	3.03	0.47
3:81:149:G:O2'	3:81:151:G:OP2	2.27	0.47
4:A2:27:A:N6	4:A2:648:A:N6	2.63	0.47
4:A2:198:U:O2	4:A2:200:G:C8	2.68	0.47
4:A2:410:G:C5	4:A2:411:G:N7	2.82	0.47
4:A2:538:U:H2'	4:A2:539:C:O4'	2.15	0.47
4:A2:942:G:H2'	4:A2:943:U:C6	2.50	0.47
4:A2:1206:G:C2	4:A2:1208:A:N7	2.83	0.47
4:A2:1303:C:H5'	4:A2:1303:C:O2	2.15	0.47
4:A2:1428:G:H1'	4:A2:1585:U:C5	2.50	0.47
4:A2:1686:G:C2	4:A2:1687:C:C4	3.02	0.47
29:Z2:55:ILE:HG13	29:Z2:76:TYR:CD1	2.50	0.47
32:c2:50:ALA:O	32:c2:51:GLN:HG2	2.14	0.47
37:h2:114:SER:OG	37:h2:119:GLN:HG2	2.15	0.47
41:D3:201:GLY:O	41:D3:204:VAL:CG1	2.63	0.47
42:E3:198:ILE:HG21	42:E3:291:PHE:CE2	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:E3:205:ASP:OD1	42:E3:206:ILE:N	2.48	0.47
44:G3:310:LYS:HD2	44:G3:310:LYS:O	2.15	0.47
46:I3:53:VAL:O	46:I3:53:VAL:HG13	2.14	0.47
46:I3:131:ILE:N	46:I3:131:ILE:HD12	2.30	0.47
46:I3:179:ASP:OD1	46:I3:180:GLU:N	2.48	0.47
46:I3:206:LEU:CD2	46:I3:210:ARG:NE	2.78	0.47
50:N3:39:ALA:HB2	50:N3:63:ARG:NH1	2.30	0.47
50:N3:71:ARG:O	50:N3:71:ARG:CG	2.63	0.47
50:N3:132:VAL:HG12	50:N3:133:ILE:N	2.29	0.47
54:R3:28:GLU:CD	54:R3:31:GLU:H	2.21	0.47
60:Y3:44:VAL:HG12	60:Y3:45:ARG:N	2.29	0.47
61:Z3:32:GLY:HA3	61:Z3:38:TYR:HA	1.97	0.47
64:c3:34:SER:O	64:c3:38:ILE:HG13	2.14	0.47
71:j3:75:ARG:HG3	71:j3:76:HIS:CD2	2.50	0.47
76:o3:104:ILE:HG23	76:o3:104:ILE:O	2.15	0.47
1:51:310:G:C2	1:51:311:G:C8	3.02	0.47
1:51:346:G:C2	3:81:29:G:C2	3.03	0.47
1:51:455:C:H2’	1:51:456:C:C6	2.50	0.47
1:51:474:C:H2’	1:51:475:G:H8	1.79	0.47
1:51:1080:C:O2	1:51:1080:C:H2’	2.14	0.47
1:51:1770:A:C2	1:51:1771:U:H1’	2.49	0.47
1:51:1789:C:C5	1:51:1790:U:C4	3.03	0.47
1:51:1890:G:N2	1:51:1939:A:H61	2.13	0.47
1:51:1998:A:OP1	1:51:1999:A:H5”	2.14	0.47
1:51:2079:G:H2’	1:51:2080:U:C6	2.49	0.47
1:51:2575:U:C2	1:51:2589:C:O4’	2.68	0.47
1:51:2641:A:OP1	68:g3:21:ARG:NH2	2.48	0.47
1:51:3763:A:C6	1:51:3765:G:O6	2.67	0.47
1:51:3928:A:OP1	50:N3:90:ASN:ND2	2.48	0.47
1:51:4238:G:C6	1:51:4287:G:C6	3.03	0.47
1:51:4467:A:C2	1:51:4491:G:C2	3.03	0.47
1:51:4489:G:O6	1:51:4708:A:N6	2.48	0.47
1:51:4523:A:C2	1:51:4558:U:N3	2.83	0.47
1:51:4658:G:C2	1:51:4659:G:C2	3.02	0.47
1:51:4895:C:H1’	49:M3:132:ARG:NH2	2.30	0.47
2:71:13:A:C8	2:71:110:G:C4	3.03	0.47
3:81:103:A:H8	3:81:104:A:C8	2.33	0.47
4:A2:67:C:H42	11:H2:164:LYS:CG	2.28	0.47
4:A2:95:G:N2	4:A2:474:G:O4’	2.46	0.47
4:A2:870:A:C6	4:A2:915:G:C2	3.03	0.47
4:A2:1307:U:C2’	36:g2:135:HIS:HD1	2.25	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:1395:C:H2'	4:A2:1396:A:O4'	2.15	0.47
4:A2:1563:G:C6	4:A2:1573:G:N1	2.83	0.47
4:A2:1720:U:O5'	4:A2:1722:G:H5"	2.14	0.47
4:A2:1752:C:O2	4:A2:1781:A:H2	1.98	0.47
7:D2:174:ILE:O	7:D2:200:ARG:NH1	2.48	0.47
11:H2:39:ASP:CG	11:H2:46:LYS:H	2.22	0.47
37:h2:99:ARG:HH22	37:h2:136:GLY:CA	2.28	0.47
37:h2:181:ASN:OD1	37:h2:181:ASN:N	2.47	0.47
44:G3:209:VAL:HG13	44:G3:238:LYS:CB	2.45	0.47
46:I3:36:LEU:HD11	46:I3:69:ARG:HD2	1.97	0.47
52:P3:107:LEU:N	52:P3:107:LEU:CD2	2.78	0.47
55:S3:9:GLU:O	55:S3:67:VAL:HG12	2.16	0.47
69:h3:121:VAL:HG22	69:h3:122:LYS:N	2.30	0.47
70:i3:43:MET:O	70:i3:47:VAL:HG23	2.15	0.47
80:t3:35:VAL:HG22	80:t3:187:LEU:HD21	1.96	0.47
84:w3:34:LEU:O	84:w3:166:ALA:HA	2.15	0.47
1:51:152:U:OP2	50:N3:49:ARG:NH2	2.40	0.46
1:51:333:U:O2	1:51:333:U:H2'	2.14	0.46
1:51:737:C:H42	1:51:928:C:H42	1.62	0.46
1:51:921:C:H2'	1:51:922:C:H6	1.79	0.46
1:51:1184:A:C2'	1:51:1185:G:O4'	2.62	0.46
1:51:2266:C:HO2'	1:51:2267:U:P	2.39	0.46
1:51:2284:G:N2	1:51:2285:A:N3	2.62	0.46
1:51:2751:G:C6	1:51:2752:G:C6	3.03	0.46
1:51:3757:G:C2	1:51:3758:U:C2	3.03	0.46
1:51:3905:A:N3	85:1:58:PHE:CG	2.84	0.46
1:51:3944:G:C5	1:51:3945:A:N7	2.78	0.46
1:51:4040:C:OP2	1:51:4041:C:C5	2.68	0.46
1:51:4066:U:H5'	1:51:4067:U:O5'	2.15	0.46
1:51:4578:G:N3	1:51:4726:G:N2	2.63	0.46
3:81:124:U:C5'	3:81:126:C:H41	2.28	0.46
4:A2:25:A:C2	4:A2:26:U:C4	3.02	0.46
4:A2:93:U:OP2	9:F2:3:ARG:NH2	2.48	0.46
4:A2:414:A:C2	4:A2:415:A:C5	3.03	0.46
4:A2:684:G:C2	4:A2:685:A:C8	3.03	0.46
4:A2:756:C:N3	4:A2:790:C:N3	2.63	0.46
4:A2:790:C:H3'	4:A2:791:C:C6	2.50	0.46
4:A2:821:G:C5	14:K2:150:ARG:HD2	2.50	0.46
4:A2:1214:A:N1	4:A2:1686:G:C2	2.84	0.46
4:A2:1231:C:N3	4:A2:1528:G:C2	2.83	0.46
4:A2:1507:G:N2	36:g2:85:TYR:CE2	2.83	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:1784:G:C6	4:A2:1785:C:C4	3.02	0.46
14:K2:154:GLN:C	14:K2:155:LYS:HD3	2.40	0.46
24:U2:5:THR:OG1	24:U2:6:VAL:N	2.45	0.46
33:d2:18:LEU:HB2	33:d2:29:GLN:O	2.15	0.46
37:h2:141:THR:O	37:h2:141:THR:HG23	2.15	0.46
38:A3:177:LYS:HD3	77:p3:69:TRP:CH2	2.50	0.46
39:B3:87:VAL:HG21	39:B3:165:HIS:HD2	1.77	0.46
49:M3:15:VAL:HG21	49:M3:20:HIS:O	2.15	0.46
50:N3:191:ALA:O	50:N3:195:ARG:HD2	2.15	0.46
51:O3:174:LEU:HD23	51:O3:174:LEU:C	2.40	0.46
54:R3:98:ARG:HH22	54:R3:127:VAL:HG21	1.80	0.46
54:R3:124:TYR:CD2	54:R3:125:LEU:HD23	2.50	0.46
54:R3:172:ARG:O	54:R3:176:ARG:HG2	2.15	0.46
70:i3:30:ARG:HG2	70:i3:31:GLY:N	2.26	0.46
72:k3:6:GLU:OE1	72:k3:6:GLU:N	2.47	0.46
79:q3:1:G:O3'	79:q3:2:U:O4'	2.34	0.46
80:t3:83:ARG:NE	80:t3:83:ARG:HA	2.30	0.46
1:51:29:G:O5'	1:51:29:G:H8	1.99	0.46
1:51:128:C:H2'	1:51:129:C:C6	2.49	0.46
1:51:302:C:P	50:N3:68:ARG:HH21	2.38	0.46
1:51:1390:G:C2	1:51:1394:G:C2	3.03	0.46
1:51:1430:C:C2	1:51:1455:G:N2	2.83	0.46
1:51:1470:G:C5	1:51:1471:U:C4	3.03	0.46
1:51:1950:U:C2	1:51:2034:G:C6	3.04	0.46
1:51:1962:A:N3	1:51:1962:A:H2'	2.30	0.46
1:51:2405:G:N7	73:l3:2:SER:N	2.63	0.46
1:51:2477:A:H2'	1:51:2478:C:O4'	2.16	0.46
1:51:2477:A:C2	1:51:2478:C:C2	3.03	0.46
1:51:2628:U:C4	1:51:2629:C:C5	3.03	0.46
1:51:4128:A:H62	1:51:4156:G:N2	2.13	0.46
1:51:4997:G:C2	1:51:4998:G:C8	3.03	0.46
1:51:4999:G:C2	1:51:5052:C:N3	2.83	0.46
4:A2:394:G:N1	4:A2:395:G:C5	2.83	0.46
4:A2:563:G:N3	4:A2:564:A:C8	2.83	0.46
4:A2:925:G:OP1	18:O2:121:ARG:NH2	2.47	0.46
4:A2:956:G:H2'	4:A2:957:A:H8	1.80	0.46
4:A2:1718:G:C6	4:A2:1814:G:C2	3.04	0.46
10:G2:122:ARG:HG2	10:G2:146:ARG:HH12	1.80	0.46
12:I2:36:LEU:O	12:I2:40:LEU:HD13	2.15	0.46
14:K2:43:VAL:O	14:K2:46:VAL:HG12	2.16	0.46
16:M2:59:LYS:CD	16:M2:134:LEU:HD22	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:P2:100:THR:HG23	19:P2:101:GLY:N	2.29	0.46
20:Q2:98:ASN:CG	20:Q2:98:ASN:O	2.58	0.46
22:S2:104:GLU:O	22:S2:108:LEU:HD23	2.14	0.46
32:c2:46:VAL:O	32:c2:46:VAL:HG23	2.14	0.46
37:h2:31:ILE:HG23	37:h2:31:ILE:O	2.15	0.46
37:h2:280:LYS:HG2	37:h2:282:GLU:H	1.79	0.46
38:A3:101:VAL:HB	38:A3:165:VAL:HG12	1.98	0.46
38:A3:122:ASP:OD1	38:A3:122:ASP:N	2.46	0.46
41:D3:287:PHE:O	41:D3:291:GLN:HB2	2.16	0.46
44:G3:88:ARG:NH1	61:Z3:52:LYS:HD2	2.31	0.46
44:G3:138:GLN:O	44:G3:140:LEU:HD12	2.15	0.46
44:G3:209:VAL:HB	44:G3:257:PHE:HB2	1.97	0.46
45:H3:111:LEU:HD23	45:H3:111:LEU:C	2.40	0.46
49:M3:5:ARG:NE	49:M3:59:ASP:OD1	2.48	0.46
49:M3:91:TRP:O	49:M3:91:TRP:HD1	1.97	0.46
68:g3:59:VAL:CG1	68:g3:60:ARG:N	2.78	0.46
68:g3:114:GLN:OE1	68:g3:114:GLN:N	2.48	0.46
77:p3:54:ILE:O	77:p3:54:ILE:HG23	2.15	0.46
79:q3:48:C:N3	79:q3:59:A:N3	2.63	0.46
1:51:442:G:H5”	67:f3:68:ARG:NH1	2.30	0.46
1:51:922(B):C:O2’	1:51:923:C:O5’	2.27	0.46
1:51:1321:G:H2’	1:51:3876:A:N7	2.30	0.46
1:51:1351:G:O6	53:Q3:55:ARG:NH1	2.37	0.46
1:51:1481:C:C5	70:i3:4:ARG:HD2	2.50	0.46
1:51:1762:C:N3	1:51:1771:U:O2	2.48	0.46
1:51:1786:A:C2	1:51:1789:C:O2	2.69	0.46
1:51:2045:G:OP1	51:O3:63:ASN:ND2	2.48	0.46
1:51:2111:U:H5’	1:51:2112:G:OP1	2.14	0.46
1:51:2656:U:H5”	61:Z3:38:TYR:CE1	2.50	0.46
1:51:2867:C:N4	1:51:2884:G:C6	2.83	0.46
1:51:3603:G:O2’	1:51:3604:A:OP1	2.32	0.46
1:51:4212:A:N3	1:51:4218:U:C4	2.83	0.46
4:A2:183:G:H1’	4:A2:184:G:H5’	1.96	0.46
4:A2:677:G:N2	4:A2:1029:G:O6	2.48	0.46
4:A2:976:G:H21	19:P2:50:LYS:HZ3	1.64	0.46
4:A2:1611:G:C6	4:A2:1612:G:N7	2.83	0.46
4:A2:1702:G:N1	4:A2:1703:C:O2	2.48	0.46
5:B2:38:ILE:HD11	5:B2:47:TYR:HB3	1.97	0.46
8:E2:135:GLU:HG2	8:E2:153:VAL:HG12	1.98	0.46
9:F2:52:LEU:C	9:F2:53:LYS:HG3	2.39	0.46
11:H2:7:PHE:CE2	11:H2:9:ALA:HB3	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:L2:90:VAL:HG22	15:L2:91:PRO:CD	2.45	0.46
18:O2:16:LEU:HD21	18:O2:65:PHE:CE2	2.51	0.46
21:R2:44:PRO:HD2	21:R2:81:ILE:HD11	1.97	0.46
37:h2:45:LEU:HD22	37:h2:45:LEU:N	2.29	0.46
37:h2:177:TRP:CE3	37:h2:184:LEU:HA	2.50	0.46
44:G3:106:ARG:HA	44:G3:106:ARG:NE	2.31	0.46
44:G3:249:ARG:HD3	44:G3:252:CYS:HA	1.97	0.46
52:P3:91:LEU:C	52:P3:91:LEU:HD12	2.40	0.46
55:S3:83:ARG:HB2	55:S3:127:MET:HE3	1.97	0.46
55:S3:159:LEU:HD12	55:S3:160:ARG:H	1.80	0.46
59:X3:41:ARG:NE	59:X3:45:THR:OG1	2.38	0.46
60:Y3:89:LYS:HG2	60:Y3:90:ALA:H	1.79	0.46
79:q3:52:G:C2	79:q3:63:G:N2	2.83	0.46
84:w3:14:VAL:CG2	84:w3:183:ILE:HG21	2.45	0.46
1:51:221:C:H2'	1:51:222:C:C6	2.50	0.46
1:51:279:A:H1'	50:N3:12:ARG:HE	1.79	0.46
1:51:1475:G:H2'	1:51:1476:C:C6	2.51	0.46
1:51:1572:U:C5	1:51:1573:G:C4	3.03	0.46
1:51:2468:U:O2	1:51:2468:U:O2'	2.28	0.46
1:51:3632:C:H42	1:51:3830:A:N6	2.14	0.46
1:51:4235:G:C2	1:51:4290:U:O2	2.69	0.46
1:51:4320:G:C2	1:51:4321:U:O2	2.68	0.46
1:51:4410:G:C2	1:51:4411:G:C8	3.03	0.46
1:51:4995:U:H5	1:51:4996:C:C5	2.34	0.46
3:81:126:C:O2'	3:81:127:U:O5'	2.33	0.46
4:A2:73:C:O2	4:A2:73:C:H2'	2.16	0.46
4:A2:373:G:N2	4:A2:392:A:C4	2.83	0.46
4:A2:606:G:C6	4:A2:608:C:N4	2.83	0.46
4:A2:1013:U:C5	4:A2:1014:G:N7	2.83	0.46
4:A2:1381:G:N1	4:A2:1382:A:C5	2.83	0.46
5:B2:125:THR:HA	5:B2:147:LEU:HD12	1.97	0.46
6:C2:182:LYS:HD2	6:C2:231:LEU:CD2	2.45	0.46
17:N2:94:ILE:HB	17:N2:101:ARG:HD2	1.96	0.46
23:T2:84:LEU:HD13	23:T2:96:SER:C	2.40	0.46
28:Y2:61:GLN:O	28:Y2:62:PRO:C	2.59	0.46
38:A3:42:LYS:HD2	38:A3:87:PHE:CD1	2.50	0.46
41:D3:108:ARG:HG3	41:D3:251:PRO:HB3	1.97	0.46
41:D3:171:LEU:HD12	41:D3:171:LEU:N	2.31	0.46
44:G3:206:GLN:HG3	44:G3:260:VAL:HG12	1.98	0.46
45:H3:173:ARG:NH1	74:m3:101:VAL:HG23	2.29	0.46
47:J3:33:LEU:HD11	47:J3:70:VAL:CG2	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:T3:68:THR:HG22	56:T3:69:GLN:N	2.22	0.46
61:Z3:57:MET:HE2	61:Z3:61:LYS:HG2	1.96	0.46
80:t3:52:VAL:HG22	80:t3:90:PHE:HB2	1.96	0.46
80:t3:60:MET:C	80:t3:62:ARG:N	2.73	0.46
85:1:63:SER:OG	85:1:63:SER:O	2.29	0.46
1:51:5:A:C2	1:51:6:C:C4	3.03	0.46
1:51:100:C:O2	1:51:100:C:H2'	2.16	0.46
1:51:308:G:C2	70:i3:41:ARG:NH1	2.83	0.46
1:51:442:G:N2	1:51:1306:C:C2	2.83	0.46
1:51:1599:G:N2	1:51:1602:U:C6	2.84	0.46
1:51:1976:G:H22	81:u3:99:LYS:CE	2.28	0.46
1:51:2547:G:C6	1:51:2773:G:C2	3.04	0.46
1:51:2590:G:OP1	1:51:2768:C:OP1	2.33	0.46
1:51:2842:G:C6	1:51:3847:C:N4	2.84	0.46
1:51:3908:A:H61	85:1:63:SER:HA	1.80	0.46
1:51:3970:G:H1'	84:w3:33:GLU:OE2	2.15	0.46
1:51:4209:G:N1	1:51:4224:A:N1	2.64	0.46
1:51:4518:A:N7	39:B3:257:TRP:CE2	2.84	0.46
1:51:4524:G:N2	1:51:4525:C:C2	2.83	0.46
2:71:10:C:C5	41:D3:20:PHE:CD1	3.03	0.46
2:71:30:C:C4	2:71:31:G:N7	2.84	0.46
4:A2:24:C:N4	4:A2:25:A:H62	2.12	0.46
4:A2:561:A:C2	4:A2:562:U:C4	3.03	0.46
4:A2:849:A:H2'	4:A2:850:C:O4'	2.16	0.46
4:A2:872:A:C2	4:A2:915:G:C6	3.04	0.46
4:A2:1288:U:H1'	4:A2:1315:U:O2'	2.15	0.46
4:A2:1619:A:P	20:Q2:47:ARG:HD3	2.54	0.46
4:A2:1720:U:O5'	4:A2:1722:G:C4'	2.63	0.46
5:B2:2:SER:N	5:B2:63:ARG:NH2	2.64	0.46
5:B2:15:VAL:O	5:B2:19:LEU:HD12	2.16	0.46
5:B2:38:ILE:HD12	5:B2:49:ILE:HA	1.98	0.46
7:D2:165:VAL:HG12	7:D2:166:ARG:N	2.29	0.46
13:J2:123:ARG:O	13:J2:124:LYS:C	2.58	0.46
17:N2:42:LEU:HD13	17:N2:68:LEU:HD22	1.96	0.46
24:U2:55:THR:HG23	24:U2:56:ARG:N	2.31	0.46
28:Y2:105:PHE:HE2	28:Y2:112:VAL:HB	1.81	0.46
31:b2:52:ASP:HA	31:b2:55:GLU:HG2	1.97	0.46
37:h2:258:ILE:HG13	37:h2:267:VAL:HB	1.98	0.46
41:D3:256:LYS:HD3	41:D3:256:LYS:N	2.31	0.46
42:E3:285:TYR:CD1	67:f3:32:GLY:HA3	2.51	0.46
43:F3:158:TYR:CD1	43:F3:167:ALA:HB2	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:L3:65:ARG:HG2	48:L3:66:TYR:CE1	2.51	0.46
50:N3:6:TYR:CE2	70:i3:40:VAL:HG11	2.50	0.46
57:U3:82:TYR:CE2	57:U3:86:LEU:HD12	2.51	0.46
65:d3:25:TYR:HB2	65:d3:86:VAL:CG1	2.45	0.46
83:33:16:C:H4'	83:33:17:G:OP2	2.14	0.46
84:w3:69:GLY:HA2	84:w3:116:LEU:HD12	1.97	0.46
1:51:59:A:C6	1:51:338:A:C2	3.02	0.46
1:51:1278:C:N4	1:51:1279:A:C6	2.83	0.46
1:51:1457:G:OP1	53:Q3:72:LEU:HD12	2.16	0.46
1:51:1968:G:N2	1:51:2020:U:O2'	2.48	0.46
1:51:1985:G:C2	1:51:2003:G:C4	3.04	0.46
1:51:2072:C:H2'	1:51:2073:C:C6	2.51	0.46
1:51:2529:A:C2	1:51:2532:C:C6	3.03	0.46
1:51:2551:A:C5	1:51:2552:G:C8	3.02	0.46
1:51:2863:G:C8	1:51:3619:G:C2	3.03	0.46
1:51:4371:G:N2	83:33:75:C:N3	2.62	0.46
1:51:4573:G:N2	1:51:4574:U:O4	2.49	0.46
3:81:121:G:C2	3:81:122:G:N7	2.84	0.46
4:A2:283:G:O2'	4:A2:284:C:O4'	2.28	0.46
4:A2:318:A:N6	4:A2:332:G:H1	2.14	0.46
4:A2:358:C:N3	4:A2:359:U:C4	2.84	0.46
4:A2:677:G:N1	4:A2:1027:A:OP2	2.48	0.46
4:A2:1743:G:C2	4:A2:1792:G:O6	2.69	0.46
9:F2:141:THR:OG1	9:F2:143:ASP:OD1	2.31	0.46
11:H2:30:LYS:HE3	11:H2:33:ALA:HA	1.97	0.46
13:J2:38:ILE:CG1	13:J2:96:LEU:HD11	2.46	0.46
16:M2:58:LYS:O	16:M2:58:LYS:CG	2.63	0.46
20:Q2:80:LEU:CD2	20:Q2:83:MET:HB2	2.45	0.46
24:U2:83:GLN:HB3	24:U2:90:SER:HB2	1.97	0.46
26:W2:2:GLN:HB3	26:W2:6:GLY:HA2	1.97	0.46
35:f2:124:LYS:C	35:f2:125:LYS:HD2	2.41	0.46
37:h2:175:LYS:HZ2	37:h2:187:ASN:CG	2.23	0.46
38:A3:27:ALA:HB1	38:A3:77:ILE:HD11	1.97	0.46
39:B3:364:ASP:OD2	39:B3:364:ASP:N	2.47	0.46
40:C3:159:GLU:O	40:C3:215:ASN:HB3	2.15	0.46
40:C3:208:CYS:SG	40:C3:230:LEU:HD12	2.55	0.46
44:G3:130:PRO:HA	44:G3:290:TRP:CE3	2.50	0.46
53:Q3:70:MET:SD	53:Q3:137:VAL:HG21	2.56	0.46
57:U3:28:PRO:HB3	57:U3:34:MET:SD	2.56	0.46
60:Y3:8:THR:HG23	60:Y3:8:THR:O	2.15	0.46
61:Z3:12:LEU:HD23	61:Z3:12:LEU:C	2.41	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:a3:136:LYS:O	62:a3:140:VAL:HG12	2.15	0.46
79:q3:21:A:N1	79:q3:48:C:O4'	2.49	0.46
81:u3:77:ALA:O	81:u3:112:ILE:HD11	2.16	0.46
86:W:14:TYR:HB3	86:W:15:PRO:CD	2.46	0.46
1:51:4:G:C2	3:81:155:C:N3	2.84	0.46
1:51:468:U:C2	1:51:686:A:N6	2.84	0.46
1:51:2266:C:O2'	1:51:2267:U:OP1	2.33	0.46
1:51:2473:A:P	59:X3:46:PHE:HB3	2.56	0.46
1:51:2621:A:OP1	57:U3:80:LYS:NZ	2.43	0.46
1:51:4099:G:H2'	1:51:4099:G:N3	2.31	0.46
1:51:4370:G:C2	83:33:75:C:C2	3.04	0.46
1:51:4917:C:N4	1:51:4918:C:N4	2.63	0.46
1:51:4988:U:OP2	39:B3:123:HIS:ND1	2.47	0.46
2:71:120:U:C5	41:D3:259:ARG:HG2	2.51	0.46
4:A2:587:A:C5'	4:A2:592:C:H41	2.28	0.46
4:A2:1294:G:N2	4:A2:1306:U:O2	2.49	0.46
6:C2:109:LYS:HZ1	6:C2:113:MET:HE3	1.79	0.46
10:G2:68:ILE:HD12	10:G2:68:ILE:N	2.31	0.46
10:G2:112:LEU:HD12	10:G2:177:LEU:CD1	2.46	0.46
10:G2:137:GLN:CD	10:G2:138:ALA:N	2.74	0.46
14:K2:3:VAL:HG12	14:K2:5:ARG:HG3	1.96	0.46
14:K2:85:GLY:HA3	14:K2:108:ARG:HH12	1.80	0.46
17:N2:85:LEU:O	17:N2:89:VAL:HG23	2.16	0.46
17:N2:95:ASP:O	17:N2:96:ARG:C	2.58	0.46
22:S2:97:GLU:HA	22:S2:118:GLN:O	2.16	0.46
24:U2:96:SER:HB3	24:U2:99:VAL:HG12	1.96	0.46
28:Y2:115:ILE:HG21	28:Y2:118:VAL:HG21	1.98	0.46
30:a2:87:ALA:HA	30:a2:90:GLU:HG2	1.96	0.46
37:h2:67:SER:H	37:h2:82:SER:HA	1.81	0.46
37:h2:79:LEU:HD12	37:h2:113:PHE:CZ	2.50	0.46
43:F3:72:ARG:O	43:F3:76:LYS:HG2	2.16	0.46
51:O3:27:VAL:CG1	51:O3:28:LEU:N	2.78	0.46
53:Q3:18:PRO:HD3	53:Q3:52:PHE:CD1	2.51	0.46
54:R3:89:MET:HE3	54:R3:90:PRO:CD	2.33	0.46
56:T3:38:ASP:OD1	56:T3:38:ASP:N	2.47	0.46
63:b3:31:SER:OG	63:b3:32:LEU:N	2.49	0.46
70:i3:23:LYS:CD	70:i3:24:PRO:O	2.64	0.46
71:j3:31:LYS:O	71:j3:32:SER:OG	2.26	0.46
83:33:51:G:C2	83:33:62:C:C2	3.03	0.46
84:w3:58:THR:N	84:w3:153:SER:HB2	2.30	0.46
1:51:40:G:C5	1:51:4378:A:C2	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:518:G:C2	1:51:644:G:C2	3.04	0.46
1:51:757:G:O2'	1:51:758:G:H8	1.99	0.46
1:51:956:A:N6	1:51:1283:G:N3	2.63	0.46
1:51:1316:G:N1	1:51:1317:U:O2	2.49	0.46
1:51:1354:A:OP2	53:Q3:87:THR:HB	2.15	0.46
1:51:1859:C:C5	1:51:1860:U:C4	3.03	0.46
1:51:2056:G:C4	1:51:2058:G:N7	2.83	0.46
1:51:2550:G:C2	1:51:2551:A:C4	3.04	0.46
1:51:3597:G:H22	54:R3:147:ALA:CB	2.18	0.46
1:51:3656:A:C2	1:51:3689:G:N2	2.83	0.46
1:51:4356:G:C6	1:51:4357:G:N7	2.83	0.46
1:51:4568:A:OP1	39:B3:20:LYS:HB2	2.16	0.46
1:51:4586:G:C2	1:51:4587:G:C8	3.04	0.46
1:51:5051:C:C2	1:51:5052:C:C5	3.04	0.46
3:81:147:G:N2	3:81:148:A:C4	2.83	0.46
3:81:149:G:C2	3:81:152:U:C5	3.04	0.46
3:81:151:G:N3	44:G3:117:GLN:HG3	2.11	0.46
4:A2:241:G:C6	4:A2:281:C:O2	2.68	0.46
4:A2:587:A:O4'	4:A2:592:C:C5	2.69	0.46
4:A2:688:U:O2'	4:A2:689:U:OP2	2.31	0.46
4:A2:698:G:C2	4:A2:699:C:N4	2.84	0.46
4:A2:944:A:C6	4:A2:945:U:C4	3.04	0.46
4:A2:1207:G:C6	4:A2:1837:G:C6	3.04	0.46
4:A2:1620:A:C2	4:A2:1624:U:N3	2.84	0.46
6:C2:215:VAL:HG13	6:C2:215:VAL:O	2.15	0.46
7:D2:183:LYS:HD3	7:D2:194:ARG:HH21	1.80	0.46
10:G2:113:VAL:O	10:G2:117:ILE:HG23	2.15	0.46
12:I2:7:LYS:NZ	12:I2:40:LEU:O	2.29	0.46
12:I2:101:LEU:HG	12:I2:102:PRO:HD2	1.97	0.46
12:I2:145:ARG:HD2	27:X2:51:GLU:HB3	1.97	0.46
13:J2:82:VAL:HG13	13:J2:83:TYR:H	1.80	0.46
14:K2:147:PHE:O	14:K2:149:VAL:HG12	2.16	0.46
19:P2:130:GLU:HG2	19:P2:131:ASP:H	1.80	0.46
36:g2:102:VAL:O	36:g2:102:VAL:HG22	2.15	0.46
37:h2:165:ILE:HD11	37:h2:179:LEU:HD21	1.98	0.46
39:B3:251:VAL:HG13	39:B3:251:VAL:O	2.15	0.46
39:B3:380:GLN:HB2	39:B3:384:GLU:OE2	2.14	0.46
44:G3:236:ILE:CG2	44:G3:275:ILE:HD12	2.46	0.46
44:G3:245:ARG:NE	44:G3:253:THR:HA	2.31	0.46
48:L3:116:ARG:NH1	48:L3:155:MET:O	2.49	0.46
51:O3:108:ILE:HG23	51:O3:108:ILE:O	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:R3:109:TYR:HB3	54:R3:114:LYS:NZ	2.31	0.46
57:U3:50:ASN:CB	57:U3:59:GLY:HA3	2.46	0.46
57:U3:60:VAL:HG23	57:U3:74:SER:CB	2.38	0.46
65:d3:91:LYS:HB2	65:d3:103:TYR:CZ	2.50	0.46
77:p3:79:VAL:O	77:p3:83:ILE:HG12	2.15	0.46
79:q3:4:U:H2'	79:q3:5:C:H6	1.80	0.46
79:q3:12:G:H2'	79:q3:13:U:H5'	1.97	0.46
79:q3:57:G:H2'	79:q3:58:A:H5'	1.96	0.46
80:t3:43:ILE:O	80:t3:44:ARG:C	2.58	0.46
81:u3:29:ALA:HB3	81:u3:30:PRO:HD3	1.97	0.46
81:u3:150:ASP:O	81:u3:154:ASP:HB2	2.16	0.46
83:33:55:U:H5'	84:w3:130:LYS:HD3	1.97	0.46
84:w3:6:SER:HB2	84:w3:214:GLN:NE2	2.31	0.46
84:w3:18:LEU:HD22	84:w3:179:LEU:HB2	1.97	0.46
84:w3:98:LYS:C	84:w3:99:LEU:HD12	2.40	0.46
1:51:80:C:N4	1:51:104:G:N1	2.64	0.46
1:51:1322:A:C6	1:51:3876:A:C2	3.04	0.46
1:51:1743:A:H1'	41:D3:15:ARG:NH2	2.30	0.46
1:51:1898:C:OP1	53:Q3:2:GLY:N	2.48	0.46
1:51:1941:A:N6	1:51:2040:A:C4	2.84	0.46
1:51:2495:U:H2'	1:51:2496:G:H8	1.79	0.46
1:51:2569:G:C6	1:51:2570:U:C4	3.03	0.46
1:51:3748:A:C2	1:51:3749:C:C5	3.04	0.46
1:51:3762:U:H5"	1:51:3763:A:C8	2.51	0.46
1:51:3763:A:H2'	1:51:3764:U:C5	2.51	0.46
1:51:3973:G:O6	1:51:4038:C:N4	2.49	0.46
1:51:4164:C:H2'	1:51:4165:C:C6	2.51	0.46
1:51:4726:G:H2'	39:B3:130:PHE:HE1	1.81	0.46
3:81:128:C:C4	3:81:129:C:C5	3.03	0.46
4:A2:165:G:H4'	11:H2:52:ILE:HB	1.97	0.46
4:A2:560:A:OP1	4:A2:560:A:H4'	2.16	0.46
4:A2:964:A:N3	4:A2:1054:G:O2'	2.45	0.46
4:A2:1604:G:C4	4:A2:1605:G:C8	3.04	0.46
8:E2:49:ILE:HG12	8:E2:87:TYR:HB2	1.98	0.46
10:G2:19:LEU:HD22	10:G2:22:LYS:CA	2.41	0.46
10:G2:123:GLU:HA	10:G2:140:ASP:HA	1.98	0.46
12:I2:62:ILE:HB	12:I2:94:PHE:CD1	2.51	0.46
12:I2:157:HIS:HA	12:I2:188:GLU:O	2.16	0.46
13:J2:90:LEU:HB3	13:J2:95:THR:CG2	2.45	0.46
15:L2:64:TRP:O	15:L2:65:ARG:HG2	2.15	0.46
20:Q2:80:LEU:HD21	20:Q2:82:ASP:C	2.41	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:Q2:80:LEU:HD22	20:Q2:83:MET:HB2	1.96	0.46
20:Q2:105:VAL:HG22	20:Q2:106:GLU:O	2.15	0.46
24:U2:131:LEU:HD12	24:U2:131:LEU:O	2.15	0.46
27:X2:21:GLY:O	32:c2:3:LEU:HD23	2.15	0.46
37:h2:171:ASP:O	37:h2:173:LEU:CD2	2.64	0.46
39:B3:55:HIS:O	39:B3:56:ILE:HG12	2.16	0.46
40:C3:315:LYS:HE2	43:F3:155:LYS:O	2.16	0.46
41:D3:247:ILE:HG13	41:D3:247:ILE:O	2.16	0.46
44:G3:104:LEU:C	44:G3:106:ARG:H	2.24	0.46
44:G3:104:LEU:HA	44:G3:104:LEU:HD23	1.68	0.46
47:J3:128:LEU:HD12	47:J3:129:ASP:N	2.31	0.46
48:L3:82:ARG:CZ	48:L3:82:ARG:HB2	2.46	0.46
57:U3:21:PHE:HE1	57:U3:80:LYS:HB3	1.81	0.46
61:Z3:12:LEU:HD23	61:Z3:13:VAL:H	1.73	0.46
64:c3:85:CYS:O	64:c3:85:CYS:SG	2.74	0.46
83:33:24:G:C2	83:33:25:C:C6	3.04	0.46
83:33:49:C:H42	83:33:63:C:N4	2.14	0.46
1:51:349:A:N6	40:C3:45:ARG:NH2	2.64	0.46
1:51:964:A:C4	1:51:965:G:C8	3.04	0.46
1:51:2061:U:H5’	55:S3:120:ARG:NH1	2.31	0.46
1:51:2654:C:N4	1:51:2655:C:N4	2.64	0.46
1:51:3636:C:H2’	1:51:3637:U:H5’	1.98	0.46
1:51:3965:A:C6	1:51:4047:A:C5	3.03	0.46
1:51:4051:C:O2’	84:w3:209:THR:CG2	2.64	0.46
1:51:4908:G:O2’	1:51:4913:G:N2	2.49	0.46
1:51:4994:G:C4	1:51:4995:U:N3	2.84	0.46
4:A2:333:G:H2’	4:A2:334:C:H5”	1.98	0.46
4:A2:338:G:H2’	4:A2:339:A:C8	2.51	0.46
4:A2:923:G:C2	4:A2:924:G:C8	3.04	0.46
4:A2:1127:C:H2’	4:A2:1128:C:H6	1.81	0.46
4:A2:1661:A:P	34:e2:16:GLN:HE22	2.39	0.46
4:A2:1756:C:N3	4:A2:1757:G:C8	2.84	0.46
5:B2:156:TYR:O	26:W2:60:ARG:NE	2.47	0.46
6:C2:135:LEU:N	6:C2:135:LEU:HD12	2.30	0.46
8:E2:217:ILE:HG23	8:E2:217:ILE:O	2.15	0.46
11:H2:159:ARG:NH2	11:H2:171:THR:HG21	2.31	0.46
18:O2:83:ASP:OD1	18:O2:83:ASP:N	2.49	0.46
23:T2:129:LEU:HD12	23:T2:130:ARG:HH11	1.81	0.46
24:U2:30:VAL:HG12	24:U2:53:PHE:CE2	2.51	0.46
39:B3:87:VAL:O	39:B3:87:VAL:CG1	2.61	0.46
39:B3:308:ASP:C	39:B3:309:LEU:HD23	2.40	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:B3:391:PRO:O	39:B3:392:LEU:HD22	2.15	0.46
42:E3:260:ILE:HG23	42:E3:261:LEU:N	2.31	0.46
43:F3:63:MET:CE	43:F3:194:TYR:HE2	2.29	0.46
44:G3:91:ASN:ND2	44:G3:96:GLN:HG3	2.31	0.46
44:G3:199:LEU:C	44:G3:199:LEU:HD12	2.41	0.46
44:G3:245:ARG:HD2	44:G3:254:THR:OG1	2.16	0.46
48:L3:23:ALA:HB3	50:N3:199:GLN:OE1	2.16	0.46
48:L3:63:THR:O	48:L3:63:THR:HG23	2.16	0.46
57:U3:49:VAL:O	57:U3:49:VAL:HG22	2.16	0.46
67:f3:11:PHE:CD1	67:f3:12:ALA:N	2.84	0.46
73:l3:49:LEU:HD23	73:l3:49:LEU:O	2.16	0.46
79:q3:2:U:O2'	79:q3:3:C:P	2.74	0.46
80:t3:128:THR:HG22	80:t3:178:LEU:HD22	1.98	0.46
84:w3:12:GLU:O	84:w3:216:LEU:HD12	2.16	0.46
85:1:59:TYR:O	85:1:60:THR:C	2.59	0.46
1:51:242:U:O2	1:51:242:U:H2'	2.15	0.45
1:51:1094:G:C2	1:51:1095:A:N7	2.84	0.45
1:51:1401:C:H2'	1:51:1402:C:C6	2.51	0.45
1:51:1761:G:O6	1:51:1771:U:H2'	2.17	0.45
1:51:1979:A:OP1	81:u3:90:ARG:O	2.34	0.45
1:51:2519:U:O4	1:51:2537:A:N6	2.50	0.45
1:51:2888:G:H1'	1:51:3618:C:O2	2.16	0.45
1:51:3860:A:N3	1:51:3860:A:H2'	2.30	0.45
1:51:4995:U:C5	1:51:4996:C:C5	3.03	0.45
3:81:129:C:H2'	3:81:130:C:C6	2.51	0.45
4:A2:171:A:H2'	4:A2:173:A:N6	2.31	0.45
4:A2:658:U:O2	4:A2:659:G:N2	2.49	0.45
4:A2:943:U:C2	4:A2:944:A:C8	3.03	0.45
4:A2:958:G:N1	4:A2:959:G:C6	2.84	0.45
4:A2:1010:G:H8	4:A2:1010:G:O5'	1.99	0.45
4:A2:1291:A:N1	4:A2:1309:C:O2	2.48	0.45
4:A2:1650:A:H1'	4:A2:1675:A:H61	1.81	0.45
4:A2:1720:U:C5'	4:A2:1722:G:H4'	2.46	0.45
4:A2:1792:G:H2'	4:A2:1793:A:C8	2.51	0.45
7:D2:252:THR:CG2	7:D2:254:ASP:OD1	2.64	0.45
28:Y2:50:ILE:HA	28:Y2:98:ASP:O	2.16	0.45
28:Y2:85:VAL:HG23	28:Y2:85:VAL:O	2.16	0.45
37:h2:80:SER:O	37:h2:87:LEU:CD1	2.63	0.45
41:D3:83:LEU:HB3	41:D3:88:VAL:HG13	1.99	0.45
43:F3:103:LYS:HE3	43:F3:134:ILE:HD11	1.97	0.45
46:I3:170:LYS:HD2	46:I3:176:PHE:O	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:J3:14:GLU:HG3	47:J3:15:LEU:H	1.81	0.45
56:T3:27:LEU:HG	56:T3:31:MET:HE3	1.97	0.45
65:d3:112:THR:HG23	65:d3:113:THR:HG22	1.97	0.45
73:l3:27:ILE:HD12	73:l3:27:ILE:HA	1.89	0.45
74:m3:68:MET:HG2	74:m3:79:PRO:HA	1.97	0.45
81:u3:121:LEU:CD2	81:u3:121:LEU:O	2.65	0.45
83:33:72:C:C2	83:33:73:G:N2	2.85	0.45
1:51:653:C:C5	1:51:654:C:H5	2.34	0.45
1:51:1316:G:C2	1:51:1317:U:O2	2.69	0.45
1:51:1481:C:H41	70:i3:4:ARG:CD	2.30	0.45
1:51:1590:C:N4	1:51:1592:G:C5	2.84	0.45
1:51:2559:G:N1	1:51:2569:G:C6	2.85	0.45
1:51:2792:C:O2	71:j3:9:GLY:HA2	2.16	0.45
1:51:4056:A:C6	1:51:4057:C:C4	3.05	0.45
1:51:4355:G:N2	1:51:4356:G:C4	2.84	0.45
1:51:4681:A:N1	1:51:4710:C:N3	2.65	0.45
4:A2:787:G:O3’	4:A2:788:G:O4’	2.31	0.45
4:A2:1117:C:C4	4:A2:1118:C:N4	2.84	0.45
4:A2:1309:C:O2’	36:g2:143:LYS:NZ	2.42	0.45
4:A2:1317:C:C4	4:A2:1318:G:N7	2.84	0.45
4:A2:1536:G:N2	4:A2:1537:A:C5	2.84	0.45
4:A2:1605:G:C6	4:A2:1606:G:N1	2.84	0.45
6:C2:137:LEU:HD12	6:C2:137:LEU:N	2.31	0.45
8:E2:11:PHE:CZ	25:V2:84:ILE:HD11	2.51	0.45
11:H2:52:ILE:O	11:H2:53:SER:C	2.60	0.45
11:H2:216:ARG:HD2	11:H2:216:ARG:O	2.16	0.45
15:L2:86:PRO:HB2	15:L2:88:GLU:HG2	1.98	0.45
16:M2:42:LEU:HD22	16:M2:42:LEU:N	2.30	0.45
21:R2:22:VAL:HG11	21:R2:71:ARG:NH2	2.31	0.45
21:R2:123:ASP:CG	21:R2:125:ARG:HE	2.24	0.45
31:b2:18:VAL:CG1	31:b2:19:GLN:N	2.78	0.45
36:g2:136:PHE:CE2	36:g2:137:ASP:CG	2.94	0.45
37:h2:191:HIS:ND1	37:h2:195:LEU:HD21	2.31	0.45
44:G3:230:MET:O	44:G3:232:VAL:HG22	2.16	0.45
55:S3:13:VAL:O	55:S3:13:VAL:HG13	2.17	0.45
61:Z3:84:ARG:N	64:c3:62:TYR:OH	2.49	0.45
83:33:65:G:C2	83:33:66:U:C5	3.05	0.45
84:w3:66:CYS:O	84:w3:68:LEU:HD12	2.17	0.45
1:51:3:C:H2’	1:51:4:G:O4’	2.16	0.45
1:51:408:A:H2	1:51:410:A:C2	2.35	0.45
1:51:1514:U:OP1	48:L3:2:ALA:HB3	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:1532:G:N2	1:51:1637:A:OP2	2.47	0.45
1:51:1592:G:C2	1:51:1593:A:C8	3.05	0.45
1:51:1871:A:C2	1:51:1872:G:C8	3.04	0.45
1:51:2547:G:H2'	1:51:2548:C:H6	1.81	0.45
1:51:2687:U:O4'	68:g3:21:ARG:NH1	2.50	0.45
1:51:2700:G:C2	1:51:2717:G:C2	3.04	0.45
1:51:3947:A:N6	1:51:4066:U:H3	2.15	0.45
1:51:4884:G:C6	1:51:4936:G:O6	2.70	0.45
1:51:4953:G:C6	1:51:4954:G:C5	3.05	0.45
3:81:126:C:N3	3:81:127:U:C4	2.84	0.45
4:A2:12:U:H3	4:A2:1200:A:H2	1.63	0.45
4:A2:42:A:C4	4:A2:426:A:C2	3.04	0.45
4:A2:191:A:OP2	4:A2:192:C:C5	2.69	0.45
4:A2:203:G:C6	4:A2:204:G:N7	2.85	0.45
4:A2:687:C:O2	4:A2:687:C:O5'	2.32	0.45
4:A2:1195:A:C2	4:A2:1196:A:C5	3.04	0.45
4:A2:1342:U:N3	4:A2:1483:A:N1	2.64	0.45
4:A2:1426:U:H2'	4:A2:1427:C:C6	2.52	0.45
4:A2:1456:G:P	22:S2:59:LYS:NZ	2.89	0.45
4:A2:1778:C:N3	4:A2:1779:G:N7	2.64	0.45
5:B2:156:TYR:O	26:W2:60:ARG:NH2	2.44	0.45
6:C2:227:LYS:O	6:C2:231:LEU:HG	2.16	0.45
7:D2:104:ASP:N	7:D2:104:ASP:OD1	2.49	0.45
11:H2:176:ILE:O	11:H2:179:LEU:CD2	2.64	0.45
12:I2:8:ILE:HG23	12:I2:8:ILE:O	2.16	0.45
13:J2:104:ILE:HG13	13:J2:171:LEU:HD12	1.98	0.45
14:K2:79:ARG:HA	14:K2:82:VAL:HG22	1.98	0.45
14:K2:170:PRO:HD2	14:K2:175:ARG:HD3	1.98	0.45
20:Q2:93:MET:CE	20:Q2:104:GLN:O	2.63	0.45
20:Q2:96:VAL:HG12	20:Q2:103:ASN:HB2	1.97	0.45
32:c2:15:GLU:O	32:c2:23:ARG:NE	2.49	0.45
38:A3:242:ARG:HD3	38:A3:246:LEU:CD2	2.47	0.45
39:B3:216:MET:HE3	39:B3:359:ALA:CB	2.46	0.45
44:G3:270:LYS:HG2	44:G3:270:LYS:O	2.14	0.45
58:V3:78:PRO:HG2	58:V3:106:VAL:O	2.16	0.45
64:c3:28:VAL:CG1	64:c3:95:SER:HB2	2.46	0.45
72:k3:32:VAL:CG1	72:k3:47:ILE:HB	2.46	0.45
79:q3:6:C:O2'	79:q3:7:G:OP2	2.26	0.45
81:u3:100:HIS:O	81:u3:140:GLY:O	2.34	0.45
82:v3:26:C:N3	82:v3:27:U:N3	2.65	0.45
84:w3:28:PHE:CZ	84:w3:209:THR:HG21	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
84:w3:201:VAL:HG13	84:w3:201:VAL:O	2.16	0.45
1:51:492:U:O2'	1:51:493:G:OP1	2.27	0.45
1:51:1501:C:O2	53:Q3:91:ARG:NH2	2.49	0.45
1:51:1597:G:N3	1:51:1599:G:O6	2.49	0.45
1:51:1750:G:H5'	46:I3:40:LYS:CE	2.47	0.45
1:51:1888:A:N7	1:51:1889:U:C5	2.84	0.45
1:51:2549:G:C6	1:51:2550:G:C6	3.04	0.45
1:51:2654:C:H2'	1:51:2655:C:C6	2.52	0.45
1:51:3640:U:H5	1:51:3646:A:C2	2.34	0.45
1:51:3952:A:C4	1:51:4061:G:N2	2.84	0.45
1:51:3966:A:C6	1:51:3967:G:C6	3.04	0.45
1:51:3967:G:N2	1:51:4055:U:O2	2.50	0.45
1:51:3973:G:C2'	1:51:3974:G:O4'	2.65	0.45
1:51:4575:G:C2	1:51:5069:U:C6	3.05	0.45
1:51:4713:G:P	51:O3:148:LYS:HZ1	2.38	0.45
1:51:4737:G:C4	1:51:4963:G:N2	2.85	0.45
4:A2:74:G:C6	4:A2:78:C:OP1	2.70	0.45
4:A2:186:C:C5	4:A2:187:G:N7	2.85	0.45
4:A2:317:C:H2'	4:A2:318:A:O4'	2.17	0.45
4:A2:744:G:N2	4:A2:798:G:H1	2.14	0.45
4:A2:1089:G:C2	4:A2:1090:C:C2	3.05	0.45
4:A2:1394:G:C2'	4:A2:1395:C:OP1	2.64	0.45
4:A2:1405:A:C6	4:A2:1406:G:C5	3.05	0.45
6:C2:114:VAL:O	6:C2:114:VAL:HG23	2.16	0.45
6:C2:142:PHE:HB2	6:C2:209:ASP:HB3	1.99	0.45
11:H2:176:ILE:HG22	11:H2:177:GLN:N	2.31	0.45
17:N2:26:LEU:O	17:N2:26:LEU:CD2	2.62	0.45
18:O2:45:LEU:HD23	18:O2:45:LEU:HA	1.76	0.45
28:Y2:14:ARG:O	28:Y2:18:ARG:HB2	2.17	0.45
28:Y2:57:VAL:HG12	28:Y2:58:GLU:O	2.16	0.45
30:a2:110:THR:HG23	30:a2:111:ARG:O	2.17	0.45
31:b2:21:ILE:HD12	31:b2:32:LYS:HB2	1.98	0.45
31:b2:52:ASP:HA	31:b2:55:GLU:OE2	2.17	0.45
37:h2:83:TRP:O	37:h2:107:ASP:OD1	2.34	0.45
38:A3:175:ILE:O	38:A3:175:ILE:CG2	2.65	0.45
40:C3:110:ARG:HA	50:N3:204:ARG:HH12	1.81	0.45
40:C3:331:TYR:HD1	43:F3:50:TYR:CE1	2.35	0.45
44:G3:278:ASN:O	44:G3:282:ARG:CZ	2.65	0.45
46:I3:38:ARG:O	46:I3:38:ARG:HG3	2.16	0.45
53:Q3:17:GLU:HA	53:Q3:52:PHE:CE1	2.51	0.45
56:T3:89:ILE:HD12	56:T3:91:VAL:CG2	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:k3:40:ARG:NH1	72:k3:41:TYR:CZ	2.84	0.45
79:q3:22:U:H2'	79:q3:23:C:O2	2.17	0.45
80:t3:119:CYS:HA	80:t3:163:THR:HA	1.96	0.45
1:51:164:G:N1	1:51:165:A:N7	2.64	0.45
1:51:344:A:C2	3:81:31:G:C2	3.04	0.45
1:51:442:G:N1	1:51:1306:C:N3	2.65	0.45
1:51:714:G:C2	1:51:955:G:N2	2.85	0.45
1:51:1103:C:C5	1:51:1104:C:H1'	2.52	0.45
1:51:1183:C:H2'	1:51:1184:A:C1'	2.47	0.45
1:51:1411:C:H2'	1:51:1411(A):G:C8	2.51	0.45
1:51:1860:U:C2'	1:51:1861:U:H5'	2.46	0.45
1:51:2007:G:N2	1:51:2013:A:C5	2.85	0.45
1:51:2061:U:P	55:S3:120:ARG:NH1	2.90	0.45
1:51:2082:G:H22	1:51:2274:C:H42	1.64	0.45
1:51:2320:G:N2	1:51:2321:G:N2	2.64	0.45
1:51:2536:A:C5'	72:k3:37:ARG:NH2	2.79	0.45
1:51:2609:G:C2	1:51:2610:G:C8	3.05	0.45
1:51:2783:A:C6	1:51:2784:C:O2	2.70	0.45
1:51:3603:G:O2'	1:51:3604:A:O4'	2.30	0.45
1:51:3757:G:N2	1:51:3768:U:C2	2.81	0.45
1:51:3956:G:N1	1:51:3966:A:N7	2.65	0.45
1:51:4074:C:N3	1:51:4075:U:C5	2.84	0.45
1:51:4292:A:C2	1:51:4330:G:C6	3.05	0.45
1:51:4320:G:N1	1:51:4321:U:O2	2.50	0.45
1:51:5001:U:C5	1:51:5002:U:C4	3.03	0.45
3:81:58:G:O6	71:j3:63:ARG:NH1	2.50	0.45
4:A2:92:A:N6	4:A2:446:G:C5	2.85	0.45
4:A2:111:A:HO2'	16:M2:69:ARG:HH11	1.59	0.45
4:A2:189:U:H2'	4:A2:190:G:H1'	1.98	0.45
4:A2:206:G:O6	13:J2:144:LYS:NZ	2.50	0.45
4:A2:697:G:C2	4:A2:698:G:C6	3.04	0.45
4:A2:1231:C:N3	4:A2:1528:G:N2	2.64	0.45
4:A2:1311:C:H2'	4:A2:1312:G:O4'	2.17	0.45
4:A2:1462:U:HO2'	4:A2:1463:U:P	2.34	0.45
4:A2:1529:C:O3'	24:U2:88:MET:SD	2.75	0.45
4:A2:1726:G:C2	4:A2:1727:G:C5	3.05	0.45
10:G2:40:ALA:HB1	10:G2:45:TYR:CD2	2.52	0.45
13:J2:110:ARG:NH1	13:J2:114:GLU:OE2	2.48	0.45
14:K2:153:SER:O	14:K2:154:GLN:CD	2.59	0.45
17:N2:43:ASP:OD1	17:N2:43:ASP:O	2.34	0.45
24:U2:45:LEU:HD22	24:U2:45:LEU:N	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:V2:100:GLN:O	25:V2:103:SER:OG	2.27	0.45
29:Z2:55:ILE:HD12	29:Z2:76:TYR:CE2	2.51	0.45
42:E3:216:THR:HG23	42:E3:218:ALA:H	1.81	0.45
45:H3:173:ARG:HG2	74:m3:65:CYS:SG	2.57	0.45
49:M3:119:ARG:HH12	51:O3:189:ILE:HD12	1.81	0.45
53:Q3:99:LYS:CE	53:Q3:121:LEU:HD11	2.47	0.45
55:S3:76:LYS:HD2	55:S3:131:GLU:OE1	2.17	0.45
57:U3:83:LEU:O	57:U3:87:THR:HG23	2.17	0.45
65:d3:112:THR:CG2	65:d3:113:THR:N	2.79	0.45
79:q3:23:C:O2	79:q3:23:C:O4'	2.35	0.45
80:t3:16:LYS:HG2	80:t3:16:LYS:O	2.16	0.45
80:t3:123:VAL:HB	80:t3:158:VAL:O	2.16	0.45
84:w3:49:PHE:HE2	84:w3:165:LEU:HD13	1.82	0.45
1:51:169:A:H3'	1:51:170:C:H5"	1.97	0.45
1:51:285:G:N1	1:51:303:C:N4	2.65	0.45
1:51:736:C:N4	1:51:929:A:N6	2.63	0.45
1:51:1082:C:C2	1:51:1218:G:N2	2.84	0.45
1:51:1347:G:C6	1:51:1348:U:N3	2.85	0.45
1:51:1787:A:C2	1:51:4210:U:O2'	2.69	0.45
1:51:1860:U:H5	1:51:1861:U:C5	2.34	0.45
1:51:1925:G:N2	1:51:1926:C:C2	2.84	0.45
1:51:1973:G:O2'	81:u3:119:ARG:NH2	2.50	0.45
1:51:2296:G:N2	1:51:2339:G:N3	2.64	0.45
1:51:2450:G:C2	1:51:2510:G:N2	2.85	0.45
1:51:2499:C:H2'	1:51:2500:U:C6	2.52	0.45
1:51:4035:G:N1	1:51:4036:G:C6	2.85	0.45
1:51:4630:G:N2	1:51:4669:A:C2	2.84	0.45
1:51:4630:G:N2	1:51:4669:A:C4	2.84	0.45
2:71:37:G:N2	2:71:41:G:C2	2.85	0.45
4:A2:86:C:H2'	4:A2:87:U:O4'	2.16	0.45
4:A2:93:U:H1'	9:F2:7:LYS:NZ	2.31	0.45
4:A2:104:A:C6	4:A2:105:U:C4	3.04	0.45
4:A2:885:U:H2'	4:A2:886:A:C8	2.51	0.45
4:A2:886:A:C6	4:A2:901:G:N2	2.84	0.45
4:A2:1202:U:H2'	4:A2:1203:G:C8	2.52	0.45
4:A2:1722:G:O6	4:A2:1812:U:C4	2.69	0.45
8:E2:71:ALA:O	8:E2:75:LYS:HG3	2.17	0.45
9:F2:244:ILE:HG22	9:F2:246:LEU:N	2.31	0.45
10:G2:200:ALA:HA	10:G2:203:ASN:OD1	2.16	0.45
12:I2:130:LEU:C	12:I2:130:LEU:HD23	2.42	0.45
16:M2:57:ASP:OD2	16:M2:60:CYS:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:Q2:49:LEU:HD22	20:Q2:49:LEU:N	2.32	0.45
20:Q2:89:MET:HG2	20:Q2:107:ILE:CD1	2.46	0.45
24:U2:128:GLN:HG2	24:U2:132:ASP:OD2	2.16	0.45
27:X2:96:SER:OG	27:X2:97:ARG:N	2.48	0.45
28:Y2:61:GLN:O	28:Y2:63:ASN:O	2.35	0.45
29:Z2:104:ARG:HA	29:Z2:107:ARG:HE	1.81	0.45
40:C3:267:TRP:CD1	40:C3:281:MET:HE2	2.52	0.45
43:F3:234:ASN:OD1	43:F3:235:ARG:N	2.50	0.45
45:H3:92:MET:N	45:H3:143:GLU:OE2	2.50	0.45
46:I3:83:ASP:OD2	46:I3:83:ASP:N	2.49	0.45
46:I3:102:MET:HE1	46:I3:115:MET:SD	2.57	0.45
46:I3:153:ARG:NH1	46:I3:154:ARG:HE	2.14	0.45
47:J3:119:TYR:CD1	47:J3:120:ASP:N	2.85	0.45
66:e3:35:TRP:CZ2	66:e3:56:PRO:CD	3.00	0.45
77:p3:76:ALA:HA	77:p3:79:VAL:HB	1.98	0.45
85:1:56:TRP:HB2	85:1:59:TYR:HA	1.99	0.45
1:51:71:C:N4	1:51:73:A:C5	2.84	0.45
1:51:280:G:C2	1:51:305:A:N7	2.84	0.45
1:51:291:U:O2	1:51:293:G:C8	2.69	0.45
1:51:1098:G:N2	1:51:1099:C:O2	2.49	0.45
1:51:1961:G:H5’	1:51:1962:A:O5’	2.17	0.45
1:51:1980:U:P	81:u3:94:LYS:HB3	2.57	0.45
1:51:2275:G:C4	1:51:2276:A:C2	3.05	0.45
1:51:2330:G:C6	1:51:2331:G:N1	2.85	0.45
1:51:2344:U:C2	62:a3:9:ARG:NH1	2.85	0.45
1:51:2546:G:O6	1:51:2767:U:OP2	2.35	0.45
1:51:2551:A:C4	1:51:2552:G:C8	3.04	0.45
1:51:2807:A:C2	1:51:2808:G:N7	2.85	0.45
1:51:4597:U:N3	1:51:4614:G:N1	2.65	0.45
3:81:142:U:P	50:N3:38:ARG:HH22	2.39	0.45
4:A2:102:A:C4	4:A2:357:C:N4	2.85	0.45
4:A2:191:A:H5”	4:A2:192:C:C6	2.51	0.45
4:A2:455:A:H1’	4:A2:1735:A:H2	1.81	0.45
4:A2:1294:G:H1	4:A2:1306:U:H3	1.64	0.45
4:A2:1354:G:N2	4:A2:1357:A:OP2	2.36	0.45
4:A2:1816:G:C2	4:A2:1817:G:O6	2.70	0.45
5:B2:2:SER:N	5:B2:63:ARG:HH21	2.14	0.45
10:G2:19:LEU:HD23	10:G2:23:TRP:O	2.17	0.45
14:K2:135:ILE:CG2	14:K2:136:ARG:N	2.74	0.45
15:L2:32:HIS:CE1	15:L2:34:GLU:HB3	2.51	0.45
15:L2:44:HIS:O	15:L2:48:ALA:HB2	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:V2:26:SER:OG	25:V2:27:ARG:N	2.47	0.45
26:W2:13:VAL:O	26:W2:13:VAL:HG13	2.16	0.45
27:X2:37:PHE:HE1	27:X2:103:VAL:HG21	1.82	0.45
37:h2:164:ILE:HG23	37:h2:176:VAL:CG1	2.47	0.45
37:h2:165:ILE:O	37:h2:176:VAL:HG13	2.17	0.45
39:B3:92:TYR:HB3	39:B3:99:LEU:HD21	1.99	0.45
44:G3:234:TYR:CD1	44:G3:234:TYR:N	2.84	0.45
54:R3:98:ARG:NH1	54:R3:137:ILE:HG21	2.30	0.45
57:U3:23:LEU:HD12	57:U3:23:LEU:N	2.31	0.45
73:l3:24:PRO:HG2	73:l3:27:ILE:HB	1.98	0.45
73:l3:28:TRP:C	73:l3:33:ASN:HD22	2.23	0.45
79:q3:30:G:H2'	79:q3:30:G:N3	2.31	0.45
79:q3:58:A:O2'	79:q3:61:C:N4	2.49	0.45
80:t3:182:PRO:O	80:t3:183:PHE:CD1	2.69	0.45
83:33:38:A:O2'	83:33:39:U:H5'	2.16	0.45
84:w3:111:LEU:HD21	84:w3:143:ASN:HB2	1.99	0.45
1:51:5:A:N1	1:51:6:C:N4	2.65	0.45
1:51:120:A:C2	1:51:152:U:C2	3.05	0.45
1:51:1106:A:O2'	1:51:1107:C:P	2.75	0.45
1:51:1175:A:H2'	1:51:1176:C:C6	2.52	0.45
1:51:1295:U:O2	1:51:1296:G:C5	2.69	0.45
1:51:1755:C:H1'	1:51:1756:U:C5	2.51	0.45
1:51:2026:A:C4	1:51:2027:U:H5	2.35	0.45
1:51:2065:G:C6	1:51:2066:C:N3	2.84	0.45
1:51:2098:G:H1'	1:51:2107:A:C2	2.52	0.45
1:51:2375:A:H2'	1:51:2376:A:C8	2.52	0.45
1:51:2492:C:H2'	1:51:2493:G:H8	1.82	0.45
1:51:2496:G:H2'	1:51:2497:C:C6	2.52	0.45
1:51:2678:A:C5	1:51:2679:G:N7	2.84	0.45
1:51:2870:A:C2	1:51:2871:A:C8	3.04	0.45
1:51:3600:G:H2'	1:51:3601:C:C6	2.52	0.45
1:51:3933:G:O6	1:51:4178:A:N6	2.49	0.45
1:51:3951:G:N2	1:51:4061:G:H1	2.12	0.45
1:51:4119:C:H3'	1:51:4120:U:O2	2.17	0.45
1:51:4135:G:H2'	1:51:4136:G:C8	2.51	0.45
1:51:4205:A:C5	1:51:4375:C:N4	2.85	0.45
1:51:4424:A:N7	1:51:4425:G:N7	2.65	0.45
1:51:4663:G:OP1	86:W:34:ALA:HB3	2.17	0.45
1:51:4906:C:O2	1:51:4916:G:C2	2.69	0.45
3:81:114:G:C2	3:81:115:G:C5	3.05	0.45
4:A2:506:G:N2	4:A2:508:A:C6	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:793:G:N7	4:A2:794:A:C2	2.85	0.45
4:A2:853:C:OP2	4:A2:854:A:OP2	2.35	0.45
4:A2:1208:A:C2	4:A2:1209:A:C5	3.05	0.45
4:A2:1303:C:H2'	4:A2:1304:U:C6	2.51	0.45
4:A2:1407:U:H2'	4:A2:1408:U:C6	2.51	0.45
4:A2:1601:A:N1	4:A2:1636:G:C8	2.84	0.45
4:A2:1712:A:C6	4:A2:1822:A:N1	2.85	0.45
5:B2:37:TYR:CD2	5:B2:162:PRO:HG3	2.52	0.45
6:C2:66:VAL:HG13	6:C2:87:ILE:HD13	1.99	0.45
6:C2:66:VAL:CG1	6:C2:87:ILE:HD13	2.47	0.45
7:D2:137:VAL:HG22	7:D2:138:GLY:N	2.31	0.45
10:G2:112:LEU:HD12	10:G2:177:LEU:HD12	1.98	0.45
11:H2:181:THR:OG1	11:H2:185:LEU:HG	2.17	0.45
21:R2:146:ARG:NH2	83:33:32:C:OP2	2.50	0.45
22:S2:98:VAL:HG13	22:S2:102:THR:CG2	2.47	0.45
22:S2:114:LEU:HB2	22:S2:117:LEU:CD1	2.46	0.45
27:X2:106:THR:HG23	27:X2:108:ALA:N	2.20	0.45
30:a2:96:LEU:HA	30:a2:112:ASN:OD1	2.17	0.45
37:h2:49:GLU:HG2	37:h2:50:THR:N	2.31	0.45
40:C3:8:ILE:HG23	40:C3:149:GLU:OE2	2.17	0.45
41:D3:50:ARG:HA	41:D3:145:TYR:O	2.17	0.45
44:G3:160:LYS:C	44:G3:163:LYS:H	2.25	0.45
55:S3:82:LEU:HD23	55:S3:83:ARG:CA	2.46	0.45
56:T3:41:ASP:OD1	56:T3:97:LYS:HB2	2.17	0.45
58:V3:96:LEU:HD13	86:W:20:ARG:HD2	1.99	0.45
60:Y3:10:ASP:O	60:Y3:14:ASN:ND2	2.50	0.45
63:b3:36:ASP:N	63:b3:36:ASP:OD1	2.50	0.45
76:o3:105:GLN:NE2	76:o3:105:GLN:H	2.14	0.45
77:p3:51:ALA:HB3	77:p3:54:ILE:HG21	1.98	0.45
81:u3:125:LEU:HD12	81:u3:161:GLU:HG3	1.99	0.45
1:51:149:A:C2	1:51:151:G:C2	3.05	0.45
1:51:481:G:N1	1:51:674:G:C6	2.85	0.45
1:51:957:G:N2	1:51:1283:G:H2'	2.32	0.45
1:51:1983:A:N3	1:51:2010:A:C5'	2.80	0.45
1:51:2003:G:H22	1:51:2016:C:N4	2.15	0.45
1:51:2071:A:C2	1:51:2072:C:C4	3.05	0.45
1:51:2409:U:H1'	73:l3:44:TRP:CZ2	2.52	0.45
1:51:2521:G:C6	1:51:2535:G:C2	3.05	0.45
1:51:2652:G:H1	77:p3:61:MET:HE2	1.82	0.45
1:51:2749:C:H2'	1:51:2750:G:H8	1.82	0.45
1:51:4099:G:H5'	1:51:4100:C:H5"	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:4287:G:C5	1:51:4288:C:N4	2.84	0.45
1:51:4618:G:C2	1:51:4619:U:C5	3.05	0.45
1:51:4727:A:C6	1:51:4728:U:O2	2.70	0.45
1:51:5019:A:N6	1:51:5031:G:O6	2.49	0.45
3:81:73:U:C5	3:81:74:U:C5	3.05	0.45
4:A2:70:G:H21	4:A2:79:A:N6	2.15	0.45
4:A2:107:A:H2'	4:A2:108:G:C8	2.52	0.45
4:A2:380:G:C5'	13:J2:31:ARG:HD3	2.47	0.45
4:A2:455:A:HO2'	4:A2:1735:A:H2	1.54	0.45
4:A2:986:G:HO2'	4:A2:987:A:P	2.35	0.45
4:A2:1033:G:C6	4:A2:1080:A:C4	3.05	0.45
4:A2:1121:G:C2	4:A2:1122:A:C8	3.04	0.45
4:A2:1617:G:N1	4:A2:1620:A:OP2	2.50	0.45
6:C2:210:VAL:O	6:C2:210:VAL:HG13	2.16	0.45
8:E2:142:LEU:O	8:E2:143:ARG:HG3	2.17	0.45
12:I2:64:VAL:HG21	12:I2:69:LEU:CD1	2.47	0.45
12:I2:167:GLU:O	12:I2:170:VAL:HG23	2.17	0.45
13:J2:202:ILE:HD13	13:J2:205:ARG:HD2	1.98	0.45
14:K2:72:PHE:O	14:K2:75:ASN:OD1	2.35	0.45
15:L2:90:VAL:CG2	15:L2:91:PRO:HD2	2.46	0.45
22:S2:53:TYR:CZ	22:S2:57:LEU:HD11	2.52	0.45
31:b2:49:ALA:O	31:b2:53:ILE:HG12	2.17	0.45
32:c2:15:GLU:O	32:c2:23:ARG:NH2	2.43	0.45
33:d2:18:LEU:HD12	33:d2:29:GLN:HG2	1.97	0.45
37:h2:141:THR:O	37:h2:143:GLN:OE1	2.34	0.45
39:B3:166:THR:CG2	39:B3:167:GLN:H	2.29	0.45
41:D3:124:GLU:CG	41:D3:125:VAL:N	2.80	0.45
41:D3:218:ALA:HA	41:D3:221:LYS:CG	2.42	0.45
41:D3:237:GLU:OE1	41:D3:237:GLU:HA	2.16	0.45
43:F3:97:ILE:HD11	43:F3:114:ARG:O	2.17	0.45
44:G3:245:ARG:NH1	44:G3:249:ARG:HH12	2.14	0.45
51:O3:110:PRO:N	51:O3:111:PRO:CD	2.79	0.45
58:V3:111:GLU:OE1	58:V3:131:ARG:NH2	2.50	0.45
61:Z3:23:ALA:HB1	61:Z3:43:VAL:HB	1.98	0.45
78:r3:108:MET:O	78:r3:112:ARG:HG3	2.16	0.45
79:q3:70:A:C6	79:q3:71:A:C8	3.04	0.45
1:51:459:C:H2'	1:51:460:C:H6	1.82	0.45
1:51:979:C:C4	1:51:980:U:C4	3.05	0.45
1:51:1172:C:H2'	1:51:1173:G:C8	2.52	0.45
1:51:1172:C:H2'	1:51:1173:G:H8	1.82	0.45
1:51:1185:G:H8	1:51:1185:G:O5'	2.00	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:1588:U:N3	1:51:1607:C:O2	2.50	0.45
1:51:1628:C:OP2	38:A3:9:ARG:HD2	2.16	0.45
1:51:1691:G:N1	1:51:1846:G:N1	2.64	0.45
1:51:1978:C:OP1	81:u3:56:LEU:CD2	2.65	0.45
1:51:2476:G:C2	1:51:2477:A:C5	3.05	0.45
1:51:2477:A:H2'	1:51:2478:C:C6	2.52	0.45
1:51:2640:G:N2	1:51:2641:A:N3	2.65	0.45
1:51:2892:C:N3	1:51:3610:A:N1	2.65	0.45
1:51:3773:U:C2'	1:51:3774:A:OP1	2.65	0.45
1:51:3849:A:C6	1:51:3850:C:N4	2.85	0.45
1:51:3965:A:C6	1:51:4047:A:N7	2.84	0.45
1:51:4278:C:H2'	1:51:4281:A:C2	2.52	0.45
1:51:4300:U:O2'	1:51:4301:U:H5'	2.17	0.45
1:51:4578:G:C2	1:51:4726:G:C2	3.04	0.45
1:51:4584:A:C6	1:51:4585:U:O2	2.70	0.45
1:51:4597:U:C2	1:51:4614:G:N1	2.85	0.45
1:51:4686:G:H21	45:H3:163:GLN:HE22	1.64	0.45
2:71:96:U:H2'	2:71:97:G:O4'	2.17	0.45
4:A2:186:C:N4	4:A2:213:G:H1	2.14	0.45
4:A2:832:G:N2	4:A2:843:C:O2	2.50	0.45
4:A2:1158:G:C6	4:A2:1159:G:N7	2.86	0.45
4:A2:1285:G:H1'	36:g2:99:LYS:HZ1	1.81	0.45
4:A2:1516:G:N1	4:A2:1517:G:N2	2.65	0.45
5:B2:5:LEU:HD21	26:W2:41:LYS:HA	2.00	0.45
5:B2:63:ARG:O	5:B2:66:VAL:HG12	2.17	0.45
5:B2:171:VAL:O	5:B2:175:TRP:HD1	2.00	0.45
7:D2:75:ILE:HG23	7:D2:75:ILE:O	2.16	0.45
8:E2:28:GLU:C	8:E2:29:LEU:HD22	2.42	0.45
11:H2:24:LEU:HD23	11:H2:27:PHE:CE2	2.51	0.45
12:I2:53:VAL:CG2	12:I2:59:ALA:HB2	2.47	0.45
13:J2:104:ILE:C	13:J2:106:SER:N	2.74	0.45
14:K2:3:VAL:HG12	14:K2:4:ALA:N	2.32	0.45
16:M2:128:VAL:HG12	16:M2:129:GLY:H	1.81	0.45
18:O2:20:ARG:NH2	27:X2:56:HIS:ND1	2.65	0.45
19:P2:93:LEU:CD1	19:P2:124:MET:HE3	2.47	0.45
20:Q2:98:ASN:O	20:Q2:100:LYS:N	2.45	0.45
21:R2:51:LEU:HD22	21:R2:51:LEU:N	2.31	0.45
23:T2:64:VAL:HG22	23:T2:64:VAL:O	2.16	0.45
35:f2:109:MET:SD	35:f2:113:ARG:CZ	3.04	0.45
40:C3:67:TRP:CE3	40:C3:71:ARG:HD3	2.51	0.45
40:C3:110:ARG:HE	40:C3:113:ARG:HH12	1.65	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:D3:50:ARG:HG2	41:D3:65:ALA:O	2.17	0.45
45:H3:174:LYS:C	45:H3:176:LEU:HD12	2.42	0.45
48:L3:47:ALA:HB3	48:L3:48:PRO:HD3	1.99	0.45
49:M3:121:ARG:O	49:M3:121:ARG:HG2	2.16	0.45
54:R3:134:ASN:CG	54:R3:135:LYS:H	2.24	0.45
57:U3:105:ASN:OD1	57:U3:106:THR:N	2.43	0.45
63:b3:113:ALA:O	63:b3:116:LEU:CD2	2.65	0.45
66:e3:89:LEU:HD13	66:e3:118:LEU:HD22	1.99	0.45
69:h3:9:LEU:HD23	69:h3:12:LYS:HE2	1.99	0.45
69:h3:96:ASN:C	69:h3:96:ASN:OD1	2.60	0.45
80:t3:32:ALA:HB3	80:t3:85:ASN:O	2.17	0.45
1:51:46:U:C5	1:51:47:A:C8	3.05	0.44
1:51:725:G:C4	1:51:942:G:N2	2.85	0.44
1:51:955:G:O6	1:51:1284:G:O6	2.35	0.44
1:51:1107:C:C4	1:51:1164:G:N2	2.85	0.44
1:51:1612:G:N1	1:51:1614:C:C4	2.85	0.44
1:51:1838:A:C5	1:51:1839:U:C5	3.05	0.44
1:51:2082:G:N2	1:51:2275:G:N2	2.63	0.44
1:51:2102:G:N2	43:F3:179:GLY:HA3	2.32	0.44
1:51:3675:G:N2	1:51:3676:G:C5	2.86	0.44
1:51:3803:A:C6	1:51:3804:G:C2	3.05	0.44
1:51:4035:G:C2	1:51:4036:G:C6	3.05	0.44
1:51:4052:C:O4’	84:w3:210:MET:HA	2.18	0.44
1:51:4305:G:N2	56:T3:87:LYS:HZ2	2.13	0.44
1:51:4642:U:H2’	1:51:4643:G:H8	1.82	0.44
1:51:4759:C:OP2	51:O3:171:LYS:NZ	2.29	0.44
1:51:4906:C:O2	1:51:4916:G:N2	2.50	0.44
4:A2:698:G:N3	4:A2:699:C:C5	2.86	0.44
4:A2:830:A:C2	4:A2:845:G:C6	3.06	0.44
4:A2:1623:A:N6	23:T2:132:ARG:HD3	2.33	0.44
6:C2:55:THR:HG23	6:C2:56:LYS:N	2.32	0.44
8:E2:28:GLU:OE1	8:E2:29:LEU:CD2	2.64	0.44
8:E2:38:GLU:HG2	8:E2:38:GLU:O	2.17	0.44
9:F2:207:VAL:HG22	9:F2:208:VAL:N	2.31	0.44
10:G2:135:ARG:HA	10:G2:135:ARG:NE	2.32	0.44
11:H2:36:VAL:HG22	11:H2:38:ALA:N	2.32	0.44
11:H2:235:SER:C	11:H2:237:LEU:H	2.24	0.44
14:K2:85:GLY:CA	14:K2:151:LEU:HD22	2.47	0.44
16:M2:37:TYR:CD2	16:M2:51:ILE:HD11	2.51	0.44
16:M2:91:ASP:OD2	16:M2:92:TYR:N	2.50	0.44
17:N2:105:GLY:O	17:N2:106:CYS:SG	2.74	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:Q2:18:ARG:O	23:T2:93:GLY:HA3	2.18	0.44
20:Q2:94:VAL:HG13	20:Q2:105:VAL:CG1	2.46	0.44
23:T2:136:THR:C	23:T2:138:THR:H	2.22	0.44
24:U2:110:LEU:HD12	24:U2:111:LYS:N	2.33	0.44
31:b2:44:ILE:H	31:b2:44:ILE:HD12	1.81	0.44
33:d2:18:LEU:N	33:d2:29:GLN:O	2.48	0.44
38:A3:196:TRP:HB3	38:A3:197:PRO:HD3	2.00	0.44
40:C3:132:ALA:O	40:C3:150:LEU:HD23	2.18	0.44
41:D3:18:VAL:HG12	41:D3:19:LYS:N	2.33	0.44
41:D3:39:GLN:OE1	41:D3:39:GLN:HA	2.16	0.44
44:G3:147:GLN:O	44:G3:151:LEU:HD23	2.17	0.44
45:H3:94:SER:OG	45:H3:142:ASP:CG	2.60	0.44
47:J3:22:LEU:CD2	47:J3:130:PHE:CD1	3.01	0.44
50:N3:146:PRO:HG3	69:h3:102:LEU:HG	1.99	0.44
57:U3:22:THR:O	57:U3:109:SER:HA	2.17	0.44
65:d3:117:LEU:HD23	65:d3:117:LEU:HA	1.73	0.44
72:k3:24:LYS:O	72:k3:35:LYS:HG3	2.17	0.44
84:w3:58:THR:O	84:w3:58:THR:HG23	2.17	0.44
1:51:715:G:C6	1:51:716:C:N3	2.86	0.44
1:51:739:G:C5	1:51:926:G:C6	3.05	0.44
1:51:1072:C:H5'	42:E3:71:TYR:OH	2.17	0.44
1:51:1095:A:H2'	1:51:1096:C:H6	1.83	0.44
1:51:1810:G:C6	1:51:1829:G:C6	3.05	0.44
1:51:2343:G:C4	40:C3:101:MET:HE1	2.52	0.44
1:51:2350:U:C5	40:C3:73:VAL:O	2.70	0.44
1:51:3723:A:C6	1:51:3724:A:N6	2.85	0.44
1:51:3879:G:O6	1:51:3882:C:C4	2.70	0.44
1:51:4094:G:C6	1:51:4095:G:C5	3.05	0.44
3:81:36:G:H2'	3:81:36:G:N3	2.32	0.44
4:A2:884:C:N3	4:A2:903:A:N6	2.66	0.44
4:A2:1316:C:C2	4:A2:1317:C:H5	2.36	0.44
4:A2:1464:C:H4'	22:S2:60:ARG:NH2	2.32	0.44
4:A2:1600:G:H3'	4:A2:1600:G:N3	2.32	0.44
4:A2:1719:A:H5"	4:A2:1720:U:OP2	2.17	0.44
4:A2:1790:A:C2	4:A2:1791:A:C8	3.05	0.44
5:B2:132:GLN:HB3	5:B2:133:PRO:HD3	1.98	0.44
11:H2:4:ASN:O	11:H2:5:ILE:HB	2.17	0.44
12:I2:73:GLN:NE2	12:I2:135:PHE:CE1	2.85	0.44
13:J2:103:LEU:O	13:J2:103:LEU:CD2	2.52	0.44
18:O2:142:GLU:HA	18:O2:142:GLU:OE1	2.17	0.44
21:R2:96:TYR:HA	21:R2:100:VAL:HG22	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:U2:30:VAL:HA	24:U2:53:PHE:CE2	2.52	0.44
25:V2:102:THR:HG23	25:V2:102:THR:O	2.17	0.44
31:b2:42:ARG:HG2	31:b2:43:ASN:O	2.17	0.44
36:g2:109:ASP:OD1	36:g2:110:GLU:N	2.50	0.44
40:C3:174:LEU:HD23	40:C3:174:LEU:HA	1.74	0.44
48:L3:164:GLU:OE1	48:L3:164:GLU:HA	2.17	0.44
51:O3:55:LEU:O	51:O3:59:ARG:HG3	2.16	0.44
56:T3:64:VAL:HG12	56:T3:65:TYR:N	2.32	0.44
60:Y3:30:MET:SD	60:Y3:78:TYR:HA	2.57	0.44
79:q3:11:U:H3'	79:q3:12:G:C8	2.53	0.44
79:q3:20:U:O4	79:q3:59:A:N1	2.50	0.44
81:u3:70:GLN:NE2	81:u3:71:ILE:O	2.49	0.44
81:u3:85:LEU:HD22	81:u3:141:CYS:SG	2.57	0.44
83:33:49:C:H42	83:33:63:C:H42	1.66	0.44
83:33:71:G:O2'	83:33:72:C:H5'	2.17	0.44
84:w3:55:LEU:C	84:w3:56:LYS:HD2	2.42	0.44
84:w3:57:SER:HG	84:w3:182:ASN:CG	2.21	0.44
84:w3:66:CYS:O	84:w3:110:PHE:HA	2.16	0.44
1:51:435:A:O5'	1:51:435:A:H8	2.00	0.44
1:51:687:U:O2	42:E3:97:LYS:HE2	2.17	0.44
1:51:715:G:N2	1:51:954:C:C2	2.85	0.44
1:51:941:C:C4	1:51:942:G:O6	2.70	0.44
1:51:1184:A:C2	1:51:1185:G:C2	3.05	0.44
1:51:1335:G:O6	1:51:1336:G:N1	2.50	0.44
1:51:1571:G:HO2'	54:R3:127:VAL:C	2.22	0.44
1:51:2276:A:N7	1:51:2277:C:C4	2.86	0.44
1:51:2848:G:N2	1:51:3841:C:H42	2.14	0.44
1:51:3756:A:O2'	1:51:3757:G:O4'	2.30	0.44
1:51:3967:G:C2	1:51:4055:U:O2	2.70	0.44
1:51:3970:G:N3	84:w3:33:GLU:CD	2.75	0.44
1:51:4743:G:C2	1:51:4958:C:C2	3.05	0.44
1:51:5012:G:O2'	1:51:5014:A:OP1	2.34	0.44
3:81:139:G:C6	3:81:140:C:C4	3.04	0.44
4:A2:532:C:OP1	4:A2:532:C:O4'	2.34	0.44
4:A2:750:C:C5	4:A2:751:G:C6	3.04	0.44
4:A2:1208:A:HO2'	4:A2:1835:A:N6	2.13	0.44
4:A2:1311:C:O4'	4:A2:1311:C:OP1	2.35	0.44
4:A2:1585:U:O4	24:U2:67:ARG:CZ	2.64	0.44
4:A2:1793:A:C2	4:A2:1794:C:C5	3.05	0.44
7:D2:206:SER:OG	7:D2:207:ALA:N	2.50	0.44
9:F2:194:VAL:HG22	9:F2:195:ILE:H	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J2:205:ARG:O	13:J2:206:LYS:C	2.61	0.44
15:L2:33:PRO:O	15:L2:36:ALA:HB2	2.18	0.44
22:S2:30:THR:O	22:S2:34:VAL:HG13	2.16	0.44
24:U2:37:VAL:HG22	24:U2:38:LYS:N	2.32	0.44
25:V2:61:LEU:N	25:V2:61:LEU:HD12	2.33	0.44
25:V2:61:LEU:HD13	25:V2:82:MET:HB3	1.99	0.44
30:a2:43:LYS:HD3	30:a2:43:LYS:N	2.33	0.44
37:h2:163:PRO:CB	37:h2:179:LEU:HB2	2.47	0.44
37:h2:201:SER:HB3	37:h2:206:LEU:CD2	2.47	0.44
42:E3:223:LYS:HD2	42:E3:223:LYS:H	1.82	0.44
43:F3:36:PHE:CE2	43:F3:40:MET:SD	3.10	0.44
45:H3:173:ARG:NH1	74:m3:101:VAL:HA	2.32	0.44
49:M3:12:VAL:HG11	49:M3:60:PHE:HB2	2.00	0.44
50:N3:196:ASN:HD22	50:N3:196:ASN:N	2.15	0.44
51:O3:201:LEU:C	51:O3:202:LEU:HD12	2.42	0.44
52:P3:103:GLU:OE1	52:P3:103:GLU:HA	2.17	0.44
54:R3:15:LEU:HD13	54:R3:52:ARG:HG3	1.97	0.44
54:R3:126:LYS:NZ	54:R3:131:VAL:HB	2.31	0.44
55:S3:9:GLU:OE1	55:S3:102:THR:OG1	2.35	0.44
55:S3:13:VAL:HG23	55:S3:28:TYR:O	2.17	0.44
61:Z3:25:ILE:HG22	61:Z3:26:VAL:N	2.32	0.44
61:Z3:89:ILE:HD11	61:Z3:121:ARG:HE	1.81	0.44
76:o3:92:GLU:N	76:o3:92:GLU:OE2	2.50	0.44
77:p3:49:ARG:HH11	77:p3:52:VAL:HA	1.82	0.44
78:r3:2:SER:O	78:r3:6:GLN:NE2	2.50	0.44
79:q3:64:G:H2'	79:q3:65:G:H5'	1.98	0.44
81:u3:135:THR:O	81:u3:135:THR:HG22	2.18	0.44
83:33:36:U:H2'	83:33:37:A:C8	2.52	0.44
83:33:51:G:C6	83:33:62:C:N3	2.85	0.44
83:33:55:U:C4'	84:w3:130:LYS:HZ3	2.30	0.44
84:w3:93:LEU:HA	84:w3:104:ALA:HB1	1.98	0.44
84:w3:150:GLU:O	84:w3:150:GLU:CD	2.60	0.44
1:51:5:A:C2	3:81:154:G:C2	3.05	0.44
1:51:19:G:N2	3:81:139:G:C4	2.85	0.44
1:51:136:C:N4	69:h3:76:LYS:O	2.50	0.44
1:51:493:G:C2	1:51:662:C:O2	2.70	0.44
1:51:1218:G:C6	1:51:1219:G:N7	2.86	0.44
1:51:1470:G:C6	1:51:1471:U:N3	2.86	0.44
1:51:1563:A:H62	4:A2:1028:A:H61	1.65	0.44
1:51:1899:G:C2	1:51:1900:C:C4	3.06	0.44
1:51:2537:A:C2	1:51:2538:U:C2	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:2631:U:H3	57:U3:49:VAL:CG2	2.31	0.44
1:51:3946:G:C2	1:51:4067:U:O2	2.69	0.44
1:51:4925:U:H1'	1:51:4926:C:OP2	2.17	0.44
1:51:4940:C:C4	42:E3:222:LYS:HE3	2.52	0.44
1:51:5050:C:C5	1:51:5051:C:H5	2.36	0.44
3:81:10:G:C2	3:81:11:C:C2	3.06	0.44
4:A2:23:G:C6	4:A2:24:C:C2	3.06	0.44
4:A2:319:C:H5'	4:A2:320:G:OP1	2.18	0.44
4:A2:539:C:O2	4:A2:544:G:O6	2.36	0.44
4:A2:609:U:H2'	4:A2:610:G:H8	1.82	0.44
4:A2:787:G:H3'	4:A2:788:G:C8	2.52	0.44
4:A2:853:C:O2	4:A2:854:A:C8	2.71	0.44
4:A2:875:A:O2'	4:A2:876:C:O4'	2.34	0.44
4:A2:954:U:O4	4:A2:971:G:C6	2.71	0.44
4:A2:975:G:H2'	4:A2:976:G:C8	2.52	0.44
4:A2:1233:G:C6	4:A2:1526:G:C6	3.05	0.44
4:A2:1260:A:C4	4:A2:1620:A:N7	2.85	0.44
4:A2:1300:U:O2	4:A2:1300:U:C2'	2.66	0.44
4:A2:1328:G:N2	4:A2:1502:C:C2	2.86	0.44
4:A2:1363:C:N4	4:A2:1376:A:N6	2.65	0.44
4:A2:1788:A:H2'	4:A2:1789:G:O4'	2.17	0.44
4:A2:1865:C:O2	31:b2:92:ARG:HB3	2.16	0.44
5:B2:205:ARG:NH1	22:S2:84:TYR:CD2	2.85	0.44
8:E2:76:ARG:HE	15:L2:66:HIS:CD2	2.35	0.44
9:F2:166:THR:HG22	9:F2:168:LYS:HG2	1.99	0.44
12:I2:168:HIS:CE1	12:I2:169:LYS:HE3	2.52	0.44
14:K2:57:ALA:HB1	14:K2:97:ILE:HD12	1.98	0.44
14:K2:132:GLN:O	14:K2:134:HIS:ND1	2.51	0.44
18:O2:48:SER:O	18:O2:52:VAL:HG23	2.17	0.44
23:T2:23:ARG:O	23:T2:55:ARG:HD2	2.17	0.44
24:U2:99:VAL:O	24:U2:103:VAL:HG23	2.18	0.44
24:U2:138:VAL:O	24:U2:142:LYS:HG2	2.17	0.44
28:Y2:72:VAL:CG2	28:Y2:81:ILE:HB	2.48	0.44
34:e2:33:LYS:HE2	34:e2:34:TYR:CE1	2.52	0.44
35:f2:85:VAL:HG23	35:f2:86:ARG:N	2.31	0.44
37:h2:183:LYS:HG3	37:h2:184:LEU:O	2.17	0.44
37:h2:297:THR:CG2	37:h2:309:VAL:CG2	2.96	0.44
39:B3:307:TYR:CD2	39:B3:366:LYS:HG2	2.51	0.44
41:D3:234:ASP:OD1	41:D3:234:ASP:N	2.40	0.44
44:G3:228:ARG:CD	44:G3:235:CYS:SG	3.06	0.44
44:G3:268:LEU:O	44:G3:271:LEU:HG	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:L3:62:PRO:O	48:L3:63:THR:HG22	2.17	0.44
54:R3:96:MET:O	54:R3:100:ARG:HD2	2.16	0.44
54:R3:148:ASP:HB3	54:R3:151:ARG:HH21	1.82	0.44
67:f3:46:ARG:NH1	67:f3:46:ARG:HB3	2.32	0.44
74:m3:84:CYS:SG	74:m3:86:LYS:HG2	2.58	0.44
77:p3:39:CYS:SG	77:p3:40:SER:N	2.89	0.44
79:q3:11:U:H2'	79:q3:12:G:C1'	2.48	0.44
79:q3:13:U:O2	79:q3:14:A:C8	2.70	0.44
80:t3:43:ILE:O	80:t3:45:MET:N	2.50	0.44
80:t3:112:ARG:NH1	80:t3:112:ARG:HB2	2.33	0.44
81:u3:30:PRO:C	81:u3:31:LYS:HD3	2.43	0.44
84:w3:64:SER:HB3	84:w3:107:TYR:HA	2.00	0.44
1:51:241:G:H2'	1:51:242:U:H6	1.83	0.44
1:51:450:G:C6	1:51:451:C:C4	3.06	0.44
1:51:470:A:C5	42:E3:108:ARG:NH2	2.86	0.44
1:51:911:U:C5	1:51:912:G:N7	2.86	0.44
1:51:1173:G:C6	1:51:1189:G:C6	3.05	0.44
1:51:1434:G:H1	1:51:1451:G:N2	2.14	0.44
1:51:1435:G:O2'	1:51:2105:A:N1	2.40	0.44
1:51:1443:A:H3'	1:51:1444:G:C8	2.52	0.44
1:51:1498:G:C2	1:51:1499:C:C5	3.05	0.44
1:51:1767:A:C8	1:51:1769:G:C8	3.06	0.44
1:51:1839:U:O2	1:51:1839:U:H2'	2.17	0.44
1:51:1942:A:N6	1:51:2040:A:OP1	2.51	0.44
1:51:2511:A:C2	1:51:2514:G:N9	2.86	0.44
1:51:2782:U:OP2	73:l3:10:LYS:NZ	2.50	0.44
1:51:3898:G:C6	1:51:4564:A:N3	2.85	0.44
1:51:4414:A:H2'	1:51:4422:A:C6	2.53	0.44
1:51:4637:G:C2	1:51:4638:U:O2	2.70	0.44
1:51:4686:G:C6	1:51:4705:A:N6	2.85	0.44
3:81:93:C:HO2'	3:81:94:G:H8	1.66	0.44
3:81:125:C:H4'	3:81:126:C:H6	1.82	0.44
4:A2:126:G:N1	11:H2:195:LYS:HD3	2.33	0.44
4:A2:371:A:H61	4:A2:393:U:H3	1.64	0.44
4:A2:618:C:H2'	4:A2:619:A:O4'	2.17	0.44
4:A2:818:A:C4	4:A2:847:A:C6	3.06	0.44
4:A2:1351:G:C6	4:A2:1352:G:N7	2.85	0.44
8:E2:96:LEU:HD23	8:E2:96:LEU:H	1.81	0.44
9:F2:212:ASP:OD1	9:F2:213:ALA:N	2.50	0.44
11:H2:32:MET:C	11:H2:34:THR:HG23	2.43	0.44
13:J2:48:VAL:HG22	13:J2:52:ASN:O	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:S2:72:LYS:HD2	22:S2:75:GLU:HG2	1.99	0.44
27:X2:31:SER:OG	27:X2:34:ILE:N	2.38	0.44
31:b2:46:GLU:OE1	31:b2:46:GLU:N	2.50	0.44
39:B3:61:ASP:OD1	39:B3:61:ASP:O	2.35	0.44
39:B3:305:THR:HG23	39:B3:308:ASP:H	1.83	0.44
41:D3:60:ILE:HB	41:D3:80:ALA:HB2	2.00	0.44
41:D3:210:TYR:O	41:D3:211:LEU:HD22	2.17	0.44
41:D3:239:MET:HA	41:D3:242:LYS:HZ3	1.82	0.44
42:E3:269:GLN:O	49:M3:107:PHE:HE1	2.01	0.44
44:G3:228:ARG:NE	44:G3:235:CYS:SG	2.91	0.44
53:Q3:98:LEU:HD22	53:Q3:98:LEU:N	2.32	0.44
61:Z3:11:VAL:O	61:Z3:11:VAL:HG13	2.17	0.44
66:e3:76:LYS:HD2	66:e3:98:GLU:OE1	2.17	0.44
73:l3:44:TRP:CZ3	73:l3:45:ARG:HD3	2.52	0.44
79:q3:11:U:H2'	79:q3:12:G:O4'	2.18	0.44
80:t3:33:ASP:OD1	80:t3:34:ASN:N	2.50	0.44
80:t3:102:LEU:HD23	80:t3:102:LEU:H	1.83	0.44
81:u3:64:ILE:HA	81:u3:69:ALA:HA	2.00	0.44
83:33:24:G:N1	83:33:25:C:C5	2.86	0.44
84:w3:30:GLU:OE1	84:w3:172:VAL:HG12	2.17	0.44
84:w3:152:LYS:HG3	84:w3:153:SER:N	2.32	0.44
86:W:6:CYS:SG	86:W:7:SER:N	2.88	0.44
1:51:76:A:N7	48:L3:74:ARG:NH2	2.65	0.44
1:51:1422:G:H2'	1:51:1423:U:C6	2.53	0.44
1:51:1998:A:H3'	1:51:1998:A:OP2	2.17	0.44
1:51:2016:C:O2'	1:51:2017:A:P	2.76	0.44
1:51:2284:G:C2	1:51:2285:A:C4	3.06	0.44
1:51:2326:G:H2'	1:51:2327:G:H8	1.83	0.44
1:51:2491:C:N4	1:51:2492:C:C4	2.86	0.44
1:51:2492:C:H2'	1:51:2493:G:C8	2.53	0.44
1:51:2897:G:C2	1:51:3603:G:C2	3.06	0.44
1:51:3758:U:O4	1:51:3766:A:OP2	2.34	0.44
1:51:3765:G:H2'	1:51:3765:G:N3	2.33	0.44
1:51:4052:C:H2'	1:51:4053:A:C1'	2.47	0.44
1:51:4135:G:C5	1:51:4150:G:C2	3.05	0.44
1:51:4152:G:H2'	1:51:4153:C:C6	2.52	0.44
2:71:32:A:C2	2:71:46:C:O2	2.71	0.44
2:71:56:G:C2	41:D3:24:ARG:O	2.71	0.44
3:81:106:G:C6	3:81:107:C:N3	2.86	0.44
3:81:122:G:H22	3:81:128:C:H42	1.65	0.44
3:81:149:G:C2	3:81:152:U:C4	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:146:G:H21	4:A2:147:A:H1'	1.82	0.44
4:A2:185:G:H2'	4:A2:186:C:O4'	2.16	0.44
4:A2:298:G:C2	4:A2:299:A:C5	3.06	0.44
4:A2:859:G:C6	4:A2:860:G:C5	3.06	0.44
4:A2:995:G:C2	4:A2:999:G:C2	3.06	0.44
4:A2:1328:G:N3	4:A2:1329:U:O2	2.51	0.44
4:A2:1392:U:H2'	4:A2:1393:G:H8	1.83	0.44
4:A2:1507:G:C2	36:g2:85:TYR:CE2	3.05	0.44
6:C2:63:LYS:C	6:C2:88:THR:OG1	2.61	0.44
6:C2:65:ARG:C	6:C2:87:ILE:HD12	2.43	0.44
7:D2:262:THR:HG22	7:D2:263:LYS:N	2.31	0.44
10:G2:194:ASP:O	10:G2:197:GLU:HG3	2.18	0.44
11:H2:1:MET:O	11:H2:3:LEU:N	2.51	0.44
11:H2:163:ASN:O	11:H2:163:ASN:ND2	2.50	0.44
22:S2:87:GLU:N	22:S2:87:GLU:CD	2.76	0.44
23:T2:110:ASP:C	23:T2:110:ASP:OD1	2.61	0.44
30:a2:110:THR:OG1	30:a2:111:ARG:N	2.50	0.44
36:g2:142:GLY:C	36:g2:143:LYS:HG3	2.42	0.44
37:h2:191:HIS:CG	37:h2:195:LEU:HD21	2.53	0.44
37:h2:256:ILE:CG2	37:h2:270:LEU:HB2	2.47	0.44
40:C3:158:VAL:HA	40:C3:161:TYR:CE2	2.53	0.44
45:H3:93:ARG:HD2	45:H3:143:GLU:OE1	2.17	0.44
54:R3:138:LEU:N	54:R3:138:LEU:CD1	2.79	0.44
64:c3:55:LEU:O	64:c3:58:SER:N	2.50	0.44
76:o3:26:TYR:HB3	76:o3:67:VAL:CG2	2.48	0.44
76:o3:26:TYR:HB3	76:o3:67:VAL:HG23	2.00	0.44
79:q3:45:G:OP2	79:q3:45:G:N2	2.42	0.44
81:u3:46:ILE:HG23	81:u3:60:VAL:HG11	1.99	0.44
1:51:59:A:C5	1:51:338:A:C2	3.06	0.44
1:51:175:C:N4	1:51:261:G:C6	2.83	0.44
1:51:459:C:H2'	1:51:460:C:C6	2.52	0.44
1:51:521:C:C2	1:51:640:C:N4	2.84	0.44
1:51:653:C:C4	1:51:654:C:H5	2.35	0.44
1:51:688:U:C2	1:51:689:U:N3	2.85	0.44
1:51:1335:G:N2	1:51:2352:U:O2	2.50	0.44
1:51:1650:A:C6	40:C3:100:ARG:NH1	2.85	0.44
1:51:1761:G:O6	1:51:1771:U:C2'	2.66	0.44
1:51:2275:G:C5	1:51:2276:A:N1	2.86	0.44
1:51:2483:G:C6	1:51:2484:A:N7	2.86	0.44
1:51:2534:C:H2'	1:51:2535:G:O4'	2.17	0.44
1:51:2630:U:H5"	1:51:2631:U:OP1	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:2667:C:H1'	54:R3:96:MET:HG2	1.99	0.44
1:51:2710:C:N4	1:51:2712:G:C8	2.86	0.44
1:51:3625:G:HO2'	1:51:3626:G:P	2.36	0.44
1:51:3759:A:N6	4:A2:1709:G:C2'	2.79	0.44
1:51:4185:G:C2	1:51:4186:A:C8	3.06	0.44
1:51:4212:A:C2	1:51:4218:U:C5	3.06	0.44
1:51:4236:G:C2	1:51:4237:C:N3	2.86	0.44
2:71:6:C:OP2	41:D3:28:THR:HG22	2.18	0.44
2:71:39:C:H1'	47:J3:47:THR:O	2.18	0.44
3:81:10:G:C6	3:81:11:C:C4	3.06	0.44
4:A2:22:A:N6	4:A2:653:A:N6	2.66	0.44
4:A2:42:A:N1	4:A2:43:U:H5	2.16	0.44
4:A2:821:G:C8	4:A2:821:G:O5'	2.71	0.44
4:A2:821:G:C6	14:K2:83:ARG:NH1	2.86	0.44
4:A2:891:G:N7	4:A2:892:U:C4	2.85	0.44
4:A2:1215:C:N3	4:A2:1645:C:C4	2.85	0.44
4:A2:1336:C:OP2	8:E2:185:LYS:NZ	2.46	0.44
4:A2:1451:G:H21	4:A2:1474:A:H61	1.66	0.44
4:A2:1611:G:C8	4:A2:1611:G:OP2	2.71	0.44
4:A2:1732:G:C2	4:A2:1803:U:O4	2.71	0.44
6:C2:39:PHE:CD1	6:C2:74:LEU:HD21	2.53	0.44
6:C2:129:THR:OG1	6:C2:179:ASN:O	2.33	0.44
7:D2:266:TYR:O	7:D2:270:THR:CG2	2.65	0.44
11:H2:25:ARG:HD2	11:H2:25:ARG:C	2.42	0.44
11:H2:218:LYS:O	11:H2:222:GLU:HB2	2.18	0.44
22:S2:31:ASN:CA	22:S2:34:VAL:HG22	2.46	0.44
22:S2:110:ASP:OD1	22:S2:111:PHE:CD2	2.70	0.44
30:a2:90:GLU:HG3	30:a2:91:LEU:CD2	2.47	0.44
37:h2:156:PHE:HD1	37:h2:165:ILE:HG23	1.83	0.44
38:A3:119:LYS:HB3	38:A3:120:PRO:HD2	1.99	0.44
38:A3:180:LEU:HD12	38:A3:181:LYS:N	2.33	0.44
38:A3:192:LYS:HG3	38:A3:193:ARG:H	1.83	0.44
41:D3:243:ALA:HA	41:D3:248:ARG:HH12	1.83	0.44
43:F3:212:LEU:HD23	43:F3:212:LEU:HA	1.84	0.44
44:G3:192:GLY:O	44:G3:196:VAL:HG23	2.18	0.44
51:O3:85:ARG:HH21	51:O3:90:HIS:CE1	2.36	0.44
54:R3:86:ASN:O	54:R3:86:ASN:OD1	2.34	0.44
55:S3:81:TRP:O	55:S3:127:MET:HG2	2.17	0.44
61:Z3:14:LEU:HB3	61:Z3:79:HIS:O	2.17	0.44
84:w3:77:ALA:O	84:w3:80:VAL:HG22	2.17	0.44
86:W:49:ILE:HG22	86:W:50:ASN:N	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:7:C:O2	3:81:152:U:N3	2.50	0.44
1:51:28:C:C2	1:51:55:G:N2	2.86	0.44
1:51:60:A:H8	1:51:60:A:O5'	2.01	0.44
1:51:66:A:N1	1:51:328:A:C4	2.86	0.44
1:51:730:G:OP2	43:F3:75:ARG:NH2	2.51	0.44
1:51:1842:G:N2	1:51:1843:A:N3	2.66	0.44
1:51:1842:G:C2	1:51:1843:A:C4	3.06	0.44
1:51:2109:A:C4	1:51:2110:G:C8	3.05	0.44
1:51:2296:G:C2	1:51:2339:G:C2	3.06	0.44
1:51:2420:A:O2'	1:51:2796:G:O6	2.35	0.44
1:51:2755:A:N6	1:51:2756:G:H21	2.14	0.44
1:51:3603:G:H2'	1:51:3604:A:C8	2.53	0.44
1:51:3703:G:C6	1:51:3704:U:N3	2.86	0.44
1:51:3893:C:N3	1:51:4568:A:C2	2.86	0.44
1:51:3971:G:H21	1:51:4052:C:N4	2.15	0.44
1:51:4089:G:C5	1:51:4161:G:N2	2.86	0.44
1:51:4247:G:N2	1:51:4262:C:C2	2.85	0.44
1:51:5019:A:N1	1:51:5020:G:C5	2.85	0.44
1:51:5031:G:H2'	1:51:5032:C:O4'	2.17	0.44
4:A2:156:G:H1'	11:H2:56:ASN:OD1	2.18	0.44
4:A2:242:U:O2	4:A2:280:G:N1	2.32	0.44
4:A2:1012:A:C5	4:A2:1013:U:N3	2.86	0.44
4:A2:1145:A:C8	4:A2:1146:C:O4'	2.71	0.44
4:A2:1334:G:C6	4:A2:1498:A:N6	2.86	0.44
4:A2:1621:U:O2	20:Q2:117:GLY:HA3	2.18	0.44
5:B2:65:ILE:HD11	5:B2:74:VAL:CG1	2.46	0.44
6:C2:122:GLU:CD	6:C2:140:VAL:HG12	2.43	0.44
7:D2:271:ASP:OD2	7:D2:272:HIS:N	2.51	0.44
9:F2:182:MET:HA	9:F2:192:ILE:HD13	1.98	0.44
10:G2:49:LEU:HD11	21:R2:50:LYS:HD3	1.99	0.44
11:H2:106:LEU:H	11:H2:106:LEU:CD2	2.31	0.44
17:N2:76:LEU:N	17:N2:76:LEU:HD12	2.33	0.44
20:Q2:79:HIS:HA	20:Q2:97:TYR:HB3	1.99	0.44
21:R2:110:ASP:HA	21:R2:113:ILE:HG22	1.99	0.44
27:X2:36:ARG:HA	27:X2:39:THR:HG22	2.00	0.44
37:h2:164:ILE:HG12	37:h2:185:LYS:HE2	2.00	0.44
38:A3:48:ILE:HG21	77:p3:65:ALA:HB2	1.99	0.44
39:B3:329:ASP:OD1	39:B3:329:ASP:N	2.49	0.44
41:D3:235:MET:HE2	41:D3:235:MET:HA	2.00	0.44
45:H3:26:ILE:HG23	45:H3:35:ARG:HG2	1.99	0.44
47:J3:95:ARG:NH1	47:J3:175:LEU:HD11	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:O3:113:ASP:OD1	51:O3:114:LYS:N	2.51	0.44
54:R3:95:TRP:CH2	54:R3:99:MET:HE3	2.52	0.44
54:R3:158:GLN:HB2	54:R3:162:ARG:HH12	1.82	0.44
55:S3:17:LEU:C	55:S3:17:LEU:HD12	2.43	0.44
61:Z3:38:TYR:O	61:Z3:39:SER:OG	2.33	0.44
67:f3:15:LYS:HB3	67:f3:25:THR:OG1	2.18	0.44
76:o3:67:VAL:HG23	76:o3:67:VAL:O	2.17	0.44
76:o3:67:VAL:HA	76:o3:83:LEU:O	2.18	0.44
76:o3:92:GLU:O	76:o3:93:LEU:HD12	2.18	0.44
78:r3:21:ASN:O	78:r3:23:GLN:HG3	2.18	0.44
81:u3:9:GLU:HB3	81:u3:66:ASN:OD1	2.18	0.44
81:u3:80:LEU:CB	81:u3:112:ILE:HG13	2.48	0.44
83:33:24:G:C6	83:33:25:C:C5	3.06	0.44
84:w3:39:LYS:HD2	84:w3:163:LEU:HD21	2.00	0.44
1:51:194:C:C4	1:51:195:C:C5	3.06	0.44
1:51:360:A:N6	3:81:22:U:H3	2.16	0.44
1:51:373:G:C2	1:51:374:G:C8	3.06	0.44
1:51:1084:C:N3	1:51:1216:C:N3	2.66	0.44
1:51:1734:G:N2	1:51:4214:A:C2	2.85	0.44
1:51:1884:C:H2'	1:51:1885:G:C8	2.52	0.44
1:51:2107:A:C5	43:F3:31:ARG:NH2	2.86	0.44
1:51:2296:G:C5	1:51:2297:G:C8	3.05	0.44
1:51:2555:G:O6	1:51:2573:A:C2	2.71	0.44
1:51:2715:G:C6	1:51:2716:C:C4	3.06	0.44
1:51:2760:G:O2'	1:51:2761:U:C5	2.71	0.44
1:51:2808:G:C2	1:51:2809:G:C8	3.06	0.44
1:51:2878:G:C5	1:51:2879:A:N7	2.86	0.44
1:51:3706:C:O2'	38:A3:240:ALA:HB3	2.17	0.44
1:51:3722:G:OP2	70:i3:68:ARG:NH2	2.51	0.44
1:51:3971:G:C2	1:51:4051:C:N3	2.86	0.44
1:51:4122:G:C2	68:g3:97:ILE:HD12	2.53	0.44
1:51:4370:G:C2	83:33:75:C:N3	2.86	0.44
1:51:4405:G:C6	1:51:4406:U:C2	3.06	0.44
1:51:4423:U:O2	1:51:4423:U:H3'	2.18	0.44
1:51:4474:A:N7	1:51:4476:C:C5	2.86	0.44
1:51:4584:A:H2'	1:51:4585:U:O4'	2.18	0.44
1:51:4712:C:H2'	1:51:4713:G:O4'	2.18	0.44
1:51:4875:G:C4	1:51:4877:G:C6	3.05	0.44
3:81:71:A:N7	3:81:85:U:C5	2.86	0.44
4:A2:218:U:H2'	4:A2:219:U:C6	2.53	0.44
4:A2:314:U:H2'	4:A2:315:C:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:334:C:C4	4:A2:335:G:N7	2.86	0.44
4:A2:563:G:C2	4:A2:564:A:C8	3.06	0.44
4:A2:582:U:OP2	29:Z2:65:GLY:O	2.36	0.44
4:A2:629:A:O2'	4:A2:631:U:OP1	2.35	0.44
4:A2:682:U:O2	4:A2:682:U:H2'	2.17	0.44
4:A2:1277:C:N4	4:A2:1320:G:H1	2.14	0.44
4:A2:1288:U:H2'	4:A2:1289:U:C6	2.52	0.44
4:A2:1330:G:H4'	4:A2:1331:C:H5"	1.99	0.44
4:A2:1395:C:O2'	4:A2:1396:A:P	2.76	0.44
4:A2:1671:G:C5	4:A2:1672:U:C4	3.06	0.44
4:A2:1815:A:C8	4:A2:1816:G:N3	2.86	0.44
5:B2:82:THR:CG2	5:B2:83:GLY:N	2.81	0.44
5:B2:184:ARG:HD3	5:B2:191:ARG:HG3	2.00	0.44
8:E2:204:LEU:HD12	8:E2:207:HIS:ND1	2.33	0.44
9:F2:32:SER:O	9:F2:83:PRO:HG3	2.17	0.44
13:J2:83:TYR:HB3	13:J2:101:ILE:HD11	1.99	0.44
14:K2:57:ALA:CB	14:K2:97:ILE:HD12	2.48	0.44
15:L2:3:MET:HE2	15:L2:7:ASN:HB3	2.00	0.44
15:L2:75:GLY:O	15:L2:79:LEU:CD1	2.65	0.44
16:M2:54:THR:O	16:M2:56:ILE:CD1	2.66	0.44
17:N2:35:ILE:HG21	17:N2:61:TYR:HE1	1.82	0.44
18:O2:83:ASP:OD1	18:O2:84:LEU:N	2.47	0.44
19:P2:55:ARG:HD2	19:P2:55:ARG:C	2.43	0.44
28:Y2:93:PHE:CG	28:Y2:133:LEU:HD21	2.53	0.44
29:Z2:87:PRO:HG2	29:Z2:90:ARG:NH2	2.33	0.44
37:h2:18:VAL:HG11	37:h2:301:GLY:HA3	2.00	0.44
38:A3:96:LEU:C	38:A3:96:LEU:HD23	2.43	0.44
38:A3:114:CYS:SG	38:A3:165:VAL:HG23	2.58	0.44
48:L3:118:LYS:HA	48:L3:118:LYS:HE2	1.99	0.44
50:N3:35:ALA:O	50:N3:64:ILE:HA	2.18	0.44
63:b3:35:VAL:HG12	63:b3:36:ASP:N	2.32	0.44
74:m3:56:LEU:O	74:m3:59:LEU:HB3	2.18	0.44
84:w3:23:ARG:CZ	84:w3:208:SER:OG	2.65	0.44
1:51:491:G:C6	1:51:663:G:N2	2.85	0.43
1:51:1443:A:H3'	1:51:1444:G:H8	1.83	0.43
1:51:1572:U:C4	54:R3:128:LYS:NZ	2.83	0.43
1:51:1608:G:C6	1:51:1609:U:C4	3.06	0.43
1:51:1612:G:N1	1:51:1614:C:N3	2.65	0.43
1:51:1890:G:H22	1:51:1939:A:H61	1.66	0.43
1:51:1978:C:OP2	81:u3:56:LEU:HD13	2.17	0.43
1:51:1982:G:N2	1:51:2009:A:O2'	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:2297:G:C2	1:51:2298:U:O2	2.71	0.43
1:51:2544:G:OP1	1:51:2546:G:C4	2.71	0.43
1:51:2816:G:C5	1:51:2817:C:C4	3.06	0.43
1:51:2883:G:C2	1:51:2884:G:C8	3.06	0.43
1:51:3936:A:C6	1:51:4175:G:C6	3.06	0.43
1:51:4112:C:C4	1:51:4113:U:C5	3.05	0.43
1:51:4117:U:H1'	44:G3:96:GLN:CD	2.43	0.43
1:51:4245:G:O6	1:51:4264:G:N2	2.51	0.43
1:51:4391:G:N2	1:51:4392:G:C4	2.86	0.43
1:51:4958:C:C2	1:51:4959:U:C5	3.05	0.43
3:81:120:G:C6	3:81:131:G:C6	3.06	0.43
3:81:149:G:O3'	3:81:151:G:OP2	2.35	0.43
4:A2:67:C:O2'	4:A2:69:C:C5'	2.66	0.43
4:A2:103:A:C2	4:A2:355:G:C6	3.05	0.43
4:A2:145:G:OP2	11:H2:139:SER:OG	2.27	0.43
4:A2:745:C:HO2'	4:A2:746:C:H6	1.63	0.43
4:A2:942:G:C2	4:A2:985:G:N2	2.85	0.43
4:A2:990:A:OP1	6:C2:116:LYS:NZ	2.47	0.43
4:A2:1219:C:O2'	33:d2:26:GLN:OE1	2.35	0.43
4:A2:1293:A:N1	4:A2:1302:G:C6	2.86	0.43
6:C2:87:ILE:HG13	6:C2:88:THR:N	2.33	0.43
12:I2:175:GLY:O	12:I2:179:LYS:HG2	2.18	0.43
14:K2:78:LEU:O	14:K2:82:VAL:HG22	2.18	0.43
17:N2:97:GLU:CD	17:N2:97:GLU:H	2.24	0.43
18:O2:46:THR:HG23	18:O2:49:GLN:H	1.83	0.43
19:P2:82:ALA:O	19:P2:86:LYS:HG2	2.18	0.43
21:R2:41:MET:SD	24:U2:7:LYS:O	2.76	0.43
21:R2:41:MET:CE	24:U2:7:LYS:O	2.66	0.43
22:S2:10:LYS:HB3	22:S2:14:ARG:HH12	1.83	0.43
22:S2:10:LYS:HD3	22:S2:53:TYR:HE2	1.83	0.43
22:S2:66:VAL:HB	22:S2:69:ILE:HD11	1.99	0.43
25:V2:32:LEU:HA	25:V2:35:VAL:HG22	2.00	0.43
27:X2:86:LEU:O	27:X2:90:GLN:HG2	2.18	0.43
35:f2:82:VAL:HG23	35:f2:82:VAL:O	2.16	0.43
41:D3:86:TYR:CE1	41:D3:247:ILE:HG21	2.53	0.43
42:E3:43:LYS:HG3	42:E3:44:PRO:N	2.30	0.43
47:J3:119:TYR:O	47:J3:120:ASP:OD1	2.36	0.43
57:U3:26:THR:HG23	57:U3:27:HIS:H	1.81	0.43
59:X3:127:LEU:C	59:X3:127:LEU:HD12	2.43	0.43
61:Z3:100:VAL:C	61:Z3:102:ARG:H	2.25	0.43
68:g3:59:VAL:HG12	68:g3:60:ARG:H	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:i3:23:LYS:HD2	70:i3:24:PRO:O	2.18	0.43
77:p3:84:ARG:HG2	77:p3:84:ARG:NH2	2.33	0.43
78:r3:26:SER:OG	78:r3:28:GLU:CD	2.61	0.43
79:q3:44:A:O5'	79:q3:45:G:N2	2.51	0.43
80:t3:77:LYS:O	80:t3:81:HIS:ND1	2.51	0.43
81:u3:14:TYR:CD1	81:u3:61:LYS:HE3	2.52	0.43
82:v3:33:U:O2'	82:v3:34:U:O4'	2.36	0.43
83:33:62:C:H5"	83:33:63:C:OP2	2.18	0.43
84:w3:117:ILE:O	84:w3:121:PRO:HD2	2.18	0.43
1:51:279:A:C2	50:N3:12:ARG:CZ	3.01	0.43
1:51:500:G:C2	1:51:656:C:C2	3.06	0.43
1:51:668:C:H4'	40:C3:6:PRO:HB3	2.00	0.43
1:51:1400:G:N2	1:51:1418:C:H1'	2.33	0.43
1:51:1899:G:C8	1:51:2278:G:C6	3.05	0.43
1:51:1951:G:C2	1:51:2033:A:C2	3.06	0.43
1:51:2069:A:OP2	67:f3:22:ARG:NH1	2.52	0.43
1:51:2403:A:N6	1:51:2404:A:C5	2.86	0.43
1:51:2550:G:H22	1:51:2770:C:N4	2.16	0.43
1:51:2654:C:C4	1:51:2655:C:C4	3.06	0.43
1:51:2787:A:N3	1:51:2787:A:C2'	2.80	0.43
1:51:2895:A:H4'	54:R3:136:ARG:HH21	1.83	0.43
1:51:3678:G:P	38:A3:193:ARG:HH11	2.41	0.43
1:51:3970:G:N3	84:w3:33:GLU:OE1	2.51	0.43
1:51:4054:C:H4'	84:w3:205:TYR:HE2	1.83	0.43
1:51:4301:U:P	56:T3:87:LYS:NZ	2.91	0.43
1:51:4562:C:H2'	1:51:4563:U:O4'	2.18	0.43
1:51:4564:A:C8	1:51:4565:C:H5	2.36	0.43
1:51:4898:G:C2	1:51:4899:G:C5	3.06	0.43
2:71:14:C:N4	2:71:66:G:C2	2.86	0.43
3:81:103:A:C8	3:81:104:A:C8	3.06	0.43
4:A2:221:A:N1	4:A2:301:A:N6	2.64	0.43
4:A2:239:C:O2	4:A2:283:G:N1	2.51	0.43
4:A2:431:G:C2	4:A2:432:G:C5	3.07	0.43
4:A2:1130:G:O2'	4:A2:1131:G:H8	2.01	0.43
7:D2:273:LEU:O	7:D2:277:HIS:CD2	2.71	0.43
9:F2:123:LEU:N	9:F2:123:LEU:CD1	2.81	0.43
10:G2:103:LEU:HD23	10:G2:103:LEU:C	2.43	0.43
10:G2:193:LYS:HE3	10:G2:193:LYS:HB3	1.91	0.43
11:H2:136:LYS:HD3	11:H2:176:ILE:HG13	2.00	0.43
16:M2:112:HIS:HB2	16:M2:138:VAL:HG11	2.00	0.43
17:N2:97:GLU:HG2	17:N2:97:GLU:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:P2:41:PHE:CD1	19:P2:57:THR:HG22	2.53	0.43
21:R2:146:ARG:NH2	83:33:32:C:H5"	2.32	0.43
22:S2:77:GLU:O	22:S2:81:ARG:HG3	2.18	0.43
23:T2:44:VAL:HG21	23:T2:71:MET:HG2	2.00	0.43
27:X2:86:LEU:HD23	27:X2:90:GLN:OE1	2.18	0.43
27:X2:100:GLY:HA2	27:X2:130:PHE:HB3	2.00	0.43
37:h2:217:MET:SD	37:h2:229:THR:HB	2.58	0.43
40:C3:229:LEU:N	40:C3:229:LEU:CD2	2.79	0.43
41:D3:40:ASP:OD2	56:T3:69:GLN:CD	2.57	0.43
41:D3:285:ALA:O	41:D3:289:ARG:HG2	2.18	0.43
41:D3:293:ARG:HG3	41:D3:294:ALA:N	2.33	0.43
42:E3:215:LEU:HD12	42:E3:215:LEU:O	2.18	0.43
42:E3:290:VAL:O	42:E3:290:VAL:HG23	2.18	0.43
43:F3:111:LEU:O	43:F3:112:ARG:CG	2.67	0.43
43:F3:154:TYR:CE1	43:F3:186:MET:SD	3.11	0.43
44:G3:96:GLN:O	44:G3:97:ASP:OD1	2.36	0.43
51:O3:16:LEU:HD23	51:O3:16:LEU:C	2.43	0.43
54:R3:89:MET:HB3	54:R3:90:PRO:HD2	1.99	0.43
60:Y3:21:ALA:O	60:Y3:26:ARG:NE	2.47	0.43
61:Z3:28:ASN:HB2	61:Z3:77:TYR:OH	2.18	0.43
61:Z3:78:ASN:OD1	61:Z3:78:ASN:N	2.51	0.43
65:d3:30:HIS:HA	65:d3:33:ILE:HG22	2.00	0.43
70:i3:42:ASP:C	70:i3:42:ASP:OD1	2.61	0.43
71:j3:61:THR:OG1	71:j3:62:GLY:N	2.51	0.43
74:m3:51:ILE:O	74:m3:52:ILE:HG23	2.18	0.43
81:u3:70:GLN:CD	81:u3:71:ILE:N	2.76	0.43
84:w3:26:ARG:HG2	84:w3:30:GLU:OE2	2.18	0.43
1:51:101:A:O2'	48:L3:63:THR:HG21	2.19	0.43
1:51:670:G:C2	1:51:671:G:C5	3.06	0.43
1:51:751:G:O3'	1:51:752:G:P	2.76	0.43
1:51:1200:G:C2	1:51:1201:U:C2	3.06	0.43
1:51:1403:G:C3'	1:51:1404:G:C8	3.00	0.43
1:51:1775:A:H2'	1:51:1776:A:C1'	2.47	0.43
1:51:1811:G:H4'	63:b3:60:ASN:ND2	2.32	0.43
1:51:2061:U:OP1	55:S3:120:ARG:NH1	2.51	0.43
1:51:2258:C:O2	1:51:2258:C:H2'	2.18	0.43
1:51:2381:A:C2	1:51:2425:U:C5	3.07	0.43
1:51:2743:A:H2'	1:51:2744:A:C8	2.52	0.43
1:51:3611:A:H2'	1:51:3612:C:C6	2.52	0.43
1:51:3667:C:O2	1:51:3676:G:N1	2.52	0.43
1:51:3737:A:N7	1:51:3738:G:C5	2.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:3907:G:C2	1:51:3909:C:C4	3.06	0.43
1:51:3964:U:O2'	1:51:3965:A:H5"	2.19	0.43
1:51:4129:G:O2'	1:51:4130:C:C6	2.66	0.43
1:51:4777:C:C5	1:51:4859:C:C2	3.06	0.43
1:51:4907:G:C2	1:51:4915:G:C2	3.06	0.43
1:51:4945:G:O6	67:f3:4:ARG:HA	2.18	0.43
1:51:4958:C:N3	1:51:4959:U:C5	2.86	0.43
2:71:40:U:C4	2:71:42:A:N6	2.86	0.43
4:A2:155:G:H2'	4:A2:156:G:C8	2.52	0.43
4:A2:360:A:C2	4:A2:362:C:C2	3.06	0.43
4:A2:902:G:C6	4:A2:903:A:N7	2.86	0.43
4:A2:1046:U:C4	4:A2:1047:C:C4	3.06	0.43
4:A2:1144:A:C6	4:A2:1145:A:N1	2.86	0.43
4:A2:1155:U:O2	27:X2:71:LYS:NZ	2.46	0.43
4:A2:1572:C:C4	4:A2:1573:G:N7	2.86	0.43
4:A2:1719:A:H2'	4:A2:1720:U:C4	2.53	0.43
7:D2:59:GLU:O	7:D2:60:TRP:C	2.60	0.43
7:D2:75:ILE:HD11	7:D2:80:GLU:HB2	1.98	0.43
8:E2:8:LYS:HE3	25:V2:59:LYS:NZ	2.33	0.43
8:E2:138:VAL:HG22	8:E2:184:ILE:HD12	2.01	0.43
8:E2:211:VAL:HG22	22:S2:38:ILE:O	2.19	0.43
11:H2:185:LEU:C	11:H2:189:ARG:HD3	2.43	0.43
13:J2:120:PRO:O	13:J2:121:LEU:CD2	2.65	0.43
17:N2:51:VAL:HG23	17:N2:77:ILE:HG22	1.99	0.43
21:R2:104:SER:O	21:R2:107:GLU:CD	2.61	0.43
22:S2:99:ASP:OD2	22:S2:101:ASP:N	2.35	0.43
27:X2:31:SER:OG	27:X2:34:ILE:HG13	2.18	0.43
31:b2:74:CYS:O	31:b2:78:ALA:HB2	2.17	0.43
34:e2:34:TYR:CD1	34:e2:34:TYR:N	2.85	0.43
37:h2:89:LEU:HD23	37:h2:99:ARG:CB	2.48	0.43
41:D3:242:LYS:HD3	41:D3:242:LYS:N	2.33	0.43
42:E3:118:TYR:CE1	78:r3:119:ARG:HB2	2.53	0.43
42:E3:267:VAL:HG12	42:E3:270:LEU:HD13	2.00	0.43
45:H3:48:LEU:C	45:H3:48:LEU:HD12	2.43	0.43
47:J3:57:VAL:HG12	47:J3:59:SER:H	1.82	0.43
48:L3:169:ILE:HD11	62:a3:98:ALA:CB	2.48	0.43
49:M3:96:GLU:OE1	49:M3:100:ARG:NE	2.51	0.43
50:N3:94:PHE:CD2	50:N3:95:ALA:N	2.85	0.43
56:T3:66:ASN:OD1	56:T3:67:VAL:N	2.51	0.43
60:Y3:91:ASN:OD1	60:Y3:92:GLY:N	2.52	0.43
67:f3:40:GLU:O	67:f3:40:GLU:HG2	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:g3:53:LEU:C	68:g3:54:ARG:HG3	2.43	0.43
79:q3:43:A:H2'	79:q3:44:A:O4'	2.18	0.43
83:33:29:A:C6	83:33:30:G:N1	2.86	0.43
84:w3:123:ILE:HG13	84:w3:124:LEU:H	1.81	0.43
1:51:98:A:OP1	50:N3:195:ARG:HD3	2.17	0.43
1:51:327:U:O2'	70:i3:30:ARG:NH1	2.49	0.43
1:51:648:G:N1	1:51:649:A:C5	2.86	0.43
1:51:1094:G:C2	1:51:1095:A:C5	3.05	0.43
1:51:1322:A:N7	1:51:1326:A:C6	2.87	0.43
1:51:1349:G:N1	1:51:1508:A:N1	2.66	0.43
1:51:1429:C:O2	1:51:1429:C:H2'	2.17	0.43
1:51:1551:C:N4	1:51:1552:G:C2	2.87	0.43
1:51:1613:A:H5"	38:A3:183:GLY:HA3	1.99	0.43
1:51:1641:G:O2'	1:51:4386:C:N3	2.43	0.43
1:51:1864:G:O6	1:51:1871:A:N6	2.52	0.43
1:51:1979:A:C2	1:51:1988:G:O6	2.71	0.43
1:51:1983:A:C1'	1:51:2010:A:H4'	2.48	0.43
1:51:2008:U:O2	1:51:2008:U:O5'	2.37	0.43
1:51:2562:G:N2	1:51:2564:G:N7	2.66	0.43
1:51:2578:G:C6	61:Z3:17:ARG:NH2	2.86	0.43
1:51:2874:U:O4	1:51:3824:A:C5	2.71	0.43
1:51:3754:G:O6	1:51:3772:U:N3	2.51	0.43
1:51:4108:G:H2'	1:51:4109:G:C8	2.53	0.43
1:51:4715:C:OP2	39:B3:31:SER:OG	2.22	0.43
1:51:4864:U:H2'	1:51:4865:C:O4'	2.19	0.43
1:51:4902:C:H1'	1:51:4920:C:O2	2.19	0.43
1:51:4908:G:C5	1:51:4912:G:N2	2.86	0.43
1:51:4931:G:C2	1:51:4932:U:C5	3.06	0.43
1:51:5062:G:H2'	1:51:5063:G:H8	1.84	0.43
4:A2:233:C:O2	4:A2:895:G:O6	2.36	0.43
4:A2:506:G:N2	4:A2:508:A:N1	2.65	0.43
4:A2:673:G:C6	4:A2:674:C:C4	3.06	0.43
4:A2:1087:A:C5	4:A2:1861:G:C6	3.07	0.43
4:A2:1296:U:H3	4:A2:1303:C:N4	2.11	0.43
4:A2:1585:U:C4	24:U2:67:ARG:CZ	3.02	0.43
4:A2:1623:A:H5"	23:T2:133:GLY:CA	2.44	0.43
4:A2:1772:C:H2'	4:A2:1773:C:C6	2.54	0.43
6:C2:28:LYS:CE	6:C2:48:LEU:HD13	2.48	0.43
6:C2:68:GLU:OE1	6:C2:83:LYS:CE	2.65	0.43
7:D2:207:ALA:HB3	7:D2:210:PRO:CD	2.47	0.43
7:D2:253:PRO:HB3	7:D2:256:TRP:CZ2	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E2:46:THR:OG1	8:E2:84:VAL:HA	2.18	0.43
8:E2:132:LYS:HG2	8:E2:156:LEU:HB3	2.01	0.43
9:F2:139:LEU:O	9:F2:146:THR:HA	2.19	0.43
9:F2:204:SER:OG	9:F2:205:PHE:N	2.52	0.43
10:G2:87:LEU:HD23	10:G2:87:LEU:C	2.43	0.43
11:H2:7:PHE:CZ	11:H2:9:ALA:HB3	2.54	0.43
12:I2:144:ILE:HG13	12:I2:154:ILE:CD1	2.47	0.43
13:J2:38:ILE:HA	13:J2:60:LEU:O	2.18	0.43
13:J2:84:ASN:HD22	13:J2:87:ASN:H	1.67	0.43
13:J2:135:GLU:O	13:J2:139:LYS:HD3	2.19	0.43
14:K2:85:GLY:HA3	14:K2:151:LEU:HD22	2.00	0.43
17:N2:85:LEU:HD12	17:N2:88:TRP:HB2	2.00	0.43
19:P2:34:PHE:HD1	19:P2:98:ARG:CD	2.32	0.43
24:U2:81:GLY:O	24:U2:92:PHE:HA	2.18	0.43
29:Z2:21:LYS:H	29:Z2:75:ILE:N	2.16	0.43
31:b2:21:ILE:HD12	31:b2:32:LYS:CB	2.48	0.43
31:b2:46:GLU:CD	31:b2:46:GLU:H	2.27	0.43
37:h2:133:ASN:OD1	37:h2:137:VAL:O	2.36	0.43
37:h2:168:CYS:HB3	37:h2:198:VAL:HG11	2.00	0.43
37:h2:246:TYR:O	37:h2:247:TRP:CG	2.71	0.43
39:B3:60:VAL:CG1	39:B3:67:VAL:O	2.67	0.43
40:C3:319:LEU:CD1	43:F3:151:GLU:OE2	2.67	0.43
41:D3:252:VAL:HG13	41:D3:254:GLU:N	2.33	0.43
43:F3:84:ALA:N	56:T3:138:ALA:HB2	2.33	0.43
47:J3:18:ARG:HG3	47:J3:135:GLY:HA3	1.98	0.43
47:J3:33:LEU:HD11	47:J3:70:VAL:HG23	2.00	0.43
47:J3:141:ILE:CG2	47:J3:142:ALA:N	2.80	0.43
49:M3:41:PRO:HB3	49:M3:70:GLN:HE21	1.83	0.43
51:O3:82:ARG:O	51:O3:85:ARG:HG2	2.18	0.43
73:l3:43:HIS:CD2	73:l3:44:TRP:H	2.37	0.43
79:q3:57:G:OP2	79:q3:57:G:C8	2.72	0.43
83:33:30:G:N7	83:33:31:A:N1	2.67	0.43
1:51:38:A:H8	1:51:38:A:O5'	2.01	0.43
1:51:300:A:H5'	50:N3:95:ALA:O	2.19	0.43
1:51:641:G:H2'	1:51:642:G:H8	1.84	0.43
1:51:960:A:C5	1:51:973:G:N2	2.87	0.43
1:51:963:G:O2'	1:51:964:A:O5'	2.36	0.43
1:51:1076:C:H2'	1:51:1077:C:C6	2.54	0.43
1:51:1084:C:N3	1:51:1216:C:C2	2.86	0.43
1:51:1098:G:H2'	1:51:1099:C:C6	2.53	0.43
1:51:1436:C:O2	1:51:2105:A:N3	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:1515:A:C6	1:51:1516:G:C5	3.06	0.43
1:51:1572:U:N3	54:R3:128:LYS:HD3	2.34	0.43
1:51:1684:A:C5	1:51:1685:G:C8	3.07	0.43
1:51:1744:U:C4	1:51:1745:G:N7	2.86	0.43
1:51:1885:G:C6	1:51:1895:G:N1	2.87	0.43
1:51:1888:A:C8	1:51:1889:U:C5	3.06	0.43
1:51:1914:C:C2	1:51:2050:G:N2	2.86	0.43
1:51:1942:A:C2	1:51:1943:A:C5	3.07	0.43
1:51:2434:G:C2	1:51:2435:G:C4	3.06	0.43
1:51:3764:U:C5	1:51:3765:G:C8	3.07	0.43
1:51:3900:G:OP1	1:51:3901:A:O2'	2.30	0.43
1:51:3916:G:C2	1:51:4388:A:N1	2.86	0.43
1:51:3948:C:C2	1:51:3949:A:N7	2.86	0.43
1:51:4208:U:C5	1:51:4209:G:N1	2.86	0.43
1:51:4273:A:N6	1:51:4335:C:C4	2.87	0.43
1:51:4355:G:N1	1:51:4356:G:C5	2.87	0.43
1:51:4635:A:O3'	65:d3:34:HIS:NE2	2.51	0.43
4:A2:156:G:C5	4:A2:157:U:C4	3.06	0.43
4:A2:309:G:O2'	4:A2:310:C:OP2	2.29	0.43
4:A2:795:A:C8	4:A2:796:G:N7	2.87	0.43
4:A2:862:A:H2'	4:A2:863:U:O4'	2.18	0.43
4:A2:1056:U:C4	4:A2:1057:C:C4	3.07	0.43
4:A2:1233:G:N1	4:A2:1234:C:C4	2.87	0.43
4:A2:1816:G:H2'	4:A2:1817:G:H8	1.84	0.43
4:A2:1857:G:C6	4:A2:1858:G:N2	2.86	0.43
4:A2:1865:C:O2	4:A2:1865:C:H5"	2.19	0.43
5:B2:10:MET:SD	5:B2:55:TRP:HB2	2.58	0.43
5:B2:171:VAL:HG22	5:B2:175:TRP:CD1	2.53	0.43
7:D2:192:LEU:HB3	7:D2:227:ARG:HB3	2.00	0.43
9:F2:99:PHE:CD1	9:F2:113:ARG:HG2	2.54	0.43
11:H2:176:ILE:HG22	11:H2:177:GLN:HB2	2.00	0.43
13:J2:133:GLU:O	13:J2:136:ILE:HG12	2.19	0.43
16:M2:57:ASP:OD2	16:M2:59:LYS:N	2.43	0.43
23:T2:3:LEU:HD23	23:T2:3:LEU:HA	1.76	0.43
23:T2:137:LYS:C	23:T2:138:THR:HG23	2.44	0.43
24:U2:75:MET:HA	24:U2:78:ILE:HG12	2.00	0.43
28:Y2:95:GLU:OE1	28:Y2:96:GLU:O	2.35	0.43
37:h2:171:ASP:O	37:h2:173:LEU:HD23	2.18	0.43
37:h2:256:ILE:O	37:h2:256:ILE:HG23	2.17	0.43
40:C3:276:ASN:OD1	40:C3:276:ASN:N	2.51	0.43
41:D3:20:PHE:CE2	56:T3:24:VAL:HB	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:G3:228:ARG:HB2	44:G3:233:PRO:HG2	2.00	0.43
45:H3:61:TRP:CZ3	49:M3:33:GLN:HG3	2.53	0.43
46:I3:125:THR:C	46:I3:126:VAL:HG13	2.44	0.43
46:I3:206:LEU:CD2	46:I3:210:ARG:HE	2.32	0.43
50:N3:62:TYR:CD2	50:N3:134:LEU:HD12	2.54	0.43
53:Q3:66:MET:O	53:Q3:70:MET:HG2	2.18	0.43
72:k3:27:LYS:O	72:k3:27:LYS:HG3	2.18	0.43
83:33:2:C:H2'	83:33:3:C:C6	2.53	0.43
84:w3:149:ASP:O	84:w3:154:THR:CG2	2.66	0.43
1:51:165:A:C5	1:51:166:C:C4	3.07	0.43
1:51:258:G:C6	1:51:259:C:N4	2.87	0.43
1:51:404:U:C4	1:51:405:U:C4	3.06	0.43
1:51:416:U:H5	1:51:417:G:C5	2.36	0.43
1:51:442:G:O6	1:51:1305:C:N4	2.52	0.43
1:51:737:C:P	49:M3:71:LYS:HZ1	2.42	0.43
1:51:742:G:C6	1:51:922(A):G:C6	3.05	0.43
1:51:975:C:H42	1:51:1281:G:H21	1.66	0.43
1:51:1398:A:N6	1:51:1419:G:N2	2.29	0.43
1:51:1430:C:C2	1:51:1455:G:C2	3.07	0.43
1:51:1842:G:N2	1:51:1843:A:C4	2.87	0.43
1:51:1948:G:N2	1:51:2036:C:O2	2.52	0.43
1:51:2575:U:H1'	1:51:2589:C:O5'	2.19	0.43
1:51:3625:G:O2'	1:51:3626:G:P	2.77	0.43
1:51:3971:G:H2'	1:51:4050:A:H61	1.83	0.43
1:51:4065:G:H5"	1:51:4066:U:OP2	2.19	0.43
1:51:4595:G:H2'	1:51:4596:C:H6	1.84	0.43
1:51:4641:U:O2	1:51:4659:G:C2	2.69	0.43
1:51:4909:A:C5	1:51:4912:G:C2	3.06	0.43
2:71:117:G:OP2	41:D3:252:VAL:HG23	2.19	0.43
4:A2:113:G:C2	4:A2:292:A:C6	3.06	0.43
4:A2:559:G:N3	4:A2:560:A:C8	2.87	0.43
4:A2:692:G:N2	4:A2:735:C:C2	2.86	0.43
4:A2:931:C:H42	4:A2:1010:G:H1	1.65	0.43
4:A2:942:G:C4	4:A2:985:G:N2	2.87	0.43
4:A2:1086:G:OP1	31:b2:12:LYS:NZ	2.51	0.43
4:A2:1283:C:H41	17:N2:102:LYS:CD	2.31	0.43
6:C2:97:LEU:HD23	6:C2:232:HIS:CE1	2.54	0.43
6:C2:185:VAL:O	6:C2:189:ILE:HG13	2.18	0.43
9:F2:44:LEU:HD12	9:F2:44:LEU:N	2.34	0.43
11:H2:47:GLY:HA3	11:H2:115:LYS:HD3	1.98	0.43
12:I2:62:ILE:HB	12:I2:94:PHE:HD1	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:K2:15:THR:CG2	14:K2:16:PRO:HD2	2.49	0.43
15:L2:95:ARG:HD2	15:L2:96:ARG:N	2.34	0.43
16:M2:58:LYS:O	16:M2:58:LYS:HG2	2.18	0.43
23:T2:84:LEU:HD13	23:T2:96:SER:CA	2.49	0.43
26:W2:70:LEU:HD11	26:W2:83:PHE:CE1	2.53	0.43
31:b2:44:ILE:HD13	31:b2:65:PRO:HG2	2.00	0.43
37:h2:218:LEU:HD23	37:h2:227:LEU:HD23	1.99	0.43
37:h2:236:ILE:HD11	37:h2:239:LEU:HD21	1.99	0.43
41:D3:36:LEU:O	41:D3:36:LEU:HD12	2.18	0.43
49:M3:58:THR:HB	49:M3:91:TRP:HZ3	1.84	0.43
57:U3:46:ARG:HG3	57:U3:90:TYR:OH	2.19	0.43
61:Z3:73:LYS:HD2	61:Z3:75:TYR:OH	2.19	0.43
69:h3:43:LYS:O	69:h3:43:LYS:CG	2.67	0.43
80:t3:47:LEU:O	80:t3:47:LEU:HG	2.18	0.43
84:w3:14:VAL:CA	84:w3:216:LEU:HD11	2.42	0.43
1:51:29:G:H5'	50:N3:172:ARG:NH1	2.33	0.43
1:51:73:A:C2	1:51:74:G:C8	3.07	0.43
1:51:712:C:H1'	42:E3:139:HIS:CD2	2.54	0.43
1:51:1093:C:H2'	1:51:1094:G:C8	2.54	0.43
1:51:1106:A:H2'	1:51:1107:C:C6	2.53	0.43
1:51:1235:G:HO2'	1:51:1236:C:H6	1.60	0.43
1:51:1570:G:O2'	54:R3:130:ASN:CG	2.59	0.43
1:51:1625:G:H2'	50:N3:81:TYR:OH	2.19	0.43
1:51:2474:G:N2	1:51:2503:G:H4'	2.33	0.43
1:51:2505:C:O2	1:51:2506:G:N7	2.52	0.43
1:51:2807:A:C2	1:51:2820:C:N3	2.87	0.43
1:51:3902:A:N1	1:51:4523:A:C6	2.87	0.43
1:51:3972:A:C2	1:51:4040:C:H1'	2.54	0.43
1:51:4044:U:H2'	1:51:4045:G:C8	2.53	0.43
1:51:4688:C:H2'	1:51:4689:U:C6	2.54	0.43
3:81:131:G:O3'	59:X3:108:GLN:NE2	2.51	0.43
4:A2:144:U:H2'	4:A2:144:U:O2	2.18	0.43
4:A2:224:A:H2	4:A2:298:G:N2	2.17	0.43
4:A2:304:C:H3'	4:A2:305:U:P	2.58	0.43
4:A2:339:A:H2'	4:A2:340:C:H6	1.84	0.43
4:A2:342:C:C2	4:A2:343:A:C8	3.06	0.43
4:A2:526:A:OP2	35:f2:101:ARG:NH1	2.51	0.43
4:A2:610:G:O6	4:A2:634:A:N6	2.51	0.43
4:A2:697:G:C2	4:A2:698:G:O6	2.72	0.43
4:A2:787:G:H2'	4:A2:788:G:H1'	2.01	0.43
4:A2:913:A:H2'	12:I2:120:ARG:NH2	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:956:G:H2'	4:A2:957:A:C8	2.53	0.43
4:A2:1454:A:OP1	22:S2:49:LYS:HE3	2.18	0.43
4:A2:1454:A:P	22:S2:49:LYS:HE3	2.59	0.43
4:A2:1606:G:H1	4:A2:1632:G:HO2'	1.65	0.43
4:A2:1751:C:H2'	4:A2:1752:C:O4'	2.18	0.43
6:C2:62:LEU:HD12	6:C2:65:ARG:HG3	2.00	0.43
8:E2:96:LEU:HD12	8:E2:190:LEU:HD21	2.00	0.43
10:G2:23:TRP:HH2	10:G2:101:HIS:CG	2.37	0.43
14:K2:113:GLN:O	14:K2:117:LEU:HB2	2.19	0.43
14:K2:175:ARG:HB2	14:K2:176:LYS:NZ	2.33	0.43
22:S2:114:LEU:HB2	22:S2:117:LEU:HD11	2.00	0.43
23:T2:86:ARG:HH12	23:T2:106:LYS:HB2	1.84	0.43
29:Z2:103:SER:O	29:Z2:107:ARG:HG3	2.19	0.43
36:g2:121:CYS:CB	36:g2:126:CYS:SG	3.07	0.43
37:h2:286:CYS:SG	37:h2:287:THR:N	2.91	0.43
39:B3:68:ASN:O	39:B3:70:LYS:CD	2.67	0.43
41:D3:249:GLU:C	41:D3:251:PRO:HD3	2.42	0.43
43:F3:145:ASN:HB2	43:F3:240:ASN:ND2	2.34	0.43
44:G3:141:ASP:OD1	44:G3:145:ALA:HB2	2.19	0.43
44:G3:207:LEU:HD12	44:G3:234:TYR:CB	2.48	0.43
44:G3:245:ARG:NH2	44:G3:253:THR:HA	2.33	0.43
46:I3:184:MET:HA	46:I3:187:GLU:HG2	1.99	0.43
72:k3:6:GLU:HG2	72:k3:7:GLU:N	2.34	0.43
72:k3:25:ILE:HG23	72:k3:34:PHE:CD1	2.54	0.43
79:q3:14:A:C4	79:q3:15:G:C8	3.06	0.43
81:u3:90:ARG:HG2	81:u3:98:ILE:HD11	2.01	0.43
81:u3:124:GLU:O	81:u3:128:THR:HG23	2.19	0.43
84:w3:207:LYS:HG3	84:w3:208:SER:N	2.34	0.43
1:51:87:A:O2'	62:a3:60:HIS:O	2.32	0.43
1:51:91:G:OP1	76:o3:44:LYS:NZ	2.44	0.43
1:51:113:A:OP2	1:51:156:G:N1	2.49	0.43
1:51:245:C:O2'	1:51:246:G:P	2.76	0.43
1:51:254:G:H2'	1:51:255:C:O4'	2.18	0.43
1:51:290:U:H2'	1:51:291:U:H6	1.84	0.43
1:51:347:A:C2	3:81:28:C:N3	2.87	0.43
1:51:353:A:C6	1:51:360:A:N7	2.87	0.43
1:51:724:C:H1'	40:C3:343:GLN:HG2	2.01	0.43
1:51:756:G:N2	1:51:757:G:C6	2.87	0.43
1:51:925:C:O2	1:51:925:C:H2'	2.19	0.43
1:51:1330:A:C6	1:51:1331:C:C4	3.06	0.43
1:51:1557:C:O2	54:R3:125:LEU:HG	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:1743:A:N6	1:51:1790:U:H1'	2.33	0.43
1:51:1792:U:O2	1:51:1792:U:H2'	2.19	0.43
1:51:1983:A:H1'	1:51:2010:A:H4'	2.00	0.43
1:51:1985:G:N2	1:51:2003:G:O2'	2.39	0.43
1:51:1998:A:OP2	1:51:1998:A:H8	2.02	0.43
1:51:2284:G:N2	1:51:2285:A:C4	2.86	0.43
1:51:2619:G:N2	1:51:2719:C:C2	2.87	0.43
1:51:2755:A:N7	1:51:2756:G:C2	2.86	0.43
1:51:3636:C:C2'	1:51:3637:U:H5'	2.49	0.43
1:51:3762:U:OP1	1:51:3763:A:C2	2.71	0.43
1:51:3803:A:N1	1:51:3804:G:N2	2.67	0.43
1:51:4355:G:C2	1:51:4356:G:C5	3.07	0.43
1:51:4523:A:C8	1:51:4559:A:N6	2.87	0.43
1:51:4569:U:C5	1:51:4570:G:C2	3.06	0.43
1:51:4764:A:C8	45:H3:42:ASN:OD1	2.72	0.43
4:A2:141:A:C2	4:A2:178:C:C4	3.06	0.43
4:A2:165:G:OP2	4:A2:165:G:N2	2.52	0.43
4:A2:388:U:H2'	4:A2:389:A:H8	1.84	0.43
4:A2:499:G:N1	4:A2:504:G:C6	2.87	0.43
4:A2:526:A:H5'	35:f2:104:ARG:HH12	1.83	0.43
4:A2:560:A:C6	4:A2:561:A:C6	3.06	0.43
4:A2:982:G:N2	4:A2:983:A:C2	2.87	0.43
4:A2:1010:G:N2	4:A2:1011:A:C6	2.87	0.43
4:A2:1406:G:C6	4:A2:1407:U:O4	2.71	0.43
5:B2:69:GLU:OE2	26:W2:50:PHE:HZ	2.02	0.43
5:B2:145:ILE:N	5:B2:145:ILE:CD1	2.80	0.43
7:D2:142:LYS:HZ3	7:D2:144:SER:HB3	1.82	0.43
8:E2:115:VAL:HG23	8:E2:116:ARG:N	2.34	0.43
9:F2:75:LYS:HB2	9:F2:77:ARG:NH2	2.34	0.43
9:F2:179:ASN:OD1	9:F2:230:LYS:HD3	2.19	0.43
11:H2:137:ARG:HG3	11:H2:177:GLN:HG2	2.00	0.43
11:H2:138:ALA:HA	11:H2:141:ILE:HG22	2.00	0.43
12:I2:82:GLU:O	12:I2:85:LYS:HG3	2.19	0.43
14:K2:129:LEU:HB3	14:K2:135:ILE:HD11	2.00	0.43
15:L2:32:HIS:HB2	15:L2:40:VAL:O	2.18	0.43
23:T2:104:ASP:OD1	23:T2:104:ASP:C	2.62	0.43
24:U2:112:MET:HG3	24:U2:127:GLY:HA3	1.99	0.43
29:Z2:50:THR:HG1	29:Z2:76:TYR:HD2	1.66	0.43
33:d2:34:PHE:HD2	33:d2:40:ARG:HB2	1.84	0.43
46:I3:190:LEU:HD23	46:I3:199:TYR:HA	2.01	0.43
47:J3:9:GLU:OE1	47:J3:9:GLU:N	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:Q3:18:PRO:HD3	53:Q3:52:PHE:CE1	2.54	0.43
60:Y3:66:GLN:H	60:Y3:66:GLN:CD	2.26	0.43
84:w3:124:LEU:HB3	84:w3:128:LEU:CD1	2.49	0.43
86:W:49:ILE:O	86:W:55:TYR:CG	2.72	0.43
1:51:332:C:C5	1:51:333:U:C5	3.07	0.43
1:51:427:A:H2'	1:51:428:G:C8	2.53	0.43
1:51:703:G:OP1	66:e3:8:VAL:HG23	2.19	0.43
1:51:977:C:C2	40:C3:323:ARG:NH1	2.87	0.43
1:51:1220:G:C4	1:51:1221:G:C6	3.07	0.43
1:51:1330:A:C2	1:51:2357:G:C2	3.07	0.43
1:51:1558:A:P	54:R3:121:HIS:NE2	2.90	0.43
1:51:1926:C:H42	1:51:2058:G:H1	1.67	0.43
1:51:3877:A:N3	1:51:4401:G:O2'	2.40	0.43
1:51:3945:A:H2'	1:51:3945:A:N3	2.34	0.43
1:51:4122:G:N2	68:g3:97:ILE:HB	2.34	0.43
1:51:4422:A:C6	1:51:4423:U:C5	3.06	0.43
1:51:4919:G:C2	1:51:4920:C:H1'	2.54	0.43
1:51:5030:U:N3	1:51:5031:G:N7	2.67	0.43
4:A2:498:C:C2	4:A2:505:G:N2	2.87	0.43
4:A2:602:G:N1	4:A2:603:C:N4	2.67	0.43
4:A2:681:U:H2'	4:A2:682:U:H6	1.84	0.43
4:A2:750:C:H5"	4:A2:751:G:N2	2.33	0.43
4:A2:1458:G:H2'	4:A2:1459:G:H8	1.83	0.43
4:A2:1486:A:C2	4:A2:1487:A:C4	3.07	0.43
6:C2:105:LEU:HG	6:C2:110:MET:HE2	2.01	0.43
6:C2:192:SER:HA	6:C2:195:LYS:HE3	2.00	0.43
10:G2:122:ARG:O	10:G2:141:VAL:HG22	2.19	0.43
11:H2:5:ILE:HD12	11:H2:5:ILE:HA	1.84	0.43
12:I2:75:ILE:O	12:I2:75:ILE:HG22	2.18	0.43
12:I2:76:GLN:OE1	12:I2:94:PHE:CD2	2.72	0.43
13:J2:79:ILE:HG23	13:J2:80:ASP:N	2.34	0.43
16:M2:13:GLN:OE1	16:M2:36:TYR:HB3	2.18	0.43
19:P2:31:CYS:SG	19:P2:95:ILE:HG12	2.59	0.43
21:R2:53:GLU:N	21:R2:54:PRO:HD2	2.34	0.43
22:S2:104:GLU:O	22:S2:107:LYS:HB2	2.19	0.43
23:T2:108:ARG:O	23:T2:108:ARG:HD3	2.17	0.43
27:X2:100:GLY:O	27:X2:101:PHE:CD1	2.71	0.43
28:Y2:56:GLY:HA3	35:f2:79:LEU:HD21	2.01	0.43
28:Y2:119:ARG:HB2	28:Y2:120:PHE:CD2	2.54	0.43
30:a2:48:VAL:O	30:a2:83:LEU:HD12	2.19	0.43
30:a2:62:VAL:CG1	30:a2:63:PRO:HD3	2.42	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:h2:163:PRO:HB2	37:h2:179:LEU:HB2	2.01	0.43
45:H3:77:VAL:HG22	45:H3:80:MET:HE3	2.00	0.43
45:H3:137:SER:OG	45:H3:143:GLU:HB3	2.19	0.43
46:I3:145:LYS:O	46:I3:148:VAL:HG22	2.18	0.43
50:N3:36:LEU:HG	50:N3:64:ILE:CG2	2.49	0.43
53:Q3:82:VAL:CG1	53:Q3:102:ALA:HB2	2.49	0.43
55:S3:159:LEU:HG	55:S3:160:ARG:O	2.19	0.43
59:X3:83:THR:HG23	59:X3:86:ALA:H	1.84	0.43
71:j3:48:ASN:OD1	71:j3:54:LYS:NZ	2.43	0.43
72:k3:24:LYS:HG3	72:k3:35:LYS:CG	2.48	0.43
77:p3:70:THR:HG22	77:p3:71:TYR:N	2.25	0.43
80:t3:69:LEU:CD2	80:t3:75:LEU:O	2.67	0.43
81:u3:152:ILE:HD12	81:u3:155:ILE:CD1	2.42	0.43
84:w3:61:PRO:HB2	84:w3:63:PHE:CE1	2.54	0.43
84:w3:73:HIS:CE1	84:w3:143:ASN:O	2.72	0.43
1:51:7:C:N3	3:81:152:U:O4	2.52	0.43
1:51:29:G:N2	1:51:54:G:C2	2.87	0.43
1:51:61:A:N6	1:51:62:A:C2	2.87	0.43
1:51:90:G:O6	1:51:92:C:O2	2.37	0.43
1:51:125:C:O2'	1:51:126:C:P	2.77	0.43
1:51:149:A:C2	1:51:151:G:N2	2.87	0.43
1:51:966:A:C8	1:51:2096:G:C5	3.07	0.43
1:51:966:A:H2'	1:51:966:A:N3	2.33	0.43
1:51:1091:C:H2'	1:51:1092:G:H8	1.83	0.43
1:51:1170:G:N1	1:51:1192:C:C4	2.87	0.43
1:51:1434:G:C5	1:51:1435:G:N1	2.87	0.43
1:51:1693:U:N3	1:51:1844:G:N2	2.67	0.43
1:51:1947:U:O2	1:51:1947:U:C2'	2.67	0.43
1:51:1979:A:H5'	81:u3:94:LYS:HG2	2.01	0.43
1:51:1989:G:O2'	81:u3:97:ASN:HA	2.19	0.43
1:51:2261:G:N7	1:51:2262:G:N1	2.67	0.43
1:51:2679:G:N2	1:51:2680:G:C4	2.87	0.43
1:51:2866:C:H42	1:51:2885:A:N6	2.15	0.43
1:51:4637:G:N1	1:51:4638:U:O2	2.51	0.43
1:51:4944:C:H5	67:f3:59:THR:HG22	1.83	0.43
1:51:4971:A:N7	1:51:4972:U:C5	2.87	0.43
1:51:5011:A:C6	1:51:5038:A:N6	2.87	0.43
2:71:42:A:C6	2:71:43:U:C4	3.07	0.43
2:71:48:G:N1	2:71:49:A:C2	2.87	0.43
2:71:107:G:N3	2:71:108:G:C8	2.87	0.43
3:81:52:A:OP1	73:l3:21:ARG:NH2	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:173:A:N7	4:A2:174:C:C4	2.87	0.43
4:A2:518:G:N1	4:A2:519:A:C5	2.87	0.43
4:A2:821:G:O6	14:K2:83:ARG:NH1	2.52	0.43
4:A2:1051:G:H2'	4:A2:1052:A:C8	2.54	0.43
4:A2:1113:A:N6	4:A2:1114:U:O4	2.52	0.43
4:A2:1298:G:H2'	4:A2:1299:A:C8	2.54	0.43
4:A2:1541:G:N2	4:A2:1593:C:C2	2.86	0.43
5:B2:25:LEU:HD23	5:B2:26:GLY:O	2.18	0.43
7:D2:196:ILE:HB	7:D2:223:TYR:HB2	1.99	0.43
11:H2:55:GLY:H	11:H2:63:MET:HB2	1.84	0.43
11:H2:136:LYS:NZ	11:H2:174:PRO:HB3	2.34	0.43
14:K2:65:GLU:HG3	14:K2:66:LYS:N	2.34	0.43
16:M2:145:VAL:HG23	16:M2:145:VAL:O	2.19	0.43
20:Q2:106:GLU:HA	20:Q2:106:GLU:OE2	2.19	0.43
21:R2:110:ASP:O	21:R2:114:GLN:HG3	2.18	0.43
22:S2:31:ASN:O	22:S2:34:VAL:HG22	2.18	0.43
30:a2:51:ASP:OD2	30:a2:52:LYS:N	2.49	0.43
30:a2:62:VAL:N	30:a2:63:PRO:CD	2.82	0.43
30:a2:107:VAL:HG12	30:a2:108:ILE:N	2.33	0.43
37:h2:89:LEU:HD23	37:h2:99:ARG:HB2	2.00	0.43
38:A3:202:VAL:HG11	38:A3:217:GLN:HB3	2.00	0.43
41:D3:109:LEU:HD11	41:D3:113:PHE:CE2	2.53	0.43
41:D3:132:VAL:HG13	41:D3:132:VAL:O	2.18	0.43
42:E3:169:LYS:NZ	42:E3:171:LEU:HD23	2.34	0.43
44:G3:247:VAL:HG23	44:G3:250:LYS:H	1.83	0.43
56:T3:92:ARG:HG2	56:T3:93:ILE:H	1.84	0.43
60:Y3:58:VAL:HG23	60:Y3:59:ARG:N	2.34	0.43
64:c3:77:ASN:OD1	64:c3:80:GLU:OE1	2.37	0.43
67:f3:75:THR:HG23	67:f3:76:ARG:H	1.84	0.43
80:t3:146:LYS:HB2	80:t3:155:LEU:HD11	1.99	0.43
81:u3:125:LEU:HB2	81:u3:161:GLU:C	2.44	0.43
85:1:56:TRP:CG	85:1:59:TYR:HD1	2.37	0.43
86:W:13:ILE:O	86:W:13:ILE:HG22	2.18	0.43
1:51:207:G:C6	1:51:208:A:N1	2.87	0.42
1:51:433:A:C6	1:51:434:A:C6	3.07	0.42
1:51:732:A:OP2	1:51:733:A:H5'	2.19	0.42
1:51:920:C:H2'	1:51:921:C:H6	1.84	0.42
1:51:1819:G:C2	1:51:1820:U:O2	2.72	0.42
1:51:1993:C:N4	1:51:2002:A:OP2	2.42	0.42
1:51:2038:U:H2'	1:51:2039:G:O4'	2.19	0.42
1:51:2098:G:H2'	1:51:2099:C:N1	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:2578:G:C5	61:Z3:17:ARG:NH2	2.87	0.42
1:51:2660:A:C4	1:51:2662:G:H1'	2.54	0.42
1:51:2768:C:O2'	1:51:2769:U:H2'	2.19	0.42
1:51:3868:G:H8	1:51:3868:G:O5'	2.02	0.42
1:51:3874:G:H2'	1:51:3875:G:O4'	2.19	0.42
1:51:3965:A:C6	1:51:4048:A:C2	3.07	0.42
1:51:3970:G:N2	1:51:4053:A:C2	2.84	0.42
1:51:4077:A:C5	1:51:4170:A:N6	2.87	0.42
1:51:4082:G:N2	1:51:4083:U:O2	2.52	0.42
1:51:4127:A:N9	1:51:4128:A:H8	2.16	0.42
2:71:1:G:C2	2:71:119:U:O4'	2.72	0.42
4:A2:56:G:C6	4:A2:90:G:N1	2.87	0.42
4:A2:191:A:C4	4:A2:209:A:C2	3.07	0.42
4:A2:306:C:C2	4:A2:308:G:N1	2.87	0.42
4:A2:681:U:C5	4:A2:682:U:H5	2.37	0.42
4:A2:750:C:N4	4:A2:795:A:N6	2.67	0.42
4:A2:1594:A:H62	30:a2:104:ARG:NH1	2.17	0.42
4:A2:1647:A:N6	4:A2:1676:U:OP2	2.40	0.42
4:A2:1726:G:N1	4:A2:1727:G:C5	2.87	0.42
5:B2:173:LEU:HA	5:B2:173:LEU:HD12	1.81	0.42
6:C2:34:LYS:O	6:C2:98:THR:OG1	2.30	0.42
9:F2:136:ILE:HD13	9:F2:149:TYR:CD1	2.54	0.42
12:I2:9:VAL:HG21	12:I2:44:ASN:ND2	2.33	0.42
12:I2:48:ALA:CB	12:I2:62:ILE:HD13	2.49	0.42
12:I2:53:VAL:HG21	12:I2:59:ALA:HB2	2.01	0.42
12:I2:148:LEU:HD12	27:X2:49:GLU:HB3	2.00	0.42
13:J2:79:ILE:HG22	13:J2:105:ASP:HB2	2.00	0.42
13:J2:91:VAL:HG13	13:J2:92:ARG:N	2.34	0.42
14:K2:136:ARG:HD3	14:K2:158:ASP:HB3	2.00	0.42
23:T2:27:ALA:HB1	23:T2:42:HIS:NE2	2.34	0.42
25:V2:19:ARG:NH2	25:V2:92:HIS:CE1	2.88	0.42
27:X2:81:VAL:HG12	27:X2:89:TRP:HE1	1.83	0.42
27:X2:106:THR:HG22	27:X2:109:GLY:O	2.18	0.42
37:h2:11:LEU:HD11	37:h2:31:ILE:HD13	2.01	0.42
37:h2:13:GLY:HA3	37:h2:43:TRP:HH2	1.84	0.42
39:B3:264:PHE:HD1	51:O3:64:THR:O	2.02	0.42
41:D3:197:LYS:HA	41:D3:202:GLN:HE21	1.84	0.42
46:I3:159:PHE:HB2	46:I3:163:GLN:HE22	1.84	0.42
47:J3:44:THR:OG1	47:J3:45:GLY:N	2.51	0.42
53:Q3:88:ASP:HB2	53:Q3:109:ALA:HB2	2.01	0.42
54:R3:108:ARG:HH11	54:R3:108:ARG:HG3	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:S3:30:MET:HE1	55:S3:47:PHE:HD2	1.84	0.42
56:T3:105:PHE:O	56:T3:109:VAL:HG23	2.18	0.42
59:X3:45:THR:O	59:X3:45:THR:CG2	2.63	0.42
68:g3:63:VAL:C	68:g3:64:LEU:HD23	2.44	0.42
70:i3:32:ARG:O	70:i3:33:LEU:HB2	2.19	0.42
80:t3:43:ILE:HA	80:t3:105:ASN:HB3	1.99	0.42
80:t3:120:GLU:HA	80:t3:161:ILE:O	2.19	0.42
80:t3:143:ILE:HA	80:t3:158:VAL:HG21	2.01	0.42
83:33:4:C:H2'	83:33:5:G:C8	2.53	0.42
83:33:57:A:N3	83:33:59:G:C8	2.87	0.42
84:w3:17:VAL:HG13	84:w3:216:LEU:HD13	2.01	0.42
84:w3:23:ARG:NE	84:w3:208:SER:OG	2.52	0.42
84:w3:26:ARG:CD	84:w3:26:ARG:N	2.82	0.42
86:W:48:GLN:C	86:W:49:ILE:HD12	2.44	0.42
1:51:2:G:C6	3:81:156:U:C4	3.07	0.42
1:51:99:A:C5	1:51:100:C:H5	2.36	0.42
1:51:395:A:C6	1:51:2379:A:C2	3.07	0.42
1:51:418:A:H2'	1:51:418:A:N3	2.34	0.42
1:51:935:A:N3	49:M3:44:ARG:HA	2.34	0.42
1:51:1219:G:N1	1:51:1221:G:C8	2.87	0.42
1:51:1441:C:H41	1:51:2113:G:C2'	2.31	0.42
1:51:1811:G:N2	1:51:1812:C:C2	2.87	0.42
1:51:2009:A:N7	1:51:2010:A:C6	2.87	0.42
1:51:2438:A:C6	1:51:2441:C:C5	3.07	0.42
1:51:2677:G:H2'	1:51:2678:A:O4'	2.19	0.42
1:51:2762:G:O2'	1:51:2763:U:H3'	2.19	0.42
1:51:3972:A:N3	1:51:4040:C:O2	2.51	0.42
1:51:4124:G:N2	44:G3:96:GLN:O	2.51	0.42
1:51:4147:G:C8	1:51:4147:G:O5'	2.72	0.42
1:51:4707:A:C5	1:51:4709:U:O4	2.72	0.42
2:71:120:U:O4	41:D3:258:LYS:HA	2.19	0.42
3:81:124:U:O5'	3:81:124:U:H6	2.02	0.42
4:A2:28:U:H2'	4:A2:29:G:H8	1.84	0.42
4:A2:211:G:H2'	4:A2:212:C:O4'	2.19	0.42
4:A2:554:A:C8	4:A2:556:U:OP2	2.72	0.42
4:A2:801:U:C2	4:A2:802:A:C8	3.06	0.42
4:A2:1025:U:C5	4:A2:1026:C:N3	2.87	0.42
4:A2:1102:G:N1	4:A2:1131:G:C6	2.87	0.42
4:A2:1173:A:C6	4:A2:1174:U:C4	3.07	0.42
4:A2:1558:C:H2'	4:A2:1559:C:C6	2.54	0.42
7:D2:251:LEU:HD23	7:D2:252:THR:N	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E2:68:GLU:OE1	15:L2:20:VAL:HG11	2.18	0.42
10:G2:90:VAL:HG23	10:G2:91:ARG:N	2.33	0.42
10:G2:144:LEU:HD23	33:d2:49:PRO:CG	2.45	0.42
11:H2:122:PRO:O	11:H2:126:ASP:OD2	2.38	0.42
12:I2:94:PHE:O	12:I2:95:ILE:HD13	2.19	0.42
13:J2:173:ALA:HA	13:J2:188:TYR:O	2.19	0.42
17:N2:64:LEU:HD21	36:g2:106:TYR:HB2	2.01	0.42
18:O2:72:LEU:C	18:O2:72:LEU:HD23	2.44	0.42
22:S2:32:LYS:O	22:S2:47:ARG:HD3	2.19	0.42
24:U2:37:VAL:HG22	24:U2:38:LYS:H	1.84	0.42
25:V2:29:VAL:HG22	25:V2:85:HIS:CD2	2.54	0.42
26:W2:39:VAL:HG12	26:W2:40:ASP:O	2.19	0.42
27:X2:60:LYS:C	27:X2:61:ILE:HG13	2.43	0.42
27:X2:77:PRO:HG2	27:X2:79:PHE:HE1	1.83	0.42
29:Z2:104:ARG:HB3	29:Z2:107:ARG:HH21	1.84	0.42
37:h2:31:ILE:HG22	37:h2:45:LEU:HD21	2.02	0.42
37:h2:42:MET:HE3	37:h2:44:LYS:HE3	1.99	0.42
41:D3:212:MET:O	41:D3:216:GLU:OE2	2.36	0.42
49:M3:12:VAL:CG1	49:M3:60:PHE:HB2	2.49	0.42
52:P3:15:CYS:SG	52:P3:102:ALA:HB2	2.59	0.42
57:U3:42:PHE:O	57:U3:43:LEU:HD23	2.20	0.42
60:Y3:58:VAL:HG23	60:Y3:59:ARG:H	1.84	0.42
60:Y3:123:ALA:HA	60:Y3:126:ARG:HB3	2.02	0.42
64:c3:25:GLY:HA3	64:c3:98:ASP:O	2.18	0.42
64:c3:28:VAL:HG13	64:c3:28:VAL:O	2.19	0.42
65:d3:122:VAL:HG22	65:d3:123:ASP:OD1	2.19	0.42
70:i3:58:MET:HE1	70:i3:94:LEU:HB2	2.00	0.42
77:p3:38:THR:HG22	77:p3:44:LYS:CD	2.49	0.42
83:33:32:C:H5'	83:33:33:U:OP2	2.19	0.42
84:w3:205:TYR:CB	84:w3:213:PRO:HB3	2.49	0.42
1:51:691:C:H5'	1:51:692:A:OP2	2.19	0.42
1:51:963:G:N2	1:51:970:G:C4	2.87	0.42
1:51:1185:G:C6	1:51:1186:U:C5	3.07	0.42
1:51:1989:G:C2	81:u3:99:LYS:CE	3.02	0.42
1:51:2046:G:H21	51:O3:60:LYS:HD3	1.83	0.42
1:51:2339:G:C2	1:51:2340:C:C6	3.08	0.42
1:51:2420:A:C4	1:51:2424:G:O6	2.72	0.42
1:51:2500:U:H2'	1:51:2501:C:C6	2.54	0.42
1:51:2561:C:O2	1:51:2567:G:C6	2.72	0.42
1:51:2572:C:O2'	1:51:2573:A:P	2.71	0.42
1:51:3961:G:O2'	1:51:4049:U:O4	2.29	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:4061:G:N2	1:51:4062:A:N6	2.67	0.42
1:51:4581:G:N2	1:51:4723:A:N1	2.66	0.42
1:51:5020:G:H3'	1:51:5021:C:P	2.59	0.42
3:81:106:G:C2	3:81:114:G:C4	3.07	0.42
3:81:152:U:OP1	3:81:152:U:H4'	2.19	0.42
4:A2:76:U:O2'	4:A2:77:A:C5'	2.67	0.42
4:A2:85:A:N1	4:A2:86:C:N4	2.67	0.42
4:A2:212:C:H2'	4:A2:213:G:O4'	2.19	0.42
4:A2:234:C:N4	4:A2:895:G:C8	2.87	0.42
4:A2:322:C:N4	4:A2:330:G:O6	2.52	0.42
4:A2:389:A:H2'	4:A2:390:C:H6	1.84	0.42
4:A2:453:C:O2'	11:H2:92:ARG:O	2.37	0.42
4:A2:527:C:H2'	4:A2:528:A:C8	2.54	0.42
4:A2:550:C:O2'	4:A2:551:U:O4'	2.37	0.42
4:A2:888:U:O5'	4:A2:888:U:H6	2.01	0.42
4:A2:1286:G:C2	17:N2:33:ARG:NH1	2.88	0.42
4:A2:1624:U:O2	4:A2:1624:U:O4'	2.36	0.42
4:A2:1718:G:N2	4:A2:1815:A:O4'	2.53	0.42
7:D2:116:THR:HG23	7:D2:118:ALA:H	1.85	0.42
7:D2:208:PRO:O	7:D2:212:LYS:HG3	2.19	0.42
7:D2:255:LEU:HD12	7:D2:255:LEU:N	2.35	0.42
9:F2:61:VAL:HG12	9:F2:80:ILE:CG2	2.49	0.42
9:F2:72:ILE:O	9:F2:73:ASP:OD1	2.38	0.42
9:F2:127:ARG:HB2	9:F2:140:VAL:O	2.19	0.42
12:I2:31:GLU:O	12:I2:37:LYS:HB3	2.18	0.42
12:I2:79:LEU:O	12:I2:83:LEU:HD23	2.19	0.42
13:J2:165:GLN:HG3	13:J2:165:GLN:O	2.18	0.42
13:J2:188:TYR:CD2	13:J2:190:LEU:HD21	2.53	0.42
14:K2:136:ARG:NE	14:K2:157:ILE:C	2.77	0.42
20:Q2:22:LEU:O	20:Q2:26:LEU:HG	2.19	0.42
22:S2:35:CYS:SG	22:S2:47:ARG:HG2	2.59	0.42
32:c2:52:THR:HG22	32:c2:53:VAL:N	2.34	0.42
38:A3:242:ARG:C	38:A3:243:THR:HG23	2.45	0.42
41:D3:107:ARG:NH2	41:D3:120:GLU:OE1	2.52	0.42
48:L3:180:ALA:O	48:L3:184:MET:CG	2.67	0.42
52:P3:55:LYS:O	52:P3:72:GLN:OE1	2.36	0.42
55:S3:39:VAL:HA	55:S3:42:SER:OG	2.19	0.42
66:e3:35:TRP:CZ2	66:e3:56:PRO:HD2	2.54	0.42
66:e3:79:VAL:HG23	66:e3:79:VAL:O	2.19	0.42
76:o3:68:LEU:HD11	76:o3:85:ILE:HD11	2.00	0.42
81:u3:62:LEU:HG	81:u3:71:ILE:CD1	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
83:33:66:U:C2	83:33:67:U:C5	3.07	0.42
84:w3:17:VAL:HG11	84:w3:216:LEU:HB2	2.00	0.42
1:51:425:U:H2'	1:51:426:A:C8	2.54	0.42
1:51:438:G:P	66:e3:18:LYS:NZ	2.92	0.42
1:51:517:C:H2'	1:51:518:G:C8	2.54	0.42
1:51:961:G:N7	1:51:962:C:C4	2.88	0.42
1:51:983:C:H2'	1:51:984:C:O5'	2.19	0.42
1:51:1101:C:C6	1:51:1167:C:OP2	2.72	0.42
1:51:1281:G:O6	42:E3:131:HIS:HB2	2.19	0.42
1:51:2547:G:C6	1:51:2773:G:N1	2.87	0.42
1:51:2696:A:N6	72:k3:35:LYS:NZ	2.67	0.42
1:51:3622:C:H42	54:R3:82:LYS:HZ1	1.67	0.42
1:51:3879:G:C6	1:51:3882:C:C4	3.07	0.42
3:81:151:G:H3'	3:81:152:U:H5"	2.00	0.42
4:A2:87:U:H5"	4:A2:88:G:OP2	2.19	0.42
4:A2:231:A:H2'	4:A2:232:A:C8	2.53	0.42
4:A2:728:U:O4	4:A2:729:C:H1'	2.20	0.42
4:A2:938:A:C6	4:A2:939:U:C4	3.07	0.42
4:A2:952:G:C2	4:A2:953:C:O2	2.72	0.42
4:A2:1091:C:N4	4:A2:1159:G:C6	2.86	0.42
4:A2:1533:A:C2	4:A2:1604:G:H4'	2.54	0.42
4:A2:1656:G:C5	4:A2:1669:G:C2	3.08	0.42
4:A2:1718:G:N2	4:A2:1814:G:H2'	2.34	0.42
4:A2:1749:G:H2'	4:A2:1750:C:C6	2.55	0.42
4:A2:1834:A:C2	4:A2:1836:G:C4	3.08	0.42
6:C2:90:ASP:OD2	6:C2:91:VAL:N	2.51	0.42
6:C2:150:ILE:HG22	22:S2:132:ARG:HD3	2.01	0.42
12:I2:177:TYR:CE1	12:I2:181:THR:HG21	2.55	0.42
21:R2:92:LEU:HD11	21:R2:96:TYR:HE2	1.84	0.42
22:S2:66:VAL:HB	22:S2:69:ILE:CG1	2.48	0.42
22:S2:114:LEU:HD13	22:S2:114:LEU:HA	1.91	0.42
23:T2:108:ARG:CZ	47:J3:125:ILE:HD12	2.49	0.42
37:h2:159:ASN:ND2	37:h2:203:ASP:O	2.52	0.42
39:B3:102:PHE:O	39:B3:103:LYS:HG2	2.19	0.42
41:D3:90:VAL:CG1	41:D3:226:TYR:CD1	3.02	0.42
41:D3:131:ASN:OD1	41:D3:131:ASN:N	2.49	0.42
47:J3:22:LEU:HD23	47:J3:130:PHE:HD1	1.84	0.42
48:L3:17:ASP:O	48:L3:17:ASP:OD2	2.38	0.42
50:N3:25:VAL:HG13	50:N3:26:ARG:H	1.83	0.42
50:N3:44:ARG:HB3	50:N3:46:ASP:OD1	2.19	0.42
50:N3:126:THR:HG23	50:N3:127:TYR:CE2	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:N3:132:VAL:CG1	50:N3:133:ILE:N	2.82	0.42
51:O3:93:LYS:HG3	51:O3:93:LYS:O	2.18	0.42
51:O3:166:ILE:O	51:O3:169:ARG:HG2	2.18	0.42
55:S3:16:CYS:SG	55:S3:17:LEU:N	2.93	0.42
61:Z3:46:ILE:N	61:Z3:71:PHE:CE1	2.87	0.42
61:Z3:83:THR:OG1	61:Z3:84:ARG:N	2.51	0.42
63:b3:28:ARG:HG3	63:b3:29:TYR:N	2.34	0.42
68:g3:103:VAL:HA	68:g3:106:VAL:HG22	2.00	0.42
69:h3:28:LEU:CD2	69:h3:32:ARG:HE	2.31	0.42
72:k3:24:LYS:HG3	72:k3:35:LYS:CD	2.50	0.42
74:m3:62:LYS:O	74:m3:66:ASP:OD2	2.36	0.42
76:o3:68:LEU:HB2	76:o3:83:LEU:HB3	2.02	0.42
81:u3:20:GLY:HA3	81:u3:54:LYS:HA	2.01	0.42
81:u3:45:ASP:OD1	81:u3:46:ILE:N	2.53	0.42
83:33:18:U:O4	83:33:55:U:O4	2.37	0.42
1:51:87:A:C5	1:51:98:A:C2	3.08	0.42
1:51:288:G:C6	1:51:300:A:N1	2.87	0.42
1:51:301:G:H2'	1:51:302:C:H6	1.84	0.42
1:51:360:A:C2	3:81:24:G:C4	3.06	0.42
1:51:448:G:C2	1:51:450:G:C5	3.08	0.42
1:51:930:G:O2'	1:51:931:C:P	2.77	0.42
1:51:1092:G:N1	1:51:1205:G:C6	2.87	0.42
1:51:1347:G:N2	1:51:1510:G:C4	2.85	0.42
1:51:1445:U:O2'	1:51:1446:C:P	2.78	0.42
1:51:1475:G:C2	1:51:1476:C:N4	2.87	0.42
1:51:1517:G:C2	1:51:1650:A:N6	2.86	0.42
1:51:1530:G:N2	1:51:1645:C:C2	2.88	0.42
1:51:1821:G:H4'	1:51:1822:U:C5'	2.50	0.42
1:51:1978:C:O2'	81:u3:98:ILE:HG12	2.20	0.42
1:51:2093:G:N2	1:51:2262:G:H1	2.18	0.42
1:51:2483:G:C6	1:51:2496:G:C6	3.07	0.42
1:51:3895:G:N1	1:51:3896:C:O2	2.52	0.42
1:51:3965:A:O5'	1:51:3966:A:OP2	2.37	0.42
1:51:3973:G:C4	1:51:4039:G:N2	2.86	0.42
1:51:4073:A:C2	1:51:4074:C:C5	3.07	0.42
1:51:4414:A:H2'	1:51:4422:A:N1	2.33	0.42
1:51:4476:C:H3'	1:51:4476:C:O2	2.19	0.42
1:51:4494:G:C6	1:51:4495:G:C5	3.08	0.42
1:51:4642:U:N3	1:51:4658:G:N2	2.67	0.42
1:51:4719:G:HO2'	1:51:4720:C:P	2.41	0.42
3:81:151:G:C6	44:G3:117:GLN:N	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:68:A:H5"	4:A2:69:C:OP2	2.19	0.42
4:A2:150:A:H62	4:A2:168:C:N4	2.18	0.42
4:A2:297:A:N3	4:A2:297:A:H2'	2.34	0.42
4:A2:322:C:C4	4:A2:330:G:N1	2.88	0.42
4:A2:880:G:C2	4:A2:881:G:C4	3.07	0.42
4:A2:1071:G:C2	4:A2:1072:U:C2	3.08	0.42
4:A2:1086:G:P	31:b2:12:LYS:NZ	2.92	0.42
4:A2:1292:C:C5	4:A2:1302:G:N7	2.87	0.42
4:A2:1554:C:C5	4:A2:1555:U:C4	3.07	0.42
4:A2:1610:G:N1	4:A2:1630:A:C4	2.87	0.42
5:B2:145:ILE:HG13	5:B2:159:ILE:HD11	2.02	0.42
5:B2:183:LEU:HD12	5:B2:195:TRP:CH2	2.55	0.42
6:C2:97:LEU:HD23	6:C2:232:HIS:ND1	2.34	0.42
6:C2:194:GLY:O	6:C2:210:VAL:HG11	2.18	0.42
8:E2:137:VAL:HG22	8:E2:151:LYS:HG3	2.01	0.42
10:G2:76:MET:HB3	10:G2:89:THR:HG21	2.02	0.42
13:J2:129:LEU:HD11	13:J2:134:GLU:H	1.85	0.42
22:S2:94:GLU:O	22:S2:116:ASN:HB2	2.20	0.42
30:a2:68:ILE:HB	30:a2:109:TYR:HB2	2.01	0.42
37:h2:220:ASP:HB3	37:h2:223:GLU:O	2.20	0.42
38:A3:112:ILE:CG2	38:A3:133:TYR:HB2	2.50	0.42
43:F3:89:ALA:CB	43:F3:124:LEU:HD21	2.49	0.42
43:F3:148:SER:HB2	43:F3:244:ARG:NH2	2.34	0.42
47:J3:141:ILE:HG13	47:J3:148:THR:O	2.20	0.42
48:L3:65:ARG:HG2	48:L3:66:TYR:CD1	2.53	0.42
49:M3:91:TRP:CD1	49:M3:91:TRP:C	2.98	0.42
50:N3:148:THR:HA	50:N3:150:TRP:CD1	2.53	0.42
54:R3:127:VAL:HG12	54:R3:127:VAL:O	2.19	0.42
77:p3:46:LYS:HG3	77:p3:46:LYS:O	2.17	0.42
80:t3:145:THR:O	80:t3:146:LYS:HD3	2.19	0.42
81:u3:44:ASP:O	81:u3:48:LYS:HG2	2.19	0.42
1:51:383:A:N6	1:51:384:A:N1	2.67	0.42
1:51:699:C:H2'	1:51:700:G:H8	1.84	0.42
1:51:1184:A:N1	1:51:1185:G:C2	2.88	0.42
1:51:1532:G:C6	1:51:1623:A:C5	3.07	0.42
1:51:1540:C:N4	1:51:1619:G:O6	2.52	0.42
1:51:1980:U:OP2	81:u3:94:LYS:HB3	2.19	0.42
1:51:2414:G:N2	1:51:2431:A:C4	2.88	0.42
1:51:2554:U:H1'	1:51:2574:G:O6	2.19	0.42
1:51:2896:G:N2	1:51:3606:U:C2	2.88	0.42
1:51:3656:A:N3	1:51:3689:G:N2	2.67	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:3677:U:C4	1:51:3678:G:C6	3.08	0.42
1:51:3902:A:C2	1:51:3903:A:C8	3.08	0.42
1:51:3959:U:O3'	1:51:3961:G:O6	2.36	0.42
1:51:4066:U:O3'	1:51:4067:U:C4'	2.68	0.42
1:51:4086:G:N2	44:G3:99:GLN:HE21	2.18	0.42
2:71:56:G:C6	41:D3:25:GLU:HA	2.54	0.42
3:81:62:A:OP1	69:h3:52:LYS:NZ	2.46	0.42
4:A2:15:U:H1'	4:A2:668:A:C2	2.55	0.42
4:A2:183:G:N1	4:A2:184:G:C2	2.87	0.42
4:A2:881:G:N2	4:A2:906:U:H1'	2.34	0.42
4:A2:893:U:O2	4:A2:894:G:C2	2.73	0.42
4:A2:1115:U:O3'	4:A2:1116:C:O2	2.38	0.42
4:A2:1175:G:H1	4:A2:1186:U:H3	1.67	0.42
4:A2:1281:G:C2	4:A2:1282:A:H1'	2.55	0.42
4:A2:1601:A:N3	4:A2:1601:A:O4'	2.48	0.42
5:B2:28:THR:O	5:B2:47:TYR:HE2	2.03	0.42
6:C2:114:VAL:HG12	6:C2:142:PHE:CZ	2.53	0.42
8:E2:28:GLU:OE1	8:E2:29:LEU:HD21	2.19	0.42
9:F2:47:PHE:CE2	9:F2:52:LEU:HD11	2.54	0.42
10:G2:50:PRO:O	10:G2:70:GLU:OE1	2.38	0.42
11:H2:70:HIS:HA	11:H2:99:GLY:HA3	2.02	0.42
13:J2:178:ARG:CG	13:J2:181:GLN:HB3	2.50	0.42
17:N2:14:VAL:HG23	17:N2:124:ILE:HD13	2.01	0.42
20:Q2:79:HIS:HD2	20:Q2:97:TYR:CD2	2.37	0.42
21:R2:55:VAL:HA	21:R2:63:PHE:HE2	1.84	0.42
23:T2:14:ARG:NH1	23:T2:17:ASN:HA	2.35	0.42
24:U2:51:ASN:HB2	24:U2:54:TYR:HD2	1.85	0.42
28:Y2:51:VAL:HG13	28:Y2:97:ASN:H	1.84	0.42
38:A3:8:GLN:NE2	38:A3:232:GLY:HA3	2.35	0.42
39:B3:204:GLN:N	39:B3:204:GLN:CD	2.77	0.42
40:C3:333:LYS:HE2	42:E3:56:ILE:HG23	2.02	0.42
44:G3:259:GLN:HG3	44:G3:260:VAL:N	2.35	0.42
45:H3:89:ARG:HA	45:H3:146:LEU:O	2.19	0.42
45:H3:89:ARG:NH1	45:H3:187:VAL:HA	2.34	0.42
47:J3:24:ILE:HG12	47:J3:128:LEU:HB3	2.02	0.42
50:N3:174:LEU:C	50:N3:174:LEU:HD12	2.44	0.42
54:R3:109:TYR:HB3	54:R3:114:LYS:HZ1	1.84	0.42
54:R3:151:ARG:O	54:R3:155:LEU:HD23	2.20	0.42
57:U3:24:ASP:OD2	57:U3:26:THR:HG22	2.20	0.42
57:U3:39:PHE:CD2	57:U3:39:PHE:C	2.97	0.42
61:Z3:73:LYS:HD2	61:Z3:75:TYR:CZ	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:c3:30:GLY:O	64:c3:93:THR:HB	2.20	0.42
69:h3:21:LEU:CD1	69:h3:54:ILE:HG13	2.48	0.42
72:k3:5:ILE:HG21	72:k3:11:PHE:CD1	2.53	0.42
78:r3:61:VAL:CG1	78:r3:80:THR:O	2.66	0.42
79:q3:5:C:H2'	79:q3:5:C:O2	2.19	0.42
79:q3:36:C:C5	79:q3:37:A:C8	3.07	0.42
80:t3:78:LEU:O	80:t3:81:HIS:HB2	2.20	0.42
80:t3:141:LEU:CD1	80:t3:171:GLU:HG2	2.49	0.42
82:v3:29:A:H2'	82:v3:30:A:O4'	2.19	0.42
84:w3:195:LYS:H	84:w3:195:LYS:HG3	1.64	0.42
1:51:276:C:C2	70:i3:29:ARG:NH2	2.88	0.42
1:51:279:A:H1'	50:N3:12:ARG:HD3	2.01	0.42
1:51:310:G:N3	1:51:311:G:C8	2.87	0.42
1:51:737:C:P	49:M3:71:LYS:NZ	2.93	0.42
1:51:750:U:O2	1:51:915:A:N7	2.53	0.42
1:51:929:A:H2'	1:51:930:G:O4'	2.20	0.42
1:51:970:G:C6	1:51:971:U:N3	2.87	0.42
1:51:1480:C:C4	1:51:1483:C:N3	2.87	0.42
1:51:1572:U:O4	54:R3:128:LYS:NZ	2.52	0.42
1:51:1764:G:N7	1:51:1766:A:H5'	2.35	0.42
1:51:1995:G:H2'	1:51:1996:C:OP1	2.20	0.42
1:51:2283:G:C6	1:51:2284:G:N7	2.87	0.42
1:51:2301:G:C2	1:51:2302:C:C2	3.08	0.42
1:51:2471:G:C2	1:51:2473:A:C6	3.07	0.42
1:51:2666:U:P	54:R3:107:ARG:NH2	2.92	0.42
1:51:2845:A:C2	58:V3:86:LYS:HE2	2.54	0.42
1:51:3640:U:C5	1:51:3646:A:C4	3.07	0.42
1:51:3801:U:C2	1:51:3803:A:N6	2.87	0.42
1:51:3935:C:C4	1:51:3936:A:N7	2.88	0.42
1:51:3970:G:C2	84:w3:33:GLU:OE1	2.71	0.42
1:51:3971:G:N7	1:51:3972:A:C6	2.88	0.42
1:51:4042:G:H4'	84:w3:101:LYS:H	1.85	0.42
1:51:4066:U:C3'	1:51:4067:U:O4'	2.68	0.42
1:51:4564:A:C8	1:51:4565:C:C5	3.08	0.42
1:51:4951:G:N3	1:51:4951:G:H2'	2.34	0.42
4:A2:68:A:C2	4:A2:69:C:O2	2.73	0.42
4:A2:173:A:H2'	4:A2:174:C:O4'	2.19	0.42
4:A2:747:U:O2'	4:A2:750:C:C6	2.66	0.42
4:A2:818:A:C5	4:A2:847:A:N6	2.87	0.42
4:A2:872:A:C2	4:A2:915:G:O6	2.73	0.42
4:A2:902:G:C2	4:A2:903:A:N7	2.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:943:U:C4	4:A2:944:A:N7	2.87	0.42
4:A2:1089:G:N2	4:A2:1161:U:O2	2.53	0.42
4:A2:1197:G:N2	4:A2:1198:G:C5	2.88	0.42
4:A2:1417:C:C4	4:A2:1423:C:N4	2.86	0.42
4:A2:1442:U:H2'	4:A2:1443:C:O4'	2.19	0.42
4:A2:1454:A:H5'	22:S2:5:ARG:HH11	1.83	0.42
4:A2:1583:C:C6	4:A2:1584:G:C8	3.08	0.42
11:H2:80:GLY:O	11:H2:81:HIS:ND1	2.47	0.42
13:J2:172:LEU:HD11	13:J2:195:LEU:CG	2.49	0.42
14:K2:25:LEU:O	14:K2:29:LEU:HB2	2.19	0.42
18:O2:46:THR:CG2	18:O2:49:GLN:H	2.33	0.42
18:O2:119:GLU:O	18:O2:123:HIS:ND1	2.37	0.42
20:Q2:34:MET:HE3	20:Q2:45:LEU:C	2.45	0.42
21:R2:41:MET:HA	21:R2:45:ARG:CZ	2.50	0.42
21:R2:43:GLU:HB3	21:R2:44:PRO:CD	2.43	0.42
24:U2:53:PHE:CE1	24:U2:103:VAL:HG22	2.55	0.42
29:Z2:40:ILE:O	29:Z2:44:LEU:HD13	2.19	0.42
34:e2:15:GLY:O	34:e2:18:SER:OG	2.27	0.42
35:f2:109:MET:HA	35:f2:112:ASN:HD22	1.85	0.42
37:h2:43:TRP:O	37:h2:44:LYS:CE	2.67	0.42
40:C3:219:LYS:HG3	40:C3:222:ARG:HH12	1.85	0.42
41:D3:54:ARG:HB2	41:D3:61:ILE:HB	2.01	0.42
41:D3:243:ALA:HA	41:D3:248:ARG:NH1	2.35	0.42
42:E3:175:LEU:HD21	42:E3:193:HIS:CD2	2.54	0.42
46:I3:209:TRP:NE1	46:I3:213:HIS:CE1	2.88	0.42
48:L3:8:MET:SD	53:Q3:167:VAL:C	3.02	0.42
48:L3:9:ILE:HD12	48:L3:9:ILE:HA	1.85	0.42
51:O3:192:PHE:O	51:O3:196:LEU:HD13	2.20	0.42
58:V3:92:ASP:O	58:V3:92:ASP:OD2	2.38	0.42
60:Y3:26:ARG:NH1	60:Y3:75:ARG:O	2.53	0.42
61:Z3:100:VAL:O	61:Z3:102:ARG:N	2.45	0.42
63:b3:117:ARG:H	63:b3:117:ARG:HD3	1.85	0.42
73:l3:44:TRP:H	73:l3:44:TRP:CD1	2.36	0.42
79:q3:30:G:C6	79:q3:41:G:C6	3.08	0.42
80:t3:58:ASN:HA	80:t3:61:MET:CG	2.49	0.42
83:33:60:U:N3	83:33:61:C:C5	2.88	0.42
1:51:22:G:C6	3:81:35:C:N4	2.87	0.42
1:51:68:U:C4	1:51:69:A:C2	3.07	0.42
1:51:446:C:N4	1:51:447:C:N4	2.67	0.42
1:51:751:G:HO3'	1:51:752:G:P	2.41	0.42
1:51:919:C:H2'	1:51:920:C:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:921:C:H2'	1:51:922:C:C6	2.54	0.42
1:51:964:A:C6	1:51:965:G:C5	3.08	0.42
1:51:1351:G:C6	1:51:1352:C:N4	2.88	0.42
1:51:1481:C:H41	70:i3:4:ARG:HD2	1.85	0.42
1:51:1746:A:H2	1:51:1785:C:N3	2.18	0.42
1:51:1823:G:N1	1:51:1824:G:C5	2.87	0.42
1:51:1846:G:C2	1:51:1847:C:C4	3.07	0.42
1:51:2404:A:N7	1:51:2405:G:C5	2.88	0.42
1:51:2749:C:H2'	1:51:2750:G:C8	2.55	0.42
1:51:2780:C:OP1	59:X3:134:LYS:NZ	2.38	0.42
1:51:2783:A:C6	1:51:2784:C:C2	3.08	0.42
1:51:3771:C:OP1	1:51:3771:C:H4'	2.20	0.42
1:51:4441:A:H2'	1:51:4442:U:O4'	2.19	0.42
1:51:4448:G:HO2'	1:51:4449:A:P	2.36	0.42
1:51:4453:C:C4	1:51:4454:G:N7	2.88	0.42
1:51:4569:U:O4	1:51:4570:G:N1	2.53	0.42
1:51:4752:U:OP1	67:f3:100:ARG:HB2	2.20	0.42
1:51:4774:C:C4	1:51:4862:G:C2	3.08	0.42
2:71:26:C:N4	2:71:27:G:C6	2.88	0.42
4:A2:66:G:C6	4:A2:82:G:O2'	2.61	0.42
4:A2:77:A:C5	11:H2:175:LYS:HD2	2.55	0.42
4:A2:177:G:N2	4:A2:313:A:C8	2.88	0.42
4:A2:189:U:C3'	4:A2:190:G:O4'	2.67	0.42
4:A2:223:C:N3	4:A2:299:A:N1	2.67	0.42
4:A2:380:G:H5"	13:J2:31:ARG:HD3	2.02	0.42
4:A2:958:G:C2	4:A2:959:G:C6	3.08	0.42
4:A2:1102:G:C2	4:A2:1131:G:N1	2.88	0.42
4:A2:1109:C:C2	22:S2:126:MET:HE2	2.55	0.42
4:A2:1167:G:C2	4:A2:1193:U:O2	2.73	0.42
4:A2:1278:A:C2	4:A2:1279:C:C5	3.08	0.42
5:B2:192:GLU:C	5:B2:192:GLU:OE2	2.63	0.42
5:B2:198:MET:HE1	22:S2:86:PRO:O	2.20	0.42
6:C2:27:LYS:N	6:C2:27:LYS:CD	2.80	0.42
7:D2:208:PRO:O	7:D2:212:LYS:HE2	2.18	0.42
11:H2:3:LEU:HD12	11:H2:111:LEU:HD11	2.01	0.42
11:H2:38:ALA:O	11:H2:48:TYR:HB2	2.20	0.42
18:O2:87:ASP:OD1	18:O2:87:ASP:N	2.53	0.42
21:R2:55:VAL:HG22	21:R2:63:PHE:CE2	2.55	0.42
21:R2:72:VAL:O	21:R2:72:VAL:HG23	2.20	0.42
22:S2:66:VAL:HB	22:S2:69:ILE:HG12	2.02	0.42
24:U2:28:LEU:HD23	24:U2:28:LEU:HA	1.86	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:h2:150:TRP:O	37:h2:170:TRP:HD1	2.02	0.42
37:h2:165:ILE:HG22	37:h2:166:VAL:H	1.84	0.42
37:h2:286:CYS:HB2	37:h2:302:TYR:CE1	2.55	0.42
40:C3:192:GLY:O	40:C3:195:LYS:NZ	2.47	0.42
40:C3:349:LEU:HA	40:C3:349:LEU:HD23	1.83	0.42
40:C3:357:ALA:O	40:C3:361:LYS:HG2	2.19	0.42
41:D3:122:GLN:HG2	41:D3:130:TYR:CD2	2.55	0.42
41:D3:164:LYS:HA	41:D3:167:VAL:CG1	2.50	0.42
42:E3:175:LEU:HD21	42:E3:193:HIS:HD2	1.85	0.42
44:G3:302:ARG:O	44:G3:306:LEU:HD13	2.20	0.42
45:H3:20:LEU:HD23	45:H3:20:LEU:N	2.35	0.42
52:P3:118:GLN:HB3	52:P3:147:GLU:OE2	2.20	0.42
54:R3:23:TRP:HB3	54:R3:51:ILE:CG1	2.50	0.42
57:U3:42:PHE:C	57:U3:43:LEU:HG	2.44	0.42
63:b3:95:ARG:O	63:b3:99:ILE:HG13	2.20	0.42
1:51:120:A:N6	44:G3:251:THR:HG21	2.33	0.42
1:51:193:G:C2	1:51:194:C:C2	3.07	0.42
1:51:418:A:C8	3:81:17:A:C2	3.08	0.42
1:51:1094:G:C2	1:51:1203:G:C2	3.08	0.42
1:51:1098:G:C8	1:51:1098:G:OP2	2.73	0.42
1:51:1691:G:H5'	53:Q3:15:ARG:HB2	2.02	0.42
1:51:1777:C:N4	1:51:1778:C:N4	2.67	0.42
1:51:2311:C:C2	1:51:2328:G:N2	2.88	0.42
1:51:2552:G:H21	1:51:2766:A:N6	2.07	0.42
1:51:2581:A:H2	1:51:2655:C:H1'	1.85	0.42
1:51:2598:A:N6	1:51:2599:G:C2	2.88	0.42
1:51:2673:G:C8	1:51:2675:G:C2	3.07	0.42
1:51:2851:G:C6	1:51:2852:U:C2	3.07	0.42
1:51:3600:G:C6	1:51:3601:C:C4	3.08	0.42
1:51:3627:G:C2	1:51:3628:G:C8	3.08	0.42
1:51:3918:G:N1	1:51:4384:U:N3	2.67	0.42
1:51:4242:U:C2	1:51:4283:G:N2	2.88	0.42
1:51:4259:C:C4	1:51:4260:U:C5	3.08	0.42
1:51:4587:G:C2	1:51:4716:C:O2	2.73	0.42
1:51:4697:U:H4'	74:m3:78:HIS:CE1	2.54	0.42
1:51:4719:G:H8	1:51:4719:G:O5'	2.02	0.42
1:51:4887:C:N4	1:51:4932:U:C4	2.88	0.42
1:51:4902:C:O2	1:51:4919:G:O6	2.38	0.42
2:71:18:C:N3	2:71:61:G:N1	2.67	0.42
3:81:49:G:C2	3:81:77:A:C2	3.08	0.42
4:A2:225:G:H2'	4:A2:226:A:H8	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:318:A:H3'	4:A2:319:C:H5"	2.01	0.42
4:A2:412:G:C6	4:A2:429:C:N4	2.88	0.42
4:A2:413:G:C5	4:A2:425:G:N2	2.88	0.42
4:A2:445:A:C6	4:A2:446:G:C2	3.08	0.42
4:A2:610:G:C6	4:A2:634:A:C6	3.08	0.42
4:A2:1050:A:C5	4:A2:1069:U:N3	2.88	0.42
4:A2:1089:G:N2	4:A2:1090:C:O2	2.53	0.42
4:A2:1109:C:C4	4:A2:1110:G:C4	3.08	0.42
4:A2:1143:A:C4	4:A2:1144:A:C2	3.07	0.42
4:A2:1706:G:H1	4:A2:1828:C:H42	1.66	0.42
4:A2:1855:G:C4	4:A2:1856:C:C5	3.08	0.42
5:B2:58:LEU:HD23	5:B2:58:LEU:C	2.45	0.42
6:C2:109:LYS:CE	6:C2:113:MET:HE3	2.50	0.42
6:C2:139:CYS:C	6:C2:140:VAL:HG13	2.44	0.42
7:D2:142:LYS:HD3	7:D2:143:CYS:N	2.34	0.42
8:E2:24:PHE:HD2	8:E2:25:LEU:HD12	1.84	0.42
8:E2:42:THR:OG1	8:E2:45:ARG:HB3	2.20	0.42
9:F2:72:ILE:O	9:F2:73:ASP:C	2.63	0.42
11:H2:24:LEU:HD23	11:H2:27:PHE:CD2	2.55	0.42
12:I2:49:LYS:HB2	12:I2:61:ILE:HD11	2.02	0.42
15:L2:22:VAL:HG12	15:L2:68:TYR:CE1	2.55	0.42
18:O2:5:HIS:CD2	18:O2:117:LEU:HB3	2.54	0.42
21:R2:67:ASP:OD1	21:R2:67:ASP:N	2.52	0.42
22:S2:31:ASN:OD1	22:S2:51:ALA:HB1	2.20	0.42
24:U2:6:VAL:HG21	24:U2:65:TYR:CE2	2.55	0.42
36:g2:120:GLU:HG3	36:g2:121:CYS:N	2.30	0.42
36:g2:123:SER:OG	36:g2:146:LEU:HD22	2.20	0.42
40:C3:303:ARG:NH1	40:C3:304:ALA:O	2.53	0.42
42:E3:223:LYS:HD2	42:E3:223:LYS:N	2.34	0.42
43:F3:91:VAL:O	43:F3:119:GLY:HA2	2.20	0.42
43:F3:133:ARG:O	43:F3:136:GLU:OE1	2.38	0.42
46:I3:55:ASP:OD1	46:I3:164:LYS:NZ	2.52	0.42
47:J3:150:CYS:SG	47:J3:151:ILE:N	2.90	0.42
51:O3:77:SER:HB2	51:O3:104:VAL:HG12	2.01	0.42
56:T3:14:MET:HE1	56:T3:55:LYS:HB2	2.00	0.42
58:V3:61:VAL:HG22	58:V3:62:MET:N	2.34	0.42
59:X3:47:ARG:HA	59:X3:47:ARG:HD3	1.88	0.42
70:i3:37:THR:CG2	70:i3:41:ARG:NH2	2.83	0.42
79:q3:72:C:C2'	79:q3:73:A:H4'	2.50	0.42
80:t3:149:ARG:O	80:t3:149:ARG:CG	2.68	0.42
83:33:52:G:H3'	83:33:53:G:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
84:w3:39:LYS:HB2	84:w3:198:TRP:CZ3	2.54	0.42
1:51:106:A:H2'	1:51:107:G:O4'	2.20	0.42
1:51:148:A:H2'	44:G3:251:THR:HB	2.02	0.42
1:51:167:C:O2	1:51:269:G:C2	2.72	0.42
1:51:225:G:C2	1:51:243:A:N1	2.87	0.42
1:51:462:G:C2	1:51:694:C:C2	3.08	0.42
1:51:472:C:H2'	1:51:473:C:C6	2.55	0.42
1:51:480:C:O2'	1:51:481:G:P	2.78	0.42
1:51:481:G:C2	1:51:674:G:C2	3.08	0.42
1:51:482:G:H8	1:51:482:G:OP1	2.03	0.42
1:51:1072:C:O2	1:51:1072:C:H2'	2.20	0.42
1:51:1182:C:C4	1:51:1183:C:H1'	2.55	0.42
1:51:1406(A):G:H2'	1:51:1406(B):C:O4'	2.20	0.42
1:51:1572:U:H5	1:51:1573:G:C4	2.37	0.42
1:51:1627:G:C2	1:51:1636:U:C2	3.07	0.42
1:51:1788:A:C4	46:I3:22:PHE:CE2	3.08	0.42
1:51:2327:G:OP1	66:e3:127:ALA:O	2.37	0.42
1:51:2364:G:C6	1:51:3859:G:N2	2.87	0.42
1:51:2392:C:OP2	1:51:2819:U:OP1	2.38	0.42
1:51:2402:G:N2	1:51:2403:A:C4	2.88	0.42
1:51:2573:A:OP2	1:51:2574:G:OP2	2.37	0.42
1:51:2756:G:C2	1:51:2757:A:C6	3.08	0.42
1:51:4045:G:H1'	1:51:4048:A:N1	2.35	0.42
1:51:4587:G:C2	1:51:4716:C:C2	3.08	0.42
1:51:4754:G:N2	1:51:4755:G:H1'	2.34	0.42
1:51:4902:C:C1'	1:51:4920:C:N3	2.83	0.42
1:51:4939:C:C6	42:E3:159:ARG:NH1	2.88	0.42
4:A2:58:C:N4	4:A2:500:A:C6	2.86	0.42
4:A2:108:G:C6	4:A2:109:U:C2	3.08	0.42
4:A2:207:G:N2	4:A2:208:G:H1'	2.35	0.42
4:A2:297:A:H5'	9:F2:133:THR:HG21	2.01	0.42
4:A2:318:A:C6	4:A2:319:C:C2	3.07	0.42
4:A2:551:U:O2'	35:f2:117:ASN:OD1	2.26	0.42
4:A2:1145:A:N7	4:A2:1146:C:H1'	2.34	0.42
4:A2:1212:G:C2	4:A2:1688:C:C2	3.08	0.42
4:A2:1330:G:C6	4:A2:1492:U:C2	3.08	0.42
4:A2:1412:C:N4	4:A2:1430:C:N4	2.68	0.42
4:A2:1469:A:C6	4:A2:1470:C:C4	3.08	0.42
4:A2:1589:A:H4'	24:U2:82:ARG:HD2	2.01	0.42
4:A2:1600:G:OP1	30:a2:43:LYS:HD2	2.19	0.42
4:A2:1603:G:H1'	23:T2:38:ARG:NH2	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B2:156:TYR:C	26:W2:60:ARG:HE	2.27	0.42
6:C2:168:MET:HG2	6:C2:197:ILE:HD13	2.02	0.42
7:D2:123:ARG:NH2	7:D2:143:CYS:SG	2.66	0.42
7:D2:185:THR:OG1	7:D2:186:GLY:N	2.52	0.42
12:I2:36:LEU:H	12:I2:36:LEU:CD2	2.30	0.42
12:I2:116:ARG:NH2	12:I2:121:THR:OG1	2.53	0.42
12:I2:184:ASP:OD1	12:I2:184:ASP:C	2.63	0.42
22:S2:103:LYS:O	22:S2:107:LYS:HG3	2.20	0.42
23:T2:108:ARG:O	23:T2:108:ARG:CG	2.68	0.42
26:W2:58:ALA:HA	26:W2:61:ARG:NH1	2.35	0.42
28:Y2:74:LEU:HD11	28:Y2:81:ILE:CD1	2.49	0.42
32:c2:61:THR:CG2	32:c2:62:VAL:N	2.83	0.42
36:g2:109:ASP:OD2	36:g2:113:LYS:HG2	2.19	0.42
37:h2:109:LEU:HD23	37:h2:151:VAL:O	2.20	0.42
37:h2:275:ILE:HG23	37:h2:276:SER:H	1.85	0.42
38:A3:5:ILE:HG22	38:A3:208:GLU:C	2.44	0.42
39:B3:116:ARG:O	39:B3:118:PHE:N	2.52	0.42
39:B3:180:LEU:N	39:B3:180:LEU:HD12	2.34	0.42
41:D3:95:TYR:HE2	41:D3:199:ILE:HG12	1.85	0.42
43:F3:226:PHE:HB2	43:F3:232:ALA:O	2.19	0.42
44:G3:145:ALA:HB1	44:G3:238:LYS:HZ1	1.85	0.42
46:I3:46:PHE:CD1	46:I3:140:THR:HA	2.53	0.42
49:M3:15:VAL:O	49:M3:15:VAL:CG2	2.65	0.42
50:N3:192:TRP:NE1	50:N3:196:ASN:OD1	2.53	0.42
53:Q3:91:ARG:HB2	62:a3:76:ASP:OD2	2.20	0.42
54:R3:99:MET:HE1	54:R3:123:LEU:HG	2.01	0.42
77:p3:6:LYS:O	77:p3:7:LYS:HG2	2.20	0.42
77:p3:26:VAL:O	77:p3:26:VAL:HG12	2.20	0.42
77:p3:47:MET:O	77:p3:48:LYS:HG2	2.20	0.42
81:u3:128:THR:HG22	81:u3:131:GLU:OE2	2.20	0.42
84:w3:67:VAL:HG21	84:w3:82:ILE:HD12	2.02	0.42
84:w3:175:THR:HG22	84:w3:176:ASP:N	2.34	0.42
84:w3:205:TYR:CD1	84:w3:213:PRO:HB3	2.55	0.42
1:51:281:U:H3	50:N3:12:ARG:HH21	1.68	0.41
1:51:505:G:N1	1:51:654:C:C4	2.88	0.41
1:51:667:A:H5'	1:51:668:C:H5	1.85	0.41
1:51:1170:G:N1	1:51:1192:C:N3	2.68	0.41
1:51:1426:G:N7	1:51:1457:G:C6	2.88	0.41
1:51:1572:U:C2	54:R3:128:LYS:HD3	2.55	0.41
1:51:1803:G:C6	56:T3:109:VAL:HG13	2.55	0.41
1:51:1937:C:N3	1:51:1938:C:N4	2.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:2656:U:N3	1:51:2679:G:N1	2.68	0.41
1:51:2705:G:H1	1:51:2710:C:H42	1.67	0.41
1:51:2816:G:C5	1:51:2817:C:N4	2.88	0.41
1:51:2849:A:N6	1:51:2855:G:C2	2.88	0.41
1:51:3709:U:C5	1:51:3712:A:N6	2.88	0.41
1:51:4247:G:C2	1:51:4262:C:N3	2.88	0.41
1:51:4348:A:OP1	76:o3:14:LYS:CE	2.68	0.41
1:51:4366:A:H2'	1:51:4367:G:H8	1.86	0.41
1:51:4696:C:O2	1:51:4696:C:H2'	2.19	0.41
4:A2:334:C:N4	4:A2:335:G:N7	2.68	0.41
4:A2:363:A:N3	4:A2:398:A:N6	2.67	0.41
4:A2:534:G:H2'	4:A2:535:G:C8	2.55	0.41
4:A2:551:U:C5	4:A2:552:G:C8	3.09	0.41
4:A2:636:C:H5'	35:f2:95:GLN:HG3	2.02	0.41
4:A2:1227:G:C6	4:A2:1638:G:C6	3.08	0.41
4:A2:1656:G:O6	4:A2:1669:G:C6	2.73	0.41
4:A2:1659:U:H5	4:A2:1660:C:C4	2.38	0.41
5:B2:121:LEU:C	5:B2:121:LEU:CD2	2.88	0.41
10:G2:78:MET:HG3	10:G2:79:HIS:N	2.35	0.41
11:H2:36:VAL:HG22	11:H2:38:ALA:H	1.85	0.41
12:I2:9:VAL:HG21	12:I2:44:ASN:CG	2.45	0.41
13:J2:54:LYS:HD3	13:J2:181:GLN:NE2	2.34	0.41
13:J2:96:LEU:N	13:J2:96:LEU:CD1	2.82	0.41
13:J2:102:VAL:HG23	13:J2:171:LEU:HB2	2.02	0.41
13:J2:105:ASP:CG	13:J2:168:GLN:O	2.62	0.41
16:M2:55:TYR:C	16:M2:56:ILE:HD12	2.45	0.41
16:M2:84:ARG:HH12	16:M2:115:PRO:HB3	1.85	0.41
17:N2:35:ILE:HD12	36:g2:102:VAL:HG11	2.02	0.41
18:O2:54:LEU:O	18:O2:60:VAL:HG12	2.20	0.41
18:O2:67:THR:HG23	18:O2:68:GLY:N	2.35	0.41
20:Q2:33:LEU:HA	20:Q2:36:LEU:HD23	2.01	0.41
21:R2:43:GLU:CB	21:R2:44:PRO:HD3	2.48	0.41
22:S2:10:LYS:HD3	22:S2:53:TYR:CE2	2.54	0.41
24:U2:88:MET:O	24:U2:89:PRO:C	2.64	0.41
41:D3:167:VAL:HG13	41:D3:168:ASP:N	2.35	0.41
41:D3:218:ALA:O	41:D3:221:LYS:HG2	2.20	0.41
50:N3:203:TYR:O	50:N3:204:ARG:OXT	2.38	0.41
61:Z3:26:VAL:CG2	61:Z3:42:LEU:HD22	2.50	0.41
65:d3:69:ASN:O	65:d3:73:TRP:HD1	2.02	0.41
68:g3:37:LYS:HB3	68:g3:60:ARG:HH11	1.84	0.41
80:t3:55:MET:HG3	80:t3:56:GLY:H	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:t3:138:PHE:O	80:t3:143:ILE:O	2.37	0.41
84:w3:41:TYR:OH	84:w3:48:ARG:O	2.37	0.41
84:w3:55:LEU:HB2	84:w3:153:SER:O	2.20	0.41
1:51:31:U:H5	1:51:32:G:C5	2.37	0.41
1:51:76:A:OP2	48:L3:74:ARG:HD3	2.19	0.41
1:51:150:U:OP1	44:G3:253:THR:O	2.38	0.41
1:51:688:U:O2	1:51:689:U:N3	2.54	0.41
1:51:908:G:C6	1:51:909:G:C6	3.08	0.41
1:51:971:U:N3	1:51:971(A):G:N7	2.68	0.41
1:51:976:G:H22	40:C3:323:ARG:NH1	2.18	0.41
1:51:1067:G:N1	1:51:1068:G:C5	2.88	0.41
1:51:1080:C:C5	1:51:1081:C:C5	3.08	0.41
1:51:1382:G:OP1	48:L3:66:TYR:OH	2.37	0.41
1:51:1586:G:C2	1:51:1608:G:C2	3.08	0.41
1:51:1979:A:H2'	1:51:1980:U:OP1	2.19	0.41
1:51:2061:U:H5'	55:S3:120:ARG:HH11	1.86	0.41
1:51:2420:A:C2	1:51:2427:G:C2	3.08	0.41
1:51:2521:G:C6	1:51:2535:G:N1	2.88	0.41
1:51:3717:A:N6	1:51:3736:A:C6	2.88	0.41
1:51:3757:G:N2	1:51:3758:U:C2	2.88	0.41
1:51:3949:A:C4	1:51:4065:G:N1	2.88	0.41
1:51:3949:A:C6	1:51:3950:U:C4	3.09	0.41
1:51:3971:G:H4'	84:w3:31:THR:HB	2.01	0.41
1:51:4115:G:O2'	1:51:4116:C:C4	2.73	0.41
1:51:4130:C:OP2	44:G3:85:PHE:CE2	2.73	0.41
1:51:4236:G:N1	1:51:4289:U:O2	2.52	0.41
1:51:4606:G:C2'	1:51:4607:A:O5'	2.68	0.41
1:51:4902:C:H1'	1:51:4920:C:C2	2.55	0.41
1:51:4909:A:N7	1:51:4912:G:C2	2.88	0.41
1:51:4917:C:N4	1:51:4918:C:H41	2.17	0.41
1:51:4945:G:H1'	42:E3:161:ARG:HH12	1.85	0.41
1:51:5055:G:N2	1:51:5056:A:C4	2.88	0.41
2:71:7:G:N2	2:71:112:U:O2	2.51	0.41
4:A2:65:C:N3	11:H2:133:LEU:HD23	2.36	0.41
4:A2:68:A:P	4:A2:68:A:H8	2.43	0.41
4:A2:77:A:C5	11:H2:175:LYS:CD	3.02	0.41
4:A2:236:A:N6	4:A2:893:U:O4'	2.53	0.41
4:A2:677:G:P	18:O2:124:ARG:HH22	2.43	0.41
4:A2:735:C:H2'	4:A2:736:C:C6	2.54	0.41
4:A2:801:U:C2'	4:A2:802:A:H5'	2.50	0.41
4:A2:1295:A:O3'	4:A2:1296:U:H5'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:1508:A:O2'	4:A2:1510:G:N7	2.48	0.41
4:A2:1857:G:C8	19:P2:146:ARG:NH1	2.88	0.41
8:E2:42:THR:HB	8:E2:43:PRO:HD2	2.02	0.41
9:F2:44:LEU:HD21	9:F2:72:ILE:HD11	2.01	0.41
12:I2:98:ARG:HB2	12:I2:125:VAL:HG13	2.02	0.41
13:J2:105:ASP:OD2	13:J2:108:PRO:HG3	2.20	0.41
13:J2:108:PRO:HB3	13:J2:168:GLN:C	2.44	0.41
14:K2:67:ASP:O	14:K2:71:LEU:HG	2.19	0.41
14:K2:91:LYS:HA	14:K2:93:LYS:NZ	2.35	0.41
14:K2:149:VAL:HG22	14:K2:150:ARG:NE	2.36	0.41
15:L2:59:LYS:HB2	15:L2:70:TYR:HB2	2.01	0.41
20:Q2:97:TYR:HA	20:Q2:101:THR:O	2.19	0.41
21:R2:24:HIS:ND1	21:R2:25:CYS:N	2.68	0.41
21:R2:51:LEU:N	21:R2:51:LEU:CD2	2.84	0.41
22:S2:94:GLU:O	22:S2:116:ASN:CG	2.62	0.41
23:T2:108:ARG:O	23:T2:108:ARG:HG2	2.20	0.41
24:U2:40:ALA:HB3	24:U2:43:LYS:HG2	2.01	0.41
24:U2:50:GLU:CD	24:U2:50:GLU:H	2.28	0.41
25:V2:24:LEU:HD23	25:V2:112:VAL:HG22	2.01	0.41
25:V2:96:GLU:HA	25:V2:99:LYS:NZ	2.35	0.41
33:d2:44:ARG:HG3	33:d2:45:ASN:H	1.85	0.41
36:g2:138:ARG:HB2	36:g2:148:TYR:O	2.20	0.41
37:h2:118:ARG:HD3	37:h2:118:ARG:C	2.45	0.41
38:A3:175:ILE:O	38:A3:175:ILE:HG22	2.19	0.41
38:A3:180:LEU:HD12	38:A3:180:LEU:C	2.45	0.41
39:B3:276:HIS:C	39:B3:277:ARG:HG2	2.46	0.41
39:B3:294:LYS:HD2	39:B3:294:LYS:C	2.45	0.41
39:B3:372:SER:O	39:B3:375:GLY:O	2.38	0.41
41:D3:59:ASP:OD1	41:D3:60:ILE:N	2.53	0.41
41:D3:206:ASP:OD2	41:D3:206:ASP:C	2.62	0.41
41:D3:263:LYS:HG3	41:D3:263:LYS:O	2.20	0.41
47:J3:27:GLY:O	47:J3:28:GLU:CD	2.62	0.41
47:J3:118:LYS:HD3	47:J3:118:LYS:N	2.35	0.41
49:M3:32:ASP:CG	49:M3:33:GLN:H	2.29	0.41
50:N3:138:PHE:HA	50:N3:143:ARG:HH21	1.85	0.41
51:O3:186:GLU:HA	51:O3:189:ILE:HG12	2.03	0.41
56:T3:3:ASN:HB3	56:T3:9:ARG:HH12	1.85	0.41
59:X3:52:LEU:C	59:X3:52:LEU:CD2	2.93	0.41
61:Z3:32:GLY:H	61:Z3:38:TYR:HA	1.84	0.41
65:d3:31:LYS:O	65:d3:31:LYS:CG	2.68	0.41
65:d3:62:VAL:HG13	65:d3:62:VAL:O	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:g3:103:VAL:O	68:g3:106:VAL:CG2	2.68	0.41
79:q3:20:U:O4	79:q3:59:A:C2	2.73	0.41
81:u3:85:LEU:CD1	81:u3:141:CYS:SG	3.07	0.41
81:u3:136:ALA:O	81:u3:141:CYS:N	2.49	0.41
83:33:20:U:O4'	83:33:47:U:O4	2.38	0.41
84:w3:61:PRO:HD2	84:w3:63:PHE:CZ	2.55	0.41
84:w3:201:VAL:O	84:w3:201:VAL:CG1	2.67	0.41
1:51:448:G:C2	1:51:1299:G:N1	2.89	0.41
1:51:466:A:C5	1:51:468:U:C4	3.07	0.41
1:51:970:G:C6	1:51:971:U:C2	3.08	0.41
1:51:971:U:H2'	1:51:971(A):G:H8	1.85	0.41
1:51:1092:G:N1	1:51:1205:G:N1	2.68	0.41
1:51:1669:A:OP1	63:b3:18:ARG:NH1	2.53	0.41
1:51:1943:A:H2	1:51:4411:G:H21	1.69	0.41
1:51:1950:U:N3	1:51:2034:G:C6	2.88	0.41
1:51:3758:U:O5'	1:51:3758:U:H6	2.03	0.41
1:51:3898:G:C6	1:51:4564:A:C2	3.09	0.41
1:51:4074:C:C2	1:51:4075:U:C5	3.08	0.41
1:51:4684:A:C6	1:51:4685:U:O2	2.74	0.41
1:51:4884:G:O2'	1:51:4885:U:OP1	2.34	0.41
1:51:5051:C:N3	1:51:5052:C:C4	2.89	0.41
3:81:65:A:C2	3:81:95:A:C6	3.08	0.41
3:81:117:C:C2	3:81:134:G:N2	2.88	0.41
4:A2:102:A:N7	4:A2:408:A:C2	2.89	0.41
4:A2:640:A:N6	4:A2:641:A:N6	2.68	0.41
4:A2:901:G:N1	4:A2:902:G:C6	2.88	0.41
4:A2:1087:A:C8	4:A2:1861:G:C2	3.08	0.41
4:A2:1205:C:N4	4:A2:1693:G:O6	2.53	0.41
4:A2:1288:U:C4'	4:A2:1316:C:H4'	2.46	0.41
4:A2:1510:G:C6	4:A2:1511:U:N3	2.89	0.41
4:A2:1658:G:N2	4:A2:1667:U:O2	2.53	0.41
4:A2:1700:C:N3	4:A2:1702:G:C2	2.87	0.41
4:A2:1822:A:C5	4:A2:1823:A:C2	3.07	0.41
4:A2:1840:U:C4	4:A2:1841:C:C5	3.09	0.41
5:B2:75:SER:OG	5:B2:117:ARG:NH2	2.38	0.41
5:B2:176:TRP:HD1	5:B2:202:TYR:HE2	1.68	0.41
6:C2:28:LYS:HE3	6:C2:48:LEU:CD1	2.49	0.41
10:G2:114:ASN:O	10:G2:117:ILE:HG12	2.19	0.41
11:H2:77:LEU:O	11:H2:92:ARG:HA	2.20	0.41
12:I2:23:ILE:HD12	12:I2:23:ILE:N	2.36	0.41
13:J2:174:CYS:O	13:J2:175:ILE:C	2.62	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:K2:86:VAL:HG13	14:K2:104:ASP:HB2	2.03	0.41
16:M2:15:THR:O	16:M2:15:THR:CG2	2.68	0.41
17:N2:94:ILE:HG22	17:N2:95:ASP:N	2.34	0.41
19:P2:47:LEU:HD22	19:P2:47:LEU:N	2.34	0.41
19:P2:60:MET:O	19:P2:61:LYS:HE2	2.19	0.41
21:R2:81:ILE:HA	21:R2:84:ILE:HG12	2.01	0.41
22:S2:108:LEU:N	22:S2:108:LEU:CD2	2.83	0.41
23:T2:65:GLU:C	23:T2:68:ILE:HG22	2.45	0.41
25:V2:80:PHE:HB3	34:e2:52:PHE:HB3	2.02	0.41
25:V2:98:VAL:HA	25:V2:101:ILE:HB	2.02	0.41
28:Y2:87:ASN:OD1	28:Y2:88:ASP:N	2.41	0.41
37:h2:194:TYR:O	37:h2:211:GLY:HA3	2.21	0.41
39:B3:153:MET:HG2	39:B3:157:CYS:SG	2.60	0.41
40:C3:46:LYS:HB3	40:C3:49:ARG:NH1	2.35	0.41
43:F3:89:ALA:HB2	43:F3:124:LEU:HD21	2.02	0.41
43:F3:139:ILE:HD12	43:F3:141:TRP:CD1	2.56	0.41
43:F3:170:ASP:OD1	43:F3:171:ASN:N	2.53	0.41
45:H3:14:GLU:HG3	45:H3:14:GLU:O	2.21	0.41
46:I3:166:HIS:CE1	56:T3:158:PHE:HD2	2.38	0.41
54:R3:94:THR:O	54:R3:97:ARG:N	2.39	0.41
55:S3:85:ASP:HA	55:S3:90:THR:HA	2.03	0.41
57:U3:106:THR:H	57:U3:109:SER:HG	1.68	0.41
59:X3:40:ILE:C	59:X3:41:ARG:HD3	2.45	0.41
63:b3:8:THR:HG22	63:b3:10:HIS:H	1.86	0.41
65:d3:22:THR:O	65:d3:122:VAL:HG12	2.20	0.41
70:i3:41:ARG:O	70:i3:44:ILE:HG22	2.20	0.41
79:q3:10:G:C2	79:q3:11:U:C5	3.08	0.41
80:t3:21:LEU:HD11	80:t3:68:HIS:CG	2.55	0.41
80:t3:133:GLU:OE1	80:t3:134:LYS:O	2.38	0.41
81:u3:39:PRO:HA	81:u3:42:VAL:HG22	2.03	0.41
83:33:29:A:N6	83:33:30:G:H1	2.18	0.41
84:w3:109:ALA:HB3	84:w3:150:GLU:OE2	2.20	0.41
84:w3:121:PRO:HA	84:w3:134:PHE:HE1	1.85	0.41
1:51:62:A:N7	1:51:63:G:C6	2.88	0.41
1:51:304:C:C4	1:51:305:A:C2	3.09	0.41
1:51:334:A:C6	1:51:335:A:C2	3.09	0.41
1:51:725:G:C2	1:51:726:G:C8	3.08	0.41
1:51:749:G:N2	1:51:912:G:N1	2.68	0.41
1:51:920:C:N4	1:51:921:C:H41	2.18	0.41
1:51:1095:A:C6	1:51:1096:C:N4	2.89	0.41
1:51:1174:G:O5'	1:51:1174:G:H8	2.04	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:1441:C:H41	1:51:2113:G:H2'	1.85	0.41
1:51:1643:A:C5	1:51:1644:C:C4	3.08	0.41
1:51:1736:A:C6	1:51:1794:A:N7	2.88	0.41
1:51:1914:C:O2	1:51:2050:G:N2	2.53	0.41
1:51:1972:G:C2'	1:51:1973:G:OP1	2.68	0.41
1:51:2401:A:H1'	68:g3:6:THR:HG21	2.01	0.41
1:51:2470:C:C4	1:51:3673:C:C4	3.08	0.41
1:51:2697:A:O3'	1:51:2711:G:N2	2.53	0.41
1:51:3614:G:C4	1:51:3617:G:N2	2.87	0.41
1:51:3799:A:C6	1:51:3800:A:N1	2.88	0.41
1:51:3871:A:C6	1:51:3885:G:N1	2.89	0.41
1:51:3942:A:C2	1:51:4072:C:N3	2.89	0.41
1:51:4066:U:O3'	1:51:4067:U:O4'	2.39	0.41
1:51:4067:U:C2	1:51:4068:U:C4	3.08	0.41
1:51:4099:G:C5'	1:51:4100:C:H5"	2.49	0.41
1:51:4136:G:C6	1:51:4137:C:N4	2.88	0.41
1:51:4371:G:P	76:o3:64:LYS:NZ	2.93	0.41
1:51:4522:G:O2'	1:51:4525:C:OP2	2.33	0.41
3:81:96:C:H5'	69:h3:66:LYS:HD2	2.01	0.41
4:A2:61:A:H2	4:A2:335:G:H21	1.65	0.41
4:A2:95:G:H21	4:A2:474:G:H4'	1.83	0.41
4:A2:402:C:C5	4:A2:403:G:N7	2.89	0.41
4:A2:830:A:C2	4:A2:845:G:C2	3.08	0.41
4:A2:1011:A:N6	4:A2:1012:A:N1	2.68	0.41
4:A2:1050:A:C6	4:A2:1069:U:N3	2.89	0.41
4:A2:1134:G:H2'	4:A2:1135:C:C6	2.56	0.41
4:A2:1134:G:C2	4:A2:1135:C:C4	3.08	0.41
4:A2:1228:A:C6	4:A2:1531:A:N1	2.89	0.41
4:A2:1258:A:C2	4:A2:1664:A:C5	3.08	0.41
4:A2:1277:C:H5'	15:L2:51:SER:OG	2.20	0.41
4:A2:1289:U:C4	4:A2:1290:G:N7	2.88	0.41
4:A2:1423:C:H2'	4:A2:1424:G:C8	2.55	0.41
4:A2:1443:C:C5	4:A2:1444:U:C5	3.08	0.41
4:A2:1842:C:OP1	75:n3:3:ALA:HB3	2.20	0.41
6:C2:133:TYR:CE1	6:C2:221:PRO:CD	3.04	0.41
11:H2:25:ARG:NH1	11:H2:26:THR:HG22	2.35	0.41
11:H2:137:ARG:O	11:H2:141:ILE:HG22	2.21	0.41
13:J2:66:SER:OG	13:J2:73:THR:HG22	2.19	0.41
23:T2:5:ILE:O	23:T2:5:ILE:HG23	2.19	0.41
28:Y2:54:LYS:HD2	28:Y2:91:LEU:HD11	2.02	0.41
31:b2:94:ASP:OD1	31:b2:94:ASP:N	2.48	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:J3:84:GLU:OE2	47:J3:85:LYS:HG3	2.20	0.41
47:J3:103:GLY:O	47:J3:134:LEU:HD12	2.21	0.41
47:J3:120:ASP:HB2	47:J3:123:ILE:HD12	2.01	0.41
48:L3:169:ILE:HD12	48:L3:169:ILE:N	2.30	0.41
48:L3:179:PHE:O	48:L3:179:PHE:CD1	2.73	0.41
51:O3:18:ARG:CZ	51:O3:128:ARG:HH11	2.33	0.41
51:O3:166:ILE:O	51:O3:169:ARG:CG	2.68	0.41
54:R3:131:VAL:O	54:R3:131:VAL:HG12	2.19	0.41
57:U3:21:PHE:CE1	57:U3:80:LYS:HB3	2.56	0.41
59:X3:139:ARG:HG3	59:X3:140:LEU:N	2.36	0.41
77:p3:53:GLY:HA2	77:p3:67:GLY:O	2.20	0.41
80:t3:50:LYS:NZ	80:t3:98:ILE:HG23	2.34	0.41
81:u3:82:ILE:O	81:u3:82:ILE:HG22	2.20	0.41
84:w3:38:LEU:HD23	84:w3:194:LEU:CD1	2.48	0.41
84:w3:94:ASN:HA	84:w3:124:LEU:HD21	2.01	0.41
86:W:37:GLU:OE1	86:W:38:SER:N	2.53	0.41
1:51:15:A:OP1	59:X3:56:ARG:HD3	2.20	0.41
1:51:500:G:C2	1:51:504:G:C8	3.09	0.41
1:51:653:C:C4	1:51:654:C:C5	3.08	0.41
1:51:908:G:N3	1:51:908:G:H2’	2.36	0.41
1:51:1080:C:N4	1:51:1081:C:C4	2.88	0.41
1:51:1169:G:O6	1:51:1193:C:N4	2.54	0.41
1:51:1336:G:N7	1:51:2346:C:C5	2.89	0.41
1:51:1460:C:H2’	1:51:1461:C:C6	2.55	0.41
1:51:1885:G:C2	1:51:1886:G:C8	3.09	0.41
1:51:1951:G:C6	1:51:1952:G:C5	3.09	0.41
1:51:1968:G:O6	1:51:2021:G:C4	2.73	0.41
1:51:2553:A:H4’	1:51:2554:U:O4’	2.21	0.41
1:51:2657:G:P	61:Z3:38:TYR:OH	2.79	0.41
1:51:3672:G:C6	1:51:3674:G:H1’	2.55	0.41
1:51:3762:U:OP1	1:51:3763:A:C6	2.74	0.41
1:51:3766:A:H5”	1:51:3767:C:C4	2.55	0.41
1:51:4113:U:C5	1:51:4114:C:C5	3.09	0.41
1:51:4150:G:C6	1:51:4151:G:N7	2.89	0.41
1:51:4201:G:N2	1:51:4221:C:N4	2.69	0.41
1:51:4209:G:C8	1:51:4210:U:C2	3.08	0.41
1:51:4291:G:C8	1:51:4328:G:C2	3.09	0.41
1:51:4647:G:C2	1:51:4648:A:C8	3.08	0.41
1:51:4910:A:C6	51:O3:108:ILE:O	2.73	0.41
1:51:4999:G:C6	1:51:5000:G:C6	3.08	0.41
4:A2:15:U:C5	4:A2:16:G:C4	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:55:U:O2	4:A2:55:U:P	2.78	0.41
4:A2:126:G:C2	11:H2:195:LYS:HD3	2.55	0.41
4:A2:158:A:H1'	4:A2:464:A:C5	2.56	0.41
4:A2:318:A:N6	4:A2:332:G:C6	2.85	0.41
4:A2:604:A:C5	14:K2:20:PHE:CE2	3.08	0.41
4:A2:957:A:C2	4:A2:967:C:N3	2.88	0.41
4:A2:1034:A:N6	4:A2:1082:A:C4	2.89	0.41
4:A2:1117:C:C2	4:A2:1118:C:N4	2.89	0.41
4:A2:1245:G:C6	4:A2:1255:G:C6	3.08	0.41
4:A2:1292:C:OP2	4:A2:1302:G:H2'	2.20	0.41
4:A2:1397:U:O2'	4:A2:1398:G:P	2.79	0.41
4:A2:1721:U:OP1	4:A2:1723:G:H5'	2.21	0.41
4:A2:1756:C:N3	4:A2:1757:G:H8	2.18	0.41
5:B2:146:ALA:O	5:B2:161:ILE:HG22	2.20	0.41
8:E2:136:VAL:O	8:E2:136:VAL:HG23	2.20	0.41
11:H2:121:ILE:HG13	11:H2:122:PRO:HD2	2.02	0.41
14:K2:141:VAL:HG11	29:Z2:65:GLY:CA	2.51	0.41
17:N2:52:LEU:HG	17:N2:54:SER:OG	2.21	0.41
17:N2:114:TYR:O	17:N2:114:TYR:CD1	2.74	0.41
23:T2:108:ARG:NH1	23:T2:109:GLU:OE2	2.54	0.41
24:U2:104:LEU:HD23	24:U2:104:LEU:HA	1.89	0.41
25:V2:24:LEU:CD2	25:V2:112:VAL:HG22	2.51	0.41
29:Z2:58:PHE:CZ	29:Z2:72:PHE:CD2	3.08	0.41
29:Z2:91:LEU:O	29:Z2:94:HIS:ND1	2.54	0.41
33:d2:59:LEU:C	33:d2:59:LEU:HD23	2.45	0.41
36:g2:114:ILE:HD11	36:g2:116:ARG:HE	1.84	0.41
37:h2:113:PHE:HA	37:h2:120:ILE:CD1	2.51	0.41
38:A3:181:LYS:HE2	77:p3:18:TYR:OH	2.21	0.41
39:B3:162:VAL:HG12	39:B3:183:ILE:O	2.21	0.41
39:B3:258:HIS:HB3	39:B3:259:PRO:HD3	2.02	0.41
40:C3:336:ARG:O	40:C3:340:ILE:HG12	2.21	0.41
40:C3:363:ASP:N	40:C3:363:ASP:OD2	2.52	0.41
43:F3:240:ASN:HB3	43:F3:244:ARG:NH2	2.35	0.41
44:G3:110:TRP:O	44:G3:111:PRO:C	2.62	0.41
44:G3:234:TYR:CE2	44:G3:276:ARG:HG3	2.55	0.41
45:H3:170:LYS:HD3	45:H3:175:PHE:CE2	2.54	0.41
48:L3:13:HIS:O	48:L3:14:PHE:CD1	2.73	0.41
53:Q3:97:LYS:HG3	53:Q3:117:GLY:O	2.20	0.41
53:Q3:108:ARG:CZ	53:Q3:108:ARG:HB2	2.51	0.41
54:R3:126:LYS:O	54:R3:130:ASN:HA	2.21	0.41
56:T3:74:ILE:HG22	56:T3:89:ILE:HG13	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:b3:56:LYS:O	63:b3:60:ASN:HB2	2.20	0.41
63:b3:64:ALA:HB1	63:b3:68:ARG:NH1	2.36	0.41
69:h3:103:LYS:HE2	69:h3:103:LYS:HA	2.03	0.41
72:k3:23:VAL:O	72:k3:23:VAL:HG22	2.20	0.41
72:k3:32:VAL:HG21	72:k3:53:ALA:HB1	2.03	0.41
79:q3:51:C:O2'	79:q3:52:G:O5'	2.31	0.41
84:w3:1:MET:O	84:w3:1:MET:HG3	2.20	0.41
84:w3:34:LEU:HG	84:w3:36:ILE:HG13	2.01	0.41
84:w3:58:THR:O	84:w3:60:ARG:N	2.53	0.41
84:w3:107:TYR:HB2	84:w3:110:PHE:CE2	2.53	0.41
84:w3:152:LYS:CG	84:w3:153:SER:N	2.83	0.41
86:W:45:ASN:OD1	86:W:47:ARG:N	2.51	0.41
1:51:369:G:N2	1:51:373:G:C4	2.89	0.41
1:51:408:A:H2	1:51:410:A:C4	2.38	0.41
1:51:418:A:C2	1:51:419:A:C4	3.08	0.41
1:51:437:G:C2	1:51:1311:G:C2	3.08	0.41
1:51:461:G:H2'	1:51:462:G:H8	1.86	0.41
1:51:1099:C:O5'	1:51:1099:C:H6	2.03	0.41
1:51:1104:C:N4	1:51:1163:G:OP2	2.53	0.41
1:51:1177:U:H2'	1:51:1178:G:C8	2.55	0.41
1:51:1399:G:H2'	1:51:1400:G:H8	1.84	0.41
1:51:1401:C:C4	1:51:1402:C:N4	2.88	0.41
1:51:1823:G:C6	1:51:1824:G:C5	3.07	0.41
1:51:1951:G:C2	1:51:2033:A:N3	2.88	0.41
1:51:1961:G:C5'	80:t3:59:THR:HG22	2.49	0.41
1:51:1971:U:O4	1:51:2001:G:N7	2.54	0.41
1:51:2021:G:P	80:t3:57:LYS:NZ	2.94	0.41
1:51:2062:C:OP1	55:S3:2:LYS:HD3	2.20	0.41
1:51:2343:G:N3	40:C3:101:MET:CE	2.83	0.41
1:51:2555:G:C6	1:51:2573:A:C2	3.09	0.41
1:51:2556:G:C6	1:51:2572:C:N4	2.89	0.41
1:51:2631:U:H3	57:U3:49:VAL:HG23	1.85	0.41
1:51:3658:C:H2'	1:51:3659:G:C8	2.55	0.41
1:51:3754:G:N1	1:51:3772:U:N3	2.67	0.41
1:51:4048:A:H1'	1:51:4049:U:C5	2.55	0.41
1:51:4184:G:C4	1:51:4185:G:C8	3.08	0.41
1:51:4385:A:H4'	1:51:4386:C:H5"	2.01	0.41
1:51:4410:G:C6	1:51:4411:G:N7	2.89	0.41
1:51:4569:U:H3'	1:51:4569:U:H6	1.86	0.41
1:51:4699:U:H4'	1:51:4700:A:OP1	2.20	0.41
1:51:4727:A:O5'	39:B3:130:PHE:HA	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:4737:G:C2	1:51:4963:G:N3	2.88	0.41
3:81:149:G:N2	3:81:152:U:C4	2.88	0.41
4:A2:156:G:H1'	11:H2:56:ASN:CG	2.45	0.41
4:A2:189:U:H3'	4:A2:190:G:O4'	2.21	0.41
4:A2:192:C:OP1	4:A2:192:C:H4'	2.19	0.41
4:A2:233:C:N3	4:A2:890:U:N3	2.68	0.41
4:A2:305:U:O2'	4:A2:306:C:OP1	2.36	0.41
4:A2:439:A:C2	4:A2:455:A:N1	2.88	0.41
4:A2:1012:A:N7	4:A2:1013:U:N3	2.69	0.41
4:A2:1078:C:C5	4:A2:1079:C:C5	3.08	0.41
4:A2:1096:G:O5'	27:X2:20:ARG:NH1	2.44	0.41
4:A2:1099:G:N1	4:A2:1134:G:C2	2.89	0.41
4:A2:1197:G:C2	4:A2:1198:G:C5	3.09	0.41
4:A2:1294:G:C8	4:A2:1295:A:C8	3.08	0.41
4:A2:1453:C:O2	4:A2:1453:C:H3'	2.21	0.41
4:A2:1513:C:OP2	34:e2:12:ARG:NH2	2.54	0.41
4:A2:1541:G:C5	4:A2:1542:C:C4	3.09	0.41
4:A2:1621:U:P	20:Q2:40:ARG:HH11	2.44	0.41
5:B2:30:LEU:C	5:B2:30:LEU:HD23	2.46	0.41
5:B2:64:ALA:O	5:B2:68:ILE:HG12	2.21	0.41
5:B2:137:ALA:HA	5:B2:142:LEU:HD12	2.02	0.41
6:C2:134:LEU:HG	6:C2:218:LEU:HD12	2.01	0.41
6:C2:182:LYS:CD	6:C2:231:LEU:HD21	2.50	0.41
9:F2:220:THR:HG22	9:F2:221:ARG:O	2.20	0.41
13:J2:67:TRP:HB3	13:J2:72:CYS:SG	2.61	0.41
13:J2:197:PHE:HD1	13:J2:200:ARG:HH21	1.67	0.41
14:K2:21:GLU:HG3	14:K2:24:ARG:HB2	2.03	0.41
20:Q2:96:VAL:O	20:Q2:102:PHE:HA	2.20	0.41
21:R2:52:LEU:O	21:R2:56:LEU:HD23	2.21	0.41
23:T2:36:VAL:HG13	23:T2:40:TYR:HD2	1.85	0.41
25:V2:26:SER:HB2	25:V2:110:VAL:HA	2.02	0.41
26:W2:65:SER:O	26:W2:69:ILE:HG12	2.21	0.41
28:Y2:53:GLU:HG2	28:Y2:54:LYS:N	2.35	0.41
28:Y2:139:GLU:OE2	28:Y2:139:GLU:N	2.53	0.41
30:a2:48:VAL:CG1	30:a2:49:LEU:N	2.83	0.41
37:h2:10:THR:OG1	37:h2:306:LEU:HD21	2.21	0.41
39:B3:234:ARG:NH2	39:B3:270:GLY:C	2.79	0.41
44:G3:228:ARG:HA	44:G3:233:PRO:HD2	2.01	0.41
47:J3:72:CYS:SG	47:J3:73:THR:N	2.94	0.41
57:U3:55:ASN:O	57:U3:56:LEU:HG	2.20	0.41
57:U3:74:SER:OG	57:U3:75:GLU:N	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:V3:96:LEU:HD12	86:W:20:ARG:HB3	2.03	0.41
75:n3:20:MET:O	75:n3:20:MET:CG	2.69	0.41
80:t3:29:ILE:O	80:t3:29:ILE:HG22	2.21	0.41
80:t3:102:LEU:HG	80:t3:102:LEU:O	2.20	0.41
80:t3:175:LEU:HB3	80:t3:180:ILE:O	2.20	0.41
81:u3:80:LEU:CD1	81:u3:115:GLN:HB3	2.51	0.41
83:33:1:G:N1	83:33:73:G:N2	2.69	0.41
84:w3:23:ARG:HH21	84:w3:212:LYS:N	2.18	0.41
84:w3:28:PHE:CZ	84:w3:209:THR:CG2	3.04	0.41
1:51:218:A:O2'	1:51:219:G:O5'	2.37	0.41
1:51:674:G:H2'	1:51:675:C:C6	2.56	0.41
1:51:756:G:C2	1:51:908:G:C5	3.08	0.41
1:51:922(A):G:C6	1:51:922(B):C:N4	2.89	0.41
1:51:971(A):G:N3	1:51:971(A):G:C2'	2.84	0.41
1:51:1349:G:N2	1:51:1508:A:C4	2.89	0.41
1:51:1505:C:H2'	1:51:1506:G:C8	2.56	0.41
1:51:1588:U:C4	1:51:1607:C:O2	2.73	0.41
1:51:1592:G:H1	1:51:1603:C:H42	1.68	0.41
1:51:1828:C:C4	1:51:1829:G:C8	3.09	0.41
1:51:1882:U:OP1	1:51:2280:G:O2'	2.39	0.41
1:51:2318:G:N2	1:51:2322:G:C4	2.88	0.41
1:51:2340:C:C2	1:51:2341:A:C8	3.09	0.41
1:51:2380:G:O6	1:51:2425:U:C2	2.73	0.41
1:51:2599:G:C8	1:51:2600:A:C8	3.09	0.41
1:51:3638:G:C2	1:51:3651:A:C2	3.09	0.41
1:51:3705:G:N2	1:51:3748:A:C4	2.89	0.41
1:51:3856:A:C2	1:51:3857:G:C4	3.09	0.41
1:51:3968:U:C2'	1:51:3969:G:C5	3.04	0.41
1:51:4065:G:H2'	1:51:4066:U:C1'	2.51	0.41
1:51:4302:U:H5	1:51:4303:C:C5	2.38	0.41
1:51:4320:G:C6	1:51:4321:U:N3	2.89	0.41
1:51:4691:A:H5'	45:H3:71:ARG:HD3	2.02	0.41
2:71:8:G:N7	2:71:10:C:C4	2.89	0.41
4:A2:124:U:C2	4:A2:125:C:C6	3.09	0.41
4:A2:279:G:H2'	4:A2:280:G:H8	1.86	0.41
4:A2:283:G:OP2	4:A2:889:U:O3'	2.38	0.41
4:A2:898:U:C4	4:A2:899:U:C5	3.08	0.41
4:A2:1424:G:O2'	4:A2:1425:G:O5'	2.34	0.41
4:A2:1424:G:C3'	4:A2:1425:G:N7	2.83	0.41
4:A2:1534:C:OP1	10:G2:81:ARG:NH1	2.52	0.41
4:A2:1664:A:C2	4:A2:1666:C:C2	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:1786:U:O2'	4:A2:1787:G:H5'	2.21	0.41
4:A2:1816:G:HO2'	4:A2:1817:G:H8	1.64	0.41
4:A2:1818:A:H2'	4:A2:1819:A:O4'	2.19	0.41
5:B2:158:ASP:OD1	26:W2:65:SER:OG	2.39	0.41
9:F2:129:ILE:O	9:F2:129:ILE:HG13	2.21	0.41
9:F2:241:GLY:O	9:F2:242:LYS:HG2	2.21	0.41
12:I2:98:ARG:HH22	12:I2:132:ASP:CG	2.28	0.41
14:K2:43:VAL:O	14:K2:47:LYS:HG2	2.20	0.41
20:Q2:92:SER:O	20:Q2:107:ILE:HG12	2.21	0.41
21:R2:42:ILE:HG13	21:R2:43:GLU:H	1.85	0.41
23:T2:84:LEU:HD13	23:T2:96:SER:N	2.35	0.41
39:B3:79:VAL:HB	39:B3:331:VAL:CG2	2.51	0.41
40:C3:302:LEU:HD23	53:Q3:39:THR:HG22	2.01	0.41
41:D3:101:THR:HG23	41:D3:102:GLY:N	2.36	0.41
41:D3:160:PHE:HE2	41:D3:179:ARG:HB2	1.86	0.41
42:E3:285:TYR:HE1	67:f3:31:GLU:HG3	1.85	0.41
43:F3:171:ASN:OD1	43:F3:185:CYS:HA	2.19	0.41
44:G3:249:ARG:HG3	44:G3:249:ARG:O	2.21	0.41
46:I3:35:ASP:N	46:I3:35:ASP:OD1	2.54	0.41
46:I3:166:HIS:CE1	56:T3:160:ALA:O	2.73	0.41
46:I3:180:GLU:O	46:I3:183:ASP:OD1	2.37	0.41
48:L3:135:LYS:HG3	48:L3:136:LYS:H	1.85	0.41
50:N3:6:TYR:CZ	70:i3:40:VAL:CB	3.04	0.41
52:P3:57:CYS:SG	52:P3:73:ALA:HB2	2.60	0.41
55:S3:82:LEU:CD2	55:S3:83:ARG:N	2.79	0.41
55:S3:161:ARG:NH2	55:S3:165:PRO:HG3	2.36	0.41
59:X3:145:ASP:OD1	59:X3:146:ALA:N	2.54	0.41
61:Z3:69:LYS:O	61:Z3:70:SER:CB	2.65	0.41
61:Z3:100:VAL:HG22	61:Z3:106:LEU:HD23	2.02	0.41
62:a3:18:GLY:O	62:a3:19:HIS:CD2	2.73	0.41
62:a3:119:LYS:O	62:a3:120:GLN:HG3	2.21	0.41
63:b3:114:ARG:HA	63:b3:117:ARG:NE	2.36	0.41
69:h3:54:ILE:HG23	69:h3:55:ALA:N	2.35	0.41
72:k3:18:LYS:HG3	72:k3:18:LYS:O	2.20	0.41
75:n3:1:MET:HE1	75:n3:9:ARG:HD3	2.02	0.41
78:r3:32:LEU:N	78:r3:32:LEU:HD23	2.35	0.41
80:t3:58:ASN:HA	80:t3:61:MET:SD	2.61	0.41
83:33:17:G:C8	83:33:57:A:C2	3.08	0.41
84:w3:204:LEU:HD23	84:w3:204:LEU:H	1.86	0.41
86:W:53:VAL:O	86:W:57:ARG:HG3	2.20	0.41
1:51:19:G:P	69:h3:89:ARG:HH11	2.44	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:43:U:H5"	50:N3:85:VAL:CG2	2.51	0.41
1:51:51:A:C5	1:51:52:G:C8	3.08	0.41
1:51:62:A:C8	1:51:63:G:C5	3.09	0.41
1:51:270:U:O4	1:51:271:C:N4	2.54	0.41
1:51:466:A:C6	1:51:468:U:N3	2.89	0.41
1:51:479:G:C6	1:51:480:C:N4	2.88	0.41
1:51:1520:C:N4	1:51:1521:C:H41	2.18	0.41
1:51:2695:A:C6	1:51:2697:A:C4	3.08	0.41
1:51:2750:G:C2	1:51:2751:G:C4	3.09	0.41
1:51:3689:G:H8	1:51:3689:G:O5'	2.03	0.41
1:51:3955:G:H2'	1:51:3956:G:C8	2.55	0.41
1:51:3956:G:OP2	1:51:3956:G:H8	2.04	0.41
1:51:4172:A:N1	1:51:4173:G:C4	2.88	0.41
1:51:4772:C:N4	1:51:4863:G:H1	2.18	0.41
1:51:4898:G:N2	1:51:4923:U:O2	2.54	0.41
1:51:4938:A:H1'	42:E3:188:PRO:HG3	2.02	0.41
1:51:5063:G:C2	1:51:5064:G:C5	3.09	0.41
4:A2:108:G:H2'	4:A2:109:U:O4'	2.21	0.41
4:A2:142:C:O2	4:A2:142:C:O5'	2.38	0.41
4:A2:186:C:C6	4:A2:187:G:N7	2.89	0.41
4:A2:240:G:C2	4:A2:282:G:C6	3.09	0.41
4:A2:288:G:N1	4:A2:289:G:C5	2.89	0.41
4:A2:527:C:H2'	4:A2:528:A:H8	1.86	0.41
4:A2:563:G:O2'	4:A2:564:A:H8	2.03	0.41
4:A2:696:G:H2'	4:A2:697:G:O4'	2.20	0.41
4:A2:751:G:H4'	4:A2:752:G:OP1	2.21	0.41
4:A2:787:G:H2'	4:A2:788:G:N9	2.36	0.41
4:A2:961:G:C6	4:A2:962:A:C5	3.09	0.41
4:A2:1318:G:C5	4:A2:1319:U:C5	3.08	0.41
4:A2:1815:A:H61	75:n3:20:MET:HE2	1.85	0.41
4:A2:1840:U:C2	4:A2:1841:C:C6	3.08	0.41
6:C2:129:THR:OG1	6:C2:130:THR:N	2.54	0.41
7:D2:137:VAL:O	7:D2:162:ILE:HA	2.21	0.41
9:F2:155:LYS:N	9:F2:158:ASP:OD2	2.41	0.41
12:I2:70:LYS:HD2	12:I2:73:GLN:HG3	2.02	0.41
15:L2:22:VAL:HG12	15:L2:68:TYR:CD1	2.56	0.41
15:L2:81:ASP:O	15:L2:81:ASP:OD2	2.39	0.41
20:Q2:13:ARG:NH1	20:Q2:14:LYS:O	2.54	0.41
20:Q2:70:MET:O	20:Q2:70:MET:HG2	2.19	0.41
21:R2:18:THR:O	21:R2:74:GLY:C	2.63	0.41
28:Y2:49:GLY:O	28:Y2:99:GLU:HA	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:Z2:58:PHE:HE1	29:Z2:74:MET:HE2	1.86	0.41
30:a2:58:LEU:HD12	30:a2:77:LEU:CD1	2.51	0.41
30:a2:102:LYS:O	30:a2:102:LYS:HD2	2.20	0.41
33:d2:9:ILE:HD12	33:d2:59:LEU:HA	2.02	0.41
35:f2:125:LYS:CD	35:f2:125:LYS:N	2.84	0.41
37:h2:99:ARG:NH2	37:h2:136:GLY:CA	2.83	0.41
40:C3:169:LEU:HD12	40:C3:169:LEU:HA	1.89	0.41
44:G3:228:ARG:CD	44:G3:235:CYS:CB	2.95	0.41
49:M3:93:LYS:C	51:O3:203:VAL:HG11	2.46	0.41
51:O3:8:VAL:HG12	51:O3:9:LEU:N	2.36	0.41
53:Q3:81:VAL:O	53:Q3:81:VAL:CG1	2.69	0.41
54:R3:114:LYS:HE2	54:R3:114:LYS:HB2	1.87	0.41
55:S3:13:VAL:CG1	55:S3:63:TYR:HB3	2.51	0.41
56:T3:144:ASN:OD1	56:T3:144:ASN:N	2.54	0.41
62:a3:100:ILE:CD1	62:a3:123:ILE:HB	2.50	0.41
67:f3:41:PHE:HE1	67:f3:110:ILE:HD11	1.86	0.41
74:m3:96:ARG:HG3	74:m3:97:PRO:O	2.20	0.41
78:r3:26:SER:HG	78:r3:28:GLU:CD	2.29	0.41
79:q3:24:A:H2'	79:q3:25:C:C6	2.56	0.41
81:u3:113:ALA:HB3	81:u3:125:LEU:HD23	2.03	0.41
1:51:38:A:C8	1:51:40:G:OP2	2.73	0.41
1:51:39:A:C2	62:a3:40:HIS:NE2	2.89	0.41
1:51:86:U:O5'	1:51:86:U:H6	2.04	0.41
1:51:165:A:C6	1:51:166:C:C4	3.09	0.41
1:51:253:G:C2	1:51:254:G:C8	3.08	0.41
1:51:389:A:N7	1:51:402:A:H2	2.19	0.41
1:51:515:C:H2'	1:51:516:C:H6	1.86	0.41
1:51:647:G:C6	1:51:648:G:C4	3.09	0.41
1:51:648:G:N1	1:51:649:A:C6	2.89	0.41
1:51:945:U:O2	1:51:946:C:C5	2.74	0.41
1:51:964:A:H2'	1:51:964:A:N3	2.36	0.41
1:51:1100:U:C4	1:51:1167:C:C5	3.09	0.41
1:51:1221:G:OP2	1:51:1222:A:C5	2.74	0.41
1:51:1335:G:N2	1:51:2352:U:C2	2.88	0.41
1:51:1664:U:C2	1:51:2286:G:N2	2.88	0.41
1:51:1824:G:C6	1:51:1825:A:C6	3.09	0.41
1:51:1907:A:C6	1:51:1908:A:C6	3.09	0.41
1:51:1928:C:O4'	1:51:1929:A:N7	2.54	0.41
1:51:2031:C:O5'	1:51:2032:U:P	2.78	0.41
1:51:2050:G:N1	1:51:2051:C:N3	2.69	0.41
1:51:2060:G:H2'	1:51:2061:U:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:2109:A:N3	1:51:2110:G:C8	2.89	0.41
1:51:2343:G:N3	40:C3:101:MET:HE3	2.36	0.41
1:51:2344:U:N1	62:a3:9:ARG:NH1	2.68	0.41
1:51:2559:G:N1	1:51:2569:G:N1	2.69	0.41
1:51:2703:G:C4	1:51:2714:G:N2	2.89	0.41
1:51:2773:G:OP2	72:k3:40:ARG:HD2	2.21	0.41
1:51:3689:G:C6	1:51:3690:U:N3	2.89	0.41
1:51:3738:G:C6	1:51:3739:C:C4	3.09	0.41
1:51:3758:U:N3	1:51:3766:A:OP2	2.53	0.41
1:51:3767:C:OP2	1:51:3767:C:C6	2.74	0.41
1:51:3775:A:C2	1:51:3776:G:C5	3.09	0.41
1:51:3969:G:N2	84:w3:35:GLN:CG	2.84	0.41
1:51:4167:G:C6	1:51:4168:G:N7	2.89	0.41
1:51:4442:U:C5	1:51:4443:C:C4	3.09	0.41
1:51:4467:A:N6	1:51:4468:U:O4	2.53	0.41
1:51:4495:G:C2	1:51:4496:A:N7	2.89	0.41
1:51:4642:U:C2	1:51:4658:G:N2	2.89	0.41
1:51:4644:G:C2	1:51:4645:C:C5	3.09	0.41
1:51:4704:C:H2'	1:51:4705:A:H8	1.86	0.41
1:51:4743:G:N1	1:51:4958:C:N3	2.69	0.41
1:51:4870:G:C4	49:M3:56:GLN:OE1	2.74	0.41
1:51:5002:U:H4'	39:B3:375:GLY:HA3	2.03	0.41
2:71:21:G:H1	2:71:57:C:N4	2.19	0.41
3:81:12:G:N1	3:81:13:G:C5	2.88	0.41
3:81:151:G:O6	44:G3:117:GLN:OE1	2.39	0.41
4:A2:62:G:C2	4:A2:63:U:O2	2.73	0.41
4:A2:827:A:P	14:K2:10:ARG:HH21	2.44	0.41
4:A2:859:G:C4	4:A2:860:G:C8	3.09	0.41
4:A2:916:A:C5	18:O2:73:ARG:HD3	2.56	0.41
4:A2:1003:U:H4'	6:C2:165:ARG:NH2	2.35	0.41
4:A2:1040:G:C2	4:A2:1076:G:C2	3.08	0.41
4:A2:1137:U:H4'	4:A2:1138:C:OP1	2.21	0.41
4:A2:1285:G:OP2	4:A2:1286:G:C6	2.74	0.41
4:A2:1310:U:H5	4:A2:1312:G:O6	2.03	0.41
4:A2:1445:U:H1'	4:A2:1580:A:H61	1.86	0.41
4:A2:1459:G:C2	4:A2:1468:C:N3	2.88	0.41
4:A2:1515:G:C6	4:A2:1516:G:C6	3.09	0.41
4:A2:1573:G:C2	4:A2:1574:C:H1'	2.56	0.41
4:A2:1603:G:C8	23:T2:28:PHE:CZ	3.09	0.41
4:A2:1605:G:C2	4:A2:1606:G:N2	2.88	0.41
4:A2:1645:C:O2'	4:A2:1646:C:H5'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B2:11:LYS:O	5:B2:14:ASP:OD1	2.38	0.41
5:B2:177:MET:SD	5:B2:180:ARG:NH2	2.79	0.41
7:D2:65:LYS:O	7:D2:69:LEU:HG	2.20	0.41
7:D2:146:GLU:OE1	7:D2:146:GLU:N	2.53	0.41
7:D2:273:LEU:HA	7:D2:276:THR:CG2	2.51	0.41
8:E2:9:ARG:C	8:E2:12:VAL:HG22	2.46	0.41
8:E2:153:VAL:O	8:E2:153:VAL:HG23	2.21	0.41
8:E2:172:VAL:O	8:E2:173:ARG:NH1	2.46	0.41
9:F2:92:ILE:O	9:F2:92:ILE:HG23	2.20	0.41
10:G2:194:ASP:HA	10:G2:197:GLU:HG3	2.03	0.41
11:H2:53:SER:O	11:H2:109:LEU:C	2.64	0.41
11:H2:152:ASP:CG	11:H2:154:ARG:HE	2.26	0.41
12:I2:28:LEU:O	12:I2:31:GLU:HB3	2.20	0.41
12:I2:181:THR:HB	12:I2:183:LYS:CE	2.51	0.41
13:J2:115:SER:O	13:J2:117:TYR:CE2	2.73	0.41
13:J2:171:LEU:HD23	13:J2:171:LEU:HA	1.88	0.41
15:L2:8:ARG:O	15:L2:11:ILE:HG22	2.21	0.41
19:P2:100:THR:CG2	19:P2:101:GLY:N	2.83	0.41
20:Q2:89:MET:HG2	20:Q2:107:ILE:HD12	2.02	0.41
21:R2:26:LYS:HG3	21:R2:27:ARG:H	1.85	0.41
21:R2:49:TYR:O	21:R2:53:GLU:OE1	2.39	0.41
21:R2:56:LEU:N	21:R2:56:LEU:CD2	2.84	0.41
23:T2:49:ASP:O	23:T2:49:ASP:OD2	2.39	0.41
23:T2:129:LEU:HD12	23:T2:130:ARG:HD2	2.03	0.41
24:U2:18:LEU:HD23	24:U2:58:ALA:HB1	2.03	0.41
24:U2:38:LYS:NZ	24:U2:44:GLU:HA	2.36	0.41
26:W2:33:GLN:OE1	26:W2:54:ALA:HB2	2.21	0.41
28:Y2:125:VAL:O	28:Y2:125:VAL:HG13	2.21	0.41
30:a2:68:ILE:HD12	30:a2:109:TYR:O	2.21	0.41
32:c2:34:ASP:OD2	32:c2:82:LYS:HD2	2.21	0.41
37:h2:44:LYS:HG3	37:h2:56:GLN:HB2	2.03	0.41
37:h2:119:GLN:O	37:h2:120:ILE:HD13	2.21	0.41
38:A3:50:HIS:HB3	77:p3:54:ILE:HD13	2.02	0.41
38:A3:180:LEU:HD13	77:p3:18:TYR:CE2	2.55	0.41
39:B3:50:LYS:HE2	39:B3:341:LYS:HA	2.03	0.41
39:B3:333:LEU:HD12	39:B3:333:LEU:N	2.36	0.41
40:C3:32:ILE:O	40:C3:33:ARG:HG2	2.21	0.41
40:C3:190:ARG:HG2	40:C3:191:ALA:N	2.36	0.41
40:C3:338:ASN:O	40:C3:339:THR:OG1	2.35	0.41
41:D3:40:ASP:OD1	41:D3:40:ASP:C	2.64	0.41
41:D3:178:LYS:C	41:D3:179:ARG:HD3	2.46	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:G3:244:GLY:HA2	44:G3:257:PHE:CE1	2.56	0.41
47:J3:27:GLY:C	47:J3:28:GLU:CD	2.88	0.41
47:J3:39:VAL:CG1	47:J3:40:LEU:HD22	2.48	0.41
48:L3:75:GLY:O	48:L3:99:ASP:OD1	2.39	0.41
48:L3:157:ILE:O	48:L3:157:ILE:HG23	2.20	0.41
51:O3:18:ARG:NH2	51:O3:128:ARG:HH11	2.19	0.41
52:P3:13:LYS:HE2	52:P3:152:GLU:HB3	2.03	0.41
53:Q3:113:ILE:CG2	53:Q3:118:GLY:HA3	2.51	0.41
54:R3:7:GLN:OE1	54:R3:35:ALA:HB3	2.20	0.41
54:R3:104:ARG:HG3	54:R3:105:LEU:N	2.35	0.41
54:R3:177:LEU:O	54:R3:177:LEU:HG	2.20	0.41
55:S3:130:GLU:OE2	55:S3:130:GLU:HA	2.20	0.41
55:S3:138:ARG:HD2	55:S3:139:ARG:NH2	2.36	0.41
55:S3:169:THR:CG2	55:S3:170:LYS:N	2.84	0.41
56:T3:113:ASP:O	56:T3:117:LYS:HG3	2.21	0.41
57:U3:87:THR:O	57:U3:91:LEU:HG	2.21	0.41
61:Z3:87:VAL:O	61:Z3:87:VAL:HG13	2.21	0.41
63:b3:36:ASP:HA	63:b3:37:PRO:HD3	1.88	0.41
65:d3:86:VAL:O	65:d3:86:VAL:HG13	2.20	0.41
67:f3:45:LYS:HD2	67:f3:105:LEU:HA	2.01	0.41
67:f3:83:MET:C	67:f3:84:VAL:HG13	2.46	0.41
72:k3:5:ILE:HD11	72:k3:10:ASP:HB3	2.02	0.41
79:q3:9:A:H1'	79:q3:45:G:H2'	2.03	0.41
79:q3:36:C:N3	82:v3:33:U:O4	2.54	0.41
79:q3:44:A:N7	79:q3:45:G:C6	2.89	0.41
80:t3:79:LEU:H	80:t3:80:PRO:HD2	1.86	0.41
80:t3:144:THR:HG22	80:t3:155:LEU:HD22	2.03	0.41
81:u3:78:SER:O	81:u3:81:ILE:HB	2.21	0.41
81:u3:95:GLN:HE21	81:u3:96:LYS:HG2	1.86	0.41
81:u3:116:MET:SD	81:u3:116:MET:O	2.79	0.41
82:v3:36:G:C2'	82:v3:37:A:O5'	2.68	0.41
84:w3:25:ARG:O	84:w3:25:ARG:HG3	2.20	0.41
84:w3:31:THR:HA	84:w3:171:HIS:CD2	2.56	0.41
84:w3:39:LYS:HB2	84:w3:198:TRP:CE3	2.55	0.41
84:w3:188:ASN:O	84:w3:191:VAL:HG22	2.21	0.41
85:1:58:PHE:O	85:1:58:PHE:CD1	2.74	0.41
1:51:294:G:H3'	1:51:294:G:N3	2.36	0.41
1:51:1188:C:H2'	1:51:1189:G:C8	2.54	0.41
1:51:1529:G:C2	1:51:1530:G:C4	3.09	0.41
1:51:1612:G:C2	1:51:1614:C:C4	3.09	0.41
1:51:1689:G:C2	1:51:1848:C:N3	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:1732:C:H5”	56:T3:43:LYS:HE2	2.03	0.41
1:51:1775:A:H2’	1:51:1776:A:C8	2.56	0.41
1:51:1786:A:C6	1:51:1789:C:O2	2.74	0.41
1:51:1989:G:N2	81:u3:98:ILE:CG2	2.81	0.41
1:51:2296:G:C5	1:51:2297:G:N7	2.89	0.41
1:51:2473:A:C6	1:51:2506:G:N1	2.89	0.41
1:51:2483:G:C6	1:51:2484:A:C5	3.09	0.41
1:51:2647:A:C6	1:51:2648:G:C4	3.09	0.41
1:51:2756:G:N1	1:51:2757:A:C6	2.89	0.41
1:51:3717:A:N3	1:51:4178:A:O2’	2.45	0.41
1:51:3858:C:N4	1:51:3859:G:C6	2.89	0.41
1:51:3932:U:H2’	1:51:3933:G:H8	1.84	0.41
1:51:4052:C:C4’	84:w3:210:MET:HA	2.51	0.41
1:51:4070:U:N3	1:51:4071:U:C4	2.89	0.41
1:51:4094:G:N2	1:51:4115:G:H1’	2.36	0.41
1:51:4122:G:H4’	68:g3:90:ARG:HD2	2.03	0.41
1:51:4323:A:N1	41:D3:153:THR:HG21	2.33	0.41
1:51:5030:U:C2	1:51:5031:G:N7	2.89	0.41
2:71:9:C:H41	2:71:13:A:N6	2.17	0.41
2:71:12:U:OP2	2:71:67:C:O2’	2.39	0.41
4:A2:56:G:C2	4:A2:90:G:C2	3.09	0.41
4:A2:71:G:O6	4:A2:79:A:OP2	2.39	0.41
4:A2:227:U:OP1	4:A2:227:U:O3’	2.39	0.41
4:A2:317:C:C2	4:A2:318:A:C8	3.09	0.41
4:A2:376:A:C4	4:A2:377:G:C8	3.08	0.41
4:A2:551:U:O4	4:A2:552:G:C5	2.74	0.41
4:A2:700:G:H21	4:A2:726:C:H41	1.68	0.41
4:A2:933:G:C4	4:A2:1001:A:C2	3.09	0.41
4:A2:1417:C:N3	4:A2:1423:C:N4	2.69	0.41
4:A2:1458:G:C4	4:A2:1459:G:C8	3.09	0.41
4:A2:1597:C:P	23:T2:25:LYS:NZ	2.94	0.41
4:A2:1867:U:N3	31:b2:98:PRO:HG3	2.36	0.41
9:F2:177:THR:O	9:F2:177:THR:CG2	2.67	0.41
9:F2:179:ASN:OD1	9:F2:230:LYS:CD	2.69	0.41
11:H2:11:GLY:O	11:H2:12:CYS:SG	2.79	0.41
11:H2:162:LEU:O	11:H2:169:PRO:HB3	2.21	0.41
12:I2:58:LYS:O	12:I2:90:LYS:HG2	2.21	0.41
16:M2:111:VAL:O	16:M2:111:VAL:HG23	2.20	0.41
17:N2:68:LEU:O	17:N2:74:ILE:HD13	2.21	0.41
21:R2:107:GLU:O	21:R2:111:ILE:HG13	2.21	0.41
23:T2:101:ASN:O	23:T2:104:ASP:OD1	2.39	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:W2:43:THR:HG23	26:W2:44:GLY:H	1.85	0.41
29:Z2:27:VAL:CG2	29:Z2:28:LEU:N	2.83	0.41
36:g2:140:TYR:HA	36:g2:146:LEU:O	2.21	0.41
37:h2:2:THR:HB	37:h2:313:THR:HG21	2.02	0.41
37:h2:152:SER:HB3	37:h2:168:CYS:SG	2.61	0.41
37:h2:162:ASN:CB	37:h2:164:ILE:HD12	2.51	0.41
38:A3:30:ARG:O	38:A3:163:ARG:NH1	2.54	0.41
39:B3:90:VAL:CB	39:B3:104:THR:HG22	2.51	0.41
40:C3:134:PRO:HB3	40:C3:150:LEU:HD22	2.03	0.41
41:D3:178:LYS:O	41:D3:179:ARG:HD3	2.20	0.41
41:D3:193:GLU:O	41:D3:197:LYS:HG3	2.21	0.41
42:E3:267:VAL:HB	42:E3:270:LEU:HD22	2.02	0.41
48:L3:13:HIS:O	48:L3:14:PHE:HD1	2.04	0.41
48:L3:130:LYS:C	48:L3:132:SER:H	2.29	0.41
51:O3:108:ILE:HG22	51:O3:157:GLU:OE1	2.21	0.41
57:U3:28:PRO:HB3	57:U3:34:MET:HG2	2.03	0.41
59:X3:118:ASP:C	59:X3:119:ILE:HG23	2.46	0.41
66:e3:11:LYS:HG3	66:e3:11:LYS:O	2.20	0.41
67:f3:106:TYR:CG	67:f3:107:PRO:HD3	2.56	0.41
80:t3:30:VAL:O	80:t3:86:VAL:CG1	2.65	0.41
80:t3:144:THR:HG22	80:t3:155:LEU:HB2	2.03	0.41
80:t3:161:ILE:HG23	80:t3:165:ASP:HB2	2.02	0.41
83:33:28:C:O2'	83:33:29:A:O4'	2.29	0.41
83:33:52:G:N3	83:33:52:G:H2'	2.36	0.41
84:w3:194:LEU:HG	84:w3:195:LYS:N	2.36	0.41
1:51:70:A:OP1	62:a3:67:GLN:NE2	2.43	0.40
1:51:120:A:H2	1:51:152:U:C2	2.39	0.40
1:51:232:G:C2	1:51:383:A:C2	3.09	0.40
1:51:470:A:C6	1:51:471:A:C4	3.08	0.40
1:51:754:C:O2	1:51:910:G:C2	2.74	0.40
1:51:1192:C:H2'	1:51:1193:C:C6	2.56	0.40
1:51:1394:G:N3	1:51:1395:U:O2	2.54	0.40
1:51:1804:A:N6	1:51:1833:G:O4'	2.54	0.40
1:51:1874:A:C2	1:51:1875:C:C4	3.10	0.40
1:51:1885:G:H21	1:51:1908:A:H2	1.67	0.40
1:51:1989:G:N3	81:u3:99:LYS:HG2	2.36	0.40
1:51:1991:A:N3	1:51:1991:A:O4'	2.52	0.40
1:51:2010:A:N7	1:51:2011:C:N3	2.69	0.40
1:51:2411:C:N3	1:51:2434:G:C2	2.89	0.40
1:51:3742:G:N2	1:51:3743:G:C4	2.89	0.40
1:51:3757:G:N1	1:51:3766:A:OP2	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:51:3856:A:OP2	52:P3:82:ARG:HD3	2.20	0.40
1:51:4078:C:OP1	50:N3:32:GLN:NE2	2.51	0.40
1:51:4147:G:C2	1:51:4148:C:C6	3.09	0.40
1:51:4410:G:C2	1:51:4433:G:C2	3.09	0.40
1:51:4941:G:P	42:E3:191:ARG:HH11	2.44	0.40
1:51:4999:G:N1	1:51:5000:G:C5	2.89	0.40
4:A2:224:A:C6	4:A2:225:G:N2	2.90	0.40
4:A2:534:G:H2'	4:A2:535:G:H8	1.86	0.40
4:A2:562:U:H2'	4:A2:563:G:H8	1.86	0.40
4:A2:1052:A:C2	4:A2:1067:C:O2	2.74	0.40
4:A2:1235:G:H1	4:A2:1523:C:H42	1.69	0.40
4:A2:1276:A:H4'	15:L2:47:LYS:NZ	2.36	0.40
4:A2:1295:A:H3'	4:A2:1296:U:P	2.61	0.40
4:A2:1545:A:C4	4:A2:1588:A:C5	3.09	0.40
4:A2:1556:A:H2	4:A2:1557:C:C6	2.39	0.40
4:A2:1628:C:H2'	4:A2:1629:C:O5'	2.21	0.40
4:A2:1719:A:C5'	4:A2:1720:U:OP2	2.70	0.40
4:A2:1745:A:C6	4:A2:1790:A:C8	3.08	0.40
4:A2:1753:C:N3	4:A2:1780:G:C2	2.89	0.40
4:A2:1790:A:C2	4:A2:1791:A:C4	3.09	0.40
4:A2:1790:A:C8	4:A2:1790:A:O5'	2.74	0.40
4:A2:1815:A:N6	4:A2:1817:G:C2	2.89	0.40
4:A2:1832:A:C2	4:A2:1833:C:C4	3.09	0.40
6:C2:103:MET:CB	6:C2:215:VAL:HG12	2.43	0.40
6:C2:105:LEU:HD23	6:C2:213:ARG:O	2.21	0.40
11:H2:111:LEU:N	11:H2:111:LEU:CD2	2.84	0.40
12:I2:15:LYS:HD3	12:I2:16:PRO:HD2	2.02	0.40
12:I2:146:VAL:O	27:X2:49:GLU:HB2	2.21	0.40
14:K2:70:ARG:HH21	14:K2:94:LEU:HD11	1.85	0.40
17:N2:100:PRO:C	17:N2:102:LYS:H	2.29	0.40
20:Q2:16:THR:HB	23:T2:91:LYS:O	2.22	0.40
21:R2:97:GLN:HA	21:R2:102:GLU:OE2	2.21	0.40
28:Y2:39:ASN:OD1	28:Y2:41:PHE:HB2	2.22	0.40
32:c2:14:GLU:O	32:c2:18:LYS:HG3	2.21	0.40
32:c2:55:LEU:HD23	32:c2:55:LEU:N	2.30	0.40
38:A3:19:HIS:CD2	38:A3:19:HIS:N	2.89	0.40
38:A3:237:LEU:HD23	38:A3:237:LEU:HA	1.88	0.40
40:C3:228:THR:CB	40:C3:248:ARG:NH2	2.84	0.40
42:E3:285:TYR:CE1	67:f3:31:GLU:O	2.74	0.40
44:G3:116:LEU:O	44:G3:116:LEU:HD23	2.20	0.40
45:H3:89:ARG:HH11	45:H3:187:VAL:HA	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:I3:93:PRO:HB2	46:I3:125:THR:CG2	2.51	0.40
47:J3:24:ILE:CD1	47:J3:40:LEU:HD21	2.51	0.40
55:S3:34:ALA:HB1	55:S3:39:VAL:HG23	2.03	0.40
66:e3:67:LYS:HG2	66:e3:68:HIS:CD2	2.56	0.40
67:f3:20:ASN:ND2	67:f3:22:ARG:NE	2.69	0.40
70:i3:80:HIS:CE1	70:i3:84:LYS:HE3	2.56	0.40
75:n3:20:MET:O	75:n3:20:MET:HG3	2.21	0.40
80:t3:43:ILE:HA	80:t3:105:ASN:CB	2.51	0.40
81:u3:121:LEU:O	81:u3:121:LEU:HD23	2.21	0.40
83:33:6:G:N1	83:33:7:A:N6	2.70	0.40
83:33:10:G:N2	83:33:24:G:N2	2.68	0.40
83:33:18:U:H4'	83:33:19:G:OP2	2.20	0.40
84:w3:41:TYR:HE2	84:w3:47:LYS:HB3	1.86	0.40
84:w3:216:LEU:CD1	84:w3:217:TYR:H	2.29	0.40
1:51:464:G:C6	1:51:692:A:N1	2.89	0.40
1:51:508:G:N2	1:51:651:C:O2	2.54	0.40
1:51:716:C:C5	1:51:717:U:C5	3.09	0.40
1:51:750:U:C2	1:51:915:A:N6	2.89	0.40
1:51:971(A):G:N2	42:E3:126:ARG:CZ	2.84	0.40
1:51:1218:G:C5	1:51:1219:G:N7	2.89	0.40
1:51:1281:G:C6	42:E3:131:HIS:HB2	2.56	0.40
1:51:1558:A:C4	1:51:1559:G:C2	3.09	0.40
1:51:1614:C:N4	1:51:1615:C:N4	2.69	0.40
1:51:1629:G:N2	1:51:1634:A:C5	2.90	0.40
1:51:1857:C:C2	1:51:1878:G:N2	2.89	0.40
1:51:1941:A:C2	1:51:1942:A:C8	3.09	0.40
1:51:1990:A:N7	81:u3:99:LYS:HG3	2.36	0.40
1:51:2058:G:C6	1:51:2059:C:N4	2.89	0.40
1:51:2523:G:N2	1:51:2533:C:C2	2.84	0.40
1:51:2597:G:N2	1:51:2749:C:C2	2.89	0.40
1:51:2756:G:O6	61:Z3:51:ARG:NH2	2.55	0.40
1:51:2813:A:N6	1:51:2815:A:C5	2.90	0.40
1:51:3766:A:H5"	1:51:3767:C:C5	2.56	0.40
1:51:3973:G:H2'	1:51:3974:G:C1'	2.50	0.40
1:51:4056:A:C5	1:51:4057:C:C4	3.10	0.40
1:51:4229:U:C4	1:51:4230:C:C4	3.09	0.40
1:51:4357:G:C2	1:51:4358:U:C2	3.08	0.40
1:51:4518:A:C8	39:B3:257:TRP:CE2	3.10	0.40
1:51:4630:G:N2	1:51:4669:A:N3	2.69	0.40
1:51:4907:G:N2	1:51:4913:G:C5	2.89	0.40
1:51:5066:U:H2'	1:51:5067:U:H6	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:39:A:P	14:K2:5:ARG:HH11	2.45	0.40
4:A2:224:A:H2'	4:A2:225:G:O4'	2.21	0.40
4:A2:819:G:H1	4:A2:829:C:N4	2.18	0.40
4:A2:874:G:C2'	4:A2:875:A:C8	3.03	0.40
4:A2:920:A:C4	4:A2:922:A:C8	3.09	0.40
4:A2:1011:A:C5	4:A2:1012:A:C2	3.09	0.40
4:A2:1040:G:C2	4:A2:1076:G:N3	2.89	0.40
4:A2:1093:A:C6	4:A2:1094:C:C2	3.09	0.40
4:A2:1394:G:H8	4:A2:1394:G:O5'	2.04	0.40
4:A2:1409:A:C2	4:A2:1438:A:C4	3.09	0.40
4:A2:1425:G:O5'	4:A2:1425:G:H8	2.05	0.40
4:A2:1565:C:N3	4:A2:1571:G:C2	2.89	0.40
4:A2:1590:C:H5'	24:U2:82:ARG:NH1	2.36	0.40
4:A2:1650:A:C4	4:A2:1675:A:N6	2.89	0.40
4:A2:1655:C:N3	4:A2:1656:G:N7	2.69	0.40
4:A2:1660:C:OP1	34:e2:16:GLN:HG2	2.22	0.40
4:A2:1717:C:N4	4:A2:1718:G:C6	2.89	0.40
4:A2:1720:U:C5	4:A2:1722:G:H1'	2.56	0.40
6:C2:93:GLY:O	44:G3:317:LYS:NZ	2.55	0.40
6:C2:146:ARG:HG3	6:C2:147:ASN:N	2.34	0.40
7:D2:272:HIS:O	7:D2:276:THR:HG22	2.21	0.40
10:G2:20:PHE:CE1	10:G2:47:LYS:O	2.74	0.40
10:G2:92:ILE:H	10:G2:92:ILE:HD12	1.86	0.40
12:I2:158:LEU:HB2	12:I2:189:PHE:CE1	2.55	0.40
12:I2:168:HIS:HE1	12:I2:169:LYS:HE3	1.85	0.40
13:J2:98:LYS:HA	13:J2:174:CYS:SG	2.61	0.40
13:J2:102:VAL:HG23	13:J2:104:ILE:HG12	2.03	0.40
17:N2:79:VAL:CG1	17:N2:80:ASP:N	2.84	0.40
19:P2:133:THR:HG23	19:P2:135:ILE:HG13	2.04	0.40
21:R2:12:VAL:HG11	21:R2:91:ALA:HA	2.02	0.40
21:R2:34:VAL:O	21:R2:34:VAL:HG13	2.21	0.40
21:R2:135:PRO:HD3	21:R2:141:TYR:CD1	2.56	0.40
21:R2:135:PRO:HD2	21:R2:139:ALA:O	2.22	0.40
23:T2:109:GLU:OE1	23:T2:109:GLU:HA	2.20	0.40
37:h2:172:LYS:HD2	37:h2:192:THR:HA	2.04	0.40
38:A3:207:VAL:HG22	38:A3:208:GLU:OE1	2.21	0.40
39:B3:292:LEU:O	39:B3:292:LEU:HG	2.20	0.40
40:C3:84:THR:OG1	40:C3:85:HIS:N	2.54	0.40
42:E3:99:VAL:CG1	42:E3:106:GLY:O	2.67	0.40
42:E3:175:LEU:CD2	42:E3:193:HIS:CD2	3.05	0.40
43:F3:124:LEU:N	43:F3:124:LEU:HD22	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:F3:189:LEU:O	43:F3:193:ILE:HG12	2.22	0.40
45:H3:77:VAL:HG22	45:H3:80:MET:HE1	2.01	0.40
46:I3:9:TYR:CD1	46:I3:97:ILE:HG12	2.56	0.40
49:M3:58:THR:HB	49:M3:91:TRP:CZ3	2.56	0.40
50:N3:23:LEU:C	50:N3:25:VAL:H	2.29	0.40
59:X3:60:TYR:OH	59:X3:62:ARG:NH1	2.54	0.40
69:h3:102:LEU:O	69:h3:103:LYS:HE2	2.21	0.40
77:p3:51:ALA:C	77:p3:54:ILE:HG22	2.46	0.40
79:q3:60:A:H3'	79:q3:61:C:P	2.61	0.40
79:q3:63:G:O2'	79:q3:64:G:H5"	2.21	0.40
80:t3:28:PHE:HB3	80:t3:189:ILE:HD11	2.03	0.40
80:t3:116:ILE:HG22	80:t3:166:LYS:HE2	2.03	0.40
83:33:30:G:N7	83:33:31:A:C2	2.89	0.40
83:33:53:G:H2'	83:33:54:U:O4'	2.22	0.40
1:51:88:A:N7	1:51:97:G:N2	2.69	0.40
1:51:279:A:N3	50:N3:12:ARG:CD	2.81	0.40
1:51:347:A:N6	1:51:348:G:O6	2.55	0.40
1:51:366:A:H2	1:51:376:A:C2	2.39	0.40
1:51:480:C:O2'	1:51:481:G:OP1	2.34	0.40
1:51:651:C:N4	1:51:652:G:O6	2.54	0.40
1:51:1899:G:N7	1:51:2278:G:C6	2.90	0.40
1:51:2277:C:O2'	1:51:2278:G:H5'	2.22	0.40
1:51:2495:U:H2'	1:51:2496:G:C8	2.56	0.40
1:51:2602:G:C5	1:51:2742:G:N1	2.90	0.40
1:51:2741:U:OP2	38:A3:52:PRO:O	2.39	0.40
1:51:2831:G:C2	1:51:3855:C:O2	2.74	0.40
1:51:3616:U:H5"	86:W:44:ARG:NH2	2.37	0.40
1:51:3619:G:O2'	54:R3:82:LYS:CE	2.70	0.40
1:51:3860:A:N1	1:51:3861:A:C4	2.89	0.40
1:51:3961:G:C4	1:51:3963:A:OP2	2.74	0.40
1:51:3969:G:N3	84:w3:166:ALA:HB1	2.37	0.40
1:51:4048:A:N3	1:51:4049:U:O4	2.54	0.40
1:51:4077:A:C6	1:51:4170:A:C5	3.10	0.40
1:51:4342:C:N3	83:33:75:C:O2	2.54	0.40
1:51:4463:U:C5	1:51:4488:A:C5	3.09	0.40
1:51:4566:U:C4	1:51:4567:G:N7	2.89	0.40
1:51:4583:C:C5	1:51:4718:G:C2	3.09	0.40
1:51:4774:C:N4	1:51:4862:G:C2	2.90	0.40
1:51:4939:C:C5	42:E3:159:ARG:NH1	2.89	0.40
1:51:5053:U:H5"	1:51:5054:C:C5	2.56	0.40
3:81:3:A:H2'	3:81:4:C:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:141:A:C4	4:A2:313:A:C2	3.10	0.40
4:A2:216:C:H2'	4:A2:217:A:H8	1.86	0.40
4:A2:581:U:H4'	29:Z2:66:GLY:HA2	2.03	0.40
4:A2:977:C:H2'	4:A2:978:G:O4'	2.22	0.40
4:A2:1093:A:C5	4:A2:1094:C:C2	3.10	0.40
4:A2:1113:A:C5	4:A2:1114:U:C5	3.09	0.40
4:A2:1317:C:C4	4:A2:1318:G:C8	3.10	0.40
4:A2:1416:C:H5	4:A2:1417:C:H41	1.68	0.40
4:A2:1656:G:N3	4:A2:1657:G:C8	2.89	0.40
6:C2:65:ARG:NE	19:P2:50:LYS:HD3	2.35	0.40
8:E2:66:ILE:HD11	8:E2:86:LEU:CD2	2.52	0.40
8:E2:68:GLU:OE1	15:L2:20:VAL:CG1	2.69	0.40
8:E2:176:LEU:HD12	8:E2:176:LEU:N	2.36	0.40
11:H2:32:MET:HB2	11:H2:34:THR:CG2	2.51	0.40
13:J2:105:ASP:O	13:J2:168:GLN:O	2.39	0.40
13:J2:121:LEU:N	13:J2:123:ARG:HH22	2.16	0.40
19:P2:47:LEU:HD13	19:P2:47:LEU:HA	1.95	0.40
20:Q2:80:LEU:HD23	20:Q2:82:ASP:N	2.36	0.40
21:R2:8:GLN:OE1	21:R2:27:ARG:CZ	2.69	0.40
21:R2:37:ARG:HD3	21:R2:41:MET:HG3	2.02	0.40
21:R2:41:MET:HE2	24:U2:10:ASN:H	1.85	0.40
23:T2:59:LEU:H	23:T2:59:LEU:CD2	2.35	0.40
24:U2:129:ARG:HG2	24:U2:133:ARG:NE	2.36	0.40
32:c2:47:PHE:HE2	32:c2:49:HIS:HB2	1.87	0.40
34:e2:5:GLN:N	34:e2:5:GLN:CD	2.79	0.40
36:g2:126:CYS:SG	36:g2:130:VAL:HB	2.62	0.40
37:h2:18:VAL:O	37:h2:18:VAL:HG13	2.20	0.40
40:C3:124:ILE:HG12	40:C3:237:ILE:CG1	2.51	0.40
43:F3:224:THR:OG1	43:F3:225:HIS:N	2.53	0.40
48:L3:82:ARG:HB2	48:L3:82:ARG:NH1	2.36	0.40
48:L3:180:ALA:O	48:L3:184:MET:SD	2.79	0.40
50:N3:134:LEU:HA	50:N3:134:LEU:HD23	1.89	0.40
53:Q3:22:ASP:N	53:Q3:22:ASP:OD1	2.55	0.40
54:R3:2:SER:OG	54:R3:3:MET:N	2.54	0.40
56:T3:67:VAL:HG12	56:T3:72:VAL:HG12	2.04	0.40
72:k3:8:ILE:HG23	72:k3:9:LYS:N	2.36	0.40
79:q3:42:A:H2'	79:q3:43:A:H5"	2.02	0.40
81:u3:65:GLN:N	81:u3:68:GLN:O	2.42	0.40
84:w3:65:VAL:HG11	84:w3:147:LYS:HE2	2.02	0.40
84:w3:139:THR:HG22	84:w3:139:THR:O	2.21	0.40
84:w3:195:LYS:HD2	84:w3:195:LYS:C	2.47	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
85:1:58:PHE:O	85:1:58:PHE:CG	2.74	0.40
85:1:67:LYS:O	85:1:68:VAL:HG23	2.22	0.40
1:51:290:U:O2	1:51:298:G:C2	2.75	0.40
1:51:302:C:OP1	50:N3:68:ARG:NH2	2.52	0.40
1:51:1585:C:C4	1:51:1586:G:C8	3.09	0.40
1:51:1951:G:C4	1:51:2033:A:H2	2.39	0.40
1:51:1990:A:N6	81:u3:99:LYS:HD2	2.37	0.40
1:51:2098:G:C4	1:51:2099:C:N4	2.89	0.40
1:51:2420:A:C2	1:51:2427:G:N1	2.90	0.40
1:51:2536:A:P	72:k3:37:ARG:HH21	2.45	0.40
1:51:2705:G:O6	1:51:2712:G:C6	2.74	0.40
1:51:2844:A:C2	1:51:3845:A:C2	3.10	0.40
1:51:2845:A:H61	1:51:3843:C:N4	2.19	0.40
1:51:3626:G:C2	1:51:3627:G:C4	3.10	0.40
1:51:3661:G:C5	38:A3:150:LEU:HD13	2.56	0.40
1:51:3714:G:C6	1:51:3715:U:C4	3.09	0.40
1:51:4122:G:N2	68:g3:93:ARG:HG2	2.36	0.40
1:51:4246:G:C2	1:51:4263:C:N3	2.90	0.40
1:51:4405:G:C6	1:51:4406:U:N3	2.90	0.40
1:51:4754:G:H21	1:51:4755:G:H1'	1.85	0.40
1:51:5063:G:N2	1:51:5064:G:C4	2.90	0.40
2:71:117:G:OP2	41:D3:255:LYS:HE2	2.21	0.40
3:81:147:G:H2'	3:81:148:A:C8	2.56	0.40
4:A2:46:A:C6	4:A2:473:A:C2	3.09	0.40
4:A2:71:G:O4'	4:A2:79:A:C2	2.74	0.40
4:A2:128:U:H5'	4:A2:215:G:C8	2.57	0.40
4:A2:282:G:C6	4:A2:283:G:N2	2.90	0.40
4:A2:444:G:N2	4:A2:447:A:C8	2.90	0.40
4:A2:467:G:C6	4:A2:468:A:C5	3.09	0.40
4:A2:530:U:O2	4:A2:530:U:C2'	2.69	0.40
4:A2:870:A:C4	4:A2:916:A:C6	3.09	0.40
4:A2:924:G:OP1	18:O2:3:ARG:NE	2.49	0.40
4:A2:1273:C:C5	4:A2:1506:A:C2	3.10	0.40
4:A2:1723:G:N2	4:A2:1812:U:C2	2.89	0.40
4:A2:1755:C:N3	4:A2:1777:G:O6	2.54	0.40
4:A2:1772:C:H2'	4:A2:1773:C:H6	1.87	0.40
4:A2:1858:G:C6	4:A2:1859:A:N1	2.90	0.40
5:B2:51:LEU:HD23	5:B2:51:LEU:HA	1.91	0.40
6:C2:180:ASP:O	6:C2:184:VAL:HG23	2.22	0.40
7:D2:263:LYS:HZ2	26:W2:50:PHE:HD2	1.64	0.40
8:E2:166:TYR:CE2	8:E2:202:LYS:HE2	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H2:129:VAL:O	11:H2:129:VAL:HG13	2.20	0.40
12:I2:63:PHE:HA	12:I2:95:ILE:O	2.20	0.40
14:K2:88:ASP:OD2	14:K2:89:GLU:N	2.55	0.40
15:L2:88:GLU:HG3	15:L2:89:ILE:N	2.37	0.40
17:N2:120:ALA:HA	17:N2:123:VAL:CG1	2.52	0.40
22:S2:100:PRO:O	22:S2:104:GLU:HG2	2.22	0.40
44:G3:108:VAL:CG2	44:G3:109:LYS:N	2.83	0.40
44:G3:127:LEU:HD12	44:G3:127:LEU:N	2.37	0.40
45:H3:134:CYS:HA	45:H3:146:LEU:HD23	2.03	0.40
46:I3:60:LEU:HD22	46:I3:159:PHE:CD1	2.53	0.40
47:J3:16:ARG:N	47:J3:16:ARG:HD3	2.36	0.40
48:L3:25:TRP:CD1	50:N3:201:HIS:HA	2.57	0.40
52:P3:15:CYS:SG	52:P3:102:ALA:HA	2.62	0.40
60:Y3:100:HIS:HA	60:Y3:101:PRO:HD3	1.96	0.40
61:Z3:3:LYS:NZ	61:Z3:30:ASP:OD2	2.54	0.40
61:Z3:13:VAL:CG1	61:Z3:18:TYR:O	2.69	0.40
66:e3:17:THR:O	66:e3:17:THR:CG2	2.69	0.40
77:p3:52:VAL:O	77:p3:52:VAL:CG1	2.69	0.40
78:r3:4:HIS:O	78:r3:8:MET:HG2	2.22	0.40
80:t3:27:CYS:HB2	80:t3:88:PHE:HB3	2.02	0.40
83:33:34:U:C2	83:33:35:U:C5	3.09	0.40
83:33:40:C:C2	83:33:41:U:C5	3.10	0.40
84:w3:32:VAL:HA	84:w3:207:LYS:O	2.22	0.40
84:w3:68:LEU:HD23	84:w3:90:LEU:HG	2.03	0.40
1:51:11:G:N2	3:81:146:U:O2	2.54	0.40
1:51:416:U:H5	1:51:417:G:C4	2.39	0.40
1:51:417:G:N2	3:81:16:G:N3	2.68	0.40
1:51:731:G:C2	1:51:932:A:C6	3.10	0.40
1:51:963:G:C4	1:51:964:A:H8	2.38	0.40
1:51:1097:C:N3	1:51:1200:G:C6	2.89	0.40
1:51:1563:A:C8	1:51:1563:A:OP1	2.75	0.40
1:51:1629:G:C6	1:51:1631:A:N1	2.90	0.40
1:51:2308:A:C8	1:51:2309:G:C8	3.09	0.40
1:51:2373:C:H2'	1:51:2374:A:H8	1.86	0.40
1:51:2553:A:C4'	1:51:2554:U:O4'	2.70	0.40
1:51:4057:C:H2'	1:51:4058:U:C6	2.57	0.40
1:51:4376:A:H5"	1:51:4377:G:OP1	2.21	0.40
1:51:4575:G:C2	1:51:5069:U:C5	3.10	0.40
1:51:4642:U:O4	1:51:4643:G:O6	2.40	0.40
1:51:4658:G:N1	1:51:4659:G:N1	2.70	0.40
3:81:68:G:C2	3:81:91:A:C2	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A2:165:G:H2'	4:A2:166:A:C8	2.57	0.40
4:A2:338:G:N2	4:A2:339:A:C6	2.89	0.40
4:A2:477:G:C2	4:A2:478:G:C5	3.09	0.40
4:A2:526:A:OP1	35:f2:108:ARG:NH1	2.54	0.40
4:A2:885:U:C2	4:A2:902:G:N2	2.89	0.40
4:A2:1273:C:H1'	4:A2:1274:G:H2'	2.02	0.40
4:A2:1328:G:C2	4:A2:1329:U:O2	2.75	0.40
4:A2:1328:G:C2	4:A2:1502:C:C2	3.10	0.40
4:A2:1486:A:C2	4:A2:1487:A:C5	3.09	0.40
4:A2:1609:C:H2'	4:A2:1610:G:H8	1.84	0.40
4:A2:1716:C:H42	4:A2:1816:G:H1	1.69	0.40
4:A2:1758:G:N2	4:A2:1775:U:C2	2.89	0.40
4:A2:1759:G:C4	4:A2:1760:G:C8	3.10	0.40
9:F2:250:GLU:O	9:F2:253:ASP:OD1	2.38	0.40
10:G2:19:LEU:HA	10:G2:23:TRP:O	2.20	0.40
11:H2:40:ALA:HB2	11:H2:45:TRP:HE1	1.86	0.40
11:H2:219:GLU:HA	11:H2:222:GLU:HB3	2.02	0.40
11:H2:235:SER:C	11:H2:237:LEU:N	2.78	0.40
13:J2:115:SER:OG	13:J2:117:TYR:HE2	2.04	0.40
13:J2:178:ARG:HA	13:J2:179:PRO:HD3	1.94	0.40
14:K2:162:ARG:O	14:K2:163:SER:OG	2.33	0.40
16:M2:147:LYS:HG2	16:M2:148:ALA:N	2.37	0.40
21:R2:56:LEU:N	21:R2:56:LEU:HD22	2.37	0.40
21:R2:117:ARG:HG2	21:R2:121:VAL:CG2	2.52	0.40
21:R2:146:ARG:HH22	83:33:32:C:H5"	1.85	0.40
23:T2:80:PRO:HB2	23:T2:82:TRP:CD1	2.56	0.40
29:Z2:6:THR:HG23	29:Z2:28:LEU:HD13	2.03	0.40
37:h2:110:SER:C	37:h2:111:VAL:HG13	2.46	0.40
37:h2:168:CYS:HB3	37:h2:198:VAL:CG1	2.52	0.40
37:h2:207:CYS:SG	37:h2:221:LEU:CD1	3.07	0.40
38:A3:92:LYS:HG3	38:A3:103:PRO:HG2	2.04	0.40
41:D3:90:VAL:HB	41:D3:226:TYR:CE1	2.57	0.40
42:E3:118:TYR:HE1	78:r3:119:ARG:HB2	1.86	0.40
43:F3:225:HIS:ND1	43:F3:227:VAL:HG23	2.36	0.40
54:R3:70:ARG:NE	54:R3:76:MET:HE2	2.37	0.40
54:R3:93:VAL:O	54:R3:94:THR:C	2.65	0.40
61:Z3:86:SER:OG	61:Z3:87:VAL:N	2.54	0.40
62:a3:16:SER:OG	62:a3:21:ARG:HG3	2.22	0.40
66:e3:26:ASP:OD1	66:e3:26:ASP:N	2.54	0.40
76:o3:7:THR:HG23	76:o3:7:THR:O	2.21	0.40
78:r3:69:GLY:O	78:r3:76:SER:OG	2.40	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:q3:55:U:O2	79:q3:55:U:C2'	2.70	0.40
80:t3:141:LEU:HD11	80:t3:171:GLU:HG2	2.02	0.40
83:33:16:C:H1'	83:33:17:G:OP1	2.22	0.40
84:w3:57:SER:HB2	84:w3:178:GLU:HG3	2.04	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
5	B2	215/295 (73%)	189 (88%)	26 (12%)	0	100	100
6	C2	211/264 (80%)	192 (91%)	19 (9%)	0	100	100
7	D2	219/259 (85%)	205 (94%)	14 (6%)	0	100	100
8	E2	226/281 (80%)	209 (92%)	17 (8%)	0	100	100
9	F2	260/262 (99%)	232 (89%)	27 (10%)	1 (0%)	30	62
10	G2	181/205 (88%)	162 (90%)	18 (10%)	1 (1%)	21	54
11	H2	235/262 (90%)	184 (78%)	47 (20%)	4 (2%)	7	34
12	I2	181/190 (95%)	169 (93%)	12 (7%)	0	100	100
13	J2	204/206 (99%)	168 (82%)	33 (16%)	3 (2%)	8	36
14	K2	183/194 (94%)	157 (86%)	26 (14%)	0	100	100
15	L2	94/151 (62%)	86 (92%)	8 (8%)	0	100	100
16	M2	139/158 (88%)	129 (93%)	10 (7%)	0	100	100
17	N2	115/123 (94%)	96 (84%)	19 (16%)	0	100	100
18	O2	147/149 (99%)	136 (92%)	11 (8%)	0	100	100
19	P2	134/168 (80%)	122 (91%)	12 (9%)	0	100	100
20	Q2	118/145 (81%)	106 (90%)	11 (9%)	1 (1%)	16	48

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
21	R2	140/157 (89%)	126 (90%)	12 (9%)	2 (1%)	9 37
22	S2	130/145 (90%)	122 (94%)	8 (6%)	0	100 100
23	T2	142/152 (93%)	119 (84%)	22 (16%)	1 (1%)	18 51
24	U2	139/145 (96%)	125 (90%)	12 (9%)	2 (1%)	9 37
25	V2	98/130 (75%)	92 (94%)	6 (6%)	0	100 100
26	W2	81/83 (98%)	72 (89%)	9 (11%)	0	100 100
27	X2	127/139 (91%)	117 (92%)	10 (8%)	0	100 100
28	Y2	139/141 (99%)	126 (91%)	11 (8%)	2 (1%)	9 37
29	Z2	122/146 (84%)	109 (89%)	13 (11%)	0	100 100
30	a2	73/198 (37%)	65 (89%)	8 (11%)	0	100 100
31	b2	99/117 (85%)	89 (90%)	10 (10%)	0	100 100
32	c2	81/84 (96%)	76 (94%)	5 (6%)	0	100 100
33	d2	60/69 (87%)	58 (97%)	2 (3%)	0	100 100
34	e2	53/55 (96%)	50 (94%)	3 (6%)	0	100 100
35	f2	53/133 (40%)	49 (92%)	4 (8%)	0	100 100
36	g2	66/68 (97%)	53 (80%)	13 (20%)	0	100 100
37	h2	311/313 (99%)	261 (84%)	50 (16%)	0	100 100
38	A3	244/246 (99%)	205 (84%)	36 (15%)	3 (1%)	10 40
39	B3	392/403 (97%)	354 (90%)	38 (10%)	0	100 100
40	C3	360/425 (85%)	330 (92%)	30 (8%)	0	100 100
41	D3	291/297 (98%)	257 (88%)	32 (11%)	2 (1%)	18 51
42	E3	208/291 (72%)	189 (91%)	19 (9%)	0	100 100
43	F3	223/249 (90%)	208 (93%)	15 (7%)	0	100 100
44	G3	227/241 (94%)	188 (83%)	35 (15%)	4 (2%)	6 33
45	H3	188/190 (99%)	175 (93%)	13 (7%)	0	100 100
46	I3	201/214 (94%)	178 (89%)	23 (11%)	0	100 100
47	J3	168/181 (93%)	150 (89%)	17 (10%)	1 (1%)	21 54
48	L3	205/211 (97%)	185 (90%)	18 (9%)	2 (1%)	12 43
49	M3	136/218 (62%)	123 (90%)	13 (10%)	0	100 100
50	N3	201/203 (99%)	179 (89%)	22 (11%)	0	100 100
51	O3	197/203 (97%)	182 (92%)	15 (8%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
52	P3	151/199 (76%)	143 (95%)	8 (5%)	0	100	100
53	Q3	185/188 (98%)	170 (92%)	15 (8%)	0	100	100
54	R3	178/196 (91%)	156 (88%)	19 (11%)	3 (2%)	7	34
55	S3	174/176 (99%)	157 (90%)	16 (9%)	1 (1%)	21	54
56	T3	157/159 (99%)	146 (93%)	11 (7%)	0	100	100
57	U3	97/128 (76%)	77 (79%)	20 (21%)	0	100	100
58	V3	129/131 (98%)	117 (91%)	12 (9%)	0	100	100
59	X3	116/156 (74%)	99 (85%)	15 (13%)	2 (2%)	7	34
60	Y3	130/132 (98%)	121 (93%)	9 (7%)	0	100	100
61	Z3	133/135 (98%)	113 (85%)	18 (14%)	2 (2%)	8	36
62	a3	145/160 (91%)	133 (92%)	12 (8%)	0	100	100
63	b3	100/245 (41%)	95 (95%)	5 (5%)	0	100	100
64	c3	96/115 (84%)	87 (91%)	8 (8%)	1 (1%)	12	43
65	d3	105/107 (98%)	93 (89%)	12 (11%)	0	100	100
66	e3	126/128 (98%)	116 (92%)	10 (8%)	0	100	100
67	f3	107/109 (98%)	94 (88%)	13 (12%)	0	100	100
68	g3	112/126 (89%)	100 (89%)	12 (11%)	0	100	100
69	h3	120/122 (98%)	114 (95%)	6 (5%)	0	100	100
70	i3	100/117 (86%)	93 (93%)	7 (7%)	0	100	100
71	j3	84/97 (87%)	74 (88%)	10 (12%)	0	100	100
72	k3	67/69 (97%)	54 (81%)	13 (19%)	0	100	100
73	l3	48/50 (96%)	41 (85%)	7 (15%)	0	100	100
74	m3	50/128 (39%)	46 (92%)	4 (8%)	0	100	100
75	n3	23/25 (92%)	20 (87%)	2 (9%)	1 (4%)	2	19
76	o3	102/142 (72%)	93 (91%)	9 (9%)	0	100	100
77	p3	89/109 (82%)	72 (81%)	16 (18%)	1 (1%)	11	41
78	r3	122/137 (89%)	111 (91%)	11 (9%)	0	100	100
80	t3	194/318 (61%)	152 (78%)	41 (21%)	1 (0%)	24	57
81	u3	151/195 (77%)	127 (84%)	24 (16%)	0	100	100
84	w3	215/217 (99%)	181 (84%)	31 (14%)	3 (1%)	9	37
85	1	13/15 (87%)	7 (54%)	5 (38%)	1 (8%)	1	11

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
86	W	61/134 (46%)	50 (82%)	11 (18%)	0	100 100
All	All	11697/13624 (86%)	10406 (89%)	1246 (11%)	45 (0%)	31 62

All (45) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
11	H2	34	THR
13	J2	105	ASP
23	T2	137	LYS
28	Y2	61	GLN
54	R3	85	ALA
54	R3	93	VAL
11	H2	5	ILE
48	L3	64	VAL
54	R3	94	THR
55	S3	166	ARG
84	w3	153	SER
85	1	60	THR
28	Y2	60	LYS
38	A3	192	LYS
44	G3	107	PHE
61	Z3	85	TYR
75	n3	2	ARG
84	w3	101	LYS
9	F2	150	PRO
11	H2	4	ASN
11	H2	107	SER
24	U2	11	GLN
24	U2	92	PHE
41	D3	154	THR
44	G3	157	PRO
48	L3	63	THR
59	X3	43	SER
64	c3	53	PRO
10	G2	15	PRO
13	J2	174	CYS
21	R2	44	PRO
38	A3	191	ALA
41	D3	26	GLY
44	G3	216	PRO
80	t3	61	MET
84	w3	152	LYS

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Mol	Chain	Res	Type
13	J2	108	PRO
20	Q2	19	GLY
21	R2	43	GLU
61	Z3	70	SER
44	G3	99	GLN
38	A3	45	VAL
47	J3	11	PRO
77	p3	58	GLY
59	X3	44	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
5	B2	180/245 (74%)	179 (99%)	1 (1%)	78	79
6	C2	194/229 (85%)	193 (100%)	1 (0%)	81	81
7	D2	187/208 (90%)	186 (100%)	1 (0%)	81	81
8	E2	189/232 (82%)	188 (100%)	1 (0%)	81	81
9	F2	224/224 (100%)	223 (100%)	1 (0%)	84	83
10	G2	158/171 (92%)	158 (100%)	0	100	100
11	H2	207/227 (91%)	207 (100%)	0	100	100
12	I2	165/170 (97%)	164 (99%)	1 (1%)	78	79
13	J2	178/178 (100%)	178 (100%)	0	100	100
14	K2	161/168 (96%)	160 (99%)	1 (1%)	78	79
15	L2	87/127 (68%)	87 (100%)	0	100	100
16	M2	130/143 (91%)	130 (100%)	0	100	100
17	N2	99/104 (95%)	99 (100%)	0	100	100
18	O2	130/130 (100%)	130 (100%)	0	100	100
19	P2	106/130 (82%)	106 (100%)	0	100	100
20	Q2	109/130 (84%)	109 (100%)	0	100	100
21	R2	117/129 (91%)	116 (99%)	1 (1%)	70	74

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
22	S2	119/131 (91%)	118 (99%)	1 (1%)	73 76
23	T2	125/132 (95%)	124 (99%)	1 (1%)	73 76
24	U2	111/115 (96%)	111 (100%)	0	100 100
25	V2	92/115 (80%)	92 (100%)	0	100 100
26	W2	67/67 (100%)	67 (100%)	0	100 100
27	X2	112/119 (94%)	111 (99%)	1 (1%)	70 74
28	Y2	113/113 (100%)	113 (100%)	0	100 100
29	Z2	107/126 (85%)	107 (100%)	0	100 100
30	a2	66/167 (40%)	64 (97%)	2 (3%)	36 57
31	b2	88/99 (89%)	88 (100%)	0	100 100
32	c2	75/76 (99%)	75 (100%)	0	100 100
33	d2	55/62 (89%)	54 (98%)	1 (2%)	51 67
34	e2	48/48 (100%)	48 (100%)	0	100 100
35	f2	46/106 (43%)	46 (100%)	0	100 100
36	g2	61/61 (100%)	60 (98%)	1 (2%)	55 68
37	h2	272/272 (100%)	271 (100%)	1 (0%)	84 83
38	A3	189/189 (100%)	186 (98%)	3 (2%)	55 68
39	B3	342/348 (98%)	340 (99%)	2 (1%)	78 79
40	C3	302/347 (87%)	302 (100%)	0	100 100
41	D3	247/250 (99%)	244 (99%)	3 (1%)	63 72
42	E3	190/251 (76%)	190 (100%)	0	100 100
43	F3	196/218 (90%)	196 (100%)	0	100 100
44	G3	200/206 (97%)	198 (99%)	2 (1%)	68 74
45	H3	169/169 (100%)	168 (99%)	1 (1%)	78 79
46	I3	175/181 (97%)	175 (100%)	0	100 100
47	J3	143/152 (94%)	142 (99%)	1 (1%)	76 77
48	L3	172/176 (98%)	172 (100%)	0	100 100
49	M3	117/161 (73%)	116 (99%)	1 (1%)	70 74
50	N3	171/171 (100%)	171 (100%)	0	100 100
51	O3	171/173 (99%)	171 (100%)	0	100 100
52	P3	134/175 (77%)	134 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
53	Q3	164/165 (99%)	163 (99%)	1 (1%)	78 79
54	R3	159/175 (91%)	157 (99%)	2 (1%)	61 71
55	S3	157/157 (100%)	156 (99%)	1 (1%)	78 79
56	T3	139/139 (100%)	139 (100%)	0	100 100
57	U3	89/114 (78%)	89 (100%)	0	100 100
58	V3	101/101 (100%)	100 (99%)	1 (1%)	68 74
59	X3	106/134 (79%)	106 (100%)	0	100 100
60	Y3	123/123 (100%)	123 (100%)	0	100 100
61	Z3	117/117 (100%)	117 (100%)	0	100 100
62	a3	119/127 (94%)	119 (100%)	0	100 100
63	b3	84/184 (46%)	84 (100%)	0	100 100
64	c3	84/98 (86%)	82 (98%)	2 (2%)	43 62
65	d3	98/98 (100%)	98 (100%)	0	100 100
66	e3	114/114 (100%)	113 (99%)	1 (1%)	70 74
67	f3	88/88 (100%)	88 (100%)	0	100 100
68	g3	98/106 (92%)	98 (100%)	0	100 100
69	h3	109/109 (100%)	108 (99%)	1 (1%)	70 74
70	i3	86/96 (90%)	86 (100%)	0	100 100
71	j3	73/80 (91%)	72 (99%)	1 (1%)	59 70
72	k3	64/64 (100%)	64 (100%)	0	100 100
73	l3	47/47 (100%)	47 (100%)	0	100 100
74	m3	48/116 (41%)	48 (100%)	0	100 100
75	n3	24/24 (100%)	24 (100%)	0	100 100
76	o3	92/121 (76%)	92 (100%)	0	100 100
77	p3	74/87 (85%)	74 (100%)	0	100 100
78	r3	108/121 (89%)	108 (100%)	0	100 100
80	t3	164/258 (64%)	162 (99%)	2 (1%)	63 72
81	u3	126/163 (77%)	126 (100%)	0	100 100
84	w3	195/196 (100%)	195 (100%)	0	100 100
85	1	13/13 (100%)	13 (100%)	0	100 100
86	W	55/109 (50%)	55 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	10214/11565 (88%)	10173 (100%)	41 (0%)	81 83

All (41) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	B2	16	LEU
6	C2	207	LEU
7	D2	147	VAL
8	E2	29	LEU
9	F2	162	ILE
12	I2	30	LEU
14	K2	151	LEU
21	R2	52	LEU
22	S2	108	LEU
23	T2	104	ASP
27	X2	11	LEU
30	a2	62	VAL
30	a2	91	LEU
33	d2	11	LEU
36	g2	114	ILE
37	h2	173	LEU
38	A3	101	VAL
38	A3	102	LEU
38	A3	207	VAL
39	B3	329	ASP
39	B3	371	THR
41	D3	90	VAL
41	D3	208	MET
41	D3	209	ARG
44	G3	232	VAL
44	G3	251	THR
45	H3	58	ASP
47	J3	40	LEU
49	M3	62	LEU
53	Q3	98	LEU
54	R3	123	LEU
54	R3	125	LEU
55	S3	67	VAL
58	V3	18	LEU
64	c3	29	LEU
64	c3	80	GLU
66	e3	89	LEU

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Mol	Chain	Res	Type
69	h3	113	LEU
71	j3	17	THR
80	t3	178	LEU
80	t3	197	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (164) such sidechains are listed below:

Mol	Chain	Res	Type
5	B2	131	HIS
5	B2	141	ASN
6	C2	75	GLN
6	C2	158	HIS
6	C2	179	ASN
6	C2	186	ASN
6	C2	232	HIS
7	D2	235	ASN
8	E2	57	ASN
8	E2	74	GLN
8	E2	159	HIS
9	F2	50	ASN
9	F2	157	ASN
9	F2	201	HIS
9	F2	209	HIS
10	G2	31	ASN
10	G2	82	ASN
10	G2	83	ASN
10	G2	148	ASN
10	G2	149	GLN
11	H2	105	ASN
11	H2	110	ASN
11	H2	163	ASN
11	H2	187	HIS
12	I2	33	ASN
12	I2	44	ASN
12	I2	73	GLN
12	I2	91	HIS
12	I2	162	GLN
12	I2	168	HIS
13	J2	87	ASN
13	J2	88	ASN
13	J2	181	GLN
15	L2	73	ASN

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Mol	Chain	Res	Type
16	M2	108	ASN
16	M2	141	ASN
17	N2	28	HIS
17	N2	72	HIS
17	N2	82	ASN
18	O2	49	GLN
18	O2	58	HIS
19	P2	20	GLN
19	P2	32	HIS
20	Q2	54	HIS
20	Q2	79	HIS
21	R2	48	GLN
22	S2	31	ASN
23	T2	72	GLN
24	U2	63	HIS
24	U2	85	ASN
27	X2	120	HIS
28	Y2	31	HIS
29	Z2	89	HIS
29	Z2	124	ASN
30	a2	46	ASN
32	c2	26	GLN
32	c2	49	HIS
34	e2	3	HIS
35	f2	112	ASN
36	g2	93	HIS
36	g2	139	HIS
37	h2	104	HIS
37	h2	188	HIS
38	A3	19	HIS
38	A3	187	HIS
38	A3	205	ASN
39	B3	121	ASN
39	B3	158	GLN
39	B3	186	ASN
39	B3	204	GLN
39	B3	354	GLN
40	C3	116	ASN
40	C3	119	GLN
40	C3	178	ASN
41	D3	9	ASN
41	D3	175	HIS

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Mol	Chain	Res	Type
41	D3	195	HIS
41	D3	202	GLN
41	D3	222	GLN
41	D3	225	GLN
41	D3	244	HIS
43	F3	38	GLN
43	F3	98	ASN
43	F3	240	ASN
44	G3	82	ASN
44	G3	91	ASN
44	G3	117	GLN
44	G3	153	HIS
44	G3	161	GLN
44	G3	248	HIS
44	G3	261	ASN
44	G3	289	HIS
45	H3	42	ASN
45	H3	79	ASN
46	I3	123	GLN
46	I3	147	HIS
47	J3	112	HIS
48	L3	87	HIS
50	N3	145	ASN
50	N3	181	HIS
50	N3	182	HIS
50	N3	201	HIS
51	O3	63	ASN
52	P3	34	GLN
52	P3	80	GLN
52	P3	116	HIS
52	P3	118	GLN
52	P3	133	HIS
53	Q3	151	HIS
54	R3	75	HIS
54	R3	130	ASN
54	R3	141	HIS
55	S3	92	ASN
55	S3	146	HIS
56	T3	22	HIS
56	T3	70	HIS
56	T3	90	ASN
56	T3	112	ASN

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Mol	Chain	Res	Type
57	U3	41	GLN
57	U3	55	ASN
58	V3	77	HIS
59	X3	108	GLN
60	Y3	61	HIS
60	Y3	86	GLN
61	Z3	40	HIS
62	a3	19	HIS
62	a3	62	HIS
62	a3	66	ASN
62	a3	74	ASN
63	b3	50	ASN
64	c3	15	ASN
65	d3	93	ASN
65	d3	121	ASN
66	e3	23	HIS
66	e3	52	GLN
66	e3	57	ASN
66	e3	68	HIS
67	f3	55	ASN
69	h3	108	GLN
70	i3	80	HIS
73	l3	43	HIS
76	o3	105	GLN
77	p3	56	HIS
78	r3	4	HIS
78	r3	6	GLN
78	r3	21	ASN
78	r3	30	ASN
78	r3	45	HIS
80	t3	34	ASN
80	t3	42	GLN
81	u3	95	GLN
81	u3	100	HIS
81	u3	142	ASN
81	u3	147	HIS
81	u3	156	ASN
84	w3	19	HIS
84	w3	40	ASN
84	w3	73	HIS
84	w3	84	HIS
84	w3	171	HIS

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Mol	Chain	Res	Type
84	w3	184	HIS
84	w3	188	ASN
84	w3	197	ASN
86	W	59	HIS

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	51	3593/3788 (94%)	1192 (33%)	53 (1%)
2	71	119/120 (99%)	43 (36%)	0
3	81	149/151 (98%)	45 (30%)	0
4	A2	1721/1818 (94%)	609 (35%)	31 (1%)
79	q3	71/74 (95%)	41 (57%)	0
82	v3	17/18 (94%)	12 (70%)	0
83	33	74/75 (98%)	29 (39%)	2 (2%)
All	All	5744/6044 (95%)	1971 (34%)	86 (1%)

All (1971) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	51	4	G
1	51	7	C
1	51	8	U
1	51	14	C
1	51	18	C
1	51	19	G
1	51	21	G
1	51	24	G
1	51	25	A
1	51	29	G
1	51	30	C
1	51	39	A
1	51	42	A
1	51	43	U
1	51	47	A
1	51	56	A
1	51	58	G
1	51	59	A
1	51	64	A
1	51	65	A
1	51	68	U

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Mol	Chain	Res	Type
1	51	69	A
1	51	72	C
1	51	73	A
1	51	75	G
1	51	76	A
1	51	84	A
1	51	87	A
1	51	91	G
1	51	96	U
1	51	99	A
1	51	104	G
1	51	107	G
1	51	108	A
1	51	109	G
1	51	116	G
1	51	119	G
1	51	120	A
1	51	121	A
1	51	122	U
1	51	123	C
1	51	126	C
1	51	129	C
1	51	134	G
1	51	135	G
1	51	136	C
1	51	141	C
1	51	142	G
1	51	143	C
1	51	144	G
1	51	145	G
1	51	146	G
1	51	148	A
1	51	149	A
1	51	150	U
1	51	151	G
1	51	159	C
1	51	160	G
1	51	165	A
1	51	166	C
1	51	170	C
1	51	171	U
1	51	172	C

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Mol	Chain	Res	Type
1	51	175	C
1	51	178	C
1	51	179	G
1	51	197	A
1	51	200	U
1	51	205	C
1	51	207	G
1	51	209	U
1	51	216	C
1	51	217	C
1	51	219	G
1	51	220	C
1	51	223	G
1	51	224	U
1	51	225	G
1	51	226	G
1	51	232	G
1	51	233	U
1	51	234	G
1	51	238	C
1	51	246	G
1	51	257	C
1	51	259	C
1	51	261	G
1	51	262	G
1	51	266	C
1	51	271	C
1	51	274	C
1	51	276	C
1	51	279	A
1	51	280	G
1	51	290	U
1	51	297	U
1	51	306	A
1	51	315	G
1	51	316	U
1	51	322	C
1	51	327	U
1	51	334	A
1	51	340	C
1	51	346	G
1	51	347	A

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Mol	Chain	Res	Type
1	51	349	A
1	51	354	U
1	51	362	A
1	51	363	A
1	51	371	A
1	51	378	A
1	51	384	A
1	51	385	A
1	51	386	A
1	51	387	G
1	51	395	A
1	51	396	A
1	51	406	C
1	51	408	A
1	51	410	A
1	51	412	G
1	51	413	G
1	51	424	U
1	51	425	U
1	51	434	A
1	51	440	U
1	51	446	C
1	51	449	C
1	51	450	G
1	51	452	A
1	51	453	G
1	51	454	U
1	51	463	A
1	51	464	G
1	51	467	U
1	51	468	U
1	51	472	C
1	51	481	G
1	51	481(A)	C
1	51	482	G
1	51	483	G
1	51	486	C
1	51	487	G
1	51	492	U
1	51	496	G
1	51	498	C
1	51	499	G

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Mol	Chain	Res	Type
1	51	500	G
1	51	505	G
1	51	507	G
1	51	510	U
1	51	521	C
1	51	639	U
1	51	642	G
1	51	644	G
1	51	645	G
1	51	646	G
1	51	651	C
1	51	657	C
1	51	661	C
1	51	666	G
1	51	667	A
1	51	669	C
1	51	670	G
1	51	672	C
1	51	678	C
1	51	683	C
1	51	685	C
1	51	687	U
1	51	688	U
1	51	689	U
1	51	690	C
1	51	692	A
1	51	693	C
1	51	696	C
1	51	697	G
1	51	704	C
1	51	705	G
1	51	708	G
1	51	712	C
1	51	719	C
1	51	729	G
1	51	730	G
1	51	731	G
1	51	732	A
1	51	733	A
1	51	737	C
1	51	738	C
1	51	738(A)	C

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Mol	Chain	Res	Type
1	51	739	G
1	51	741	C
1	51	742	G
1	51	743	G
1	51	744	G
1	51	747	A
1	51	748	G
1	51	749	G
1	51	750	U
1	51	755	C
1	51	756	G
1	51	758	G
1	51	759	G
1	51	760	G
1	51	906	C
1	51	908	G
1	51	909	G
1	51	913	U
1	51	914	U
1	51	915	A
1	51	916	C
1	51	917	A
1	51	918	G
1	51	923	C
1	51	925	C
1	51	926	G
1	51	929	A
1	51	931	C
1	51	932	A
1	51	933	G
1	51	934	C
1	51	935	A
1	51	935(A)	G
1	51	936	C
1	51	937	U
1	51	938	C
1	51	943	A
1	51	944	A
1	51	945	U
1	51	948	C
1	51	959	G
1	51	960	A

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Mol	Chain	Res	Type
1	51	961	G
1	51	962	C
1	51	964	A
1	51	965	G
1	51	966	A
1	51	967	C
1	51	968	C
1	51	969	C
1	51	972	C
1	51	976	G
1	51	979	C
1	51	980	U
1	51	983	C
1	51	984	C
1	51	989	U
1	51	990	C
1	51	1066	G
1	51	1068	G
1	51	1069	G
1	51	1070	G
1	51	1072	C
1	51	1073	G
1	51	1078	A
1	51	1080	C
1	51	1082	C
1	51	1083	U
1	51	1084	C
1	51	1090	G
1	51	1098	G
1	51	1100	U
1	51	1101	C
1	51	1102	U
1	51	1104	C
1	51	1106	A
1	51	1107	C
1	51	1164	G
1	51	1165	G
1	51	1166	G
1	51	1167	C
1	51	1177	U
1	51	1178	G
1	51	1183	C

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Mol	Chain	Res	Type
1	51	1186	U
1	51	1199	G
1	51	1203	G
1	51	1204	C
1	51	1210	C
1	51	1211	G
1	51	1212	G
1	51	1214	C
1	51	1215	C
1	51	1216	C
1	51	1219	G
1	51	1220	G
1	51	1221	G
1	51	1222	A
1	51	1234	G
1	51	1235	G
1	51	1236	C
1	51	1238	A
1	51	1272	C
1	51	1273	G
1	51	1275	G
1	51	1276	C
1	51	1277	G
1	51	1278	C
1	51	1279	A
1	51	1281	G
1	51	1284	G
1	51	1287	G
1	51	1292	C
1	51	1295	U
1	51	1296	G
1	51	1297	U
1	51	1299	G
1	51	1301	C
1	51	1303	A
1	51	1304	C
1	51	1316	G
1	51	1318	C
1	51	1320	U
1	51	1321	G
1	51	1322	A
1	51	1326	A

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Mol	Chain	Res	Type
1	51	1327	C
1	51	1330	A
1	51	1332	C
1	51	1339	U
1	51	1341	U
1	51	1347	G
1	51	1354	A
1	51	1356	U
1	51	1359	G
1	51	1360	G
1	51	1361	G
1	51	1362	G
1	51	1371	A
1	51	1375	C
1	51	1377	G
1	51	1378	C
1	51	1379	C
1	51	1384	C
1	51	1387	A
1	51	1388	A
1	51	1389	U
1	51	1392	A
1	51	1394	G
1	51	1396	G
1	51	1397	A
1	51	1398	A
1	51	1402	C
1	51	1404	G
1	51	1405	C
1	51	1413	C
1	51	1414	C
1	51	1416	G
1	51	1417	C
1	51	1418	C
1	51	1419	G
1	51	1421	G
1	51	1437	C
1	51	1438	U
1	51	1440	U
1	51	1441	C
1	51	1444	G
1	51	1446	C

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Mol	Chain	Res	Type
1	51	1448	G
1	51	1453	G
1	51	1455	G
1	51	1456	C
1	51	1457	G
1	51	1477	C
1	51	1481	C
1	51	1482	G
1	51	1483	C
1	51	1490	G
1	51	1493	G
1	51	1497	A
1	51	1498	G
1	51	1502	G
1	51	1518	A
1	51	1523	A
1	51	1534	A
1	51	1540	C
1	51	1543	G
1	51	1547	A
1	51	1554	A
1	51	1557	C
1	51	1561	G
1	51	1562	G
1	51	1564	A
1	51	1565	A
1	51	1566	C
1	51	1568	C
1	51	1571	G
1	51	1573	G
1	51	1578	U
1	51	1584	G
1	51	1586	G
1	51	1590	C
1	51	1591	U
1	51	1596	U
1	51	1602	U
1	51	1605	G
1	51	1609	U
1	51	1612	G
1	51	1613	A
1	51	1624	G

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Mol	Chain	Res	Type
1	51	1625	G
1	51	1626	G
1	51	1627	G
1	51	1631	A
1	51	1632	A
1	51	1633	G
1	51	1634	A
1	51	1642	A
1	51	1646	A
1	51	1647	U
1	51	1649	U
1	51	1650	A
1	51	1651	G
1	51	1652	U
1	51	1654	G
1	51	1657	G
1	51	1661	C
1	51	1673	U
1	51	1676	C
1	51	1677	U
1	51	1679	A
1	51	1680	G
1	51	1682	A
1	51	1696	C
1	51	1721	G
1	51	1725	U
1	51	1731	C
1	51	1734	G
1	51	1735	U
1	51	1740	C
1	51	1741	G
1	51	1742	A
1	51	1745	G
1	51	1755	C
1	51	1756	U
1	51	1758	G
1	51	1762	C
1	51	1763	C
1	51	1764	G
1	51	1767	A
1	51	1769	G
1	51	1772	C

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Mol	Chain	Res	Type
1	51	1773	U
1	51	1775	A
1	51	1776	A
1	51	1784	U
1	51	1785	C
1	51	1787	A
1	51	1796	U
1	51	1803	G
1	51	1804	A
1	51	1810	G
1	51	1818	G
1	51	1819	G
1	51	1821	G
1	51	1822	U
1	51	1824	G
1	51	1828	C
1	51	1829	G
1	51	1836	G
1	51	1837	A
1	51	1842	G
1	51	1845	U
1	51	1855	G
1	51	1856	C
1	51	1862	U
1	51	1866	U
1	51	1867	A
1	51	1869	G
1	51	1876	U
1	51	1882	U
1	51	1889	U
1	51	1896	A
1	51	1897	A
1	51	1899	G
1	51	1910	G
1	51	1918	U
1	51	1920	C
1	51	1921	C
1	51	1922	G
1	51	1929	A
1	51	1930	U
1	51	1931	C
1	51	1932	A

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Mol	Chain	Res	Type
1	51	1942	A
1	51	1944	A
1	51	1945	G
1	51	1947	U
1	51	1948	G
1	51	1955	G
1	51	1956	A
1	51	1958	A
1	51	1959	U
1	51	1960	A
1	51	1961	G
1	51	1963	C
1	51	1964	A
1	51	1965	G
1	51	1966	C
1	51	1968	G
1	51	1969	G
1	51	1970	A
1	51	1971	U
1	51	1972	G
1	51	1973	G
1	51	1975	G
1	51	1976	G
1	51	1977	C
1	51	1978	C
1	51	1980	U
1	51	1984	A
1	51	1985	G
1	51	1987	C
1	51	1990	A
1	51	1991	A
1	51	1993	C
1	51	1994	C
1	51	1996	C
1	51	1997	U
1	51	1998	A
1	51	1999	A
1	51	2000	G
1	51	2001	G
1	51	2002	A
1	51	2003	G
1	51	2004	U

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Mol	Chain	Res	Type
1	51	2005	G
1	51	2007	G
1	51	2011	C
1	51	2014	C
1	51	2015	U
1	51	2017	A
1	51	2018	C
1	51	2020	U
1	51	2021	G
1	51	2022	C
1	51	2025	A
1	51	2026	A
1	51	2028	C
1	51	2031	C
1	51	2032	U
1	51	2033	A
1	51	2044	U
1	51	2046	G
1	51	2047	A
1	51	2048	U
1	51	2052	G
1	51	2054	U
1	51	2055	G
1	51	2056	G
1	51	2062	C
1	51	2064	G
1	51	2066	C
1	51	2069	A
1	51	2072	C
1	51	2084	U
1	51	2089	G
1	51	2090	U
1	51	2093	G
1	51	2094	C
1	51	2095	A
1	51	2098	G
1	51	2099	C
1	51	2100	G
1	51	2102	G
1	51	2104	A
1	51	2105	A
1	51	2106	G

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Mol	Chain	Res	Type
1	51	2107	A
1	51	2108	G
1	51	2111	U
1	51	2112	G
1	51	2113	G
1	51	2259	G
1	51	2260	C
1	51	2267	U
1	51	2268	A
1	51	2269	C
1	51	2270	G
1	51	2279	A
1	51	2281	U
1	51	2288	G
1	51	2289	C
1	51	2294	G
1	51	2299	G
1	51	2300	A
1	51	2301	G
1	51	2305	U
1	51	2308	A
1	51	2310	C
1	51	2313	A
1	51	2314	G
1	51	2329	U
1	51	2330	G
1	51	2333	G
1	51	2337	C
1	51	2341	A
1	51	2348	G
1	51	2349	A
1	51	2351	C
1	51	2353	U
1	51	2354	G
1	51	2360	A
1	51	2363	A
1	51	2364	G
1	51	2369	U
1	51	2370	A
1	51	2372	U
1	51	2385	U
1	51	2398	U

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Mol	Chain	Res	Type
1	51	2405	G
1	51	2409	U
1	51	2415	U
1	51	2417	A
1	51	2422	C
1	51	2424	G
1	51	2426	U
1	51	2428	A
1	51	2433	G
1	51	2437	C
1	51	2438	A
1	51	2441	C
1	51	2446	C
1	51	2447	U
1	51	2450	G
1	51	2458	C
1	51	2460	A
1	51	2463	G
1	51	2471	G
1	51	2472	A
1	51	2475	G
1	51	2482	C
1	51	2484	A
1	51	2486	G
1	51	2488	C
1	51	2489	C
1	51	2490	U
1	51	2491	C
1	51	2492	C
1	51	2499	C
1	51	2503	G
1	51	2504	C
1	51	2505	C
1	51	2506	G
1	51	2508	U
1	51	2512	A
1	51	2513	A
1	51	2521	G
1	51	2527	A
1	51	2529	A
1	51	2535	G
1	51	2540	C

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Mol	Chain	Res	Type
1	51	2543	A
1	51	2544	G
1	51	2546	G
1	51	2547	G
1	51	2551	A
1	51	2552	G
1	51	2553	A
1	51	2554	U
1	51	2556	G
1	51	2561	C
1	51	2562	G
1	51	2564	G
1	51	2565	A
1	51	2566	G
1	51	2569	G
1	51	2572	C
1	51	2573	A
1	51	2575	U
1	51	2576	G
1	51	2578	G
1	51	2583	C
1	51	2587	A
1	51	2590	G
1	51	2591	A
1	51	2602	G
1	51	2603	C
1	51	2611	A
1	51	2620	G
1	51	2627	C
1	51	2628	U
1	51	2631	U
1	51	2638	G
1	51	2646	C
1	51	2649	G
1	51	2653	C
1	51	2655	C
1	51	2657	G
1	51	2658	G
1	51	2661	U
1	51	2662	G
1	51	2663	G
1	51	2669	C

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Mol	Chain	Res	Type
1	51	2670	C
1	51	2673	G
1	51	2686	G
1	51	2687	U
1	51	2689	C
1	51	2694	G
1	51	2695	A
1	51	2696	A
1	51	2697	A
1	51	2698	G
1	51	2707	U
1	51	2708	U
1	51	2709	C
1	51	2710	C
1	51	2711	G
1	51	2716	C
1	51	2724	G
1	51	2725	A
1	51	2726	G
1	51	2728	U
1	51	2729	C
1	51	2730	U
1	51	2732	G
1	51	2735	G
1	51	2740	U
1	51	2743	A
1	51	2744	A
1	51	2747	U
1	51	2751	G
1	51	2753	G
1	51	2756	G
1	51	2758	G
1	51	2760	G
1	51	2761	U
1	51	2763	U
1	51	2764	A
1	51	2767	U
1	51	2768	C
1	51	2769	U
1	51	2770	C
1	51	2775	C
1	51	2778	G

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Mol	Chain	Res	Type
1	51	2785	C
1	51	2787	A
1	51	2788	U
1	51	2790	U
1	51	2794	C
1	51	2795	A
1	51	2796	G
1	51	2798	A
1	51	2812	A
1	51	2817	C
1	51	2823	G
1	51	2826	U
1	51	2827	G
1	51	2835	A
1	51	2842	G
1	51	2846	G
1	51	2849	A
1	51	2850	A
1	51	2855	G
1	51	2857	A
1	51	2858	A
1	51	2859	G
1	51	2864	A
1	51	2875	C
1	51	2879	A
1	51	2896	G
1	51	2897	G
1	51	2901	G
1	51	3598	C
1	51	3602	C
1	51	3604	A
1	51	3605	C
1	51	3606	U
1	51	3615	G
1	51	3616	U
1	51	3622	C
1	51	3624	A
1	51	3625	G
1	51	3626	G
1	51	3635	A
1	51	3637	U
1	51	3646	A

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Mol	Chain	Res	Type
1	51	3652	A
1	51	3662	A
1	51	3664	G
1	51	3667	C
1	51	3673	C
1	51	3674	G
1	51	3679	U
1	51	3680	U
1	51	3682	A
1	51	3683	C
1	51	3685	C
1	51	3690	U
1	51	3691	G
1	51	3692	A
1	51	3696	C
1	51	3697	U
1	51	3704	U
1	51	3710	G
1	51	3711	A
1	51	3713	U
1	51	3714	G
1	51	3717	A
1	51	3719	A
1	51	3721	U
1	51	3722	G
1	51	3723	A
1	51	3725	G
1	51	3727	A
1	51	3729	U
1	51	3744	G
1	51	3748	A
1	51	3752	C
1	51	3753	G
1	51	3756	A
1	51	3759	A
1	51	3760	A
1	51	3761	C
1	51	3762	U
1	51	3763	A
1	51	3765	G
1	51	3766	A
1	51	3767	C

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Mol	Chain	Res	Type
1	51	3768	U
1	51	3769	C
1	51	3771	C
1	51	3772	U
1	51	3773	U
1	51	3774	A
1	51	3777	G
1	51	3781	C
1	51	3783	A
1	51	3784	A
1	51	3786	U
1	51	3787	G
1	51	3789	C
1	51	3790	U
1	51	3798	U
1	51	3799	A
1	51	3810	C
1	51	3812	C
1	51	3813	A
1	51	3814	U
1	51	3817	A
1	51	3818	U
1	51	3819	G
1	51	3821	A
1	51	3824	A
1	51	3834	C
1	51	3836	A
1	51	3838	U
1	51	3840	U
1	51	3845	A
1	51	3858	C
1	51	3863	C
1	51	3865	A
1	51	3869	C
1	51	3877	A
1	51	3878	C
1	51	3879	G
1	51	3880	G
1	51	3881	G
1	51	3889	G
1	51	3897	G
1	51	3898	G

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Mol	Chain	Res	Type
1	51	3901	A
1	51	3902	A
1	51	3905	A
1	51	3906	A
1	51	3907	G
1	51	3915	U
1	51	3916	G
1	51	3936	A
1	51	3939	G
1	51	3942	A
1	51	3944	G
1	51	3948	C
1	51	3950	U
1	51	3951	G
1	51	3956	G
1	51	3957	U
1	51	3959	U
1	51	3960	A
1	51	3962	A
1	51	3963	A
1	51	3964	U
1	51	3965	A
1	51	3966	A
1	51	3969	G
1	51	3970	G
1	51	3973	G
1	51	3974	G
1	51	3977	C
1	51	4037	C
1	51	4038	C
1	51	4041	C
1	51	4042	G
1	51	4043	G
1	51	4045	G
1	51	4047	A
1	51	4048	A
1	51	4049	U
1	51	4050	A
1	51	4051	C
1	51	4053	A
1	51	4056	A
1	51	4064	C

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Mol	Chain	Res	Type
1	51	4065	G
1	51	4066	U
1	51	4067	U
1	51	4068	U
1	51	4069	U
1	51	4070	U
1	51	4072	C
1	51	4076	G
1	51	4085	A
1	51	4086	G
1	51	4088	C
1	51	4092	G
1	51	4093	G
1	51	4095	G
1	51	4096	C
1	51	4097	G
1	51	4098	A
1	51	4099	G
1	51	4100	C
1	51	4108	G
1	51	4109	G
1	51	4110	C
1	51	4115	G
1	51	4116	C
1	51	4117	U
1	51	4118	U
1	51	4119	C
1	51	4120	U
1	51	4122	G
1	51	4123	C
1	51	4125	C
1	51	4127	A
1	51	4128	A
1	51	4129	G
1	51	4130	C
1	51	4131	G
1	51	4132	C
1	51	4134	C
1	51	4138	C
1	51	4149	C
1	51	4150	G
1	51	4151	G

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Mol	Chain	Res	Type
1	51	4156	G
1	51	4157	A
1	51	4158	C
1	51	4162	C
1	51	4163	U
1	51	4166	G
1	51	4168	G
1	51	4170	A
1	51	4171	C
1	51	4173	G
1	51	4183	G
1	51	4184	G
1	51	4188	U
1	51	4191	G
1	51	4202	U
1	51	4203	A
1	51	4205	A
1	51	4209	G
1	51	4212	A
1	51	4229	U
1	51	4233	A
1	51	4234	A
1	51	4241	C
1	51	4249	G
1	51	4251	A
1	51	4254	G
1	51	4255	A
1	51	4256	A
1	51	4262	C
1	51	4265	U
1	51	4266	G
1	51	4268	A
1	51	4271	A
1	51	4273	A
1	51	4275	G
1	51	4278	C
1	51	4279	A
1	51	4280	A
1	51	4281	A
1	51	4282	A
1	51	4291	G
1	51	4297	G

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Mol	Chain	Res	Type
1	51	4303	C
1	51	4305	G
1	51	4306	U
1	51	4314	C
1	51	4318	C
1	51	4323	A
1	51	4330	G
1	51	4332	C
1	51	4339	A
1	51	4345	C
1	51	4349	C
1	51	4355	G
1	51	4373	G
1	51	4374	U
1	51	4375	C
1	51	4376	A
1	51	4377	G
1	51	4378	A
1	51	4379	A
1	51	4387	C
1	51	4391	G
1	51	4393	G
1	51	4394	A
1	51	4395	U
1	51	4396	A
1	51	4402	C
1	51	4406	U
1	51	4419	U
1	51	4420	U
1	51	4421	C
1	51	4422	A
1	51	4425	G
1	51	4437	U
1	51	4444	C
1	51	4448	G
1	51	4449	A
1	51	4450	U
1	51	4453	C
1	51	4459	U
1	51	4464	A
1	51	4465	U
1	51	4474	A

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Mol	Chain	Res	Type
1	51	4475	G
1	51	4476	C
1	51	4480	A
1	51	4481	U
1	51	4482	U
1	51	4484	A
1	51	4493	U
1	51	4499	G
1	51	4500	U
1	51	4503	A
1	51	4505	C
1	51	4507	A
1	51	4511	A
1	51	4512	U
1	51	4513	A
1	51	4525	C
1	51	4528	G
1	51	4548	A
1	51	4549	G
1	51	4560	C
1	51	4570	G
1	51	4574	U
1	51	4575	G
1	51	4586	G
1	51	4589	A
1	51	4592	C
1	51	4599	A
1	51	4607	A
1	51	4636	U
1	51	4637	G
1	51	4651	A
1	51	4652	G
1	51	4653	C
1	51	4656	A
1	51	4657	U
1	51	4658	G
1	51	4659	G
1	51	4668	U
1	51	4670	C
1	51	4672	A
1	51	4673	U
1	51	4676	G

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Mol	Chain	Res	Type
1	51	4677	U
1	51	4687	A
1	51	4691	A
1	51	4695	C
1	51	4696	C
1	51	4702	G
1	51	4703	U
1	51	4707	A
1	51	4709	U
1	51	4713	G
1	51	4720	C
1	51	4721	G
1	51	4726	G
1	51	4727	A
1	51	4728	U
1	51	4736	C
1	51	4737	G
1	51	4744	A
1	51	4745	G
1	51	4746	C
1	51	4751	G
1	51	4753	U
1	51	4754	G
1	51	4756	C
1	51	4757	C
1	51	4758	U
1	51	4759	C
1	51	4761	G
1	51	4764	A
1	51	4765	G
1	51	4766	C
1	51	4769	G
1	51	4771	C
1	51	4773	C
1	51	4861	G
1	51	4866	C
1	51	4870	G
1	51	4871	C
1	51	4872	G
1	51	4873	G
1	51	4875	G
1	51	4876	A

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Mol	Chain	Res	Type
1	51	4877	G
1	51	4879	C
1	51	4881	U
1	51	4882	U
1	51	4883	C
1	51	4885	U
1	51	4887	C
1	51	4888	C
1	51	4889	G
1	51	4893	A
1	51	4895	C
1	51	4896	G
1	51	4903	G
1	51	4908	G
1	51	4910	A
1	51	4912	G
1	51	4914	G
1	51	4915	G
1	51	4917	C
1	51	4919	G
1	51	4920	C
1	51	4921	C
1	51	4923	U
1	51	4925	U
1	51	4926	C
1	51	4928	C
1	51	4933	C
1	51	4934	A
1	51	4935	C
1	51	4937	C
1	51	4939	C
1	51	4940	C
1	51	4941	G
1	51	4942	C
1	51	4943	A
1	51	4944	C
1	51	4949	G
1	51	4950	U
1	51	4951	G
1	51	4953	G
1	51	4955	A
1	51	4956	A

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Mol	Chain	Res	Type
1	51	4960	G
1	51	4964	C
1	51	4965	U
1	51	4966	A
1	51	4967	A
1	51	4973	U
1	51	4976	U
1	51	4977	A
1	51	4979	A
1	51	4980	C
1	51	4982	A
1	51	4983	C
1	51	4988	U
1	51	4990	C
1	51	4991	U
1	51	4996	C
1	51	5002	U
1	51	5006	U
1	51	5009	G
1	51	5010	U
1	51	5014	A
1	51	5017	G
1	51	5022	U
1	51	5030	U
1	51	5031	G
1	51	5034	A
1	51	5040	U
1	51	5041	G
1	51	5047	C
1	51	5048	A
1	51	5050	C
1	51	5053	U
1	51	5054	C
1	51	5061	A
1	51	5062	G
1	51	5065	U
1	51	5068	G
2	71	2	U
2	71	6	C
2	71	7	G
2	71	8	G
2	71	9	C

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Mol	Chain	Res	Type
2	71	10	C
2	71	11	A
2	71	17	C
2	71	25	G
2	71	26	C
2	71	30	C
2	71	31	G
2	71	34	C
2	71	35	U
2	71	36	C
2	71	37	G
2	71	47	G
2	71	50	A
2	71	52	C
2	71	53	U
2	71	54	A
2	71	55	A
2	71	56	G
2	71	57	C
2	71	60	G
2	71	64	G
2	71	69	U
2	71	74	A
2	71	88	A
2	71	90	A
2	71	93	G
2	71	97	G
2	71	100	A
2	71	102	U
2	71	110	G
2	71	111	C
2	71	112	U
2	71	113	G
2	71	114	U
2	71	116	G
2	71	117	G
2	71	119	U
2	71	120	U
3	81	2	G
3	81	15	G
3	81	18	U
3	81	23	C

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Mol	Chain	Res	Type
3	81	34	U
3	81	35	C
3	81	39	G
3	81	49	G
3	81	56	G
3	81	57	C
3	81	59	A
3	81	62	A
3	81	63	U
3	81	69	U
3	81	71	A
3	81	78	G
3	81	87	G
3	81	95	A
3	81	103	A
3	81	105	C
3	81	107	C
3	81	109	C
3	81	110	U
3	81	111	U
3	81	113	C
3	81	114	G
3	81	117	C
3	81	120	G
3	81	122	G
3	81	123	U
3	81	124	U
3	81	125	C
3	81	126	C
3	81	127	U
3	81	128	C
3	81	129	C
3	81	135	C
3	81	137	A
3	81	143	G
3	81	150	C
3	81	151	G
3	81	152	U
3	81	153	C
3	81	154	G
3	81	156	U
4	A2	3	C

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Mol	Chain	Res	Type
4	A2	4	C
4	A2	5	U
4	A2	6	G
4	A2	8	U
4	A2	16	G
4	A2	17	C
4	A2	26	U
4	A2	33	G
4	A2	34	U
4	A2	35	C
4	A2	39	A
4	A2	44	U
4	A2	46	A
4	A2	47	G
4	A2	56	G
4	A2	57	U
4	A2	62	G
4	A2	64	A
4	A2	65	C
4	A2	66	G
4	A2	67	C
4	A2	68	A
4	A2	69	C
4	A2	70	G
4	A2	71	G
4	A2	72	C
4	A2	73	C
4	A2	75	G
4	A2	77	A
4	A2	78	C
4	A2	79	A
4	A2	83	A
4	A2	88	G
4	A2	89	C
4	A2	95	G
4	A2	100	U
4	A2	103	A
4	A2	104	A
4	A2	111	A
4	A2	113	G
4	A2	114	G
4	A2	115	U

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Mol	Chain	Res	Type
4	A2	116	U
4	A2	126	G
4	A2	128	U
4	A2	129	C
4	A2	130	G
4	A2	141	A
4	A2	142	C
4	A2	143	U
4	A2	144	U
4	A2	147	A
4	A2	155	G
4	A2	161	U
4	A2	162	C
4	A2	163	U
4	A2	167	G
4	A2	168	C
4	A2	170	A
4	A2	172	U
4	A2	175	A
4	A2	178	C
4	A2	181	A
4	A2	182	C
4	A2	183	G
4	A2	184	G
4	A2	187	G
4	A2	188	C
4	A2	189	U
4	A2	190	G
4	A2	191	A
4	A2	192	C
4	A2	209	A
4	A2	213	G
4	A2	215	G
4	A2	219	U
4	A2	224	A
4	A2	226	A
4	A2	227	U
4	A2	228	C
4	A2	229	A
4	A2	230	A
4	A2	234	C
4	A2	236	A

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Mol	Chain	Res	Type
4	A2	237	C
4	A2	238	C
4	A2	240	G
4	A2	241	G
4	A2	242	U
4	A2	243	C
4	A2	244	A
4	A2	281	C
4	A2	283	G
4	A2	285	U
4	A2	286	U
4	A2	287	U
4	A2	292	A
4	A2	294	U
4	A2	297	A
4	A2	298	G
4	A2	302	A
4	A2	306	C
4	A2	307	G
4	A2	308	G
4	A2	309	G
4	A2	310	C
4	A2	312	G
4	A2	313	A
4	A2	314	U
4	A2	318	A
4	A2	319	C
4	A2	320	G
4	A2	334	C
4	A2	335	G
4	A2	337	C
4	A2	347	G
4	A2	356	C
4	A2	361	U
4	A2	362	C
4	A2	364	A
4	A2	368	U
4	A2	369	C
4	A2	370	G
4	A2	384	U
4	A2	385	G
4	A2	386	C

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Mol	Chain	Res	Type
4	A2	400	C
4	A2	401	A
4	A2	407	G
4	A2	408	A
4	A2	409	C
4	A2	417	C
4	A2	418	A
4	A2	426	A
4	A2	435	A
4	A2	438	G
4	A2	439	A
4	A2	448	A
4	A2	450	C
4	A2	452	G
4	A2	460	A
4	A2	461	U
4	A2	463	C
4	A2	464	A
4	A2	465	A
4	A2	466	G
4	A2	472	C
4	A2	473	A
4	A2	474	G
4	A2	478	G
4	A2	482	G
4	A2	487	U
4	A2	492	C
4	A2	493	A
4	A2	497	C
4	A2	502	C
4	A2	503	C
4	A2	507	G
4	A2	509	G
4	A2	518	G
4	A2	523	A
4	A2	525	A
4	A2	529	A
4	A2	530	U
4	A2	532	C
4	A2	533	A
4	A2	534	G
4	A2	536	A

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Mol	Chain	Res	Type
4	A2	537	C
4	A2	539	C
4	A2	541	U
4	A2	545	A
4	A2	548	C
4	A2	549	C
4	A2	550	C
4	A2	551	U
4	A2	552	G
4	A2	554	A
4	A2	555	A
4	A2	556	U
4	A2	559	G
4	A2	560	A
4	A2	561	A
4	A2	564	A
4	A2	567	C
4	A2	568	C
4	A2	570	C
4	A2	576	A
4	A2	582	U
4	A2	588	G
4	A2	590	A
4	A2	591	U
4	A2	592	C
4	A2	593	C
4	A2	594	A
4	A2	598	G
4	A2	600	G
4	A2	606	G
4	A2	607	U
4	A2	608	C
4	A2	614	C
4	A2	615	C
4	A2	621	C
4	A2	622	C
4	A2	627	U
4	A2	628	A
4	A2	629	A
4	A2	631	U
4	A2	637	U
4	A2	639	C

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Mol	Chain	Res	Type
4	A2	641	A
4	A2	643	A
4	A2	644	G
4	A2	646	G
4	A2	651	U
4	A2	660	C
4	A2	664	A
4	A2	668	A
4	A2	669	A
4	A2	671	A
4	A2	672	A
4	A2	673	G
4	A2	675	U
4	A2	680	G
4	A2	684	G
4	A2	688	U
4	A2	689	U
4	A2	690	G
4	A2	692	G
4	A2	699	C
4	A2	701	G
4	A2	727	G
4	A2	745	C
4	A2	746	C
4	A2	747	U
4	A2	749	U
4	A2	750	C
4	A2	751	G
4	A2	752	G
4	A2	753	C
4	A2	755	C
4	A2	756	C
4	A2	793	G
4	A2	796	G
4	A2	798	G
4	A2	799	U
4	A2	810	A
4	A2	811	A
4	A2	812	A
4	A2	818	A
4	A2	821	G
4	A2	822	U

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Mol	Chain	Res	Type
4	A2	830	A
4	A2	844	U
4	A2	847	A
4	A2	852	G
4	A2	853	C
4	A2	861	A
4	A2	862	A
4	A2	869	A
4	A2	870	A
4	A2	871	U
4	A2	872	A
4	A2	873	G
4	A2	874	G
4	A2	875	A
4	A2	876	C
4	A2	879	C
4	A2	887	U
4	A2	889	U
4	A2	890	U
4	A2	893	U
4	A2	894	G
4	A2	898	U
4	A2	901	G
4	A2	902	G
4	A2	909	G
4	A2	913	A
4	A2	914	U
4	A2	915	G
4	A2	917	U
4	A2	920	A
4	A2	921	G
4	A2	929	G
4	A2	930	C
4	A2	931	C
4	A2	933	G
4	A2	938	A
4	A2	943	U
4	A2	953	C
4	A2	958	G
4	A2	960	U
4	A2	964	A
4	A2	966	U

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Mol	Chain	Res	Type
4	A2	969	U
4	A2	971	G
4	A2	974	C
4	A2	978	G
4	A2	980	A
4	A2	985	G
4	A2	987	A
4	A2	988	C
4	A2	989	C
4	A2	990	A
4	A2	991	G
4	A2	992	A
4	A2	997	A
4	A2	999	G
4	A2	1001	A
4	A2	1002	U
4	A2	1007	C
4	A2	1017	U
4	A2	1021	U
4	A2	1023	A
4	A2	1028	A
4	A2	1041	G
4	A2	1042	A
4	A2	1047	C
4	A2	1060	A
4	A2	1068	G
4	A2	1069	U
4	A2	1071	G
4	A2	1082	A
4	A2	1083	A
4	A2	1085	C
4	A2	1087	A
4	A2	1088	U
4	A2	1089	G
4	A2	1093	A
4	A2	1096	G
4	A2	1099	G
4	A2	1100	A
4	A2	1109	C
4	A2	1110	G
4	A2	1111	U
4	A2	1113	A

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Mol	Chain	Res	Type
4	A2	1115	U
4	A2	1116	C
4	A2	1117	C
4	A2	1118	C
4	A2	1131	G
4	A2	1138	C
4	A2	1139	C
4	A2	1144	A
4	A2	1145	A
4	A2	1146	C
4	A2	1148	A
4	A2	1149	A
4	A2	1150	A
4	A2	1153	C
4	A2	1154	U
4	A2	1166	G
4	A2	1168	G
4	A2	1170	A
4	A2	1176	G
4	A2	1181	A
4	A2	1191	C
4	A2	1195	A
4	A2	1200	A
4	A2	1207	G
4	A2	1212	G
4	A2	1213	C
4	A2	1215	C
4	A2	1220	A
4	A2	1224	G
4	A2	1234	C
4	A2	1240	A
4	A2	1241	A
4	A2	1242	U
4	A2	1248	U
4	A2	1249	C
4	A2	1251	A
4	A2	1253	A
4	A2	1254	C
4	A2	1256	G
4	A2	1257	G
4	A2	1258	A
4	A2	1263	U

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Mol	Chain	Res	Type
4	A2	1264	C
4	A2	1265	A
4	A2	1271	C
4	A2	1274	G
4	A2	1275	G
4	A2	1282	A
4	A2	1284	A
4	A2	1285	G
4	A2	1286	G
4	A2	1287	A
4	A2	1288	U
4	A2	1289	U
4	A2	1290	G
4	A2	1291	A
4	A2	1292	C
4	A2	1294	G
4	A2	1298	G
4	A2	1299	A
4	A2	1301	A
4	A2	1302	G
4	A2	1303	C
4	A2	1304	U
4	A2	1308	U
4	A2	1310	U
4	A2	1311	C
4	A2	1312	G
4	A2	1313	A
4	A2	1315	U
4	A2	1317	C
4	A2	1320	G
4	A2	1329	U
4	A2	1330	G
4	A2	1331	C
4	A2	1332	A
4	A2	1336	C
4	A2	1337	C
4	A2	1342	U
4	A2	1345	G
4	A2	1366	G
4	A2	1371	U
4	A2	1372	U
4	A2	1374	C

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Mol	Chain	Res	Type
4	A2	1375	G
4	A2	1377	U
4	A2	1378	A
4	A2	1381	G
4	A2	1394	G
4	A2	1395	C
4	A2	1396	A
4	A2	1397	U
4	A2	1398	G
4	A2	1401	A
4	A2	1404	U
4	A2	1410	C
4	A2	1411	G
4	A2	1413	G
4	A2	1416	C
4	A2	1417	C
4	A2	1424	G
4	A2	1425	G
4	A2	1427	C
4	A2	1428	G
4	A2	1429	G
4	A2	1430	C
4	A2	1438	A
4	A2	1439	A
4	A2	1450	G
4	A2	1452	A
4	A2	1454	A
4	A2	1455	A
4	A2	1462	U
4	A2	1463	U
4	A2	1464	C
4	A2	1466	G
4	A2	1476	A
4	A2	1477	U
4	A2	1478	U
4	A2	1480	A
4	A2	1489	A
4	A2	1494	U
4	A2	1498	A
4	A2	1506	A
4	A2	1521	C
4	A2	1522	A

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Mol	Chain	Res	Type
4	A2	1531	A
4	A2	1533	A
4	A2	1536	G
4	A2	1538	C
4	A2	1539	U
4	A2	1548	G
4	A2	1552	G
4	A2	1553	C
4	A2	1556	A
4	A2	1557	C
4	A2	1560	U
4	A2	1561	A
4	A2	1562	C
4	A2	1563	G
4	A2	1565	C
4	A2	1567	G
4	A2	1568	C
4	A2	1570	G
4	A2	1575	G
4	A2	1579	A
4	A2	1580	A
4	A2	1581	C
4	A2	1582	C
4	A2	1584	G
4	A2	1585	U
4	A2	1586	U
4	A2	1587	G
4	A2	1588	A
4	A2	1589	A
4	A2	1590	C
4	A2	1591	C
4	A2	1593	C
4	A2	1595	U
4	A2	1596	U
4	A2	1597	C
4	A2	1598	G
4	A2	1599	U
4	A2	1600	G
4	A2	1601	A
4	A2	1602	U
4	A2	1603	G
4	A2	1604	G

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Mol	Chain	Res	Type
4	A2	1606	G
4	A2	1607	A
4	A2	1608	U
4	A2	1609	C
4	A2	1610	G
4	A2	1611	G
4	A2	1613	G
4	A2	1619	A
4	A2	1621	U
4	A2	1622	U
4	A2	1623	A
4	A2	1624	U
4	A2	1625	U
4	A2	1627	C
4	A2	1628	C
4	A2	1629	C
4	A2	1632	G
4	A2	1637	A
4	A2	1638	G
4	A2	1641	A
4	A2	1647	A
4	A2	1648	G
4	A2	1651	A
4	A2	1654	G
4	A2	1655	C
4	A2	1660	C
4	A2	1665	G
4	A2	1667	U
4	A2	1671	G
4	A2	1674	G
4	A2	1680	G
4	A2	1681	U
4	A2	1689	C
4	A2	1695	A
4	A2	1698	C
4	A2	1699	A
4	A2	1700	C
4	A2	1701	C
4	A2	1702	G
4	A2	1703	C
4	A2	1706	G
4	A2	1710	C

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Mol	Chain	Res	Type
4	A2	1715	A
4	A2	1720	U
4	A2	1721	U
4	A2	1722	G
4	A2	1725	U
4	A2	1726	G
4	A2	1731	A
4	A2	1733	U
4	A2	1742	C
4	A2	1744	G
4	A2	1745	A
4	A2	1746	U
4	A2	1748	G
4	A2	1755	C
4	A2	1756	C
4	A2	1757	G
4	A2	1774	C
4	A2	1776	G
4	A2	1778	C
4	A2	1780	G
4	A2	1782	G
4	A2	1783	C
4	A2	1784	G
4	A2	1785	C
4	A2	1791	A
4	A2	1792	G
4	A2	1799	G
4	A2	1800	A
4	A2	1803	U
4	A2	1804	U
4	A2	1805	G
4	A2	1806	A
4	A2	1807	C
4	A2	1808	U
4	A2	1813	A
4	A2	1814	G
4	A2	1815	A
4	A2	1816	G
4	A2	1819	A
4	A2	1824	A
4	A2	1826	G
4	A2	1830	U

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Mol	Chain	Res	Type
4	A2	1831	A
4	A2	1834	A
4	A2	1835	A
4	A2	1836	G
4	A2	1837	G
4	A2	1838	U
4	A2	1839	U
4	A2	1840	U
4	A2	1844	U
4	A2	1845	A
4	A2	1849	G
4	A2	1850	A
4	A2	1851	A
4	A2	1857	G
4	A2	1861	G
4	A2	1862	G
4	A2	1863	A
4	A2	1865	C
4	A2	1866	A
4	A2	1869	A
79	q3	2	U
79	q3	3	C
79	q3	4	U
79	q3	5	C
79	q3	6	C
79	q3	7	G
79	q3	8	U
79	q3	10	G
79	q3	15	G
79	q3	19	G
79	q3	20	U
79	q3	21	A
79	q3	22	U
79	q3	29	C
79	q3	30	G
79	q3	34	A
79	q3	35	A
79	q3	36	C
79	q3	37	A
79	q3	42	A
79	q3	43	A
79	q3	46	G

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Mol	Chain	Res	Type
79	q3	47	U
79	q3	48	C
79	q3	49	C
79	q3	50	U
79	q3	52	G
79	q3	54	U
79	q3	57	G
79	q3	58	A
79	q3	59	A
79	q3	60	A
79	q3	62	C
79	q3	64	G
79	q3	67	G
79	q3	68	G
79	q3	72	C
79	q3	73	A
79	q3	74	C
79	q3	75	C
79	q3	76	A
82	v3	25	G
82	v3	26	C
82	v3	28	U
82	v3	29	A
82	v3	30	A
82	v3	34	U
82	v3	35	U
82	v3	36	G
82	v3	37	A
82	v3	39	A
82	v3	40	C
82	v3	41	U
83	33	8	U
83	33	9	A
83	33	11	C
83	33	17	G
83	33	18	U
83	33	19	G
83	33	20	U
83	33	21	A
83	33	27	U
83	33	28	C
83	33	29	A

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Mol	Chain	Res	Type
83	33	32	C
83	33	34	U
83	33	38	A
83	33	46	G
83	33	47	U
83	33	48	C
83	33	49	C
83	33	50	A
83	33	51	G
83	33	53	G
83	33	55	U
83	33	57	A
83	33	58	A
83	33	63	C
83	33	64	U
83	33	66	U
83	33	71	G
83	33	75	C

All (86) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	51	125	C
1	51	142	G
1	51	245	C
1	51	275	C
1	51	448	G
1	51	480	C
1	51	485	C
1	51	504	G
1	51	704	C
1	51	922(B)	C
1	51	930	G
1	51	971(A)	G
1	51	983	C
1	51	1072	C
1	51	1106	A
1	51	1211	G
1	51	1272	C
1	51	1291	G
1	51	1329	G
1	51	1370	G

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Mol	Chain	Res	Type
1	51	1445	U
1	51	1633	G
1	51	1821	G
1	51	1835	G
1	51	1921	C
1	51	1979	A
1	51	2016	C
1	51	2046	G
1	51	2111	U
1	51	2259	G
1	51	2266	C
1	51	2502	A
1	51	2572	C
1	51	2575	U
1	51	2695	A
1	51	3603	G
1	51	3625	G
1	51	3760	A
1	51	3888	G
1	51	3959	U
1	51	4036	G
1	51	4066	U
1	51	4137	C
1	51	4170	A
1	51	4232	U
1	51	4302	U
1	51	4448	G
1	51	4548	A
1	51	4719	G
1	51	4884	G
1	51	4902	C
1	51	4925	U
1	51	4936	G
4	A2	110	U
4	A2	182	C
4	A2	214	U
4	A2	228	C
4	A2	241	G
4	A2	286	U
4	A2	434	G
4	A2	465	A
4	A2	531	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
4	A2	536	A
4	A2	555	A
4	A2	642	U
4	A2	688	U
4	A2	698	G
4	A2	751	G
4	A2	752	G
4	A2	797	C
4	A2	798	G
4	A2	870	A
4	A2	874	G
4	A2	986	G
4	A2	1137	U
4	A2	1253	A
4	A2	1298	G
4	A2	1394	G
4	A2	1395	C
4	A2	1424	G
4	A2	1520	G
4	A2	1590	C
4	A2	1637	A
4	A2	1817	G
83	33	16	C
83	33	18	U

5.4 Non-standard residues in protein, DNA, RNA chains

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

Of 308 ligands modelled in this entry, 307 are monoatomic - leaving 1 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
88	BLS	51	5294	-	30,31,31	0.87	0	30,43,43	0.88	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
88	BLS	51	5294	-	-	10/25/38/38	0/2/2/2

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (10) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
88	51	5294	BLS	C4'-C5'-C6'-O4
88	51	5294	BLS	C4'-C5'-C6'-O3
88	51	5294	BLS	C11-C10-C9-C8
88	51	5294	BLS	C11-C10-C9-N9
88	51	5294	BLS	N14-C14-N12-C13
88	51	5294	BLS	O7-C7-C8-C9
88	51	5294	BLS	N15-C14-N12-C13
88	51	5294	BLS	N6-C7-C8-C9
88	51	5294	BLS	C5'-C4'-N6-C7
88	51	5294	BLS	C3'-C4'-N6-C7

There are no ring outliers.

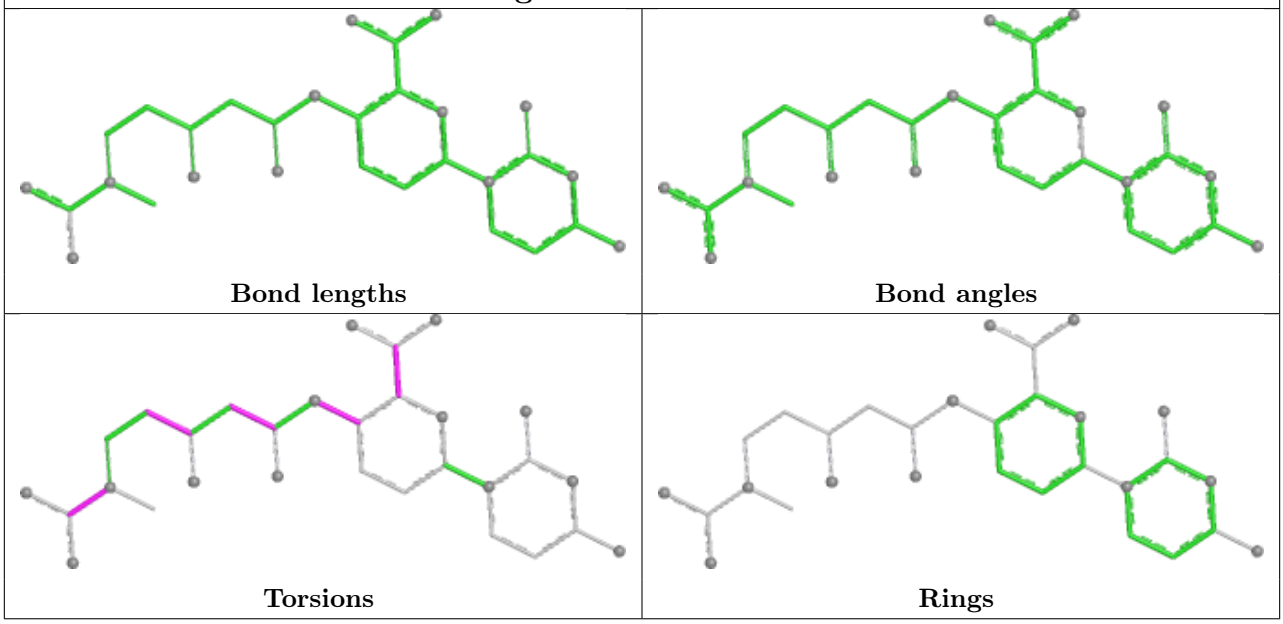
1 monomer is involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
88	51	5294	BLS	3	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is

within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand BLS 51 5294



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
4	A2	11
1	51	7
79	q3	3
3	81	1
44	G3	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	81	79:G	O3'	85:U	P	13.18
1	A2	201:C	O3'	202:G	P	8.18
1	q3	15:G	O3'	18:G	P	7.28
1	A2	747:U	O3'	748:C	P	6.91
1	51	1232:G	O3'	1233:G	P	5.66
1	A2	322:C	O3'	323:C	P	5.64
1	A2	728:U	O3'	729:C	P	5.49
1	51	3948:C	O3'	3949:A	P	5.01
1	G3	317:LYS	C	318:LEU	N	4.96
1	A2	202:G	O3'	203:G	P	4.69
1	q3	60:A	O3'	61:C	P	4.44
1	A2	903:A	O3'	904:A	P	4.18
1	A2	787:G	O3'	788:G	P	4.17
1	51	1956:A	O3'	1957:U	P	3.86
1	A2	902:G	O3'	903:A	P	3.63
1	A2	304:C	O3'	305:U	P	3.53
1	51	5020:G	O3'	5021:C	P	3.34
1	51	3947:A	O3'	3948:C	P	3.33
1	q3	58:A	O3'	59:A	P	3.18
1	51	170:C	O3'	171:U	P	3.03
1	A2	748:C	O3'	749:U	P	3.03
1	A2	1295:A	O3'	1296:U	P	2.95
1	51	751:G	O3'	752:G	P	2.76

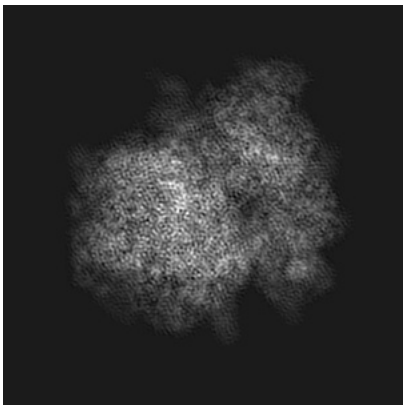
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-12631. These allow visual inspection of the internal detail of the map and identification of artifacts.

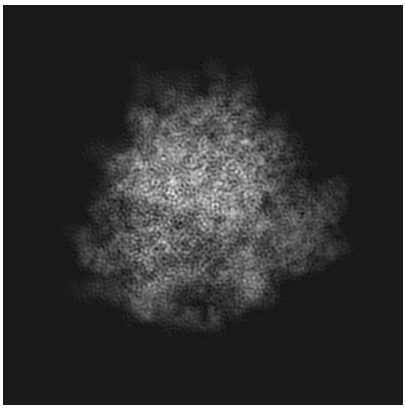
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

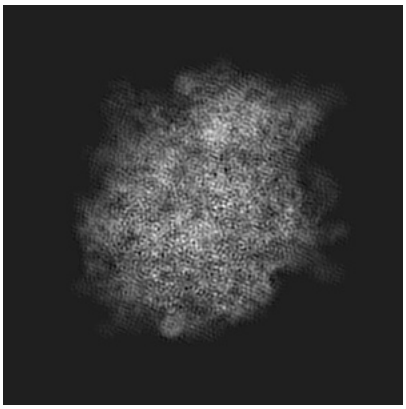
6.1.1 Primary map



X

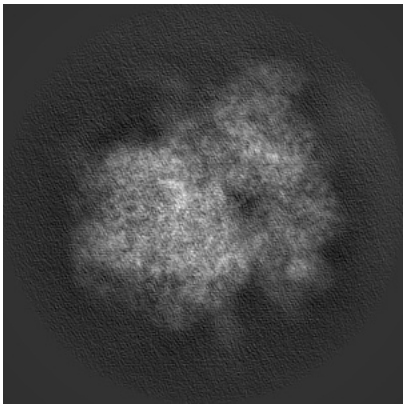


Y

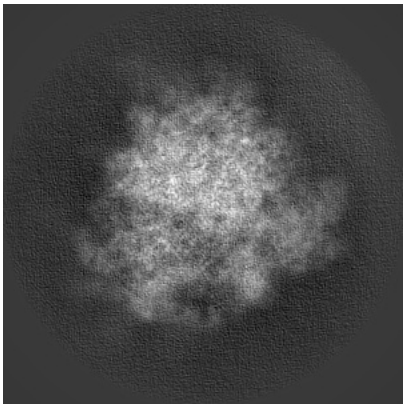


Z

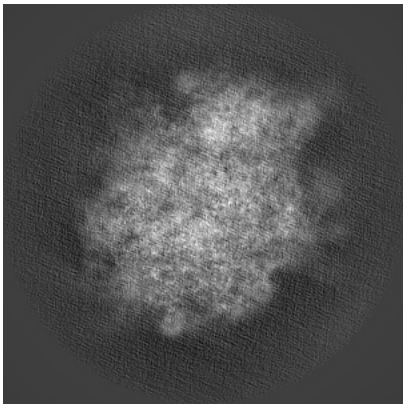
6.1.2 Raw map



X



Y

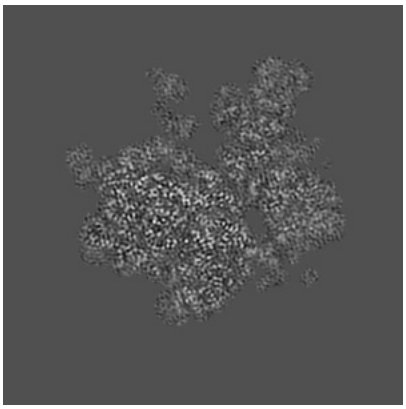


Z

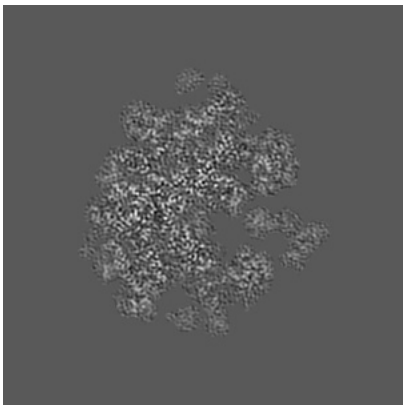
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

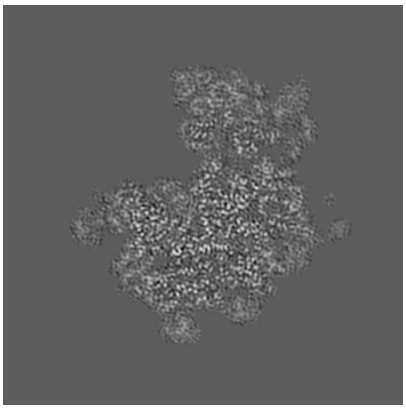
6.2.1 Primary map



X Index: 150

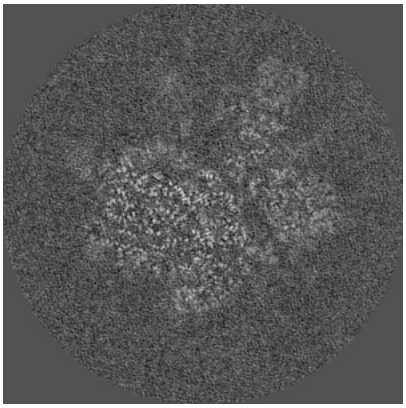


Y Index: 150

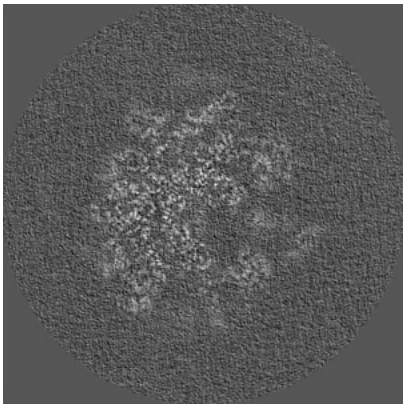


Z Index: 150

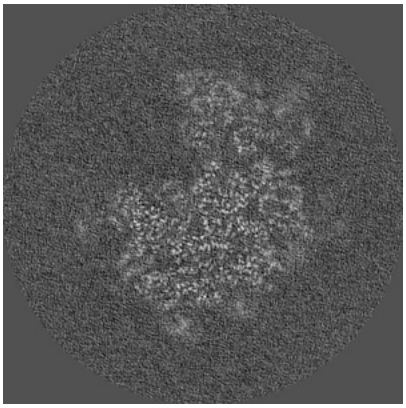
6.2.2 Raw map



X Index: 150



Y Index: 150

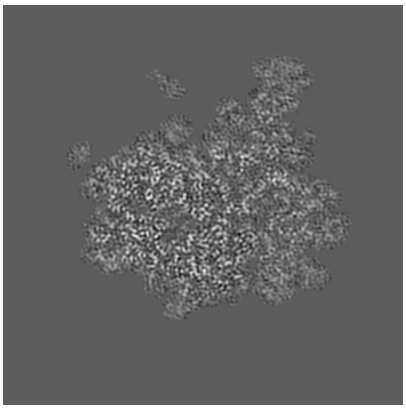


Z Index: 150

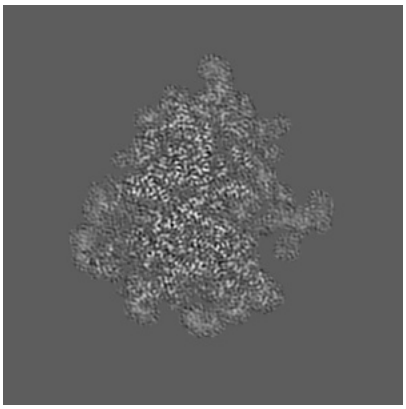
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

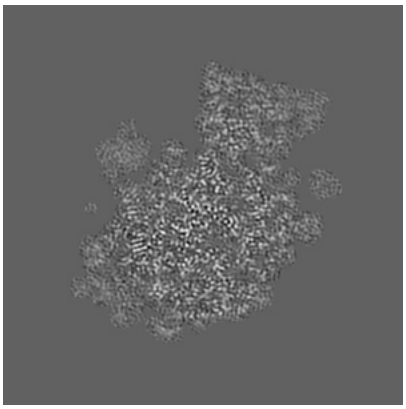
6.3.1 Primary map



X Index: 158

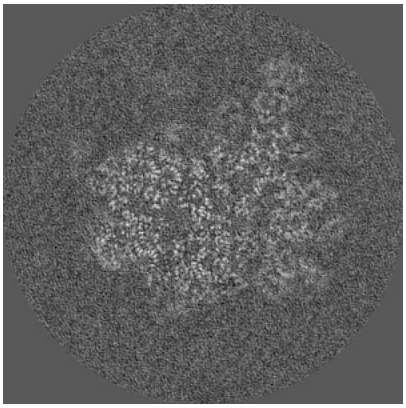


Y Index: 130

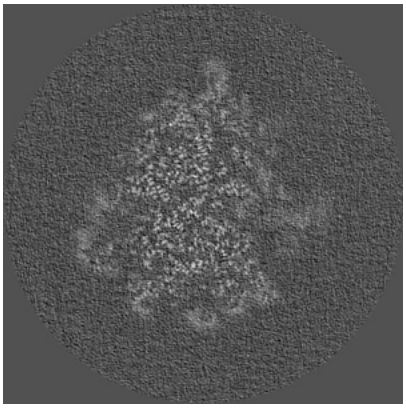


Z Index: 124

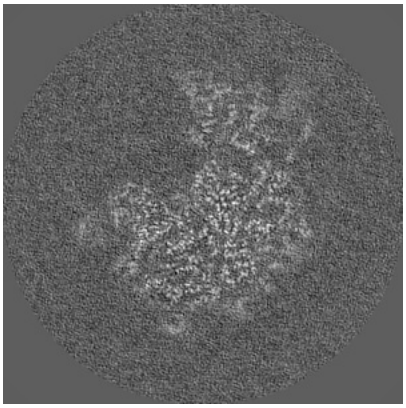
6.3.2 Raw map



X Index: 159



Y Index: 130

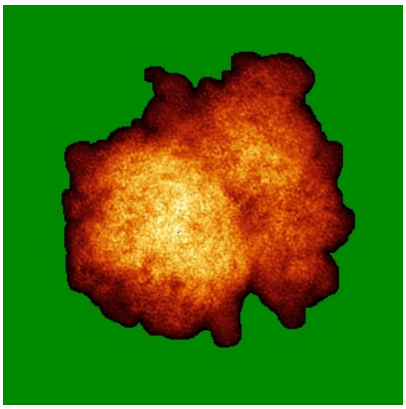


Z Index: 148

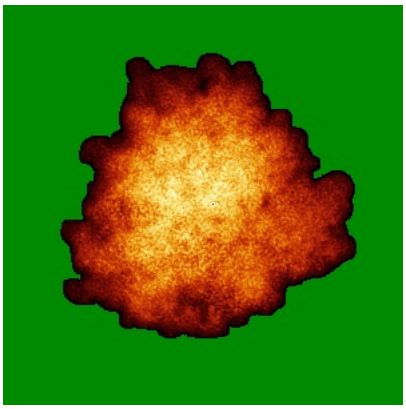
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

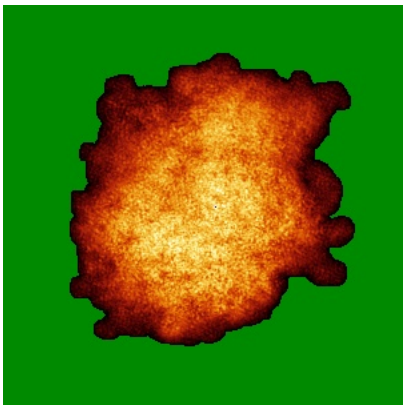
6.4.1 Primary map



X

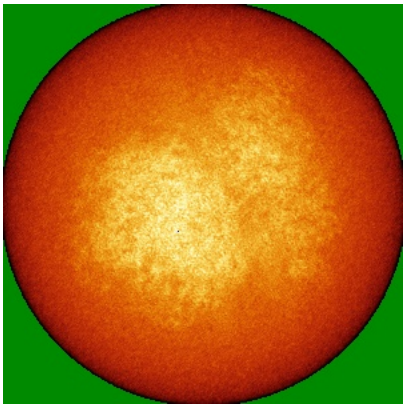


Y

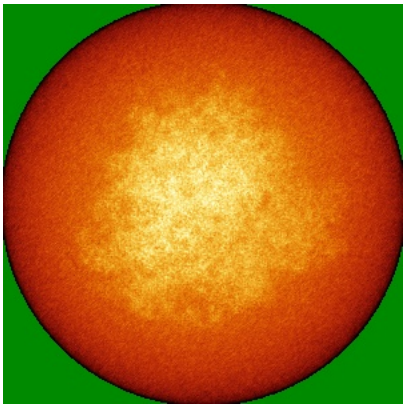


Z

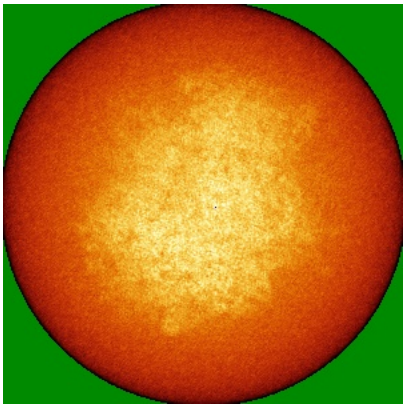
6.4.2 Raw map



X



Y

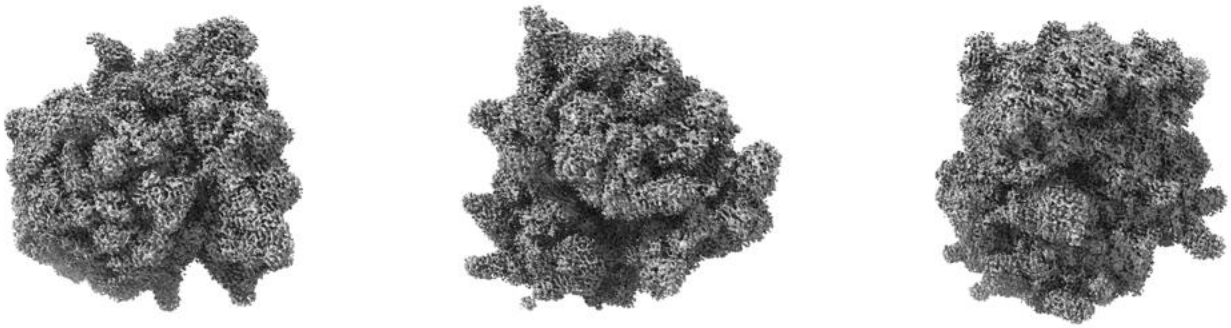


Z

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

6.5 Orthogonal surface views (i)

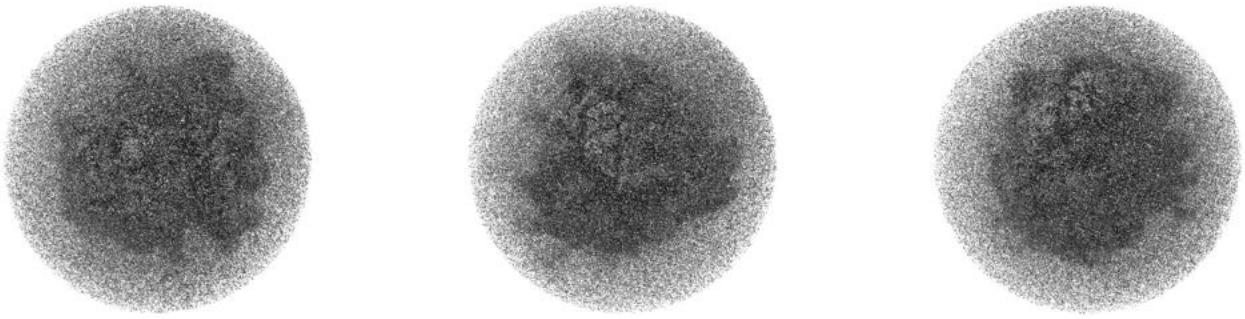
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.014. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X Y Z

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

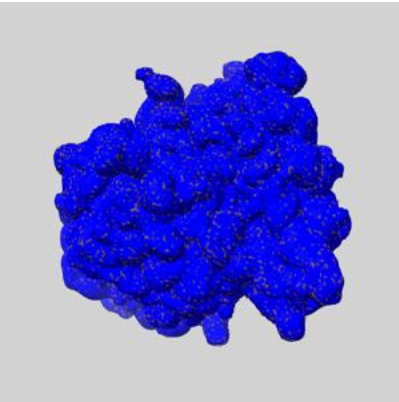
6.6 Mask visualisation

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

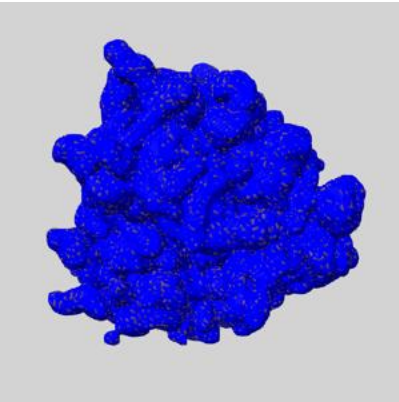
A mask typically either:

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

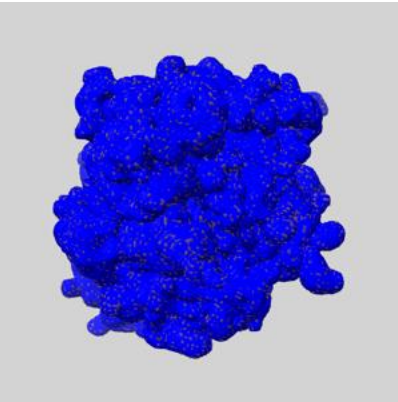
6.6.1 emd_12631_msk_1.map



X



Y

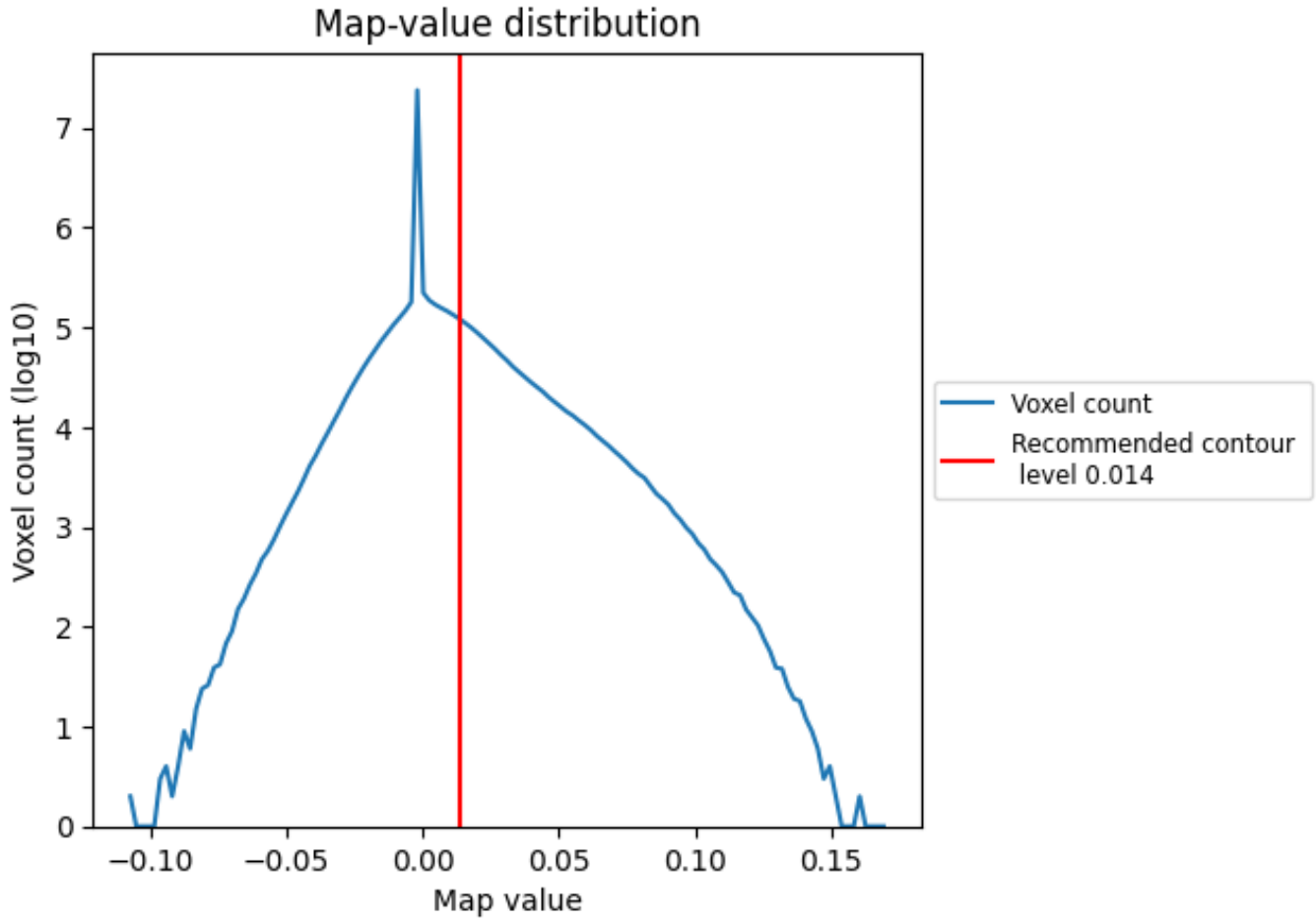


Z

7 Map analysis

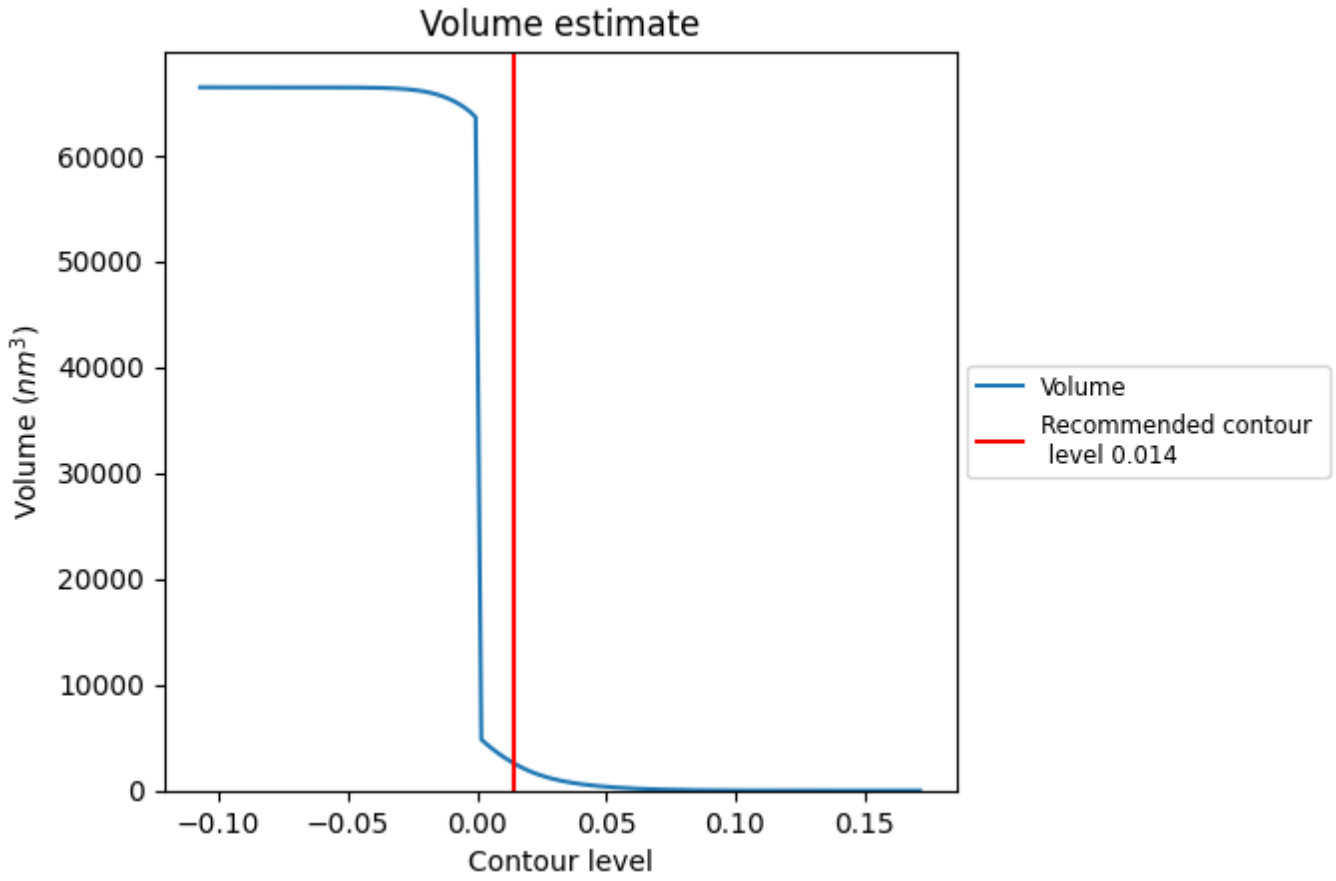
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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.

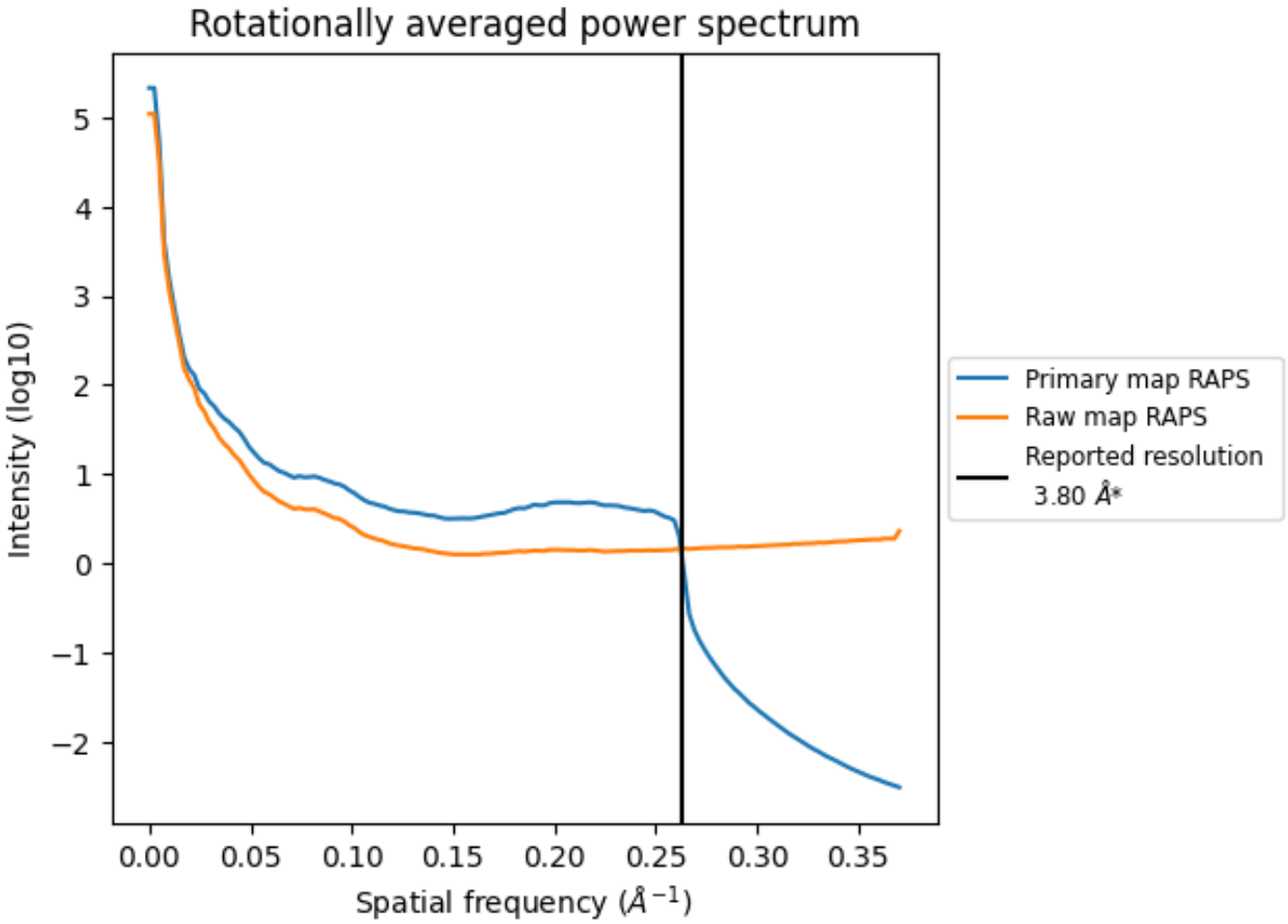
7.2 Volume estimate



The volume at the recommended contour level is 2614 nm^3; this corresponds to an approximate mass of 2362 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 (i)

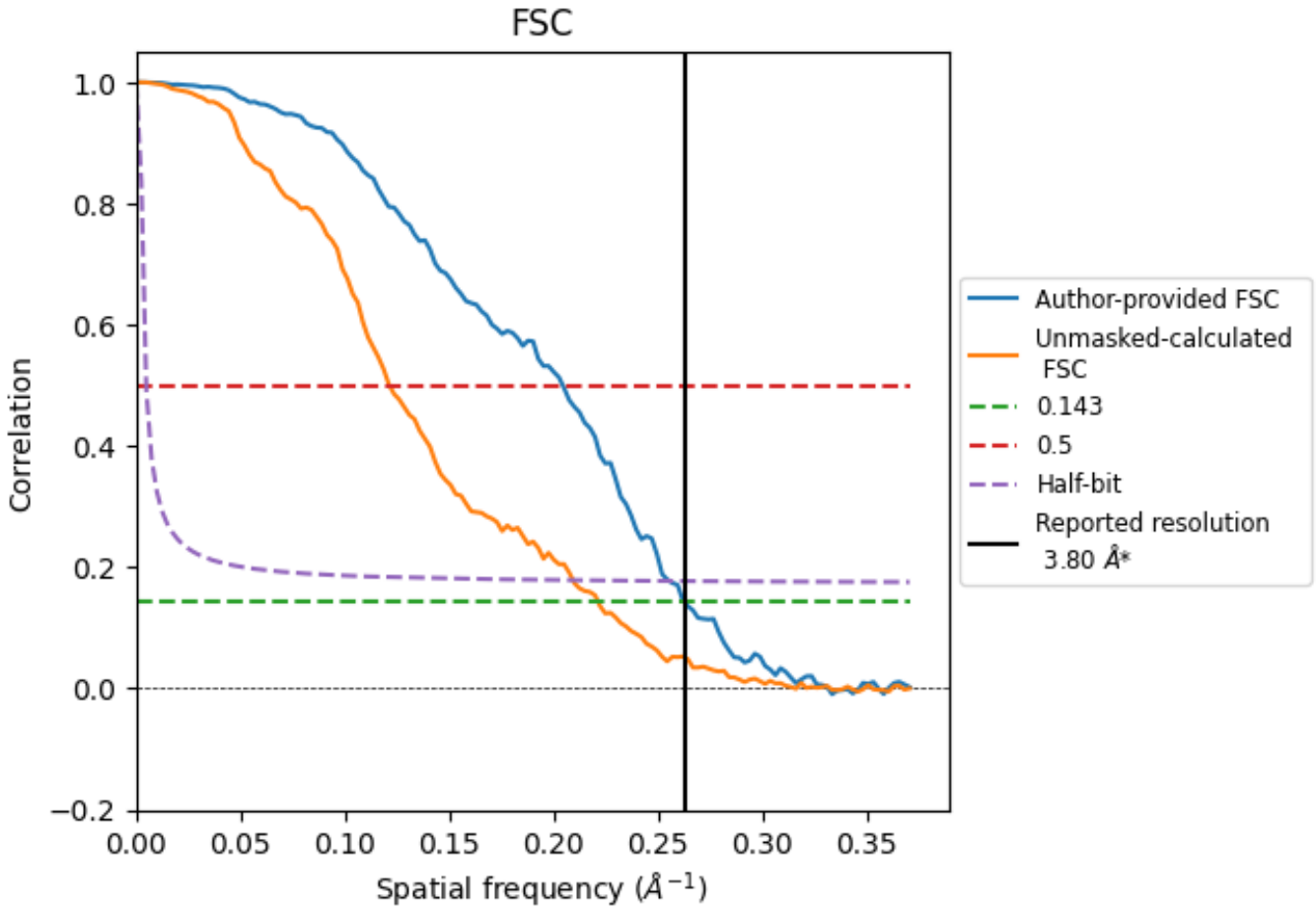


*Reported resolution corresponds to spatial frequency of 0.263 Å^{-1}

8 Fourier-Shell correlation

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.263 Å^{-1}

8.2 Resolution estimates (i)

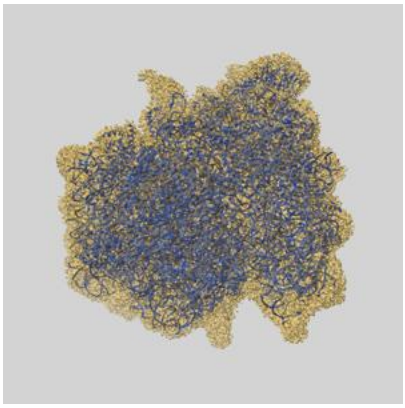
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.80	-	-
Author-provided FSC curve	3.81	4.89	3.92
Unmasked-calculated*	4.52	8.24	4.78

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.52 differs from the reported value 3.8 by more than 10 %

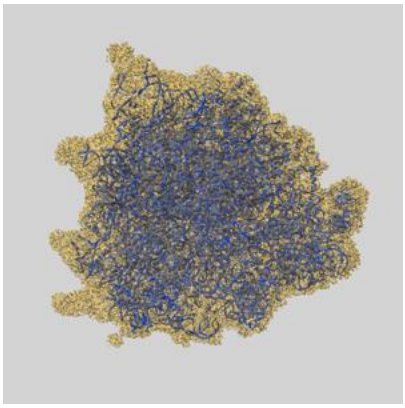
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-12631 and PDB model 7NWG. Per-residue inclusion information can be found in section 3 on page 26.

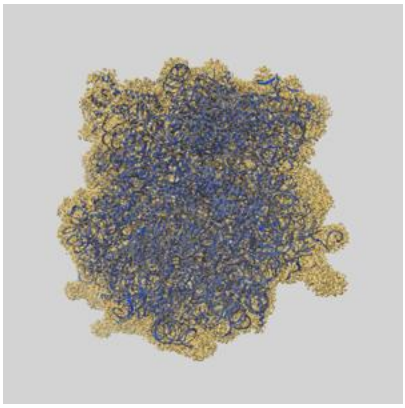
9.1 Map-model overlay



X



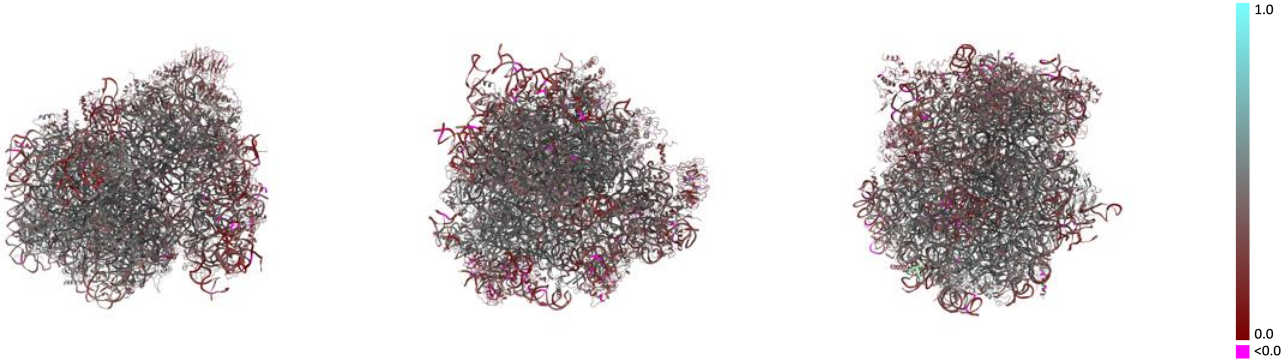
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.014 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.

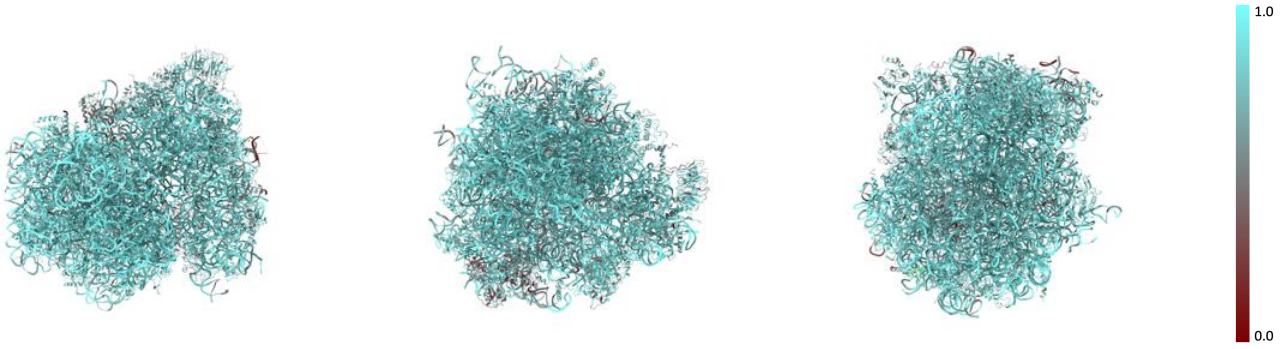
9.2 Q-score mapped to coordinate model (i)



X Y Z

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.

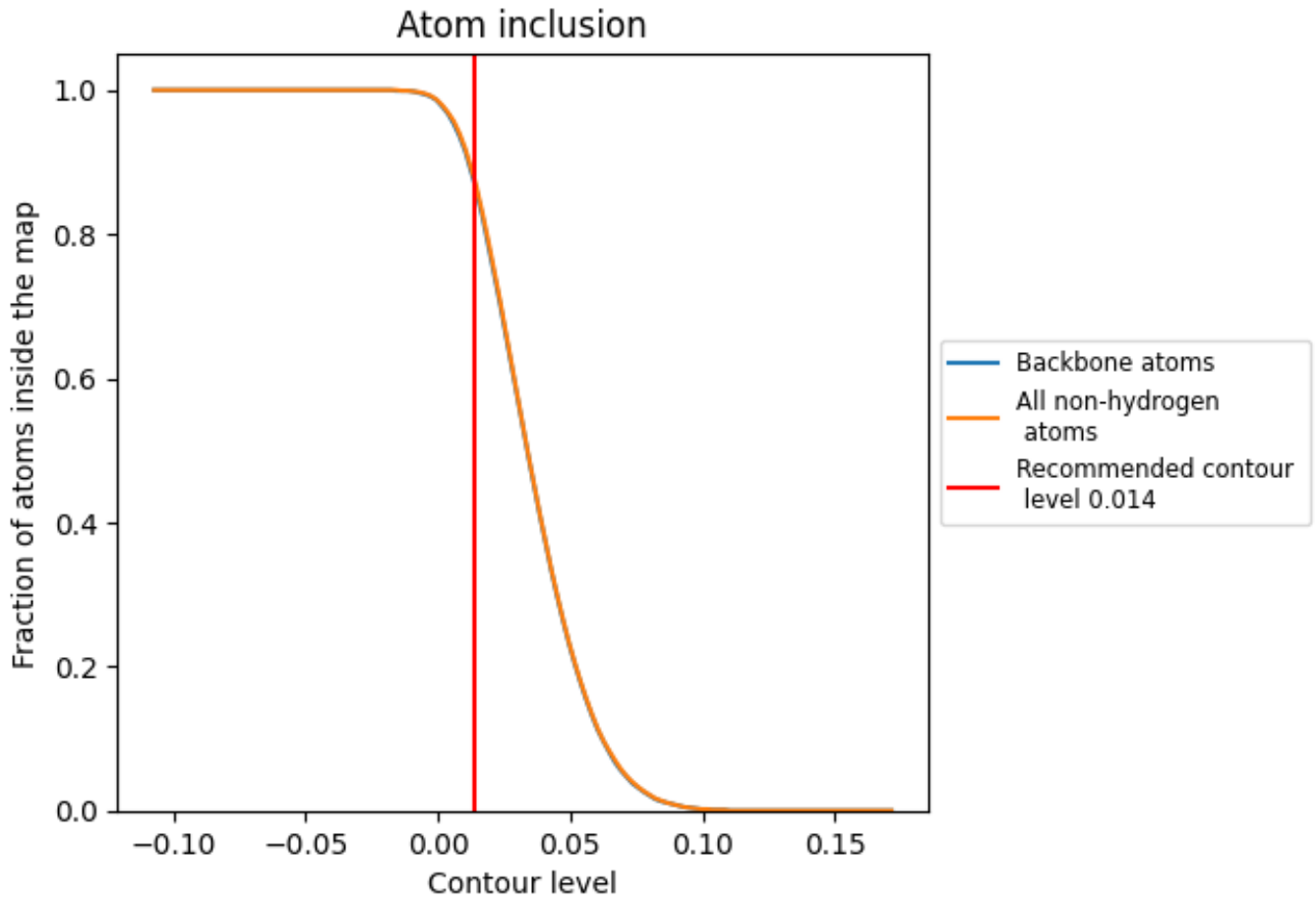
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.014).

9.4 Atom inclusion (i)



At the recommended contour level, 87% of all backbone atoms, 87% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.014) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8740	0.4060
1	0.6860	0.3610
33	0.9050	0.3580
51	0.9180	0.4110
71	0.9300	0.4220
81	0.9390	0.4300
A2	0.8970	0.3760
A3	0.8880	0.4770
B2	0.8090	0.3910
B3	0.8830	0.4690
C2	0.8350	0.4220
C3	0.8890	0.4760
D2	0.8340	0.4300
D3	0.8580	0.4190
E2	0.7640	0.3760
E3	0.8800	0.4330
F2	0.8190	0.3980
F3	0.8730	0.4680
G2	0.7980	0.3780
G3	0.7890	0.3830
H2	0.7680	0.3290
H3	0.8580	0.4320
I2	0.7690	0.3580
I3	0.8790	0.4660
J2	0.7960	0.3770
J3	0.8660	0.4220
K2	0.7720	0.3610
L2	0.8250	0.3680
L3	0.8660	0.4520
M2	0.8550	0.4460
M3	0.8580	0.4290
N2	0.6400	0.2720
N3	0.9090	0.4930
O2	0.8440	0.4200
O3	0.8830	0.4770

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Chain	Atom inclusion	Q-score
P2	0.8090	0.4110
P3	0.8920	0.4810
Q2	0.8740	0.4130
Q3	0.8970	0.4880
R2	0.7920	0.3860
R3	0.8420	0.4200
S2	0.7750	0.3610
S3	0.8920	0.4630
T2	0.8460	0.3890
T3	0.8810	0.4690
U2	0.8240	0.3670
U3	0.8390	0.3840
V2	0.7200	0.3400
V3	0.8770	0.4820
W	0.9020	0.4820
W2	0.8100	0.3940
X2	0.8550	0.4380
X3	0.8610	0.4430
Y2	0.8610	0.4590
Y3	0.8970	0.4750
Z2	0.8180	0.3680
Z3	0.8390	0.4200
a2	0.7580	0.3490
a3	0.9060	0.4900
b2	0.8600	0.4570
b3	0.8060	0.4070
c2	0.7900	0.4040
c3	0.8320	0.4270
d2	0.7530	0.3530
d3	0.8500	0.4450
e2	0.8930	0.4270
e3	0.8770	0.4870
f2	0.8070	0.3960
f3	0.8880	0.4840
g2	0.7260	0.2860
g3	0.8510	0.4460
h2	0.7100	0.2930
h3	0.8810	0.4460
i3	0.8590	0.4390
j3	0.9200	0.5020
k3	0.7900	0.3770
l3	0.9020	0.4820

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Chain	Atom inclusion	Q-score
m3	0.8970	0.4580
n3	0.8390	0.4600
o3	0.8910	0.4680
p3	0.8480	0.4630
q3	0.8730	0.3480
r3	0.8920	0.4740
t3	0.4090	0.2180
u3	0.4240	0.2080
v3	0.8320	0.4020
w3	0.4850	0.2100