



Full wwPDB EM Validation Report ⓘ

Jul 3, 2025 – 03:45 am BST

PDB ID : 6GQB / pdb_00006gqb
EMDB ID : EMD-0048
Title : Cryo-EM reconstruction of yeast 80S ribosome in complex with mRNA, tRNA and eEF2 (GDP+AlF₄/sordarin)
Authors : Pellegrino, S.; Yusupov, M.; Yusupova, G.; Hashem, Y.
Deposited on : 2018-06-07
Resolution : 3.90 Å(reported)

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

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

A user guide is available at

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

The types of validation reports are described at

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

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

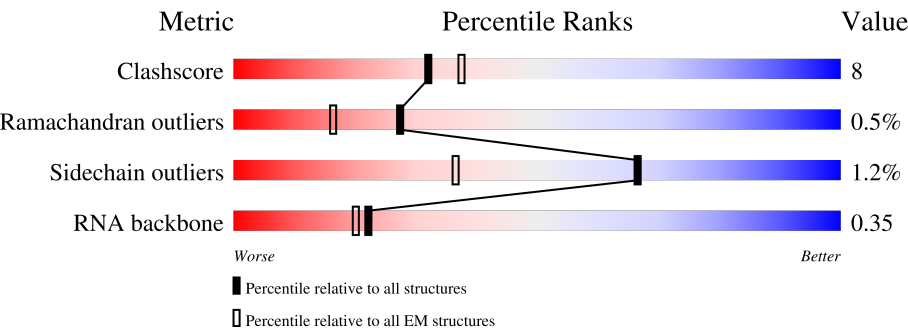
EMDB validation analysis : 0.0.1.dev118
Mogul : 1.8.4, CSD as541be (2020)
MolProbity : 4-5-2 with Phenix2.0rc1
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.44

1 Overall quality at a glance i

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

The reported resolution of this entry is 3.90 Å.

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



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

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	1	3396	50%37%8%5%
2	3	121	53%43%. .
3	4	158	53%36%11%
4	P0	189	80% 79%20%. .
5	P2	94	79% 71%27%. .
6	A	252	75%23%. .
7	B	386	75%25%

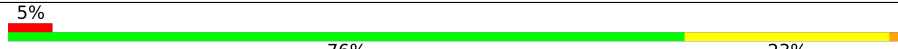
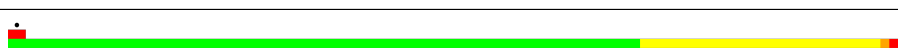
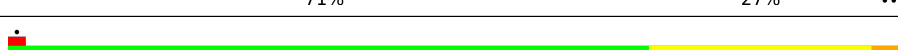
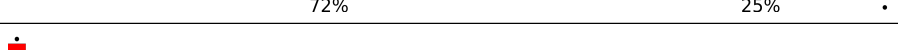
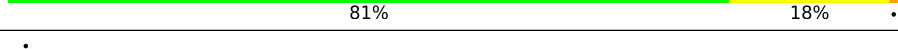
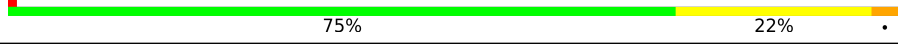
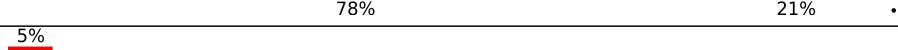
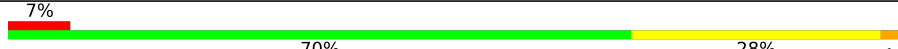
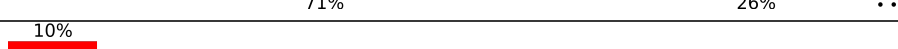
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Mol	Chain	Length	Quality of chain
8	C	361	
9	D	296	
10	E	175	
11	F	222	
12	G	233	
13	H	191	
14	I	220	
15	J	169	
16	L	193	
17	M	136	
18	N	203	
19	O	197	
20	P	183	
21	Q	185	
22	R	188	
23	S	172	
24	T	159	
25	U	100	
26	V	136	
27	W	64	
28	X	121	
29	Y	126	
30	Z	135	
31	a	148	
32	b	58	

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Mol	Chain	Length	Quality of chain
33	c	97	
34	d	109	
35	e	127	
36	f	106	
37	g	112	
38	h	119	
39	i	99	
40	j	87	
41	k	77	
42	l	50	
43	m	52	
44	n	25	
45	o	105	
46	p	91	
47	2	1797	
48	q	206	
49	r	214	
50	s	217	
51	t	223	
52	u	260	
53	v	206	
54	w	223	
55	x	184	
56	y	199	
57	z	185	

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Mol	Chain	Length	Quality of chain
58	AA	105	
59	AB	153	
60	AC	124	
61	AD	150	
62	AE	127	
63	AF	124	
64	AG	141	
65	AH	125	
66	AI	145	
67	AJ	143	
68	AK	107	
69	AL	87	
70	AM	129	
71	AN	144	
72	AO	134	
73	AP	70	
74	AQ	97	
75	AR	81	
76	AS	63	
77	AT	53	
78	AU	60	
79	AV	318	
80	AW	37	
81	AX	76	
82	AY	7	

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Mol	Chain	Length	Quality of chain
83	BA	204	
84	AZ	840	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
87	GDP	AZ	902	-	-	X	-

2 Entry composition

There are 88 unique types of molecules in this entry. The entry contains 212143 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called *Saccharomyces cerevisiae* S288C 35S pre-ribosomal RNA (RDN37-1), miscRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	1	3223	Total	C	N	O	P	0	0
			68931	30790	12416	22502	3223		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
2	3	121	Total	C	N	O	P	0	0
			2579	1152	461	845	121		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
3	4	158	Total	C	N	O	P	0	0
			3353	1500	586	1109	158		

- Molecule 4 is a protein called 60S acidic ribosomal protein P0.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	P0	189	Total	C	N	O	S	0	0
			1473	942	257	270	4		

- Molecule 5 is a protein called 60S ribosomal protein L12-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	P2	94	Total	C	N	O	S	0	0
			723	448	138	135	2		

- Molecule 6 is a protein called 60S ribosomal protein L2-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	A	252	Total	C	N	O	S	0	0
			1914	1191	388	334	1		

- Molecule 7 is a protein called 60S ribosomal protein L3.

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

- Molecule 8 is a protein called 60S ribosomal protein L4-A.

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

- Molecule 9 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	D	296	Total	C	N	O	S	0	0
			2375	1501	414	458	2		

- Molecule 10 is a protein called 60S ribosomal protein L6-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	E	156	Total	C	N	O	S	0	0
			1239	800	222	216	1		

- Molecule 11 is a protein called 60S ribosomal protein L7-A.

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

- Molecule 12 is a protein called 60S ribosomal protein L8-A.

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

- Molecule 13 is a protein called 60S ribosomal protein L9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	H	191	Total	C	N	O	S	0	0
			1518	963	274	277	4		

- Molecule 14 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	I	211	Total	C	N	O	S	0	0
			1705	1083	322	294	6		

- Molecule 15 is a protein called 60S ribosomal protein L11-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	J	169	Total	C	N	O	S	0	0
			1353	847	253	249	4		

- Molecule 16 is a protein called 60S ribosomal protein L13-A.

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

- Molecule 17 is a protein called 60S ribosomal protein L14-A.

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

- Molecule 18 is a protein called 60S ribosomal protein L15-A.

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

- Molecule 19 is a protein called 60S ribosomal protein L16-A.

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

- Molecule 20 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	P	183	Total	C	N	O	S	0	0
			1420	882	281	257			

- Molecule 21 is a protein called 60S ribosomal protein L18-A.

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

- Molecule 22 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	R	188	Total	C	N	O	S	0	0
			1521	935	326	260			

- Molecule 23 is a protein called 60S ribosomal protein L20-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	S	172	Total	C	N	O	S	0	0
			1445	930	267	244	4		

- Molecule 24 is a protein called 60S ribosomal protein L21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	T	159	Total	C	N	O	S	0	0
			1276	805	246	221	4		

- Molecule 25 is a protein called 60S ribosomal protein L22-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	U	100	Total	C	N	O	S	0	0
			796	516	131	149			

- Molecule 26 is a protein called 60S ribosomal protein L23-A.

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

- Molecule 27 is a protein called 60S ribosomal protein L24-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	W	64	Total	C	N	O	S	0	0
			528	340	103	84	1		

- Molecule 28 is a protein called 60S ribosomal protein L25.

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

- Molecule 29 is a protein called 60S ribosomal protein L26-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	Y	126	Total	C	N	O		0	0
			993	625	192	176			

- Molecule 30 is a protein called 60S ribosomal protein L27-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	Z	135	Total	C	N	O		0	0
			1092	710	202	180			

- Molecule 31 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	a	148	Total	C	N	O	S	0	0
			1173	749	231	190	3		

- Molecule 32 is a protein called 60S ribosomal protein L29.

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

- Molecule 33 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	c	97	Total	C	N	O	S	0	0
			743	479	124	139	1		

- Molecule 34 is a protein called 60S ribosomal protein L31-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	d	109	Total	C	N	O	S	0	0
			883	559	167	156	1		

- Molecule 35 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	e	127	Total	C	N	O	S	0	0
			1020	647	205	167	1		

- Molecule 36 is a protein called 60S ribosomal protein L33-A.

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

- Molecule 37 is a protein called 60S ribosomal protein L34-A.

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

- Molecule 38 is a protein called 60S ribosomal protein L35-A.

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

- Molecule 39 is a protein called 60S ribosomal protein L36-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	i	99	Total	C	N	O	S	0	0
			771	481	156	132	2		

- Molecule 40 is a protein called 60S ribosomal protein L37-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	j	87	Total	C	N	O	S	0	0
			681	414	148	114	5		

- Molecule 41 is a protein called 60S ribosomal protein L38.

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

- Molecule 42 is a protein called 60S ribosomal protein L39.

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

- Molecule 43 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	m	52	Total	C	N	O	S	0	0
			417	259	86	67	5		

- Molecule 44 is a protein called 60S ribosomal protein L41-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	n	25	Total	C	N	O	S	0	0
			233	142	63	27	1		

- Molecule 45 is a protein called 60S ribosomal protein L42-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	o	105	Total	C	N	O	S	0	0
			847	534	170	138	5		

- Molecule 46 is a protein called 60S ribosomal protein L43-A.

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

- Molecule 47 is a RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	2	1776	Total	C	N	O	P	0	0
			37845	16918	6702	12449	1776		

- Molecule 48 is a protein called 40S ribosomal protein S0-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	q	206	Total	C	N	O	S	0	0
			1577	1014	278	283	2		

- Molecule 49 is a protein called 40S ribosomal protein S1-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	r	214	Total	C	N	O	S	0	0
			1709	1084	310	311	4		

- Molecule 50 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	s	217	Total	C	N	O	S	0	0
			1635	1047	289	297	2		

- Molecule 51 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	t	223	Total	C	N	O	S	0	0
			1734	1101	313	314	6		

- Molecule 52 is a protein called 40S ribosomal protein S4-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	u	260	Total	C	N	O	S	0	0
			2068	1316	389	360	3		

- Molecule 53 is a protein called 40S ribosomal protein S5.

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

- Molecule 54 is a protein called 40S ribosomal protein S6-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	w	223	Total	C	N	O	S	0	0
			1790	1123	346	318	3		

- Molecule 55 is a protein called 40S ribosomal protein S7-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
55	x	184	Total	C	N	O	0	0
			1481	951	265	265		

- Molecule 56 is a protein called 40S ribosomal protein S8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	y	188	Total	C	N	O	S	0	0
			1489	925	298	264	2		

- Molecule 57 is a protein called 40S ribosomal protein S9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	z	185	Total	C	N	O	S	0	0
			1494	943	289	261	1		

- Molecule 58 is a protein called 40S ribosomal protein S10-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	AA	96	Total	C	N	O	S	0	0
			772	499	126	145	2		

- Molecule 59 is a protein called 40S ribosomal protein S11-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	AB	153	Total	C	N	O	S	0	0
			1220	780	231	206	3		

- Molecule 60 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	AC	124	Total	C	N	O	S	0	0
			890	560	156	172	2		

- Molecule 61 is a protein called 40S ribosomal protein S13.

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

- Molecule 62 is a protein called 40S ribosomal protein S14-B.

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

- Molecule 63 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	AF	124	Total	C	N	O	S	0	0
			977	622	182	166	7		

- Molecule 64 is a protein called 40S ribosomal protein S16-A.

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

- Molecule 65 is a protein called 40S ribosomal protein S17-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	AH	120	Total	C	N	O	S	0	0
			926	577	177	170	2		

- Molecule 66 is a protein called 40S ribosomal protein S18-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	AI	145	Total	C	N	O	S	0	0
			1192	743	237	210	2		

- Molecule 67 is a protein called 40S ribosomal protein S19-A.

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

- Molecule 68 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	AK	107	Total	C	N	O	S	0	0
			855	539	156	159	1		

- Molecule 69 is a protein called 40S ribosomal protein S21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	AL	87	Total	C	N	O	S	0	0
			684	420	125	137	2		

- Molecule 70 is a protein called 40S ribosomal protein S22-A.

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

- Molecule 71 is a protein called 40S ribosomal protein S23-A.

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

- Molecule 72 is a protein called 40S ribosomal protein S24-A.

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

- Molecule 73 is a protein called 40S ribosomal protein S25-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	AP	70	Total	C	N	O		0	0
			563	360	104	99			

- Molecule 74 is a protein called 40S ribosomal protein S26-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	AQ	97	Total	C	N	O	S	0	0
			769	475	160	129	5		

- Molecule 75 is a protein called 40S ribosomal protein S27-A.

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

- Molecule 76 is a protein called 40S ribosomal protein S28-A.

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

- Molecule 77 is a protein called 40S ribosomal protein S29-A.

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

- Molecule 78 is a protein called 40S ribosomal protein S30-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	AU	60	Total	C	N	O	S	0	0
			475	299	98	77	1		

- Molecule 79 is a protein called Guanine nucleotide-binding protein subunit beta-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	AV	318	Total	C	N	O	S	0	0
			2437	1541	418	470	8		

- Molecule 80 is a protein called Ubiquitin-40S ribosomal protein S31.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	AW	37	Total	C	N	O	S	0	0
			287	177	57	49	4		

- Molecule 81 is a RNA chain called Transfer RNA - Phe.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	AX	76	Total	C	N	O	P	0	0
			1626	725	293	532	76		

- Molecule 82 is a RNA chain called Messenger RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	AY	7	Total	C	N	O	P	0	0
			144	65	21	51	7		

- Molecule 83 is a protein called 60S ribosomal protein L1-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	BA	204	Total	C	N	O	S	0	0
			1609	1031	279	290	9		

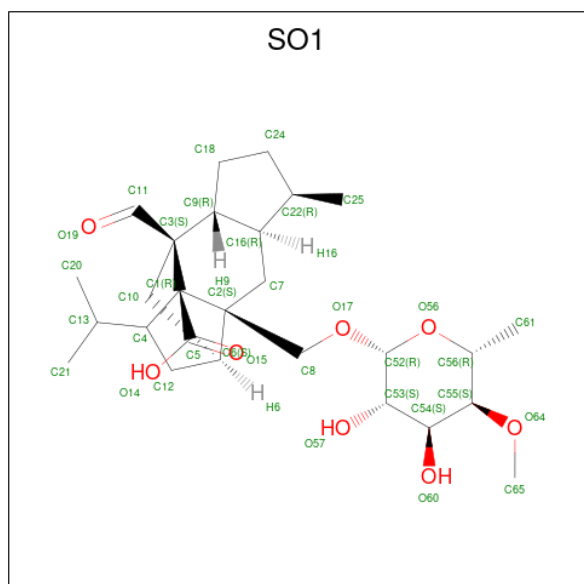
- Molecule 84 is a protein called Elongation factor 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
84	AZ	840	Total	C	N	O	S	0	0
			6551	4161	1124	1237	29		

- Molecule 85 is ZINC ION (CCD ID: ZN) (formula: Zn).

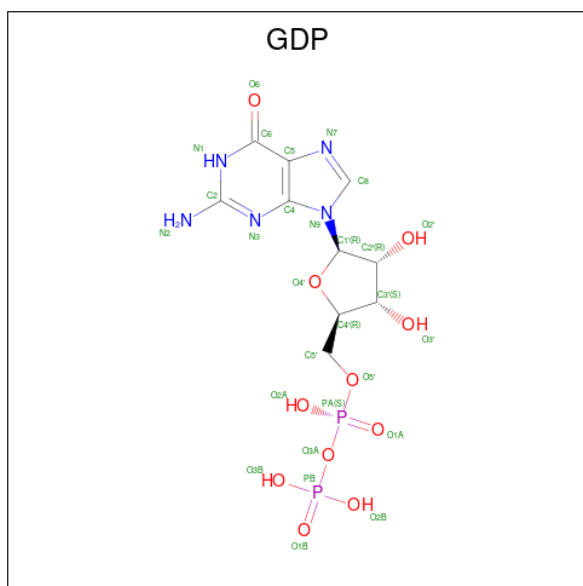
Mol	Chain	Residues	Atoms		AltConf
85	j	1	Total	Zn	0
			1	1	
85	m	1	Total	Zn	0
			1	1	
85	o	1	Total	Zn	0
			1	1	
85	p	1	Total	Zn	0
			1	1	
85	AQ	1	Total	Zn	0
			1	1	
85	AR	1	Total	Zn	0
			1	1	
85	AT	1	Total	Zn	0
			1	1	
85	AW	1	Total	Zn	0
			1	1	

- Molecule 86 is [1R-(1.ALPHA.,3A.BETA.,4.BETA.,4A.BETA.,7.BETA.,7A.ALPHA.,8A.BETA.)]8A-[(6-DEOXY-4-O-METHYL-BETA-D-ALTROPYRANOSYLOXY)METHYL]-4-FORMYL-4,4A,5,6,7,7A,8,8A-OCTAHYDRO-7-METHYL-3-(1-METHYLETHYL)-1,4-METHANO-S-INDACENE-3A(1H)-CARBOXYLIC ACID (CCD ID: SO1) (formula: C₂₇H₄₂O₈).



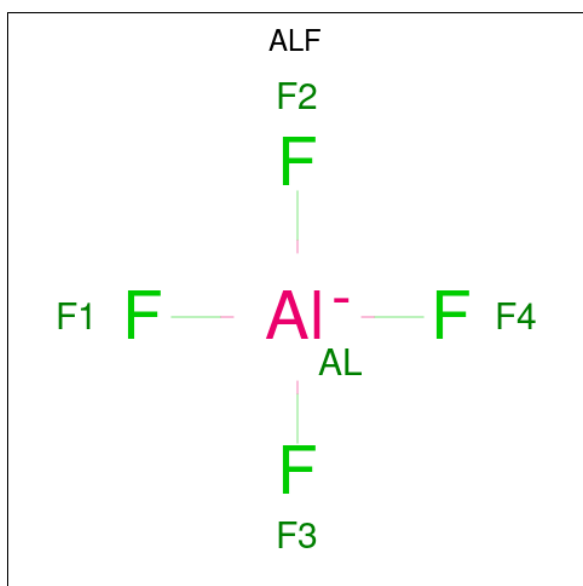
Mol	Chain	Residues	Atoms			AltConf
86	AZ	1	Total	C	O	0
			35	27	8	

- Molecule 87 is GUANOSINE-5'-DIPHOSPHATE (CCD ID: GDP) (formula: $C_{10}H_{15}N_5O_{11}P_2$).



Mol	Chain	Residues	Atoms					AltConf
87	AZ	1	Total	C	N	O	P	0
			28	10	5	11	2	

- Molecule 88 is TETRAFLUOROALUMINATE ION (CCD ID: ALF) (formula: AlF_4).

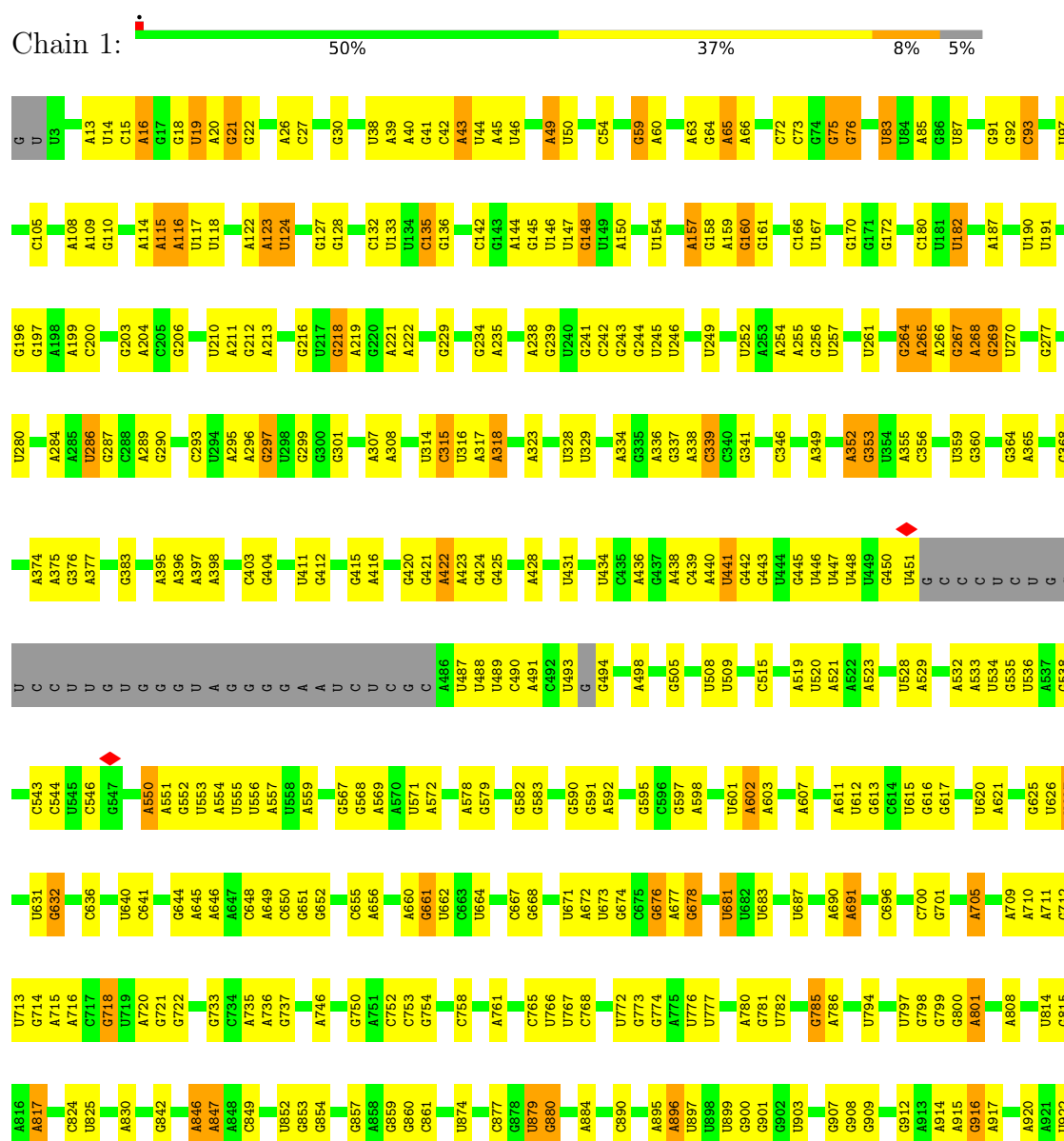


Mol	Chain	Residues	Atoms			AltConf
			Total	Al	F	
88	AZ	1	5	1	4	0

3 Residue-property plots

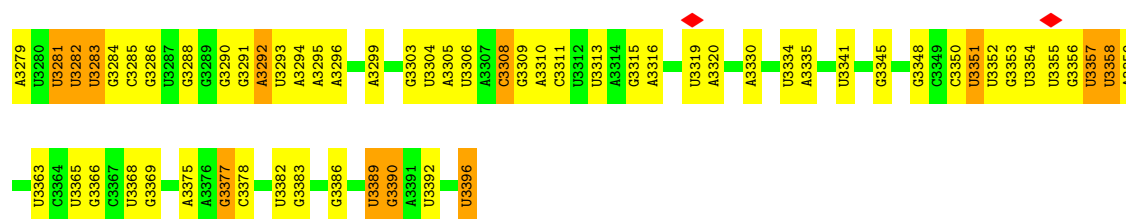
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

- Molecule 1: *Saccharomyces cerevisiae* S288C 35S pre-ribosomal RNA (RDN37-1), miscRNA

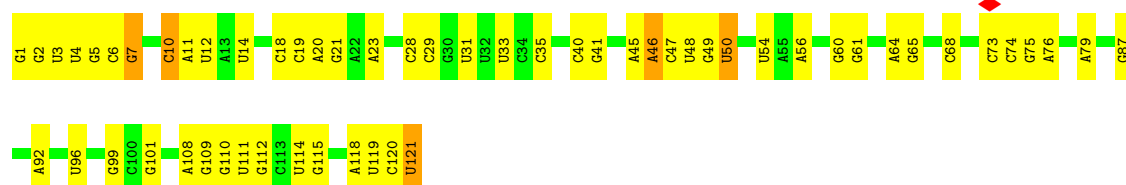


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U	A	A1850	G1766	A1667	G1586	A1506	G1408	C1333	G1261	A1260	U1111	C1023	A925
G	G	U1768	G1767	G1668	U1589	C1508	G1409	U1336	G1262	C1196	A1112	A1024	A926
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G	G	G1863	G1780	G1677	G1516	U1522	G1412	C1342	U1265	C1202	A1027	A1027	A933
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C	C	A1874	A1787	U1688	A1603	G1524	A1419	U1347	A1270	U1209	G1128	U1032	C938
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C	C	G1790	A1691	U1691	A1605	C1527	U1434	A1350	A1272	A1212	G1036	G1036	G941
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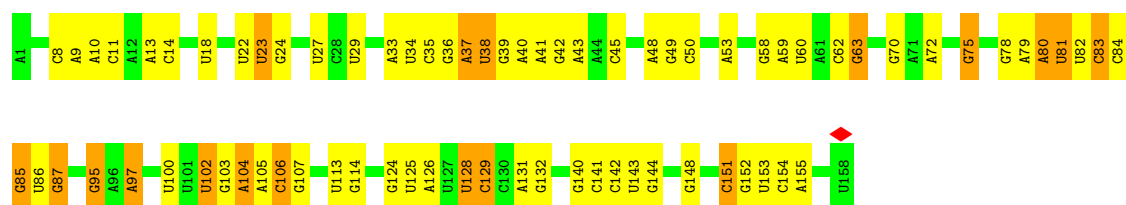
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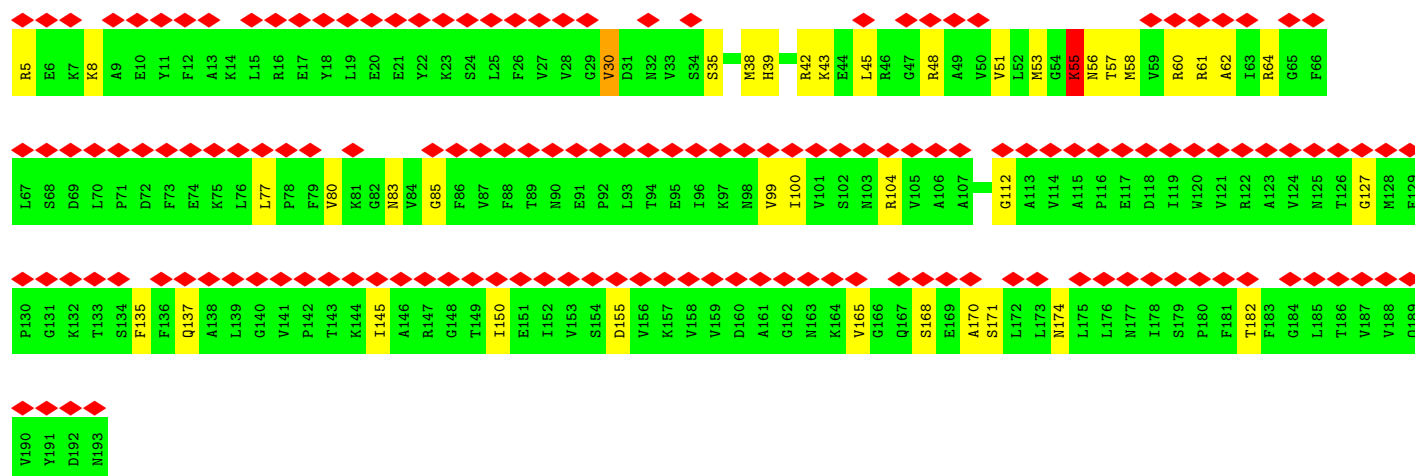
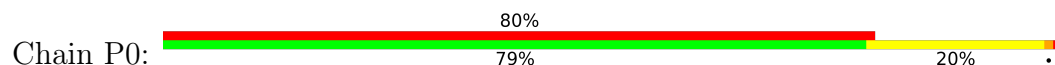
• Molecule 2: 5S ribosomal RNA



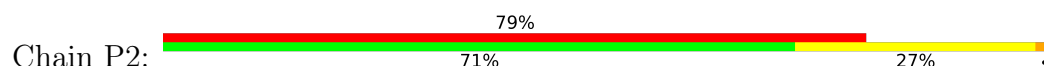
• Molecule 3: 5.8S ribosomal RNA

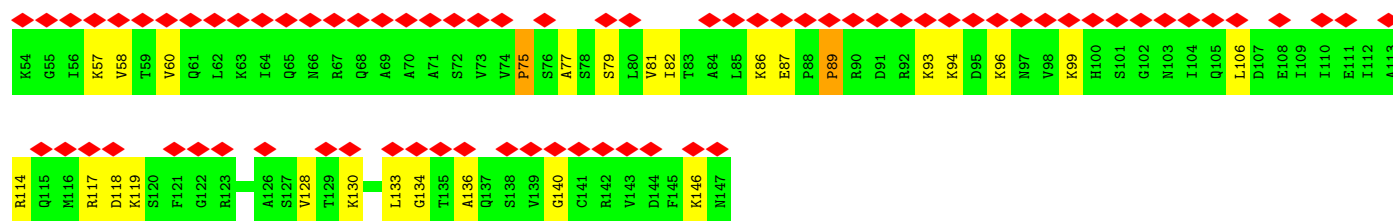


• Molecule 4: 60S acidic ribosomal protein P0

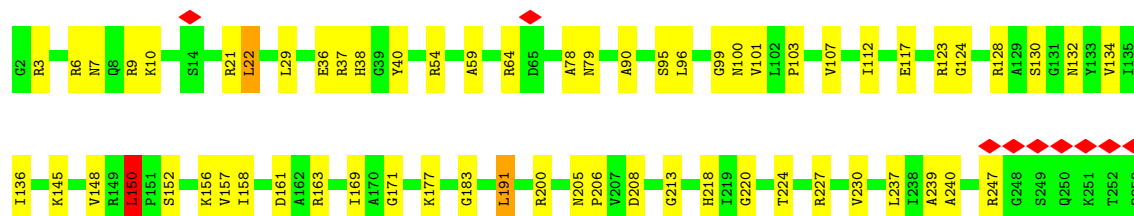
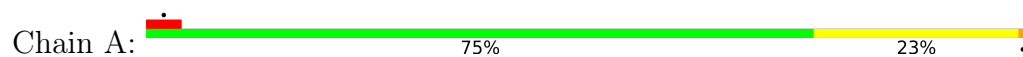


• Molecule 5: 60S ribosomal protein L12-A

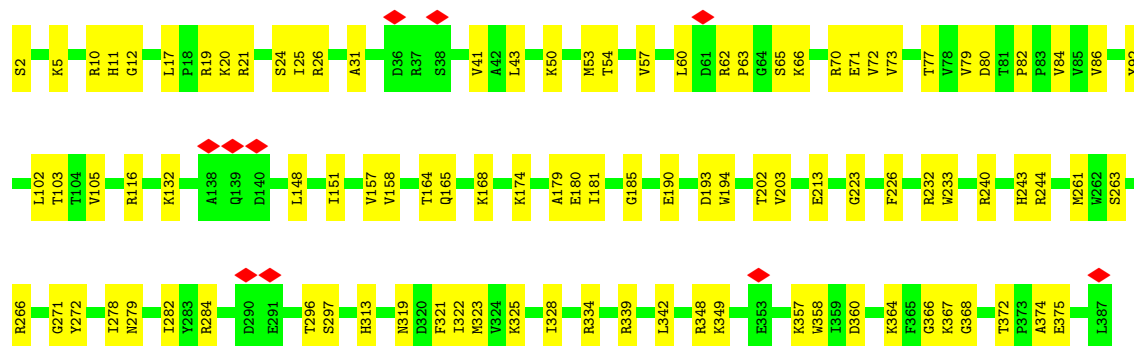
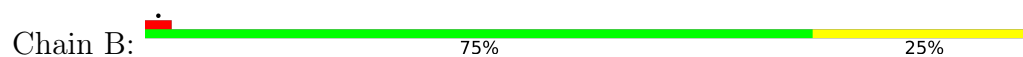




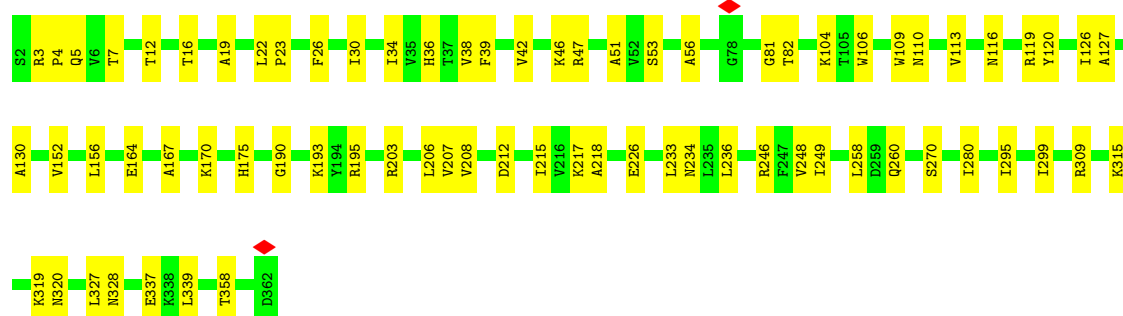
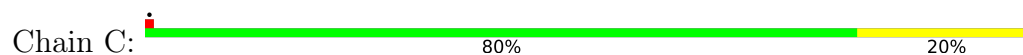
• Molecule 6: 60S ribosomal protein L2-A



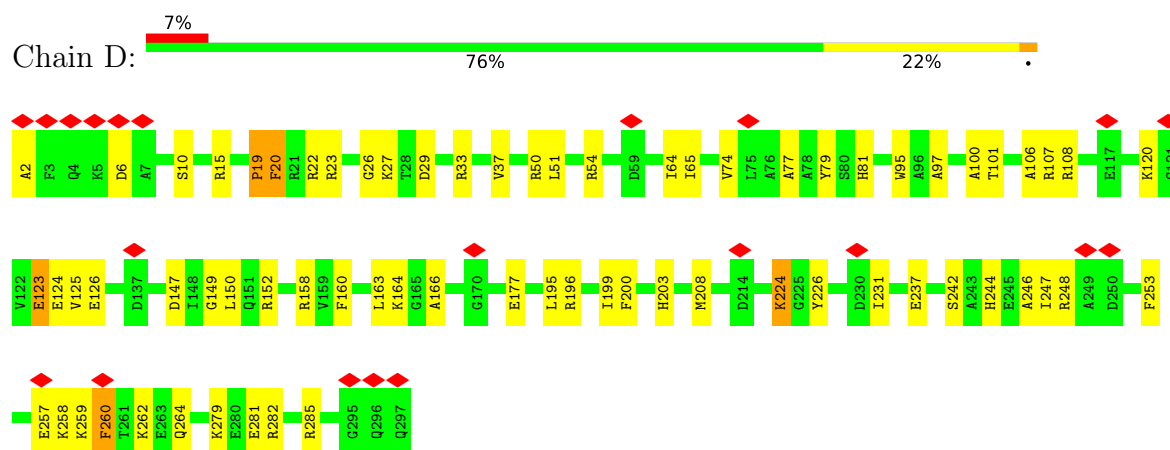
• Molecule 7: 60S ribosomal protein L3



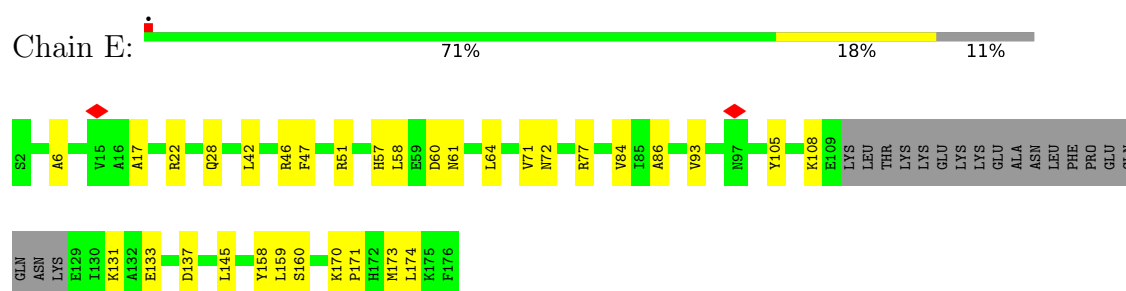
• Molecule 8: 60S ribosomal protein L4-A



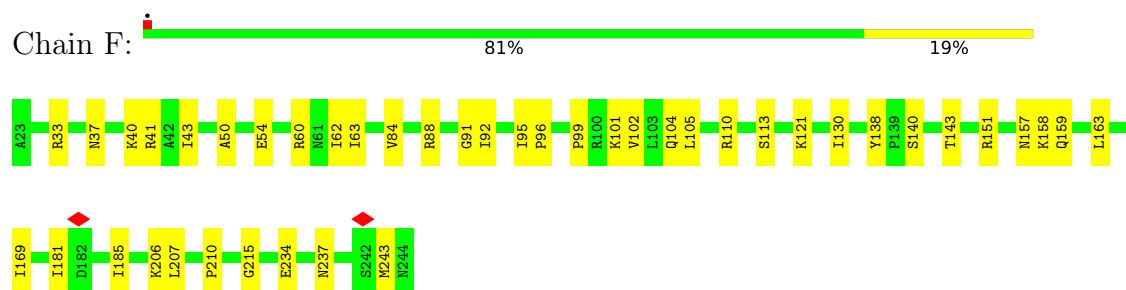
• Molecule 9: 60S ribosomal protein L5



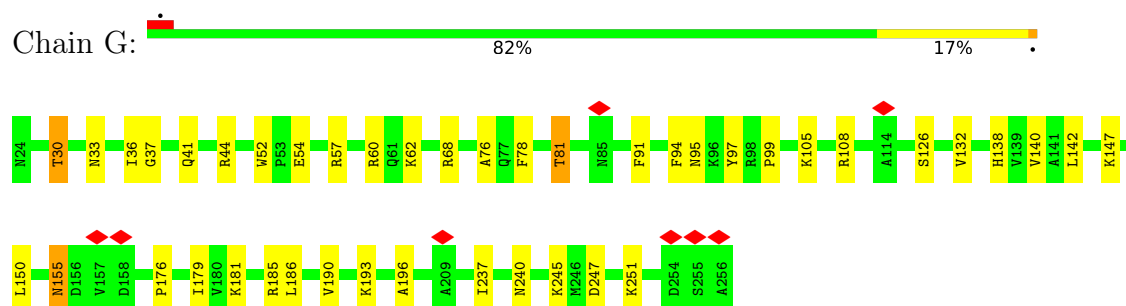
• Molecule 10: 60S ribosomal protein L6-A



• Molecule 11: 60S ribosomal protein L7-A

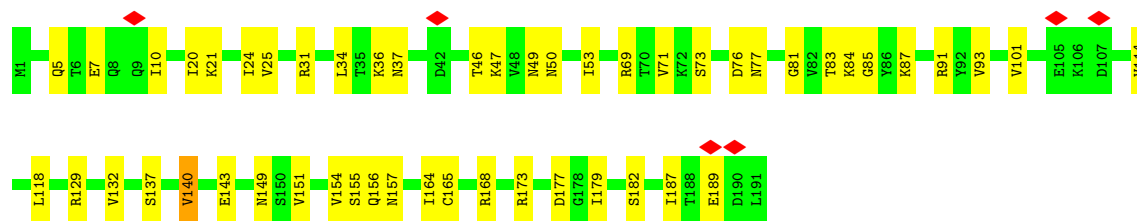


• Molecule 12: 60S ribosomal protein L8-A

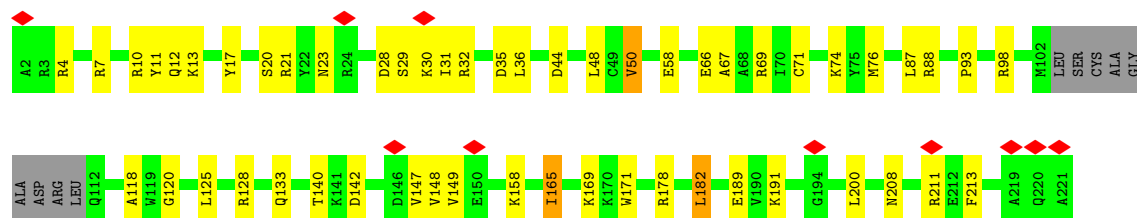


• Molecule 13: 60S ribosomal protein L9-A

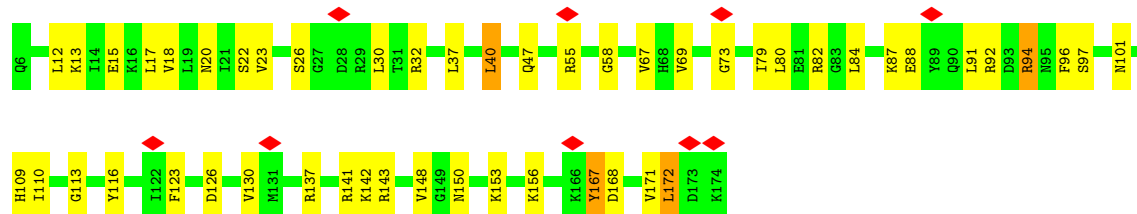




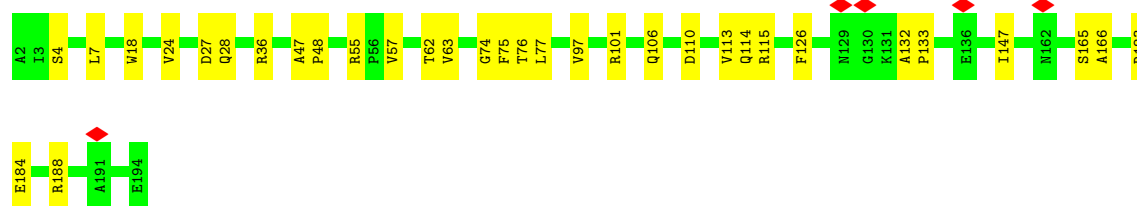
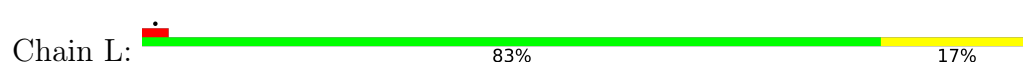
• Molecule 14: 60S ribosomal protein L10



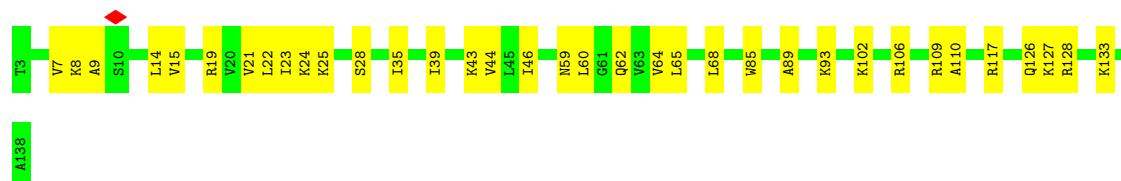
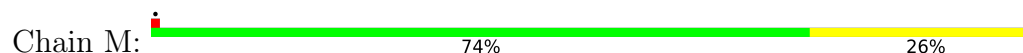
• Molecule 15: 60S ribosomal protein L11-B



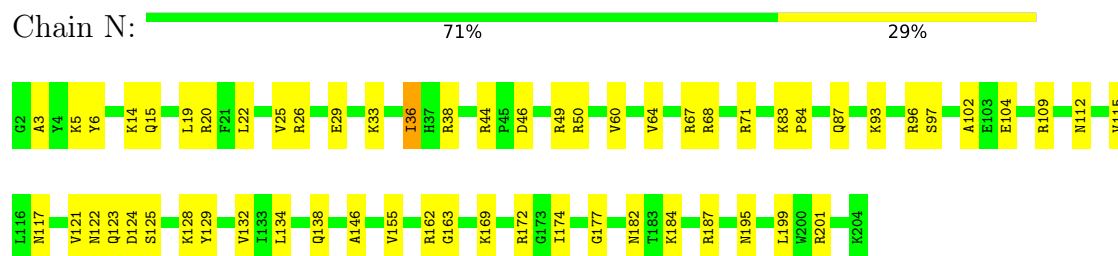
• Molecule 16: 60S ribosomal protein L13-A



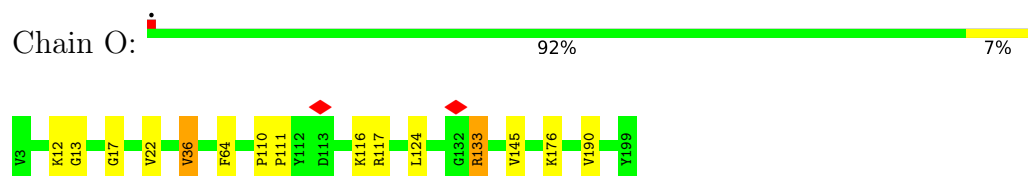
• Molecule 17: 60S ribosomal protein L14-A



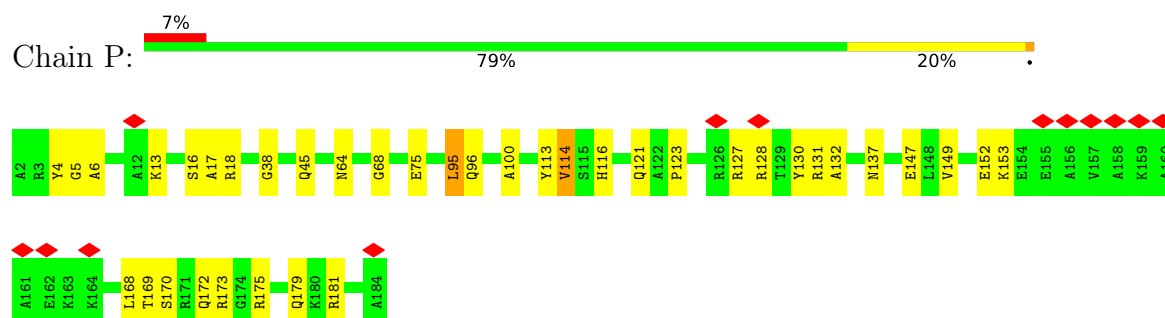
- Molecule 18: 60S ribosomal protein L15-A



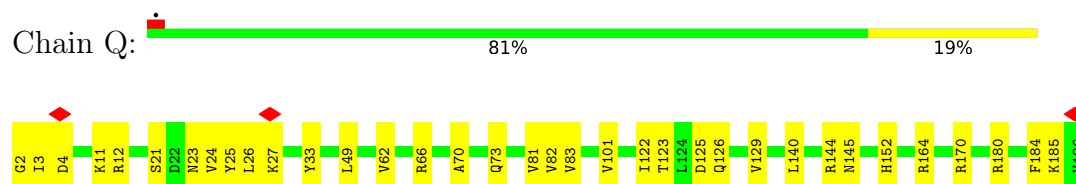
- Molecule 19: 60S ribosomal protein L16-A



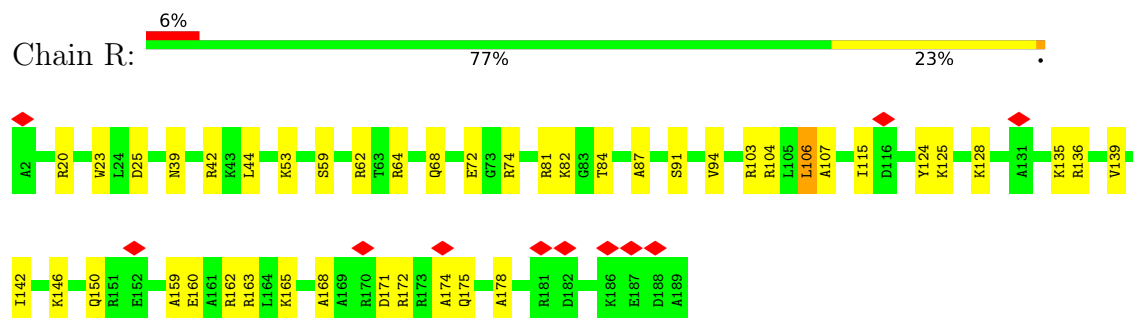
- Molecule 20: 60S ribosomal protein L17-A



- Molecule 21: 60S ribosomal protein L18-A

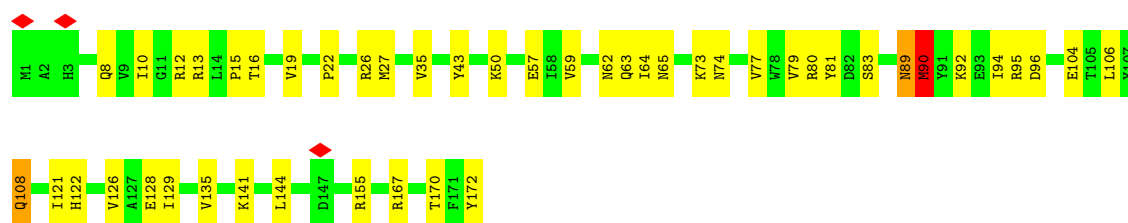


- Molecule 22: 60S ribosomal protein L19-A



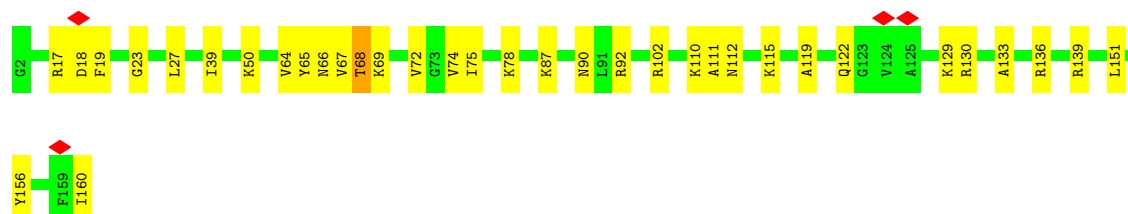
- Molecule 23: 60S ribosomal protein L20-A

Chain S:  73% 26%



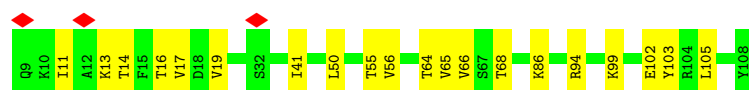
- Molecule 24: 60S ribosomal protein L21-A

Chain T:  78% 21%



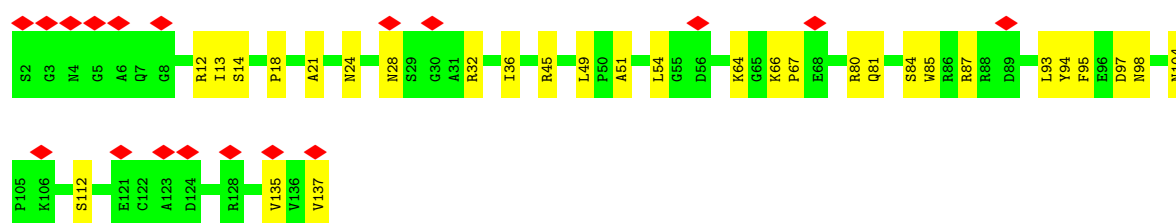
- Molecule 25: 60S ribosomal protein L22-A

Chain U:  80% 20%



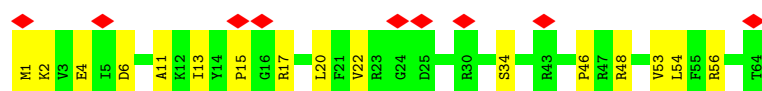
- Molecule 26: 60S ribosomal protein L23-A

Chain V:  13% 78% 22%



- Molecule 27: 60S ribosomal protein L24-A

Chain W:  14% 75% 25%



- Molecule 28: 60S ribosomal protein L25

Chain X:  5% 87% 13%



- Molecule 29: 60S ribosomal protein L26-A

Chain Y: 79% 21%



- Molecule 30: 60S ribosomal protein L27-A

Chain Z: 81% 18%



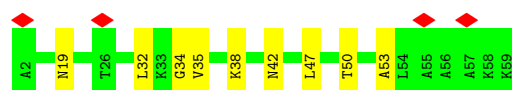
- Molecule 31: 60S ribosomal protein L28

Chain a: 77% 21%



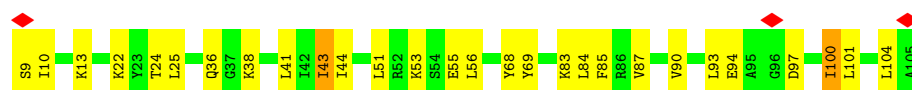
- Molecule 32: 60S ribosomal protein L29

Chain b: 7% 84% 16%



- Molecule 33: 60S ribosomal protein L30

Chain c: 71% 27%

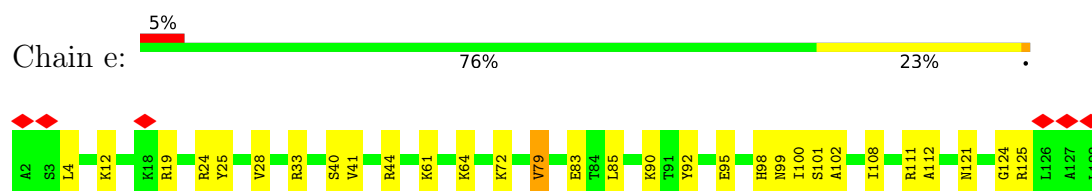


- Molecule 34: 60S ribosomal protein L31-A

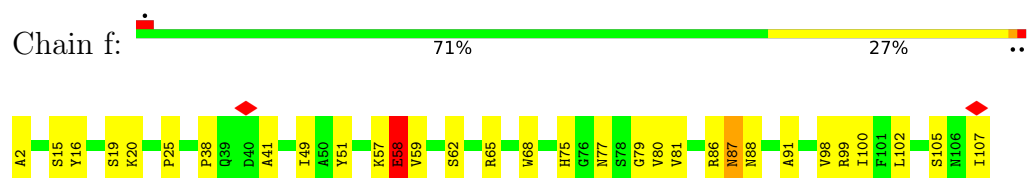
Chain d: 8% 77% 23%



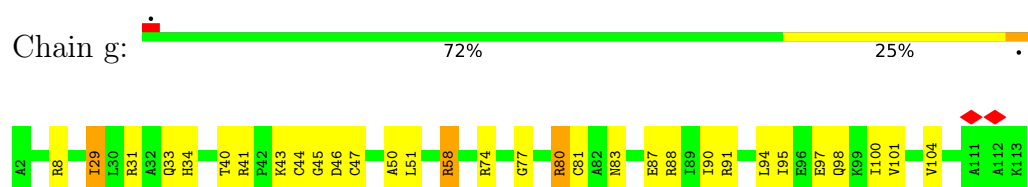
- Molecule 35: 60S ribosomal protein L32



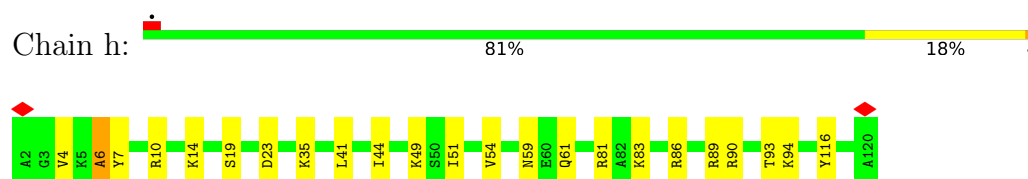
- Molecule 36: 60S ribosomal protein L33-A



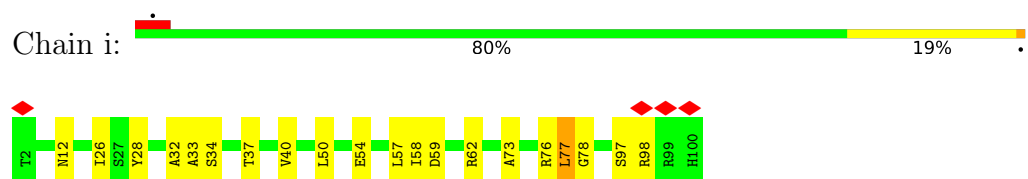
- Molecule 37: 60S ribosomal protein L34-A



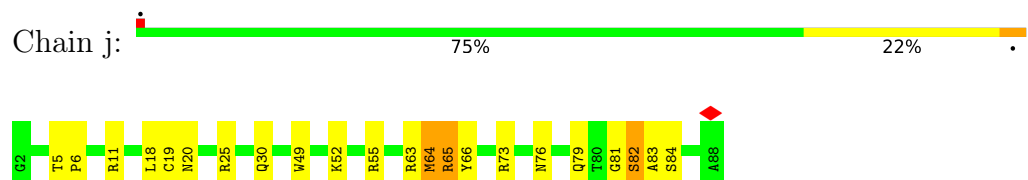
- Molecule 38: 60S ribosomal protein L35-A



- Molecule 39: 60S ribosomal protein L36-A

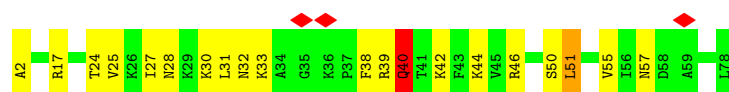


- Molecule 40: 60S ribosomal protein L37-A

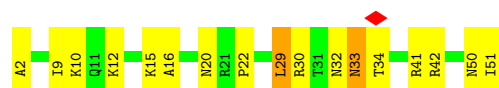


- Molecule 41: 60S ribosomal protein L38

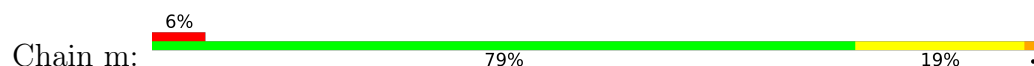




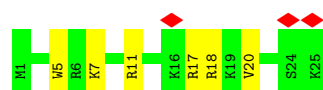
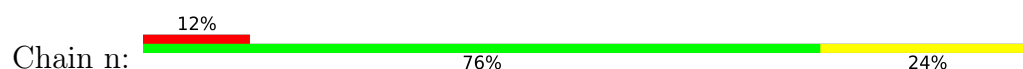
- Molecule 42: 60S ribosomal protein L39



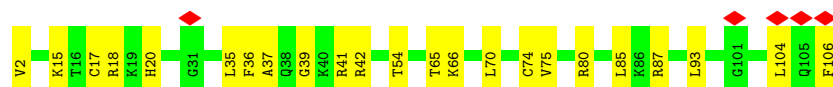
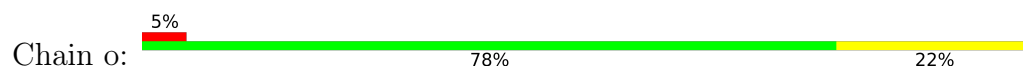
- Molecule 43: Ubiquitin-60S ribosomal protein L40



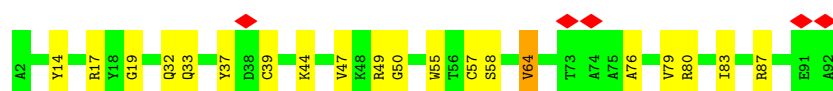
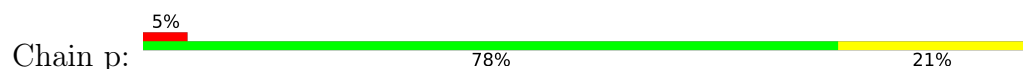
- Molecule 44: 60S ribosomal protein L41-B



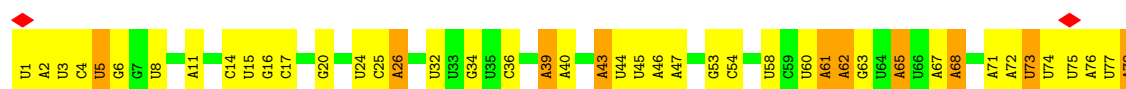
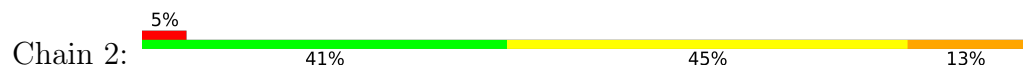
- Molecule 45: 60S ribosomal protein L42-A

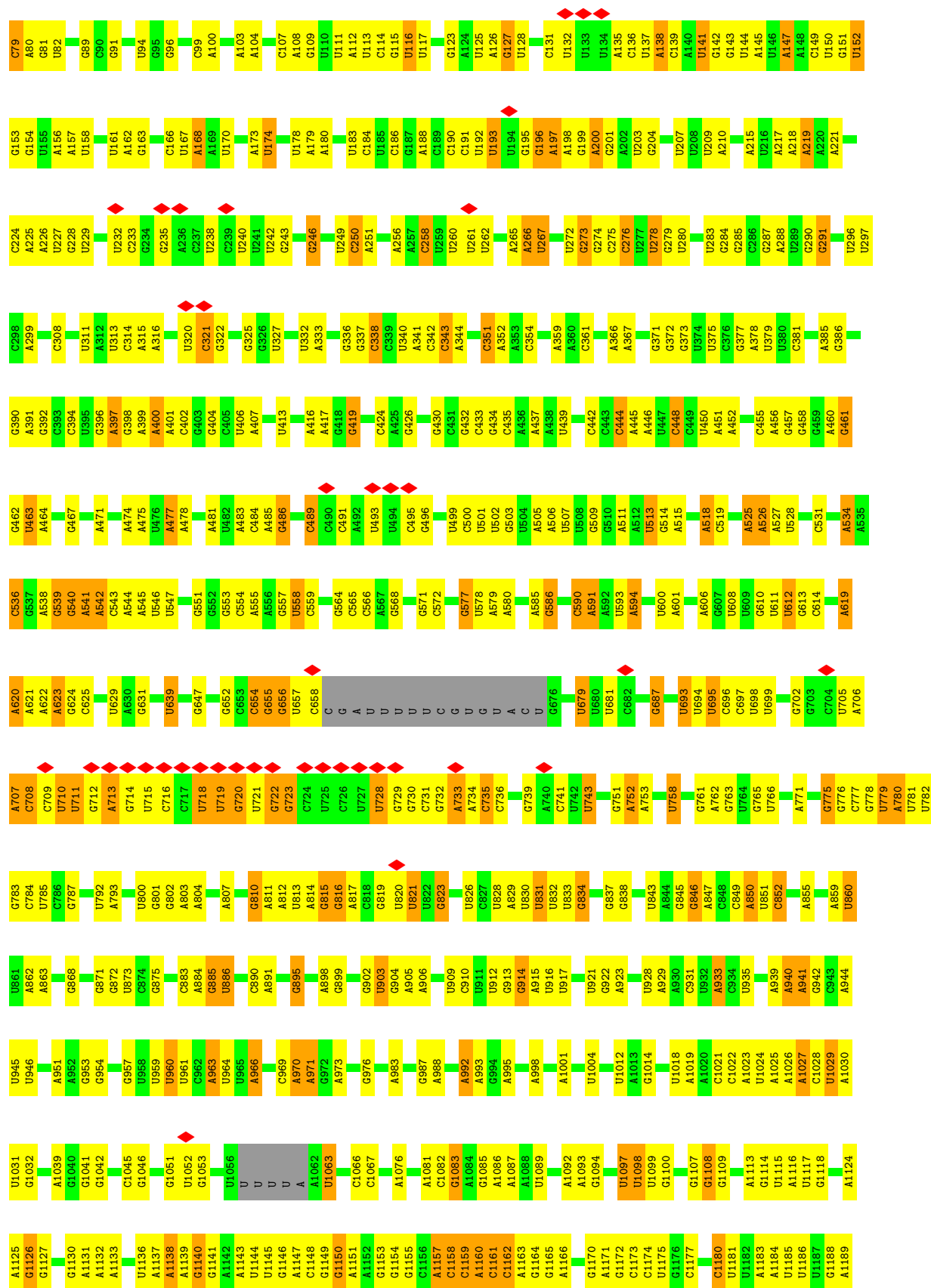


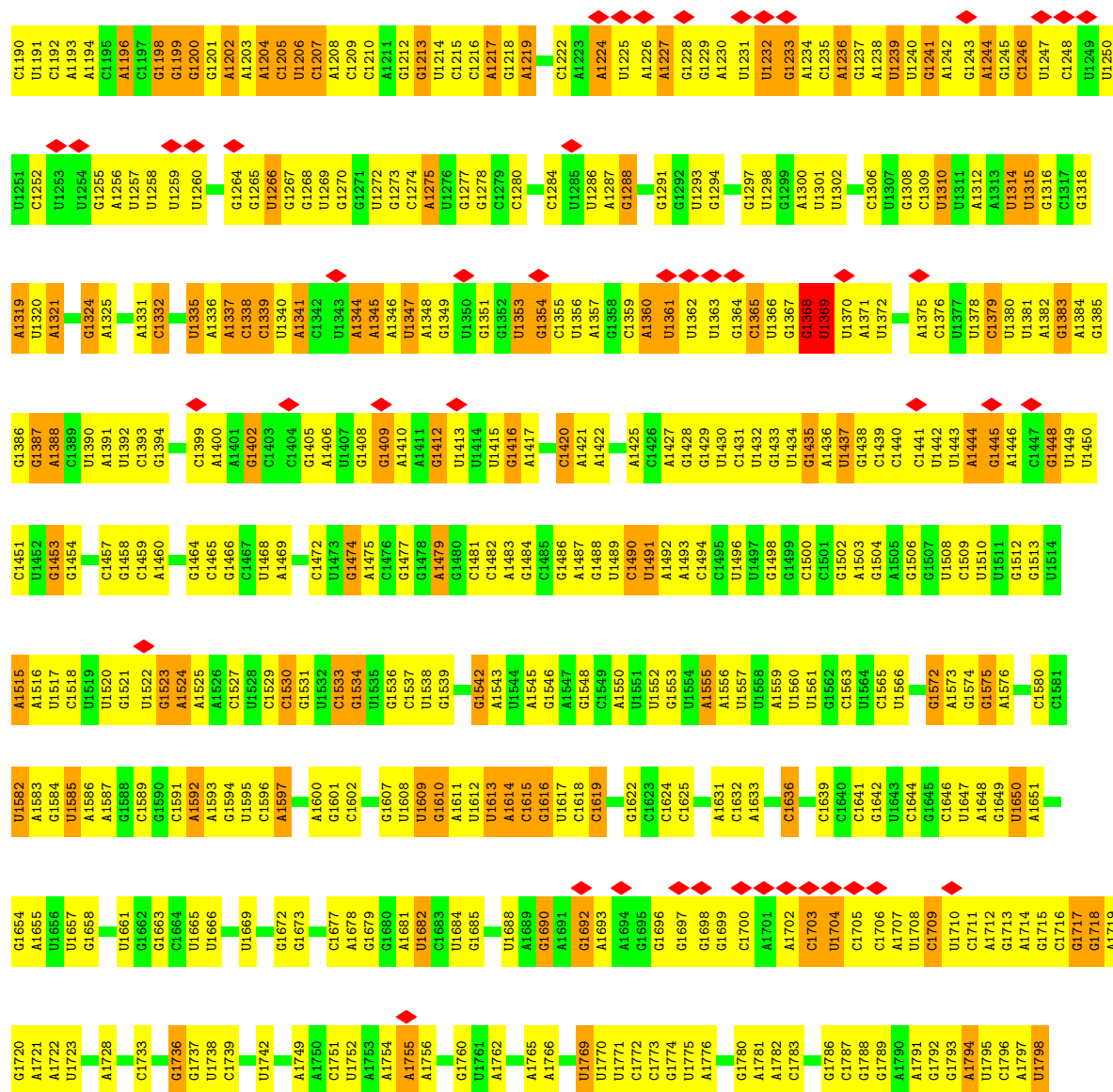
- Molecule 46: 60S ribosomal protein L43-A



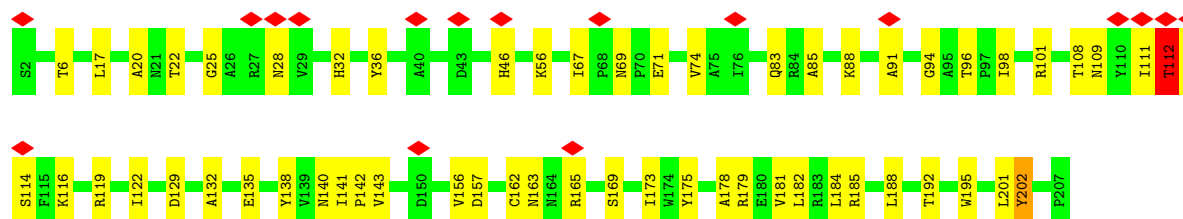
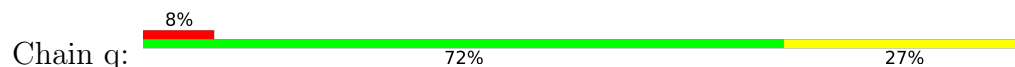
- Molecule 47: 18S ribosomal RNA





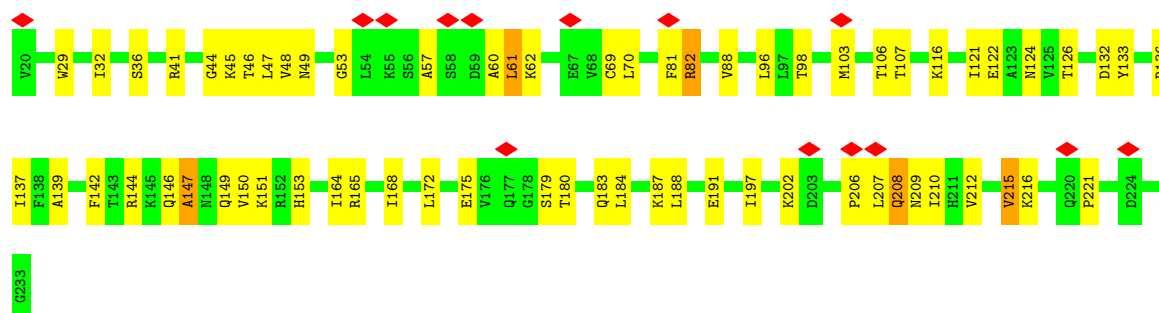


• Molecule 48: 40S ribosomal protein S0-A

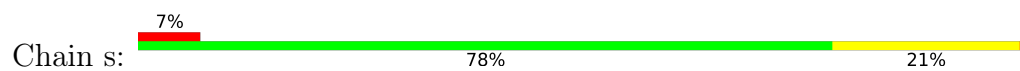


• Molecule 49: 40S ribosomal protein S1-A

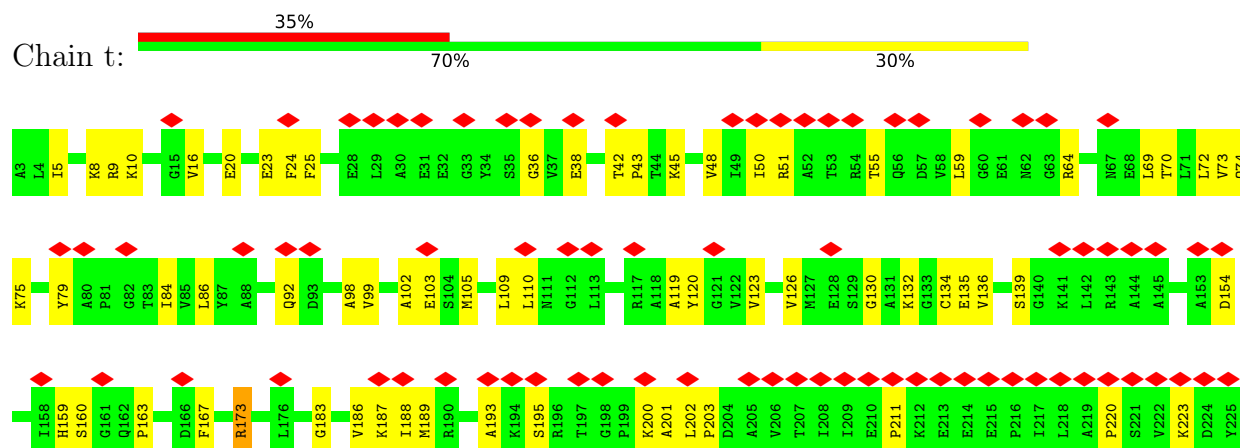




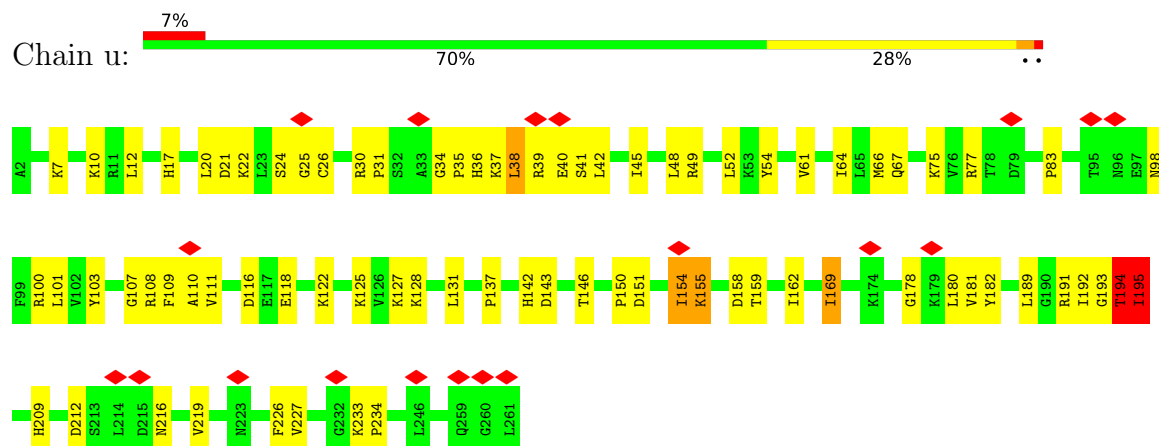
- Molecule 50: 40S ribosomal protein S2



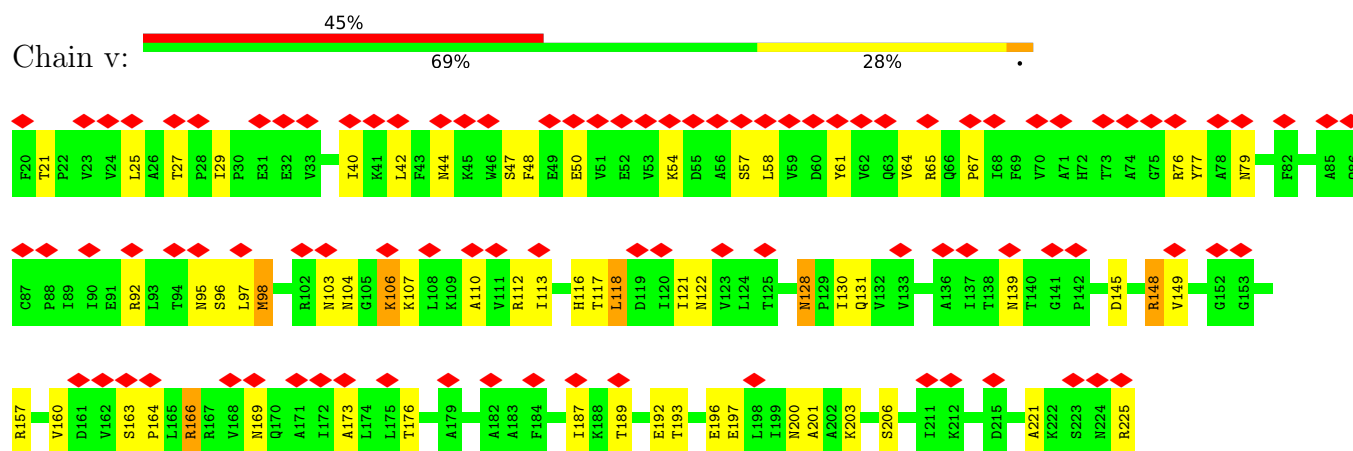
- Molecule 51: 40S ribosomal protein S3



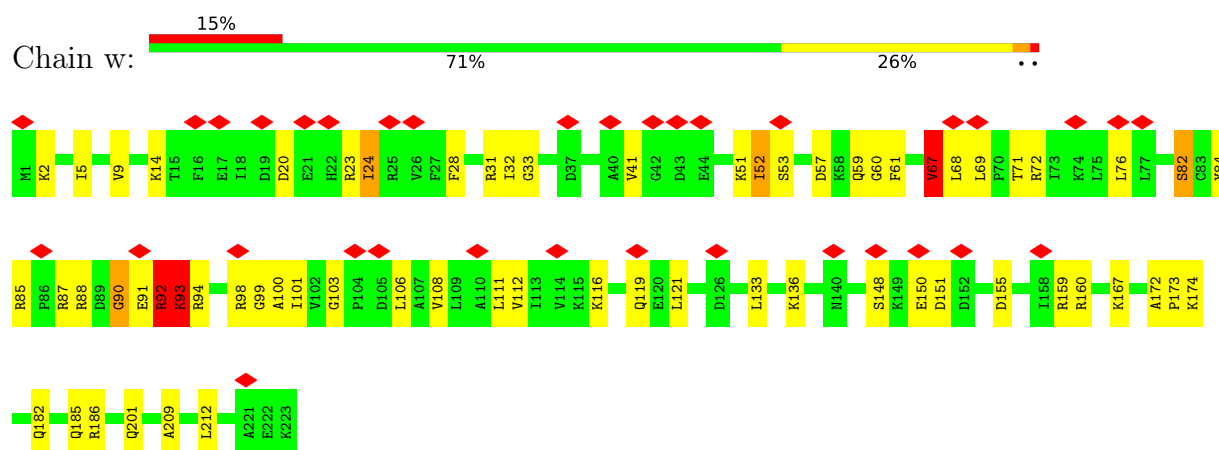
- Molecule 52: 40S ribosomal protein S4-A



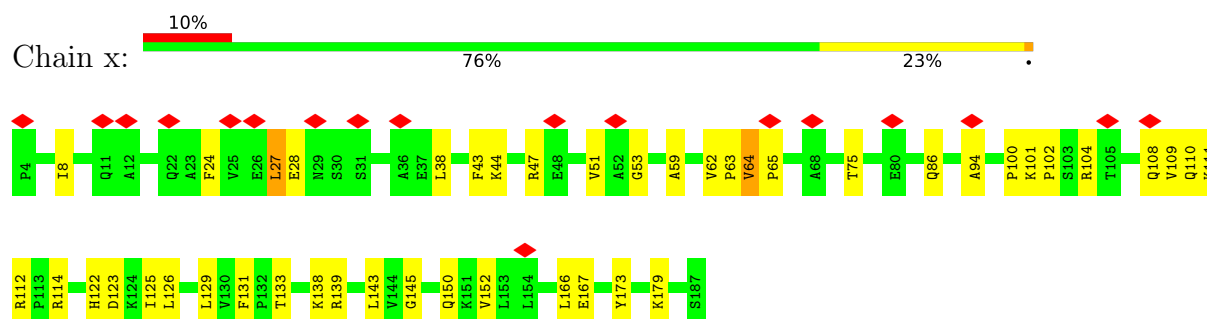
- Molecule 53: 40S ribosomal protein S5



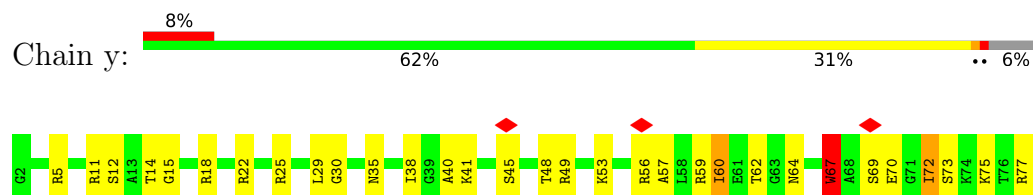
- Molecule 54: 40S ribosomal protein S6-A

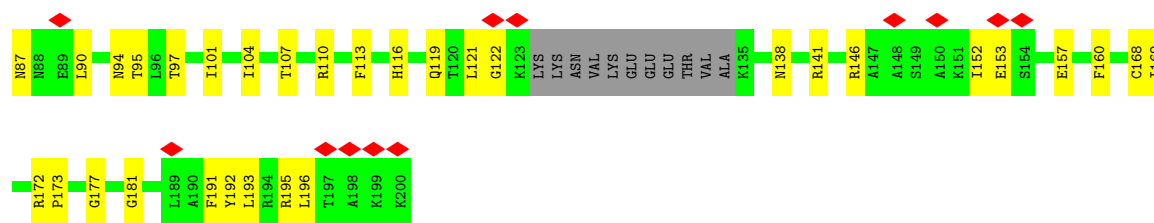


- Molecule 55: 40S ribosomal protein S7-A

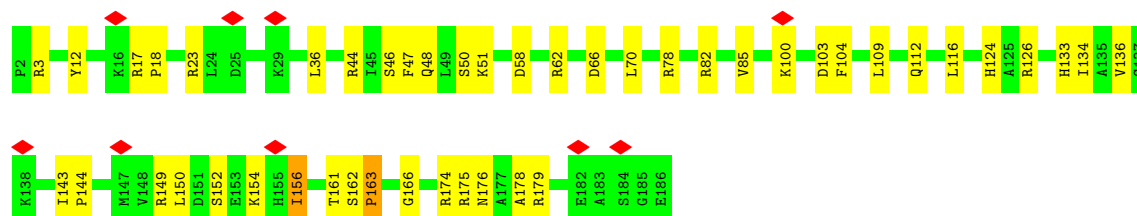
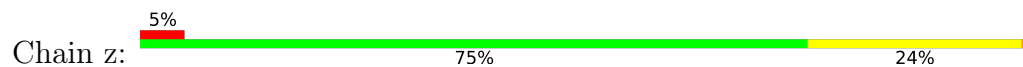


- Molecule 56: 40S ribosomal protein S8-A

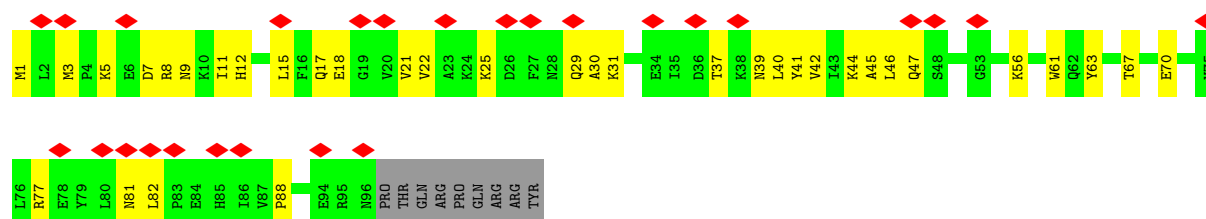




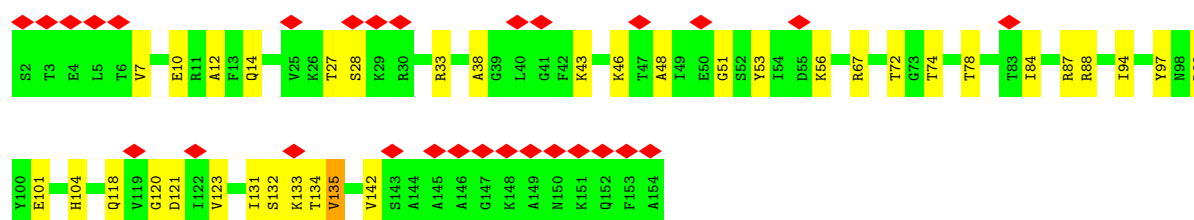
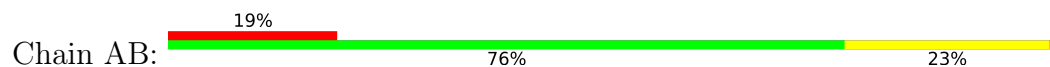
• Molecule 57: 40S ribosomal protein S9-A



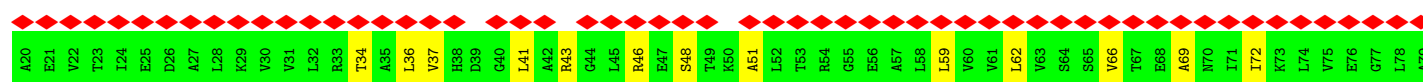
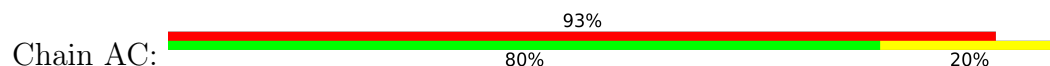
• Molecule 58: 40S ribosomal protein S10-A

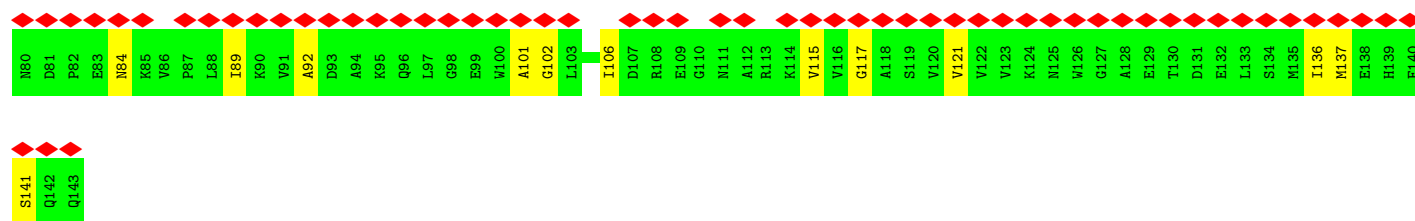


• Molecule 59: 40S ribosomal protein S11-A



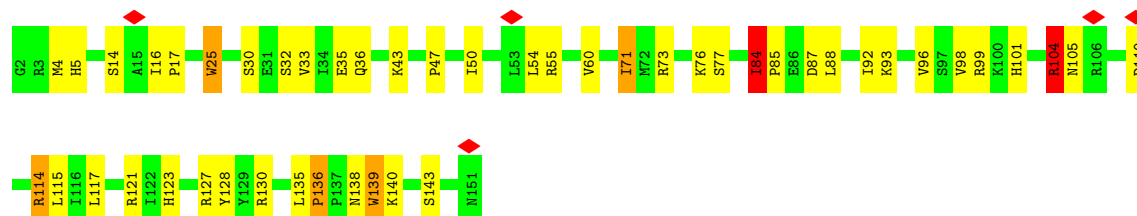
• Molecule 60: 40S ribosomal protein S12





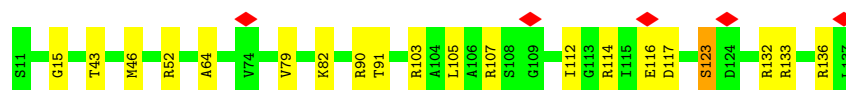
- Molecule 61: 40S ribosomal protein S13

Chain AD: 68% 27%



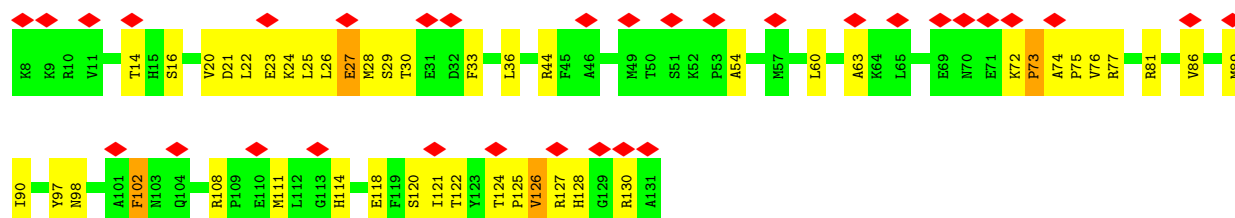
- Molecule 62: 40S ribosomal protein S14-B

Chain AE: 84% 15%



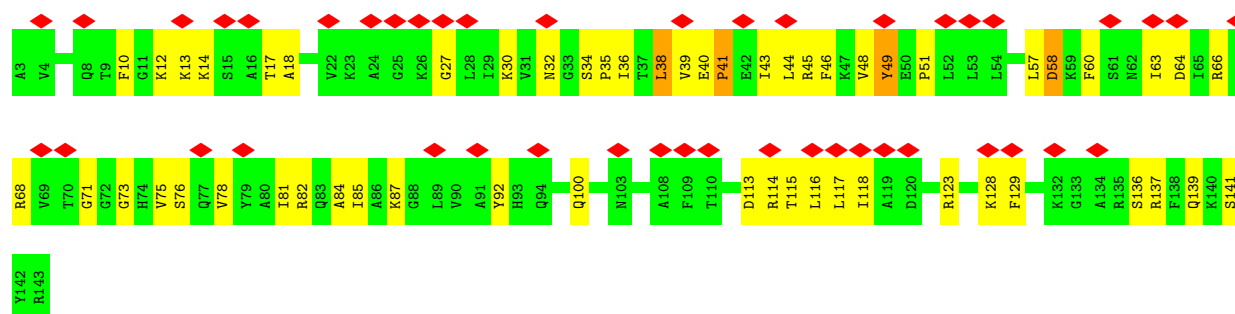
- Molecule 63: 40S ribosomal protein S15

Chain AF: 26% 64% 33%

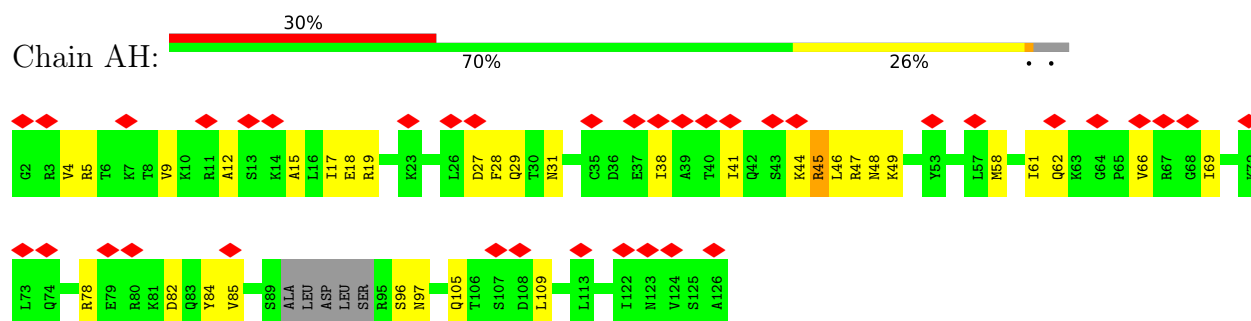


- Molecule 64: 40S ribosomal protein S16-A

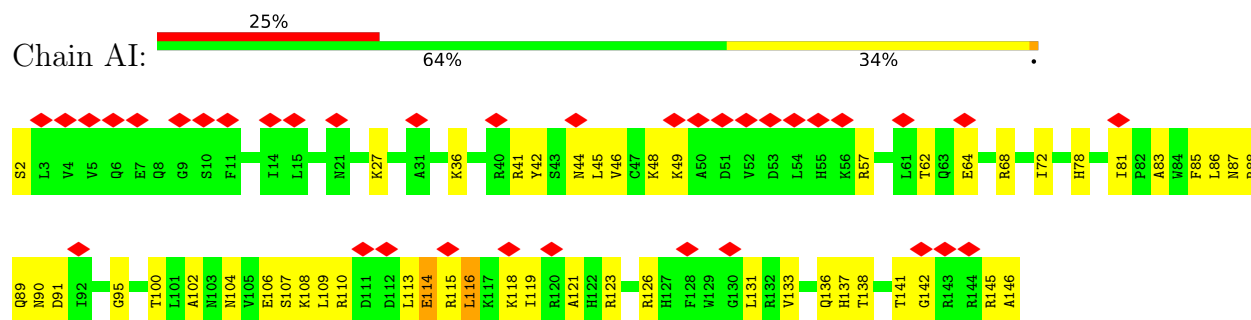
Chain AG: 31% 61% 36%



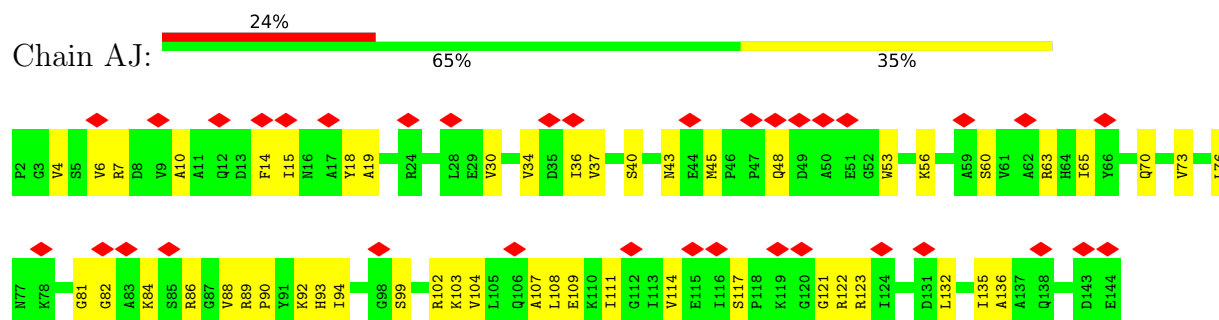
- Molecule 65: 40S ribosomal protein S17-B



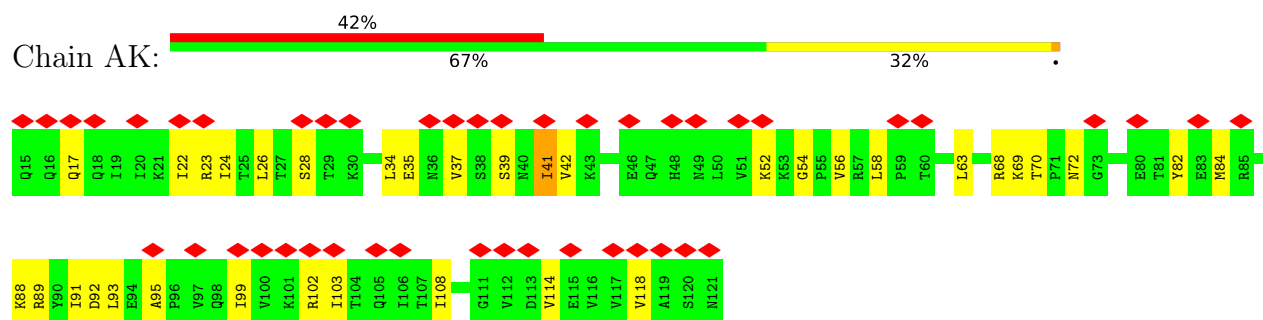
- Molecule 66: 40S ribosomal protein S18-A



- Molecule 67: 40S ribosomal protein S19-A

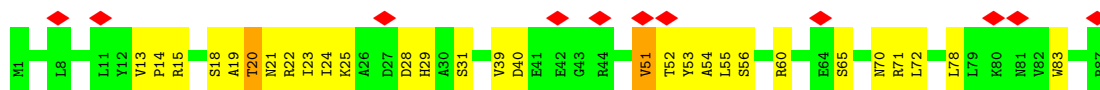


- Molecule 68: 40S ribosomal protein S20

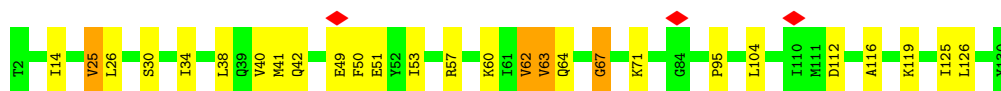
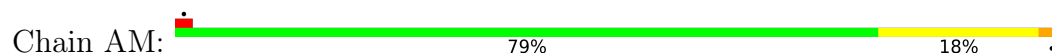


- Molecule 69: 40S ribosomal protein S21-A

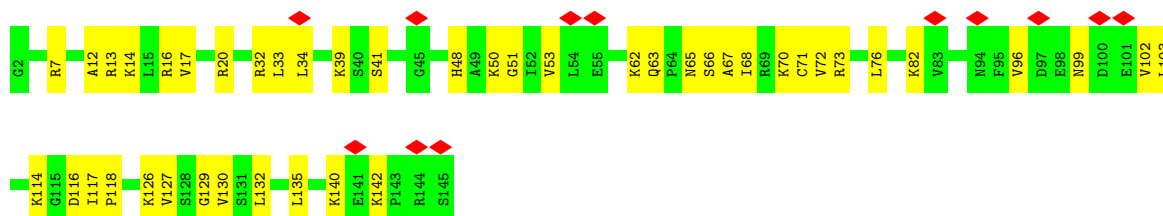




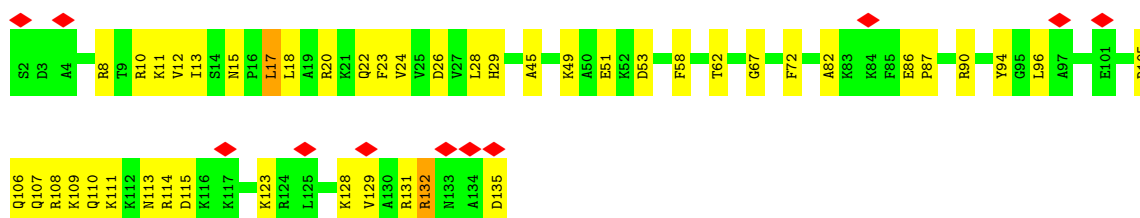
- Molecule 70: 40S ribosomal protein S22-A



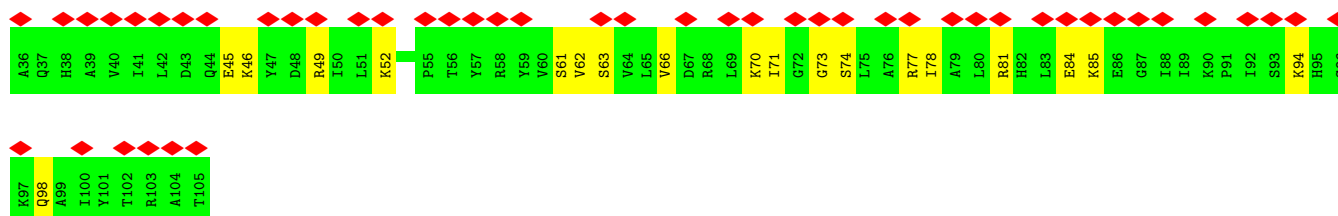
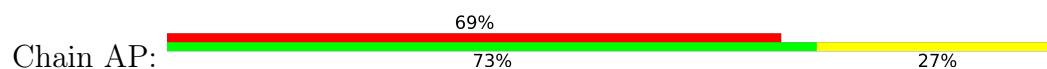
- Molecule 71: 40S ribosomal protein S23-A



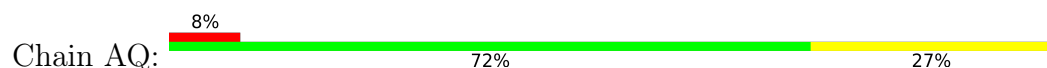
- Molecule 72: 40S ribosomal protein S24-A

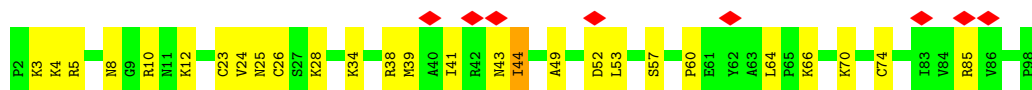


- Molecule 73: 40S ribosomal protein S25-A

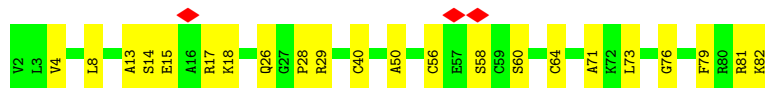
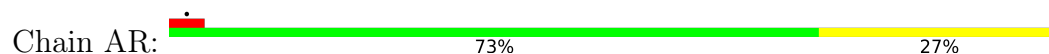


- Molecule 74: 40S ribosomal protein S26-B

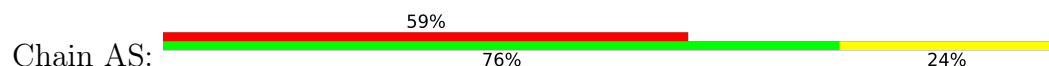




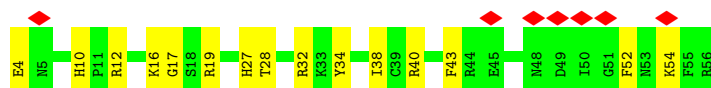
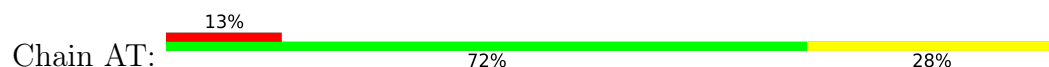
- Molecule 75: 40S ribosomal protein S27-A



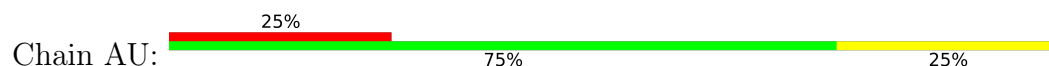
- Molecule 76: 40S ribosomal protein S28-A



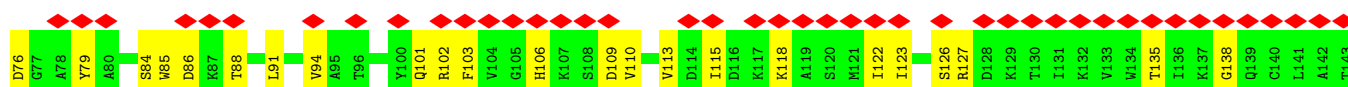
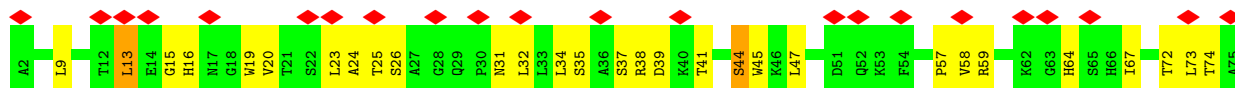
- Molecule 77: 40S ribosomal protein S29-A

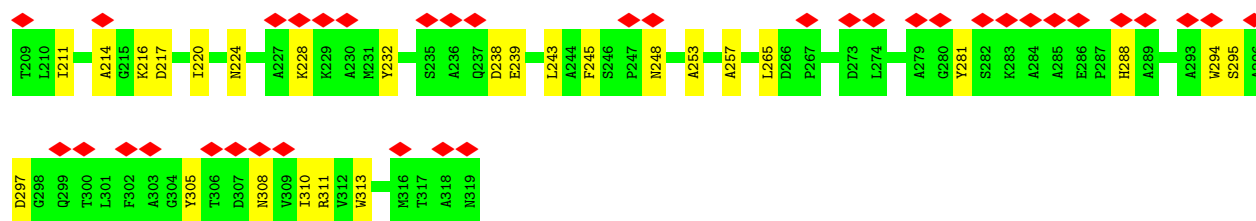


- Molecule 78: 40S ribosomal protein S30-A

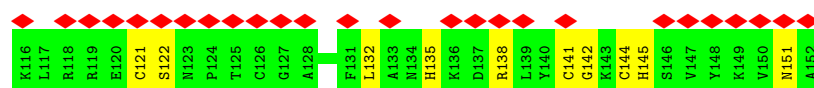
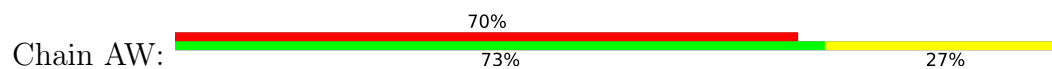


- Molecule 79: Guanine nucleotide-binding protein subunit beta-like protein

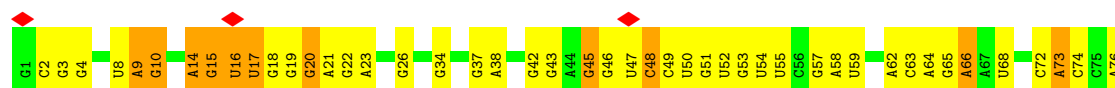




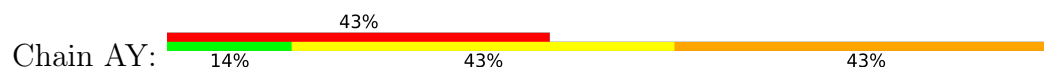
- Molecule 80: Ubiquitin-40S ribosomal protein S31



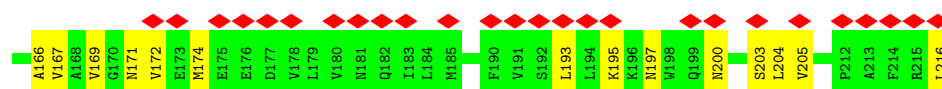
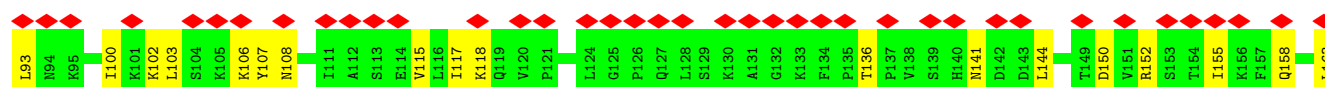
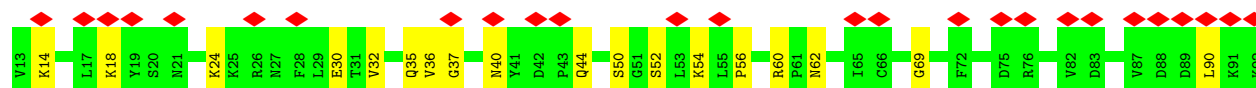
- Molecule 81: Transfer RNA - Phe



- Molecule 82: Messenger RNA



- Molecule 83: 60S ribosomal protein L1-A



- Molecule 84: Elongation factor 2





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	77200	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	60	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON II (4k x 4k)	Depositor
Maximum map value	0.358	Depositor
Minimum map value	-0.193	Depositor
Average map value	0.003	Depositor
Map value standard deviation	0.018	Depositor
Recommended contour level	0.05	Depositor
Map size ($\text{\AA}$)	396.0, 396.0, 396.0	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.1, 1.1, 1.1	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: ALF, DDE, ZN, SO1, GDP

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	1	0.34	0/77157	0.48	2/120295 (0.0%)
2	3	0.28	0/2883	0.43	0/4491
3	4	0.34	0/3746	0.47	0/5832
4	P0	0.29	0/1498	0.72	2/2025 (0.1%)
5	P2	0.33	0/728	0.83	0/975
6	A	0.40	1/1948 (0.1%)	0.69	0/2617
7	B	0.34	0/3146	0.70	0/4228
8	C	0.34	0/2800	0.74	4/3790 (0.1%)
9	D	0.33	0/2425	0.76	2/3271 (0.1%)
10	E	0.26	0/1260	0.60	0/1694
11	F	0.38	0/1821	0.77	1/2451 (0.0%)
12	G	0.32	0/1836	0.78	0/2481
13	H	0.33	0/1539	0.74	2/2073 (0.1%)
14	I	0.32	0/1741	0.68	0/2335
15	J	0.31	0/1374	0.84	2/1842 (0.1%)
16	L	0.33	0/1568	0.77	2/2106 (0.1%)
17	M	0.30	0/1068	0.64	0/1438
18	N	0.40	0/1757	0.78	0/2354
19	O	0.36	0/1585	0.77	1/2128 (0.0%)
20	P	0.37	0/1443	0.65	0/1944
21	Q	0.32	0/1465	0.68	0/1965
22	R	0.32	0/1538	0.66	0/2050
23	S	0.33	0/1481	0.70	0/1990
24	T	0.32	0/1300	0.70	3/1743 (0.2%)
25	U	0.28	0/812	0.66	0/1099
26	V	0.37	0/1018	0.72	0/1369
27	W	0.33	0/540	0.63	0/717
28	X	0.34	0/979	0.70	0/1321
29	Y	0.31	0/1004	0.63	0/1341
30	Z	0.36	0/1118	0.72	0/1497
31	a	0.36	0/1204	0.81	2/1612 (0.1%)
32	b	0.29	0/473	0.60	0/629

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	c	0.33	0/751	0.70	0/1008
34	d	0.36	0/897	0.82	3/1205 (0.2%)
35	e	0.33	0/1041	0.71	0/1394
36	f	0.38	0/868	0.76	2/1168 (0.2%)
37	g	0.39	0/890	0.71	1/1189 (0.1%)
38	h	0.32	0/978	0.79	0/1301
39	i	0.32	0/778	0.79	0/1034
40	j	0.36	0/696	0.81	0/923
41	k	0.34	0/618	0.88	0/826
42	l	0.42	0/443	1.06	6/588 (1.0%)
43	m	0.31	0/423	0.69	0/562
44	n	0.32	0/234	0.79	0/300
45	o	0.30	0/860	0.77	1/1136 (0.1%)
46	p	0.36	0/701	0.72	0/934
47	2	0.29	0/42328	0.49	6/65955 (0.0%)
48	q	0.34	0/1617	0.91	2/2215 (0.1%)
49	r	0.38	0/1735	0.88	3/2335 (0.1%)
50	s	0.34	0/1665	0.81	0/2263
51	t	0.31	0/1759	0.83	3/2368 (0.1%)
52	u	0.34	0/2109	0.92	4/2839 (0.1%)
53	v	0.32	0/1629	0.92	4/2202 (0.2%)
54	w	0.32	0/1814	0.98	10/2425 (0.4%)
55	x	0.32	0/1506	0.91	6/2028 (0.3%)
56	y	0.38	1/1514 (0.1%)	0.95	6/2021 (0.3%)
57	z	0.34	0/1519	0.89	0/2035
58	AA	0.30	0/789	0.93	3/1067 (0.3%)
59	AB	0.33	0/1247	0.81	2/1681 (0.1%)
60	AC	0.31	0/898	0.79	2/1220 (0.2%)
61	AD	0.42	1/1215 (0.1%)	0.95	4/1638 (0.2%)
62	AE	0.30	0/901	0.77	0/1217
63	AF	0.32	0/998	0.85	0/1341
64	AG	0.30	0/1125	0.84	2/1510 (0.1%)
65	AH	0.32	0/935	0.85	0/1254
66	AI	0.30	0/1211	0.84	2/1628 (0.1%)
67	AJ	0.30	0/1130	0.82	1/1517 (0.1%)
68	AK	0.29	0/865	0.80	1/1169 (0.1%)
69	AL	0.39	0/693	1.05	4/935 (0.4%)
70	AM	0.36	0/1038	0.81	0/1395
71	AN	0.35	0/1139	0.84	2/1518 (0.1%)
72	AO	0.30	0/1087	0.71	0/1449
73	AP	0.31	0/571	0.88	2/768 (0.3%)
74	AQ	0.39	0/782	0.94	0/1047
75	AR	0.30	0/620	0.90	2/838 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
76	AS	0.33	0/499	0.87	0/670
77	AT	0.30	0/452	0.81	0/600
78	AU	0.29	0/483	0.78	0/643
79	AV	0.33	0/2490	0.83	5/3389 (0.1%)
80	AW	0.35	0/292	0.78	0/390
81	AX	0.24	0/1818	0.47	0/2831
82	AY	0.33	0/159	0.71	0/244
83	BA	0.27	0/1634	0.68	0/2195
84	AZ	0.43	2/6655 (0.0%)	0.97	22/9009 (0.2%)
All	All	0.33	5/227354 (0.0%)	0.63	134/333120 (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
4	P0	0	1
5	P2	0	4
6	A	0	1
7	B	0	3
8	C	0	1
9	D	0	5
10	E	0	1
11	F	0	2
12	G	0	3
13	H	0	4
15	J	0	4
16	L	0	2
18	N	0	3
19	O	0	6
20	P	0	2
21	Q	0	1
23	S	0	4
26	V	0	1
30	Z	0	1
31	a	0	2
33	c	0	2
36	f	0	2
37	g	0	2
38	h	0	2
39	i	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
40	j	0	3
41	k	0	2
44	n	0	1
45	o	0	2
48	q	0	3
49	r	0	4
50	s	0	1
51	t	0	1
52	u	0	6
53	v	0	8
54	w	0	8
55	x	0	2
56	y	0	2
57	z	0	3
58	AA	0	2
61	AD	0	7
62	AE	0	1
63	AF	0	4
64	AG	0	6
66	AI	0	3
68	AK	0	1
70	AM	0	1
71	AN	0	2
72	AO	0	1
74	AQ	0	2
76	AS	0	1
78	AU	0	1
79	AV	0	2
83	BA	0	1
84	AZ	0	29
All	All	0	170

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	y	107	THR	C-N	6.46	1.39	1.33
6	A	150	LEU	C-N	5.89	1.39	1.34
84	AZ	642	GLY	C-N	-5.81	1.28	1.33
61	AD	136	PRO	CA-C	5.67	1.55	1.52
84	AZ	690	ASP	CA-CB	5.54	1.60	1.52

All (134) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	d	36	ILE	N-CA-C	-8.57	104.39	112.96
84	AZ	835	TRP	CA-C-N	8.41	137.59	121.54
84	AZ	835	TRP	C-N-CA	8.41	137.59	121.54
84	AZ	130	ASP	N-CA-C	8.10	122.98	110.42
31	a	47	LYS	CA-C-N	7.31	135.51	121.54
31	a	47	LYS	C-N-CA	7.31	135.51	121.54
69	AL	51	VAL	N-CA-C	7.24	118.87	110.62
9	D	258	LYS	N-CA-C	7.14	121.24	111.17
55	x	64	VAL	CA-C-N	-7.12	110.94	119.84
55	x	64	VAL	C-N-CA	-7.12	110.94	119.84
51	t	73	VAL	N-CA-C	-7.06	105.47	112.17
15	J	13	LYS	N-CA-C	6.99	120.51	110.10
71	AN	34	LEU	N-CA-C	-6.88	105.16	113.97
55	x	133	THR	CA-C-N	6.88	134.68	121.54
55	x	133	THR	C-N-CA	6.88	134.68	121.54
84	AZ	645	LEU	CA-CB-CG	6.79	140.05	116.30
58	AA	88	PRO	N-CA-CB	6.72	110.31	103.25
34	d	86	LYS	CA-C-N	6.62	137.96	121.80
34	d	86	LYS	C-N-CA	6.62	137.96	121.80
15	J	168	ASP	N-CA-C	6.53	120.17	111.30
54	w	90	GLY	CA-C-N	6.53	133.45	121.70
54	w	90	GLY	C-N-CA	6.53	133.45	121.70
61	AD	136	PRO	O-C-N	6.37	124.14	121.15
73	AP	52	LYS	CA-C-N	6.33	133.63	121.54
73	AP	52	LYS	C-N-CA	6.33	133.63	121.54
84	AZ	721	ASP	CA-C-N	6.24	127.64	119.84
84	AZ	721	ASP	C-N-CA	6.24	127.64	119.84
49	r	147	ALA	CA-C-N	6.22	133.43	121.54
49	r	147	ALA	C-N-CA	6.22	133.43	121.54
68	AK	41	ILE	N-CA-C	-6.21	106.87	111.90
84	AZ	510	ARG	N-CA-C	-6.15	104.48	112.23
47	2	1368	G	C2'-C3'-O3'	6.13	122.89	113.70
84	AZ	609	ARG	CA-CB-CG	6.11	126.32	114.10
53	v	58	LEU	CA-CB-CG	6.08	137.58	116.30
53	v	98	MET	N-CA-C	6.04	118.67	107.99
84	AZ	149	GLU	CA-C-N	6.02	132.53	121.70
84	AZ	149	GLU	C-N-CA	6.02	132.53	121.70
48	q	6	THR	CA-C-N	5.99	130.28	120.63
48	q	6	THR	C-N-CA	5.99	130.28	120.63
54	w	67	VAL	CA-C-N	5.99	132.97	121.54
54	w	67	VAL	C-N-CA	5.99	132.97	121.54
52	u	194	THR	CA-C-N	5.97	132.72	121.97
52	u	194	THR	C-N-CA	5.97	132.72	121.97

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	2	1369	U	C2'-C3'-O3'	-5.95	104.78	113.70
56	y	119	GLN	CA-C-N	5.93	132.37	121.70
56	y	119	GLN	C-N-CA	5.93	132.37	121.70
84	AZ	247	ASP	CA-C-N	5.87	132.27	121.70
84	AZ	247	ASP	C-N-CA	5.87	132.27	121.70
54	w	150	GLU	N-CA-C	-5.87	104.28	113.02
61	AD	104	ARG	CA-C-N	5.87	132.74	121.54
61	AD	104	ARG	C-N-CA	5.87	132.74	121.54
84	AZ	760	ARG	N-CA-C	-5.86	102.69	110.07
37	g	98	GLN	N-CA-C	-5.75	106.91	114.04
53	v	106	LYS	CA-CB-CG	5.69	125.49	114.10
13	H	189	GLU	CA-C-N	5.62	136.06	125.66
13	H	189	GLU	C-N-CA	5.62	136.06	125.66
60	AC	92	ALA	CA-C-N	5.61	130.78	122.82
60	AC	92	ALA	C-N-CA	5.61	130.78	122.82
54	w	82	SER	N-CA-C	5.60	117.85	111.02
61	AD	110	ASP	N-CA-C	-5.59	104.35	113.19
84	AZ	568	GLU	CA-CB-CG	5.58	125.27	114.10
53	v	118	LEU	N-CA-C	-5.54	105.83	112.59
79	AV	149	ASP	CA-C-N	5.52	132.09	121.54
79	AV	149	ASP	C-N-CA	5.52	132.09	121.54
59	AB	43	LYS	CA-C-N	5.52	135.26	121.80
59	AB	43	LYS	C-N-CA	5.52	135.26	121.80
36	f	58	GLU	CA-C-N	5.49	131.84	121.97
36	f	58	GLU	C-N-CA	5.49	131.84	121.97
54	w	167	LYS	CA-C-N	5.42	131.88	121.54
54	w	167	LYS	C-N-CA	5.42	131.88	121.54
71	AN	130	VAL	N-CA-C	-5.41	107.45	112.43
84	AZ	547	HIS	CA-C-N	5.39	131.84	121.54
84	AZ	547	HIS	C-N-CA	5.39	131.84	121.54
58	AA	25	LYS	CA-C-N	5.36	130.16	122.23
58	AA	25	LYS	C-N-CA	5.36	130.16	122.23
4	P0	55	LYS	CA-C-N	5.34	131.75	121.54
4	P0	55	LYS	C-N-CA	5.34	131.75	121.54
84	AZ	705	ILE	CA-C-N	5.34	124.60	120.33
84	AZ	705	ILE	C-N-CA	5.34	124.60	120.33
66	AI	62	THR	CA-C-N	5.32	127.66	120.38
66	AI	62	THR	C-N-CA	5.32	127.66	120.38
54	w	41	VAL	N-CA-C	-5.31	104.27	110.05
9	D	244	HIS	N-CA-C	-5.30	106.71	114.39
11	F	158	LYS	N-CA-C	5.29	122.07	110.80
47	2	779	U	P-O3'-C3'	5.29	128.13	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	T	18	ASP	CA-C-N	5.27	129.16	121.31
24	T	18	ASP	C-N-CA	5.27	129.16	121.31
47	2	1491	U	P-O3'-C3'	5.25	128.08	120.20
49	r	82	ARG	CA-CB-CG	5.25	124.59	114.10
79	AV	164	ASP	CA-C-N	5.22	131.51	121.54
79	AV	164	ASP	C-N-CA	5.22	131.51	121.54
47	2	1338	C	P-O3'-C3'	5.21	128.02	120.20
24	T	19	PHE	N-CA-C	5.21	117.64	110.35
54	w	100	ALA	N-CA-C	5.20	116.70	109.31
69	AL	78	LEU	CA-CB-CG	5.20	134.51	116.30
84	AZ	326	LYS	CA-C-N	5.20	131.47	121.54
84	AZ	326	LYS	C-N-CA	5.20	131.47	121.54
52	u	108	ARG	CA-C-N	-5.20	114.49	121.71
52	u	108	ARG	C-N-CA	-5.20	114.49	121.71
19	O	36	VAL	N-CA-C	-5.19	98.54	109.34
8	C	337	GLU	CA-C-N	5.18	131.44	121.54
8	C	337	GLU	C-N-CA	5.18	131.44	121.54
47	2	1368	G	C3'-C2'-O2'	5.18	118.48	110.70
1	1	2306	C	P-O3'-C3'	5.18	127.97	120.20
45	o	15	LYS	N-CA-C	-5.16	106.79	114.64
16	L	62	THR	CA-C-N	5.14	131.23	121.97
16	L	62	THR	C-N-CA	5.14	131.23	121.97
51	t	92	GLN	CA-C-N	5.14	130.12	122.82
51	t	92	GLN	C-N-CA	5.14	130.12	122.82
64	AG	41	PRO	CA-C-N	5.13	131.33	121.54
64	AG	41	PRO	C-N-CA	5.13	131.33	121.54
42	l	50	ASN	CA-C-N	5.12	130.92	121.70
42	l	50	ASN	C-N-CA	5.12	130.92	121.70
42	l	29	LEU	CA-C-N	5.12	131.32	121.54
42	l	29	LEU	C-N-CA	5.12	131.32	121.54
69	AL	20	THR	CA-C-N	5.11	131.29	121.54
69	AL	20	THR	C-N-CA	5.11	131.29	121.54
56	y	22	ARG	CA-C-N	5.09	128.90	121.31
56	y	22	ARG	C-N-CA	5.09	128.90	121.31
55	x	86	GLN	CA-C-N	5.09	130.07	122.74
55	x	86	GLN	C-N-CA	5.09	130.07	122.74
84	AZ	722	PRO	N-CA-C	5.07	122.92	112.47
42	l	32	ASN	CA-C-N	5.07	131.21	121.54
42	l	32	ASN	C-N-CA	5.07	131.21	121.54
8	C	195	ARG	CA-C-N	5.06	131.21	121.54
8	C	195	ARG	C-N-CA	5.06	131.21	121.54
84	AZ	587	TYR	CA-CB-CG	5.06	123.01	113.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
75	AR	73	LEU	CA-C-N	5.06	131.20	121.54
75	AR	73	LEU	C-N-CA	5.06	131.20	121.54
1	1	3027	A	O4'-C1'-C2'	-5.06	102.54	107.60
79	AV	13	LEU	CA-CB-CG	5.02	133.85	116.30
56	y	67	TRP	CA-C-N	5.01	130.71	121.70
56	y	67	TRP	C-N-CA	5.01	130.71	121.70
67	AJ	6	VAL	N-CA-C	-5.01	106.21	113.07

There are no chirality outliers.

All (170) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
6	A	247	ARG	Peptide
58	AA	63	TYR	Peptide
58	AA	7	ASP	Peptide
61	AD	114	ARG	Peptide
61	AD	138	ASN	Peptide
61	AD	25	TRP	Peptide
61	AD	35	GLU	Peptide
61	AD	43	LYS	Peptide
61	AD	84	ILE	Peptide
61	AD	87	ASP	Peptide
62	AE	123	SER	Peptide
63	AF	102	PHE	Peptide
63	AF	122	THR	Peptide
63	AF	124	THR	Peptide
63	AF	27	GLU	Peptide
64	AG	30	LYS	Peptide
64	AG	38	LEU	Peptide
64	AG	39	VAL	Peptide
64	AG	40	GLU	Peptide
64	AG	49	TYR	Peptide
64	AG	58	ASP	Peptide
66	AI	114	GLU	Peptide
66	AI	115	ARG	Peptide
66	AI	64	GLU	Peptide
68	AK	17	GLN	Peptide
70	AM	41	MET	Peptide
71	AN	33	LEU	Peptide
71	AN	41	SER	Peptide
72	AO	132	ARG	Peptide
74	AQ	44	ILE	Peptide

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Mol	Chain	Res	Type	Group
74	AQ	60	PRO	Peptide
76	AS	45	LYS	Peptide
78	AU	7	SER	Peptide
79	AV	15	GLY	Peptide
79	AV	44	SER	Peptide
84	AZ	144	ARG	Peptide
84	AZ	146	ALA	Peptide
84	AZ	220	PHE	Peptide
84	AZ	244	LEU	Peptide
84	AZ	246	GLY	Peptide
84	AZ	249	PHE	Peptide
84	AZ	251	ASN	Peptide
84	AZ	37	ASP	Peptide
84	AZ	390	ASP	Peptide
84	AZ	393	ARG	Peptide
84	AZ	4	PHE	Peptide
84	AZ	437	MET	Peptide
84	AZ	438	MET	Peptide
84	AZ	487	PRO	Peptide
84	AZ	502	PRO	Peptide
84	AZ	564	ARG	Peptide
84	AZ	579	SER	Peptide
84	AZ	582	LYS	Peptide
84	AZ	583	HIS	Peptide
84	AZ	601	ILE	Peptide
84	AZ	627	VAL	Peptide
84	AZ	653	VAL	Peptide
84	AZ	668	GLN	Peptide
84	AZ	691	VAL	Peptide
84	AZ	693	LEU	Peptide
84	AZ	721	ASP	Peptide
84	AZ	722	PRO	Peptide
84	AZ	761	PRO	Peptide
84	AZ	839	TYR	Peptide
7	B	179	ALA	Peptide
7	B	349	LYS	Peptide
7	B	70	ARG	Peptide
83	BA	158	GLN	Peptide
8	C	130	ALA	Peptide
9	D	123	GLU	Peptide
9	D	19	PRO	Peptide
9	D	20	PHE	Peptide

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Mol	Chain	Res	Type	Group
9	D	257	GLU	Peptide
9	D	260	PHE	Peptide
10	E	6	ALA	Peptide
11	F	157	ASN	Peptide
11	F	215	GLY	Peptide
12	G	155	ASN	Peptide
12	G	30	THR	Peptide
12	G	76	ALA	Peptide
13	H	140	VAL	Peptide
13	H	155	SER	Peptide
13	H	21	LYS	Peptide
13	H	71	VAL	Peptide
15	J	12	LEU	Peptide
15	J	167	TYR	Peptide
15	J	73	GLY	Peptide
15	J	94	ARG	Peptide
16	L	132	ALA	Peptide
16	L	47	ALA	Peptide
18	N	195	ASN	Peptide
18	N	26	ARG	Peptide
18	N	46	ASP	Peptide
19	O	110	PRO	Peptide
19	O	12	LYS	Peptide
19	O	133	ARG	Peptide
19	O	22	VAL	Peptide
19	O	36	VAL	Peptide
19	O	64	PHE	Peptide
20	P	64	ASN	Peptide
20	P	95	LEU	Peptide
4	P0	30	VAL	Peptide
5	P2	130	LYS	Peptide
5	P2	75	PRO	Peptide
5	P2	77	ALA	Peptide
5	P2	89	PRO	Peptide
21	Q	26	LEU	Peptide
23	S	108	GLN	Peptide
23	S	35	VAL	Peptide
23	S	89	ASN	Peptide
23	S	90	MET	Peptide
26	V	104	ASN	Peptide
30	Z	102	GLU	Peptide
31	a	14	HIS	Peptide

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Mol	Chain	Res	Type	Group
31	a	57	GLY	Peptide
33	c	55	GLU	Peptide
33	c	84	LEU	Peptide
36	f	57	LYS	Peptide
36	f	58	GLU	Peptide
37	g	58	ARG	Peptide
37	g	80	ARG	Peptide
38	h	6	ALA	Peptide
38	h	90	ARG	Peptide
39	i	12	ASN	Peptide
40	j	5	THR	Peptide
40	j	64	MET	Peptide
40	j	82	SER	Peptide
41	k	38	PHE	Peptide
41	k	40	GLN	Peptide
44	n	5	TRP	Peptide
45	o	37	ALA	Peptide
45	o	66	LYS	Peptide
48	q	112	THR	Peptide
48	q	192	THR	Peptide
48	q	202	TYR	Peptide
49	r	133	TYR	Peptide
49	r	147	ALA	Peptide
49	r	53	GLY	Peptide
49	r	61	LEU	Peptide
50	s	95	ARG	Peptide
51	t	173	ARG	Peptide
52	u	110	ALA	Peptide
52	u	151	ASP	Peptide
52	u	154	ILE	Peptide
52	u	155	LYS	Peptide
52	u	195	ILE	Peptide
52	u	233	LYS	Peptide
53	v	104	ASN	Peptide
53	v	128	ASN	Peptide
53	v	148	ARG	Peptide
53	v	166	ARG	Peptide
53	v	206	SER	Peptide
53	v	57	SER	Peptide
53	v	95	ASN	Peptide
53	v	97	LEU	Peptide
54	w	101	ILE	Peptide

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Mol	Chain	Res	Type	Group
54	w	119	GLN	Peptide
54	w	148	SER	Peptide
54	w	151	ASP	Peptide
54	w	67	VAL	Peptide
54	w	88	ARG	Peptide
54	w	9	VAL	Peptide
54	w	92	ARG	Peptide
55	x	110	GLN	Peptide
55	x	64	VAL	Peptide
56	y	40	ALA	Peptide
56	y	67	TRP	Peptide
57	z	133	HIS	Peptide
57	z	156	ILE	Peptide
57	z	163	PRO	Peptide

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	1	68931	0	34637	686	0
2	3	2579	0	1304	27	0
3	4	3353	0	1695	42	0
4	P0	1473	0	1514	32	0
5	P2	723	0	774	17	0
6	A	1914	0	1981	47	0
7	B	3075	0	3142	66	0
8	C	2748	0	2859	46	0
9	D	2375	0	2325	51	0
10	E	1239	0	1326	22	0
11	F	1784	0	1862	24	0
12	G	1804	0	1877	33	0
13	H	1518	0	1587	28	0
14	I	1705	0	1736	38	0
15	J	1353	0	1383	34	0
16	L	1543	0	1608	21	0
17	M	1053	0	1149	24	0
18	N	1720	0	1779	44	0
19	O	1555	0	1659	8	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
20	P	1420	0	1437	25	0
21	Q	1441	0	1543	26	0
22	R	1521	0	1617	30	0
23	S	1445	0	1487	29	0
24	T	1276	0	1323	26	0
25	U	796	0	812	11	0
26	V	1003	0	1048	20	0
27	W	528	0	558	12	0
28	X	964	0	1025	10	0
29	Y	993	0	1081	19	0
30	Z	1092	0	1155	17	0
31	a	1173	0	1215	23	0
32	b	462	0	491	7	0
33	c	743	0	797	15	0
34	d	883	0	918	14	0
35	e	1020	0	1090	22	0
36	f	850	0	880	20	0
37	g	880	0	941	24	0
38	h	969	0	1078	19	0
39	i	771	0	849	15	0
40	j	681	0	683	15	0
41	k	612	0	682	16	0
42	l	436	0	475	12	0
43	m	417	0	456	9	0
44	n	233	0	284	5	0
45	o	847	0	916	13	0
46	p	694	0	736	13	0
47	2	37845	0	19040	504	0
48	q	1577	0	1567	39	0
49	r	1709	0	1784	39	0
50	s	1635	0	1723	37	0
51	t	1734	0	1817	41	0
52	u	2068	0	2154	47	0
53	v	1609	0	1675	45	0
54	w	1790	0	1881	45	0
55	x	1481	0	1572	27	0
56	y	1489	0	1525	43	0
57	z	1494	0	1573	27	0
58	AA	772	0	727	20	0
59	AB	1220	0	1281	30	0
60	AC	890	0	887	13	0
61	AD	1192	0	1255	28	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
62	AE	891	0	883	15	0
63	AF	977	0	1002	33	0
64	AG	1105	0	1166	41	0
65	AH	926	0	930	26	0
66	AI	1192	0	1222	39	0
67	AJ	1112	0	1124	37	0
68	AK	855	0	917	25	0
69	AL	684	0	672	20	0
70	AM	1021	0	1060	18	0
71	AN	1121	0	1196	28	0
72	AO	1073	0	1132	32	0
73	AP	563	0	603	12	0
74	AQ	769	0	818	18	0
75	AR	610	0	632	14	0
76	AS	497	0	535	12	0
77	AT	442	0	429	13	0
78	AU	475	0	525	9	0
79	AV	2437	0	2386	63	0
80	AW	287	0	287	10	0
81	AX	1626	0	820	21	0
82	AY	144	0	74	9	0
83	BA	1609	0	1701	30	0
84	AZ	6551	0	6613	330	0
85	AQ	1	0	0	0	0
85	AR	1	0	0	0	0
85	AT	1	0	0	0	0
85	AW	1	0	0	0	0
85	j	1	0	0	0	0
85	m	1	0	0	0	0
85	o	1	0	0	0	0
85	p	1	0	0	0	0
86	AZ	35	0	41	13	0
87	AZ	28	0	12	13	0
88	AZ	5	0	0	1	0
All	All	212143	0	159015	3000	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 8.

All (3000) 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)
84:AZ:28:VAL:HG21	84:AZ:108:HIS:CD2	1.68	1.27
84:AZ:31:GLY:O	84:AZ:35:LEU:HD23	1.40	1.21
47:2:1331:A:H4'	65:AH:45:ARG:CZ	1.79	1.13
84:AZ:115:VAL:O	84:AZ:119:LEU:HB2	1.51	1.09
84:AZ:211:PHE:O	84:AZ:219:ALA:HA	1.53	1.08
84:AZ:816:GLY:O	84:AZ:820:LEU:HB2	1.56	1.06
47:2:1331:A:H4'	65:AH:45:ARG:NH2	1.69	1.05
84:AZ:210:ALA:HA	84:AZ:220:PHE:O	1.56	1.04
84:AZ:534:GLY:HA2	84:AZ:785:ARG:HH22	1.20	1.03
84:AZ:663:VAL:O	84:AZ:667:PHE:HB2	1.58	1.03
1:1:646:A:H61	1:1:2371:G:H21	1.07	1.03
84:AZ:492:ALA:HB3	84:AZ:557:SER:O	1.57	1.03
84:AZ:534:GLY:CA	84:AZ:785:ARG:HH22	1.75	0.99
84:AZ:27:HIS:CD2	84:AZ:138:GLN:HB3	1.98	0.98
1:1:3234:A:H2	1:1:3253:G:H1	1.06	0.98
2:3:79:A:H62	2:3:101:G:N2	1.60	0.98
84:AZ:634:TRP:HB2	84:AZ:646:VAL:O	1.64	0.96
1:1:1015:U:H3	1:1:1035:G:H1	1.09	0.95
84:AZ:160:VAL:HG12	84:AZ:212:GLY:O	1.67	0.95
84:AZ:507:GLY:O	84:AZ:511:LEU:HB2	1.67	0.94
84:AZ:364:ALA:O	84:AZ:368:ALA:HB3	1.68	0.94
1:1:2465:G:H1	1:1:2491:A:N6	1.65	0.93
1:1:3189:G:H1	1:1:3203:U:H3	1.08	0.93
47:2:486:G:H1	47:2:501:U:H3	0.97	0.93
84:AZ:137:VAL:HG21	84:AZ:791:GLN:CG	1.99	0.92
84:AZ:367:ILE:O	84:AZ:371:ASN:HB2	1.69	0.92
1:1:3027:A:H62	84:AZ:790:GLY:HA3	1.35	0.92
2:3:79:A:N6	2:3:101:G:H21	1.68	0.92
82:AY:46:U:O2'	82:AY:47:U:H5'	1.67	0.91
2:3:79:A:H62	2:3:101:G:H21	0.92	0.91
47:2:16:G:H21	47:2:1138:A:H62	1.18	0.89
84:AZ:161:ASP:O	84:AZ:165:LEU:HB2	1.72	0.89
84:AZ:713:THR:O	84:AZ:717:PHE:HB2	1.72	0.89
84:AZ:537:HIS:O	84:AZ:541:CYS:HB2	1.72	0.89
1:1:3222:U:H3	1:1:3263:G:H1	0.91	0.88
47:2:1354:G:O6	47:2:1369:U:C4	2.26	0.88
1:1:1702:U:H3	1:1:1743:G:H1	0.88	0.87
84:AZ:28:VAL:CG2	84:AZ:108:HIS:CD2	2.56	0.87
84:AZ:538:LEU:O	84:AZ:542:LEU:HB2	1.72	0.87
1:1:1627:U:H3	1:1:1817:G:H1	1.23	0.86
47:2:58:U:H3	47:2:89:G:H1	1.19	0.86
1:1:160:G:H1	1:1:261:U:H3	1.24	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2:1673:G:N1	47:2:1728:A:C2	2.43	0.86
1:1:182:U:H3	1:1:234:G:H1	1.22	0.85
84:AZ:365:ASN:O	84:AZ:369:ILE:HB	1.77	0.85
1:1:2467:G:N2	1:1:2488:A:C5	2.44	0.85
84:AZ:734:GLN:O	84:AZ:792:ALA:HA	1.77	0.84
1:1:2465:G:H1	1:1:2491:A:H62	1.21	0.84
47:2:207:U:H3	47:2:258:C:N4	1.76	0.84
84:AZ:366:CYS:O	84:AZ:370:LYS:HB2	1.77	0.83
47:2:1331:A:C4'	65:AH:45:ARG:NH2	2.41	0.83
81:AX:15:G:N2	81:AX:48:C:C2	2.47	0.83
81:AX:34:G:H1	82:AY:48:U:H3	1.27	0.82
1:1:2467:G:N2	1:1:2488:A:C6	2.48	0.81
84:AZ:283:ARG:O	84:AZ:287:ALA:HB2	1.79	0.81
47:2:207:U:H3	47:2:258:C:H42	1.29	0.81
47:2:1665:U:H3	47:2:1736:G:H1	1.29	0.81
84:AZ:488:VAL:HG23	84:AZ:796:MET:SD	2.20	0.81
49:r:29:TRP:HE1	49:r:45:LYS:HB3	1.45	0.80
47:2:826:U:H3	47:2:846:G:H1	1.25	0.80
1:1:172:G:H1	1:1:246:U:H3	1.28	0.80
84:AZ:465:LYS:HG3	84:AZ:516:PRO:HB2	1.63	0.80
84:AZ:130:ASP:OD1	84:AZ:159:LYS:HB2	1.81	0.80
1:1:3299:A:H61	1:1:3315:G:H1	1.30	0.80
47:2:1673:G:H1	47:2:1728:A:H2	1.27	0.80
1:1:646:A:N6	1:1:2371:G:H21	1.80	0.79
84:AZ:384:LYS:HE2	84:AZ:516:PRO:HD2	1.63	0.79
84:AZ:321:LYS:O	84:AZ:325:ARG:HB2	1.82	0.79
86:AZ:901:SO1:H13	86:AZ:901:SO1:C11	2.13	0.78
47:2:273:G:H1	47:2:283:U:H3	1.29	0.78
84:AZ:385:MET:SD	84:AZ:513:LYS:NZ	2.56	0.78
1:1:1071:U:H3	1:1:1087:G:H1	1.30	0.78
1:1:3348:G:H1	1:1:3357:U:H3	1.28	0.78
84:AZ:490:GLN:HA	84:AZ:530:VAL:O	1.85	0.77
56:y:84:HIS:HD2	56:y:87:ASN:H	1.33	0.77
82:AY:49:U:C2	82:AY:49:U:H5''	2.20	0.77
1:1:3234:A:C2	1:1:3253:G:N1	2.46	0.76
1:1:916:G:N7	1:1:924:G:C2	2.54	0.76
47:2:1531:G:H5''	73:AP:77:ARG:HH12	1.50	0.75
1:1:646:A:H61	1:1:2371:G:N2	1.83	0.75
83:BA:62:ASN:HB2	83:BA:150:ASP:HA	1.69	0.74
86:AZ:901:SO1:O15	86:AZ:901:SO1:H212	1.87	0.74
84:AZ:542:LEU:O	84:AZ:546:GLU:HB2	1.88	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
84:AZ:137:VAL:HG21	84:AZ:791:GLN:HG2	1.69	0.74
1:1:3027:A:N6	84:AZ:790:GLY:HA3	2.03	0.73
47:2:1278:G:H1	47:2:1430:U:H3	1.34	0.73
1:1:2513:U:OP1	12:G:245:LYS:NZ	2.21	0.73
84:AZ:28:VAL:HG21	84:AZ:108:HIS:HD2	1.51	0.72
38:h:7:TYR:HB2	38:h:10:ARG:HE	1.55	0.72
47:2:16:G:N2	47:2:1138:A:H62	1.88	0.72
84:AZ:534:GLY:HA2	84:AZ:785:ARG:NH2	2.02	0.72
1:1:3234:A:H2	1:1:3253:G:N1	1.85	0.71
20:P:169:THR:H	20:P:172:GLN:HE21	1.38	0.71
23:S:89:ASN:HD21	24:T:156:TYR:H	1.36	0.71
1:1:2842:U:H5'	84:AZ:749:LYS:HE3	1.71	0.71
84:AZ:743:ILE:O	84:AZ:747:LEU:HB2	1.90	0.71
47:2:610:G:HO2'	47:2:613:G:HO2'	1.39	0.71
47:2:821:U:C4	47:2:852:C:N3	2.59	0.70
84:AZ:707:PRO:O	84:AZ:711:ARG:HB2	1.92	0.70
52:u:181:VAL:H	52:u:194:THR:HA	1.57	0.70
84:AZ:137:VAL:HG21	84:AZ:791:GLN:OE1	1.92	0.70
58:AA:42:VAL:HA	58:AA:46:LEU:HB2	1.72	0.70
84:AZ:27:HIS:HD2	84:AZ:138:GLN:HB3	1.53	0.69
84:AZ:616:ALA:O	84:AZ:620:ALA:HB2	1.91	0.69
84:AZ:435:VAL:HG13	84:AZ:442:VAL:HG11	1.73	0.69
47:2:1387:G:N7	65:AH:44:LYS:NZ	2.40	0.69
84:AZ:137:VAL:HG11	84:AZ:791:GLN:HG3	1.74	0.69
84:AZ:596:GLU:O	84:AZ:599:LEU:C	2.35	0.69
84:AZ:753:GLN:O	84:AZ:771:TYR:HB2	1.93	0.69
1:1:65:A:H61	1:1:323:A:H62	1.41	0.69
48:q:140:ASN:HD22	50:s:62:PRO:HD3	1.58	0.69
79:AV:152:SER:H	79:AV:173:GLY:HA2	1.57	0.69
47:2:699:U:O2	47:2:739:G:C2	2.46	0.69
52:u:178:GLY:H	52:u:195:ILE:HG12	1.56	0.69
1:1:1349:G:N7	1:1:1355:A:N6	2.41	0.68
14:I:48:LEU:HA	14:I:178:ARG:HH22	1.58	0.68
9:D:95:TRP:HB2	9:D:158:ARG:HD3	1.75	0.68
84:AZ:110:ASP:HB3	84:AZ:535:GLU:H	1.57	0.68
1:1:1640:G:O6	30:Z:17:ARG:NH2	2.26	0.68
84:AZ:384:LYS:CE	84:AZ:516:PRO:HD2	2.22	0.68
47:2:1673:G:C6	47:2:1728:A:N1	2.62	0.68
84:AZ:223:ARG:HH22	84:AZ:241:MET:HB2	1.57	0.68
84:AZ:739:ALA:CB	84:AZ:788:THR:HG23	2.22	0.68
49:r:208:GLN:NE2	49:r:209:ASN:OD1	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:847:A:OP1	61:AD:140:LYS:NZ	2.26	0.68
62:AE:133:ARG:HE	62:AE:136:ARG:HH21	1.42	0.68
74:AQ:49:ALA:HB1	74:AQ:52:ASP:HB2	1.76	0.68
84:AZ:578:LYS:HB3	84:AZ:711:ARG:HH12	1.59	0.68
6:A:117:GLU:HG2	6:A:124:GLY:H	1.60	0.67
47:2:1379:C:H1'	64:AG:17:THR:HG21	1.76	0.67
44:n:7:LYS:HE3	44:n:11:ARG:HH21	1.59	0.67
79:AV:110:VAL:HA	79:AV:126:SER:HA	1.75	0.67
1:1:1349:G:H5'	1:1:1350:A:H5'	1.75	0.67
81:AX:15:G:N2	81:AX:48:C:O2	2.27	0.67
47:2:1213:G:N2	47:2:1451:C:O2	2.28	0.67
62:AE:103:ARG:HH22	62:AE:107:ARG:HB3	1.58	0.67
47:2:1215:C:HO2'	77:AT:4:GLU:N	1.91	0.67
47:2:1587:A:N1	47:2:1610:G:N2	2.41	0.67
47:2:1175:U:H3	47:2:1464:G:H1	1.43	0.67
84:AZ:32:LYS:HB2	87:AZ:902:GDP:O2B	1.95	0.67
18:N:64:VAL:HG21	18:N:102:ALA:HB1	1.77	0.67
54:w:33:GLY:HA2	54:w:51:LYS:HG3	1.76	0.66
84:AZ:137:VAL:HG21	84:AZ:791:GLN:CD	2.20	0.66
16:L:165:SER:H	31:a:139:ARG:HH22	1.42	0.66
47:2:1688:U:H3	47:2:1713:G:H1	1.44	0.66
54:w:67:VAL:HG12	54:w:69:LEU:H	1.60	0.66
1:1:1269:U:H3	1:1:1272:C:H5''	1.60	0.66
84:AZ:561:VAL:CG1	86:AZ:901:SO1:H201	2.25	0.66
47:2:699:U:O2	47:2:739:G:N2	2.27	0.66
47:2:885:G:H21	62:AE:123:SER:HB2	1.60	0.66
51:t:75:LYS:HD2	58:AA:22:VAL:HG21	1.78	0.66
52:u:122:LYS:HB2	52:u:162:ILE:HB	1.78	0.66
84:AZ:137:VAL:CG2	84:AZ:791:GLN:HG2	2.25	0.66
72:AO:58:PHE:HB2	72:AO:72:PHE:HB3	1.78	0.65
84:AZ:161:ASP:OD2	87:AZ:902:GDP:N1	2.29	0.65
84:AZ:629:ASP:HB3	84:AZ:633:ILE:HG23	1.78	0.65
84:AZ:711:ARG:O	84:AZ:715:ALA:HB2	1.95	0.65
6:A:136:ILE:HG22	6:A:148:VAL:HG12	1.78	0.65
47:2:803:A:N3	55:x:104:ARG:NH1	2.44	0.65
5:P2:81:VAL:HG23	5:P2:82:ILE:HD12	1.77	0.65
18:N:155:VAL:O	18:N:162:ARG:NH2	2.30	0.65
82:AY:46:U:C2'	82:AY:47:U:H5'	2.25	0.65
52:u:75:LYS:HD3	52:u:77:ARG:H	1.61	0.65
84:AZ:465:LYS:HD3	84:AZ:516:PRO:O	1.96	0.65
47:2:868:G:H1	47:2:960:U:H3	1.43	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:W:46:PRO:HB2	27:W:54:LEU:HD23	1.78	0.65
83:BA:197:ASN:OD1	83:BA:200:ASN:ND2	2.30	0.65
33:c:83:LYS:HB3	33:c:85:PHE:HB3	1.78	0.65
47:2:715:U:N3	47:2:723:G:N1	2.45	0.65
51:t:102:ALA:O	51:t:173:ARG:NH2	2.29	0.65
1:1:2176:U:OP1	6:A:54:ARG:NH2	2.30	0.65
3:4:58:G:N7	40:j:63:ARG:NH1	2.38	0.65
26:V:28:ASN:HD21	26:V:112:SER:HB3	1.62	0.65
67:AJ:117:SER:HB2	67:AJ:123:ARG:HB2	1.79	0.65
84:AZ:460:ASP:OD1	84:AZ:513:LYS:HE3	1.96	0.65
47:2:1673:G:O6	47:2:1728:A:N1	2.29	0.65
84:AZ:137:VAL:HG11	84:AZ:791:GLN:CG	2.26	0.65
1:1:508:U:H3	1:1:583:G:H1	1.44	0.64
14:I:169:LYS:HZ3	24:T:160:ILE:H	1.45	0.64
22:R:103:ARG:NH1	22:R:124:TYR:OH	2.31	0.64
30:Z:61:LYS:HE2	30:Z:65:ARG:HD3	1.79	0.64
47:2:903:U:O2	47:2:906:A:N7	2.31	0.64
47:2:1692:G:O2'	47:2:1709:C:N4	2.30	0.64
53:v:29:ILE:HG13	64:AG:36:ILE:HG21	1.79	0.64
72:AO:129:VAL:HA	72:AO:132:ARG:HB2	1.79	0.64
14:I:71:CYS:SG	14:I:158:LYS:NZ	2.69	0.64
84:AZ:27:HIS:CD2	84:AZ:138:GLN:CB	2.79	0.64
1:1:912:G:N7	6:A:9:ARG:NH2	2.46	0.64
48:q:179:ARG:HH12	48:q:195:TRP:HB3	1.63	0.64
1:1:83:U:HO2'	1:1:700:C:HO2'	1.46	0.64
1:1:1256:G:N3	4:P0:43:LYS:NZ	2.46	0.64
9:D:107:ARG:HH22	9:D:120:LYS:HA	1.63	0.64
47:2:386:G:OP2	56:y:25:ARG:NH2	2.31	0.64
81:AX:54:U:O2	81:AX:58:A:N7	2.31	0.64
84:AZ:723:LYS:HE3	84:AZ:806:SER:H	1.62	0.64
47:2:284:G:O6	54:w:185:GLN:NE2	2.30	0.64
60:AC:62:LEU:HD23	60:AC:89:ILE:HG22	1.80	0.64
16:L:75:PHE:H	16:L:97:VAL:HA	1.64	0.63
29:Y:89:LYS:HZ2	29:Y:95:VAL:HG13	1.63	0.63
31:a:75:LEU:HD11	31:a:138:ILE:HD11	1.80	0.63
55:x:47:ARG:HB3	55:x:59:ALA:H	1.63	0.63
1:1:1662:G:H1	1:1:1787:A:H61	1.46	0.63
47:2:540:G:N2	47:2:542:A:N7	2.45	0.63
84:AZ:489:VAL:O	84:AZ:531:ALA:HA	1.98	0.63
47:2:883:C:N3	47:2:945:U:O4	2.32	0.63
1:1:91:G:OP2	45:o:42:ARG:NH1	2.32	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3234:A:N1	1:1:3253:G:O6	2.31	0.63
67:AJ:70:GLN:HB2	67:AJ:122:ARG:H	1.64	0.63
84:AZ:711:ARG:NH2	84:AZ:836:GLN:O	2.32	0.63
1:1:3115:C:H1'	1:1:3117:C:H41	1.64	0.63
47:2:227:U:O2	47:2:834:G:C6	2.52	0.63
47:2:1217:A:N7	47:2:1448:G:N2	2.46	0.63
57:z:163:PRO:HA	57:z:166:GLY:H	1.63	0.63
84:AZ:211:PHE:O	84:AZ:219:ALA:CA	2.41	0.63
47:2:1755:A:H4'	71:AN:63:GLN:HE22	1.63	0.63
59:AB:10:GLU:OE2	59:AB:14:GLN:NE2	2.31	0.63
1:1:3348:G:N2	1:1:3357:U:O2	2.31	0.63
4:P0:145:ILE:HD13	4:P0:150:ILE:HD11	1.80	0.63
79:AV:115:ILE:HG13	79:AV:122:ILE:HG12	1.81	0.63
16:L:28:GLN:HB3	18:N:201:ARG:HE	1.63	0.63
23:S:8:GLN:HE21	23:S:62:ASN:HD22	1.45	0.63
47:2:1477:G:H5'	67:AJ:45:MET:HB3	1.81	0.63
48:q:182:LEU:HD13	48:q:188:LEU:HD21	1.81	0.63
59:AB:133:LYS:HG3	59:AB:134:THR:HG23	1.80	0.63
86:AZ:901:SO1:O60	86:AZ:901:SO1:H652	1.99	0.63
1:1:431:U:H5''	36:f:65:ARG:HH22	1.64	0.63
1:1:1493:G:O6	42:l:2:ALA:N	2.32	0.63
1:1:2737:C:H4'	24:T:68:THR:HG21	1.79	0.63
1:1:3054:U:H3	1:1:3088:G:H1	1.45	0.63
47:2:1154:G:N2	47:2:1625:C:C2	2.67	0.62
74:AQ:10:ARG:HB2	74:AQ:34:LYS:HA	1.81	0.62
47:2:478:A:H5'	78:AU:33:ARG:HH22	1.61	0.62
47:2:903:U:C2	47:2:906:A:N7	2.67	0.62
50:s:159:THR:HG22	50:s:168:ARG:HA	1.81	0.62
73:AP:78:ILE:HA	73:AP:81:ARG:HB2	1.81	0.62
47:2:1555:A:O2'	63:AF:44:ARG:NH2	2.32	0.62
11:F:163:LEU:HD12	11:F:169:ILE:HD11	1.82	0.62
69:AL:51:VAL:HG23	69:AL:52:THR:HG22	1.81	0.62
84:AZ:523:SER:HB2	84:AZ:527:GLU:HB2	1.81	0.62
1:1:2842:U:O4'	84:AZ:749:LYS:HD2	1.98	0.62
29:Y:27:ARG:NH1	29:Y:75:ARG:O	2.33	0.62
47:2:477:A:OP2	78:AU:28:LYS:NZ	2.31	0.62
47:2:1067:C:H5''	49:r:150:VAL:HG22	1.82	0.62
65:AH:58:MET:O	65:AH:62:GLN:NE2	2.32	0.62
84:AZ:504:LEU:HD22	84:AZ:554:LEU:HD11	1.82	0.62
1:1:196:G:N1	1:1:199:A:OP2	2.30	0.62
34:d:44:MET:SD	34:d:77:ARG:NH1	2.73	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2:1339:C:O2'	47:2:1341:A:N7	2.32	0.62
66:AI:72:ILE:HA	66:AI:78:HIS:HE1	1.64	0.62
84:AZ:561:VAL:HG12	86:AZ:901:SO1:H201	1.82	0.62
1:1:1639:C:OP2	37:g:74:ARG:NH2	2.31	0.62
47:2:16:G:H21	47:2:1138:A:N6	1.93	0.62
47:2:1297:G:N2	47:2:1300:A:OP2	2.32	0.62
47:2:1388:A:N6	47:2:1409:G:O2'	2.32	0.62
78:AU:43:ARG:NH1	78:AU:56:MET:SD	2.73	0.62
84:AZ:369:ILE:HD13	84:AZ:402:ALA:HB3	1.81	0.62
47:2:153:G:N7	72:AO:128:LYS:NZ	2.48	0.62
47:2:219:A:H5''	47:2:831:U:H1'	1.82	0.62
47:2:1158:C:N4	47:2:1614:A:N1	2.47	0.62
47:2:113:U:H5'	59:AB:67:ARG:HD2	1.80	0.62
63:AF:118:GLU:HG3	66:AI:123:ARG:HH12	1.65	0.62
84:AZ:739:ALA:HB2	84:AZ:788:THR:HG23	1.82	0.62
1:1:2182:A:OP1	6:A:10:LYS:NZ	2.33	0.61
1:1:3043:C:OP1	26:V:45:ARG:NH1	2.33	0.61
10:E:71:VAL:HG12	10:E:160:SER:HB3	1.81	0.61
47:2:810:G:N2	55:x:108:GLN:OE1	2.33	0.61
84:AZ:214:GLY:N	87:AZ:902:GDP:O6	2.33	0.61
1:1:1281:G:H1'	4:P0:83:ASN:HD22	1.64	0.61
2:3:50:U:O2'	9:D:224:LYS:NZ	2.32	0.61
6:A:227:ARG:HB2	6:A:239:ALA:HB2	1.82	0.61
50:s:149:GLY:O	50:s:174:ARG:NH2	2.32	0.61
1:1:3027:A:N7	84:AZ:789:GLY:O	2.34	0.61
13:H:132:VAL:HG12	13:H:154:VAL:HG12	1.82	0.61
16:L:55:ARG:O	16:L:115:ARG:NH1	2.33	0.61
38:h:83:LYS:O	40:j:73:ARG:NH2	2.33	0.61
84:AZ:658:GLU:HA	84:AZ:661:ASP:HB2	1.82	0.61
3:4:29:U:H5''	16:L:27:ASP:HB3	1.82	0.61
11:F:88:ARG:NH1	11:F:110:ARG:O	2.33	0.61
47:2:1215:C:O2'	77:AT:4:GLU:N	2.34	0.61
53:v:225:ARG:HD2	76:AS:58:GLU:HB3	1.83	0.61
9:D:164:LYS:HE3	9:D:195:LEU:HD11	1.81	0.61
47:2:1224:A:N6	47:2:1260:U:O2	2.33	0.61
7:B:102:LEU:HD12	7:B:103:THR:HG23	1.83	0.61
30:Z:51:LEU:HB3	30:Z:65:ARG:HH21	1.64	0.61
41:k:46:ARG:NH1	41:k:50:SER:O	2.34	0.61
47:2:15:U:O2'	47:2:620:A:N6	2.34	0.61
52:u:30:ARG:NH1	52:u:31:PRO:O	2.32	0.61
66:AI:48:LYS:HD3	66:AI:49:LYS:HG2	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
84:AZ:28:VAL:HG23	84:AZ:108:HIS:N	2.16	0.61
14:I:12:GLN:NE2	14:I:58:GLU:O	2.33	0.61
30:Z:121:ARG:HB2	30:Z:126:LYS:HD3	1.81	0.61
47:2:1335:U:O2	47:2:1416:G:N2	2.32	0.61
53:v:92:ARG:NH2	53:v:169:ASN:OD1	2.34	0.61
53:v:112:ARG:HH22	73:AP:94:LYS:HD3	1.66	0.61
66:AI:138:THR:HA	66:AI:141:THR:HB	1.81	0.61
1:1:1258:U:O2'	4:P0:42:ARG:NH1	2.31	0.61
1:1:2427:U:H3	1:1:2602:G:H1	1.48	0.61
13:H:20:ILE:HG22	13:H:25:VAL:HA	1.83	0.61
47:2:327:U:H4'	59:AB:14:GLN:HE21	1.64	0.61
1:1:2877:G:H1	1:1:2949:U:H3	1.49	0.61
3:4:43:A:H62	40:j:65:ARG:HH12	1.47	0.61
47:2:162:A:H5''	54:w:82:SER:HB2	1.80	0.61
47:2:444:C:OP2	72:AO:108:ARG:NH2	2.34	0.61
47:2:1203:A:N6	47:2:1553:G:H21	1.98	0.61
47:2:1354:G:C6	47:2:1369:U:C4	2.88	0.61
52:u:48:LEU:HA	52:u:52:LEU:HB2	1.83	0.61
1:1:44:U:H1'	45:o:54:THR:HG23	1.83	0.61
1:1:538:G:H1	1:1:553:U:H3	1.47	0.61
70:AM:116:ALA:HA	70:AM:119:LYS:HB2	1.83	0.61
7:B:372:THR:HG22	7:B:374:ALA:H	1.66	0.60
41:k:31:LEU:HD13	41:k:33:LYS:H	1.65	0.60
84:AZ:27:HIS:HD2	84:AZ:138:GLN:CG	2.14	0.60
84:AZ:141:THR:HG22	84:AZ:793:PHE:HZ	1.66	0.60
84:AZ:619:MET:HA	84:AZ:623:TYR:HB2	1.83	0.60
1:1:41:G:H21	1:1:2612:U:H4'	1.65	0.60
1:1:3160:U:H5''	1:1:3396:U:H3'	1.83	0.60
7:B:71:GLU:OE2	7:B:357:LYS:NZ	2.29	0.60
37:g:87:GLU:HA	37:g:90:ILE:HG22	1.83	0.60
1:1:2661:G:OP1	1:1:2749:G:N2	2.34	0.60
54:w:20:ASP:O	54:w:23:ARG:NH2	2.34	0.60
1:1:16:A:O2'	28:X:45:LYS:NZ	2.32	0.60
1:1:3086:A:H4'	7:B:366:GLY:HA2	1.84	0.60
47:2:1794:A:OP2	74:AQ:4:LYS:NZ	2.34	0.60
80:AW:121:CYS:SG	80:AW:122:SER:N	2.75	0.60
1:1:3268:A:OP1	10:E:46:ARG:NH2	2.34	0.60
28:X:81:ILE:HG22	28:X:125:ARG:HB3	1.83	0.60
48:q:162:CYS:SG	48:q:163:ASN:N	2.73	0.60
49:r:69:CYS:SG	49:r:70:LEU:N	2.74	0.60
53:v:225:ARG:HG3	76:AS:61:ARG:HD2	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3181:C:O2'	19:O:117:ARG:NH2	2.30	0.60
1:1:3330:A:H4'	7:B:366:GLY:HA3	1.83	0.60
53:v:118:LEU:O	53:v:122:ASN:ND2	2.34	0.60
47:2:151:G:OP2	72:AO:123:LYS:NZ	2.35	0.60
47:2:586:G:OP1	78:AU:23:LYS:NZ	2.34	0.60
47:2:1217:A:N6	47:2:1449:U:O2	2.34	0.60
47:2:1243:G:N2	63:AF:54:ALA:O	2.35	0.60
47:2:1412:G:H5'	53:v:76:ARG:HH22	1.66	0.60
84:AZ:113:SER:OG	84:AZ:384:LYS:NZ	2.35	0.60
84:AZ:289:MET:SD	84:AZ:317:LYS:NZ	2.68	0.60
84:AZ:723:LYS:HG2	84:AZ:805:GLY:HA2	1.84	0.60
13:H:69:ARG:NH2	13:H:73:SER:OG	2.35	0.60
51:t:36:GLY:O	51:t:51:ARG:NH2	2.35	0.60
57:z:17:ARG:O	57:z:23:ARG:NH2	2.32	0.60
1:1:1874:A:N7	22:R:20:ARG:NH1	2.49	0.60
1:1:681:U:O2	1:1:696:C:N4	2.35	0.60
4:P0:35:SER:HA	4:P0:38:MET:HE2	1.84	0.60
9:D:226:TYR:HB3	9:D:231:ILE:HG12	1.84	0.60
15:J:109:HIS:HD2	15:J:123:PHE:H	1.48	0.60
23:S:57:GLU:OE2	24:T:136:ARG:NH1	2.34	0.60
34:d:108:VAL:HG12	34:d:110:GLU:H	1.65	0.60
75:AR:14:SER:HA	75:AR:17:ARG:HE	1.66	0.60
84:AZ:662:SER:HA	84:AZ:665:ALA:HB3	1.82	0.60
1:1:1592:G:OP1	37:g:58:ARG:NH2	2.34	0.59
9:D:124:GLU:OE1	9:D:248:ARG:NH1	2.35	0.59
47:2:1316:G:O2'	65:AH:5:ARG:NH2	2.35	0.59
65:AH:46:LEU:HA	65:AH:49:LYS:HG2	1.83	0.59
74:AQ:43:ASN:HA	74:AQ:66:LYS:HD3	1.83	0.59
83:BA:37:GLY:HA2	83:BA:166:ALA:HA	1.84	0.59
1:1:2664:C:OP1	9:D:152:ARG:NH2	2.35	0.59
22:R:64:ARG:HB3	22:R:68:GLN:HE22	1.67	0.59
25:U:13:LYS:NZ	25:U:14:THR:O	2.35	0.59
47:2:558:U:OP2	78:AU:55:ARG:NH2	2.35	0.59
50:s:233:GLN:HE22	50:s:236:PRO:HD3	1.68	0.59
64:AG:13:LYS:HD3	64:AG:14:LYS:H	1.66	0.59
68:AK:24:ILE:HG21	68:AK:41:ILE:HG21	1.83	0.59
84:AZ:396:ALA:HB3	84:AZ:456:LEU:HB3	1.84	0.59
47:2:1354:G:O6	47:2:1369:U:C5	2.54	0.59
53:v:25:LEU:HG	53:v:27:THR:H	1.66	0.59
55:x:150:GLN:HE22	55:x:179:LYS:HB3	1.67	0.59
86:AZ:901:SO1:H13	86:AZ:901:SO1:O19	2.00	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:P2:134:GLY:O	5:P2:146:LYS:NZ	2.36	0.59
23:S:15:PRO:HG2	24:T:139:ARG:HH12	1.67	0.59
47:2:966:A:H5''	61:AD:4:MET:HE2	1.84	0.59
47:2:1673:G:N1	47:2:1728:A:H2	1.92	0.59
68:AK:52:LYS:HA	68:AK:93:LEU:HD21	1.82	0.59
47:2:1483:A:H5'	64:AG:71:GLY:HA2	1.84	0.59
47:2:1584:G:N2	53:v:77:TYR:OH	2.35	0.59
1:1:1390:A:O4'	1:1:1418:A:N6	2.36	0.59
2:3:1:G:N7	9:D:262:LYS:NZ	2.42	0.59
8:C:207:VAL:HG22	8:C:249:ILE:HD11	1.84	0.59
28:X:115:ARG:HH21	28:X:119:THR:HG21	1.68	0.59
55:x:123:ASP:OD1	55:x:138:LYS:NZ	2.35	0.59
84:AZ:290:ASN:ND2	84:AZ:295:GLU:OE1	2.36	0.59
84:AZ:367:ILE:HG13	84:AZ:371:ASN:HD22	1.67	0.59
84:AZ:670:ALA:HB1	84:AZ:710:ARG:HH11	1.68	0.59
1:1:1145:G:OP1	35:e:44:ARG:NH2	2.35	0.59
1:1:1189:C:N4	1:1:1316:C:OP2	2.36	0.59
15:J:47:GLN:HG2	15:J:67:VAL:HG12	1.84	0.59
18:N:15:GLN:O	18:N:20:ARG:NH1	2.35	0.59
47:2:400:A:OP1	56:y:25:ARG:NH1	2.36	0.59
49:r:57:ALA:HA	49:r:60:ALA:HB3	1.84	0.59
1:1:2465:G:H21	83:BA:37:GLY:HA3	1.66	0.59
47:2:1533:C:OP1	66:AI:57:ARG:NH2	2.35	0.59
69:AL:19:ALA:O	69:AL:71:ARG:NH1	2.34	0.59
79:AV:79:TYR:HB3	79:AV:91:LEU:HD11	1.84	0.59
1:1:1047:A:N3	1:1:2633:U:O2'	2.35	0.59
1:1:1348:U:OP2	1:1:1355:A:N6	2.36	0.59
1:1:1613:A:OP1	41:k:2:ALA:N	2.36	0.59
1:1:3027:A:H2'	1:1:3027:A:N3	2.16	0.59
6:A:117:GLU:OE2	6:A:163:ARG:NH1	2.35	0.59
41:k:40:GLN:OE1	41:k:57:ASN:ND2	2.36	0.59
47:2:693:U:C2	47:2:695:U:O4	2.56	0.59
50:s:40:LYS:HA	50:s:43:ARG:HB2	1.83	0.59
84:AZ:614:ALA:O	84:AZ:617:ARG:N	2.34	0.59
1:1:1219:C:O3'	1:1:1286:A:N6	2.36	0.59
2:3:18:C:OP2	15:J:150:ASN:ND2	2.36	0.59
3:4:75:G:OP2	29:Y:74:TYR:OH	2.20	0.59
47:2:868:G:OP1	61:AD:121:ARG:NH1	2.36	0.59
47:2:1203:A:H61	47:2:1553:G:N2	2.00	0.59
53:v:54:LYS:HG3	53:v:131:GLN:HE22	1.68	0.59
55:x:44:LYS:HG2	55:x:63:PRO:HG3	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:AE:15:GLY:H	62:AE:79:VAL:HA	1.68	0.59
67:AJ:86:ARG:HE	67:AJ:89:ARG:HE	1.51	0.59
1:1:2895:G:H5''	43:m:102:ARG:HH12	1.68	0.58
17:M:14:LEU:O	17:M:19:ARG:NH2	2.36	0.58
79:AV:88:THR:HG21	79:AV:102:ARG:HE	1.67	0.58
84:AZ:27:HIS:HD2	84:AZ:138:GLN:CB	2.15	0.58
84:AZ:505:VAL:HG23	84:AZ:508:LEU:HD12	1.85	0.58
84:AZ:780:PHE:O	84:AZ:784:LEU:HB2	2.02	0.58
1:1:1949:G:H5''	22:R:104:ARG:HH12	1.69	0.58
1:1:2154:U:H2'	1:1:2155:G:H8	1.68	0.58
12:G:94:PHE:HB2	12:G:97:TYR:HB2	1.84	0.58
20:P:131:ARG:HD3	20:P:137:ASN:HD21	1.68	0.58
47:2:1196:A:OP2	47:2:1464:G:N2	2.33	0.58
53:v:196:GLU:O	53:v:200:ASN:ND2	2.36	0.58
55:x:111:LYS:HB3	55:x:112:ARG:HD2	1.85	0.58
58:AA:77:ARG:NH1	58:AA:82:LEU:O	2.36	0.58
67:AJ:45:MET:SD	67:AJ:48:GLN:NE2	2.76	0.58
84:AZ:705:ILE:O	84:AZ:709:MET:N	2.36	0.58
1:1:268:A:OP1	18:N:50:ARG:NH2	2.36	0.58
1:1:2468:A:H4'	1:1:2469:G:H5'	1.86	0.58
1:1:3027:A:C2	84:AZ:138:GLN:HB2	2.38	0.58
11:F:151:ARG:NH1	11:F:206:LYS:O	2.36	0.58
47:2:157:A:N6	47:2:419:G:O2'	2.36	0.58
47:2:629:U:OP2	47:2:969:C:N4	2.36	0.58
48:q:28:ASN:HD21	48:q:46:HIS:HB2	1.68	0.58
50:s:39:THR:OG1	50:s:64:LYS:NZ	2.36	0.58
60:AC:43:ARG:NH1	60:AC:102:GLY:O	2.35	0.58
33:c:53:LYS:HD3	33:c:69:TYR:HE1	1.69	0.58
47:2:448:C:OP1	52:u:49:ARG:NH1	2.36	0.58
47:2:1789:G:OP2	62:AE:132:ARG:NH2	2.31	0.58
1:1:768:C:O2'	16:L:183:ARG:NH2	2.37	0.58
1:1:1045:C:OP1	14:I:133:GLN:NE2	2.36	0.58
1:1:1757:A:OP1	25:U:94:ARG:NH2	2.36	0.58
1:1:3068:U:H5'	1:1:3069:G:H5''	1.84	0.58
3:4:63:G:O2'	38:h:49:LYS:NZ	2.36	0.58
47:2:336:G:O6	56:y:5:ARG:NH1	2.36	0.58
47:2:1066:C:H4'	49:r:149:GLN:HE22	1.67	0.58
50:s:170:ILE:HG23	50:s:197:TYR:HB2	1.85	0.58
63:AF:63:ALA:HB1	63:AF:74:ALA:HB3	1.84	0.58
84:AZ:393:ARG:HB3	84:AZ:510:ARG:NH2	2.18	0.58
1:1:951:A:OP2	1:1:1367:G:N2	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3377:G:O2'	7:B:313:HIS:NE2	2.32	0.58
48:q:140:ASN:ND2	50:s:60:SER:O	2.36	0.58
79:AV:248:ASN:ND2	79:AV:297:ASP:O	2.37	0.58
84:AZ:161:ASP:CG	87:AZ:902:GDP:HN1	2.12	0.58
14:I:29:SER:OG	14:I:30:LYS:N	2.37	0.58
47:2:246:G:N2	59:AB:38:ALA:O	2.37	0.58
84:AZ:713:THR:O	84:AZ:717:PHE:CB	2.50	0.58
10:E:28:GLN:OE1	10:E:61:ASN:ND2	2.37	0.58
11:F:33:ARG:O	11:F:37:ASN:ND2	2.36	0.58
75:AR:13:ALA:O	75:AR:17:ARG:NH2	2.37	0.58
1:1:1354:G:N2	1:1:1357:G:O2'	2.37	0.58
1:1:3299:A:N6	1:1:3315:G:H1	2.01	0.58
14:I:17:TYR:OH	14:I:23:ASN:ND2	2.37	0.58
26:V:18:PRO:HA	26:V:51:ALA:HA	1.86	0.58
47:2:127:G:H2'	47:2:179:A:H62	1.69	0.58
68:AK:70:THR:O	77:AT:40:ARG:NH1	2.36	0.58
18:N:163:GLY:O	18:N:172:ARG:NH1	2.36	0.58
42:l:16:ALA:HB1	42:l:42:ARG:HH21	1.68	0.58
47:2:478:A:O2'	57:z:124:HIS:ND1	2.37	0.58
47:2:655:G:H4'	47:2:656:G:H5'	1.86	0.58
47:2:1410:A:H5''	64:AG:118:ILE:HG13	1.86	0.58
50:s:139:ILE:HD12	50:s:218:ILE:HB	1.86	0.58
54:w:136:LYS:NZ	54:w:173:PRO:O	2.37	0.58
59:AB:99:ARG:HB2	71:AN:12:ALA:HB2	1.85	0.58
65:AH:78:ARG:NH1	65:AH:82:ASP:OD1	2.36	0.58
75:AR:50:ALA:HB2	75:AR:71:ALA:HB2	1.85	0.58
79:AV:24:ALA:HB3	79:AV:34:LEU:HB3	1.85	0.58
79:AV:214:ALA:HB3	79:AV:243:LEU:HD11	1.86	0.58
84:AZ:602:GLU:OE2	84:AZ:682:ARG:NH1	2.37	0.58
1:1:2981:U:OP2	7:B:244:ARG:NH2	2.31	0.57
13:H:91:ARG:NH2	13:H:143:GLU:OE2	2.37	0.57
25:U:55:THR:H	25:U:66:VAL:HG12	1.68	0.57
33:c:41:LEU:HD11	33:c:100:ILE:HD13	1.85	0.57
47:2:1673:G:O3'	54:w:92:ARG:NH2	2.37	0.57
84:AZ:488:VAL:N	84:AZ:532:GLY:O	2.30	0.57
1:1:2685:C:H2'	1:1:2686:A:H8	1.70	0.57
7:B:19:ARG:HB2	7:B:232:ARG:HH21	1.69	0.57
15:J:110:ILE:HD12	15:J:116:TYR:HA	1.86	0.57
22:R:39:ASN:OD1	22:R:42:ARG:NH2	2.37	0.57
84:AZ:492:ALA:CB	84:AZ:557:SER:O	2.44	0.57
1:1:296:A:H3'	1:1:297:G:H21	1.70	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:4:81:U:O2'	3:4:83:C:OP2	2.22	0.57
47:2:44:U:OP2	47:2:437:A:N6	2.38	0.57
47:2:149:C:N3	47:2:166:C:N4	2.52	0.57
84:AZ:27:HIS:HB2	84:AZ:30:HIS:ND1	2.18	0.57
84:AZ:420:PRO:HB2	84:AZ:473:GLU:HG2	1.86	0.57
84:AZ:718:LEU:HB2	84:AZ:722:PRO:HD2	1.84	0.57
47:2:1275:A:N6	47:2:1438:G:N7	2.52	0.57
58:AA:11:ILE:HD12	58:AA:37:THR:HG22	1.86	0.57
1:1:2526:C:OP1	6:A:37:ARG:NH1	2.38	0.57
47:2:394:C:H42	47:2:401:A:H62	1.53	0.57
47:2:733:A:O2'	47:2:735:C:N4	2.37	0.57
49:r:151:LYS:HZ2	49:r:153:HIS:HB2	1.69	0.57
72:AO:109:LYS:O	72:AO:113:ASN:ND2	2.38	0.57
1:1:116:A:OP1	18:N:5:LYS:NZ	2.38	0.57
1:1:2193:U:H5''	1:1:2194:G:H5'	1.86	0.57
1:1:3138:U:H2'	1:1:3139:A:H8	1.69	0.57
12:G:155:ASN:HB3	12:G:179:ILE:HD11	1.87	0.57
20:P:128:ARG:NH2	20:P:130:TYR:OH	2.37	0.57
23:S:12:ARG:HH21	23:S:22:PRO:HD2	1.69	0.57
47:2:1356:U:O2	47:2:1367:G:N2	2.37	0.57
47:2:1484:G:N2	47:2:1591:C:O2	2.38	0.57
54:w:24:ILE:O	54:w:28:PHE:N	2.35	0.57
74:AQ:8:ASN:O	74:AQ:10:ARG:NH2	2.35	0.57
78:AU:34:ALA:HA	78:AU:37:ARG:HD3	1.84	0.57
84:AZ:65:GLU:HG3	84:AZ:66:ARG:HG3	1.86	0.57
1:1:307:A:H2'	1:1:308:A:H8	1.69	0.57
1:1:674:G:O2'	8:C:116:ASN:ND2	2.38	0.57
1:1:1810:A:H2'	1:1:1811:G:H8	1.70	0.57
1:1:2502:A:H2'	1:1:2503:G:H8	1.69	0.57
1:1:2828:G:O2'	14:I:4:ARG:NH2	2.37	0.57
1:1:3275:U:O2'	36:f:99:ARG:NH1	2.37	0.57
47:2:474:A:OP2	57:z:44:ARG:NH1	2.38	0.57
47:2:1234:A:H5'	80:AW:145:HIS:HB3	1.86	0.57
53:v:47:SER:O	53:v:128:ASN:ND2	2.37	0.57
66:AI:110:ARG:HA	66:AI:113:LEU:HB2	1.85	0.57
84:AZ:31:GLY:HA2	87:AZ:902:GDP:O3A	2.05	0.57
84:AZ:59:THR:HA	84:AZ:64:GLN:HE22	1.70	0.57
84:AZ:321:LYS:O	84:AZ:325:ARG:CB	2.53	0.57
1:1:1306:G:N2	1:1:1307:G:N7	2.52	0.57
1:1:2461:A:O2'	1:1:2485:A:N1	2.37	0.57
3:4:95:G:H1'	40:j:81:GLY:HA2	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:103:PRO:HA	6:A:163:ARG:HA	1.87	0.57
10:E:86:ALA:H	36:f:107:ILE:HG22	1.69	0.57
13:H:34:LEU:HD13	13:H:36:LYS:HE2	1.85	0.57
22:R:159:ALA:HA	22:R:162:ARG:HH21	1.70	0.57
24:T:111:ALA:O	24:T:115:LYS:NZ	2.37	0.57
47:2:332:U:H5'	56:y:30:GLY:HA2	1.86	0.57
47:2:1097:U:O3'	50:s:168:ARG:NH2	2.38	0.57
47:2:1353:U:H2'	47:2:1372:U:H3	1.70	0.57
47:2:1582:U:O2'	47:2:1615:C:N3	2.38	0.57
61:AD:98:VAL:HG12	61:AD:115:LEU:HD12	1.87	0.57
64:AG:38:LEU:HD21	67:AJ:10:ALA:HA	1.85	0.57
79:AV:16:HIS:O	79:AV:308:ASN:ND2	2.37	0.57
84:AZ:160:VAL:CG1	84:AZ:212:GLY:O	2.48	0.57
84:AZ:175:TYR:O	84:AZ:179:ALA:HB3	2.04	0.57
1:1:903:U:HO2'	1:1:1536:G:HO2'	1.53	0.57
5:P2:106:LEU:HD22	5:P2:140:GLY:HA3	1.87	0.57
35:e:83:GLU:OE2	35:e:111:ARG:NH2	2.38	0.57
47:2:964:U:OP1	61:AD:128:TYR:OH	2.22	0.57
47:2:1321:A:OP2	48:q:101:ARG:NH2	2.37	0.57
53:v:64:VAL:HG12	53:v:65:ARG:HD2	1.86	0.57
66:AI:87:ASN:ND2	66:AI:100:THR:OG1	2.37	0.57
1:1:1463:U:H3	1:1:1467:A:H62	1.53	0.57
36:f:68:TRP:HB2	36:f:86:ARG:HE	1.69	0.57
47:2:446:A:H61	47:2:461:G:H21	1.53	0.57
55:x:125:ILE:O	55:x:129:LEU:N	2.37	0.57
66:AI:90:ASN:HA	66:AI:95:GLY:HA2	1.86	0.57
68:AK:24:ILE:HB	68:AK:91:ILE:HB	1.86	0.57
84:AZ:27:HIS:NE2	84:AZ:138:GLN:HB3	2.20	0.57
35:e:95:GLU:OE2	35:e:121:ASN:ND2	2.38	0.56
47:2:138:A:H8	47:2:141:U:H4'	1.70	0.56
48:q:157:ASP:OD1	48:q:157:ASP:N	2.37	0.56
49:r:197:ILE:HG21	49:r:210:ILE:HG21	1.88	0.56
52:u:25:GLY:HA2	57:z:3:ARG:HG3	1.85	0.56
52:u:107:GLY:HA2	52:u:189:LEU:HD11	1.87	0.56
64:AG:27:GLY:H	64:AG:64:ASP:HB3	1.69	0.56
1:1:267:G:O3'	18:N:50:ARG:NH1	2.37	0.56
1:1:3189:G:O6	1:1:3203:U:O4	2.23	0.56
7:B:10:ARG:NH2	7:B:263:SER:O	2.38	0.56
47:2:1022:C:O2'	47:2:1125:A:N1	2.37	0.56
48:q:109:ASN:HD22	48:q:114:SER:HB3	1.69	0.56
64:AG:48:VAL:HG23	64:AG:78:VAL:HG13	1.85	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:AO:111:LYS:NZ	72:AO:115:ASP:OD2	2.38	0.56
84:AZ:823:ARG:O	84:AZ:828:MET:N	2.39	0.56
1:1:1949:G:OP2	22:R:135:LYS:NZ	2.38	0.56
10:E:72:ASN:ND2	10:E:159:LEU:O	2.39	0.56
24:T:39:ILE:HG21	24:T:102:ARG:HD3	1.87	0.56
47:2:227:U:O2	47:2:834:G:O6	2.23	0.56
47:2:1502:G:O6	67:AJ:102:ARG:NH1	2.36	0.56
81:AX:17:U:H2'	81:AX:18:G:H2'	1.86	0.56
84:AZ:110:ASP:HB2	84:AZ:533:THR:O	2.04	0.56
1:1:197:G:H21	1:1:218:G:H21	1.53	0.56
1:1:877:C:HO2'	1:1:880:G:HO2'	1.52	0.56
1:1:3070:A:OP1	22:R:62:ARG:NH1	2.38	0.56
3:4:141:C:O2	18:N:112:ASN:ND2	2.38	0.56
47:2:1207:C:O2	47:2:1209:C:N4	2.38	0.56
47:2:1525:A:H5'	67:AJ:93:HIS:HB2	1.87	0.56
84:AZ:38:SER:O	84:AZ:42:ARG:NH2	2.38	0.56
84:AZ:807:ASP:HB3	84:AZ:812:THR:HG21	1.87	0.56
1:1:1709:C:OP1	37:g:83:ASN:ND2	2.39	0.56
1:1:2397:A:N6	1:1:2869:U:O2'	2.38	0.56
27:W:1:MET:SD	27:W:2:LYS:N	2.77	0.56
34:d:13:THR:HG22	34:d:72:ARG:HE	1.69	0.56
47:2:138:A:O2'	47:2:141:U:OP1	2.24	0.56
49:r:165:ARG:HA	49:r:168:ILE:HG22	1.87	0.56
63:AF:24:LYS:HA	63:AF:27:GLU:HB3	1.86	0.56
72:AO:10:ARG:HB2	72:AO:24:VAL:HG23	1.86	0.56
72:AO:17:LEU:HD12	72:AO:18:LEU:HG	1.85	0.56
79:AV:253:ALA:HB3	79:AV:294:TRP:HH2	1.71	0.56
1:1:1214:U:H4'	23:S:90:MET:HE3	1.87	0.56
9:D:196:ARG:HA	9:D:199:ILE:HG12	1.88	0.56
21:Q:152:HIS:HB3	21:Q:164:ARG:HE	1.70	0.56
46:p:76:ALA:O	46:p:80:ARG:NE	2.37	0.56
47:2:1157:A:H3'	47:2:1160:A:H62	1.70	0.56
47:2:1387:G:OP2	65:AH:47:ARG:NH2	2.39	0.56
66:AI:110:ARG:NH1	66:AI:114:GLU:OE1	2.38	0.56
79:AV:74:THR:OG1	79:AV:76:ASP:OD1	2.22	0.56
84:AZ:601:ILE:HG23	84:AZ:606:ILE:HD11	1.87	0.56
84:AZ:707:PRO:O	84:AZ:711:ARG:CB	2.54	0.56
1:1:2137:U:OP2	1:1:2142:A:N6	2.38	0.56
1:1:3293:U:OP1	7:B:132:LYS:NZ	2.38	0.56
35:e:61:LYS:HA	35:e:64:LYS:HB2	1.87	0.56
47:2:1109:G:H1	47:2:1136:U:H3	1.53	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:u:150:PRO:HA	52:u:169:ILE:HG12	1.87	0.56
71:AN:140:LYS:HD3	71:AN:142:LYS:HB2	1.88	0.56
84:AZ:637:GLY:O	84:AZ:672:LYS:NZ	2.35	0.56
1:1:705:A:N7	31:a:74:ASN:ND2	2.50	0.56
1:1:2560:C:N4	1:1:2575:G:OP1	2.38	0.56
6:A:22:LEU:HD23	6:A:191:LEU:HD21	1.88	0.56
7:B:358:TRP:NE1	7:B:360:ASP:OD1	2.39	0.56
24:T:66:ASN:ND2	32:b:34:GLY:O	2.39	0.56
29:Y:51:ARG:NH1	29:Y:112:ASP:OD2	2.39	0.56
45:o:36:PHE:O	45:o:41:ARG:NH1	2.38	0.56
47:2:959:U:H5''	61:AD:14:SER:HB2	1.85	0.56
61:AD:135:LEU:HD22	61:AD:136:PRO:HD2	1.88	0.56
66:AI:104:ASN:HB3	66:AI:108:LYS:HE2	1.88	0.56
69:AL:24:ILE:HD13	69:AL:56:SER:HA	1.88	0.56
72:AO:51:GLU:HG3	72:AO:53:ASP:H	1.71	0.56
79:AV:172:ALA:HB2	79:AV:202:LEU:HB3	1.87	0.56
1:1:210:U:HO2'	1:1:229:G:HO2'	1.54	0.56
1:1:785:G:OP1	21:Q:66:ARG:NH2	2.39	0.56
1:1:2888:U:H2'	1:1:2910:A:H61	1.69	0.56
12:G:81:THR:HG21	12:G:181:LYS:HG3	1.87	0.56
47:2:933:A:OP1	49:r:116:LYS:NZ	2.38	0.56
47:2:1181:U:H4'	63:AF:127:ARG:HB3	1.88	0.56
84:AZ:393:ARG:CB	84:AZ:510:ARG:NH2	2.69	0.56
1:1:655:C:H2'	1:1:656:A:H8	1.71	0.56
7:B:10:ARG:NH1	7:B:11:HIS:O	2.39	0.56
47:2:1451:C:OP2	77:AT:12:ARG:NH2	2.39	0.56
47:2:1488:G:OP2	51:t:8:LYS:NZ	2.38	0.56
48:q:119:ARG:NH1	50:s:241:ASP:OD1	2.39	0.56
56:y:11:ARG:NH1	56:y:15:GLY:O	2.39	0.56
58:AA:77:ARG:O	58:AA:81:ASN:ND2	2.38	0.56
60:AC:69:ALA:HA	60:AC:72:ILE:HD12	1.87	0.56
84:AZ:507:GLY:HA3	84:AZ:550:ALA:HB2	1.88	0.56
2:3:96:U:OP1	23:S:43:TYR:OH	2.23	0.55
47:2:886:U:OP2	49:r:216:LYS:NZ	2.35	0.55
50:s:38:VAL:HG13	50:s:39:THR:HG22	1.88	0.55
66:AI:114:GLU:O	66:AI:118:LYS:NZ	2.38	0.55
69:AL:71:ARG:HD3	75:AR:4:VAL:HG11	1.87	0.55
84:AZ:20:ARG:HE	84:AZ:338:ILE:HB	1.72	0.55
84:AZ:42:ARG:HH12	84:AZ:331:ALA:HB3	1.70	0.55
1:1:1025:A:H62	1:1:1027:A:H61	1.53	0.55
1:1:1899:G:O2'	1:1:2334:U:O4	2.22	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2651:G:HO2'	1:1:2796:G:H1	1.54	0.55
3:4:14:C:H5''	20:P:123:PRO:HG3	1.87	0.55
4:P0:127:GLY:HA2	4:P0:150:ILE:H	1.71	0.55
13:H:77:ASN:HB3	13:H:151:VAL:HG21	1.88	0.55
17:M:68:LEU:HD22	17:M:93:LYS:HE3	1.88	0.55
37:g:101:VAL:HA	37:g:104:VAL:HG22	1.87	0.55
47:2:1132:A:H2'	47:2:1133:A:H8	1.70	0.55
47:2:1354:G:O6	47:2:1369:U:O4	2.24	0.55
84:AZ:224:GLN:O	84:AZ:228:ARG:HB2	2.06	0.55
84:AZ:412:ARG:HH12	84:AZ:428:ILE:HG12	1.72	0.55
84:AZ:629:ASP:HA	84:AZ:632:LYS:HB3	1.88	0.55
1:1:144:A:OP1	12:G:193:LYS:NZ	2.39	0.55
1:1:364:G:OP2	40:j:52:LYS:NZ	2.37	0.55
1:1:1015:U:O4	1:1:1035:G:O6	2.23	0.55
1:1:1260:A:O2'	1:1:1261:G:O4'	2.24	0.55
1:1:3068:U:OP1	22:R:59:SER:N	2.38	0.55
6:A:224:THR:HG23	6:A:240:ALA:HB3	1.86	0.55
11:F:88:ARG:NH2	11:F:91:GLY:O	2.40	0.55
47:2:450:U:OP1	52:u:7:LYS:NZ	2.40	0.55
50:s:195:ASP:N	50:s:195:ASP:OD1	2.38	0.55
56:y:41:LYS:N	56:y:59:ARG:O	2.32	0.55
57:z:136:VAL:HA	57:z:156:ILE:HG12	1.88	0.55
60:AC:106:ILE:HA	60:AC:115:VAL:HG22	1.89	0.55
84:AZ:589:LYS:HB2	84:AZ:687:ASN:HB2	1.88	0.55
84:AZ:739:ALA:HB1	84:AZ:788:THR:HG23	1.87	0.55
1:1:30:G:O2'	18:N:96:ARG:NH2	2.39	0.55
1:1:431:U:OP1	36:f:65:ARG:NH1	2.33	0.55
1:1:1920:U:O2'	1:1:1932:A:N7	2.38	0.55
1:1:3027:A:O2'	84:AZ:27:HIS:CE1	2.60	0.55
1:1:3042:U:OP2	1:1:3092:C:N4	2.40	0.55
1:1:3049:A:O2'	7:B:364:LYS:NZ	2.39	0.55
15:J:141:ARG:NE	15:J:143:ARG:O	2.37	0.55
47:2:518:A:O2'	47:2:534:A:N6	2.39	0.55
47:2:699:U:C2	47:2:739:G:N1	2.74	0.55
47:2:992:A:H2	47:2:1012:U:H3	1.55	0.55
61:AD:16:ILE:HG23	70:AM:57:ARG:HH22	1.70	0.55
64:AG:73:GLY:N	64:AG:76:SER:OG	2.40	0.55
79:AV:214:ALA:HB2	79:AV:220:ILE:HA	1.87	0.55
1:1:2465:G:N1	1:1:2491:A:N6	2.41	0.55
1:1:2675:C:N4	15:J:22:SER:O	2.39	0.55
34:d:51:LEU:HD23	34:d:55:LEU:HD12	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2:763:G:OP1	57:z:78:ARG:NH1	2.39	0.55
55:x:28:GLU:HG3	55:x:38:LEU:HB3	1.87	0.55
84:AZ:171:LYS:O	84:AZ:274:ASN:ND2	2.39	0.55
84:AZ:553:PRO:O	84:AZ:555:LYS:NZ	2.38	0.55
1:1:1554:U:N3	1:1:1582:C:O2	2.37	0.55
22:R:146:LYS:O	22:R:150:GLN:NE2	2.40	0.55
47:2:91:G:OP1	47:2:397:A:N6	2.37	0.55
47:2:862:A:O2'	47:2:963:A:N6	2.40	0.55
59:AB:72:THR:H	59:AB:88:ARG:HH12	1.53	0.55
66:AI:142:GLY:HA2	66:AI:146:ALA:HB3	1.88	0.55
73:AP:49:ARG:HB3	73:AP:70:LYS:HE2	1.88	0.55
83:BA:69:GLY:O	83:BA:108:ASN:ND2	2.36	0.55
84:AZ:616:ALA:O	84:AZ:620:ALA:CB	2.53	0.55
84:AZ:714:TYR:OH	84:AZ:831:GLU:OE2	2.25	0.55
1:1:1630:U:OP2	1:1:1813:A:N6	2.40	0.55
1:1:2467:G:C2	1:1:2488:A:N6	2.75	0.55
9:D:208:MET:HE1	9:D:231:ILE:HD13	1.87	0.55
18:N:84:PRO:HA	18:N:87:GLN:HB2	1.89	0.55
47:2:1331:A:C4'	65:AH:45:ARG:CZ	2.71	0.55
84:AZ:283:ARG:O	84:AZ:287:ALA:CB	2.54	0.55
84:AZ:759:GLN:HG2	84:AZ:763:THR:HG22	1.89	0.55
1:1:1505:C:H5''	20:P:127:ARG:HD3	1.89	0.55
1:1:2908:G:O2'	43:m:114:LYS:NZ	2.40	0.55
1:1:3185:U:O2'	23:S:170:THR:OG1	2.24	0.55
1:1:3268:A:OP2	20:P:181:ARG:NH1	2.40	0.55
5:P2:57:LYS:HB2	5:P2:79:SER:HB3	1.89	0.55
8:C:47:ARG:NH2	8:C:109:TRP:O	2.39	0.55
8:C:327:LEU:HD23	8:C:328:ASN:HB2	1.88	0.55
13:H:46:THR:HA	17:M:7:VAL:HG11	1.89	0.55
14:I:35:ASP:HA	14:I:88:ARG:HA	1.88	0.55
14:I:36:LEU:HD12	14:I:87:LEU:HD12	1.88	0.55
20:P:45:GLN:NE2	20:P:95:LEU:O	2.39	0.55
35:e:24:ARG:NH1	35:e:25:TYR:OH	2.40	0.55
47:2:1029:U:OP2	74:AQ:12:LYS:NZ	2.38	0.55
47:2:1200:G:OP2	47:2:1595:U:O2'	2.25	0.55
51:t:50:ILE:HG12	51:t:55:THR:HG22	1.88	0.55
57:z:150:LEU:O	57:z:154:LYS:NZ	2.39	0.55
63:AF:21:ASP:HB2	63:AF:24:LYS:HB2	1.89	0.55
66:AI:86:LEU:HD13	66:AI:88:ARG:H	1.72	0.55
84:AZ:796:MET:SD	84:AZ:796:MET:N	2.79	0.55
1:1:411:U:H2'	1:1:412:G:H8	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:616:G:H2'	1:1:617:G:H8	1.72	0.55
1:1:1684:U:OP1	25:U:86:LYS:NZ	2.38	0.55
1:1:2457:G:N2	1:1:2483:G:N3	2.54	0.55
1:1:2895:G:O2'	43:m:100:TYR:O	2.24	0.55
29:Y:66:GLN:NE2	29:Y:84:LYS:O	2.40	0.55
35:e:19:ARG:HH21	35:e:28:VAL:HG13	1.72	0.55
45:o:65:THR:O	45:o:87:ARG:NH1	2.40	0.55
47:2:430:G:O3'	84:AZ:393:ARG:NH1	2.40	0.55
51:t:136:VAL:HG22	51:t:186:VAL:HG12	1.89	0.55
67:AJ:40:SER:HB3	67:AJ:43:ASN:HB2	1.88	0.55
1:1:158:G:N2	1:1:264:G:O2'	2.40	0.55
40:j:18:LEU:HA	40:j:25:ARG:HA	1.89	0.55
47:2:147:A:N7	47:2:167:U:C2	2.75	0.55
47:2:1202:A:O2'	47:2:1204:A:OP1	2.24	0.55
47:2:1682:U:O4	47:2:1720:G:N2	2.40	0.55
47:2:1769:U:O2	62:AE:136:ARG:NH1	2.40	0.55
67:AJ:84:LYS:HE2	67:AJ:94:ILE:HB	1.88	0.55
75:AR:40:CYS:SG	75:AR:58:SER:OG	2.65	0.55
84:AZ:365:ASN:HD21	84:AZ:475:ALA:HA	1.72	0.55
84:AZ:723:LYS:HZ3	84:AZ:724:ILE:H	1.54	0.55
84:AZ:785:ARG:HD2	84:AZ:792:ALA:O	2.07	0.55
1:1:3153:U:OP2	1:1:3293:U:O2'	2.25	0.54
3:4:8:C:H2'	3:4:9:A:H8	1.71	0.54
7:B:82:PRO:HB2	7:B:165:GLN:HB2	1.88	0.54
8:C:7:THR:OG1	8:C:16:THR:O	2.24	0.54
8:C:206:LEU:HB2	8:C:246:ARG:HH21	1.73	0.54
9:D:50:ARG:NH1	9:D:147:ASP:OD2	2.40	0.54
47:2:1490:C:OP2	51:t:9:ARG:NH1	2.39	0.54
47:2:1617:U:O2	47:2:1619:C:N4	2.40	0.54
51:t:16:VAL:O	51:t:20:GLU:N	2.36	0.54
51:t:99:VAL:O	51:t:103:GLU:N	2.36	0.54
53:v:189:THR:O	53:v:193:THR:N	2.40	0.54
1:1:172:G:N2	1:1:246:U:O2	2.34	0.54
1:1:1098:A:OP2	24:T:130:ARG:NE	2.37	0.54
1:1:1260:A:HO2'	1:1:1279:C:HO2'	1.54	0.54
1:1:1338:C:O2	35:e:12:LYS:NZ	2.37	0.54
1:1:1863:G:N1	1:1:1866:C:OP2	2.39	0.54
1:1:2812:C:H2'	1:1:2813:A:H8	1.72	0.54
12:G:186:LEU:HD21	12:G:196:ALA:HA	1.89	0.54
15:J:96:PHE:HB3	15:J:156:LYS:HE3	1.88	0.54
47:2:1154:G:C2	47:2:1625:C:C2	2.94	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2:1690:G:OP2	47:2:1706:C:N4	2.41	0.54
57:z:175:ARG:O	57:z:179:ARG:NH1	2.40	0.54
68:AK:58:LEU:HG	68:AK:88:LYS:HE3	1.89	0.54
84:AZ:109:VAL:HG12	84:AZ:110:ASP:N	2.21	0.54
84:AZ:517:CYS:SG	84:AZ:533:THR:OG1	2.62	0.54
1:1:123:A:OP1	12:G:105:LYS:NZ	2.39	0.54
1:1:1474:A:O2'	34:d:57:GLN:NE2	2.39	0.54
1:1:2701:U:OP1	24:T:17:ARG:NH2	2.41	0.54
1:1:2898:G:OP2	13:H:173:ARG:NH2	2.40	0.54
1:1:2945:G:O2'	1:1:2948:C:OP2	2.25	0.54
1:1:3234:A:N1	1:1:3253:G:C6	2.75	0.54
3:4:97:A:O2'	38:h:59:ASN:ND2	2.40	0.54
23:S:79:VAL:HG11	23:S:106:LEU:HD11	1.90	0.54
51:t:38:GLU:OE1	51:t:51:ARG:NH1	2.40	0.54
61:AD:17:PRO:HG3	75:AR:28:PRO:HG3	1.90	0.54
67:AJ:53:TRP:HA	67:AJ:56:LYS:HB2	1.90	0.54
84:AZ:698:ILE:HA	84:AZ:700:ARG:HE	1.72	0.54
84:AZ:773:PRO:O	84:AZ:777:SER:OG	2.25	0.54
1:1:353:G:O6	40:j:55:ARG:NH2	2.38	0.54
1:1:1222:G:O3'	1:1:1285:G:N2	2.39	0.54
10:E:42:LEU:HA	10:E:84:VAL:HG12	1.88	0.54
15:J:87:LYS:HD2	15:J:91:LEU:HD13	1.88	0.54
29:Y:31:LEU:HD21	29:Y:78:PHE:HB3	1.90	0.54
72:AO:29:HIS:N	72:AO:67:GLY:O	2.39	0.54
84:AZ:591:GLU:OE1	84:AZ:687:ASN:ND2	2.40	0.54
1:1:2550:U:N3	12:G:36:ILE:O	2.41	0.54
17:M:25:LYS:O	17:M:62:GLN:NE2	2.40	0.54
21:Q:180:ARG:HB2	21:Q:185:LYS:HD3	1.89	0.54
25:U:19:VAL:HG13	25:U:105:LEU:HD12	1.88	0.54
36:f:38:PRO:HG2	36:f:77:ASN:HA	1.89	0.54
47:2:639:U:H3	55:x:100:PRO:HA	1.73	0.54
47:2:1320:U:H3'	48:q:101:ARG:HH22	1.72	0.54
51:t:105:MET:HB3	51:t:173:ARG:HH22	1.72	0.54
52:u:131:LEU:HA	52:u:137:PRO:HA	1.90	0.54
1:1:3305:A:OP1	7:B:334:ARG:NH2	2.41	0.54
4:P0:155:ASP:OD2	84:AZ:260:LYS:NZ	2.41	0.54
47:2:1548:G:O2'	66:AI:89:GLN:NE2	2.40	0.54
53:v:187:ILE:HD13	73:AP:66:VAL:HB	1.89	0.54
70:AM:25:VAL:HG23	70:AM:63:VAL:HG13	1.89	0.54
70:AM:38:LEU:O	70:AM:42:GLN:N	2.38	0.54
84:AZ:736:PRO:HD2	84:AZ:791:GLN:HB3	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3392:U:O2'	20:P:75:GLU:OE2	2.26	0.54
25:U:56:VAL:HG22	25:U:65:VAL:HG22	1.90	0.54
52:u:36:HIS:HB2	52:u:37:LYS:HD2	1.89	0.54
53:v:221:ALA:O	53:v:225:ARG:NH2	2.40	0.54
1:1:3023:U:H2'	1:1:3024:A:H8	1.73	0.54
1:1:3086:A:OP1	7:B:367:LYS:NZ	2.36	0.54
7:B:50:LYS:HD2	7:B:328:ILE:HD11	1.90	0.54
41:k:24:THR:HB	41:k:44:LYS:HB2	1.90	0.54
47:2:371:G:N2	47:2:612:U:O2	2.41	0.54
47:2:564:G:N2	47:2:577:G:OP1	2.41	0.54
47:2:1466:G:O2'	47:2:1602:C:OP1	2.23	0.54
55:x:138:LYS:HG2	55:x:152:VAL:HG12	1.89	0.54
64:AG:41:PRO:HG2	64:AG:44:LEU:HB2	1.90	0.54
69:AL:22:ARG:NH2	70:AM:67:GLY:O	2.41	0.54
75:AR:18:LYS:O	75:AR:29:ARG:NH2	2.38	0.54
1:1:951:A:H62	1:1:1368:U:H3	1.56	0.54
1:1:1196:C:OP2	1:1:1309:U:O2'	2.25	0.54
1:1:1264:G:N2	1:1:1265:U:O4	2.39	0.54
7:B:278:ILE:HD12	7:B:279:ASN:HB2	1.90	0.54
8:C:358:THR:O	23:S:26:ARG:NH2	2.41	0.54
9:D:65:ILE:HG12	9:D:74:VAL:HG22	1.88	0.54
38:h:35:LYS:HD3	38:h:44:ILE:HG13	1.90	0.54
46:p:83:ILE:O	46:p:87:ARG:N	2.41	0.54
47:2:1205:C:H2'	77:AT:17:GLY:HA3	1.90	0.54
47:2:1775:U:H2'	47:2:1776:A:H8	1.73	0.54
67:AJ:108:LEU:HD12	67:AJ:111:ILE:HD12	1.89	0.54
72:AO:110:GLN:O	72:AO:114:ARG:NH1	2.40	0.54
74:AQ:23:CYS:SG	74:AQ:24:VAL:N	2.80	0.54
84:AZ:71:LYS:NZ	84:AZ:385:MET:O	2.41	0.54
84:AZ:612:PHE:HA	84:AZ:615:ARG:HG2	1.89	0.54
1:1:975:C:O2'	21:Q:144:ARG:NH2	2.41	0.54
1:1:1724:U:O4	22:R:125:LYS:NZ	2.41	0.54
1:1:1898:G:H1'	26:V:18:PRO:HD2	1.90	0.54
1:1:2514:U:O5'	12:G:68:ARG:NH1	2.41	0.54
1:1:3207:U:OP1	17:M:102:LYS:NZ	2.40	0.54
42:l:20:ASN:OD1	42:l:41:ARG:NH2	2.41	0.54
47:2:1154:G:N1	47:2:1625:C:N3	2.56	0.54
47:2:1482:C:N4	47:2:1525:A:OP2	2.41	0.54
47:2:1489:U:OP2	47:2:1515:A:N6	2.41	0.54
63:AF:108:ARG:HH21	66:AI:119:ILE:HA	1.73	0.54
79:AV:44:SER:OG	79:AV:59:ARG:O	2.25	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:AW:141:CYS:HB3	80:AW:144:CYS:HB2	1.90	0.54
1:1:505:G:OP2	8:C:319:LYS:NZ	2.40	0.53
1:1:3227:A:O2'	17:M:133:LYS:NZ	2.40	0.53
6:A:79:ASN:HA	6:A:169:ILE:HA	1.90	0.53
6:A:130:SER:OG	6:A:171:GLY:O	2.26	0.53
9:D:200:PHE:HB3	9:D:237:GLU:HG3	1.89	0.53
21:Q:21:SER:O	21:Q:27:LYS:NZ	2.40	0.53
39:i:59:ASP:HA	39:i:62:ARG:HH21	1.73	0.53
47:2:147:A:N7	47:2:167:U:O2	2.41	0.53
47:2:1383:G:OP1	68:AK:89:ARG:NH1	2.42	0.53
47:2:1457:C:O2	66:AI:137:HIS:NE2	2.39	0.53
53:v:110:ALA:HA	53:v:113:ILE:HD12	1.89	0.53
65:AH:58:MET:HG3	65:AH:61:ILE:HD12	1.89	0.53
66:AI:126:ARG:HD2	66:AI:133:VAL:HG23	1.90	0.53
1:1:1232:C:O2	4:P0:39:HIS:NE2	2.37	0.53
36:f:51:TYR:HD1	36:f:98:VAL:HG12	1.73	0.53
67:AJ:15:ILE:HG23	67:AJ:19:ALA:HB3	1.90	0.53
79:AV:118:LYS:NZ	79:AV:163:ASP:O	2.41	0.53
81:AX:22:G:H2'	81:AX:23:A:H8	1.72	0.53
84:AZ:331:ALA:O	84:AZ:335:LEU:HB3	2.08	0.53
1:1:1234:G:H4'	5:P2:118:ASP:HB3	1.90	0.53
1:1:1393:A:OP1	35:e:125:ARG:NH2	2.40	0.53
2:3:7:G:O3'	9:D:33:ARG:NH1	2.38	0.53
16:L:184:GLU:O	16:L:188:ARG:N	2.38	0.53
42:l:9:ILE:HD11	42:l:51:ILE:HD11	1.90	0.53
47:2:458:G:OP1	72:AO:109:LYS:NZ	2.35	0.53
47:2:536:C:OP2	57:z:174:ARG:NH2	2.41	0.53
48:q:67:ILE:HG23	48:q:119:ARG:HH21	1.74	0.53
53:v:116:HIS:NE2	53:v:192:GLU:OE2	2.42	0.53
62:AE:82:LYS:HG2	62:AE:116:GLU:HB2	1.91	0.53
63:AF:86:VAL:H	63:AF:89:MET:HE3	1.74	0.53
1:1:696:C:OP2	8:C:119:ARG:NH2	2.41	0.53
1:1:1194:G:H2'	1:1:1195:A:C8	2.44	0.53
6:A:29:LEU:O	6:A:123:ARG:NE	2.35	0.53
7:B:223:GLY:HA2	7:B:271:GLY:HA3	1.90	0.53
17:M:43:LYS:HA	17:M:59:ASN:HA	1.90	0.53
23:S:129:ILE:HD13	23:S:135:VAL:HG23	1.90	0.53
47:2:489:C:N4	47:2:499:U:O2	2.41	0.53
51:t:109:LEU:HD12	51:t:110:LEU:HB2	1.89	0.53
69:AL:70:ASN:HB3	69:AL:83:TRP:HB2	1.90	0.53
78:AU:5:HIS:O	78:AU:10:ARG:NH1	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1655:G:N2	1:1:1801:U:O4	2.41	0.53
1:1:1697:A:H5'	37:g:33:GLN:HE22	1.74	0.53
6:A:36:GLU:OE2	6:A:163:ARG:NE	2.40	0.53
7:B:41:VAL:HA	7:B:185:GLY:HA3	1.89	0.53
14:I:44:ASP:HA	14:I:171:TRP:HH2	1.74	0.53
39:i:58:ILE:O	39:i:62:ARG:NE	2.42	0.53
47:2:1575:G:N2	81:AX:42:G:O2'	2.41	0.53
51:t:48:VAL:HG21	51:t:84:ILE:HD12	1.89	0.53
83:BA:203:SER:HA	83:BA:216:LEU:HB3	1.90	0.53
84:AZ:152:LYS:HG3	84:AZ:200:VAL:HA	1.90	0.53
1:1:3023:U:O3'	84:AZ:162:ARG:NH1	2.42	0.53
22:R:175:GLN:HA	22:R:178:ALA:HB3	1.90	0.53
33:c:25:LEU:HD22	33:c:87:VAL:HG21	1.91	0.53
47:2:1679:G:H21	47:2:1722:A:H62	1.57	0.53
73:AP:63:SER:OG	73:AP:98:GLN:NE2	2.38	0.53
84:AZ:541:CYS:HA	84:AZ:544:ASP:HB3	1.90	0.53
1:1:671:U:H2'	1:1:672:A:H8	1.74	0.53
1:1:1103:A:N6	1:1:1363:A:O2'	2.41	0.53
1:1:3303:G:O2'	1:1:3305:A:N7	2.37	0.53
3:4:38:U:H3	38:h:81:ARG:HD2	1.73	0.53
27:W:6:ASP:OD1	27:W:11:ALA:N	2.42	0.53
31:a:126:LYS:NZ	31:a:146:GLU:OE2	2.42	0.53
31:a:130:VAL:HG11	31:a:145:VAL:HG21	1.91	0.53
35:e:72:LYS:HD2	35:e:92:TYR:HE1	1.74	0.53
47:2:531:C:O2	72:AO:62:THR:OG1	2.24	0.53
52:u:48:LEU:HD11	52:u:61:VAL:HG13	1.91	0.53
56:y:168:CYS:SG	56:y:169:ILE:N	2.82	0.53
63:AF:14:THR:HB	63:AF:22:LEU:HG	1.90	0.53
64:AG:46:PHE:HA	64:AG:49:TYR:HD2	1.74	0.53
65:AH:28:PHE:HA	65:AH:31:ASN:HD22	1.74	0.53
66:AI:36:LYS:NZ	66:AI:102:ALA:O	2.41	0.53
84:AZ:520:THR:HG22	84:AZ:530:VAL:HG23	1.89	0.53
3:4:87:G:OP2	38:h:7:TYR:OH	2.27	0.53
44:n:7:LYS:NZ	47:2:1774:G:OP1	2.39	0.53
47:2:79:C:OP2	47:2:80:A:N6	2.39	0.53
47:2:715:U:O2	47:2:723:G:N2	2.41	0.53
47:2:1202:A:N6	47:2:1457:C:O5'	2.42	0.53
47:2:1586:A:N3	47:2:1611:A:N6	2.57	0.53
54:w:2:LYS:HB3	54:w:108:VAL:HG22	1.90	0.53
66:AI:91:ASP:OD1	66:AI:91:ASP:N	2.41	0.53
1:1:1152:G:OP2	1:1:1152:G:N2	2.37	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1245:A:N6	1:1:1271:A:O2'	2.41	0.53
1:1:1383:G:OP1	8:C:203:ARG:NH2	2.42	0.53
1:1:1824:U:O2'	41:k:17:ARG:NH1	2.42	0.53
1:1:2111:G:H5''	27:W:48:ARG:HE	1.73	0.53
18:N:36:ILE:HD11	18:N:109:ARG:HD2	1.90	0.53
23:S:80:ARG:HG3	23:S:122:HIS:HB2	1.89	0.53
31:a:84:GLU:HA	31:a:87:ARG:HB2	1.91	0.53
47:2:1216:C:O2	47:2:1217:A:N6	2.39	0.53
52:u:24:SER:OG	52:u:26:CYS:SG	2.66	0.53
56:y:72:ILE:HD12	56:y:73:SER:H	1.74	0.53
81:AX:54:U:C2	81:AX:58:A:N7	2.77	0.53
1:1:267:G:OP2	1:1:318:A:N6	2.42	0.53
1:1:1128:U:O4'	14:I:4:ARG:NH1	2.41	0.53
4:P0:170:ALA:O	4:P0:174:ASN:ND2	2.41	0.53
12:G:62:LYS:NZ	18:N:25:VAL:O	2.41	0.53
12:G:91:PHE:O	12:G:95:ASN:ND2	2.42	0.53
14:I:140:THR:HG21	14:I:148:VAL:HG21	1.89	0.53
20:P:38:GLY:H	20:P:114:VAL:HG23	1.74	0.53
21:Q:24:VAL:HA	21:Q:27:LYS:HD3	1.90	0.53
47:2:1616:G:N2	76:AS:22:ARG:O	2.42	0.53
84:AZ:794:PRO:HB2	84:AZ:796:MET:HE1	1.91	0.53
1:1:356:C:O2'	8:C:81:GLY:O	2.27	0.52
6:A:3:ARG:NH1	6:A:208:ASP:OD1	2.42	0.52
7:B:261:MET:HB3	7:B:263:SER:H	1.74	0.52
15:J:26:SER:HA	15:J:30:LEU:HD13	1.91	0.52
48:q:88:LYS:HZ1	48:q:201:LEU:HD12	1.74	0.52
57:z:48:GLN:HA	57:z:51:LYS:HG2	1.90	0.52
1:1:912:G:O6	6:A:9:ARG:NH1	2.42	0.52
1:1:1237:G:O6	1:1:1251:A:N1	2.41	0.52
1:1:1702:U:O4	1:1:1743:G:O6	2.28	0.52
1:1:1717:U:H3	1:1:1727:G:H1	1.58	0.52
7:B:368:GLY:O	27:W:17:ARG:NH1	2.42	0.52
8:C:315:LYS:HE2	8:C:320:ASN:HD21	1.74	0.52
11:F:92:ILE:HG12	21:Q:3:ILE:HA	1.90	0.52
47:2:1041:G:OP1	48:q:32:HIS:NE2	2.43	0.52
63:AF:33:PHE:HA	63:AF:36:LEU:HG	1.92	0.52
79:AV:37:SER:OG	79:AV:38:ARG:N	2.40	0.52
84:AZ:733:ILE:HD11	84:AZ:792:ALA:HB1	1.90	0.52
1:1:1525:G:H1'	1:1:1829:G:H2'	1.91	0.52
4:P0:30:VAL:O	4:P0:83:ASN:N	2.38	0.52
6:A:145:LYS:HD3	6:A:157:VAL:HB	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:206:LEU:HB3	8:C:248:VAL:HG12	1.91	0.52
9:D:51:LEU:HB3	9:D:64:ILE:HG22	1.92	0.52
23:S:74:ASN:HD21	23:S:95:ARG:HH11	1.56	0.52
41:k:42:LYS:HG2	41:k:55:VAL:HG12	1.91	0.52
47:2:1203:A:N6	47:2:1553:G:N2	2.55	0.52
47:2:1682:U:OP1	54:w:31:ARG:NH2	2.42	0.52
53:v:139:ASN:OD1	53:v:203:LYS:NZ	2.42	0.52
83:BA:30:GLU:HB3	83:BA:32:VAL:HG12	1.91	0.52
84:AZ:538:LEU:HD22	84:AZ:542:LEU:HD13	1.90	0.52
87:AZ:902:GDP:H5''	87:AZ:902:GDP:C8	2.45	0.52
1:1:3351:U:H3	1:1:3356:G:H21	1.57	0.52
7:B:284:ARG:HB3	7:B:323:MET:HE3	1.92	0.52
47:2:895:G:O6	47:2:917:U:O4	2.27	0.52
47:2:1153:G:H4'	74:AQ:85:ARG:HG3	1.91	0.52
1:1:210:U:O2'	1:1:229:G:O2'	2.27	0.52
1:1:2386:A:H62	1:1:2993:G:H21	1.58	0.52
8:C:226:GLU:OE2	8:C:246:ARG:NH2	2.42	0.52
24:T:50:LYS:HE3	24:T:92:ARG:HH22	1.75	0.52
47:2:297:U:O2'	52:u:34:GLY:N	2.43	0.52
48:q:85:ALA:HA	48:q:202:TYR:HB2	1.91	0.52
72:AO:8:ARG:HB2	72:AO:26:ASP:HB3	1.90	0.52
79:AV:26:SER:HA	79:AV:73:LEU:HG	1.90	0.52
80:AW:142:GLY:O	80:AW:145:HIS:NE2	2.42	0.52
84:AZ:793:PHE:CD1	84:AZ:793:PHE:N	2.73	0.52
1:1:916:G:O4'	6:A:205:ASN:ND2	2.43	0.52
1:1:1068:C:H5'	24:T:110:LYS:HE3	1.92	0.52
1:1:1638:A:OP1	37:g:74:ARG:NH1	2.41	0.52
30:Z:22:LYS:NZ	30:Z:129:TRP:O	2.43	0.52
40:j:19:CYS:SG	40:j:20:ASN:N	2.82	0.52
47:2:225:A:H2'	47:2:226:A:H8	1.74	0.52
47:2:1533:C:O2'	66:AI:27:LYS:NZ	2.40	0.52
56:y:192:TYR:O	56:y:196:LEU:N	2.42	0.52
84:AZ:26:ALA:HB1	84:AZ:30:HIS:CD2	2.45	0.52
84:AZ:251:ASN:HA	84:AZ:254:THR:H	1.75	0.52
1:1:936:A:OP1	31:a:32:ARG:NH2	2.42	0.52
1:1:3085:G:OP1	27:W:34:SER:OG	2.28	0.52
21:Q:170:ARG:NH1	31:a:57:GLY:O	2.43	0.52
31:a:84:GLU:OE1	31:a:87:ARG:NH2	2.42	0.52
47:2:1081:A:O2'	47:2:1083:G:N7	2.42	0.52
47:2:1349:G:O2'	64:AG:68:ARG:NH2	2.42	0.52
52:u:191:ARG:NH2	52:u:212:ASP:OD2	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:AM:49:GLU:HB2	70:AM:64:GLN:HE21	1.74	0.52
83:BA:193:LEU:HG	83:BA:195:LYS:H	1.75	0.52
84:AZ:4:PHE:O	84:AZ:8:GLN:NE2	2.43	0.52
1:1:1127:G:OP2	14:I:98:ARG:NH2	2.43	0.52
1:1:1160:C:OP1	21:Q:2:GLY:N	2.43	0.52
1:1:1167:U:O2'	11:F:210:PRO:O	2.25	0.52
1:1:1223:A:OP1	4:P0:56:ASN:ND2	2.36	0.52
1:1:2479:C:OP1	83:BA:102:LYS:NZ	2.42	0.52
1:1:3261:C:OP1	17:M:126:GLN:NE2	2.40	0.52
2:3:6:C:OP1	9:D:54:ARG:NH2	2.41	0.52
2:3:60:G:H2'	2:3:61:G:H8	1.75	0.52
37:g:29:ILE:HD13	37:g:31:ARG:HG3	1.92	0.52
47:2:890:C:H2'	47:2:891:A:H8	1.75	0.52
47:2:987:G:N2	47:2:1014:G:OP2	2.43	0.52
59:AB:78:THR:HA	59:AB:84:ILE:HG22	1.92	0.52
76:AS:21:SER:OG	76:AS:22:ARG:NH1	2.43	0.52
84:AZ:31:GLY:O	84:AZ:158:ASN:ND2	2.42	0.52
84:AZ:546:GLU:HG2	84:AZ:554:LEU:HB2	1.92	0.52
84:AZ:570:GLU:HA	84:AZ:592:PRO:HD2	1.92	0.52
84:AZ:823:ARG:NH2	84:AZ:828:MET:SD	2.79	0.52
1:1:218:G:O6	29:Y:62:SER:N	2.41	0.52
1:1:339:C:OP1	1:1:1380:G:O2'	2.26	0.52
9:D:29:ASP:OD1	9:D:29:ASP:N	2.40	0.52
9:D:37:VAL:HG11	24:T:27:LEU:HD21	1.91	0.52
17:M:23:ILE:HG21	17:M:28:SER:HB2	1.92	0.52
23:S:141:LYS:HA	23:S:144:LEU:HD23	1.91	0.52
47:2:540:G:OP1	47:2:541:A:N6	2.43	0.52
70:AM:30:SER:HA	70:AM:34:ILE:HD11	1.92	0.52
81:AX:65:G:H2'	81:AX:66:A:H8	1.75	0.52
84:AZ:49:ALA:HB1	84:AZ:50:LYS:HE2	1.92	0.52
84:AZ:243:ARG:NH1	84:AZ:246:GLY:O	2.43	0.52
84:AZ:394:PHE:N	84:AZ:460:ASP:OD2	2.43	0.52
12:G:108:ARG:NH2	12:G:126:SER:OG	2.43	0.52
16:L:24:VAL:HG12	18:N:199:LEU:HB2	1.92	0.52
37:g:97:GLU:HA	37:g:100:ILE:HG22	1.91	0.52
47:2:711:U:O2'	47:2:728:U:O4	2.27	0.52
47:2:931:C:H5'	49:r:116:LYS:HG2	1.92	0.52
47:2:1173:C:OP2	66:AI:145:ARG:NE	2.37	0.52
47:2:1203:A:C6	47:2:1553:G:N2	2.78	0.52
47:2:1408:G:O6	47:2:1409:G:N2	2.43	0.52
49:r:88:VAL:HA	49:r:98:THR:HG22	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:t:50:ILE:HD13	51:t:59:LEU:HD21	1.92	0.52
56:y:169:ILE:HA	56:y:181:GLY:HA3	1.91	0.52
59:AB:33:ARG:NH1	59:AB:53:TYR:O	2.43	0.52
1:1:1564:U:O4	1:1:1576:G:O6	2.28	0.51
1:1:2350:C:H5''	20:P:68:GLY:HA3	1.92	0.51
9:D:2:ALA:N	9:D:6:ASP:OD2	2.43	0.51
19:O:124:LEU:HD11	23:S:167:ARG:HH11	1.75	0.51
46:p:14:TYR:O	46:p:17:ARG:NH1	2.43	0.51
47:2:1097:U:N3	50:s:201:ASN:OD1	2.43	0.51
47:2:1241:G:OP2	63:AF:77:ARG:NH2	2.43	0.51
59:AB:123:VAL:HG23	59:AB:142:VAL:HA	1.92	0.51
78:AU:13:LYS:O	78:AU:17:GLN:NE2	2.43	0.51
84:AZ:492:ALA:HA	84:AZ:529:ILE:HA	1.92	0.51
1:1:2168:A:H5'	18:N:67:ARG:HH12	1.75	0.51
1:1:2941:A:H5'	1:1:2943:G:H4'	1.92	0.51
1:1:3109:G:N2	13:H:156:GLN:OE1	2.41	0.51
3:4:152:G:H5'	12:G:60:ARG:HG2	1.92	0.51
9:D:242:SER:O	9:D:246:ALA:N	2.37	0.51
15:J:55:ARG:HH11	15:J:58:GLY:HA2	1.75	0.51
15:J:109:HIS:CD2	15:J:123:PHE:H	2.27	0.51
31:a:15:VAL:HG23	31:a:21:ARG:HH22	1.75	0.51
47:2:1453:G:H2'	47:2:1454:G:H8	1.75	0.51
53:v:96:SER:HB2	53:v:173:ALA:HA	1.92	0.51
68:AK:103:ILE:HD12	68:AK:114:VAL:HB	1.91	0.51
84:AZ:18:ASN:ND2	84:AZ:97:SER:O	2.43	0.51
84:AZ:380:LEU:HD21	84:AZ:400:VAL:HG23	1.92	0.51
1:1:877:C:O2'	1:1:880:G:O2'	2.26	0.51
1:1:3386:G:OP1	34:d:10:ARG:NH2	2.43	0.51
37:g:44:CYS:SG	37:g:45:GLY:N	2.83	0.51
47:2:250:C:H2'	47:2:251:A:H8	1.75	0.51
47:2:511:A:OP2	57:z:176:ASN:ND2	2.39	0.51
51:t:132:LYS:HB3	51:t:189:MET:HG3	1.92	0.51
64:AG:63:ILE:HD13	64:AG:92:TYR:HE1	1.76	0.51
80:AW:141:CYS:SG	80:AW:142:GLY:N	2.83	0.51
1:1:935:U:O4	1:1:936:A:N6	2.43	0.51
3:4:27:U:H4'	8:C:51:ALA:HB3	1.91	0.51
9:D:19:PRO:HB2	9:D:23:ARG:HB3	1.92	0.51
9:D:54:ARG:HH21	9:D:149:GLY:HA3	1.75	0.51
15:J:88:GLU:OE1	15:J:167:TYR:OH	2.28	0.51
22:R:91:SER:HA	22:R:94:VAL:HG12	1.92	0.51
45:o:39:GLY:HA2	45:o:42:ARG:HG2	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2:1487:A:OP1	77:AT:34:TYR:OH	2.29	0.51
47:2:1565:C:H5''	66:AI:41:ARG:HG2	1.93	0.51
70:AM:51:GLU:HB3	70:AM:62:VAL:HG13	1.92	0.51
83:BA:35:GLN:HE21	83:BA:169:VAL:HG22	1.75	0.51
84:AZ:406:LYS:HG2	84:AZ:409:GLN:HB2	1.93	0.51
84:AZ:577:SER:HB2	84:AZ:587:TYR:HA	1.92	0.51
84:AZ:711:ARG:O	84:AZ:715:ALA:CB	2.59	0.51
1:1:2896:A:H4'	43:m:95:VAL:HG21	1.92	0.51
5:P2:81:VAL:HB	5:P2:133:LEU:HD21	1.93	0.51
47:2:743:U:OP2	55:x:108:GLN:NE2	2.43	0.51
58:AA:30:ALA:HA	58:AA:39:ASN:H	1.75	0.51
84:AZ:26:ALA:HA	84:AZ:139:THR:HG22	1.91	0.51
1:1:852:U:H2'	1:1:853:G:H8	1.75	0.51
1:1:1111:U:H2'	1:1:1112:A:H8	1.75	0.51
1:1:1565:G:H1'	1:1:1575:A:H61	1.75	0.51
45:o:70:LEU:HD13	45:o:85:LEU:HD23	1.93	0.51
47:2:154:G:N2	54:w:60:GLY:O	2.31	0.51
47:2:1108:G:H4'	47:2:1109:G:H5''	1.92	0.51
52:u:127:LYS:HE3	52:u:142:HIS:HA	1.92	0.51
67:AJ:36:ILE:HG13	67:AJ:37:VAL:HG23	1.92	0.51
76:AS:11:LYS:HE3	76:AS:33:LEU:HD21	1.93	0.51
84:AZ:23:SER:HB3	84:AZ:122:THR:HG21	1.92	0.51
1:1:519:A:N6	23:S:65:ASN:O	2.34	0.51
1:1:644:G:N2	1:1:2372:A:O4'	2.44	0.51
1:1:2361:A:N1	1:1:2377:G:O6	2.43	0.51
1:1:3158:G:C6	1:1:3292:A:N6	2.79	0.51
1:1:3358:U:H2'	1:1:3359:A:H8	1.75	0.51
3:4:58:G:O6	40:j:63:ARG:NH2	2.37	0.51
6:A:59:ALA:HB2	6:A:78:ALA:HB2	1.92	0.51
21:Q:11:LYS:NZ	21:Q:12:ARG:O	2.37	0.51
33:c:97:ASP:N	33:c:97:ASP:OD1	2.41	0.51
47:2:1504:G:OP1	67:AJ:99:SER:N	2.41	0.51
47:2:1798:U:OP2	74:AQ:38:ARG:NH2	2.43	0.51
49:r:175:GLU:OE1	49:r:187:LYS:NZ	2.35	0.51
51:t:195:SER:HB3	51:t:200:LYS:HA	1.92	0.51
54:w:116:LYS:HE2	54:w:121:LEU:HD23	1.91	0.51
68:AK:70:THR:OG1	68:AK:72:ASN:O	2.27	0.51
1:1:598:A:OP1	11:F:41:ARG:NH2	2.44	0.51
1:1:2457:G:H2'	1:1:2458:A:H2'	1.92	0.51
1:1:3299:A:N1	1:1:3315:G:N2	2.59	0.51
28:X:112:THR:OG1	28:X:120:LYS:NZ	2.42	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2:351:C:N4	47:2:631:G:OP1	2.42	0.51
47:2:775:G:O6	47:2:785:U:O2	2.29	0.51
47:2:1310:U:HO2'	47:2:1402:G:HO2'	1.57	0.51
50:s:157:LYS:HE3	70:AM:95:PRO:HA	1.93	0.51
52:u:159:THR:HB	52:u:227:VAL:HG23	1.93	0.51
56:y:78:ILE:HA	56:y:104:ILE:HG22	1.92	0.51
61:AD:47:PRO:HA	61:AD:50:ILE:HG22	1.91	0.51
66:AI:106:GLU:HA	66:AI:109:LEU:HG	1.92	0.51
83:BA:44:GLN:HA	83:BA:195:LYS:HE2	1.93	0.51
84:AZ:176:GLN:O	84:AZ:180:ARG:HB2	2.11	0.51
84:AZ:490:GLN:HB2	84:AZ:529:ILE:HD12	1.92	0.51
1:1:714:G:HO2'	1:1:753:C:HO2'	1.56	0.51
1:1:2413:A:H2'	1:1:2414:G:H8	1.75	0.51
20:P:113:TYR:HE1	20:P:153:LYS:HB2	1.76	0.51
35:e:4:LEU:HD23	35:e:90:LYS:HG3	1.92	0.51
47:2:1278:G:O6	47:2:1430:U:O4	2.29	0.51
48:q:17:LEU:O	48:q:22:THR:OG1	2.29	0.51
58:AA:8:ARG:O	58:AA:12:HIS:ND1	2.32	0.51
1:1:817:A:OP1	40:j:30:GLN:NE2	2.44	0.51
1:1:1553:U:H4'	1:1:1554:U:H5'	1.93	0.51
1:1:2909:U:O2'	1:1:3105:U:O2	2.25	0.51
1:1:3050:U:H4'	27:W:17:ARG:HE	1.76	0.51
7:B:190:GLU:O	7:B:194:TRP:N	2.43	0.51
13:H:5:GLN:NE2	13:H:7:GLU:OE1	2.44	0.51
25:U:17:VAL:HG12	25:U:103:TYR:HB2	1.93	0.51
36:f:15:SER:OG	36:f:16:TYR:N	2.44	0.51
53:v:145:ASP:HB2	53:v:166:ARG:HG2	1.93	0.51
84:AZ:735:CYS:HB3	84:AZ:791:GLN:O	2.11	0.51
1:1:528:U:H2'	1:1:529:A:H8	1.76	0.50
1:1:1119:C:H2'	1:1:1120:A:H8	1.76	0.50
1:1:1301:A:H4'	1:1:1302:A:H5''	1.93	0.50
1:1:2157:G:O6	6:A:152:SER:OG	2.26	0.50
7:B:57:VAL:HG22	7:B:358:TRP:HB3	1.93	0.50
7:B:79:VAL:HG23	7:B:322:ILE:HG23	1.93	0.50
9:D:279:LYS:HD2	9:D:282:ARG:HH21	1.74	0.50
14:I:12:GLN:HE21	14:I:128:ARG:HG3	1.76	0.50
48:q:156:VAL:O	69:AL:65:SER:OG	2.29	0.50
52:u:34:GLY:HA2	52:u:83:PRO:HG2	1.93	0.50
52:u:64:ILE:HD12	72:AO:17:LEU:HD13	1.92	0.50
68:AK:28:SER:HB2	68:AK:34:LEU:HD23	1.93	0.50
79:AV:232:TYR:OH	79:AV:265:LEU:O	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:AV:257:ALA:HA	79:AV:288:HIS:HB3	1.92	0.50
81:AX:14:A:H3'	81:AX:15:G:H8	1.76	0.50
1:1:1793:C:N4	6:A:177:LYS:O	2.38	0.50
6:A:79:ASN:HD21	6:A:99:GLY:HA2	1.77	0.50
9:D:77:ALA:O	9:D:108:ARG:NH1	2.43	0.50
13:H:31:ARG:NH1	13:H:149:ASN:OD1	2.45	0.50
15:J:82:ARG:HH21	15:J:113:GLY:HA3	1.76	0.50
18:N:68:ARG:NH1	18:N:124:ASP:O	2.44	0.50
32:b:47:LEU:HA	32:b:50:THR:HG22	1.94	0.50
47:2:332:U:OP1	56:y:56:ARG:NH2	2.45	0.50
47:2:1018:U:O4	47:2:1019:A:N6	2.44	0.50
51:t:120:TYR:HA	51:t:123:VAL:HB	1.92	0.50
56:y:90:LEU:HB2	56:y:95:THR:HB	1.92	0.50
64:AG:44:LEU:HD21	64:AG:75:VAL:HG22	1.94	0.50
67:AJ:14:PHE:O	67:AJ:18:TYR:N	2.42	0.50
78:AU:55:ARG:NH2	78:AU:57:ASN:O	2.44	0.50
84:AZ:130:ASP:OD1	84:AZ:158:ASN:O	2.28	0.50
1:1:289:A:H2'	1:1:290:G:H8	1.76	0.50
1:1:297:G:O2'	39:i:32:ALA:O	2.29	0.50
1:1:591:G:O2'	10:E:17:ALA:O	2.28	0.50
1:1:1712:G:N1	1:1:1731:A:OP2	2.38	0.50
1:1:2512:C:H2'	1:1:2513:U:C6	2.46	0.50
1:1:3308:C:OP2	1:1:3309:G:N2	2.44	0.50
9:D:150:LEU:HD21	15:J:142:LYS:HG3	1.94	0.50
61:AD:25:TRP:HB2	75:AR:82:LYS:HE3	1.92	0.50
81:AX:15:G:O2'	81:AX:20:G:N2	2.35	0.50
83:BA:108:ASN:H	83:BA:136:THR:HB	1.76	0.50
1:1:2467:G:C2	1:1:2488:A:C6	2.99	0.50
1:1:2468:A:N1	1:1:2477:G:O2'	2.42	0.50
1:1:2841:G:N2	1:1:2898:G:O6	2.45	0.50
1:1:3097:C:OP1	7:B:325:LYS:NZ	2.44	0.50
3:4:8:C:H2'	3:4:9:A:C8	2.46	0.50
3:4:9:A:H2'	3:4:10:A:C8	2.46	0.50
49:r:48:VAL:HG11	49:r:61:LEU:HD13	1.93	0.50
61:AD:55:ARG:HA	61:AD:60:VAL:HG12	1.94	0.50
67:AJ:73:VAL:HA	67:AJ:76:LEU:HB2	1.94	0.50
84:AZ:431:ILE:HD12	84:AZ:459:ILE:HG23	1.92	0.50
84:AZ:524:GLU:OE1	86:AZ:901:SO1:O15	2.30	0.50
84:AZ:815:ALA:O	84:AZ:819:VAL:HB	2.11	0.50
1:1:1812:G:HO2'	1:1:1817:G:HO2'	1.60	0.50
1:1:3003:G:OP2	7:B:26:ARG:NH2	2.39	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:3:10:C:C4	9:D:20:PHE:HB3	2.46	0.50
12:G:62:LYS:HZ2	18:N:25:VAL:HG22	1.75	0.50
14:I:98:ARG:HB3	14:I:120:GLY:HA3	1.93	0.50
45:o:74:CYS:SG	45:o:75:VAL:N	2.84	0.50
47:2:953:G:H2'	47:2:954:G:H8	1.75	0.50
47:2:1534:G:OP2	73:AP:74:SER:OG	2.30	0.50
49:r:36:SER:OG	49:r:41:ARG:NH1	2.41	0.50
51:t:126:VAL:O	51:t:130:GLY:N	2.43	0.50
51:t:139:SER:N	51:t:183:GLY:O	2.43	0.50
52:u:212:ASP:OD1	52:u:216:ASN:N	2.40	0.50
63:AF:30:THR:HA	63:AF:33:PHE:HB2	1.93	0.50
84:AZ:708:THR:O	84:AZ:712:ALA:HB2	2.11	0.50
84:AZ:760:ARG:HE	84:AZ:764:PRO:HG2	1.76	0.50
1:1:1241:U:N3	1:1:1244:A:OP2	2.44	0.50
7:B:213:GLU:H	7:B:282:ILE:HG22	1.76	0.50
13:H:10:ILE:HB	13:H:53:ILE:HB	1.93	0.50
24:T:78:LYS:HD3	24:T:87:LYS:HZ2	1.75	0.50
31:a:103:ASP:HA	31:a:126:LYS:HB2	1.94	0.50
47:2:511:A:N6	47:2:539:G:O6	2.39	0.50
48:q:96:THR:OG1	48:q:116:LYS:NZ	2.36	0.50
53:v:164:PRO:HD2	76:AS:48:VAL:HG22	1.94	0.50
55:x:122:HIS:O	55:x:173:TYR:OH	2.30	0.50
65:AH:41:ILE:HA	65:AH:46:LEU:HD21	1.94	0.50
70:AM:40:VAL:HG21	70:AM:112:ASP:HB2	1.93	0.50
79:AV:16:HIS:N	79:AV:308:ASN:OD1	2.40	0.50
1:1:2357:A:H2'	1:1:2358:A:H8	1.76	0.50
3:4:13:A:O2'	20:P:121:GLN:O	2.30	0.50
3:4:37:A:OP2	38:h:89:ARG:NH2	2.45	0.50
8:C:39:PHE:HE1	8:C:236:LEU:HA	1.76	0.50
9:D:27:LYS:HZ3	15:J:143:ARG:HH11	1.58	0.50
22:R:115:ILE:HD13	22:R:142:ILE:HG23	1.93	0.50
47:2:1232:U:H3'	47:2:1233:G:C8	2.47	0.50
47:2:1332:C:O2'	51:t:163:PRO:HG3	2.12	0.50
66:AI:142:GLY:H	66:AI:145:ARG:HD3	1.76	0.50
79:AV:9:LEU:O	79:AV:311:ARG:NH2	2.42	0.50
1:1:359:U:OP1	40:j:11:ARG:NH2	2.44	0.50
1:1:661:G:OP2	31:a:12:ARG:NH1	2.37	0.50
1:1:1597:C:OP1	37:g:8:ARG:NH2	2.44	0.50
41:k:24:THR:O	41:k:44:LYS:N	2.45	0.50
47:2:647:G:H1	47:2:687:G:H22	1.58	0.50
47:2:1150:G:H22	82:AY:45:A:H2'	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2:1280:C:H5''	68:AK:69:LYS:HG2	1.93	0.50
54:w:57:ASP:HA	54:w:106:LEU:HA	1.92	0.50
55:x:166:LEU:HG	55:x:167:GLU:HG3	1.94	0.50
73:AP:45:GLU:HB2	73:AP:46:LYS:HD2	1.94	0.50
1:1:1222:G:H4'	1:1:1223:A:H8	1.77	0.50
1:1:3027:A:N3	1:1:3027:A:C2'	2.75	0.50
1:1:3092:C:O2'	1:1:3094:A:OP2	2.26	0.50
1:1:3260:G:OP2	17:M:128:ARG:NH2	2.45	0.50
5:P2:94:LYS:O	5:P2:99:LYS:NZ	2.45	0.50
34:d:55:LEU:HD23	34:d:95:PRO:HG3	1.94	0.50
47:2:54:C:OP1	72:AO:113:ASN:ND2	2.45	0.50
47:2:828:U:O4	47:2:829:A:N6	2.45	0.50
48:q:108:THR:OG1	48:q:109:ASN:N	2.43	0.50
53:v:21:THR:HG23	64:AG:57:LEU:HD13	1.92	0.50
56:y:121:LEU:HD11	56:y:160:PHE:HD2	1.76	0.50
57:z:17:ARG:HD3	57:z:18:PRO:HD2	1.94	0.50
65:AH:15:ALA:HA	65:AH:18:GLU:HB2	1.92	0.50
66:AI:126:ARG:O	66:AI:131:LEU:N	2.45	0.50
75:AR:15:GLU:O	75:AR:29:ARG:NH2	2.45	0.50
1:1:269:G:OP2	18:N:44:ARG:NH2	2.45	0.49
1:1:571:U:H2'	1:1:572:A:H8	1.76	0.49
1:1:1391:C:O2'	35:e:101:SER:OG	2.30	0.49
1:1:2654:C:OP2	45:o:2:VAL:N	2.45	0.49
1:1:2673:A:O2'	15:J:126:ASP:OD1	2.27	0.49
1:1:2960:C:H2'	1:1:2961:G:H8	1.77	0.49
4:P0:60:ARG:HG2	4:P0:64:ARG:HG2	1.93	0.49
9:D:123:GLU:HG2	9:D:124:GLU:H	1.75	0.49
13:H:165:CYS:SG	13:H:179:ILE:N	2.81	0.49
14:I:147:VAL:HG13	14:I:148:VAL:HG23	1.93	0.49
17:M:21:VAL:HG23	17:M:65:LEU:HG	1.94	0.49
37:g:46:ASP:OD2	37:g:88:ARG:NH2	2.45	0.49
47:2:463:U:O2'	47:2:526:A:N6	2.45	0.49
47:2:1199:G:N2	47:2:1594:G:O2'	2.45	0.49
79:AV:195:HIS:HE2	79:AV:217:ASP:HB2	1.77	0.49
84:AZ:80:GLU:HG2	84:AZ:97:SER:HA	1.94	0.49
84:AZ:561:VAL:HG11	86:AZ:901:SO1:H201	1.93	0.49
1:1:3210:A:OP1	17:M:109:ARG:NH2	2.46	0.49
9:D:79:TYR:HB3	9:D:81:HIS:H	1.77	0.49
13:H:24:ILE:HG22	13:H:37:ASN:HA	1.93	0.49
14:I:31:ILE:N	14:I:66:GLU:OE2	2.45	0.49
31:a:124:ILE:HG12	31:a:144:VAL:HG12	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2:654:C:N3	47:2:679:U:N3	2.60	0.49
56:y:38:ILE:HD12	56:y:94:ASN:HD21	1.77	0.49
56:y:138:ASN:HB3	56:y:141:ARG:HB3	1.94	0.49
59:AB:97:TYR:HE2	71:AN:16:ARG:HB3	1.76	0.49
61:AD:32:SER:O	61:AD:36:GLN:N	2.45	0.49
75:AR:56:CYS:HB3	75:AR:60:SER:HA	1.93	0.49
84:AZ:374:PRO:HB3	84:AZ:450:ALA:H	1.78	0.49
1:1:3002:C:O2'	7:B:180:GLU:OE2	2.24	0.49
13:H:87:LYS:HB2	13:H:187:ILE:HG22	1.94	0.49
21:Q:62:VAL:HG23	21:Q:66:ARG:HD2	1.94	0.49
44:n:18:ARG:NH2	47:2:1125:A:OP1	2.45	0.49
47:2:902:G:O2'	47:2:906:A:N6	2.45	0.49
47:2:1288:G:N7	47:2:1314:U:O2'	2.39	0.49
47:2:1417:A:O3'	64:AG:128:LYS:NZ	2.44	0.49
57:z:136:VAL:HG22	57:z:152:SER:HB3	1.93	0.49
59:AB:131:ILE:HD11	59:AB:135:VAL:HG22	1.94	0.49
67:AJ:109:GLU:HA	67:AJ:114:VAL:HG11	1.93	0.49
68:AK:82:TYR:HB3	77:AT:52:PHE:HZ	1.77	0.49
70:AM:26:LEU:HD11	70:AM:60:LYS:HD3	1.94	0.49
71:AN:66:SER:OG	71:AN:67:ALA:N	2.46	0.49
74:AQ:39:MET:HG3	74:AQ:70:LYS:HE2	1.93	0.49
79:AV:192:PHE:HE1	79:AV:228:LYS:HE3	1.78	0.49
1:1:307:A:H2'	1:1:308:A:C8	2.47	0.49
1:1:668:G:H1'	16:L:7:LEU:HD22	1.94	0.49
1:1:2631:U:O2'	1:1:2697:A:N3	2.41	0.49
1:1:3225:C:H2'	1:1:3226:A:H8	1.77	0.49
26:V:80:ARG:NH2	26:V:97:ASP:OD2	2.46	0.49
47:2:707:A:N3	47:2:734:A:N6	2.60	0.49
49:r:139:ALA:HA	49:r:212:VAL:HA	1.94	0.49
64:AG:129:PHE:O	64:AG:137:ARG:NH1	2.42	0.49
84:AZ:666:ALA:O	84:AZ:671:THR:N	2.22	0.49
1:1:1316:C:OP2	19:O:133:ARG:NH1	2.46	0.49
6:A:95:SER:HB2	6:A:100:ASN:HD22	1.77	0.49
9:D:282:ARG:HA	9:D:285:ARG:HB2	1.94	0.49
33:c:36:GLN:HE21	33:c:38:LYS:HE3	1.76	0.49
33:c:43:ILE:HG13	33:c:68:TYR:HB3	1.93	0.49
33:c:44:ILE:HD11	33:c:56:LEU:HD11	1.95	0.49
64:AG:100:GLN:HG2	79:AV:57:PRO:HD2	1.93	0.49
84:AZ:136:CYS:SG	84:AZ:137:VAL:N	2.82	0.49
84:AZ:534:GLY:CA	84:AZ:785:ARG:NH2	2.59	0.49
84:AZ:658:GLU:O	84:AZ:662:SER:HB3	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:213:A:N3	29:Y:10:SER:OG	2.46	0.49
1:1:1477:A:OP1	1:1:3075:G:O2'	2.26	0.49
1:1:2790:A:OP1	21:Q:180:ARG:NH2	2.46	0.49
2:3:47:C:H5'	9:D:203:HIS:CE1	2.48	0.49
9:D:160:PHE:HA	9:D:163:LEU:HD23	1.95	0.49
17:M:127:LYS:HB3	19:O:190:VAL:HG11	1.95	0.49
47:2:375:U:H5''	71:AN:32:ARG:HH22	1.78	0.49
47:2:502:U:H2'	47:2:503:G:C8	2.48	0.49
47:2:719:U:OP2	47:2:722:G:N2	2.44	0.49
47:2:1217:A:O5'	58:AA:44:LYS:NZ	2.43	0.49
47:2:1359:C:O2'	47:2:1360:A:O4'	2.29	0.49
7:B:60:LEU:HD11	7:B:72:VAL:HB	1.94	0.49
15:J:101:ASN:HD22	15:J:130:VAL:HG23	1.77	0.49
47:2:296:U:O2'	52:u:35:PRO:O	2.27	0.49
47:2:590:C:H2'	47:2:591:A:H8	1.77	0.49
47:2:619:A:H2	47:2:1140:G:H21	1.59	0.49
47:2:821:U:O4	47:2:852:C:C4	2.65	0.49
54:w:20:ASP:HB3	54:w:23:ARG:HD2	1.95	0.49
72:AO:45:ALA:O	72:AO:49:LYS:N	2.46	0.49
79:AV:72:THR:HG22	79:AV:113:VAL:HG13	1.95	0.49
84:AZ:222:ILE:HD12	84:AZ:223:ARG:HE	1.76	0.49
84:AZ:223:ARG:NH1	84:AZ:241:MET:O	2.41	0.49
84:AZ:422:LYS:HG3	84:AZ:424:ASP:H	1.78	0.49
84:AZ:534:GLY:HA3	84:AZ:785:ARG:HH22	1.72	0.49
1:1:124:U:O4	1:1:145:G:N2	2.46	0.49
1:1:1425:U:O2'	8:C:36:HIS:NE2	2.44	0.49
1:1:1747:G:N2	41:k:2:ALA:O	2.37	0.49
1:1:2651:G:O3'	1:1:2760:C:N4	2.45	0.49
4:P0:145:ILE:O	84:AZ:201:GLN:NE2	2.46	0.49
9:D:22:ARG:O	9:D:26:GLY:N	2.37	0.49
11:F:92:ILE:HG23	21:Q:4:ASP:HB2	1.94	0.49
26:V:32:ARG:NH1	47:2:1733:C:O3'	2.45	0.49
36:f:49:ILE:HG12	36:f:100:ILE:HG22	1.95	0.49
47:2:623:A:N6	47:2:970:A:OP1	2.45	0.49
47:2:1533:C:OP1	66:AI:2:SER:OG	2.27	0.49
48:q:184:LEU:HD11	69:AL:39:VAL:HG12	1.95	0.49
49:r:69:CYS:SG	62:AE:114:ARG:NH1	2.86	0.49
59:AB:101:GLU:OE1	71:AN:13:ARG:NH2	2.46	0.49
64:AG:34:SER:OG	64:AG:38:LEU:O	2.31	0.49
84:AZ:32:LYS:N	87:AZ:902:GDP:O2B	2.46	0.49
84:AZ:185:VAL:O	84:AZ:189:VAL:HB	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:903:U:O2'	1:1:1536:G:O2'	2.23	0.49
7:B:116:ARG:NH1	7:B:174:LYS:O	2.45	0.49
22:R:171:ASP:HA	22:R:174:ALA:HB3	1.95	0.49
27:W:4:GLU:HB3	27:W:13:ILE:HB	1.95	0.49
47:2:1085:G:OP2	50:s:161:LYS:NZ	2.33	0.49
47:2:1504:G:N3	47:2:1563:C:O2'	2.39	0.49
47:2:1533:C:HO2'	47:2:1539:G:H1	1.60	0.49
47:2:1572:G:OP1	47:2:1574:G:N2	2.45	0.49
58:AA:5:LYS:HG3	58:AA:9:ASN:HD21	1.78	0.49
64:AG:115:THR:HA	64:AG:118:ILE:HD13	1.94	0.49
84:AZ:632:LYS:HA	84:AZ:648:ASP:HB3	1.94	0.49
1:1:627:U:H4'	1:1:1399:A:H1'	1.95	0.49
1:1:1389:G:O2'	1:1:1418:A:N1	2.42	0.49
1:1:1413:G:H2'	1:1:1414:G:H8	1.78	0.49
12:G:41:GLN:OE1	12:G:44:ARG:NH2	2.35	0.49
14:I:11:TYR:HB2	14:I:13:LYS:HE2	1.95	0.49
16:L:57:VAL:HG12	16:L:147:ILE:HG23	1.95	0.49
26:V:95:PHE:HA	27:W:22:VAL:HG23	1.95	0.49
37:g:94:LEU:HD12	37:g:95:ILE:HB	1.93	0.49
47:2:716:C:OP2	47:2:720:G:N2	2.42	0.49
53:v:112:ARG:HG3	64:AG:43:ILE:HD11	1.94	0.49
65:AH:45:ARG:O	65:AH:45:ARG:HG3	2.08	0.49
1:1:716:A:O2'	1:1:718:G:OP1	2.31	0.48
1:1:1024:G:N2	1:1:1027:A:OP1	2.35	0.48
7:B:50:LYS:HA	7:B:79:VAL:HA	1.94	0.48
11:F:96:PRO:HB2	11:F:99:PRO:HD2	1.95	0.48
40:j:82:SER:O	40:j:84:SER:N	2.46	0.48
47:2:225:A:H2'	47:2:226:A:C8	2.48	0.48
70:AM:42:GLN:HB2	70:AM:50:PHE:HE1	1.77	0.48
72:AO:13:ILE:HG23	72:AO:22:GLN:HB2	1.93	0.48
76:AS:7:VAL:HG12	76:AS:57:MET:HA	1.95	0.48
84:AZ:67:GLY:O	88:AZ:903:ALF:F4	2.21	0.48
84:AZ:332:ASP:HA	84:AZ:335:LEU:HD12	1.95	0.48
2:3:1:G:H2'	2:3:2:G:H8	1.77	0.48
4:P0:53:MET:HA	4:P0:85:GLY:HA3	1.95	0.48
35:e:40:SER:OG	35:e:41:VAL:N	2.42	0.48
41:k:31:LEU:HD22	41:k:32:ASN:H	1.78	0.48
46:p:33:GLN:OE1	46:p:49:ARG:NH1	2.46	0.48
57:z:12:TYR:HA	57:z:47:PHE:HB2	1.95	0.48
81:AX:9:A:O2'	81:AX:10:G:N7	2.41	0.48
84:AZ:219:ALA:HB3	84:AZ:333:ALA:HB3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:655:C:H2'	1:1:656:A:C8	2.48	0.48
1:1:1192:C:N4	1:1:1301:A:O2'	2.46	0.48
1:1:1395:G:O2'	3:4:18:U:O2	2.31	0.48
11:F:234:GLU:OE2	11:F:237:ASN:ND2	2.46	0.48
16:L:126:PHE:HD2	38:h:116:TYR:HA	1.77	0.48
46:p:57:CYS:SG	46:p:58:SER:N	2.87	0.48
47:2:296:U:OP1	52:u:128:LYS:NZ	2.41	0.48
47:2:343:C:H2'	47:2:344:A:H8	1.78	0.48
47:2:1335:U:H3	47:2:1416:G:H1	1.62	0.48
48:q:175:TYR:OH	48:q:179:ARG:NH2	2.40	0.48
57:z:100:LYS:HB2	57:z:103:ASP:HB2	1.94	0.48
1:1:1805:C:H2'	1:1:1806:A:H8	1.78	0.48
1:1:2406:C:O2'	1:1:2619:G:N2	2.46	0.48
1:1:3019:U:O2	1:1:3036:G:C6	2.67	0.48
1:1:3155:U:H5''	1:1:3156:U:H1'	1.95	0.48
4:P0:45:LEU:O	4:P0:48:ARG:NH1	2.46	0.48
21:Q:81:VAL:HB	21:Q:101:VAL:HG12	1.94	0.48
41:k:30:LYS:N	41:k:39:ARG:O	2.46	0.48
47:2:1219:A:O2'	58:AA:47:GLN:O	2.24	0.48
47:2:1641:C:H2'	47:2:1642:G:C8	2.49	0.48
58:AA:29:GLN:HB3	58:AA:39:ASN:HB2	1.94	0.48
63:AF:29:SER:O	63:AF:33:PHE:N	2.45	0.48
69:AL:18:SER:OG	69:AL:54:ALA:O	2.30	0.48
1:1:1388:U:O2'	35:e:99:ASN:O	2.31	0.48
1:1:2838:A:O2'	14:I:74:LYS:NZ	2.40	0.48
36:f:102:LEU:O	36:f:105:SER:OG	2.30	0.48
53:v:40:ILE:HD12	53:v:42:LEU:HD13	1.95	0.48
68:AK:39:SER:HA	68:AK:42:VAL:HB	1.95	0.48
71:AN:68:ILE:O	71:AN:70:LYS:NZ	2.44	0.48
84:AZ:187:VAL:HG13	84:AZ:188:ILE:HD12	1.95	0.48
1:1:341:G:N2	3:4:22:U:O2'	2.46	0.48
1:1:3276:G:N2	36:f:62:SER:OG	2.47	0.48
47:2:1479:A:H4'	67:AJ:15:ILE:HD12	1.95	0.48
47:2:1524:A:OP1	67:AJ:93:HIS:NE2	2.46	0.48
47:2:1552:U:O2'	47:2:1597:A:O2'	2.29	0.48
48:q:135:GLU:HA	48:q:138:TYR:HD2	1.78	0.48
54:w:103:GLY:H	54:w:106:LEU:HD23	1.79	0.48
56:y:116:HIS:HB2	56:y:146:ARG:HD2	1.96	0.48
59:AB:33:ARG:NH2	59:AB:51:GLY:O	2.46	0.48
61:AD:30:SER:HA	61:AD:33:VAL:HG12	1.95	0.48
61:AD:123:HIS:O	61:AD:127:ARG:NH1	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
84:AZ:723:LYS:HE3	84:AZ:806:SER:N	2.27	0.48
84:AZ:734:GLN:HB3	84:AZ:765:LEU:HG	1.96	0.48
1:1:352:A:H61	1:1:365:A:H5''	1.79	0.48
1:1:1188:U:OP1	1:1:1210:U:O2'	2.28	0.48
1:1:1278:A:OP2	1:1:1279:C:N4	2.47	0.48
1:1:2154:U:H2'	1:1:2155:G:C8	2.46	0.48
1:1:2367:A:H2'	1:1:2368:A:C8	2.48	0.48
20:P:13:LYS:HE2	20:P:152:GLU:HB2	1.95	0.48
21:Q:62:VAL:HG11	21:Q:83:VAL:HG21	1.94	0.48
22:R:25:ASP:N	22:R:25:ASP:OD1	2.46	0.48
24:T:67:VAL:HG12	24:T:72:VAL:HG22	1.95	0.48
47:2:73:U:H4'	47:2:74:U:H5'	1.94	0.48
50:s:165:VAL:HG11	50:s:210:THR:HG22	1.96	0.48
52:u:45:ILE:HA	52:u:61:VAL:HG11	1.96	0.48
56:y:70:GLU:HG3	56:y:72:ILE:HG23	1.96	0.48
58:AA:41:TYR:HB3	58:AA:45:ALA:HB3	1.96	0.48
79:AV:177:MET:HE1	79:AV:193:ILE:HG23	1.96	0.48
83:BA:169:VAL:HG12	83:BA:171:ASN:H	1.79	0.48
84:AZ:130:ASP:O	84:AZ:134:GLY:HA2	2.14	0.48
1:1:2688:U:O2'	9:D:15:ARG:O	2.32	0.48
1:1:2829:U:H2'	1:1:2830:G:H8	1.78	0.48
1:1:3164:C:H2'	1:1:3165:A:H8	1.79	0.48
8:C:30:ILE:N	21:Q:25:TYR:OH	2.47	0.48
10:E:170:LYS:HE2	10:E:173:MET:HG2	1.95	0.48
38:h:86:ARG:HA	38:h:89:ARG:HE	1.79	0.48
39:i:97:SER:OG	39:i:98:ARG:N	2.46	0.48
47:2:406:U:H2'	47:2:407:A:H8	1.78	0.48
47:2:1545:A:H2'	47:2:1546:G:H8	1.78	0.48
48:q:181:VAL:HG22	48:q:185:ARG:HH22	1.79	0.48
55:x:24:PHE:HA	55:x:27:LEU:HD23	1.94	0.48
84:AZ:128:VAL:HG22	84:AZ:156:VAL:HB	1.94	0.48
84:AZ:626:ASP:OD1	84:AZ:626:ASP:N	2.44	0.48
84:AZ:718:LEU:HA	84:AZ:722:PRO:HG2	1.94	0.48
1:1:1259:A:N7	4:P0:42:ARG:NH2	2.56	0.48
1:1:2736:A:H1'	24:T:90:ASN:HD21	1.79	0.48
2:3:28:C:H5''	15:J:137:ARG:HD3	1.96	0.48
8:C:106:TRP:HB3	16:L:24:VAL:HG11	1.95	0.48
12:G:99:PRO:HG2	12:G:190:VAL:HG23	1.96	0.48
14:I:28:ASP:OD2	14:I:32:ARG:NH2	2.47	0.48
18:N:29:GLU:O	18:N:33:LYS:NZ	2.37	0.48
26:V:32:ARG:HB2	26:V:64:LYS:HE3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:d:11:GLU:OE1	34:d:72:ARG:NH2	2.47	0.48
47:2:338:C:H1'	56:y:5:ARG:HB2	1.96	0.48
47:2:885:G:OP1	49:r:136:ARG:NH1	2.47	0.48
47:2:1347:U:H3	47:2:1515:A:H4'	1.79	0.48
50:s:220:ASN:OD1	69:AL:25:LYS:NZ	2.44	0.48
61:AD:101:HIS:CE1	61:AD:104:ARG:HH21	2.31	0.48
65:AH:27:ASP:O	65:AH:31:ASN:ND2	2.47	0.48
71:AN:71:CYS:SG	71:AN:72:VAL:N	2.87	0.48
79:AV:103:PHE:O	79:AV:106:HIS:NE2	2.47	0.48
81:AX:9:A:O2'	81:AX:45:G:N2	2.46	0.48
83:BA:100:ILE:HD13	83:BA:103:LEU:HD13	1.96	0.48
1:1:1616:U:H2'	1:1:1617:G:H8	1.79	0.48
1:1:3210:A:H5''	17:M:109:ARG:HH22	1.79	0.48
12:G:54:GLU:HA	12:G:57:ARG:HG2	1.95	0.48
15:J:32:ARG:HG3	15:J:123:PHE:HE2	1.78	0.48
15:J:110:ILE:HG13	66:AI:110:ARG:HH22	1.79	0.48
40:j:64:MET:O	40:j:66:TYR:N	2.39	0.48
41:k:24:THR:N	41:k:44:LYS:O	2.42	0.48
45:o:104:LEU:HD23	45:o:106:PHE:H	1.78	0.48
46:p:76:ALA:HA	46:p:79:VAL:HB	1.96	0.48
47:2:1025:A:HO2'	47:2:1773:C:HO2'	1.58	0.48
51:t:5:ILE:HD12	51:t:10:LYS:HE2	1.95	0.48
51:t:25:PHE:HZ	51:t:50:ILE:HG13	1.77	0.48
60:AC:51:ALA:O	60:AC:84:ASN:ND2	2.43	0.48
64:AG:35:PRO:HG2	64:AG:38:LEU:HB2	1.96	0.48
72:AO:106:GLN:HG2	72:AO:107:GLN:HG3	1.95	0.48
80:AW:132:LEU:HG	80:AW:141:CYS:HA	1.95	0.48
83:BA:56:PRO:O	83:BA:152:ARG:NH1	2.44	0.48
1:1:1408:G:OP1	35:e:33:ARG:NH2	2.47	0.47
1:1:1597:C:H2'	1:1:1598:G:H8	1.79	0.47
1:1:1667:A:H2'	1:1:1668:G:C8	2.48	0.47
1:1:2335:G:N2	1:1:2339:C:O2'	2.47	0.47
26:V:93:LEU:HG	27:W:20:LEU:HD22	1.95	0.47
47:2:461:G:H2'	47:2:462:G:H8	1.79	0.47
47:2:941:A:OP1	47:2:1027:A:O2'	2.31	0.47
47:2:1180:C:H1'	63:AF:128:HIS:CE1	2.49	0.47
47:2:1751:C:H2'	47:2:1752:U:H6	1.79	0.47
51:t:72:LEU:HA	51:t:75:LYS:HB2	1.96	0.47
52:u:38:LEU:HD13	52:u:39:ARG:H	1.79	0.47
65:AH:9:VAL:HA	65:AH:12:ALA:HB3	1.96	0.47
79:AV:31:ASN:HB3	79:AV:47:LEU:H	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:AX:22:G:H2'	81:AX:23:A:C8	2.48	0.47
84:AZ:345:PRO:HA	84:AZ:348:ALA:HB3	1.96	0.47
84:AZ:488:VAL:HG23	84:AZ:796:MET:CE	2.44	0.47
84:AZ:565:GLU:O	84:AZ:682:ARG:N	2.47	0.47
84:AZ:568:GLU:HB3	84:AZ:722:PRO:HA	1.95	0.47
1:1:49:A:H3'	18:N:187:ARG:HH12	1.78	0.47
1:1:595:G:O6	10:E:22:ARG:NH2	2.47	0.47
1:1:994:G:N2	1:1:1054:A:OP2	2.35	0.47
1:1:3027:A:N1	84:AZ:109:VAL:CG2	2.77	0.47
3:4:100:U:H4'	28:X:56:ARG:HH21	1.78	0.47
7:B:60:LEU:HD23	7:B:62:ARG:HD3	1.97	0.47
16:L:4:SER:O	31:a:44:ASN:ND2	2.41	0.47
47:2:1171:A:H2'	47:2:1172:G:H8	1.77	0.47
50:s:223:GLY:HA2	69:AL:23:ILE:HG21	1.96	0.47
51:t:119:ALA:O	51:t:123:VAL:N	2.47	0.47
83:BA:50:SER:OG	83:BA:54:LYS:NZ	2.35	0.47
84:AZ:173:ASP:O	84:AZ:177:THR:OG1	2.23	0.47
84:AZ:728:VAL:HA	84:AZ:773:PRO:HA	1.96	0.47
1:1:293:C:O2'	39:i:76:ARG:O	2.31	0.47
1:1:315:C:OP2	39:i:28:TYR:OH	2.27	0.47
1:1:1132:C:H2'	1:1:1133:A:H8	1.78	0.47
1:1:2478:C:N3	1:1:2479:C:N4	2.62	0.47
1:1:2964:G:N2	1:1:2967:A:OP2	2.35	0.47
1:1:3183:A:H2'	1:1:3184:A:C4	2.49	0.47
39:i:33:ALA:O	39:i:37:THR:OG1	2.33	0.47
47:2:76:A:O2'	47:2:78:A:OP1	2.30	0.47
47:2:366:A:OP1	47:2:758:U:O2'	2.32	0.47
47:2:502:U:H2'	47:2:503:G:H8	1.79	0.47
47:2:1647:U:H2'	47:2:1648:A:C8	2.49	0.47
71:AN:73:ARG:HH21	71:AN:82:LYS:HE3	1.79	0.47
73:AP:66:VAL:HG22	73:AP:73:GLY:H	1.79	0.47
81:AX:2:C:H2'	81:AX:3:G:C8	2.49	0.47
84:AZ:500:ASP:O	84:AZ:503:LYS:N	2.40	0.47
1:1:1560:G:H2'	1:1:1561:G:C8	2.49	0.47
1:1:1564:U:H3	1:1:1576:G:H1	1.62	0.47
1:1:2769:A:H5'	45:o:80:ARG:HD2	1.96	0.47
6:A:90:ALA:HA	6:A:101:VAL:HB	1.95	0.47
11:F:121:LYS:HB2	24:T:133:ALA:HB3	1.96	0.47
14:I:29:SER:HB2	14:I:125:LEU:HD12	1.95	0.47
30:Z:71:PHE:HA	30:Z:111:LYS:HE3	1.96	0.47
39:i:77:LEU:HD13	39:i:78:GLY:H	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2:58:U:O2'	47:2:451:A:N3	2.43	0.47
47:2:1115:U:H2'	47:2:1116:A:H8	1.79	0.47
47:2:1795:U:H3'	74:AQ:5:ARG:HH21	1.80	0.47
65:AH:105:GLN:O	65:AH:109:LEU:N	2.48	0.47
79:AV:170:ILE:HD11	79:AV:204:ALA:HA	1.96	0.47
79:AV:200:ASN:HD22	79:AV:216:LYS:HE2	1.78	0.47
1:1:15:C:H5''	28:X:42:ARG:HB3	1.96	0.47
1:1:296:A:N3	1:1:299:G:O2'	2.47	0.47
1:1:721:G:H2'	1:1:722:G:H8	1.79	0.47
1:1:1318:A:N6	19:O:17:GLY:O	2.47	0.47
1:1:1373:A:OP2	31:a:7:LYS:NZ	2.45	0.47
1:1:1914:G:O2'	22:R:82:LYS:O	2.30	0.47
1:1:2828:G:O6	1:1:2862:U:O2	2.32	0.47
7:B:92:TYR:HB2	7:B:157:VAL:HG13	1.96	0.47
7:B:116:ARG:HH12	7:B:174:LYS:HB3	1.79	0.47
9:D:126:GLU:O	9:D:196:ARG:NH2	2.47	0.47
16:L:110:ASP:O	16:L:114:GLN:N	2.47	0.47
22:R:84:THR:HG23	22:R:87:ALA:H	1.79	0.47
47:2:884:A:O3'	49:r:136:ARG:NH2	2.46	0.47
47:2:1781:A:H2'	47:2:1782:A:H8	1.79	0.47
50:s:58:LEU:O	69:AL:15:ARG:NE	2.48	0.47
79:AV:37:SER:HB3	79:AV:41:THR:HG23	1.97	0.47
84:AZ:108:HIS:O	84:AZ:109:VAL:C	2.58	0.47
1:1:612:U:H2'	1:1:613:G:H8	1.79	0.47
1:1:1203:A:N3	1:1:2855:U:O2'	2.41	0.47
1:1:1661:G:H2'	1:1:1662:G:C8	2.50	0.47
5:P2:114:ARG:HH11	5:P2:128:VAL:HG11	1.80	0.47
7:B:168:LYS:O	7:B:319:ASN:ND2	2.41	0.47
32:b:50:THR:HA	32:b:53:ALA:HB3	1.97	0.47
37:g:40:THR:OG1	37:g:43:LYS:NZ	2.47	0.47
47:2:61:A:O2'	47:2:62:A:O4'	2.31	0.47
47:2:168:A:OP1	54:w:136:LYS:N	2.44	0.47
47:2:1098:U:OP2	50:s:168:ARG:NH1	2.48	0.47
54:w:159:ARG:HH12	54:w:172:ALA:HB2	1.79	0.47
68:AK:63:LEU:HD13	68:AK:84:MET:HB2	1.96	0.47
83:BA:36:VAL:HG13	83:BA:167:VAL:HB	1.97	0.47
84:AZ:635:CYS:SG	84:AZ:636:PHE:N	2.88	0.47
84:AZ:739:ALA:CB	84:AZ:788:THR:CG2	2.92	0.47
1:1:15:C:H2'	1:1:16:A:H8	1.80	0.47
1:1:19:U:H1'	18:N:138:GLN:HE22	1.80	0.47
1:1:280:U:O2'	18:N:182:ASN:ND2	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:710:A:H2'	1:1:711:A:C8	2.50	0.47
1:1:1212:A:O3'	23:S:92:LYS:NZ	2.46	0.47
1:1:2946:A:H5''	1:1:2947:G:H5'	1.97	0.47
1:1:3015:G:H2'	1:1:3016:A:H8	1.78	0.47
23:S:81:TYR:HB3	23:S:121:ILE:HD13	1.97	0.47
32:b:32:LEU:HD12	32:b:35:VAL:HG21	1.96	0.47
33:c:51:LEU:HD23	37:g:91:ARG:HE	1.80	0.47
36:f:38:PRO:HG3	36:f:79:GLY:H	1.80	0.47
47:2:276:C:O2'	47:2:278:U:OP2	2.30	0.47
47:2:327:U:O2'	59:AB:10:GLU:OE2	2.30	0.47
47:2:513:U:H2'	47:2:514:G:H8	1.79	0.47
47:2:715:U:C2	47:2:723:G:N1	2.82	0.47
47:2:810:G:H3'	55:x:111:LYS:HD3	1.97	0.47
47:2:860:U:O4'	55:x:114:ARG:NH1	2.47	0.47
47:2:1063:U:O4	49:r:202:LYS:NZ	2.44	0.47
47:2:1663:G:H1	47:2:1738:U:H3	1.62	0.47
47:2:1697:G:OP2	47:2:1698:G:N2	2.48	0.47
50:s:76:LEU:HD12	50:s:104:VAL:HG12	1.96	0.47
56:y:121:LEU:HA	56:y:122:GLY:HA2	1.64	0.47
57:z:176:ASN:OD1	57:z:179:ARG:NH1	2.47	0.47
61:AD:5:HIS:HB3	61:AD:117:LEU:HD11	1.95	0.47
61:AD:130:ARG:HD3	61:AD:139:TRP:HB3	1.97	0.47
71:AN:63:GLN:HA	71:AN:65:ASN:N	2.30	0.47
72:AO:53:ASP:HB2	72:AO:96:LEU:HD21	1.97	0.47
84:AZ:751:ARG:HB3	84:AZ:773:PRO:HG3	1.97	0.47
84:AZ:752:GLY:CA	84:AZ:771:TYR:O	2.63	0.47
1:1:441:U:H3	1:1:493:U:HO2'	1.58	0.47
1:1:1104:G:H2'	1:1:1105:A:C8	2.50	0.47
1:1:1629:U:O4	30:Z:69:LYS:NZ	2.48	0.47
1:1:1677:G:O6	1:1:1691:U:O2	2.31	0.47
1:1:2186:U:OP2	6:A:200:ARG:NH2	2.45	0.47
10:E:57:HIS:NE2	10:E:61:ASN:OD1	2.43	0.47
23:S:104:GLU:O	23:S:108:GLN:N	2.47	0.47
25:U:16:THR:HG22	25:U:64:THR:HG23	1.96	0.47
25:U:99:LYS:HB3	25:U:102:GLU:HB2	1.96	0.47
31:a:81:LEU:HD22	31:a:102:ILE:HG23	1.97	0.47
47:2:444:C:O5'	72:AO:105:ARG:NH2	2.48	0.47
47:2:1099:U:P	70:AM:71:LYS:HZ1	2.37	0.47
47:2:1114:G:O2'	47:2:1130:G:O6	2.32	0.47
47:2:1503:A:H2'	47:2:1504:G:C8	2.49	0.47
47:2:1665:U:O2	47:2:1736:G:N2	2.36	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:y:152:ILE:HG13	56:y:153:GLU:H	1.80	0.47
58:AA:3:MET:SD	58:AA:8:ARG:NH2	2.88	0.47
62:AE:64:ALA:HB1	62:AE:105:LEU:HB3	1.97	0.47
79:AV:67:ILE:O	79:AV:84:SER:OG	2.33	0.47
83:BA:60:ARG:NH2	83:BA:167:VAL:O	2.34	0.47
84:AZ:120:ARG:HH22	84:AZ:149:GLU:HB3	1.80	0.47
84:AZ:161:ASP:HA	84:AZ:165:LEU:HD13	1.95	0.47
84:AZ:490:GLN:OE1	84:AZ:529:ILE:CD1	2.63	0.47
1:1:631:U:O2'	36:f:91:ALA:O	2.32	0.47
1:1:1598:G:P	37:g:31:ARG:HH22	2.38	0.47
1:1:2364:G:H22	1:1:2396:G:H1'	1.79	0.47
1:1:2738:A:H5''	32:b:38:LYS:HE3	1.97	0.47
1:1:2916:U:H2'	1:1:2917:G:H8	1.78	0.47
1:1:3139:A:H4'	7:B:20:LYS:HD3	1.97	0.47
1:1:3181:C:H3'	1:1:3182:G:C8	2.50	0.47
4:P0:35:SER:O	4:P0:39:HIS:ND1	2.47	0.47
4:P0:99:VAL:HG23	4:P0:100:ILE:HG13	1.96	0.47
8:C:26:PHE:HA	8:C:127:ALA:HA	1.96	0.47
8:C:260:GLN:O	8:C:270:SER:OG	2.30	0.47
11:F:40:LYS:HA	11:F:43:ILE:HG12	1.96	0.47
23:S:27:MET:HE2	24:T:151:LEU:HD22	1.95	0.47
47:2:76:A:O2'	47:2:80:A:N6	2.47	0.47
47:2:198:A:H3'	47:2:199:G:H8	1.80	0.47
49:r:32:ILE:HA	49:r:96:LEU:HD21	1.96	0.47
54:w:61:PHE:HD2	54:w:72:ARG:HD2	1.80	0.47
55:x:62:VAL:H	55:x:94:ALA:HA	1.80	0.47
56:y:12:SER:HB3	56:y:18:ARG:HH11	1.79	0.47
64:AG:113:ASP:HA	64:AG:116:LEU:HD23	1.96	0.47
66:AI:104:ASN:HA	66:AI:107:SER:HB2	1.97	0.47
79:AV:85:TRP:HZ2	79:AV:127:ARG:HE	1.63	0.47
79:AV:169:ILE:HG12	79:AV:181:TRP:HB2	1.97	0.47
1:1:652:G:OP1	1:1:1436:U:O2'	2.33	0.47
1:1:1378:U:H2'	1:1:1379:G:H8	1.80	0.47
1:1:3015:G:H2'	1:1:3016:A:C8	2.50	0.47
1:1:3217:C:H5'	1:1:3219:G:H21	1.80	0.47
1:1:3255:U:H2'	1:1:3256:G:C8	2.50	0.47
9:D:281:GLU:O	9:D:285:ARG:N	2.47	0.47
23:S:63:GLN:NE2	23:S:64:ILE:O	2.48	0.47
26:V:21:ALA:H	26:V:36:ILE:HG22	1.80	0.47
38:h:14:LYS:HE3	38:h:61:GLN:HB3	1.97	0.47
48:q:69:ASN:ND2	50:s:248:SER:OG	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:t:24:PHE:HZ	51:t:72:LEU:HB3	1.80	0.47
1:1:616:G:H2'	1:1:617:G:C8	2.50	0.46
1:1:1580:A:H4'	1:1:1581:C:H5'	1.96	0.46
1:1:2184:U:OP2	6:A:6:ARG:NH1	2.46	0.46
1:1:2807:U:O2'	1:1:2809:C:OP1	2.32	0.46
6:A:64:ARG:NH2	12:G:37:GLY:O	2.36	0.46
7:B:80:ASP:HA	7:B:321:PHE:HA	1.96	0.46
8:C:23:PRO:HG2	8:C:258:LEU:HB2	1.96	0.46
10:E:131:LYS:NZ	10:E:133:GLU:OE2	2.48	0.46
18:N:36:ILE:HD11	18:N:109:ARG:HH11	1.79	0.46
24:T:119:ALA:HA	24:T:122:GLN:HG3	1.96	0.46
36:f:87:ASN:HD22	36:f:87:ASN:HA	1.50	0.46
47:2:708:C:O2'	47:2:710:U:O4'	2.31	0.46
47:2:1162:C:H42	47:2:1616:G:H1	1.61	0.46
47:2:1198:G:OP1	68:AK:68:ARG:NH1	2.45	0.46
51:t:193:ALA:HA	51:t:201:ALA:HA	1.97	0.46
51:t:211:PRO:HG3	65:AH:19:ARG:HD2	1.97	0.46
52:u:103:TYR:O	52:u:182:TYR:OH	2.33	0.46
64:AG:10:PHE:O	64:AG:87:LYS:NZ	2.34	0.46
1:1:203:G:H2'	1:1:204:A:H8	1.80	0.46
1:1:1018:G:H2'	1:1:1019:G:H8	1.80	0.46
1:1:1141:C:O2'	1:1:1153:A:N3	2.41	0.46
1:1:1307:G:O2'	1:1:1308:A:N7	2.40	0.46
1:1:2549:G:O2'	12:G:33:ASN:ND2	2.39	0.46
1:1:3092:C:H1'	26:V:12:ARG:HH12	1.80	0.46
3:4:60:U:O4	38:h:59:ASN:ND2	2.48	0.46
8:C:116:ASN:O	8:C:120:TYR:N	2.48	0.46
16:L:106:GLN:NE2	16:L:110:ASP:OD2	2.49	0.46
20:P:16:SER:OG	20:P:17:ALA:N	2.47	0.46
21:Q:70:ALA:O	21:Q:73:GLN:NE2	2.48	0.46
22:R:104:ARG:HA	22:R:107:ALA:HB3	1.95	0.46
42:l:12:LYS:HZ1	42:l:51:ILE:HA	1.80	0.46
47:2:513:U:H2'	47:2:514:G:C8	2.51	0.46
50:s:215:PHE:HA	50:s:218:ILE:HG12	1.97	0.46
79:AV:135:THR:H	79:AV:138:GLY:HA2	1.79	0.46
84:AZ:408:GLY:HA2	84:AZ:432:GLN:HA	1.97	0.46
1:1:671:U:H2'	1:1:672:A:C8	2.51	0.46
1:1:2685:C:H2'	1:1:2686:A:C8	2.50	0.46
1:1:3305:A:O2'	1:1:3310:A:N1	2.47	0.46
47:2:68:A:OP2	54:w:160:ARG:NH2	2.45	0.46
47:2:953:G:H2'	47:2:954:G:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2:1533:C:H4'	66:AI:27:LYS:HD2	1.97	0.46
48:q:71:GLU:HG2	48:q:94:GLY:HA3	1.97	0.46
53:v:163:SER:OG	53:v:166:ARG:N	2.45	0.46
56:y:35:ASN:HD22	56:y:95:THR:HG21	1.80	0.46
64:AG:18:ALA:HB1	64:AG:84:ALA:HB2	1.97	0.46
67:AJ:92:LYS:HE2	67:AJ:92:LYS:HB2	1.80	0.46
67:AJ:103:LYS:O	67:AJ:107:ALA:N	2.47	0.46
83:BA:24:LYS:HZ3	83:BA:174:MET:HG3	1.80	0.46
84:AZ:159:LYS:HG3	84:AZ:162:ARG:HD3	1.98	0.46
84:AZ:772:LEU:HD22	84:AZ:773:PRO:HD2	1.96	0.46
1:1:1667:A:H2'	1:1:1668:G:H8	1.80	0.46
3:4:11:C:H1'	20:P:6:ALA:HB2	1.98	0.46
7:B:21:ARG:HB2	7:B:272:TYR:HD2	1.80	0.46
8:C:38:VAL:HG23	8:C:113:VAL:HG11	1.97	0.46
47:2:715:U:N3	47:2:723:G:C6	2.83	0.46
47:2:1235:C:H3'	47:2:1236:A:H8	1.80	0.46
47:2:1344:A:H4'	68:AK:54:GLY:H	1.81	0.46
51:t:159:HIS:HA	51:t:160:SER:HA	1.66	0.46
54:w:5:ILE:HG13	54:w:111:LEU:HB2	1.96	0.46
1:1:115:A:H2'	1:1:265:A:H2'	1.97	0.46
1:1:528:U:H2'	1:1:529:A:C8	2.51	0.46
1:1:753:C:H2'	1:1:754:G:H8	1.80	0.46
1:1:3181:C:HO2'	19:O:117:ARG:HH22	1.61	0.46
1:1:3295:A:H2'	1:1:3296:A:H8	1.81	0.46
2:3:35:C:O2	2:3:45:A:O2'	2.34	0.46
8:C:126:ILE:HD11	8:C:233:LEU:HG	1.98	0.46
13:H:81:GLY:HA2	13:H:85:GLY:H	1.79	0.46
23:S:10:ILE:HB	23:S:59:VAL:HB	1.96	0.46
35:e:102:ALA:HB2	35:e:125:ARG:HB3	1.97	0.46
47:2:780:A:C8	72:AO:8:ARG:HD3	2.49	0.46
47:2:904:G:C5	82:AY:43:C:H1'	2.51	0.46
47:2:1198:G:OP2	47:2:1200:G:O2'	2.32	0.46
52:u:101:LEU:HB3	52:u:109:PHE:HE2	1.80	0.46
52:u:209:HIS:HA	52:u:219:VAL:HG13	1.97	0.46
58:AA:17:GLN:HG2	58:AA:18:GLU:HG2	1.98	0.46
71:AN:14:LYS:HA	71:AN:17:VAL:HG12	1.98	0.46
72:AO:90:ARG:NH2	72:AO:94:TYR:OH	2.48	0.46
75:AR:79:PHE:HZ	75:AR:81:ARG:HE	1.63	0.46
77:AT:19:ARG:CZ	77:AT:32:ARG:HD2	2.46	0.46
83:BA:93:LEU:O	83:BA:118:LYS:NZ	2.40	0.46
84:AZ:752:GLY:HA3	84:AZ:771:TYR:O	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3291:G:H2'	1:1:3292:A:C8	2.50	0.46
5:P2:114:ARG:HG3	5:P2:119:LYS:HA	1.97	0.46
9:D:125:VAL:HG11	9:D:200:PHE:HE2	1.80	0.46
11:F:50:ALA:O	11:F:54:GLU:N	2.47	0.46
36:f:75:HIS:HB3	36:f:80:VAL:HG23	1.98	0.46
66:AI:81:ILE:HG22	66:AI:83:ALA:H	1.81	0.46
68:AK:23:ARG:NH2	68:AK:92:ASP:OD1	2.49	0.46
79:AV:123:ILE:HD13	79:AV:169:ILE:HG21	1.97	0.46
1:1:1189:C:H4'	1:1:1190:A:H5'	1.96	0.46
8:C:215:ILE:HA	8:C:218:ALA:HB3	1.98	0.46
34:d:7:VAL:HG13	34:d:78:LYS:HA	1.97	0.46
43:m:104:PRO:HD3	43:m:111:ARG:HH21	1.80	0.46
47:2:170:U:OP1	47:2:267:U:O2'	2.34	0.46
63:AF:98:ASN:HD22	63:AF:121:ILE:H	1.64	0.46
84:AZ:754:VAL:HA	84:AZ:770:ALA:HA	1.96	0.46
1:1:441:U:N3	1:1:493:U:O2'	2.45	0.46
1:1:1100:U:O2'	11:F:105:LEU:O	2.34	0.46
1:1:1104:G:H2'	1:1:1105:A:H8	1.81	0.46
1:1:1597:C:H2'	1:1:1598:G:C8	2.51	0.46
8:C:53:SER:HB3	8:C:56:ALA:HB2	1.97	0.46
11:F:101:LYS:HG2	11:F:104:GLN:HE21	1.80	0.46
14:I:182:LEU:H	14:I:182:LEU:HG	1.60	0.46
29:Y:35:LEU:HD23	29:Y:106:ILE:HG23	1.97	0.46
47:2:162:A:H2'	47:2:163:G:N3	2.31	0.46
47:2:406:U:H5''	54:w:94:ARG:HG2	1.97	0.46
47:2:446:A:N6	47:2:461:G:H21	2.13	0.46
47:2:1591:C:H2'	47:2:1592:A:H8	1.81	0.46
51:t:98:ALA:HB2	51:t:188:ILE:HD12	1.98	0.46
54:w:31:ARG:HG3	54:w:32:ILE:H	1.81	0.46
83:BA:103:LEU:HD21	83:BA:106:LYS:HG3	1.97	0.46
1:1:631:U:H2'	1:1:632:G:C8	2.51	0.46
1:1:1541:G:H1'	1:1:1557:A:C5	2.51	0.46
1:1:1622:U:H2'	1:1:1623:G:H8	1.81	0.46
1:1:1728:G:H4'	1:1:1729:A:H5''	1.98	0.46
1:1:3016:A:H2'	1:1:3017:A:C8	2.51	0.46
1:1:3153:U:H3	1:1:3293:U:H2'	1.80	0.46
1:1:3222:U:O4	1:1:3263:G:O6	2.32	0.46
1:1:3306:U:O2'	1:1:3308:C:OP2	2.31	0.46
2:3:114:U:H2'	2:3:115:G:H8	1.80	0.46
3:4:106:C:H4'	3:4:107:G:H5''	1.98	0.46
8:C:110:ASN:HD21	18:N:201:ARG:HD2	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:152:VAL:HG11	8:C:156:LEU:HD22	1.98	0.46
10:E:51:ARG:NH2	10:E:158:TYR:O	2.48	0.46
42:l:29:LEU:N	42:l:33:ASN:HD21	2.13	0.46
47:2:192:U:H2'	47:2:193:U:H4'	1.98	0.46
47:2:1234:A:O2'	80:AW:138:ARG:NH2	2.49	0.46
47:2:1591:C:H2'	47:2:1592:A:C8	2.51	0.46
47:2:1679:G:N2	47:2:1722:A:H62	2.14	0.46
54:w:51:LYS:HB3	54:w:112:VAL:HG13	1.98	0.46
54:w:93:LYS:HE3	54:w:93:LYS:HB3	1.76	0.46
62:AE:43:THR:H	62:AE:46:MET:HE3	1.81	0.46
79:AV:91:LEU:HB2	79:AV:101:GLN:HE22	1.80	0.46
83:BA:52:SER:OG	83:BA:155:ILE:O	2.27	0.46
84:AZ:781:THR:O	84:AZ:785:ARG:HB2	2.16	0.46
1:1:46:U:O4	18:N:83:LYS:NZ	2.38	0.46
1:1:1235:U:H4'	1:1:1236:G:H3'	1.97	0.46
1:1:1604:G:H4'	1:1:1835:A:H4'	1.98	0.46
1:1:2584:G:O2'	12:G:240:ASN:ND2	2.48	0.46
2:3:46:A:H4'	9:D:158:ARG:HE	1.81	0.46
6:A:96:LEU:HD11	6:A:107:VAL:HG23	1.98	0.46
6:A:206:PRO:HG3	6:A:213:GLY:HA3	1.97	0.46
11:F:84:VAL:HG12	11:F:138:TYR:HE1	1.81	0.46
14:I:76:MET:HE2	14:I:148:VAL:HA	1.98	0.46
15:J:40:LEU:HD13	15:J:79:ILE:HD11	1.98	0.46
47:2:250:C:H2'	47:2:251:A:C8	2.51	0.46
47:2:884:A:H2'	47:2:885:G:C8	2.51	0.46
47:2:1098:U:O3'	70:AM:71:LYS:NZ	2.48	0.46
47:2:1217:A:O2'	47:2:1266:U:O2	2.29	0.46
54:w:85:ARG:CZ	54:w:87:ARG:H	2.29	0.46
65:AH:84:TYR:HB3	65:AH:85:VAL:HG23	1.98	0.46
1:1:797:U:H2'	1:1:798:G:H8	1.80	0.45
1:1:2149:A:N6	1:1:2187:G:O2'	2.49	0.45
1:1:2255:A:N1	47:2:1644:C:O2'	2.48	0.45
1:1:2417:U:OP2	1:1:2606:G:O2'	2.32	0.45
16:L:76:THR:OG1	16:L:101:ARG:NE	2.38	0.45
31:a:97:GLU:HG3	31:a:98:THR:H	1.80	0.45
47:2:1174:C:OP2	66:AI:136:GLN:NE2	2.49	0.45
47:2:1239:U:O2	47:2:1246:C:N4	2.43	0.45
47:2:1616:G:OP1	76:AS:18:ARG:NH1	2.49	0.45
47:2:1616:G:O2'	76:AS:23:GLY:O	2.30	0.45
50:s:235:LEU:HD22	69:AL:52:THR:HA	1.97	0.45
52:u:193:GLY:O	52:u:195:ILE:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:AF:98:ASN:HB3	63:AF:120:SER:HB3	1.98	0.45
70:AM:14:ILE:HG22	70:AM:25:VAL:HG21	1.97	0.45
84:AZ:27:HIS:CD2	84:AZ:138:GLN:CG	2.96	0.45
84:AZ:150:ARG:HG2	84:AZ:194:ASP:HB2	1.97	0.45
84:AZ:490:GLN:HA	84:AZ:531:ALA:HA	1.98	0.45
1:1:846:A:N6	47:2:971:A:N1	2.65	0.45
1:1:1254:C:H2'	1:1:1255:C:C6	2.51	0.45
1:1:1448:U:H2'	1:1:1449:A:C8	2.51	0.45
1:1:1900:A:H61	1:1:1908:A:H61	1.62	0.45
8:C:4:PRO:HD2	8:C:22:LEU:HD21	1.98	0.45
25:U:11:ILE:HG13	25:U:68:THR:HA	1.98	0.45
25:U:41:ILE:HD11	25:U:50:LEU:HD21	1.98	0.45
47:2:1331:A:H2'	47:2:1332:C:H5'	1.99	0.45
48:q:178:ALA:HA	48:q:181:VAL:HG12	1.99	0.45
49:r:144:ARG:HH22	49:r:207:LEU:HB3	1.80	0.45
58:AA:1:MET:HE1	58:AA:40:LEU:HD21	1.98	0.45
84:AZ:245:TRP:O	84:AZ:271:ARG:NH2	2.50	0.45
1:1:691:A:OP1	8:C:46:LYS:NZ	2.49	0.45
1:1:1723:A:OP1	22:R:128:LYS:NZ	2.49	0.45
1:1:2177:G:OP2	6:A:128:ARG:NH1	2.48	0.45
7:B:202:THR:OG1	7:B:203:VAL:N	2.50	0.45
7:B:339:ARG:HH22	7:B:342:LEU:HD21	1.81	0.45
8:C:39:PHE:HA	8:C:42:VAL:HG22	1.98	0.45
8:C:170:LYS:HG2	8:C:175:HIS:HB2	1.98	0.45
23:S:155:ARG:HD3	23:S:172:TYR:HD1	1.81	0.45
28:X:126:LEU:HD13	28:X:130:TYR:HB2	1.98	0.45
29:Y:3:LYS:HD2	29:Y:8:VAL:HG23	1.99	0.45
47:2:715:U:O4	47:2:723:G:O6	2.34	0.45
47:2:1275:A:H61	47:2:1437:U:H2'	1.81	0.45
47:2:1703:C:N3	47:2:1704:U:O2'	2.45	0.45
53:v:113:ILE:O	53:v:117:THR:N	2.50	0.45
53:v:128:ASN:O	53:v:130:ILE:N	2.50	0.45
54:w:24:ILE:H	54:w:24:ILE:HG13	1.53	0.45
56:y:45:SER:OG	56:y:53:LYS:NZ	2.49	0.45
56:y:77:ARG:NH1	56:y:78:ILE:O	2.50	0.45
60:AC:59:LEU:HD12	60:AC:136:ILE:HD12	1.98	0.45
70:AM:62:VAL:HG11	75:AR:8:LEU:HD21	1.99	0.45
70:AM:104:LEU:HD23	70:AM:125:ILE:HG22	1.97	0.45
71:AN:96:VAL:HA	71:AN:127:VAL:HG21	1.99	0.45
74:AQ:25:ASN:OD1	74:AQ:26:CYS:N	2.49	0.45
84:AZ:560:VAL:HG11	84:AZ:825:ARG:HD3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2183:A:H5''	6:A:7:ASN:HD22	1.81	0.45
1:1:3273:A:OP2	10:E:77:ARG:NH2	2.39	0.45
4:P0:57:THR:O	4:P0:61:ARG:N	2.48	0.45
9:D:95:TRP:HE1	9:D:199:ILE:HG22	1.81	0.45
9:D:97:ALA:HA	9:D:100:ALA:HB3	1.99	0.45
18:N:177:GLY:O	18:N:184:LYS:NZ	2.49	0.45
26:V:14:SER:O	26:V:81:GLN:NE2	2.42	0.45
33:c:100:ILE:HD12	33:c:101:LEU:HD22	1.98	0.45
36:f:25:PRO:O	36:f:88:ASN:ND2	2.50	0.45
47:2:142:G:H22	47:2:173:A:H2	1.63	0.45
47:2:221:A:OP2	47:2:832:U:O2'	2.24	0.45
47:2:1366:U:H4'	67:AJ:7:ARG:HH21	1.82	0.45
51:t:134:CYS:HB2	51:t:154:ASP:HB2	1.97	0.45
79:AV:26:SER:HB2	79:AV:32:LEU:HD23	1.99	0.45
84:AZ:491:VAL:CG1	84:AZ:556:ILE:HG23	2.45	0.45
1:1:673:U:H2'	1:1:674:G:C8	2.51	0.45
1:1:2433:U:HO2'	18:N:125:SER:HG	1.53	0.45
1:1:3166:C:H2'	1:1:3167:A:C8	2.52	0.45
1:1:3281:U:H2'	1:1:3282:U:C6	2.52	0.45
6:A:21:ARG:HH21	6:A:22:LEU:HD21	1.81	0.45
17:M:39:ILE:HG23	17:M:43:LYS:HG3	1.99	0.45
37:g:44:CYS:HB3	37:g:47:CYS:HB2	1.49	0.45
56:y:62:THR:HG22	56:y:75:LYS:HE2	1.98	0.45
59:AB:99:ARG:HH12	71:AN:7:ARG:HA	1.79	0.45
60:AC:137:MET:O	60:AC:141:SER:OG	2.34	0.45
61:AD:88:LEU:O	61:AD:92:ILE:N	2.43	0.45
67:AJ:30:VAL:HB	67:AJ:34:VAL:HG11	1.99	0.45
67:AJ:86:ARG:NH1	67:AJ:90:PRO:O	2.48	0.45
71:AN:53:VAL:HG13	71:AN:99:ASN:H	1.81	0.45
1:1:286:U:H2'	1:1:287:G:H8	1.81	0.45
1:1:567:G:H2'	1:1:568:G:C8	2.52	0.45
1:1:590:G:H1'	8:C:309:ARG:HH22	1.81	0.45
1:1:2213:A:H2'	1:1:2214:A:C8	2.52	0.45
1:1:2282:U:OP1	1:1:2973:G:O2'	2.35	0.45
1:1:2445:A:H61	1:1:2502:A:H61	1.63	0.45
23:S:73:LYS:HD3	23:S:128:GLU:HG3	1.97	0.45
30:Z:23:VAL:HB	30:Z:43:VAL:HG13	1.98	0.45
47:2:432:G:OP1	84:AZ:510:ARG:NH1	2.50	0.45
47:2:1041:G:H2'	47:2:1042:G:C8	2.52	0.45
65:AH:47:ARG:NH1	65:AH:48:ASN:OD1	2.49	0.45
71:AN:126:LYS:HD3	71:AN:129:GLY:HA2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
84:AZ:32:LYS:H	87:AZ:902:GDP:PB	2.40	0.45
84:AZ:283:ARG:HD3	84:AZ:286:THR:HB	1.98	0.45
84:AZ:379:MET:HA	84:AZ:470:THR:HG22	1.99	0.45
84:AZ:507:GLY:O	84:AZ:511:LEU:CB	2.52	0.45
84:AZ:823:ARG:HE	84:AZ:828:MET:HB3	1.82	0.45
1:1:43:A:N7	1:1:2803:A:N6	2.64	0.45
1:1:612:U:H2'	1:1:613:G:C8	2.51	0.45
2:3:23:A:H1'	2:3:121:U:H5'	1.99	0.45
4:P0:62:ALA:HB2	4:P0:77:LEU:HB2	1.99	0.45
17:M:24:LYS:HG3	17:M:64:VAL:HG13	1.98	0.45
18:N:6:TYR:CZ	39:i:40:VAL:HG22	2.52	0.45
18:N:123:GLN:HE21	18:N:128:LYS:HE3	1.81	0.45
47:2:1148:C:H2'	47:2:1149:G:H8	1.82	0.45
48:q:74:VAL:O	48:q:122:ILE:N	2.49	0.45
61:AD:16:ILE:O	75:AR:26:GLN:NE2	2.50	0.45
61:AD:84:ILE:H	61:AD:84:ILE:HG13	1.59	0.45
67:AJ:60:SER:O	67:AJ:63:ARG:NH1	2.50	0.45
67:AJ:108:LEU:HG	67:AJ:114:VAL:HB	1.98	0.45
72:AO:82:ALA:O	72:AO:86:GLU:N	2.47	0.45
79:AV:19:TRP:NE1	79:AV:281:TYR:OH	2.42	0.45
79:AV:153:GLN:HB2	79:AV:201:THR:HA	1.97	0.45
81:AX:42:G:H2'	81:AX:43:G:H8	1.81	0.45
84:AZ:509:LYS:NZ	84:AZ:520:THR:OG1	2.49	0.45
84:AZ:653:VAL:HG13	84:AZ:657:HIS:HE1	1.81	0.45
84:AZ:798:PHE:O	84:AZ:798:PHE:CD2	2.70	0.45
86:AZ:901:SO1:H16	86:AZ:901:SO1:H102	1.73	0.45
1:1:970:A:H2'	1:1:971:G:C8	2.52	0.45
1:1:2882:U:O2'	7:B:263:SER:OG	2.32	0.45
1:1:3027:A:O5'	1:1:3027:A:C8	2.69	0.45
1:1:3028:G:C8	1:1:3028:G:OP2	2.70	0.45
1:1:3164:C:H2'	1:1:3165:A:C8	2.51	0.45
3:4:80:A:O2'	3:4:81:U:O4'	2.35	0.45
7:B:65:SER:OG	7:B:66:LYS:N	2.46	0.45
9:D:260:PHE:CE2	9:D:264:GLN:HB3	2.52	0.45
22:R:165:LYS:NZ	47:2:850:A:OP1	2.44	0.45
46:p:55:TRP:HB2	46:p:64:VAL:HG13	1.99	0.45
47:2:125:U:H5''	54:w:201:GLN:HE22	1.81	0.45
47:2:1420:C:O5'	77:AT:54:LYS:NZ	2.44	0.45
47:2:1583:A:N6	47:2:1613:U:O4	2.48	0.45
63:AF:72:LYS:NZ	63:AF:73:PRO:O	2.49	0.45
84:AZ:667:PHE:CE1	84:AZ:672:LYS:HD3	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
87:AZ:902:GDP:H5''	87:AZ:902:GDP:H8	1.82	0.45
1:1:355:A:N1	8:C:82:THR:OG1	2.44	0.45
1:1:846:A:H2'	1:1:847:A:C8	2.52	0.45
1:1:995:U:H2'	1:1:996:A:H8	1.82	0.45
1:1:2423:U:H2'	1:1:2424:A:H8	1.81	0.45
1:1:2502:A:H2'	1:1:2503:G:C8	2.50	0.45
1:1:2960:C:H2'	1:1:2961:G:C8	2.52	0.45
7:B:84:VAL:HG23	7:B:164:THR:HA	1.99	0.45
34:d:87:ASN:O	34:d:89:LEU:N	2.43	0.45
52:u:100:ARG:NH2	52:u:118:GLU:O	2.50	0.45
53:v:64:VAL:HA	53:v:67:PRO:HB3	1.99	0.45
66:AI:27:LYS:HE2	66:AI:27:LYS:HB2	1.80	0.45
1:1:213:A:O5'	29:Y:2:ALA:N	2.50	0.45
1:1:1546:A:O2'	18:N:104:GLU:OE1	2.35	0.45
1:1:2954:U:H4'	1:1:2955:U:H5'	1.98	0.45
1:1:3334:U:H4'	1:1:3335:A:H5'	1.98	0.45
14:I:191:LYS:HB2	14:I:213:PHE:HB3	1.99	0.45
14:I:208:ASN:HA	14:I:211:ARG:HG2	1.99	0.45
26:V:84:SER:HA	26:V:94:TYR:HB3	1.99	0.45
41:k:28:ASN:HB2	41:k:40:GLN:HG2	1.99	0.45
45:o:17:CYS:SG	45:o:18:ARG:N	2.90	0.45
47:2:43:A:O2'	47:2:99:C:OP1	2.30	0.45
47:2:174:U:H3	47:2:266:A:H62	1.64	0.45
47:2:385:A:H2'	47:2:386:G:C8	2.51	0.45
47:2:1159:C:O2'	47:2:1580:C:OP1	2.35	0.45
47:2:1241:G:OP1	63:AF:77:ARG:NH1	2.49	0.45
47:2:1586:A:H3'	47:2:1587:A:H8	1.81	0.45
53:v:149:VAL:HG21	76:AS:25:VAL:H	1.82	0.45
55:x:43:PHE:HA	55:x:63:PRO:HD3	1.98	0.45
56:y:57:ALA:HB2	56:y:177:GLY:HA2	1.99	0.45
56:y:101:ILE:HG22	56:y:168:CYS:HA	1.99	0.45
56:y:121:LEU:HD12	56:y:157:GLU:HG3	1.98	0.45
57:z:85:VAL:HG11	57:z:104:PHE:HA	1.99	0.45
79:AV:109:ASP:O	79:AV:126:SER:OG	2.33	0.45
84:AZ:654:GLN:HE22	84:AZ:695:ALA:HB2	1.82	0.45
1:1:1112:A:N3	1:1:1370:G:O2'	2.48	0.44
1:1:1126:G:O2'	14:I:118:ALA:O	2.34	0.44
1:1:1231:A:H2'	1:1:1277:C:H41	1.82	0.44
1:1:1295:G:OP1	23:S:83:SER:OG	2.27	0.44
1:1:1342:C:H2'	1:1:1343:A:H8	1.82	0.44
1:1:3271:G:H2'	10:E:108:LYS:HG3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:280:ILE:O	21:Q:123:THR:OG1	2.32	0.44
15:J:92:ARG:HH11	15:J:172:LEU:HD23	1.82	0.44
31:a:104:THR:HB	31:a:109:TYR:HB2	1.99	0.44
35:e:108:ILE:O	35:e:112:ALA:N	2.46	0.44
56:y:64:ASN:HB3	56:y:75:LYS:HD2	1.98	0.44
57:z:62:ARG:NE	57:z:66:ASP:OD2	2.37	0.44
64:AG:82:ARG:NH1	64:AG:114:ARG:O	2.46	0.44
66:AI:44:ASN:OD1	66:AI:45:LEU:N	2.50	0.44
79:AV:39:ASP:OD1	79:AV:39:ASP:N	2.49	0.44
84:AZ:547:HIS:HA	84:AZ:551:GLY:HA2	1.98	0.44
1:1:650:C:H2'	1:1:651:G:C8	2.51	0.44
3:4:38:U:O3'	38:h:83:LYS:NZ	2.49	0.44
4:P0:42:ARG:HB3	4:P0:51:VAL:HG11	1.98	0.44
4:P0:55:LYS:HG2	4:P0:56:ASN:H	1.81	0.44
13:H:76:ASP:OD1	13:H:77:ASN:N	2.50	0.44
13:H:129:ARG:HH22	13:H:156:GLN:HB3	1.83	0.44
47:2:340:U:H2'	47:2:341:A:H8	1.82	0.44
47:2:751:G:H2'	47:2:752:A:C8	2.52	0.44
52:u:31:PRO:HD2	52:u:39:ARG:HE	1.83	0.44
55:x:8:ILE:H	55:x:8:ILE:HG13	1.66	0.44
58:AA:31:LYS:O	58:AA:39:ASN:ND2	2.50	0.44
71:AN:102:VAL:HG23	71:AN:127:VAL:HA	1.99	0.44
79:AV:45:TRP:HE1	79:AV:47:LEU:HG	1.82	0.44
84:AZ:834:GLY:C	84:AZ:836:GLN:H	2.25	0.44
1:1:2270:A:H2'	1:1:2271:A:C8	2.52	0.44
1:1:2429:G:H2'	1:1:2430:A:H8	1.82	0.44
1:1:2843:U:O4	1:1:2898:G:N2	2.50	0.44
1:1:2871:G:H5'	1:1:2872:A:H5''	1.98	0.44
1:1:3039:C:H2'	1:1:3040:A:H8	1.82	0.44
7:B:148:LEU:HA	7:B:151:ILE:HG22	1.98	0.44
17:M:19:ARG:HB3	17:M:35:ILE:HG23	1.99	0.44
36:f:77:ASN:OD1	36:f:77:ASN:N	2.47	0.44
47:2:152:U:H4'	54:w:14:LYS:HG2	1.99	0.44
47:2:332:U:O2'	56:y:5:ARG:NH2	2.50	0.44
47:2:939:A:OP1	61:AD:114:ARG:NH2	2.51	0.44
47:2:1787:C:H2'	47:2:1788:G:C8	2.52	0.44
52:u:154:ILE:HG22	52:u:155:LYS:HB3	1.99	0.44
53:v:160:VAL:HG11	76:AS:25:VAL:HG23	2.00	0.44
57:z:58:ASP:N	57:z:58:ASP:OD1	2.44	0.44
59:AB:132:SER:HB3	59:AB:135:VAL:HG13	2.00	0.44
63:AF:81:ARG:NH2	63:AF:97:TYR:O	2.40	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
84:AZ:20:ARG:HH12	84:AZ:22:MET:HG2	1.82	0.44
84:AZ:796:MET:HE3	84:AZ:796:MET:HB3	1.73	0.44
1:1:254:A:H2'	1:1:255:A:H8	1.82	0.44
1:1:1634:G:O6	30:Z:17:ARG:NH2	2.51	0.44
7:B:372:THR:HB	7:B:375:GLU:HB2	2.00	0.44
8:C:5:GLN:HB3	8:C:19:ALA:HB1	1.98	0.44
15:J:80:LEU:O	15:J:84:LEU:N	2.44	0.44
24:T:64:VAL:HG12	24:T:74:VAL:HG12	1.98	0.44
29:Y:77:LYS:H	29:Y:77:LYS:HD2	1.83	0.44
47:2:96:G:OP1	52:u:10:LYS:NZ	2.38	0.44
47:2:976:G:H1	47:2:1023:A:HO2'	1.63	0.44
49:r:121:ILE:HG21	49:r:164:ILE:HD11	1.97	0.44
53:v:118:LEU:HD23	53:v:121:ILE:HG21	2.00	0.44
60:AC:101:ALA:HB1	60:AC:121:VAL:HG11	1.99	0.44
69:AL:40:ASP:OD1	69:AL:40:ASP:N	2.49	0.44
84:AZ:141:THR:HG22	84:AZ:793:PHE:CZ	2.51	0.44
84:AZ:491:VAL:HG11	84:AZ:556:ILE:HG23	1.99	0.44
1:1:255:A:H2'	1:1:256:G:C8	2.52	0.44
1:1:929:A:O2'	40:j:49:TRP:O	2.34	0.44
1:1:3389:U:H4'	1:1:3390:G:H5''	2.00	0.44
3:4:42:G:H1	3:4:102:U:H3	1.65	0.44
3:4:83:C:O2'	3:4:85:G:N2	2.50	0.44
7:B:296:THR:OG1	7:B:297:SER:N	2.50	0.44
40:j:76:ASN:HB3	40:j:79:GLN:HE22	1.82	0.44
43:m:115:CYS:O	43:m:118:THR:OG1	2.34	0.44
47:2:1204:A:OP1	47:2:1206:U:N3	2.51	0.44
47:2:1585:U:H2'	47:2:1586:A:H8	1.83	0.44
47:2:1586:A:H5'	64:AG:136:SER:HB2	1.99	0.44
51:t:42:THR:OG1	51:t:45:LYS:O	2.30	0.44
53:v:118:LEU:HA	53:v:121:ILE:HG22	1.99	0.44
53:v:148:ARG:HA	53:v:157:ARG:HG3	2.00	0.44
54:w:182:GLN:OE1	54:w:186:ARG:NH2	2.51	0.44
71:AN:51:GLY:HA2	71:AN:76:LEU:HA	2.00	0.44
84:AZ:210:ALA:HB2	84:AZ:221:THR:HB	2.00	0.44
1:1:733:G:HO2'	1:1:735:A:H62	1.61	0.44
1:1:2196:C:O2'	1:1:2270:A:N3	2.43	0.44
1:1:2750:U:OP2	24:T:69:LYS:NZ	2.37	0.44
4:P0:5:ARG:NH1	4:P0:8:LYS:O	2.47	0.44
8:C:234:ASN:OD1	8:C:234:ASN:N	2.51	0.44
13:H:182:SER:HA	43:m:85:LEU:HD21	2.00	0.44
20:P:96:GLN:O	20:P:100:ALA:N	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2:62:A:N1	47:2:287:G:O2'	2.47	0.44
47:2:1468:U:H1'	67:AJ:88:VAL:HG23	2.00	0.44
50:s:102:VAL:HG11	50:s:129:ILE:HG12	1.99	0.44
51:t:135:GLU:OE1	51:t:187:LYS:NZ	2.51	0.44
52:u:41:SER:OG	52:u:42:LEU:N	2.51	0.44
68:AK:34:LEU:HD12	68:AK:35:GLU:HG2	1.99	0.44
1:1:434:U:H3	1:1:625:G:H1	1.65	0.44
1:1:899:U:H2'	1:1:900:G:H8	1.82	0.44
1:1:1345:G:H2'	1:1:1346:G:H8	1.82	0.44
1:1:1622:U:H2'	1:1:1623:G:C8	2.53	0.44
1:1:2526:C:H2'	1:1:2527:G:H8	1.82	0.44
1:1:2842:U:H5'	84:AZ:749:LYS:CE	2.44	0.44
1:1:3153:U:O2	1:1:3293:U:O2'	2.31	0.44
1:1:3222:U:O2	1:1:3263:G:N2	2.39	0.44
2:3:48:U:OP1	9:D:226:TYR:OH	2.36	0.44
3:4:45:C:OP2	42:l:15:LYS:NZ	2.47	0.44
3:4:155:A:O2'	12:G:185:ARG:NH1	2.51	0.44
12:G:105:LYS:HA	12:G:108:ARG:HB3	1.99	0.44
14:I:165:ILE:H	14:I:165:ILE:HG13	1.56	0.44
15:J:37:LEU:HD13	15:J:69:VAL:HG13	2.00	0.44
22:R:168:ALA:HB1	22:R:172:ARG:HH12	1.83	0.44
34:d:10:ARG:HD3	34:d:108:VAL:HG22	2.00	0.44
47:2:1503:A:H5''	67:AJ:99:SER:HB3	2.00	0.44
79:AV:64:HIS:HD2	79:AV:86:ASP:HB3	1.83	0.44
84:AZ:222:ILE:H	84:AZ:222:ILE:HG13	1.61	0.44
86:AZ:901:SO1:H203	86:AZ:901:SO1:H121	1.74	0.44
1:1:415:G:H2'	1:1:416:A:H8	1.83	0.44
1:1:1757:A:H2'	1:1:1758:G:H8	1.83	0.44
4:P0:135:PHE:HD1	4:P0:168:SER:HB2	1.83	0.44
5:P2:87:GLU:HB3	5:P2:89:PRO:HD2	2.00	0.44
20:P:175:ARG:O	20:P:179:GLN:N	2.51	0.44
34:d:14:ILE:HD12	34:d:16:LEU:HD13	1.98	0.44
47:2:400:A:H61	56:y:29:LEU:HD11	1.83	0.44
47:2:1164:G:H2'	47:2:1165:G:H8	1.82	0.44
47:2:1356:U:N3	47:2:1367:G:N1	2.66	0.44
59:AB:74:THR:OG1	59:AB:120:GLY:O	2.29	0.44
65:AH:66:VAL:HG13	65:AH:69:ILE:HB	1.99	0.44
74:AQ:41:ILE:HB	74:AQ:44:ILE:HD11	1.99	0.44
84:AZ:548:ASP:OD1	84:AZ:549:HIS:ND1	2.47	0.44
1:1:631:U:H4'	1:1:3172:A:H61	1.82	0.44
1:1:1150:A:H61	1:1:2369:G:H1'	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1522:U:OP1	28:X:123:TYR:OH	2.33	0.44
1:1:2491:A:H5''	83:BA:205:VAL:HB	1.98	0.44
2:3:3:U:H2'	2:3:4:U:H6	1.83	0.44
14:I:67:ALA:HB1	14:I:158:LYS:HD3	2.00	0.44
15:J:17:LEU:HD22	15:J:18:VAL:H	1.83	0.44
15:J:110:ILE:HG13	66:AI:110:ARG:NH2	2.33	0.44
38:h:51:ILE:HA	38:h:54:VAL:HG12	2.00	0.44
47:2:65:A:H5'	54:w:174:LYS:HD2	2.00	0.44
47:2:398:G:H5''	56:y:49:ARG:HE	1.83	0.44
47:2:826:U:O2	47:2:846:G:N2	2.41	0.44
47:2:1331:A:H4'	65:AH:45:ARG:NE	2.29	0.44
47:2:1351:G:H5'	64:AG:66:ARG:CZ	2.48	0.44
48:q:28:ASN:OD1	48:q:46:HIS:N	2.51	0.44
56:y:193:LEU:HA	56:y:196:LEU:HB2	2.00	0.44
73:AP:84:GLU:HB3	73:AP:85:LYS:HD2	1.99	0.44
79:AV:156:VAL:HG13	79:AV:169:ILE:HG22	1.99	0.44
81:AX:72:C:H2'	81:AX:73:A:C8	2.52	0.44
84:AZ:491:VAL:CG1	84:AZ:492:ALA:N	2.81	0.44
1:1:39:A:H61	1:1:42:C:H3'	1.83	0.43
1:1:825:U:OP2	6:A:21:ARG:NH1	2.50	0.43
1:1:1259:A:O2'	1:1:1260:A:O4'	2.32	0.43
1:1:1886:A:O2'	7:B:226:PHE:O	2.34	0.43
2:3:118:A:H5''	9:D:253:PHE:HZ	1.84	0.43
7:B:43:LEU:HB2	7:B:181:ILE:HG21	2.00	0.43
10:E:60:ASP:OD1	10:E:60:ASP:N	2.48	0.43
34:d:18:LYS:HG3	34:d:19:ARG:HD2	2.00	0.43
46:p:37:TYR:HB2	46:p:47:VAL:HB	1.99	0.43
47:2:24:U:H2'	47:2:26:A:C8	2.53	0.43
47:2:183:U:H2'	47:2:184:C:C6	2.53	0.43
47:2:442:C:O2'	47:2:525:A:N1	2.40	0.43
47:2:1126:G:H2'	47:2:1127:G:H8	1.83	0.43
47:2:1198:G:O2'	68:AK:72:ASN:ND2	2.51	0.43
47:2:1320:U:H5''	48:q:101:ARG:HH22	1.82	0.43
47:2:1368:G:H2'	47:2:1369:U:C6	2.53	0.43
47:2:1416:G:H2'	47:2:1417:A:C8	2.53	0.43
49:r:107:THR:OG1	62:AE:117:ASP:O	2.27	0.43
51:t:74:GLN:HG3	51:t:79:TYR:H	1.83	0.43
51:t:167:PHE:HB3	51:t:189:MET:HA	1.99	0.43
57:z:109:LEU:HA	57:z:112:GLN:HB2	2.00	0.43
84:AZ:14:ASP:HA	84:AZ:449:PRO:HG2	1.99	0.43
84:AZ:41:GLN:HG2	84:AZ:51:ALA:HB1	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
84:AZ:412:ARG:O	84:AZ:469:LEU:HA	2.18	0.43
1:1:509:U:H3	1:1:582:G:H1	1.66	0.43
1:1:1687:U:H5''	1:1:1688:U:H5''	1.99	0.43
1:1:1907:C:O2	7:B:240:ARG:NH2	2.48	0.43
1:1:2527:G:H2'	1:1:2528:G:C8	2.53	0.43
1:1:2609:A:H2'	1:1:2610:G:C8	2.53	0.43
1:1:2666:C:OP2	1:1:2687:G:N1	2.45	0.43
1:1:2948:C:H2'	1:1:2949:U:H6	1.83	0.43
1:1:3092:C:O2	26:V:12:ARG:NH1	2.51	0.43
7:B:31:ALA:O	7:B:339:ARG:NE	2.48	0.43
9:D:97:ALA:O	9:D:101:THR:N	2.41	0.43
12:G:142:LEU:HD22	12:G:147:LYS:HD3	2.00	0.43
26:V:13:ILE:HG21	26:V:54:LEU:H	1.83	0.43
37:g:8:ARG:H	37:g:34:HIS:HE1	1.65	0.43
47:2:871:G:H2'	47:2:872:G:C8	2.52	0.43
50:s:88:LYS:C	50:s:95:ARG:HG2	2.43	0.43
51:t:43:PRO:HD3	68:AK:108:ILE:HD13	2.00	0.43
55:x:51:VAL:HG12	55:x:53:GLY:H	1.83	0.43
61:AD:73:ARG:O	61:AD:77:SER:N	2.46	0.43
79:AV:103:PHE:CE2	79:AV:138:GLY:HA3	2.53	0.43
84:AZ:348:ALA:HA	84:AZ:351:TYR:HB2	2.00	0.43
84:AZ:379:MET:HB3	84:AZ:478:MET:HE1	2.00	0.43
1:1:879:U:H4'	20:P:132:ALA:HB3	1.99	0.43
1:1:1100:U:H2'	1:1:1101:G:C8	2.53	0.43
1:1:3029:A:OP1	84:AZ:28:VAL:CG1	2.67	0.43
2:3:121:U:OP1	9:D:259:LYS:NZ	2.39	0.43
47:2:776:G:O6	72:AO:11:LYS:NZ	2.50	0.43
47:2:1117:U:H2'	47:2:1118:G:H8	1.83	0.43
49:r:32:ILE:HB	49:r:44:GLY:H	1.83	0.43
49:r:122:GLU:OE1	49:r:124:ASN:ND2	2.51	0.43
57:z:82:ARG:HG3	57:z:149:ARG:HG2	1.99	0.43
83:BA:107:TYR:OH	83:BA:141:ASN:OD1	2.36	0.43
84:AZ:144:ARG:HH11	84:AZ:192:TYR:HB3	1.84	0.43
84:AZ:256:LYS:HE2	84:AZ:258:THR:HB	2.00	0.43
84:AZ:674:GLY:HA2	84:AZ:675:PRO:HD3	1.73	0.43
1:1:772:U:H2'	1:1:773:G:C8	2.53	0.43
1:1:1095:U:C2	24:T:129:LYS:HE2	2.54	0.43
1:1:2209:U:H4'	1:1:2210:G:H5'	2.00	0.43
1:1:2946:A:H2'	1:1:2982:A:H62	1.83	0.43
6:A:205:ASN:OD1	6:A:205:ASN:N	2.49	0.43
8:C:3:ARG:HA	8:C:4:PRO:HD3	1.89	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:105:TYR:OH	10:E:137:ASP:OD2	2.36	0.43
15:J:148:VAL:HG22	15:J:153:LYS:HG3	2.00	0.43
21:Q:81:VAL:HG13	21:Q:140:LEU:HD23	2.00	0.43
47:2:166:C:O2'	54:w:133:LEU:O	2.25	0.43
48:q:36:TYR:OH	48:q:56:LYS:NZ	2.39	0.43
52:u:17:HIS:CE1	52:u:40:GLU:HA	2.53	0.43
53:v:98:MET:HB2	53:v:103:ASN:HB3	1.99	0.43
62:AE:112:ILE:H	74:AQ:57:SER:HA	1.83	0.43
64:AG:81:ILE:O	64:AG:85:ILE:N	2.52	0.43
67:AJ:104:VAL:HA	67:AJ:107:ALA:HB3	2.00	0.43
72:AO:86:GLU:HA	72:AO:87:PRO:HD3	1.86	0.43
81:AX:18:G:O3'	81:AX:57:G:N2	2.51	0.43
84:AZ:6:VAL:HA	84:AZ:7:ASP:HA	1.75	0.43
84:AZ:465:LYS:CD	84:AZ:516:PRO:O	2.65	0.43
84:AZ:713:THR:O	84:AZ:717:PHE:CA	2.67	0.43
1:1:157:A:C8	39:i:26:ILE:HD13	2.53	0.43
1:1:277:G:N3	18:N:93:LYS:HG3	2.33	0.43
1:1:1320:C:H2'	1:1:1321:G:H8	1.84	0.43
1:1:1795:U:N3	46:p:50:GLY:O	2.51	0.43
1:1:1834:U:OP2	42:l:10:LYS:NZ	2.43	0.43
7:B:54:THR:HG22	7:B:364:LYS:HE3	2.01	0.43
7:B:190:GLU:HA	7:B:193:ASP:HB2	1.99	0.43
11:F:60:ARG:HE	11:F:63:ILE:HD11	1.82	0.43
20:P:5:GLY:N	20:P:147:GLU:OE2	2.51	0.43
29:Y:85:VAL:HG22	29:Y:97:ILE:HD11	2.01	0.43
37:g:8:ARG:HH22	37:g:31:ARG:HE	1.65	0.43
47:2:816:G:H2'	47:2:817:A:C8	2.54	0.43
47:2:1171:A:H2'	47:2:1172:G:C8	2.52	0.43
47:2:1218:G:O5'	47:2:1444:A:N6	2.52	0.43
47:2:1267:G:N2	47:2:1448:G:OP2	2.51	0.43
48:q:88:LYS:HB2	48:q:202:TYR:HB3	2.01	0.43
49:r:184:LEU:HG	49:r:188:LEU:HD13	2.01	0.43
51:t:64:ARG:NE	58:AA:70:GLU:OE1	2.51	0.43
52:u:36:HIS:HB3	52:u:143:ASP:HA	2.01	0.43
56:y:97:THR:HA	56:y:173:PRO:HG2	2.00	0.43
83:BA:14:LYS:HD3	83:BA:204:LEU:HD22	2.01	0.43
84:AZ:25:ILE:HB	84:AZ:127:VAL:HG12	2.00	0.43
84:AZ:380:LEU:HD22	84:AZ:401:PHE:H	1.83	0.43
84:AZ:798:PHE:O	84:AZ:798:PHE:CG	2.70	0.43
1:1:799:G:H2'	1:1:801:A:H62	1.83	0.43
1:1:1119:C:H2'	1:1:1120:A:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2188:A:H2	46:p:19:GLY:HA2	1.83	0.43
1:1:2526:C:H2'	1:1:2527:G:C8	2.53	0.43
1:1:2673:A:OP1	15:J:94:ARG:NH1	2.42	0.43
1:1:2893:C:O3'	13:H:168:ARG:NH2	2.45	0.43
6:A:134:VAL:HG12	6:A:150:LEU:HA	2.00	0.43
7:B:53:MET:HA	7:B:77:THR:HA	2.01	0.43
14:I:36:LEU:N	14:I:87:LEU:O	2.47	0.43
17:M:85:TRP:O	17:M:89:ALA:N	2.51	0.43
29:Y:51:ARG:HG2	29:Y:52:ARG:H	1.84	0.43
47:2:123:G:H21	52:u:146:THR:HG21	1.84	0.43
47:2:311:U:OP2	71:AN:20:ARG:NE	2.51	0.43
47:2:1097:U:H1'	50:s:168:ARG:HH21	1.84	0.43
47:2:1465:C:H5''	64:AG:139:GLN:HB2	2.00	0.43
47:2:1498:G:H4'	67:AJ:121:GLY:HA2	2.00	0.43
49:r:81:PHE:HD1	49:r:106:THR:HG21	1.83	0.43
53:v:96:SER:O	53:v:176:THR:OG1	2.30	0.43
55:x:75:THR:HG22	55:x:131:PHE:HZ	1.83	0.43
68:AK:22:ILE:HG23	68:AK:118:VAL:HG22	2.00	0.43
79:AV:9:LEU:HG	79:AV:313:TRP:HB3	2.00	0.43
82:AY:48:U:H6	82:AY:48:U:H5''	1.83	0.43
83:BA:90:LEU:HD23	83:BA:115:VAL:HG11	1.99	0.43
84:AZ:216:HIS:HA	84:AZ:325:ARG:HH21	1.84	0.43
84:AZ:560:VAL:HG21	84:AZ:825:ARG:NH2	2.34	0.43
1:1:644:G:H22	1:1:2868:U:H5'	1.84	0.43
1:1:700:C:H2'	1:1:701:G:H8	1.84	0.43
1:1:970:A:H2'	1:1:971:G:H8	1.83	0.43
1:1:999:G:N3	1:1:1002:A:N6	2.67	0.43
1:1:1336:U:H2'	1:1:1337:A:C8	2.54	0.43
7:B:243:HIS:ND1	7:B:244:ARG:HD2	2.33	0.43
26:V:66:LYS:HA	26:V:67:PRO:HD3	1.82	0.43
30:Z:54:THR:H	30:Z:57:HIS:HD2	1.66	0.43
31:a:75:LEU:N	31:a:113:LEU:O	2.50	0.43
36:f:19:SER:OG	36:f:20:LYS:N	2.51	0.43
37:g:43:LYS:HA	37:g:50:ALA:HA	2.00	0.43
47:2:5:U:H2'	47:2:6:G:H8	1.82	0.43
47:2:802:G:N7	47:2:803:A:N6	2.67	0.43
47:2:1530:C:H2'	47:2:1531:G:C8	2.53	0.43
53:v:44:ASN:ND2	64:AG:45:ARG:HH12	2.17	0.43
54:w:155:ASP:N	54:w:155:ASP:OD1	2.51	0.43
74:AQ:28:LYS:NZ	74:AQ:74:CYS:SG	2.86	0.43
83:BA:169:VAL:HB	83:BA:172:VAL:HB	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:687:U:OP2	16:L:36:ARG:NH2	2.51	0.43
1:1:1472:U:H2'	1:1:1473:G:H8	1.83	0.43
1:1:1828:A:H2'	1:1:1829:G:H8	1.84	0.43
1:1:2424:A:H61	6:A:230:VAL:HG11	1.84	0.43
1:1:2457:G:H1'	1:1:2487:U:H3	1.83	0.43
1:1:3192:U:OP2	19:O:176:LYS:NZ	2.36	0.43
10:E:174:LEU:HD11	17:M:117:ARG:HH12	1.83	0.43
12:G:108:ARG:O	12:G:108:ARG:NH1	2.48	0.43
13:H:101:VAL:HG22	13:H:114:VAL:HB	2.00	0.43
13:H:129:ARG:HH21	13:H:157:ASN:HB2	1.83	0.43
17:M:19:ARG:O	17:M:35:ILE:N	2.51	0.43
18:N:19:LEU:HD23	18:N:22:LEU:HD21	1.99	0.43
23:S:16:THR:OG1	23:S:19:VAL:O	2.37	0.43
38:h:19:SER:O	38:h:23:ASP:N	2.38	0.43
47:2:435:C:H5'	71:AN:50:LYS:HG2	1.99	0.43
47:2:912:U:O2	47:2:914:G:N2	2.51	0.43
47:2:1227:A:H2'	60:AC:117:GLY:HA2	2.00	0.43
47:2:1294:G:O2'	47:2:1321:A:N1	2.40	0.43
55:x:139:ARG:HG2	70:AM:53:ILE:HA	2.00	0.43
59:AB:7:VAL:HG21	59:AB:53:TYR:HA	1.99	0.43
60:AC:48:SER:HA	60:AC:51:ALA:HB3	1.99	0.43
62:AE:90:ARG:HG3	62:AE:91:THR:H	1.84	0.43
84:AZ:145:GLN:HA	84:AZ:146:ALA:HA	1.66	0.43
84:AZ:213:SER:OG	87:AZ:902:GDP:O6	2.34	0.43
84:AZ:576:LEU:HD12	84:AZ:576:LEU:HA	1.82	0.43
1:1:160:G:N2	1:1:261:U:O2	2.41	0.43
1:1:254:A:H2'	1:1:255:A:C8	2.54	0.43
4:P0:58:MET:HE3	4:P0:80:VAL:HG13	2.00	0.43
4:P0:137:GLN:HB3	84:AZ:187:VAL:HG11	2.00	0.43
11:F:207:LEU:HB3	11:F:243:MET:SD	2.59	0.43
17:M:8:LYS:HG3	17:M:9:ALA:H	1.83	0.43
17:M:106:ARG:O	17:M:110:ALA:N	2.52	0.43
24:T:65:TYR:HB3	24:T:75:ILE:HD11	2.01	0.43
47:2:553:G:N2	47:2:571:G:N7	2.67	0.43
47:2:1451:C:H5''	77:AT:10:HIS:HB2	2.01	0.43
48:q:25:GLY:O	48:q:165:ARG:NH1	2.52	0.43
64:AG:12:LYS:HD2	64:AG:17:THR:HG23	2.01	0.43
67:AJ:4:VAL:HG21	67:AJ:136:ALA:HB1	2.01	0.43
79:AV:16:HIS:HD2	79:AV:20:VAL:HG22	1.82	0.43
79:AV:25:THR:HG21	79:AV:295:SER:HA	2.00	0.43
79:AV:206:PRO:HD3	79:AV:245:PHE:HB2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
83:BA:18:LYS:HD3	83:BA:216:LEU:HD11	2.00	0.43
84:AZ:162:ARG:HG3	87:AZ:902:GDP:N2	2.34	0.43
84:AZ:743:ILE:O	84:AZ:747:LEU:CB	2.65	0.43
1:1:1616:U:H2'	1:1:1617:G:C8	2.54	0.43
1:1:1662:G:H1	1:1:1787:A:N6	2.13	0.43
1:1:2439:A:H2'	1:1:2440:G:H8	1.83	0.43
1:1:3348:G:O6	1:1:3357:U:O4	2.36	0.43
2:3:4:U:H2'	2:3:5:G:C8	2.54	0.43
12:G:140:VAL:HG21	18:N:3:ALA:HB2	2.01	0.43
14:I:36:LEU:HD11	14:I:69:ARG:HD3	2.00	0.43
16:L:74:GLY:O	16:L:101:ARG:NH2	2.52	0.43
37:g:77:GLY:HA2	37:g:80:ARG:HB2	2.00	0.43
47:2:207:U:N3	47:2:258:C:N4	2.41	0.43
47:2:800:U:H2'	47:2:801:G:H8	1.84	0.43
47:2:1454:G:O5'	63:AF:81:ARG:NH1	2.51	0.43
54:w:76:LEU:HD12	54:w:92:ARG:HB3	2.01	0.43
56:y:60:ILE:H	56:y:60:ILE:HG13	1.51	0.43
59:AB:33:ARG:NH2	59:AB:48:ALA:O	2.52	0.43
63:AF:23:GLU:O	63:AF:27:GLU:N	2.40	0.43
66:AI:145:ARG:H	66:AI:145:ARG:HD2	1.83	0.43
69:AL:55:LEU:HD21	69:AL:60:ARG:HB3	2.00	0.43
1:1:54:C:O2'	1:1:1547:G:O2'	2.23	0.42
1:1:59:G:H2'	3:4:33:A:H2'	2.00	0.42
1:1:920:A:H5''	1:1:922:U:H3	1.83	0.42
1:1:1282:G:H5'	4:P0:80:VAL:HG12	2.01	0.42
1:1:1404:G:H5''	35:e:64:LYS:HD2	2.00	0.42
1:1:1812:G:O2'	1:1:1817:G:O2'	2.29	0.42
1:1:2439:A:H2'	1:1:2440:G:C8	2.54	0.42
1:1:2471:U:O2	1:1:2473:C:N4	2.42	0.42
1:1:2658:G:N2	1:1:2715:A:OP1	2.42	0.42
1:1:3060:C:H2'	1:1:3061:G:C8	2.53	0.42
1:1:3180:A:H4'	19:O:116:LYS:HB2	2.01	0.42
1:1:3192:U:H3	1:1:3200:G:H1	1.66	0.42
1:1:3283:U:H2'	1:1:3284:G:H8	1.84	0.42
7:B:53:MET:HE2	7:B:53:MET:HB3	1.86	0.42
8:C:34:ILE:HD12	8:C:34:ILE:HA	1.87	0.42
8:C:104:LYS:HD3	8:C:106:TRP:CZ2	2.54	0.42
14:I:20:SER:OG	14:I:21:ARG:N	2.51	0.42
14:I:48:LEU:HD22	14:I:142:ASP:HA	2.00	0.42
26:V:13:ILE:HD11	26:V:85:TRP:CD1	2.53	0.42
39:i:57:LEU:HD22	39:i:73:ALA:HB2	1.99	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2:112:A:O2'	59:AB:67:ARG:NE	2.42	0.42
47:2:939:A:H2'	47:2:940:A:C8	2.54	0.42
47:2:1206:U:O2'	77:AT:16:LYS:NZ	2.52	0.42
47:2:1465:C:OP1	64:AG:141:SER:OG	2.35	0.42
61:AD:93:LYS:HA	61:AD:96:VAL:HG12	2.00	0.42
84:AZ:274:ASN:HA	84:AZ:278:LEU:HB2	2.01	0.42
1:1:182:U:O2	1:1:234:G:N2	2.41	0.42
1:1:2344:U:H2'	1:1:2345:A:C8	2.54	0.42
1:1:3027:A:N1	84:AZ:109:VAL:HG23	2.33	0.42
7:B:57:VAL:HG11	27:W:15:PRO:HB2	2.01	0.42
7:B:63:PRO:HD2	7:B:348:ARG:HH22	1.84	0.42
9:D:106:ALA:HB2	9:D:166:ALA:HA	2.00	0.42
16:L:166:ALA:HB3	31:a:145:VAL:HG13	2.01	0.42
47:2:600:U:H2'	47:2:601:A:C8	2.54	0.42
47:2:1318:G:H2'	47:2:1319:A:C8	2.55	0.42
47:2:1583:A:N6	47:2:1612:U:OP2	2.51	0.42
48:q:98:ILE:HD11	48:q:116:LYS:HD3	2.01	0.42
52:u:20:LEU:HD22	52:u:21:ASP:H	1.84	0.42
61:AD:99:ARG:NH2	61:AD:143:SER:O	2.50	0.42
73:AP:71:ILE:HD13	73:AP:78:ILE:HG22	2.01	0.42
84:AZ:31:GLY:CA	87:AZ:902:GDP:O3A	2.66	0.42
84:AZ:596:GLU:O	84:AZ:599:LEU:O	2.38	0.42
1:1:38:U:H4'	31:a:32:ARG:HD2	2.01	0.42
1:1:75:G:H3'	1:1:76:G:H8	1.83	0.42
1:1:148:G:OP2	18:N:49:ARG:NH2	2.53	0.42
1:1:1833:G:H5''	42:l:10:LYS:HE3	2.01	0.42
1:1:2371:G:N2	1:1:2375:G:N7	2.67	0.42
3:4:142:C:H2'	3:4:143:U:C6	2.55	0.42
15:J:20:ASN:OD1	15:J:20:ASN:N	2.53	0.42
36:f:38:PRO:HA	36:f:41:ALA:HB3	2.00	0.42
47:2:619:A:H5'	47:2:620:A:H3'	2.00	0.42
48:q:20:ALA:O	48:q:169:SER:OG	2.32	0.42
54:w:33:GLY:N	54:w:52:ILE:HG13	2.34	0.42
60:AC:66:VAL:HB	60:AC:72:ILE:HD11	2.01	0.42
66:AI:42:TYR:HB3	66:AI:85:PHE:CE2	2.54	0.42
79:AV:305:TYR:HE1	79:AV:311:ARG:H	1.65	0.42
84:AZ:113:SER:O	84:AZ:384:LYS:NZ	2.36	0.42
1:1:21:G:OP2	3:4:36:G:N2	2.42	0.42
1:1:735:A:H2'	1:1:736:A:C4	2.54	0.42
1:1:746:A:OP1	21:Q:145:ASN:ND2	2.53	0.42
1:1:1234:G:O2'	5:P2:117:ARG:O	2.36	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1810:A:H2'	1:1:1811:G:C8	2.51	0.42
1:1:2551:U:OP2	6:A:40:TYR:OH	2.38	0.42
1:1:2669:G:H2'	1:1:2670:G:H8	1.85	0.42
1:1:3365:U:H2'	1:1:3366:G:H8	1.85	0.42
4:P0:55:LYS:O	4:P0:58:MET:N	2.40	0.42
18:N:169:LYS:HG2	18:N:174:ILE:HD11	2.00	0.42
47:2:224:C:H2'	47:2:225:A:C8	2.54	0.42
47:2:228:G:H2'	47:2:229:U:C6	2.55	0.42
47:2:823:G:N2	47:2:849:C:C2	2.86	0.42
47:2:1345:A:H1'	68:AK:56:VAL:HG22	2.01	0.42
48:q:88:LYS:HA	48:q:91:ALA:HB3	2.01	0.42
51:t:23:GLU:HG2	58:AA:61:TRP:HE1	1.85	0.42
58:AA:15:LEU:HD13	58:AA:21:VAL:HG23	2.02	0.42
59:AB:87:ARG:HE	59:AB:104:HIS:HB2	1.85	0.42
68:AK:99:ILE:HD12	68:AK:102:ARG:HE	1.85	0.42
71:AN:135:LEU:HD13	71:AN:140:LYS:HE2	2.01	0.42
80:AW:121:CYS:HB2	80:AW:132:LEU:HD21	2.01	0.42
84:AZ:490:GLN:CA	84:AZ:530:VAL:O	2.62	0.42
84:AZ:588:LEU:HB3	84:AZ:713:THR:HG22	2.02	0.42
84:AZ:661:ASP:O	84:AZ:665:ALA:CB	2.67	0.42
1:1:1910:A:H2'	1:1:1911:A:H8	1.84	0.42
1:1:2499:U:H2'	1:1:2500:A:C4	2.55	0.42
33:c:9:SER:OG	33:c:10:ILE:N	2.52	0.42
47:2:321:C:H42	47:2:1666:U:P	2.42	0.42
47:2:813:U:OP2	61:AD:76:LYS:NZ	2.46	0.42
47:2:1360:A:H2'	47:2:1361:U:H4'	2.01	0.42
48:q:141:ILE:HA	48:q:142:PRO:HD3	1.93	0.42
50:s:39:THR:O	50:s:42:GLY:N	2.43	0.42
51:t:202:LEU:HA	51:t:203:PRO:HD3	1.88	0.42
59:AB:74:THR:O	59:AB:87:ARG:N	2.48	0.42
84:AZ:212:GLY:HA3	84:AZ:218:TRP:O	2.18	0.42
84:AZ:663:VAL:O	84:AZ:667:PHE:CB	2.49	0.42
1:1:1263:A:N6	5:P2:136:ALA:HB2	2.34	0.42
1:1:2554:A:H3'	37:g:91:ARG:HH12	1.85	0.42
1:1:2883:U:H2'	1:1:2884:C:H6	1.83	0.42
3:4:22:U:OP1	29:Y:12:ARG:NH1	2.52	0.42
7:B:24:SER:OG	7:B:25:ILE:N	2.52	0.42
11:F:37:ASN:HA	11:F:40:LYS:HG2	2.01	0.42
15:J:116:TYR:HD1	66:AI:110:ARG:HH21	1.67	0.42
20:P:4:TYR:HE1	20:P:18:ARG:HD2	1.83	0.42
20:P:95:LEU:HA	20:P:95:LEU:HD23	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:Q:23:ASN:OD1	21:Q:23:ASN:N	2.52	0.42
47:2:39:A:O2'	47:2:467:G:N2	2.52	0.42
47:2:1244:A:O2'	47:2:1246:C:O2	2.28	0.42
52:u:66:MET:HG3	52:u:67:GLN:HG3	2.01	0.42
52:u:98:ASN:HD22	52:u:116:ASP:HA	1.84	0.42
52:u:180:LEU:HG	52:u:194:THR:HG22	2.00	0.42
63:AF:60:LEU:HA	63:AF:76:VAL:HG21	2.02	0.42
64:AG:128:LYS:HB2	64:AG:137:ARG:HH22	1.83	0.42
66:AI:116:LEU:HD11	66:AI:121:ALA:HB3	2.00	0.42
71:AN:62:LYS:HG3	71:AN:118:PRO:HD3	2.02	0.42
72:AO:15:ASN:N	72:AO:20:ARG:O	2.40	0.42
79:AV:13:LEU:H	79:AV:310:ILE:H	1.67	0.42
79:AV:26:SER:HB2	79:AV:32:LEU:HB3	2.01	0.42
79:AV:216:LYS:HD3	79:AV:239:GLU:HB2	2.01	0.42
81:AX:63:C:H2'	81:AX:64:A:C8	2.55	0.42
84:AZ:129:VAL:O	84:AZ:157:ILE:HA	2.19	0.42
1:1:415:G:H2'	1:1:416:A:C8	2.54	0.42
1:1:1150:A:N6	1:1:2369:G:O2'	2.53	0.42
1:1:2157:G:O2'	6:A:156:LYS:NZ	2.34	0.42
1:1:3028:G:O3'	84:AZ:28:VAL:HG11	2.20	0.42
1:1:3105:U:OP2	1:1:3128:G:N1	2.34	0.42
1:1:3295:A:H2'	1:1:3296:A:C8	2.54	0.42
3:4:23:U:OP1	29:Y:16:ARG:NH1	2.53	0.42
6:A:237:LEU:HB3	6:A:240:ALA:HB2	2.00	0.42
33:c:43:ILE:HB	33:c:90:VAL:HG22	2.00	0.42
39:i:34:SER:O	39:i:37:THR:N	2.49	0.42
47:2:396:G:N2	47:2:399:A:OP2	2.53	0.42
54:w:87:ARG:HD3	54:w:87:ARG:HA	1.85	0.42
79:AV:211:ILE:H	79:AV:224:ASN:HA	1.85	0.42
83:BA:69:GLY:H	83:BA:106:LYS:HG2	1.85	0.42
1:1:114:A:H4'	18:N:49:ARG:HG3	2.02	0.42
1:1:148:G:O6	12:G:138:HIS:N	2.52	0.42
1:1:269:G:C5	18:N:14:LYS:HD2	2.55	0.42
1:1:422:A:N1	1:1:2362:C:O2'	2.40	0.42
1:1:1094:U:H3'	1:1:1095:U:H3'	2.02	0.42
1:1:2661:G:H2'	1:1:2662:G:H8	1.85	0.42
4:P0:104:ARG:HD3	4:P0:182:THR:HA	2.02	0.42
14:I:7:ARG:HA	14:I:10:ARG:HG3	2.01	0.42
26:V:87:ARG:HE	26:V:93:LEU:HD13	1.85	0.42
31:a:11:HIS:HA	31:a:14:HIS:CE1	2.55	0.42
49:r:46:THR:OG1	49:r:47:LEU:N	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:w:90:GLY:N	54:w:91:GLU:HG3	2.34	0.42
60:AC:34:THR:HA	60:AC:37:VAL:HB	2.02	0.42
63:AF:128:HIS:O	63:AF:130:ARG:N	2.53	0.42
84:AZ:682:ARG:HA	84:AZ:682:ARG:HD2	1.80	0.42
1:1:1413:G:H2'	1:1:1414:G:C8	2.55	0.42
1:1:1663:C:H2'	1:1:1664:G:H8	1.84	0.42
1:1:2427:U:O4	1:1:2602:G:O6	2.37	0.42
1:1:2557:A:N7	6:A:64:ARG:NH1	2.66	0.42
1:1:2882:U:H2'	1:1:2883:U:C6	2.55	0.42
30:Z:97:SER:OG	30:Z:98:THR:N	2.52	0.42
33:c:22:LYS:HB2	33:c:94:GLU:HG3	2.01	0.42
37:g:100:ILE:HG23	37:g:101:VAL:HG13	2.01	0.42
39:i:50:LEU:HB3	39:i:54:GLU:HB3	2.02	0.42
41:k:27:ILE:HG12	41:k:39:ARG:HH21	1.83	0.42
47:2:116:U:H2'	47:2:117:U:C6	2.55	0.42
47:2:156:A:H62	54:w:59:GLN:NE2	2.18	0.42
47:2:710:U:O2'	47:2:730:G:O2'	2.33	0.42
47:2:713:A:H2'	47:2:714:G:H8	1.85	0.42
47:2:715:U:C4	47:2:723:G:O6	2.73	0.42
47:2:1314:U:H4'	47:2:1315:U:H5	1.84	0.42
47:2:1379:C:O2'	64:AG:12:LYS:NZ	2.53	0.42
47:2:1508:U:H2'	47:2:1509:C:C6	2.55	0.42
47:2:1650:U:H2'	47:2:1651:A:H8	1.85	0.42
47:2:1672:G:H2'	47:2:1673:G:C8	2.54	0.42
48:q:111:ILE:HG22	48:q:112:THR:H	1.84	0.42
54:w:121:LEU:HD13	54:w:121:LEU:HA	1.91	0.42
55:x:143:LEU:HD12	55:x:145:GLY:H	1.84	0.42
57:z:174:ARG:O	57:z:178:ALA:N	2.49	0.42
68:AK:26:LEU:HD11	68:AK:37:VAL:HG12	2.00	0.42
79:AV:178:VAL:HB	79:AV:192:PHE:HB2	2.02	0.42
84:AZ:731:VAL:HG23	84:AZ:770:ALA:HB3	2.01	0.42
1:1:1310:G:H2'	1:1:1311:G:C8	2.55	0.42
1:1:1412:G:H5''	35:e:124:GLY:HA3	2.01	0.42
1:1:1542:G:H2'	1:1:1543:G:C8	2.54	0.42
1:1:1631:C:H3'	30:Z:48:ARG:HH22	1.84	0.42
1:1:2437:G:H2'	1:1:2438:A:C8	2.55	0.42
2:3:12:U:OP2	2:3:68:C:O2'	2.37	0.42
2:3:110:G:P	9:D:279:LYS:HZ3	2.40	0.42
10:E:72:ASN:HB3	10:E:160:SER:HA	2.01	0.42
12:G:99:PRO:HD3	12:G:132:VAL:HG12	2.00	0.42
13:H:83:THR:HG23	13:H:84:LYS:HD2	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:118:LEU:HD21	13:H:177:ASP:HB3	2.02	0.42
15:J:23:VAL:HG13	15:J:30:LEU:HD11	2.02	0.42
15:J:171:VAL:HG13	15:J:172:LEU:H	1.85	0.42
22:R:23:TRP:HB2	22:R:53:LYS:HG3	2.02	0.42
30:Z:33:SER:OG	30:Z:34:LYS:N	2.53	0.42
44:n:17:ARG:HA	44:n:20:VAL:HG12	2.02	0.42
47:2:474:A:H5''	57:z:144:PRO:HD2	2.02	0.42
47:2:1354:G:C6	47:2:1369:U:N3	2.88	0.42
47:2:1474:G:H2'	47:2:1475:A:C8	2.55	0.42
51:t:69:LEU:HD22	51:t:86:LEU:HD11	2.02	0.42
55:x:126:LEU:HA	55:x:129:LEU:HB3	2.01	0.42
57:z:46:SER:O	57:z:50:SER:N	2.45	0.42
63:AF:22:LEU:HD13	63:AF:22:LEU:HA	1.92	0.42
64:AG:46:PHE:HA	64:AG:49:TYR:CD2	2.54	0.42
69:AL:24:ILE:HD11	69:AL:31:SER:HB3	2.01	0.42
79:AV:23:LEU:HA	79:AV:35:SER:HA	2.02	0.42
84:AZ:364:ALA:HB3	84:AZ:379:MET:HE1	2.02	0.42
84:AZ:632:LYS:HG3	84:AZ:648:ASP:H	1.85	0.42
84:AZ:788:THR:O	84:AZ:788:THR:HG22	2.20	0.42
84:AZ:798:PHE:CD2	86:AZ:901:SO1:H16	2.54	0.42
1:1:1132:C:H2'	1:1:1133:A:C8	2.54	0.41
1:1:2482:U:H2'	1:1:2483:G:C8	2.55	0.41
4:P0:112:GLY:HA3	4:P0:165:VAL:HB	2.02	0.41
5:P2:60:VAL:HG13	5:P2:75:PRO:HB2	2.02	0.41
15:J:15:GLU:OE1	15:J:15:GLU:N	2.53	0.41
21:Q:180:ARG:HG2	21:Q:184:PHE:HA	2.01	0.41
26:V:24:ASN:N	26:V:98:ASN:O	2.52	0.41
30:Z:54:THR:H	30:Z:57:HIS:CD2	2.38	0.41
47:2:32:U:O2'	47:2:594:A:N1	2.46	0.41
47:2:546:U:H2'	47:2:547:U:C6	2.55	0.41
47:2:810:G:N2	55:x:109:VAL:O	2.53	0.41
47:2:851:U:H2'	47:2:852:C:C6	2.55	0.41
47:2:1545:A:H2'	47:2:1546:G:C8	2.55	0.41
48:q:129:ASP:HB3	48:q:132:ALA:HB3	2.01	0.41
49:r:146:GLN:O	49:r:149:GLN:NE2	2.50	0.41
52:u:54:TYR:O	72:AO:15:ASN:ND2	2.52	0.41
54:w:71:THR:HG22	54:w:72:ARG:H	1.84	0.41
54:w:209:ALA:HA	54:w:212:LEU:HB2	2.01	0.41
59:AB:94:ILE:HD11	71:AN:12:ALA:HB1	2.02	0.41
59:AB:118:GLN:N	59:AB:121:ASP:OD2	2.52	0.41
60:AC:36:LEU:HD23	60:AC:41:LEU:HD11	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:AN:63:GLN:HA	71:AN:65:ASN:H	1.85	0.41
71:AN:116:ASP:N	71:AN:116:ASP:OD1	2.51	0.41
72:AO:131:ARG:O	72:AO:135:ASP:N	2.53	0.41
1:1:1411:C:OP1	35:e:98:HIS:N	2.53	0.41
1:1:1653:G:H2'	1:1:1654:A:C8	2.55	0.41
1:1:2433:U:O2'	18:N:125:SER:OG	2.28	0.41
1:1:2561:A:H61	1:1:2579:G:H2'	1.84	0.41
7:B:17:LEU:HA	7:B:19:ARG:HG3	2.02	0.41
11:F:102:VAL:HG12	11:F:130:ILE:HD12	2.02	0.41
21:Q:122:ILE:HB	21:Q:126:GLN:HG3	2.02	0.41
30:Z:4:PHE:HB2	30:Z:9:LYS:HZ2	1.85	0.41
35:e:85:LEU:HD13	35:e:85:LEU:HA	1.88	0.41
47:2:183:U:H2'	47:2:184:C:H6	1.84	0.41
47:2:199:G:H2'	47:2:200:A:H8	1.83	0.41
47:2:209:U:H2'	47:2:210:A:C8	2.55	0.41
47:2:1206:U:H4'	77:AT:27:HIS:CE1	2.55	0.41
47:2:1265:G:N3	47:2:1435:G:N2	2.68	0.41
47:2:1266:U:O2'	47:2:1435:G:N1	2.48	0.41
49:r:179:SER:HA	49:r:183:GLN:HB2	2.02	0.41
50:s:65:GLU:HB2	50:s:68:ILE:HD12	2.01	0.41
50:s:168:ARG:HB3	50:s:199:GLN:HB3	2.02	0.41
59:AB:46:LYS:HA	59:AB:46:LYS:HD2	1.90	0.41
65:AH:96:SER:HA	65:AH:97:ASN:HA	1.67	0.41
68:AK:24:ILE:O	68:AK:91:ILE:N	2.45	0.41
80:AW:138:ARG:HA	80:AW:151:ASN:HD22	1.85	0.41
83:BA:40:ASN:HB2	83:BA:163:LEU:HD23	2.02	0.41
84:AZ:232:LYS:HD3	84:AZ:233:PHE:HB2	2.02	0.41
1:1:550:A:H2'	1:1:551:A:C8	2.56	0.41
1:1:1336:U:H2'	1:1:1337:A:H8	1.86	0.41
1:1:2178:A:H5''	6:A:132:ASN:HD22	1.85	0.41
1:1:2999:U:H2'	1:1:3000:A:H8	1.85	0.41
8:C:164:GLU:HA	8:C:167:ALA:HB3	2.03	0.41
14:I:31:ILE:HA	14:I:69:ARG:HH21	1.85	0.41
33:c:24:THR:HG23	33:c:93:LEU:HD22	2.02	0.41
34:d:75:ILE:HG22	34:d:93:VAL:HG22	2.01	0.41
46:p:32:GLN:O	46:p:37:TYR:OH	2.28	0.41
47:2:1481:C:H4'	47:2:1482:C:H5'	2.01	0.41
47:2:1523:G:OP1	47:2:1523:G:N2	2.39	0.41
47:2:1542:G:H1'	47:2:1543:A:N7	2.35	0.41
47:2:1742:U:OP1	71:AN:39:LYS:NZ	2.39	0.41
52:u:12:LEU:HD13	52:u:22:LYS:HG3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:v:98:MET:SD	53:v:107:LYS:HD3	2.60	0.41
55:x:101:LYS:HA	55:x:102:PRO:HD3	1.83	0.41
59:AB:27:THR:HG22	59:AB:28:SER:H	1.84	0.41
63:AF:16:SER:HA	63:AF:20:VAL:HG12	2.02	0.41
74:AQ:53:LEU:HD12	74:AQ:64:LEU:HD11	2.03	0.41
84:AZ:320:LEU:HA	84:AZ:323:VAL:HG12	2.01	0.41
84:AZ:712:ALA:HA	84:AZ:715:ALA:HB3	2.01	0.41
84:AZ:735:CYS:CB	84:AZ:791:GLN:O	2.68	0.41
84:AZ:740:VAL:O	84:AZ:744:TYR:HB2	2.21	0.41
87:AZ:902:GDP:C8	87:AZ:902:GDP:C5'	3.03	0.41
1:1:314:U:H2'	1:1:315:C:C6	2.55	0.41
1:1:2431:C:H2'	1:1:2432:A:C8	2.55	0.41
1:1:3098:G:H5'	7:B:278:ILE:HD11	2.03	0.41
2:3:19:C:H2'	2:3:20:A:C8	2.55	0.41
3:4:36:G:O2'	3:4:104:A:N1	2.46	0.41
3:4:128:U:H5''	3:4:129:C:H5	1.85	0.41
8:C:190:GLY:O	8:C:193:LYS:NZ	2.46	0.41
14:I:189:GLU:HB2	14:I:200:LEU:H	1.85	0.41
17:M:44:VAL:HG13	17:M:60:LEU:HD11	2.02	0.41
27:W:53:VAL:HA	27:W:56:ARG:HB3	2.02	0.41
47:2:199:G:H2'	47:2:200:A:C8	2.56	0.41
47:2:354:C:H5'	56:y:14:THR:HG21	2.02	0.41
47:2:1608:U:H2'	47:2:1609:U:C6	2.55	0.41
53:v:197:GLU:O	53:v:201:ALA:N	2.53	0.41
56:y:172:ARG:HA	56:y:173:PRO:HD3	1.92	0.41
66:AI:46:VAL:O	66:AI:68:ARG:NH1	2.43	0.41
71:AN:132:LEU:HA	71:AN:135:LEU:HB2	2.02	0.41
84:AZ:78:TYR:CG	84:AZ:97:SER:HB3	2.55	0.41
1:1:676:G:O2'	1:1:678:G:O2'	2.36	0.41
1:1:2697:A:H2'	1:1:2698:G:H8	1.86	0.41
1:1:3232:G:O6	1:1:3255:U:O2	2.37	0.41
4:P0:58:MET:HA	4:P0:61:ARG:HG2	2.01	0.41
9:D:177:GLU:H	9:D:177:GLU:HG3	1.62	0.41
12:G:150:LEU:HD23	12:G:176:PRO:HG2	2.02	0.41
20:P:116:HIS:HB3	20:P:149:VAL:HG22	2.01	0.41
28:X:34:LEU:HA	28:X:35:PRO:HD3	1.93	0.41
37:g:41:ARG:NH1	37:g:51:LEU:O	2.53	0.41
47:2:486:G:O6	47:2:501:U:O4	2.38	0.41
47:2:800:U:H2'	47:2:801:G:C8	2.56	0.41
47:2:1337:A:OP1	64:AG:123:ARG:NH2	2.54	0.41
48:q:143:VAL:HB	48:q:156:VAL:HG23	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:r:132:ASP:OD1	49:r:132:ASP:N	2.47	0.41
50:s:60:SER:OG	69:AL:28:ASP:O	2.37	0.41
81:AX:16:U:H6	81:AX:16:U:H2'	1.68	0.41
82:AY:49:U:O2	82:AY:49:U:C2'	2.68	0.41
84:AZ:723:LYS:NZ	84:AZ:724:ILE:HG22	2.35	0.41
1:1:127:G:H2'	1:1:128:G:H8	1.85	0.41
1:1:896:A:H5''	6:A:183:GLY:HA2	2.02	0.41
1:1:1362:G:H2'	1:1:1363:A:C8	2.56	0.41
1:1:1404:G:N2	1:1:1407:A:OP2	2.48	0.41
1:1:2511:A:H2'	1:1:2511:A:N3	2.35	0.41
10:E:58:LEU:HD21	10:E:64:LEU:HD12	2.02	0.41
17:M:85:TRP:CE2	17:M:89:ALA:HA	2.55	0.41
22:R:72:GLU:O	22:R:74:ARG:NH1	2.53	0.41
22:R:163:ARG:NH1	47:2:815:G:OP1	2.43	0.41
29:Y:22:ALA:O	29:Y:27:ARG:NH2	2.32	0.41
47:2:1512:G:H2'	47:2:1513:G:C8	2.55	0.41
47:2:1584:G:N2	47:2:1611:A:OP2	2.54	0.41
47:2:1611:A:OP2	53:v:77:TYR:OH	2.39	0.41
72:AO:8:ARG:HH12	72:AO:28:LEU:HD11	1.85	0.41
84:AZ:108:HIS:O	84:AZ:111:PHE:N	2.47	0.41
84:AZ:539:GLU:OE1	84:AZ:539:GLU:N	2.52	0.41
84:AZ:723:LYS:HA	84:AZ:723:LYS:HD2	1.60	0.41
1:1:1002:A:OP2	9:D:10:SER:OG	2.35	0.41
1:1:1075:A:O2'	32:b:42:ASN:ND2	2.43	0.41
1:1:1535:A:H62	1:1:1586:G:H21	1.69	0.41
1:1:1546:A:OP1	18:N:71:ARG:NH1	2.53	0.41
1:1:1612:A:H5'	41:k:51:LEU:HD21	2.02	0.41
1:1:1780:G:H2'	1:1:1781:C:C6	2.56	0.41
1:1:1789:G:H2'	1:1:1790:G:H8	1.85	0.41
1:1:1799:A:H2'	1:1:1800:A:H8	1.86	0.41
1:1:2450:G:N2	1:1:2498:U:H3	2.18	0.41
1:1:2988:C:H1'	7:B:266:ARG:HH22	1.84	0.41
1:1:3024:A:P	84:AZ:162:ARG:HH12	2.44	0.41
1:1:3028:G:H5''	84:AZ:28:VAL:HG12	2.02	0.41
5:P2:86:LYS:HE2	5:P2:106:LEU:HD12	2.03	0.41
7:B:57:VAL:HG12	7:B:73:VAL:HG12	2.02	0.41
26:V:49:LEU:HD23	26:V:49:LEU:HA	1.91	0.41
33:c:10:ILE:HG21	33:c:104:LEU:HD11	2.01	0.41
35:e:79:VAL:HB	35:e:108:ILE:HG12	2.03	0.41
47:2:1565:C:H2'	47:2:1566:U:H6	1.85	0.41
47:2:1717:G:H3'	47:2:1718:G:H8	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:r:103:MET:H	49:r:215:VAL:HG13	1.85	0.41
56:y:110:ARG:HA	56:y:113:PHE:HB3	2.01	0.41
67:AJ:132:LEU:HA	67:AJ:135:ILE:HG22	2.03	0.41
75:AR:64:CYS:HB2	75:AR:71:ALA:HB1	2.03	0.41
76:AS:32:PHE:HE2	76:AS:39:THR:HA	1.84	0.41
84:AZ:27:HIS:HB2	84:AZ:30:HIS:HD1	1.82	0.41
1:1:63:A:OP1	18:N:172:ARG:NH2	2.51	0.41
1:1:1460:A:H2'	1:1:1461:A:H8	1.86	0.41
1:1:1517:G:H5''	42:l:22:PRO:HG2	2.02	0.41
1:1:1786:G:H2'	1:1:1787:A:C8	2.56	0.41
1:1:2742:C:H1'	45:o:20:HIS:CE1	2.55	0.41
1:1:2993:G:N1	1:1:3142:A:N7	2.68	0.41
1:1:2999:U:H2'	1:1:3000:A:C8	2.56	0.41
1:1:3060:C:H2'	1:1:3061:G:H8	1.86	0.41
5:P2:57:LYS:HG2	5:P2:58:VAL:H	1.86	0.41
9:D:163:LEU:HA	9:D:163:LEU:HD13	1.79	0.41
15:J:97:SER:H	15:J:156:LYS:HE3	1.86	0.41
30:Z:121:ARG:H	30:Z:121:ARG:HD2	1.86	0.41
42:l:12:LYS:HZ1	42:l:51:ILE:HD12	1.85	0.41
47:2:107:C:H2'	47:2:108:A:H8	1.85	0.41
47:2:483:A:H2'	47:2:484:C:C6	2.56	0.41
47:2:1650:U:H2'	47:2:1651:A:C8	2.55	0.41
47:2:1718:G:H2'	47:2:1719:A:C8	2.55	0.41
49:r:142:PHE:HB2	49:r:208:GLN:NE2	2.35	0.41
54:w:33:GLY:H	54:w:52:ILE:HG13	1.86	0.41
56:y:191:PHE:HB3	56:y:195:ARG:NH2	2.35	0.41
64:AG:51:PRO:HD3	64:AG:82:ARG:HH21	1.86	0.41
72:AO:12:VAL:HA	72:AO:23:PHE:HB3	2.01	0.41
84:AZ:229:TYR:HD1	84:AZ:229:TYR:HA	1.78	0.41
84:AZ:431:ILE:HD13	84:AZ:456:LEU:HG	2.02	0.41
84:AZ:555:LYS:HE2	84:AZ:555:LYS:HB2	1.89	0.41
1:1:411:U:H2'	1:1:412:G:C8	2.54	0.41
1:1:640:U:H2'	1:1:641:C:C6	2.56	0.41
1:1:673:U:H2'	1:1:674:G:H8	1.85	0.41
1:1:799:G:O2'	16:L:18:TRP:NE1	2.54	0.41
1:1:824:C:O2'	1:1:1534:A:N3	2.47	0.41
1:1:970:A:OP2	32:b:19:ASN:ND2	2.38	0.41
1:1:1221:A:H5''	1:1:1222:G:H8	1.85	0.41
1:1:1627:U:O4	1:1:1817:G:O6	2.39	0.41
1:1:1828:A:H2'	1:1:1829:G:C8	2.56	0.41
1:1:1914:G:N2	22:R:81:ARG:O	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2196:C:H2'	1:1:2242:A:H61	1.85	0.41
1:1:2368:A:H2'	1:1:2369:G:C8	2.56	0.41
1:1:2465:G:C2	1:1:2491:A:N7	2.89	0.41
1:1:2506:U:H2'	1:1:2507:C:C6	2.56	0.41
1:1:2611:U:H2'	1:1:2612:U:C6	2.56	0.41
1:1:2812:C:H2'	1:1:2813:A:C8	2.53	0.41
7:B:12:GLY:HA3	7:B:233:TRP:HE3	1.84	0.41
8:C:295:ILE:HD11	21:Q:129:VAL:HA	2.03	0.41
10:E:42:LEU:HD22	10:E:47:PHE:HB2	2.03	0.41
10:E:93:VAL:HG12	10:E:145:LEU:HD11	2.01	0.41
12:G:78:PHE:HD1	12:G:179:ILE:HD12	1.86	0.41
13:H:93:VAL:HB	43:m:82:LEU:HD11	2.03	0.41
14:I:50:VAL:HG21	14:I:149:VAL:HG12	2.03	0.41
18:N:122:ASN:HB2	18:N:129:TYR:CD2	2.56	0.41
22:R:136:ARG:HA	22:R:139:VAL:HG12	2.01	0.41
30:Z:9:LYS:HA	30:Z:86:THR:HG22	2.02	0.41
35:e:100:ILE:O	35:e:125:ARG:NH1	2.54	0.41
38:h:35:LYS:HG2	38:h:41:LEU:HD12	2.02	0.41
42:l:9:ILE:HD12	42:l:9:ILE:HA	1.87	0.41
47:2:256:A:O2'	56:y:72:ILE:O	2.38	0.41
47:2:718:U:H2'	47:2:722:G:H21	1.86	0.41
47:2:905:A:H5''	62:AE:52:ARG:HE	1.86	0.41
47:2:1140:G:H2'	47:2:1141:G:H8	1.86	0.41
49:r:82:ARG:NH2	49:r:191:GLU:OE2	2.54	0.41
52:u:180:LEU:HD22	52:u:234:PRO:HB3	2.03	0.41
54:w:33:GLY:N	54:w:52:ILE:O	2.45	0.41
63:AF:126:VAL:HG23	63:AF:128:HIS:HD2	1.86	0.41
64:AG:58:ASP:HB3	64:AG:60:PHE:HB2	2.02	0.41
67:AJ:81:GLY:H	67:AJ:93:HIS:HE1	1.69	0.41
73:AP:61:SER:OG	73:AP:62:VAL:N	2.54	0.41
79:AV:59:ARG:HH12	79:AV:94:VAL:HG13	1.86	0.41
82:AY:49:U:H5''	82:AY:49:U:O2	2.21	0.41
84:AZ:149:GLU:H	84:AZ:150:ARG:HA	1.86	0.41
1:1:1035:G:H2'	1:1:1036:A:H8	1.86	0.41
1:1:1249:G:H2'	1:1:1250:G:H8	1.85	0.41
1:1:2877:G:H2'	1:1:2878:G:H8	1.85	0.41
1:1:3365:U:H2'	1:1:3366:G:C8	2.56	0.41
3:4:143:U:OP1	18:N:38:ARG:NH2	2.54	0.41
9:D:107:ARG:HH21	9:D:248:ARG:HH21	1.69	0.41
11:F:140:SER:H	11:F:143:THR:HG22	1.86	0.41
12:G:237:ILE:H	12:G:237:ILE:HG13	1.70	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:47:LYS:HE3	13:H:50:ASN:H	1.85	0.41
16:L:110:ASP:HA	16:L:113:VAL:HG22	2.03	0.41
20:P:170:SER:HA	20:P:173:ARG:HG2	2.03	0.41
23:S:77:VAL:HG12	23:S:126:VAL:HG12	2.03	0.41
24:T:17:ARG:HH21	24:T:23:GLY:N	2.19	0.41
38:h:6:ALA:HB3	38:h:7:TYR:HD2	1.85	0.41
47:2:14:C:H2'	47:2:15:U:H6	1.86	0.41
47:2:108:A:H2'	47:2:109:G:C8	2.56	0.41
47:2:273:G:O6	47:2:283:U:O4	2.39	0.41
47:2:713:A:H2'	47:2:714:G:C8	2.56	0.41
47:2:885:G:H2'	47:2:886:U:C6	2.56	0.41
50:s:40:LYS:HD2	50:s:43:ARG:HB2	2.02	0.41
50:s:140:ARG:HB3	50:s:222:TYR:CE1	2.56	0.41
51:t:223:LYS:HG2	79:AV:191:ASP:HB3	2.01	0.41
54:w:84:TYR:HD1	54:w:85:ARG:HE	1.69	0.41
64:AG:136:SER:O	64:AG:137:ARG:NE	2.51	0.41
65:AH:17:ILE:H	65:AH:17:ILE:HG13	1.78	0.41
68:AK:22:ILE:HB	68:AK:95:ALA:HB3	2.03	0.41
69:AL:53:TYR:HE1	69:AL:72:LEU:HB3	1.85	0.41
79:AV:238:ASP:HB2	79:AV:257:ALA:HB3	2.03	0.41
80:AW:135:HIS:HB2	80:AW:138:ARG:HD3	2.02	0.41
84:AZ:369:ILE:HG13	84:AZ:379:MET:HB2	2.03	0.41
84:AZ:524:GLU:OE2	86:AZ:901:SO1:O19	2.38	0.41
1:1:239:G:OP1	38:h:94:LYS:NZ	2.54	0.40
1:1:1011:A:H2'	1:1:1012:G:H8	1.86	0.40
1:1:1443:G:H2'	1:1:1444:G:H8	1.86	0.40
1:1:1461:A:H2'	1:1:1462:A:H8	1.86	0.40
1:1:2386:A:H62	1:1:2993:G:N2	2.19	0.40
1:1:2562:A:H1'	12:G:30:THR:HG22	2.03	0.40
1:1:2585:G:H5''	3:4:151:C:N4	2.36	0.40
1:1:2918:G:H2'	1:1:2919:A:H8	1.86	0.40
1:1:3285:C:H2'	1:1:3286:G:C8	2.56	0.40
4:P0:171:SER:HA	4:P0:174:ASN:HB2	2.03	0.40
7:B:2:SER:OG	7:B:5:LYS:NZ	2.37	0.40
11:F:95:ILE:HA	11:F:96:PRO:HD3	1.89	0.40
20:P:16:SER:HB2	20:P:149:VAL:HG12	2.04	0.40
23:S:94:ILE:HG22	23:S:96:ASP:HB2	2.02	0.40
39:i:50:LEU:HD22	39:i:54:GLU:HG2	2.03	0.40
39:i:59:ASP:OD1	39:i:62:ARG:NH2	2.54	0.40
47:2:163:G:O2'	54:w:53:SER:OG	2.34	0.40
47:2:406:U:H2'	47:2:407:A:C8	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2:527:A:H2'	47:2:528:U:H6	1.86	0.40
47:2:1527:C:O3'	53:v:106:LYS:NZ	2.54	0.40
47:2:1781:A:H2'	47:2:1782:A:C8	2.56	0.40
59:AB:10:GLU:CD	59:AB:12:ALA:H	2.29	0.40
65:AH:29:GLN:NE2	79:AV:67:ILE:HG21	2.36	0.40
69:AL:13:VAL:HA	69:AL:14:PRO:HD3	1.90	0.40
77:AT:38:ILE:HG21	77:AT:43:PHE:HD1	1.86	0.40
84:AZ:130:ASP:OD1	84:AZ:158:ASN:C	2.64	0.40
84:AZ:235:VAL:HA	84:AZ:236:ASP:HA	1.78	0.40
86:AZ:901:SO1:H4	86:AZ:901:SO1:H81	1.94	0.40
1:1:286:U:H2'	1:1:287:G:C8	2.57	0.40
1:1:2389:C:H2'	1:1:2390:A:H8	1.86	0.40
1:1:2632:G:O6	1:1:2647:A:N6	2.54	0.40
2:3:108:A:H2'	2:3:109:G:C8	2.56	0.40
5:P2:93:LYS:HG3	5:P2:96:LYS:HD3	2.02	0.40
8:C:212:ASP:CG	8:C:215:ILE:H	2.29	0.40
12:G:52:TRP:O	12:G:57:ARG:NH2	2.54	0.40
13:H:49:ASN:OD1	13:H:49:ASN:N	2.54	0.40
22:R:106:LEU:H	22:R:106:LEU:HG	1.65	0.40
47:2:200:A:H2'	47:2:201:G:C8	2.56	0.40
47:2:325:G:OP1	59:AB:134:THR:OG1	2.26	0.40
47:2:1144:U:H2'	47:2:1145:U:H6	1.86	0.40
47:2:1158:C:H1'	47:2:1161:C:H5	1.85	0.40
47:2:1483:A:H2	47:2:1607:G:H1'	1.86	0.40
49:r:180:THR:O	49:r:183:GLN:N	2.50	0.40
50:s:80:VAL:HG11	50:s:125:ILE:HD12	2.03	0.40
52:u:155:LYS:HG3	52:u:158:ASP:HB3	2.04	0.40
53:v:61:TYR:OH	53:v:164:PRO:O	2.25	0.40
54:w:98:ARG:HH21	54:w:99:GLY:H	1.69	0.40
63:AF:26:LEU:HD23	63:AF:26:LEU:HA	1.95	0.40
63:AF:28:MET:HE3	63:AF:28:MET:HB2	1.88	0.40
64:AG:116:LEU:HA	64:AG:116:LEU:HD13	1.84	0.40
67:AJ:43:ASN:HD21	67:AJ:82:GLY:H	1.68	0.40
84:AZ:456:LEU:HD21	84:AZ:459:ILE:HG12	2.03	0.40
1:1:93:C:H41	45:o:42:ARG:HH12	1.68	0.40
1:1:135:C:H1'	38:h:93:THR:HG21	2.02	0.40
1:1:1376:C:O2'	1:1:1408:G:O2'	2.30	0.40
1:1:1814:A:H4'	1:1:1815:U:H5'	2.02	0.40
1:1:2527:G:H2'	1:1:2528:G:H8	1.85	0.40
1:1:3219:G:N7	36:f:2:ALA:N	2.70	0.40
1:1:3274:A:H5''	1:1:3276:G:C8	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:161:ASP:OD1	6:A:161:ASP:N	2.53	0.40
6:A:218:HIS:CD2	6:A:220:GLY:H	2.40	0.40
10:E:170:LYS:HA	10:E:171:PRO:HD3	1.83	0.40
11:F:88:ARG:HB3	11:F:113:SER:H	1.85	0.40
12:G:247:ASP:O	12:G:251:LYS:N	2.55	0.40
13:H:137:SER:OG	13:H:143:GLU:OE1	2.36	0.40
14:I:31:ILE:HD11	14:I:93:PRO:HG3	2.03	0.40
18:N:60:VAL:HG13	18:N:134:LEU:HG	2.02	0.40
23:S:13:ARG:NH1	23:S:50:LYS:O	2.54	0.40
41:k:50:SER:OG	41:k:51:LEU:N	2.52	0.40
47:2:89:G:N2	47:2:452:A:N7	2.69	0.40
47:2:196:G:H2'	47:2:197:A:C4	2.56	0.40
47:2:961:U:H5''	61:AD:71:ILE:HD13	2.03	0.40
49:r:126:THR:HG22	49:r:136:ARG:HG2	2.03	0.40
50:s:62:PRO:HB3	69:AL:29:HIS:CD2	2.56	0.40
57:z:36:LEU:HD13	57:z:126:ARG:HH21	1.86	0.40
58:AA:56:LYS:HB2	58:AA:67:THR:HB	2.04	0.40
63:AF:25:LEU:HD22	63:AF:90:ILE:HD13	2.02	0.40
67:AJ:65:ILE:HD11	67:AJ:70:GLN:HA	2.04	0.40
74:AQ:3:LYS:HB2	74:AQ:3:LYS:HE2	1.88	0.40
79:AV:152:SER:OG	79:AV:153:GLN:N	2.55	0.40
81:AX:50:U:H2'	81:AX:51:G:C8	2.56	0.40
84:AZ:335:LEU:HA	84:AZ:338:ILE:HG12	2.03	0.40
84:AZ:648:ASP:OD1	84:AZ:649:GLN:N	2.54	0.40
1:1:218:G:H1	29:Y:62:SER:HG	1.68	0.40
1:1:289:A:H5''	18:N:97:SER:HA	2.03	0.40
1:1:1063:G:O6	24:T:112:ASN:ND2	2.49	0.40
1:1:1516:C:N4	1:1:1517:G:O6	2.55	0.40
1:1:2745:G:N2	1:1:2747:A:H3'	2.37	0.40
1:1:3141:A:H3'	1:1:3142:A:H4'	2.02	0.40
1:1:3248:C:H2'	1:1:3249:C:C6	2.57	0.40
3:4:103:G:OP2	3:4:105:A:O2'	2.29	0.40
8:C:217:LYS:NZ	29:Y:4:GLN:HE22	2.20	0.40
21:Q:33:TYR:HB3	21:Q:49:LEU:HD21	2.02	0.40
21:Q:125:ASP:OD1	21:Q:126:GLN:N	2.54	0.40
22:R:160:GLU:HA	22:R:163:ARG:HG2	2.03	0.40
43:m:126:LYS:HE2	43:m:126:LYS:HB2	1.96	0.40
47:2:200:A:H2'	47:2:201:G:H8	1.86	0.40
47:2:890:C:H2'	47:2:891:A:C8	2.55	0.40
47:2:1045:C:H2'	47:2:1046:G:C8	2.57	0.40
47:2:1365:C:H2'	47:2:1366:U:C2	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2:1444:A:H5'	47:2:1445:G:H4'	2.02	0.40
47:2:1583:A:OP2	53:v:79:ASN:ND2	2.54	0.40
49:r:61:LEU:HG	49:r:62:LYS:H	1.86	0.40
50:s:53:ILE:H	50:s:53:ILE:HG13	1.76	0.40
53:v:130:ILE:HG23	53:v:131:GLN:HG2	2.04	0.40
56:y:67:TRP:CZ3	56:y:69:SER:HB2	2.56	0.40
61:AD:50:ILE:HD12	61:AD:50:ILE:HA	1.94	0.40
63:AF:74:ALA:HA	63:AF:75:PRO:HD3	1.89	0.40
63:AF:111:MET:HE3	63:AF:114:HIS:CE1	2.57	0.40
67:AJ:65:ILE:HD12	67:AJ:65:ILE:HA	1.97	0.40
74:AQ:23:CYS:SG	74:AQ:74:CYS:N	2.94	0.40
79:AV:58:VAL:HG23	79:AV:59:ARG:NE	2.37	0.40
84:AZ:384:LYS:NZ	84:AZ:516:PRO:HD2	2.36	0.40
84:AZ:677:PHE:HB3	84:AZ:679:GLU:HG3	2.02	0.40
84:AZ:704:GLN:OE1	84:AZ:708:THR:OG1	2.27	0.40
1:1:551:A:H2'	1:1:552:G:H8	1.87	0.40
1:1:602:A:H2'	1:1:603:A:C8	2.57	0.40
1:1:814:U:H2'	1:1:815:G:C8	2.57	0.40
1:1:1067:U:O3'	24:T:110:LYS:NZ	2.51	0.40
1:1:1238:C:H5'	5:P2:57:LYS:HE2	2.03	0.40
1:1:1310:G:H2'	1:1:1311:G:H8	1.86	0.40
1:1:2419:A:H2'	1:1:2420:C:C6	2.56	0.40
6:A:37:ARG:HG2	6:A:38:HIS:ND1	2.37	0.40
6:A:96:LEU:HB3	46:p:87:ARG:HG2	2.02	0.40
20:P:168:LEU:O	20:P:173:ARG:NH2	2.55	0.40
22:R:23:TRP:CH2	22:R:25:ASP:HB3	2.56	0.40
28:X:133:LEU:HA	28:X:136:ALA:HB3	2.03	0.40
31:a:45:MET:HA	31:a:49:HIS:HB2	2.04	0.40
44:n:17:ARG:HH11	44:n:17:ARG:HD3	1.74	0.40
46:p:39:CYS:N	46:p:44:LYS:O	2.51	0.40
47:2:150:U:H2'	47:2:151:G:C8	2.57	0.40
47:2:290:G:H2'	47:2:291:G:O4'	2.21	0.40
47:2:366:A:H2'	47:2:367:A:C8	2.57	0.40
47:2:1086:A:H2'	47:2:1087:A:C4	2.57	0.40
47:2:1291:G:H1	47:2:1324:G:H1	1.68	0.40
47:2:1508:U:H2'	47:2:1509:C:H6	1.87	0.40
47:2:1636:C:O2	47:2:1765:A:N6	2.55	0.40
47:2:1769:U:H1'	62:AE:136:ARG:HG2	2.04	0.40
51:t:70:THR:HA	51:t:84:ILE:HG21	2.03	0.40
52:u:125:LYS:HB2	52:u:226:PHE:CE1	2.56	0.40
53:v:48:PHE:HZ	53:v:118:LEU:HD13	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:z:161:THR:HG22	57:z:162:SER:H	1.85	0.40
59:AB:132:SER:OG	59:AB:133:LYS:N	2.49	0.40
63:AF:97:TYR:HA	63:AF:102:PHE:CE1	2.56	0.40
71:AN:48:HIS:HB3	71:AN:103:LEU:HD21	2.04	0.40
84:AZ:89:ILE:HG22	84:AZ:340:LEU:HD12	2.03	0.40
84:AZ:247:ASP:H	84:AZ:272:ALA:HB3	1.87	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	
4	P0	187/189 (99%)	143 (76%)	44 (24%)	0	100	100
5	P2	92/94 (98%)	65 (71%)	27 (29%)	0	100	100
6	A	250/252 (99%)	216 (86%)	34 (14%)	0	100	100
7	B	384/386 (100%)	326 (85%)	58 (15%)	0	100	100
8	C	359/361 (99%)	298 (83%)	60 (17%)	1 (0%)	37	70
9	D	294/296 (99%)	256 (87%)	38 (13%)	0	100	100
10	E	152/175 (87%)	138 (91%)	14 (9%)	0	100	100
11	F	220/222 (99%)	196 (89%)	23 (10%)	1 (0%)	25	60
12	G	231/233 (99%)	202 (87%)	29 (13%)	0	100	100
13	H	189/191 (99%)	162 (86%)	27 (14%)	0	100	100
14	I	207/220 (94%)	178 (86%)	29 (14%)	0	100	100
15	J	167/169 (99%)	140 (84%)	27 (16%)	0	100	100
16	L	191/193 (99%)	158 (83%)	29 (15%)	4 (2%)	5	33
17	M	134/136 (98%)	120 (90%)	14 (10%)	0	100	100
18	N	201/203 (99%)	174 (87%)	26 (13%)	1 (0%)	25	60

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
19	O	195/197 (99%)	174 (89%)	19 (10%)	2 (1%)	13	46
20	P	181/183 (99%)	163 (90%)	18 (10%)	0	100	100
21	Q	183/185 (99%)	167 (91%)	16 (9%)	0	100	100
22	R	186/188 (99%)	169 (91%)	17 (9%)	0	100	100
23	S	170/172 (99%)	147 (86%)	22 (13%)	1 (1%)	22	57
24	T	157/159 (99%)	132 (84%)	25 (16%)	0	100	100
25	U	98/100 (98%)	85 (87%)	13 (13%)	0	100	100
26	V	134/136 (98%)	118 (88%)	16 (12%)	0	100	100
27	W	62/64 (97%)	57 (92%)	5 (8%)	0	100	100
28	X	119/121 (98%)	108 (91%)	11 (9%)	0	100	100
29	Y	124/126 (98%)	114 (92%)	10 (8%)	0	100	100
30	Z	133/135 (98%)	115 (86%)	18 (14%)	0	100	100
31	a	146/148 (99%)	117 (80%)	27 (18%)	2 (1%)	9	39
32	b	56/58 (97%)	51 (91%)	5 (9%)	0	100	100
33	c	95/97 (98%)	88 (93%)	7 (7%)	0	100	100
34	d	107/109 (98%)	96 (90%)	11 (10%)	0	100	100
35	e	125/127 (98%)	110 (88%)	14 (11%)	1 (1%)	16	51
36	f	104/106 (98%)	88 (85%)	14 (14%)	2 (2%)	6	34
37	g	110/112 (98%)	96 (87%)	14 (13%)	0	100	100
38	h	117/119 (98%)	102 (87%)	15 (13%)	0	100	100
39	i	97/99 (98%)	75 (77%)	22 (23%)	0	100	100
40	j	85/87 (98%)	66 (78%)	16 (19%)	3 (4%)	3	24
41	k	75/77 (97%)	58 (77%)	16 (21%)	1 (1%)	10	41
42	l	48/50 (96%)	36 (75%)	10 (21%)	2 (4%)	2	21
43	m	50/52 (96%)	44 (88%)	6 (12%)	0	100	100
44	n	23/25 (92%)	22 (96%)	1 (4%)	0	100	100
45	o	103/105 (98%)	81 (79%)	22 (21%)	0	100	100
46	p	89/91 (98%)	80 (90%)	9 (10%)	0	100	100
48	q	204/206 (99%)	157 (77%)	45 (22%)	2 (1%)	13	46
49	r	212/214 (99%)	171 (81%)	39 (18%)	2 (1%)	14	48
50	s	215/217 (99%)	184 (86%)	30 (14%)	1 (0%)	25	60

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
51	t	221/223 (99%)	189 (86%)	31 (14%)	1 (0%)	25	60
52	u	258/260 (99%)	209 (81%)	46 (18%)	3 (1%)	11	43
53	v	204/206 (99%)	163 (80%)	40 (20%)	1 (0%)	25	60
54	w	221/223 (99%)	176 (80%)	42 (19%)	3 (1%)	9	39
55	x	182/184 (99%)	142 (78%)	39 (21%)	1 (0%)	25	60
56	y	184/199 (92%)	134 (73%)	50 (27%)	0	100	100
57	z	183/185 (99%)	157 (86%)	25 (14%)	1 (0%)	25	60
58	AA	94/105 (90%)	71 (76%)	23 (24%)	0	100	100
59	AB	151/153 (99%)	125 (83%)	25 (17%)	1 (1%)	19	54
60	AC	122/124 (98%)	100 (82%)	22 (18%)	0	100	100
61	AD	148/150 (99%)	122 (82%)	22 (15%)	4 (3%)	4	29
62	AE	125/127 (98%)	110 (88%)	15 (12%)	0	100	100
63	AF	122/124 (98%)	88 (72%)	32 (26%)	2 (2%)	8	37
64	AG	139/141 (99%)	107 (77%)	31 (22%)	1 (1%)	19	54
65	AH	116/125 (93%)	98 (84%)	18 (16%)	0	100	100
66	AI	143/145 (99%)	109 (76%)	34 (24%)	0	100	100
67	AJ	141/143 (99%)	118 (84%)	23 (16%)	0	100	100
68	AK	105/107 (98%)	93 (89%)	12 (11%)	0	100	100
69	AL	85/87 (98%)	60 (71%)	24 (28%)	1 (1%)	11	43
70	AM	127/129 (98%)	109 (86%)	17 (13%)	1 (1%)	16	51
71	AN	142/144 (99%)	107 (75%)	34 (24%)	1 (1%)	19	54
72	AO	132/134 (98%)	116 (88%)	16 (12%)	0	100	100
73	AP	68/70 (97%)	53 (78%)	15 (22%)	0	100	100
74	AQ	95/97 (98%)	69 (73%)	26 (27%)	0	100	100
75	AR	79/81 (98%)	61 (77%)	17 (22%)	1 (1%)	10	41
76	AS	61/63 (97%)	48 (79%)	13 (21%)	0	100	100
77	AT	51/53 (96%)	42 (82%)	9 (18%)	0	100	100
78	AU	58/60 (97%)	47 (81%)	11 (19%)	0	100	100
79	AV	316/318 (99%)	256 (81%)	59 (19%)	1 (0%)	37	70
80	AW	35/37 (95%)	26 (74%)	9 (26%)	0	100	100
83	BA	202/204 (99%)	154 (76%)	48 (24%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
84	AZ	837/840 (100%)	626 (75%)	203 (24%)	8 (1%)	13	46
All	All	12208/12426 (98%)	10128 (83%)	2023 (17%)	57 (0%)	27	60

All (57) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
36	f	59	VAL
40	j	83	ALA
42	l	30	ARG
48	q	113	ARG
54	w	93	LYS
61	AD	105	ASN
16	L	63	VAL
16	L	77	LEU
19	O	111	PRO
23	S	90	MET
31	a	78	LEU
36	f	58	GLU
40	j	65	ARG
52	u	195	ILE
54	w	68	LEU
59	AB	56	LYS
61	AD	139	TRP
75	AR	76	GLY
84	AZ	109	VAL
11	F	159	GLN
16	L	48	PRO
31	a	48	TYR
41	k	40	GLN
48	q	112	THR
53	v	50	GLU
54	w	92	ARG
55	x	65	PRO
64	AG	32	ASN
69	AL	21	ASN
84	AZ	31	GLY
18	N	146	ALA
40	j	6	PRO
50	s	40	LYS
61	AD	85	PRO
79	AV	165	ASP
84	AZ	30	HIS

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Mol	Chain	Res	Type
84	AZ	608	PRO
84	AZ	698	ILE
84	AZ	700	ARG
8	C	339	LEU
35	e	79	VAL
42	l	33	ASN
52	u	194	THR
61	AD	104	ARG
70	AM	67	GLY
19	O	13	GLY
49	r	206	PRO
71	AN	114	LYS
84	AZ	245	TRP
16	L	133	PRO
51	t	220	PRO
57	z	134	ILE
63	AF	125	PRO
52	u	192	ILE
63	AF	73	PRO
49	r	221	PRO
84	AZ	722	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	P0	160/160 (100%)	159 (99%)	1 (1%)	84	88
5	P2	81/81 (100%)	81 (100%)	0	100	100
6	A	193/194 (100%)	188 (97%)	5 (3%)	41	61
7	B	320/322 (99%)	317 (99%)	3 (1%)	75	83
8	C	288/288 (100%)	285 (99%)	3 (1%)	73	81
9	D	244/244 (100%)	242 (99%)	2 (1%)	79	84
10	E	134/152 (88%)	134 (100%)	0	100	100
11	F	186/186 (100%)	183 (98%)	3 (2%)	58	73

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
12	G	187/191 (98%)	186 (100%)	1 (0%)	86	90
13	H	171/171 (100%)	169 (99%)	2 (1%)	67	78
14	I	177/186 (95%)	174 (98%)	3 (2%)	56	72
15	J	147/147 (100%)	145 (99%)	2 (1%)	62	75
16	L	154/154 (100%)	154 (100%)	0	100	100
17	M	107/107 (100%)	104 (97%)	3 (3%)	38	59
18	N	175/175 (100%)	170 (97%)	5 (3%)	37	59
19	O	160/160 (100%)	159 (99%)	1 (1%)	84	88
20	P	140/145 (97%)	139 (99%)	1 (1%)	81	86
21	Q	150/150 (100%)	149 (99%)	1 (1%)	81	86
22	R	153/153 (100%)	151 (99%)	2 (1%)	65	76
23	S	156/156 (100%)	156 (100%)	0	100	100
24	T	136/136 (100%)	135 (99%)	1 (1%)	81	86
25	U	87/87 (100%)	87 (100%)	0	100	100
26	V	104/104 (100%)	102 (98%)	2 (2%)	52	70
27	W	56/56 (100%)	56 (100%)	0	100	100
28	X	104/105 (99%)	104 (100%)	0	100	100
29	Y	109/109 (100%)	109 (100%)	0	100	100
30	Z	115/115 (100%)	113 (98%)	2 (2%)	56	72
31	a	118/118 (100%)	117 (99%)	1 (1%)	79	84
32	b	46/46 (100%)	46 (100%)	0	100	100
33	c	81/81 (100%)	78 (96%)	3 (4%)	29	53
34	d	94/96 (98%)	93 (99%)	1 (1%)	70	79
35	e	109/109 (100%)	109 (100%)	0	100	100
36	f	90/90 (100%)	88 (98%)	2 (2%)	47	65
37	g	95/95 (100%)	93 (98%)	2 (2%)	48	67
38	h	104/104 (100%)	103 (99%)	1 (1%)	73	81
39	i	81/81 (100%)	80 (99%)	1 (1%)	67	78
40	j	70/70 (100%)	70 (100%)	0	100	100
41	k	68/68 (100%)	66 (97%)	2 (3%)	37	59
42	l	45/45 (100%)	44 (98%)	1 (2%)	47	65

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
43	m	47/47 (100%)	46 (98%)	1 (2%)	48	67
44	n	23/23 (100%)	23 (100%)	0	100	100
45	o	90/90 (100%)	88 (98%)	2 (2%)	47	65
46	p	71/71 (100%)	70 (99%)	1 (1%)	62	75
48	q	164/173 (95%)	162 (99%)	2 (1%)	67	78
49	r	191/191 (100%)	186 (97%)	5 (3%)	41	61
50	s	176/176 (100%)	174 (99%)	2 (1%)	70	79
51	t	182/182 (100%)	182 (100%)	0	100	100
52	u	221/221 (100%)	217 (98%)	4 (2%)	54	71
53	v	173/173 (100%)	173 (100%)	0	100	100
54	w	189/191 (99%)	185 (98%)	4 (2%)	48	67
55	x	165/165 (100%)	164 (99%)	1 (1%)	84	88
56	y	150/160 (94%)	147 (98%)	3 (2%)	50	68
57	z	158/158 (100%)	155 (98%)	3 (2%)	52	70
58	AA	77/98 (79%)	77 (100%)	0	100	100
59	AB	133/134 (99%)	132 (99%)	1 (1%)	79	84
60	AC	88/100 (88%)	87 (99%)	1 (1%)	70	79
61	AD	127/127 (100%)	124 (98%)	3 (2%)	44	63
62	AE	81/96 (84%)	81 (100%)	0	100	100
63	AF	101/104 (97%)	100 (99%)	1 (1%)	73	81
64	AG	117/117 (100%)	116 (99%)	1 (1%)	75	83
65	AH	94/113 (83%)	91 (97%)	3 (3%)	34	56
66	AI	128/128 (100%)	127 (99%)	1 (1%)	79	84
67	AJ	115/115 (100%)	115 (100%)	0	100	100
68	AK	100/100 (100%)	100 (100%)	0	100	100
69	AL	74/74 (100%)	73 (99%)	1 (1%)	62	75
70	AM	110/110 (100%)	106 (96%)	4 (4%)	30	54
71	AN	119/119 (100%)	118 (99%)	1 (1%)	79	84
72	AO	112/112 (100%)	111 (99%)	1 (1%)	75	83
73	AP	61/61 (100%)	61 (100%)	0	100	100
74	AQ	83/83 (100%)	83 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
75	AR	70/70 (100%)	70 (100%)	0	100	100
76	AS	56/56 (100%)	56 (100%)	0	100	100
77	AT	47/47 (100%)	46 (98%)	1 (2%)	48	67
78	AU	51/51 (100%)	50 (98%)	1 (2%)	50	68
79	AV	259/261 (99%)	259 (100%)	0	100	100
80	AW	31/31 (100%)	31 (100%)	0	100	100
83	BA	185/185 (100%)	183 (99%)	2 (1%)	70	79
84	AZ	711/712 (100%)	692 (97%)	19 (3%)	40	60
All	All	10325/10462 (99%)	10199 (99%)	126 (1%)	66	78

All (126) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	P0	55	LYS
6	A	22	LEU
6	A	112	ILE
6	A	150	LEU
6	A	158	ILE
6	A	191	LEU
7	B	86	VAL
7	B	105	VAL
7	B	158	VAL
8	C	12	THR
8	C	208	VAL
8	C	299	ILE
9	D	224	LYS
9	D	247	ILE
11	F	62	ILE
11	F	181	ILE
11	F	185	ILE
12	G	81	THR
13	H	140	VAL
13	H	164	ILE
14	I	50	VAL
14	I	165	ILE
14	I	182	LEU
15	J	40	LEU
15	J	172	LEU
17	M	15	VAL

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Mol	Chain	Res	Type
17	M	22	LEU
17	M	46	ILE
18	N	36	ILE
18	N	115	VAL
18	N	117	ASN
18	N	121	VAL
18	N	132	VAL
19	O	145	VAL
20	P	114	VAL
21	Q	82	VAL
22	R	44	LEU
22	R	106	LEU
24	T	68	THR
26	V	135	VAL
26	V	137	VAL
30	Z	23	VAL
30	Z	42	LEU
31	a	78	LEU
33	c	13	LYS
33	c	43	ILE
33	c	100	ILE
34	d	97	LEU
36	f	81	VAL
36	f	87	ASN
37	g	29	ILE
37	g	81	CYS
38	h	4	VAL
39	i	77	LEU
41	k	25	VAL
41	k	51	LEU
42	l	34	THR
43	m	118	THR
45	o	35	LEU
45	o	93	LEU
46	p	64	VAL
48	q	83	GLN
48	q	173	ILE
49	r	49	ASN
49	r	137	ILE
49	r	172	LEU
49	r	208	GLN
49	r	215	VAL

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Mol	Chain	Res	Type
50	s	83	ILE
50	s	154	LEU
52	u	38	LEU
52	u	111	VAL
52	u	169	ILE
52	u	195	ILE
54	w	24	ILE
54	w	52	ILE
54	w	67	VAL
54	w	93	LYS
55	x	27	LEU
56	y	48	THR
56	y	60	ILE
56	y	72	ILE
57	z	70	LEU
57	z	116	LEU
57	z	143	ILE
59	AB	135	VAL
60	AC	46	ARG
61	AD	54	LEU
61	AD	71	ILE
61	AD	84	ILE
63	AF	126	VAL
64	AG	117	LEU
65	AH	4	VAL
65	AH	38	ILE
65	AH	45	ARG
66	AI	116	LEU
69	AL	20	THR
70	AM	25	VAL
70	AM	62	VAL
70	AM	63	VAL
70	AM	126	LEU
71	AN	117	ILE
72	AO	17	LEU
77	AT	28	THR
78	AU	39	LEU
83	BA	117	ILE
83	BA	144	LEU
84	AZ	28	VAL
84	AZ	30	HIS
84	AZ	119	LEU

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Mol	Chain	Res	Type
84	AZ	335	LEU
84	AZ	378	LEU
84	AZ	488	VAL
84	AZ	489	VAL
84	AZ	505	VAL
84	AZ	510	ARG
84	AZ	597	VAL
84	AZ	656	LEU
84	AZ	663	VAL
84	AZ	743	ILE
84	AZ	772	LEU
84	AZ	785	ARG
84	AZ	786	GLN
84	AZ	791	GLN
84	AZ	793	PHE
84	AZ	820	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (189) such sidechains are listed below:

Mol	Chain	Res	Type
4	P0	83	ASN
4	P0	90	ASN
4	P0	189	GLN
5	P2	97	ASN
6	A	50	HIS
6	A	132	ASN
6	A	144	ASN
6	A	209	HIS
7	B	68	HIS
7	B	212	ASN
8	C	9	HIS
8	C	43	ASN
8	C	48	GLN
8	C	116	ASN
8	C	260	GLN
8	C	291	ASN
8	C	311	HIS
8	C	320	ASN
8	C	328	ASN
9	D	17	GLN
9	D	39	GLN
9	D	178	ASN

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Mol	Chain	Res	Type
10	E	97	ASN
10	E	138	GLN
10	E	167	ASN
11	F	104	GLN
12	G	240	ASN
12	G	252	ASN
13	H	64	HIS
13	H	96	HIS
14	I	23	ASN
14	I	55	ASN
14	I	95	HIS
14	I	133	GLN
15	J	62	ASN
16	L	12	ASN
16	L	13	HIS
16	L	112	ASN
16	L	149	GLN
17	M	11	ASN
18	N	90	ASN
18	N	117	ASN
18	N	123	GLN
18	N	138	GLN
18	N	181	ASN
18	N	182	ASN
19	O	31	GLN
19	O	42	ASN
20	P	54	HIS
20	P	137	ASN
20	P	172	GLN
21	Q	45	ASN
21	Q	73	GLN
22	R	68	GLN
22	R	134	HIS
22	R	150	GLN
22	R	166	ASN
23	S	62	ASN
23	S	63	GLN
23	S	74	ASN
23	S	89	ASN
23	S	142	GLN
24	T	82	ASN
24	T	90	ASN

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Mol	Chain	Res	Type
24	T	146	ASN
27	W	42	GLN
27	W	58	HIS
29	Y	26	GLN
29	Y	66	GLN
30	Z	123	GLN
30	Z	127	ASN
30	Z	128	GLN
31	a	62	HIS
31	a	64	GLN
31	a	120	ASN
32	b	6	ASN
32	b	48	HIS
33	c	36	GLN
35	e	31	ASN
35	e	104	ASN
36	f	5	HIS
36	f	87	ASN
36	f	88	ASN
36	f	106	ASN
37	g	11	ASN
37	g	33	GLN
37	g	34	HIS
37	g	69	HIS
37	g	98	GLN
38	h	59	ASN
38	h	76	GLN
38	h	113	GLN
39	i	91	ASN
40	j	13	ASN
40	j	57	HIS
41	k	57	ASN
41	k	76	ASN
42	l	33	ASN
43	m	109	ASN
45	o	27	GLN
45	o	38	GLN
45	o	47	GLN
45	o	102	GLN
48	q	92	HIS
48	q	140	ASN
49	r	49	ASN

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Mol	Chain	Res	Type
49	r	124	ASN
49	r	149	GLN
49	r	160	HIS
50	s	82	ASN
52	u	142	HIS
52	u	153	ASN
53	v	37	GLN
53	v	44	ASN
53	v	79	ASN
53	v	95	ASN
53	v	100	ASN
53	v	128	ASN
53	v	200	ASN
53	v	224	ASN
54	w	4	ASN
54	w	80	ASN
54	w	176	GLN
54	w	197	ASN
54	w	201	GLN
55	x	5	GLN
55	x	19	GLN
56	y	35	ASN
56	y	94	ASN
56	y	175	GLN
57	z	110	GLN
58	AA	81	ASN
59	AB	98	ASN
61	AD	58	HIS
63	AF	104	GLN
63	AF	128	HIS
64	AG	21	HIS
64	AG	94	GLN
64	AG	100	GLN
64	AG	139	GLN
65	AH	29	GLN
65	AH	31	ASN
65	AH	74	GLN
65	AH	83	GLN
66	AI	25	ASN
66	AI	74	GLN
66	AI	75	ASN
66	AI	103	ASN

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Mol	Chain	Res	Type
67	AJ	16	ASN
67	AJ	25	GLN
67	AJ	43	ASN
67	AJ	48	GLN
67	AJ	70	GLN
68	AK	72	ASN
69	AL	7	GLN
69	AL	33	GLN
70	AM	42	GLN
70	AM	44	HIS
70	AM	64	GLN
70	AM	70	ASN
71	AN	22	ASN
71	AN	63	GLN
71	AN	75	GLN
72	AO	113	ASN
73	AP	38	HIS
73	AP	98	GLN
74	AQ	17	HIS
74	AQ	80	HIS
75	AR	9	HIS
75	AR	49	HIS
79	AV	64	HIS
79	AV	101	GLN
79	AV	196	ASN
79	AV	224	ASN
83	BA	35	GLN
83	BA	94	ASN
83	BA	140	HIS
83	BA	188	ASN
84	AZ	27	HIS
84	AZ	64	GLN
84	AZ	101	ASN
84	AZ	138	GLN
84	AZ	201	GLN
84	AZ	224	GLN
84	AZ	349	GLN
84	AZ	371	ASN
84	AZ	452	ASN
84	AZ	654	GLN
84	AZ	657	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	1	3220/3396 (94%)	983 (30%)	24 (0%)
2	3	120/121 (99%)	29 (24%)	0
3	4	157/158 (99%)	49 (31%)	0
47	2	1774/1797 (98%)	695 (39%)	22 (1%)
81	AX	75/76 (98%)	29 (38%)	0
82	AY	6/7 (85%)	3 (50%)	1 (16%)
All	All	5352/5555 (96%)	1788 (33%)	47 (0%)

All (1788) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	1	14	U
1	1	16	A
1	1	18	G
1	1	19	U
1	1	20	A
1	1	21	G
1	1	22	G
1	1	26	A
1	1	27	C
1	1	40	A
1	1	43	A
1	1	45	A
1	1	49	A
1	1	50	U
1	1	59	G
1	1	60	A
1	1	64	G
1	1	65	A
1	1	66	A
1	1	72	C
1	1	73	C
1	1	75	G
1	1	76	G
1	1	83	U
1	1	85	A
1	1	87	U
1	1	92	G
1	1	93	C
1	1	97	U
1	1	105	C

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Mol	Chain	Res	Type
1	1	108	A
1	1	109	A
1	1	110	G
1	1	115	A
1	1	116	A
1	1	117	U
1	1	118	U
1	1	122	A
1	1	123	A
1	1	124	U
1	1	132	C
1	1	133	U
1	1	135	C
1	1	136	G
1	1	142	C
1	1	146	U
1	1	147	U
1	1	148	G
1	1	150	A
1	1	154	U
1	1	157	A
1	1	159	A
1	1	160	G
1	1	161	G
1	1	166	C
1	1	167	U
1	1	170	G
1	1	180	C
1	1	182	U
1	1	187	A
1	1	190	U
1	1	191	U
1	1	200	C
1	1	206	G
1	1	211	A
1	1	212	G
1	1	216	G
1	1	219	A
1	1	221	A
1	1	222	A
1	1	235	A
1	1	238	A

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Mol	Chain	Res	Type
1	1	241	G
1	1	242	C
1	1	243	G
1	1	244	G
1	1	245	U
1	1	249	U
1	1	252	U
1	1	257	U
1	1	264	G
1	1	265	A
1	1	266	A
1	1	267	G
1	1	268	A
1	1	269	G
1	1	270	U
1	1	284	A
1	1	286	U
1	1	295	A
1	1	297	G
1	1	301	G
1	1	316	U
1	1	317	A
1	1	318	A
1	1	328	U
1	1	329	U
1	1	334	A
1	1	336	A
1	1	337	G
1	1	338	A
1	1	339	C
1	1	346	C
1	1	349	A
1	1	352	A
1	1	353	G
1	1	360	G
1	1	368	G
1	1	374	A
1	1	375	A
1	1	376	G
1	1	377	A
1	1	383	G
1	1	395	A

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Mol	Chain	Res	Type
1	1	396	A
1	1	397	A
1	1	398	A
1	1	403	C
1	1	404	G
1	1	420	G
1	1	421	G
1	1	422	A
1	1	423	A
1	1	424	G
1	1	425	G
1	1	428	A
1	1	436	A
1	1	439	C
1	1	440	A
1	1	441	U
1	1	442	G
1	1	443	G
1	1	445	G
1	1	446	U
1	1	447	U
1	1	448	U
1	1	450	G
1	1	451	U
1	1	487	U
1	1	488	U
1	1	489	U
1	1	490	C
1	1	491	A
1	1	494	G
1	1	498	A
1	1	515	C
1	1	520	U
1	1	521	A
1	1	523	A
1	1	532	A
1	1	533	A
1	1	534	U
1	1	535	G
1	1	536	U
1	1	543	C
1	1	544	C

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Mol	Chain	Res	Type
1	1	546	C
1	1	550	A
1	1	554	A
1	1	555	U
1	1	556	U
1	1	557	A
1	1	559	A
1	1	569	A
1	1	578	A
1	1	579	G
1	1	592	A
1	1	597	G
1	1	601	U
1	1	602	A
1	1	607	A
1	1	611	A
1	1	615	U
1	1	620	U
1	1	621	A
1	1	626	U
1	1	627	U
1	1	632	G
1	1	636	C
1	1	645	A
1	1	648	C
1	1	649	A
1	1	660	A
1	1	661	G
1	1	662	U
1	1	664	U
1	1	667	C
1	1	676	G
1	1	677	A
1	1	678	G
1	1	681	U
1	1	683	U
1	1	690	A
1	1	691	A
1	1	705	A
1	1	709	A
1	1	712	G
1	1	713	U

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Mol	Chain	Res	Type
1	1	715	A
1	1	718	G
1	1	720	A
1	1	737	G
1	1	750	G
1	1	752	C
1	1	758	C
1	1	761	A
1	1	765	C
1	1	766	U
1	1	767	U
1	1	774	G
1	1	776	U
1	1	777	U
1	1	780	A
1	1	781	G
1	1	782	U
1	1	785	G
1	1	786	A
1	1	794	U
1	1	800	G
1	1	801	A
1	1	808	A
1	1	817	A
1	1	830	A
1	1	842	G
1	1	846	A
1	1	847	A
1	1	849	C
1	1	854	G
1	1	857	G
1	1	859	G
1	1	860	G
1	1	861	C
1	1	874	U
1	1	879	U
1	1	880	G
1	1	884	A
1	1	890	C
1	1	895	A
1	1	896	A
1	1	897	U

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Mol	Chain	Res	Type
1	1	901	G
1	1	907	G
1	1	908	G
1	1	909	G
1	1	914	A
1	1	915	A
1	1	916	G
1	1	917	A
1	1	926	A
1	1	929	A
1	1	933	A
1	1	937	G
1	1	939	U
1	1	941	G
1	1	944	C
1	1	959	C
1	1	960	U
1	1	962	A
1	1	970	A
1	1	977	C
1	1	979	U
1	1	980	A
1	1	981	U
1	1	985	U
1	1	999	G
1	1	1001	G
1	1	1005	G
1	1	1006	A
1	1	1010	G
1	1	1015	U
1	1	1016	C
1	1	1017	C
1	1	1018	G
1	1	1020	G
1	1	1024	G
1	1	1026	A
1	1	1028	U
1	1	1029	G
1	1	1030	A
1	1	1031	C
1	1	1032	C
1	1	1035	G

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Mol	Chain	Res	Type
1	1	1041	U
1	1	1045	C
1	1	1047	A
1	1	1051	U
1	1	1063	G
1	1	1064	A
1	1	1065	A
1	1	1066	G
1	1	1072	G
1	1	1073	U
1	1	1075	A
1	1	1081	U
1	1	1082	U
1	1	1083	G
1	1	1084	A
1	1	1090	G
1	1	1091	A
1	1	1093	A
1	1	1094	U
1	1	1095	U
1	1	1096	U
1	1	1097	G
1	1	1098	A
1	1	1103	A
1	1	1104	G
1	1	1117	G
1	1	1118	C
1	1	1131	G
1	1	1134	G
1	1	1135	A
1	1	1140	G
1	1	1141	C
1	1	1143	A
1	1	1151	U
1	1	1153	A
1	1	1155	C
1	1	1158	A
1	1	1159	A
1	1	1161	G
1	1	1165	A
1	1	1168	U
1	1	1171	G

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Mol	Chain	Res	Type
1	1	1178	G
1	1	1180	A
1	1	1181	U
1	1	1182	A
1	1	1186	G
1	1	1189	C
1	1	1190	A
1	1	1191	U
1	1	1193	A
1	1	1196	C
1	1	1197	A
1	1	1198	C
1	1	1201	C
1	1	1203	A
1	1	1206	G
1	1	1209	G
1	1	1214	U
1	1	1216	C
1	1	1217	A
1	1	1221	A
1	1	1222	G
1	1	1226	G
1	1	1227	C
1	1	1228	C
1	1	1230	G
1	1	1231	A
1	1	1233	G
1	1	1235	U
1	1	1236	G
1	1	1237	G
1	1	1238	C
1	1	1241	U
1	1	1244	A
1	1	1245	A
1	1	1246	G
1	1	1248	C
1	1	1251	A
1	1	1252	A
1	1	1253	U
1	1	1254	C
1	1	1257	C
1	1	1258	U

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Mol	Chain	Res	Type
1	1	1259	A
1	1	1260	A
1	1	1262	G
1	1	1263	A
1	1	1264	G
1	1	1265	U
1	1	1267	U
1	1	1272	C
1	1	1273	A
1	1	1276	U
1	1	1277	C
1	1	1278	A
1	1	1279	C
1	1	1281	G
1	1	1282	G
1	1	1283	C
1	1	1285	G
1	1	1286	A
1	1	1287	A
1	1	1294	A
1	1	1300	G
1	1	1301	A
1	1	1302	A
1	1	1303	A
1	1	1305	U
1	1	1307	G
1	1	1309	U
1	1	1313	G
1	1	1315	U
1	1	1316	C
1	1	1326	A
1	1	1327	C
1	1	1330	A
1	1	1331	U
1	1	1332	A
1	1	1333	C
1	1	1347	U
1	1	1348	U
1	1	1350	A
1	1	1351	U
1	1	1352	A
1	1	1354	G

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Mol	Chain	Res	Type
1	1	1355	A
1	1	1356	U
1	1	1357	G
1	1	1361	U
1	1	1370	G
1	1	1385	C
1	1	1386	A
1	1	1387	G
1	1	1392	G
1	1	1394	A
1	1	1399	A
1	1	1400	G
1	1	1408	G
1	1	1409	G
1	1	1411	C
1	1	1417	G
1	1	1418	A
1	1	1419	A
1	1	1425	U
1	1	1434	G
1	1	1435	A
1	1	1436	U
1	1	1437	C
1	1	1446	A
1	1	1450	G
1	1	1455	U
1	1	1466	G
1	1	1477	A
1	1	1478	C
1	1	1481	A
1	1	1482	A
1	1	1483	G
1	1	1488	G
1	1	1490	A
1	1	1491	A
1	1	1503	A
1	1	1507	G
1	1	1508	C
1	1	1511	U
1	1	1512	U
1	1	1523	U
1	1	1525	G

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Mol	Chain	Res	Type
1	1	1526	U
1	1	1527	C
1	1	1533	U
1	1	1536	G
1	1	1546	A
1	1	1556	C
1	1	1557	A
1	1	1559	A
1	1	1560	G
1	1	1562	C
1	1	1563	C
1	1	1565	G
1	1	1566	A
1	1	1568	U
1	1	1569	U
1	1	1572	U
1	1	1573	G
1	1	1574	C
1	1	1577	G
1	1	1579	C
1	1	1580	A
1	1	1581	C
1	1	1583	A
1	1	1589	A
1	1	1593	A
1	1	1602	A
1	1	1603	A
1	1	1605	A
1	1	1616	U
1	1	1618	G
1	1	1620	U
1	1	1621	A
1	1	1624	G
1	1	1626	U
1	1	1629	U
1	1	1630	U
1	1	1632	A
1	1	1637	A
1	1	1638	A
1	1	1640	G
1	1	1641	U
1	1	1642	A

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Mol	Chain	Res	Type
1	1	1643	A
1	1	1645	U
1	1	1656	A
1	1	1657	C
1	1	1658	G
1	1	1672	U
1	1	1677	G
1	1	1678	G
1	1	1683	A
1	1	1688	U
1	1	1704	A
1	1	1714	A
1	1	1717	U
1	1	1718	G
1	1	1724	U
1	1	1729	A
1	1	1736	G
1	1	1742	U
1	1	1749	A
1	1	1750	A
1	1	1751	G
1	1	1756	C
1	1	1759	C
1	1	1764	U
1	1	1765	U
1	1	1766	G
1	1	1767	C
1	1	1769	G
1	1	1779	C
1	1	1780	G
1	1	1783	U
1	1	1795	U
1	1	1797	A
1	1	1806	A
1	1	1808	G
1	1	1814	A
1	1	1815	U
1	1	1816	A
1	1	1819	U
1	1	1820	U
1	1	1821	U
1	1	1840	U

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Mol	Chain	Res	Type
1	1	1841	A
1	1	1842	A
1	1	1845	G
1	1	1846	C
1	1	1850	A
1	1	1854	C
1	1	1858	A
1	1	1863	G
1	1	1864	A
1	1	1866	C
1	1	1871	U
1	1	1878	G
1	1	1879	A
1	1	1880	U
1	1	1885	U
1	1	1886	A
1	1	1893	A
1	1	1896	A
1	1	1906	G
1	1	1907	C
1	1	1913	A
1	1	1926	C
1	1	1928	G
1	1	1930	A
1	1	1931	U
1	1	1934	G
1	1	1935	G
1	1	1948	G
1	1	1953	G
1	1	1954	G
1	1	1955	U
1	1	2101	C
1	1	2102	U
1	1	2109	U
1	1	2110	G
1	1	2111	G
1	1	2114	C
1	1	2116	G
1	1	2118	C
1	1	2122	G
1	1	2131	A
1	1	2134	G

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Mol	Chain	Res	Type
1	1	2138	A
1	1	2139	A
1	1	2142	A
1	1	2143	A
1	1	2152	A
1	1	2157	G
1	1	2158	A
1	1	2161	G
1	1	2167	A
1	1	2169	G
1	1	2170	U
1	1	2174	G
1	1	2175	U
1	1	2176	U
1	1	2186	U
1	1	2188	A
1	1	2194	G
1	1	2205	U
1	1	2206	G
1	1	2209	U
1	1	2210	G
1	1	2224	A
1	1	2230	C
1	1	2231	C
1	1	2244	A
1	1	2249	G
1	1	2250	G
1	1	2256	A
1	1	2257	C
1	1	2269	U
1	1	2270	A
1	1	2271	A
1	1	2272	G
1	1	2273	G
1	1	2276	G
1	1	2280	A
1	1	2281	A
1	1	2287	C
1	1	2291	A
1	1	2295	A
1	1	2298	U
1	1	2307	G

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Mol	Chain	Res	Type
1	1	2309	A
1	1	2310	U
1	1	2313	A
1	1	2315	G
1	1	2323	G
1	1	2324	A
1	1	2325	G
1	1	2327	U
1	1	2334	U
1	1	2335	G
1	1	2336	U
1	1	2339	C
1	1	2355	G
1	1	2356	A
1	1	2372	A
1	1	2373	A
1	1	2374	C
1	1	2376	G
1	1	2380	U
1	1	2381	G
1	1	2393	G
1	1	2394	G
1	1	2397	A
1	1	2401	A
1	1	2402	A
1	1	2403	G
1	1	2404	A
1	1	2410	U
1	1	2411	U
1	1	2412	G
1	1	2417	U
1	1	2418	G
1	1	2422	C
1	1	2432	A
1	1	2434	U
1	1	2435	G
1	1	2436	U
1	1	2437	G
1	1	2438	A
1	1	2443	A
1	1	2445	A
1	1	2447	A

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Mol	Chain	Res	Type
1	1	2450	G
1	1	2452	G
1	1	2453	U
1	1	2454	G
1	1	2455	U
1	1	2456	A
1	1	2457	G
1	1	2458	A
1	1	2459	A
1	1	2460	U
1	1	2461	A
1	1	2463	G
1	1	2466	G
1	1	2468	A
1	1	2472	U
1	1	2473	C
1	1	2474	G
1	1	2475	G
1	1	2477	G
1	1	2478	C
1	1	2479	C
1	1	2480	A
1	1	2486	A
1	1	2487	U
1	1	2488	A
1	1	2489	C
1	1	2490	C
1	1	2491	A
1	1	2492	C
1	1	2494	A
1	1	2495	C
1	1	2497	U
1	1	2498	U
1	1	2499	U
1	1	2501	U
1	1	2503	G
1	1	2505	U
1	1	2509	U
1	1	2510	U
1	1	2511	A
1	1	2512	C
1	1	2514	U

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Mol	Chain	Res	Type
1	1	2522	G
1	1	2523	A
1	1	2524	A
1	1	2526	C
1	1	2529	A
1	1	2531	C
1	1	2537	U
1	1	2539	C
1	1	2540	A
1	1	2541	U
1	1	2542	U
1	1	2543	U
1	1	2547	A
1	1	2549	G
1	1	2550	U
1	1	2551	U
1	1	2552	C
1	1	2553	U
1	1	2554	A
1	1	2555	G
1	1	2557	A
1	1	2558	U
1	1	2559	U
1	1	2560	C
1	1	2561	A
1	1	2569	A
1	1	2570	U
1	1	2571	U
1	1	2572	C
1	1	2573	G
1	1	2585	G
1	1	2586	G
1	1	2593	A
1	1	2595	A
1	1	2596	U
1	1	2602	G
1	1	2606	G
1	1	2614	G
1	1	2626	A
1	1	2628	A
1	1	2629	U
1	1	2635	A

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Mol	Chain	Res	Type
1	1	2636	A
1	1	2637	A
1	1	2638	C
1	1	2639	G
1	1	2641	U
1	1	2642	A
1	1	2651	G
1	1	2652	U
1	1	2653	C
1	1	2656	A
1	1	2657	A
1	1	2665	U
1	1	2672	G
1	1	2674	A
1	1	2676	A
1	1	2677	G
1	1	2681	U
1	1	2688	U
1	1	2689	A
1	1	2691	A
1	1	2696	A
1	1	2702	A
1	1	2704	A
1	1	2705	A
1	1	2713	U
1	1	2716	U
1	1	2719	U
1	1	2728	G
1	1	2729	U
1	1	2740	A
1	1	2742	C
1	1	2749	G
1	1	2752	U
1	1	2753	G
1	1	2755	C
1	1	2760	C
1	1	2761	G
1	1	2762	A
1	1	2767	U
1	1	2771	U
1	1	2772	C
1	1	2773	C

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Mol	Chain	Res	Type
1	1	2774	C
1	1	2777	G
1	1	2778	G
1	1	2780	A
1	1	2795	U
1	1	2796	G
1	1	2798	C
1	1	2799	A
1	1	2800	G
1	1	2801	A
1	1	2802	A
1	1	2803	A
1	1	2804	A
1	1	2808	A
1	1	2810	C
1	1	2814	G
1	1	2816	G
1	1	2817	A
1	1	2821	C
1	1	2828	G
1	1	2829	U
1	1	2842	U
1	1	2843	U
1	1	2844	C
1	1	2845	A
1	1	2847	A
1	1	2853	A
1	1	2859	U
1	1	2860	U
1	1	2869	U
1	1	2870	C
1	1	2871	G
1	1	2875	U
1	1	2876	C
1	1	2886	U
1	1	2887	A
1	1	2888	U
1	1	2889	C
1	1	2894	C
1	1	2898	G
1	1	2899	C
1	1	2901	G

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Mol	Chain	Res	Type
1	1	2906	C
1	1	2907	G
1	1	2911	A
1	1	2928	C
1	1	2930	A
1	1	2934	A
1	1	2935	U
1	1	2936	A
1	1	2938	G
1	1	2940	A
1	1	2941	A
1	1	2942	C
1	1	2945	G
1	1	2947	G
1	1	2971	A
1	1	2975	U
1	1	2977	G
1	1	2983	C
1	1	2990	G
1	1	2996	U
1	1	2997	G
1	1	3003	G
1	1	3005	A
1	1	3011	A
1	1	3012	A
1	1	3014	U
1	1	3021	A
1	1	3023	U
1	1	3024	A
1	1	3027	A
1	1	3028	G
1	1	3030	G
1	1	3036	G
1	1	3037	U
1	1	3055	U
1	1	3056	U
1	1	3058	U
1	1	3059	G
1	1	3072	C
1	1	3075	G
1	1	3078	U
1	1	3079	U

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Mol	Chain	Res	Type
1	1	3085	G
1	1	3090	U
1	1	3092	C
1	1	3098	G
1	1	3101	G
1	1	3104	U
1	1	3106	A
1	1	3109	G
1	1	3117	C
1	1	3120	C
1	1	3122	A
1	1	3124	G
1	1	3130	A
1	1	3131	U
1	1	3136	G
1	1	3137	C
1	1	3142	A
1	1	3143	C
1	1	3147	G
1	1	3151	U
1	1	3152	U
1	1	3153	U
1	1	3154	C
1	1	3156	U
1	1	3157	U
1	1	3158	G
1	1	3159	C
1	1	3161	C
1	1	3167	A
1	1	3168	A
1	1	3169	U
1	1	3172	A
1	1	3173	G
1	1	3176	G
1	1	3178	A
1	1	3179	U
1	1	3180	A
1	1	3181	C
1	1	3182	G
1	1	3183	A
1	1	3185	U
1	1	3186	A

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Mol	Chain	Res	Type
1	1	3187	A
1	1	3188	G
1	1	3192	U
1	1	3194	C
1	1	3195	U
1	1	3196	U
1	1	3206	C
1	1	3207	U
1	1	3210	A
1	1	3214	U
1	1	3217	C
1	1	3218	A
1	1	3219	G
1	1	3222	U
1	1	3227	A
1	1	3229	G
1	1	3236	U
1	1	3237	U
1	1	3238	G
1	1	3243	A
1	1	3244	A
1	1	3245	A
1	1	3246	G
1	1	3252	G
1	1	3260	G
1	1	3264	G
1	1	3265	C
1	1	3269	U
1	1	3271	G
1	1	3272	C
1	1	3273	A
1	1	3274	A
1	1	3275	U
1	1	3276	G
1	1	3277	U
1	1	3278	C
1	1	3279	A
1	1	3281	U
1	1	3282	U
1	1	3283	U
1	1	3288	G
1	1	3290	G

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Mol	Chain	Res	Type
1	1	3292	A
1	1	3294	A
1	1	3304	U
1	1	3308	C
1	1	3311	C
1	1	3313	U
1	1	3316	A
1	1	3319	U
1	1	3320	A
1	1	3341	U
1	1	3345	G
1	1	3350	C
1	1	3351	U
1	1	3353	G
1	1	3354	U
1	1	3355	U
1	1	3357	U
1	1	3358	U
1	1	3363	U
1	1	3368	U
1	1	3369	G
1	1	3375	A
1	1	3377	G
1	1	3378	C
1	1	3382	U
1	1	3383	G
1	1	3389	U
1	1	3390	G
1	1	3396	U
2	3	7	G
2	3	10	C
2	3	11	A
2	3	14	U
2	3	21	G
2	3	29	C
2	3	31	U
2	3	33	U
2	3	40	C
2	3	41	G
2	3	46	A
2	3	49	G
2	3	50	U

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Mol	Chain	Res	Type
2	3	54	U
2	3	56	A
2	3	64	A
2	3	65	G
2	3	73	C
2	3	74	C
2	3	75	G
2	3	76	A
2	3	87	G
2	3	92	A
2	3	99	G
2	3	111	U
2	3	112	G
2	3	119	U
2	3	120	C
2	3	121	U
3	4	23	U
3	4	24	G
3	4	34	U
3	4	35	C
3	4	37	A
3	4	38	U
3	4	39	G
3	4	40	A
3	4	41	A
3	4	48	A
3	4	49	G
3	4	50	C
3	4	53	A
3	4	59	A
3	4	62	C
3	4	63	G
3	4	70	G
3	4	72	A
3	4	75	G
3	4	78	G
3	4	79	A
3	4	80	A
3	4	81	U
3	4	82	U
3	4	83	C
3	4	84	C

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Mol	Chain	Res	Type
3	4	85	G
3	4	86	U
3	4	87	G
3	4	95	G
3	4	97	A
3	4	102	U
3	4	104	A
3	4	106	C
3	4	113	U
3	4	114	G
3	4	124	G
3	4	125	U
3	4	126	A
3	4	128	U
3	4	129	C
3	4	131	A
3	4	132	G
3	4	140	G
3	4	144	G
3	4	148	G
3	4	151	C
3	4	153	U
3	4	154	C
47	2	2	A
47	2	3	U
47	2	4	C
47	2	5	U
47	2	8	U
47	2	11	A
47	2	17	C
47	2	20	G
47	2	25	C
47	2	26	A
47	2	34	G
47	2	36	C
47	2	39	A
47	2	40	A
47	2	43	A
47	2	45	U
47	2	46	A
47	2	47	A
47	2	53	G

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Mol	Chain	Res	Type
47	2	60	U
47	2	61	A
47	2	62	A
47	2	63	G
47	2	65	A
47	2	67	A
47	2	68	A
47	2	71	A
47	2	72	A
47	2	73	U
47	2	75	U
47	2	77	U
47	2	78	A
47	2	79	C
47	2	81	G
47	2	82	U
47	2	94	U
47	2	100	A
47	2	103	A
47	2	104	A
47	2	111	U
47	2	114	C
47	2	115	G
47	2	116	U
47	2	126	A
47	2	127	G
47	2	128	U
47	2	131	C
47	2	132	U
47	2	135	A
47	2	136	C
47	2	137	U
47	2	138	A
47	2	139	C
47	2	141	U
47	2	143	G
47	2	144	U
47	2	145	A
47	2	147	A
47	2	152	U
47	2	158	U
47	2	161	U

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Mol	Chain	Res	Type
47	2	168	A
47	2	174	U
47	2	178	U
47	2	180	A
47	2	186	C
47	2	188	A
47	2	190	C
47	2	191	C
47	2	193	U
47	2	195	G
47	2	196	G
47	2	197	A
47	2	200	A
47	2	203	U
47	2	204	G
47	2	215	A
47	2	217	A
47	2	218	A
47	2	219	A
47	2	232	U
47	2	233	C
47	2	235	G
47	2	238	U
47	2	240	U
47	2	242	U
47	2	243	G
47	2	246	G
47	2	249	U
47	2	250	C
47	2	258	C
47	2	260	U
47	2	261	U
47	2	262	U
47	2	265	A
47	2	266	A
47	2	267	U
47	2	272	U
47	2	273	G
47	2	274	G
47	2	275	C
47	2	276	C
47	2	278	U

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Mol	Chain	Res	Type
47	2	279	G
47	2	280	U
47	2	285	G
47	2	288	A
47	2	291	G
47	2	299	A
47	2	308	C
47	2	313	U
47	2	314	C
47	2	315	A
47	2	316	A
47	2	320	U
47	2	321	C
47	2	322	G
47	2	333	A
47	2	337	G
47	2	338	C
47	2	343	C
47	2	351	C
47	2	352	A
47	2	359	A
47	2	361	C
47	2	372	G
47	2	373	G
47	2	377	G
47	2	378	A
47	2	379	U
47	2	381	C
47	2	390	G
47	2	391	A
47	2	392	G
47	2	397	A
47	2	400	A
47	2	402	C
47	2	404	G
47	2	413	U
47	2	416	A
47	2	417	A
47	2	419	G
47	2	424	C
47	2	426	G
47	2	433	C

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Mol	Chain	Res	Type
47	2	434	G
47	2	439	U
47	2	444	C
47	2	445	A
47	2	448	C
47	2	455	C
47	2	456	A
47	2	457	G
47	2	460	A
47	2	461	G
47	2	463	U
47	2	464	A
47	2	471	A
47	2	475	A
47	2	477	A
47	2	481	A
47	2	485	A
47	2	486	G
47	2	489	C
47	2	491	C
47	2	493	U
47	2	495	C
47	2	496	G
47	2	500	C
47	2	505	A
47	2	506	A
47	2	507	U
47	2	509	G
47	2	513	U
47	2	515	A
47	2	518	A
47	2	519	C
47	2	525	A
47	2	526	A
47	2	534	A
47	2	536	C
47	2	538	A
47	2	539	G
47	2	540	G
47	2	541	A
47	2	542	A
47	2	543	C

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Mol	Chain	Res	Type
47	2	544	A
47	2	545	A
47	2	551	G
47	2	554	C
47	2	555	A
47	2	557	G
47	2	558	U
47	2	559	C
47	2	565	C
47	2	566	C
47	2	568	G
47	2	572	C
47	2	577	G
47	2	578	U
47	2	579	A
47	2	580	A
47	2	585	A
47	2	586	G
47	2	591	A
47	2	593	U
47	2	594	A
47	2	606	A
47	2	608	U
47	2	611	U
47	2	612	U
47	2	614	C
47	2	619	A
47	2	620	A
47	2	621	A
47	2	622	A
47	2	623	A
47	2	624	G
47	2	625	C
47	2	639	U
47	2	652	G
47	2	654	C
47	2	655	G
47	2	656	G
47	2	657	U
47	2	658	C
47	2	679	U
47	2	681	U

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Mol	Chain	Res	Type
47	2	687	G
47	2	693	U
47	2	694	U
47	2	695	U
47	2	696	C
47	2	697	C
47	2	698	U
47	2	702	G
47	2	705	U
47	2	706	A
47	2	707	A
47	2	708	C
47	2	709	C
47	2	710	U
47	2	711	U
47	2	712	G
47	2	713	A
47	2	718	U
47	2	719	U
47	2	720	G
47	2	721	U
47	2	722	G
47	2	723	G
47	2	728	U
47	2	729	G
47	2	731	C
47	2	732	G
47	2	733	A
47	2	735	C
47	2	736	C
47	2	741	C
47	2	743	U
47	2	752	A
47	2	753	A
47	2	758	U
47	2	761	G
47	2	762	A
47	2	765	G
47	2	766	U
47	2	771	A
47	2	775	G
47	2	777	C

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Mol	Chain	Res	Type
47	2	778	G
47	2	779	U
47	2	780	A
47	2	781	U
47	2	782	U
47	2	783	G
47	2	784	C
47	2	787	G
47	2	792	U
47	2	793	A
47	2	804	A
47	2	807	A
47	2	810	G
47	2	811	A
47	2	812	A
47	2	814	A
47	2	815	G
47	2	816	G
47	2	819	G
47	2	820	U
47	2	821	U
47	2	823	G
47	2	830	U
47	2	831	U
47	2	833	U
47	2	834	G
47	2	837	G
47	2	838	G
47	2	843	U
47	2	845	G
47	2	846	G
47	2	847	A
47	2	850	A
47	2	852	C
47	2	855	A
47	2	859	A
47	2	860	U
47	2	863	A
47	2	873	U
47	2	875	G
47	2	885	G
47	2	886	U

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Mol	Chain	Res	Type
47	2	895	G
47	2	898	A
47	2	899	G
47	2	903	U
47	2	909	U
47	2	910	C
47	2	913	G
47	2	914	G
47	2	915	A
47	2	916	U
47	2	921	U
47	2	922	G
47	2	923	A
47	2	928	U
47	2	929	A
47	2	933	A
47	2	935	U
47	2	940	A
47	2	941	A
47	2	942	G
47	2	944	A
47	2	946	U
47	2	951	A
47	2	957	G
47	2	960	U
47	2	963	A
47	2	966	A
47	2	970	A
47	2	971	A
47	2	973	A
47	2	983	A
47	2	988	A
47	2	992	A
47	2	993	A
47	2	995	A
47	2	998	A
47	2	1001	A
47	2	1004	U
47	2	1021	C
47	2	1024	U
47	2	1026	A
47	2	1027	A

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Mol	Chain	Res	Type
47	2	1028	C
47	2	1029	U
47	2	1030	A
47	2	1031	U
47	2	1032	G
47	2	1039	A
47	2	1051	G
47	2	1052	U
47	2	1053	G
47	2	1063	U
47	2	1076	A
47	2	1082	C
47	2	1083	G
47	2	1089	U
47	2	1092	A
47	2	1093	A
47	2	1094	G
47	2	1097	U
47	2	1098	U
47	2	1100	G
47	2	1108	G
47	2	1113	A
47	2	1124	A
47	2	1126	G
47	2	1131	A
47	2	1137	A
47	2	1138	A
47	2	1139	A
47	2	1140	G
47	2	1143	A
47	2	1146	G
47	2	1147	A
47	2	1150	G
47	2	1151	A
47	2	1155	G
47	2	1157	A
47	2	1158	C
47	2	1159	C
47	2	1160	A
47	2	1161	C
47	2	1162	C
47	2	1163	A

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Mol	Chain	Res	Type
47	2	1166	A
47	2	1170	G
47	2	1177	C
47	2	1180	C
47	2	1183	A
47	2	1184	A
47	2	1185	U
47	2	1186	U
47	2	1188	G
47	2	1189	A
47	2	1190	C
47	2	1191	U
47	2	1192	C
47	2	1193	A
47	2	1194	A
47	2	1196	A
47	2	1198	G
47	2	1199	G
47	2	1200	G
47	2	1201	G
47	2	1202	A
47	2	1204	A
47	2	1205	C
47	2	1206	U
47	2	1207	C
47	2	1208	A
47	2	1210	C
47	2	1212	G
47	2	1213	G
47	2	1214	U
47	2	1217	A
47	2	1219	A
47	2	1222	C
47	2	1224	A
47	2	1225	U
47	2	1226	A
47	2	1227	A
47	2	1228	G
47	2	1229	G
47	2	1230	A
47	2	1231	U
47	2	1232	U

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Mol	Chain	Res	Type
47	2	1233	G
47	2	1236	A
47	2	1237	G
47	2	1238	A
47	2	1239	U
47	2	1240	U
47	2	1241	G
47	2	1242	A
47	2	1244	A
47	2	1245	G
47	2	1246	C
47	2	1247	U
47	2	1248	C
47	2	1250	U
47	2	1252	C
47	2	1255	G
47	2	1256	A
47	2	1257	U
47	2	1258	U
47	2	1259	U
47	2	1264	G
47	2	1266	U
47	2	1268	G
47	2	1269	U
47	2	1270	G
47	2	1272	U
47	2	1273	G
47	2	1274	C
47	2	1275	A
47	2	1277	G
47	2	1284	C
47	2	1286	U
47	2	1287	A
47	2	1288	G
47	2	1293	U
47	2	1298	U
47	2	1301	U
47	2	1302	U
47	2	1306	C
47	2	1308	G
47	2	1309	C
47	2	1310	U

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Mol	Chain	Res	Type
47	2	1312	A
47	2	1314	U
47	2	1315	U
47	2	1319	A
47	2	1321	A
47	2	1324	G
47	2	1325	A
47	2	1332	C
47	2	1335	U
47	2	1336	A
47	2	1337	A
47	2	1338	C
47	2	1339	C
47	2	1340	U
47	2	1341	A
47	2	1344	A
47	2	1345	A
47	2	1346	A
47	2	1347	U
47	2	1348	A
47	2	1353	U
47	2	1354	G
47	2	1355	C
47	2	1357	A
47	2	1360	A
47	2	1361	U
47	2	1362	U
47	2	1363	U
47	2	1364	G
47	2	1365	C
47	2	1369	U
47	2	1370	U
47	2	1371	A
47	2	1375	A
47	2	1376	C
47	2	1378	U
47	2	1380	U
47	2	1381	U
47	2	1382	A
47	2	1383	G
47	2	1384	A
47	2	1385	G

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Mol	Chain	Res	Type
47	2	1386	G
47	2	1387	G
47	2	1388	A
47	2	1390	U
47	2	1391	A
47	2	1392	U
47	2	1393	C
47	2	1394	G
47	2	1399	C
47	2	1400	A
47	2	1402	G
47	2	1405	G
47	2	1406	A
47	2	1409	G
47	2	1412	G
47	2	1413	U
47	2	1415	U
47	2	1416	G
47	2	1420	C
47	2	1421	A
47	2	1422	A
47	2	1425	A
47	2	1427	A
47	2	1428	G
47	2	1429	G
47	2	1431	C
47	2	1432	U
47	2	1433	G
47	2	1434	U
47	2	1435	G
47	2	1436	A
47	2	1437	U
47	2	1439	C
47	2	1440	C
47	2	1441	C
47	2	1442	U
47	2	1443	U
47	2	1444	A
47	2	1445	G
47	2	1446	A
47	2	1448	G
47	2	1450	U

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Mol	Chain	Res	Type
47	2	1453	G
47	2	1458	G
47	2	1459	C
47	2	1460	A
47	2	1469	A
47	2	1472	C
47	2	1474	G
47	2	1479	A
47	2	1486	G
47	2	1490	C
47	2	1491	U
47	2	1492	A
47	2	1493	A
47	2	1494	C
47	2	1496	U
47	2	1500	C
47	2	1506	G
47	2	1510	U
47	2	1515	A
47	2	1516	A
47	2	1517	U
47	2	1518	C
47	2	1520	U
47	2	1521	G
47	2	1522	U
47	2	1523	G
47	2	1524	A
47	2	1529	C
47	2	1530	C
47	2	1533	C
47	2	1534	G
47	2	1536	G
47	2	1537	C
47	2	1538	U
47	2	1542	G
47	2	1550	A
47	2	1555	A
47	2	1556	A
47	2	1557	U
47	2	1559	A
47	2	1560	U
47	2	1561	U

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Mol	Chain	Res	Type
47	2	1572	G
47	2	1573	A
47	2	1575	G
47	2	1576	A
47	2	1582	U
47	2	1585	U
47	2	1589	C
47	2	1592	A
47	2	1593	A
47	2	1596	C
47	2	1597	A
47	2	1600	A
47	2	1601	G
47	2	1609	U
47	2	1610	G
47	2	1613	U
47	2	1614	A
47	2	1615	C
47	2	1616	G
47	2	1618	C
47	2	1619	C
47	2	1622	G
47	2	1624	C
47	2	1631	A
47	2	1632	C
47	2	1633	A
47	2	1636	C
47	2	1639	C
47	2	1646	C
47	2	1649	G
47	2	1650	U
47	2	1655	A
47	2	1657	U
47	2	1658	G
47	2	1661	U
47	2	1669	U
47	2	1677	C
47	2	1678	A
47	2	1681	A
47	2	1682	U
47	2	1684	U
47	2	1685	G

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Mol	Chain	Res	Type
47	2	1690	G
47	2	1692	G
47	2	1693	A
47	2	1696	G
47	2	1699	G
47	2	1700	C
47	2	1702	A
47	2	1703	C
47	2	1704	U
47	2	1705	C
47	2	1707	A
47	2	1708	U
47	2	1709	C
47	2	1710	U
47	2	1711	C
47	2	1712	A
47	2	1714	A
47	2	1715	G
47	2	1716	C
47	2	1717	G
47	2	1718	G
47	2	1721	A
47	2	1723	U
47	2	1736	G
47	2	1737	G
47	2	1739	C
47	2	1749	A
47	2	1754	A
47	2	1755	A
47	2	1756	A
47	2	1760	G
47	2	1762	A
47	2	1766	A
47	2	1769	U
47	2	1770	U
47	2	1772	C
47	2	1780	G
47	2	1783	C
47	2	1786	G
47	2	1791	A
47	2	1792	G
47	2	1793	G

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Mol	Chain	Res	Type
47	2	1794	A
47	2	1796	C
47	2	1797	A
47	2	1798	U
81	AX	4	G
81	AX	8	U
81	AX	9	A
81	AX	10	G
81	AX	14	A
81	AX	15	G
81	AX	16	U
81	AX	17	U
81	AX	19	G
81	AX	20	G
81	AX	21	A
81	AX	26	G
81	AX	37	G
81	AX	38	A
81	AX	45	G
81	AX	46	G
81	AX	47	U
81	AX	48	C
81	AX	49	C
81	AX	52	U
81	AX	53	G
81	AX	55	U
81	AX	59	U
81	AX	62	A
81	AX	66	A
81	AX	68	U
81	AX	73	A
81	AX	74	C
81	AX	76	A
82	AY	47	U
82	AY	48	U
82	AY	49	U

All (47) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	1	13	A
1	1	116	A

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Mol	Chain	Res	Type
1	1	218	G
1	1	315	C
1	1	317	A
1	1	424	G
1	1	438	A
1	1	1028	U
1	1	1196	C
1	1	1405	U
1	1	1912	U
1	1	2101	C
1	1	2270	A
1	1	2306	C
1	1	2828	G
1	1	2893	C
1	1	2939	G
1	1	3004	C
1	1	3027	A
1	1	3078	U
1	1	3121	U
1	1	3168	A
1	1	3228	C
1	1	3352	U
47	2	1	U
47	2	25	C
47	2	67	A
47	2	342	C
47	2	505	A
47	2	590	C
47	2	611	U
47	2	779	U
47	2	1107	G
47	2	1160	A
47	2	1162	C
47	2	1207	C
47	2	1338	C
47	2	1368	G
47	2	1379	C
47	2	1390	U
47	2	1428	G
47	2	1491	U
47	2	1522	U
47	2	1632	C

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Mol	Chain	Res	Type
47	2	1654	G
47	2	1771	U
82	AY	48	U

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

1 non-standard protein/DNA/RNA residue is modelled in this entry.

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	$\# Z > 2$
84	DDE	AZ	699	84	14,20,21	1.98	3 (21%)	14,28,30	3.40	7 (50%)

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
84	DDE	AZ	699	84	-	5/20/21/23	0/1/1/1

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
84	AZ	699	DDE	CBI-NAD	5.91	1.47	1.32
84	AZ	699	DDE	CAT-CE1	2.61	1.54	1.50
84	AZ	699	DDE	OAG-CBI	-2.59	1.18	1.23

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
84	AZ	699	DDE	CBW-CBI-NAD	9.82	127.80	115.28
84	AZ	699	DDE	OAG-CBI-NAD	-4.30	115.52	123.00
84	AZ	699	DDE	CAC-NCB-CAB	3.36	117.28	108.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
84	AZ	699	DDE	OAG-CBI-CBW	-3.02	116.67	120.49
84	AZ	699	DDE	CAU-CBW-CBI	-2.89	105.48	111.20
84	AZ	699	DDE	CAA-NCB-CAB	-2.81	100.41	108.10
84	AZ	699	DDE	CG-ND1-CE1	2.09	109.22	103.05

There are no chirality outliers.

All (5) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
84	AZ	699	DDE	CA-CB-CG-ND1
84	AZ	699	DDE	CA-CB-CG-CD2
84	AZ	699	DDE	CAT-CAU-CBW-CBI
84	AZ	699	DDE	CAT-CAU-CBW-NCB
84	AZ	699	DDE	CE1-CAT-CAU-CBW

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 11 ligands modelled in this entry, 8 are monoatomic - leaving 3 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	$\# Z > 2$
86	SO1	AZ	901	-	35,39,39	0.15	0	39,64,64	0.82	2 (5%)
88	ALF	AZ	903	-	0,4,4	-	-	-	-	-
87	GDP	AZ	902	-	24,30,30	3.60	12 (50%)	30,47,47	1.62	6 (20%)

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
86	SO1	AZ	901	-	-	16/21/104/104	0/7/5/5
87	GDP	AZ	902	-	-	0/12/32/32	0/3/3/3

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
87	AZ	902	GDP	C3'-C4'	-7.83	1.33	1.53
87	AZ	902	GDP	O4'-C4'	6.95	1.60	1.45
87	AZ	902	GDP	O4'-C1'	-6.23	1.32	1.41
87	AZ	902	GDP	C2-N2	5.69	1.47	1.34
87	AZ	902	GDP	C2-N3	5.42	1.46	1.33
87	AZ	902	GDP	C4-N3	5.26	1.50	1.37
87	AZ	902	GDP	C6-N1	4.54	1.44	1.37
87	AZ	902	GDP	C5-C6	3.76	1.55	1.47
87	AZ	902	GDP	C2-N1	2.91	1.44	1.37
87	AZ	902	GDP	C5-C4	-2.86	1.35	1.43
87	AZ	902	GDP	O2'-C2'	-2.55	1.37	1.43
87	AZ	902	GDP	PA-O5'	2.37	1.68	1.59

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
87	AZ	902	GDP	PA-O3A-PB	-4.83	116.24	132.83
86	AZ	901	SO1	C18-C9-C16	-3.92	98.02	103.64
87	AZ	902	GDP	C5-C6-N1	3.31	119.81	113.95
87	AZ	902	GDP	C8-N7-C5	2.96	108.63	102.99
87	AZ	902	GDP	C2-N1-C6	-2.75	120.03	125.10
87	AZ	902	GDP	C3'-C2'-C1'	2.24	104.35	100.98
86	AZ	901	SO1	C7-C2-C6	2.24	116.42	112.17
87	AZ	902	GDP	N1-C2-N3	-2.17	119.26	123.32

There are no chirality outliers.

All (16) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
86	AZ	901	SO1	C4-C1-C5-O14
86	AZ	901	SO1	C2-C1-C5-O14

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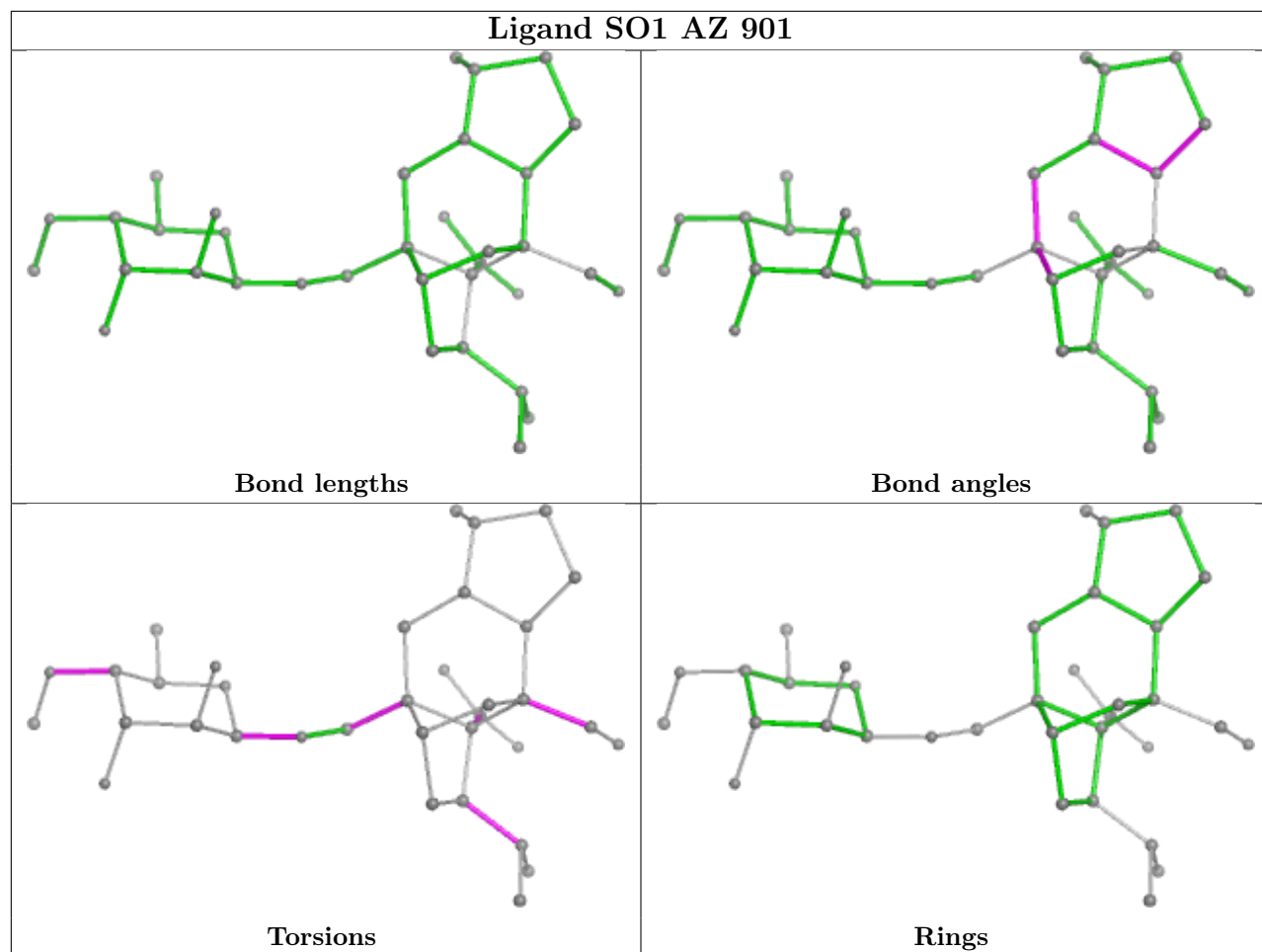
Mol	Chain	Res	Type	Atoms
86	AZ	901	SO1	C2-C1-C5-O15
86	AZ	901	SO1	O19-C11-C3-C1
86	AZ	901	SO1	C56-C55-O64-C65
86	AZ	901	SO1	O56-C52-O17-C8
86	AZ	901	SO1	C21-C13-C4-C12
86	AZ	901	SO1	C20-C13-C4-C12
86	AZ	901	SO1	C1-C2-C8-O17
86	AZ	901	SO1	C7-C2-C8-O17
86	AZ	901	SO1	C20-C13-C4-C1
86	AZ	901	SO1	C21-C13-C4-C1
86	AZ	901	SO1	O19-C11-C3-C10
86	AZ	901	SO1	C54-C55-O64-C65
86	AZ	901	SO1	C4-C1-C5-O15
86	AZ	901	SO1	C6-C2-C8-O17

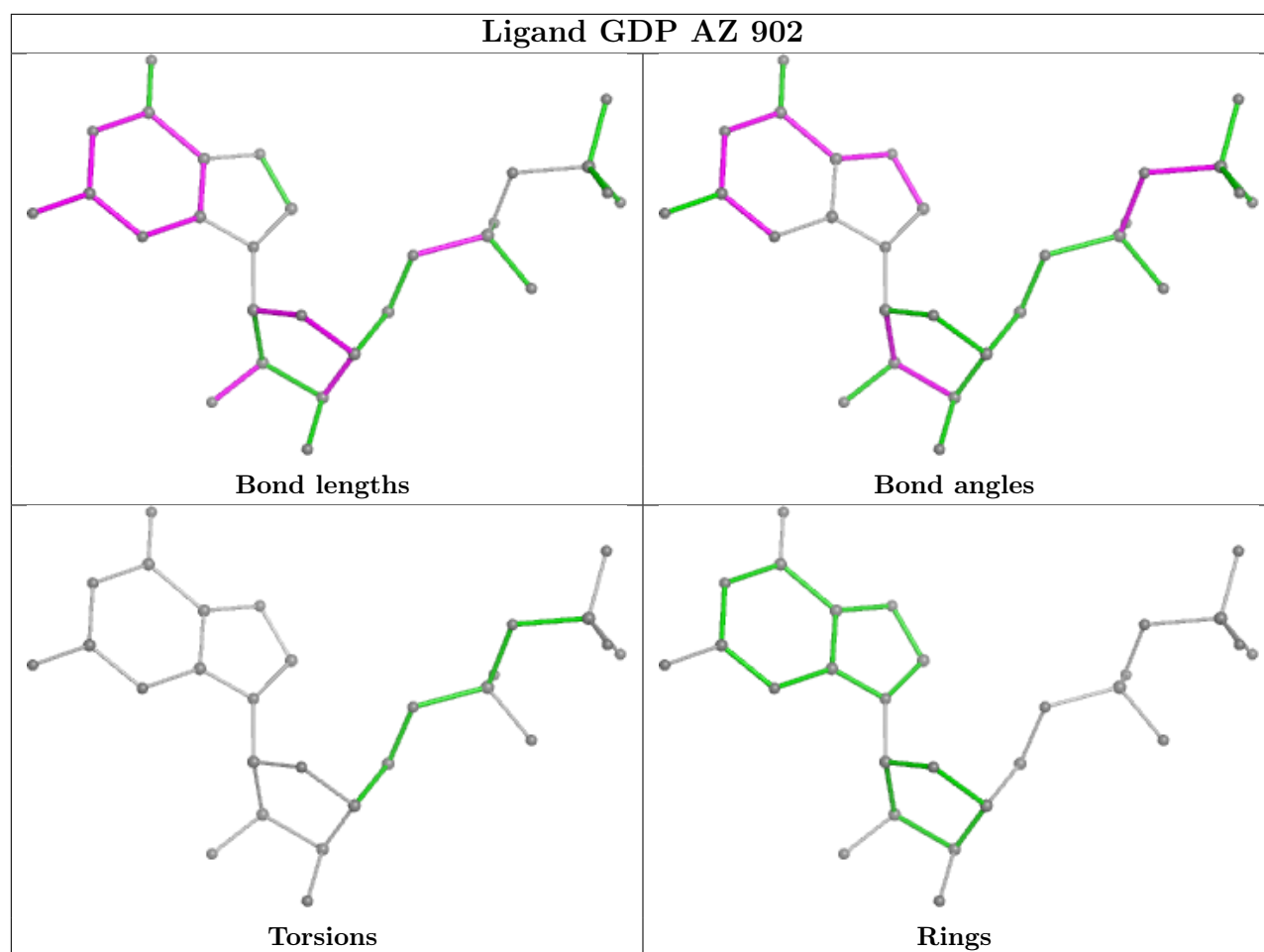
There are no ring outliers.

3 monomers are involved in 27 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
86	AZ	901	SO1	13	0
88	AZ	903	ALF	1	0
87	AZ	902	GDP	13	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 than 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.





5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

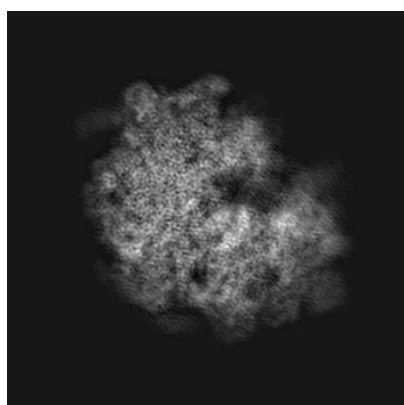
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-0048. These allow visual inspection of the internal detail of the map and identification of artifacts.

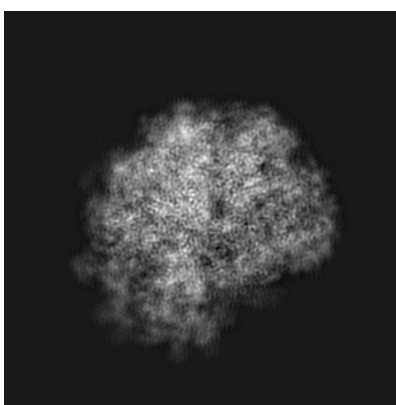
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

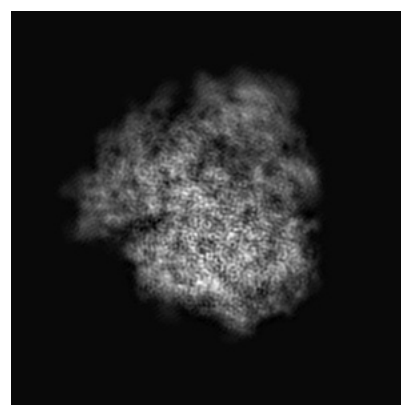
6.1.1 Primary map



X



Y

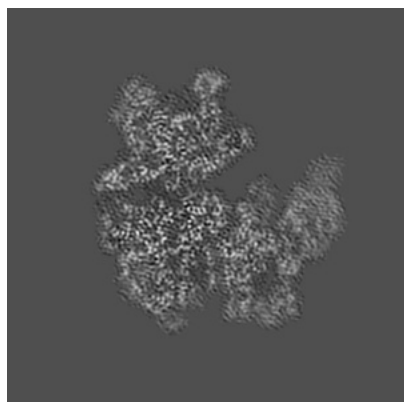


Z

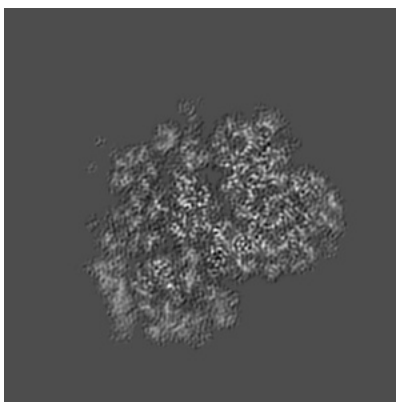
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

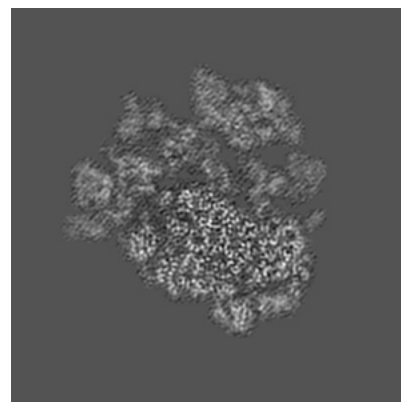
6.2.1 Primary map



X Index: 180



Y Index: 180

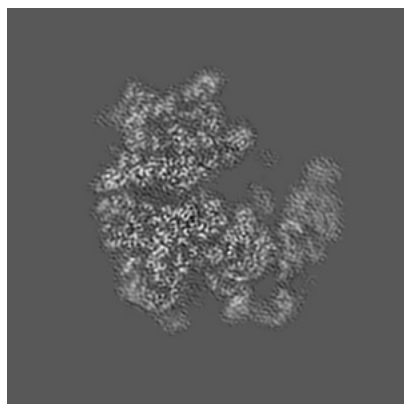


Z Index: 180

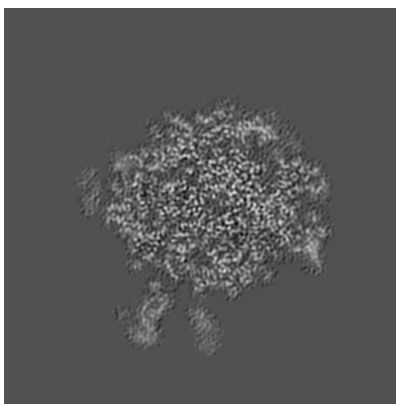
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

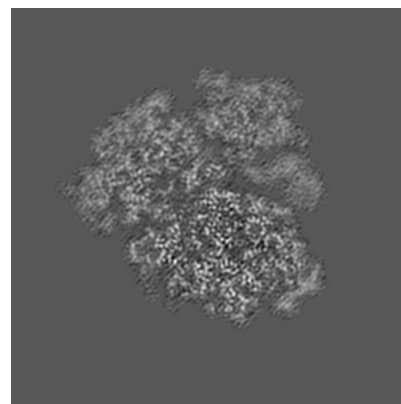
6.3.1 Primary map



X Index: 184



Y Index: 157

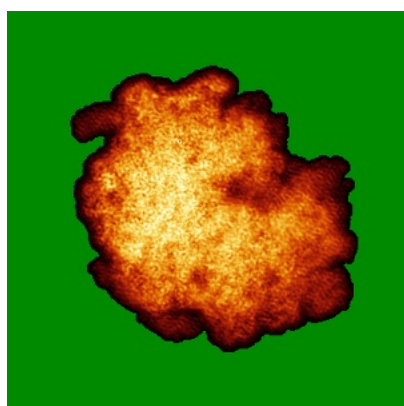


Z Index: 166

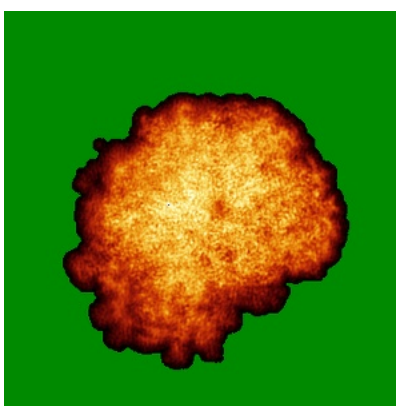
The images above show the largest variance slices of the map in three orthogonal directions.

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

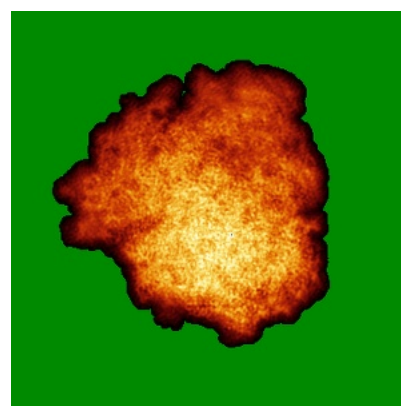
6.4.1 Primary map



X



Y

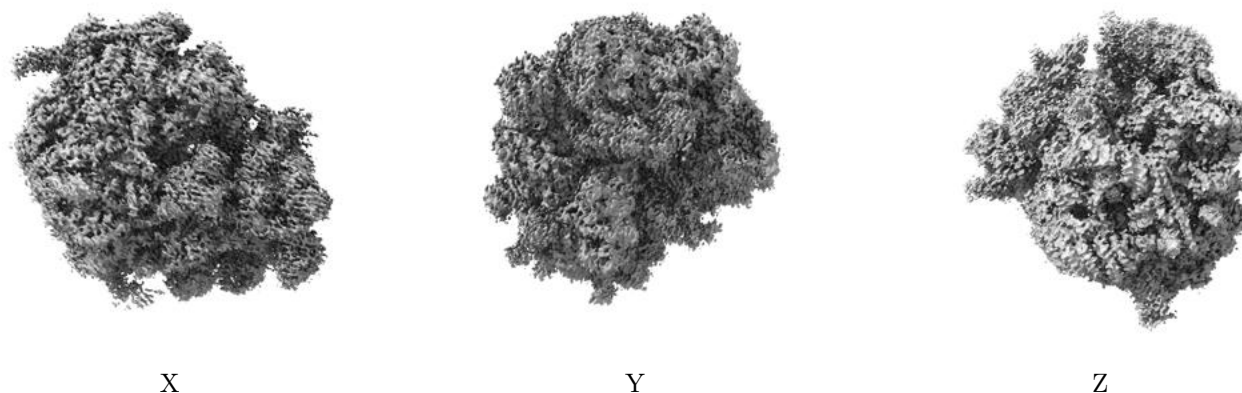


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.05. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

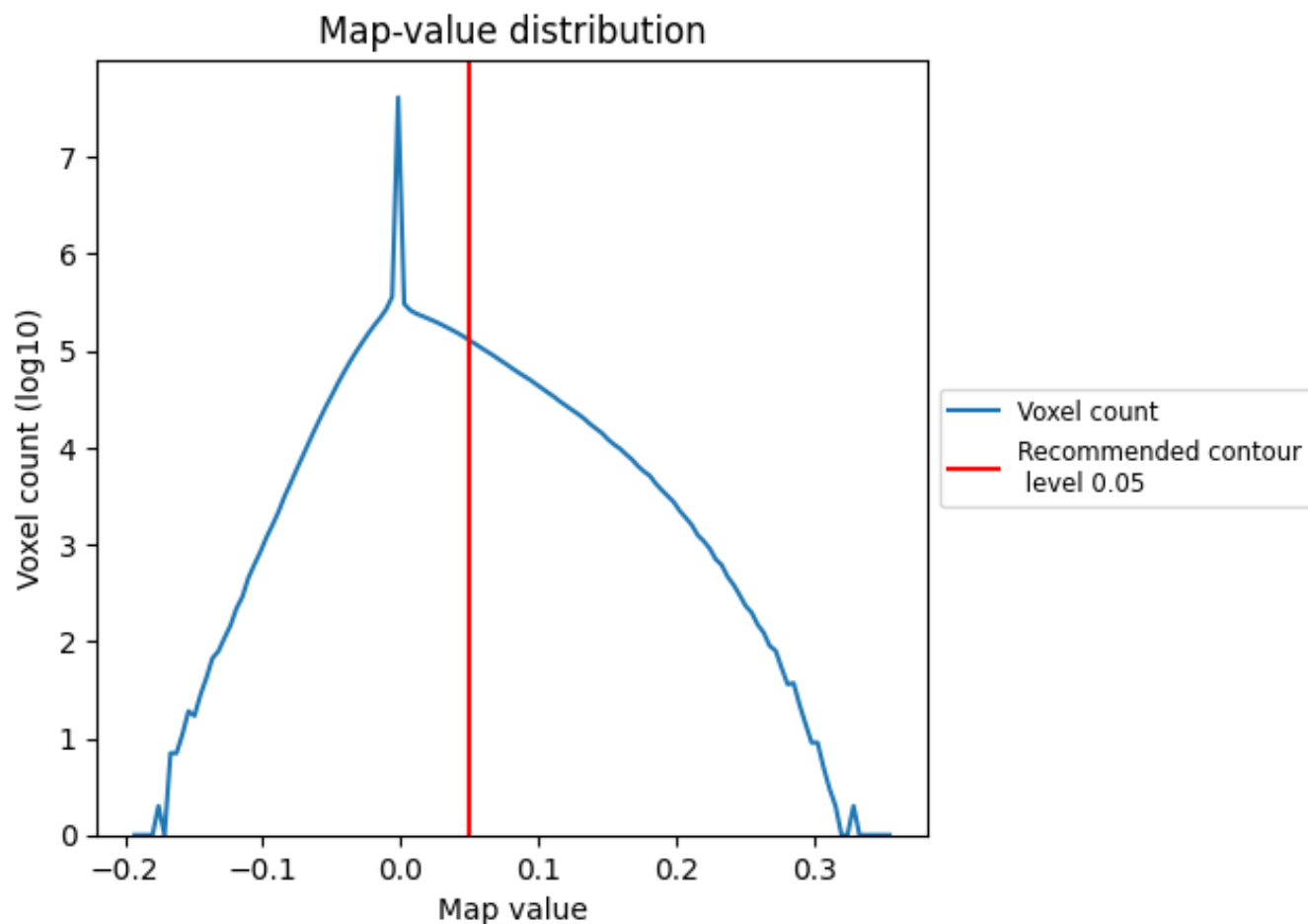
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

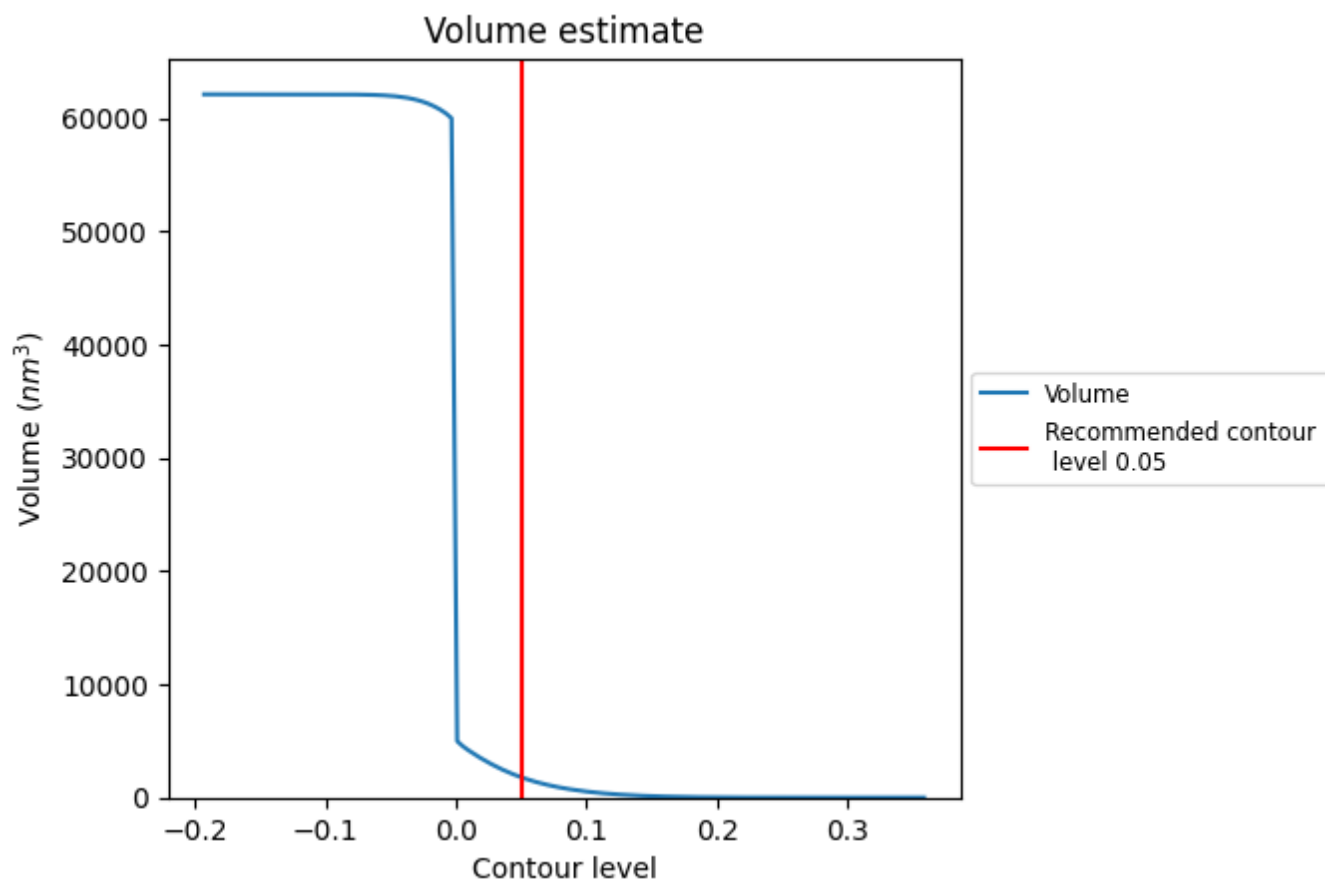
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

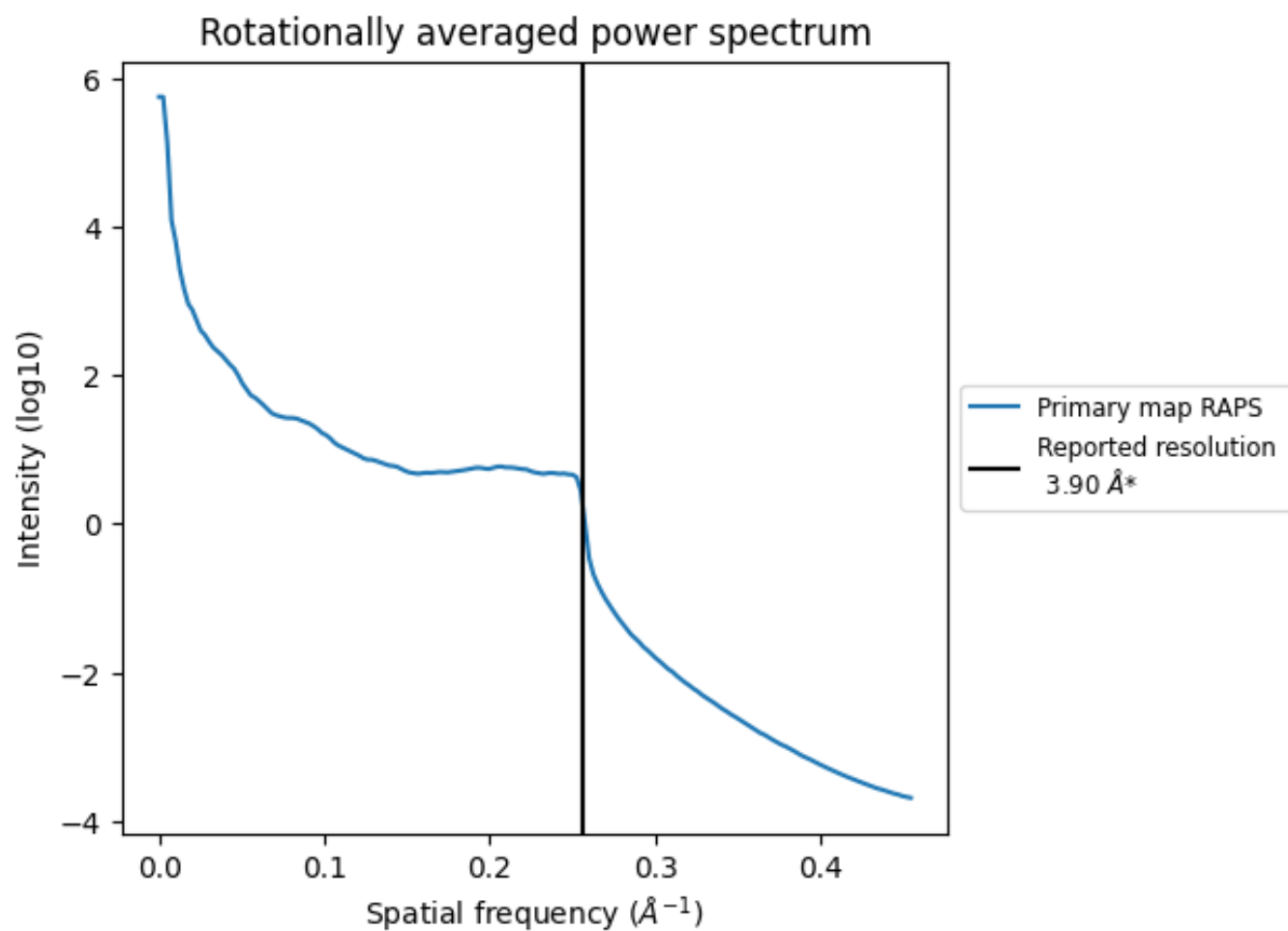
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1789 nm³; this corresponds to an approximate mass of 1616 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ



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

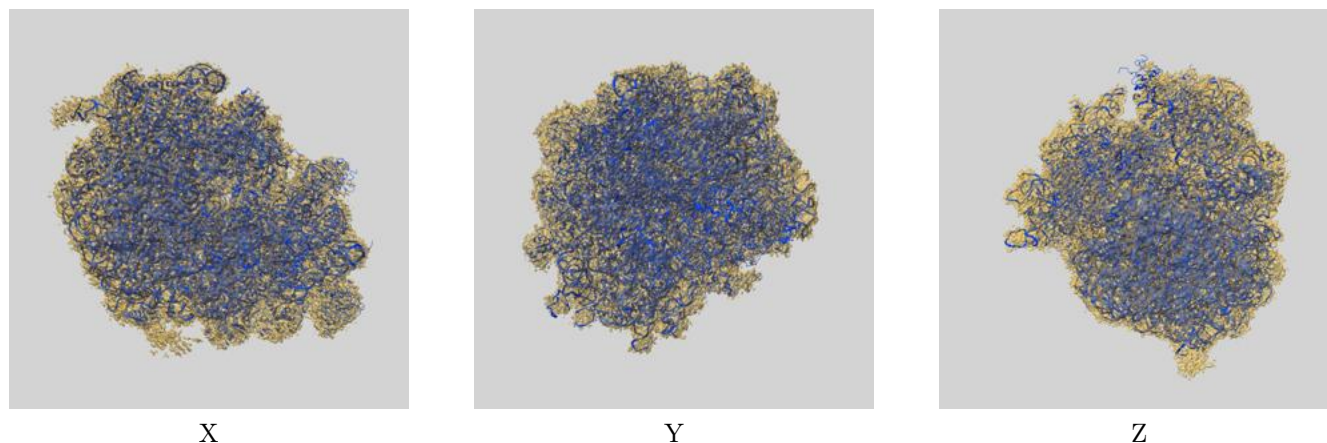
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

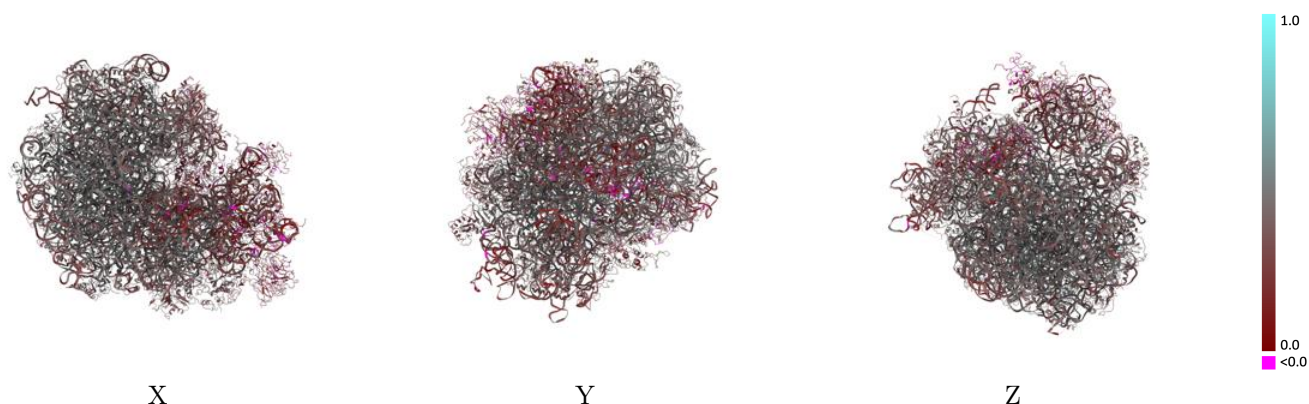
This section contains information regarding the fit between EMDB map EMD-0048 and PDB model 6GQB. Per-residue inclusion information can be found in section [3](#) on page [22](#).

9.1 Map-model overlay [i](#)



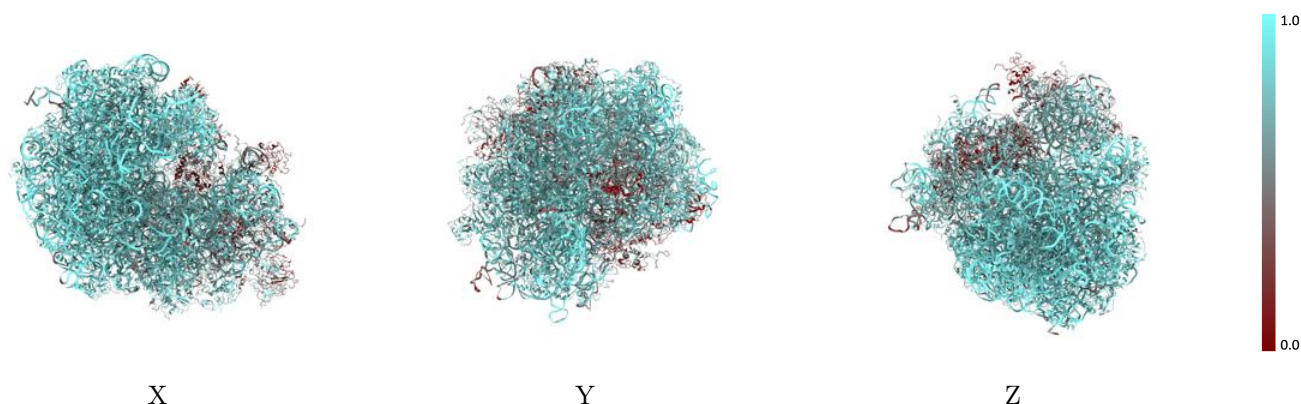
The images above show the 3D surface view of the map at the recommended contour level 0.05 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



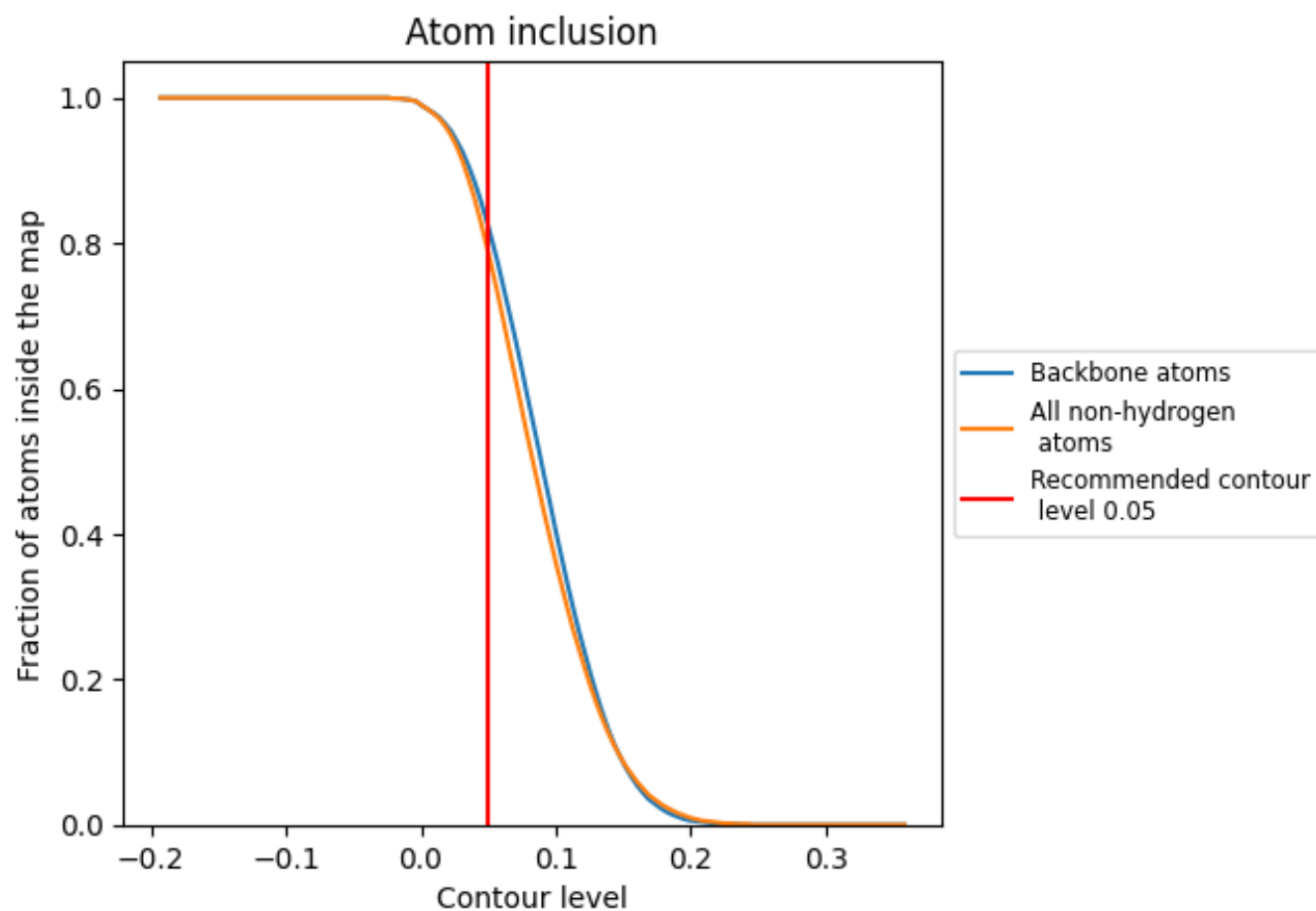
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.05).

9.4 Atom inclusion [i](#)



At the recommended contour level, 82% of all backbone atoms, 79% 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 (0.05) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7870	 0.3860
1	 0.9090	 0.4170
2	 0.8330	 0.3500
3	 0.9370	 0.4000
4	 0.9270	 0.4290
A	 0.7650	 0.4780
AA	 0.6330	 0.2540
AB	 0.6340	 0.4200
AC	 0.0930	 0.1320
AD	 0.7520	 0.4160
AE	 0.7800	 0.4120
AF	 0.6210	 0.2940
AG	 0.5360	 0.2490
AH	 0.5530	 0.2950
AI	 0.6010	 0.3030
AJ	 0.5830	 0.2620
AK	 0.4630	 0.2710
AL	 0.7270	 0.3860
AM	 0.7320	 0.4320
AN	 0.6860	 0.4300
AO	 0.7230	 0.3440
AP	 0.3310	 0.1820
AQ	 0.7100	 0.4060
AR	 0.7340	 0.3640
AS	 0.3730	 0.2350
AT	 0.6790	 0.3240
AU	 0.6190	 0.3780
AV	 0.4670	 0.2250
AW	 0.3610	 0.1930
AX	 0.7150	 0.2840
AY	 0.4170	 0.3360
AZ	 0.3200	 0.2650
B	 0.8010	 0.4530
BA	 0.4440	 0.2740
C	 0.8250	 0.4530



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Chain	Atom inclusion	Q-score
D	 0.7690	 0.3740
E	 0.8220	 0.4200
F	 0.8000	 0.4400
G	 0.8030	 0.4100
H	 0.7640	 0.4180
I	 0.7730	 0.4390
J	 0.7190	 0.3720
L	 0.8320	 0.4450
M	 0.8130	 0.4070
N	 0.8330	 0.4670
O	 0.7850	 0.4410
P	 0.8040	 0.4670
P0	 0.1990	 0.2200
P2	 0.2060	 0.2190
Q	 0.8260	 0.4670
R	 0.7700	 0.4340
S	 0.7790	 0.4420
T	 0.7960	 0.4520
U	 0.7850	 0.4150
V	 0.6930	 0.4590
W	 0.7340	 0.4460
X	 0.7830	 0.4410
Y	 0.8450	 0.4590
Z	 0.8180	 0.4320
a	 0.8330	 0.4580
b	 0.7590	 0.4310
c	 0.8030	 0.4260
d	 0.7640	 0.4500
e	 0.7920	 0.4720
f	 0.8210	 0.4850
g	 0.7810	 0.4600
h	 0.8200	 0.4320
i	 0.7870	 0.4100
j	 0.8760	 0.5050
k	 0.7150	 0.4020
l	 0.8100	 0.4560
m	 0.7700	 0.4340
n	 0.6600	 0.4620
o	 0.7560	 0.4480
p	 0.7630	 0.4760
q	 0.6970	 0.3590
r	 0.7240	 0.3790

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Chain	Atom inclusion	Q-score
s	 0.6940	 0.3960
t	 0.5010	 0.2560
u	 0.7080	 0.3760
v	 0.4450	 0.2560
w	 0.6620	 0.3180
x	 0.7220	 0.3530
y	 0.7210	 0.3890
z	 0.7410	 0.3760