



Full wwPDB EM Validation Report ⓘ

Mar 6, 2026 – 03:31 PM UTC

PDB ID : 7ASP / pdb_00007asp
EMDB ID : EMD-11903
Title : Staphylococcus aureus 70S after 50 minutes incubation at 37C
Authors : Camicata, G.; Bashan, A.; Yonath, A.
Deposited on : 2020-10-27
Resolution : 2.86 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

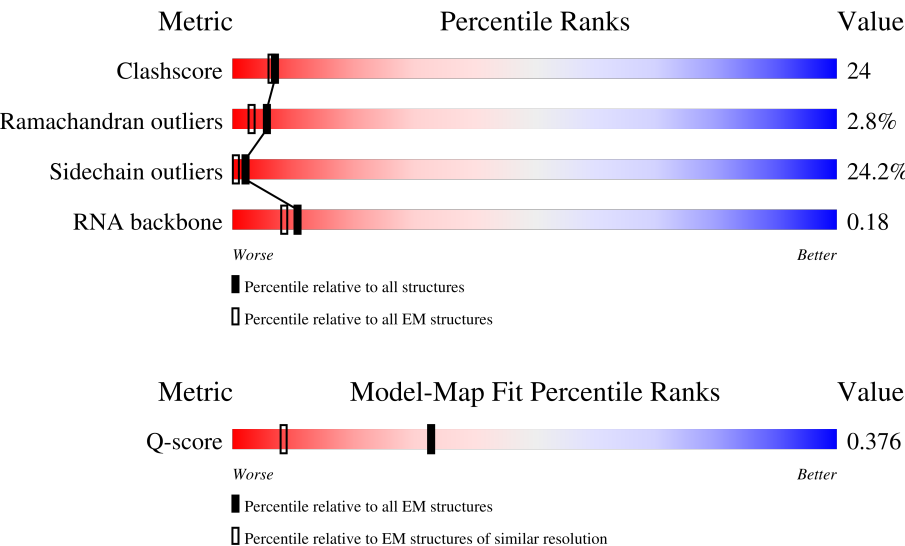
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh &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

1 Overall quality at a glance i

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

The reported resolution of this entry is 2.86 Å.

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



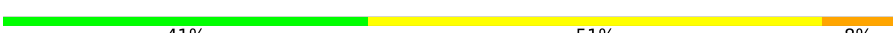
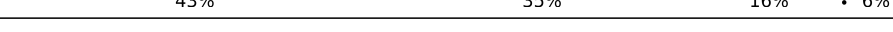
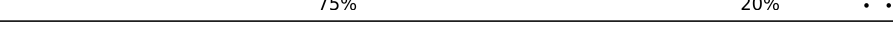
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	12017 (2.36 - 3.36)

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	Y	2923	43% 33% 17% 7%
2	X	1552	9% 37% 46% 7%
3	3	114	25% 50% 25%

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Mol	Chain	Length	Quality of chain
4	1	105	
4	A	105	
5	B	43	
6	2	64	
7	4	37	
8	a	80	
9	b	114	
10	c	136	
11	C	274	
12	d	113	
13	D	215	
14	E	206	
15	e	60	
16	f	88	
17	g	83	
18	G	175	
19	H	145	
20	h	80	
21	I	122	
22	i	56	
23	j	78	
24	J	146	
25	k	202	
26	K	137	
27	L	120	

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Mol	Chain	Length	Quality of chain
28	l	198	
29	m	156	
30	M	119	
31	n	95	
32	N	114	
33	o	130	
34	O	116	
35	p	155	
36	P	102	
37	q	127	
38	Q	112	
39	R	89	
40	S	103	
41	T	94	
42	U	79	
43	V	49	
44	W	67	
45	Z	47	
46	F	158	

2 Entry composition [i](#)

There are 46 unique types of molecules in this entry. The entry contains 128828 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 23S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	Y	2723	Total	C	N	O	P	0	0
			58376	26062	10687	18904	2723		

- Molecule 2 is a RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	X	1447	Total	C	N	O	P	0	0
			31009	13847	5680	10037	1445		

- Molecule 3 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	3	114	Total	C	N	O	P	0	0
			2430	1086	436	794	114		

- Molecule 4 is a protein called 50S ribosomal protein L33,50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	A	47	Total	C	N	O	S	0	0
			390	238	78	70	4		
4	1	58	Total	C	N	O		0	0
			449	280	85	84			

- Molecule 5 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	B	43	Total	C	N	O	S	0	0
			367	225	89	52	1		

- Molecule 6 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	2	64	Total	C	N	O	S	0	0
			521	324	113	82	2		

- Molecule 7 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	4	37	Total	C	N	O	S	0	0
			295	186	60	44	5		

- Molecule 8 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	a	80	Total	C	N	O	S	0	0
			626	394	116	116			

- Molecule 9 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	b	114	Total	C	N	O	S	0	0
			826	507	158	159	2		

- Molecule 10 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	c	136	Total	C	N	O	S	0	0
			976	611	190	173	2		

- Molecule 11 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	C	274	Total	C	N	O	S	0	0
			2094	1303	415	371	5		

- Molecule 12 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	d	113	Total	C	N	O	S	0	0
			828	510	168	149	1		

- Molecule 13 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	D	215	Total	C	N	O	S	0	0
			1627	1018	299	305	5		

- Molecule 14 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	E	206	Total	C	N	O	S	0	0
			1572	986	288	296	2		

- Molecule 15 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	e	60	Total	C	N	O	S	0	0
			497	314	99	79	5		

- Molecule 16 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	f	88	Total	C	N	O	S	0	0
			713	441	148	123	1		

- Molecule 17 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	g	83	Total	C	N	O	S	0	0
			537	335	105	96	1		

- Molecule 18 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	G	165	Total	C	N	O	S	0	0
			1184	739	226	216	3		

- Molecule 19 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	H	145	Total	C	N	O	S	0	0
			1143	714	208	218	3		

- Molecule 20 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms				AltConf	Trace
20	h	80	Total	C	N	O		
			520	327	97	96	0	0

- Molecule 21 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	I	122	Total	C	N	O	S		
			918	572	174	168	4	0	0

- Molecule 22 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	i	56	Total	C	N	O	S		
			458	292	88	76	2	0	0

- Molecule 23 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	j	77	Total	C	N	O	S		
			498	300	99	98	1	0	0

- Molecule 24 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	J	146	Total	C	N	O	S		
			1086	674	214	197	1	0	0

- Molecule 25 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	k	202	Total	C	N	O	S		
			1551	979	293	278	1	0	0

- Molecule 26 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	K	137	Total	C	N	O	S		
			1071	689	203	175	4	0	0

- Molecule 27 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	L	120	Total	C	N	O	S	0	0
			932	576	182	173	1		

- Molecule 28 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	l	198	Total	C	N	O		0	0
			1058	634	211	213			

- Molecule 29 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	m	156	Total	C	N	O	S	0	0
			1153	727	211	213	2		

- Molecule 30 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	M	119	Total	C	N	O		0	0
			882	549	174	159			

- Molecule 31 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	n	95	Total	C	N	O	S	0	0
			785	496	138	149	2		

- Molecule 32 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	N	114	Total	C	N	O		0	0
			889	563	175	151			

- Molecule 33 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	o	130	Total	C	N	O	S	0	0
			1007	639	180	184	4		

- Molecule 34 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	O	116	Total	C	N	O	S	0	0
			942	593	189	156	4		

- Molecule 35 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	p	154	Total	C	N	O	S	0	0
			1155	719	219	214	3		

- Molecule 36 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	P	102	Total	C	N	O	S	0	0
			790	503	142	144	1		

- Molecule 37 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	q	127	Total	C	N	O	S	0	0
			975	605	194	175	1		

- Molecule 38 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Q	112	Total	C	N	O	S	0	0
			854	534	164	153	3		

- Molecule 39 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	R	89	Total	C	N	O	S	0	0
			715	453	127	131	4		

- Molecule 40 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	S	103	Total	C	N	O	S	0	0
			770	486	142	141	1		

- Molecule 41 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms				AltConf	Trace
41	T	94	Total	C	N	O	0	0
			722	463	130	129		

- Molecule 42 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms				AltConf	Trace
42	U	79	Total	C	N	O	0	0
			597	369	117	111		

- Molecule 43 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms				AltConf	Trace
43	V	49	Total	C	N	O	0	0
			379	234	82	63		

- Molecule 44 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms				AltConf	Trace
44	W	67	Total	C	N	O	0	0
			541	333	102	106		

- Molecule 45 is a protein called 50S ribosomalprotein L32p.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	Z	47	Total	C	N	O	S	0	0
			355	219	76	58	2		

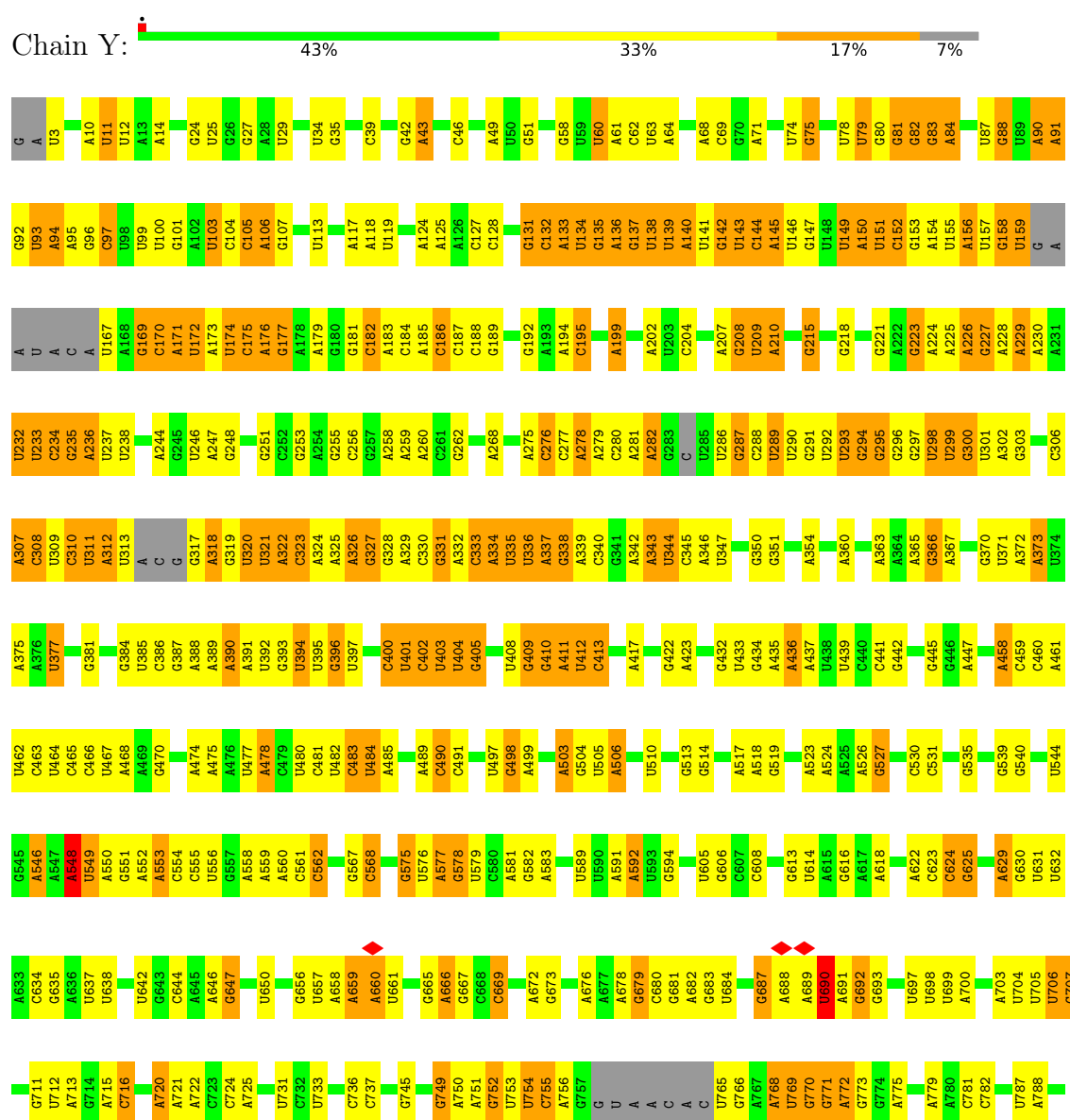
- Molecule 46 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms				AltConf	Trace
46	F	155	Total	C	N	O	0	0
			765	455	155	155		

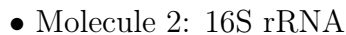
3 Residue-property plots

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.

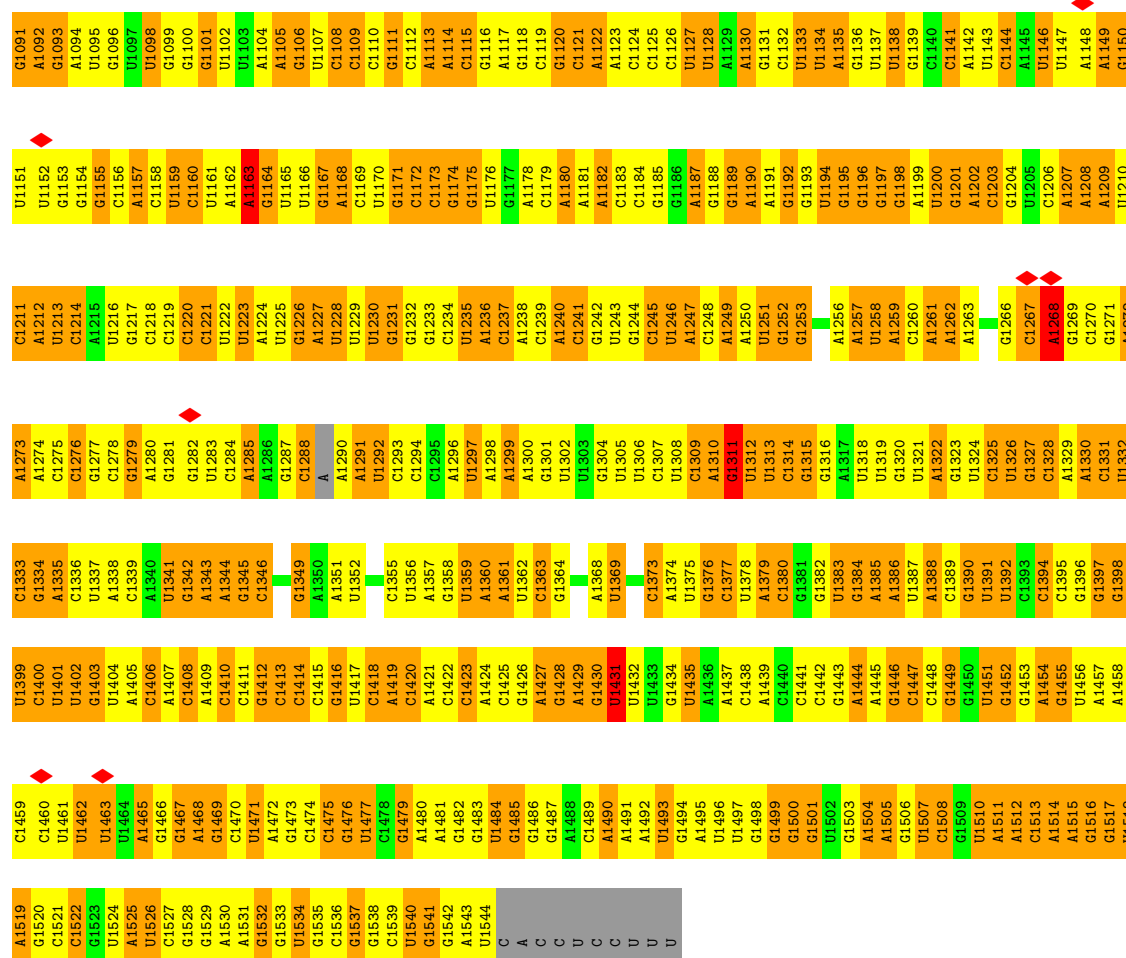
• Molecule 1: 23S rRNA





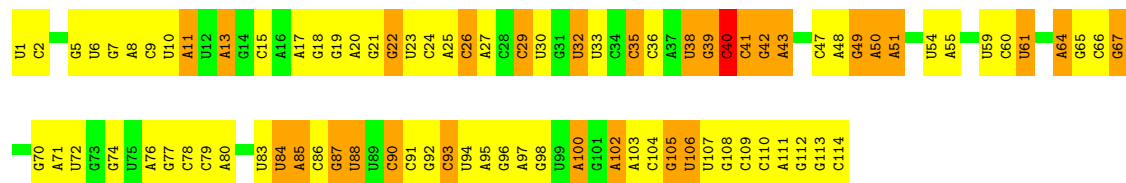


G1031	U971	A910	G847	C787	C727	C567	C507	A547	C486	C425	C305	C242	C122
C1032	C972	A911	U849	A789	C728	A668	U608	G548	U487	U426	A306	C243	U182
C1033	C973	A912	U849	A789	A729	G669	G609	G549	U488	C427	A307	G244	U183
U1034	A974	A913	U	A974	U730	A670	A610	U550	A489	U428	A308	C245	U184
U	A975	U914	C	C791	U731	A671	U611	G551	A490	U429	G309	G246	U185
C	G976	U915	C	A792	C732	G672	G612	G552	C491	U429	G310	C247	U
C	C977	U916	U813	C793	C733	G673	U613	C553	G492	C430	A371	U248	U
C	A917	A917	G855	G794	C734	G674	G614	C554	A544	C431	G311	U249	U
C	U	U	G856	A795	C735	G675	A615	A555	G	C432	U312	U248	U
C	C980	U920	C856	U796	A736	G676	A616	A556	A495	A433	A314	C250	G
C	G981	U921	C857	U797	A737	A677	A617	C557	A496	A434	C374	A251	A
U	C982	U922	C858	A798	C738	G678	G618	C558	C497	U434	U375	U252	C
U	C983	U923	G859	U799	A739	A679	G619	C559	U498	C435	C316	U253	C
C	A924	A923	U860	C800	C739	G679	C619	U559	U498	C436	G317	A254	C
G	A984	C923	U861	A901	C740	U680	C620	U560	A499	U437	G318	C255	G
G	C985	A924	U861	U801	C741	G681	C621	A561	U499	U438	U319	C256	A
C	A986	A925	G863	A802	A742	G682	A622	U562	U501	A439	C320	U257	A
C	G987	G926	C864	C803	C743	A683	C623	C563	C502	A440	A321	A258	G
C	A988	A928	G865	C804	U744	A684	G624	C564	A503	A441	C322	G259	G
A	C989	A929	C866	C805	U745	U685	G625	C565	G504	C442	A323	U260	U
C	U930	U930	U867	C806	U746	U686	C626	G566	A505	C443	U324	U261	U
C	U931	U931	G868	G807	C747	C687	U627	A567	A506	C444	U325	G262	C
A1050	A992	A932	C869	G808	U748	C688	C628	A568	A507	U445	G326	G263	A
A1051	A993	A933	U870	U809	C749	A689	A629	U569	G508	G446	G327	U264	A
A1052	C994	C934	G871	A810	G750	U690	A630	U570	C509	U447	C328	A265	A
G1053	C995	G935	G872	A811	U751	G691	C631	A571	C510	U447	A329	A266	A
U1054	A996	G936	U873	G812	C752	U692	C632	U572	A511	U448	C330	A267	A
U1055	A997	A937	A874	C813	C753	G693	G633	U573	C512	U451	U331	G268	G
G1056	A998	G938	U	C814	U754	U694	U634	G574	A513	A452	G332	U269	U
U1057	U999	A939	C815	A815	C755	A695	G635	G575	G514	C453	A333	G270	A
C1058	U1001	C941	U880	C816	U756	G696	G636	G576	C515	C454	C334	A271	A
G1059	U1002	G942	U881	C817	A757	C697	A637	C577	U516	A	U335	C272	A
G1060	G1003	A943	U882	C818	C758	G698	G638	G578	A517	A457	C336	C273	A
U1061	A1004	C944	A883	G819	U760	U700	G639	A580	C519	C458	A337	G274	A
C1062	C1005	A945	G884	U821	A761	G701	U641	A581	U520	A459	C338	C275	A
G1063	U1006	C946	C885	U822	C762	A702	C642	A582	A521	A460	G340	U277	G
U1064	U1007	A947	A886	A823	G763	A703	A643	G583	C522	C461	U341	U278	U
A948	C887	A824	C887	A824	C764	A704	U644	C584	G525	A462	C342	A281	C
C1065	C1008	G949	U888	C825	U765	U705	U645	G585	U	U463	C343	A282	U
A1067	C1009	C950	C889	G826	G766	G706	G646	C586	C526	A464	A404	A283	U
U1068	G951	G951	C900	A827	A767	C707	G647	C527	U	U465	A405	G284	U
U1069	U1010	G952	G891	U828	U768	G708	A648	C588	A528	C466	C346	C285	U
U1070	U1011	G953	C892	U828	G769	G709	A649	G589	G529	U467	C407	G286	G
U1071	U1012	G954	C893	A829	U770	C709	A650	U590	C530	C468	U348	A287	U
G955	G1013	A956	U894	A830	C771	A710	C851	A591	U	U	C349	A288	C
C1013	C1013	G956	G895	U832	C772	G711	U652	C592	A	A	C350	G289	U
A1014	A1014	G957	G896	U833	C773	G713	G653	C593	C533	A	C411	A290	C
U1074	C958	C958	G897	C834	A774	A714	G654	C594	C534	G	C412	A291	C
C1075	C1015	A959	U898	U835	A775	U715	A655	G595	G535	U	U413	U291	U
G1076	A1016	U960	G899	U836	A776	U716	A656	G596	C536	A	C414	C292	A
U1017	A1017	U961	A890	A836	C777	U717	A657	U597	G537	A	A415	C293	A
C1078	C1018	U962	G900	A837	C778	G718	G658	U598	C	U	C416	A294	C
A1079	U1019	G963	U901	G838	C779	G719	C659	U599	U539	C	U417	U295	U
G1080	U1019	G964	U902	U839	C779	G719	C659	U599	U539	C	U418	A296	U
C1081	C1020	U965	C903	G840	A780	A720	U660	U600	A540	U	C419	G297	U
U1082	U1021	G965	G904	U841	U781	A721	U661	U601	A541	G	U420	C298	U
C1083	A1022	U966	A905	U842	C782	G722	G662	U602	U542	U	C421	G299	U
U1084	G1023	U967	C906	A843	C783	A723	A663	A603	C543	C481	A361	C300	U
G1085	U1085	C907	G968	A844	C784	A724	G664	A604	C544	A482	G362	A179	U
G1086	U1024	A969	G908	G845	C785	A725	U665	G605	G545	C483	C363	A240	U
U1087	G1025	U970	C909	G846	U786	A726	G666	U606	U546	A484	A241	A301	U
C1088	U1027	U970	U970	G846	U786	A726	G666	U606	U546	A484	A241	A301	U
U1090	A1028	G1029	U970	G846	U786	A726	G666	U606	U546	A484	A241	A301	U
U1091	A1029	G1030	U970	G846	U786	A726	G666	U606	U546	A484	A241	A301	U

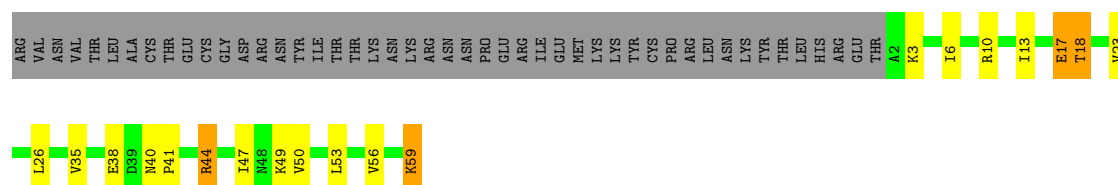


• Molecule 3: 5S rRNA

Chain 3: 25% 50% 25%

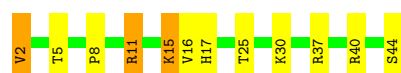


Chain 1:  37% 14% 45%



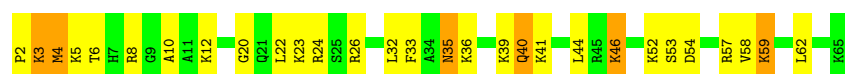
- Molecule 5: 50S ribosomal protein L34

Chain B:  72% 21% 7%



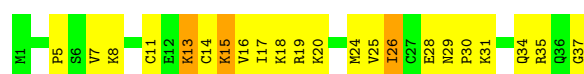
- Molecule 6: 50S ribosomal protein L35

Chain 2:  55% 36% 9%

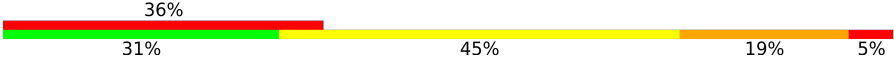


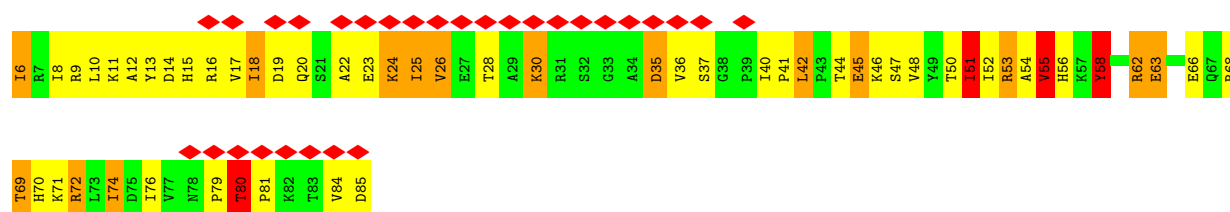
- Molecule 7: 50S ribosomal protein L36

Chain 4:  41% 51% 8%

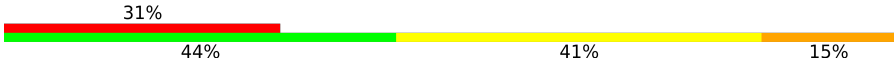


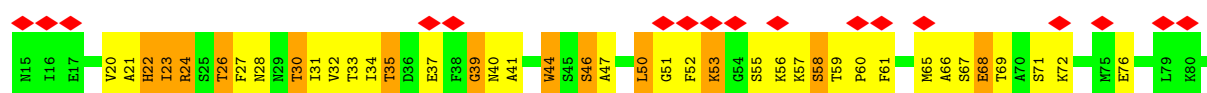
- Molecule 8: 30S ribosomal protein S10

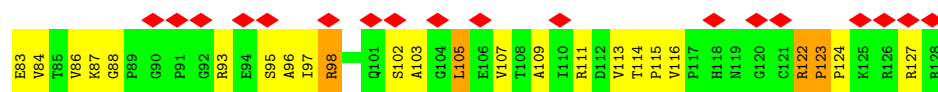
Chain a:  36% 31% 45% 19% 5%



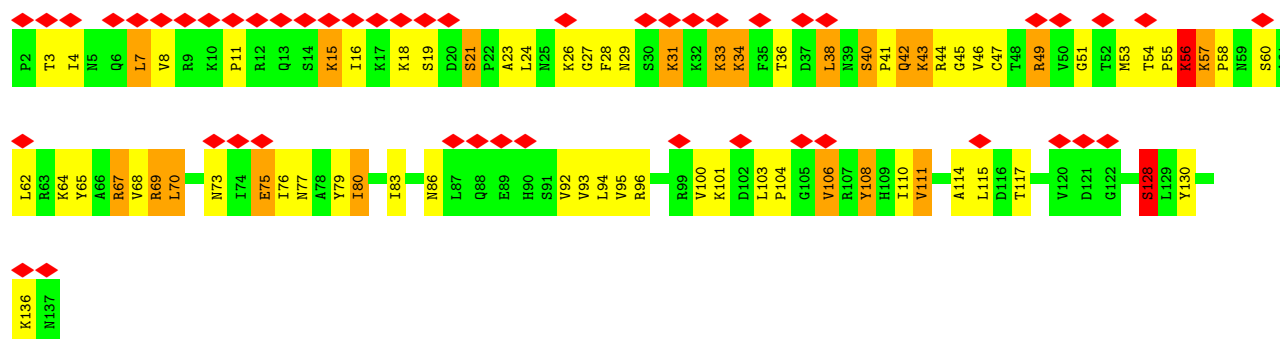
- Molecule 9: 30S ribosomal protein S11

Chain b:  31% 44% 41% 15%

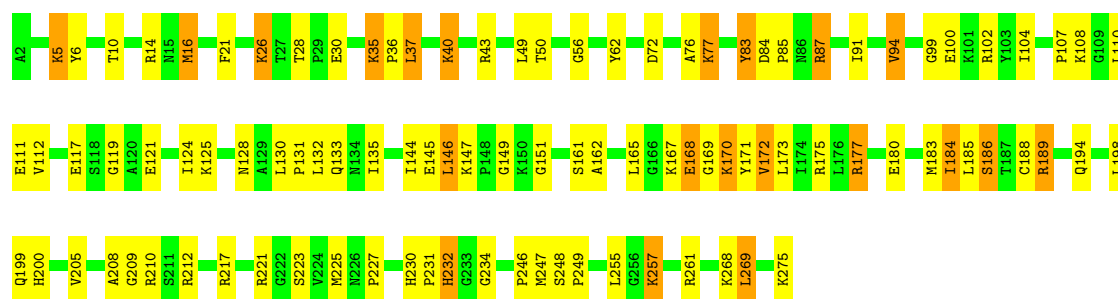




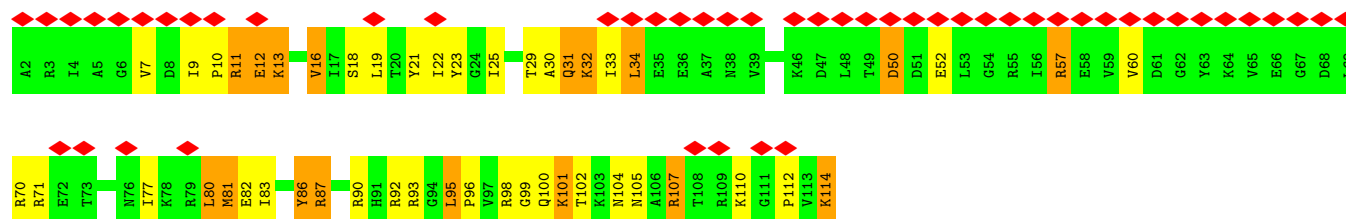
• Molecule 10: 30S ribosomal protein S12



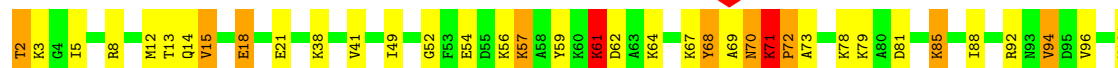
• Molecule 11: 50S ribosomal protein L2



• Molecule 12: 30S ribosomal protein S13

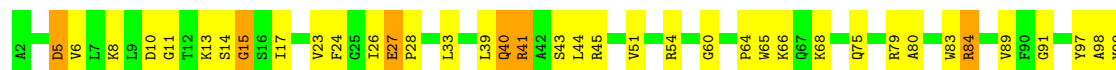


• Molecule 13: 50S ribosomal protein L3





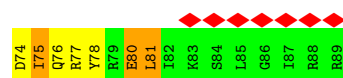
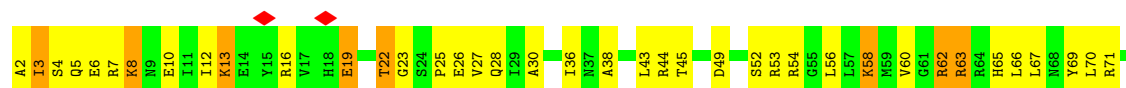
• Molecule 14: 50S ribosomal protein L4



• Molecule 15: 30S ribosomal protein S14 type Z



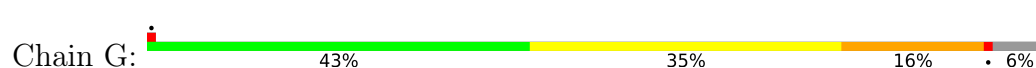
• Molecule 16: 30S ribosomal protein S15

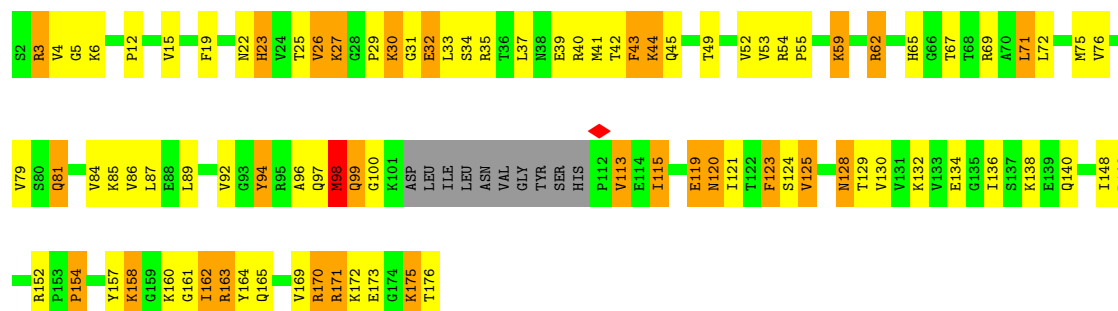


• Molecule 17: 30S ribosomal protein S16

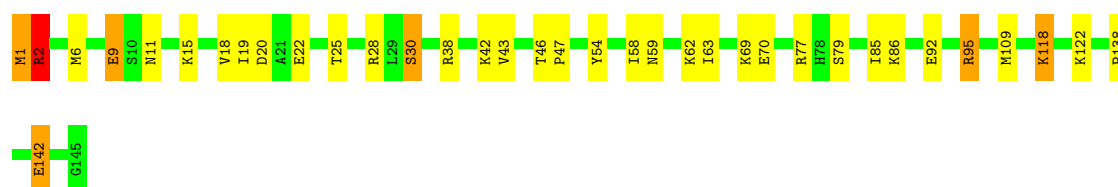
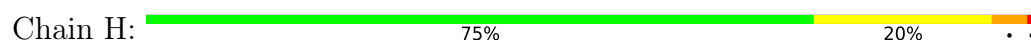


• Molecule 18: 50S ribosomal protein L6

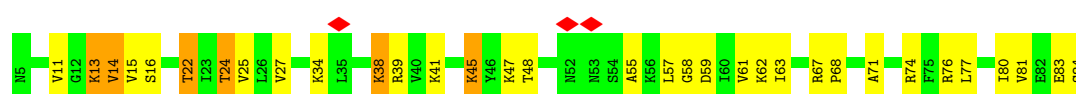




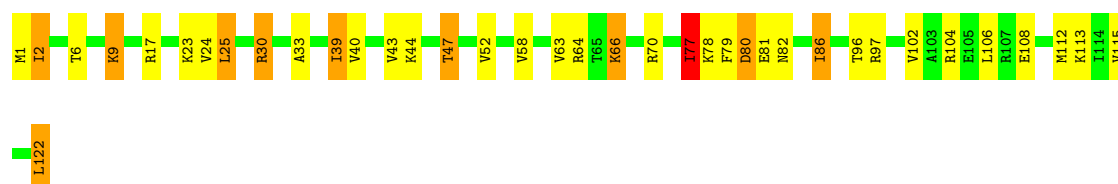
• Molecule 19: 50S ribosomal protein L13



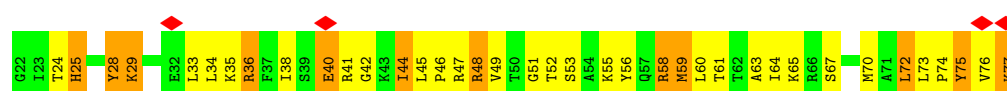
• Molecule 20: 30S ribosomal protein S17



• Molecule 21: 50S ribosomal protein L14



• Molecule 22: 30S ribosomal protein S18



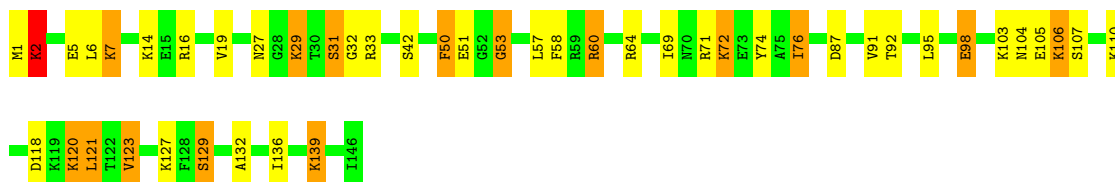
• Molecule 23: 30S ribosomal protein S20





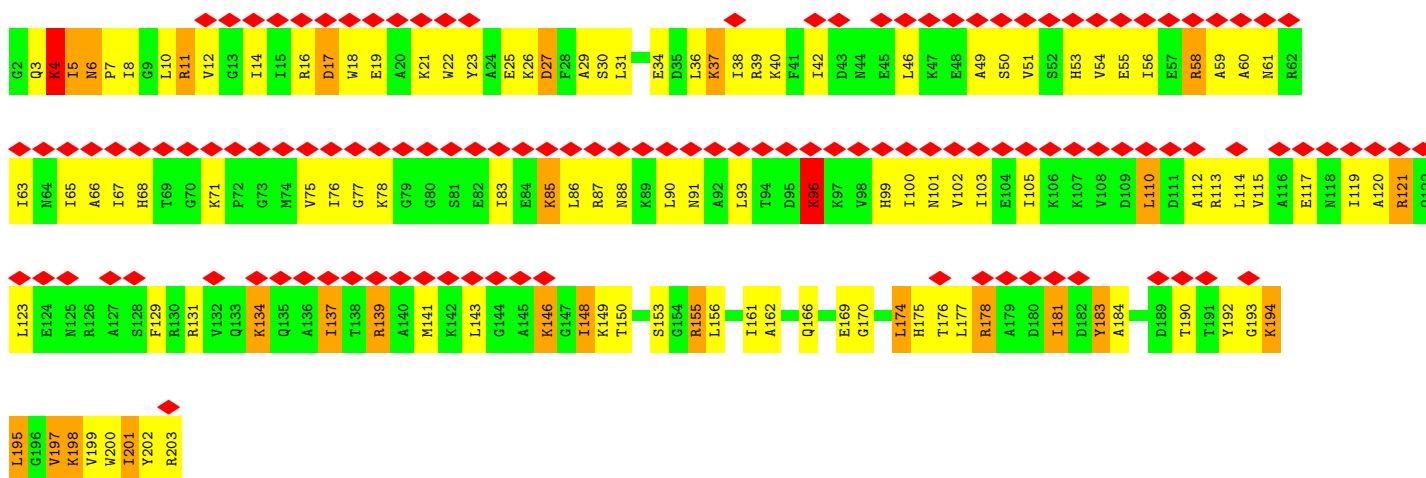
- Molecule 24: 50S ribosomal protein L15

Chain J: 68% 21% 10% .



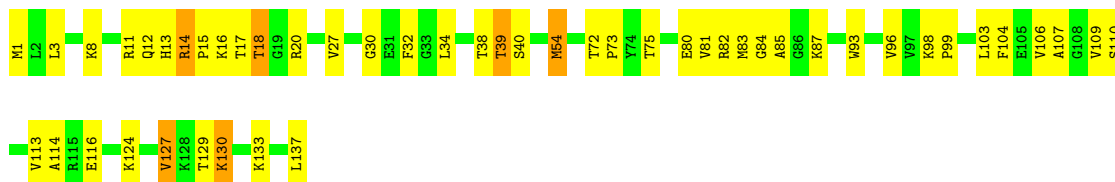
- Molecule 25: 30S ribosomal protein S3

Chain k: 43% 44% 12% .



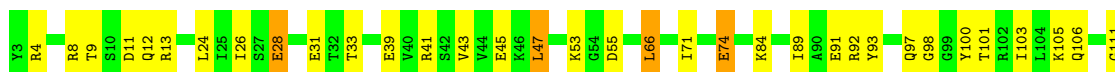
- Molecule 26: 50S ribosomal protein L16

Chain K: 64% 31% .



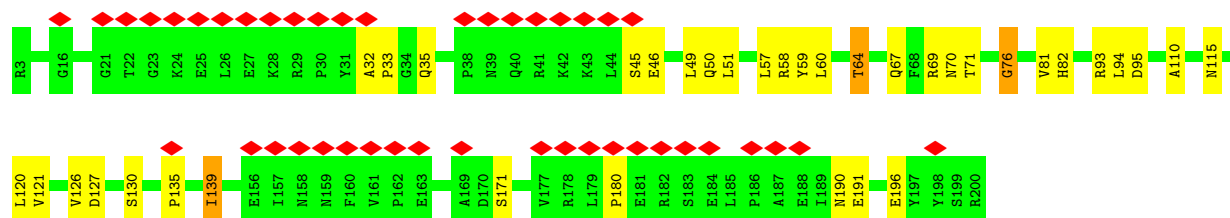
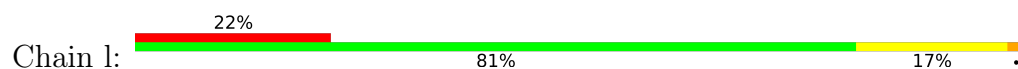
- Molecule 27: 50S ribosomal protein L17

Chain L: 69% 28% .

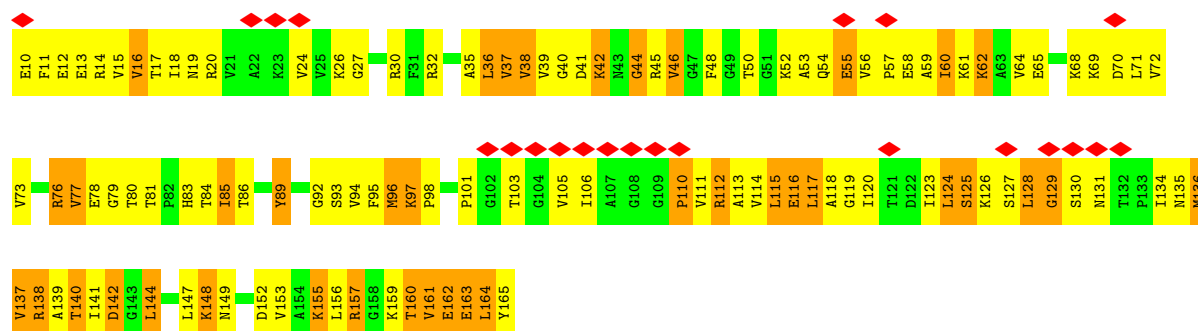




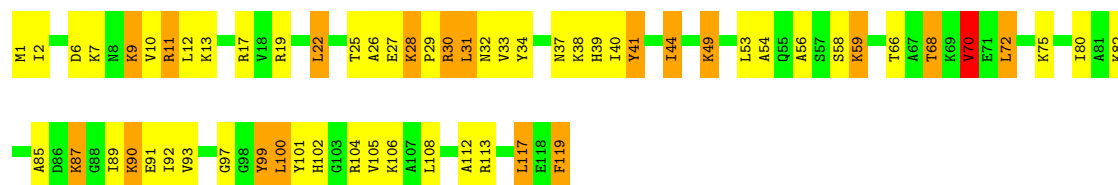
• Molecule 28: 30S ribosomal protein S4



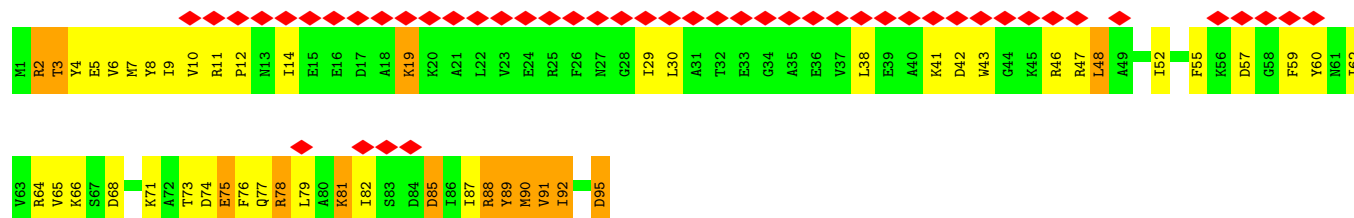
• Molecule 29: 30S ribosomal protein S5



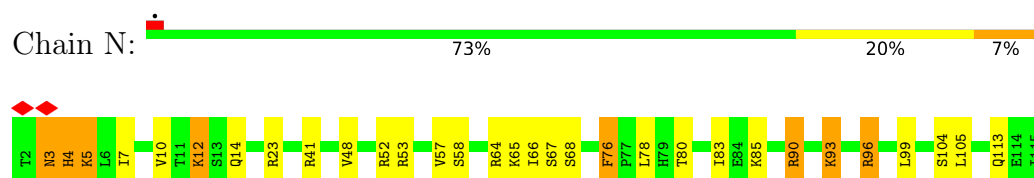
• Molecule 30: 50S ribosomal protein L18



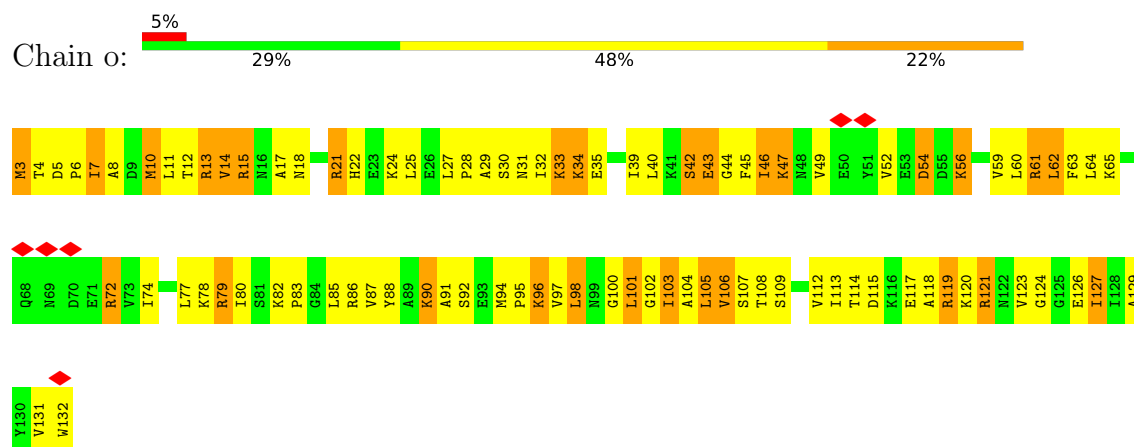
• Molecule 31: 30S ribosomal protein S6



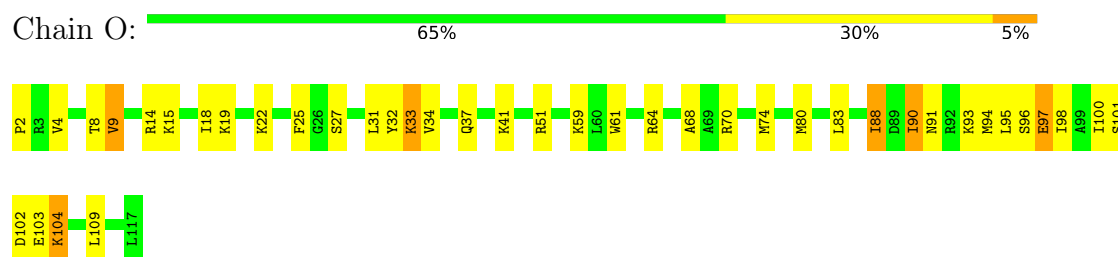
- Molecule 32: 50S ribosomal protein L19



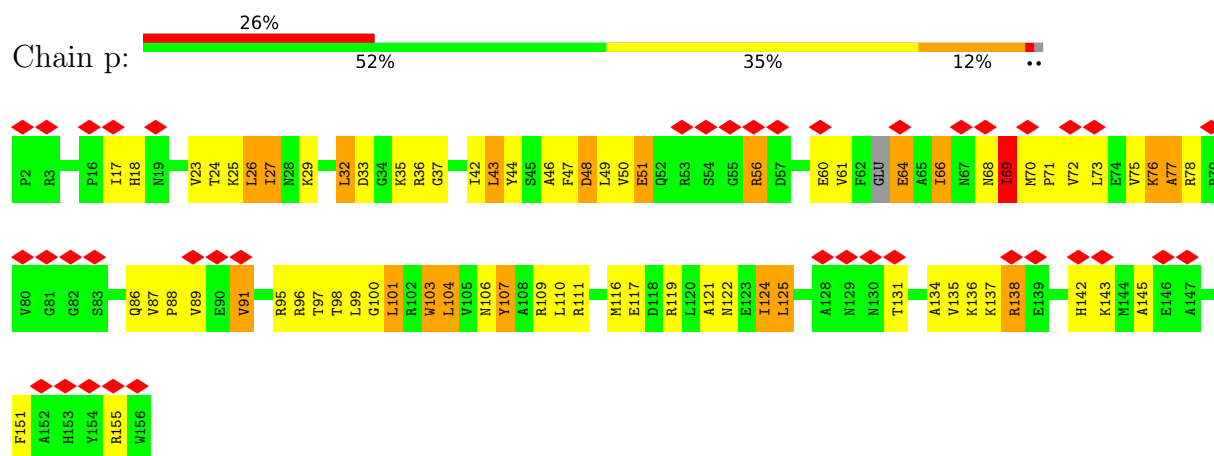
- Molecule 33: 30S ribosomal protein S8



- Molecule 34: 50S ribosomal protein L20

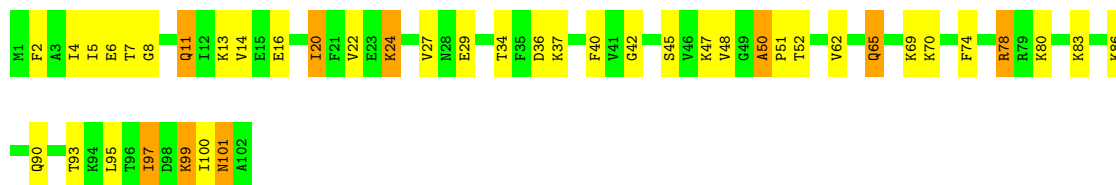


- Molecule 35: 30S ribosomal protein S7



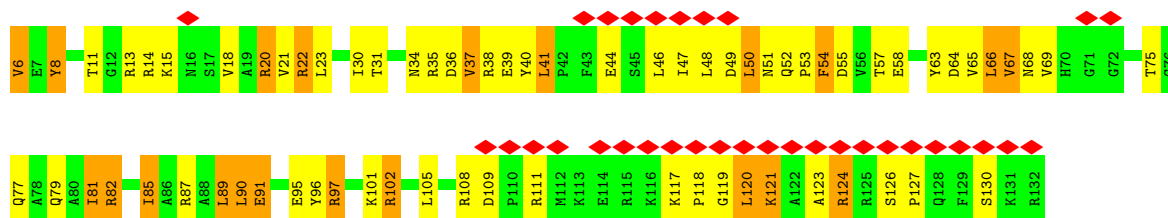
- Molecule 36: 50S ribosomal protein L21

Chain P: 



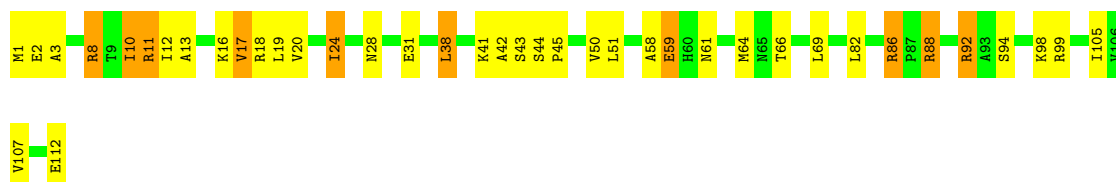
- Molecule 37: 30S ribosomal protein S9

Chain q: 



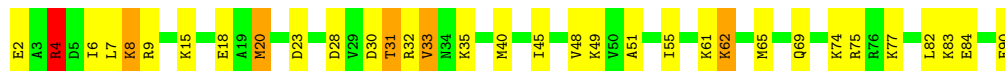
- Molecule 38: 50S ribosomal protein L22

Chain Q: 



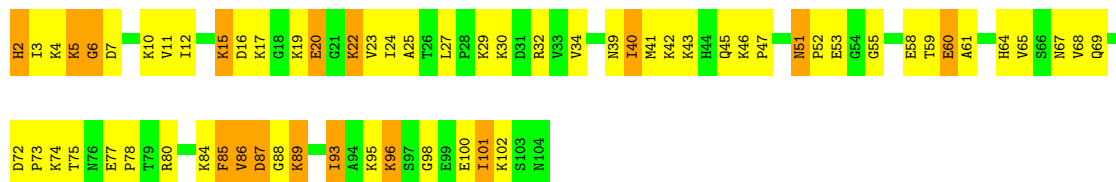
- Molecule 39: 50S ribosomal protein L23

Chain R: 



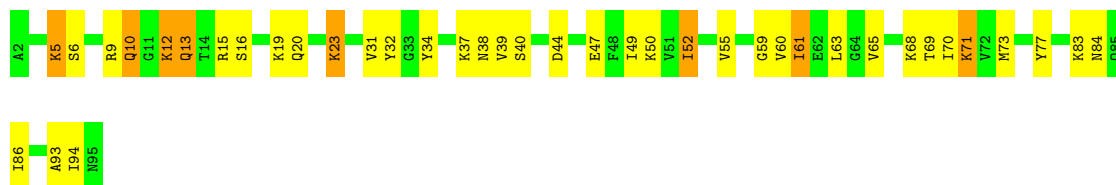
- Molecule 40: 50S ribosomal protein L24

Chain S: 



- Molecule 41: 50S ribosomal protein L25

Chain T:  57% 34% 9%



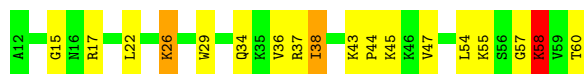
- Molecule 42: 50S ribosomal protein L27

Chain U:  70% 25% . .



- Molecule 43: 50S ribosomal protein L28

Chain V:  63% 31% . .



- Molecule 44: 50S ribosomal protein L29

Chain W:  55% 30% 15%



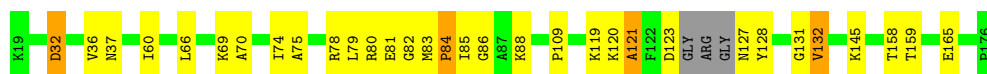
- Molecule 45: 50S ribosomal protein L32p

Chain Z:  62% 28% 11%



- Molecule 46: 50S ribosomal protein L5

Chain F:  78% 18% . .



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	192105	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	47	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.076	Depositor
Minimum map value	-0.028	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.0045	Depositor
Map size ($\text{\AA}$)	408.0, 408.0, 408.0	wwPDB
Map dimensions	480, 480, 480	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	0.85, 0.85, 0.85	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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	Y	0.36	0/65368	0.59	10/101922 (0.0%)
2	X	0.37	0/34716	0.66	25/54120 (0.0%)
3	3	0.37	0/2717	0.64	3/4232 (0.1%)
4	1	1.01	0/451	1.13	0/606
4	A	0.97	0/395	1.04	0/530
5	B	0.93	0/371	1.13	0/484
6	2	0.96	0/526	1.08	0/690
7	4	1.03	0/298	1.01	0/392
8	a	1.04	0/637	1.13	0/865
9	b	1.03	0/840	1.09	0/1137
10	c	1.05	0/991	1.07	0/1337
11	C	1.01	0/2129	1.08	1/2858 (0.0%)
12	d	1.01	0/835	1.14	0/1123
13	D	1.02	0/1651	1.05	0/2215
14	E	1.00	0/1595	1.10	1/2154 (0.0%)
15	e	0.96	0/507	1.08	0/674
16	f	0.98	0/721	1.18	0/964
17	g	1.06	0/541	1.12	0/733
18	G	1.04	0/1199	1.11	0/1621
19	H	0.98	0/1165	1.06	0/1570
20	h	1.12	0/527	1.03	0/721
21	I	1.02	0/925	1.07	0/1242
22	i	0.98	0/465	1.11	0/620
23	j	1.09	0/496	1.33	1/669 (0.1%)
24	J	1.00	0/1100	1.09	0/1467
25	k	1.01	0/1573	1.14	3/2121 (0.1%)
26	K	1.00	0/1095	1.06	0/1472
27	L	0.99	0/936	1.17	1/1253 (0.1%)
28	l	1.20	0/1062	1.27	0/1465
29	m	1.03	0/1167	1.13	1/1576 (0.1%)
30	M	1.02	0/891	1.11	0/1194
31	n	0.97	0/796	1.05	1/1069 (0.1%)
32	N	1.01	0/901	1.03	0/1209
33	o	1.02	0/1019	1.06	0/1371

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
34	O	0.93	0/954	1.14	0/1264
35	p	1.01	0/1170	1.22	1/1580 (0.1%)
36	P	1.02	0/800	0.98	0/1070
37	q	1.00	0/990	1.11	0/1332
38	Q	1.01	0/862	1.09	0/1161
39	R	0.98	0/723	1.06	0/966
40	S	1.04	0/779	1.07	1/1043 (0.1%)
41	T	1.03	0/730	1.05	0/981
42	U	1.01	0/603	1.02	0/802
43	V	1.00	0/384	1.02	0/515
44	W	0.97	0/542	1.24	1/722 (0.1%)
45	Z	0.97	0/361	1.10	0/482
46	F	1.27	0/763	1.50	4/1059 (0.4%)
All	All	0.61	0/140267	0.77	54/210653 (0.0%)

There are no bond length outliers.

All (54) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	Y	1897	U	C2'-C3'-O3'	9.09	123.13	109.50
2	X	99	U	C4'-C3'-O3'	8.88	122.72	109.40
2	X	353	C	C4'-C3'-O3'	8.64	122.37	109.40
1	Y	2591	A	C2'-C3'-O3'	8.34	126.20	113.70
3	3	26	C	C2'-C3'-O3'	8.34	126.20	113.70
2	X	1431	U	C2'-C3'-O3'	8.10	125.85	113.70
2	X	635	G	C2'-C3'-O3'	8.04	121.57	109.50
2	X	251	A	C4'-C3'-O3'	8.00	121.40	109.40
2	X	682	G	C2'-C3'-O3'	7.94	121.42	109.50
2	X	826	G	C2'-C3'-O3'	7.89	121.34	109.50
2	X	756	A	C2'-C3'-O3'	7.51	120.76	109.50
2	X	828	U	C2'-C3'-O3'	7.34	120.51	109.50
2	X	695	A	C2'-C3'-O3'	7.25	120.38	109.50
2	X	514	G	C2'-C3'-O3'	6.94	124.11	113.70
23	j	50	VAL	N-CA-C	-6.83	103.86	110.42
2	X	277	U	C2'-C3'-O3'	6.76	123.84	113.70
2	X	514	G	C3'-C2'-O2'	6.75	120.83	110.70
2	X	823	A	C2'-C3'-O3'	6.72	123.78	113.70
2	X	249	G	C2'-C3'-O3'	6.71	123.76	113.70
2	X	823	A	C3'-C2'-O2'	6.65	120.67	110.70
3	3	40	C	C4'-C3'-O3'	6.62	119.33	109.40
2	X	277	U	C3'-C2'-O2'	6.57	120.55	110.70
3	3	40	C	C2'-C3'-O3'	6.50	119.24	109.50

Continued on next page...

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	X	695	A	C4'-C3'-O3'	6.39	118.99	109.40
1	Y	690	U	C2'-C3'-O3'	6.29	118.93	109.50
1	Y	149	U	C4'-C3'-O3'	6.25	118.78	109.40
2	X	756	A	C4'-C3'-O3'	6.22	118.73	109.40
1	Y	2912	A	C4'-C3'-O3'	6.11	118.57	109.40
2	X	249	G	C3'-C2'-O2'	6.11	119.86	110.70
1	Y	1900	G	C3'-C2'-O2'	6.08	123.73	114.60
2	X	1311	G	C4'-C3'-O3'	6.06	118.49	109.40
2	X	1016	A	C2'-C3'-O3'	6.00	122.70	113.70
25	k	170	GLY	CA-C-O	-5.93	118.18	122.45
2	X	1163	A	C2'-C3'-O3'	5.91	118.36	109.50
1	Y	690	U	C4'-C3'-O3'	5.90	118.25	109.40
27	L	98	GLY	CA-C-O	-5.89	118.20	122.45
25	k	193	GLY	CA-C-O	-5.82	118.26	122.45
35	p	77	ALA	N-CA-C	5.80	119.34	107.69
25	k	77	GLY	CA-C-O	-5.79	118.23	122.23
11	C	119	GLY	CA-C-O	-5.66	118.24	122.37
46	F	60	ILE	N-CA-C	-5.49	106.34	111.45
1	Y	548	A	C2'-C3'-O3'	-5.44	101.33	109.50
1	Y	1900	G	C2'-C3'-O3'	5.42	117.64	109.50
1	Y	2591	A	C3'-C2'-O2'	5.32	118.68	110.70
14	E	15	GLY	CA-C-O	-5.31	118.32	122.52
46	F	165	GLU	N-CA-C	-5.24	105.65	111.36
44	W	6	ILE	N-CA-C	-5.13	108.50	113.53
31	n	68	ASP	N-CA-C	-5.13	108.29	114.75
46	F	159	THR	CA-C-N	5.08	128.31	121.05
46	F	159	THR	C-N-CA	5.08	128.31	121.05
2	X	1431	U	C3'-C2'-O2'	5.05	118.27	110.70
29	m	134	ILE	N-CA-C	-5.04	108.92	113.71
40	S	40	ILE	CA-C-O	-5.02	118.26	122.63
2	X	1268	A	C4'-C3'-O3'	5.02	116.93	109.40

There are no chirality outliers.

There are no planarity outliers.

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	Y	58376	0	29353	1341	0
2	X	31009	0	15621	1720	0
3	3	2430	0	1229	92	0
4	1	449	0	491	21	0
4	A	390	0	394	35	0
5	B	367	0	415	13	0
6	2	521	0	586	25	0
7	4	295	0	340	40	0
8	a	626	0	628	141	0
9	b	826	0	817	104	0
10	c	976	0	966	102	0
11	C	2094	0	2205	129	0
12	d	828	0	809	68	0
13	D	1627	0	1667	48	0
14	E	1572	0	1619	66	0
15	e	497	0	512	63	0
16	f	713	0	733	61	0
17	g	537	0	462	66	0
18	G	1184	0	1149	113	0
19	H	1143	0	1134	38	0
20	h	520	0	415	36	0
21	I	918	0	981	38	0
22	i	458	0	496	66	0
23	j	498	0	445	69	0
24	J	1086	0	1125	49	0
25	k	1551	0	1570	178	0
26	K	1071	0	1123	37	0
27	L	932	0	983	19	0
28	l	1058	0	568	34	0
29	m	1153	0	1210	189	0
30	M	882	0	900	62	0
31	n	785	0	781	79	0
32	N	889	0	937	33	0
33	o	1007	0	1050	174	0
34	O	942	0	1014	37	0
35	p	1155	0	1139	71	0
36	P	790	0	830	36	0
37	q	975	0	970	84	0
38	Q	854	0	914	42	0
39	R	715	0	748	21	0
40	S	770	0	809	58	0
41	T	722	0	766	32	0
42	U	597	0	604	23	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
43	V	379	0	400	14	0
44	W	541	0	563	41	0
45	Z	355	0	356	18	0
46	F	765	0	339	69	0
All	All	128828	0	83166	5018	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 24.

All (5018) 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)
33:o:42:SER:HB2	33:o:103:ILE:CD1	1.22	1.58
1:Y:1987:A:H1'	2:X:1429:A:N6	1.33	1.39
2:X:599:U:H5'	33:o:56:LYS:CD	1.54	1.34
8:a:24:LYS:HG2	25:k:59:ALA:CB	1.59	1.33
2:X:682:G:H5''	9:b:115:PRO:CG	1.58	1.32
9:b:123:PRO:HB2	9:b:124:PRO:CD	1.53	1.32
8:a:28:THR:CG2	25:k:60:ALA:HA	1.60	1.31
2:X:599:U:C5'	33:o:56:LYS:HD3	1.58	1.30
1:Y:2337:A:H5''	46:F:80:ARG:CB	1.63	1.28
2:X:1134:U:C4'	8:a:41:PRO:HG2	1.64	1.28
33:o:42:SER:CB	33:o:103:ILE:CD1	2.14	1.26
37:q:23:LEU:HD11	37:q:85:ILE:CG2	1.66	1.23
9:b:114:THR:OG1	9:b:115:PRO:HD2	1.33	1.23
2:X:316:C:H5''	17:g:13:LYS:NZ	1.55	1.22
37:q:23:LEU:HD11	37:q:85:ILE:CB	1.69	1.21
1:Y:2341:A:N6	46:F:128:TYR:H	1.37	1.20
2:X:743:C:H4'	22:i:28:TYR:OH	1.35	1.20
8:a:25:ILE:CD1	25:k:23:TYR:HD2	1.55	1.19
1:Y:722:A:C2	1:Y:846:G:O6	1.96	1.19
11:C:133:GLN:HA	11:C:167:LYS:NZ	1.57	1.18
9:b:123:PRO:CB	9:b:124:PRO:HD2	1.74	1.17
1:Y:2505:A:P	7:4:31:LYS:HE2	1.84	1.16
10:c:56:LYS:HE2	10:c:56:LYS:HA	1.21	1.15
1:Y:722:A:N1	1:Y:846:G:O6	1.80	1.15
11:C:275:LYS:HA	11:C:275:LYS:HE3	1.30	1.14
1:Y:722:A:C6	1:Y:846:G:O6	1.99	1.14
2:X:1134:U:H4'	8:a:41:PRO:HG2	1.18	1.14
2:X:316:C:C5'	17:g:13:LYS:NZ	2.11	1.13
13:D:71:LYS:HB3	13:D:72:PRO:HD3	1.28	1.13

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:666:G:H4'	31:n:2:ARG:HH22	1.03	1.13
2:X:666:G:C4'	31:n:2:ARG:HH22	1.62	1.13
11:C:171:TYR:HB2	11:C:183:MET:HB3	1.29	1.12
1:Y:2505:A:H5'	7:4:31:LYS:HE3	1.12	1.11
44:W:4:LYS:HE2	44:W:4:LYS:HA	1.30	1.11
8:a:10:LEU:HB2	8:a:72:ARG:HB2	1.19	1.11
41:T:12:LYS:HA	41:T:12:LYS:HE2	1.31	1.10
8:a:10:LEU:HD12	8:a:74:ILE:CD1	1.80	1.10
8:a:25:ILE:CG1	25:k:23:TYR:HB2	1.81	1.10
8:a:28:THR:HG23	25:k:60:ALA:HA	1.23	1.10
10:c:54:THR:OG1	10:c:55:PRO:HD3	1.50	1.10
1:Y:1987:A:C1'	2:X:1429:A:N6	2.13	1.10
33:o:42:SER:HB2	33:o:103:ILE:HD13	1.31	1.09
2:X:666:G:H5'	31:n:2:ARG:NH2	1.66	1.08
8:a:10:LEU:HB2	8:a:72:ARG:CB	1.83	1.08
8:a:25:ILE:HG12	25:k:23:TYR:HB2	1.30	1.08
10:c:57:LYS:HB3	10:c:58:PRO:HD3	1.32	1.08
15:e:33:VAL:HG11	15:e:42:ILE:HG22	1.30	1.08
37:q:117:LYS:HG3	37:q:118:PRO:HD2	1.28	1.08
11:C:168:GLU:OE1	11:C:183:MET:HE2	1.51	1.08
29:m:95:PHE:HB3	29:m:126:LYS:HG2	1.17	1.08
2:X:644:U:O4	33:o:90:LYS:HE3	1.52	1.08
38:Q:44:SER:OG	38:Q:45:PRO:HD3	1.50	1.08
2:X:666:G:C5'	31:n:2:ARG:NH2	2.17	1.07
33:o:82:LYS:HB2	33:o:83:PRO:HD2	1.34	1.07
2:X:410:G:OP2	28:l:67:GLN:HG2	1.54	1.07
37:q:23:LEU:HD11	37:q:85:ILE:HB	1.29	1.06
2:X:209:G:H5''	23:j:58:ASP:HA	1.34	1.06
2:X:1125:C:H4'	25:k:10:LEU:HG	1.06	1.06
11:C:171:TYR:CB	11:C:183:MET:HB3	1.84	1.06
2:X:682:G:H5''	9:b:115:PRO:HG2	1.07	1.06
29:m:157:ARG:HG2	33:o:80:ILE:CD1	1.85	1.06
37:q:23:LEU:CD1	37:q:85:ILE:HB	1.84	1.06
2:X:607:C:O2'	33:o:108:THR:HG22	1.56	1.05
8:a:46:LYS:HD3	8:a:68:ARG:HA	1.34	1.05
29:m:94:VAL:CG1	29:m:127:SER:HB2	1.85	1.05
29:m:94:VAL:HG12	29:m:127:SER:HB2	1.09	1.05
1:Y:2505:A:C5'	7:4:31:LYS:HE3	1.88	1.04
2:X:263:G:C4'	20:h:22:THR:HG21	1.88	1.04
2:X:1134:U:H1'	8:a:41:PRO:CB	1.86	1.04
9:b:123:PRO:HB2	9:b:124:PRO:HD2	1.08	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:1873:G:H2'	2:X:711:G:C5'	1.88	1.04
2:X:666:G:H5'	31:n:2:ARG:CZ	1.88	1.04
2:X:682:G:C5'	9:b:115:PRO:HG2	1.87	1.04
8:a:10:LEU:CD1	8:a:74:ILE:HD12	1.87	1.04
2:X:316:C:H5''	17:g:13:LYS:HZ1	0.90	1.03
2:X:1125:C:C4'	25:k:10:LEU:HG	1.87	1.03
45:Z:37:LYS:HD3	45:Z:43:CYS:CB	1.89	1.03
2:X:1128:U:OP1	8:a:45:GLU:HA	1.58	1.03
2:X:1134:U:H1'	8:a:41:PRO:HB2	1.37	1.03
9:b:123:PRO:CB	9:b:124:PRO:CD	2.34	1.03
2:X:748:U:H5'	31:n:71:LYS:NZ	1.72	1.02
2:X:462:A:H61	17:g:70:THR:CG2	1.73	1.02
37:q:21:VAL:HG12	37:q:81:ILE:CD1	1.88	1.02
13:D:71:LYS:HB3	13:D:72:PRO:CD	1.90	1.02
1:Y:2341:A:N6	46:F:128:TYR:N	2.08	1.01
2:X:1203:C:N3	29:m:26:LYS:HG2	1.75	1.01
8:a:28:THR:HG21	25:k:60:ALA:HA	1.42	1.01
10:c:54:THR:OG1	10:c:55:PRO:CD	2.08	1.01
37:q:23:LEU:HD11	37:q:85:ILE:HG22	1.42	1.01
1:Y:1873:G:C2'	2:X:711:G:H5'	1.89	1.00
8:a:9:ARG:HG2	15:e:26:ARG:HD2	1.40	1.00
2:X:1130:A:HO2'	37:q:6:VAL:N	1.59	1.00
2:X:316:C:H5'	17:g:13:LYS:HZ2	1.25	1.00
1:Y:2330:G:H2'	46:F:121:ALA:CB	1.91	1.00
15:e:38:LYS:NZ	25:k:29:ALA:HB3	1.75	1.00
2:X:1332:U:H5''	12:d:100:GLN:OE1	1.62	0.99
3:3:72:U:H1'	41:T:38:ASN:ND2	1.77	0.99
29:m:93:SER:O	29:m:127:SER:HA	1.61	0.99
8:a:24:LYS:HG2	25:k:59:ALA:HB1	0.99	0.99
20:h:38:LYS:HE2	20:h:38:LYS:HA	1.41	0.99
40:S:77:GLU:OE1	40:S:78:PRO:HD2	1.62	0.99
1:Y:1094:A:H8	1:Y:2778:G:H2'	1.23	0.99
1:Y:208:G:H5''	1:Y:208:G:H8	1.28	0.99
1:Y:371:U:H4'	40:S:64:HIS:CE1	1.97	0.99
35:p:75:VAL:HA	35:p:88:PRO:HA	1.44	0.99
8:a:25:ILE:HG12	25:k:23:TYR:CB	1.91	0.98
2:X:682:G:H3'	9:b:115:PRO:HG3	1.44	0.98
35:p:29:LYS:HE2	35:p:98:THR:HG22	1.44	0.98
2:X:666:G:C5'	31:n:2:ARG:HH22	1.74	0.98
1:Y:1477:U:H6	1:Y:1477:U:H5''	1.28	0.98
8:a:25:ILE:CD1	25:k:23:TYR:CD2	2.46	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:p:71:PRO:O	35:p:91:VAL:HG21	1.63	0.98
1:Y:1873:G:H2'	2:X:711:G:H5'	1.01	0.98
1:Y:1987:A:C1'	2:X:1429:A:H62	1.76	0.98
8:a:24:LYS:CG	25:k:59:ALA:HB1	1.93	0.98
29:m:157:ARG:HH22	29:m:164:LEU:HB2	1.29	0.98
29:m:14:ARG:HG2	29:m:112:ARG:HH12	1.26	0.97
2:X:666:G:H4'	31:n:2:ARG:NH2	1.79	0.97
30:M:72:LEU:H	30:M:72:LEU:HD12	1.28	0.97
2:X:1128:U:OP1	8:a:45:GLU:CA	2.13	0.97
13:D:71:LYS:CB	13:D:72:PRO:CD	2.43	0.97
33:o:42:SER:HB2	33:o:103:ILE:CG1	1.94	0.97
10:c:70:LEU:H	10:c:70:LEU:HD12	1.26	0.97
1:Y:2330:G:H2'	46:F:121:ALA:HB2	1.43	0.97
37:q:21:VAL:HG12	37:q:81:ILE:HD12	1.43	0.97
29:m:160:THR:HG23	33:o:104:ALA:HB2	1.44	0.96
7:4:29:ASN:OD1	7:4:30:PRO:HD2	1.64	0.96
22:i:67:SER:HA	22:i:72:LEU:HD21	1.45	0.96
1:Y:1871:U:OP1	11:C:257:LYS:HA	1.66	0.96
8:a:10:LEU:CB	8:a:72:ARG:HB2	1.94	0.96
2:X:671:A:C4'	22:i:65:LYS:HG3	1.96	0.96
26:K:39:THR:HG22	26:K:99:PRO:HD3	1.48	0.95
29:m:95:PHE:HB3	29:m:126:LYS:CG	1.94	0.95
36:P:50:ALA:HB3	36:P:51:PRO:CD	1.96	0.95
2:X:599:U:H5'	33:o:56:LYS:HD3	0.99	0.95
9:b:114:THR:OG1	9:b:115:PRO:CD	2.14	0.95
33:o:107:SER:HB2	33:o:127:ILE:HG13	1.48	0.95
1:Y:678:A:P	24:J:71:ARG:HH11	1.89	0.95
1:Y:809:A:H8	11:C:212:ARG:NH1	1.64	0.95
19:H:43:VAL:HG22	34:O:68:ALA:HB2	1.48	0.95
33:o:39:ILE:HD11	33:o:104:ALA:O	1.66	0.95
1:Y:678:A:P	24:J:71:ARG:NH1	2.39	0.95
2:X:577:C:C4	2:X:890:C:H5	1.84	0.95
2:X:666:G:C3'	31:n:2:ARG:HH12	1.80	0.95
2:X:1163:A:OP1	8:a:45:GLU:HB3	1.66	0.95
11:C:171:TYR:CE2	11:C:269:LEU:HD21	2.01	0.95
1:Y:1987:A:H1'	2:X:1429:A:H62	1.20	0.95
1:Y:2773:U:H5'	18:G:138:LYS:HZ2	1.29	0.95
33:o:78:LYS:HA	33:o:78:LYS:HE3	1.49	0.94
1:Y:581:A:OP1	19:H:1:MET:HE3	1.67	0.94
8:a:13:TYR:HB2	25:k:18:TRP:CZ3	2.03	0.94
33:o:42:SER:HB2	33:o:103:ILE:HD11	0.98	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:a:25:ILE:HD13	25:k:23:TYR:HD2	1.33	0.94
29:m:94:VAL:HG12	29:m:127:SER:CB	1.97	0.94
1:Y:827:A:N1	11:C:225:MET:HE2	1.83	0.93
1:Y:2328:A:C2	46:F:127:ASN:O	2.21	0.93
2:X:599:U:H5'	33:o:56:LYS:HD2	1.49	0.93
8:a:28:THR:HG23	25:k:60:ALA:CA	1.97	0.93
29:m:92:GLY:HA2	29:m:129:GLY:HA3	1.49	0.93
2:X:743:C:H4'	22:i:28:TYR:HH	1.22	0.93
2:X:1125:C:H4'	25:k:10:LEU:CG	1.98	0.93
9:b:87:LYS:HG3	9:b:114:THR:HA	1.49	0.93
1:Y:2773:U:H5'	18:G:138:LYS:NZ	1.83	0.93
1:Y:152:C:H6	1:Y:152:C:H5''	1.34	0.93
1:Y:809:A:H8	11:C:212:ARG:HH11	0.95	0.93
2:X:665:U:H2'	31:n:2:ARG:NH2	1.84	0.93
1:Y:2505:A:OP2	7:4:31:LYS:HE2	1.69	0.93
29:m:159:LYS:HA	33:o:40:LEU:HD21	1.51	0.92
1:Y:2505:A:P	7:4:31:LYS:CE	2.57	0.92
8:a:28:THR:CG2	25:k:60:ALA:CA	2.46	0.92
1:Y:722:A:N1	1:Y:846:G:C6	2.38	0.92
2:X:743:C:C4'	22:i:28:TYR:OH	2.17	0.92
1:Y:2887:G:C4	32:N:23:ARG:NH1	2.37	0.92
11:C:171:TYR:CZ	11:C:269:LEU:HD11	2.04	0.92
2:X:670:A:O3'	22:i:65:LYS:HE3	1.70	0.92
8:a:10:LEU:HD12	8:a:74:ILE:HD12	0.93	0.92
1:Y:1094:A:C8	1:Y:2778:G:H2'	2.04	0.91
8:a:25:ILE:HD11	25:k:23:TYR:HD2	1.34	0.91
1:Y:2583:C:H6	1:Y:2583:C:H5''	1.34	0.91
2:X:1124:C:O2'	25:k:177:LEU:HD13	1.69	0.91
16:f:63:ARG:HH21	16:f:63:ARG:HG2	1.35	0.91
9:b:98:ARG:HG2	9:b:98:ARG:HH11	1.34	0.91
2:X:5:A:H61	29:m:83:HIS:HD2	1.17	0.91
33:o:42:SER:CB	33:o:103:ILE:HD11	1.88	0.91
9:b:33:THR:HG21	9:b:44:TRP:CZ3	2.05	0.91
37:q:117:LYS:CG	37:q:118:PRO:HD2	1.99	0.91
2:X:744:U:H4'	22:i:25:HIS:HE1	1.32	0.91
1:Y:2215:U:H5''	1:Y:2215:U:H6	1.34	0.91
32:N:90:ARG:HH21	32:N:90:ARG:HG3	1.33	0.91
1:Y:827:A:N1	11:C:225:MET:CE	2.34	0.90
18:G:40:ARG:HG2	18:G:40:ARG:HH11	1.34	0.90
15:e:33:VAL:CG1	15:e:42:ILE:HG22	1.99	0.90
1:Y:1506:C:H6	1:Y:1506:C:H5''	1.35	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:46:ARG:HG2	4:A:46:ARG:HH11	1.36	0.90
27:L:4:ARG:HH11	27:L:4:ARG:HG3	1.34	0.90
10:c:57:LYS:HB3	10:c:58:PRO:CD	2.00	0.90
2:X:316:C:C5'	17:g:13:LYS:HZ1	1.75	0.90
4:A:38:ARG:CZ	4:A:38:ARG:HB3	2.01	0.90
11:C:133:GLN:HA	11:C:167:LYS:HZ2	1.18	0.90
33:o:103:ILE:HG23	33:o:114:THR:HA	1.54	0.89
1:Y:1078:G:H5'	7:4:18:LYS:HE3	1.54	0.89
33:o:15:ARG:HB3	33:o:15:ARG:CZ	2.02	0.89
3:3:72:U:H1'	41:T:38:ASN:HD21	1.37	0.89
11:C:177:ARG:HH11	11:C:177:ARG:HG3	1.37	0.89
9:b:33:THR:HG21	9:b:44:TRP:HZ3	1.37	0.89
14:E:84:ARG:HG2	14:E:84:ARG:HH11	1.38	0.89
22:i:44:ILE:H	22:i:44:ILE:HD12	1.36	0.89
29:m:157:ARG:HG2	33:o:80:ILE:HD13	1.54	0.89
1:Y:1029:C:H6	1:Y:1029:C:H5'	1.38	0.89
1:Y:1817:C:O2'	11:C:208:ALA:HB2	1.73	0.89
12:d:95:LEU:H	12:d:96:PRO:CD	1.86	0.89
1:Y:1491:C:H6	1:Y:1491:C:H5''	1.39	0.88
2:X:746:U:H5''	31:n:78:ARG:CZ	2.03	0.88
2:X:66:A:H1'	2:X:213:G:H4'	1.55	0.88
2:X:410:G:OP2	28:l:67:GLN:CG	2.21	0.88
2:X:691:G:H1	2:X:714:A:H5'	1.37	0.88
29:m:94:VAL:HA	29:m:126:LYS:O	1.73	0.88
2:X:5:A:N6	29:m:83:HIS:HD2	1.72	0.88
2:X:481:C:H4'	17:g:75:LEU:HD23	1.56	0.88
44:W:19:LYS:HB3	44:W:19:LYS:NZ	1.87	0.88
1:Y:1229:G:OP1	24:J:32:GLY:HA2	1.73	0.88
2:X:1119:C:H5''	25:k:174:LEU:HD11	1.56	0.88
4:A:8:ALA:HB2	4:A:48:THR:HG22	1.56	0.88
25:k:112:ALA:HB3	25:k:184:ALA:HB3	1.56	0.88
2:X:332:G:H5''	23:j:17:ALA:HB1	1.56	0.88
9:b:123:PRO:HB2	9:b:124:PRO:HD3	1.54	0.88
15:e:29:ARG:HB2	15:e:42:ILE:HG21	1.56	0.88
2:X:462:A:N6	17:g:70:THR:CG2	2.37	0.88
29:m:136:MET:HE2	29:m:136:MET:O	1.74	0.87
2:X:985:A:H61	8:a:54:ALA:HA	1.39	0.87
25:k:86:LEU:HD13	25:k:100:ILE:HD11	1.56	0.87
18:G:59:LYS:HE2	18:G:59:LYS:HA	1.56	0.87
1:Y:2232:A:H5''	11:C:149:GLY:O	1.73	0.87
2:X:1332:U:C5'	12:d:100:GLN:OE1	2.21	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:P:50:ALA:HB3	36:P:51:PRO:HD2	1.54	0.87
2:X:335:A:H61	23:j:16:LYS:HD3	1.39	0.87
14:E:27:GLU:OE1	14:E:28:PRO:HD2	1.75	0.87
35:p:44:TYR:HA	35:p:47:PHE:HB2	1.57	0.87
1:Y:1369:G:OP1	1:Y:1369:G:N2	2.08	0.87
2:X:1134:U:H4'	8:a:41:PRO:CG	2.03	0.87
9:b:97:ILE:HG23	9:b:107:VAL:HG21	1.55	0.87
1:Y:1094:A:H1'	1:Y:2778:G:OP1	1.74	0.87
34:O:104:LYS:NZ	34:O:104:LYS:HB2	1.89	0.87
2:X:1070:G:OP1	25:k:153:SER:HB2	1.75	0.87
30:M:37:ASN:O	30:M:37:ASN:ND2	2.08	0.87
9:b:122:ARG:NE	9:b:122:ARG:O	2.08	0.86
2:X:209:G:C5'	23:j:58:ASP:HA	2.05	0.86
2:X:1332:U:H3'	2:X:1332:U:OP2	1.76	0.86
18:G:128:ASN:O	18:G:128:ASN:ND2	2.08	0.86
23:j:15:GLU:HA	23:j:18:GLU:HG2	1.55	0.86
40:S:72:ASP:OD1	40:S:73:PRO:HD2	1.75	0.86
12:d:96:PRO:HA	12:d:107:ARG:HD3	1.57	0.86
44:W:29:ARG:HG3	44:W:29:ARG:HH11	1.37	0.86
8:a:12:ALA:HB3	8:a:18:ILE:HG12	1.55	0.86
24:J:91:VAL:HA	24:J:95:LEU:HD23	1.57	0.86
33:o:85:LEU:HD23	33:o:85:LEU:H	1.37	0.86
4:l:59:LYS:HB2	4:l:59:LYS:NZ	1.89	0.86
28:l:46:GLU:HA	29:m:124:LEU:HB3	1.56	0.86
2:X:1150:G:OP1	2:X:1150:G:N2	2.08	0.86
2:X:1189:G:OP2	2:X:1189:G:N2	2.08	0.86
8:a:12:ALA:HB1	8:a:17:VAL:HG12	1.58	0.86
15:e:38:LYS:HZ3	25:k:29:ALA:HB3	1.37	0.86
2:X:744:U:H4'	22:i:25:HIS:CE1	2.11	0.86
9:b:122:ARG:CZ	9:b:122:ARG:H	1.89	0.86
33:o:42:SER:CB	33:o:103:ILE:HD13	1.89	0.86
2:X:37:C:N3	2:X:39:G:N2	2.24	0.85
11:C:168:GLU:OE1	11:C:183:MET:CE	2.22	0.85
1:Y:850:G:OP2	1:Y:850:G:N2	2.08	0.85
2:X:316:C:C5'	17:g:13:LYS:HZ2	1.82	0.85
2:X:529:G:H5'	10:c:83:ILE:CD1	2.06	0.85
29:m:94:VAL:CA	29:m:126:LYS:O	2.24	0.85
2:X:462:A:H61	17:g:70:THR:HG22	1.40	0.85
33:o:52:VAL:HG21	33:o:131:VAL:HG22	1.56	0.85
45:Z:30:CYS:SG	45:Z:31:PRO:HD2	2.15	0.85
29:m:36:LEU:HD13	29:m:50:THR:HG22	1.59	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:m:136:MET:HE2	29:m:136:MET:C	2.01	0.85
33:o:29:ALA:HB1	33:o:131:VAL:HG21	1.57	0.85
1:Y:827:A:C2	11:C:225:MET:HG2	2.11	0.85
1:Y:1491:C:H5''	1:Y:1491:C:C6	2.10	0.85
21:I:97:ARG:HG2	21:I:97:ARG:HH11	1.41	0.85
2:X:144:C:H42	23:j:58:ASP:CB	1.90	0.85
2:X:529:G:H5'	10:c:83:ILE:HD11	1.58	0.85
29:m:76:ARG:HG2	29:m:120:ILE:HD13	1.58	0.84
4:1:10:ARG:HH21	4:1:10:ARG:HG2	1.42	0.84
1:Y:827:A:C2	11:C:225:MET:HE2	2.12	0.84
2:X:462:A:H61	17:g:70:THR:HG21	1.42	0.84
9:b:123:PRO:CG	9:b:124:PRO:HD2	2.08	0.84
20:h:24:THR:HA	20:h:47:LYS:HA	1.59	0.84
31:n:43:TRP:HB2	31:n:60:TYR:HB2	1.58	0.84
1:Y:2306:G:N7	42:U:22:ARG:NH1	2.25	0.84
10:c:57:LYS:CB	10:c:58:PRO:CD	2.56	0.84
33:o:5:ASP:HB3	33:o:8:ALA:HB2	1.57	0.84
1:Y:722:A:C5	1:Y:846:G:O6	2.29	0.84
1:Y:1066:G:O6	19:H:69:LYS:HE2	1.77	0.84
2:X:1090:U:H4'	29:m:138:ARG:HH12	1.40	0.84
29:m:95:PHE:HD2	29:m:126:LYS:HD2	1.43	0.84
2:X:462:A:N6	17:g:70:THR:HG21	1.92	0.84
2:X:1190:A:O4'	37:q:6:VAL:HG11	1.77	0.84
33:o:117:GLU:HA	33:o:120:LYS:HD3	1.58	0.84
10:c:47:CYS:HA	10:c:68:VAL:HG22	1.59	0.84
2:X:253:U:OP1	2:X:253:U:H4'	1.77	0.84
2:X:263:G:H4'	20:h:22:THR:HG21	1.56	0.84
8:a:24:LYS:CG	25:k:59:ALA:CB	2.53	0.84
29:m:45:ARG:HB3	29:m:71:LEU:HB2	1.59	0.84
1:Y:1843:U:C5	11:C:62:TYR:CE2	2.65	0.84
1:Y:1874:A:O3'	2:X:711:G:N2	2.10	0.84
2:X:1202:A:H5'	2:X:1202:A:H8	1.43	0.84
11:C:261:ARG:HB3	11:C:261:ARG:NH1	1.92	0.84
40:S:51:ASN:CB	40:S:52:PRO:CD	2.56	0.83
6:2:46:LYS:NZ	6:2:46:LYS:HB3	1.94	0.83
1:Y:1691:G:H2'	1:Y:1691:G:N3	1.94	0.83
2:X:956:A:H2'	2:X:956:A:OP2	1.79	0.83
2:X:1511:A:H3'	2:X:1511:A:P	2.18	0.83
9:b:47:ALA:HB1	9:b:57:LYS:HE3	1.60	0.83
9:b:123:PRO:HD3	11:C:167:LYS:HD2	1.60	0.83
2:X:673:A:H2'	2:X:673:A:N3	1.93	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:459:A:H3'	2:X:459:A:OP2	1.78	0.83
11:C:171:TYR:CE2	11:C:269:LEU:CD2	2.61	0.83
1:Y:837:G:H5''	1:Y:838:A:H5'	1.60	0.83
2:X:334:G:H5''	2:X:334:G:H8	1.42	0.83
14:E:108:LEU:HD12	14:E:108:LEU:O	1.79	0.83
14:E:41:ARG:HG2	14:E:41:ARG:HH11	1.44	0.83
19:H:95:ARG:HB3	19:H:95:ARG:NH1	1.93	0.83
29:m:53:ALA:HB3	29:m:59:ALA:HB2	1.60	0.83
2:X:630:A:N3	17:g:14:ARG:NH2	2.27	0.82
8:a:13:TYR:HB3	8:a:17:VAL:HG21	1.59	0.82
8:a:46:LYS:HD3	8:a:68:ARG:CA	2.09	0.82
17:g:71:VAL:HB	17:g:74:ILE:HB	1.60	0.82
2:X:1203:C:C2	29:m:26:LYS:HG2	2.14	0.82
5:B:11:ARG:HH11	5:B:11:ARG:HG3	1.43	0.82
1:Y:2340:C:H1'	46:F:123:ASP:O	1.79	0.82
2:X:665:U:C2'	31:n:2:ARG:NH2	2.42	0.82
4:A:38:ARG:HB3	4:A:38:ARG:NH1	1.94	0.82
12:d:11:ARG:HG2	12:d:11:ARG:HH21	1.41	0.82
10:c:57:LYS:CB	10:c:58:PRO:HD3	2.08	0.82
18:G:3:ARG:HG2	18:G:3:ARG:HH11	1.41	0.82
30:M:108:LEU:O	30:M:108:LEU:HD23	1.79	0.82
1:Y:591:A:H4'	1:Y:592:A:H5'	1.60	0.82
9:b:35:THR:HG22	9:b:41:ALA:HA	1.62	0.82
18:G:41:MET:HE2	18:G:65:HIS:HB2	1.62	0.82
1:Y:1205:U:O3'	36:P:8:GLY:HA2	1.80	0.81
29:m:156:LEU:HD12	33:o:78:LYS:HG2	1.60	0.81
29:m:156:LEU:HD12	33:o:78:LYS:CG	2.10	0.81
1:Y:2046:U:OP2	45:Z:6:ARG:NH1	2.14	0.81
2:X:1384:G:H2'	2:X:1384:G:N3	1.93	0.81
1:Y:2338:A:H3'	46:F:132:VAL:CB	2.09	0.81
2:X:543:A:OP1	2:X:543:A:H2'	1.80	0.81
2:X:1410:C:H4'	2:X:1411:C:H2'	1.62	0.81
2:X:1511:A:H3'	2:X:1511:A:OP2	1.80	0.81
2:X:1203:C:C4	29:m:26:LYS:HE2	2.16	0.81
2:X:671:A:O5'	22:i:65:LYS:HG3	1.80	0.81
20:h:38:LYS:HE2	20:h:38:LYS:CA	2.09	0.81
44:W:4:LYS:HA	44:W:4:LYS:CE	2.08	0.81
16:f:8:LYS:HD2	16:f:8:LYS:C	2.06	0.81
1:Y:303:G:H8	1:Y:303:G:H5''	1.43	0.81
2:X:182:A:H2'	2:X:182:A:N3	1.94	0.81
29:m:149:ASN:HB2	29:m:152:ASP:HB2	1.60	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:2467:C:H2'	1:Y:2468:C:H4'	1.62	0.81
3:3:5:G:H4'	30:M:34:TYR:CD2	2.15	0.81
2:X:114:G:OP1	2:X:114:G:H4'	1.80	0.81
2:X:335:A:OP2	23:j:12:LYS:HB3	1.80	0.81
2:X:1369:U:H5'	15:e:19:ARG:NH1	1.96	0.81
10:c:70:LEU:HD23	10:c:95:VAL:HG11	1.62	0.81
1:Y:2348:G:H2'	1:Y:2348:G:N3	1.94	0.81
12:d:9:ILE:HB	12:d:10:PRO:CD	2.11	0.80
37:q:23:LEU:CD1	37:q:85:ILE:CB	2.49	0.80
1:Y:1497:A:H4'	1:Y:1498:U:H5''	1.61	0.80
1:Y:2774:G:P	18:G:138:LYS:NZ	2.54	0.80
1:Y:2332:U:C5	46:F:79:LEU:CB	2.65	0.80
1:Y:2338:A:H5''	46:F:79:LEU:O	1.82	0.80
33:o:25:LEU:HD13	33:o:62:LEU:HB3	1.64	0.80
25:k:63:ILE:HD13	25:k:96:LYS:HE3	1.64	0.80
36:P:80:LYS:HD3	36:P:80:LYS:N	1.96	0.80
36:P:99:LYS:NZ	36:P:99:LYS:HB3	1.95	0.80
37:q:51:ASN:HB2	37:q:54:PHE:HB2	1.63	0.80
1:Y:2330:G:H5''	46:F:120:LYS:O	1.79	0.80
10:c:38:LEU:H	10:c:38:LEU:HD12	1.47	0.80
29:m:94:VAL:CB	29:m:126:LYS:O	2.29	0.80
1:Y:403:U:H2'	1:Y:404:U:H4'	1.61	0.80
1:Y:2776:A:OP2	18:G:6:LYS:HA	1.82	0.80
2:X:245:C:C5'	2:X:245:C:H6	1.95	0.80
2:X:748:U:H5'	31:n:71:LYS:HZ3	1.46	0.80
2:X:1368:A:H2'	2:X:1368:A:N3	1.94	0.80
4:A:41:LYS:NZ	4:A:41:LYS:HB3	1.96	0.80
33:o:82:LYS:HB2	33:o:83:PRO:CD	2.12	0.80
41:T:12:LYS:HA	41:T:12:LYS:CE	2.02	0.80
19:H:1:MET:N	19:H:1:MET:SD	2.49	0.80
1:Y:2348:G:H3'	1:Y:2348:G:OP2	1.82	0.80
2:X:245:C:H6	2:X:245:C:H5''	1.46	0.80
18:G:171:ARG:NH1	18:G:171:ARG:O	2.14	0.80
20:h:58:GLY:HA3	20:h:84:SER:HB3	1.63	0.80
32:N:12:LYS:HB2	32:N:12:LYS:NZ	1.96	0.80
41:T:55:VAL:HB	41:T:59:GLY:HA3	1.62	0.80
10:c:56:LYS:HA	10:c:56:LYS:CE	2.03	0.80
2:X:670:A:O2'	22:i:65:LYS:HD2	1.82	0.80
1:Y:2557:U:H3'	18:G:172:LYS:HB3	1.65	0.79
25:k:46:LEU:HD11	25:k:67:ILE:HD11	1.65	0.79
1:Y:371:U:H4'	40:S:64:HIS:ND1	1.97	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:1876:G:C2	2:X:710:A:C6	2.70	0.79
5:B:37:ARG:HG3	5:B:37:ARG:HH21	1.47	0.79
35:p:50:VAL:HG22	35:p:121:ALA:HB2	1.63	0.79
2:X:1203:C:N4	29:m:26:LYS:HE2	1.97	0.79
25:k:55:GLU:HB3	25:k:66:ALA:HB3	1.64	0.79
2:X:682:G:C5'	9:b:115:PRO:CG	2.51	0.79
11:C:161:SER:HB3	11:C:194:GLN:HG3	1.64	0.79
26:K:12:GLN:HG3	26:K:72:THR:HG23	1.64	0.79
1:Y:678:A:OP2	24:J:71:ARG:NH1	2.14	0.79
1:Y:1077:U:H3'	7:4:18:LYS:HZ3	1.46	0.79
2:X:991:U:H3'	2:X:991:U:H6	1.48	0.79
2:X:1507:U:H3'	2:X:1507:U:OP2	1.83	0.79
18:G:59:LYS:HA	18:G:59:LYS:CE	2.12	0.79
19:H:118:LYS:HB2	19:H:118:LYS:NZ	1.95	0.79
2:X:711:G:N3	2:X:711:G:H2'	1.98	0.79
1:Y:1637:A:H2'	1:Y:1637:A:OP2	1.82	0.79
2:X:743:C:O2	22:i:25:HIS:HB3	1.83	0.79
25:k:139:ARG:HG2	25:k:139:ARG:HH21	1.46	0.79
44:W:4:LYS:O	44:W:4:LYS:HD3	1.83	0.79
1:Y:678:A:OP1	24:J:71:ARG:NH1	2.12	0.79
1:Y:2773:U:C3'	18:G:138:LYS:HZ1	1.96	0.79
2:X:666:G:H3'	31:n:2:ARG:HH12	1.44	0.79
2:X:671:A:H4'	22:i:65:LYS:HG3	1.62	0.78
8:a:24:LYS:HG2	25:k:59:ALA:HB3	1.62	0.78
1:Y:1901:C:H2'	1:Y:1901:C:OP2	1.82	0.78
9:b:123:PRO:HG3	11:C:186:SER:HB3	1.65	0.78
46:F:36:VAL:HA	46:F:70:ALA:O	1.83	0.78
2:X:284:G:H5''	2:X:284:G:H8	1.47	0.78
33:o:7:ILE:HA	33:o:10:MET:HG2	1.66	0.78
2:X:993:A:H3'	2:X:993:A:N3	1.98	0.78
31:n:78:ARG:HA	31:n:78:ARG:HH21	1.48	0.78
2:X:1124:C:O3'	25:k:177:LEU:HD22	1.83	0.78
8:a:80:THR:CB	8:a:81:PRO:HD2	2.13	0.78
29:m:10:GLU:N	29:m:10:GLU:OE2	2.16	0.78
36:P:50:ALA:CB	36:P:51:PRO:CD	2.60	0.78
40:S:51:ASN:CB	40:S:52:PRO:HD3	2.14	0.78
1:Y:2780:A:C2	7:4:15:LYS:NZ	2.52	0.78
8:a:13:TYR:HB2	25:k:18:TRP:CE3	2.17	0.78
13:D:124:GLY:HA2	13:D:174:GLY:HA3	1.64	0.78
1:Y:2695:G:H2'	1:Y:2695:G:N3	1.98	0.78
8:a:9:ARG:HG2	15:e:26:ARG:CD	2.14	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:a:25:ILE:HD13	25:k:23:TYR:CD2	2.16	0.78
44:W:32:LEU:HD12	44:W:32:LEU:O	1.84	0.78
27:L:106:GLN:HE21	45:Z:42:VAL:HG11	1.46	0.77
1:Y:1477:U:H5''	1:Y:1477:U:C6	2.18	0.77
1:Y:2336:A:OP1	46:F:79:LEU:HA	1.84	0.77
2:X:599:U:C4'	33:o:56:LYS:HD3	2.13	0.77
2:X:894:U:O2'	10:c:15:LYS:HB3	1.85	0.77
2:X:1332:U:C5'	12:d:100:GLN:CD	2.58	0.77
2:X:1543:A:H3'	2:X:1543:A:N3	1.98	0.77
3:3:5:G:H5''	30:M:34:TYR:CE2	2.19	0.77
2:X:737:A:N3	2:X:737:A:H2'	1.98	0.77
2:X:886:A:H3'	2:X:886:A:N3	1.98	0.77
2:X:1082:U:H4'	29:m:30:ARG:NH2	2.00	0.77
2:X:1332:U:H5''	12:d:100:GLN:CD	2.10	0.77
1:Y:1506:C:H6	1:Y:1506:C:C5'	1.97	0.77
2:X:1330:A:H3'	2:X:1330:A:OP1	1.84	0.77
29:m:95:PHE:CD2	29:m:126:LYS:HD2	2.19	0.77
29:m:161:VAL:O	33:o:97:VAL:HB	1.85	0.77
1:Y:1029:C:H5'	1:Y:1029:C:C6	2.18	0.77
2:X:1237:C:H4'	12:d:104:ASN:CB	2.13	0.77
22:i:67:SER:HB2	22:i:72:LEU:HD11	1.67	0.77
1:Y:2793:G:H2'	1:Y:2793:G:N3	1.99	0.77
11:C:84:ASP:OD1	11:C:85:PRO:HD2	1.84	0.77
25:k:27:ASP:O	25:k:31:LEU:HG	1.85	0.77
2:X:1268:A:H2'	2:X:1268:A:N3	1.99	0.77
33:o:103:ILE:CG2	33:o:114:THR:HA	2.14	0.77
2:X:1203:C:N3	29:m:26:LYS:CG	2.48	0.76
12:d:95:LEU:H	12:d:96:PRO:HD2	1.50	0.76
1:Y:2887:G:C5	32:N:23:ARG:NH1	2.53	0.76
2:X:287:A:O2'	10:c:7:LEU:HD22	1.86	0.76
2:X:1190:A:H1'	37:q:6:VAL:HG21	1.67	0.76
11:C:230:HIS:ND1	11:C:231:PRO:HD2	2.00	0.76
14:E:155:VAL:HB	14:E:194:ILE:HG23	1.67	0.76
37:q:117:LYS:HG3	37:q:118:PRO:CD	2.12	0.76
2:X:1130:A:O2'	37:q:6:VAL:N	2.18	0.76
16:f:77:ARG:HA	16:f:80:GLU:HG2	1.66	0.76
29:m:157:ARG:HG2	33:o:80:ILE:HD11	1.68	0.76
2:X:137:U:O2'	17:g:63:ASP:CA	2.34	0.76
2:X:581:A:O2'	2:X:892:C:O2'	2.04	0.76
2:X:1211:C:H4'	2:X:1212:A:H5''	1.67	0.76
18:G:157:TYR:HB3	18:G:158:LYS:HE3	1.66	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:o:35:GLU:HG2	33:o:112:VAL:HG21	1.65	0.76
27:L:4:ARG:HG3	27:L:4:ARG:NH1	1.99	0.76
1:Y:1873:G:N1	2:X:710:A:H5'	2.01	0.76
2:X:1223:U:H5''	2:X:1223:U:H6	1.48	0.76
20:h:62:LYS:O	20:h:62:LYS:HD3	1.84	0.76
35:p:29:LYS:HE2	35:p:98:THR:CG2	2.16	0.76
2:X:235:G:H4'	17:g:59:LYS:O	1.85	0.76
2:X:823:A:H1'	2:X:1539:C:H5'	1.68	0.76
2:X:1125:C:H5''	25:k:10:LEU:CB	2.16	0.76
2:X:1330:A:H3'	2:X:1330:A:P	2.26	0.76
25:k:174:LEU:HD12	25:k:174:LEU:H	1.50	0.76
2:X:502:C:OP1	2:X:502:C:H4'	1.85	0.76
25:k:194:LYS:O	25:k:194:LYS:HD3	1.86	0.76
1:Y:1094:A:C5	1:Y:2778:G:C5	2.74	0.75
2:X:421:G:N3	2:X:421:G:H2'	2.00	0.75
2:X:735:G:H21	2:X:736:A:H5''	1.49	0.75
14:E:102:PRO:HG2	14:E:105:MET:HE3	1.66	0.75
1:Y:625:G:OP2	34:O:14:ARG:NH1	2.19	0.75
1:Y:1496:G:H8	1:Y:1496:G:H5''	1.50	0.75
2:X:607:C:H4'	33:o:123:VAL:HG11	1.68	0.75
2:X:1408:C:H6	2:X:1408:C:H5''	1.50	0.75
9:b:59:THR:HB	9:b:60:PRO:CD	2.17	0.75
25:k:19:GLU:HB2	25:k:54:VAL:HB	1.67	0.75
29:m:93:SER:O	29:m:127:SER:CA	2.33	0.75
29:m:94:VAL:HB	29:m:126:LYS:O	1.85	0.75
11:C:77:LYS:HB2	11:C:77:LYS:NZ	2.00	0.75
1:Y:1764:A:H3'	1:Y:1764:A:N3	2.01	0.75
1:Y:2392:G:N7	6:2:39:LYS:NZ	2.33	0.75
1:Y:2558:A:H2'	1:Y:2558:A:N3	1.98	0.75
2:X:1101:G:H3'	2:X:1101:G:N3	2.01	0.75
9:b:23:ILE:HB	9:b:32:VAL:HG22	1.68	0.75
44:W:5:GLU:OE2	44:W:5:GLU:N	2.19	0.75
2:X:1124:C:O3'	25:k:177:LEU:CD2	2.35	0.75
9:b:23:ILE:HG22	9:b:32:VAL:HG13	1.67	0.75
10:c:100:VAL:HB	10:c:103:LEU:HD12	1.69	0.75
16:f:75:ILE:HD12	16:f:75:ILE:N	2.01	0.75
18:G:154:PRO:HG3	18:G:163:ARG:HB3	1.68	0.75
1:Y:208:G:H5''	1:Y:208:G:C8	2.17	0.75
1:Y:722:A:C2	1:Y:846:G:C6	2.74	0.75
1:Y:1987:A:H1'	2:X:1429:A:H61	1.43	0.75
2:X:1127:U:C2	2:X:1197:G:N2	2.54	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:m:95:PHE:CE2	29:m:97:LYS:HG3	2.21	0.75
41:T:10:GLN:HA	41:T:10:GLN:OE1	1.87	0.75
1:Y:327:G:H3'	1:Y:327:G:N3	2.00	0.75
1:Y:2783:U:O3'	7:4:20:LYS:NZ	2.18	0.75
2:X:61:A:H5'	2:X:395:U:H4'	1.69	0.75
2:X:119:A:H2'	2:X:119:A:OP2	1.86	0.75
2:X:1017:A:H2'	2:X:1017:A:N3	2.01	0.75
30:M:54:ALA:HB1	30:M:80:ILE:HD11	1.69	0.75
37:q:23:LEU:CD1	37:q:85:ILE:HG22	2.16	0.75
1:Y:548:A:H1'	1:Y:549:U:H3'	1.68	0.74
2:X:981:G:N3	2:X:981:G:H2'	2.02	0.74
2:X:1332:U:C5'	12:d:100:GLN:NE2	2.50	0.74
15:e:26:ARG:HE	15:e:26:ARG:C	1.94	0.74
40:S:46:LYS:H	40:S:46:LYS:HD2	1.50	0.74
20:h:61:VAL:HA	20:h:80:ILE:HA	1.69	0.74
46:F:75:ALA:H	46:F:120:LYS:HA	1.53	0.74
2:X:889:C:H6	2:X:889:C:C5'	2.00	0.74
18:G:43:PHE:HA	18:G:52:VAL:HA	1.69	0.74
18:G:99:GLN:HG2	18:G:99:GLN:O	1.85	0.74
25:k:12:VAL:HB	25:k:16:ARG:HB2	1.69	0.74
1:Y:2328:A:H2	46:F:127:ASN:CB	2.00	0.74
1:Y:2371:U:H2'	4:A:32:MET:HE2	1.69	0.74
2:X:748:U:H5'	31:n:71:LYS:HZ1	1.49	0.74
3:3:84:U:H2'	3:3:85:A:H4'	1.68	0.74
18:G:33:LEU:HD11	18:G:136:ILE:HD12	1.69	0.74
1:Y:660:A:H2	14:E:39:LEU:HB2	1.51	0.74
1:Y:722:A:C4	1:Y:846:G:O6	2.40	0.74
1:Y:749:G:H2'	1:Y:771:G:H21	1.52	0.74
1:Y:1095:A:N3	1:Y:1095:A:H2'	2.01	0.74
2:X:730:G:H21	2:X:732:G:H5'	1.53	0.74
13:D:71:LYS:HD2	13:D:71:LYS:N	2.03	0.74
15:e:29:ARG:N	15:e:29:ARG:HD3	2.02	0.74
23:j:18:GLU:HG3	23:j:18:GLU:O	1.87	0.74
29:m:15:VAL:HG22	29:m:37:VAL:HB	1.68	0.74
2:X:209:G:H5''	23:j:58:ASP:CA	2.17	0.74
2:X:571:A:O2'	2:X:574:G:O2'	2.04	0.74
2:X:607:C:O2'	33:o:108:THR:CG2	2.32	0.74
1:Y:2328:A:H2	46:F:127:ASN:C	1.96	0.74
2:X:60:A:N3	2:X:60:A:H5''	2.03	0.74
2:X:1207:A:H4'	2:X:1208:A:H5'	1.70	0.74
2:X:844:G:OP1	22:i:65:LYS:HD3	1.88	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:T:6:SER:HB3	41:T:63:LEU:HD11	1.69	0.74
1:Y:1486:C:OP1	1:Y:1486:C:H4'	1.88	0.74
1:Y:1873:G:H1	2:X:710:A:H5'	1.53	0.74
1:Y:2774:G:P	18:G:138:LYS:HZ1	2.09	0.74
1:Y:2778:G:H21	1:Y:2778:G:P	2.10	0.74
2:X:452:A:H4'	2:X:452:A:OP1	1.87	0.74
2:X:686:U:O4	2:X:715:U:C5	2.40	0.74
1:Y:850:G:H21	1:Y:850:G:P	2.11	0.73
1:Y:2371:U:C2'	4:A:32:MET:HE2	2.18	0.73
12:d:77:ILE:HA	12:d:80:LEU:HB3	1.70	0.73
13:D:71:LYS:HB2	13:D:72:PRO:HD2	1.70	0.73
21:I:112:MET:HA	21:I:112:MET:HE3	1.70	0.73
1:Y:75:G:O2'	44:W:48:LYS:NZ	2.21	0.73
2:X:985:A:H2'	2:X:985:A:N3	2.03	0.73
2:X:1125:C:H5''	25:k:10:LEU:HB3	1.70	0.73
1:Y:132:C:H6	1:Y:132:C:H5''	1.52	0.73
1:Y:1243:G:OP1	14:E:151:LYS:HE2	1.89	0.73
12:d:9:ILE:HB	12:d:10:PRO:HD3	1.68	0.73
1:Y:1876:G:N2	2:X:710:A:N6	2.36	0.73
9:b:30:THR:HB	9:b:58:SER:HA	1.70	0.73
25:k:156:LEU:O	25:k:156:LEU:HD23	1.87	0.73
37:q:105:LEU:HD23	37:q:105:LEU:H	1.51	0.73
2:X:259:G:H2'	2:X:259:G:N3	2.03	0.73
2:X:481:C:H6	2:X:481:C:H5''	1.53	0.73
2:X:682:G:C3'	9:b:115:PRO:HG3	2.17	0.73
2:X:691:G:H5''	9:b:39:GLY:CA	2.19	0.73
2:X:761:A:H4'	16:f:62:ARG:NH1	2.02	0.73
24:J:19:VAL:HB	24:J:31:SER:HB3	1.70	0.73
25:k:27:ASP:OD1	25:k:27:ASP:N	2.22	0.73
31:n:90:MET:HE3	31:n:92:ILE:HG12	1.70	0.73
32:N:5:LYS:HD2	32:N:5:LYS:N	2.03	0.73
1:Y:136:A:H3'	1:Y:136:A:N3	2.02	0.73
2:X:886:A:OP1	33:o:79:ARG:NH2	2.22	0.73
30:M:102:HIS:HA	30:M:106:LYS:HE2	1.69	0.73
1:Y:1928:A:H4'	1:Y:1928:A:OP2	1.87	0.73
11:C:35:LYS:HB3	11:C:35:LYS:HZ3	1.53	0.73
22:i:44:ILE:HD12	22:i:44:ILE:N	2.04	0.73
1:Y:208:G:H8	1:Y:208:G:C5'	2.00	0.73
1:Y:827:A:C2	11:C:225:MET:CE	2.71	0.73
2:X:665:U:C2'	31:n:2:ARG:HH21	2.01	0.73
12:d:107:ARG:HA	12:d:107:ARG:NE	2.02	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:K:11:ARG:HD3	26:K:87:LYS:HD3	1.70	0.73
2:X:743:C:HO2'	22:i:28:TYR:HE1	1.32	0.73
2:X:987:A:OP1	2:X:987:A:H4'	1.88	0.73
2:X:996:A:H2'	2:X:997:A:H4'	1.70	0.73
8:a:25:ILE:HD11	25:k:23:TYR:CD2	2.16	0.73
19:H:43:VAL:CG2	34:O:68:ALA:HB2	2.18	0.73
25:k:46:LEU:HD22	25:k:49:ALA:HB3	1.69	0.73
1:Y:854:G:C5	24:J:29:LYS:O	2.42	0.72
1:Y:2328:A:C2	46:F:127:ASN:C	2.67	0.72
2:X:498:U:N3	28:l:115:ASN:O	2.21	0.72
2:X:716:A:O2'	9:b:31:ILE:HG21	1.88	0.72
14:E:108:LEU:HD12	14:E:108:LEU:C	2.14	0.72
29:m:79:GLY:HA3	29:m:101:PRO:HG3	1.70	0.72
33:o:42:SER:CB	33:o:103:ILE:CG1	2.61	0.72
1:Y:559:A:O2'	34:O:31:LEU:HD22	1.89	0.72
2:X:785:A:H2'	2:X:785:A:N3	2.03	0.72
1:Y:235:G:H2'	1:Y:235:G:N3	2.04	0.72
25:k:141:MET:O	25:k:141:MET:HE3	1.89	0.72
25:k:201:ILE:HD12	25:k:201:ILE:N	2.04	0.72
30:M:29:PRO:HD2	30:M:92:ILE:HG22	1.70	0.72
35:p:64:GLU:HG2	35:p:64:GLU:O	1.87	0.72
1:Y:224:A:H1'	1:Y:226:A:H1'	1.71	0.72
2:X:9:A:H3'	2:X:9:A:N3	2.04	0.72
29:m:89:TYR:HB2	29:m:139:ALA:HA	1.70	0.72
29:m:165:TYR:HB3	33:o:96:LYS:H	1.54	0.72
33:o:15:ARG:HB3	33:o:15:ARG:NH1	2.05	0.72
1:Y:722:A:C6	1:Y:846:G:C6	2.77	0.72
1:Y:1257:G:OP2	34:O:19:LYS:NZ	2.22	0.72
2:X:263:G:H4'	20:h:22:THR:CB	2.19	0.72
1:Y:2371:U:O2'	4:A:32:MET:CE	2.37	0.72
2:X:561:A:C1'	10:c:41:PRO:HB3	2.20	0.72
11:C:261:ARG:HB3	11:C:261:ARG:HH11	1.52	0.72
25:k:8:ILE:HA	25:k:11:ARG:HB2	1.71	0.72
2:X:497:C:OP1	28:l:126:VAL:HA	1.90	0.72
32:N:64:ARG:HH11	32:N:64:ARG:HG3	1.55	0.72
33:o:42:SER:CB	33:o:103:ILE:HG12	2.19	0.72
37:q:50:LEU:HG	37:q:79:GLN:HG2	1.72	0.72
1:Y:665:G:H4'	1:Y:666:A:H5''	1.70	0.72
3:3:11:A:OP1	42:U:82:ARG:HD2	1.90	0.72
24:J:120:LYS:O	24:J:120:LYS:HG3	1.89	0.72
2:X:243:C:H2'	2:X:244:G:H8	1.55	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:410:G:P	28:l:67:GLN:HG2	2.29	0.72
2:X:654:G:H5''	16:f:65:HIS:CE1	2.24	0.72
2:X:263:G:H4'	20:h:22:THR:CG2	2.18	0.71
3:3:5:G:C5'	30:M:34:TYR:CE2	2.74	0.71
24:J:105:GLU:OE1	24:J:105:GLU:N	2.18	0.71
31:n:78:ARG:NH2	31:n:78:ARG:HG2	2.05	0.71
37:q:21:VAL:HG12	37:q:81:ILE:HD11	1.69	0.71
4:1:10:ARG:HG2	4:1:10:ARG:NH2	2.02	0.71
1:Y:524:A:N3	40:S:41:MET:HE1	2.04	0.71
1:Y:1933:G:H2'	1:Y:1934:G:H4'	1.70	0.71
2:X:654:G:H5''	16:f:65:HIS:HE1	1.55	0.71
9:b:69:THR:HA	9:b:72:LYS:HE2	1.72	0.71
15:e:29:ARG:HG3	15:e:29:ARG:HH21	1.54	0.71
29:m:14:ARG:HH12	29:m:116:GLU:HB3	1.54	0.71
2:X:1297:U:H5'	2:X:1297:U:O2	1.89	0.71
6:2:36:LYS:HB3	6:2:40:GLN:HG3	1.72	0.71
9:b:83:GLU:HA	9:b:109:ALA:HB3	1.72	0.71
2:X:577:C:C4	2:X:890:C:C5	2.75	0.71
3:3:40:C:H1'	3:3:41:C:H5'	1.73	0.71
20:h:45:LYS:HA	20:h:45:LYS:HE3	1.71	0.71
25:k:174:LEU:HD12	25:k:174:LEU:N	2.03	0.71
1:Y:2232:A:C5'	11:C:149:GLY:O	2.38	0.71
7:4:29:ASN:OD1	7:4:30:PRO:CD	2.37	0.71
24:J:1:MET:HG2	24:J:1:MET:O	1.88	0.71
29:m:165:TYR:H	33:o:95:PRO:CB	2.02	0.71
33:o:3:MET:O	33:o:3:MET:HG2	1.91	0.71
33:o:39:ILE:HD11	33:o:104:ALA:C	2.16	0.71
35:p:26:LEU:C	35:p:26:LEU:HD23	2.15	0.71
2:X:245:C:H4'	20:h:34:LYS:NZ	2.04	0.71
11:C:121:GLU:OE2	11:C:121:GLU:N	2.19	0.71
39:R:90:PHE:HB2	44:W:36:GLN:HE22	1.55	0.71
1:Y:1709:A:H1'	21:I:1:MET:HB2	1.73	0.71
1:Y:2656:A:H2'	1:Y:2656:A:N3	2.05	0.71
17:g:26:ARG:HG2	23:j:10:ARG:HH11	1.54	0.71
25:k:117:GLU:HA	25:k:121:ARG:HE	1.54	0.71
29:m:18:ILE:HG22	29:m:35:ALA:HA	1.73	0.71
1:Y:135:G:N3	1:Y:135:G:H2'	2.05	0.71
22:i:44:ILE:H	22:i:44:ILE:CD1	2.04	0.71
29:m:71:LEU:C	29:m:71:LEU:HD12	2.15	0.71
30:M:49:LYS:HB2	30:M:49:LYS:NZ	2.03	0.71
1:Y:1159:A:C8	1:Y:1159:A:H5''	2.26	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:2313:A:OP1	4:A:25:ASN:ND2	2.24	0.71
2:X:596:G:H3'	2:X:596:G:N3	2.06	0.71
2:X:644:U:O4	33:o:90:LYS:CE	2.36	0.71
2:X:817:G:H2'	2:X:817:G:N3	2.05	0.71
2:X:1231:G:H2'	2:X:1231:G:N3	2.05	0.71
16:f:63:ARG:HG2	16:f:63:ARG:NH2	2.00	0.71
31:n:78:ARG:HH21	31:n:78:ARG:HG2	1.56	0.71
1:Y:1875:A:H62	2:X:708:G:N2	1.88	0.71
1:Y:2785:A:H4'	1:Y:2785:A:OP1	1.90	0.71
2:X:585:G:H1'	2:X:824:A:H2'	1.73	0.71
32:N:5:LYS:HD2	32:N:5:LYS:H	1.56	0.71
33:o:47:LYS:N	33:o:47:LYS:HD2	2.06	0.71
33:o:121:ARG:HB2	33:o:121:ARG:CZ	2.19	0.71
34:O:93:LYS:HG2	34:O:94:MET:HE2	1.72	0.71
35:p:71:PRO:HG3	35:p:99:LEU:HD13	1.72	0.71
37:q:21:VAL:CG1	37:q:81:ILE:CD1	2.68	0.71
1:Y:2341:A:N1	46:F:127:ASN:N	2.39	0.70
2:X:897:G:H2'	2:X:897:G:N3	2.06	0.70
2:X:1134:U:O4'	8:a:41:PRO:HG2	1.90	0.70
2:X:1388:A:H2'	2:X:1388:A:N3	2.05	0.70
8:a:20:GLN:NE2	25:k:21:LYS:HB3	2.05	0.70
18:G:12:PRO:HB3	18:G:49:THR:HA	1.73	0.70
40:S:84:LYS:HB3	40:S:93:ILE:HD11	1.73	0.70
2:X:581:A:HO2'	2:X:892:C:HO2'	1.35	0.70
2:X:902:A:N3	2:X:902:A:H5''	2.06	0.70
32:N:12:LYS:HG3	32:N:12:LYS:O	1.90	0.70
36:P:40:PHE:HE1	36:P:48:VAL:CG2	2.04	0.70
1:Y:830:U:H4'	1:Y:1806:U:H4'	1.73	0.70
13:D:52:GLY:HA3	13:D:85:LYS:HG3	1.73	0.70
23:j:8:ILE:HD13	23:j:8:ILE:C	2.16	0.70
35:p:37:GLY:HA3	37:q:39:GLU:HG3	1.72	0.70
2:X:30:A:H2'	2:X:30:A:N3	2.05	0.70
1:Y:1205:U:H3'	1:Y:1207:G:OP1	1.92	0.70
1:Y:1491:C:H1'	1:Y:1574:G:H21	1.56	0.70
2:X:570:U:H4'	2:X:571:A:H5''	1.74	0.70
26:K:20:ARG:HH21	26:K:20:ARG:HG3	1.56	0.70
33:o:40:LEU:H	33:o:46:ILE:HD11	1.56	0.70
35:p:104:LEU:HD23	35:p:104:LEU:C	2.16	0.70
2:X:1379:A:H3'	2:X:1379:A:N3	2.06	0.70
3:3:90:C:P	41:T:19:LYS:HZ1	2.15	0.70
8:a:79:PRO:HB2	15:e:52:GLN:HA	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:R:84:GLU:HG2	39:R:84:GLU:O	1.91	0.70
1:Y:1630:A:H3'	1:Y:1630:A:N3	2.05	0.70
2:X:760:G:OP1	16:f:22:THR:O	2.10	0.70
11:C:130:LEU:HD23	11:C:130:LEU:N	2.06	0.70
15:e:25:GLU:HB2	25:k:26:LYS:HA	1.73	0.70
28:l:121:VAL:HA	28:l:139:ILE:HA	1.74	0.70
35:p:71:PRO:O	35:p:91:VAL:CG2	2.37	0.70
1:Y:1461:C:H2'	1:Y:1462:G:H4'	1.72	0.70
2:X:1511:A:H2'	2:X:1511:A:N3	2.05	0.70
2:X:1514:A:H3'	2:X:1515:A:H3'	1.72	0.70
18:G:26:VAL:HG11	18:G:76:VAL:HG12	1.73	0.70
29:m:46:VAL:HG23	29:m:114:VAL:HG22	1.74	0.70
35:p:100:GLY:HA2	35:p:103:TRP:HB2	1.73	0.70
43:V:58:LYS:HD3	43:V:58:LYS:N	2.06	0.70
1:Y:276:C:H2'	1:Y:276:C:OP2	1.92	0.70
1:Y:2341:A:C5	46:F:128:TYR:CB	2.74	0.70
2:X:330:C:H2'	23:j:19:ALA:HA	1.74	0.70
11:C:133:GLN:CA	11:C:167:LYS:NZ	2.48	0.70
1:Y:2778:G:OP1	1:Y:2778:G:N2	2.24	0.69
9:b:105:LEU:N	9:b:105:LEU:HD23	2.05	0.69
10:c:38:LEU:HD12	10:c:38:LEU:N	2.06	0.69
32:N:12:LYS:HB2	32:N:12:LYS:HZ3	1.54	0.69
3:3:98:G:OP2	3:3:98:G:N2	2.23	0.69
28:l:58:ARG:HD2	28:l:64:THR:HB	1.73	0.69
33:o:29:ALA:H	33:o:59:VAL:HA	1.56	0.69
36:P:40:PHE:CE1	36:P:48:VAL:CG2	2.76	0.69
1:Y:344:U:OP2	40:S:80:ARG:NH1	2.25	0.69
2:X:256:C:H5''	2:X:256:C:H6	1.56	0.69
11:C:167:LYS:HA	11:C:172:VAL:HA	1.74	0.69
31:n:14:ILE:HB	31:n:59:PHE:HE2	1.57	0.69
43:V:55:LYS:O	43:V:55:LYS:HG2	1.90	0.69
1:Y:575:G:H2'	1:Y:575:G:N3	2.07	0.69
2:X:490:A:N3	2:X:490:A:H2'	2.07	0.69
2:X:665:U:C3'	31:n:2:ARG:NH2	2.55	0.69
2:X:795:A:H5''	2:X:795:A:H8	1.56	0.69
2:X:1124:C:H4'	25:k:177:LEU:HD22	1.74	0.69
10:c:100:VAL:HG11	10:c:106:VAL:HG22	1.74	0.69
2:X:137:U:HO2'	17:g:63:ASP:HA	1.57	0.69
32:N:90:ARG:HG3	32:N:90:ARG:NH2	2.03	0.69
1:Y:608:C:OP2	36:P:78:ARG:O	2.10	0.69
1:Y:681:G:N7	24:J:110:LYS:NZ	2.41	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:1361:G:H3'	1:Y:1361:G:N3	2.07	0.69
2:X:671:A:H4'	22:i:65:LYS:CB	2.23	0.69
3:3:108:G:N3	3:3:108:G:H5''	2.06	0.69
39:R:4:ARG:HH11	39:R:4:ARG:HG3	1.56	0.69
1:Y:1565:U:H3'	1:Y:1565:U:H6	1.57	0.69
2:X:1142:A:H2'	2:X:1142:A:N3	2.08	0.69
2:X:1157:A:H2'	2:X:1157:A:N3	2.06	0.69
9:b:111:ARG:HG2	9:b:113:VAL:HG12	1.75	0.69
46:F:32:ASP:H	46:F:158:THR:HA	1.58	0.69
2:X:616:A:H5''	2:X:616:A:C8	2.28	0.69
17:g:5:ILE:HD11	17:g:75:LEU:HD21	1.75	0.69
1:Y:174:U:H6	1:Y:174:U:H5''	1.56	0.69
8:a:80:THR:HB	8:a:81:PRO:HD2	1.75	0.69
2:X:246:G:H5''	2:X:246:G:H8	1.57	0.68
2:X:254:A:H61	10:c:8:VAL:HB	1.56	0.68
2:X:733:G:N3	2:X:733:G:H2'	2.07	0.68
2:X:1023:G:H4'	2:X:1023:G:OP1	1.92	0.68
10:c:56:LYS:HE2	10:c:56:LYS:CA	2.14	0.68
24:J:118:ASP:HA	24:J:139:LYS:HE3	1.74	0.68
2:X:946:C:H2'	35:p:77:ALA:CB	2.24	0.68
31:n:7:MET:HA	31:n:62:ILE:HG12	1.74	0.68
33:o:21:ARG:HD3	33:o:21:ARG:N	2.07	0.68
35:p:121:ALA:HA	35:p:124:ILE:HB	1.76	0.68
1:Y:2505:A:OP1	7:4:31:LYS:HE2	1.94	0.68
8:a:22:ALA:HA	8:a:74:ILE:HD13	1.75	0.68
38:Q:44:SER:HG	38:Q:45:PRO:HD3	1.57	0.68
1:Y:396:G:H2'	1:Y:396:G:N3	2.08	0.68
1:Y:2328:A:H2	46:F:127:ASN:O	1.72	0.68
2:X:1506:G:H2'	2:X:1506:G:N3	2.08	0.68
5:B:11:ARG:HG3	5:B:11:ARG:NH1	2.09	0.68
14:E:41:ARG:HG2	14:E:41:ARG:NH1	2.06	0.68
25:k:8:ILE:HD13	25:k:181:ILE:HD12	1.76	0.68
29:m:94:VAL:HG21	29:m:140:THR:HA	1.76	0.68
19:H:18:VAL:HG23	19:H:138:PRO:HB2	1.76	0.68
23:j:13:THR:HA	23:j:16:LYS:HB2	1.75	0.68
29:m:14:ARG:HG2	29:m:112:ARG:NH1	2.06	0.68
1:Y:1033:G:C2	4:1:13:ILE:HD13	2.28	0.68
2:X:692:U:H1'	9:b:44:TRP:HE1	1.58	0.68
4:1:38:GLU:OE1	4:1:38:GLU:N	2.23	0.68
1:Y:1514:A:H2'	1:Y:1514:A:N3	2.09	0.68
4:A:46:ARG:HG2	4:A:46:ARG:NH1	1.98	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:b:44:TRP:HA	9:b:44:TRP:CE3	2.27	0.68
30:M:82:LYS:HD3	30:M:82:LYS:N	2.09	0.68
40:S:47:PRO:HA	40:S:53:GLU:HA	1.75	0.68
2:X:426:U:O2'	2:X:548:G:O2'	2.04	0.68
2:X:743:C:O2	22:i:25:HIS:CG	2.47	0.68
2:X:1332:U:C5'	12:d:100:GLN:HE22	2.07	0.68
1:Y:2338:A:H2'	1:Y:2339:U:H5'	1.76	0.68
22:i:29:LYS:N	22:i:29:LYS:HD3	2.09	0.68
25:k:148:ILE:HG22	25:k:201:ILE:HG23	1.76	0.68
1:Y:861:C:H2'	1:Y:862:C:H4'	1.74	0.67
1:Y:1169:G:H1'	7:4:37:GLY:C	2.18	0.67
2:X:335:A:N6	23:j:16:LYS:HD3	2.09	0.67
2:X:385:G:H2'	2:X:386:G:H8	1.59	0.67
2:X:422:A:N7	2:X:438:A:N6	2.39	0.67
2:X:589:G:H8	2:X:589:G:H5''	1.59	0.67
2:X:1121:C:OP1	2:X:1124:C:N4	2.28	0.67
11:C:171:TYR:HB3	11:C:183:MET:HB3	1.74	0.67
22:i:67:SER:CA	22:i:72:LEU:HD21	2.22	0.67
1:Y:919:G:H1	1:Y:948:U:H3	1.42	0.67
1:Y:1337:A:H4'	1:Y:1338:U:H5''	1.76	0.67
2:X:910:A:H2'	2:X:910:A:N3	2.08	0.67
4:A:22:ASN:HB3	4:A:25:ASN:HB2	1.77	0.67
14:E:181:LEU:HD22	14:E:186:ILE:HD11	1.74	0.67
2:X:1507:U:H3'	2:X:1507:U:P	2.34	0.67
9:b:98:ARG:HG2	9:b:98:ARG:NH1	2.07	0.67
2:X:144:C:N4	23:j:58:ASP:CB	2.58	0.67
2:X:671:A:H4'	22:i:65:LYS:CG	2.24	0.67
2:X:937:G:H1'	2:X:1515:A:H61	1.57	0.67
14:E:182:ASN:N	14:E:182:ASN:OD1	2.26	0.67
18:G:40:ARG:HG2	18:G:40:ARG:NH1	1.98	0.67
19:H:9:GLU:OE1	19:H:9:GLU:HA	1.95	0.67
25:k:139:ARG:HG2	25:k:139:ARG:NH2	2.04	0.67
29:m:39:VAL:HG22	29:m:64:VAL:HG22	1.75	0.67
1:Y:2773:U:C4'	18:G:138:LYS:HZ1	2.06	0.67
11:C:30:GLU:OE1	11:C:30:GLU:HA	1.94	0.67
1:Y:394:U:O5'	1:Y:394:U:H6	1.78	0.67
1:Y:2773:U:O3'	18:G:138:LYS:NZ	2.28	0.67
1:Y:2774:G:OP2	18:G:138:LYS:NZ	2.27	0.67
2:X:165:G:N3	2:X:165:G:H2'	2.10	0.67
2:X:665:U:C3'	31:n:2:ARG:HH21	2.07	0.67
10:c:70:LEU:HD12	10:c:70:LEU:N	2.05	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:C:171:TYR:HE2	11:C:269:LEU:HD21	1.58	0.67
19:H:118:LYS:HB2	19:H:118:LYS:HZ3	1.58	0.67
1:Y:1491:C:H6	1:Y:1491:C:C5'	2.06	0.67
2:X:460:A:H2'	2:X:460:A:N3	2.09	0.67
2:X:699:G:O2'	2:X:805:C:O2'	2.13	0.67
2:X:800:A:N3	2:X:800:A:H2'	2.10	0.67
2:X:818:C:O5'	2:X:818:C:H6	1.77	0.67
8:a:80:THR:OG1	8:a:81:PRO:HD2	1.95	0.67
1:Y:11:U:OP2	1:Y:11:U:H6	1.78	0.67
1:Y:1874:A:H4'	2:X:711:G:H21	1.60	0.67
1:Y:2040:A:HO2'	38:Q:94:SER:HG	1.35	0.67
1:Y:2086:A:H61	1:Y:2532:G:H22	1.43	0.67
15:e:33:VAL:HG11	15:e:42:ILE:CG2	2.18	0.67
25:k:131:ARG:H	25:k:131:ARG:HD2	1.58	0.67
31:n:8:TYR:HA	31:n:89:TYR:HA	1.75	0.67
1:Y:1870:C:H2'	1:Y:1870:C:OP2	1.94	0.67
2:X:331:U:H5''	23:j:18:GLU:HA	1.77	0.67
2:X:1187:A:H3'	2:X:1187:A:N3	2.10	0.67
2:X:1213:U:H6	2:X:1213:U:H5'	1.60	0.67
11:C:275:LYS:HA	11:C:275:LYS:CE	2.06	0.67
13:D:71:LYS:CB	13:D:72:PRO:HD2	2.20	0.67
22:i:67:SER:CB	22:i:72:LEU:HD11	2.25	0.67
44:W:43:ILE:H	44:W:43:ILE:HD12	1.60	0.67
1:Y:1033:G:C2	4:l:13:ILE:CD1	2.77	0.67
37:q:15:LYS:HE2	37:q:15:LYS:O	1.94	0.67
2:X:409:C:H3'	28:l:67:GLN:HG2	1.76	0.66
2:X:1134:U:C1'	8:a:41:PRO:CB	2.71	0.66
14:E:120:GLU:HA	14:E:120:GLU:OE2	1.94	0.66
29:m:84:THR:HG22	29:m:98:PRO:HD3	1.77	0.66
33:o:108:THR:HG23	33:o:123:VAL:HG11	1.76	0.66
36:P:40:PHE:CE1	36:P:48:VAL:HG22	2.30	0.66
37:q:52:GLN:N	37:q:53:PRO:HD2	2.11	0.66
2:X:121:A:H8	2:X:121:A:OP1	1.79	0.66
2:X:613:U:O5'	2:X:613:U:H6	1.78	0.66
3:3:84:U:O5'	3:3:84:U:H6	1.78	0.66
29:m:72:VAL:HG11	29:m:144:LEU:HB3	1.77	0.66
35:p:70:MET:HE2	35:p:96:ARG:HD3	1.78	0.66
2:X:443:U:O5'	2:X:443:U:H6	1.78	0.66
3:3:90:C:P	41:T:19:LYS:NZ	2.68	0.66
3:3:107:U:H3'	3:3:108:G:H21	1.60	0.66
14:E:84:ARG:HG2	14:E:84:ARG:NH1	2.04	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:2510:C:N3	26:K:124:LYS:NZ	2.42	0.66
1:Y:2599:A:N7	13:D:158:SER:OG	2.18	0.66
1:Y:1888:U:O5'	1:Y:1888:U:H6	1.78	0.66
2:X:40:G:H2'	2:X:40:G:N3	2.09	0.66
2:X:1121:C:H3'	2:X:1122:A:H2	1.60	0.66
8:a:80:THR:CB	8:a:81:PRO:CD	2.72	0.66
9:b:68:GLU:HA	9:b:68:GLU:OE2	1.95	0.66
18:G:87:LEU:HD23	18:G:162:ILE:HD11	1.78	0.66
33:o:35:GLU:OE1	33:o:35:GLU:HA	1.94	0.66
37:q:21:VAL:HG21	37:q:85:ILE:HG22	1.77	0.66
37:q:46:LEU:HB3	37:q:49:ASP:HB3	1.77	0.66
1:Y:2130:A:H61	1:Y:2213:U:H1'	1.61	0.66
2:X:65:G:H3'	2:X:98:U:H5	1.60	0.66
2:X:590:U:OP1	16:f:58:LYS:NZ	2.23	0.66
2:X:792:A:O5'	2:X:792:A:H8	1.78	0.66
2:X:1138:U:H2'	2:X:1291:A:H2'	1.78	0.66
2:X:1321:U:H4'	12:d:87:ARG:NH2	2.10	0.66
29:m:161:VAL:O	33:o:97:VAL:CG2	2.44	0.66
37:q:69:VAL:HG11	37:q:77:GLN:HB2	1.78	0.66
1:Y:1477:U:H6	1:Y:1477:U:C5'	2.07	0.66
2:X:182:A:C5	23:j:79:MET:HE2	2.30	0.66
2:X:306:A:H8	2:X:306:A:OP1	1.79	0.66
2:X:538:G:H8	2:X:538:G:O5'	1.79	0.66
2:X:1113:A:H4'	2:X:1114:A:H5'	1.78	0.66
13:D:128:GLN:OE1	13:D:128:GLN:HA	1.95	0.66
18:G:59:LYS:HE2	18:G:59:LYS:CA	2.17	0.66
31:n:8:TYR:HB3	31:n:76:PHE:HE1	1.60	0.66
37:q:44:GLU:OE1	37:q:44:GLU:HA	1.95	0.66
1:Y:827:A:N1	11:C:225:MET:HE3	2.10	0.66
1:Y:1170:A:H2'	1:Y:1170:A:N3	2.09	0.66
1:Y:1423:C:H1'	1:Y:1513:A:H1'	1.76	0.66
1:Y:2773:U:C5'	18:G:138:LYS:NZ	2.57	0.66
2:X:137:U:O2'	17:g:63:ASP:C	2.39	0.66
2:X:356:G:H5''	2:X:357:A:H2	1.59	0.66
2:X:577:C:N3	2:X:890:C:H5	1.94	0.66
2:X:589:G:H2'	2:X:768:U:H5''	1.77	0.66
2:X:954:G:H1	2:X:1349:G:H5'	1.60	0.66
2:X:1505:A:N3	2:X:1505:A:H2'	2.09	0.66
11:C:121:GLU:H	11:C:121:GLU:CD	2.03	0.66
25:k:3:GLN:HG3	25:k:3:GLN:O	1.96	0.66
1:Y:1599:G:H8	1:Y:1599:G:OP2	1.79	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:2341:A:N7	46:F:128:TYR:CB	2.59	0.66
2:X:1190:A:H8	2:X:1190:A:O5'	1.79	0.66
10:c:100:VAL:HG21	10:c:103:LEU:HB2	1.78	0.66
44:W:61:GLU:HA	44:W:61:GLU:OE2	1.95	0.66
2:X:587:G:H2'	2:X:587:G:N3	2.11	0.66
3:3:29:C:H1'	3:3:51:A:H61	1.61	0.66
23:j:51:SER:O	23:j:79:MET:HA	1.95	0.66
2:X:5:A:N6	29:m:83:HIS:CD2	2.60	0.65
2:X:274:G:OP1	20:h:71:ALA:HB2	1.95	0.65
2:X:561:A:H1'	10:c:41:PRO:HB3	1.76	0.65
2:X:730:G:H2'	2:X:730:G:N3	2.11	0.65
8:a:63:GLU:O	8:a:63:GLU:HG2	1.95	0.65
10:c:54:THR:HA	10:c:62:LEU:HA	1.77	0.65
26:K:32:PHE:HD1	26:K:133:LYS:HG2	1.61	0.65
29:m:148:LYS:HD2	29:m:153:VAL:HG11	1.77	0.65
2:X:890:C:OP1	2:X:890:C:H4'	1.95	0.65
2:X:1214:C:O5'	2:X:1214:C:H6	1.80	0.65
2:X:1359:U:H5'	2:X:1380:C:C4	2.31	0.65
16:f:44:ARG:NH1	16:f:44:ARG:HB2	2.11	0.65
25:k:39:ARG:HA	25:k:42:ILE:HG12	1.78	0.65
1:Y:1159:A:H5''	1:Y:1159:A:H8	1.61	0.65
1:Y:1502:A:OP2	1:Y:1502:A:H8	1.79	0.65
1:Y:2363:A:H61	42:U:51:THR:HG21	1.60	0.65
2:X:640:G:OP1	2:X:640:G:N2	2.26	0.65
6:2:46:LYS:HB3	6:2:46:LYS:HZ1	1.60	0.65
7:4:19:ARG:HB2	7:4:24:MET:HE2	1.77	0.65
8:a:26:VAL:HG13	8:a:30:LYS:HE2	1.79	0.65
33:o:47:LYS:HG2	33:o:65:LYS:HD2	1.78	0.65
1:Y:61:A:H2'	1:Y:61:A:N3	2.10	0.65
2:X:161:A:H61	2:X:354:G:H21	1.43	0.65
2:X:334:G:H8	2:X:334:G:C5'	2.09	0.65
2:X:681:G:OP1	9:b:116:VAL:HA	1.96	0.65
2:X:1070:G:H1	2:X:1210:U:H3	1.42	0.65
2:X:1196:G:H8	2:X:1196:G:O5'	1.80	0.65
2:X:1227:A:H3'	2:X:1227:A:OP2	1.96	0.65
18:G:41:MET:HE3	18:G:54:ARG:HA	1.77	0.65
1:Y:136:A:H4'	1:Y:137:G:H8	1.62	0.65
1:Y:2678:C:O5'	1:Y:2678:C:H6	1.80	0.65
2:X:323:A:H8	2:X:323:A:OP2	1.80	0.65
2:X:878:C:H2'	2:X:882:A:H1'	1.77	0.65
21:I:58:VAL:HG21	21:I:86:ILE:HD13	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:m:95:PHE:HE2	29:m:97:LYS:HG3	1.60	0.65
1:Y:1196:C:H2'	1:Y:1197:C:H6	1.62	0.65
1:Y:1496:G:H8	1:Y:1496:G:C5'	2.10	0.65
2:X:961:G:H8	2:X:961:G:O5'	1.79	0.65
2:X:1003:G:H2'	2:X:1003:G:N3	2.12	0.65
8:a:28:THR:HG23	25:k:60:ALA:CB	2.26	0.65
23:j:49:LEU:CB	23:j:81:ALA:HB3	2.25	0.65
37:q:21:VAL:CG1	37:q:81:ILE:HD12	2.21	0.65
1:Y:1369:G:P	1:Y:1369:G:H21	2.20	0.65
2:X:41:C:O5'	2:X:41:C:H6	1.78	0.65
2:X:622:A:H8	2:X:622:A:H5''	1.59	0.65
2:X:682:G:H5''	9:b:115:PRO:HG3	1.69	0.65
2:X:698:G:H2'	2:X:806:U:H5''	1.79	0.65
2:X:1293:C:O5'	2:X:1293:C:H6	1.79	0.65
33:o:103:ILE:N	33:o:103:ILE:HD12	2.12	0.65
34:O:104:LYS:HB2	34:O:104:LYS:HZ3	1.60	0.65
1:Y:1597:U:OP1	1:Y:1597:U:H4'	1.97	0.65
1:Y:2446:U:H1'	4:A:15:ARG:NH2	2.12	0.65
2:X:10:G:H4'	29:m:128:LEU:HB2	1.79	0.65
2:X:577:C:N3	2:X:890:C:C5	2.65	0.65
2:X:713:G:H2'	2:X:714:A:H4'	1.79	0.65
2:X:791:C:O5'	2:X:791:C:H6	1.80	0.65
2:X:1240:A:H2'	2:X:1240:A:N3	2.12	0.65
17:g:80:ILE:O	17:g:80:ILE:HG13	1.95	0.65
1:Y:152:C:H6	1:Y:152:C:C5'	2.07	0.65
1:Y:1611:C:C5'	1:Y:1611:C:H6	2.10	0.65
2:X:896:G:H8	2:X:896:G:H5'	1.62	0.65
16:f:28:GLN:HB3	16:f:66:LEU:HD13	1.79	0.65
18:G:31:GLY:HA3	18:G:79:VAL:HG13	1.79	0.65
2:X:1202:A:H8	2:X:1202:A:C5'	2.09	0.65
8:a:25:ILE:HG13	25:k:23:TYR:HB2	1.77	0.65
19:H:22:GLU:OE2	19:H:22:GLU:HA	1.96	0.65
37:q:105:LEU:HG	37:q:105:LEU:O	1.97	0.65
1:Y:311:U:OP1	1:Y:311:U:H4'	1.96	0.64
1:Y:2340:C:H4'	46:F:69:LYS:O	1.97	0.64
2:X:1230:U:H2'	2:X:1231:G:H5''	1.80	0.64
2:X:1342:G:H4'	2:X:1342:G:OP1	1.95	0.64
26:K:82:ARG:HG3	26:K:82:ARG:HH21	1.62	0.64
40:S:22:LYS:HE2	40:S:22:LYS:HA	1.79	0.64
46:F:78:ARG:H	46:F:131:GLY:HA3	1.62	0.64
1:Y:1875:A:H2'	1:Y:1875:A:N3	2.12	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:896:G:H1	2:X:922:C:H1'	1.61	0.64
25:k:181:ILE:HG23	25:k:202:TYR:HA	1.77	0.64
33:o:118:ALA:HA	33:o:121:ARG:HH21	1.61	0.64
34:O:18:ILE:HD11	34:O:32:TYR:HA	1.77	0.64
1:Y:1465:G:P	1:Y:1465:G:H8	2.20	0.64
1:Y:1949:G:H8	1:Y:1949:G:O5'	1.80	0.64
2:X:143:A:H4'	2:X:143:A:OP1	1.97	0.64
2:X:368:G:O5'	2:X:368:G:H8	1.80	0.64
23:j:22:ILE:HG13	23:j:22:ILE:O	1.96	0.64
1:Y:156:A:H2'	1:Y:156:A:N3	2.12	0.64
1:Y:310:C:OP2	1:Y:310:C:H2'	1.97	0.64
2:X:263:G:C5'	20:h:22:THR:HG21	2.27	0.64
2:X:600:U:C5	2:X:650:A:H4'	2.32	0.64
15:e:15:LYS:O	15:e:15:LYS:HD2	1.97	0.64
15:e:38:LYS:HZ3	25:k:29:ALA:CB	2.10	0.64
29:m:115:LEU:HD23	29:m:125:SER:HA	1.80	0.64
2:X:315:U:H5''	2:X:316:C:H5	1.62	0.64
2:X:666:G:C4'	31:n:2:ARG:HH12	2.10	0.64
2:X:690:U:O5'	2:X:690:U:H6	1.81	0.64
2:X:1242:G:H8	2:X:1242:G:O5'	1.80	0.64
21:I:104:ARG:O	21:I:104:ARG:HG2	1.98	0.64
30:M:31:LEU:C	30:M:31:LEU:HD12	2.22	0.64
2:X:906:C:O5'	2:X:906:C:H6	1.80	0.64
2:X:1332:U:O5'	12:d:100:GLN:OE1	2.14	0.64
18:G:35:ARG:HG2	18:G:35:ARG:HH11	1.62	0.64
31:n:76:PHE:HA	31:n:79:LEU:HD12	1.78	0.64
29:m:94:VAL:HA	29:m:127:SER:HA	1.79	0.64
1:Y:1028:G:N3	1:Y:1028:G:H2'	2.13	0.64
1:Y:1873:G:H8	1:Y:1873:G:O5'	1.80	0.64
2:X:579:U:O5'	2:X:579:U:H6	1.79	0.64
2:X:1160:C:H6	2:X:1160:C:H5'	1.63	0.64
12:d:10:PRO:HG3	12:d:18:SER:HA	1.80	0.64
12:d:29:THR:HA	12:d:32:LYS:HG3	1.79	0.64
29:m:95:PHE:O	29:m:126:LYS:HB3	1.97	0.64
1:Y:276:C:OP2	1:Y:276:C:H6	1.81	0.64
2:X:1089:G:H4'	2:X:1089:G:OP1	1.97	0.64
2:X:1428:G:C6	2:X:1430:G:N2	2.66	0.64
12:d:92:ARG:HA	12:d:110:LYS:HD2	1.78	0.64
16:f:70:LEU:HD12	16:f:74:ASP:HB2	1.80	0.64
40:S:11:VAL:HG12	40:S:68:VAL:HG12	1.80	0.64
41:T:23:LYS:HA	41:T:23:LYS:HE2	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:W:19:LYS:HB3	44:W:19:LYS:HZ1	1.62	0.64
1:Y:994:A:H4'	3:3:85:A:H62	1.63	0.64
1:Y:2344:C:H2'	1:Y:2345:A:H4'	1.79	0.64
2:X:585:G:H3'	2:X:585:G:OP1	1.98	0.64
2:X:991:U:H3'	2:X:991:U:C6	2.30	0.64
9:b:59:THR:HB	9:b:60:PRO:HD2	1.80	0.64
33:o:97:VAL:HG12	33:o:98:LEU:HD12	1.78	0.64
35:p:103:TRP:HA	35:p:103:TRP:CE3	2.33	0.64
2:X:393:C:H2'	2:X:394:C:H6	1.63	0.63
2:X:682:G:H3'	9:b:115:PRO:CG	2.24	0.63
2:X:951:G:H2'	2:X:952:G:H8	1.62	0.63
9:b:24:ARG:HH21	9:b:26:THR:HG23	1.62	0.63
33:o:103:ILE:HG23	33:o:114:THR:CA	2.27	0.63
40:S:95:LYS:HG3	40:S:95:LYS:O	1.98	0.63
2:X:802:A:H3'	2:X:803:C:H6	1.64	0.63
33:o:49:VAL:HG12	33:o:63:PHE:HD2	1.62	0.63
37:q:41:LEU:N	37:q:41:LEU:HD23	2.14	0.63
1:Y:150:A:P	1:Y:150:A:H8	2.21	0.63
1:Y:995:U:O2	1:Y:995:U:H5''	1.98	0.63
2:X:872:C:H6	2:X:872:C:H5''	1.63	0.63
2:X:1360:A:N3	2:X:1360:A:H2'	2.12	0.63
12:d:82:GLU:OE1	12:d:82:GLU:HA	1.97	0.63
13:D:18:GLU:OE2	13:D:18:GLU:HA	1.96	0.63
40:S:41:MET:HG3	40:S:61:ALA:HB2	1.80	0.63
1:Y:2328:A:N1	46:F:128:TYR:O	2.31	0.63
1:Y:2371:U:O2'	4:A:32:MET:HE2	1.99	0.63
1:Y:2802:A:H8	1:Y:2802:A:O5'	1.81	0.63
2:X:744:U:O5'	2:X:744:U:H6	1.80	0.63
2:X:1227:A:OP2	2:X:1227:A:H8	1.81	0.63
17:g:27:SER:HB2	17:g:31:GLY:HA3	1.80	0.63
18:G:149:ARG:HA	18:G:162:ILE:HG12	1.79	0.63
20:h:45:LYS:HA	20:h:45:LYS:CE	2.28	0.63
21:I:108:GLU:N	21:I:108:GLU:OE2	2.31	0.63
36:P:99:LYS:HB3	36:P:99:LYS:HZ3	1.62	0.63
1:Y:2691:G:H8	1:Y:2691:G:O5'	1.81	0.63
1:Y:2905:C:H42	45:Z:31:PRO:HG3	1.63	0.63
2:X:61:A:H5'	2:X:395:U:C4'	2.28	0.63
2:X:756:A:H8	2:X:756:A:OP2	1.82	0.63
8:a:72:ARG:HG3	8:a:74:ILE:HD11	1.81	0.63
9:b:114:THR:HG23	9:b:116:VAL:HG22	1.81	0.63
33:o:94:MET:SD	33:o:95:PRO:HD2	2.38	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:P:40:PHE:CD1	36:P:48:VAL:HG22	2.34	0.63
37:q:90:LEU:HB2	37:q:97:ARG:HD3	1.81	0.63
1:Y:1663:G:HO2'	5:B:2:VAL:N	1.97	0.63
1:Y:2328:A:H8	1:Y:2328:A:O5'	1.81	0.63
2:X:708:G:H2'	2:X:709:C:H4'	1.81	0.63
8:a:8:ILE:HA	15:e:26:ARG:HH21	1.63	0.63
1:Y:150:A:H8	1:Y:150:A:O5'	1.82	0.63
1:Y:1603:U:OP1	1:Y:1603:U:H6	1.82	0.63
1:Y:2887:G:C6	32:N:23:ARG:NE	2.67	0.63
2:X:1301:G:H21	37:q:31:THR:HG21	1.63	0.63
12:d:86:TYR:HE2	12:d:98:ARG:HD3	1.64	0.63
18:G:115:ILE:HG13	18:G:115:ILE:O	1.98	0.63
24:J:123:VAL:HG21	24:J:136:ILE:HD13	1.81	0.63
30:M:108:LEU:HD23	30:M:108:LEU:C	2.24	0.63
33:o:120:LYS:N	33:o:120:LYS:HD2	2.14	0.63
1:Y:336:U:H3'	1:Y:336:U:H6	1.64	0.63
1:Y:1465:G:H8	1:Y:1465:G:OP2	1.80	0.63
2:X:898:G:N2	10:c:16:ILE:HD12	2.13	0.63
2:X:1465:A:H8	2:X:1465:A:O5'	1.82	0.63
11:C:171:TYR:CZ	11:C:269:LEU:CD1	2.81	0.63
12:d:16:VAL:HG12	12:d:30:ALA:HB1	1.81	0.63
18:G:89:LEU:C	18:G:89:LEU:HD12	2.24	0.63
25:k:194:LYS:HD3	25:k:194:LYS:C	2.23	0.63
29:m:157:ARG:CG	33:o:80:ILE:HD13	2.28	0.63
32:N:93:LYS:HG3	32:N:93:LYS:O	1.99	0.63
36:P:90:GLN:OE1	36:P:90:GLN:HA	1.98	0.63
1:Y:1369:G:H3'	1:Y:1370:C:H5'	1.79	0.63
1:Y:1816:A:OP2	11:C:221:ARG:NH1	2.31	0.63
1:Y:2780:A:H2	7:4:15:LYS:NZ	1.97	0.63
2:X:599:U:H4'	33:o:56:LYS:HD3	1.79	0.63
2:X:691:G:H5''	9:b:39:GLY:HA2	1.81	0.63
2:X:1263:A:H8	2:X:1263:A:O5'	1.82	0.63
2:X:1332:U:O5'	12:d:100:GLN:CD	2.41	0.63
2:X:1362:U:O5'	2:X:1362:U:H6	1.80	0.63
5:B:15:LYS:O	5:B:15:LYS:HG3	1.98	0.63
33:o:15:ARG:HG3	33:o:77:LEU:H	1.62	0.63
44:W:29:ARG:HG3	44:W:29:ARG:NH1	2.11	0.63
2:X:140:A:N1	2:X:231:U:C4	2.67	0.62
2:X:595:G:H8	2:X:595:G:O5'	1.82	0.62
2:X:947:A:H1'	35:p:78:ARG:NH1	2.14	0.62
16:f:53:ARG:HG2	16:f:53:ARG:HH11	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:I:104:ARG:HH11	21:I:104:ARG:HG3	1.63	0.62
24:J:72:LYS:NZ	24:J:72:LYS:HB3	2.14	0.62
25:k:38:ILE:HD12	25:k:90:LEU:HG	1.81	0.62
29:m:156:LEU:CD1	33:o:78:LYS:HG3	2.29	0.62
1:Y:1987:A:C2'	2:X:1429:A:H62	2.13	0.62
2:X:594:C:OP2	2:X:594:C:H6	1.82	0.62
2:X:718:G:H5''	9:b:87:LYS:HD3	1.80	0.62
2:X:743:C:O2	22:i:25:HIS:CB	2.47	0.62
8:a:68:ARG:HE	8:a:70:HIS:HB2	1.63	0.62
14:E:153:LEU:HD23	14:E:192:LEU:HD21	1.80	0.62
29:m:83:HIS:HB2	29:m:148:LYS:HG2	1.80	0.62
35:p:109:ARG:O	35:p:109:ARG:HG2	1.99	0.62
1:Y:389:A:H1'	1:Y:390:A:H2'	1.81	0.62
1:Y:856:U:H5'	1:Y:856:U:O2	1.99	0.62
1:Y:1496:G:H5''	1:Y:1496:G:C8	2.34	0.62
1:Y:1920:C:O2	2:X:710:A:N7	2.32	0.62
2:X:666:G:C5'	31:n:2:ARG:CZ	2.70	0.62
17:g:78:GLU:O	17:g:78:GLU:HG2	1.98	0.62
31:n:85:ASP:OD1	31:n:85:ASP:N	2.32	0.62
1:Y:293:U:H6	1:Y:293:U:H5''	1.64	0.62
1:Y:1628:A:N3	1:Y:1628:A:H5''	2.15	0.62
1:Y:2829:A:H8	1:Y:2829:A:O5'	1.81	0.62
10:c:45:GLY:HA2	10:c:70:LEU:HA	1.80	0.62
40:S:72:ASP:OD1	40:S:73:PRO:CD	2.47	0.62
1:Y:1987:A:H4'	2:X:1429:A:N7	2.14	0.62
1:Y:2341:A:H62	46:F:128:TYR:H	1.39	0.62
2:X:671:A:C5'	22:i:65:LYS:HG3	2.27	0.62
2:X:1332:U:H5''	12:d:100:GLN:NE2	2.12	0.62
2:X:1415:C:O5'	2:X:1415:C:H6	1.82	0.62
10:c:56:LYS:HD2	10:c:104:PRO:HD2	1.81	0.62
15:e:9:LYS:HG3	15:e:9:LYS:O	1.97	0.62
16:f:30:ALA:HB2	16:f:81:LEU:HD21	1.81	0.62
21:I:25:LEU:HD21	21:I:40:VAL:HG23	1.81	0.62
33:o:52:VAL:HG23	33:o:60:LEU:HD13	1.79	0.62
35:p:88:PRO:HB3	35:p:145:ALA:HB2	1.81	0.62
37:q:23:LEU:HD13	37:q:85:ILE:HB	1.77	0.62
1:Y:647:G:O6	24:J:103:LYS:HD3	1.99	0.62
1:Y:2340:C:H5'	46:F:69:LYS:H	1.62	0.62
1:Y:2342:U:H5'	30:M:2:ILE:CB	2.29	0.62
1:Y:2762:G:H2'	1:Y:2763:G:H8	1.65	0.62
2:X:561:A:O4'	10:c:41:PRO:HB3	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:1078:C:H6	2:X:1078:C:H5''	1.63	0.62
7:4:31:LYS:HG2	7:4:31:LYS:O	1.98	0.62
16:f:60:VAL:HG13	16:f:63:ARG:HE	1.65	0.62
19:H:92:GLU:HA	19:H:92:GLU:OE1	1.99	0.62
1:Y:1870:C:OP2	1:Y:1870:C:H6	1.83	0.62
1:Y:1950:U:H6	1:Y:1950:U:H5''	1.65	0.62
2:X:682:G:OP2	9:b:115:PRO:O	2.18	0.62
2:X:839:U:H3	2:X:861:U:H5''	1.65	0.62
2:X:1369:U:OP1	15:e:19:ARG:CZ	2.47	0.62
12:d:90:ARG:HG2	12:d:90:ARG:O	1.97	0.62
15:e:13:LYS:HB2	15:e:13:LYS:NZ	2.13	0.62
18:G:81:GLN:OE1	18:G:81:GLN:HA	1.99	0.62
21:I:2:ILE:HD13	21:I:2:ILE:N	2.14	0.62
34:O:97:GLU:OE1	34:O:97:GLU:HA	2.00	0.62
1:Y:2696:G:H8	1:Y:2696:G:H5''	1.63	0.62
1:Y:2806:U:H4'	1:Y:2808:A:H4'	1.81	0.62
2:X:339:G:H3'	2:X:339:G:N3	2.14	0.62
2:X:682:G:H5''	9:b:115:PRO:CD	2.27	0.62
2:X:1520:G:H8	2:X:1520:G:O5'	1.82	0.62
15:e:33:VAL:HG12	15:e:41:ARG:HB3	1.82	0.62
29:m:156:LEU:HD12	33:o:78:LYS:HG3	1.81	0.62
1:Y:1767:G:H5'	1:Y:1768:C:H5	1.63	0.62
1:Y:2775:A:H5''	18:G:4:VAL:HG11	1.81	0.62
18:G:170:ARG:NE	18:G:170:ARG:HA	2.14	0.62
29:m:20:ARG:HD2	29:m:20:ARG:C	2.25	0.62
33:o:52:VAL:HG22	33:o:131:VAL:HG13	1.81	0.62
33:o:62:LEU:HD12	33:o:62:LEU:O	1.99	0.62
1:Y:847:A:H8	1:Y:847:A:O5'	1.82	0.62
2:X:140:A:N1	2:X:231:U:N3	2.47	0.62
2:X:298:C:H6	2:X:298:C:O5'	1.83	0.62
19:H:70:GLU:OE1	19:H:70:GLU:N	2.29	0.62
22:i:40:GLU:O	22:i:77:LYS:HE3	2.00	0.62
25:k:149:LYS:HE2	25:k:200:TRP:HB2	1.81	0.62
35:p:56:ARG:HH22	35:p:125:LEU:HB2	1.65	0.62
1:Y:2698:A:H1'	18:G:113:VAL:HG21	1.82	0.61
16:f:4:SER:HB3	16:f:7:ARG:HG3	1.81	0.61
25:k:183:TYR:HA	25:k:201:ILE:HD13	1.81	0.61
44:W:62:ILE:O	44:W:62:ILE:HG12	1.99	0.61
1:Y:199:A:H2'	1:Y:199:A:N3	2.13	0.61
1:Y:749:G:H1'	1:Y:772:A:H61	1.65	0.61
1:Y:922:G:N2	1:Y:944:G:O2'	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:1677:G:H8	1:Y:1677:G:OP2	1.82	0.61
1:Y:2603:G:N2	1:Y:2603:G:OP2	2.33	0.61
2:X:558:G:H1'	10:c:128:SER:OG	2.00	0.61
2:X:1425:C:O5'	2:X:1425:C:H6	1.83	0.61
18:G:98:MET:HB3	18:G:120:ASN:HB2	1.82	0.61
24:J:19:VAL:HG12	24:J:27:ASN:HD22	1.64	0.61
25:k:155:ARG:H	25:k:162:ALA:HA	1.64	0.61
29:m:56:VAL:N	29:m:57:PRO:HD2	2.15	0.61
1:Y:402:C:H6	1:Y:402:C:C5'	2.13	0.61
1:Y:821:C:H4'	1:Y:822:G:H5''	1.81	0.61
2:X:955:G:H2'	2:X:955:G:N3	2.13	0.61
10:c:60:SER:O	10:c:60:SER:OG	2.18	0.61
36:P:50:ALA:HB3	36:P:51:PRO:HD3	1.80	0.61
44:W:42:ARG:HH11	44:W:42:ARG:CG	2.14	0.61
4:1:40:ASN:HB2	4:1:41:PRO:HD2	1.81	0.61
2:X:30:A:H5''	2:X:31:U:H5	1.65	0.61
2:X:600:U:H5	2:X:650:A:H4'	1.66	0.61
2:X:1363:C:O5'	2:X:1363:C:H6	1.83	0.61
22:i:45:LEU:HD12	22:i:45:LEU:O	2.00	0.61
29:m:39:VAL:HG13	29:m:68:LYS:HZ2	1.64	0.61
1:Y:660:A:N6	14:E:98:ALA:HA	2.15	0.61
1:Y:922:G:OP1	1:Y:922:G:H4'	2.01	0.61
2:X:508:G:OP2	2:X:508:G:H8	1.84	0.61
2:X:568:A:N3	2:X:568:A:H2'	2.15	0.61
2:X:626:C:H5'	2:X:627:U:H4'	1.81	0.61
2:X:903:C:H5''	2:X:903:C:O2	2.00	0.61
2:X:1250:A:H5'	2:X:1250:A:C8	2.36	0.61
10:c:115:LEU:HD23	10:c:115:LEU:O	2.01	0.61
15:e:39:LEU:HD21	15:e:44:PHE:CE1	2.36	0.61
1:Y:150:A:P	1:Y:150:A:C8	2.94	0.61
1:Y:408:U:O5'	1:Y:408:U:H6	1.83	0.61
1:Y:2561:C:O5'	1:Y:2561:C:H6	1.83	0.61
2:X:1085:U:H2'	2:X:1086:G:H8	1.65	0.61
2:X:1429:A:H2'	2:X:1429:A:N3	2.15	0.61
22:i:76:VAL:O	22:i:76:VAL:HG13	2.01	0.61
35:p:88:PRO:HB3	35:p:145:ALA:CB	2.30	0.61
1:Y:1184:C:OP2	19:H:69:LYS:NZ	2.29	0.61
1:Y:1478:A:O5'	1:Y:1478:A:H8	1.83	0.61
1:Y:2342:U:H5'	30:M:2:ILE:CA	2.31	0.61
2:X:103:G:H8	2:X:103:G:O5'	1.84	0.61
2:X:712:A:H3'	2:X:712:A:N3	2.16	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:894:U:O3'	10:c:15:LYS:HB2	2.01	0.61
2:X:1503:G:O5'	2:X:1503:G:H8	1.83	0.61
12:d:11:ARG:HH21	12:d:11:ARG:CG	2.14	0.61
29:m:157:ARG:HG3	29:m:157:ARG:HH21	1.65	0.61
29:m:165:TYR:H	33:o:95:PRO:HB3	1.64	0.61
35:p:32:LEU:H	35:p:35:LYS:HG2	1.65	0.61
1:Y:2277:G:N2	26:K:84:GLY:HA3	2.16	0.61
2:X:22:G:H8	2:X:22:G:O5'	1.84	0.61
2:X:1369:U:H5'	15:e:19:ARG:HH12	1.64	0.61
3:3:40:C:N4	46:F:66:LEU:CB	2.64	0.61
6:2:10:ALA:CB	24:J:58:PHE:CD2	2.84	0.61
12:d:34:LEU:H	12:d:34:LEU:CD2	2.14	0.61
23:j:38:ALA:HB1	23:j:43:ALA:HB3	1.83	0.61
29:m:40:GLY:HA3	29:m:117:LEU:HD21	1.83	0.61
1:Y:1894:G:H8	1:Y:1894:G:O5'	1.84	0.61
1:Y:2809:G:OP1	1:Y:2809:G:H4'	2.00	0.61
2:X:182:A:OP2	23:j:79:MET:HE3	2.01	0.61
2:X:366:U:O5'	2:X:366:U:H6	1.84	0.61
2:X:832:U:H5	2:X:882:A:H3'	1.66	0.61
2:X:1191:A:H8	2:X:1191:A:OP2	1.84	0.61
26:K:12:GLN:HG2	26:K:73:PRO:HD2	1.83	0.61
29:m:161:VAL:HG11	33:o:98:LEU:HD13	1.81	0.61
35:p:87:VAL:HG12	35:p:151:PHE:O	2.01	0.61
40:S:20:GLU:N	40:S:20:GLU:OE2	2.32	0.61
41:T:23:LYS:O	41:T:23:LYS:HD3	1.99	0.61
1:Y:2662:U:H3	1:Y:2810:A:H61	1.46	0.61
2:X:743:C:O2'	22:i:28:TYR:HE1	1.82	0.61
2:X:914:U:O5'	2:X:914:U:H6	1.83	0.61
8:a:9:ARG:HD2	15:e:26:ARG:HB2	1.83	0.61
8:a:35:ASP:N	8:a:35:ASP:OD1	2.32	0.61
24:J:105:GLU:H	24:J:105:GLU:CD	2.07	0.61
26:K:12:GLN:OE1	26:K:12:GLN:HA	2.00	0.61
35:p:43:LEU:HD12	35:p:43:LEU:O	2.00	0.61
1:Y:290:U:O5'	1:Y:290:U:H6	1.84	0.60
1:Y:919:G:H3'	1:Y:920:A:H8	1.66	0.60
2:X:607:C:HO2'	33:o:108:THR:HG22	1.66	0.60
2:X:691:G:H5''	9:b:39:GLY:HA3	1.82	0.60
8:a:13:TYR:CD2	25:k:18:TRP:CD2	2.89	0.60
13:D:21:GLU:HG3	13:D:21:GLU:O	1.99	0.60
13:D:96:VAL:O	13:D:96:VAL:HG22	2.01	0.60
1:Y:2341:A:H61	46:F:128:TYR:H	1.44	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:256:C:H5''	2:X:256:C:C6	2.35	0.60
2:X:1306:U:O5'	2:X:1306:U:H6	1.83	0.60
16:f:53:ARG:HG2	16:f:53:ARG:NH1	2.14	0.60
25:k:110:LEU:HD12	25:k:110:LEU:O	2.01	0.60
31:n:78:ARG:HH21	31:n:78:ARG:CG	2.14	0.60
35:p:48:ASP:OD1	35:p:48:ASP:N	2.33	0.60
37:q:117:LYS:CD	37:q:118:PRO:HD2	2.30	0.60
40:S:58:GLU:N	40:S:58:GLU:OE2	2.33	0.60
1:Y:303:G:H5''	1:Y:303:G:C8	2.33	0.60
1:Y:2608:G:N3	1:Y:2608:G:H2'	2.16	0.60
2:X:67:G:H5'	2:X:67:G:H8	1.65	0.60
8:a:9:ARG:CG	15:e:26:ARG:HB2	2.31	0.60
29:m:164:LEU:O	29:m:164:LEU:HD23	2.01	0.60
33:o:6:PRO:HB3	33:o:33:LYS:HE3	1.83	0.60
35:p:73:LEU:HD12	35:p:89:VAL:O	2.02	0.60
44:W:7:ARG:NH1	44:W:7:ARG:HG3	2.15	0.60
1:Y:582:G:H5'	19:H:6:MET:HE2	1.83	0.60
1:Y:1205:U:O3'	36:P:8:GLY:CA	2.48	0.60
1:Y:1611:C:H3'	1:Y:1611:C:C6	2.37	0.60
2:X:106:G:H2'	2:X:106:G:N3	2.15	0.60
2:X:555:A:H4'	2:X:556:G:H5'	1.82	0.60
6:2:32:LEU:HD12	6:2:35:ASN:HD21	1.67	0.60
25:k:56:ILE:O	25:k:56:ILE:HG22	2.01	0.60
29:m:157:ARG:HB3	29:m:157:ARG:CZ	2.31	0.60
33:o:34:LYS:HD3	33:o:129:ALA:HB3	1.83	0.60
42:U:22:ARG:HH21	42:U:22:ARG:CG	2.14	0.60
2:X:287:A:H4'	2:X:288:C:H2'	1.83	0.60
2:X:748:U:C5'	31:n:71:LYS:HZ3	2.13	0.60
2:X:798:A:H2'	2:X:798:A:N3	2.15	0.60
2:X:834:C:O5'	2:X:834:C:H6	1.85	0.60
2:X:984:A:H1'	2:X:986:G:H4'	1.83	0.60
9:b:113:VAL:HG13	9:b:113:VAL:O	2.01	0.60
11:C:168:GLU:CD	11:C:183:MET:HE2	2.23	0.60
15:e:29:ARG:HD3	15:e:29:ARG:H	1.65	0.60
25:k:201:ILE:HD12	25:k:201:ILE:H	1.63	0.60
37:q:13:ARG:HG3	37:q:18:VAL:HB	1.82	0.60
1:Y:335:U:H5''	1:Y:389:A:H61	1.65	0.60
2:X:110:G:H5''	2:X:111:G:H8	1.66	0.60
25:k:6:ASN:HD22	25:k:181:ILE:HD13	1.65	0.60
33:o:94:MET:HB3	33:o:119:ARG:HH21	1.67	0.60
36:P:50:ALA:CB	36:P:51:PRO:HD3	2.30	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:1463:A:H3'	1:Y:1464:U:H3'	1.82	0.60
1:Y:1832:C:O2	11:C:50:THR:CG2	2.50	0.60
1:Y:2374:C:O2'	4:A:17:TYR:OH	2.05	0.60
1:Y:2557:U:H5''	18:G:172:LYS:HD3	1.82	0.60
2:X:331:U:OP1	23:j:22:ILE:HD13	2.02	0.60
2:X:811:G:H8	2:X:811:G:OP2	1.84	0.60
2:X:844:G:OP1	22:i:65:LYS:CD	2.49	0.60
2:X:1101:G:H1'	2:X:1108:C:H5	1.67	0.60
14:E:103:LYS:HA	14:E:106:ARG:HD2	1.81	0.60
29:m:12:GLU:HG3	29:m:42:LYS:HG3	1.83	0.60
32:N:53:ARG:HH11	32:N:53:ARG:HG3	1.65	0.60
1:Y:81:G:H2'	1:Y:81:G:N3	2.16	0.60
1:Y:333:C:H2'	1:Y:334:A:H5'	1.84	0.60
1:Y:2362:A:OP2	30:M:17:ARG:HD3	2.01	0.60
2:X:105:C:H2'	23:j:6:SER:HB3	1.84	0.60
2:X:136:C:O5'	2:X:136:C:H6	1.84	0.60
2:X:1134:U:O3'	8:a:41:PRO:HD2	2.00	0.60
2:X:1223:U:H5''	2:X:1223:U:C6	2.35	0.60
2:X:1363:C:H2'	2:X:1364:G:H5'	1.83	0.60
16:f:44:ARG:HB2	16:f:44:ARG:CZ	2.31	0.60
23:j:32:VAL:O	23:j:32:VAL:HG12	2.01	0.60
40:S:60:GLU:OE1	40:S:60:GLU:HA	2.01	0.60
1:Y:2829:A:H2	1:Y:2911:A:H8	1.50	0.60
2:X:718:G:H5''	9:b:87:LYS:HE2	1.84	0.60
2:X:1128:U:OP1	8:a:46:LYS:N	2.34	0.60
4:A:5:VAL:HG21	4:A:21:LYS:HG2	1.83	0.60
10:c:54:THR:OG1	10:c:55:PRO:HD2	2.01	0.60
29:m:39:VAL:O	29:m:39:VAL:HG12	2.02	0.60
37:q:58:GLU:HG2	37:q:58:GLU:O	2.01	0.60
1:Y:634:C:HO2'	6:2:2:PRO:N	2.00	0.60
2:X:663:A:H8	2:X:663:A:O5'	1.84	0.60
2:X:1104:A:N3	2:X:1104:A:H2'	2.15	0.60
3:3:72:U:O2'	41:T:38:ASN:ND2	2.35	0.60
4:A:41:LYS:HB3	4:A:41:LYS:HZ1	1.63	0.60
12:d:71:ARG:HG2	12:d:71:ARG:HH21	1.67	0.60
19:H:25:THR:HB	19:H:28:ARG:HG3	1.84	0.60
21:I:77:ILE:HG23	21:I:77:ILE:O	2.00	0.60
2:X:137:U:O2'	17:g:63:ASP:HA	1.97	0.59
2:X:916:G:H8	2:X:916:G:O5'	1.84	0.59
3:3:18:G:H1	3:3:61:U:H3	1.50	0.59
16:f:6:GLU:CD	16:f:6:GLU:H	2.10	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:n:65:VAL:HG23	31:n:65:VAL:O	2.01	0.59
39:R:51:ALA:HB2	39:R:83:LYS:HG3	1.84	0.59
4:1:59:LYS:HB2	4:1:59:LYS:HZ3	1.64	0.59
1:Y:1611:C:C6	1:Y:1611:C:C3'	2.85	0.59
2:X:1128:U:P	8:a:45:GLU:HA	2.42	0.59
2:X:1133:U:H3'	2:X:1134:U:H6	1.67	0.59
2:X:1202:A:C5'	2:X:1202:A:C8	2.86	0.59
2:X:1291:A:H5''	15:e:3:LYS:HD2	1.83	0.59
13:D:167:GLN:OE1	13:D:167:GLN:HA	2.00	0.59
24:J:72:LYS:HB3	24:J:72:LYS:HZ2	1.65	0.59
30:M:87:LYS:O	30:M:87:LYS:HG2	2.01	0.59
39:R:7:LEU:HD12	39:R:7:LEU:N	2.17	0.59
44:W:2:LYS:O	44:W:2:LYS:HD2	2.01	0.59
1:Y:80:G:H22	1:Y:105:C:H2'	1.66	0.59
1:Y:1184:C:P	19:H:69:LYS:HZ3	2.25	0.59
1:Y:2326:G:H8	1:Y:2326:G:O5'	1.85	0.59
2:X:660:U:H3'	2:X:660:U:H6	1.67	0.59
2:X:773:G:H3'	2:X:820:G:H21	1.67	0.59
2:X:1236:A:N3	2:X:1236:A:H5''	2.16	0.59
8:a:9:ARG:H	15:e:26:ARG:HD2	1.67	0.59
19:H:38:ARG:HG2	19:H:38:ARG:HH11	1.66	0.59
31:n:30:LEU:HD22	31:n:65:VAL:HG21	1.83	0.59
44:W:7:ARG:CG	44:W:7:ARG:HH11	2.14	0.59
1:Y:227:G:H3'	1:Y:227:G:OP2	2.02	0.59
1:Y:2505:A:C5'	7:4:31:LYS:CE	2.74	0.59
1:Y:2554:C:O5'	1:Y:2554:C:H6	1.86	0.59
2:X:108:A:N1	2:X:337:A:N3	2.50	0.59
2:X:1074:U:OP2	2:X:1074:U:H6	1.84	0.59
9:b:123:PRO:HG2	9:b:124:PRO:HD2	1.83	0.59
2:X:263:G:O4'	20:h:22:THR:HG21	2.03	0.59
2:X:371:A:H2'	2:X:371:A:N3	2.17	0.59
2:X:712:A:N3	2:X:712:A:H5''	2.18	0.59
2:X:758:C:O2'	16:f:5:GLN:NE2	2.35	0.59
2:X:887:C:H5'	33:o:4:THR:HG21	1.84	0.59
2:X:1203:C:OP1	2:X:1203:C:H4'	2.02	0.59
10:c:46:VAL:O	10:c:46:VAL:HG12	2.01	0.59
33:o:78:LYS:HE3	33:o:78:LYS:CA	2.23	0.59
1:Y:2295:A:H5'	1:Y:2295:A:H8	1.67	0.59
2:X:42:G:H8	2:X:42:G:O5'	1.84	0.59
2:X:607:C:H4'	33:o:108:THR:HG23	1.84	0.59
2:X:1226:G:N3	2:X:1226:G:H2'	2.17	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:1321:U:H4'	12:d:87:ARG:HH22	1.66	0.59
2:X:1359:U:H3'	2:X:1359:U:H6	1.68	0.59
9:b:23:ILE:HD13	9:b:96:ALA:HB3	1.83	0.59
13:D:57:LYS:HB2	13:D:68:TYR:HB3	1.84	0.59
15:e:29:ARG:HG3	15:e:29:ARG:NH2	2.18	0.59
18:G:152:ARG:HD2	18:G:161:GLY:HA2	1.85	0.59
29:m:157:ARG:HH11	29:m:159:LYS:CB	2.15	0.59
29:m:157:ARG:NH2	29:m:164:LEU:HB2	2.11	0.59
39:R:4:ARG:HH11	39:R:4:ARG:CG	2.13	0.59
1:Y:84:A:H8	1:Y:84:A:O5'	1.86	0.59
1:Y:2048:G:H2'	1:Y:2048:G:N3	2.17	0.59
1:Y:2895:G:H4'	32:N:3:ASN:HA	1.83	0.59
2:X:131:C:OP1	2:X:131:C:H4'	2.01	0.59
2:X:410:G:H1'	2:X:628:C:H5	1.67	0.59
2:X:1301:G:H21	37:q:31:THR:CG2	2.16	0.59
2:X:1344:A:H8	2:X:1344:A:O5'	1.86	0.59
3:3:40:C:H41	46:F:66:LEU:CB	2.15	0.59
12:d:13:LYS:HD3	12:d:13:LYS:N	2.18	0.59
20:h:63:ILE:HD12	20:h:63:ILE:N	2.18	0.59
25:k:58:ARG:HA	25:k:63:ILE:HA	1.84	0.59
31:n:73:THR:HG23	31:n:73:THR:O	2.02	0.59
42:U:83:ASP:N	42:U:83:ASP:OD1	2.35	0.59
43:V:17:ARG:HH11	43:V:17:ARG:HG3	1.68	0.59
1:Y:408:U:H2'	1:Y:409:G:H5''	1.85	0.59
1:Y:1844:G:H5'	11:C:87:ARG:NH1	2.18	0.59
2:X:367:A:H8	2:X:367:A:O5'	1.86	0.59
2:X:388:G:H8	2:X:388:G:OP2	1.85	0.59
2:X:581:A:H4'	2:X:893:C:H4'	1.85	0.59
2:X:991:U:C6	2:X:991:U:C3'	2.86	0.59
3:3:5:G:H4'	30:M:34:TYR:HD2	1.66	0.59
16:f:13:LYS:HD3	16:f:13:LYS:N	2.15	0.59
1:Y:498:G:H21	1:Y:503:A:H8	1.51	0.59
2:X:321:A:H4'	2:X:321:A:OP1	2.03	0.59
2:X:447:U:H5'	2:X:500:A:H62	1.68	0.59
2:X:1019:U:H3	2:X:1030:A:H61	1.51	0.59
2:X:1540:U:H4'	2:X:1541:G:H2'	1.85	0.59
8:a:53:ARG:HA	8:a:53:ARG:NE	2.17	0.59
27:L:24:LEU:HD12	27:L:24:LEU:O	2.02	0.59
1:Y:133:A:OP2	1:Y:133:A:H8	1.86	0.59
1:Y:828:A:N3	1:Y:828:A:H2'	2.18	0.59
1:Y:2340:C:C5'	46:F:69:LYS:H	2.15	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:106:G:H5'	23:j:8:ILE:HB	1.84	0.59
2:X:236:A:H5''	17:g:34:ILE:HG21	1.85	0.59
2:X:335:A:N7	2:X:337:A:C8	2.71	0.59
2:X:746:U:C5'	31:n:78:ARG:CZ	2.80	0.59
2:X:1059:G:O5'	2:X:1059:G:H8	1.85	0.59
8:a:13:TYR:CB	25:k:18:TRP:CE3	2.86	0.59
14:E:205:VAL:HG12	14:E:206:LEU:HD12	1.84	0.59
16:f:36:ILE:HD12	16:f:56:LEU:HD23	1.84	0.59
19:H:43:VAL:O	34:O:64:ARG:HG2	2.03	0.59
36:P:80:LYS:HD3	36:P:80:LYS:H	1.68	0.59
1:Y:1094:A:C6	1:Y:2778:G:C6	2.91	0.58
1:Y:2340:C:H4'	46:F:69:LYS:CB	2.33	0.58
2:X:522:C:H6	2:X:522:C:C5'	2.15	0.58
2:X:628:C:H5''	2:X:628:C:O2	2.02	0.58
2:X:671:A:O5'	22:i:65:LYS:CG	2.51	0.58
2:X:1453:G:H3'	2:X:1454:A:H8	1.68	0.58
8:a:20:GLN:HG2	25:k:21:LYS:HD3	1.85	0.58
29:m:165:TYR:N	33:o:95:PRO:HB2	2.18	0.58
33:o:85:LEU:H	33:o:85:LEU:CD2	2.10	0.58
44:W:40:THR:O	44:W:40:THR:OG1	2.17	0.58
1:Y:2777:A:H5'	18:G:3:ARG:HA	1.85	0.58
2:X:206:A:N3	2:X:206:A:H5''	2.18	0.58
2:X:666:G:H5'	31:n:2:ARG:NH1	2.17	0.58
2:X:1514:A:N3	2:X:1514:A:H2'	2.17	0.58
6:2:58:VAL:HG23	6:2:58:VAL:O	2.03	0.58
7:4:25:VAL:O	7:4:25:VAL:HG12	2.01	0.58
11:C:26:LYS:HZ3	11:C:28:THR:HB	1.68	0.58
11:C:107:PRO:HD2	11:C:110:LEU:HD22	1.83	0.58
33:o:112:VAL:HG13	33:o:127:ILE:HG12	1.84	0.58
35:p:66:ILE:HG22	35:p:69:ILE:HD11	1.84	0.58
13:D:173:MET:O	13:D:173:MET:HG2	1.99	0.58
25:k:54:VAL:HG12	25:k:56:ILE:HG13	1.84	0.58
31:n:29:ILE:HG21	31:n:75:GLU:HB2	1.84	0.58
1:Y:159:U:O5'	1:Y:159:U:H6	1.86	0.58
1:Y:2583:C:H6	1:Y:2583:C:C5'	2.14	0.58
2:X:407:G:H2'	2:X:408:C:H4'	1.84	0.58
2:X:561:A:H1'	10:c:41:PRO:CB	2.34	0.58
2:X:589:G:H5'	16:f:58:LYS:HZ3	1.68	0.58
2:X:1421:A:H8	2:X:1421:A:O5'	1.84	0.58
2:X:1503:G:H3'	2:X:1504:A:H5'	1.85	0.58
1:Y:1587:C:O5'	1:Y:1587:C:H6	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:1011:U:O5'	2:X:1011:U:H6	1.87	0.58
2:X:1384:G:H4'	2:X:1385:A:H5''	1.84	0.58
3:3:2:C:O5'	3:3:2:C:H6	1.86	0.58
10:c:21:SER:O	10:c:21:SER:OG	2.16	0.58
37:q:15:LYS:H	37:q:109:ASP:HB3	1.68	0.58
2:X:1272:A:H5'	2:X:1272:A:H8	1.68	0.58
11:C:177:ARG:HG3	11:C:177:ARG:NH1	2.11	0.58
17:g:82:LYS:HD3	17:g:82:LYS:N	2.19	0.58
19:H:95:ARG:HB3	19:H:95:ARG:HH11	1.69	0.58
28:l:95:ASP:HA	28:l:110:ALA:HB1	1.85	0.58
29:m:37:VAL:HG11	29:m:60:ILE:HG23	1.86	0.58
32:N:57:VAL:HG22	32:N:57:VAL:O	2.03	0.58
38:Q:13:ALA:HB3	38:Q:16:LYS:HG3	1.86	0.58
1:Y:2779:C:O5'	1:Y:2779:C:H6	1.87	0.58
1:Y:2784:A:P	7:4:20:LYS:HZ3	2.26	0.58
8:a:10:LEU:CD1	8:a:74:ILE:CD1	2.64	0.58
28:l:93:ARG:HA	28:l:130:SER:HA	1.84	0.58
1:Y:195:C:O2'	1:Y:846:G:N7	2.33	0.58
1:Y:491:C:OP1	34:O:2:PRO:HA	2.04	0.58
1:Y:967:C:O2'	42:U:34:ALA:HB2	2.02	0.58
1:Y:1843:U:C5	11:C:62:TYR:HE2	2.20	0.58
1:Y:2778:G:H4'	18:G:5:GLY:H	1.69	0.58
2:X:947:A:O3'	35:p:76:LYS:HG3	2.04	0.58
2:X:1250:A:H5'	2:X:1250:A:H8	1.68	0.58
5:B:37:ARG:HH21	5:B:37:ARG:CG	2.14	0.58
17:g:22:VAL:O	17:g:22:VAL:HG12	2.04	0.58
18:G:27:LYS:H	18:G:27:LYS:NZ	2.01	0.58
25:k:155:ARG:HH11	25:k:155:ARG:HG3	1.68	0.58
1:Y:2330:G:C2'	46:F:121:ALA:CB	2.74	0.58
1:Y:2446:U:H1'	4:A:15:ARG:CZ	2.34	0.58
1:Y:2457:A:H2'	1:Y:2457:A:N3	2.19	0.58
2:X:767:A:H2'	2:X:768:U:H4'	1.86	0.58
2:X:1223:U:OP2	2:X:1223:U:H4'	2.04	0.58
8:a:10:LEU:HB2	8:a:72:ARG:HB3	1.82	0.58
11:C:125:LYS:HE2	11:C:125:LYS:HA	1.84	0.58
14:E:159:GLU:OE1	14:E:159:GLU:N	2.24	0.58
16:f:8:LYS:HD2	16:f:8:LYS:O	2.03	0.58
17:g:34:ILE:HD13	17:g:34:ILE:N	2.19	0.58
18:G:44:LYS:O	18:G:44:LYS:NZ	2.29	0.58
21:I:97:ARG:HG2	21:I:97:ARG:NH1	2.16	0.58
38:Q:8:ARG:HH21	38:Q:8:ARG:CG	2.15	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:1:50:VAL:O	4:1:50:VAL:HG23	2.02	0.58
1:Y:903:G:OP2	42:U:85:LYS:HE3	2.04	0.58
1:Y:1033:G:N3	4:1:13:ILE:HD11	2.19	0.58
1:Y:2555:U:H3'	1:Y:2557:U:H6	1.69	0.58
2:X:145:U:H3'	2:X:145:U:H6	1.67	0.58
2:X:166:U:O5'	2:X:166:U:H6	1.86	0.58
9:b:27:PHE:CZ	22:i:29:LYS:HE3	2.39	0.58
29:m:161:VAL:O	33:o:97:VAL:CB	2.51	0.58
37:q:90:LEU:HB2	37:q:97:ARG:HH11	1.69	0.58
1:Y:768:A:H3'	1:Y:769:U:H6	1.69	0.57
1:Y:1451:U:O5'	1:Y:1451:U:H6	1.87	0.57
1:Y:2342:U:H5'	30:M:2:ILE:HA	1.85	0.57
1:Y:2529:G:H5'	1:Y:2530:A:H5''	1.86	0.57
2:X:235:G:H8	2:X:235:G:O5'	1.87	0.57
3:3:40:C:C5	46:F:66:LEU:CB	2.87	0.57
9:b:34:ILE:HG13	9:b:34:ILE:O	2.04	0.57
14:E:14:SER:O	14:E:14:SER:OG	2.18	0.57
21:I:17:ARG:HG3	21:I:47:THR:HG22	1.86	0.57
1:Y:863:G:H3'	1:Y:863:G:N3	2.18	0.57
1:Y:1864:C:H2'	1:Y:1926:A:H61	1.69	0.57
1:Y:2698:A:C1'	18:G:113:VAL:HG21	2.34	0.57
2:X:45:G:H22	2:X:406:C:H1'	1.68	0.57
2:X:183:U:H6	2:X:183:U:O5'	1.87	0.57
2:X:694:U:H1'	2:X:714:A:C2	2.39	0.57
2:X:1163:A:H3'	2:X:1163:A:OP2	2.04	0.57
25:k:8:ILE:HD12	25:k:11:ARG:HB3	1.85	0.57
26:K:20:ARG:HG3	26:K:20:ARG:NH2	2.19	0.57
29:m:42:LYS:HA	29:m:117:LEU:HD12	1.85	0.57
1:Y:460:C:H2'	1:Y:461:A:H8	1.68	0.57
1:Y:1725:G:HO2'	1:Y:1789:A:HO2'	1.51	0.57
2:X:238:G:C8	17:g:32:ARG:NH2	2.72	0.57
2:X:434:U:H2'	2:X:436:G:H2'	1.85	0.57
12:d:90:ARG:HG2	12:d:90:ARG:HH11	1.69	0.57
18:G:15:VAL:HG11	18:G:79:VAL:HG12	1.86	0.57
25:k:155:ARG:HH11	25:k:155:ARG:CG	2.17	0.57
29:m:24:VAL:HG12	29:m:24:VAL:O	2.04	0.57
1:Y:78:U:H3	1:Y:107:G:H22	1.52	0.57
1:Y:658:A:H61	14:E:180:GLY:HA3	1.69	0.57
1:Y:871:U:O2'	24:J:53:GLY:HA3	2.05	0.57
1:Y:1473:G:N2	1:Y:1475:A:OP2	2.38	0.57
1:Y:2328:A:C2	46:F:127:ASN:CB	2.84	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:1288:C:O5'	2:X:1288:C:H6	1.87	0.57
2:X:1322:A:OP2	2:X:1322:A:H8	1.88	0.57
4:A:8:ALA:HB2	4:A:48:THR:CG2	2.31	0.57
16:f:6:GLU:OE1	16:f:6:GLU:N	2.34	0.57
25:k:129:PHE:HE2	25:k:156:LEU:HG	1.69	0.57
33:o:115:ASP:HA	33:o:118:ALA:HB2	1.87	0.57
35:p:35:LYS:HG3	35:p:35:LYS:O	2.03	0.57
2:X:33:A:H4'	2:X:49:C:H42	1.70	0.57
2:X:373:U:O2	2:X:373:U:H2'	2.04	0.57
2:X:1125:C:C5'	25:k:10:LEU:HG	2.35	0.57
29:m:114:VAL:HG12	29:m:115:LEU:HD22	1.86	0.57
1:Y:2212:G:H2'	1:Y:2212:G:N3	2.19	0.57
1:Y:2830:A:N3	1:Y:2830:A:H2'	2.19	0.57
2:X:212:A:H8	2:X:212:A:OP2	1.87	0.57
2:X:447:U:O4	28:l:115:ASN:CB	2.53	0.57
2:X:578:G:H8	2:X:578:G:OP1	1.87	0.57
2:X:642:C:OP1	2:X:642:C:H6	1.88	0.57
2:X:675:G:H2'	2:X:675:G:N3	2.19	0.57
6:2:24:ARG:HH11	6:2:24:ARG:HG3	1.70	0.57
10:c:62:LEU:HD12	10:c:62:LEU:O	2.04	0.57
16:f:75:ILE:HD12	16:f:75:ILE:H	1.67	0.57
25:k:51:VAL:O	25:k:51:VAL:HG13	2.05	0.57
29:m:38:VAL:HG21	29:m:113:ALA:HB3	1.86	0.57
33:o:106:VAL:H	33:o:127:ILE:HD12	1.69	0.57
1:Y:658:A:H2'	1:Y:659:A:H5'	1.86	0.57
1:Y:1066:G:O6	19:H:69:LYS:CE	2.52	0.57
2:X:566:G:H5'	2:X:567:A:H2'	1.85	0.57
2:X:1014:A:H5''	2:X:1014:A:C8	2.40	0.57
6:2:52:LYS:HB2	6:2:52:LYS:NZ	2.19	0.57
11:C:189:ARG:NH1	11:C:189:ARG:HG2	2.20	0.57
15:e:56:VAL:O	15:e:56:VAL:HG12	2.05	0.57
25:k:131:ARG:H	25:k:131:ARG:CD	2.18	0.57
29:m:35:ALA:HB2	29:m:56:VAL:HG13	1.86	0.57
1:Y:1229:G:OP1	24:J:32:GLY:CA	2.47	0.57
2:X:666:G:C4'	31:n:2:ARG:NH2	2.40	0.57
2:X:686:U:O4	2:X:715:U:H5	1.87	0.57
2:X:723:A:H4'	2:X:814:C:H41	1.69	0.57
2:X:1190:A:H5'	37:q:91:GLU:HB3	1.85	0.57
2:X:1385:A:H2'	2:X:1385:A:N3	2.20	0.57
8:a:13:TYR:CD2	25:k:18:TRP:CE2	2.93	0.57
8:a:69:THR:O	8:a:69:THR:OG1	2.20	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:c:53:MET:H	10:c:64:LYS:HA	1.70	0.57
12:d:34:LEU:O	12:d:34:LEU:HD23	2.04	0.57
26:K:18:THR:O	26:K:98:LYS:NZ	2.32	0.57
32:N:64:ARG:HG3	32:N:64:ARG:NH1	2.20	0.57
1:Y:722:A:N3	1:Y:846:G:O6	2.36	0.57
1:Y:2363:A:N6	42:U:51:THR:HG21	2.20	0.57
1:Y:2371:U:O2'	4:A:32:MET:HE1	2.05	0.57
1:Y:2681:A:H8	1:Y:2681:A:OP1	1.88	0.57
2:X:230:U:H6	2:X:230:U:H3'	1.69	0.57
8:a:20:GLN:HE22	25:k:21:LYS:HB3	1.68	0.57
11:C:76:ALA:HB1	11:C:94:VAL:HG13	1.87	0.57
12:d:93:ARG:N	12:d:93:ARG:HD3	2.19	0.57
1:Y:131:G:H1	1:Y:147:G:H1	1.53	0.57
1:Y:319:G:H1'	1:Y:326:A:H62	1.69	0.57
1:Y:629:A:H62	1:Y:1289:A:H2	1.51	0.57
1:Y:2773:U:C4'	18:G:138:LYS:NZ	2.67	0.57
2:X:1069:G:H4'	25:k:162:ALA:HB1	1.86	0.57
2:X:1445:A:H62	2:X:1479:G:H21	1.52	0.57
11:C:124:ILE:O	11:C:124:ILE:HG22	2.04	0.57
11:C:189:ARG:HG2	11:C:189:ARG:HH11	1.68	0.57
22:i:67:SER:HB2	22:i:72:LEU:CD1	2.34	0.57
29:m:160:THR:CG2	33:o:104:ALA:HB2	2.28	0.57
32:N:76:PHE:CD1	32:N:76:PHE:N	2.73	0.57
1:Y:2312:C:OP2	4:A:2:ARG:NH1	2.37	0.56
1:Y:2505:A:OP1	7:4:31:LYS:CE	2.52	0.56
1:Y:2776:A:N3	1:Y:2776:A:H2'	2.18	0.56
2:X:60:A:H62	2:X:339:G:H2'	1.70	0.56
2:X:596:G:N3	2:X:596:G:H5''	2.20	0.56
2:X:732:G:H4'	2:X:732:G:OP1	2.05	0.56
2:X:1059:G:H21	2:X:1226:G:H1'	1.70	0.56
2:X:1203:C:C6	2:X:1203:C:H5''	2.39	0.56
4:A:46:ARG:HH11	4:A:46:ARG:CG	2.14	0.56
12:d:11:ARG:HG2	12:d:11:ARG:NH2	2.17	0.56
27:L:11:ASP:N	27:L:11:ASP:OD1	2.38	0.56
29:m:160:THR:HG23	33:o:104:ALA:CB	2.26	0.56
1:Y:80:G:H22	1:Y:106:A:H5'	1.70	0.56
2:X:108:A:H5''	2:X:338:C:H5''	1.87	0.56
2:X:1119:C:H2'	2:X:1120:G:H8	1.71	0.56
2:X:1199:A:H2'	2:X:1200:U:H5'	1.87	0.56
3:3:88:U:H4'	3:3:88:U:OP1	2.05	0.56
20:h:11:VAL:HG23	20:h:62:LYS:HA	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:h:39:ARG:HG3	20:h:39:ARG:O	2.03	0.56
1:Y:62:C:H5''	1:Y:63:U:H3'	1.86	0.56
1:Y:208:G:C8	1:Y:208:G:C5'	2.85	0.56
1:Y:1215:U:O5'	1:Y:1215:U:H6	1.88	0.56
1:Y:2125:U:H3	1:Y:2218:G:H1	1.53	0.56
1:Y:2564:U:O5'	1:Y:2564:U:H6	1.88	0.56
1:Y:2683:U:O5'	1:Y:2683:U:H6	1.88	0.56
2:X:60:A:N6	2:X:339:G:H2'	2.19	0.56
2:X:585:G:H2'	2:X:586:C:H5'	1.87	0.56
2:X:679:G:O5'	2:X:679:G:H8	1.88	0.56
2:X:743:C:C2	22:i:25:HIS:HB3	2.40	0.56
2:X:896:G:H8	2:X:896:G:C5'	2.18	0.56
2:X:1194:U:H5'	2:X:1195:G:H5''	1.87	0.56
2:X:1310:A:H2'	2:X:1310:A:N3	2.21	0.56
10:c:95:VAL:HG23	10:c:95:VAL:O	2.05	0.56
13:D:68:TYR:N	13:D:68:TYR:CD1	2.73	0.56
15:e:25:GLU:H	15:e:25:GLU:CD	2.12	0.56
21:I:112:MET:N	21:I:112:MET:SD	2.78	0.56
26:K:30:GLY:HA2	26:K:107:ALA:HB2	1.87	0.56
45:Z:28:THR:HG21	45:Z:47:GLY:HA2	1.87	0.56
1:Y:923:A:N1	1:Y:945:A:H5''	2.19	0.56
1:Y:1174:U:N3	13:D:160:ALA:HB2	2.20	0.56
1:Y:1482:U:H1'	1:Y:1562:C:H4'	1.85	0.56
2:X:1068:U:O2'	25:k:162:ALA:N	2.39	0.56
2:X:1126:C:C2	2:X:1198:G:N2	2.72	0.56
22:i:35:LYS:HA	22:i:38:ILE:HG13	1.88	0.56
1:Y:402:C:C5'	1:Y:402:C:C6	2.88	0.56
1:Y:1077:U:C5	7:4:16:VAL:O	2.58	0.56
1:Y:1490:G:H3'	1:Y:1490:G:N3	2.21	0.56
1:Y:1874:A:C4'	2:X:711:G:N2	2.69	0.56
2:X:133:U:O5'	2:X:133:U:H6	1.89	0.56
2:X:182:A:N7	23:j:79:MET:HE2	2.20	0.56
2:X:282:A:H2'	2:X:282:A:N3	2.21	0.56
8:a:24:LYS:HE2	25:k:60:ALA:HB3	1.87	0.56
11:C:171:TYR:HB3	11:C:184:ILE:N	2.21	0.56
1:Y:1029:C:H6	1:Y:1029:C:C5'	2.14	0.56
2:X:584:C:H1'	2:X:586:C:H41	1.71	0.56
2:X:809:U:H3'	2:X:810:A:H8	1.69	0.56
8:a:18:ILE:HG23	8:a:72:ARG:HG2	1.87	0.56
8:a:80:THR:HB	8:a:81:PRO:CD	2.34	0.56
18:G:3:ARG:HH11	18:G:3:ARG:CG	2.13	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:H:38:ARG:HG2	19:H:38:ARG:NH1	2.21	0.56
29:m:165:TYR:H	33:o:95:PRO:HB2	1.69	0.56
4:1:47:ILE:HD13	4:1:56:VAL:HG21	1.88	0.56
1:Y:808:G:H2'	1:Y:808:G:N3	2.20	0.56
1:Y:923:A:H1'	1:Y:945:A:N6	2.21	0.56
1:Y:1492:G:OP2	1:Y:1492:G:H8	1.87	0.56
1:Y:1565:U:C3'	1:Y:1565:U:C6	2.89	0.56
2:X:277:U:H5''	2:X:277:U:H6	1.70	0.56
2:X:992:U:H4'	2:X:993:A:H5''	1.87	0.56
2:X:1071:U:H4'	8:a:56:HIS:HB3	1.86	0.56
2:X:1314:C:H6	2:X:1314:C:C5'	2.19	0.56
2:X:1392:U:O5'	2:X:1392:U:H6	1.89	0.56
11:C:232:HIS:CD2	11:C:232:HIS:N	2.73	0.56
14:E:27:GLU:OE1	14:E:28:PRO:CD	2.50	0.56
21:I:9:LYS:HB2	21:I:9:LYS:NZ	2.21	0.56
33:o:43:GLU:HB2	33:o:102:GLY:HA2	1.86	0.56
41:T:68:LYS:HZ2	41:T:68:LYS:HB3	1.71	0.56
1:Y:176:A:H3'	1:Y:177:G:H8	1.71	0.56
1:Y:1979:A:OP1	21:I:44:LYS:NZ	2.35	0.56
2:X:821:U:O5'	2:X:821:U:H6	1.89	0.56
2:X:1290:A:H4'	15:e:28:GLY:HA3	1.86	0.56
2:X:1344:A:H2'	2:X:1345:G:H5'	1.87	0.56
2:X:1517:G:H4'	2:X:1518:U:H3'	1.87	0.56
3:3:11:A:OP1	42:U:82:ARG:NH2	2.39	0.56
9:b:46:SER:HA	9:b:66:ALA:HB1	1.88	0.56
11:C:130:LEU:HD23	11:C:130:LEU:H	1.71	0.56
25:k:169:GLU:O	25:k:169:GLU:HG2	2.06	0.56
38:Q:44:SER:OG	38:Q:45:PRO:CD	2.39	0.56
1:Y:2676:U:H2'	1:Y:2677:C:H6	1.71	0.56
2:X:5:A:H61	29:m:83:HIS:CD2	2.09	0.56
2:X:644:U:H3	33:o:88:TYR:HE2	1.47	0.56
2:X:650:A:H3'	2:X:650:A:N3	2.20	0.56
14:E:148:GLN:HB3	14:E:149:PRO:HD2	1.88	0.56
14:E:164:GLU:HB2	14:E:175:VAL:HG11	1.88	0.56
18:G:98:MET:HE3	18:G:120:ASN:HB2	1.87	0.56
30:M:100:LEU:HD23	30:M:102:HIS:H	1.71	0.56
31:n:89:TYR:N	31:n:89:TYR:CD1	2.73	0.56
1:Y:134:U:H5''	1:Y:134:U:H6	1.71	0.56
1:Y:1094:A:C8	1:Y:2778:G:C4	2.93	0.56
1:Y:1229:G:H5''	24:J:32:GLY:HA2	1.88	0.56
1:Y:1509:G:O2'	1:Y:1594:U:O2'	2.22	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:2492:C:O3'	7:4:5:PRO:HD2	2.06	0.56
10:c:3:THR:HG23	10:c:3:THR:O	2.05	0.56
14:E:8:LYS:HE2	14:E:14:SER:HB3	1.88	0.56
14:E:107:ARG:NH2	14:E:107:ARG:HG2	2.21	0.56
21:I:17:ARG:HH21	21:I:47:THR:HG22	1.71	0.56
33:o:85:LEU:HD23	33:o:85:LEU:N	2.16	0.56
1:Y:2211:U:H6	1:Y:2211:U:O5'	1.88	0.55
2:X:1060:G:H2'	2:X:1060:G:N3	2.21	0.55
37:q:23:LEU:HA	37:q:64:ASP:O	2.06	0.55
37:q:120:LEU:HB2	37:q:123:ALA:HA	1.88	0.55
41:T:20:GLN:OE1	41:T:20:GLN:HA	2.06	0.55
1:Y:2347:A:H2'	1:Y:2347:A:N3	2.22	0.55
1:Y:2655:U:OP2	1:Y:2655:U:H6	1.89	0.55
2:X:137:U:HO2'	17:g:63:ASP:CA	2.16	0.55
2:X:350:C:O5'	2:X:350:C:H6	1.89	0.55
2:X:1330:A:H5'	2:X:1333:C:H5'	1.87	0.55
2:X:1474:C:H6	2:X:1474:C:H5''	1.72	0.55
6:2:10:ALA:HB2	24:J:58:PHE:CD2	2.41	0.55
8:a:6:ILE:HG23	15:e:47:LEU:HA	1.88	0.55
9:b:32:VAL:O	9:b:32:VAL:HG12	2.06	0.55
9:b:52:PHE:HB3	9:b:56:LYS:HG3	1.87	0.55
1:Y:1174:U:C4	13:D:160:ALA:HB2	2.40	0.55
2:X:389:A:H5'	2:X:389:A:N3	2.21	0.55
2:X:497:C:OP2	28:l:127:ASP:CB	2.55	0.55
2:X:787:C:O5'	2:X:787:C:H6	1.88	0.55
2:X:1428:G:C5	2:X:1430:G:C2	2.94	0.55
31:n:3:THR:HG22	31:n:66:LYS:HD2	1.87	0.55
34:O:31:LEU:HB2	34:O:34:VAL:HG22	1.88	0.55
37:q:37:VAL:O	37:q:37:VAL:HG23	2.05	0.55
2:X:34:A:H8	2:X:34:A:O5'	1.90	0.55
2:X:577:C:N4	2:X:890:C:H5	2.02	0.55
2:X:702:A:H2	2:X:795:A:H1'	1.71	0.55
2:X:1249:A:H5'	35:p:110:LEU:HA	1.88	0.55
2:X:1330:A:P	2:X:1330:A:C3'	2.94	0.55
2:X:1511:A:P	2:X:1511:A:C3'	2.93	0.55
39:R:90:PHE:CB	44:W:36:GLN:HE22	2.19	0.55
44:W:7:ARG:HG3	44:W:7:ARG:HH11	1.70	0.55
1:Y:363:A:N3	14:E:169:ASN:ND2	2.43	0.55
1:Y:2859:G:O2'	27:L:45:GLU:OE1	2.15	0.55
2:X:744:U:C4'	22:i:25:HIS:CE1	2.85	0.55
2:X:809:U:O2	2:X:809:U:H2'	2.05	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:i:28:TYR:N	22:i:28:TYR:CD1	2.73	0.55
29:m:163:GLU:HG3	29:m:163:GLU:O	2.07	0.55
37:q:23:LEU:HD22	37:q:63:TYR:HB3	1.88	0.55
1:Y:1290:G:H1	34:O:37:GLN:HE21	1.53	0.55
1:Y:1302:G:OP1	45:Z:16:ARG:NH2	2.32	0.55
1:Y:1481:A:O2'	1:Y:1562:C:O2'	2.24	0.55
2:X:57:U:H6	2:X:57:U:H5''	1.71	0.55
2:X:692:U:C5	2:X:715:U:H4'	2.41	0.55
21:I:81:GLU:N	21:I:81:GLU:OE2	2.40	0.55
26:K:17:THR:HG22	26:K:96:VAL:HG23	1.88	0.55
1:Y:306:C:O5'	1:Y:306:C:H6	1.89	0.55
1:Y:1092:A:H2	1:Y:1156:G:H1'	1.71	0.55
1:Y:1462:G:H4'	1:Y:1462:G:OP1	2.06	0.55
1:Y:2904:U:H2'	1:Y:2905:C:H5''	1.87	0.55
2:X:25:U:O2	2:X:25:U:H2'	2.05	0.55
2:X:669:G:HO2'	2:X:844:G:HO2'	1.54	0.55
10:c:47:CYS:SG	10:c:47:CYS:O	2.64	0.55
11:C:275:LYS:HE3	11:C:275:LYS:CA	2.16	0.55
23:j:20:ARG:HB3	23:j:20:ARG:CZ	2.35	0.55
26:K:12:GLN:CG	26:K:73:PRO:HD2	2.37	0.55
1:Y:97:C:O2	1:Y:97:C:H2'	2.06	0.55
1:Y:1169:G:H2'	1:Y:1169:G:N3	2.20	0.55
1:Y:2729:G:N3	1:Y:2729:G:H2'	2.22	0.55
1:Y:2765:A:H8	1:Y:2765:A:OP2	1.90	0.55
2:X:585:G:C1'	2:X:824:A:H2'	2.37	0.55
12:d:12:GLU:OE1	12:d:12:GLU:HA	2.06	0.55
17:g:15:ASN:N	17:g:16:PRO:HD3	2.21	0.55
20:h:13:LYS:HE2	20:h:57:LEU:HA	1.87	0.55
1:Y:656:G:H5''	1:Y:656:G:H8	1.72	0.55
1:Y:1154:G:H5''	1:Y:1154:G:H8	1.72	0.55
1:Y:1226:G:H8	1:Y:1226:G:O5'	1.90	0.55
1:Y:1506:C:C5'	1:Y:1506:C:C6	2.86	0.55
1:Y:1624:C:O5'	1:Y:1624:C:H6	1.90	0.55
1:Y:2371:U:C2	4:A:32:MET:HE1	2.42	0.55
2:X:24:C:O2'	2:X:923:A:N6	2.40	0.55
2:X:236:A:OP1	17:g:60:TRP:CB	2.55	0.55
2:X:462:A:N6	17:g:70:THR:HG22	2.09	0.55
2:X:1011:U:H6	2:X:1011:U:P	2.30	0.55
3:3:11:A:C8	42:U:82:ARG:NH2	2.75	0.55
3:3:66:C:H3'	3:3:67:G:H8	1.72	0.55
3:3:72:U:C1'	41:T:38:ASN:ND2	2.63	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:a:62:ARG:NH1	8:a:62:ARG:HG2	2.21	0.55
18:G:39:GLU:HB2	18:G:40:ARG:HH22	1.71	0.55
35:p:97:THR:O	35:p:101:LEU:HB2	2.07	0.55
1:Y:402:C:C6	1:Y:402:C:H5''	2.42	0.55
1:Y:1603:U:O2	1:Y:1603:U:H2'	2.07	0.55
2:X:104:G:H8	2:X:104:G:O5'	1.89	0.55
2:X:418:G:H8	2:X:418:G:O5'	1.90	0.55
2:X:571:A:H1'	2:X:574:G:H1'	1.88	0.55
2:X:577:C:C2	2:X:890:C:N4	2.75	0.55
2:X:656:A:H4'	16:f:25:PRO:HD3	1.89	0.55
2:X:748:U:C5'	31:n:71:LYS:NZ	2.60	0.55
2:X:1127:U:O2	2:X:1197:G:N2	2.40	0.55
7:4:15:LYS:HG2	7:4:26:ILE:HG13	1.89	0.55
14:E:147:GLU:HG2	14:E:147:GLU:O	2.08	0.55
20:h:63:ILE:HD12	20:h:63:ILE:H	1.71	0.55
25:k:85:LYS:O	25:k:85:LYS:HG3	2.06	0.55
35:p:66:ILE:HA	35:p:69:ILE:HD11	1.89	0.55
1:Y:95:A:H5''	1:Y:95:A:H8	1.72	0.54
1:Y:295:G:H8	1:Y:295:G:OP2	1.89	0.54
1:Y:769:U:O2	1:Y:769:U:H2'	2.08	0.54
1:Y:862:C:H5'	1:Y:863:G:H5'	1.88	0.54
1:Y:1494:G:H22	1:Y:1506:C:H1'	1.71	0.54
1:Y:1874:A:N1	2:X:710:A:O2'	2.40	0.54
1:Y:2557:U:H5''	18:G:172:LYS:HE3	1.89	0.54
2:X:1004:A:H1'	2:X:1228:U:H5'	1.89	0.54
19:H:142:GLU:HA	19:H:142:GLU:OE1	2.05	0.54
33:o:45:PHE:HA	33:o:74:ILE:HD11	1.89	0.54
34:O:83:LEU:HD22	34:O:88:ILE:HG13	1.89	0.54
2:X:1160:C:H6	2:X:1160:C:C5'	2.20	0.54
2:X:1226:G:H8	2:X:1226:G:OP2	1.90	0.54
2:X:1229:U:O2	2:X:1229:U:H2'	2.06	0.54
2:X:1311:G:H4'	2:X:1312:U:H5''	1.89	0.54
12:d:81:MET:HE2	12:d:87:ARG:HB2	1.89	0.54
29:m:155:LYS:N	29:m:155:LYS:HD2	2.21	0.54
38:Q:51:LEU:HD12	38:Q:51:LEU:O	2.08	0.54
1:Y:482:U:H2'	1:Y:483:C:H6	1.70	0.54
1:Y:1238:U:H1'	34:O:4:VAL:HG22	1.89	0.54
2:X:551:G:H8	2:X:551:G:O5'	1.90	0.54
2:X:644:U:N3	33:o:88:TYR:OH	2.37	0.54
2:X:973:G:H3'	2:X:975:A:H62	1.72	0.54
9:b:23:ILE:HG13	9:b:23:ILE:O	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:H:95:ARG:CB	19:H:95:ARG:CZ	2.85	0.54
25:k:166:GLN:OE1	25:k:166:GLN:HA	2.07	0.54
31:n:43:TRP:CD1	31:n:43:TRP:N	2.75	0.54
32:N:53:ARG:HG3	32:N:53:ARG:NH1	2.22	0.54
33:o:47:LYS:HG2	33:o:65:LYS:HB2	1.87	0.54
2:X:422:A:N6	2:X:439:A:O2'	2.40	0.54
2:X:535:G:H2'	2:X:536:C:H6	1.71	0.54
2:X:561:A:H1'	10:c:41:PRO:CG	2.37	0.54
2:X:1320:G:H5'	12:d:98:ARG:HG3	1.89	0.54
16:f:76:GLN:CD	16:f:76:GLN:H	2.15	0.54
29:m:81:THR:HG23	29:m:98:PRO:HA	1.88	0.54
30:M:40:ILE:H	30:M:58:SER:HB3	1.72	0.54
33:o:34:LYS:HG3	33:o:52:VAL:HG11	1.90	0.54
39:R:40:MET:O	39:R:40:MET:HG2	2.07	0.54
1:Y:410:G:H5''	1:Y:411:A:H8	1.72	0.54
1:Y:1770:C:H6	1:Y:1770:C:H5''	1.71	0.54
1:Y:1918:G:H2'	1:Y:1919:C:C6	2.43	0.54
1:Y:2080:G:O4'	13:D:161:SER:HB2	2.08	0.54
1:Y:2327:A:H8	1:Y:2327:A:O5'	1.90	0.54
2:X:245:C:H5''	2:X:245:C:C6	2.36	0.54
2:X:425:G:H21	2:X:435:C:H41	1.54	0.54
10:c:67:ARG:HG2	10:c:77:ASN:HA	1.89	0.54
15:e:38:LYS:CE	25:k:29:ALA:HB3	2.37	0.54
1:Y:2318:U:H2'	1:Y:2319:U:C6	2.43	0.54
1:Y:2509:A:P	1:Y:2509:A:H8	2.30	0.54
2:X:1444:A:H2'	2:X:1445:A:C8	2.43	0.54
18:G:89:LEU:HB3	18:G:162:ILE:HA	1.90	0.54
37:q:126:SER:HB2	37:q:127:PRO:HD2	1.88	0.54
39:R:6:ILE:HG22	39:R:7:LEU:HD12	1.88	0.54
1:Y:1617:A:H5'	11:C:36:PRO:HG3	1.90	0.54
1:Y:1713:A:H2'	1:Y:1713:A:N3	2.22	0.54
2:X:360:C:O2	2:X:360:C:O2'	2.24	0.54
2:X:414:G:H8	2:X:414:G:OP1	1.90	0.54
2:X:566:G:H4'	2:X:566:G:OP1	2.08	0.54
2:X:644:U:O2	2:X:644:U:H2'	2.07	0.54
2:X:657:A:H8	2:X:657:A:O5'	1.90	0.54
2:X:1171:G:H1'	2:X:1172:C:H5	1.71	0.54
2:X:1417:U:H3'	2:X:1418:C:H6	1.73	0.54
2:X:1423:C:H3'	2:X:1423:C:H6	1.73	0.54
3:3:66:C:O2	3:3:66:C:H2'	2.07	0.54
8:a:9:ARG:CD	15:e:26:ARG:HB2	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:D:131:ILE:HD12	13:D:138:ARG:HG2	1.89	0.54
14:E:107:ARG:HG2	14:E:107:ARG:HH21	1.71	0.54
27:L:28:GLU:HB3	27:L:121:LEU:HD12	1.89	0.54
37:q:8:TYR:CD1	37:q:8:TYR:N	2.76	0.54
4:1:10:ARG:HH21	4:1:10:ARG:CG	2.17	0.54
1:Y:140:A:H5''	1:Y:140:A:N3	2.23	0.54
1:Y:227:G:H2'	1:Y:228:A:C8	2.43	0.54
1:Y:684:U:O5'	1:Y:684:U:H6	1.91	0.54
1:Y:787:U:H2'	1:Y:788:A:C8	2.43	0.54
1:Y:2232:A:H2'	1:Y:2233:C:C6	2.43	0.54
2:X:123:G:H4'	2:X:299:C:H1'	1.90	0.54
2:X:1128:U:OP1	8:a:45:GLU:N	2.41	0.54
2:X:1159:U:H2'	2:X:1160:C:C5	2.43	0.54
2:X:1203:C:O2	2:X:1203:C:H2'	2.08	0.54
2:X:1251:U:C3'	2:X:1251:U:C6	2.91	0.54
2:X:1251:U:H3'	2:X:1251:U:H6	1.73	0.54
2:X:1252:G:H2'	2:X:1253:G:H5''	1.90	0.54
3:3:15:C:H42	3:3:105:G:H21	1.55	0.54
3:3:113:G:O5'	3:3:113:G:H8	1.89	0.54
25:k:103:ILE:HG22	25:k:105:ILE:HD13	1.89	0.54
29:m:58:GLU:HG2	29:m:61:LYS:HE3	1.89	0.54
31:n:75:GLU:HA	31:n:75:GLU:OE2	2.07	0.54
1:Y:1565:U:H6	1:Y:1565:U:C3'	2.21	0.54
1:Y:1865:C:O2	1:Y:1865:C:H2'	2.07	0.54
1:Y:1915:G:OP2	1:Y:1915:G:N2	2.24	0.54
1:Y:2337:A:C5'	46:F:80:ARG:CB	2.59	0.54
2:X:586:C:H2'	2:X:769:G:H8	1.71	0.54
2:X:676:A:H61	2:X:745:U:H2'	1.73	0.54
2:X:1078:C:C4	2:X:1080:G:H1'	2.43	0.54
3:3:9:C:H2'	3:3:13:A:H61	1.73	0.54
34:O:98:ILE:HD11	36:P:4:ILE:HD11	1.89	0.54
1:Y:692:G:H2'	1:Y:693:G:C8	2.43	0.54
1:Y:1909:C:H2'	1:Y:1910:G:C8	2.43	0.54
2:X:21:U:H6	2:X:21:U:H5''	1.73	0.54
2:X:743:C:C4'	22:i:28:TYR:HH	2.06	0.54
2:X:861:U:O2	2:X:861:U:H2'	2.08	0.54
2:X:904:G:H8	2:X:904:G:O5'	1.90	0.54
2:X:1206:C:H2'	2:X:1208:A:C8	2.43	0.54
2:X:1386:A:OP2	2:X:1386:A:H8	1.91	0.54
3:3:41:C:H2'	3:3:42:G:H5''	1.89	0.54
11:C:230:HIS:CE1	11:C:231:PRO:HD2	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:D:52:GLY:HA3	13:D:85:LYS:CG	2.36	0.54
29:m:157:ARG:HE	29:m:159:LYS:CB	2.21	0.54
33:o:17:ALA:HB1	33:o:22:HIS:HB2	1.90	0.54
1:Y:131:G:OP2	1:Y:131:G:H8	1.89	0.53
1:Y:226:A:H3'	1:Y:227:G:H8	1.72	0.53
1:Y:550:A:N3	1:Y:550:A:H2'	2.22	0.53
1:Y:854:G:C6	24:J:29:LYS:O	2.61	0.53
1:Y:1154:G:H8	1:Y:1154:G:C5'	2.21	0.53
1:Y:1205:U:O3'	36:P:8:GLY:C	2.51	0.53
1:Y:2367:A:OP1	3:3:39:G:N2	2.41	0.53
2:X:21:U:H6	2:X:21:U:C5'	2.21	0.53
2:X:316:C:O3'	17:g:13:LYS:HE3	2.08	0.53
2:X:591:A:H8	2:X:591:A:OP1	1.91	0.53
2:X:1402:U:H3'	2:X:1402:U:H6	1.72	0.53
10:c:96:ARG:HA	10:c:111:VAL:HG23	1.90	0.53
14:E:39:LEU:C	14:E:39:LEU:HD12	2.32	0.53
15:e:31:HIS:N	15:e:31:HIS:HD1	2.05	0.53
18:G:35:ARG:HH22	18:G:71:LEU:HD21	1.73	0.53
22:i:55:LYS:C	22:i:55:LYS:HD3	2.33	0.53
25:k:190:THR:HG22	25:k:190:THR:O	2.08	0.53
37:q:21:VAL:HG21	37:q:85:ILE:HA	1.89	0.53
37:q:109:ASP:N	37:q:109:ASP:OD1	2.40	0.53
1:Y:323:C:H5''	1:Y:323:C:O2	2.08	0.53
1:Y:830:U:H2'	1:Y:831:C:C6	2.43	0.53
1:Y:917:U:H2'	1:Y:918:G:C8	2.43	0.53
1:Y:1409:U:H2'	1:Y:1410:A:C8	2.44	0.53
1:Y:1757:U:OP2	1:Y:1757:U:H6	1.91	0.53
2:X:1026:A:H3'	2:X:1027:U:C6	2.43	0.53
2:X:1451:U:O2	2:X:1451:U:H2'	2.08	0.53
13:D:15:VAL:HG22	32:N:14:GLN:HE21	1.72	0.53
14:E:64:PRO:HB2	14:E:65:TRP:CE3	2.43	0.53
22:i:38:ILE:HD12	22:i:64:ILE:HD11	1.89	0.53
29:m:165:TYR:N	33:o:95:PRO:CB	2.72	0.53
30:M:119:PHE:CD1	30:M:119:PHE:C	2.86	0.53
33:o:106:VAL:HG12	33:o:124:GLY:HA2	1.90	0.53
40:S:46:LYS:HB3	40:S:47:PRO:HD2	1.90	0.53
1:Y:338:G:H5''	1:Y:338:G:C8	2.44	0.53
1:Y:1351:C:O2	1:Y:1351:C:H2'	2.08	0.53
1:Y:1590:C:H2'	1:Y:1591:G:C5	2.44	0.53
1:Y:2323:U:O2	1:Y:2323:U:H2'	2.08	0.53
2:X:335:A:H1'	2:X:337:A:OP1	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:1026:A:H5''	2:X:1027:U:C5	2.43	0.53
2:X:1090:U:H6	2:X:1090:U:H5''	1.73	0.53
14:E:132:GLU:H	14:E:132:GLU:CD	2.16	0.53
15:e:38:LYS:HZ1	25:k:29:ALA:HB3	1.68	0.53
21:I:104:ARG:HG3	21:I:104:ARG:NH1	2.21	0.53
32:N:96:ARG:HB3	32:N:96:ARG:NH1	2.23	0.53
1:Y:405:G:N3	1:Y:405:G:H2'	2.22	0.53
1:Y:624:C:H5''	34:O:33:LYS:HZ3	1.74	0.53
1:Y:660:A:H5'	1:Y:660:A:C8	2.43	0.53
1:Y:921:C:H1'	1:Y:946:A:H1'	1.90	0.53
1:Y:1409:U:H2'	1:Y:1410:A:H8	1.72	0.53
1:Y:1612:C:OP2	11:C:6:TYR:OH	2.22	0.53
1:Y:2418:G:N3	1:Y:2418:G:H2'	2.23	0.53
2:X:143:A:C8	2:X:210:A:C2	2.97	0.53
2:X:307:G:H2'	2:X:308:A:H5'	1.89	0.53
2:X:378:C:O2	2:X:378:C:H2'	2.09	0.53
2:X:542:U:H6	2:X:542:U:H3'	1.73	0.53
2:X:670:A:H2'	2:X:671:A:C8	2.44	0.53
2:X:684:A:H5''	2:X:720:A:H62	1.74	0.53
2:X:1013:G:N3	2:X:1013:G:H2'	2.22	0.53
2:X:1132:C:H2'	2:X:1133:U:H5''	1.91	0.53
2:X:1251:U:C4	35:p:109:ARG:HA	2.44	0.53
23:j:52:LEU:HA	23:j:79:MET:HA	1.91	0.53
35:p:75:VAL:HA	35:p:88:PRO:CA	2.28	0.53
40:S:73:PRO:HG3	40:S:100:GLU:HB2	1.89	0.53
45:Z:42:VAL:HG13	45:Z:42:VAL:O	2.08	0.53
1:Y:901:G:H2'	1:Y:902:A:C8	2.43	0.53
1:Y:1184:C:P	19:H:69:LYS:NZ	2.81	0.53
1:Y:1205:U:H3'	1:Y:1207:G:P	2.49	0.53
1:Y:1277:C:H2'	1:Y:1278:G:C8	2.44	0.53
1:Y:1373:U:O2	1:Y:1373:U:H2'	2.08	0.53
2:X:353:C:O2	2:X:353:C:H2'	2.08	0.53
2:X:391:A:H3'	2:X:392:G:H8	1.74	0.53
2:X:684:A:H3'	2:X:684:A:N3	2.24	0.53
2:X:704:A:H2'	2:X:705:U:C2	2.44	0.53
2:X:810:A:H2'	2:X:811:G:H5'	1.90	0.53
2:X:889:C:H6	2:X:889:C:O5'	1.91	0.53
2:X:1346:C:O2	2:X:1346:C:H2'	2.08	0.53
12:d:83:ILE:O	12:d:83:ILE:HG13	2.09	0.53
29:m:77:VAL:HG12	29:m:78:GLU:HG2	1.90	0.53
30:M:44:ILE:HD13	30:M:44:ILE:N	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:S:30:LYS:HG2	40:S:32:ARG:HD2	1.89	0.53
1:Y:308:C:H2'	1:Y:308:C:O2	2.08	0.53
1:Y:703:A:H2'	1:Y:704:U:C6	2.44	0.53
1:Y:921:C:C1'	1:Y:946:A:H1'	2.38	0.53
1:Y:1565:U:H3'	1:Y:1565:U:C6	2.43	0.53
1:Y:1832:C:O2	11:C:50:THR:HG21	2.09	0.53
2:X:520:U:C5	2:X:542:U:H1'	2.43	0.53
2:X:612:G:H3'	2:X:613:U:C6	2.44	0.53
2:X:1251:U:H5'	35:p:116:MET:HA	1.91	0.53
2:X:1499:G:H2'	2:X:1500:G:C5	2.44	0.53
18:G:35:ARG:HG2	18:G:35:ARG:NH1	2.24	0.53
20:h:38:LYS:HA	20:h:38:LYS:CE	2.27	0.53
1:Y:1169:G:N3	1:Y:1169:G:C2'	2.72	0.53
1:Y:2232:A:H4'	11:C:149:GLY:O	2.09	0.53
1:Y:2341:A:C6	46:F:128:TYR:N	2.76	0.53
1:Y:2769:G:P	7:4:35:ARG:HH21	2.32	0.53
1:Y:2792:A:H3'	1:Y:2793:G:H4'	1.91	0.53
2:X:352:A:H2'	2:X:352:A:N3	2.23	0.53
2:X:529:G:H5'	10:c:83:ILE:HD12	1.85	0.53
2:X:891:G:H8	2:X:891:G:H3'	1.74	0.53
2:X:901:U:H2'	2:X:902:A:C4	2.43	0.53
18:G:92:VAL:HB	18:G:160:LYS:HE2	1.90	0.53
24:J:51:GLU:N	24:J:51:GLU:OE2	2.42	0.53
29:m:15:VAL:HA	29:m:37:VAL:HA	1.91	0.53
29:m:45:ARG:N	29:m:45:ARG:HD2	2.24	0.53
1:Y:1214:C:O2	1:Y:1214:C:H2'	2.08	0.53
1:Y:1443:A:H2'	1:Y:1444:C:C6	2.43	0.53
1:Y:2782:C:H6	1:Y:2782:C:O5'	1.91	0.53
2:X:142:G:C4'	2:X:210:A:N6	2.71	0.53
2:X:387:C:H3'	2:X:388:G:H8	1.74	0.53
2:X:743:C:H3'	2:X:744:U:C6	2.44	0.53
2:X:1130:A:H1'	37:q:6:VAL:HG23	1.90	0.53
3:3:65:G:H8	3:3:65:G:OP1	1.92	0.53
14:E:194:ILE:HG22	14:E:198:ALA:HB3	1.89	0.53
25:k:114:LEU:HD22	25:k:114:LEU:N	2.24	0.53
44:W:63:GLU:OE1	44:W:63:GLU:HA	2.07	0.53
1:Y:331:G:C5	1:Y:397:U:H4'	2.44	0.53
1:Y:458:A:H2'	1:Y:458:A:N3	2.24	0.53
1:Y:1475:A:H2'	1:Y:1476:G:C8	2.44	0.53
1:Y:2895:G:H2'	1:Y:2896:A:C8	2.44	0.53
2:X:62:G:H4'	2:X:394:C:H4'	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:135:C:O5'	2:X:135:C:H6	1.90	0.53
2:X:589:G:H5''	2:X:589:G:C8	2.43	0.53
11:C:6:TYR:CD2	11:C:16:MET:HG2	2.44	0.53
25:k:112:ALA:HA	25:k:115:VAL:HG12	1.90	0.53
27:L:106:GLN:NE2	45:Z:42:VAL:HG11	2.19	0.53
44:W:9:LEU:HD22	44:W:14:ILE:HG13	1.91	0.53
44:W:17:GLN:OE1	44:W:17:GLN:HA	2.08	0.53
1:Y:135:G:H5'	1:Y:136:A:H5''	1.90	0.53
1:Y:559:A:HO2'	34:O:31:LEU:HD22	1.74	0.53
1:Y:715:A:H4'	1:Y:716:C:H5''	1.90	0.53
1:Y:809:A:C8	11:C:212:ARG:NH1	2.56	0.53
1:Y:2822:C:H4'	1:Y:2823:G:C6	2.44	0.53
2:X:462:A:C6	17:g:70:THR:CG2	2.92	0.53
2:X:509:C:O2'	2:X:557:C:O3'	2.25	0.53
2:X:586:C:H2'	2:X:769:G:C8	2.43	0.53
2:X:832:U:C5	2:X:882:A:H3'	2.44	0.53
2:X:1141:C:H1'	2:X:1144:C:H42	1.72	0.53
2:X:1405:A:H62	2:X:1512:A:H1'	1.74	0.53
2:X:1431:U:H6	2:X:1431:U:O5'	1.91	0.53
11:C:186:SER:O	11:C:186:SER:OG	2.23	0.53
29:m:160:THR:HG22	33:o:103:ILE:C	2.34	0.53
38:Q:38:LEU:HD12	45:Z:27:MET:HB2	1.90	0.53
1:Y:156:A:N3	1:Y:156:A:C2'	2.72	0.52
1:Y:235:G:N3	1:Y:235:G:C2'	2.73	0.52
1:Y:820:G:H1	1:Y:836:C:H5	1.56	0.52
1:Y:2131:C:H2'	1:Y:2132:A:C8	2.44	0.52
1:Y:2403:A:C8	30:M:101:TYR:CE2	2.96	0.52
1:Y:2811:U:H2'	1:Y:2812:U:C6	2.44	0.52
2:X:522:C:C5'	2:X:522:C:C6	2.92	0.52
2:X:790:A:H3'	2:X:791:C:C6	2.44	0.52
2:X:1312:U:O2	2:X:1312:U:H2'	2.08	0.52
2:X:1452:G:H2'	2:X:1452:G:N3	2.24	0.52
8:a:17:VAL:HG22	25:k:18:TRP:HB2	1.92	0.52
8:a:25:ILE:HG12	25:k:23:TYR:CG	2.43	0.52
22:i:35:LYS:HE3	22:i:73:LEU:HB2	1.91	0.52
30:M:22:LEU:HD23	30:M:22:LEU:O	2.09	0.52
35:p:73:LEU:HD11	35:p:88:PRO:HB2	1.90	0.52
1:Y:577:A:H2'	1:Y:577:A:N3	2.24	0.52
2:X:245:C:H4'	20:h:34:LYS:HZ1	1.73	0.52
2:X:644:U:N3	33:o:88:TYR:CE2	2.69	0.52
2:X:665:U:H5''	2:X:750:G:H5''	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:688:C:H6	2:X:688:C:H5''	1.74	0.52
2:X:1534:U:H6	2:X:1534:U:H3'	1.75	0.52
3:3:60:C:H2'	3:3:61:U:H5''	1.91	0.52
21:I:97:ARG:HH11	21:I:97:ARG:CG	2.14	0.52
22:i:45:LEU:HD12	22:i:45:LEU:C	2.34	0.52
26:K:1:MET:CA	26:K:1:MET:HE3	2.39	0.52
29:m:35:ALA:HB1	29:m:60:ILE:HG13	1.90	0.52
41:T:34:TYR:H	41:T:93:ALA:HB3	1.75	0.52
1:Y:152:C:H5''	1:Y:152:C:C6	2.26	0.52
1:Y:2371:U:C2	4:A:32:MET:CE	2.91	0.52
1:Y:2560:U:H3'	1:Y:2561:C:C6	2.45	0.52
1:Y:2677:C:O2	1:Y:2677:C:H2'	2.08	0.52
2:X:125:G:H2'	2:X:126:G:C8	2.45	0.52
2:X:328:A:H8	2:X:328:A:O5'	1.91	0.52
2:X:377:C:H2'	2:X:378:C:C6	2.45	0.52
2:X:431:G:H8	2:X:431:G:OP1	1.92	0.52
2:X:587:G:N3	2:X:587:G:C2'	2.72	0.52
2:X:682:G:OP2	9:b:116:VAL:HG12	2.09	0.52
2:X:835:U:H2'	2:X:870:A:C2	2.45	0.52
2:X:1379:A:N3	2:X:1379:A:C3'	2.73	0.52
2:X:1500:G:H2'	2:X:1501:G:C8	2.44	0.52
8:a:15:HIS:HA	8:a:70:HIS:CE1	2.44	0.52
17:g:22:VAL:HB	17:g:35:GLU:H	1.75	0.52
19:H:85:ILE:HG23	19:H:85:ILE:O	2.10	0.52
21:I:112:MET:HA	21:I:115:VAL:HG12	1.91	0.52
28:l:46:GLU:CB	29:m:95:PHE:CD2	2.92	0.52
30:M:40:ILE:HD11	30:M:104:ARG:HH11	1.75	0.52
35:p:75:VAL:HG22	35:p:86:GLN:HG2	1.91	0.52
38:Q:11:ARG:NH2	38:Q:11:ARG:HG3	2.24	0.52
1:Y:581:A:OP1	19:H:1:MET:CE	2.51	0.52
1:Y:923:A:H1'	1:Y:945:A:H62	1.74	0.52
1:Y:971:U:H5''	1:Y:971:U:O2	2.08	0.52
1:Y:1769:C:O5'	1:Y:1769:C:H6	1.91	0.52
1:Y:2338:A:H5'	46:F:131:GLY:C	2.35	0.52
2:X:245:C:C5'	2:X:245:C:C6	2.86	0.52
2:X:387:C:H3'	2:X:388:G:C8	2.44	0.52
2:X:934:C:H5'	2:X:1514:A:C5	2.44	0.52
2:X:1250:A:C8	2:X:1250:A:C5'	2.93	0.52
2:X:1400:C:O2	2:X:1400:C:H2'	2.08	0.52
3:3:114:C:O2	3:3:114:C:H2'	2.10	0.52
7:4:7:VAL:HG23	7:4:7:VAL:O	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:b:44:TRP:HA	9:b:44:TRP:HE3	1.73	0.52
10:c:94:LEU:HG	10:c:114:ALA:HB1	1.90	0.52
11:C:133:GLN:HA	11:C:167:LYS:HZ1	1.68	0.52
25:k:8:ILE:HG13	25:k:12:VAL:HG13	1.91	0.52
26:K:82:ARG:HG3	26:K:82:ARG:NH2	2.24	0.52
29:m:89:TYR:CD2	29:m:142:ASP:HB2	2.45	0.52
29:m:157:ARG:CG	29:m:157:ARG:HH21	2.22	0.52
30:M:6:ASP:HB3	30:M:9:LYS:HG2	1.91	0.52
31:n:55:PHE:CE2	31:n:87:ILE:HG12	2.45	0.52
33:o:42:SER:OG	33:o:103:ILE:HG12	2.09	0.52
1:Y:24:G:H2'	1:Y:25:U:C6	2.44	0.52
1:Y:233:U:O2	1:Y:233:U:H2'	2.09	0.52
1:Y:582:G:H5'	19:H:6:MET:CE	2.39	0.52
1:Y:2432:G:H4'	1:Y:2433:C:C5	2.45	0.52
1:Y:2579:U:H3	1:Y:2583:C:H42	1.57	0.52
2:X:259:G:N3	2:X:259:G:C2'	2.72	0.52
2:X:381:A:H3'	2:X:382:A:H8	1.73	0.52
2:X:553:C:H2'	2:X:554:A:C4	2.44	0.52
2:X:589:G:H5'	16:f:58:LYS:NZ	2.25	0.52
2:X:1430:G:H2'	2:X:1431:U:C4	2.45	0.52
9:b:33:THR:CG2	9:b:44:TRP:HZ3	2.17	0.52
23:j:8:ILE:HD13	23:j:8:ILE:O	2.09	0.52
26:K:106:VAL:HG21	26:K:114:ALA:HB1	1.92	0.52
28:l:46:GLU:H	29:m:126:LYS:HE3	1.75	0.52
29:m:46:VAL:HG11	29:m:141:ILE:HG22	1.90	0.52
40:S:17:LYS:O	40:S:17:LYS:HG3	2.09	0.52
40:S:42:LYS:HG3	40:S:42:LYS:O	2.10	0.52
43:V:17:ARG:HG3	43:V:17:ARG:NH1	2.22	0.52
44:W:42:ARG:CG	44:W:42:ARG:NH1	2.73	0.52
1:Y:158:G:N3	1:Y:158:G:C5'	2.73	0.52
1:Y:575:G:N3	1:Y:575:G:C2'	2.73	0.52
1:Y:637:U:H2'	1:Y:638:U:C6	2.44	0.52
1:Y:1496:G:H2'	1:Y:2729:G:C8	2.44	0.52
1:Y:2371:U:C2'	4:A:32:MET:CE	2.88	0.52
1:Y:2418:G:N3	1:Y:2418:G:C2'	2.73	0.52
1:Y:2675:G:H2'	1:Y:2676:U:C6	2.45	0.52
1:Y:2694:C:O2	1:Y:2694:C:H2'	2.08	0.52
2:X:5:A:C8	2:X:7:G:H1'	2.45	0.52
2:X:658:A:O5'	2:X:658:A:H8	1.93	0.52
2:X:772:C:H2'	2:X:772:C:O2	2.08	0.52
2:X:1130:A:H2'	2:X:1130:A:N3	2.24	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:1463:U:O2	2:X:1463:U:H2'	2.09	0.52
12:d:10:PRO:HB2	12:d:13:LYS:HD2	1.89	0.52
14:E:40:GLN:HG2	14:E:184:LEU:HD22	1.92	0.52
29:m:48:PHE:CD1	29:m:137:VAL:HG21	2.45	0.52
29:m:83:HIS:HE1	29:m:85:ILE:HD13	1.74	0.52
33:o:61:ARG:HG3	33:o:63:PHE:CE2	2.45	0.52
37:q:105:LEU:H	37:q:105:LEU:CD2	2.22	0.52
1:Y:91:A:H3'	1:Y:92:G:H8	1.74	0.52
1:Y:1369:G:H5''	1:Y:1653:A:C6	2.45	0.52
1:Y:1904:A:H2'	1:Y:1905:G:C8	2.45	0.52
1:Y:2340:C:H4'	46:F:69:LYS:CA	2.39	0.52
1:Y:2679:U:H6	1:Y:2679:U:C5'	2.23	0.52
1:Y:2874:A:H2'	1:Y:2875:U:C6	2.45	0.52
2:X:264:U:H2'	2:X:265:A:C8	2.45	0.52
2:X:327:G:H2'	2:X:328:A:C8	2.45	0.52
2:X:462:A:N1	17:g:70:THR:HG22	2.25	0.52
2:X:464:A:H2'	2:X:464:A:N3	2.25	0.52
2:X:771:G:O3'	2:X:771:G:OP1	2.28	0.52
8:a:85:ASP:C	25:k:61:ASN:OD1	2.52	0.52
14:E:80:ALA:HB3	14:E:83:TRP:CD1	2.45	0.52
28:l:76:GLY:HA2	28:l:82:HIS:CE1	2.44	0.52
32:N:90:ARG:NH2	32:N:90:ARG:CG	2.73	0.52
33:o:14:VAL:HB	33:o:62:LEU:HD23	1.91	0.52
33:o:21:ARG:N	33:o:21:ARG:CD	2.73	0.52
35:p:70:MET:HG3	35:p:96:ARG:HD3	1.92	0.52
1:Y:692:G:H2'	1:Y:693:G:H8	1.74	0.52
1:Y:755:C:H2'	1:Y:755:C:O2	2.08	0.52
1:Y:1921:C:O2	2:X:710:A:H5''	2.08	0.52
1:Y:2565:C:H2'	1:Y:2566:C:C6	2.45	0.52
1:Y:2793:G:H5'	1:Y:2794:C:C5	2.45	0.52
2:X:343:C:H4'	2:X:1445:A:H1'	1.92	0.52
2:X:424:G:H22	2:X:436:G:H22	1.57	0.52
2:X:1179:C:H4'	2:X:1180:A:C8	2.44	0.52
2:X:1467:G:H2'	2:X:1468:A:H5'	1.92	0.52
16:f:74:ASP:HB3	16:f:77:ARG:HB3	1.90	0.52
21:I:9:LYS:NZ	21:I:9:LYS:CB	2.73	0.52
33:o:120:LYS:HD2	33:o:120:LYS:H	1.74	0.52
44:W:43:ILE:HD12	44:W:43:ILE:N	2.24	0.52
1:Y:1450:A:H3'	1:Y:1451:U:C6	2.45	0.52
1:Y:1704:C:H6	1:Y:1704:C:H5''	1.74	0.52
1:Y:1893:A:H62	1:Y:1903:A:H62	1.58	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:2237:U:H4'	1:Y:2238:U:C5	2.44	0.52
1:Y:2314:A:H62	1:Y:2371:U:H3	1.58	0.52
2:X:245:C:H4'	20:h:34:LYS:HZ3	1.73	0.52
2:X:410:G:OP2	28:l:67:GLN:CB	2.58	0.52
2:X:412:G:N3	2:X:412:G:H2'	2.25	0.52
2:X:777:G:H8	2:X:777:G:O5'	1.93	0.52
2:X:1134:U:C1'	8:a:41:PRO:HB2	2.25	0.52
11:C:171:TYR:CD2	11:C:269:LEU:HD22	2.45	0.52
25:k:36:LEU:HD12	25:k:37:LYS:HD3	1.92	0.52
26:K:32:PHE:CD1	26:K:133:LYS:HG2	2.43	0.52
41:T:55:VAL:HG21	41:T:61:ILE:HD11	1.92	0.52
42:U:33:ARG:HG3	42:U:39:VAL:HG11	1.92	0.52
1:Y:346:A:H2'	1:Y:347:U:C6	2.44	0.52
1:Y:2361:U:O3'	30:M:17:ARG:HD3	2.09	0.52
1:Y:2734:C:H2'	1:Y:2735:G:C8	2.45	0.52
2:X:109:C:N4	2:X:338:C:N4	2.58	0.52
2:X:209:G:O4'	23:j:57:VAL:O	2.27	0.52
2:X:334:G:C5'	2:X:334:G:C8	2.93	0.52
2:X:607:C:H3'	2:X:607:C:H6	1.74	0.52
2:X:959:A:H3'	2:X:960:U:H6	1.75	0.52
2:X:1274:A:H2'	2:X:1275:C:C2	2.45	0.52
2:X:1410:C:H4'	2:X:1411:C:H6	1.74	0.52
3:3:113:G:C2	3:3:114:C:H1'	2.45	0.52
11:C:130:LEU:N	11:C:130:LEU:CD2	2.73	0.52
22:i:35:LYS:NZ	22:i:72:LEU:HD12	2.25	0.52
26:K:34:LEU:HG	26:K:129:THR:HB	1.91	0.52
30:M:41:TYR:N	30:M:41:TYR:CD1	2.77	0.52
35:p:24:THR:HA	35:p:27:ILE:HB	1.92	0.52
40:S:39:ASN:HB3	40:S:61:ALA:HB3	1.90	0.52
1:Y:232:U:H2'	1:Y:233:U:C6	2.45	0.51
1:Y:1078:G:P	7:4:18:LYS:HZ1	2.33	0.51
1:Y:1578:A:H2'	1:Y:1579:C:H4'	1.91	0.51
1:Y:1879:U:H6	1:Y:1879:U:H5''	1.74	0.51
1:Y:1951:C:H2'	1:Y:1952:C:C4	2.45	0.51
2:X:328:A:H2'	2:X:329:A:C8	2.45	0.51
2:X:410:G:OP2	28:l:67:GLN:HB3	2.10	0.51
2:X:951:G:H2'	2:X:952:G:C8	2.44	0.51
2:X:1280:A:C8	2:X:1324:U:H1'	2.45	0.51
2:X:1325:C:H3'	2:X:1325:C:C6	2.45	0.51
2:X:1332:U:H5''	12:d:100:GLN:HE22	1.70	0.51
2:X:1429:A:N3	2:X:1429:A:C2'	2.73	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:1492:A:H2'	2:X:1493:U:H5'	1.92	0.51
3:3:107:U:H6	3:3:107:U:H5''	1.75	0.51
11:C:205:VAL:HG12	11:C:210:ARG:HB3	1.92	0.51
19:H:95:ARG:HB3	19:H:95:ARG:CZ	2.40	0.51
31:n:55:PHE:HE2	31:n:87:ILE:HG21	1.75	0.51
44:W:7:ARG:NH1	44:W:7:ARG:CG	2.73	0.51
1:Y:151:U:H2'	1:Y:152:C:C6	2.44	0.51
1:Y:281:A:H8	1:Y:281:A:O5'	1.94	0.51
1:Y:863:G:N3	1:Y:863:G:C2'	2.72	0.51
1:Y:1566:G:H2'	1:Y:1567:A:H5'	1.92	0.51
1:Y:2355:A:H2'	1:Y:2356:A:C8	2.45	0.51
1:Y:2791:A:C4	1:Y:2793:G:H1'	2.45	0.51
1:Y:2814:C:H2'	1:Y:2815:C:C6	2.45	0.51
2:X:495:A:H2	2:X:627:U:H5''	1.75	0.51
2:X:961:G:H2'	2:X:962:U:C6	2.44	0.51
2:X:1235:U:C5	2:X:1333:C:H1'	2.45	0.51
2:X:1257:A:H2'	2:X:1258:U:H5'	1.92	0.51
3:3:24:C:O2	3:3:24:C:H2'	2.10	0.51
6:2:35:ASN:N	6:2:35:ASN:OD1	2.43	0.51
9:b:122:ARG:NE	9:b:122:ARG:H	2.06	0.51
11:C:227:PRO:HG3	11:C:234:GLY:HA3	1.92	0.51
18:G:37:LEU:HG	18:G:72:LEU:HD11	1.92	0.51
22:i:38:ILE:HG22	22:i:42:GLY:HA2	1.91	0.51
29:m:135:ASN:HA	29:m:138:ARG:HG2	1.91	0.51
39:R:62:LYS:NZ	39:R:62:LYS:CB	2.73	0.51
40:S:74:LYS:HZ3	40:S:98:GLY:H	1.58	0.51
44:W:29:ARG:NH1	44:W:29:ARG:CG	2.73	0.51
1:Y:1094:A:C5	1:Y:2778:G:C6	2.99	0.51
1:Y:2338:A:O2'	46:F:82:GLY:N	2.40	0.51
1:Y:2734:C:H2'	1:Y:2735:G:H8	1.74	0.51
2:X:149:A:H2'	2:X:150:U:C6	2.45	0.51
2:X:246:G:H5''	2:X:246:G:C8	2.41	0.51
2:X:256:C:C6	2:X:256:C:C3'	2.93	0.51
2:X:349:C:O5'	2:X:349:C:H6	1.92	0.51
2:X:810:A:H3'	2:X:811:G:C8	2.46	0.51
2:X:840:G:H2'	2:X:841:U:H5'	1.92	0.51
2:X:889:C:C5'	2:X:889:C:C6	2.88	0.51
2:X:951:G:OP2	2:X:951:G:H8	1.93	0.51
2:X:1157:A:N3	2:X:1157:A:C2'	2.73	0.51
2:X:1259:A:H2'	2:X:1260:C:C6	2.45	0.51
2:X:1307:C:O5'	2:X:1307:C:H6	1.94	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:1544:U:H3'	2:X:1544:U:H6	1.75	0.51
29:m:45:ARG:N	29:m:45:ARG:CD	2.73	0.51
40:S:40:ILE:HD12	40:S:40:ILE:N	2.25	0.51
1:Y:385:U:H2'	1:Y:386:C:C6	2.46	0.51
1:Y:460:C:H2'	1:Y:461:A:C8	2.45	0.51
1:Y:1033:G:N3	1:Y:1033:G:H2'	2.25	0.51
1:Y:1092:A:C2	1:Y:1156:G:H1'	2.46	0.51
1:Y:2403:A:N3	30:M:113:ARG:NH2	2.58	0.51
1:Y:2793:G:N3	1:Y:2793:G:C2'	2.72	0.51
2:X:305:G:OP2	2:X:305:G:H8	1.93	0.51
2:X:427:C:H6	2:X:427:C:H5''	1.76	0.51
2:X:535:G:H2'	2:X:536:C:C6	2.45	0.51
2:X:596:G:N3	2:X:596:G:C3'	2.73	0.51
2:X:669:G:H2'	2:X:670:A:C8	2.46	0.51
2:X:691:G:H4'	2:X:716:A:H62	1.75	0.51
2:X:1053:G:OP2	2:X:1053:G:H8	1.93	0.51
2:X:1276:C:O2	2:X:1276:C:H2'	2.10	0.51
8:a:13:TYR:HB3	8:a:17:VAL:HG11	1.92	0.51
12:d:80:LEU:HD23	12:d:80:LEU:C	2.36	0.51
31:n:9:ILE:HD12	31:n:60:TYR:CD1	2.45	0.51
38:Q:92:ARG:CZ	38:Q:92:ARG:CB	2.88	0.51
1:Y:884:U:H2'	1:Y:885:C:C6	2.45	0.51
1:Y:1269:A:H2'	1:Y:1270:U:C6	2.46	0.51
1:Y:2125:U:H5''	1:Y:2125:U:H6	1.75	0.51
1:Y:2776:A:N3	1:Y:2776:A:C2'	2.73	0.51
2:X:282:A:N3	2:X:282:A:C2'	2.73	0.51
2:X:283:G:OP2	2:X:283:G:H4'	2.08	0.51
2:X:421:G:N2	2:X:436:G:O2'	2.44	0.51
2:X:551:G:H2'	2:X:552:G:C8	2.46	0.51
2:X:840:G:H2'	2:X:840:G:N3	2.25	0.51
2:X:939:A:H2	2:X:1399:U:H3	1.58	0.51
2:X:1361:A:H3'	2:X:1362:U:C5	2.45	0.51
11:C:231:PRO:HB2	11:C:232:HIS:CD2	2.46	0.51
13:D:38:LYS:HG2	13:D:49:ILE:HG22	1.93	0.51
35:p:103:TRP:HA	35:p:103:TRP:HE3	1.76	0.51
40:S:27:LEU:HD12	40:S:27:LEU:N	2.26	0.51
1:Y:1477:U:C6	1:Y:1477:U:C5'	2.88	0.51
1:Y:2555:U:H3'	1:Y:2557:U:C6	2.45	0.51
2:X:19:C:O2'	2:X:1090:U:O2'	2.17	0.51
2:X:815:A:N3	2:X:815:A:H2'	2.26	0.51
2:X:884:G:H2'	2:X:885:C:C4	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:1125:C:P	25:k:177:LEU:HD21	2.51	0.51
2:X:1323:G:H2'	2:X:1324:U:C6	2.46	0.51
2:X:1452:G:N3	2:X:1452:G:C2'	2.72	0.51
8:a:42:LEU:HD22	8:a:72:ARG:HH11	1.75	0.51
9:b:71:SER:HB3	9:b:103:ALA:HB1	1.93	0.51
11:C:121:GLU:O	11:C:121:GLU:HG2	2.10	0.51
11:C:130:LEU:HB2	11:C:131:PRO:CD	2.40	0.51
24:J:87:ASP:HA	24:J:121:LEU:HD23	1.92	0.51
33:o:43:GLU:N	33:o:103:ILE:CD1	2.74	0.51
40:S:5:LYS:HB2	40:S:5:LYS:HZ3	1.75	0.51
1:Y:1628:A:N3	1:Y:1628:A:C5'	2.73	0.51
1:Y:2225:A:N3	1:Y:2225:A:H5''	2.26	0.51
2:X:40:G:H3'	2:X:41:C:C5	2.45	0.51
2:X:62:G:C4	23:j:5:LYS:HB2	2.46	0.51
2:X:165:G:H3'	2:X:166:U:C5	2.45	0.51
2:X:748:U:H2'	2:X:749:G:H21	1.76	0.51
2:X:1105:A:H2'	2:X:1105:A:N3	2.25	0.51
2:X:1128:U:OP1	8:a:45:GLU:C	2.54	0.51
2:X:1514:A:N3	2:X:1514:A:C2'	2.73	0.51
11:C:77:LYS:HB2	11:C:77:LYS:HZ3	1.73	0.51
33:o:39:ILE:CD1	33:o:104:ALA:C	2.84	0.51
35:p:88:PRO:CB	35:p:145:ALA:HB1	2.40	0.51
1:Y:483:C:O2	1:Y:483:C:H2'	2.09	0.51
1:Y:1361:G:N3	1:Y:1361:G:C2'	2.73	0.51
1:Y:1474:C:O2	1:Y:1474:C:H2'	2.10	0.51
1:Y:1481:A:C2	1:Y:1561:G:H2'	2.46	0.51
1:Y:1526:G:N3	1:Y:1526:G:H5''	2.26	0.51
1:Y:1591:G:H2'	1:Y:1591:G:N3	2.24	0.51
1:Y:2505:A:OP1	7:4:31:LYS:NZ	2.42	0.51
2:X:9:A:N3	2:X:9:A:C3'	2.73	0.51
2:X:129:A:O2'	20:h:67:ARG:HA	2.11	0.51
2:X:552:G:H2'	2:X:553:C:C2	2.46	0.51
2:X:564:C:OP2	2:X:564:C:H6	1.94	0.51
2:X:959:A:H3'	2:X:960:U:C6	2.46	0.51
3:3:47:C:H2'	3:3:48:A:C8	2.45	0.51
3:3:47:C:H2'	3:3:48:A:H8	1.74	0.51
10:c:86:ASN:HA	10:c:117:THR:HB	1.91	0.51
18:G:23:HIS:HE1	18:G:34:SER:HA	1.76	0.51
29:m:156:LEU:CD1	33:o:78:LYS:CG	2.83	0.51
34:O:27:SER:HB2	34:O:31:LEU:HG	1.92	0.51
1:Y:2339:U:H3	46:F:86:GLY:HA3	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:2339:U:O2	46:F:86:GLY:N	2.38	0.51
1:Y:2434:A:H8	1:Y:2434:A:O5'	1.94	0.51
1:Y:2825:U:H6	1:Y:2826:U:H5''	1.76	0.51
2:X:35:C:O2	2:X:35:C:H2'	2.10	0.51
2:X:61:A:H5'	2:X:395:U:H5'	1.92	0.51
2:X:334:G:H5''	2:X:334:G:C8	2.33	0.51
2:X:1101:G:N3	2:X:1101:G:C3'	2.73	0.51
2:X:1359:U:H5'	2:X:1380:C:N4	2.26	0.51
2:X:1420:C:H2'	2:X:1421:A:C8	2.46	0.51
3:3:1:U:O5'	3:3:1:U:H6	1.93	0.51
8:a:13:TYR:CB	8:a:17:VAL:HG11	2.41	0.51
14:E:75:GLN:OE1	14:E:75:GLN:HA	2.11	0.51
26:K:1:MET:HE3	26:K:1:MET:HA	1.93	0.51
26:K:40:SER:HB3	26:K:127:VAL:HG13	1.93	0.51
29:m:14:ARG:HB2	29:m:38:VAL:HB	1.92	0.51
33:o:30:SER:HB3	33:o:33:LYS:HD3	1.92	0.51
40:S:3:ILE:HD12	40:S:3:ILE:N	2.26	0.51
1:Y:287:G:H2'	1:Y:287:G:N3	2.25	0.51
1:Y:439:U:O2	1:Y:439:U:H2'	2.09	0.51
1:Y:1591:G:N3	1:Y:1591:G:C2'	2.73	0.51
1:Y:2860:U:H2'	1:Y:2861:U:C6	2.46	0.51
2:X:287:A:C8	10:c:7:LEU:HD13	2.45	0.51
2:X:296:A:OP2	2:X:296:A:H8	1.94	0.51
2:X:771:G:OP1	2:X:771:G:H4'	2.11	0.51
2:X:813:C:O2	2:X:813:C:H2'	2.11	0.51
2:X:1070:G:OP1	25:k:153:SER:CB	2.55	0.51
2:X:1314:C:H6	2:X:1314:C:O5'	1.93	0.51
2:X:1325:C:C6	2:X:1325:C:C3'	2.94	0.51
2:X:1332:U:OP1	12:d:100:GLN:HB2	2.10	0.51
2:X:1397:G:H2'	2:X:1398:G:C8	2.46	0.51
10:c:56:LYS:HZ2	10:c:104:PRO:HG2	1.75	0.51
12:d:31:GLN:HA	12:d:34:LEU:HD21	1.92	0.51
29:m:15:VAL:HG11	29:m:60:ILE:HD11	1.92	0.51
31:n:14:ILE:HG22	31:n:19:LYS:HG2	1.93	0.51
33:o:6:PRO:CB	33:o:33:LYS:HE3	2.41	0.51
37:q:30:ILE:HG23	37:q:30:ILE:O	2.11	0.51
1:Y:293:U:H3'	1:Y:294:G:H8	1.76	0.50
1:Y:772:A:N3	1:Y:772:A:H2'	2.25	0.50
1:Y:1039:C:C5	19:H:1:MET:HA	2.46	0.50
1:Y:1205:U:HO3'	36:P:8:GLY:C	2.19	0.50
1:Y:1491:C:C6	1:Y:1491:C:C5'	2.86	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:1505:G:N3	1:Y:2729:G:N2	2.60	0.50
1:Y:1586:U:O5'	1:Y:1586:U:H6	1.94	0.50
1:Y:1886:A:H61	1:Y:1910:G:H2'	1.76	0.50
1:Y:1921:C:O2	2:X:710:A:OP2	2.29	0.50
1:Y:2762:G:H2'	1:Y:2763:G:C8	2.45	0.50
1:Y:2829:A:C2	1:Y:2911:A:H8	2.29	0.50
2:X:37:C:OP1	2:X:37:C:H4'	2.09	0.50
2:X:1101:G:H1'	2:X:1108:C:C5	2.46	0.50
2:X:1134:U:H1'	8:a:41:PRO:HB3	1.85	0.50
8:a:25:ILE:HG21	8:a:74:ILE:HB	1.93	0.50
15:e:31:HIS:N	15:e:31:HIS:ND1	2.59	0.50
37:q:22:ARG:HD2	37:q:66:LEU:O	2.11	0.50
42:U:22:ARG:CG	42:U:22:ARG:NH2	2.73	0.50
1:Y:2042:A:C2	45:Z:3:VAL:HG12	2.46	0.50
1:Y:2607:U:H4'	13:D:144:GLY:O	2.11	0.50
1:Y:2900:C:H2'	1:Y:2900:C:O2	2.11	0.50
2:X:142:G:C4'	2:X:210:A:H61	2.23	0.50
2:X:296:A:H2'	2:X:297:G:H4'	1.92	0.50
2:X:315:U:H3'	2:X:316:C:H6	1.75	0.50
2:X:666:G:P	31:n:2:ARG:NH2	2.85	0.50
2:X:929:A:H1'	2:X:1092:A:C2	2.46	0.50
2:X:943:G:H2'	2:X:945:A:C8	2.46	0.50
2:X:1164:G:H4'	8:a:70:HIS:CE1	2.46	0.50
9:b:86:VAL:HG21	9:b:93:ARG:HE	1.75	0.50
9:b:95:SER:HA	9:b:98:ARG:HD3	1.92	0.50
16:f:44:ARG:NH1	16:f:44:ARG:CB	2.73	0.50
25:k:56:ILE:HD11	25:k:65:ILE:HG23	1.94	0.50
40:S:77:GLU:OE1	40:S:78:PRO:CD	2.49	0.50
1:Y:136:A:N3	1:Y:136:A:C3'	2.73	0.50
1:Y:770:G:H8	1:Y:770:G:OP2	1.94	0.50
1:Y:2339:U:N3	46:F:86:GLY:HA3	2.26	0.50
2:X:292:G:H3'	2:X:293:C:H6	1.76	0.50
2:X:607:C:H4'	33:o:123:VAL:CG1	2.38	0.50
2:X:990:C:H3'	2:X:990:C:H6	1.77	0.50
2:X:1032:C:P	2:X:1032:C:H3'	2.51	0.50
2:X:1183:C:H2'	2:X:1184:C:C6	2.45	0.50
3:3:100:A:N3	3:3:100:A:H5''	2.27	0.50
27:L:92:ARG:HD2	27:L:93:TYR:CZ	2.46	0.50
29:m:76:ARG:N	29:m:76:ARG:HD2	2.26	0.50
37:q:50:LEU:HD23	37:q:50:LEU:C	2.36	0.50
1:Y:135:G:N3	1:Y:135:G:C2'	2.73	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:550:A:N3	1:Y:550:A:C2'	2.75	0.50
1:Y:1505:G:H3'	1:Y:1506:C:C6	2.45	0.50
1:Y:2813:U:H2'	1:Y:2814:C:C6	2.46	0.50
2:X:337:A:N7	23:j:15:GLU:OE2	2.44	0.50
2:X:397:A:H3'	2:X:398:C:C6	2.47	0.50
2:X:421:G:N3	2:X:421:G:C2'	2.72	0.50
2:X:591:A:H8	2:X:591:A:P	2.35	0.50
2:X:935:G:H1'	2:X:937:G:C4	2.47	0.50
2:X:993:A:N3	2:X:993:A:C3'	2.73	0.50
2:X:1155:G:H4'	2:X:1156:C:C5	2.46	0.50
2:X:1162:A:H1'	2:X:1291:A:N1	2.27	0.50
8:a:6:ILE:HG22	8:a:8:ILE:HG23	1.92	0.50
10:c:96:ARG:HG2	10:c:111:VAL:HG23	1.92	0.50
22:i:55:LYS:HD3	22:i:55:LYS:O	2.12	0.50
29:m:83:HIS:CE1	29:m:85:ILE:HD13	2.46	0.50
1:Y:277:C:H2'	1:Y:278:A:C8	2.46	0.50
1:Y:371:U:C4'	40:S:64:HIS:CE1	2.84	0.50
1:Y:721:A:H8	1:Y:2096:G:H21	1.59	0.50
1:Y:752:G:H2'	1:Y:753:U:C6	2.47	0.50
1:Y:1496:G:C5'	1:Y:1496:G:C8	2.93	0.50
1:Y:1501:G:H22	1:Y:2729:G:H1	1.59	0.50
1:Y:2505:A:OP2	7:4:31:LYS:CE	2.50	0.50
1:Y:2656:A:N3	1:Y:2656:A:C2'	2.73	0.50
2:X:721:G:H3'	2:X:724:A:C2	2.47	0.50
2:X:979:A:OP2	2:X:979:A:H4'	2.12	0.50
2:X:1171:G:H1'	2:X:1172:C:C5	2.46	0.50
2:X:1482:G:H2'	2:X:1483:G:C8	2.47	0.50
2:X:1536:C:O5'	2:X:1536:C:H6	1.95	0.50
3:3:74:G:H22	3:3:97:A:H61	1.58	0.50
22:i:58:ARG:NE	22:i:58:ARG:HA	2.27	0.50
25:k:38:ILE:HD13	25:k:93:LEU:HD13	1.92	0.50
25:k:88:ASN:HA	25:k:91:ASN:HB3	1.93	0.50
31:n:30:LEU:HD22	31:n:65:VAL:HG11	1.93	0.50
1:Y:1507:A:H8	1:Y:1507:A:O5'	1.95	0.50
1:Y:1522:G:H2'	1:Y:1523:G:H8	1.76	0.50
1:Y:1560:A:C8	1:Y:1560:A:H5''	2.46	0.50
1:Y:2818:A:N1	1:Y:2824:G:N2	2.60	0.50
2:X:69:G:H2'	2:X:69:G:N3	2.26	0.50
2:X:401:A:N3	2:X:401:A:H2'	2.26	0.50
2:X:553:C:H6	2:X:553:C:O5'	1.95	0.50
2:X:666:G:C4'	31:n:2:ARG:NH1	2.75	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:810:A:H8	2:X:810:A:OP2	1.94	0.50
2:X:1428:G:H2'	2:X:1430:G:C4	2.47	0.50
3:3:109:C:H2'	3:3:110:C:C6	2.47	0.50
10:c:92:VAL:HB	10:c:115:LEU:HD22	1.92	0.50
16:f:70:LEU:HG	16:f:78:TYR:CD2	2.47	0.50
38:Q:11:ARG:HG3	38:Q:11:ARG:HH21	1.77	0.50
40:S:46:LYS:HD2	40:S:46:LYS:N	2.22	0.50
1:Y:336:U:H2'	1:Y:337:A:H5''	1.93	0.50
1:Y:624:C:H6	34:O:33:LYS:HZ1	1.59	0.50
1:Y:1361:G:N3	1:Y:1361:G:C3'	2.73	0.50
1:Y:1453:G:H1'	1:Y:1630:A:C8	2.46	0.50
1:Y:1501:G:H3'	1:Y:1502:A:C8	2.47	0.50
1:Y:1878:U:OP2	1:Y:1878:U:H6	1.94	0.50
1:Y:1947:C:H5''	1:Y:1948:G:C8	2.46	0.50
1:Y:2132:A:H2'	1:Y:2133:G:C8	2.46	0.50
1:Y:2234:C:H6	1:Y:2234:C:H5''	1.77	0.50
1:Y:2675:G:H22	18:G:113:VAL:HG12	1.77	0.50
1:Y:2793:G:H5'	1:Y:2794:C:H5	1.77	0.50
2:X:135:C:H2'	2:X:136:C:C2	2.46	0.50
2:X:621:C:O2	2:X:621:C:H2'	2.11	0.50
2:X:694:U:H4'	2:X:694:U:OP1	2.11	0.50
2:X:884:G:H2'	2:X:885:C:C5	2.47	0.50
2:X:1004:A:C5	2:X:1227:A:H4'	2.47	0.50
2:X:1072:U:H5'	8:a:56:HIS:HD2	1.77	0.50
2:X:1134:U:C3'	8:a:41:PRO:HG2	2.38	0.50
2:X:1163:A:OP2	2:X:1163:A:H2'	2.12	0.50
2:X:1428:G:H5''	2:X:1430:G:C8	2.46	0.50
2:X:1466:G:H8	2:X:1466:G:O5'	1.93	0.50
3:3:93:C:H2'	3:3:94:U:C6	2.46	0.50
8:a:62:ARG:HH11	8:a:62:ARG:CG	2.24	0.50
26:K:39:THR:HG22	26:K:99:PRO:CD	2.32	0.50
29:m:39:VAL:HG11	29:m:68:LYS:HA	1.92	0.50
36:P:6:GLU:O	36:P:6:GLU:HG2	2.11	0.50
36:P:65:GLN:OE1	36:P:93:THR:OG1	2.28	0.50
41:T:44:ASP:HB3	41:T:47:GLU:HB2	1.94	0.50
43:V:54:LEU:HG	43:V:54:LEU:O	2.10	0.50
44:W:29:ARG:HH11	44:W:29:ARG:CG	2.14	0.50
1:Y:136:A:H4'	1:Y:137:G:C8	2.45	0.50
1:Y:1950:U:H3'	1:Y:1951:C:C6	2.47	0.50
1:Y:2215:U:H6	1:Y:2215:U:C5'	2.15	0.50
1:Y:2678:C:H2'	1:Y:2679:U:C6	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:2887:G:N9	32:N:23:ARG:NH1	2.60	0.50
2:X:180:U:O2	2:X:180:U:H2'	2.12	0.50
2:X:464:A:H62	2:X:466:G:H8	1.58	0.50
2:X:548:G:C2	2:X:549:G:H1'	2.47	0.50
2:X:816:C:O5'	2:X:816:C:H6	1.95	0.50
2:X:926:G:H2'	2:X:927:G:C5	2.47	0.50
2:X:1072:U:O2	2:X:1072:U:H2'	2.10	0.50
2:X:1325:C:H3'	2:X:1325:C:H6	1.77	0.50
2:X:1475:C:H2'	2:X:1475:C:O2	2.11	0.50
7:4:13:LYS:NZ	7:4:14:CYS:SG	2.85	0.50
26:K:15:PRO:HD3	26:K:72:THR:HG21	1.93	0.50
1:Y:175:C:O2	1:Y:175:C:O2'	2.29	0.50
1:Y:262:G:O2'	1:Y:666:A:O2'	2.23	0.50
1:Y:320:U:O2	1:Y:320:U:H2'	2.12	0.50
1:Y:826:A:OP1	11:C:217:ARG:NH2	2.45	0.50
1:Y:983:G:H2'	1:Y:984:G:H5'	1.93	0.50
1:Y:2013:G:H8	1:Y:2013:G:H5''	1.76	0.50
1:Y:2819:C:H3'	1:Y:2820:U:C6	2.46	0.50
2:X:448:U:H3'	2:X:448:U:O2	2.12	0.50
2:X:605:G:H2'	2:X:606:U:C5	2.46	0.50
2:X:659:C:H41	2:X:760:G:H3'	1.77	0.50
2:X:711:G:N3	2:X:711:G:C2'	2.73	0.50
2:X:746:U:H5''	31:n:78:ARG:NE	2.25	0.50
2:X:985:A:H1'	15:e:16:TYR:CE2	2.47	0.50
2:X:1061:U:O2	2:X:1061:U:O2'	2.28	0.50
2:X:1135:A:N3	2:X:1162:A:N6	2.60	0.50
2:X:1223:U:H6	2:X:1223:U:C5'	2.22	0.50
2:X:1313:U:H3'	2:X:1313:U:OP1	2.11	0.50
2:X:1467:G:H2'	2:X:1467:G:N3	2.27	0.50
2:X:1516:G:H5'	2:X:1519:A:H4'	1.93	0.50
15:e:11:GLN:HG3	15:e:11:GLN:O	2.10	0.50
26:K:130:LYS:HB3	26:K:130:LYS:NZ	2.27	0.50
29:m:12:GLU:HB3	29:m:14:ARG:HE	1.77	0.50
1:Y:187:C:H2'	1:Y:188:C:C6	2.47	0.49
1:Y:279:A:OP2	1:Y:279:A:H8	1.94	0.49
1:Y:1508:C:H4'	1:Y:1574:G:H5'	1.93	0.49
1:Y:1589:U:H2'	1:Y:1590:C:C5	2.47	0.49
1:Y:1611:C:C6	1:Y:1611:C:C4'	2.95	0.49
1:Y:2215:U:H5''	1:Y:2215:U:C6	2.27	0.49
1:Y:2692:A:C8	18:G:97:GLN:HB3	2.47	0.49
2:X:133:U:H4'	2:X:134:A:C8	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:397:A:H3'	2:X:398:C:H6	1.76	0.49
2:X:520:U:H5	2:X:542:U:H1'	1.77	0.49
2:X:872:C:H5''	2:X:872:C:C6	2.47	0.49
2:X:969:A:H8	2:X:969:A:O5'	1.95	0.49
2:X:981:G:N3	2:X:981:G:C2'	2.73	0.49
13:D:169:MET:HB3	13:D:170:PRO:CD	2.42	0.49
18:G:3:ARG:CG	18:G:3:ARG:NH1	2.73	0.49
33:o:87:VAL:O	33:o:87:VAL:HG22	2.11	0.49
37:q:6:VAL:HA	37:q:8:TYR:CE1	2.47	0.49
40:S:5:LYS:HA	40:S:23:VAL:HG12	1.94	0.49
1:Y:144:C:H3'	1:Y:144:C:H6	1.77	0.49
1:Y:772:A:N3	1:Y:772:A:C2'	2.75	0.49
1:Y:2685:C:H4'	18:G:157:TYR:CZ	2.47	0.49
2:X:62:G:H2'	2:X:63:U:C6	2.48	0.49
2:X:71:A:H62	2:X:99:U:H3	1.58	0.49
2:X:109:C:H6	2:X:109:C:O5'	1.94	0.49
2:X:355:G:H4'	2:X:355:G:OP1	2.12	0.49
2:X:688:C:H2'	2:X:689:A:H8	1.76	0.49
2:X:734:C:H2'	2:X:734:C:OP2	2.13	0.49
2:X:785:A:N3	2:X:785:A:C2'	2.73	0.49
2:X:1170:U:H3	2:X:1173:C:H41	1.60	0.49
11:C:124:ILE:HD12	11:C:124:ILE:N	2.27	0.49
11:C:170:LYS:O	11:C:170:LYS:HD3	2.12	0.49
25:k:76:ILE:HG22	25:k:83:ILE:HD11	1.93	0.49
36:P:7:THR:HG21	36:P:22:VAL:HG11	1.95	0.49
43:V:58:LYS:H	43:V:58:LYS:CD	2.24	0.49
1:Y:631:U:H2'	1:Y:632:U:C6	2.47	0.49
1:Y:851:C:O2	1:Y:851:C:H3'	2.13	0.49
1:Y:1153:C:O2	1:Y:1153:C:H2'	2.11	0.49
1:Y:2370:U:O2	1:Y:2370:U:H2'	2.11	0.49
1:Y:2554:C:H2'	1:Y:2555:U:C6	2.46	0.49
1:Y:2693:C:C5	18:G:96:ALA:HB2	2.47	0.49
2:X:140:A:H61	2:X:231:U:H3	1.59	0.49
2:X:370:G:OP2	10:c:44:ARG:NH1	2.41	0.49
2:X:371:A:H8	10:c:42:GLN:HG2	1.78	0.49
2:X:529:G:OP1	10:c:83:ILE:HG13	2.12	0.49
2:X:666:G:H3'	31:n:2:ARG:NH1	2.20	0.49
2:X:733:G:N3	2:X:733:G:C2'	2.73	0.49
2:X:837:A:H61	2:X:880:U:H5''	1.78	0.49
2:X:872:C:H1'	2:X:884:G:H5'	1.92	0.49
2:X:891:G:H3'	2:X:891:G:C8	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:931:U:H3'	2:X:931:U:H6	1.77	0.49
9:b:116:VAL:HG23	9:b:116:VAL:O	2.12	0.49
25:k:115:VAL:HG11	25:k:148:ILE:HG21	1.92	0.49
1:Y:79:U:H3'	1:Y:79:U:O2	2.11	0.49
1:Y:298:U:H4'	1:Y:299:U:C6	2.47	0.49
1:Y:562:C:O2'	38:Q:18:ARG:NH2	2.44	0.49
1:Y:1591:G:H2'	1:Y:1591:G:OP2	2.12	0.49
1:Y:2827:A:H2'	1:Y:2828:U:C6	2.48	0.49
2:X:11:A:N6	2:X:26:C:N3	2.60	0.49
2:X:308:A:N6	2:X:568:A:H61	2.11	0.49
2:X:331:U:C5'	23:j:18:GLU:HA	2.43	0.49
2:X:589:G:C5'	16:f:58:LYS:HZ3	2.25	0.49
2:X:870:A:N6	2:X:882:A:N1	2.60	0.49
2:X:1054:U:H3'	2:X:1055:G:H8	1.77	0.49
2:X:1134:U:C1'	8:a:41:PRO:HG2	2.43	0.49
2:X:1268:A:H3'	2:X:1268:A:OP2	2.13	0.49
13:D:2:THR:HA	13:D:94:VAL:HA	1.95	0.49
23:j:15:GLU:HA	23:j:18:GLU:CG	2.37	0.49
30:M:11:ARG:HD2	30:M:99:TYR:CE2	2.48	0.49
31:n:43:TRP:CZ3	31:n:62:ILE:HD12	2.47	0.49
33:o:103:ILE:HG23	33:o:114:THR:CB	2.42	0.49
1:Y:403:U:H2'	1:Y:403:U:O2	2.10	0.49
1:Y:679:G:H2'	1:Y:680:C:C6	2.48	0.49
1:Y:1840:U:H4'	11:C:43:ARG:O	2.12	0.49
1:Y:1914:C:O5'	1:Y:1914:C:H6	1.94	0.49
2:X:7:G:H4'	2:X:306:A:C4	2.47	0.49
2:X:59:C:H1'	2:X:362:G:H1	1.78	0.49
2:X:693:G:OP1	2:X:693:G:H4'	2.07	0.49
2:X:1306:U:H2'	2:X:1307:C:C2	2.46	0.49
2:X:1332:U:H5'	12:d:100:GLN:HE22	1.75	0.49
10:c:64:LYS:HZ1	10:c:80:ILE:HG13	1.78	0.49
32:N:5:LYS:N	32:N:5:LYS:CD	2.73	0.49
35:p:119:ARG:HA	35:p:122:ASN:HB3	1.93	0.49
1:Y:167:U:H6	1:Y:167:U:H5''	1.76	0.49
1:Y:864:A:OP2	1:Y:864:A:H4'	2.13	0.49
1:Y:921:C:H1'	1:Y:946:A:C1'	2.43	0.49
1:Y:1170:A:N3	1:Y:1170:A:C2'	2.75	0.49
1:Y:1505:G:H3'	1:Y:1506:C:C5	2.47	0.49
1:Y:1934:G:H5''	1:Y:1936:C:H42	1.77	0.49
1:Y:2418:G:H8	1:Y:2456:G:H21	1.61	0.49
2:X:947:A:N3	2:X:947:A:H2'	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:1102:U:HO2'	2:X:1182:A:HO2'	1.59	0.49
2:X:1452:G:N3	2:X:1452:G:H3'	2.27	0.49
3:3:23:U:H4'	3:3:24:C:C5	2.47	0.49
6:2:54:ASP:HB3	24:J:57:LEU:CD2	2.43	0.49
8:a:62:ARG:HG2	8:a:62:ARG:HH11	1.77	0.49
10:c:70:LEU:H	10:c:70:LEU:CD1	2.08	0.49
14:E:13:LYS:HD3	14:E:15:GLY:H	1.75	0.49
29:m:12:GLU:HG3	29:m:42:LYS:HB2	1.95	0.49
30:M:72:LEU:H	30:M:72:LEU:CD1	2.06	0.49
1:Y:841:C:H2'	1:Y:842:U:C6	2.48	0.49
1:Y:1610:G:H2'	1:Y:1611:C:C2	2.47	0.49
2:X:314:A:H2'	2:X:315:U:H4'	1.94	0.49
2:X:396:G:H4'	2:X:398:C:H41	1.77	0.49
2:X:465:U:O5'	2:X:465:U:H6	1.96	0.49
2:X:584:C:H3'	2:X:584:C:OP2	2.13	0.49
2:X:934:C:H5'	2:X:1514:A:C4	2.48	0.49
2:X:1251:U:C6	2:X:1251:U:H3'	2.47	0.49
2:X:1503:G:O3'	10:c:55:PRO:HB2	2.12	0.49
2:X:1543:A:N3	2:X:1543:A:C3'	2.73	0.49
29:m:45:ARG:HH21	29:m:73:VAL:HG22	1.78	0.49
31:n:38:LEU:N	31:n:38:LEU:HD22	2.27	0.49
33:o:39:ILE:HD11	33:o:105:LEU:HA	1.95	0.49
1:Y:223:G:H3'	1:Y:224:A:H5'	1.94	0.49
1:Y:281:A:H2'	1:Y:282:A:C8	2.47	0.49
1:Y:1088:C:O2	1:Y:1088:C:H3'	2.13	0.49
1:Y:1205:U:HO3'	36:P:8:GLY:HA2	1.78	0.49
1:Y:1369:G:H5'	1:Y:1370:C:C6	2.48	0.49
1:Y:1370:C:OP2	1:Y:1370:C:H6	1.96	0.49
1:Y:1767:G:H3'	1:Y:1768:C:C6	2.48	0.49
1:Y:2330:G:H3'	46:F:121:ALA:HA	1.95	0.49
2:X:393:C:H2'	2:X:394:C:C6	2.47	0.49
2:X:403:C:H6	2:X:403:C:H5''	1.77	0.49
2:X:671:A:H4'	22:i:65:LYS:HB3	1.94	0.49
2:X:683:A:H5'	2:X:717:U:H5'	1.95	0.49
2:X:1219:C:H2'	2:X:1220:C:C5	2.48	0.49
2:X:1300:A:C2	2:X:1383:U:H4'	2.47	0.49
2:X:1385:A:H4'	37:q:34:ASN:ND2	2.28	0.49
11:C:49:LEU:O	11:C:49:LEU:HD23	2.12	0.49
15:e:41:ARG:HH12	15:e:56:VAL:HG22	1.78	0.49
29:m:14:ARG:HB3	29:m:112:ARG:HH22	1.77	0.49
37:q:52:GLN:N	37:q:53:PRO:CD	2.75	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:S:75:THR:HG23	40:S:77:GLU:HB2	1.93	0.49
43:V:15:GLY:HA3	43:V:29:TRP:HZ3	1.78	0.49
1:Y:221:G:H8	1:Y:221:G:O5'	1.95	0.49
1:Y:863:G:N3	1:Y:863:G:H2'	2.27	0.49
1:Y:1160:C:H2'	1:Y:1161:A:H8	1.78	0.49
1:Y:1196:C:H2'	1:Y:1197:C:C6	2.44	0.49
1:Y:1885:G:H21	1:Y:1910:G:H2'	1.78	0.49
1:Y:2362:A:P	30:M:17:ARG:HD3	2.53	0.49
1:Y:2584:G:H2'	1:Y:2585:C:C6	2.48	0.49
2:X:231:U:H1'	23:j:56:LEU:O	2.13	0.49
2:X:654:G:C5'	16:f:65:HIS:CE1	2.95	0.49
2:X:835:U:O2	2:X:835:U:H3'	2.13	0.49
2:X:1326:U:O2	2:X:1326:U:H3'	2.12	0.49
2:X:1408:C:H5''	2:X:1408:C:C6	2.39	0.49
3:3:35:C:O2	3:3:35:C:H2'	2.11	0.49
4:A:5:VAL:CG2	4:A:21:LYS:HG2	2.43	0.49
7:4:17:ILE:HD12	7:4:19:ARG:HG3	1.94	0.49
14:E:5:ASP:OD1	14:E:5:ASP:N	2.43	0.49
21:I:122:LEU:HD12	21:I:122:LEU:H	1.77	0.49
22:i:46:PRO:HD2	22:i:49:VAL:HG21	1.95	0.49
28:l:46:GLU:CB	29:m:95:PHE:CE2	2.96	0.49
35:p:32:LEU:HD12	35:p:33:ASP:H	1.78	0.49
39:R:7:LEU:N	39:R:7:LEU:CD1	2.75	0.49
43:V:58:LYS:N	43:V:58:LYS:CD	2.73	0.49
1:Y:210:A:H8	1:Y:210:A:O5'	1.96	0.49
1:Y:862:C:H42	1:Y:1226:G:H2'	1.77	0.49
1:Y:1092:A:H2'	1:Y:1093:C:C6	2.48	0.49
1:Y:1180:G:H2'	1:Y:1180:G:N3	2.27	0.49
1:Y:1764:A:N3	1:Y:1764:A:C3'	2.73	0.49
1:Y:2340:C:H4'	46:F:69:LYS:C	2.38	0.49
1:Y:2447:C:H2'	1:Y:2448:G:H5''	1.94	0.49
2:X:155:U:H3'	2:X:155:U:H6	1.78	0.49
2:X:610:A:H2'	2:X:610:A:N3	2.28	0.49
2:X:1300:A:H2'	2:X:1301:G:C8	2.48	0.49
2:X:1333:C:O2	2:X:1333:C:H2'	2.13	0.49
2:X:1466:G:N3	2:X:1468:A:N6	2.60	0.49
5:B:37:ARG:CG	5:B:37:ARG:NH2	2.73	0.49
24:J:129:SER:HB3	24:J:132:ALA:HB2	1.94	0.49
38:Q:50:VAL:HG12	38:Q:105:ILE:HD12	1.95	0.49
46:F:37:ASN:CB	46:F:88:LYS:HA	2.43	0.49
1:Y:156:A:N1	1:Y:171:A:N6	2.60	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:319:G:H1'	1:Y:326:A:N6	2.28	0.48
1:Y:1368:C:H2'	1:Y:1370:C:C2	2.47	0.48
1:Y:1626:A:C5	1:Y:1627:G:H1'	2.48	0.48
1:Y:1878:U:OP2	1:Y:1878:U:H3'	2.13	0.48
1:Y:2430:C:H2'	1:Y:2431:C:C6	2.48	0.48
1:Y:2692:A:H5''	18:G:97:GLN:HG2	1.94	0.48
1:Y:2795:C:H2'	1:Y:2796:C:H5'	1.93	0.48
1:Y:2830:A:C2	13:D:73:ALA:HB3	2.48	0.48
2:X:546:U:H6	2:X:546:U:H5''	1.78	0.48
2:X:993:A:O2'	2:X:1060:G:O3'	2.24	0.48
2:X:1333:C:H5'	2:X:1333:C:O2	2.13	0.48
3:3:100:A:N3	3:3:100:A:C5'	2.76	0.48
14:E:40:GLN:O	14:E:40:GLN:HG3	2.13	0.48
33:o:33:LYS:HD3	33:o:33:LYS:N	2.28	0.48
37:q:21:VAL:HG21	37:q:85:ILE:CG2	2.41	0.48
37:q:21:VAL:HA	37:q:67:VAL:CB	2.43	0.48
40:S:12:ILE:HD11	40:S:69:GLN:HB2	1.94	0.48
1:Y:80:G:N2	1:Y:106:A:H5'	2.28	0.48
1:Y:176:A:H3'	1:Y:177:G:C8	2.48	0.48
1:Y:179:A:OP2	1:Y:179:A:H8	1.96	0.48
1:Y:1077:U:H3'	7:4:18:LYS:NZ	2.24	0.48
1:Y:1205:U:H5''	1:Y:1207:G:P	2.53	0.48
1:Y:1278:G:H8	1:Y:1278:G:O5'	1.96	0.48
1:Y:1346:G:H4'	5:B:8:PRO:HB2	1.95	0.48
1:Y:2401:C:H5	1:Y:2406:G:H1	1.61	0.48
1:Y:2674:U:H2'	1:Y:2675:G:C8	2.48	0.48
1:Y:2784:A:N1	18:G:67:THR:HG21	2.27	0.48
2:X:34:A:H1'	2:X:371:A:C2	2.48	0.48
2:X:182:A:N3	2:X:182:A:C2'	2.73	0.48
2:X:608:U:C5	33:o:109:SER:OG	2.61	0.48
2:X:900:G:N2	2:X:916:G:C8	2.81	0.48
2:X:1417:U:H4'	2:X:1417:U:OP1	2.13	0.48
3:3:98:G:H21	3:3:98:G:P	2.36	0.48
8:a:58:TYR:CZ	25:k:3:GLN:HB2	2.47	0.48
18:G:41:MET:HB3	18:G:55:PRO:HD2	1.95	0.48
20:h:14:VAL:HG13	20:h:25:VAL:HG13	1.94	0.48
25:k:197:VAL:HG13	25:k:199:VAL:H	1.77	0.48
38:Q:11:ARG:HH11	38:Q:98:LYS:HD2	1.78	0.48
1:Y:336:U:H3'	1:Y:336:U:C6	2.47	0.48
1:Y:1154:G:H5''	1:Y:1154:G:C8	2.48	0.48
2:X:34:A:H4'	2:X:372:A:H4'	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:528:A:O2'	10:c:83:ILE:HD11	2.13	0.48
2:X:1419:A:H8	2:X:1419:A:OP2	1.96	0.48
2:X:1510:U:O5'	2:X:1510:U:H6	1.96	0.48
4:A:15:ARG:HG3	4:A:15:ARG:HH11	1.78	0.48
11:C:171:TYR:HB2	11:C:183:MET:CB	2.22	0.48
12:d:57:ARG:HA	12:d:60:VAL:HG12	1.96	0.48
14:E:103:LYS:HA	14:E:106:ARG:CD	2.43	0.48
38:Q:92:ARG:CG	38:Q:92:ARG:HH11	2.26	0.48
1:Y:878:C:H2'	1:Y:879:U:C6	2.48	0.48
1:Y:1642:C:O2	1:Y:1642:C:H2'	2.14	0.48
1:Y:2356:A:H8	1:Y:2356:A:O5'	1.95	0.48
1:Y:2800:U:H2'	1:Y:2801:C:C6	2.48	0.48
2:X:116:G:N2	2:X:321:A:N3	2.61	0.48
2:X:137:U:O2'	17:g:63:ASP:CB	2.60	0.48
2:X:743:C:OP1	22:i:28:TYR:CZ	2.66	0.48
2:X:1150:G:H21	2:X:1150:G:P	2.29	0.48
6:2:33:PHE:HD1	6:2:41:LYS:HD3	1.79	0.48
9:b:24:ARG:HH11	9:b:24:ARG:HB2	1.77	0.48
11:C:177:ARG:NH1	11:C:177:ARG:CG	2.73	0.48
16:f:71:ARG:HG2	16:f:78:TYR:HE2	1.78	0.48
21:I:24:VAL:HG11	21:I:33:ALA:HB2	1.95	0.48
29:m:163:GLU:HA	33:o:95:PRO:HG2	1.95	0.48
39:R:4:ARG:CG	39:R:4:ARG:NH1	2.73	0.48
4:1:17:GLU:OE2	4:1:17:GLU:HA	2.10	0.48
1:Y:39:C:H5''	1:Y:39:C:O2	2.13	0.48
1:Y:540:G:O2'	38:Q:61:ASN:ND2	2.43	0.48
1:Y:1218:G:H2'	1:Y:1219:G:C8	2.48	0.48
1:Y:1229:G:C5'	24:J:32:GLY:HA2	2.44	0.48
1:Y:2354:A:H2'	1:Y:2355:A:C8	2.48	0.48
2:X:36:G:C2	10:c:128:SER:HA	2.48	0.48
2:X:119:A:H1'	2:X:121:A:N7	2.29	0.48
2:X:272:C:C2	2:X:273:G:H1'	2.48	0.48
2:X:319:C:O2	2:X:319:C:H2'	2.12	0.48
2:X:716:A:O2'	9:b:31:ILE:CG2	2.59	0.48
2:X:754:G:H5'	2:X:860:U:C4	2.48	0.48
2:X:973:G:H1'	2:X:982:C:N3	2.28	0.48
2:X:1001:U:H1'	2:X:1003:G:C8	2.47	0.48
2:X:1344:A:H3'	2:X:1345:G:H8	1.79	0.48
2:X:1361:A:H3'	2:X:1362:U:C6	2.49	0.48
2:X:1428:G:H2'	2:X:1430:G:N9	2.28	0.48
2:X:1490:A:H4'	10:c:34:LYS:NZ	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:1512:A:H2'	2:X:1513:C:C6	2.49	0.48
13:D:194:VAL:HG21	32:N:10:VAL:HG11	1.94	0.48
16:f:67:LEU:HD12	16:f:70:LEU:HD23	1.95	0.48
24:J:5:GLU:HG3	24:J:5:GLU:O	2.13	0.48
37:q:121:LYS:HA	37:q:121:LYS:HD3	1.49	0.48
38:Q:92:ARG:CZ	38:Q:92:ARG:HB3	2.43	0.48
43:V:36:VAL:HG23	43:V:38:ILE:HG22	1.94	0.48
1:Y:317:G:H4'	1:Y:318:A:H3'	1.95	0.48
1:Y:386:C:O5'	1:Y:386:C:H6	1.96	0.48
1:Y:919:G:C2	1:Y:920:A:H1'	2.49	0.48
1:Y:1875:A:C6	2:X:711:G:N7	2.82	0.48
1:Y:2580:G:C8	1:Y:2580:G:H3'	2.48	0.48
1:Y:2763:G:H2'	1:Y:2764:G:C8	2.48	0.48
1:Y:2773:U:O3'	18:G:138:LYS:CE	2.62	0.48
1:Y:2773:U:C5'	18:G:138:LYS:HZ2	2.11	0.48
1:Y:2904:U:H2'	1:Y:2904:U:O2	2.14	0.48
2:X:30:A:H5''	2:X:31:U:C5	2.47	0.48
2:X:141:A:H2'	2:X:142:G:C2	2.49	0.48
2:X:261:U:H2'	2:X:262:G:C8	2.49	0.48
2:X:370:G:N2	2:X:373:U:H5''	2.28	0.48
2:X:453:G:H8	2:X:453:G:O5'	1.97	0.48
2:X:644:U:N3	33:o:88:TYR:HE2	2.09	0.48
2:X:668:A:OP1	31:n:95:ASP:OD1	2.31	0.48
2:X:886:A:N3	2:X:886:A:C3'	2.73	0.48
2:X:1405:A:N6	2:X:1512:A:N3	2.61	0.48
2:X:1424:A:H2'	2:X:1425:C:C5	2.48	0.48
2:X:1491:A:H2'	2:X:1492:A:C8	2.49	0.48
15:e:33:VAL:HG12	15:e:42:ILE:H	1.79	0.48
18:G:27:LYS:HA	18:G:32:GLU:H	1.77	0.48
31:n:5:GLU:HB2	31:n:92:ILE:HB	1.95	0.48
40:S:34:VAL:HG13	40:S:34:VAL:O	2.12	0.48
1:Y:229:A:H2'	1:Y:229:A:N3	2.29	0.48
1:Y:327:G:N3	1:Y:327:G:C3'	2.73	0.48
1:Y:400:C:C2	1:Y:401:U:H4'	2.49	0.48
1:Y:669:C:H3'	1:Y:669:C:O2	2.14	0.48
1:Y:861:C:O2	1:Y:861:C:H3'	2.14	0.48
1:Y:1359:A:H8	1:Y:1359:A:O5'	1.97	0.48
1:Y:2420:U:H5'	24:J:60:ARG:O	2.13	0.48
1:Y:2558:A:N3	1:Y:2558:A:C2'	2.73	0.48
1:Y:2579:U:H2'	1:Y:2580:G:C5	2.49	0.48
1:Y:2633:C:O2	1:Y:2633:C:H3'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:231:U:O2	2:X:231:U:H3'	2.13	0.48
2:X:528:A:N6	2:X:537:G:H1'	2.28	0.48
2:X:729:A:H4'	2:X:730:G:N7	2.29	0.48
2:X:805:C:O5'	2:X:805:C:H6	1.95	0.48
2:X:809:U:H3'	2:X:810:A:C8	2.48	0.48
2:X:891:G:C8	2:X:891:G:C3'	2.96	0.48
25:k:27:ASP:O	25:k:31:LEU:CG	2.58	0.48
29:m:44:GLY:HA2	29:m:118:ALA:HB2	1.95	0.48
34:O:31:LEU:HB2	34:O:34:VAL:CG2	2.43	0.48
42:U:22:ARG:HH21	42:U:22:ARG:HG2	1.78	0.48
1:Y:877:G:H2'	1:Y:878:C:C6	2.49	0.48
1:Y:2565:C:H2'	1:Y:2566:C:H6	1.79	0.48
1:Y:2902:A:H2'	1:Y:2903:A:H5''	1.95	0.48
2:X:377:C:H2'	2:X:378:C:H6	1.78	0.48
2:X:991:U:H6	2:X:991:U:C3'	2.20	0.48
2:X:1167:G:H22	2:X:1195:G:H1'	1.77	0.48
3:3:6:U:H5'	30:M:32:ASN:ND2	2.29	0.48
3:3:78:C:H2'	3:3:79:C:C6	2.49	0.48
11:C:230:HIS:CG	11:C:231:PRO:HD2	2.48	0.48
14:E:132:GLU:OE1	14:E:132:GLU:N	2.47	0.48
22:i:47:ARG:HG2	22:i:47:ARG:HH21	1.79	0.48
27:L:91:GLU:OE1	27:L:91:GLU:HA	2.12	0.48
29:m:95:PHE:CZ	29:m:97:LYS:HG3	2.48	0.48
35:p:71:PRO:HG3	35:p:99:LEU:HD22	1.96	0.48
39:R:20:MET:HE3	39:R:20:MET:HB3	1.76	0.48
45:Z:37:LYS:HZ1	45:Z:47:GLY:H	1.62	0.48
1:Y:389:A:H2'	1:Y:389:A:N3	2.29	0.48
1:Y:464:U:H2'	1:Y:465:C:C6	2.48	0.48
1:Y:1026:C:H6	1:Y:1026:C:O5'	1.97	0.48
1:Y:1244:G:H8	1:Y:1244:G:O5'	1.97	0.48
1:Y:1270:U:H2'	1:Y:1271:G:H8	1.78	0.48
1:Y:1828:U:O2	1:Y:1828:U:H2'	2.13	0.48
1:Y:2368:G:H2'	1:Y:2369:C:C6	2.48	0.48
1:Y:2590:U:H3'	1:Y:2590:U:O2	2.14	0.48
1:Y:2696:G:H5''	1:Y:2696:G:C8	2.47	0.48
2:X:231:U:H6	23:j:56:LEU:O	1.97	0.48
2:X:677:A:H2'	2:X:678:A:H5'	1.96	0.48
2:X:929:A:H3'	2:X:929:A:H8	1.79	0.48
2:X:982:C:H3'	2:X:982:C:H6	1.79	0.48
2:X:1174:G:C2'	2:X:1175:G:H5'	2.44	0.48
2:X:1311:G:H4'	2:X:1312:U:C5'	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:1493:U:H2'	2:X:1494:G:C8	2.48	0.48
13:D:38:LYS:HE3	13:D:96:VAL:HG22	1.95	0.48
14:E:45:ARG:O	14:E:45:ARG:HG3	2.12	0.48
16:f:12:ILE:HG12	16:f:27:VAL:HG13	1.96	0.48
16:f:53:ARG:HH11	16:f:53:ARG:CG	2.25	0.48
26:K:1:MET:HA	26:K:1:MET:CE	2.44	0.48
33:o:39:ILE:CD1	33:o:104:ALA:O	2.51	0.48
40:S:101:ILE:HD12	40:S:102:LYS:H	1.79	0.48
43:V:38:ILE:O	43:V:38:ILE:HG13	2.12	0.48
1:Y:80:G:H1'	1:Y:82:G:N7	2.29	0.48
1:Y:158:G:N3	1:Y:158:G:H5''	2.29	0.48
1:Y:2558:A:H3'	1:Y:2559:G:C8	2.49	0.48
1:Y:2831:G:O3'	1:Y:2831:G:OP1	2.31	0.48
2:X:290:A:H3'	2:X:291:U:C6	2.49	0.48
2:X:960:U:H2'	2:X:961:G:N7	2.29	0.48
2:X:1236:A:N3	2:X:1236:A:H3'	2.29	0.48
2:X:1486:G:H8	2:X:1486:G:O5'	1.95	0.48
2:X:1503:G:H8	2:X:1503:G:P	2.37	0.48
14:E:150:LYS:HE2	14:E:150:LYS:HB2	1.74	0.48
25:k:58:ARG:HB3	25:k:63:ILE:HG12	1.95	0.48
31:n:7:MET:SD	31:n:62:ILE:HD13	2.53	0.48
33:o:47:LYS:HD3	33:o:65:LYS:H	1.79	0.48
35:p:26:LEU:HB2	35:p:101:LEU:HG	1.96	0.48
1:Y:660:A:H1'	14:E:100:LYS:CB	2.44	0.47
1:Y:946:A:H2'	1:Y:947:U:C6	2.49	0.47
1:Y:1160:C:H2'	1:Y:1161:A:C8	2.48	0.47
1:Y:1440:A:O3'	1:Y:1514:A:O2'	2.32	0.47
1:Y:1630:A:N3	1:Y:1630:A:C3'	2.77	0.47
1:Y:1957:G:N2	1:Y:1995:G:H2'	2.29	0.47
1:Y:2128:G:H8	1:Y:2128:G:OP2	1.97	0.47
2:X:174:A:H5'	2:X:175:C:C5	2.49	0.47
2:X:313:G:H1'	2:X:314:A:N7	2.28	0.47
2:X:559:U:O3'	10:c:96:ARG:NH2	2.47	0.47
2:X:688:C:H2'	2:X:689:A:C8	2.48	0.47
2:X:699:G:H2'	2:X:704:A:C2	2.49	0.47
2:X:737:A:N3	2:X:737:A:C2'	2.73	0.47
2:X:894:U:O2'	10:c:15:LYS:CB	2.59	0.47
2:X:1175:G:OP2	2:X:1175:G:H8	1.97	0.47
3:3:50:A:C2	30:M:38:LYS:NZ	2.77	0.47
8:a:11:LYS:HD2	8:a:71:LYS:CE	2.43	0.47
10:c:51:GLY:HA3	10:c:65:TYR:H	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:I:63:VAL:HG12	21:I:106:LEU:HD11	1.96	0.47
25:k:177:LEU:HB3	25:k:178:ARG:CZ	2.43	0.47
29:m:71:LEU:C	29:m:71:LEU:CD1	2.86	0.47
1:Y:343:A:OP2	40:S:80:ARG:NH2	2.30	0.47
1:Y:559:A:O2'	34:O:31:LEU:CD2	2.59	0.47
1:Y:861:C:C2'	1:Y:862:C:H4'	2.43	0.47
1:Y:1587:C:H2'	1:Y:1588:U:C2	2.49	0.47
1:Y:1720:A:O5'	1:Y:1720:A:H8	1.97	0.47
1:Y:1847:U:H5	11:C:198:LEU:O	1.96	0.47
1:Y:2118:U:H1'	43:V:34:GLN:NE2	2.29	0.47
1:Y:2344:C:C2'	1:Y:2345:A:H4'	2.43	0.47
1:Y:2829:A:H2	1:Y:2911:A:C8	2.29	0.47
2:X:230:U:C3'	2:X:230:U:C6	2.97	0.47
2:X:316:C:O3'	17:g:13:LYS:HG3	2.13	0.47
2:X:743:C:OP1	22:i:28:TYR:OH	2.32	0.47
2:X:795:A:H8	2:X:795:A:C5'	2.25	0.47
2:X:898:G:C8	2:X:899:A:H2'	2.50	0.47
2:X:985:A:N6	8:a:54:ALA:HA	2.19	0.47
2:X:1075:C:H6	2:X:1075:C:H5''	1.79	0.47
3:3:80:A:H61	3:3:91:C:H42	1.62	0.47
11:C:83:TYR:CD1	11:C:83:TYR:C	2.92	0.47
12:d:11:ARG:CG	12:d:11:ARG:NH2	2.73	0.47
31:n:78:ARG:HA	31:n:78:ARG:NH2	2.25	0.47
35:p:107:TYR:HB3	35:p:134:ALA:HA	1.96	0.47
37:q:6:VAL:HA	37:q:8:TYR:HE1	1.78	0.47
1:Y:318:A:H2	1:Y:403:U:H1'	1.80	0.47
1:Y:1360:G:H8	1:Y:1360:G:O5'	1.97	0.47
1:Y:1911:A:H2'	1:Y:1912:A:C8	2.49	0.47
1:Y:2114:G:H2'	1:Y:2115:A:H8	1.79	0.47
1:Y:2339:U:C2	46:F:86:GLY:N	2.78	0.47
1:Y:2555:U:N3	1:Y:2557:U:H1'	2.29	0.47
2:X:144:C:H5''	2:X:210:A:H8	1.79	0.47
2:X:149:A:H4'	2:X:1458:A:H2	1.79	0.47
2:X:580:A:N3	2:X:927:G:N2	2.60	0.47
2:X:879:A:H8	2:X:879:A:OP2	1.97	0.47
2:X:985:A:N3	2:X:985:A:C2'	2.76	0.47
2:X:1257:A:H8	2:X:1257:A:H5''	1.78	0.47
2:X:1412:G:C2'	2:X:1413:C:H5'	2.45	0.47
15:e:30:PRO:HG2	15:e:31:HIS:CE1	2.49	0.47
18:G:89:LEU:C	18:G:89:LEU:CD1	2.87	0.47
29:m:114:VAL:HG21	29:m:140:THR:HG21	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:M:59:LYS:HZ2	30:M:59:LYS:HB3	1.79	0.47
41:T:73:MET:CB	41:T:94:ILE:HD11	2.44	0.47
1:Y:290:U:H2'	1:Y:291:G:C8	2.50	0.47
1:Y:605:U:O2	1:Y:605:U:H3'	2.14	0.47
1:Y:1525:U:H3'	1:Y:1525:U:H6	1.80	0.47
1:Y:1607:A:H8	1:Y:1607:A:H5''	1.78	0.47
1:Y:1936:C:H1'	1:Y:1937:G:C8	2.49	0.47
1:Y:2819:C:O2	1:Y:2819:C:H2'	2.13	0.47
1:Y:2845:G:OP2	1:Y:2845:G:H8	1.97	0.47
2:X:107:G:H3'	2:X:108:A:C2	2.49	0.47
2:X:349:C:H2'	2:X:350:C:C6	2.50	0.47
2:X:624:G:H2'	2:X:625:G:H5''	1.96	0.47
2:X:844:G:OP1	22:i:65:LYS:NZ	2.47	0.47
3:3:49:G:H3'	3:3:50:A:C8	2.50	0.47
9:b:55:SER:O	9:b:55:SER:OG	2.25	0.47
11:C:168:GLU:HB2	11:C:173:LEU:CD1	2.45	0.47
11:C:248:SER:CB	11:C:249:PRO:CD	2.93	0.47
12:d:95:LEU:N	12:d:96:PRO:CD	2.59	0.47
14:E:159:GLU:H	14:E:159:GLU:CD	2.12	0.47
30:M:27:GLU:H	30:M:27:GLU:CD	2.21	0.47
31:n:5:GLU:HG3	31:n:64:ARG:CD	2.44	0.47
1:Y:1691:G:N3	1:Y:1691:G:C2'	2.72	0.47
1:Y:1718:G:H21	1:Y:1721:A:H62	1.63	0.47
2:X:142:G:H4'	2:X:210:A:N6	2.28	0.47
2:X:214:A:H2'	2:X:215:C:C6	2.49	0.47
2:X:736:A:H2'	2:X:737:A:H5''	1.95	0.47
2:X:790:A:H3'	2:X:791:C:C5	2.49	0.47
2:X:935:G:H1'	2:X:937:G:C5	2.49	0.47
2:X:971:U:H3'	2:X:971:U:H6	1.79	0.47
2:X:988:A:OP2	2:X:988:A:H8	1.97	0.47
2:X:1203:C:O2	29:m:26:LYS:C	2.58	0.47
2:X:1413:C:H2'	2:X:1414:C:H4'	1.97	0.47
2:X:1451:U:H4'	2:X:1451:U:OP1	2.14	0.47
11:C:84:ASP:OD1	11:C:85:PRO:CD	2.59	0.47
25:k:8:ILE:HD12	25:k:11:ARG:CB	2.43	0.47
27:L:8:ARG:HG2	27:L:8:ARG:HH11	1.80	0.47
32:N:12:LYS:NZ	32:N:12:LYS:CB	2.73	0.47
37:q:40:TYR:CD1	37:q:40:TYR:C	2.89	0.47
40:S:24:ILE:N	40:S:24:ILE:HD12	2.29	0.47
41:T:32:TYR:CD1	41:T:32:TYR:C	2.92	0.47
1:Y:1013:U:H2'	1:Y:1014:U:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:1462:G:H8	1:Y:1626:A:H62	1.63	0.47
1:Y:1757:U:OP2	1:Y:1757:U:H2'	2.14	0.47
1:Y:1859:C:O2	1:Y:1859:C:H3'	2.15	0.47
1:Y:1874:A:C4'	2:X:711:G:H21	2.23	0.47
2:X:62:G:N3	23:j:5:LYS:HD2	2.30	0.47
2:X:316:C:H5'	17:g:13:LYS:NZ	1.91	0.47
2:X:323:A:H2'	2:X:338:C:OP2	2.14	0.47
2:X:380:C:N4	2:X:396:G:OP1	2.39	0.47
2:X:1123:A:H8	2:X:1123:A:O5'	1.96	0.47
2:X:1135:A:P	8:a:41:PRO:HD2	2.55	0.47
2:X:1314:C:H2'	2:X:1315:G:H8	1.78	0.47
6:2:10:ALA:HB1	24:J:58:PHE:CD2	2.49	0.47
8:a:40:ILE:HG22	8:a:42:LEU:HD13	1.95	0.47
9:b:23:ILE:HD11	9:b:86:VAL:HG23	1.97	0.47
10:c:53:MET:HE2	10:c:56:LYS:HE3	1.96	0.47
11:C:40:LYS:CA	11:C:40:LYS:HE2	2.43	0.47
23:j:75:LYS:HD3	23:j:75:LYS:HA	1.51	0.47
25:k:134:LYS:NZ	25:k:150:THR:HG21	2.30	0.47
29:m:157:ARG:CZ	29:m:157:ARG:CB	2.93	0.47
33:o:12:THR:HA	33:o:15:ARG:NH2	2.30	0.47
35:p:51:GLU:H	35:p:51:GLU:HG3	1.59	0.47
36:P:62:VAL:HA	36:P:95:LEU:HD23	1.96	0.47
38:Q:31:GLU:OE2	38:Q:31:GLU:N	2.43	0.47
4:1:18:THR:HG22	4:1:49:LYS:NZ	2.30	0.47
4:1:38:GLU:N	4:1:38:GLU:CD	2.73	0.47
1:Y:192:G:H21	1:Y:209:U:H5	1.63	0.47
1:Y:828:A:N3	1:Y:828:A:C2'	2.77	0.47
1:Y:1152:U:H2'	1:Y:1152:U:O2	2.14	0.47
1:Y:1756:U:C2'	1:Y:1757:U:H5'	2.44	0.47
1:Y:1933:G:C5	1:Y:1934:G:H1'	2.50	0.47
1:Y:2496:A:H61	1:Y:2508:G:H1'	1.78	0.47
1:Y:2696:G:N2	18:G:119:GLU:HA	2.30	0.47
1:Y:2759:G:H5''	1:Y:2760:A:C8	2.49	0.47
1:Y:2823:G:H8	1:Y:2824:G:H4'	1.80	0.47
2:X:53:U:H5'	2:X:53:U:H6	1.80	0.47
2:X:153:C:C4	2:X:154:U:H1'	2.50	0.47
2:X:299:C:H2'	2:X:300:G:C8	2.50	0.47
2:X:507:A:N1	2:X:556:G:H4'	2.30	0.47
2:X:581:A:H4'	2:X:893:C:C4'	2.45	0.47
2:X:749:G:H8	16:f:49:ASP:CG	2.22	0.47
2:X:773:G:H3'	2:X:820:G:N2	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:1119:C:H2'	2:X:1120:G:C8	2.49	0.47
2:X:1267:C:H1'	2:X:1268:A:C5	2.50	0.47
2:X:1417:U:H3'	2:X:1418:C:C6	2.49	0.47
2:X:1524:U:H2'	2:X:1525:A:N7	2.29	0.47
2:X:1525:A:H8	2:X:1525:A:O5'	1.98	0.47
3:3:11:A:OP1	42:U:82:ARG:CZ	2.63	0.47
3:3:87:G:N2	26:K:17:THR:OG1	2.48	0.47
10:c:53:MET:CE	10:c:56:LYS:HE3	2.45	0.47
10:c:70:LEU:HD11	10:c:76:ILE:CG1	2.45	0.47
11:C:132:LEU:HA	11:C:135:ILE:HD12	1.96	0.47
16:f:75:ILE:N	16:f:75:ILE:CD1	2.73	0.47
17:g:74:ILE:HG22	17:g:75:LEU:CD1	2.45	0.47
20:h:55:ALA:HB3	20:h:59:ASP:CB	2.44	0.47
28:l:46:GLU:N	29:m:126:LYS:HE3	2.29	0.47
29:m:117:LEU:HD13	29:m:117:LEU:HA	1.77	0.47
29:m:163:GLU:OE2	33:o:104:ALA:CB	2.63	0.47
30:M:49:LYS:HB2	30:M:49:LYS:HZ3	1.75	0.47
31:n:14:ILE:CG2	31:n:19:LYS:HG2	2.45	0.47
1:Y:410:G:H5''	1:Y:411:A:C8	2.50	0.47
1:Y:436:A:H1'	1:Y:437:A:C8	2.49	0.47
1:Y:2338:A:O5'	46:F:80:ARG:HA	2.15	0.47
2:X:238:G:N7	17:g:32:ARG:NH2	2.56	0.47
2:X:389:A:N3	2:X:389:A:C5'	2.78	0.47
2:X:417:U:H3'	2:X:418:G:C8	2.50	0.47
2:X:1134:U:H2'	2:X:1135:A:C4	2.49	0.47
2:X:1135:A:H1'	2:X:1162:A:H61	1.78	0.47
2:X:1335:A:H2'	2:X:1336:C:C6	2.50	0.47
2:X:1483:G:O5'	2:X:1483:G:H8	1.98	0.47
17:g:81:MET:SD	17:g:82:LYS:N	2.87	0.47
25:k:195:LEU:HD23	25:k:195:LEU:HA	1.73	0.47
29:m:112:ARG:HG2	29:m:112:ARG:O	2.14	0.47
30:M:56:ALA:CB	30:M:80:ILE:HB	2.44	0.47
33:o:27:LEU:H	33:o:27:LEU:HD12	1.80	0.47
1:Y:299:U:O2	1:Y:299:U:H2'	2.15	0.47
1:Y:307:A:H3'	1:Y:308:C:H6	1.78	0.47
1:Y:1000:G:N7	26:K:14:ARG:NH2	2.61	0.47
1:Y:1033:G:C2	4:1:13:ILE:HD11	2.50	0.47
1:Y:1372:C:O2	1:Y:1372:C:H2'	2.13	0.47
1:Y:1506:C:H5''	1:Y:1506:C:C6	2.28	0.47
1:Y:1520:A:H3'	1:Y:1521:A:N3	2.29	0.47
1:Y:2562:G:H8	1:Y:2562:G:H3'	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:107:G:H2'	2:X:339:G:H22	1.79	0.47
2:X:145:U:C3'	2:X:145:U:C6	2.97	0.47
2:X:405:A:N1	2:X:555:A:O2'	2.45	0.47
2:X:692:U:N3	2:X:716:A:OP1	2.48	0.47
2:X:1149:A:O2'	2:X:1292:U:O2'	2.23	0.47
2:X:1279:G:N2	2:X:1338:A:H4'	2.30	0.47
2:X:1484:U:H2'	2:X:1485:G:C8	2.50	0.47
3:3:50:A:H8	3:3:50:A:O5'	1.97	0.47
3:3:106:U:H2'	3:3:107:U:C6	2.50	0.47
24:J:72:LYS:NZ	24:J:72:LYS:CB	2.73	0.47
25:k:10:LEU:HD22	25:k:10:LEU:N	2.30	0.47
25:k:27:ASP:O	25:k:31:LEU:N	2.35	0.47
33:o:45:PHE:H	33:o:45:PHE:HD1	1.62	0.47
34:O:61:TRP:CZ2	34:O:93:LYS:HB2	2.50	0.47
1:Y:400:C:H3'	1:Y:400:C:O2	2.14	0.47
1:Y:992:A:H1'	1:Y:1028:G:C8	2.50	0.47
1:Y:1040:A:H4'	34:O:91:ASN:ND2	2.30	0.47
2:X:53:U:H6	2:X:53:U:C5'	2.28	0.47
2:X:63:U:H2'	2:X:64:C:C2	2.49	0.47
2:X:130:A:H1'	2:X:271:A:H1'	1.96	0.47
2:X:426:U:O5'	2:X:426:U:H6	1.98	0.47
2:X:497:C:P	28:l:127:ASP:H	2.38	0.47
2:X:856:C:C3'	2:X:856:C:C6	2.98	0.47
2:X:1219:C:H6	2:X:1219:C:H5''	1.80	0.47
2:X:1377:C:O2	2:X:1377:C:H2'	2.14	0.47
2:X:1402:U:H2'	2:X:1403:G:C4	2.50	0.47
14:E:60:GLY:HA3	14:E:79:ARG:HG2	1.96	0.47
14:E:80:ALA:HB3	14:E:83:TRP:HD1	1.80	0.47
17:g:20:ILE:HD11	17:g:52:VAL:CB	2.45	0.47
31:n:4:TYR:CD1	31:n:73:THR:HG21	2.49	0.47
40:S:58:GLU:N	40:S:58:GLU:CD	2.73	0.47
43:V:26:LYS:HD3	43:V:26:LYS:HA	1.62	0.47
44:W:5:GLU:N	44:W:5:GLU:CD	2.73	0.47
44:W:43:ILE:H	44:W:43:ILE:CD1	2.28	0.47
1:Y:24:G:H2'	1:Y:25:U:H6	1.80	0.46
1:Y:152:C:C5'	1:Y:152:C:C6	2.92	0.46
1:Y:923:A:N6	1:Y:946:A:O5'	2.48	0.46
1:Y:1577:G:O5'	1:Y:1577:G:H8	1.98	0.46
1:Y:1764:A:H2'	1:Y:1765:A:C8	2.51	0.46
1:Y:1914:C:H3'	1:Y:1915:G:N2	2.29	0.46
1:Y:2363:A:H61	42:U:51:THR:CG2	2.25	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:331:U:C6	23:j:20:ARG:HB2	2.50	0.46
2:X:337:A:H62	23:j:15:GLU:CD	2.23	0.46
2:X:512:C:H2'	2:X:519:C:C5	2.50	0.46
2:X:669:G:O2'	2:X:844:G:O2'	2.28	0.46
2:X:752:C:H2'	2:X:753:U:C5	2.50	0.46
2:X:802:A:H3'	2:X:803:C:C6	2.46	0.46
2:X:815:A:H3'	2:X:816:C:C5	2.49	0.46
2:X:928:A:H3'	2:X:928:A:H8	1.79	0.46
2:X:1245:C:H2'	2:X:1246:U:H4'	1.98	0.46
10:c:36:THR:O	10:c:36:THR:OG1	2.30	0.46
23:j:13:THR:CA	23:j:16:LYS:HB2	2.44	0.46
36:P:2:PHE:CE1	36:P:42:GLY:HA3	2.49	0.46
1:Y:846:G:H1'	1:Y:847:A:C8	2.50	0.46
1:Y:1214:C:H3'	1:Y:1215:U:C6	2.50	0.46
1:Y:1608:C:OP2	1:Y:1608:C:H6	1.99	0.46
1:Y:1876:G:N1	2:X:710:A:C5	2.84	0.46
1:Y:1893:A:H3'	1:Y:1894:G:C8	2.49	0.46
1:Y:2332:U:C6	46:F:79:LEU:CB	2.98	0.46
1:Y:2339:U:H5''	46:F:83:MET:N	2.30	0.46
2:X:264:U:O5'	2:X:264:U:H6	1.98	0.46
2:X:811:G:OP2	2:X:811:G:H3'	2.15	0.46
2:X:1182:A:H2'	2:X:1183:C:C2	2.51	0.46
2:X:1446:G:H2'	2:X:1447:C:C6	2.50	0.46
7:4:26:ILE:HG13	7:4:26:ILE:O	2.15	0.46
9:b:124:PRO:HA	11:C:170:LYS:HE2	1.97	0.46
11:C:173:LEU:CD1	11:C:183:MET:HG2	2.45	0.46
16:f:10:GLU:H	16:f:10:GLU:CD	2.23	0.46
25:k:4:LYS:HB2	25:k:4:LYS:HE3	1.64	0.46
25:k:54:VAL:CG1	25:k:56:ILE:HG13	2.45	0.46
30:M:108:LEU:C	30:M:108:LEU:CD2	2.88	0.46
35:p:107:TYR:CE2	35:p:137:LYS:HE3	2.51	0.46
36:P:14:VAL:HG12	36:P:20:ILE:HG21	1.97	0.46
40:S:6:GLY:HA2	40:S:22:LYS:HD3	1.97	0.46
1:Y:68:A:H2'	1:Y:69:C:C6	2.50	0.46
1:Y:90:A:H1'	1:Y:92:G:N7	2.30	0.46
1:Y:578:G:H2'	1:Y:579:U:C6	2.51	0.46
1:Y:582:G:C5'	19:H:6:MET:HE2	2.45	0.46
1:Y:1033:G:N3	4:1:13:ILE:CD1	2.78	0.46
1:Y:2504:C:H6	1:Y:2504:C:O5'	1.98	0.46
2:X:128:U:H2'	2:X:131:C:C6	2.50	0.46
2:X:385:G:H2'	2:X:386:G:C8	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:390:A:N3	2:X:390:A:H2'	2.30	0.46
2:X:707:C:O5'	2:X:707:C:H6	1.98	0.46
2:X:760:G:H5'	16:f:23:GLY:CA	2.45	0.46
2:X:904:G:H2'	2:X:905:A:C8	2.50	0.46
2:X:1025:G:H2'	2:X:1026:A:C8	2.50	0.46
2:X:1250:A:C2	2:X:1308:U:H1'	2.50	0.46
2:X:1251:U:H5'	35:p:116:MET:CA	2.45	0.46
2:X:1453:G:H5''	2:X:1454:A:N7	2.31	0.46
9:b:53:LYS:O	9:b:53:LYS:HG3	2.13	0.46
10:c:54:THR:HG22	10:c:62:LEU:HB2	1.96	0.46
18:G:87:LEU:CD2	18:G:162:ILE:HD11	2.45	0.46
21:I:17:ARG:HG3	21:I:47:THR:CG2	2.45	0.46
26:K:3:LEU:O	26:K:3:LEU:HD12	2.16	0.46
36:P:40:PHE:CE1	36:P:48:VAL:HG23	2.48	0.46
37:q:21:VAL:HG21	37:q:85:ILE:CA	2.45	0.46
39:R:23:ASP:HB3	39:R:82:LEU:HB2	1.98	0.46
44:W:19:LYS:HB3	44:W:19:LYS:HZ2	1.76	0.46
1:Y:2338:A:H5''	46:F:80:ARG:HA	1.98	0.46
2:X:6:U:O2'	28:l:196:GLU:HA	2.15	0.46
2:X:165:G:H3'	2:X:166:U:H5	1.80	0.46
2:X:179:A:H5''	23:j:51:SER:CB	2.46	0.46
2:X:251:A:H5'	2:X:252:U:C6	2.50	0.46
2:X:399:G:H2'	2:X:399:G:N3	2.31	0.46
2:X:761:A:H4'	16:f:62:ARG:HH12	1.79	0.46
2:X:780:U:H3'	2:X:780:U:H6	1.81	0.46
2:X:1106:G:N3	2:X:1106:G:O2'	2.45	0.46
2:X:1190:A:C1'	37:q:6:VAL:HG11	2.46	0.46
2:X:1369:U:H5''	2:X:1369:U:H6	1.80	0.46
6:2:54:ASP:CG	24:J:57:LEU:HD22	2.40	0.46
8:a:25:ILE:CG1	25:k:23:TYR:CD2	2.98	0.46
9:b:23:ILE:HG12	9:b:84:VAL:CG2	2.45	0.46
9:b:24:ARG:HH22	9:b:88:GLY:HA3	1.80	0.46
23:j:8:ILE:C	23:j:8:ILE:CD1	2.86	0.46
30:M:28:LYS:HB3	30:M:28:LYS:HE2	1.60	0.46
30:M:117:LEU:HD12	30:M:117:LEU:HA	1.78	0.46
33:o:25:LEU:N	33:o:25:LEU:HD12	2.30	0.46
40:S:5:LYS:HA	40:S:23:VAL:CG1	2.46	0.46
1:Y:280:C:H1'	1:Y:291:G:N2	2.31	0.46
1:Y:1302:G:H8	1:Y:1302:G:O5'	1.97	0.46
1:Y:1590:C:O5'	1:Y:1590:C:H6	1.99	0.46
1:Y:1611:C:C5'	1:Y:1611:C:C6	2.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:2340:C:C4'	46:F:69:LYS:CB	2.93	0.46
1:Y:2367:A:H5'	3:3:39:G:H21	1.79	0.46
1:Y:2830:A:N3	1:Y:2830:A:C2'	2.78	0.46
2:X:54:A:OP2	2:X:54:A:H8	1.99	0.46
2:X:754:G:H8	2:X:754:G:O5'	1.99	0.46
2:X:1226:G:H5''	2:X:1227:A:N7	2.30	0.46
2:X:1249:A:P	2:X:1346:C:H1'	2.56	0.46
2:X:1337:U:O5'	2:X:1337:U:H6	1.98	0.46
2:X:1505:A:OP2	2:X:1505:A:H4'	2.14	0.46
2:X:1520:G:H8	2:X:1520:G:P	2.39	0.46
9:b:98:ARG:NH1	9:b:98:ARG:CG	2.73	0.46
11:C:130:LEU:HB2	11:C:131:PRO:HD2	1.98	0.46
14:E:10:ASP:HA	14:E:145:THR:HG21	1.96	0.46
16:f:5:GLN:HA	16:f:8:LYS:HE3	1.98	0.46
18:G:44:LYS:O	18:G:44:LYS:HG2	2.15	0.46
24:J:74:TYR:CE2	24:J:127:LYS:HD2	2.51	0.46
28:l:46:GLU:CB	29:m:126:LYS:HB2	2.45	0.46
29:m:48:PHE:CE2	29:m:137:VAL:HG11	2.50	0.46
29:m:95:PHE:CE2	29:m:97:LYS:CG	2.97	0.46
33:o:11:LEU:HD13	33:o:79:ARG:HB3	1.95	0.46
40:S:86:VAL:O	40:S:86:VAL:HG12	2.16	0.46
1:Y:490:C:H3'	1:Y:490:C:O2	2.16	0.46
1:Y:1314:A:H2'	1:Y:1315:C:C6	2.50	0.46
1:Y:1494:G:N2	1:Y:1506:C:H1'	2.31	0.46
1:Y:1556:G:H2'	1:Y:1556:G:N3	2.31	0.46
1:Y:1588:U:H2'	1:Y:1589:U:C6	2.51	0.46
1:Y:1990:C:H2'	1:Y:1991:G:H5''	1.96	0.46
1:Y:2401:C:H3'	1:Y:2401:C:O2	2.16	0.46
1:Y:2491:C:H2'	1:Y:2492:C:C6	2.51	0.46
2:X:311:G:H5''	2:X:312:U:C4	2.50	0.46
2:X:332:G:C5	23:j:9:LYS:HB3	2.50	0.46
2:X:410:G:H1'	2:X:628:C:C5	2.50	0.46
2:X:528:A:O3'	10:c:83:ILE:HD11	2.15	0.46
2:X:737:A:H62	2:X:773:G:H4'	1.80	0.46
2:X:781:G:H3'	2:X:782:G:H8	1.81	0.46
2:X:1462:U:H3'	2:X:1462:U:H6	1.79	0.46
3:3:35:C:H2'	3:3:36:C:H5'	1.96	0.46
8:a:9:ARG:HH11	8:a:71:LYS:HD3	1.80	0.46
8:a:11:LYS:NZ	8:a:71:LYS:HE2	2.30	0.46
21:I:43:VAL:HG21	21:I:52:VAL:HG12	1.96	0.46
25:k:38:ILE:CD1	25:k:90:LEU:HG	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:m:10:GLU:N	29:m:10:GLU:CD	2.73	0.46
33:o:45:PHE:CA	33:o:74:ILE:HD11	2.45	0.46
35:p:35:LYS:HA	37:q:35:ARG:HD2	1.97	0.46
36:P:74:PHE:CD1	36:P:74:PHE:C	2.93	0.46
40:S:84:LYS:HG2	40:S:84:LYS:O	2.14	0.46
1:Y:127:C:H2'	1:Y:128:C:C6	2.51	0.46
1:Y:247:A:OP2	6:2:8:ARG:NH2	2.41	0.46
1:Y:278:A:H2'	1:Y:279:A:C8	2.51	0.46
1:Y:991:A:H2'	1:Y:992:A:C8	2.51	0.46
1:Y:2330:G:C2'	46:F:121:ALA:HB1	2.46	0.46
1:Y:2492:C:H4'	7:4:5:PRO:HG2	1.98	0.46
1:Y:2579:U:H2'	1:Y:2580:G:N7	2.31	0.46
1:Y:2785:A:C2	1:Y:2786:G:H1'	2.51	0.46
1:Y:2801:C:H2'	1:Y:2802:A:C8	2.51	0.46
2:X:147:G:H2'	2:X:148:G:C8	2.50	0.46
2:X:181:A:H3'	23:j:79:MET:HE1	1.97	0.46
2:X:671:A:O4'	22:i:65:LYS:HG3	2.16	0.46
2:X:732:G:H8	2:X:734:C:H41	1.62	0.46
2:X:734:C:OP2	2:X:734:C:H3'	2.15	0.46
2:X:834:C:H41	2:X:879:A:H4'	1.81	0.46
2:X:1004:A:N7	2:X:1227:A:H4'	2.31	0.46
2:X:1070:G:H8	2:X:1070:G:OP2	1.97	0.46
2:X:1089:G:H1	2:X:1093:G:H5''	1.81	0.46
2:X:1135:A:H1'	2:X:1162:A:N6	2.31	0.46
2:X:1416:G:H2'	2:X:1417:U:C6	2.51	0.46
10:c:100:VAL:CG2	10:c:103:LEU:HB2	2.44	0.46
23:j:50:VAL:HA	23:j:82:ASN:C	2.40	0.46
25:k:123:LEU:HD11	25:k:129:PHE:HA	1.97	0.46
26:K:40:SER:HB3	26:K:127:VAL:CG1	2.46	0.46
27:L:66:LEU:HD12	27:L:66:LEU:HA	1.74	0.46
30:M:112:ALA:HB1	30:M:117:LEU:HD23	1.97	0.46
38:Q:8:ARG:CG	38:Q:8:ARG:NH2	2.74	0.46
1:Y:62:C:N3	1:Y:92:G:N2	2.64	0.46
1:Y:237:U:H2'	1:Y:238:U:H6	1.81	0.46
1:Y:1507:A:P	1:Y:1507:A:C8	3.09	0.46
2:X:144:C:H5''	2:X:210:A:C8	2.51	0.46
2:X:263:G:C4'	20:h:22:THR:CG2	2.74	0.46
2:X:1355:C:H3'	2:X:1355:C:H6	1.80	0.46
2:X:1376:G:H2'	2:X:1376:G:N3	2.30	0.46
12:d:99:GLY:HA3	12:d:101:LYS:NZ	2.31	0.46
18:G:35:ARG:NH2	18:G:71:LEU:HD21	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:m:161:VAL:C	33:o:97:VAL:HB	2.40	0.46
33:o:121:ARG:HB2	33:o:121:ARG:NH1	2.30	0.46
1:Y:156:A:H61	1:Y:172:U:H3	1.64	0.46
1:Y:195:C:O2'	1:Y:846:G:C8	2.56	0.46
1:Y:559:A:H61	1:Y:1297:G:H1	1.63	0.46
1:Y:1635:A:H5''	1:Y:1636:U:C5	2.51	0.46
2:X:107:G:N2	23:j:7:ALA:HA	2.31	0.46
2:X:632:C:H4'	17:g:43:THR:CB	2.45	0.46
2:X:1309:C:N3	35:p:111:ARG:HB3	2.31	0.46
2:X:1470:C:H3'	2:X:1471:U:C5	2.51	0.46
8:a:24:LYS:CD	25:k:59:ALA:HB3	2.45	0.46
8:a:72:ARG:HD3	8:a:72:ARG:HA	1.62	0.46
9:b:23:ILE:HD13	9:b:96:ALA:CB	2.46	0.46
10:c:43:LYS:HD3	10:c:43:LYS:HA	1.69	0.46
11:C:37:LEU:HD12	11:C:37:LEU:HA	1.73	0.46
13:D:118:VAL:HG23	13:D:183:LEU:HD12	1.98	0.46
29:m:35:ALA:CB	29:m:56:VAL:HG13	2.45	0.46
29:m:71:LEU:HD12	29:m:71:LEU:O	2.15	0.46
37:q:91:GLU:H	37:q:91:GLU:HG2	1.45	0.46
37:q:105:LEU:HD23	37:q:105:LEU:N	2.27	0.46
38:Q:92:ARG:HH11	38:Q:92:ARG:HG3	1.81	0.46
40:S:73:PRO:HG3	40:S:100:GLU:CB	2.46	0.46
1:Y:259:A:H2'	1:Y:260:A:C8	2.51	0.46
1:Y:343:A:H3'	40:S:80:ARG:HH12	1.81	0.46
1:Y:1601:U:H2'	1:Y:1602:U:H3'	1.97	0.46
1:Y:2822:C:H1'	1:Y:2824:G:N2	2.30	0.46
2:X:148:G:N3	2:X:1458:A:H2'	2.30	0.46
2:X:256:C:C6	2:X:256:C:C5'	2.99	0.46
2:X:451:U:C3'	2:X:451:U:C6	2.99	0.46
2:X:542:U:C3'	2:X:542:U:C6	2.99	0.46
2:X:657:A:OP1	16:f:23:GLY:C	2.59	0.46
2:X:866:C:H2'	2:X:867:U:C6	2.51	0.46
2:X:897:G:N3	2:X:897:G:C2'	2.78	0.46
2:X:920:C:C5	10:c:18:LYS:HD2	2.51	0.46
2:X:1231:G:N3	2:X:1231:G:C2'	2.76	0.46
2:X:1384:G:N3	2:X:1384:G:C2'	2.72	0.46
3:3:59:U:H2'	3:3:60:C:C6	2.51	0.46
9:b:27:PHE:HZ	22:i:29:LYS:HE3	1.80	0.46
13:D:169:MET:HB3	13:D:170:PRO:HD2	1.98	0.46
23:j:55:LYS:HA	23:j:59:LYS:CB	2.46	0.46
25:k:34:GLU:HA	25:k:37:LYS:HB2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:k:121:ARG:HD3	25:k:121:ARG:HA	1.52	0.46
46:F:78:ARG:N	46:F:131:GLY:HA3	2.30	0.46
1:Y:384:G:H2'	1:Y:385:U:C6	2.51	0.45
1:Y:1095:A:N3	1:Y:1095:A:C2'	2.78	0.45
1:Y:1762:U:H6	1:Y:1762:U:H3'	1.81	0.45
1:Y:2077:C:H5	1:Y:2645:G:H1	1.64	0.45
1:Y:2312:C:C5	4:A:2:ARG:CZ	2.99	0.45
1:Y:2353:U:H3	1:Y:2416:G:H1	1.63	0.45
1:Y:2895:G:H5''	32:N:3:ASN:HD22	1.80	0.45
2:X:361:A:H2'	2:X:361:A:N3	2.31	0.45
2:X:481:C:H6	2:X:481:C:C5'	2.27	0.45
2:X:686:U:H3'	2:X:686:U:H6	1.81	0.45
2:X:726:A:N3	2:X:726:A:H2'	2.31	0.45
2:X:902:A:H62	2:X:916:G:H2'	1.80	0.45
2:X:1124:C:C4'	25:k:177:LEU:HD22	2.43	0.45
2:X:1127:U:N3	2:X:1197:G:N2	2.63	0.45
2:X:1203:C:C4	29:m:26:LYS:CE	2.95	0.45
8:a:20:GLN:NE2	25:k:21:LYS:CB	2.78	0.45
20:h:61:VAL:HA	20:h:81:VAL:H	1.81	0.45
21:I:24:VAL:HA	21:I:39:ILE:HG22	1.97	0.45
25:k:58:ARG:HB3	25:k:63:ILE:CG1	2.46	0.45
25:k:155:ARG:CG	25:k:155:ARG:NH1	2.76	0.45
33:o:86:ARG:O	33:o:86:ARG:HG2	2.16	0.45
33:o:120:LYS:H	33:o:120:LYS:CD	2.28	0.45
40:S:87:ASP:HB2	40:S:89:LYS:NZ	2.31	0.45
1:Y:92:G:C2'	1:Y:93:U:H5'	2.46	0.45
1:Y:336:U:C6	1:Y:336:U:C3'	2.98	0.45
1:Y:1465:G:P	1:Y:1465:G:C8	3.06	0.45
1:Y:2326:G:H2'	1:Y:2327:A:C8	2.51	0.45
2:X:143:A:H1'	2:X:210:A:C5	2.51	0.45
2:X:235:G:O2'	17:g:60:TRP:HA	2.15	0.45
2:X:451:U:H3'	2:X:451:U:H6	1.81	0.45
2:X:784:G:H4'	2:X:785:A:C4	2.51	0.45
2:X:921:U:O5'	2:X:921:U:H6	1.99	0.45
2:X:948:A:O2'	35:p:95:ARG:NH1	2.41	0.45
2:X:1261:A:C2	2:X:1262:A:H1'	2.51	0.45
2:X:1327:G:H4'	2:X:1328:C:N3	2.30	0.45
3:3:32:U:OP2	3:3:32:U:H6	1.99	0.45
3:3:93:C:H2'	3:3:94:U:H6	1.82	0.45
11:C:107:PRO:HG2	11:C:110:LEU:HD13	1.98	0.45
12:d:81:MET:HE2	12:d:81:MET:HB3	1.69	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:G:3:ARG:HG2	18:G:3:ARG:NH1	2.18	0.45
25:k:38:ILE:HD13	25:k:93:LEU:CD1	2.47	0.45
30:M:68:THR:O	30:M:68:THR:OG1	2.32	0.45
31:n:52:ILE:HB	31:n:88:ARG:CZ	2.45	0.45
37:q:96:TYR:HD1	37:q:97:ARG:HD2	1.80	0.45
45:Z:37:LYS:HE2	45:Z:46:CYS:H	1.80	0.45
1:Y:226:A:H3'	1:Y:227:G:C8	2.51	0.45
1:Y:845:A:OP2	1:Y:845:A:H8	1.98	0.45
1:Y:1065:A:H62	1:Y:1185:U:H3	1.63	0.45
1:Y:2338:A:C5'	46:F:80:ARG:HA	2.46	0.45
2:X:233:U:H2'	2:X:234:A:C8	2.52	0.45
2:X:451:U:C6	2:X:451:U:H3'	2.52	0.45
2:X:660:U:C3'	2:X:660:U:C6	2.98	0.45
2:X:672:G:H1	2:X:750:G:H1	1.65	0.45
2:X:749:G:H8	16:f:49:ASP:OD1	2.00	0.45
2:X:839:U:O5'	2:X:839:U:H6	2.00	0.45
2:X:1261:A:C6	2:X:1262:A:H1'	2.51	0.45
3:3:107:U:H3'	3:3:108:G:N2	2.30	0.45
8:a:16:ARG:HD3	8:a:16:ARG:HA	1.85	0.45
9:b:65:MET:O	9:b:65:MET:HE3	2.16	0.45
12:d:10:PRO:HB2	12:d:13:LYS:CD	2.45	0.45
25:k:68:HIS:CG	25:k:105:ILE:HD11	2.52	0.45
34:O:25:PHE:CD1	34:O:25:PHE:C	2.94	0.45
1:Y:656:G:H5''	1:Y:656:G:C8	2.51	0.45
1:Y:1322:G:H8	1:Y:1322:G:O5'	1.98	0.45
1:Y:1525:U:C3'	1:Y:1525:U:C6	3.00	0.45
2:X:236:A:H3'	17:g:34:ILE:HG21	1.98	0.45
2:X:256:C:H6	2:X:256:C:C5'	2.26	0.45
2:X:462:A:C6	17:g:70:THR:HG22	2.51	0.45
2:X:749:G:C8	16:f:49:ASP:OD1	2.69	0.45
2:X:775:A:H2'	2:X:776:A:C8	2.52	0.45
3:3:111:A:H2'	3:3:112:G:C8	2.52	0.45
11:C:261:ARG:NH1	11:C:261:ARG:CB	2.73	0.45
12:d:34:LEU:H	12:d:34:LEU:HD23	1.81	0.45
12:d:107:ARG:NE	12:d:107:ARG:CA	2.73	0.45
12:d:114:LYS:HE2	12:d:114:LYS:HB3	1.35	0.45
14:E:13:LYS:HD3	14:E:13:LYS:C	2.41	0.45
17:g:20:ILE:HG13	17:g:20:ILE:O	2.16	0.45
24:J:76:ILE:HD13	24:J:76:ILE:N	2.31	0.45
37:q:21:VAL:CG2	37:q:85:ILE:HG22	2.45	0.45
1:Y:765:U:H6	1:Y:765:U:P	2.40	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:1459:A:H8	1:Y:1459:A:O5'	2.00	0.45
1:Y:2555:U:C4	1:Y:2557:U:H1'	2.52	0.45
1:Y:2794:C:H1'	1:Y:2795:C:C4	2.51	0.45
1:Y:2806:U:C4'	1:Y:2808:A:H4'	2.45	0.45
2:X:18:U:H3'	2:X:18:U:H6	1.81	0.45
2:X:132:C:H3'	2:X:133:U:C6	2.52	0.45
2:X:183:U:H5''	2:X:184:A:H5''	1.98	0.45
2:X:545:G:H2'	2:X:546:U:C6	2.52	0.45
2:X:598:U:O2	2:X:598:U:H2'	2.16	0.45
2:X:738:G:H1	2:X:773:G:H5''	1.81	0.45
2:X:1359:U:C3'	2:X:1359:U:C6	3.00	0.45
2:X:1396:G:H8	2:X:1396:G:OP2	1.99	0.45
2:X:1474:C:H2'	2:X:1475:C:C6	2.52	0.45
6:2:24:ARG:HG3	6:2:24:ARG:NH1	2.32	0.45
8:a:24:LYS:HD3	25:k:59:ALA:HB3	1.98	0.45
11:C:246:PRO:HG2	11:C:255:LEU:HD22	1.99	0.45
16:f:26:GLU:OE1	16:f:77:ARG:HD2	2.16	0.45
17:g:29:ARG:HE	17:g:29:ARG:HB2	1.54	0.45
18:G:98:MET:HB3	18:G:120:ASN:CB	2.46	0.45
25:k:174:LEU:N	25:k:174:LEU:CD1	2.73	0.45
30:M:31:LEU:O	30:M:31:LEU:HG	2.17	0.45
30:M:68:THR:HG23	30:M:70:VAL:HG23	1.96	0.45
1:Y:404:U:H3'	1:Y:405:G:H8	1.81	0.45
1:Y:658:A:H61	14:E:180:GLY:CA	2.30	0.45
1:Y:720:A:N7	1:Y:847:A:C2	2.85	0.45
1:Y:854:G:C2	24:J:29:LYS:HB2	2.52	0.45
1:Y:1065:A:C8	1:Y:1065:A:H3'	2.51	0.45
1:Y:1078:G:H5'	7:4:18:LYS:CE	2.37	0.45
1:Y:1611:C:H6	1:Y:1611:C:C4'	2.30	0.45
1:Y:1702:C:H2'	1:Y:1703:U:C6	2.52	0.45
1:Y:2491:C:H3'	1:Y:2491:C:O2	2.15	0.45
1:Y:2702:A:H61	1:Y:2759:G:H1	1.64	0.45
2:X:439:A:H2'	2:X:439:A:N3	2.31	0.45
2:X:624:G:OP1	2:X:624:G:N2	2.49	0.45
2:X:886:A:P	33:o:79:ARG:NH2	2.90	0.45
2:X:1146:U:O2	2:X:1146:U:H3'	2.16	0.45
9:b:20:VAL:CG2	9:b:37:GLU:HA	2.46	0.45
10:c:101:LYS:O	10:c:101:LYS:HG3	2.17	0.45
11:C:171:TYR:CE2	11:C:269:LEU:HD22	2.46	0.45
19:H:54:TYR:CE2	19:H:122:LYS:HG2	2.52	0.45
29:m:157:ARG:CD	33:o:80:ILE:HD13	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:o:52:VAL:HG13	33:o:52:VAL:O	2.15	0.45
41:T:23:LYS:HE2	41:T:23:LYS:CA	2.47	0.45
1:Y:3:U:H5'	1:Y:3:U:H6	1.82	0.45
1:Y:156:A:OP1	1:Y:156:A:C8	2.70	0.45
1:Y:226:A:C2'	1:Y:227:G:H5'	2.47	0.45
1:Y:613:G:H2'	1:Y:2057:A:N7	2.32	0.45
1:Y:1295:C:O5'	1:Y:1295:C:H6	1.99	0.45
1:Y:1611:C:C6	1:Y:1611:C:O5'	2.70	0.45
1:Y:2328:A:H2	46:F:127:ASN:CA	2.29	0.45
1:Y:2583:C:H5''	1:Y:2583:C:C6	2.27	0.45
2:X:123:G:N2	2:X:245:C:H2'	2.32	0.45
2:X:522:C:C6	2:X:522:C:H5''	2.52	0.45
2:X:807:G:H3'	2:X:808:G:H8	1.81	0.45
2:X:856:C:C6	2:X:856:C:H3'	2.52	0.45
2:X:887:C:O5'	2:X:887:C:H6	1.99	0.45
2:X:1054:U:H3'	2:X:1055:G:C8	2.51	0.45
2:X:1206:C:H2'	2:X:1208:A:H8	1.81	0.45
2:X:1266:G:OP1	15:e:21:TYR:HE2	1.99	0.45
2:X:1426:G:H2'	2:X:1427:A:C8	2.51	0.45
2:X:1431:U:O5'	2:X:1431:U:C6	2.70	0.45
2:X:1540:U:C4'	2:X:1541:G:H2'	2.45	0.45
3:3:11:A:N7	42:U:82:ARG:NH2	2.64	0.45
5:B:37:ARG:HG3	5:B:37:ARG:NH2	2.24	0.45
10:c:70:LEU:N	10:c:70:LEU:CD1	2.74	0.45
11:C:121:GLU:N	11:C:121:GLU:CD	2.73	0.45
15:e:60:SER:O	15:e:60:SER:OG	2.29	0.45
17:g:6:ARG:CB	17:g:23:ALA:HB3	2.46	0.45
17:g:21:VAL:CB	17:g:33:ILE:CG2	2.95	0.45
23:j:51:SER:CB	23:j:54:VAL:HA	2.46	0.45
29:m:110:PRO:HB2	29:m:111:VAL:H	1.57	0.45
33:o:49:VAL:HG12	33:o:63:PHE:CD2	2.46	0.45
1:Y:577:A:H4'	1:Y:578:G:C8	2.52	0.45
1:Y:705:U:OP1	14:E:99:TYR:HB2	2.17	0.45
1:Y:1033:G:N1	4:1:13:ILE:HD13	2.31	0.45
1:Y:1241:A:H2'	1:Y:1242:A:C8	2.52	0.45
1:Y:1370:C:C6	1:Y:1370:C:OP2	2.70	0.45
1:Y:1479:G:N3	1:Y:1521:A:H1'	2.30	0.45
1:Y:2376:G:H3'	1:Y:2377:C:H5''	1.99	0.45
1:Y:2559:G:H1'	1:Y:2690:G:N2	2.32	0.45
1:Y:2786:G:N3	1:Y:2786:G:H2'	2.32	0.45
2:X:230:U:C6	2:X:230:U:O5'	2.70	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:273:G:H2'	2:X:275:C:H5	1.81	0.45
2:X:809:U:C6	2:X:809:U:OP2	2.70	0.45
2:X:929:A:H3'	2:X:929:A:C8	2.51	0.45
2:X:995:C:H5''	2:X:1225:U:H5''	1.99	0.45
2:X:1309:C:C2	35:p:111:ARG:HB3	2.52	0.45
2:X:1394:C:OP1	2:X:1394:C:H4'	2.17	0.45
7:4:17:ILE:CD1	7:4:19:ARG:HG3	2.47	0.45
8:a:55:VAL:HB	8:a:56:HIS:H	1.54	0.45
11:C:146:LEU:HD23	11:C:146:LEU:HA	1.76	0.45
29:m:157:ARG:CG	29:m:157:ARG:NH2	2.77	0.45
38:Q:1:MET:HE3	38:Q:64:MET:SD	2.57	0.45
42:U:28:ARG:H	42:U:28:ARG:CD	2.30	0.45
1:Y:657:U:C2	1:Y:658:A:H1'	2.52	0.45
1:Y:659:A:OP1	14:E:44:LEU:HD23	2.16	0.45
1:Y:944:G:H8	1:Y:944:G:O5'	1.99	0.45
1:Y:946:A:C4	1:Y:946:A:OP2	2.70	0.45
1:Y:1440:A:H2'	1:Y:1441:C:C6	2.52	0.45
1:Y:1446:U:O2	1:Y:1446:U:H2'	2.17	0.45
1:Y:1464:U:C6	1:Y:1464:U:OP1	2.70	0.45
1:Y:1506:C:C5	1:Y:1506:C:OP2	2.70	0.45
1:Y:1656:C:H5'	5:B:8:PRO:HG3	1.99	0.45
1:Y:1757:U:OP2	1:Y:1757:U:C6	2.70	0.45
1:Y:1936:C:H1'	1:Y:1937:G:N7	2.32	0.45
2:X:107:G:H2'	2:X:339:G:N2	2.31	0.45
2:X:147:G:C8	2:X:147:G:O5'	2.70	0.45
2:X:157:G:O5'	2:X:157:G:H8	2.00	0.45
2:X:414:G:P	2:X:414:G:C8	3.10	0.45
2:X:659:C:H2'	2:X:660:U:C2	2.51	0.45
2:X:744:U:H2'	2:X:745:U:C5	2.51	0.45
2:X:766:G:O5'	2:X:766:G:C8	2.70	0.45
2:X:834:C:C5	2:X:834:C:OP2	2.70	0.45
2:X:1018:C:H2'	2:X:1019:U:C5	2.51	0.45
2:X:1285:A:H8	2:X:1285:A:O5'	1.99	0.45
2:X:1425:C:H2'	2:X:1426:G:C8	2.52	0.45
2:X:1513:C:H5''	2:X:1520:G:H4'	1.99	0.45
3:3:65:G:OP1	3:3:65:G:C8	2.70	0.45
8:a:24:LYS:CG	25:k:59:ALA:HB3	2.34	0.45
9:b:107:VAL:HG13	9:b:107:VAL:O	2.16	0.45
10:c:53:MET:HB2	10:c:65:TYR:CE1	2.52	0.45
25:k:37:LYS:HD2	25:k:40:LYS:HE3	1.97	0.45
29:m:165:TYR:HD2	33:o:97:VAL:HG22	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:M:30:ARG:HA	30:M:93:VAL:HG23	1.99	0.45
30:M:38:LYS:HB3	30:M:39:HIS:CE1	2.52	0.45
33:o:52:VAL:CG2	33:o:60:LEU:HD13	2.46	0.45
35:p:104:LEU:HD23	35:p:104:LEU:O	2.17	0.45
45:Z:27:MET:HE3	45:Z:27:MET:HB3	1.61	0.45
1:Y:328:G:OP1	1:Y:328:G:C8	2.70	0.45
1:Y:331:G:C8	1:Y:331:G:OP2	2.70	0.45
1:Y:458:A:N6	1:Y:2439:A:H1'	2.32	0.45
1:Y:622:A:H2'	1:Y:623:C:C6	2.51	0.45
1:Y:1462:G:C2'	1:Y:1463:A:H4'	2.47	0.45
1:Y:1517:A:H8	1:Y:1517:A:O5'	2.00	0.45
1:Y:1563:U:OP2	1:Y:1563:U:C6	2.70	0.45
1:Y:1935:C:C6	1:Y:1935:C:OP1	2.70	0.45
1:Y:2080:G:C4'	13:D:161:SER:HB2	2.46	0.45
1:Y:2327:A:N1	46:F:127:ASN:CB	2.79	0.45
1:Y:2665:G:C4	1:Y:2665:G:OP2	2.70	0.45
1:Y:2672:G:C8	1:Y:2672:G:OP2	2.70	0.45
1:Y:2672:G:C8	1:Y:2672:G:O5'	2.70	0.45
1:Y:2818:A:C5'	1:Y:2818:A:H8	2.30	0.45
1:Y:2845:G:OP2	1:Y:2845:G:C8	2.70	0.45
2:X:11:A:H62	2:X:567:A:H61	1.64	0.45
2:X:21:U:C6	2:X:21:U:OP2	2.70	0.45
2:X:22:G:C8	2:X:22:G:OP2	2.70	0.45
2:X:109:C:C5	2:X:109:C:OP2	2.70	0.45
2:X:142:G:O4'	2:X:210:A:N6	2.46	0.45
2:X:248:U:O5'	2:X:248:U:H6	1.99	0.45
2:X:256:C:C6	2:X:256:C:H3'	2.51	0.45
2:X:276:U:C5	2:X:276:U:OP2	2.70	0.45
2:X:414:G:OP1	2:X:414:G:C8	2.70	0.45
2:X:424:G:H1'	2:X:425:G:C8	2.52	0.45
2:X:591:A:OP1	2:X:591:A:C8	2.70	0.45
2:X:616:A:H8	2:X:616:A:OP2	1.99	0.45
2:X:655:A:P	16:f:65:HIS:ND1	2.90	0.45
2:X:827:A:C5	2:X:827:A:OP1	2.70	0.45
2:X:1251:U:C6	2:X:1251:U:O5'	2.70	0.45
2:X:1288:C:H2'	15:e:31:HIS:HB2	1.98	0.45
2:X:1336:C:O5'	2:X:1336:C:H6	1.99	0.45
2:X:1406:C:O3'	2:X:1412:G:O2'	2.35	0.45
2:X:1462:U:C3'	2:X:1462:U:C6	3.00	0.45
3:3:91:C:H2'	3:3:92:G:H8	1.82	0.45
9:b:20:VAL:HG23	9:b:37:GLU:HA	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:C:200:HIS:CG	11:C:200:HIS:O	2.70	0.45
12:d:70:ARG:HD3	12:d:70:ARG:C	2.42	0.45
13:D:61:LYS:HD2	13:D:61:LYS:HA	1.74	0.45
16:f:69:TYR:O	16:f:69:TYR:CD1	2.70	0.45
29:m:36:LEU:HD11	29:m:48:PHE:CZ	2.52	0.45
29:m:115:LEU:HD23	29:m:125:SER:CA	2.45	0.45
33:o:21:ARG:HD3	33:o:21:ARG:H	1.77	0.45
1:Y:150:A:C8	1:Y:150:A:OP1	2.70	0.44
1:Y:262:G:HO2'	1:Y:666:A:HO2'	1.59	0.44
1:Y:1465:G:C8	1:Y:1465:G:OP1	2.70	0.44
1:Y:1474:C:C5	1:Y:1474:C:OP1	2.70	0.44
1:Y:1489:A:H1'	1:Y:1490:G:N1	2.33	0.44
1:Y:1982:U:OP1	1:Y:1982:U:C6	2.70	0.44
2:X:64:C:H1'	2:X:104:G:N2	2.32	0.44
2:X:210:A:C8	2:X:210:A:OP1	2.70	0.44
2:X:235:G:O3'	17:g:60:TRP:HA	2.16	0.44
2:X:256:C:H6	2:X:256:C:H3'	1.82	0.44
2:X:305:G:OP2	2:X:305:G:C8	2.70	0.44
2:X:305:G:C8	2:X:305:G:O5'	2.70	0.44
2:X:349:C:C5	2:X:349:C:OP2	2.70	0.44
2:X:442:C:H2'	2:X:443:U:C6	2.52	0.44
2:X:542:U:H3'	2:X:542:U:C6	2.51	0.44
2:X:758:C:OP2	2:X:758:C:C6	2.70	0.44
2:X:1126:C:C2'	2:X:1127:U:H5'	2.47	0.44
2:X:1196:G:C8	2:X:1196:G:OP2	2.70	0.44
2:X:1401:U:C5	2:X:1401:U:OP2	2.70	0.44
2:X:1434:G:H2'	2:X:1435:U:H5''	1.99	0.44
2:X:1462:U:C6	2:X:1462:U:O5'	2.70	0.44
7:4:17:ILE:HG21	7:4:26:ILE:HD11	1.99	0.44
9:b:21:ALA:CB	9:b:34:ILE:HA	2.47	0.44
10:c:34:LYS:HD3	10:c:34:LYS:HA	1.59	0.44
10:c:65:TYR:CD2	10:c:65:TYR:O	2.70	0.44
10:c:130:TYR:CG	10:c:130:TYR:O	2.70	0.44
14:E:99:TYR:O	14:E:99:TYR:CG	2.70	0.44
17:g:40:TYR:CZ	17:g:74:ILE:HD11	2.52	0.44
18:G:29:PRO:HB2	18:G:30:LYS:NZ	2.33	0.44
18:G:40:ARG:HH11	18:G:40:ARG:CG	2.14	0.44
18:G:140:GLN:C	18:G:140:GLN:CD	2.86	0.44
25:k:27:ASP:HB2	25:k:31:LEU:HG	1.99	0.44
25:k:161:ILE:O	25:k:161:ILE:HG13	2.16	0.44
30:M:39:HIS:HB3	30:M:58:SER:CB	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:M:39:HIS:HB3	30:M:58:SER:HB3	2.00	0.44
31:n:6:VAL:HG23	31:n:6:VAL:O	2.17	0.44
33:o:25:LEU:HD21	33:o:64:LEU:CD1	2.47	0.44
33:o:52:VAL:CG2	33:o:131:VAL:HG13	2.44	0.44
35:p:78:ARG:HB2	35:p:87:VAL:CG2	2.47	0.44
1:Y:137:G:H3'	1:Y:138:U:C6	2.52	0.44
1:Y:142:G:OP1	1:Y:142:G:C8	2.70	0.44
1:Y:289:U:C5	1:Y:289:U:OP2	2.70	0.44
1:Y:422:G:H2'	1:Y:423:A:C8	2.52	0.44
1:Y:984:G:H8	1:Y:1230:G:H4'	1.82	0.44
1:Y:1040:A:O2'	34:O:91:ASN:ND2	2.48	0.44
1:Y:1061:G:C2'	1:Y:1062:U:H5'	2.48	0.44
1:Y:1359:A:O5'	1:Y:1359:A:C8	2.70	0.44
1:Y:1491:C:C6	1:Y:1491:C:OP2	2.70	0.44
1:Y:1932:C:H4'	1:Y:1956:G:C8	2.52	0.44
1:Y:2236:C:H2'	1:Y:2237:U:H5'	1.99	0.44
1:Y:2240:U:OP1	1:Y:2240:U:C6	2.70	0.44
1:Y:2340:C:OP2	1:Y:2340:C:C6	2.71	0.44
1:Y:2679:U:H6	1:Y:2679:U:H5''	1.82	0.44
1:Y:2681:A:OP1	1:Y:2681:A:C8	2.70	0.44
1:Y:2820:U:H2'	1:Y:2821:U:H5''	2.00	0.44
2:X:39:G:OP2	2:X:39:G:C8	2.70	0.44
2:X:329:A:H62	2:X:336:C:H42	1.65	0.44
2:X:369:G:OP2	2:X:369:G:C8	2.70	0.44
2:X:622:A:C8	2:X:622:A:OP2	2.70	0.44
2:X:647:G:C8	2:X:647:G:O5'	2.70	0.44
2:X:660:U:H3'	2:X:660:U:C6	2.52	0.44
2:X:705:U:OP2	2:X:705:U:C6	2.70	0.44
2:X:742:A:C8	2:X:742:A:O5'	2.70	0.44
2:X:783:G:OP2	2:X:783:G:C8	2.70	0.44
2:X:826:G:N2	2:X:1539:C:H5''	2.31	0.44
2:X:898:G:H2'	2:X:899:A:C8	2.52	0.44
2:X:1122:A:OP2	2:X:1122:A:C2	2.71	0.44
2:X:1202:A:H5'	2:X:1202:A:C8	2.33	0.44
2:X:1236:A:OP2	2:X:1236:A:C2	2.70	0.44
2:X:1245:C:OP2	2:X:1245:C:C6	2.70	0.44
2:X:1307:C:O5'	2:X:1307:C:C6	2.70	0.44
2:X:1337:U:C5	2:X:1337:U:OP2	2.70	0.44
2:X:1471:U:C5	2:X:1471:U:OP2	2.71	0.44
2:X:1491:A:H1'	10:c:33:LYS:NZ	2.32	0.44
9:b:23:ILE:CG2	9:b:84:VAL:HG23	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:b:124:PRO:HG3	11:C:185:LEU:HD22	1.98	0.44
11:C:40:LYS:HE2	11:C:40:LYS:HA	1.99	0.44
19:H:2:ARG:HA	19:H:2:ARG:HD2	1.46	0.44
24:J:87:ASP:N	24:J:87:ASP:OD1	2.49	0.44
29:m:48:PHE:CZ	29:m:137:VAL:HG11	2.52	0.44
37:q:52:GLN:H	37:q:53:PRO:HD2	1.82	0.44
39:R:90:PHE:HB2	44:W:36:GLN:NE2	2.28	0.44
1:Y:94:A:OP2	1:Y:94:A:C4	2.70	0.44
1:Y:142:G:OP1	1:Y:142:G:H8	2.00	0.44
1:Y:402:C:H6	1:Y:402:C:O5'	1.99	0.44
1:Y:1169:G:C8	1:Y:1169:G:OP2	2.70	0.44
1:Y:1489:A:H1'	1:Y:1490:G:C2	2.52	0.44
1:Y:2488:C:H2'	1:Y:2489:U:C6	2.52	0.44
1:Y:2509:A:C8	1:Y:2509:A:OP2	2.70	0.44
1:Y:2556:G:C8	1:Y:2556:G:O5'	2.71	0.44
1:Y:2559:G:H8	1:Y:2559:G:O5'	2.01	0.44
1:Y:2562:G:C8	1:Y:2562:G:O5'	2.70	0.44
1:Y:2833:U:C2'	1:Y:2834:C:H5'	2.47	0.44
2:X:284:G:C8	2:X:284:G:OP2	2.70	0.44
2:X:624:G:OP1	2:X:624:G:C2	2.71	0.44
2:X:801:U:H4'	2:X:801:U:OP2	2.17	0.44
2:X:985:A:H1'	15:e:16:TYR:HE2	1.82	0.44
2:X:994:C:P	2:X:994:C:H6	2.41	0.44
2:X:1121:C:OP2	2:X:1121:C:C6	2.70	0.44
2:X:1167:G:H2'	2:X:1168:A:H8	1.82	0.44
2:X:1201:G:C8	2:X:1201:G:OP2	2.70	0.44
2:X:1305:U:O5'	2:X:1305:U:H6	1.99	0.44
3:3:106:U:H2'	3:3:107:U:H6	1.81	0.44
8:a:84:VAL:CG2	15:e:54:PRO:HD3	2.47	0.44
14:E:204:GLU:CD	14:E:204:GLU:C	2.86	0.44
23:j:52:LEU:HA	23:j:79:MET:CA	2.46	0.44
25:k:22:TRP:O	25:k:22:TRP:CD1	2.70	0.44
25:k:99:HIS:O	25:k:99:HIS:CG	2.70	0.44
26:K:54:MET:HE1	26:K:104:PHE:CD2	2.52	0.44
29:m:44:GLY:HA2	29:m:118:ALA:HA	1.98	0.44
29:m:127:SER:OG	29:m:136:MET:HE3	2.17	0.44
29:m:162:GLU:HG2	33:o:100:GLY:H	1.82	0.44
32:N:4:HIS:HA	32:N:5:LYS:NZ	2.32	0.44
35:p:18:HIS:CD2	35:p:18:HIS:O	2.71	0.44
35:p:46:ALA:HA	35:p:49:LEU:HG	1.99	0.44
38:Q:19:LEU:HA	38:Q:19:LEU:HD23	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:169:G:H2'	1:Y:170:C:H5'	1.98	0.44
1:Y:172:U:OP2	1:Y:172:U:C6	2.70	0.44
1:Y:320:U:C5	1:Y:327:G:H5''	2.53	0.44
1:Y:482:U:H2'	1:Y:483:C:C6	2.50	0.44
1:Y:920:A:H2'	1:Y:920:A:N3	2.32	0.44
1:Y:1179:C:O2	1:Y:1179:C:H3'	2.17	0.44
1:Y:1499:U:C6	1:Y:1499:U:O5'	2.70	0.44
1:Y:1883:A:C8	1:Y:1883:A:O5'	2.70	0.44
1:Y:2471:G:OP2	14:E:68:LYS:HE3	2.17	0.44
1:Y:2774:G:H2'	1:Y:2775:A:C8	2.53	0.44
2:X:32:G:N7	2:X:314:A:H4'	2.33	0.44
2:X:43:G:H2'	2:X:43:G:OP2	2.18	0.44
2:X:100:A:OP2	2:X:100:A:C8	2.70	0.44
2:X:130:A:H61	2:X:242:C:H5'	1.83	0.44
2:X:137:U:HO2'	17:g:63:ASP:C	2.26	0.44
2:X:243:C:C5	2:X:243:C:OP2	2.70	0.44
2:X:245:C:C6	2:X:245:C:C4'	3.00	0.44
2:X:407:G:H2'	2:X:408:C:C4'	2.48	0.44
2:X:495:A:C2	2:X:627:U:H5''	2.52	0.44
2:X:632:C:C6	2:X:632:C:OP2	2.70	0.44
2:X:658:A:H2'	2:X:659:C:C4	2.53	0.44
2:X:694:U:H5''	2:X:694:U:O2	2.17	0.44
2:X:715:U:OP2	2:X:715:U:C6	2.70	0.44
2:X:889:C:C6	2:X:889:C:C4'	2.99	0.44
2:X:1070:G:C8	2:X:1070:G:O5'	2.70	0.44
2:X:1088:C:H2'	2:X:1093:G:N1	2.32	0.44
2:X:1121:C:OP2	2:X:1121:C:H6	2.00	0.44
2:X:1221:C:H4'	2:X:1221:C:OP1	2.17	0.44
2:X:1396:G:OP2	2:X:1396:G:C8	2.70	0.44
2:X:1455:G:OP2	2:X:1455:G:C4	2.70	0.44
2:X:1489:C:H2'	2:X:1490:A:C8	2.52	0.44
13:D:57:LYS:CD	13:D:57:LYS:N	2.79	0.44
13:D:85:LYS:HA	13:D:85:LYS:HD3	1.68	0.44
16:f:26:GLU:CD	16:f:77:ARG:HD2	2.42	0.44
20:h:59:ASP:CB	20:h:83:GLU:HA	2.48	0.44
22:i:34:LEU:HD23	22:i:63:ALA:HB1	1.99	0.44
22:i:41:ARG:HG2	22:i:77:LYS:OXT	2.18	0.44
23:j:12:LYS:H	23:j:12:LYS:HG2	1.50	0.44
33:o:119:ARG:HD2	33:o:119:ARG:HA	1.33	0.44
37:q:41:LEU:HD12	37:q:44:GLU:HG2	1.99	0.44
45:Z:24:VAL:HG23	45:Z:25:PRO:HD2	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:153:G:H1'	1:Y:177:G:N2	2.31	0.44
1:Y:179:A:OP2	1:Y:179:A:C8	2.70	0.44
1:Y:295:G:OP2	1:Y:295:G:C8	2.70	0.44
1:Y:321:U:O2	1:Y:321:U:H2'	2.16	0.44
1:Y:678:A:P	24:J:71:ARG:HH12	2.36	0.44
1:Y:736:C:OP1	11:C:217:ARG:NH1	2.50	0.44
1:Y:1097:U:OP2	1:Y:1097:U:C6	2.71	0.44
1:Y:1507:A:O5'	1:Y:1507:A:C8	2.70	0.44
1:Y:1769:C:H2'	1:Y:1770:C:C6	2.52	0.44
1:Y:1875:A:N6	2:X:711:G:C8	2.85	0.44
1:Y:2210:C:H2'	1:Y:2211:U:C6	2.52	0.44
1:Y:2329:U:H1'	46:F:119:LYS:CB	2.48	0.44
1:Y:2331:G:OP1	1:Y:2331:G:C5	2.70	0.44
1:Y:2657:G:C8	1:Y:2657:G:OP2	2.70	0.44
1:Y:2695:G:N3	1:Y:2695:G:C2'	2.76	0.44
1:Y:2696:G:C8	1:Y:2696:G:OP2	2.70	0.44
2:X:104:G:C8	2:X:104:G:OP2	2.70	0.44
2:X:108:A:C2	2:X:108:A:OP1	2.70	0.44
2:X:109:C:O5'	2:X:109:C:C6	2.70	0.44
2:X:140:A:H5''	2:X:141:A:N7	2.33	0.44
2:X:230:U:H3'	2:X:230:U:C6	2.52	0.44
2:X:238:G:H2'	2:X:239:G:C8	2.53	0.44
2:X:712:A:N3	2:X:712:A:C3'	2.80	0.44
2:X:715:U:OP2	2:X:715:U:H6	2.01	0.44
2:X:718:G:H5''	9:b:87:LYS:CD	2.45	0.44
2:X:777:G:C8	2:X:777:G:OP2	2.70	0.44
2:X:825:C:H1'	2:X:828:U:H3'	2.00	0.44
2:X:1061:U:OP1	2:X:1061:U:C6	2.70	0.44
2:X:1162:A:C8	2:X:1162:A:O5'	2.70	0.44
2:X:1241:C:OP2	2:X:1241:C:C6	2.70	0.44
2:X:1248:C:OP2	2:X:1248:C:C6	2.70	0.44
2:X:1380:C:C6	2:X:1380:C:OP2	2.71	0.44
2:X:1434:G:N2	2:X:1490:A:C4	2.86	0.44
2:X:1465:A:H2'	2:X:1466:G:C8	2.52	0.44
2:X:1513:C:C6	2:X:1513:C:OP2	2.71	0.44
3:3:77:G:O6	41:T:15:ARG:NH2	2.47	0.44
4:A:9:CYS:SG	4:A:12:CYS:N	2.86	0.44
8:a:53:ARG:NE	8:a:53:ARG:CA	2.81	0.44
9:b:27:PHE:CG	9:b:27:PHE:O	2.70	0.44
16:f:13:LYS:HD3	16:f:13:LYS:H	1.83	0.44
18:G:42:THR:HG23	18:G:53:VAL:CG2	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:k:16:ARG:HA	25:k:16:ARG:HD2	1.80	0.44
25:k:120:ALA:HA	25:k:123:LEU:HD13	1.99	0.44
29:m:110:PRO:HG3	29:m:127:SER:HB3	1.97	0.44
33:o:13:ARG:HA	33:o:13:ARG:HD3	1.65	0.44
33:o:61:ARG:HG2	33:o:61:ARG:HH21	1.82	0.44
34:O:93:LYS:HG2	34:O:94:MET:CE	2.45	0.44
38:Q:17:VAL:O	38:Q:17:VAL:HG22	2.17	0.44
39:R:49:LYS:HE2	39:R:49:LYS:HA	2.00	0.44
1:Y:171:A:H3'	1:Y:172:U:C5	2.53	0.44
1:Y:289:U:C3'	1:Y:289:U:C6	3.01	0.44
1:Y:370:G:H2'	1:Y:371:U:C6	2.51	0.44
1:Y:514:G:N7	5:B:40:ARG:NH1	2.60	0.44
1:Y:687:G:H22	1:Y:690:U:H5''	1.83	0.44
1:Y:1091:G:H5''	1:Y:1091:G:H8	1.83	0.44
1:Y:1266:G:H2'	1:Y:1267:A:H5''	1.99	0.44
1:Y:1590:C:OP2	1:Y:1590:C:C6	2.70	0.44
1:Y:1756:U:H2'	1:Y:1757:U:H5'	1.99	0.44
1:Y:1942:U:OP2	1:Y:1942:U:C6	2.70	0.44
1:Y:1950:U:C6	1:Y:1950:U:OP2	2.70	0.44
1:Y:2128:G:OP2	1:Y:2128:G:C8	2.70	0.44
1:Y:2502:C:C6	1:Y:2502:C:O5'	2.70	0.44
2:X:155:U:OP2	2:X:155:U:C6	2.70	0.44
2:X:185:U:OP1	2:X:185:U:H4'	2.16	0.44
2:X:414:G:C8	2:X:414:G:OP2	2.71	0.44
2:X:579:U:C5	2:X:579:U:OP2	2.70	0.44
2:X:610:A:H3'	2:X:611:U:C6	2.53	0.44
2:X:791:C:H2'	2:X:792:A:C8	2.52	0.44
2:X:885:C:O3'	33:o:79:ARG:NH2	2.51	0.44
2:X:912:G:H2'	2:X:913:G:C8	2.52	0.44
2:X:1233:G:H5''	2:X:1333:C:N3	2.32	0.44
2:X:1261:A:H61	2:X:1364:G:H21	1.65	0.44
2:X:1288:C:O5'	2:X:1288:C:C6	2.70	0.44
2:X:1527:C:O5'	2:X:1527:C:H6	2.01	0.44
3:3:21:G:C2'	3:3:22:G:H5'	2.47	0.44
3:3:32:U:OP2	3:3:32:U:C6	2.70	0.44
8:a:25:ILE:HG12	25:k:23:TYR:CD2	2.53	0.44
15:e:13:LYS:HB2	15:e:13:LYS:HZ3	1.81	0.44
15:e:39:LEU:HD21	15:e:44:PHE:CD1	2.53	0.44
17:g:82:LYS:HD3	17:g:82:LYS:H	1.81	0.44
18:G:19:PHE:CE2	18:G:45:GLN:HB2	2.52	0.44
18:G:32:GLU:C	18:G:32:GLU:CD	2.86	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:J:19:VAL:HG12	24:J:27:ASN:ND2	2.32	0.44
25:k:12:VAL:CB	25:k:16:ARG:HB2	2.44	0.44
25:k:23:TYR:CG	25:k:23:TYR:O	2.70	0.44
25:k:201:ILE:N	25:k:201:ILE:CD1	2.73	0.44
33:o:112:VAL:HG13	33:o:127:ILE:HG21	1.99	0.44
37:q:57:THR:HG23	37:q:96:TYR:CD2	2.52	0.44
38:Q:59:GLU:HB2	38:Q:66:THR:CG2	2.48	0.44
38:Q:82:LEU:N	38:Q:82:LEU:CD1	2.81	0.44
44:W:18:ILE:CG1	44:W:53:LEU:HD23	2.48	0.44
1:Y:83:G:H5''	1:Y:83:G:H8	1.82	0.44
1:Y:787:U:H2'	1:Y:788:A:H8	1.82	0.44
1:Y:920:A:H2'	1:Y:921:C:H5'	2.00	0.44
1:Y:1360:G:O5'	1:Y:1360:G:C8	2.70	0.44
1:Y:2328:A:P	1:Y:2328:A:C8	3.11	0.44
1:Y:2408:C:H5''	1:Y:2408:C:O2	2.18	0.44
1:Y:2434:A:C8	1:Y:2434:A:OP1	2.70	0.44
2:X:45:G:H2'	2:X:46:U:C6	2.53	0.44
2:X:61:A:H5'	2:X:395:U:C5'	2.48	0.44
2:X:106:G:N7	23:j:5:LYS:HG3	2.33	0.44
2:X:209:G:H5''	23:j:57:VAL:O	2.17	0.44
2:X:232:A:C8	2:X:232:A:OP2	2.70	0.44
2:X:283:G:N7	10:c:3:THR:HG21	2.33	0.44
2:X:462:A:N1	17:g:70:THR:CG2	2.80	0.44
2:X:515:C:H3'	2:X:516:U:H2'	2.00	0.44
2:X:564:C:OP2	2:X:564:C:C6	2.71	0.44
2:X:623:C:OP2	2:X:623:C:H6	2.00	0.44
2:X:746:U:C5	2:X:746:U:OP2	2.70	0.44
2:X:917:A:P	2:X:917:A:H8	2.40	0.44
2:X:940:C:H2'	2:X:941:C:H5''	2.00	0.44
2:X:1070:G:OP2	2:X:1070:G:C8	2.70	0.44
2:X:1099:G:N2	2:X:1111:G:H5''	2.32	0.44
2:X:1511:A:N3	2:X:1511:A:C2'	2.79	0.44
29:m:15:VAL:HG21	29:m:60:ILE:HD13	1.98	0.44
29:m:96:MET:SD	29:m:115:LEU:HD21	2.57	0.44
38:Q:59:GLU:CD	38:Q:59:GLU:C	2.86	0.44
1:Y:132:C:OP1	1:Y:132:C:C6	2.70	0.44
1:Y:831:C:C2'	1:Y:832:C:H5'	2.48	0.44
1:Y:1062:U:O2	1:Y:1062:U:H3'	2.17	0.44
1:Y:1317:G:H2'	1:Y:1318:G:H5'	2.00	0.44
1:Y:1463:A:C6	1:Y:1465:G:H1'	2.52	0.44
1:Y:1565:U:C5	1:Y:1565:U:OP2	2.71	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:1917:A:C6	1:Y:1918:G:H1'	2.52	0.44
1:Y:2331:G:C4	1:Y:2331:G:OP2	2.71	0.44
1:Y:2430:C:H2'	1:Y:2431:C:H6	1.81	0.44
1:Y:2887:G:C5	32:N:23:ARG:CZ	3.01	0.44
2:X:116:G:C8	2:X:116:G:O5'	2.70	0.44
2:X:253:U:P	2:X:905:A:H1'	2.58	0.44
2:X:306:A:H2'	2:X:307:G:C8	2.53	0.44
2:X:623:C:OP2	2:X:623:C:C6	2.70	0.44
2:X:726:A:OP2	2:X:726:A:C8	2.71	0.44
2:X:880:U:C6	2:X:880:U:O5'	2.71	0.44
2:X:905:A:H2'	2:X:906:C:C5	2.52	0.44
2:X:960:U:C6	2:X:960:U:OP2	2.71	0.44
2:X:1175:G:OP2	2:X:1175:G:C8	2.70	0.44
2:X:1251:U:C4	2:X:1251:U:OP1	2.70	0.44
2:X:1300:A:H1'	2:X:1383:U:O2'	2.18	0.44
2:X:1471:U:C6	2:X:1471:U:O5'	2.70	0.44
3:3:1:U:O5'	3:3:1:U:C6	2.71	0.44
6:2:4:MET:HE3	6:2:4:MET:HB3	1.80	0.44
18:G:72:LEU:HA	18:G:75:MET:HB2	2.00	0.44
21:I:66:LYS:HB3	21:I:66:LYS:HE2	1.41	0.44
24:J:129:SER:H	24:J:132:ALA:HB3	1.83	0.44
25:k:56:ILE:CD1	25:k:65:ILE:HG23	2.48	0.44
25:k:87:ARG:HE	25:k:87:ARG:HB3	1.58	0.44
29:m:45:ARG:CG	29:m:71:LEU:HD13	2.47	0.44
31:n:81:LYS:HE2	31:n:82:ILE:HD13	1.99	0.44
36:P:62:VAL:HA	36:P:95:LEU:CD2	2.48	0.44
37:q:13:ARG:HG3	37:q:18:VAL:CB	2.47	0.44
44:W:23:GLU:C	44:W:23:GLU:CD	2.85	0.44
1:Y:226:A:N3	1:Y:226:A:H2'	2.33	0.44
1:Y:402:C:C5	1:Y:402:C:OP2	2.70	0.44
1:Y:503:A:H2	1:Y:517:A:H62	1.65	0.44
1:Y:845:A:OP2	1:Y:845:A:C8	2.70	0.44
1:Y:862:C:O3'	1:Y:862:C:OP1	2.36	0.44
1:Y:1565:U:C6	1:Y:1565:U:O5'	2.70	0.44
1:Y:1853:C:OP1	11:C:223:SER:HB3	2.18	0.44
1:Y:2238:U:H2'	1:Y:2239:A:C2	2.53	0.44
1:Y:2860:U:H2'	1:Y:2861:U:H6	1.83	0.44
2:X:142:G:H21	2:X:210:A:H2	1.65	0.44
2:X:335:A:C2	2:X:335:A:OP1	2.70	0.44
2:X:335:A:C6	23:j:15:GLU:HB3	2.53	0.44
2:X:394:C:H2'	2:X:395:U:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:511:A:C8	2:X:511:A:O5'	2.71	0.44
2:X:525:G:H2'	2:X:539:U:C4	2.53	0.44
2:X:658:A:C8	2:X:658:A:OP2	2.70	0.44
2:X:660:U:C5	2:X:660:U:OP2	2.70	0.44
2:X:676:A:N6	2:X:745:U:H2'	2.33	0.44
2:X:1196:G:H8	2:X:1196:G:P	2.40	0.44
2:X:1288:C:H5''	15:e:29:ARG:HB3	2.00	0.44
9:b:27:PHE:CE2	22:i:29:LYS:HE3	2.53	0.44
9:b:52:PHE:HB2	9:b:57:LYS:HG3	2.00	0.44
12:d:7:VAL:O	12:d:7:VAL:HG23	2.18	0.44
12:d:9:ILE:CB	12:d:10:PRO:CD	2.88	0.44
14:E:102:PRO:CG	14:E:105:MET:HE3	2.43	0.44
14:E:154:VAL:HG22	14:E:175:VAL:HA	2.00	0.44
15:e:24:CYS:SG	15:e:27:CYS:HB2	2.57	0.44
18:G:40:ARG:NH1	18:G:40:ARG:CG	2.73	0.44
30:M:29:PRO:HB2	30:M:44:ILE:HG23	2.00	0.44
38:Q:86:ARG:CZ	38:Q:86:ARG:HB2	2.46	0.44
1:Y:194:A:H2'	1:Y:195:C:C6	2.53	0.43
1:Y:477:U:C2'	1:Y:478:A:H5'	2.49	0.43
1:Y:733:U:H6	1:Y:733:U:O5'	2.00	0.43
1:Y:737:C:OP1	11:C:56:GLY:HA2	2.18	0.43
1:Y:1595:C:C3'	1:Y:1595:C:C6	3.01	0.43
1:Y:1608:C:OP2	1:Y:1608:C:C6	2.71	0.43
1:Y:1627:G:H2'	1:Y:1628:A:C2	2.52	0.43
1:Y:1635:A:C8	1:Y:1635:A:O5'	2.70	0.43
1:Y:2125:U:H2'	1:Y:2126:C:H6	1.83	0.43
1:Y:2277:G:C2	26:K:84:GLY:HA3	2.53	0.43
1:Y:2884:G:H2'	1:Y:2885:U:C6	2.53	0.43
2:X:236:A:H5''	17:g:34:ILE:CG2	2.45	0.43
2:X:316:C:C5'	17:g:13:LYS:CE	2.94	0.43
2:X:465:U:O5'	2:X:465:U:C6	2.70	0.43
2:X:777:G:O5'	2:X:777:G:C8	2.70	0.43
2:X:784:G:C8	2:X:784:G:OP2	2.70	0.43
2:X:827:A:OP1	2:X:827:A:C4	2.71	0.43
2:X:856:C:H3'	2:X:856:C:H6	1.83	0.43
2:X:904:G:O5'	2:X:904:G:C8	2.70	0.43
2:X:905:A:H2'	2:X:906:C:C6	2.53	0.43
2:X:1057:C:H6	2:X:1057:C:H5''	1.83	0.43
2:X:1075:C:H6	2:X:1075:C:C5'	2.31	0.43
2:X:1183:C:O5'	2:X:1183:C:H6	2.00	0.43
2:X:1423:C:C5	2:X:1423:C:OP2	2.70	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:1521:C:O5'	2:X:1521:C:H6	2.01	0.43
8:a:40:ILE:HG22	8:a:40:ILE:O	2.18	0.43
9:b:22:HIS:O	9:b:22:HIS:CG	2.70	0.43
9:b:50:LEU:HG	9:b:52:PHE:CE2	2.53	0.43
18:G:149:ARG:HA	18:G:162:ILE:CG1	2.46	0.43
20:h:48:THR:HG23	20:h:77:LEU:H	1.82	0.43
33:o:120:LYS:N	33:o:120:LYS:CD	2.81	0.43
34:O:103:GLU:C	34:O:103:GLU:CD	2.86	0.43
37:q:14:ARG:NE	37:q:108:ARG:HB2	2.32	0.43
40:S:84:LYS:HB3	40:S:93:ILE:CD1	2.44	0.43
44:W:17:GLN:HG3	44:W:53:LEU:HD21	2.00	0.43
1:Y:289:U:C6	1:Y:289:U:H3'	2.53	0.43
1:Y:312:A:C8	1:Y:312:A:OP2	2.71	0.43
1:Y:373:A:H2	1:Y:1248:U:H2'	1.83	0.43
1:Y:397:U:O2	1:Y:397:U:H2'	2.17	0.43
1:Y:441:C:H2'	1:Y:442:G:C8	2.53	0.43
1:Y:754:U:OP2	1:Y:754:U:C6	2.70	0.43
1:Y:983:G:C2'	1:Y:984:G:H5'	2.48	0.43
1:Y:1214:C:OP2	1:Y:1214:C:C6	2.70	0.43
1:Y:1708:A:C2'	1:Y:1709:A:H5'	2.48	0.43
1:Y:1844:G:H2'	1:Y:1844:G:N3	2.33	0.43
1:Y:1983:U:H2'	1:Y:1984:C:H5'	2.00	0.43
1:Y:2341:A:C6	46:F:128:TYR:CB	3.01	0.43
2:X:30:A:N3	2:X:30:A:C2'	2.79	0.43
2:X:61:A:H62	2:X:110:G:H21	1.66	0.43
2:X:104:G:O5'	2:X:104:G:C8	2.70	0.43
2:X:522:C:H6	2:X:522:C:O5'	2.00	0.43
2:X:616:A:C8	2:X:616:A:OP2	2.70	0.43
2:X:805:C:C5	2:X:805:C:OP2	2.70	0.43
2:X:810:A:C2'	2:X:811:G:H5'	2.48	0.43
2:X:926:G:OP2	2:X:926:G:C8	2.70	0.43
2:X:931:U:O5'	2:X:931:U:C6	2.71	0.43
2:X:1226:G:OP2	2:X:1226:G:C8	2.70	0.43
8:a:14:ASP:H	8:a:17:VAL:CG2	2.31	0.43
9:b:61:PHE:O	9:b:61:PHE:CD1	2.71	0.43
11:C:227:PRO:HG3	11:C:234:GLY:CA	2.48	0.43
17:g:74:ILE:HD12	17:g:74:ILE:HA	1.82	0.43
18:G:171:ARG:O	18:G:171:ARG:HG3	2.17	0.43
23:j:8:ILE:HG12	23:j:11:VAL:HG23	1.99	0.43
25:k:46:LEU:HD11	25:k:67:ILE:CD1	2.44	0.43
25:k:96:LYS:HA	25:k:96:LYS:HD3	1.46	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:l:191:GLU:H	29:m:103:THR:HG21	1.82	0.43
30:M:56:ALA:HB2	30:M:80:ILE:HB	2.00	0.43
41:T:32:TYR:CD1	41:T:32:TYR:O	2.70	0.43
1:Y:61:A:N3	1:Y:61:A:C2'	2.79	0.43
1:Y:172:U:OP2	1:Y:172:U:C5	2.72	0.43
1:Y:175:C:OP2	1:Y:175:C:C6	2.70	0.43
1:Y:227:G:H1	1:Y:233:U:H3	1.66	0.43
1:Y:550:A:H5''	1:Y:553:A:H1'	1.99	0.43
1:Y:1507:A:C8	1:Y:1507:A:OP2	2.70	0.43
1:Y:1642:C:C2'	1:Y:1643:C:H5'	2.49	0.43
1:Y:1713:A:N3	1:Y:1713:A:C2'	2.82	0.43
1:Y:1876:G:H2'	1:Y:1877:G:C8	2.53	0.43
1:Y:1938:U:OP2	1:Y:1938:U:C6	2.71	0.43
1:Y:2015:C:H3'	1:Y:2016:A:H5''	1.99	0.43
1:Y:2123:A:H2'	1:Y:2124:U:H5''	1.99	0.43
1:Y:2217:G:H2'	1:Y:2218:G:C8	2.53	0.43
1:Y:2502:C:C6	1:Y:2502:C:C3'	3.01	0.43
1:Y:2580:G:C8	1:Y:2580:G:C3'	3.00	0.43
2:X:155:U:C6	2:X:155:U:O5'	2.70	0.43
2:X:246:G:H8	2:X:246:G:OP2	2.00	0.43
2:X:718:G:H5''	9:b:87:LYS:CE	2.47	0.43
2:X:879:A:OP2	2:X:879:A:C8	2.71	0.43
2:X:929:A:C8	2:X:929:A:C3'	3.01	0.43
2:X:1091:G:C8	2:X:1091:G:OP2	2.70	0.43
2:X:1273:A:OP2	2:X:1273:A:C8	2.71	0.43
2:X:1306:U:C5	2:X:1306:U:OP2	2.71	0.43
2:X:1325:C:C5	2:X:1325:C:OP2	2.70	0.43
2:X:1397:G:C8	2:X:1397:G:O5'	2.70	0.43
2:X:1428:G:N7	2:X:1430:G:N1	2.67	0.43
2:X:1510:U:O5'	2:X:1510:U:C6	2.71	0.43
3:3:23:U:H4'	3:3:24:C:H5	1.84	0.43
13:D:68:TYR:CD1	13:D:68:TYR:O	2.70	0.43
14:E:99:TYR:O	14:E:99:TYR:CD2	2.70	0.43
16:f:52:SER:HB3	16:f:53:ARG:NH2	2.33	0.43
18:G:23:HIS:CE1	18:G:25:THR:HB	2.54	0.43
18:G:27:LYS:HE2	18:G:27:LYS:HB2	1.84	0.43
23:j:25:LYS:HD2	23:j:25:LYS:HA	1.80	0.43
24:J:98:GLU:CD	24:J:98:GLU:C	2.86	0.43
37:q:57:THR:HG23	37:q:96:TYR:HD2	1.84	0.43
37:q:102:ARG:H	37:q:102:ARG:HG2	1.61	0.43
1:Y:60:U:C3'	1:Y:60:U:C6	3.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:863:G:N3	1:Y:863:G:C3'	2.81	0.43
1:Y:1077:U:O2'	7:4:18:LYS:HE2	2.18	0.43
1:Y:1270:U:H2'	1:Y:1271:G:C8	2.53	0.43
1:Y:1324:A:N7	27:L:111:GLY:HA3	2.33	0.43
1:Y:1448:U:H5''	1:Y:1634:A:C2	2.54	0.43
1:Y:1947:C:H5''	1:Y:1948:G:N7	2.33	0.43
1:Y:1950:U:H6	1:Y:1950:U:C5'	2.31	0.43
1:Y:2257:G:H2'	1:Y:2258:U:C6	2.54	0.43
1:Y:2767:A:H2'	1:Y:2768:A:C8	2.54	0.43
2:X:145:U:H3'	2:X:145:U:C6	2.51	0.43
2:X:147:G:O5'	2:X:147:G:H8	2.01	0.43
2:X:254:A:H2	2:X:287:A:H62	1.66	0.43
2:X:330:C:N4	23:j:15:GLU:HG3	2.33	0.43
2:X:331:U:N1	23:j:20:ARG:HB2	2.33	0.43
2:X:1125:C:H5''	25:k:10:LEU:CG	2.47	0.43
6:2:3:LYS:H	6:2:3:LYS:HG3	1.65	0.43
10:c:54:THR:CB	10:c:55:PRO:CD	2.95	0.43
18:G:152:ARG:HD2	18:G:161:GLY:CA	2.46	0.43
23:j:49:LEU:HA	23:j:52:LEU:C	2.43	0.43
36:P:100:ILE:O	36:P:100:ILE:HG22	2.18	0.43
37:q:20:ARG:H	37:q:20:ARG:HG3	1.48	0.43
40:S:25:ALA:H	40:S:34:VAL:HG12	1.84	0.43
41:T:9:ARG:HB3	41:T:13:GLN:HE22	1.83	0.43
1:Y:333:C:H2'	1:Y:333:C:O2	2.18	0.43
1:Y:1317:G:C2'	1:Y:1318:G:H5'	2.49	0.43
1:Y:1634:A:H4'	1:Y:1635:A:C6	2.54	0.43
1:Y:1903:A:H5''	1:Y:1904:A:N7	2.32	0.43
2:X:105:C:C5	23:j:7:ALA:HB3	2.54	0.43
2:X:117:U:OP1	2:X:117:U:C2	2.70	0.43
2:X:431:G:OP1	2:X:431:G:C8	2.70	0.43
2:X:756:A:O5'	2:X:756:A:C8	2.72	0.43
2:X:1109:C:H3'	2:X:1109:C:O2	2.18	0.43
2:X:1314:C:O5'	2:X:1314:C:C6	2.71	0.43
2:X:1419:A:OP2	2:X:1419:A:C8	2.71	0.43
10:c:79:TYR:HB3	10:c:106:VAL:HG21	1.99	0.43
10:c:96:ARG:HB2	10:c:110:ILE:C	2.43	0.43
12:d:34:LEU:HD23	12:d:34:LEU:N	2.34	0.43
12:d:50:ASP:OD1	12:d:50:ASP:N	2.50	0.43
13:D:107:VAL:O	13:D:107:VAL:HG23	2.18	0.43
14:E:97:TYR:N	14:E:97:TYR:CD1	2.86	0.43
15:e:39:LEU:HD21	15:e:44:PHE:CZ	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:I:97:ARG:NH1	21:I:97:ARG:CG	2.73	0.43
22:i:36:ARG:HH21	22:i:60:LEU:HD23	1.83	0.43
26:K:12:GLN:CG	26:K:72:THR:HG23	2.42	0.43
30:M:19:ARG:HB3	30:M:19:ARG:CZ	2.48	0.43
33:o:40:LEU:HB3	33:o:45:PHE:HB2	2.00	0.43
45:Z:37:LYS:HE3	45:Z:37:LYS:HB3	1.39	0.43
1:Y:1474:C:H3'	1:Y:1475:A:C8	2.53	0.43
1:Y:2684:A:H1'	18:G:94:TYR:CE1	2.53	0.43
1:Y:2792:A:H3'	1:Y:2792:A:N3	2.33	0.43
1:Y:2812:U:H2'	1:Y:2813:U:C6	2.53	0.43
2:X:145:U:C6	2:X:145:U:O5'	2.70	0.43
2:X:817:G:N3	2:X:817:G:C2'	2.78	0.43
2:X:880:U:H4'	2:X:881:U:H5''	2.01	0.43
2:X:964:G:H1	2:X:1237:C:H1'	1.83	0.43
2:X:1120:G:H3'	2:X:1121:C:C5	2.54	0.43
8:a:13:TYR:HB3	8:a:17:VAL:CG2	2.40	0.43
11:C:145:GLU:HG2	11:C:151:GLY:C	2.44	0.43
11:C:175:ARG:HG3	11:C:175:ARG:HH11	1.82	0.43
18:G:26:VAL:HG23	18:G:79:VAL:HG21	2.01	0.43
31:n:4:TYR:CE1	31:n:73:THR:HG21	2.53	0.43
46:F:75:ALA:HB3	46:F:120:LYS:CB	2.48	0.43
1:Y:84:A:O5'	1:Y:84:A:C8	2.70	0.43
1:Y:143:U:O2	1:Y:143:U:H2'	2.17	0.43
1:Y:859:C:H2'	1:Y:860:U:C6	2.54	0.43
1:Y:1178:C:C5'	1:Y:1178:C:H6	2.32	0.43
1:Y:1474:C:H3'	1:Y:1475:A:H8	1.84	0.43
1:Y:2434:A:O5'	1:Y:2434:A:C8	2.70	0.43
2:X:160:A:H5'	2:X:162:A:H61	1.83	0.43
2:X:260:U:O2	2:X:260:U:H2'	2.18	0.43
2:X:315:U:H3'	2:X:316:C:C6	2.53	0.43
2:X:530:C:H2'	2:X:535:G:H22	1.83	0.43
2:X:663:A:H2'	2:X:664:G:H5'	2.00	0.43
2:X:730:G:H2'	2:X:732:G:H5''	1.99	0.43
2:X:960:U:H2'	2:X:961:G:C8	2.54	0.43
2:X:1203:C:O2	29:m:26:LYS:O	2.36	0.43
3:3:40:C:C4	46:F:66:LEU:CB	3.01	0.43
4:A:35:TYR:O	4:A:35:TYR:CD1	2.72	0.43
12:d:71:ARG:HG2	12:d:71:ARG:NH2	2.31	0.43
20:h:11:VAL:HG23	20:h:62:LYS:CA	2.48	0.43
25:k:39:ARG:HA	25:k:42:ILE:CG1	2.47	0.43
27:L:4:ARG:NH1	27:L:4:ARG:CG	2.73	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:L:39:GLU:OE1	27:L:39:GLU:HA	2.18	0.43
30:M:85:ALA:HA	30:M:89:ILE:CB	2.48	0.43
33:o:24:LYS:HD2	33:o:61:ARG:HB2	2.00	0.43
35:p:26:LEU:C	35:p:26:LEU:CD2	2.86	0.43
35:p:70:MET:HE2	35:p:96:ARG:CD	2.48	0.43
1:Y:229:A:H3'	1:Y:230:A:C8	2.53	0.43
1:Y:568:C:O5'	1:Y:568:C:H6	2.02	0.43
1:Y:861:C:C4	1:Y:862:C:H1'	2.54	0.43
1:Y:1595:C:H2'	1:Y:1596:G:C8	2.53	0.43
1:Y:2491:C:H2'	1:Y:2492:C:H6	1.84	0.43
1:Y:2667:G:H5''	19:H:79:SER:HB2	2.00	0.43
2:X:46:U:C5	2:X:46:U:OP2	2.72	0.43
2:X:282:A:O2'	2:X:283:G:O2'	2.28	0.43
2:X:335:A:H8	2:X:337:A:H5'	1.83	0.43
2:X:1102:U:O2'	2:X:1182:A:O2'	2.33	0.43
2:X:1336:C:H2'	2:X:1337:U:C2	2.53	0.43
2:X:1430:G:H2'	2:X:1431:U:C5	2.53	0.43
2:X:1507:U:OP2	2:X:1507:U:C6	2.72	0.43
2:X:1532:G:H2'	2:X:1533:G:C8	2.53	0.43
3:3:1:U:H2'	3:3:2:C:C6	2.54	0.43
3:3:102:A:H2'	3:3:103:A:C8	2.54	0.43
8:a:84:VAL:HG21	15:e:54:PRO:HD3	1.99	0.43
10:c:75:GLU:C	10:c:75:GLU:CD	2.86	0.43
11:C:205:VAL:CG1	11:C:210:ARG:HB3	2.49	0.43
11:C:261:ARG:CB	11:C:261:ARG:CZ	2.97	0.43
14:E:27:GLU:CD	14:E:28:PRO:HD2	2.42	0.43
15:e:48:ALA:HB1	15:e:56:VAL:HB	2.01	0.43
18:G:22:ASN:HA	18:G:39:GLU:CD	2.43	0.43
24:J:118:ASP:CA	24:J:139:LYS:HE3	2.46	0.43
25:k:155:ARG:N	25:k:155:ARG:HD3	2.32	0.43
26:K:3:LEU:HD12	26:K:3:LEU:C	2.44	0.43
26:K:116:GLU:HA	26:K:116:GLU:OE2	2.18	0.43
29:m:44:GLY:HA2	29:m:118:ALA:CA	2.49	0.43
29:m:157:ARG:HA	33:o:80:ILE:HD11	2.00	0.43
34:O:98:ILE:HD11	36:P:4:ILE:CD1	2.48	0.43
1:Y:459:C:H2'	1:Y:460:C:C6	2.54	0.43
1:Y:659:A:C8	1:Y:659:A:H3'	2.53	0.43
1:Y:862:C:N4	1:Y:1226:G:H2'	2.34	0.43
1:Y:966:C:H2'	1:Y:967:C:C6	2.54	0.43
1:Y:1084:U:O5'	1:Y:1084:U:H6	2.01	0.43
1:Y:1570:G:H2'	1:Y:1571:G:H5'	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:1639:G:C2'	1:Y:1640:U:H5'	2.48	0.43
1:Y:1950:U:H5''	1:Y:1950:U:C6	2.50	0.43
1:Y:2052:C:H2'	1:Y:2053:U:C6	2.54	0.43
1:Y:2114:G:H2'	1:Y:2115:A:C8	2.54	0.43
1:Y:2339:U:OP2	1:Y:2339:U:C6	2.71	0.43
2:X:263:G:H4'	20:h:22:THR:OG1	2.18	0.43
2:X:296:A:O2'	2:X:297:G:O3'	2.32	0.43
2:X:316:C:H5''	17:g:13:LYS:CE	2.42	0.43
2:X:458:G:H1'	17:g:16:PRO:HD2	2.01	0.43
2:X:626:C:H3'	2:X:626:C:H6	1.83	0.43
2:X:666:G:C5'	31:n:2:ARG:NH1	2.79	0.43
2:X:691:G:N3	2:X:691:G:O2'	2.51	0.43
2:X:815:A:H3'	2:X:816:C:C6	2.53	0.43
2:X:844:G:OP2	22:i:75:TYR:OH	2.25	0.43
2:X:868:G:C4	2:X:868:G:OP2	2.71	0.43
2:X:898:G:C2	10:c:16:ILE:HD12	2.54	0.43
2:X:947:A:H4'	35:p:76:LYS:HG3	2.01	0.43
2:X:1189:G:H3'	2:X:1190:A:H5''	2.00	0.43
2:X:1307:C:C5	2:X:1307:C:OP2	2.70	0.43
2:X:1422:C:H3'	2:X:1423:C:C5	2.54	0.43
2:X:1525:A:C8	2:X:1525:A:OP2	2.71	0.43
12:d:34:LEU:CD2	12:d:34:LEU:N	2.78	0.43
18:G:84:VAL:HG22	18:G:134:GLU:HA	2.01	0.43
21:I:112:MET:HE3	21:I:112:MET:CA	2.44	0.43
25:k:114:LEU:N	25:k:114:LEU:CD2	2.82	0.43
29:m:13:GLU:HG2	29:m:37:VAL:CG2	2.48	0.43
29:m:62:LYS:HD3	29:m:62:LYS:HA	1.71	0.43
29:m:94:VAL:HA	29:m:126:LYS:C	2.39	0.43
29:m:114:VAL:HG11	29:m:140:THR:HG21	2.01	0.43
31:n:11:ARG:NH2	31:n:87:ILE:HG13	2.34	0.43
1:Y:458:A:H5''	1:Y:459:C:H5	1.82	0.43
1:Y:711:G:H2'	1:Y:712:U:C6	2.54	0.43
1:Y:1443:A:H2'	1:Y:1444:C:H6	1.84	0.43
1:Y:1492:G:OP2	1:Y:1492:G:C8	2.70	0.43
1:Y:1873:G:H2'	2:X:711:G:C4'	2.44	0.43
1:Y:1907:U:OP2	1:Y:1907:U:C6	2.70	0.43
1:Y:2499:G:H1	1:Y:2504:C:P	2.42	0.43
1:Y:2672:G:H8	1:Y:2672:G:H3'	1.83	0.43
2:X:157:G:C2	2:X:165:G:H1'	2.54	0.43
2:X:242:C:H2'	2:X:243:C:C2	2.53	0.43
2:X:733:G:H3'	2:X:734:C:H5'	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:896:G:C5'	2:X:896:G:C8	3.01	0.43
2:X:973:G:H5''	2:X:975:A:N6	2.33	0.43
2:X:1070:G:H8	2:X:1070:G:O5'	2.02	0.43
2:X:1164:G:N1	8:a:41:PRO:HA	2.33	0.43
2:X:1187:A:N3	2:X:1187:A:C3'	2.81	0.43
2:X:1268:A:N3	2:X:1268:A:C2'	2.76	0.43
2:X:1292:U:H3'	2:X:1293:C:C6	2.53	0.43
2:X:1334:G:N3	2:X:1373:C:H5''	2.33	0.43
2:X:1386:A:OP2	2:X:1386:A:C8	2.70	0.43
2:X:1474:C:H2'	2:X:1475:C:H6	1.84	0.43
2:X:1506:G:N3	2:X:1506:G:C2'	2.79	0.43
4:A:15:ARG:HG3	4:A:15:ARG:O	2.19	0.43
10:c:29:ASN:HD21	10:c:31:LYS:HE2	1.83	0.43
11:C:84:ASP:HB2	11:C:91:ILE:HD13	2.01	0.43
12:d:95:LEU:H	12:d:96:PRO:HD3	1.76	0.43
17:g:23:ALA:HB2	17:g:33:ILE:HD13	2.01	0.43
18:G:87:LEU:CG	18:G:162:ILE:HD11	2.49	0.43
18:G:123:PHE:CE2	18:G:125:VAL:HA	2.54	0.43
25:k:198:LYS:HD2	25:k:198:LYS:HA	1.91	0.43
26:K:8:LYS:HB2	26:K:8:LYS:HE3	1.69	0.43
29:m:18:ILE:HG22	29:m:35:ALA:CA	2.46	0.43
29:m:55:GLU:CD	29:m:55:GLU:H	2.26	0.43
31:n:9:ILE:HD12	31:n:60:TYR:CE1	2.54	0.43
33:o:3:MET:HE3	33:o:3:MET:HB3	1.83	0.43
33:o:94:MET:H	33:o:119:ARG:NH2	2.16	0.43
40:S:20:GLU:N	40:S:20:GLU:CD	2.75	0.43
1:Y:186:C:H42	1:Y:215:G:H22	1.67	0.42
1:Y:298:U:H4'	1:Y:299:U:H6	1.84	0.42
1:Y:1065:A:C8	1:Y:1065:A:C3'	3.02	0.42
1:Y:1569:G:OP1	1:Y:1569:G:C2	2.72	0.42
1:Y:1595:C:H6	1:Y:1595:C:C5'	2.31	0.42
1:Y:1949:G:H2'	1:Y:1950:U:N1	2.34	0.42
1:Y:2580:G:H3'	1:Y:2580:G:H8	1.84	0.42
1:Y:2683:U:O5'	1:Y:2683:U:C6	2.70	0.42
1:Y:2774:G:P	18:G:138:LYS:CE	3.07	0.42
2:X:230:U:H6	2:X:230:U:C3'	2.32	0.42
2:X:251:A:H5'	2:X:252:U:C5	2.54	0.42
2:X:370:G:H2'	2:X:372:A:H5''	2.00	0.42
2:X:580:A:H2'	2:X:581:A:C8	2.54	0.42
2:X:686:U:H3	2:X:720:A:H61	1.67	0.42
2:X:733:G:H4'	2:X:863:G:N2	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:748:U:H2'	2:X:749:G:N2	2.33	0.42
2:X:896:G:C4	2:X:897:G:H1'	2.54	0.42
2:X:907:C:O2	2:X:907:C:H2'	2.19	0.42
2:X:957:G:H5'	2:X:1343:A:H2	1.84	0.42
2:X:1024:A:C2	2:X:1230:U:H1'	2.54	0.42
2:X:1344:A:H3'	2:X:1345:G:C8	2.54	0.42
11:C:5:LYS:HE2	11:C:5:LYS:HB2	1.71	0.42
11:C:144:ILE:HD11	11:C:162:ALA:HB3	2.01	0.42
15:e:36:LYS:HA	15:e:36:LYS:HD2	1.56	0.42
28:l:190:ASN:HA	29:m:103:THR:HB	2.01	0.42
29:m:85:ILE:HD12	29:m:86:THR:H	1.84	0.42
29:m:95:PHE:CZ	29:m:97:LYS:CG	3.02	0.42
33:o:39:ILE:CD1	33:o:105:LEU:HA	2.49	0.42
34:O:95:LEU:HA	34:O:95:LEU:HD12	1.76	0.42
38:Q:82:LEU:N	38:Q:82:LEU:HD12	2.35	0.42
40:S:85:PHE:HE2	40:S:88:GLY:HA2	1.84	0.42
1:Y:113:U:O2	1:Y:113:U:H2'	2.19	0.42
1:Y:139:U:OP2	1:Y:139:U:C6	2.73	0.42
1:Y:236:A:C2'	1:Y:237:U:H5'	2.49	0.42
1:Y:720:A:N7	1:Y:847:A:N1	2.67	0.42
1:Y:1088:C:O3'	1:Y:1091:G:O2'	2.35	0.42
1:Y:1497:A:N3	1:Y:1497:A:H2'	2.34	0.42
1:Y:1555:G:H8	1:Y:1555:G:O5'	2.02	0.42
1:Y:1643:C:O2	1:Y:1643:C:H3'	2.19	0.42
1:Y:2497:G:H2'	1:Y:2498:A:H5'	2.00	0.42
1:Y:2562:G:H3'	1:Y:2562:G:C8	2.54	0.42
2:X:56:A:H5''	2:X:360:C:H42	1.84	0.42
2:X:415:A:N6	2:X:439:A:H5''	2.34	0.42
2:X:571:A:C2	2:X:575:G:H1'	2.54	0.42
2:X:616:A:N6	2:X:640:G:H1'	2.33	0.42
2:X:657:A:C8	2:X:657:A:OP2	2.71	0.42
2:X:705:U:H1'	2:X:806:U:H1'	2.01	0.42
2:X:723:A:C2	2:X:813:C:H1'	2.54	0.42
2:X:785:A:H61	2:X:812:U:H5	1.67	0.42
2:X:1086:G:H2'	2:X:1087:U:H5'	2.00	0.42
2:X:1108:C:H4'	2:X:1108:C:OP1	2.19	0.42
2:X:1267:C:H5''	15:e:31:HIS:CE1	2.55	0.42
2:X:1390:G:H2'	2:X:1391:U:C4	2.54	0.42
2:X:1392:U:O5'	2:X:1392:U:C6	2.70	0.42
2:X:1508:C:H6	2:X:1508:C:H5''	1.84	0.42
3:3:7:G:P	30:M:30:ARG:HH22	2.42	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:92:G:C2'	3:3:93:C:H5'	2.49	0.42
3:3:107:U:H5''	3:3:107:U:C6	2.53	0.42
6:2:54:ASP:OD1	6:2:57:ARG:NH1	2.51	0.42
9:b:50:LEU:HB3	9:b:51:GLY:H	1.66	0.42
10:c:40:SER:HA	10:c:41:PRO:HD3	1.92	0.42
14:E:51:VAL:HG21	14:E:91:GLY:HA3	2.01	0.42
16:f:16:ARG:HG3	16:f:27:VAL:HG21	2.01	0.42
20:h:63:ILE:HA	20:h:77:LEU:CB	2.49	0.42
33:o:18:ASN:ND2	33:o:74:ILE:HB	2.35	0.42
33:o:88:TYR:CD1	33:o:88:TYR:C	2.96	0.42
34:O:91:ASN:CG	36:P:11:GLN:HG3	2.45	0.42
39:R:30:ASP:HB3	39:R:33:VAL:HG13	2.01	0.42
1:Y:232:U:H2'	1:Y:233:U:H6	1.83	0.42
1:Y:237:U:H2'	1:Y:238:U:C6	2.55	0.42
1:Y:337:A:H2'	1:Y:338:G:H4'	2.00	0.42
1:Y:922:G:H21	1:Y:924:G:H22	1.66	0.42
1:Y:1149:U:H6	1:Y:1149:U:H3'	1.84	0.42
1:Y:1179:C:H3'	1:Y:1180:G:H5''	2.02	0.42
1:Y:1280:U:H3'	1:Y:1280:U:O2	2.18	0.42
1:Y:1361:G:N3	1:Y:1361:G:H2'	2.34	0.42
1:Y:1500:G:H8	1:Y:1500:G:O5'	2.01	0.42
1:Y:1708:A:H2'	1:Y:1709:A:H5'	2.00	0.42
1:Y:1893:A:H2'	1:Y:1893:A:N3	2.33	0.42
2:X:565:G:H2'	2:X:566:G:H4'	2.01	0.42
2:X:696:G:H2'	2:X:697:C:C6	2.55	0.42
2:X:885:C:H2'	2:X:886:A:C2	2.53	0.42
2:X:931:U:C6	2:X:931:U:C3'	3.02	0.42
2:X:954:G:N1	2:X:1349:G:H5'	2.32	0.42
2:X:978:A:H2	2:X:1208:A:H1'	1.83	0.42
2:X:982:C:C3'	2:X:982:C:C6	3.02	0.42
2:X:1085:U:H3	2:X:1115:C:H42	1.66	0.42
2:X:1454:A:H2'	2:X:1455:G:N2	2.34	0.42
2:X:1512:A:H8	2:X:1512:A:H3'	1.84	0.42
6:2:44:LEU:HD23	6:2:44:LEU:HA	1.91	0.42
7:4:17:ILE:CG2	7:4:26:ILE:HD11	2.50	0.42
8:a:20:GLN:CG	25:k:21:LYS:HD3	2.48	0.42
8:a:28:THR:HG21	25:k:60:ALA:CA	2.30	0.42
11:C:173:LEU:HD12	11:C:183:MET:HG2	2.00	0.42
15:e:49:TYR:CZ	15:e:50:LYS:HG3	2.54	0.42
31:n:12:PRO:HB3	31:n:57:ASP:H	1.84	0.42
33:o:21:ARG:CZ	33:o:72:ARG:HB3	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:o:46:ILE:HB	33:o:62:LEU:HD11	2.01	0.42
1:Y:1555:G:O5'	1:Y:1555:G:C8	2.72	0.42
1:Y:2432:G:H4'	1:Y:2433:C:C4	2.55	0.42
2:X:386:G:H2'	2:X:387:C:H5''	2.02	0.42
2:X:409:C:H3'	28:l:67:GLN:CG	2.46	0.42
2:X:595:G:H1'	2:X:763:G:C1'	2.49	0.42
2:X:646:G:H2'	2:X:647:G:H5'	2.01	0.42
2:X:666:G:C4'	31:n:2:ARG:CZ	2.96	0.42
2:X:1492:A:H4'	2:X:1492:A:OP1	2.19	0.42
11:C:165:LEU:HD23	11:C:165:LEU:HA	1.85	0.42
12:d:29:THR:HA	12:d:32:LYS:CG	2.48	0.42
16:f:44:ARG:CB	16:f:44:ARG:HH11	2.33	0.42
24:J:2:LYS:HB2	24:J:5:GLU:HG2	2.02	0.42
25:k:37:LYS:HD2	25:k:40:LYS:CE	2.50	0.42
35:p:46:ALA:CB	35:p:117:GLU:HB3	2.49	0.42
35:p:104:LEU:O	35:p:104:LEU:HG	2.19	0.42
41:T:31:VAL:HB	41:T:39:VAL:HG13	2.01	0.42
41:T:60:VAL:CG1	41:T:71:LYS:HB3	2.49	0.42
43:V:43:LYS:CB	43:V:44:PRO:HD2	2.50	0.42
4:l:6:ILE:CD1	4:l:47:ILE:HD11	2.50	0.42
1:Y:173:A:OP2	1:Y:173:A:C2	2.72	0.42
1:Y:322:A:C8	1:Y:322:A:P	3.13	0.42
1:Y:1154:G:C5'	1:Y:1154:G:C8	3.01	0.42
1:Y:1333:A:H2'	1:Y:1334:C:C6	2.55	0.42
1:Y:1488:A:H5''	1:Y:1489:A:C5	2.55	0.42
1:Y:1933:G:N7	1:Y:1934:G:H1'	2.35	0.42
1:Y:2330:G:H2'	46:F:121:ALA:HB1	1.90	0.42
1:Y:2332:U:OP2	46:F:79:LEU:N	2.51	0.42
1:Y:2553:G:H2'	1:Y:2554:C:C6	2.54	0.42
2:X:40:G:H3'	2:X:41:C:H5	1.83	0.42
2:X:131:C:H6	2:X:131:C:H5''	1.83	0.42
2:X:284:G:H5''	2:X:284:G:C8	2.38	0.42
2:X:418:G:O5'	2:X:418:G:C8	2.70	0.42
2:X:518:A:OP1	28:l:35:GLN:CB	2.68	0.42
2:X:894:U:H1'	10:c:15:LYS:HE3	2.01	0.42
2:X:922:C:O2	2:X:922:C:H2'	2.18	0.42
2:X:928:A:H3'	2:X:928:A:C8	2.54	0.42
2:X:1388:A:N3	2:X:1388:A:C2'	2.80	0.42
2:X:1462:U:OP1	2:X:1462:U:C5	2.72	0.42
2:X:1495:A:O5'	2:X:1495:A:H8	2.03	0.42
3:3:38:U:H3'	3:3:39:G:H4'	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:C:171:TYR:CE1	11:C:269:LEU:HD11	2.51	0.42
14:E:8:LYS:HE3	14:E:8:LYS:HB2	1.72	0.42
15:e:38:LYS:HE2	25:k:30:SER:N	2.34	0.42
25:k:192:TYR:O	25:k:192:TYR:CD1	2.73	0.42
28:l:49:LEU:CB	29:m:124:LEU:CD1	2.97	0.42
38:Q:88:ARG:HA	38:Q:88:ARG:HD2	1.70	0.42
39:R:31:THR:O	39:R:31:THR:OG1	2.25	0.42
39:R:62:LYS:NZ	39:R:62:LYS:HB2	2.34	0.42
1:Y:39:C:O2	1:Y:39:C:H3'	2.19	0.42
1:Y:307:A:H3'	1:Y:308:C:C6	2.54	0.42
1:Y:412:U:H2'	1:Y:413:C:C6	2.55	0.42
1:Y:809:A:H5''	11:C:209:GLY:HA3	2.01	0.42
1:Y:844:G:C2'	1:Y:845:A:H5'	2.49	0.42
1:Y:1178:C:H6	1:Y:1178:C:H5''	1.84	0.42
1:Y:1525:U:H3'	1:Y:1525:U:C6	2.55	0.42
1:Y:1903:A:H5''	1:Y:1904:A:C8	2.55	0.42
1:Y:2336:A:P	46:F:80:ARG:H	2.42	0.42
1:Y:2339:U:O4'	46:F:84:PRO:N	2.53	0.42
2:X:109:C:C6	2:X:109:C:H3'	2.55	0.42
2:X:413:U:H4'	2:X:414:G:H5'	2.01	0.42
2:X:678:A:P	2:X:724:A:H5''	2.59	0.42
2:X:1082:U:C4'	29:m:30:ARG:NH2	2.79	0.42
2:X:1227:A:H3'	2:X:1227:A:P	2.59	0.42
2:X:1251:U:C5	35:p:109:ARG:HG3	2.54	0.42
2:X:1449:G:H8	2:X:1449:G:O5'	2.03	0.42
9:b:88:GLY:H	9:b:114:THR:HB	1.85	0.42
10:c:49:ARG:HH22	10:c:51:GLY:HA2	1.85	0.42
13:D:59:TYR:HA	13:D:70:ASN:HD22	1.84	0.42
16:f:80:GLU:CD	16:f:81:LEU:HD12	2.45	0.42
17:g:74:ILE:HG22	17:g:75:LEU:HD13	2.01	0.42
18:G:31:GLY:HA3	18:G:79:VAL:HG22	2.00	0.42
18:G:41:MET:HE3	18:G:55:PRO:HD2	2.02	0.42
18:G:52:VAL:HG11	18:G:69:ARG:HG2	2.01	0.42
22:i:56:TYR:CZ	22:i:60:LEU:HD21	2.54	0.42
25:k:148:ILE:HG22	25:k:201:ILE:CG2	2.48	0.42
28:l:49:LEU:CB	29:m:124:LEU:HD12	2.50	0.42
28:l:67:GLN:HA	28:l:69:ARG:NH1	2.35	0.42
30:M:9:LYS:HD2	30:M:9:LYS:HA	1.67	0.42
33:o:10:MET:N	33:o:10:MET:SD	2.93	0.42
38:Q:92:ARG:CB	38:Q:92:ARG:NH1	2.83	0.42
40:S:85:PHE:CE2	40:S:88:GLY:HA2	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:S:100:GLU:C	40:S:100:GLU:CD	2.87	0.42
42:U:67:LEU:N	42:U:67:LEU:HD23	2.34	0.42
1:Y:60:U:C6	1:Y:60:U:H3'	2.55	0.42
1:Y:366:G:H5'	1:Y:366:G:C8	2.54	0.42
1:Y:827:A:N3	11:C:225:MET:HG2	2.34	0.42
1:Y:1506:C:C6	1:Y:1506:C:C4'	3.03	0.42
1:Y:1590:C:O5'	1:Y:1590:C:C6	2.72	0.42
1:Y:1715:U:H6	1:Y:1715:U:O5'	2.03	0.42
1:Y:2779:C:O5'	1:Y:2779:C:C6	2.70	0.42
1:Y:2874:A:H2'	1:Y:2875:U:H6	1.85	0.42
2:X:36:G:N3	10:c:128:SER:HA	2.35	0.42
2:X:509:C:H2'	2:X:510:C:C6	2.54	0.42
2:X:1005:C:C3'	2:X:1005:C:C6	3.03	0.42
2:X:1336:C:C6	2:X:1336:C:O5'	2.72	0.42
2:X:1441:C:H2'	2:X:1442:C:C6	2.55	0.42
2:X:1512:A:H3'	2:X:1512:A:C8	2.54	0.42
3:3:38:U:H1'	3:3:43:A:H61	1.85	0.42
6:2:59:LYS:HE2	6:2:59:LYS:HB3	1.41	0.42
11:C:247:MET:HE3	11:C:247:MET:HB3	1.95	0.42
12:d:10:PRO:HB3	12:d:21:TYR:CE2	2.55	0.42
18:G:86:VAL:O	18:G:86:VAL:HG13	2.19	0.42
18:G:87:LEU:HD11	18:G:164:TYR:HE1	1.84	0.42
19:H:20:ASP:HB2	19:H:58:ILE:HD11	2.01	0.42
25:k:17:ASP:HB3	25:k:21:LYS:HZ1	1.84	0.42
29:m:11:PHE:CD2	29:m:41:ASP:HA	2.55	0.42
29:m:163:GLU:OE2	33:o:104:ALA:HB3	2.19	0.42
34:O:109:LEU:HD23	34:O:109:LEU:HA	1.90	0.42
37:q:39:GLU:HG3	37:q:39:GLU:O	2.19	0.42
1:Y:1451:U:O5'	1:Y:1451:U:C6	2.70	0.42
1:Y:1496:G:H2'	1:Y:2729:G:N7	2.34	0.42
1:Y:1521:A:OP2	1:Y:1521:A:C2	2.73	0.42
1:Y:1700:C:H2'	1:Y:1701:U:C6	2.55	0.42
1:Y:1755:U:H6	1:Y:1755:U:H5''	1.85	0.42
1:Y:1770:C:C6	1:Y:1770:C:OP2	2.73	0.42
1:Y:1790:G:OP1	1:Y:1790:G:H4'	2.19	0.42
1:Y:2227:C:OP2	43:V:37:ARG:NH1	2.52	0.42
1:Y:2398:G:H5''	1:Y:2398:G:N3	2.35	0.42
1:Y:2562:G:C8	1:Y:2562:G:C3'	3.03	0.42
1:Y:2773:U:H5''	1:Y:2773:U:H6	1.84	0.42
2:X:8:G:H2'	2:X:9:A:C8	2.55	0.42
2:X:28:G:H2'	2:X:29:G:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:61:A:C5'	2:X:395:U:H5'	2.49	0.42
2:X:155:U:C6	2:X:155:U:C3'	3.02	0.42
2:X:181:A:OP2	2:X:181:A:H4'	2.19	0.42
2:X:243:C:H3'	2:X:243:C:H6	1.85	0.42
2:X:550:U:H2'	2:X:551:G:C8	2.55	0.42
2:X:607:C:C6	2:X:607:C:C3'	3.02	0.42
2:X:718:G:H8	2:X:718:G:O5'	2.03	0.42
2:X:831:G:N1	2:X:887:C:H2'	2.35	0.42
2:X:994:C:OP2	2:X:994:C:C6	2.72	0.42
2:X:1025:G:H2'	2:X:1026:A:H8	1.83	0.42
2:X:1307:C:C6	2:X:1307:C:C3'	3.03	0.42
2:X:1414:C:H6	2:X:1414:C:H3'	1.85	0.42
2:X:1453:G:H3'	2:X:1454:A:C8	2.51	0.42
3:3:61:U:H5''	3:3:61:U:H6	1.84	0.42
3:3:90:C:H5''	41:T:19:LYS:NZ	2.35	0.42
8:a:11:LYS:HD2	8:a:71:LYS:HE2	2.01	0.42
21:I:2:ILE:HG23	21:I:6:THR:HG21	2.01	0.42
22:i:73:LEU:HD12	22:i:74:PRO:HD2	2.02	0.42
24:J:50:PHE:O	24:J:50:PHE:CD1	2.73	0.42
25:k:50:SER:CB	25:k:114:LEU:HD21	2.49	0.42
40:S:15:LYS:HE3	40:S:15:LYS:HB2	1.75	0.42
41:T:77:TYR:O	41:T:77:TYR:CG	2.73	0.42
1:Y:1760:G:H2'	1:Y:1761:G:C4'	2.49	0.42
1:Y:2559:G:H4'	1:Y:2684:A:N1	2.35	0.42
2:X:109:C:C6	2:X:109:C:C3'	3.03	0.42
2:X:256:C:H2'	2:X:257:U:C6	2.54	0.42
2:X:317:G:H5''	2:X:317:G:H8	1.85	0.42
2:X:343:C:H2'	2:X:344:A:C8	2.55	0.42
2:X:666:G:H4'	31:n:2:ARG:CZ	2.46	0.42
2:X:700:U:H4'	2:X:700:U:OP1	2.20	0.42
2:X:758:C:OP2	2:X:758:C:H3'	2.20	0.42
2:X:898:G:H2'	2:X:899:A:N7	2.35	0.42
2:X:960:U:H6	2:X:960:U:OP2	2.03	0.42
2:X:1134:U:C1'	8:a:41:PRO:CG	2.98	0.42
2:X:1534:U:C3'	2:X:1534:U:C6	3.03	0.42
3:3:6:U:C5'	30:M:32:ASN:ND2	2.83	0.42
18:G:62:ARG:HA	18:G:62:ARG:HD2	1.60	0.42
25:k:22:TRP:CG	25:k:31:LEU:HD12	2.55	0.42
28:l:70:ASN:N	28:l:70:ASN:OD1	2.50	0.42
29:m:80:THR:HG23	29:m:98:PRO:HB2	2.00	0.42
30:M:90:LYS:HB3	30:M:91:GLU:H	1.65	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:o:39:ILE:HD12	33:o:127:ILE:HB	2.01	0.42
33:o:52:VAL:HG13	33:o:132:TRP:H	1.85	0.42
35:p:75:VAL:O	35:p:75:VAL:HG13	2.20	0.42
35:p:88:PRO:CB	35:p:145:ALA:CB	2.95	0.42
40:S:16:ASP:HB3	40:S:19:LYS:HD3	2.02	0.42
44:W:9:LEU:HD23	44:W:13:GLU:CG	2.50	0.42
1:Y:83:G:H5''	1:Y:83:G:C8	2.55	0.42
1:Y:336:U:C6	1:Y:336:U:OP2	2.73	0.42
1:Y:960:C:O2	1:Y:960:C:H2'	2.19	0.42
1:Y:1095:A:H3'	1:Y:1096:C:H6	1.85	0.42
1:Y:2121:A:H2'	1:Y:2122:A:C8	2.55	0.42
1:Y:2328:A:N6	46:F:128:TYR:O	2.53	0.42
2:X:38:U:O4	2:X:557:C:H1'	2.20	0.42
2:X:628:C:O2	2:X:628:C:H3'	2.20	0.42
2:X:649:A:H1'	2:X:651:C:N4	2.35	0.42
2:X:878:C:H2'	2:X:882:A:C1'	2.45	0.42
2:X:982:C:H3'	2:X:982:C:C6	2.55	0.42
2:X:985:A:H61	8:a:54:ALA:CA	2.22	0.42
2:X:1113:A:H1'	2:X:1114:A:H8	1.85	0.42
2:X:1134:U:H2'	2:X:1135:A:C5	2.55	0.42
2:X:1164:G:C2	8:a:41:PRO:HA	2.53	0.42
2:X:1203:C:H2'	29:m:27:GLY:HA2	2.02	0.42
2:X:1379:A:N3	2:X:1379:A:C2'	2.83	0.42
9:b:59:THR:HB	9:b:60:PRO:HD3	2.00	0.42
16:f:19:GLU:O	16:f:19:GLU:HG3	2.20	0.42
17:g:21:VAL:CB	17:g:33:ILE:HG23	2.50	0.42
17:g:23:ALA:HB2	17:g:33:ILE:CD1	2.50	0.42
22:i:48:ARG:HD2	22:i:48:ARG:HA	1.61	0.42
23:j:16:LYS:HD2	23:j:16:LYS:HA	1.61	0.42
23:j:74:ILE:O	23:j:74:ILE:HG22	2.20	0.42
25:k:146:LYS:HE3	25:k:202:TYR:HD2	1.84	0.42
29:m:165:TYR:C	33:o:95:PRO:HB3	2.45	0.42
30:M:1:MET:HA	46:F:158:THR:O	2.19	0.42
1:Y:88:G:N3	1:Y:88:G:H2'	2.35	0.41
1:Y:299:U:H3'	1:Y:300:G:C5'	2.50	0.41
1:Y:335:U:H5''	1:Y:389:A:N6	2.33	0.41
1:Y:1626:A:C4	1:Y:1627:G:H1'	2.55	0.41
1:Y:1907:U:OP2	1:Y:1907:U:H6	2.03	0.41
1:Y:2408:C:O2	1:Y:2408:C:H3'	2.20	0.41
2:X:403:C:H5''	2:X:403:C:C6	2.55	0.41
2:X:1159:U:OP1	2:X:1159:U:H4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:23:LYS:HE2	4:A:23:LYS:HB2	1.79	0.41
12:d:16:VAL:HA	12:d:19:LEU:CD1	2.49	0.41
27:L:47:LEU:CD1	27:L:66:LEU:HD13	2.50	0.41
30:M:29:PRO:CD	30:M:92:ILE:HG22	2.44	0.41
35:p:68:ASN:HA	35:p:138:ARG:HD2	2.02	0.41
35:p:68:ASN:HA	35:p:138:ARG:NH1	2.35	0.41
37:q:53:PRO:HD2	37:q:82:ARG:HD2	2.02	0.41
41:T:49:ILE:HA	41:T:52:ILE:HG22	2.02	0.41
1:Y:832:C:O2	1:Y:832:C:H3'	2.19	0.41
1:Y:971:U:O2	1:Y:971:U:H3'	2.20	0.41
1:Y:1770:C:H6	1:Y:1770:C:C5'	2.33	0.41
1:Y:1876:G:C2	2:X:710:A:N6	2.85	0.41
1:Y:2039:G:OP1	38:Q:11:ARG:NH1	2.53	0.41
1:Y:2413:U:H3'	1:Y:2413:U:O2	2.19	0.41
2:X:22:G:O5'	2:X:22:G:C8	2.70	0.41
2:X:105:C:H2'	23:j:6:SER:CB	2.48	0.41
2:X:109:C:H41	2:X:338:C:N4	2.17	0.41
2:X:585:G:H3'	2:X:585:G:P	2.60	0.41
2:X:594:C:H2'	2:X:595:G:N7	2.35	0.41
2:X:595:G:H1'	2:X:763:G:H1'	2.02	0.41
2:X:751:U:OP2	2:X:751:U:C6	2.73	0.41
2:X:759:U:O2'	16:f:22:THR:HB	2.20	0.41
2:X:895:G:P	10:c:15:LYS:HB2	2.60	0.41
2:X:1084:G:OP1	2:X:1084:G:H4'	2.20	0.41
2:X:1395:C:O5'	2:X:1395:C:H6	2.03	0.41
2:X:1402:U:C3'	2:X:1402:U:C6	3.03	0.41
9:b:23:ILE:HG13	9:b:86:VAL:HA	2.02	0.41
10:c:69:ARG:O	10:c:69:ARG:HG3	2.15	0.41
11:C:35:LYS:HB3	11:C:35:LYS:NZ	2.27	0.41
11:C:161:SER:CB	11:C:194:GLN:HG3	2.44	0.41
14:E:165:LEU:HD23	14:E:165:LEU:HA	1.75	0.41
24:J:120:LYS:HE2	24:J:120:LYS:HB2	1.84	0.41
29:m:36:LEU:HD21	29:m:48:PHE:HZ	1.85	0.41
32:N:83:ILE:O	32:N:83:ILE:HG22	2.20	0.41
33:o:90:LYS:HB2	33:o:91:ALA:H	1.59	0.41
1:Y:660:A:N3	1:Y:660:A:H2'	2.35	0.41
1:Y:1577:G:H2'	1:Y:1578:A:H5'	2.02	0.41
1:Y:2684:A:H3'	1:Y:2685:C:C6	2.55	0.41
1:Y:2844:U:O5'	1:Y:2844:U:H6	2.03	0.41
2:X:305:G:H8	2:X:305:G:O5'	2.03	0.41
2:X:366:U:O5'	2:X:366:U:C6	2.70	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:404:A:H2'	2:X:406:C:H5	1.85	0.41
2:X:668:A:C8	2:X:668:A:OP2	2.74	0.41
2:X:734:C:N4	2:X:739:G:H1'	2.35	0.41
2:X:896:G:H22	2:X:922:C:H1'	1.85	0.41
2:X:947:A:H5'	35:p:76:LYS:CE	2.50	0.41
2:X:1026:A:C6	2:X:1027:U:H1'	2.56	0.41
2:X:1125:C:H5''	25:k:10:LEU:HG	2.01	0.41
2:X:1130:A:OP2	2:X:1132:C:N4	2.52	0.41
2:X:1167:G:H2'	2:X:1168:A:C8	2.55	0.41
2:X:1192:G:OP2	2:X:1192:G:H4'	2.20	0.41
2:X:1307:C:H6	2:X:1307:C:H3'	1.85	0.41
2:X:1322:A:OP2	2:X:1322:A:C8	2.70	0.41
2:X:1483:G:C4	2:X:1484:U:H1'	2.55	0.41
2:X:1525:A:C2	2:X:1526:U:H1'	2.54	0.41
8:a:84:VAL:CG2	15:e:54:PRO:CD	2.98	0.41
9:b:21:ALA:HB2	9:b:34:ILE:HA	2.02	0.41
25:k:65:ILE:HD13	25:k:65:ILE:N	2.35	0.41
29:m:36:LEU:HD21	29:m:48:PHE:CZ	2.56	0.41
29:m:148:LYS:CD	29:m:153:VAL:HG11	2.48	0.41
31:n:5:GLU:HB2	31:n:92:ILE:HD12	2.03	0.41
31:n:38:LEU:N	31:n:38:LEU:CD2	2.83	0.41
34:O:15:LYS:HB2	34:O:15:LYS:NZ	2.34	0.41
1:Y:179:A:H8	1:Y:179:A:P	2.44	0.41
1:Y:256:C:OP2	6:2:5:LYS:HE3	2.21	0.41
1:Y:706:U:C2'	1:Y:707:G:H5'	2.51	0.41
1:Y:856:U:O2	1:Y:856:U:H3'	2.19	0.41
1:Y:1450:A:H3'	1:Y:1451:U:C5	2.55	0.41
1:Y:1919:C:H3'	1:Y:1920:C:H5''	2.01	0.41
1:Y:1937:G:H3'	1:Y:1938:U:C5	2.55	0.41
1:Y:2111:C:H2'	1:Y:2112:C:C6	2.55	0.41
2:X:19:C:H4'	2:X:19:C:OP1	2.20	0.41
2:X:210:A:P	2:X:210:A:O4'	2.78	0.41
2:X:246:G:C8	2:X:246:G:OP2	2.73	0.41
2:X:390:A:H3'	2:X:391:A:H8	1.84	0.41
2:X:679:G:O5'	2:X:679:G:C8	2.70	0.41
2:X:953:U:O2	2:X:953:U:H2'	2.20	0.41
2:X:995:C:C5'	2:X:1225:U:H5''	2.51	0.41
2:X:1071:U:H1'	2:X:1072:U:H5	1.85	0.41
2:X:1272:A:H5'	2:X:1272:A:C8	2.53	0.41
2:X:1341:U:C3'	2:X:1341:U:C6	3.03	0.41
10:c:53:MET:HB2	10:c:65:TYR:CD1	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:H:46:THR:HA	19:H:47:PRO:HD3	1.93	0.41
25:k:40:LYS:HB3	25:k:40:LYS:HE2	1.96	0.41
31:n:8:TYR:CD1	31:n:8:TYR:N	2.86	0.41
36:P:40:PHE:HE1	36:P:48:VAL:HG23	1.84	0.41
37:q:68:ASN:OD1	37:q:68:ASN:N	2.54	0.41
38:Q:1:MET:HB3	38:Q:2:GLU:H	1.71	0.41
39:R:74:LYS:HB2	39:R:74:LYS:HE2	1.76	0.41
42:U:28:ARG:CD	42:U:28:ARG:N	2.84	0.41
1:Y:103:U:C3'	1:Y:103:U:C6	3.03	0.41
1:Y:403:U:C2'	1:Y:404:U:H4'	2.43	0.41
1:Y:724:C:H2'	1:Y:725:A:C8	2.56	0.41
1:Y:1150:A:H2'	1:Y:1151:G:H8	1.86	0.41
1:Y:1166:G:C2'	1:Y:1167:C:H5'	2.51	0.41
1:Y:2011:U:C2'	1:Y:2012:G:H5'	2.50	0.41
1:Y:2672:G:C8	1:Y:2672:G:C3'	3.04	0.41
1:Y:2773:U:H4'	18:G:138:LYS:NZ	2.35	0.41
1:Y:2800:U:H2'	1:Y:2801:C:H6	1.84	0.41
2:X:34:A:O5'	2:X:34:A:C8	2.73	0.41
2:X:364:A:O2'	2:X:376:U:O2'	2.32	0.41
2:X:807:G:H3'	2:X:808:G:C8	2.55	0.41
2:X:929:A:H1'	2:X:1092:A:N1	2.35	0.41
2:X:1380:C:OP2	2:X:1380:C:H6	2.03	0.41
2:X:1427:A:H2'	2:X:1428:G:H4'	2.01	0.41
2:X:1455:G:OP2	2:X:1455:G:C5	2.73	0.41
4:A:17:TYR:CE2	4:A:34:LYS:HB3	2.56	0.41
8:a:51:ILE:HB	8:a:52:ILE:H	1.62	0.41
13:D:14:GLN:NE2	32:N:58:SER:HA	2.36	0.41
13:D:15:VAL:HG13	32:N:14:GLN:HE22	1.85	0.41
15:e:20:GLU:H	15:e:20:GLU:HG3	1.75	0.41
18:G:27:LYS:N	18:G:27:LYS:HZ2	2.18	0.41
19:H:30:SER:HB2	19:H:109:MET:HE3	2.02	0.41
21:I:17:ARG:NH2	21:I:47:THR:HG22	2.34	0.41
25:k:5:ILE:HD13	25:k:5:ILE:HA	1.76	0.41
25:k:143:LEU:HD23	25:k:143:LEU:C	2.46	0.41
1:Y:42:G:H2'	1:Y:43:A:H5''	2.02	0.41
1:Y:234:C:H4'	1:Y:235:G:H3'	2.03	0.41
1:Y:422:G:H2'	1:Y:423:A:H8	1.84	0.41
1:Y:705:U:H5'	14:E:99:TYR:CD2	2.55	0.41
1:Y:978:A:H2'	1:Y:979:C:C6	2.54	0.41
1:Y:1859:C:H5	1:Y:2000:G:H1	1.69	0.41
1:Y:2024:A:H5''	13:D:138:ARG:HD3	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:2091:C:H2'	1:Y:2092:C:C6	2.56	0.41
1:Y:2319:U:H2'	1:Y:2320:C:C6	2.56	0.41
1:Y:2549:U:H2'	1:Y:2550:G:H5'	2.03	0.41
2:X:135:C:O5'	2:X:135:C:C6	2.70	0.41
2:X:305:G:H8	2:X:305:G:P	2.43	0.41
2:X:642:C:OP1	2:X:642:C:C6	2.70	0.41
2:X:672:G:H5''	2:X:732:G:C6	2.55	0.41
2:X:963:G:H2'	2:X:964:G:C8	2.55	0.41
2:X:1064:U:H3'	2:X:1065:G:H8	1.84	0.41
2:X:1073:G:C2	2:X:1074:U:H1'	2.56	0.41
2:X:1359:U:H6	2:X:1359:U:C3'	2.34	0.41
2:X:1468:A:C2'	2:X:1469:G:H5'	2.50	0.41
2:X:1540:U:H4'	2:X:1541:G:N3	2.35	0.41
2:X:1544:U:C3'	2:X:1544:U:C6	3.04	0.41
3:3:92:G:H2'	3:3:93:C:H5'	2.01	0.41
9:b:87:LYS:HE3	9:b:115:PRO:N	2.36	0.41
11:C:117:GLU:HB2	11:C:128:ASN:ND2	2.36	0.41
12:d:87:ARG:HD3	12:d:87:ARG:HA	1.95	0.41
15:e:35:ARG:HE	15:e:35:ARG:HB3	1.62	0.41
25:k:137:ILE:HD13	25:k:169:GLU:CG	2.51	0.41
29:m:16:VAL:CG2	29:m:36:LEU:HG	2.50	0.41
30:M:25:THR:HG23	30:M:25:THR:O	2.20	0.41
31:n:43:TRP:CH2	31:n:62:ILE:HD12	2.56	0.41
36:P:24:LYS:HE2	36:P:24:LYS:HB3	1.27	0.41
37:q:46:LEU:H	37:q:46:LEU:HD12	1.85	0.41
37:q:75:THR:O	37:q:75:THR:HG22	2.20	0.41
1:Y:145:A:H2'	1:Y:145:A:N3	2.35	0.41
1:Y:174:U:H5''	1:Y:174:U:C6	2.44	0.41
1:Y:466:C:H2'	1:Y:467:U:C6	2.55	0.41
1:Y:505:U:H2'	1:Y:506:A:H5'	2.03	0.41
1:Y:1634:A:H4'	1:Y:1635:A:C5	2.55	0.41
1:Y:1869:G:C2'	1:Y:1870:C:H5'	2.50	0.41
1:Y:2222:U:H2'	1:Y:2223:C:H6	1.84	0.41
1:Y:2500:U:H3'	1:Y:2501:U:C6	2.55	0.41
1:Y:2502:C:H3'	1:Y:2502:C:H6	1.86	0.41
1:Y:2672:G:C8	1:Y:2672:G:H3'	2.56	0.41
2:X:123:G:H4'	2:X:299:C:C1'	2.51	0.41
2:X:130:A:N1	2:X:242:C:H5'	2.36	0.41
2:X:137:U:H2'	2:X:138:A:C8	2.55	0.41
2:X:290:A:H5''	2:X:291:U:C5	2.56	0.41
2:X:419:A:H2'	2:X:421:G:C5'	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:514:G:H22	2:X:534:C:H1'	1.85	0.41
2:X:608:U:O2	2:X:608:U:H2'	2.19	0.41
2:X:702:A:H61	2:X:803:C:H42	1.68	0.41
2:X:773:G:C5	2:X:820:G:H1'	2.55	0.41
2:X:980:C:H6	2:X:980:C:O5'	2.03	0.41
2:X:1235:U:C6	2:X:1235:U:OP1	2.73	0.41
2:X:1337:U:O5'	2:X:1337:U:C6	2.73	0.41
2:X:1434:G:N2	2:X:1490:A:H1'	2.35	0.41
3:3:11:A:OP1	42:U:82:ARG:CD	2.64	0.41
5:B:15:LYS:HE3	5:B:15:LYS:HB2	1.57	0.41
10:c:28:PHE:CE1	10:c:33:LYS:HG2	2.55	0.41
18:G:15:VAL:HG11	18:G:79:VAL:CG1	2.50	0.41
18:G:125:VAL:O	18:G:125:VAL:HG12	2.21	0.41
21:I:24:VAL:CG1	21:I:33:ALA:HB2	2.49	0.41
27:L:71:ILE:HD13	27:L:84:LYS:HD3	2.02	0.41
33:o:33:LYS:N	33:o:33:LYS:CD	2.84	0.41
38:Q:28:ASN:HB2	38:Q:31:GLU:CD	2.45	0.41
38:Q:41:LYS:HE3	45:Z:22:ILE:CD1	2.50	0.41
1:Y:463:C:H2'	1:Y:464:U:C6	2.55	0.41
1:Y:1094:A:N7	1:Y:2778:G:C8	2.89	0.41
1:Y:1244:G:H22	1:Y:1278:G:H1	1.67	0.41
1:Y:1481:A:H8	1:Y:1481:A:O5'	2.04	0.41
1:Y:1490:G:N3	1:Y:1490:G:C3'	2.84	0.41
1:Y:1577:G:C2'	1:Y:1578:A:H5'	2.50	0.41
1:Y:2037:G:H5''	38:Q:42:ALA:HB2	2.02	0.41
1:Y:2214:G:H2'	1:Y:2215:U:C6	2.56	0.41
2:X:155:U:H6	2:X:155:U:OP2	2.04	0.41
2:X:176:C:H6	2:X:176:C:H5''	1.85	0.41
2:X:392:G:C2'	2:X:393:C:H5'	2.51	0.41
2:X:511:A:O5'	2:X:511:A:H8	2.04	0.41
2:X:702:A:C2	2:X:795:A:H1'	2.52	0.41
2:X:860:U:O2	2:X:860:U:H2'	2.19	0.41
2:X:1438:C:H2'	2:X:1439:A:C8	2.56	0.41
2:X:1480:A:P	2:X:1480:A:H8	2.44	0.41
10:c:24:LEU:HD23	10:c:41:PRO:HA	2.03	0.41
18:G:19:PHE:O	18:G:19:PHE:CD1	2.74	0.41
19:H:95:ARG:NH1	19:H:95:ARG:CB	2.74	0.41
21:I:64:ARG:HD2	21:I:79:PHE:CD2	2.55	0.41
22:i:34:LEU:HA	22:i:63:ALA:HB1	2.03	0.41
25:k:68:HIS:HB3	25:k:105:ILE:HD11	2.03	0.41
26:K:73:PRO:HB3	26:K:93:TRP:CE3	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:n:48:LEU:HD13	31:n:88:ARG:NH2	2.36	0.41
33:o:49:VAL:HG12	33:o:63:PHE:HB2	2.02	0.41
34:O:88:ILE:HG22	34:O:90:ILE:HG13	2.03	0.41
41:T:5:LYS:HD2	41:T:5:LYS:HA	1.75	0.41
42:U:28:ARG:H	42:U:28:ARG:HD3	1.85	0.41
42:U:54:TYR:CE1	42:U:84:LYS:HD3	2.56	0.41
44:W:42:ARG:HH11	44:W:42:ARG:HG3	1.85	0.41
4:1:44:ARG:HD3	4:1:44:ARG:HA	1.69	0.41
1:Y:156:A:P	1:Y:156:A:O4'	2.79	0.41
1:Y:322:A:C8	1:Y:322:A:O5'	2.74	0.41
1:Y:366:G:C8	14:E:169:ASN:ND2	2.88	0.41
1:Y:377:U:H3'	1:Y:377:U:O2	2.20	0.41
1:Y:484:U:H2'	1:Y:485:A:C8	2.55	0.41
1:Y:546:A:H8	1:Y:546:A:O5'	2.04	0.41
1:Y:1065:A:H3'	1:Y:1065:A:H8	1.84	0.41
1:Y:1094:A:C6	1:Y:2778:G:C5	3.08	0.41
1:Y:1215:U:H4'	1:Y:1216:U:C4	2.56	0.41
1:Y:1490:G:N3	1:Y:1490:G:C2'	2.84	0.41
1:Y:1771:A:H2'	1:Y:1771:A:OP2	2.21	0.41
1:Y:2135:U:OP2	1:Y:2135:U:H3'	2.21	0.41
1:Y:2231:C:OP2	11:C:147:LYS:NZ	2.53	0.41
1:Y:2328:A:H8	1:Y:2328:A:P	2.43	0.41
1:Y:2341:A:H61	46:F:127:ASN:CA	2.33	0.41
1:Y:2679:U:H3'	18:G:100:GLY:HA2	2.03	0.41
2:X:431:G:N2	2:X:432:G:N3	2.69	0.41
2:X:461:C:C3'	2:X:461:C:C6	3.03	0.41
2:X:650:A:N3	2:X:650:A:C2'	2.84	0.41
2:X:758:C:OP2	2:X:758:C:H6	2.04	0.41
2:X:1084:G:N7	2:X:1116:G:N1	2.69	0.41
2:X:1141:C:H1'	2:X:1144:C:N4	2.35	0.41
2:X:1155:G:H4'	2:X:1156:C:H5	1.86	0.41
2:X:1314:C:H2'	2:X:1315:G:C8	2.55	0.41
2:X:1476:G:H2'	2:X:1477:U:H5'	2.03	0.41
2:X:1521:C:O5'	2:X:1521:C:C6	2.73	0.41
3:3:91:C:H2'	3:3:92:G:C8	2.56	0.41
4:A:34:LYS:HD2	4:A:34:LYS:HA	1.57	0.41
6:2:32:LEU:N	6:2:32:LEU:HD22	2.36	0.41
8:a:6:ILE:HG13	8:a:76:ILE:HG22	2.03	0.41
8:a:84:VAL:HG21	15:e:54:PRO:CD	2.51	0.41
9:b:23:ILE:HG12	9:b:84:VAL:HG23	2.03	0.41
10:c:4:ILE:HG13	10:c:4:ILE:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:d:98:ARG:HD2	12:d:98:ARG:HA	1.85	0.41
13:D:38:LYS:HE3	13:D:96:VAL:CG2	2.51	0.41
14:E:23:VAL:HG12	14:E:24:PHE:CD1	2.56	0.41
16:f:2:ALA:HB1	16:f:38:ALA:HB3	2.03	0.41
16:f:3:ILE:HA	16:f:7:ARG:NH1	2.36	0.41
18:G:98:MET:HB3	18:G:120:ASN:CG	2.46	0.41
18:G:98:MET:CE	18:G:119:GLU:HB3	2.51	0.41
21:I:66:LYS:HD2	21:I:80:ASP:O	2.20	0.41
23:j:22:ILE:HG13	23:j:25:LYS:HB3	2.03	0.41
27:L:74:GLU:CD	27:L:74:GLU:N	2.79	0.41
34:O:83:LEU:HD23	34:O:83:LEU:HA	1.84	0.41
35:p:26:LEU:HB2	35:p:101:LEU:CG	2.51	0.41
36:P:16:GLU:HA	36:P:97:ILE:HG22	2.03	0.41
38:Q:10:ILE:HD13	38:Q:10:ILE:HA	1.87	0.41
41:T:69:THR:O	41:T:69:THR:HG23	2.21	0.41
44:W:9:LEU:HD23	44:W:13:GLU:HG3	2.01	0.41
1:Y:181:G:C2'	1:Y:182:C:H5'	2.51	0.41
1:Y:623:C:H6	1:Y:623:C:O5'	2.03	0.41
1:Y:888:G:C2'	1:Y:889:U:H5'	2.51	0.41
1:Y:1524:C:O2	1:Y:1524:C:H2'	2.21	0.41
1:Y:2446:U:H1'	4:A:15:ARG:NH1	2.35	0.41
1:Y:2491:C:H5	1:Y:2513:G:H1	1.68	0.41
1:Y:2540:A:H2'	1:Y:2541:U:C6	2.55	0.41
2:X:209:G:N2	23:j:57:VAL:CB	2.84	0.41
2:X:573:U:H3'	2:X:574:G:H2'	2.02	0.41
2:X:821:U:H3'	2:X:824:A:N6	2.36	0.41
2:X:906:C:H2'	2:X:907:C:C6	2.56	0.41
2:X:1070:G:H8	2:X:1070:G:P	2.44	0.41
2:X:1198:G:N2	2:X:1199:A:H1'	2.36	0.41
2:X:1247:A:N3	2:X:1247:A:H2'	2.35	0.41
2:X:1423:C:C3'	2:X:1423:C:C6	3.03	0.41
9:b:105:LEU:N	9:b:105:LEU:CD2	2.73	0.41
10:c:57:LYS:HB2	10:c:58:PRO:CD	2.49	0.41
10:c:69:ARG:CZ	10:c:73:ASN:HA	2.51	0.41
11:C:49:LEU:HD23	11:C:49:LEU:C	2.46	0.41
20:h:45:LYS:HB3	20:h:45:LYS:HE2	1.92	0.41
20:h:48:THR:HG23	20:h:76:ARG:HA	2.03	0.41
22:i:45:LEU:HD21	22:i:60:LEU:HB3	2.03	0.41
24:J:87:ASP:HA	24:J:121:LEU:CD2	2.51	0.41
28:l:59:TYR:N	28:l:59:TYR:CD1	2.90	0.41
29:m:11:PHE:CE2	29:m:41:ASP:HA	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:N:80:THR:HG22	32:N:83:ILE:HD12	2.01	0.41
38:Q:3:ALA:CB	38:Q:58:ALA:HB2	2.51	0.41
40:S:93:ILE:N	40:S:93:ILE:HD13	2.36	0.41
44:W:9:LEU:CB	44:W:14:ILE:HG13	2.51	0.41
44:W:42:ARG:NH1	44:W:42:ARG:HG2	2.36	0.41
1:Y:29:U:O2'	34:O:8:THR:HG22	2.21	0.40
1:Y:1607:A:H5''	1:Y:1607:A:C8	2.56	0.40
1:Y:1672:G:H2'	1:Y:1673:A:H8	1.87	0.40
1:Y:2328:A:C6	46:F:128:TYR:O	2.74	0.40
1:Y:2563:G:C8	18:G:175:LYS:HB3	2.56	0.40
1:Y:2822:C:H1'	1:Y:2824:G:C2	2.56	0.40
2:X:256:C:H6	2:X:256:C:C3'	2.33	0.40
2:X:256:C:C6	2:X:256:C:C4'	3.04	0.40
2:X:331:U:C2	23:j:20:ARG:HB2	2.56	0.40
2:X:463:U:H3	2:X:486:C:H2'	1.87	0.40
2:X:783:G:H2'	2:X:784:G:C8	2.56	0.40
2:X:1299:A:H2'	2:X:1300:A:C8	2.56	0.40
2:X:1363:C:O5'	2:X:1363:C:C6	2.70	0.40
2:X:1476:G:C2'	2:X:1477:U:H5'	2.50	0.40
2:X:1503:G:O5'	2:X:1503:G:C8	2.70	0.40
3:3:84:U:H2'	3:3:85:A:C4'	2.46	0.40
11:C:261:ARG:HB3	11:C:261:ARG:CZ	2.51	0.40
18:G:52:VAL:HG13	18:G:65:HIS:HE2	1.86	0.40
33:o:42:SER:CA	33:o:103:ILE:HD13	2.45	0.40
38:Q:92:ARG:CG	38:Q:92:ARG:NH1	2.82	0.40
45:Z:30:CYS:SG	45:Z:31:PRO:CD	2.98	0.40
1:Y:60:U:H3'	1:Y:60:U:H6	1.84	0.40
1:Y:1369:G:H2'	1:Y:1653:A:C4	2.56	0.40
1:Y:1481:A:H5''	1:Y:1600:A:N6	2.35	0.40
1:Y:1733:A:H2'	1:Y:1734:A:C8	2.56	0.40
1:Y:1950:U:H6	1:Y:1950:U:OP2	2.05	0.40
1:Y:2780:A:H2	7:4:15:LYS:HZ3	1.60	0.40
2:X:21:U:OP2	2:X:21:U:C5	2.73	0.40
2:X:136:C:O5'	2:X:136:C:C6	2.70	0.40
2:X:276:U:OP2	2:X:276:U:C6	2.74	0.40
2:X:281:A:P	2:X:281:A:O4'	2.79	0.40
2:X:488:U:H2'	2:X:489:G:C4	2.56	0.40
2:X:689:A:C5	2:X:690:U:H1'	2.56	0.40
2:X:692:U:H1'	9:b:44:TRP:NE1	2.30	0.40
2:X:747:C:H5'	31:n:74:ASP:HA	2.03	0.40
2:X:928:A:C8	2:X:928:A:C3'	3.05	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:1011:U:O5'	2:X:1011:U:C6	2.71	0.40
3:3:64:A:N6	3:3:104:C:H2'	2.36	0.40
9:b:65:MET:O	9:b:65:MET:SD	2.79	0.40
11:C:14:ARG:NH1	11:C:14:ARG:HG3	2.36	0.40
13:D:68:TYR:N	13:D:68:TYR:HD1	2.17	0.40
22:i:59:MET:H	22:i:59:MET:HG2	1.60	0.40
23:j:11:VAL:HB	23:j:12:LYS:H	1.56	0.40
23:j:13:THR:O	23:j:13:THR:OG1	2.30	0.40
29:m:18:ILE:O	29:m:18:ILE:HG13	2.20	0.40
29:m:44:GLY:HA2	29:m:118:ALA:CB	2.50	0.40
33:o:63:PHE:HB3	33:o:65:LYS:HZ2	1.86	0.40
35:p:143:LYS:O	35:p:143:LYS:HG3	2.20	0.40
38:Q:11:ARG:HH11	38:Q:98:LYS:CD	2.35	0.40
39:R:8:LYS:HZ2	39:R:8:LYS:HG3	1.79	0.40
1:Y:158:G:H3'	1:Y:159:U:C6	2.56	0.40
1:Y:172:U:H3'	1:Y:173:A:C2	2.56	0.40
1:Y:176:A:C5'	1:Y:176:A:N3	2.84	0.40
1:Y:527:G:H1	1:Y:553:A:H62	1.70	0.40
1:Y:530:C:H2'	1:Y:531:C:C6	2.56	0.40
1:Y:1077:U:O4	7:4:15:LYS:CE	2.69	0.40
1:Y:1380:G:N3	1:Y:1380:G:H2'	2.36	0.40
1:Y:2211:U:O5'	1:Y:2211:U:C6	2.72	0.40
1:Y:2348:G:N3	1:Y:2348:G:C2'	2.73	0.40
1:Y:2895:G:H4'	32:N:3:ASN:CA	2.49	0.40
1:Y:2904:U:O5'	1:Y:2904:U:C6	2.74	0.40
2:X:286:A:H2'	2:X:287:A:H5''	2.03	0.40
2:X:339:G:N3	2:X:339:G:C3'	2.83	0.40
2:X:578:G:OP1	2:X:578:G:C8	2.71	0.40
2:X:742:A:N3	2:X:742:A:H2'	2.36	0.40
2:X:1071:U:H4'	8:a:56:HIS:CB	2.49	0.40
2:X:1322:A:H2'	2:X:1323:G:C8	2.57	0.40
2:X:1331:C:OP1	2:X:1331:C:H3'	2.21	0.40
4:A:9:CYS:SG	4:A:10:THR:N	2.94	0.40
8:a:11:LYS:HD2	8:a:71:LYS:NZ	2.35	0.40
8:a:24:LYS:HG3	25:k:60:ALA:HB2	2.03	0.40
13:D:57:LYS:HB2	13:D:68:TYR:CB	2.50	0.40
13:D:70:ASN:HB2	13:D:71:LYS:H	1.62	0.40
21:I:25:LEU:H	21:I:25:LEU:HG	1.59	0.40
24:J:7:LYS:HD3	24:J:7:LYS:HA	1.94	0.40
25:k:8:ILE:HD13	25:k:181:ILE:CD1	2.48	0.40
28:l:94:LEU:N	28:l:130:SER:HA	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:m:85:ILE:HB	29:m:147:LEU:HD23	2.03	0.40
33:o:52:VAL:CB	33:o:60:LEU:HD13	2.52	0.40
33:o:94:MET:HB2	33:o:119:ARG:HD3	2.03	0.40
37:q:63:TYR:CD2	37:q:89:LEU:HD21	2.57	0.40
38:Q:1:MET:HE3	38:Q:1:MET:HB2	1.93	0.40
38:Q:24:ILE:HG13	38:Q:24:ILE:O	2.22	0.40
40:S:2:HIS:HB2	40:S:3:ILE:H	1.66	0.40
41:T:68:LYS:HB3	41:T:68:LYS:NZ	2.36	0.40
42:U:33:ARG:HD3	42:U:33:ARG:HA	1.87	0.40
1:Y:27:G:N2	1:Y:556:U:H1'	2.37	0.40
1:Y:79:U:H3	1:Y:107:G:H21	1.69	0.40
1:Y:984:G:H2'	1:Y:985:A:C4'	2.51	0.40
1:Y:1634:A:H5''	1:Y:1635:A:C4	2.56	0.40
1:Y:1870:C:OP2	1:Y:1870:C:C6	2.70	0.40
1:Y:1947:C:H3'	1:Y:1948:G:C8	2.57	0.40
1:Y:2661:A:H4'	13:D:88:ILE:HG22	2.03	0.40
1:Y:2718:C:H2'	1:Y:2719:C:C6	2.56	0.40
1:Y:2753:U:H1'	21:I:1:MET:HE1	2.03	0.40
1:Y:2794:C:OP2	1:Y:2794:C:H3'	2.20	0.40
1:Y:2904:U:C2'	1:Y:2905:C:H5''	2.50	0.40
2:X:27:A:H2'	2:X:27:A:N3	2.37	0.40
2:X:178:G:H2'	2:X:179:A:C8	2.56	0.40
2:X:388:G:OP2	2:X:388:G:C8	2.70	0.40
2:X:564:C:O2	2:X:564:C:H2'	2.21	0.40
2:X:623:C:H2'	2:X:633:G:N1	2.36	0.40
2:X:885:C:H3'	2:X:885:C:H6	1.86	0.40
2:X:1062:G:O5'	2:X:1062:G:H8	2.04	0.40
2:X:1164:G:H4'	8:a:70:HIS:NE2	2.36	0.40
2:X:1396:G:C8	2:X:1396:G:O5'	2.74	0.40
5:B:16:VAL:HG12	5:B:17:HIS:CD2	2.56	0.40
8:a:30:LYS:HD3	8:a:36:VAL:HG11	2.04	0.40
10:c:24:LEU:O	10:c:26:LYS:HG2	2.21	0.40
10:c:95:VAL:HB	10:c:108:TYR:CE2	2.56	0.40
12:d:34:LEU:H	12:d:34:LEU:HD22	1.85	0.40
18:G:52:VAL:HG13	18:G:65:HIS:NE2	2.35	0.40
21:I:24:VAL:HG12	21:I:30:ARG:HD3	2.03	0.40
28:l:57:LEU:HA	28:l:57:LEU:HD23	1.89	0.40
29:m:14:ARG:NH1	29:m:116:GLU:HB3	2.28	0.40
29:m:95:PHE:HB3	29:m:126:LYS:CB	2.50	0.40
33:o:42:SER:OG	33:o:103:ILE:CG1	2.69	0.40
4:l:26:LEU:HD23	4:l:26:LEU:HA	1.92	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:80:G:N2	1:Y:105:C:H2'	2.34	0.40
1:Y:1201:G:H8	1:Y:1201:G:H5'	1.87	0.40
1:Y:1355:A:H61	1:Y:1372:C:H42	1.69	0.40
1:Y:1496:G:H4'	1:Y:1497:A:C2	2.57	0.40
1:Y:1595:C:C6	1:Y:1595:C:H3'	2.57	0.40
1:Y:1806:U:H5	1:Y:1811:A:N7	2.18	0.40
1:Y:1913:U:H2'	1:Y:1914:C:C6	2.57	0.40
2:X:292:G:H3'	2:X:293:C:C6	2.56	0.40
2:X:448:U:O2	2:X:448:U:C3'	2.70	0.40
2:X:488:U:H3'	2:X:488:U:H6	1.86	0.40
2:X:528:A:N7	2:X:537:G:N2	2.68	0.40
2:X:566:G:OP1	2:X:566:G:O3'	2.40	0.40
2:X:878:C:H1'	2:X:883:A:C2	2.57	0.40
2:X:901:U:H2'	2:X:902:A:N3	2.36	0.40
2:X:948:A:H5''	2:X:949:G:C8	2.57	0.40
2:X:1098:U:H3'	2:X:1112:C:H42	1.86	0.40
2:X:1208:A:H2'	2:X:1209:A:H5'	2.03	0.40
2:X:1261:A:H5''	2:X:1261:A:C8	2.57	0.40
2:X:1437:A:H2'	2:X:1438:C:C6	2.56	0.40
2:X:1522:C:H42	2:X:1537:G:H1	1.69	0.40
8:a:18:ILE:CG2	8:a:72:ARG:HG2	2.52	0.40
8:a:46:LYS:HE2	8:a:66:GLU:HB2	2.04	0.40
13:D:68:TYR:HD1	13:D:68:TYR:H	1.70	0.40
27:L:9:THR:HB	27:L:12:GLN:HG3	2.02	0.40
30:M:49:LYS:NZ	30:M:49:LYS:CB	2.73	0.40
33:o:63:PHE:HB3	33:o:65:LYS:NZ	2.36	0.40
37:q:23:LEU:HD23	37:q:64:ASP:C	2.46	0.40
38:Q:20:VAL:HG12	38:Q:20:VAL:O	2.21	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	1	56/105 (53%)	51 (91%)	5 (9%)	0	100	100
4	A	45/105 (43%)	41 (91%)	3 (7%)	1 (2%)	5	12
5	B	41/43 (95%)	38 (93%)	3 (7%)	0	100	100
6	2	62/64 (97%)	48 (77%)	13 (21%)	1 (2%)	7	17
7	4	35/37 (95%)	32 (91%)	2 (6%)	1 (3%)	3	8
8	a	78/80 (98%)	51 (65%)	22 (28%)	5 (6%)	1	1
9	b	112/114 (98%)	85 (76%)	22 (20%)	5 (4%)	2	3
10	c	134/136 (98%)	101 (75%)	26 (19%)	7 (5%)	1	2
11	C	272/274 (99%)	230 (85%)	38 (14%)	4 (2%)	8	18
12	d	111/113 (98%)	88 (79%)	20 (18%)	3 (3%)	4	9
13	D	213/215 (99%)	179 (84%)	27 (13%)	7 (3%)	3	7
14	E	204/206 (99%)	181 (89%)	21 (10%)	2 (1%)	12	25
15	e	58/60 (97%)	44 (76%)	9 (16%)	5 (9%)	0	0
16	f	86/88 (98%)	73 (85%)	12 (14%)	1 (1%)	10	22
17	g	81/83 (98%)	54 (67%)	22 (27%)	5 (6%)	1	2
18	G	161/175 (92%)	126 (78%)	31 (19%)	4 (2%)	4	10
19	H	143/145 (99%)	125 (87%)	15 (10%)	3 (2%)	5	13
20	h	78/80 (98%)	60 (77%)	17 (22%)	1 (1%)	9	21
21	I	120/122 (98%)	105 (88%)	14 (12%)	1 (1%)	16	31
22	i	54/56 (96%)	42 (78%)	10 (18%)	2 (4%)	2	5
23	j	73/78 (94%)	56 (77%)	15 (20%)	2 (3%)	4	9
24	J	144/146 (99%)	123 (85%)	18 (12%)	3 (2%)	5	13
25	k	200/202 (99%)	159 (80%)	35 (18%)	6 (3%)	3	8
26	K	135/137 (98%)	119 (88%)	13 (10%)	3 (2%)	5	12
27	L	118/120 (98%)	108 (92%)	9 (8%)	1 (1%)	16	31
28	l	196/198 (99%)	154 (79%)	33 (17%)	9 (5%)	2	3
29	m	154/156 (99%)	116 (75%)	32 (21%)	6 (4%)	2	4
30	M	117/119 (98%)	98 (84%)	15 (13%)	4 (3%)	3	6
31	n	93/95 (98%)	72 (77%)	19 (20%)	2 (2%)	5	12
32	N	112/114 (98%)	100 (89%)	10 (9%)	2 (2%)	6	15
33	o	128/130 (98%)	88 (69%)	35 (27%)	5 (4%)	2	4
34	O	114/116 (98%)	108 (95%)	3 (3%)	3 (3%)	4	9

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
35	p	150/155 (97%)	127 (85%)	20 (13%)	3 (2%)	6	13
36	P	100/102 (98%)	84 (84%)	14 (14%)	2 (2%)	6	13
37	q	125/127 (98%)	98 (78%)	23 (18%)	4 (3%)	3	7
38	Q	110/112 (98%)	96 (87%)	13 (12%)	1 (1%)	14	28
39	R	87/89 (98%)	77 (88%)	8 (9%)	2 (2%)	5	11
40	S	101/103 (98%)	83 (82%)	14 (14%)	4 (4%)	2	4
41	T	92/94 (98%)	82 (89%)	8 (9%)	2 (2%)	5	12
42	U	77/79 (98%)	69 (90%)	6 (8%)	2 (3%)	4	9
43	V	47/49 (96%)	39 (83%)	6 (13%)	2 (4%)	2	4
44	W	65/67 (97%)	58 (89%)	6 (9%)	1 (2%)	8	18
45	Z	45/47 (96%)	38 (84%)	5 (11%)	2 (4%)	2	3
46	F	151/158 (96%)	110 (73%)	32 (21%)	9 (6%)	1	2
All	All	4878/5094 (96%)	4016 (82%)	724 (15%)	138 (3%)	6	9

All (138) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
8	a	63	GLU
10	c	57	LYS
12	d	95	LEU
13	D	71	LYS
17	g	66	LYS
28	l	32	ALA
35	p	155	ARG
40	S	51	ASN
46	F	74	ILE
46	F	85	ILE
46	F	132	VAL
4	A	42	TYR
6	2	20	GLY
8	a	51	ILE
8	a	55	VAL
9	b	123	PRO
13	D	175	GLY
14	E	11	GLY
15	e	33	VAL
15	e	55	GLY
18	G	98	MET

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Mol	Chain	Res	Type
18	G	173	GLU
21	I	77	ILE
22	i	24	THR
23	j	11	VAL
25	k	4	LYS
28	l	33	PRO
28	l	120	LEU
28	l	139	ILE
29	m	110	PRO
29	m	119	GLY
29	m	129	GLY
30	M	66	THR
34	O	102	ASP
42	U	28	ARG
46	F	81	GLU
10	c	136	LYS
11	C	169	GLY
12	d	105	ASN
15	e	59	ALA
19	H	11	ASN
19	H	59	ASN
25	k	25	GLU
27	L	100	TYR
28	l	76	GLY
28	l	81	VAL
29	m	44	GLY
29	m	77	VAL
30	M	26	ALA
33	o	44	GLY
36	P	101	ASN
37	q	124	ARG
40	S	6	GLY
40	S	96	LYS
41	T	84	ASN
44	W	11	THR
45	Z	33	CYS
46	F	84	PRO
46	F	121	ALA
8	a	58	TYR
9	b	50	LEU
9	b	76	GLU
10	c	23	ALA

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Mol	Chain	Res	Type
10	c	56	LYS
10	c	128	SER
11	C	168	GLU
13	D	61	LYS
13	D	62	ASP
14	E	89	VAL
15	e	36	LYS
15	e	54	PRO
16	f	19	GLU
17	g	62	ASN
18	G	165	GLN
22	i	51	GLY
25	k	7	PRO
25	k	17	ASP
25	k	78	LYS
25	k	96	LYS
26	K	80	GLU
26	K	85	ALA
31	n	81	LYS
32	N	3	ASN
32	N	67	SER
33	o	54	ASP
33	o	101	LEU
34	O	101	SER
35	p	131	THR
36	P	50	ALA
38	Q	11	ARG
39	R	32	ARG
41	T	65	VAL
45	Z	43	CYS
46	F	109	PRO
46	F	145	LYS
12	d	112	PRO
13	D	69	ALA
13	D	72	PRO
20	h	68	PRO
23	j	56	LEU
24	J	2	LYS
24	J	53	GLY
24	J	106	LYS
26	K	14	ARG
28	l	171	SER

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Mol	Chain	Res	Type
29	m	128	LEU
33	o	43	GLU
42	U	82	ARG
43	V	58	LYS
46	F	32	ASP
7	4	26	ILE
8	a	80	THR
9	b	46	SER
11	C	21	PHE
19	H	2	ARG
37	q	67	VAL
39	R	4	ARG
13	D	101	VAL
17	g	22	VAL
17	g	42	PRO
30	M	70	VAL
31	n	91	VAL
35	p	69	ILE
37	q	65	VAL
37	q	119	GLY
18	G	154	PRO
33	o	28	PRO
34	O	9	VAL
40	S	55	GLY
9	b	39	GLY
10	c	11	PRO
10	c	27	GLY
11	C	99	GLY
17	g	67	PRO
28	l	135	PRO
28	l	180	PRO
30	M	97	GLY
43	V	57	GLY

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	1	52/97 (54%)	44 (85%)	8 (15%)	2	5
4	A	44/97 (45%)	27 (61%)	17 (39%)	0	0
5	B	39/39 (100%)	32 (82%)	7 (18%)	2	3
6	2	55/55 (100%)	42 (76%)	13 (24%)	1	0
7	4	35/35 (100%)	29 (83%)	6 (17%)	2	3
8	a	67/73 (92%)	42 (63%)	25 (37%)	0	0
9	b	85/90 (94%)	67 (79%)	18 (21%)	1	1
10	c	95/118 (80%)	72 (76%)	23 (24%)	1	0
11	C	221/221 (100%)	189 (86%)	32 (14%)	3	6
12	d	75/97 (77%)	53 (71%)	22 (29%)	0	0
13	D	173/173 (100%)	130 (75%)	43 (25%)	0	0
14	E	168/168 (100%)	136 (81%)	32 (19%)	1	2
15	e	51/52 (98%)	33 (65%)	18 (35%)	0	0
16	f	74/80 (92%)	61 (82%)	13 (18%)	2	3
17	g	36/70 (51%)	19 (53%)	17 (47%)	0	0
18	G	115/153 (75%)	78 (68%)	37 (32%)	0	0
19	H	122/123 (99%)	108 (88%)	14 (12%)	5	10
20	h	35/75 (47%)	24 (69%)	11 (31%)	0	0
21	I	100/100 (100%)	82 (82%)	18 (18%)	2	3
22	i	49/50 (98%)	32 (65%)	17 (35%)	0	0
23	j	37/65 (57%)	19 (51%)	18 (49%)	0	0
24	J	109/112 (97%)	84 (77%)	25 (23%)	1	0
25	k	151/164 (92%)	114 (76%)	37 (24%)	1	0
26	K	108/114 (95%)	91 (84%)	17 (16%)	2	4
27	L	96/101 (95%)	77 (80%)	19 (20%)	1	2
28	l	23/174 (13%)	17 (74%)	6 (26%)	0	0
29	m	120/122 (98%)	73 (61%)	47 (39%)	0	0
30	M	83/95 (87%)	56 (68%)	27 (32%)	0	0
31	n	82/83 (99%)	63 (77%)	19 (23%)	1	0
32	N	93/100 (93%)	73 (78%)	20 (22%)	1	1
33	o	107/111 (96%)	74 (69%)	33 (31%)	0	0
34	O	96/96 (100%)	81 (84%)	15 (16%)	2	4

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
35	p	114/131 (87%)	83 (73%)	31 (27%)	0	0
36	P	84/86 (98%)	62 (74%)	22 (26%)	0	0
37	q	96/105 (91%)	65 (68%)	31 (32%)	0	0
38	Q	89/91 (98%)	74 (83%)	15 (17%)	2	3
39	R	78/80 (98%)	58 (74%)	20 (26%)	0	0
40	S	81/88 (92%)	59 (73%)	22 (27%)	0	0
41	T	78/82 (95%)	63 (81%)	15 (19%)	1	2
42	U	59/62 (95%)	44 (75%)	15 (25%)	0	0
43	V	39/41 (95%)	32 (82%)	7 (18%)	2	3
44	W	58/60 (97%)	42 (72%)	16 (28%)	0	0
45	Z	35/43 (81%)	29 (83%)	6 (17%)	2	3
All	All	3607/4172 (86%)	2733 (76%)	874 (24%)	2	0

All (874) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	A	2	ARG
4	A	7	LEU
4	A	10	THR
4	A	12	CYS
4	A	16	ASN
4	A	18	ILE
4	A	21	LYS
4	A	23	LYS
4	A	33	LYS
4	A	34	LYS
4	A	36	CYS
4	A	38	ARG
4	A	39	LEU
4	A	41	LYS
4	A	43	THR
4	A	46	ARG
4	A	47	GLU
5	B	2	VAL
5	B	5	THR
5	B	11	ARG
5	B	15	LYS
5	B	25	THR

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Mol	Chain	Res	Type
5	B	30	LYS
5	B	44	SER
6	2	3	LYS
6	2	4	MET
6	2	6	THR
6	2	12	LYS
6	2	22	LEU
6	2	23	LYS
6	2	26	ARG
6	2	35	ASN
6	2	40	GLN
6	2	46	LYS
6	2	53	SER
6	2	59	LYS
6	2	62	LEU
7	4	8	LYS
7	4	11	CYS
7	4	13	LYS
7	4	15	LYS
7	4	28	GLU
7	4	34	GLN
8	a	6	ILE
8	a	18	ILE
8	a	19	ASP
8	a	23	GLU
8	a	24	LYS
8	a	25	ILE
8	a	26	VAL
8	a	30	LYS
8	a	35	ASP
8	a	37	SER
8	a	42	LEU
8	a	44	THR
8	a	45	GLU
8	a	47	SER
8	a	48	VAL
8	a	50	THR
8	a	51	ILE
8	a	53	ARG
8	a	55	VAL
8	a	58	TYR
8	a	62	ARG

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Mol	Chain	Res	Type
8	a	69	THR
8	a	72	ARG
8	a	74	ILE
8	a	80	THR
9	b	22	HIS
9	b	23	ILE
9	b	24	ARG
9	b	26	THR
9	b	28	ASN
9	b	30	THR
9	b	35	THR
9	b	40	ASN
9	b	44	TRP
9	b	53	LYS
9	b	58	SER
9	b	67	SER
9	b	68	GLU
9	b	98	ARG
9	b	102	SER
9	b	105	LEU
9	b	122	ARG
9	b	127	ARG
10	c	7	LEU
10	c	15	LYS
10	c	19	SER
10	c	21	SER
10	c	31	LYS
10	c	33	LYS
10	c	34	LYS
10	c	38	LEU
10	c	40	SER
10	c	42	GLN
10	c	43	LYS
10	c	49	ARG
10	c	56	LYS
10	c	67	ARG
10	c	69	ARG
10	c	70	LEU
10	c	75	GLU
10	c	80	ILE
10	c	93	VAL
10	c	106	VAL

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Mol	Chain	Res	Type
10	c	108	TYR
10	c	111	VAL
10	c	128	SER
11	C	5	LYS
11	C	10	THR
11	C	16	MET
11	C	26	LYS
11	C	35	LYS
11	C	37	LEU
11	C	40	LYS
11	C	72	ASP
11	C	77	LYS
11	C	83	TYR
11	C	87	ARG
11	C	94	VAL
11	C	100	GLU
11	C	102	ARG
11	C	104	ILE
11	C	108	LYS
11	C	111	GLU
11	C	112	VAL
11	C	146	LEU
11	C	170	LYS
11	C	172	VAL
11	C	177	ARG
11	C	180	GLU
11	C	184	ILE
11	C	186	SER
11	C	188	CYS
11	C	189	ARG
11	C	199	GLN
11	C	232	HIS
11	C	257	LYS
11	C	268	LYS
11	C	269	LEU
12	d	11	ARG
12	d	12	GLU
12	d	13	LYS
12	d	16	VAL
12	d	22	ILE
12	d	23	TYR
12	d	25	ILE

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Mol	Chain	Res	Type
12	d	31	GLN
12	d	32	LYS
12	d	33	ILE
12	d	34	LEU
12	d	50	ASP
12	d	52	GLU
12	d	57	ARG
12	d	80	LEU
12	d	81	MET
12	d	86	TYR
12	d	87	ARG
12	d	101	LYS
12	d	102	THR
12	d	107	ARG
12	d	114	LYS
13	D	2	THR
13	D	3	LYS
13	D	5	ILE
13	D	8	ARG
13	D	12	MET
13	D	13	THR
13	D	15	VAL
13	D	18	GLU
13	D	41	VAL
13	D	54	GLU
13	D	56	LYS
13	D	57	LYS
13	D	61	LYS
13	D	64	LYS
13	D	67	LYS
13	D	68	TYR
13	D	70	ASN
13	D	71	LYS
13	D	78	LYS
13	D	79	LYS
13	D	81	ASP
13	D	85	LYS
13	D	92	ARG
13	D	94	VAL
13	D	103	GLN
13	D	107	VAL
13	D	116	ILE

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Mol	Chain	Res	Type
13	D	121	VAL
13	D	128	GLN
13	D	131	ILE
13	D	137	SER
13	D	138	ARG
13	D	149	ARG
13	D	173	MET
13	D	183	LEU
13	D	187	GLN
13	D	190	THR
13	D	193	LYS
13	D	196	LEU
13	D	197	VAL
13	D	205	LYS
13	D	211	ILE
13	D	215	ILE
14	E	5	ASP
14	E	6	VAL
14	E	17	ILE
14	E	26	ILE
14	E	27	GLU
14	E	33	LEU
14	E	40	GLN
14	E	41	ARG
14	E	43	SER
14	E	54	ARG
14	E	66	LYS
14	E	84	ARG
14	E	101	MET
14	E	108	LEU
14	E	127	ASP
14	E	132	GLU
14	E	137	LYS
14	E	143	LEU
14	E	150	LYS
14	E	159	GLU
14	E	161	VAL
14	E	166	SER
14	E	168	ARG
14	E	170	ILE
14	E	176	THR
14	E	177	THR

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Mol	Chain	Res	Type
14	E	182	ASN
14	E	194	ILE
14	E	195	THR
14	E	200	LYS
14	E	201	LYS
14	E	202	VAL
15	e	3	LYS
15	e	6	MET
15	e	13	LYS
15	e	23	ARG
15	e	24	CYS
15	e	25	GLU
15	e	26	ARG
15	e	29	ARG
15	e	31	HIS
15	e	33	VAL
15	e	35	ARG
15	e	36	LYS
15	e	40	CYS
15	e	42	ILE
15	e	45	ARG
15	e	46	GLU
15	e	56	VAL
15	e	57	ARG
16	f	3	ILE
16	f	8	LYS
16	f	13	LYS
16	f	22	THR
16	f	43	LEU
16	f	45	THR
16	f	54	ARG
16	f	58	LYS
16	f	62	ARG
16	f	63	ARG
16	f	75	ILE
16	f	80	GLU
16	f	81	LEU
17	g	3	VAL
17	g	4	LYS
17	g	5	ILE
17	g	10	LEU
17	g	12	SER

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Mol	Chain	Res	Type
17	g	13	LYS
17	g	14	ARG
17	g	24	ASP
17	g	26	ARG
17	g	27	SER
17	g	29	ARG
17	g	30	ASP
17	g	34	ILE
17	g	73	ASN
17	g	74	ILE
17	g	81	MET
17	g	83	LYS
18	G	3	ARG
18	G	23	HIS
18	G	26	VAL
18	G	27	LYS
18	G	30	LYS
18	G	32	GLU
18	G	43	PHE
18	G	44	LYS
18	G	59	LYS
18	G	62	ARG
18	G	71	LEU
18	G	81	GLN
18	G	85	LYS
18	G	94	TYR
18	G	98	MET
18	G	99	GLN
18	G	113	VAL
18	G	115	ILE
18	G	119	GLU
18	G	120	ASN
18	G	121	ILE
18	G	123	PHE
18	G	124	SER
18	G	125	VAL
18	G	128	ASN
18	G	129	THR
18	G	130	VAL
18	G	132	LYS
18	G	148	ILE
18	G	158	LYS

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Mol	Chain	Res	Type
18	G	162	ILE
18	G	163	ARG
18	G	169	VAL
18	G	170	ARG
18	G	171	ARG
18	G	175	LYS
18	G	176	THR
19	H	1	MET
19	H	2	ARG
19	H	9	GLU
19	H	15	LYS
19	H	19	ILE
19	H	30	SER
19	H	42	LYS
19	H	62	LYS
19	H	63	ILE
19	H	77	ARG
19	H	86	LYS
19	H	95	ARG
19	H	118	LYS
19	H	142	GLU
20	h	13	LYS
20	h	14	VAL
20	h	15	VAL
20	h	16	SER
20	h	22	THR
20	h	24	THR
20	h	27	VAL
20	h	38	LYS
20	h	41	LYS
20	h	45	LYS
20	h	74	ARG
21	I	2	ILE
21	I	9	LYS
21	I	23	LYS
21	I	25	LEU
21	I	30	ARG
21	I	39	ILE
21	I	47	THR
21	I	66	LYS
21	I	70	ARG
21	I	77	ILE

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Mol	Chain	Res	Type
21	I	78	LYS
21	I	80	ASP
21	I	82	ASN
21	I	86	ILE
21	I	96	THR
21	I	102	VAL
21	I	113	LYS
21	I	122	LEU
22	i	25	HIS
22	i	28	TYR
22	i	29	LYS
22	i	33	LEU
22	i	36	ARG
22	i	40	GLU
22	i	44	ILE
22	i	48	ARG
22	i	52	THR
22	i	53	SER
22	i	58	ARG
22	i	59	MET
22	i	61	THR
22	i	70	MET
22	i	72	LEU
22	i	75	TYR
22	i	77	LYS
23	j	5	LYS
23	j	6	SER
23	j	8	ILE
23	j	9	LYS
23	j	11	VAL
23	j	12	LYS
23	j	13	THR
23	j	14	THR
23	j	15	GLU
23	j	16	LYS
23	j	18	GLU
23	j	20	ARG
23	j	22	ILE
23	j	33	LYS
23	j	68	SER
23	j	75	LYS
23	j	78	LEU

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Mol	Chain	Res	Type
23	j	79	MET
24	J	2	LYS
24	J	6	LEU
24	J	7	LYS
24	J	14	LYS
24	J	16	ARG
24	J	29	LYS
24	J	31	SER
24	J	33	ARG
24	J	42	SER
24	J	50	PHE
24	J	60	ARG
24	J	64	ARG
24	J	69	ILE
24	J	72	LYS
24	J	76	ILE
24	J	92	THR
24	J	98	GLU
24	J	104	ASN
24	J	106	LYS
24	J	107	SER
24	J	120	LYS
24	J	121	LEU
24	J	123	VAL
24	J	129	SER
24	J	139	LYS
25	k	4	LYS
25	k	5	ILE
25	k	6	ASN
25	k	11	ARG
25	k	14	ILE
25	k	27	ASP
25	k	37	LYS
25	k	53	HIS
25	k	58	ARG
25	k	71	LYS
25	k	75	VAL
25	k	85	LYS
25	k	96	LYS
25	k	101	ASN
25	k	102	VAL
25	k	110	LEU

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Mol	Chain	Res	Type
25	k	113	ARG
25	k	119	ILE
25	k	121	ARG
25	k	134	LYS
25	k	137	ILE
25	k	139	ARG
25	k	146	LYS
25	k	148	ILE
25	k	155	ARG
25	k	174	LEU
25	k	175	HIS
25	k	176	THR
25	k	178	ARG
25	k	181	ILE
25	k	183	TYR
25	k	194	LYS
25	k	195	LEU
25	k	197	VAL
25	k	198	LYS
25	k	201	ILE
25	k	203	ARG
26	K	13	HIS
26	K	16	LYS
26	K	18	THR
26	K	27	VAL
26	K	38	THR
26	K	39	THR
26	K	54	MET
26	K	75	THR
26	K	81	VAL
26	K	83	MET
26	K	103	LEU
26	K	109	VAL
26	K	110	SER
26	K	113	VAL
26	K	127	VAL
26	K	130	LYS
26	K	137	LEU
27	L	13	ARG
27	L	26	ILE
27	L	28	GLU
27	L	31	GLU

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Mol	Chain	Res	Type
27	L	33	THR
27	L	41	ARG
27	L	43	VAL
27	L	47	LEU
27	L	53	LYS
27	L	55	ASP
27	L	66	LEU
27	L	74	GLU
27	L	89	ILE
27	L	97	GLN
27	L	101	THR
27	L	103	ILE
27	L	105	LYS
27	L	118	ILE
27	L	119	ILE
28	l	45	SER
28	l	50	GLN
28	l	51	LEU
28	l	60	LEU
28	l	64	THR
28	l	71	THR
29	m	16	VAL
29	m	17	THR
29	m	19	ASN
29	m	32	ARG
29	m	36	LEU
29	m	37	VAL
29	m	38	VAL
29	m	42	LYS
29	m	46	VAL
29	m	52	LYS
29	m	54	GLN
29	m	55	GLU
29	m	60	ILE
29	m	62	LYS
29	m	65	GLU
29	m	69	LYS
29	m	70	ASP
29	m	76	ARG
29	m	85	ILE
29	m	89	TYR
29	m	96	MET

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Mol	Chain	Res	Type
29	m	97	LYS
29	m	105	VAL
29	m	106	ILE
29	m	112	ARG
29	m	115	LEU
29	m	116	GLU
29	m	117	LEU
29	m	123	ILE
29	m	124	LEU
29	m	125	SER
29	m	130	SER
29	m	131	ASN
29	m	136	MET
29	m	137	VAL
29	m	138	ARG
29	m	140	THR
29	m	142	ASP
29	m	144	LEU
29	m	148	LYS
29	m	155	LYS
29	m	157	ARG
29	m	160	THR
29	m	161	VAL
29	m	162	GLU
29	m	163	GLU
29	m	164	LEU
30	M	7	LYS
30	M	9	LYS
30	M	10	VAL
30	M	11	ARG
30	M	12	LEU
30	M	13	LYS
30	M	22	LEU
30	M	28	LYS
30	M	30	ARG
30	M	31	LEU
30	M	33	VAL
30	M	41	TYR
30	M	44	ILE
30	M	49	LYS
30	M	53	LEU
30	M	59	LYS

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Mol	Chain	Res	Type
30	M	68	THR
30	M	70	VAL
30	M	72	LEU
30	M	75	LYS
30	M	87	LYS
30	M	90	LYS
30	M	99	TYR
30	M	100	LEU
30	M	105	VAL
30	M	117	LEU
30	M	119	PHE
31	n	2	ARG
31	n	3	THR
31	n	10	VAL
31	n	19	LYS
31	n	41	LYS
31	n	42	ASP
31	n	46	ARG
31	n	47	ARG
31	n	48	LEU
31	n	75	GLU
31	n	77	GLN
31	n	78	ARG
31	n	85	ASP
31	n	88	ARG
31	n	89	TYR
31	n	90	MET
31	n	91	VAL
31	n	92	ILE
31	n	95	ASP
32	N	4	HIS
32	N	5	LYS
32	N	7	ILE
32	N	12	LYS
32	N	41	ARG
32	N	48	VAL
32	N	52	ARG
32	N	65	LYS
32	N	66	ILE
32	N	68	SER
32	N	76	PHE
32	N	78	LEU

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Mol	Chain	Res	Type
32	N	85	LYS
32	N	90	ARG
32	N	93	LYS
32	N	96	ARG
32	N	99	LEU
32	N	104	SER
32	N	105	LEU
32	N	113	GLN
33	o	3	MET
33	o	7	ILE
33	o	10	MET
33	o	13	ARG
33	o	14	VAL
33	o	15	ARG
33	o	21	ARG
33	o	31	ASN
33	o	32	ILE
33	o	33	LYS
33	o	34	LYS
33	o	42	SER
33	o	46	ILE
33	o	47	LYS
33	o	54	ASP
33	o	56	LYS
33	o	61	ARG
33	o	62	LEU
33	o	72	ARG
33	o	79	ARG
33	o	90	LYS
33	o	92	SER
33	o	96	LYS
33	o	98	LEU
33	o	101	LEU
33	o	103	ILE
33	o	105	LEU
33	o	106	VAL
33	o	113	ILE
33	o	119	ARG
33	o	121	ARG
33	o	126	GLU
33	o	127	ILE
34	O	9	VAL

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Mol	Chain	Res	Type
34	O	22	LYS
34	O	33	LYS
34	O	41	LYS
34	O	51	ARG
34	O	59	LYS
34	O	70	ARG
34	O	74	MET
34	O	80	MET
34	O	88	ILE
34	O	90	ILE
34	O	96	SER
34	O	97	GLU
34	O	100	ILE
34	O	104	LYS
35	p	17	ILE
35	p	23	VAL
35	p	25	LYS
35	p	26	LEU
35	p	27	ILE
35	p	32	LEU
35	p	36	ARG
35	p	42	ILE
35	p	43	LEU
35	p	48	ASP
35	p	51	GLU
35	p	56	ARG
35	p	60	GLU
35	p	61	VAL
35	p	64	GLU
35	p	66	ILE
35	p	69	ILE
35	p	72	VAL
35	p	76	LYS
35	p	91	VAL
35	p	101	LEU
35	p	103	TRP
35	p	104	LEU
35	p	106	ASN
35	p	107	TYR
35	p	124	ILE
35	p	125	LEU
35	p	135	VAL

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Mol	Chain	Res	Type
35	p	136	LYS
35	p	138	ARG
35	p	142	HIS
36	P	5	ILE
36	P	11	GLN
36	P	13	LYS
36	P	20	ILE
36	P	24	LYS
36	P	27	VAL
36	P	29	GLU
36	P	34	THR
36	P	36	ASP
36	P	37	LYS
36	P	45	SER
36	P	47	LYS
36	P	52	THR
36	P	65	GLN
36	P	69	LYS
36	P	70	LYS
36	P	78	ARG
36	P	83	LYS
36	P	86	LYS
36	P	97	ILE
36	P	99	LYS
36	P	101	ASN
37	q	6	VAL
37	q	8	TYR
37	q	11	THR
37	q	20	ARG
37	q	22	ARG
37	q	36	ASP
37	q	37	VAL
37	q	38	ARG
37	q	41	LEU
37	q	47	ILE
37	q	48	LEU
37	q	50	LEU
37	q	54	PHE
37	q	55	ASP
37	q	66	LEU
37	q	81	ILE
37	q	82	ARG

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Mol	Chain	Res	Type
37	q	85	ILE
37	q	87	ARG
37	q	89	LEU
37	q	90	LEU
37	q	91	GLU
37	q	95	GLU
37	q	97	ARG
37	q	101	LYS
37	q	102	ARG
37	q	111	ARG
37	q	120	LEU
37	q	121	LYS
37	q	124	ARG
37	q	130	SER
38	Q	8	ARG
38	Q	10	ILE
38	Q	12	ILE
38	Q	17	VAL
38	Q	24	ILE
38	Q	38	LEU
38	Q	43	SER
38	Q	59	GLU
38	Q	69	LEU
38	Q	86	ARG
38	Q	88	ARG
38	Q	92	ARG
38	Q	99	ARG
38	Q	107	VAL
38	Q	112	GLU
39	R	2	GLU
39	R	4	ARG
39	R	8	LYS
39	R	9	ARG
39	R	15	LYS
39	R	18	GLU
39	R	20	MET
39	R	28	ASP
39	R	31	THR
39	R	33	VAL
39	R	35	LYS
39	R	45	ILE
39	R	48	VAL

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Mol	Chain	Res	Type
39	R	55	ILE
39	R	61	LYS
39	R	62	LYS
39	R	65	MET
39	R	69	GLN
39	R	75	ARG
39	R	77	LYS
40	S	2	HIS
40	S	4	LYS
40	S	5	LYS
40	S	7	ASP
40	S	10	LYS
40	S	15	LYS
40	S	20	GLU
40	S	22	LYS
40	S	29	LYS
40	S	43	LYS
40	S	45	GLN
40	S	59	THR
40	S	60	GLU
40	S	65	VAL
40	S	67	ASN
40	S	85	PHE
40	S	86	VAL
40	S	87	ASP
40	S	89	LYS
40	S	93	ILE
40	S	96	LYS
40	S	101	ILE
41	T	5	LYS
41	T	10	GLN
41	T	12	LYS
41	T	13	GLN
41	T	16	SER
41	T	23	LYS
41	T	37	LYS
41	T	40	SER
41	T	50	LYS
41	T	52	ILE
41	T	61	ILE
41	T	70	ILE
41	T	71	LYS

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Mol	Chain	Res	Type
41	T	83	LYS
41	T	86	ILE
42	U	18	THR
42	U	22	ARG
42	U	29	LEU
42	U	44	ILE
42	U	48	GLN
42	U	53	ILE
42	U	70	LYS
42	U	72	ASP
42	U	78	GLU
42	U	79	ARG
42	U	80	LYS
42	U	82	ARG
42	U	83	ASP
42	U	88	SER
42	U	92	VAL
43	V	22	LEU
43	V	26	LYS
43	V	38	ILE
43	V	45	LYS
43	V	47	VAL
43	V	58	LYS
43	V	60	THR
44	W	4	LYS
44	W	5	GLU
44	W	7	ARG
44	W	9	LEU
44	W	12	SER
44	W	14	ILE
44	W	19	LYS
44	W	22	LYS
44	W	40	THR
44	W	42	ARG
44	W	50	ILE
44	W	54	LYS
44	W	58	ARG
44	W	59	GLU
44	W	61	GLU
44	W	62	ILE
4	1	3	LYS
4	1	17	GLU

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Mol	Chain	Res	Type
4	1	18	THR
4	1	23	VAL
4	1	35	VAL
4	1	44	ARG
4	1	53	LEU
4	1	59	LYS
45	Z	6	ARG
45	Z	7	ARG
45	Z	22	ILE
45	Z	23	SER
45	Z	27	MET
45	Z	37	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (70) such sidechains are listed below:

Mol	Chain	Res	Type
4	A	22	ASN
4	A	25	ASN
4	A	26	ASN
5	B	27	ASN
6	2	21	GLN
6	2	60	GLN
7	4	36	GLN
8	a	15	HIS
8	a	56	HIS
8	a	67	GLN
8	a	70	HIS
9	b	18	ASN
11	C	128	ASN
11	C	133	GLN
11	C	226	ASN
11	C	232	HIS
12	d	31	GLN
13	D	19	ASN
13	D	70	ASN
13	D	143	HIS
13	D	148	HIS
13	D	192	ASN
13	D	200	ASN
14	E	40	GLN
14	E	46	GLN
14	E	141	ASN

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Mol	Chain	Res	Type
14	E	162	ASN
16	f	5	GLN
16	f	40	ASN
16	f	42	HIS
16	f	68	ASN
18	G	23	HIS
18	G	64	ASN
21	I	3	GLN
21	I	82	ASN
22	i	25	HIS
24	J	4	HIS
24	J	27	ASN
24	J	38	GLN
25	k	6	ASN
25	k	53	HIS
25	k	99	HIS
25	k	118	ASN
26	K	25	ASN
26	K	71	HIS
27	L	73	ASN
27	L	106	GLN
28	l	67	GLN
29	m	83	HIS
29	m	149	ASN
31	n	77	GLN
32	N	3	ASN
32	N	14	GLN
33	o	22	HIS
34	O	37	GLN
34	O	91	ASN
35	p	28	ASN
36	P	28	ASN
36	P	88	HIS
37	q	16	ASN
37	q	34	ASN
39	R	69	GLN
40	S	45	GLN
40	S	64	HIS
40	S	67	ASN
41	T	13	GLN
41	T	38	ASN
41	T	84	ASN

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Mol	Chain	Res	Type
42	U	48	GLN
43	V	34	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	Y	2709/2923 (92%)	1007 (37%)	48 (1%)
2	X	1436/1552 (92%)	1030 (71%)	56 (3%)
3	3	113/114 (99%)	47 (41%)	2 (1%)
All	All	4258/4589 (92%)	2084 (48%)	106 (2%)

All (2084) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	Y	10	A
1	Y	11	U
1	Y	12	U
1	Y	14	A
1	Y	34	U
1	Y	35	G
1	Y	43	A
1	Y	46	C
1	Y	49	A
1	Y	51	G
1	Y	58	G
1	Y	60	U
1	Y	64	A
1	Y	71	A
1	Y	74	U
1	Y	75	G
1	Y	79	U
1	Y	81	G
1	Y	82	G
1	Y	83	G
1	Y	84	A
1	Y	87	U
1	Y	88	G
1	Y	90	A
1	Y	91	A
1	Y	93	U
1	Y	94	A

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Mol	Chain	Res	Type
1	Y	96	G
1	Y	97	C
1	Y	99	U
1	Y	100	U
1	Y	101	G
1	Y	103	U
1	Y	104	C
1	Y	105	C
1	Y	106	A
1	Y	117	A
1	Y	118	A
1	Y	119	U
1	Y	124	A
1	Y	125	A
1	Y	131	G
1	Y	132	C
1	Y	133	A
1	Y	134	U
1	Y	135	G
1	Y	136	A
1	Y	137	G
1	Y	138	U
1	Y	140	A
1	Y	141	U
1	Y	142	G
1	Y	143	U
1	Y	144	C
1	Y	145	A
1	Y	146	U
1	Y	149	U
1	Y	150	A
1	Y	151	U
1	Y	152	C
1	Y	154	A
1	Y	155	U
1	Y	156	A
1	Y	157	U
1	Y	158	G
1	Y	159	U
1	Y	169	G
1	Y	170	C
1	Y	171	A

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Mol	Chain	Res	Type
1	Y	172	U
1	Y	174	U
1	Y	175	C
1	Y	176	A
1	Y	177	G
1	Y	182	C
1	Y	183	A
1	Y	184	C
1	Y	185	A
1	Y	186	C
1	Y	189	G
1	Y	195	C
1	Y	199	A
1	Y	202	A
1	Y	204	C
1	Y	207	A
1	Y	209	U
1	Y	210	A
1	Y	215	G
1	Y	218	G
1	Y	223	G
1	Y	225	A
1	Y	226	A
1	Y	227	G
1	Y	229	A
1	Y	232	U
1	Y	233	U
1	Y	234	C
1	Y	235	G
1	Y	236	A
1	Y	244	A
1	Y	246	U
1	Y	248	G
1	Y	251	G
1	Y	253	G
1	Y	255	G
1	Y	258	A
1	Y	268	A
1	Y	275	A
1	Y	276	C
1	Y	278	A
1	Y	282	A

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Mol	Chain	Res	Type
1	Y	286	U
1	Y	287	G
1	Y	288	C
1	Y	289	U
1	Y	292	U
1	Y	293	U
1	Y	294	G
1	Y	295	G
1	Y	296	G
1	Y	297	G
1	Y	298	U
1	Y	299	U
1	Y	300	G
1	Y	301	U
1	Y	302	A
1	Y	307	A
1	Y	308	C
1	Y	309	U
1	Y	310	C
1	Y	311	U
1	Y	312	A
1	Y	313	U
1	Y	318	A
1	Y	320	U
1	Y	321	U
1	Y	322	A
1	Y	323	C
1	Y	325	A
1	Y	326	A
1	Y	327	G
1	Y	329	A
1	Y	330	C
1	Y	331	G
1	Y	332	A
1	Y	333	C
1	Y	334	A
1	Y	335	U
1	Y	336	U
1	Y	337	A
1	Y	338	G
1	Y	339	A
1	Y	340	C

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Mol	Chain	Res	Type
1	Y	342	A
1	Y	343	A
1	Y	344	U
1	Y	345	C
1	Y	350	G
1	Y	351	G
1	Y	354	A
1	Y	360	A
1	Y	365	A
1	Y	366	G
1	Y	367	A
1	Y	372	A
1	Y	373	A
1	Y	375	A
1	Y	377	U
1	Y	381	G
1	Y	387	G
1	Y	388	A
1	Y	390	A
1	Y	391	A
1	Y	392	U
1	Y	393	G
1	Y	394	U
1	Y	395	U
1	Y	396	G
1	Y	400	C
1	Y	401	U
1	Y	402	C
1	Y	403	U
1	Y	404	U
1	Y	405	G
1	Y	409	G
1	Y	410	G
1	Y	411	A
1	Y	412	U
1	Y	413	C
1	Y	417	A
1	Y	432	G
1	Y	433	U
1	Y	434	G
1	Y	435	A
1	Y	436	A

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Mol	Chain	Res	Type
1	Y	445	G
1	Y	447	A
1	Y	458	A
1	Y	462	U
1	Y	468	A
1	Y	470	G
1	Y	474	A
1	Y	475	A
1	Y	478	A
1	Y	480	U
1	Y	481	C
1	Y	483	C
1	Y	484	U
1	Y	489	A
1	Y	490	C
1	Y	497	U
1	Y	498	G
1	Y	499	A
1	Y	503	A
1	Y	504	G
1	Y	506	A
1	Y	510	U
1	Y	513	G
1	Y	518	A
1	Y	519	G
1	Y	523	A
1	Y	526	A
1	Y	527	G
1	Y	535	G
1	Y	539	G
1	Y	544	U
1	Y	546	A
1	Y	548	A
1	Y	549	U
1	Y	551	G
1	Y	552	A
1	Y	553	A
1	Y	554	C
1	Y	555	C
1	Y	558	A
1	Y	560	A
1	Y	561	C

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Mol	Chain	Res	Type
1	Y	562	C
1	Y	567	G
1	Y	568	C
1	Y	575	G
1	Y	576	U
1	Y	577	A
1	Y	578	G
1	Y	583	A
1	Y	589	U
1	Y	592	A
1	Y	594	G
1	Y	606	G
1	Y	614	U
1	Y	616	G
1	Y	618	A
1	Y	624	C
1	Y	625	G
1	Y	629	A
1	Y	630	G
1	Y	635	G
1	Y	642	U
1	Y	644	C
1	Y	646	A
1	Y	647	G
1	Y	650	U
1	Y	659	A
1	Y	660	A
1	Y	661	U
1	Y	666	A
1	Y	667	G
1	Y	669	C
1	Y	672	A
1	Y	673	G
1	Y	676	A
1	Y	679	G
1	Y	682	A
1	Y	683	G
1	Y	687	G
1	Y	688	A
1	Y	689	A
1	Y	690	U
1	Y	691	A

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Mol	Chain	Res	Type
1	Y	692	G
1	Y	697	U
1	Y	698	U
1	Y	699	U
1	Y	700	A
1	Y	706	U
1	Y	707	G
1	Y	713	A
1	Y	716	C
1	Y	720	A
1	Y	731	U
1	Y	745	G
1	Y	749	G
1	Y	750	A
1	Y	751	A
1	Y	752	G
1	Y	754	U
1	Y	755	C
1	Y	756	A
1	Y	766	G
1	Y	768	A
1	Y	769	U
1	Y	770	G
1	Y	771	G
1	Y	772	A
1	Y	773	G
1	Y	775	A
1	Y	779	A
1	Y	781	C
1	Y	782	C
1	Y	792	U
1	Y	793	G
1	Y	797	A
1	Y	802	G
1	Y	803	C
1	Y	809	A
1	Y	810	A
1	Y	820	G
1	Y	822	G
1	Y	827	A
1	Y	829	U
1	Y	832	C

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Mol	Chain	Res	Type
1	Y	834	A
1	Y	837	G
1	Y	838	A
1	Y	839	A
1	Y	845	A
1	Y	846	G
1	Y	847	A
1	Y	849	A
1	Y	851	C
1	Y	853	G
1	Y	856	U
1	Y	861	C
1	Y	862	C
1	Y	864	A
1	Y	865	A
1	Y	872	U
1	Y	873	U
1	Y	879	U
1	Y	882	C
1	Y	884	U
1	Y	887	A
1	Y	888	G
1	Y	891	A
1	Y	904	G
1	Y	911	A
1	Y	914	G
1	Y	918	G
1	Y	922	G
1	Y	923	A
1	Y	924	G
1	Y	925	G
1	Y	943	C
1	Y	944	G
1	Y	946	A
1	Y	947	U
1	Y	952	A
1	Y	955	A
1	Y	957	C
1	Y	960	C
1	Y	962	A
1	Y	970	U
1	Y	971	U

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Mol	Chain	Res	Type
1	Y	972	A
1	Y	982	G
1	Y	984	G
1	Y	985	A
1	Y	988	C
1	Y	989	A
1	Y	990	G
1	Y	1001	A
1	Y	1002	U
1	Y	1003	A
1	Y	1005	G
1	Y	1006	G
1	Y	1017	A
1	Y	1018	A
1	Y	1027	A
1	Y	1029	C
1	Y	1030	C
1	Y	1032	A
1	Y	1034	A
1	Y	1035	C
1	Y	1040	A
1	Y	1043	U
1	Y	1052	A
1	Y	1053	A
1	Y	1055	A
1	Y	1056	U
1	Y	1057	A
1	Y	1060	U
1	Y	1062	U
1	Y	1066	G
1	Y	1067	U
1	Y	1069	G
1	Y	1070	A
1	Y	1077	U
1	Y	1078	G
1	Y	1082	C
1	Y	1083	G
1	Y	1086	G
1	Y	1089	C
1	Y	1090	A
1	Y	1091	G
1	Y	1092	A

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Mol	Chain	Res	Type
1	Y	1093	C
1	Y	1095	A
1	Y	1096	C
1	Y	1097	U
1	Y	1098	A
1	Y	1099	G
1	Y	1150	A
1	Y	1152	U
1	Y	1154	G
1	Y	1155	A
1	Y	1156	G
1	Y	1158	G
1	Y	1159	A
1	Y	1160	C
1	Y	1167	C
1	Y	1169	G
1	Y	1170	A
1	Y	1171	A
1	Y	1172	A
1	Y	1176	U
1	Y	1177	A
1	Y	1178	C
1	Y	1179	C
1	Y	1180	G
1	Y	1181	G
1	Y	1185	U
1	Y	1186	A
1	Y	1194	U
1	Y	1195	A
1	Y	1198	G
1	Y	1201	G
1	Y	1205	U
1	Y	1208	A
1	Y	1214	C
1	Y	1217	U
1	Y	1218	G
1	Y	1219	G
1	Y	1221	C
1	Y	1229	G
1	Y	1245	G
1	Y	1263	A
1	Y	1267	A

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Mol	Chain	Res	Type
1	Y	1275	A
1	Y	1276	G
1	Y	1278	G
1	Y	1279	C
1	Y	1280	U
1	Y	1285	A
1	Y	1291	A
1	Y	1293	U
1	Y	1294	G
1	Y	1309	G
1	Y	1310	A
1	Y	1312	A
1	Y	1313	G
1	Y	1315	C
1	Y	1321	A
1	Y	1337	A
1	Y	1338	U
1	Y	1339	U
1	Y	1342	C
1	Y	1343	U
1	Y	1357	G
1	Y	1358	A
1	Y	1359	A
1	Y	1360	G
1	Y	1362	C
1	Y	1363	U
1	Y	1366	U
1	Y	1367	C
1	Y	1368	C
1	Y	1369	G
1	Y	1370	C
1	Y	1373	U
1	Y	1374	G
1	Y	1389	U
1	Y	1396	A
1	Y	1399	C
1	Y	1400	C
1	Y	1402	A
1	Y	1405	G
1	Y	1416	U
1	Y	1417	G
1	Y	1421	A

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Mol	Chain	Res	Type
1	Y	1422	A
1	Y	1423	C
1	Y	1425	G
1	Y	1429	G
1	Y	1430	A
1	Y	1440	A
1	Y	1446	U
1	Y	1447	A
1	Y	1448	U
1	Y	1449	A
1	Y	1450	A
1	Y	1451	U
1	Y	1452	C
1	Y	1453	G
1	Y	1460	U
1	Y	1461	C
1	Y	1462	G
1	Y	1463	A
1	Y	1464	U
1	Y	1465	G
1	Y	1468	G
1	Y	1471	A
1	Y	1472	C
1	Y	1473	G
1	Y	1474	C
1	Y	1477	U
1	Y	1478	A
1	Y	1479	G
1	Y	1480	G
1	Y	1481	A
1	Y	1482	U
1	Y	1483	A
1	Y	1484	G
1	Y	1486	C
1	Y	1487	G
1	Y	1488	A
1	Y	1489	A
1	Y	1490	G
1	Y	1491	C
1	Y	1492	G
1	Y	1493	U
1	Y	1494	G

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Mol	Chain	Res	Type
1	Y	1495	C
1	Y	1497	A
1	Y	1498	U
1	Y	1499	U
1	Y	1500	G
1	Y	1502	A
1	Y	1504	U
1	Y	1505	G
1	Y	1506	C
1	Y	1507	A
1	Y	1508	C
1	Y	1509	G
1	Y	1512	U
1	Y	1513	A
1	Y	1514	A
1	Y	1516	C
1	Y	1518	G
1	Y	1520	A
1	Y	1521	A
1	Y	1522	G
1	Y	1525	U
1	Y	1526	G
1	Y	1527	A
1	Y	1528	G
1	Y	1529	U
1	Y	1556	G
1	Y	1557	C
1	Y	1560	A
1	Y	1561	G
1	Y	1562	C
1	Y	1563	U
1	Y	1564	G
1	Y	1565	U
1	Y	1567	A
1	Y	1569	G
1	Y	1570	G
1	Y	1571	G
1	Y	1572	G
1	Y	1573	A
1	Y	1574	G
1	Y	1578	A
1	Y	1579	C

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Mol	Chain	Res	Type
1	Y	1589	U
1	Y	1590	C
1	Y	1591	G
1	Y	1592	A
1	Y	1593	G
1	Y	1595	C
1	Y	1596	G
1	Y	1597	U
1	Y	1598	U
1	Y	1599	G
1	Y	1601	U
1	Y	1602	U
1	Y	1603	U
1	Y	1604	C
1	Y	1607	A
1	Y	1608	C
1	Y	1609	U
1	Y	1610	G
1	Y	1611	C
1	Y	1612	C
1	Y	1613	G
1	Y	1614	A
1	Y	1616	A
1	Y	1626	A
1	Y	1627	G
1	Y	1628	A
1	Y	1629	U
1	Y	1630	A
1	Y	1631	G
1	Y	1635	A
1	Y	1636	U
1	Y	1637	A
1	Y	1638	G
1	Y	1639	G
1	Y	1640	U
1	Y	1642	C
1	Y	1643	C
1	Y	1651	C
1	Y	1652	A
1	Y	1653	A
1	Y	1654	A
1	Y	1660	A

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Mol	Chain	Res	Type
1	Y	1661	C
1	Y	1662	A
1	Y	1677	G
1	Y	1678	A
1	Y	1683	U
1	Y	1690	A
1	Y	1691	G
1	Y	1692	C
1	Y	1693	G
1	Y	1709	A
1	Y	1718	G
1	Y	1721	A
1	Y	1738	C
1	Y	1740	G
1	Y	1748	G
1	Y	1755	U
1	Y	1756	U
1	Y	1757	U
1	Y	1758	A
1	Y	1759	G
1	Y	1760	G
1	Y	1761	G
1	Y	1762	U
1	Y	1765	A
1	Y	1766	C
1	Y	1767	G
1	Y	1768	C
1	Y	1770	C
1	Y	1771	A
1	Y	1772	G
1	Y	1773	A
1	Y	1774	A
1	Y	1775	G
1	Y	1785	G
1	Y	1788	U
1	Y	1789	A
1	Y	1790	G
1	Y	1791	G
1	Y	1796	A
1	Y	1800	A
1	Y	1806	U
1	Y	1807	A

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Mol	Chain	Res	Type
1	Y	1811	A
1	Y	1814	A
1	Y	1818	A
1	Y	1827	C
1	Y	1828	U
1	Y	1829	A
1	Y	1839	G
1	Y	1842	A
1	Y	1843	U
1	Y	1844	G
1	Y	1856	A
1	Y	1866	G
1	Y	1870	C
1	Y	1871	U
1	Y	1874	A
1	Y	1875	A
1	Y	1876	G
1	Y	1877	G
1	Y	1878	U
1	Y	1879	U
1	Y	1880	A
1	Y	1882	G
1	Y	1883	A
1	Y	1884	G
1	Y	1885	G
1	Y	1886	A
1	Y	1887	G
1	Y	1889	G
1	Y	1890	G
1	Y	1892	U
1	Y	1893	A
1	Y	1894	G
1	Y	1896	U
1	Y	1897	U
1	Y	1898	C
1	Y	1899	U
1	Y	1900	G
1	Y	1901	C
1	Y	1902	G
1	Y	1903	A
1	Y	1904	A
1	Y	1907	U

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Mol	Chain	Res	Type
1	Y	1908	A
1	Y	1912	A
1	Y	1915	G
1	Y	1916	A
1	Y	1917	A
1	Y	1918	G
1	Y	1920	C
1	Y	1921	C
1	Y	1923	A
1	Y	1924	G
1	Y	1928	A
1	Y	1933	G
1	Y	1934	G
1	Y	1935	C
1	Y	1936	C
1	Y	1937	G
1	Y	1938	U
1	Y	1941	C
1	Y	1942	U
1	Y	1943	A
1	Y	1944	U
1	Y	1945	A
1	Y	1946	A
1	Y	1947	C
1	Y	1948	G
1	Y	1950	U
1	Y	1951	C
1	Y	1953	U
1	Y	1954	A
1	Y	1956	G
1	Y	1957	G
1	Y	1958	U
1	Y	1960	G
1	Y	1965	A
1	Y	1967	U
1	Y	1978	U
1	Y	1982	U
1	Y	1990	C
1	Y	1991	G
1	Y	1992	C
1	Y	1994	C
1	Y	1997	A

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Mol	Chain	Res	Type
1	Y	1998	A
1	Y	1999	G
1	Y	2002	G
1	Y	2004	A
1	Y	2011	U
1	Y	2012	G
1	Y	2013	G
1	Y	2015	C
1	Y	2016	A
1	Y	2017	C
1	Y	2018	U
1	Y	2020	U
1	Y	2024	A
1	Y	2033	C
1	Y	2050	A
1	Y	2054	G
1	Y	2058	A
1	Y	2059	G
1	Y	2060	A
1	Y	2063	C
1	Y	2070	C
1	Y	2077	C
1	Y	2082	C
1	Y	2083	G
1	Y	2087	A
1	Y	2088	G
1	Y	2089	A
1	Y	2096	G
1	Y	2103	U
1	Y	2120	G
1	Y	2124	U
1	Y	2125	U
1	Y	2127	G
1	Y	2128	G
1	Y	2132	A
1	Y	2135	U
1	Y	2209	G
1	Y	2211	U
1	Y	2212	G
1	Y	2213	U
1	Y	2214	G
1	Y	2216	U

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Mol	Chain	Res	Type
1	Y	2217	G
1	Y	2220	U
1	Y	2224	U
1	Y	2225	A
1	Y	2226	A
1	Y	2231	C
1	Y	2232	A
1	Y	2234	C
1	Y	2237	U
1	Y	2238	U
1	Y	2239	A
1	Y	2241	C
1	Y	2242	G
1	Y	2243	U
1	Y	2244	G
1	Y	2246	U
1	Y	2247	G
1	Y	2252	A
1	Y	2265	G
1	Y	2266	G
1	Y	2269	G
1	Y	2295	A
1	Y	2306	G
1	Y	2309	G
1	Y	2310	C
1	Y	2314	A
1	Y	2315	A
1	Y	2323	U
1	Y	2326	G
1	Y	2329	U
1	Y	2330	G
1	Y	2331	G
1	Y	2332	U
1	Y	2333	U
1	Y	2334	G
1	Y	2335	G
1	Y	2336	A
1	Y	2337	A
1	Y	2338	A
1	Y	2339	U
1	Y	2340	C
1	Y	2345	A

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Mol	Chain	Res	Type
1	Y	2346	U
1	Y	2347	A
1	Y	2348	G
1	Y	2352	G
1	Y	2354	A
1	Y	2360	A
1	Y	2362	A
1	Y	2374	C
1	Y	2377	C
1	Y	2381	A
1	Y	2388	A
1	Y	2395	C
1	Y	2398	G
1	Y	2400	U
1	Y	2401	C
1	Y	2410	G
1	Y	2412	C
1	Y	2413	U
1	Y	2417	U
1	Y	2419	A
1	Y	2425	U
1	Y	2433	C
1	Y	2434	A
1	Y	2437	G
1	Y	2440	G
1	Y	2448	G
1	Y	2449	C
1	Y	2452	A
1	Y	2456	G
1	Y	2457	A
1	Y	2460	A
1	Y	2461	A
1	Y	2462	A
1	Y	2466	A
1	Y	2467	C
1	Y	2468	C
1	Y	2472	G
1	Y	2474	G
1	Y	2475	A
1	Y	2486	A
1	Y	2487	U
1	Y	2490	C

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Mol	Chain	Res	Type
1	Y	2491	C
1	Y	2496	A
1	Y	2497	G
1	Y	2498	A
1	Y	2499	G
1	Y	2500	U
1	Y	2501	U
1	Y	2502	C
1	Y	2503	A
1	Y	2505	A
1	Y	2517	G
1	Y	2518	U
1	Y	2526	C
1	Y	2527	U
1	Y	2529	G
1	Y	2530	A
1	Y	2532	G
1	Y	2533	U
1	Y	2534	C
1	Y	2540	A
1	Y	2545	A
1	Y	2547	C
1	Y	2552	G
1	Y	2558	A
1	Y	2559	G
1	Y	2560	U
1	Y	2561	C
1	Y	2562	G
1	Y	2563	G
1	Y	2569	A
1	Y	2571	G
1	Y	2580	G
1	Y	2581	U
1	Y	2583	C
1	Y	2591	A
1	Y	2592	A
1	Y	2593	A
1	Y	2594	G
1	Y	2599	A
1	Y	2600	C
1	Y	2601	G
1	Y	2604	A

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Mol	Chain	Res	Type
1	Y	2612	U
1	Y	2613	C
1	Y	2618	C
1	Y	2626	G
1	Y	2629	A
1	Y	2630	G
1	Y	2635	G
1	Y	2636	U
1	Y	2637	C
1	Y	2640	U
1	Y	2641	A
1	Y	2642	U
1	Y	2648	G
1	Y	2650	G
1	Y	2651	G
1	Y	2655	U
1	Y	2656	A
1	Y	2657	G
1	Y	2658	G
1	Y	2660	A
1	Y	2664	U
1	Y	2665	G
1	Y	2666	A
1	Y	2672	G
1	Y	2673	C
1	Y	2682	G
1	Y	2683	U
1	Y	2694	C
1	Y	2695	G
1	Y	2696	G
1	Y	2697	G
1	Y	2700	G
1	Y	2716	U
1	Y	2728	U
1	Y	2729	G
1	Y	2732	A
1	Y	2740	A
1	Y	2741	G
1	Y	2753	U
1	Y	2760	A
1	Y	2765	A
1	Y	2766	U

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Mol	Chain	Res	Type
1	Y	2771	G
1	Y	2775	A
1	Y	2776	A
1	Y	2777	A
1	Y	2778	G
1	Y	2783	U
1	Y	2784	A
1	Y	2785	A
1	Y	2786	G
1	Y	2787	C
1	Y	2788	A
1	Y	2792	A
1	Y	2793	G
1	Y	2794	C
1	Y	2795	C
1	Y	2796	C
1	Y	2804	G
1	Y	2805	A
1	Y	2806	U
1	Y	2807	G
1	Y	2808	A
1	Y	2809	G
1	Y	2810	A
1	Y	2811	U
1	Y	2817	A
1	Y	2818	A
1	Y	2821	U
1	Y	2822	C
1	Y	2823	G
1	Y	2824	G
1	Y	2826	U
1	Y	2827	A
1	Y	2829	A
1	Y	2830	A
1	Y	2831	G
1	Y	2833	U
1	Y	2834	C
1	Y	2840	A
1	Y	2841	A
1	Y	2848	G
1	Y	2854	A
1	Y	2859	G

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Mol	Chain	Res	Type
1	Y	2878	U
1	Y	2882	A
1	Y	2887	G
1	Y	2900	C
1	Y	2903	A
1	Y	2904	U
1	Y	2905	C
1	Y	2906	G
1	Y	2911	A
1	Y	2912	A
1	Y	2913	G
1	Y	2914	A
1	Y	2916	U
1	Y	2917	U
2	X	6	U
2	X	7	G
2	X	8	G
2	X	9	A
2	X	10	G
2	X	13	U
2	X	14	U
2	X	15	U
2	X	16	G
2	X	18	U
2	X	19	C
2	X	21	U
2	X	23	G
2	X	24	C
2	X	26	C
2	X	27	A
2	X	28	G
2	X	29	G
2	X	30	A
2	X	31	U
2	X	32	G
2	X	33	A
2	X	36	G
2	X	37	C
2	X	38	U
2	X	39	G
2	X	40	G
2	X	41	C

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Mol	Chain	Res	Type
2	X	42	G
2	X	43	G
2	X	44	C
2	X	45	G
2	X	46	U
2	X	48	C
2	X	49	C
2	X	50	U
2	X	51	A
2	X	52	A
2	X	53	U
2	X	54	A
2	X	56	A
2	X	57	U
2	X	58	G
2	X	59	C
2	X	60	A
2	X	61	A
2	X	62	G
2	X	64	C
2	X	65	G
2	X	66	A
2	X	67	G
2	X	69	G
2	X	70	A
2	X	71	A
2	X	72	C
2	X	98	U
2	X	99	U
2	X	100	A
2	X	101	G
2	X	103	G
2	X	104	G
2	X	105	C
2	X	107	G
2	X	108	A
2	X	109	C
2	X	111	G
2	X	113	U
2	X	114	G
2	X	115	A
2	X	116	G

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Mol	Chain	Res	Type
2	X	117	U
2	X	118	A
2	X	119	A
2	X	120	C
2	X	121	A
2	X	127	A
2	X	128	U
2	X	130	A
2	X	131	C
2	X	134	A
2	X	137	U
2	X	140	A
2	X	141	A
2	X	142	G
2	X	143	A
2	X	144	C
2	X	146	G
2	X	147	G
2	X	148	G
2	X	150	U
2	X	151	A
2	X	153	C
2	X	154	U
2	X	155	U
2	X	156	C
2	X	157	G
2	X	158	G
2	X	160	A
2	X	162	A
2	X	163	C
2	X	166	U
2	X	167	A
2	X	168	G
2	X	169	C
2	X	170	U
2	X	172	A
2	X	173	U
2	X	174	A
2	X	175	C
2	X	176	C
2	X	177	G
2	X	181	A

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Mol	Chain	Res	Type
2	X	182	A
2	X	183	U
2	X	184	A
2	X	185	U
2	X	210	A
2	X	212	A
2	X	213	G
2	X	214	A
2	X	229	C
2	X	230	U
2	X	231	U
2	X	232	A
2	X	233	U
2	X	234	A
2	X	236	A
2	X	237	U
2	X	238	G
2	X	240	A
2	X	241	U
2	X	244	G
2	X	246	G
2	X	247	C
2	X	248	U
2	X	249	G
2	X	250	C
2	X	251	A
2	X	252	U
2	X	253	U
2	X	254	A
2	X	255	G
2	X	256	C
2	X	257	U
2	X	259	G
2	X	260	U
2	X	261	U
2	X	262	G
2	X	263	G
2	X	265	A
2	X	266	A
2	X	268	G
2	X	270	A
2	X	272	C

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Mol	Chain	Res	Type
2	X	273	G
2	X	274	G
2	X	276	U
2	X	278	A
2	X	281	A
2	X	282	A
2	X	283	G
2	X	284	G
2	X	285	C
2	X	286	A
2	X	287	A
2	X	289	G
2	X	291	U
2	X	292	G
2	X	293	C
2	X	295	U
2	X	296	A
2	X	297	G
2	X	298	C
2	X	301	A
2	X	305	G
2	X	306	A
2	X	307	G
2	X	308	A
2	X	310	G
2	X	311	G
2	X	312	U
2	X	313	G
2	X	315	U
2	X	316	C
2	X	319	C
2	X	321	A
2	X	323	A
2	X	324	C
2	X	325	U
2	X	326	G
2	X	327	G
2	X	331	U
2	X	333	A
2	X	334	G
2	X	335	A
2	X	336	C

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Mol	Chain	Res	Type
2	X	337	A
2	X	338	C
2	X	339	G
2	X	340	G
2	X	341	U
2	X	346	A
2	X	348	U
2	X	350	C
2	X	352	A
2	X	353	C
2	X	354	G
2	X	355	G
2	X	357	A
2	X	358	G
2	X	359	G
2	X	360	C
2	X	361	A
2	X	362	G
2	X	363	C
2	X	365	G
2	X	366	U
2	X	367	A
2	X	368	G
2	X	369	G
2	X	370	G
2	X	371	A
2	X	372	A
2	X	373	U
2	X	374	C
2	X	375	U
2	X	376	U
2	X	380	C
2	X	381	A
2	X	383	U
2	X	384	G
2	X	385	G
2	X	387	C
2	X	388	G
2	X	389	A
2	X	391	A
2	X	393	C
2	X	394	C

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Mol	Chain	Res	Type
2	X	396	G
2	X	397	A
2	X	398	C
2	X	400	G
2	X	403	C
2	X	404	A
2	X	405	A
2	X	406	C
2	X	407	G
2	X	408	C
2	X	409	C
2	X	411	C
2	X	412	G
2	X	413	U
2	X	414	G
2	X	416	G
2	X	417	U
2	X	418	G
2	X	419	A
2	X	420	U
2	X	421	G
2	X	422	A
2	X	424	G
2	X	425	G
2	X	427	C
2	X	429	U
2	X	430	C
2	X	432	G
2	X	433	A
2	X	436	G
2	X	437	U
2	X	438	A
2	X	439	A
2	X	440	A
2	X	441	A
2	X	442	C
2	X	443	U
2	X	444	C
2	X	446	G
2	X	447	U
2	X	448	U
2	X	451	U

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Mol	Chain	Res	Type
2	X	452	A
2	X	454	G
2	X	455	G
2	X	458	G
2	X	459	A
2	X	460	A
2	X	461	C
2	X	462	A
2	X	463	U
2	X	464	A
2	X	465	U
2	X	466	G
2	X	467	U
2	X	468	G
2	X	482	A
2	X	484	A
2	X	485	U
2	X	486	C
2	X	487	U
2	X	488	U
2	X	490	A
2	X	491	C
2	X	495	A
2	X	497	C
2	X	498	U
2	X	501	U
2	X	502	C
2	X	503	A
2	X	504	G
2	X	505	A
2	X	506	A
2	X	507	A
2	X	509	C
2	X	510	C
2	X	511	A
2	X	513	G
2	X	514	G
2	X	515	C
2	X	517	A
2	X	518	A
2	X	519	C
2	X	520	U

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Mol	Chain	Res	Type
2	X	522	C
2	X	525	G
2	X	526	C
2	X	527	C
2	X	528	A
2	X	531	A
2	X	532	G
2	X	534	C
2	X	535	G
2	X	537	G
2	X	540	A
2	X	542	U
2	X	543	A
2	X	544	C
2	X	545	G
2	X	547	A
2	X	549	G
2	X	551	G
2	X	555	A
2	X	556	G
2	X	557	C
2	X	558	G
2	X	559	U
2	X	561	A
2	X	563	C
2	X	564	C
2	X	565	G
2	X	566	G
2	X	567	A
2	X	568	A
2	X	569	U
2	X	570	U
2	X	571	A
2	X	572	U
2	X	574	G
2	X	575	G
2	X	576	G
2	X	577	C
2	X	578	G
2	X	580	A
2	X	582	A
2	X	583	G

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Mol	Chain	Res	Type
2	X	584	C
2	X	585	G
2	X	588	C
2	X	589	G
2	X	590	U
2	X	591	A
2	X	592	G
2	X	593	G
2	X	594	C
2	X	595	G
2	X	596	G
2	X	597	U
2	X	602	U
2	X	603	A
2	X	604	A
2	X	605	G
2	X	606	U
2	X	607	C
2	X	608	U
2	X	610	A
2	X	611	U
2	X	613	U
2	X	615	A
2	X	616	A
2	X	617	A
2	X	618	G
2	X	619	C
2	X	620	C
2	X	621	C
2	X	622	A
2	X	623	C
2	X	624	G
2	X	625	G
2	X	627	U
2	X	628	C
2	X	629	A
2	X	630	A
2	X	631	C
2	X	632	C
2	X	635	G
2	X	636	G
2	X	638	G

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Mol	Chain	Res	Type
2	X	639	G
2	X	641	U
2	X	642	C
2	X	643	A
2	X	644	U
2	X	645	U
2	X	647	G
2	X	648	A
2	X	649	A
2	X	650	A
2	X	651	C
2	X	652	U
2	X	653	G
2	X	656	A
2	X	657	A
2	X	659	C
2	X	662	G
2	X	663	A
2	X	664	G
2	X	665	U
2	X	666	G
2	X	667	C
2	X	668	A
2	X	669	G
2	X	670	A
2	X	671	A
2	X	672	G
2	X	673	A
2	X	674	G
2	X	675	G
2	X	677	A
2	X	679	G
2	X	681	G
2	X	682	G
2	X	683	A
2	X	685	U
2	X	686	U
2	X	687	C
2	X	690	U
2	X	691	G
2	X	692	U
2	X	693	G

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Mol	Chain	Res	Type
2	X	694	U
2	X	695	A
2	X	696	G
2	X	699	G
2	X	701	G
2	X	702	A
2	X	704	A
2	X	705	U
2	X	706	G
2	X	708	G
2	X	709	C
2	X	710	A
2	X	711	G
2	X	712	A
2	X	714	A
2	X	715	U
2	X	716	A
2	X	717	U
2	X	719	G
2	X	720	A
2	X	721	G
2	X	722	G
2	X	723	A
2	X	725	C
2	X	726	A
2	X	727	C
2	X	728	C
2	X	729	A
2	X	730	G
2	X	731	U
2	X	732	G
2	X	733	G
2	X	734	C
2	X	736	A
2	X	737	A
2	X	738	G
2	X	739	G
2	X	740	C
2	X	741	G
2	X	743	C
2	X	744	U
2	X	746	U

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Mol	Chain	Res	Type
2	X	747	C
2	X	748	U
2	X	749	G
2	X	750	G
2	X	751	U
2	X	752	C
2	X	753	U
2	X	757	A
2	X	758	C
2	X	759	U
2	X	761	A
2	X	763	G
2	X	765	U
2	X	766	G
2	X	767	A
2	X	768	U
2	X	769	G
2	X	770	U
2	X	771	G
2	X	772	C
2	X	773	G
2	X	774	A
2	X	776	A
2	X	779	G
2	X	780	U
2	X	781	G
2	X	782	G
2	X	783	G
2	X	784	G
2	X	785	A
2	X	786	U
2	X	787	C
2	X	788	A
2	X	789	A
2	X	791	C
2	X	793	G
2	X	794	G
2	X	795	A
2	X	797	U
2	X	798	A
2	X	799	G
2	X	801	U

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Mol	Chain	Res	Type
2	X	802	A
2	X	803	C
2	X	804	C
2	X	809	U
2	X	810	A
2	X	811	G
2	X	812	U
2	X	815	A
2	X	816	C
2	X	817	G
2	X	818	C
2	X	820	G
2	X	821	U
2	X	822	A
2	X	823	A
2	X	824	A
2	X	825	C
2	X	826	G
2	X	827	A
2	X	828	U
2	X	829	G
2	X	830	A
2	X	831	G
2	X	832	U
2	X	833	G
2	X	835	U
2	X	836	A
2	X	838	G
2	X	840	G
2	X	841	U
2	X	842	U
2	X	843	A
2	X	845	G
2	X	846	G
2	X	848	G
2	X	856	C
2	X	857	C
2	X	858	C
2	X	860	U
2	X	861	U
2	X	863	G
2	X	864	U

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Mol	Chain	Res	Type
2	X	865	G
2	X	868	G
2	X	870	A
2	X	871	G
2	X	872	C
2	X	874	A
2	X	878	C
2	X	879	A
2	X	880	U
2	X	882	A
2	X	883	A
2	X	885	C
2	X	887	C
2	X	888	U
2	X	889	C
2	X	890	C
2	X	891	G
2	X	892	C
2	X	893	C
2	X	894	U
2	X	895	G
2	X	896	G
2	X	897	G
2	X	898	G
2	X	899	A
2	X	900	G
2	X	901	U
2	X	902	A
2	X	904	G
2	X	905	A
2	X	906	C
2	X	908	G
2	X	909	C
2	X	910	A
2	X	911	A
2	X	912	G
2	X	913	G
2	X	915	U
2	X	916	G
2	X	923	A
2	X	924	A
2	X	926	G

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Mol	Chain	Res	Type
2	X	927	G
2	X	928	A
2	X	929	A
2	X	932	G
2	X	933	A
2	X	934	C
2	X	935	G
2	X	936	G
2	X	937	G
2	X	940	C
2	X	943	G
2	X	944	C
2	X	945	A
2	X	946	C
2	X	948	A
2	X	949	G
2	X	951	G
2	X	953	U
2	X	954	G
2	X	955	G
2	X	956	A
2	X	958	C
2	X	959	A
2	X	960	U
2	X	961	G
2	X	962	U
2	X	963	G
2	X	964	G
2	X	965	U
2	X	966	U
2	X	967	U
2	X	968	A
2	X	970	U
2	X	971	U
2	X	972	C
2	X	974	A
2	X	975	A
2	X	977	C
2	X	978	A
2	X	979	A
2	X	981	G
2	X	982	C

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Mol	Chain	Res	Type
2	X	983	G
2	X	984	A
2	X	986	G
2	X	987	A
2	X	991	U
2	X	992	U
2	X	993	A
2	X	994	C
2	X	995	C
2	X	996	A
2	X	997	A
2	X	998	A
2	X	999	U
2	X	1000	C
2	X	1001	U
2	X	1002	U
2	X	1004	A
2	X	1005	C
2	X	1006	A
2	X	1008	C
2	X	1011	U
2	X	1013	G
2	X	1014	A
2	X	1015	C
2	X	1016	A
2	X	1017	A
2	X	1018	C
2	X	1019	U
2	X	1022	A
2	X	1023	G
2	X	1027	U
2	X	1029	G
2	X	1030	A
2	X	1032	C
2	X	1033	C
2	X	1034	U
2	X	1052	A
2	X	1054	U
2	X	1061	U
2	X	1062	G
2	X	1063	G
2	X	1064	U

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Mol	Chain	Res	Type
2	X	1065	G
2	X	1066	C
2	X	1067	A
2	X	1070	G
2	X	1071	U
2	X	1073	G
2	X	1075	C
2	X	1076	G
2	X	1077	U
2	X	1078	C
2	X	1079	A
2	X	1082	U
2	X	1083	C
2	X	1086	G
2	X	1087	U
2	X	1088	C
2	X	1089	G
2	X	1090	U
2	X	1091	G
2	X	1092	A
2	X	1093	G
2	X	1094	A
2	X	1095	U
2	X	1096	G
2	X	1098	U
2	X	1100	G
2	X	1101	G
2	X	1106	G
2	X	1107	U
2	X	1108	C
2	X	1109	C
2	X	1110	C
2	X	1111	G
2	X	1113	A
2	X	1114	A
2	X	1115	C
2	X	1118	G
2	X	1120	G
2	X	1121	C
2	X	1122	A
2	X	1127	U
2	X	1128	U

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Mol	Chain	Res	Type
2	X	1130	A
2	X	1131	G
2	X	1133	U
2	X	1134	U
2	X	1135	A
2	X	1136	G
2	X	1137	U
2	X	1138	U
2	X	1139	G
2	X	1141	C
2	X	1143	U
2	X	1144	C
2	X	1146	U
2	X	1147	U
2	X	1148	A
2	X	1149	A
2	X	1150	G
2	X	1151	U
2	X	1152	U
2	X	1153	G
2	X	1154	G
2	X	1155	G
2	X	1157	A
2	X	1158	C
2	X	1159	U
2	X	1160	C
2	X	1161	U
2	X	1163	A
2	X	1164	G
2	X	1165	U
2	X	1166	U
2	X	1167	G
2	X	1168	A
2	X	1169	C
2	X	1171	G
2	X	1172	C
2	X	1173	C
2	X	1174	G
2	X	1175	G
2	X	1176	U
2	X	1178	A
2	X	1180	A

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Mol	Chain	Res	Type
2	X	1181	A
2	X	1182	A
2	X	1185	G
2	X	1187	A
2	X	1188	G
2	X	1189	G
2	X	1190	A
2	X	1192	G
2	X	1193	G
2	X	1194	U
2	X	1195	G
2	X	1196	G
2	X	1197	G
2	X	1198	G
2	X	1200	U
2	X	1201	G
2	X	1202	A
2	X	1203	C
2	X	1204	G
2	X	1207	A
2	X	1208	A
2	X	1209	A
2	X	1211	C
2	X	1212	A
2	X	1213	U
2	X	1214	C
2	X	1216	U
2	X	1217	G
2	X	1218	C
2	X	1220	C
2	X	1221	C
2	X	1222	U
2	X	1223	U
2	X	1224	A
2	X	1226	G
2	X	1227	A
2	X	1228	U
2	X	1230	U
2	X	1231	G
2	X	1232	G
2	X	1234	C
2	X	1235	U

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Mol	Chain	Res	Type
2	X	1236	A
2	X	1237	C
2	X	1238	A
2	X	1239	C
2	X	1240	A
2	X	1241	C
2	X	1243	U
2	X	1244	G
2	X	1245	C
2	X	1246	U
2	X	1247	A
2	X	1249	A
2	X	1251	U
2	X	1252	G
2	X	1253	G
2	X	1256	A
2	X	1257	A
2	X	1258	U
2	X	1259	A
2	X	1261	A
2	X	1262	A
2	X	1267	C
2	X	1268	A
2	X	1269	G
2	X	1270	C
2	X	1271	G
2	X	1272	A
2	X	1273	A
2	X	1276	C
2	X	1277	G
2	X	1278	C
2	X	1279	G
2	X	1281	G
2	X	1282	G
2	X	1283	U
2	X	1284	C
2	X	1285	A
2	X	1287	G
2	X	1288	C
2	X	1291	A
2	X	1292	U
2	X	1294	C

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Mol	Chain	Res	Type
2	X	1296	A
2	X	1297	U
2	X	1298	A
2	X	1299	A
2	X	1302	U
2	X	1304	G
2	X	1309	C
2	X	1310	A
2	X	1311	G
2	X	1312	U
2	X	1313	U
2	X	1314	C
2	X	1315	G
2	X	1316	G
2	X	1318	U
2	X	1319	U
2	X	1322	A
2	X	1325	C
2	X	1326	U
2	X	1327	G
2	X	1328	C
2	X	1329	A
2	X	1330	A
2	X	1331	C
2	X	1332	U
2	X	1333	C
2	X	1334	G
2	X	1335	A
2	X	1339	C
2	X	1341	U
2	X	1342	G
2	X	1343	A
2	X	1344	A
2	X	1345	G
2	X	1346	C
2	X	1349	G
2	X	1351	A
2	X	1352	U
2	X	1356	U
2	X	1357	A
2	X	1358	G
2	X	1359	U

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Mol	Chain	Res	Type
2	X	1360	A
2	X	1361	A
2	X	1363	C
2	X	1369	U
2	X	1373	C
2	X	1374	A
2	X	1375	U
2	X	1376	G
2	X	1377	C
2	X	1379	A
2	X	1380	C
2	X	1382	G
2	X	1383	U
2	X	1384	G
2	X	1385	A
2	X	1386	A
2	X	1387	U
2	X	1388	A
2	X	1389	C
2	X	1390	G
2	X	1391	U
2	X	1392	U
2	X	1394	C
2	X	1397	G
2	X	1398	G
2	X	1399	U
2	X	1400	C
2	X	1401	U
2	X	1402	U
2	X	1403	G
2	X	1404	U
2	X	1406	C
2	X	1407	A
2	X	1408	C
2	X	1409	A
2	X	1410	C
2	X	1412	G
2	X	1413	C
2	X	1414	C
2	X	1416	G
2	X	1418	C
2	X	1419	A

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Mol	Chain	Res	Type
2	X	1420	C
2	X	1423	C
2	X	1427	A
2	X	1428	G
2	X	1429	A
2	X	1430	G
2	X	1431	U
2	X	1432	U
2	X	1435	U
2	X	1443	G
2	X	1444	A
2	X	1446	G
2	X	1447	C
2	X	1448	C
2	X	1449	G
2	X	1451	U
2	X	1452	G
2	X	1454	A
2	X	1455	G
2	X	1456	U
2	X	1457	A
2	X	1459	C
2	X	1460	C
2	X	1461	U
2	X	1462	U
2	X	1463	U
2	X	1465	A
2	X	1467	G
2	X	1468	A
2	X	1469	G
2	X	1471	U
2	X	1472	A
2	X	1473	G
2	X	1475	C
2	X	1476	G
2	X	1477	U
2	X	1479	G
2	X	1481	A
2	X	1484	U
2	X	1485	G
2	X	1487	G
2	X	1490	A

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Mol	Chain	Res	Type
2	X	1493	U
2	X	1496	U
2	X	1497	U
2	X	1498	G
2	X	1499	G
2	X	1500	G
2	X	1501	G
2	X	1504	A
2	X	1505	A
2	X	1507	U
2	X	1508	C
2	X	1510	U
2	X	1511	A
2	X	1512	A
2	X	1513	C
2	X	1514	A
2	X	1515	A
2	X	1516	G
2	X	1517	G
2	X	1518	U
2	X	1519	A
2	X	1522	C
2	X	1525	A
2	X	1526	U
2	X	1528	G
2	X	1529	G
2	X	1530	A
2	X	1531	A
2	X	1532	G
2	X	1534	U
2	X	1535	G
2	X	1537	G
2	X	1538	G
2	X	1540	U
2	X	1541	G
2	X	1542	G
3	3	8	A
3	3	10	U
3	3	11	A
3	3	13	A
3	3	17	A
3	3	19	G

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Mol	Chain	Res	Type
3	3	20	A
3	3	22	G
3	3	25	A
3	3	26	C
3	3	27	A
3	3	29	C
3	3	30	U
3	3	32	U
3	3	33	U
3	3	35	C
3	3	38	U
3	3	39	G
3	3	40	C
3	3	41	C
3	3	42	G
3	3	43	A
3	3	49	G
3	3	50	A
3	3	51	A
3	3	54	U
3	3	55	A
3	3	61	U
3	3	64	A
3	3	67	G
3	3	70	G
3	3	71	A
3	3	76	A
3	3	83	U
3	3	84	U
3	3	85	A
3	3	86	C
3	3	87	G
3	3	88	U
3	3	90	C
3	3	93	C
3	3	95	A
3	3	96	G
3	3	100	A
3	3	102	A
3	3	105	G
3	3	106	U

All (106) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	Y	104	C
1	Y	139	U
1	Y	145	A
1	Y	149	U
1	Y	157	U
1	Y	174	U
1	Y	175	C
1	Y	208	G
1	Y	324	A
1	Y	338	G
1	Y	388	A
1	Y	402	C
1	Y	410	G
1	Y	434	G
1	Y	548	A
1	Y	660	A
1	Y	690	U
1	Y	770	G
1	Y	846	G
1	Y	872	U
1	Y	1029	C
1	Y	1154	G
1	Y	1186	A
1	Y	1357	G
1	Y	1368	C
1	Y	1474	C
1	Y	1477	U
1	Y	1479	G
1	Y	1491	C
1	Y	1506	C
1	Y	1560	A
1	Y	1610	G
1	Y	1635	A
1	Y	1879	U
1	Y	1897	U
1	Y	1902	G
1	Y	1946	A
1	Y	2334	G
1	Y	2338	A
1	Y	2345	A
1	Y	2591	A
1	Y	2664	U
1	Y	2785	A

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Mol	Chain	Res	Type
1	Y	2830	A
1	Y	2905	C
1	Y	2910	G
1	Y	2911	A
1	Y	2912	A
2	X	21	U
2	X	61	A
2	X	63	U
2	X	99	U
2	X	114	G
2	X	246	G
2	X	249	G
2	X	251	A
2	X	277	U
2	X	334	G
2	X	353	C
2	X	384	G
2	X	396	G
2	X	419	A
2	X	436	G
2	X	514	G
2	X	522	C
2	X	589	G
2	X	606	U
2	X	616	A
2	X	635	G
2	X	682	G
2	X	695	A
2	X	730	G
2	X	756	A
2	X	764	C
2	X	796	U
2	X	823	A
2	X	826	G
2	X	828	U
2	X	884	G
2	X	895	G
2	X	927	G
2	X	935	G
2	X	970	U
2	X	1014	A
2	X	1016	A

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Mol	Chain	Res	Type
2	X	1105	A
2	X	1117	A
2	X	1134	U
2	X	1160	C
2	X	1202	A
2	X	1207	A
2	X	1222	U
2	X	1251	U
2	X	1268	A
2	X	1311	G
2	X	1378	U
2	X	1379	A
2	X	1384	G
2	X	1401	U
2	X	1431	U
2	X	1462	U
2	X	1496	U
2	X	1507	U
2	X	1511	A
3	3	26	C
3	3	40	C

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

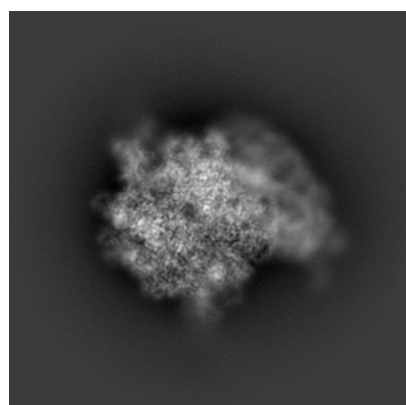
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-11903. These allow visual inspection of the internal detail of the map and identification of artifacts.

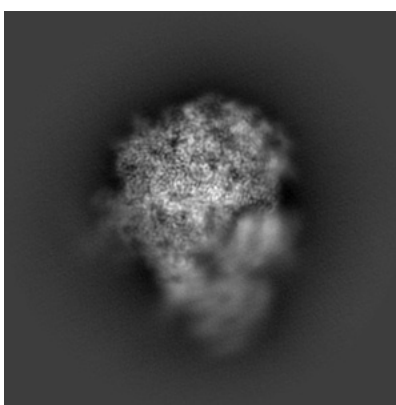
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

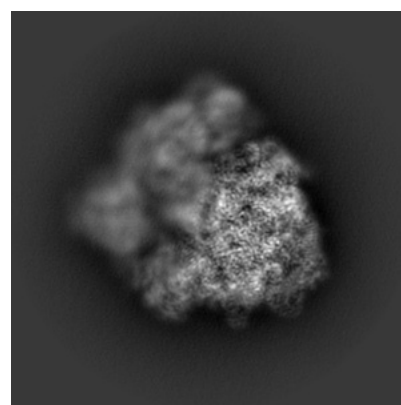
6.1.1 Primary map



X



Y

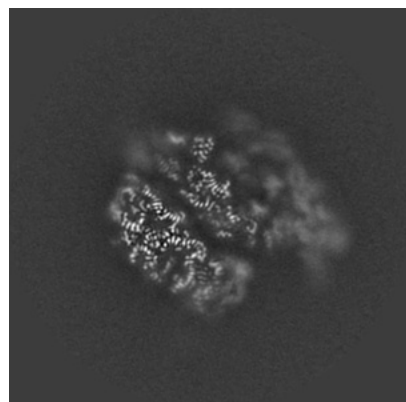


Z

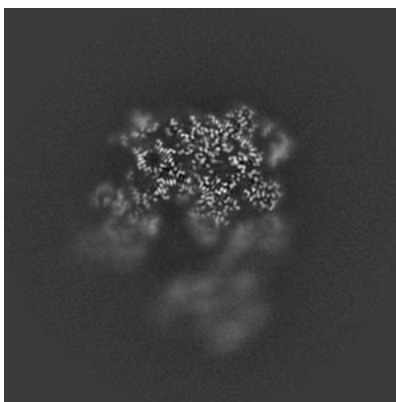
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

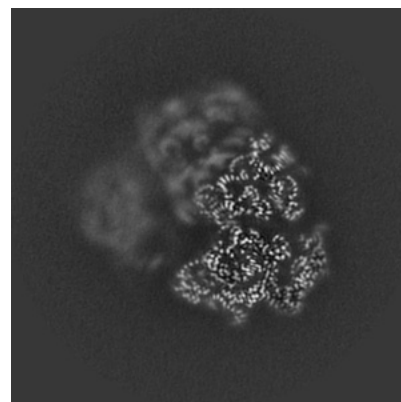
6.2.1 Primary map



X Index: 240



Y Index: 240

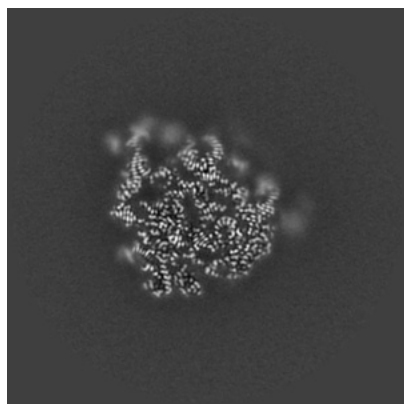


Z Index: 240

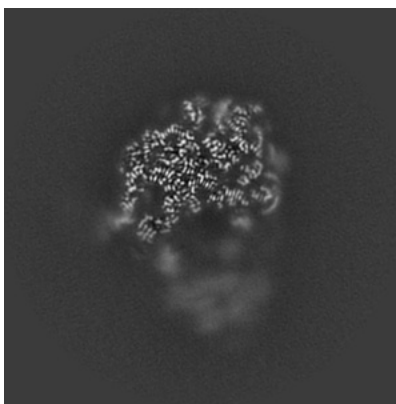
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

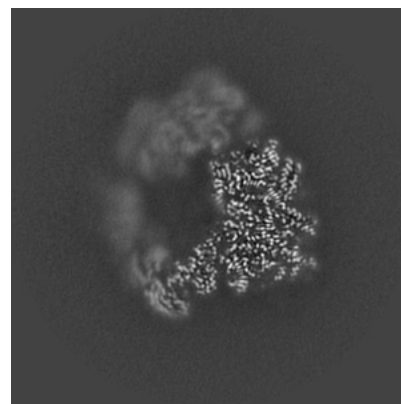
6.3.1 Primary map



X Index: 294



Y Index: 206



Z Index: 213

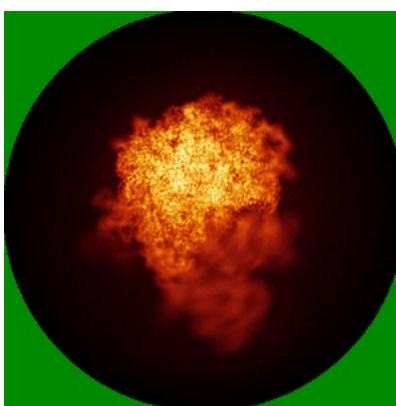
The images above show the largest variance slices of the map in three orthogonal directions.

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

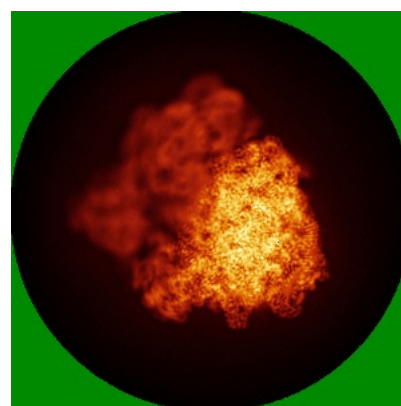
6.4.1 Primary map



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](#)

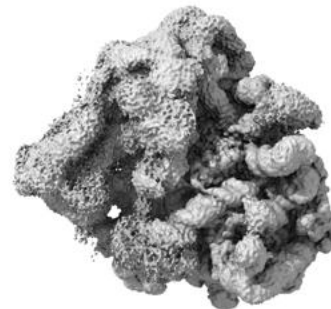
6.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0045. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

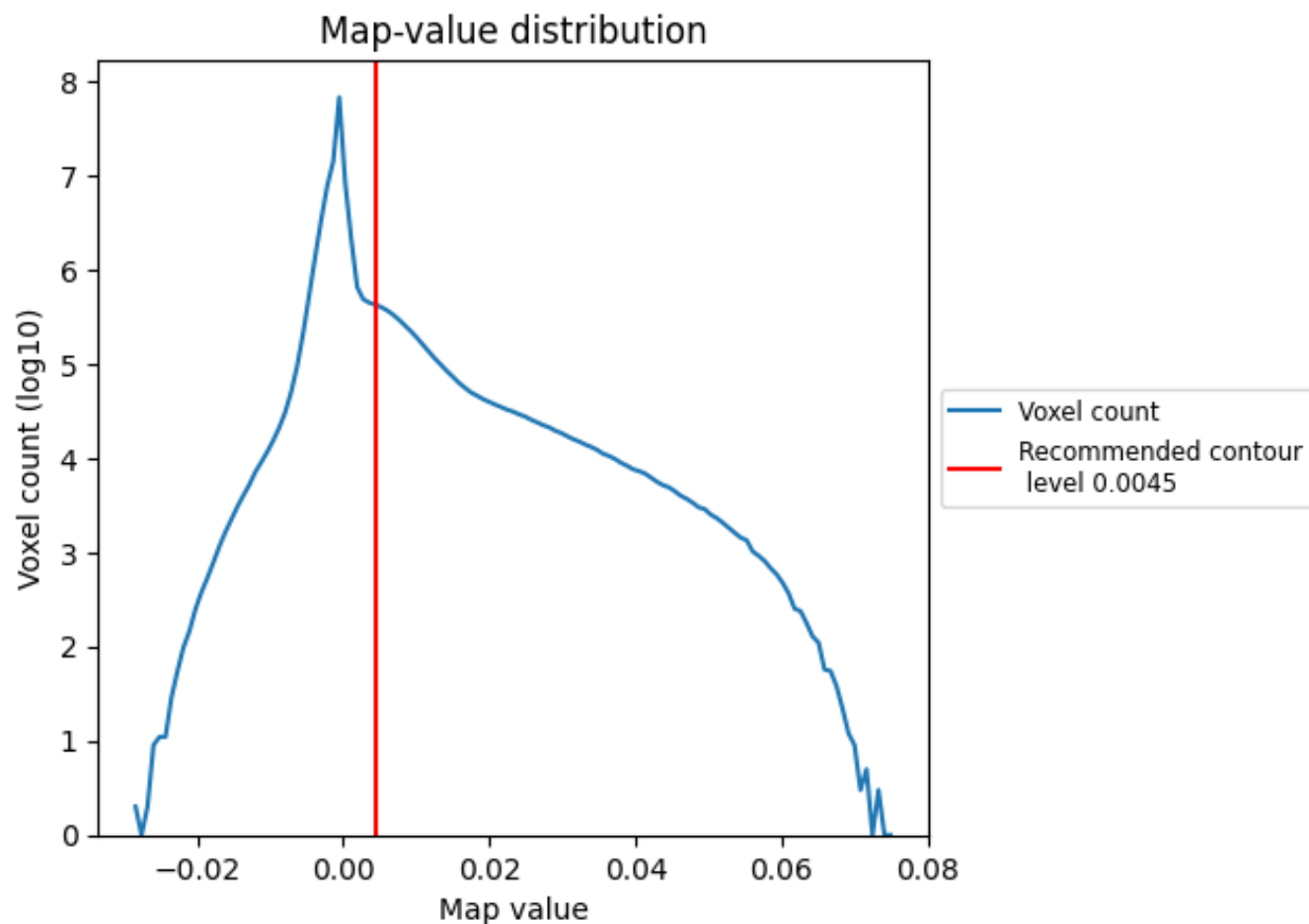
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

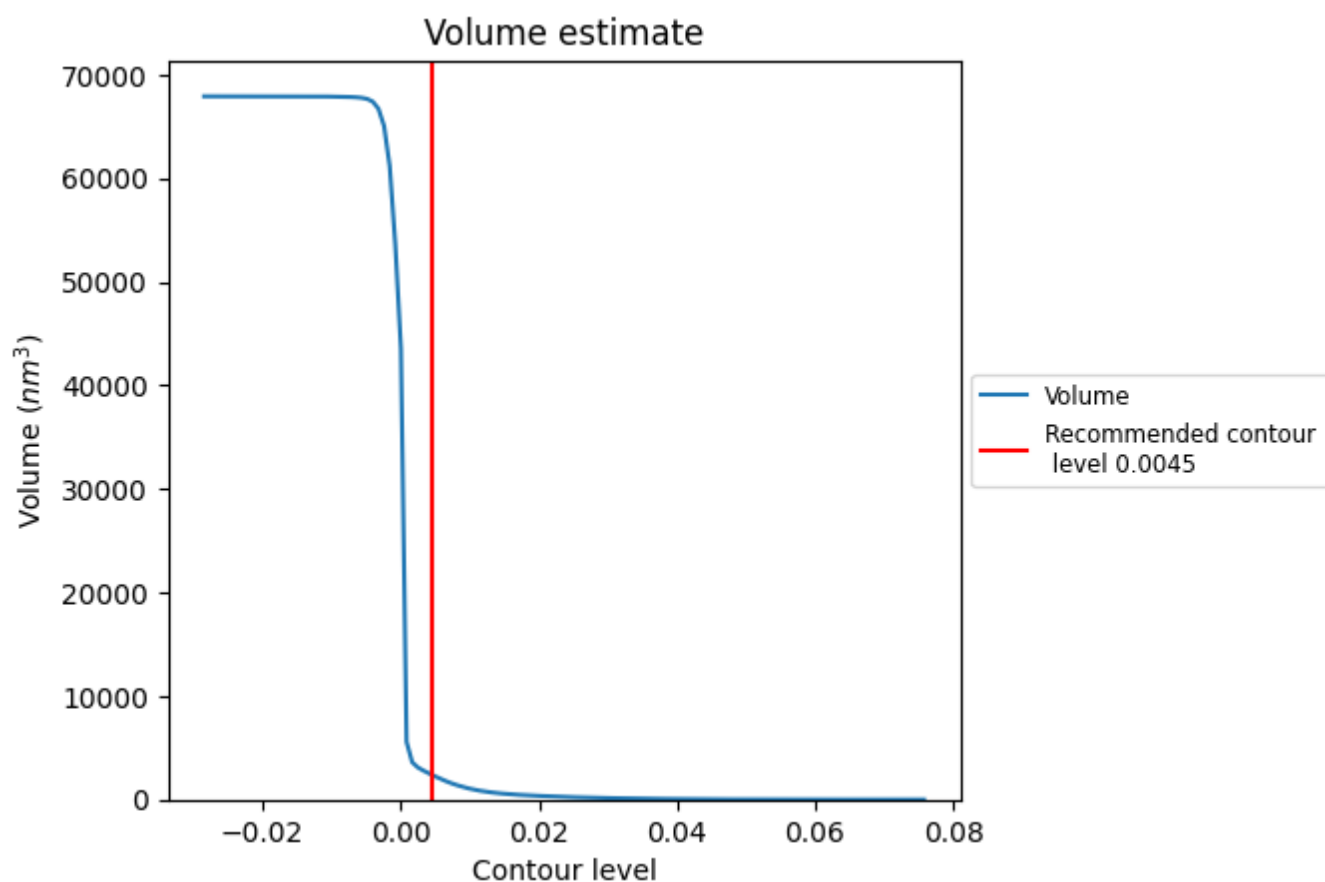
This section contains the results of statistical analysis of the map.

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.

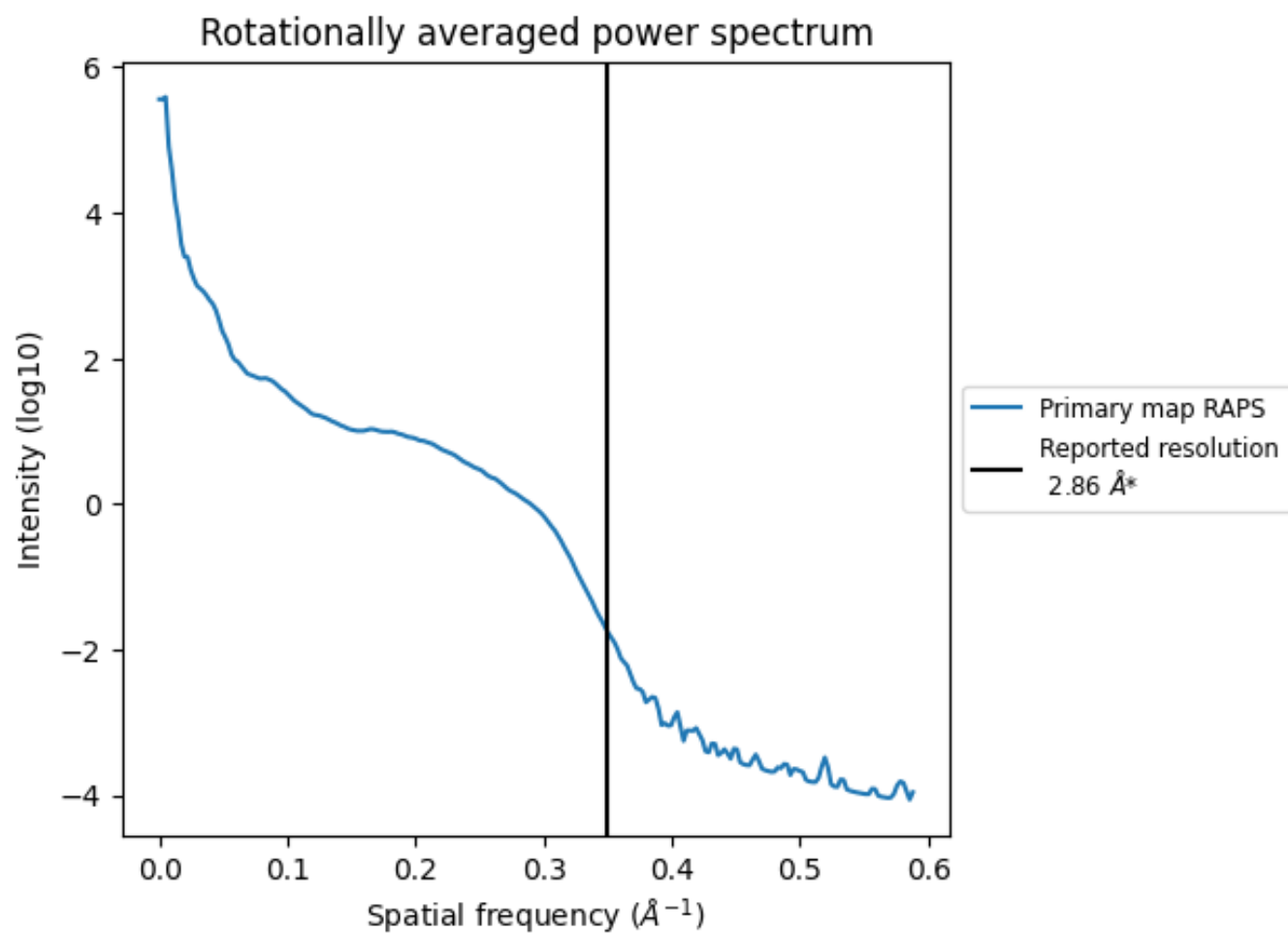
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2394 nm^3 ; this corresponds to an approximate mass of 2163 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 0.350 Å⁻¹

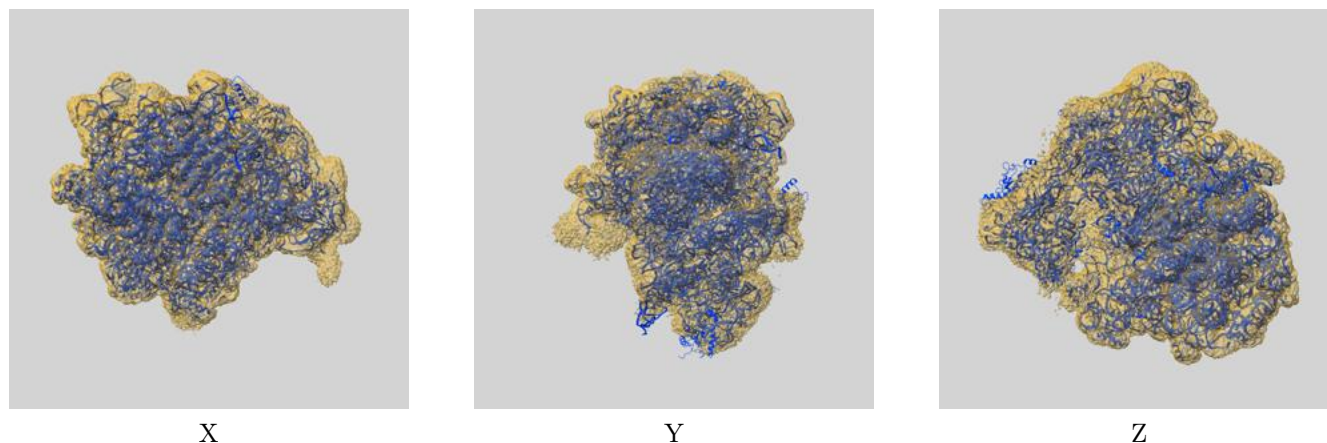
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

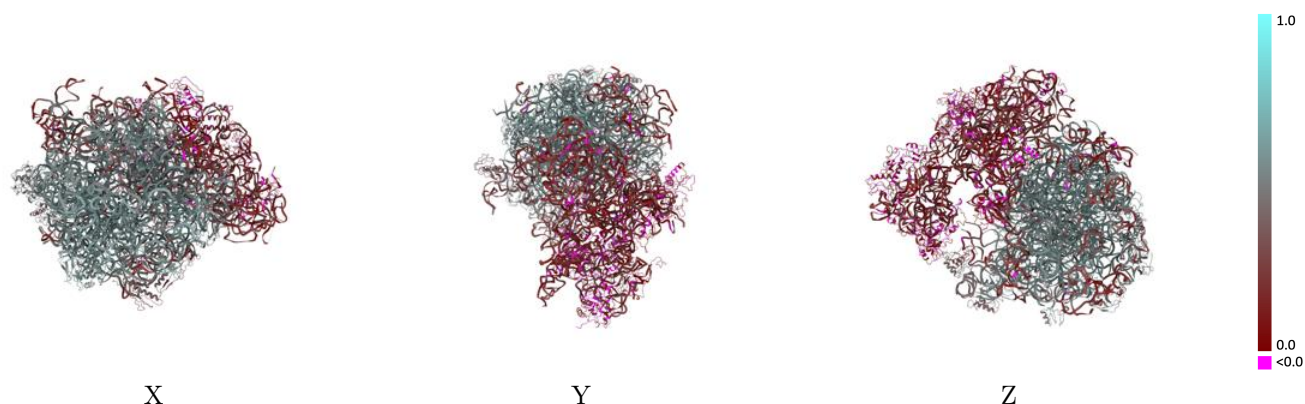
This section contains information regarding the fit between EMDB map EMD-11903 and PDB model 7ASP. Per-residue inclusion information can be found in [section 3](#) on [page 12](#).

9.1 Map-model overlay [i](#)



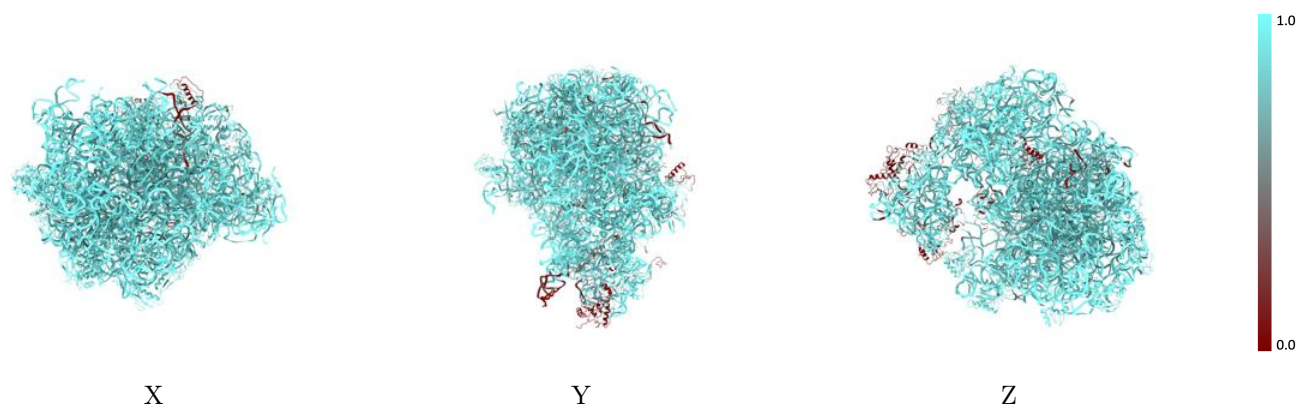
The images above show the 3D surface view of the map at the recommended contour level 0.0045 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



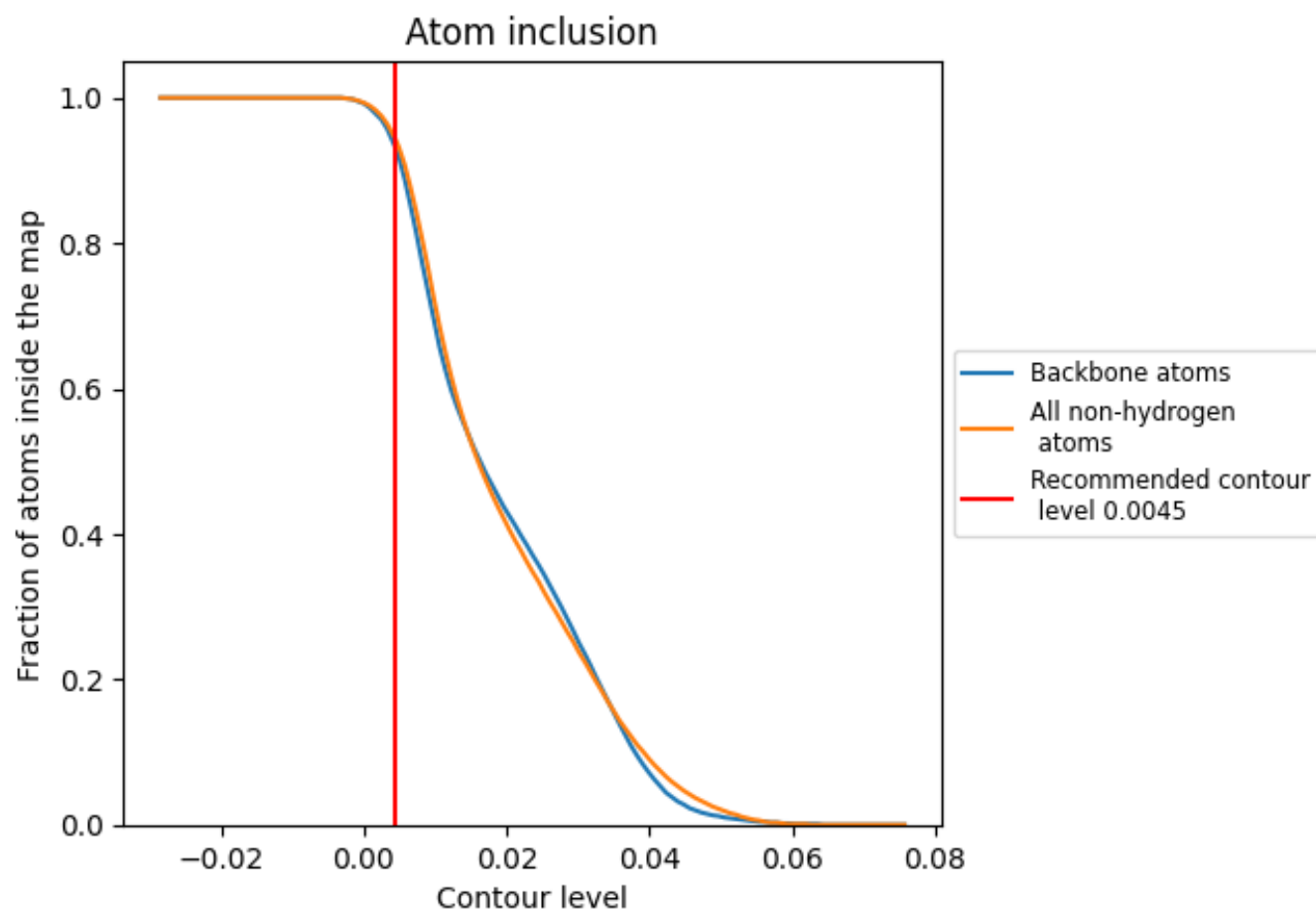
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.0045).

9.4 Atom inclusion [i](#)



At the recommended contour level, 93% of all backbone atoms, 94% 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 (0.0045) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9420	 0.3760
1	 0.9820	 0.5540
2	 0.9760	 0.5590
3	 0.9980	 0.4340
4	 0.9340	 0.5020
A	 0.8800	 0.4910
B	 0.9830	 0.5810
C	 0.9670	 0.5420
D	 0.9770	 0.5480
E	 0.9810	 0.5310
F	 0.9910	 0.3300
G	 0.9660	 0.2980
H	 0.9810	 0.5560
I	 0.9740	 0.5610
J	 0.9880	 0.5380
K	 0.9800	 0.5410
L	 0.9810	 0.5530
M	 0.9920	 0.4440
N	 0.9620	 0.5490
O	 0.9860	 0.5680
P	 0.9880	 0.5600
Q	 0.9710	 0.5490
R	 0.9830	 0.5250
S	 0.9800	 0.4750
T	 0.9450	 0.4880
U	 0.9670	 0.5580
V	 0.9780	 0.5240
W	 0.9890	 0.4400
X	 0.9560	 0.1800
Y	 0.9810	 0.4900
Z	 0.9850	 0.5060
a	 0.6290	 0.0890
b	 0.6160	 0.0970
c	 0.5690	 0.1800
d	 0.5130	 0.0780



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Chain	Atom inclusion	Q-score
e	 0.4830	 0.0600
f	 0.9010	 0.1860
g	 0.8350	 0.0730
h	 0.9060	 0.1110
i	 0.8730	 0.1350
j	 0.9780	 0.1810
k	 0.4020	 0.0840
l	 0.7630	 0.0860
m	 0.7940	 0.0820
n	 0.4670	 0.0870
o	 0.8880	 0.1140
p	 0.7240	 0.0840
q	 0.7210	 0.1080