



# Full wwPDB X-ray Structure Validation Report ⓘ

Jun 14, 2020 – 08:27 pm BST

PDB ID : 2ZJP  
Title : Thiopeptide antibiotic Nosiheptide bound to the large ribosomal subunit of *Deinococcus radiodurans*  
Authors : Harms, J.M.; Wilson, D.N.; Schlutzen, F.; Connell, S.R.; Stachelhaus, T.; Zaborowska, Z.; Spahn, C.M.T.; Fucini, P.  
Deposited on : 2008-03-07  
Resolution : 3.70 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467  
Mogul : 1.8.5 (274361), CSD as541be (2020)  
Xtriage (Phenix) : 1.13  
EDS : 2.11  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Refmac : 5.8.0158  
CCP4 : 7.0.044 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.11

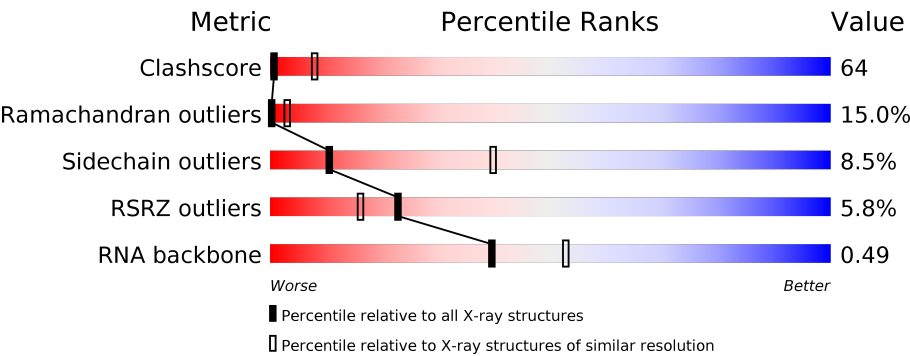
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.70 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.



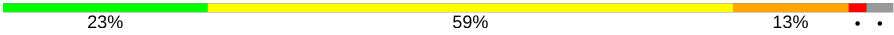

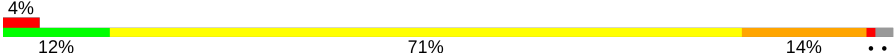
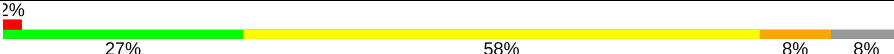
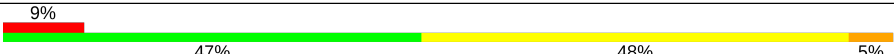
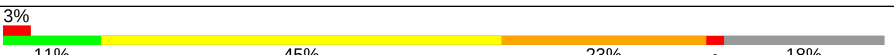
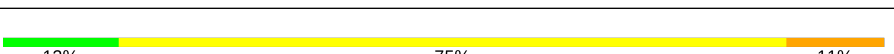
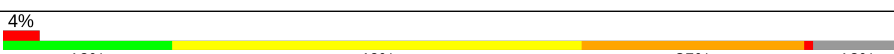
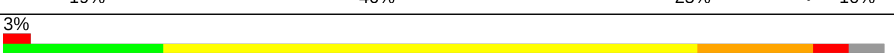
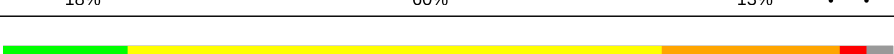
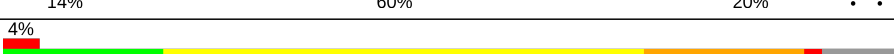


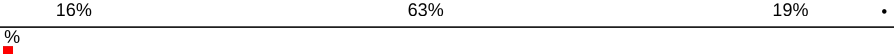
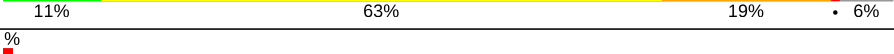
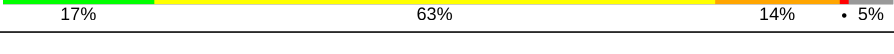



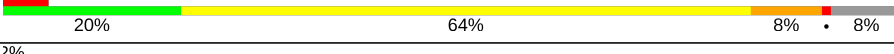

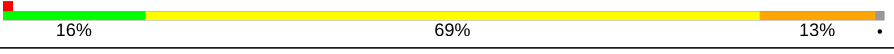
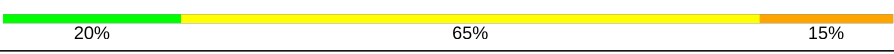

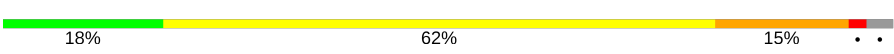
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	1027 (3.86-3.54)
Ramachandran outliers	138981	1069 (3.88-3.52)
Sidechain outliers	138945	1065 (3.88-3.52)
RSRZ outliers	127900	1578 (3.90-3.50)
RNA backbone	3102	1027 (4.40-3.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 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 electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	1	55	<div><div>71%</div><div><div></div><div></div><div></div><div></div><div></div></div><div>95% . .</div></div>
2	2	47	<div><div>89%</div><div><div></div><div></div><div></div><div></div><div></div></div><div>96% . .</div></div>
3	3	66	<div><div>86%</div><div><div></div><div></div><div></div><div></div><div></div></div><div>92% . 5%</div></div>
4	4	37	<div><div>8%</div><div><div></div><div></div><div></div><div></div><div></div></div><div>30% 65% 5%</div></div>
5	5	13	<div><div>69%</div><div><div></div><div></div><div></div><div></div><div></div></div><div>23% 8%</div></div>
6	A	274	<div><div>5%</div><div><div></div><div></div><div></div><div></div><div></div></div><div>25% 52% 11% 12%</div></div>

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Mol	Chain	Length	Quality of chain
7	B	211	
8	C	205	
9	D	180	
10	E	185	
11	F	144	
12	G	174	
13	H	134	
14	I	156	
15	J	142	
16	K	116	
17	L	114	
18	M	166	
19	N	118	
20	O	100	
21	P	134	
22	Q	95	
23	R	115	
24	S	237	
25	T	91	
26	U	81	
27	V	67	
28	W	55	
29	X	2880	
30	Y	60	
31	Z	123	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
34	MG	X	2883	-	-	-	X
34	MG	X	2889	-	-	-	X
34	MG	X	2891	-	-	-	X
34	MG	X	2903	-	-	-	X
34	MG	X	2908	-	-	-	X
34	MG	Z	127	-	-	-	X
5	MH6	5	10	-	X	-	-
5	DHA	5	12	-	X	-	-
5	DBU	5	4	-	X	-	-
5	BB9	5	7	-	-	-	X

## 2 Entry composition

There are 34 unique types of molecules in this entry. The entry contains 84444 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 50S RIBOSOMAL PROTEIN L33.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
1	1	53	Total C 53 53	0	0	53

- Molecule 2 is a protein called 50S RIBOSOMAL PROTEIN L34.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
2	2	46	Total C 46 46	0	0	46

- Molecule 3 is a protein called 50S RIBOSOMAL PROTEIN L35.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
3	3	63	Total C 63 63	0	0	63

- Molecule 4 is a protein called 50S RIBOSOMAL PROTEIN L36.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
4	4	37	Total C N O S 297 179 66 47 5	0	0	0

- Molecule 5 is a protein called NOSIHEPTIDE.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
5	5	13	Total C N O S 69 40 12 11 6	0	0	1

- Molecule 6 is a protein called 50S RIBOSOMAL PROTEIN L2.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
6	A	240	Total C N O S 1826 1137 366 321 2	0	0	0

- Molecule 7 is a protein called 50S RIBOSOMAL PROTEIN L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	B	205	Total	C	N	O	S	0	0	0
			1539	965	295	271	8			

- Molecule 8 is a protein called 50S RIBOSOMAL PROTEIN L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	C	197	Total	C	N	O	S	0	0	0
			1506	935	287	282	2			

- Molecule 9 is a protein called 50S RIBOSOMAL PROTEIN L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	D	177	Total	C	N	O	S	0	0	0
			1400	892	247	254	7			

- Molecule 10 is a protein called 50S RIBOSOMAL PROTEIN L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	E	171	Total	C	N	O	S	0	0	0
			1286	812	237	236	1			

- Molecule 11 is a protein called 50S RIBOSOMAL PROTEIN L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	F	144	Total	C	N	O	S	0	0	0
			1044	663	179	197	5			

- Molecule 12 is a protein called 50S RIBOSOMAL PROTEIN L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	G	142	Total	C	N	O	S	0	0	0
			1114	704	209	198	3			

- Molecule 13 is a protein called 50S RIBOSOMAL PROTEIN L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	H	134	Total	C	N	O	S	0	0	0
			997	614	198	180	5			

- Molecule 14 is a protein called 50S RIBOSOMAL PROTEIN L15.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
14	I	141	Total	C	N	O	0	0	0
			1067	655	216	196			

- Molecule 15 is a protein called 50S RIBOSOMAL PROTEIN L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	J	136	Total	C	N	O	S	0	0	0
			1090	696	202	185	7			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
J	1	MET	-	INITIATING METHIONINE	UNP Q9RXJ5

- Molecule 16 is a protein called 50S RIBOSOMAL PROTEIN L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	K	113	Total	C	N	O	S	0	0	0
			878	541	178	157	2			

- Molecule 17 is a protein called 50S RIBOSOMAL PROTEIN L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
17	L	104	Total	C	N	O	0	0	0
			779	476	161	142			

- Molecule 18 is a protein called 50S RIBOSOMAL PROTEIN L19.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	M	108	Total	C	N	O	0	0	0
			871	543	172	156			

- Molecule 19 is a protein called 50S RIBOSOMAL PROTEIN L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	N	117	Total	C	N	O	S	0	0	0
			978	608	210	159	1			

- Molecule 20 is a protein called 50S RIBOSOMAL PROTEIN L21.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
20	O	94	Total	C	N	O	0	0	0
			741	465	139	137			

- Molecule 21 is a protein called 50S RIBOSOMAL PROTEIN L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	P	127	Total	C	N	O	S	0	0	0
			1014	639	199	174	2			

- Molecule 22 is a protein called 50S RIBOSOMAL PROTEIN L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	Q	93	Total	C	N	O	S	0	0	0
			726	458	136	130	2			

- Molecule 23 is a protein called 50S RIBOSOMAL PROTEIN L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	R	110	Total	C	N	O	S	0	0	0
			825	513	160	151	1			

- Molecule 24 is a protein called 50S RIBOSOMAL PROTEIN L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	S	175	Total	C	N	O	S	0	0	0
			1345	849	236	254	6			

- Molecule 25 is a protein called 50S RIBOSOMAL PROTEIN L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	T	84	Total	C	N	O	S	0	0	0
			625	393	122	109	1			

- Molecule 26 is a protein called 50S RIBOSOMAL PROTEIN L28.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
26	U	72	Total	C	N	O	0	0	0
			552	341	116	95			

- Molecule 27 is a protein called 50S RIBOSOMAL PROTEIN L29.



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	V	66	Total	C	N	O	S	0	0	0
			533	327	107	96	3			

- Molecule 28 is a protein called 50S RIBOSOMAL PROTEIN L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	W	55	Total	C	N	O	S	0	0	0
			424	264	82	76	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	X	2686	Total	C	N	O	P	0	0	0
			57651	25718	10642	18606	2685			

- Molecule 30 is a protein called 50S RIBOSOMAL PROTEIN L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	Y	58	Total	C	N	O	S	0	0	0
			457	281	94	77	5			

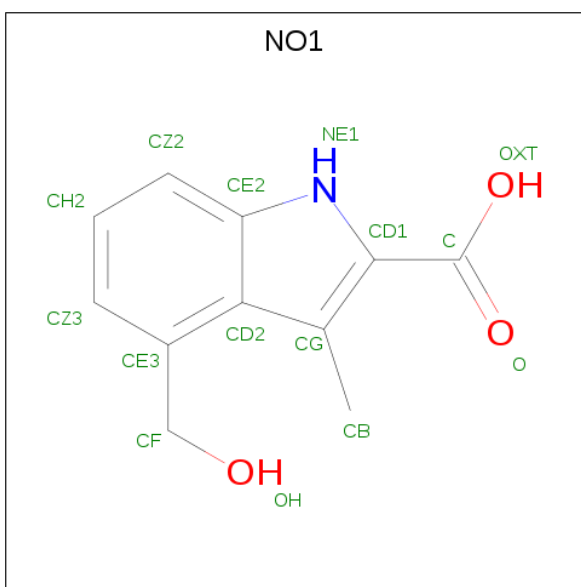
- Molecule 31 is a RNA chain called RIBOSOMAL 5S RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	Z	122	Total	C	N	O	P	0	0	0
			2598	1161	476	840	121			

- Molecule 32 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
32	Y	1	Total	Zn	0	0
			1	1		
32	4	1	Total	Zn	0	0
			1	1		

- Molecule 33 is 4-(hydroxymethyl)-3-methyl-1H-indole-2-carboxylic acid (three-letter code: NO1) (formula: C<sub>11</sub>H<sub>11</sub>NO<sub>3</sub>).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
33	5	1	Total	C	N	O	0	0
			13	11	1	1		

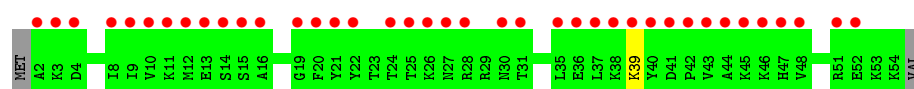
- Molecule 34 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	X	28	Total	Mg	0	0
			28	28		
34	Z	6	Total	Mg	0	0
			6	6		
34	M	1	Total	Mg	0	0
			1	1		

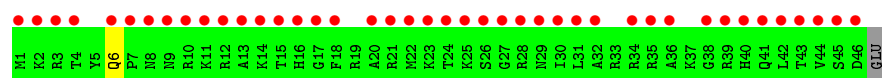
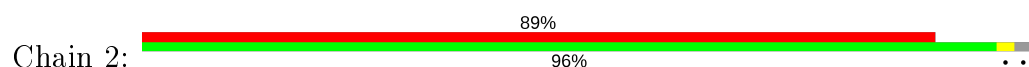
### 3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA and DNA 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 electron 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 dot above a residue indicates a poor fit to the electron density ( $RSRZ > 2$ ). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

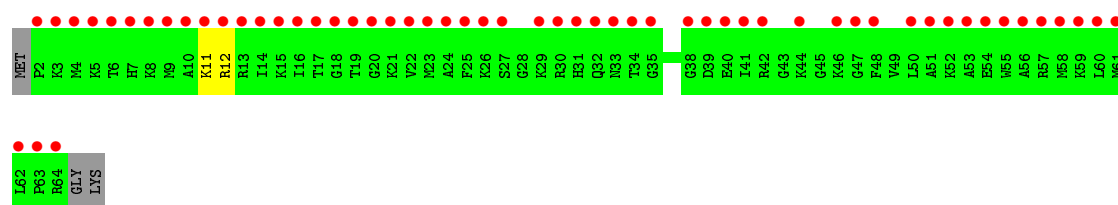
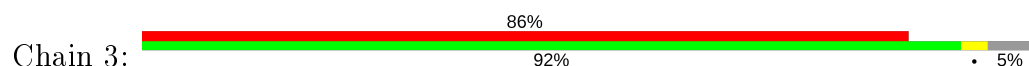
- Molecule 1: 50S RIBOSOMAL PROTEIN L33



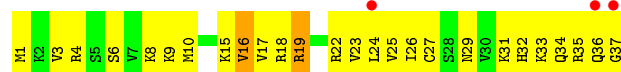
- Molecule 2: 50S RIBOSOMAL PROTEIN L34



- Molecule 3: 50S RIBOSOMAL PROTEIN L35



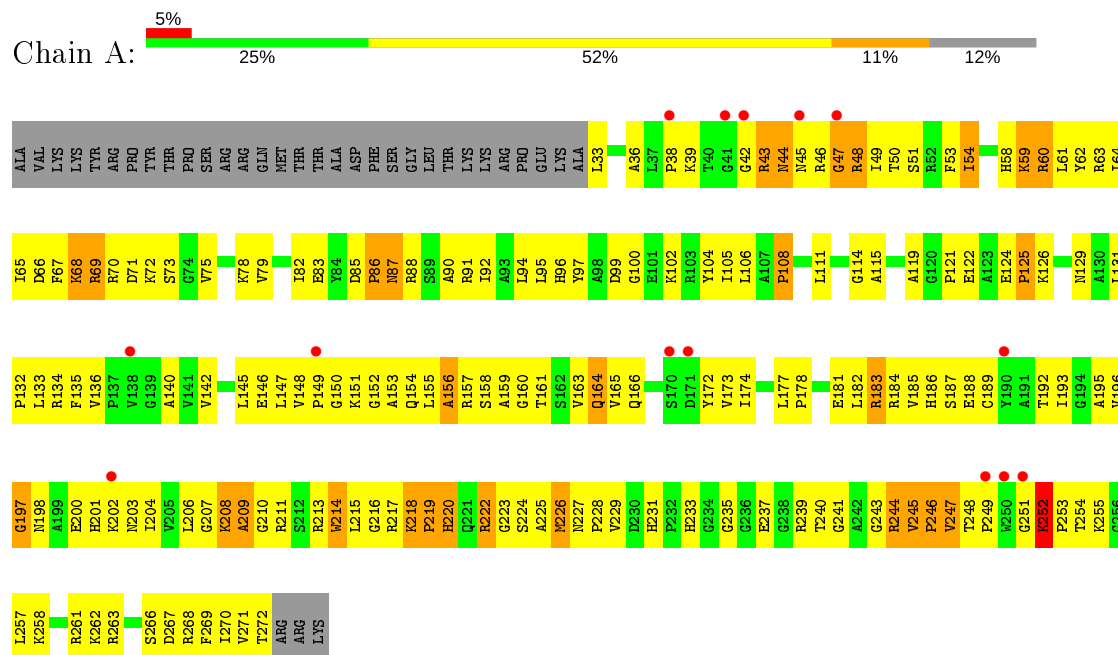
- Molecule 4: 50S RIBOSOMAL PROTEIN L36



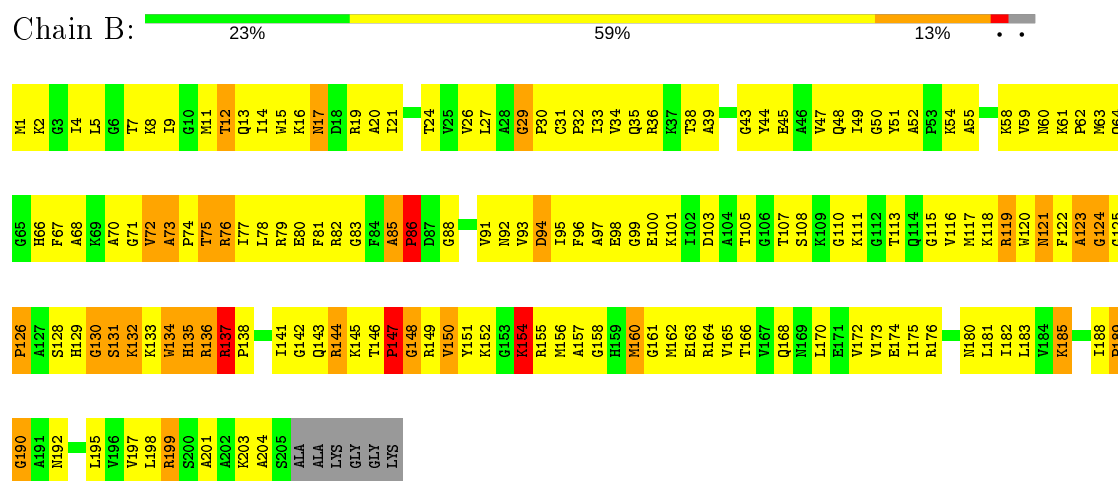
- Molecule 5: NOSIHEPTIDE



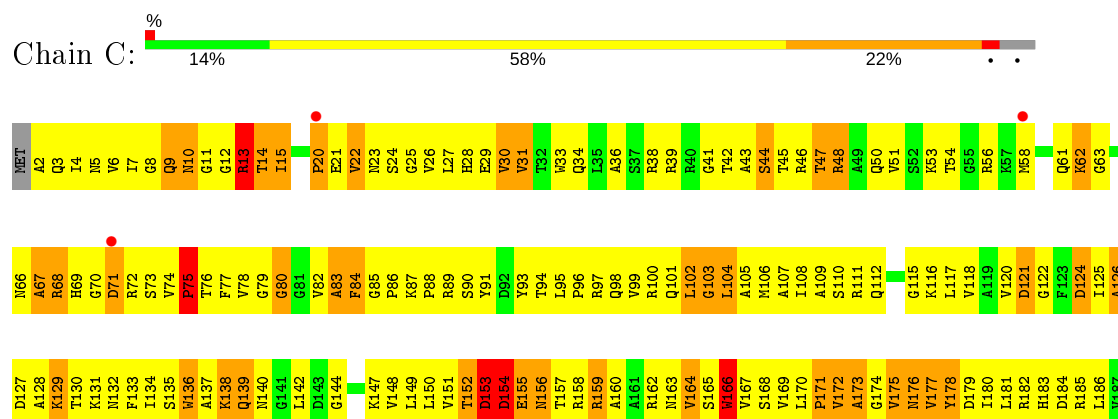
- Molecule 6: 50S RIBOSOMAL PROTEIN L2



- Molecule 7: 50S RIBOSOMAL PROTEIN L3



- Molecule 8: 50S RIBOSOMAL PROTEIN L4



L188  
D189  
A190  
A191  
A192  
L193  
L194  
L195  
V196  
E197  
E198  
GLU  
ALA  
GLY  
GLU  
GLN

• Molecule 9: 50S RIBOSOMAL PROTEIN L5

Chain D: 4% 12% 71% 14% ..

MET GLN L4 Q3 K5 T6 K7 Y8 N9 D10 Q11 E197 E198 V196 L193 L194 L195 A191 A190 A189 L188

Q63 R64 P65 I66 I67 T68 K69 A70 K71 K72 S73 I74 S75 I76 F77 K78 L79 M17 M18 Q18 Q19 F20 G21 Y22 S23 M26 A27 V28 P29 P30 L31 I32 K33 K34 N36 V36 V37 N37 E38 G39 L40 G41 S42 S43 K44 E45 D46 S47 K48 A49 I50 I51 I52 R112 D113 F114 A115 G116 I117 N118 P119 M120 F122

D123 G124 R125 I126 N127 Y128 M129 L130 G131 I132 I133 E134 E135 L136 I137 F138 P139 E140 I141 T142 Y143 D144 M145 V146 D147 K148 T149 R150 P151 M152 D153 I154 T155 I156 V157 T158 T159 A160 D163 E164 E165 A166 R167 A168 L169 L170 Q171 S172 M173 G174 F175 P176 F177 G178 K179 GLN

• Molecule 10: 50S RIBOSOMAL PROTEIN L6

Chain E: 2% 27% 58% 8% 8%

MET SER ARG ILE G5 K6 Q7 P8 I9 A10 V11 P12 S13 G14 V15 T16 V17 M18 A19 Q20 D21 D22 V23 F24 K25 V26 K27 G28 P29 K30 G31 E32 L33 T34 V35 N38 T39 E40 L41 T42 V43 R44 Q45 D46 G47 L48 Q49 L50 L51 V52 E53 P55 P56 D57 A58 Q59 K60 H61

R62 A63 L64 H65 G66 L67 T68 R69 T70 L71 W72 A73 H74 A75 V76 G77 G78 V79 T84 R85 R86 L87 E88 L89 R95 A96 R97 L98 T99 G100 A102 T103 E104 M105 Y109 S110 H111 P112 V113 I114 I115 A119 G120 V121 T122 F123 A124 V125 P126 E127 P128 T129 I130 I131 D132

V133 S134 G135 I136 D137 A138 Q139 L140 V141 Q142 Q143 V144 A145 A146 M147 R148 R149 A150 V151 R152 K153 P154 Y157 K160 G161 V162 R163 F164 V165 G166 Q168 A169 L170 L171 K172 A173 K175 GLY ALA ALA THR GLY LYS LYS LYS

• Molecule 11: 50S RIBOSOMAL PROTEIN L11

Chain F: 9% 47% 48% 5%

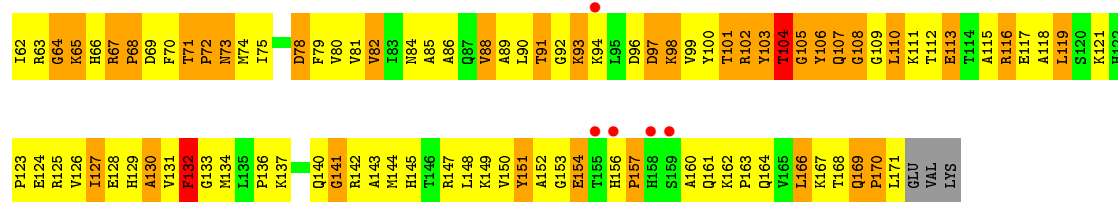
M1 R2 K3 V4 G5 G6 I7 V8 R9 L10 Q11 Q12 P13 P16 A17 T18 P19 A20 P21 P22 V23 A26 L27 Y30 G31 A40 P41 N42 A43 Q44 T45 G49 D50 A51 I52 I53 P54 V55 P56 I57 T58 I59 V60 A61 D62 R63 T66 V67 T68 T69 P72 P73 M74

S75 R79 I84 ASP K86 G87 S88 PRQ PRQ PRQ PRQ ARG N91 N92 N93 V96 G97 K98 L99 N100 W101 D102 Q103 V104 I107 A108 K111 M112 P113 L115 D114 N116 A117 G118 S119 V120 E121 A122 A123 A124 N125 T126 V127 A128 G129 T130 A131 R132 G135 V136 T137 T138 T139 E139 G140 A144

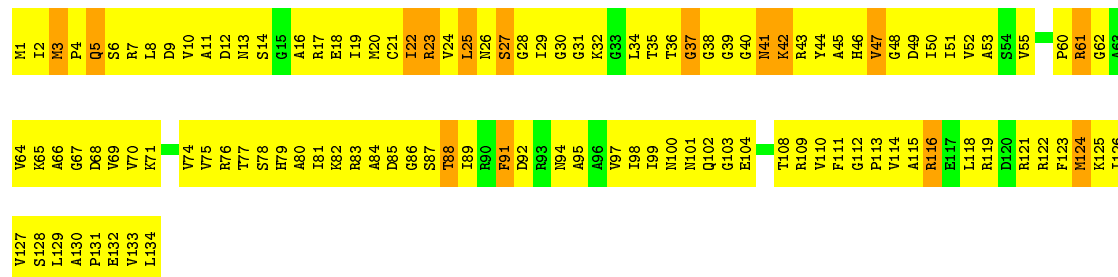
• Molecule 12: 50S RIBOSOMAL PROTEIN L13

Chain G: 3% 11% 45% 23% 18%

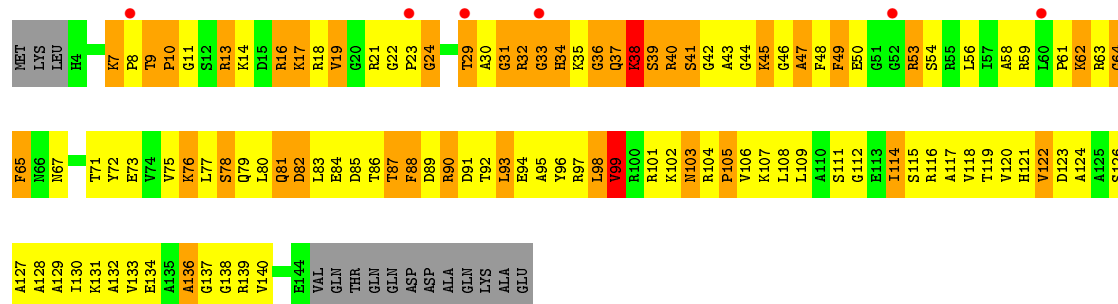
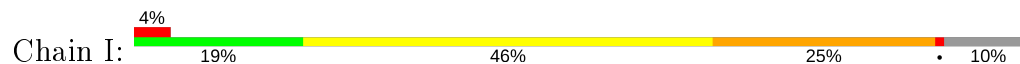
MET ALA PHE PRQ ASP THR ASP VAL SER SER PRQ PRQ PRQ ARG GLY GLY PRQ SER SER PRQ ALA LYS LYS P34 K35 N36 D37 E38 Q39 N40 N41 V42 V43 V44 D45 A46 V49 P50 L51 G52 L54 A55 A56 T56 L57 T58 A59 S60 R61



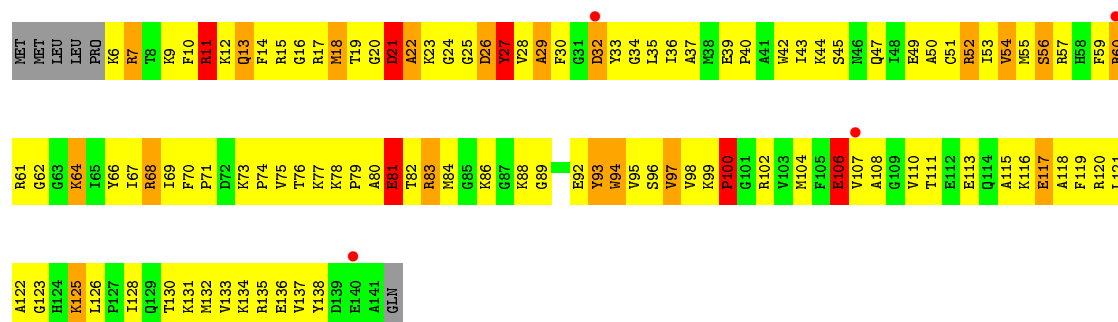
• Molecule 13: 50S RIBOSOMAL PROTEIN L14



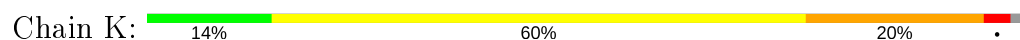
• Molecule 14: 50S RIBOSOMAL PROTEIN L15

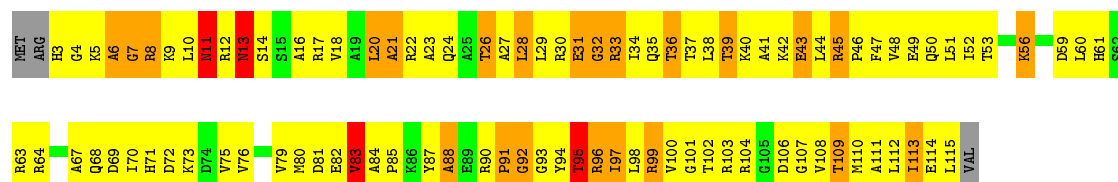


• Molecule 15: 50S RIBOSOMAL PROTEIN L16

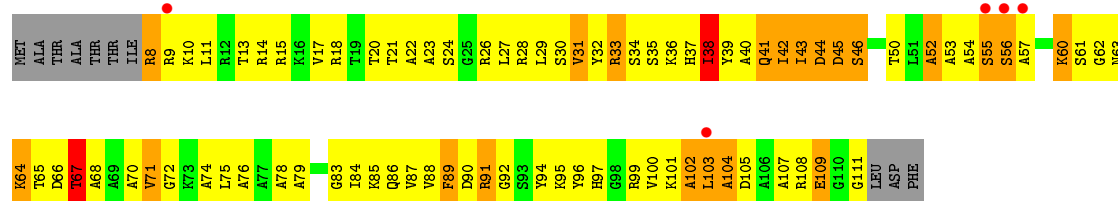
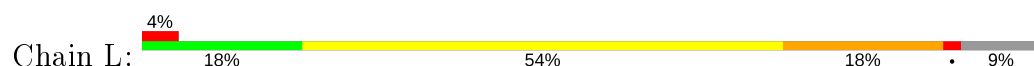


• Molecule 16: 50S RIBOSOMAL PROTEIN L17

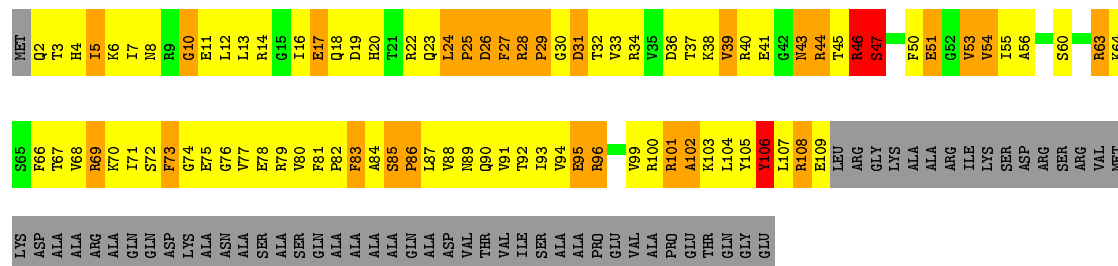
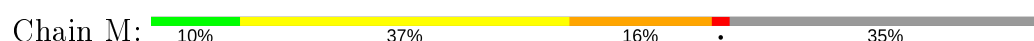




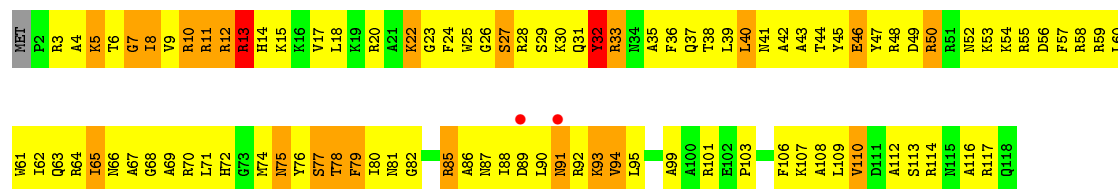
• Molecule 17: 50S RIBOSOMAL PROTEIN L18



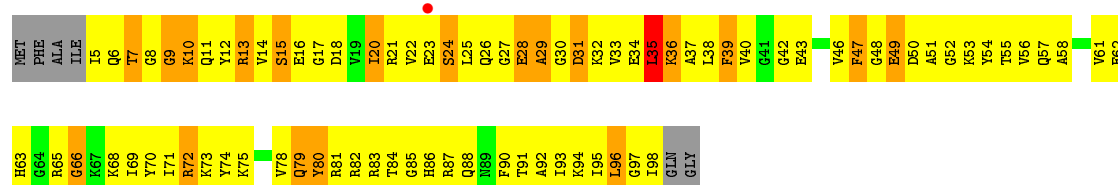
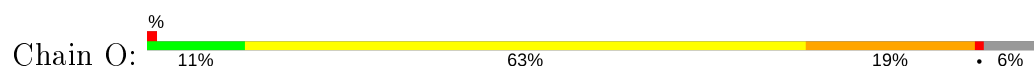
• Molecule 18: 50S RIBOSOMAL PROTEIN L19



• Molecule 19: 50S RIBOSOMAL PROTEIN L20

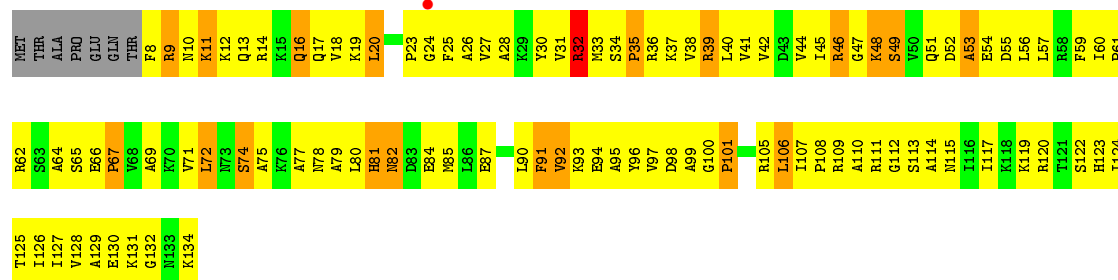


• Molecule 20: 50S RIBOSOMAL PROTEIN L21

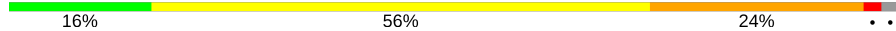


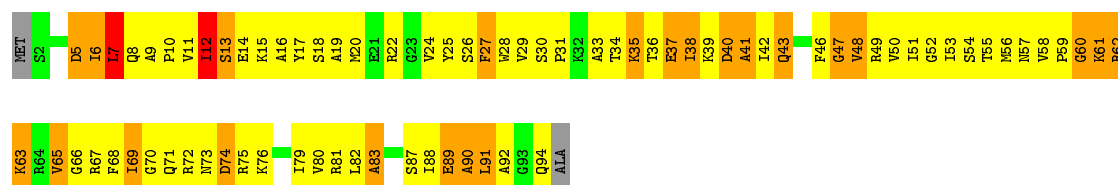
• Molecule 21: 50S RIBOSOMAL PROTEIN L22

Chain P: 




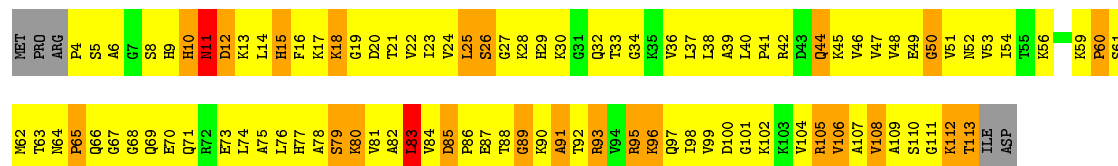
• Molecule 22: 50S RIBOSOMAL PROTEIN L23

Chain Q: 




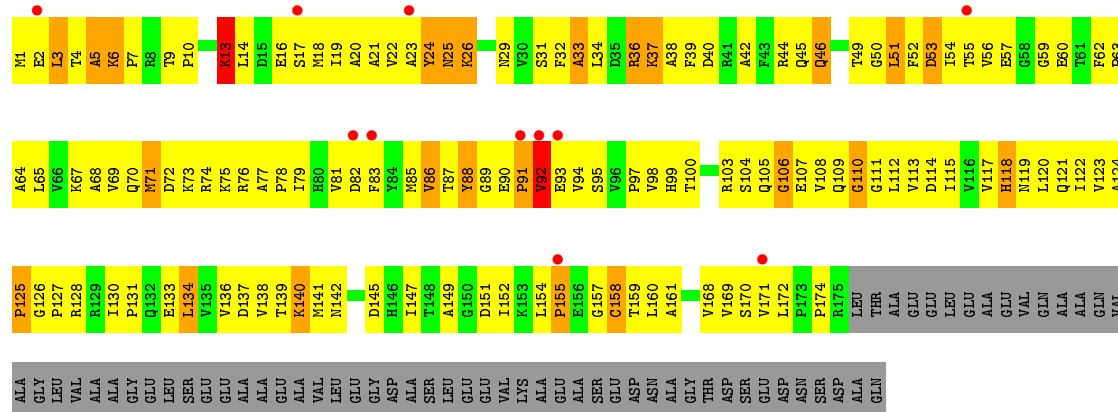
• Molecule 23: 50S RIBOSOMAL PROTEIN L24

Chain R: 



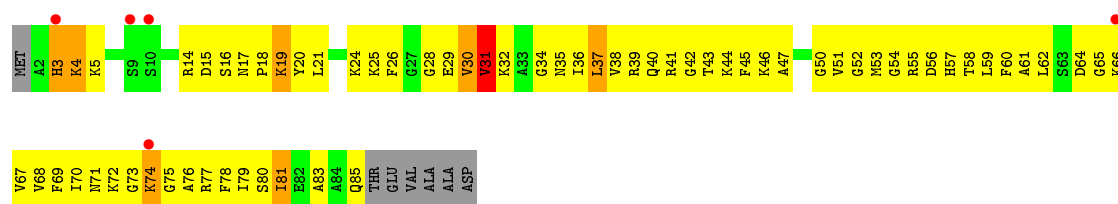
• Molecule 24: 50S RIBOSOMAL PROTEIN L25

Chain S: 

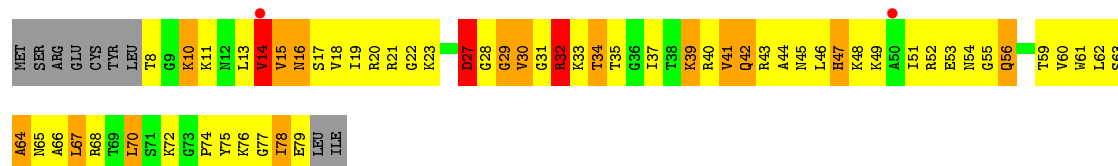
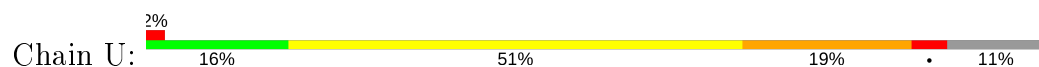


• Molecule 25: 50S RIBOSOMAL PROTEIN L27

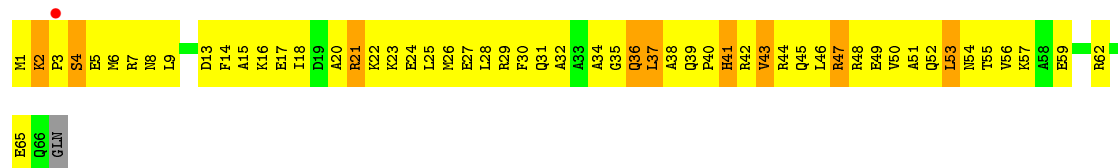




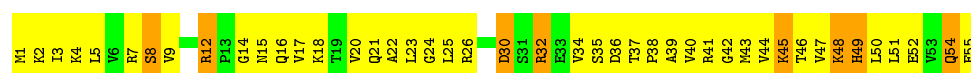
• Molecule 26: 50S RIBOSOMAL PROTEIN L28



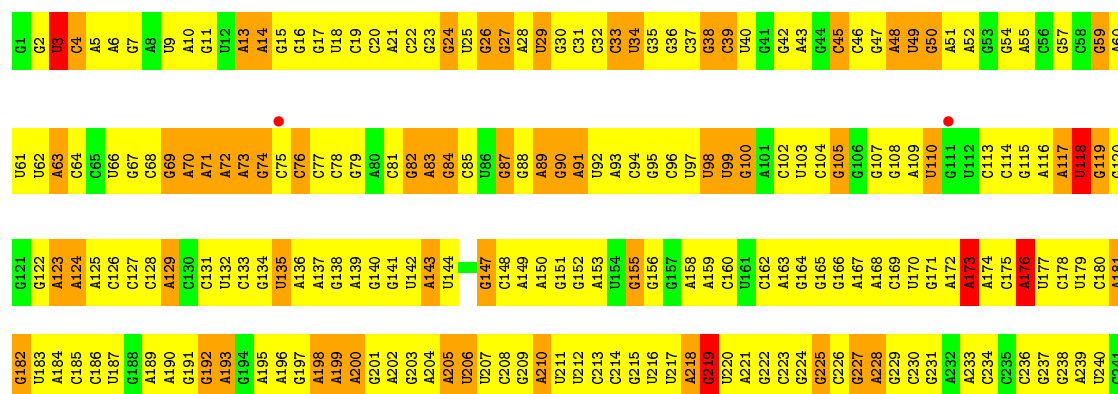
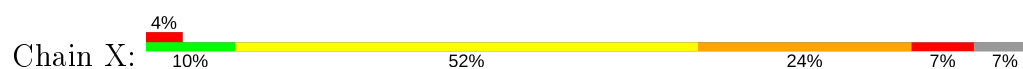
• Molecule 27: 50S RIBOSOMAL PROTEIN L29



• Molecule 28: 50S RIBOSOMAL PROTEIN L30



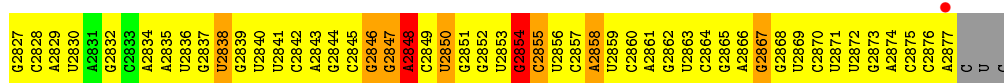
• Molecule 29: RIBOSOMAL 23S RNA



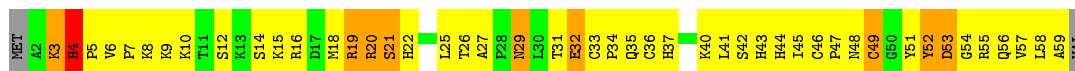
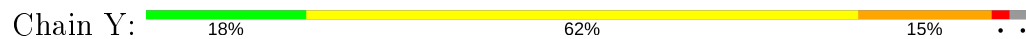
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U1036	C975	U915	U853	U792	A731	G608	G548	G487	C426	U	A304	C244
U1037	C976	U916	G854	U793	G732	U609	G549	A488	C427	U	A305	C245
U1038	G977	U917	U857	A794	G733	G610	A489	A489	C428	G	C306	C246
A1039	U978	A918	U857	G734	G734	G611	A551	A490	A429	A	C307	A247
A1040	A979	U919	G858	G735	G735	G612	C552	A491	C430	C	C308	A248
G1041	G980	A920	U859	G736	G736	A613	C553	A492	G431	U	G309	A
G1042	C981	A921	U860	G737	G737	G614	U554	A493	C432	G	A310	C
A1043	C982	A922	G861	G738	G738	G615	U555	A494	G433	U	A311	C
U1044	G983	A923	A862	G739	G739	U616	A556	C495	G434	A	G312	G
G1045	A984	C924	C863	A801	A740	U617	U557	C496	C434	C	U313	A
U1046	G985	U925	C864	A802	G741	U618	G558	C497	G435	U	G314	A
G1047	A986	C926	A865	A803	G742	A619	C559	C498	G436	G	G315	A
U1048	G987	C927	U866	C804	A743	G620	G560	G499	U440	G	U316	A
C1049	G988	G928	G867	G805	C744	G621	U561	G500	U441	G	C317	C
U1050	G989	A929	U868	C806	C745	G623	G562	C	A441	A	G318	C
U1051	A990	A930	C869	A807	G746	A624	U563	G501	A442	C	G319	U
C1052	A991	C931	C870	C908	A747	A625	U564	A502	A443	C	A320	U
A992	G992	C932	U871	C909	A748	A626	A565	G503	U444	U	A321	G
G1053	C993	G933	G872	C910	A749	A627	U566	G504	U445	C	A322	C
C1054	A994	A934	U873	G811	C750	G628	G567	A507	C446	G	G323	G
U1055	A995	C935	A874	A900	G751	C629	G568	G508	U447	G	C324	U
U1056	C996	G936	G875	A813	G752	G630	C569	U509	C448	U	G325	G
A1057	C997	A937	G876	G814	U753	G631	G570	G510	C449	C	U326	U
G1058	C997	C937	G876	G815	G754	A632	U571	A511	C450	C	G327	C
A1059	C998	G938	G877	A815	G755	G633	G572	A512	C451	G	A328	G
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G1060	G1000	G940	A817	G695	U757	G635	C574	G514	U453	G	G330	G
A1061	A1001	U941	G941	G818	G758	G636	U575	A515	U454	G	U331	G
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C1064	C1003	U943	A883	U820	G759	G638	U577	A517	C456	U	A333	U
A1065	A1004	A944	C884	A821	U760	A638	U578	A518	C457	U	G334	G
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U1071	U1010	G950	U890	C827	A766	A644	C583	A523	U400	A	G340	C
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G1073	A1012	A952	G	C829	U768	C646	U585	A525	A402	C	G342	A
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C1075	G1014	U954	G	G831	G770	A648	A587	C527	A404	G	G344	U
U1076	U1015	G955	G	A832	G771	G649	G588	G528	C405	U	U345	U
U1077	C1016	A956	G	A833	G772	U650	C589	U529	G406	U	C346	U
A1078	C1017	G957	C	A834	A773	C651	C590	G530	A407	U	U347	U
G1079	U1018	G958	C	U835	U774	G652	G591	A531	U470	U	C347	U
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A1081	A1020	U960	A	U837	A777	A654	C593	C533	A410	A	U350	A
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C1083	C962	C962	C	U839	U779	U656	A595	U535	G474	G	G352	A
A1084	U1023	G963	A	U840	U780	A657	C596	A536	U475	A	G353	U
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C1086	G1024	A965	C	A942	U782	C659	U598	A538	A477	U	G355	C
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U1092	A971	C	C	G949	G787	A665	U604	U544	A483	C	C422	C
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G	U1843	C1779	G1716	A1654	U1527	G1527	A1464	U1403	C1340	U1280	G1220	U1159	A1095
C	G1844	A1780	A1717	U1655	U1528	C1528	G1465	C1404	G1341	A1281	G1221	C1160	A1096
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	G1886	U1637	A1637	G1508	G1573		G1508	U1447	C1385	G1323	G1263	G1201	A1139
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	A1888	C1701	U1639	A1575	C1575		A1575	A1448	G1387	U1325	G1265	A1203	U1141
	G1889	C1702	G1640	A1576	G1576		A1576	C1449	C1388	U1326	G1266	G1204	G1142
	U1890	G1703	C1641	A1577	C1577		A1577	G1450	C1389	C1327	A1267	G1205	A1143
	G1891	U1704	U1641	U1578	U1578		U1578	C1451	G1390	C1328	U1268	U1144	U1144
	U1892	U1705	U1642	U1579	U1579		U1579	U1452	A1391	U1329	G1269	G1210	G1146
	A1893	G1706	G1644	C1580	C1580		C1580	A1453	U1392	U1330	C1270	C1210	G1147
	G1894	A1707	U1645	U1581	U1581		U1581	U1454	G1393	G1331	C1271	G1211	U1148
	U1895	C1708	G1646	A1582	U1582		A1582	C1455	G1394	G1332	C1272	U1212	G1149
	A1896	U1709	U1647	A1583	C1517		C1517	C1456	A1395	G1333	G1273	U1213	G1150
	G1897	U1710	C1648	G1584	U1584		U1584	U1457	A1396	G1334	C1274	C1214	C1151
	U1898	C1711	A1649	A1585	C1522		C1522	U1459	G1398	A1335	A1275	A1215	U1151
	A1899	G1712	A1650	A1586	A1523		A1523	G1460	C1399	G1336	U1276	G1216	A1152
	G1899	G1713	A1651	A1587	C1524		C1524	C1461	A1400	G1337	G1277	U1217	A1153
	U1900	A1714	G1652	A1588	A1525		A1525	C1462	G1401	G1338	A1278	C1218	A1154

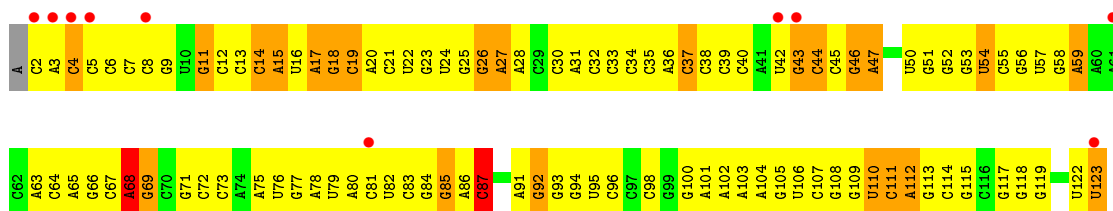
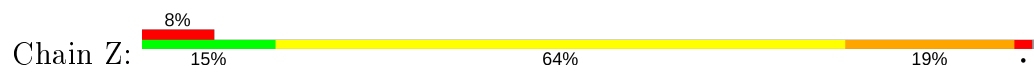
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C2765	U2704	A2644	G2522	G2461	G2400	C2338	A2272	U2211	G	C2089	C2028	G1969
U2766	A2705	G2645	G2523	G2462	A2401	A2339	C2273	U2212	U	U2090	G2029	G1970
C2767	U2706	C2646	G2524	G2463	U2402	C2340	C2274	G2213	G	C	U2030	C1971
C2768	G2707	G2647	U2525	G2464	C2403	U2341	U2275	G2214	A	U	A2031	G1972
C2769	U2708	G2648	U2526	G2465	A2404	U2342	C2276	C2215	A	U	G2032	G1973
A2770	C2709	A2649	G2527	G2466	A2405	C2343	A2277	G2216	A	C	C2033	C1974
C2771	G2710	G2650	C2528	G2468	C2406	G2344	A2278	G2217	U	U	A2034	U1975
U2775	G2711	U2651	G2529	G2469	G2407	A2345	A2279	G2218	A	U	G2035	G1976
U2776	A2712	G2652	C2530	U2470	G2408	C2346	A2280	U2219	C	A	A2036	U1977
A2777	A2653	A2653	U2531	U2471	A2409	G2347	C2281	A2220	C	A	A2037	C1977
U2778	A2714	A2654	G2532	U2472	U2410	G2348	G2282	G2221	A	G	G2038	U1978
C2779	A2593	C2655	U2533	G2473	A2411	G2349	G2283	U2222	A	A	G2039	C1979
U2780	G2716	G2656	U2534	G2474	A2412	G2351	U2284	U2223	C	U	A2040	A1980
A2781	G2717	C2657	C2535	A2475	A2413	A2352	U2285	U2224	C	A	A2041	C1981
U2782	A2718	A2658	G2536	A2476	A2414	G2353	G2286	G2225	U	G	A2042	C1982
G2783	U2719	C2659	C2537	C2477	G2415	G2354	G2287	A2226	G	A	G2043	G1983
U2784	C2720	C2660	U2538	C2478	A2418	A2355	A2288	U2228	U	U	G2044	A1984
A2785	A2721	G2661	C2539	U2479	C2419	A2356	A2289	G2229	G	G	A2045	G1985
U2786	C2722	C2662	A2540	C2480	G2420	A2357	A2290	G2230	A2169	G	C2046	G1986
A2787	G2723	U2663	U2541	G2481	C2421	C2358	U2291	G2231	C2170	G	G2047	G1987
C2788	G2724	G2664	U2542	U2482	C2422	U2359	C2292	G2232	C2171	A	C2048	A1988
U2789	U2725	G2665	A2543	U2483	G2423	C2360	G2293	G2233	U2171	G	C2049	C1989
C2790	G2726	U2666	G2544	G2484	G2424	G2361	U2294	G2234	U2172	C	U2051	U1990
U2791	G2727	C2667	A2545	U2485	G2425	G2362	U2295	G2235	G2173	C	G2052	C1991
C2792	A2728	U2668	G2546	C2486	G2426	C2363	U2296	G2236	G2174	U	G2053	G1992
U2793	C2729	C2669	C2547	G2487	G2427	C2364	A2299	U2237	A2175	G	A2054	G1993
G2794	A2730	C2670	U2548	U2488	A2428	U2365	G2300	G2238	C2176	C	G2055	U1994
U2795	G2731	G2671	G2549	C2489	U2429	A2366	A2301	G2239	U2177	G	C2056	G1995
A2796	U2672	A2672	C2550	U2490	A2430	U2367	G2302	C2239	U2178	A	C2057	A1996
U2797	G2673	C2673	A2551	C2491	G2431	U2368	U2306	U2241	C2179	A	U2057	A1997
C2798	C2674	U2674	C2552	G2492	G2432	U2369	A2307	U2242	U2180	A	A2058	A1998
A2799	U2675	C2675	G2553	U2493	A2432	G2370	C2307	G2243	A2181	C	U2059	U1999
C2799	C2676	U2676	C2554	G2494	G2433	A2371	A2308	A2245	C2184	U	A2060	U2000
G2800	U2677	G2677	G2555	G2495	G2434	A2372	G2309	A2246	U2185	G	G2061	G2001
A2801	C2739	G2678	U2556	C2496	C2435	C2373	G2310	A2247	U2186	G	U2062	A2002
C2802	G2740	G2679	G2557	A2497	U2436	C2374	U2311	A2248	G2187	C	A2063	A2003
G2803	U2680	C2680	C2558	U2498	G2437	G2375	A2312	U2249	A2187	C	U2064	U2004
U2804	A2681	C2681	U2559	C2499	A2438	G2376	G2313	G2250	A2188	U	A2065	U2005
G2805	G2682	C2682	G2560	G2500	U2439	G2377	A2314	U2251	A2189	U	G2066	G2006
U2806	C2683	C2683	U2561	U2501	C2440	U2379	A2315	A2252	A2190	U	U2067	G2007
C2807	A2744	A2684	G2562	G2502	U2441	U2380	G2316	A2253	A2191	U	C2068	C2008
U2808	G2746	G2685	U2563	G2503	C2442	A2381	G2320	G2254	U2192	G	U2069	U2009
A2809	C2747	U2686	C2564	G2504	C2443	C2382	C2321	G2255	C2193	G	G2070	G2010
C2810	U2687	G2687	U2566	G2505	C2444	C2383	U2322	G2256	A2194	G	U2071	U2011
U2811	A2749	G2688	A2566	C2506	C2445	G2384	U2323	A2257	C2195	G	C2072	A2012
A2812	G2750	C2689	G2567	U2507	G2446	U2385	G2324	G2258	U2196	U	A2073	A2013
G2813	C2751	A2690	C2630	G2508	G2447	G2386	A2325	G2259	U2197	C	U2074	A2014
U2814	C2752	C2691	A2568	A2509	A2448	U2387	G2326	C2260	C2198	G	U2075	G2015
C2815	U2753	U2692	C2570	A2510	G2449	G2388	U2327	G2261	G2200	U	G2076	A2016
A2817	C2754	U2693	G2571	G2511	A2450	G2389	U2328	G2262	G2201	G	A2079	G2018
U2818	A2755	G2694	U2572	A2512	C2451	A2390	C2329	C2263	G2202	G	U2080	C2019
C2819	G2756	C2695	C2573	U2513	U2452	A2391	G2330	C2264	G2203	A	U2081	G2020
U2820	U2757	A2696	G2574	G2514	C2453	G2392	A2331	A2265	A2204	G	G2082	G2021
G2821	G2758	G2697	U2575	G2515	C2454	G2393	A2332	A2266	C2205	C	G2083	C2022
U2822	U2759	G2698	U2576	U2516	A2455	C2394	A2333	A2267	C2206	C	G2084	C2023
G2823	G2760	C2699	G2577	C2517	U2456	C2395	A2334	G2268	G2207	A	G2085	U2024
A2824	A2761	U2700	A2578	U2518	U2457	C2396	U2335	G2269	U208	A	U2086	A2025
U2825	G2762	C2701	A2579	C2519	U2458	C2397	U2336	G2270	G2209	C	U2087	C2026
C2826	G2763	G2702	C2580	A2520	C2459	U2398	G2336	U2270				



• Molecule 30: 50S RIBOSOMAL PROTEIN L32



• Molecule 31: RIBOSOMAL 5S RNA



## 4 Data and refinement statistics

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	169.90Å 408.90Å 694.50Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	30.00 – 3.70 29.75 – 3.61	Depositor EDS
% Data completeness (in resolution range)	85.6 (30.00-3.70) 87.2 (29.75-3.61)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	0.14	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.77 (at 3.65Å)	Xtriage
Refinement program	CNS	Depositor
R, $R_{free}$	0.300 , 0.340 0.323 , (Not available)	Depositor DCC
$R_{free}$ test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	109.2	Xtriage
Anisotropy	0.214	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.19 , 129.8	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.39$ , $\langle L^2 \rangle = 0.22$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.83	EDS
Total number of atoms	84444	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	114.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.15% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical values of  $\langle |L| \rangle$ ,  $\langle L^2 \rangle$  for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

## 5 Model quality ⓘ

### 5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, MG, DHA, 3GL, BB9, NH2, MH6, DBU, NO1

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$
4	4	0.48	0/298	0.63	0/390
5	5	3.86	2/12 (16.7%)	2.59	1/12 (8.3%)
6	A	0.46	0/1862	0.66	0/2510
7	B	0.73	0/1567	0.93	0/2105
8	C	0.54	0/1529	0.75	0/2070
9	D	0.40	0/1419	0.62	0/1903
10	E	0.42	0/1308	0.64	0/1771
11	F	0.42	0/1063	0.57	0/1440
12	G	0.57	0/1138	0.79	1/1539 (0.1%)
13	H	0.81	0/1007	1.03	1/1352 (0.1%)
14	I	0.51	0/1081	0.76	0/1448
15	J	0.60	0/1113	0.82	1/1486 (0.1%)
16	K	0.84	0/886	1.07	0/1188
17	L	0.48	0/785	0.72	0/1048
18	M	0.76	0/884	1.03	1/1186 (0.1%)
19	N	0.60	0/994	0.79	1/1323 (0.1%)
20	O	0.55	0/750	0.79	0/1000
21	P	0.72	0/1027	0.95	1/1373 (0.1%)
22	Q	0.52	0/737	0.70	0/988
23	R	0.47	0/835	0.76	0/1121
24	S	0.46	0/1370	0.66	0/1862
25	T	0.50	0/633	0.72	0/838
26	U	0.46	0/556	0.75	0/741
27	V	0.46	0/537	0.62	0/714
28	W	0.59	0/426	0.83	0/568
29	X	0.84	68/64561 (0.1%)	1.00	396/100708 (0.4%)
30	Y	0.69	0/469	0.95	1/629 (0.2%)
31	Z	0.58	1/2904 (0.0%)	0.76	0/4525
All	All	0.77	71/91751 (0.1%)	0.95	404/137838 (0.3%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if

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

Mol	Chain	#Chirality outliers	#Planarity outliers
5	5	1	0
19	N	0	1
29	X	1	199
30	Y	0	1
31	Z	0	4
All	All	2	205

All (71) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	5	1	SER	CA-CB	-10.07	1.37	1.52
29	X	2533	U	N1-C2	9.78	1.47	1.38
29	X	2492	G	C5-C6	-9.33	1.33	1.42
29	X	2533	U	C4-C5	8.27	1.50	1.43
29	X	2424	G	C5-C6	-7.50	1.34	1.42
29	X	2189	A	N9-C4	7.31	1.42	1.37
29	X	728	G	C2'-C1'	6.65	1.60	1.53
29	X	1677	C	N3-C4	-6.54	1.29	1.33
29	X	1858	C	N1-C2	-6.25	1.33	1.40
29	X	2594	U	N1-C2	6.23	1.44	1.38
29	X	722	C	N1-C2	-6.22	1.33	1.40
29	X	1862	C	N1-C2	-6.19	1.33	1.40
29	X	1056	U	P-O5'	6.15	1.66	1.59
29	X	2199	C	N1-C2	-6.10	1.34	1.40
29	X	976	C	N1-C2	6.05	1.46	1.40
29	X	731	A	C2'-C1'	6.03	1.59	1.53
29	X	2195	C	N1-C2	-6.03	1.34	1.40
29	X	557	U	C2'-C1'	5.99	1.59	1.53
29	X	2674	C	N1-C2	-5.98	1.34	1.40
29	X	725	C	N1-C2	-5.98	1.34	1.40
29	X	2557	G	C5-C6	-5.97	1.36	1.42
29	X	1688	U	N3-C4	5.96	1.43	1.38
29	X	2190	A	C4'-C3'	5.95	1.59	1.53
29	X	531	G	C5-C6	-5.94	1.36	1.42
29	X	1052	C	N1-C2	-5.93	1.34	1.40
29	X	1459	U	C4-C5	5.91	1.48	1.43
29	X	2662	C	N1-C2	-5.85	1.34	1.40
29	X	2693	U	N3-C4	-5.82	1.33	1.38
29	X	1853	C	N1-C2	-5.79	1.34	1.40
29	X	556	A	N7-C5	-5.75	1.35	1.39

*Continued on next page...*



*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	X	582	G	C3'-O3'	5.73	1.50	1.42
29	X	2322	U	C4'-C3'	5.58	1.59	1.53
29	X	2254	C	N1-C2	5.57	1.45	1.40
29	X	1300	A	C5-C6	-5.57	1.36	1.41
29	X	1234	C	N1-C2	5.55	1.45	1.40
29	X	1264	C	C2-O2	-5.54	1.19	1.24
29	X	1634	A	C5-C6	5.54	1.46	1.41
29	X	586	G	C5-C6	-5.53	1.36	1.42
29	X	417	C	C2'-C1'	5.50	1.59	1.53
29	X	1336	G	C5-C6	-5.49	1.36	1.42
29	X	2422	C	N1-C2	5.48	1.45	1.40
29	X	728	G	N9-C4	5.48	1.42	1.38
29	X	2254	C	C2-O2	5.44	1.29	1.24
29	X	728	G	C3'-O3'	5.42	1.49	1.42
29	X	557	U	C1'-N1	5.39	1.56	1.48
29	X	552	C	N1-C2	-5.38	1.34	1.40
29	X	723	C	N1-C2	-5.37	1.34	1.40
29	X	1006	C	N1-C2	5.34	1.45	1.40
29	X	2189	A	C3'-O3'	5.34	1.49	1.42
29	X	2550	C	C2-O2	5.32	1.29	1.24
29	X	2797	G	C5-C6	-5.31	1.37	1.42
29	X	2687	G	N3-C4	-5.30	1.31	1.35
29	X	2736	U	N1-C2	5.29	1.43	1.38
29	X	1006	C	C3'-O3'	5.29	1.49	1.42
29	X	550	C	N1-C2	-5.23	1.34	1.40
29	X	1857	G	O3'-P	-5.23	1.54	1.61
29	X	582	G	O3'-P	5.22	1.67	1.61
29	X	1687	C	C5-C6	-5.21	1.30	1.34
29	X	2695	C	N1-C2	-5.20	1.34	1.40
29	X	2189	A	C2'-C1'	5.17	1.59	1.53
29	X	1141	U	N1-C2	5.16	1.43	1.38
29	X	2321	C	N1-C2	-5.13	1.35	1.40
29	X	2595	C	N1-C2	5.12	1.45	1.40
29	X	2189	A	C8-N7	-5.11	1.27	1.31
29	X	1242	A	C5-C6	5.10	1.45	1.41
29	X	2744	A	C5-C6	-5.08	1.36	1.41
29	X	2545	A	N9-C4	-5.07	1.34	1.37
31	Z	19	C	N1-C2	5.07	1.45	1.40
29	X	1054	C	N1-C2	-5.06	1.35	1.40
5	5	3	THR	C-O	5.02	1.32	1.23
29	X	2545	A	N1-C2	5.02	1.38	1.34

All (404) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1055	A	N9-C1'-C2'	-28.05	77.53	114.00
29	X	557	U	N1-C1'-C2'	19.61	139.50	114.00
29	X	417	C	N1-C1'-C2'	17.87	137.23	114.00
29	X	558	G	C3'-C2'-C1'	-13.92	90.37	101.50
29	X	556	A	N9-C1'-C2'	12.66	130.46	114.00
29	X	728	G	P-O3'-C3'	12.40	134.58	119.70
29	X	731	A	N9-C1'-C2'	12.13	129.76	114.00
29	X	1063	C	C6-N1-C2	11.99	125.10	120.30
29	X	1060	C	C6-N1-C2	11.85	125.04	120.30
29	X	557	U	C6-N1-C2	-11.69	113.98	121.00
29	X	2324	G	N9-C1'-C2'	11.68	129.19	114.00
29	X	1056	U	O4'-C1'-N1	11.61	117.49	108.20
29	X	1052	C	C6-N1-C2	11.50	124.90	120.30
29	X	460	U	N1-C1'-C2'	11.33	128.73	114.00
29	X	556	A	P-O3'-C3'	10.97	132.87	119.70
29	X	554	U	C6-N1-C2	10.92	127.55	121.00
29	X	1854	G	P-O3'-C3'	-10.87	106.66	119.70
29	X	1056	U	O4'-C4'-C3'	-10.80	93.20	104.00
29	X	1865	C	O4'-C4'-C3'	-10.72	93.28	104.00
29	X	1285	A	N9-C1'-C2'	10.64	127.83	114.00
29	X	557	U	C3'-C2'-C1'	10.53	109.92	101.50
29	X	2693	U	N1-C1'-C2'	10.41	127.53	114.00
29	X	1288	A	N9-C1'-C2'	10.38	127.49	114.00
29	X	2323	U	O4'-C1'-N1	10.25	116.40	108.20
29	X	1853	C	P-O3'-C3'	-9.95	107.75	119.70
29	X	2320	G	P-O3'-C3'	-9.94	107.77	119.70
29	X	2189	A	P-O3'-C3'	9.84	131.51	119.70
29	X	1853	C	C6-N1-C2	9.81	124.23	120.30
29	X	1632	A	N9-C1'-C2'	9.78	126.72	114.00
29	X	2195	C	C6-N1-C2	9.71	124.18	120.30
29	X	728	G	C8-N9-C4	-9.70	102.52	106.40
29	X	2323	U	P-O3'-C3'	9.66	131.29	119.70
29	X	2197	U	C3'-C2'-C1'	-9.61	93.81	101.50
29	X	1142	G	N9-C1'-C2'	9.20	125.97	114.00
29	X	1055	A	P-O3'-C3'	9.18	130.72	119.70
29	X	415	A	N9-C1'-C2'	9.12	125.85	114.00
29	X	417	C	C3'-C2'-C1'	9.08	108.76	101.50
29	X	729	A	O4'-C4'-C3'	-8.95	95.05	104.00
29	X	2560	G	N9-C1'-C2'	8.73	125.36	114.00
29	X	1852	G	P-O3'-C3'	-8.72	109.24	119.70
29	X	731	A	N9-C4-C5	8.70	109.28	105.80
29	X	555	U	C3'-C2'-C1'	-8.69	94.55	101.50
29	X	1857	G	P-O3'-C3'	-8.63	109.35	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	728	G	N9-C1'-C2'	8.50	125.05	114.00
13	H	25	LEU	CA-CB-CG	8.49	134.82	115.30
29	X	1064	C	C6-N1-C2	8.43	123.67	120.30
29	X	2189	A	N9-C4-C5	-8.41	102.44	105.80
29	X	557	U	C5-C6-N1	8.35	126.87	122.70
29	X	2795	A	N9-C1'-C2'	8.35	124.86	114.00
29	X	1313	U	N1-C1'-C2'	8.29	124.78	114.00
29	X	2593	A	N9-C1'-C2'	8.16	124.60	114.00
29	X	730	C	P-O3'-C3'	8.12	129.44	119.70
29	X	554	U	N1-C2-N3	-8.11	110.04	114.90
29	X	1264	C	N1-C1'-C2'	8.03	124.44	114.00
29	X	1856	U	P-O3'-C3'	-7.98	110.13	119.70
29	X	804	C	N1-C1'-C2'	7.79	124.13	114.00
29	X	2196	U	P-O3'-C3'	7.77	129.02	119.70
29	X	1870	U	P-O3'-C3'	-7.72	110.43	119.70
29	X	555	U	O4'-C4'-C3'	-7.71	96.29	104.00
29	X	1859	A	P-O3'-C3'	-7.71	110.45	119.70
29	X	2190	A	N9-C1'-C2'	-7.66	103.58	112.00
29	X	418	C	N1-C1'-C2'	7.63	123.92	114.00
29	X	2848	A	N9-C1'-C2'	7.60	123.88	114.00
29	X	554	U	N1-C2-O2	7.54	128.08	122.80
29	X	417	C	P-O3'-C3'	7.52	128.73	119.70
29	X	2428	U	N1-C1'-C2'	7.52	123.78	114.00
29	X	489	A	N9-C1'-C2'	7.49	123.73	114.00
29	X	729	A	C3'-C2'-C1'	-7.47	95.52	101.50
29	X	417	C	O4'-C1'-N1	-7.46	102.23	108.20
29	X	1265	G	N9-C1'-C2'	7.42	123.65	114.00
29	X	557	U	P-O3'-C3'	7.30	128.46	119.70
29	X	1685	A	C5'-C4'-C3'	-7.29	104.33	116.00
29	X	2680	U	N1-C1'-C2'	-7.29	103.99	112.00
29	X	1858	C	C6-N1-C2	7.20	123.18	120.30
29	X	739	G	OP1-P-OP2	-7.17	108.85	119.60
29	X	727	U	C3'-C2'-C1'	7.15	107.22	101.50
29	X	1266	G	N9-C1'-C2'	7.15	123.29	114.00
29	X	582	G	OP2-P-O3'	7.12	120.86	105.20
29	X	555	U	OP1-P-OP2	-7.09	108.97	119.60
29	X	1846	A	P-O3'-C3'	7.08	128.20	119.70
29	X	1850	G	C8-N9-C4	-7.07	103.57	106.40
29	X	2469	G	N9-C1'-C2'	7.07	123.19	114.00
29	X	780	U	C2'-C3'-O3'	7.05	125.02	109.50
29	X	1854	G	OP1-P-OP2	-7.03	109.06	119.60
29	X	420	C	OP1-P-OP2	-7.02	109.07	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2324	G	O4'-C1'-N9	-7.00	102.60	108.20
29	X	2854	G	N9-C1'-C2'	7.00	123.10	114.00
29	X	1861	G	P-O3'-C3'	-7.00	111.30	119.70
29	X	729	A	OP1-P-OP2	-6.97	109.14	119.60
29	X	1979	C	N1-C1'-C2'	6.97	123.06	114.00
29	X	1864	G	OP1-P-OP2	-6.95	109.18	119.60
21	P	72	LEU	CA-CB-CG	-6.93	99.36	115.30
29	X	1947	G	N9-C1'-C2'	6.92	123.00	114.00
29	X	1871	G	OP1-P-OP2	-6.92	109.22	119.60
29	X	2706	U	C2'-C3'-O3'	6.92	124.78	113.70
29	X	1855	G	OP1-P-OP2	-6.91	109.23	119.60
29	X	1068	A	OP1-P-OP2	-6.91	109.24	119.60
29	X	1059	A	OP1-P-OP2	-6.89	109.26	119.60
29	X	1141	U	N1-C1'-C2'	6.89	122.96	114.00
29	X	558	G	O4'-C1'-N9	6.89	113.71	108.20
29	X	2322	U	N1-C1'-C2'	6.88	122.95	114.00
29	X	1044	U	O4'-C4'-C3'	-6.87	97.13	104.00
29	X	1872	A	OP1-P-OP2	-6.81	109.38	119.60
29	X	1867	A	P-O3'-C3'	6.81	127.87	119.70
29	X	2188	A	OP1-P-OP2	-6.79	109.42	119.60
29	X	1618	U	N1-C1'-C2'	6.78	122.82	114.00
29	X	728	G	N7-C8-N9	6.78	116.49	113.10
29	X	2034	A	N9-C1'-C2'	6.78	122.81	114.00
29	X	1869	A	OP1-P-OP2	-6.78	109.43	119.60
29	X	1856	U	OP1-P-OP2	-6.78	109.44	119.60
29	X	1055	A	C8-N9-C4	-6.76	103.09	105.80
29	X	551	A	OP1-P-OP2	-6.76	109.46	119.60
29	X	1745	C	O4'-C1'-N1	6.76	113.61	108.20
29	X	2693	U	O4'-C1'-N1	6.75	113.60	108.20
5	5	1	SER	CB-CA-C	6.75	122.93	110.10
29	X	557	U	N3-C4-O4	6.75	124.12	119.40
29	X	176	A	N9-C1'-C2'	6.73	122.75	114.00
29	X	1052	C	N1-C2-O2	6.72	122.93	118.90
29	X	2322	U	OP1-P-OP2	-6.71	109.53	119.60
29	X	2185	U	OP1-P-OP2	-6.69	109.57	119.60
29	X	2190	A	C3'-C2'-C1'	-6.68	96.15	101.50
29	X	1050	G	OP1-P-OP2	-6.68	109.58	119.60
29	X	724	C	OP1-P-OP2	-6.67	109.59	119.60
29	X	1052	C	OP1-P-OP2	-6.67	109.59	119.60
29	X	1678	G	O4'-C4'-C3'	-6.67	97.33	104.00
29	X	562	G	OP1-P-OP2	-6.66	109.61	119.60
29	X	736	G	OP1-P-OP2	-6.65	109.62	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	557	U	OP1-P-OP2	-6.65	109.62	119.60
29	X	1851	A	OP1-P-OP2	-6.63	109.65	119.60
29	X	735	G	OP1-P-OP2	-6.63	109.66	119.60
29	X	1266	G	O4'-C1'-N9	6.63	113.50	108.20
29	X	1698	C	N1-C1'-C2'	6.62	122.61	114.00
29	X	738	G	OP1-P-OP2	-6.61	109.68	119.60
29	X	1062	G	OP1-P-OP2	-6.61	109.69	119.60
29	X	726	G	OP1-P-OP2	-6.60	109.70	119.60
29	X	553	C	OP1-P-OP2	-6.60	109.70	119.60
29	X	2190	A	OP1-P-OP2	-6.59	109.71	119.60
29	X	1049	C	C6-N1-C2	6.58	122.93	120.30
29	X	1048	U	OP1-P-OP2	-6.58	109.73	119.60
29	X	1060	C	OP1-P-OP2	-6.57	109.74	119.60
29	X	2187	A	OP1-P-OP2	-6.57	109.75	119.60
29	X	1053	G	OP1-P-OP2	-6.57	109.75	119.60
29	X	734	G	OP1-P-OP2	-6.56	109.76	119.60
29	X	550	C	OP1-P-OP2	-6.56	109.77	119.60
29	X	415	A	OP1-P-OP2	-6.55	109.77	119.60
29	X	732	G	OP1-P-OP2	-6.54	109.78	119.60
29	X	1006	C	C2'-C3'-O3'	6.54	124.16	113.70
29	X	1863	U	OP1-P-OP2	-6.53	109.81	119.60
29	X	1047	G	OP1-P-OP2	-6.52	109.82	119.60
29	X	1860	A	OP1-P-OP2	-6.52	109.82	119.60
29	X	1857	G	OP1-P-OP2	-6.52	109.82	119.60
29	X	1042	G	OP1-P-OP2	-6.51	109.83	119.60
29	X	2190	A	O4'-C1'-N9	6.51	113.41	108.20
29	X	1041	G	OP1-P-OP2	-6.50	109.85	119.60
29	X	731	A	C8-N9-C4	-6.49	103.20	105.80
29	X	731	A	OP1-P-OP2	-6.48	109.88	119.60
29	X	554	U	OP1-P-OP2	-6.48	109.88	119.60
29	X	1046	U	OP1-P-OP2	-6.48	109.88	119.60
29	X	1859	A	OP1-P-OP2	-6.48	109.88	119.60
29	X	2197	U	OP1-P-OP2	-6.47	109.89	119.60
29	X	1853	C	OP1-P-OP2	-6.47	109.90	119.60
29	X	1867	A	OP1-P-OP2	-6.47	109.90	119.60
29	X	419	G	OP1-P-OP2	-6.46	109.91	119.60
29	X	721	C	OP1-P-OP2	-6.46	109.91	119.60
29	X	725	C	OP1-P-OP2	-6.45	109.93	119.60
29	X	417	C	OP1-P-OP2	-6.45	109.93	119.60
29	X	740	A	OP1-P-OP2	-6.45	109.93	119.60
29	X	558	G	OP1-P-OP2	-6.45	109.93	119.60
29	X	418	C	OP1-P-OP2	-6.44	109.94	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1865	C	P-O3'-C3'	-6.43	111.98	119.70
29	X	556	A	OP1-P-OP2	-6.43	109.95	119.60
29	X	1852	G	OP1-P-OP2	-6.43	109.96	119.60
29	X	2323	U	OP1-P-OP2	-6.43	109.96	119.60
29	X	1849	G	N9-C1'-C2'	6.42	122.34	114.00
29	X	1862	C	OP1-P-OP2	-6.41	109.98	119.60
29	X	1057	A	OP1-P-OP2	-6.41	109.98	119.60
29	X	2703	C	N1-C1'-C2'	-6.41	104.95	112.00
29	X	724	C	C6-N1-C2	6.40	122.86	120.30
29	X	1044	U	OP1-P-OP2	-6.39	110.01	119.60
29	X	559	C	OP1-P-OP2	-6.38	110.02	119.60
29	X	741	G	OP1-P-OP2	-6.38	110.02	119.60
29	X	1051	U	OP1-P-OP2	-6.38	110.03	119.60
29	X	558	G	C8-N9-C4	-6.38	103.85	106.40
29	X	2198	U	N1-C1'-C2'	6.38	122.29	114.00
29	X	1848	U	OP1-P-OP2	-6.37	110.04	119.60
29	X	2195	C	OP1-P-OP2	-6.37	110.04	119.60
29	X	2688	G	N9-C1'-C2'	-6.37	104.99	112.00
29	X	2075	U	N1-C1'-C2'	6.37	122.28	114.00
29	X	722	C	OP1-P-OP2	-6.37	110.05	119.60
29	X	717	G	OP1-P-OP2	-6.36	110.05	119.60
29	X	730	C	OP1-P-OP2	-6.36	110.06	119.60
29	X	2481	G	OP1-P-O3'	6.36	119.19	105.20
29	X	720	A	OP1-P-OP2	-6.35	110.08	119.60
29	X	1067	G	OP1-P-OP2	-6.35	110.08	119.60
29	X	2186	G	OP1-P-OP2	-6.34	110.08	119.60
29	X	1855	G	P-O3'-C3'	-6.34	112.09	119.70
29	X	737	C	OP1-P-OP2	-6.34	110.10	119.60
29	X	723	C	OP1-P-OP2	-6.33	110.11	119.60
29	X	1861	G	OP1-P-OP2	-6.32	110.11	119.60
29	X	975	C	O5'-P-OP2	-6.32	100.02	105.70
29	X	2199	C	OP1-P-OP2	-6.32	110.13	119.60
29	X	719	A	OP1-P-OP2	-6.31	110.13	119.60
29	X	1868	A	OP1-P-OP2	-6.31	110.13	119.60
29	X	718	A	OP1-P-OP2	-6.31	110.13	119.60
29	X	1866	G	OP1-P-OP2	-6.31	110.14	119.60
29	X	2325	A	OP1-P-OP2	-6.31	110.14	119.60
29	X	1063	C	OP1-P-OP2	-6.30	110.14	119.60
29	X	1043	A	OP1-P-OP2	-6.30	110.15	119.60
29	X	558	G	C1'-O4'-C4'	-6.29	104.87	109.90
29	X	1847	G	OP1-P-OP2	-6.29	110.17	119.60
29	X	1633	C	N1-C1'-C2'	6.28	122.17	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	552	C	OP1-P-OP2	-6.28	110.18	119.60
29	X	1058	G	OP1-P-OP2	-6.28	110.18	119.60
29	X	2191	A	OP1-P-OP2	-6.27	110.19	119.60
29	X	1055	A	OP1-P-OP2	-6.27	110.20	119.60
29	X	459	A	N9-C1'-C2'	6.27	122.15	114.00
29	X	1850	G	OP1-P-OP2	-6.26	110.22	119.60
29	X	2326	C	OP1-P-OP2	-6.25	110.22	119.60
29	X	2228	U	N1-C1'-C2'	6.25	122.12	114.00
29	X	2324	G	OP1-P-OP2	-6.25	110.23	119.60
29	X	2192	U	OP1-P-OP2	-6.24	110.23	119.60
29	X	1055	A	C4'-C3'-O3'	6.22	125.44	113.00
29	X	1342	U	N1-C1'-C2'	6.21	122.08	114.00
29	X	561	U	OP1-P-OP2	-6.21	110.28	119.60
29	X	1047	G	P-O3'-C3'	-6.21	112.25	119.70
29	X	2854	G	C4'-C3'-O3'	-6.21	96.37	109.40
29	X	1333	G	N9-C1'-C2'	6.20	122.05	114.00
29	X	1045	G	OP1-P-OP2	-6.19	110.31	119.60
29	X	580	A	N9-C1'-C2'	6.19	122.05	114.00
29	X	1054	C	OP1-P-OP2	-6.18	110.33	119.60
29	X	1055	A	C3'-C2'-C1'	-6.18	96.56	101.50
29	X	2321	C	OP1-P-OP2	-6.17	110.34	119.60
29	X	1858	C	OP1-P-OP2	-6.16	110.36	119.60
29	X	1870	U	O4'-C4'-C3'	-6.15	97.85	104.00
29	X	560	G	OP1-P-OP2	-6.14	110.39	119.60
29	X	416	U	OP1-P-OP2	-6.14	110.39	119.60
29	X	1064	C	OP1-P-OP2	-6.13	110.41	119.60
29	X	2617	G	N9-C1'-C2'	6.12	121.96	114.00
29	X	2217	G	N9-C1'-C2'	6.10	121.93	114.00
29	X	727	U	OP1-P-OP2	-6.10	110.45	119.60
29	X	1065	A	OP1-P-OP2	-6.10	110.45	119.60
29	X	2196	U	OP1-P-OP2	-6.10	110.45	119.60
29	X	731	A	C3'-C2'-C1'	6.09	106.38	101.50
29	X	2313	G	N9-C1'-C2'	6.09	121.92	114.00
29	X	414	A	OP1-P-OP2	-6.09	110.47	119.60
29	X	2541	U	N1-C1'-C2'	-6.08	105.31	112.00
29	X	1975	G	OP2-P-O3'	6.07	118.55	105.20
29	X	733	G	OP1-P-OP2	-6.06	110.51	119.60
29	X	2323	U	N1-C1'-C2'	-6.06	105.33	112.00
29	X	557	U	O4'-C1'-N1	-6.06	103.35	108.20
29	X	556	A	C3'-C2'-C1'	6.05	106.34	101.50
29	X	1865	C	OP1-P-OP2	-6.05	110.53	119.60
29	X	1069	G	OP1-P-OP2	-6.03	110.56	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2194	A	OP1-P-OP2	-6.03	110.56	119.60
29	X	1863	U	P-O3'-C3'	-6.02	112.47	119.70
29	X	1049	C	OP1-P-OP2	-6.02	110.57	119.60
29	X	561	U	N1-C1'-C2'	6.00	121.79	114.00
29	X	1061	A	OP1-P-OP2	-5.98	110.63	119.60
29	X	1056	U	OP1-P-OP2	-5.98	110.63	119.60
29	X	467	U	N1-C1'-C2'	5.97	121.76	114.00
29	X	2193	C	OP1-P-OP2	-5.95	110.68	119.60
29	X	2189	A	OP1-P-OP2	-5.94	110.69	119.60
29	X	1866	G	C8-N9-C4	-5.93	104.03	106.40
29	X	340	G	N9-C1'-C2'	5.93	121.71	114.00
29	X	1849	G	OP1-P-OP2	-5.92	110.72	119.60
29	X	1288	A	O4'-C4'-C3'	-5.91	98.09	104.00
29	X	2198	U	P-O5'-C5'	-5.91	111.45	120.90
29	X	728	G	C2'-C3'-O3'	5.90	123.14	113.70
29	X	1066	G	OP1-P-OP2	-5.89	110.77	119.60
29	X	2028	C	OP1-P-O3'	5.88	118.13	105.20
29	X	2528	G	OP1-P-O3'	5.88	118.13	105.20
29	X	2823	G	N9-C1'-C2'	5.87	121.62	114.00
29	X	1870	U	OP1-P-OP2	-5.86	110.81	119.60
29	X	1582	A	N9-C1'-C2'	5.86	121.61	114.00
29	X	1852	G	O4'-C4'-C3'	-5.83	98.17	104.00
29	X	1280	U	N1-C1'-C2'	5.82	121.57	114.00
29	X	1250	A	N9-C1'-C2'	5.82	121.57	114.00
29	X	728	G	OP1-P-OP2	-5.81	110.89	119.60
29	X	550	C	C6-N1-C2	5.79	122.61	120.30
29	X	1869	A	P-O5'-C5'	-5.78	111.65	120.90
29	X	2200	G	OP1-P-OP2	-5.77	110.94	119.60
29	X	2034	A	C4'-C3'-O3'	-5.77	97.28	109.40
29	X	2681	A	N9-C1'-C2'	-5.74	105.69	112.00
29	X	555	U	N1-C1'-C2'	-5.73	105.69	112.00
29	X	730	C	N1-C1'-C2'	5.72	121.44	114.00
29	X	985	G	N9-C1'-C2'	5.72	121.44	114.00
29	X	1854	G	O4'-C4'-C3'	-5.70	98.30	104.00
29	X	2544	A	N9-C1'-C2'	5.70	121.41	114.00
29	X	1624	A	N9-C1'-C2'	5.70	121.40	114.00
29	X	2789	U	OP1-P-O3'	5.69	117.72	105.20
29	X	1398	G	N9-C1'-C2'	5.69	121.39	114.00
29	X	557	U	O4'-C1'-C2'	-5.68	100.12	105.80
29	X	1337	G	N9-C1'-C2'	5.67	121.36	114.00
29	X	873	U	OP1-P-O3'	5.65	117.63	105.20
29	X	747	A	C5'-C4'-C3'	5.65	125.04	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2200	G	P-O5'-C5'	-5.64	111.87	120.90
29	X	1664	G	N9-C1'-C2'	5.63	121.32	114.00
18	M	24	LEU	CA-CB-CG	5.63	128.24	115.30
29	X	557	U	N3-C4-C5	-5.62	111.23	114.60
29	X	1986	G	N9-C1'-C2'	-5.62	105.82	112.00
29	X	1772	C	N1-C1'-C2'	5.60	121.29	114.00
29	X	723	C	C5-C6-N1	5.60	123.80	121.00
29	X	984	A	N9-C1'-C2'	5.60	121.28	114.00
29	X	1441	A	C2'-C3'-O3'	5.60	122.65	113.70
29	X	719	A	P-O3'-C3'	5.59	126.40	119.70
29	X	416	U	O4'-C4'-C3'	-5.57	98.43	104.00
29	X	2189	A	C2'-C3'-O3'	5.57	122.61	113.70
29	X	2188	A	C4'-C3'-C2'	5.56	108.16	102.60
29	X	2824	C	N1-C1'-C2'	5.56	121.22	114.00
29	X	596	C	N1-C1'-C2'	5.55	121.22	114.00
29	X	2663	U	C5'-C4'-C3'	-5.54	107.13	116.00
29	X	777	A	C2'-C3'-O3'	5.52	122.54	113.70
29	X	2404	A	C2'-C3'-O3'	5.52	122.53	113.70
29	X	1139	A	N9-C1'-C2'	5.52	121.17	114.00
29	X	2322	U	C3'-C2'-C1'	5.52	105.91	101.50
29	X	728	G	C4-N9-C1'	5.51	133.66	126.50
29	X	2323	U	C5'-C4'-O4'	-5.51	102.49	109.10
29	X	2706	U	N1-C1'-C2'	5.51	121.16	114.00
29	X	538	A	N9-C1'-C2'	5.50	121.15	114.00
29	X	415	A	P-O3'-C3'	5.50	126.30	119.70
29	X	418	C	C3'-C2'-C1'	5.50	105.90	101.50
29	X	752	G	C2'-C3'-O3'	-5.50	97.41	109.50
29	X	955	G	N9-C1'-C2'	5.49	121.14	114.00
19	N	40	LEU	N-CA-C	-5.48	96.20	111.00
29	X	173	A	N9-C1'-C2'	5.47	121.11	114.00
29	X	1723	U	C2'-C3'-O3'	5.47	122.45	113.70
29	X	1978	U	OP2-P-O3'	5.47	117.23	105.20
29	X	1264	C	O5'-P-OP1	-5.46	100.79	105.70
29	X	731	A	O4'-C4'-C3'	5.46	110.47	106.10
29	X	1052	C	O4'-C1'-N1	-5.43	103.86	108.20
29	X	2669	C	C5'-C4'-O4'	-5.43	102.59	109.10
29	X	3	U	C2'-C3'-O3'	5.42	122.37	113.70
29	X	2198	U	OP1-P-OP2	-5.41	111.49	119.60
29	X	1063	C	C5-C6-N1	-5.40	118.30	121.00
29	X	1052	C	P-O5'-C5'	-5.39	112.28	120.90
29	X	557	U	N1-C2-N3	5.39	118.13	114.90
29	X	721	C	C6-N1-C2	5.39	122.45	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2188	A	N9-C1'-C2'	-5.37	106.09	112.00
29	X	485	G	N9-C1'-C2'	5.36	120.97	114.00
29	X	1266	G	C1'-O4'-C4'	-5.36	105.61	109.90
29	X	2189	A	C4'-C3'-C2'	-5.36	97.24	102.60
29	X	2323	U	N1-C2-N3	5.36	118.11	114.90
29	X	1060	C	C5-C6-N1	-5.34	118.33	121.00
29	X	538	A	C2'-C3'-O3'	5.34	122.24	113.70
29	X	780	U	C5'-C4'-C3'	-5.34	107.46	116.00
29	X	1850	G	O4'-C1'-N9	5.33	112.47	108.20
29	X	1056	U	C5'-C4'-C3'	5.32	124.52	116.00
29	X	1439	G	C2'-C3'-O3'	5.32	122.21	113.70
29	X	2323	U	C4'-C3'-O3'	5.32	123.63	113.00
29	X	2482	A	O4'-C1'-N9	5.31	112.45	108.20
29	X	1862	C	C4'-C3'-C2'	5.30	107.90	102.60
29	X	765	C	C2'-C3'-O3'	5.30	122.18	113.70
29	X	1235	C	N1-C1'-C2'	-5.28	106.19	112.00
29	X	416	U	N1-C1'-C2'	5.28	120.86	114.00
29	X	219	G	N9-C1'-C2'	5.28	120.86	114.00
29	X	551	A	P-O3'-C3'	5.27	126.03	119.70
29	X	2824	C	C2'-C3'-O3'	5.27	122.14	113.70
29	X	1683	G	O4'-C1'-N9	5.27	112.41	108.20
29	X	2498	U	OP1-P-O3'	5.26	116.78	105.20
29	X	878	C	N1-C1'-C2'	5.25	120.83	114.00
29	X	2191	A	O4'-C1'-N9	-5.25	104.00	108.20
29	X	728	G	O3'-P-O5'	5.24	113.96	104.00
29	X	557	U	C1'-O4'-C4'	5.24	114.09	109.90
29	X	558	G	C4'-C3'-O3'	5.24	123.48	113.00
29	X	1182	U	C2'-C3'-O3'	5.24	122.08	113.70
29	X	2322	U	P-O3'-C3'	5.24	125.98	119.70
29	X	2193	C	C6-N1-C2	5.24	122.39	120.30
29	X	956	A	O4'-C1'-N9	5.23	112.38	108.20
29	X	2197	U	C6-N1-C2	-5.22	117.87	121.00
29	X	1646	G	OP1-P-O3'	5.20	116.65	105.20
29	X	2698	G	OP1-P-O3'	5.20	116.64	105.20
29	X	2608	A	N9-C1'-C2'	5.20	120.76	114.00
29	X	2633	A	N9-C1'-C2'	5.19	120.75	114.00
29	X	2326	C	C6-N1-C2	5.19	122.38	120.30
29	X	1869	A	P-O3'-C3'	-5.17	113.49	119.70
29	X	2533	U	O4'-C1'-N1	5.17	112.34	108.20
29	X	820	U	O4'-C1'-N1	5.17	112.34	108.20
29	X	1848	U	P-O5'-C5'	-5.17	112.62	120.90
29	X	2540	A	O4'-C1'-N9	5.17	112.33	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2660	C	O4'-C1'-C2'	5.16	112.24	107.60
29	X	2431	C	O4'-C1'-N1	5.15	112.32	108.20
29	X	723	C	C4-C5-C6	-5.15	114.82	117.40
29	X	1057	A	N9-C4-C5	5.15	107.86	105.80
29	X	1353	A	N9-C1'-C2'	5.13	120.67	114.00
29	X	552	C	C6-N1-C2	5.13	122.35	120.30
29	X	118	U	N1-C1'-C2'	5.12	120.66	114.00
29	X	2693	U	C1'-O4'-C4'	-5.12	105.80	109.90
12	G	119	LEU	CA-CB-CG	-5.11	103.54	115.30
29	X	2191	A	N9-C1'-C2'	5.11	120.65	114.00
29	X	689	A	O4'-C1'-N9	5.09	112.28	108.20
29	X	2315	A	N9-C1'-C2'	5.09	120.62	114.00
29	X	1200	G	N9-C1'-C2'	-5.09	106.40	112.00
29	X	2043	A	C5'-C4'-C3'	5.08	124.12	116.00
29	X	2188	A	P-O3'-C3'	-5.06	113.63	119.70
29	X	2476	A	OP2-P-O3'	5.05	116.32	105.20
29	X	2484	G	N9-C1'-C2'	-5.05	106.44	112.00
29	X	582	G	N9-C1'-C2'	5.04	120.56	114.00
29	X	1054	C	N3-C4-C5	-5.04	119.88	121.90
29	X	1141	U	C5'-C4'-O4'	-5.04	103.05	109.10
30	Y	54	GLY	N-CA-C	-5.04	100.51	113.10
29	X	1862	C	C6-N1-C2	5.03	122.31	120.30
29	X	541	C	OP2-P-O3'	5.01	116.23	105.20
29	X	1429	A	N9-C1'-C2'	5.01	120.51	114.00
15	J	97	VAL	N-CA-C	5.00	124.51	111.00

All (2) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
5	5	1	SER	CA
29	X	2592	U	C1'

All (205) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
19	N	32	TYR	Sidechain
29	X	1000	G	Sidechain
29	X	1006	C	Sidechain
29	X	1030	U	Sidechain
29	X	1054	C	Sidechain
29	X	1057	A	Sidechain
29	X	1136	G	Sidechain

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Mol	Chain	Res	Type	Group
29	X	1153	A	Sidechain
29	X	1166	A	Sidechain
29	X	1174	G	Sidechain
29	X	1197	U	Sidechain
29	X	1200	G	Sidechain
29	X	1206	G	Sidechain
29	X	1212	U	Sidechain
29	X	1216	G	Sidechain
29	X	1235	C	Sidechain
29	X	1250	A	Sidechain
29	X	1264	C	Sidechain
29	X	1278	A	Sidechain
29	X	1280	U	Sidechain
29	X	1285	A	Sidechain
29	X	1289	A	Sidechain
29	X	1294	G	Sidechain
29	X	1301	U	Sidechain
29	X	1310	C	Sidechain
29	X	1317	G	Sidechain
29	X	1325	U	Sidechain
29	X	1333	G	Sidechain
29	X	1334	A	Sidechain
29	X	1338	G	Sidechain
29	X	1342	U	Sidechain
29	X	1357	U	Sidechain
29	X	1373	G	Sidechain
29	X	1408	A	Sidechain
29	X	1429	A	Sidechain
29	X	1467	U	Sidechain
29	X	1470	G	Sidechain
29	X	1574	A	Sidechain
29	X	1582	A	Sidechain
29	X	1629	G	Sidechain
29	X	1631	C	Sidechain
29	X	1632	A	Sidechain
29	X	1634	A	Sidechain
29	X	1649	A	Sidechain
29	X	1665	C	Sidechain
29	X	1673	C	Sidechain
29	X	1674	C	Sidechain
29	X	1675	C	Sidechain
29	X	1681	A	Sidechain

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Mol	Chain	Res	Type	Group
29	X	1687	C	Sidechain
29	X	1690	U	Sidechain
29	X	1692	C	Sidechain
29	X	1698	C	Sidechain
29	X	1715	A	Sidechain
29	X	1743	C	Sidechain
29	X	1749	G	Sidechain
29	X	1759	A	Sidechain
29	X	1770	U	Sidechain
29	X	1775	A	Sidechain
29	X	1811	A	Sidechain
29	X	1849	G	Sidechain
29	X	1851	A	Sidechain
29	X	1918	G	Sidechain
29	X	1922	U	Sidechain
29	X	1934	U	Sidechain
29	X	1947	G	Sidechain
29	X	1973	C	Sidechain
29	X	1979	C	Sidechain
29	X	1980	A	Sidechain
29	X	1981	A	Sidechain
29	X	1996	A	Sidechain
29	X	1999	U	Sidechain
29	X	2007	G	Sidechain
29	X	2024	U	Sidechain
29	X	2036	G	Sidechain
29	X	2047	C	Sidechain
29	X	2050	G	Sidechain
29	X	2189	A	Sidechain
29	X	2192	U	Sidechain
29	X	2195	C	Sidechain
29	X	2196	U	Sidechain
29	X	2222	U	Sidechain
29	X	2223	U	Sidechain
29	X	2247	A	Sidechain
29	X	2250	G	Sidechain
29	X	2258	G	Sidechain
29	X	228	A	Sidechain
29	X	2315	A	Sidechain
29	X	2322	U	Sidechain
29	X	2323	U	Sidechain
29	X	2324	G	Sidechain

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Mol	Chain	Res	Type	Group
29	X	2334	C	Sidechain
29	X	2335	U	Sidechain
29	X	2363	G	Sidechain
29	X	2365	U	Sidechain
29	X	24	G	Sidechain
29	X	2418	A	Sidechain
29	X	2419	C	Sidechain
29	X	2427	A	Sidechain
29	X	2428	U	Sidechain
29	X	2433	G	Sidechain
29	X	2436	U	Sidechain
29	X	2447	G	Sidechain
29	X	2460	G	Sidechain
29	X	2469	G	Sidechain
29	X	2479	U	Sidechain
29	X	2489	C	Sidechain
29	X	2492	G	Sidechain
29	X	2500	C	Sidechain
29	X	2507	U	Sidechain
29	X	2526	U	Sidechain
29	X	2531	U	Sidechain
29	X	2540	A	Sidechain
29	X	2541	U	Sidechain
29	X	2542	U	Sidechain
29	X	2544	A	Sidechain
29	X	2555	G	Sidechain
29	X	2579	A	Sidechain
29	X	2583	U	Sidechain
29	X	2592	U	Sidechain
29	X	2599	U	Sidechain
29	X	26	G	Sidechain
29	X	2600	A	Sidechain
29	X	2617	G	Sidechain
29	X	2618	A	Sidechain
29	X	2624	G	Sidechain
29	X	2625	U	Sidechain
29	X	2641	A	Sidechain
29	X	2663	U	Sidechain
29	X	2671	C	Sidechain
29	X	2672	U	Sidechain
29	X	2674	C	Sidechain
29	X	2675	U	Sidechain

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Mol	Chain	Res	Type	Group
29	X	2702	G	Sidechain
29	X	2706	U	Sidechain
29	X	2736	U	Sidechain
29	X	2752	C	Sidechain
29	X	2785	A	Sidechain
29	X	2793	G	Sidechain
29	X	2809	A	Sidechain
29	X	2810	A	Sidechain
29	X	2814	G	Sidechain
29	X	2817	A	Sidechain
29	X	2838	U	Sidechain
29	X	2848	A	Sidechain
29	X	2854	G	Sidechain
29	X	2856	U	Sidechain
29	X	321	A	Sidechain
29	X	331	U	Sidechain
29	X	339	U	Sidechain
29	X	347	C	Sidechain
29	X	396	U	Sidechain
29	X	415	A	Sidechain
29	X	462	G	Sidechain
29	X	468	A	Sidechain
29	X	474	G	Sidechain
29	X	489	A	Sidechain
29	X	515	A	Sidechain
29	X	529	U	Sidechain
29	X	557	U	Sidechain
29	X	563	U	Sidechain
29	X	565	A	Sidechain
29	X	576	A	Sidechain
29	X	578	U	Sidechain
29	X	582	G	Sidechain
29	X	587	A	Sidechain
29	X	596	C	Sidechain
29	X	598	U	Sidechain
29	X	618	A	Sidechain
29	X	683	A	Sidechain
29	X	688	A	Sidechain
29	X	689	A	Sidechain
29	X	690	A	Sidechain
29	X	698	A	Sidechain
29	X	716	U	Sidechain

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Mol	Chain	Res	Type	Group
29	X	731	A	Sidechain
29	X	765	C	Sidechain
29	X	767	G	Sidechain
29	X	800	U	Sidechain
29	X	810	U	Sidechain
29	X	814	G	Sidechain
29	X	818	G	Sidechain
29	X	820	U	Sidechain
29	X	823	U	Sidechain
29	X	824	U	Sidechain
29	X	829	C	Sidechain
29	X	837	U	Sidechain
29	X	839	U	Sidechain
29	X	842	A	Sidechain
29	X	843	G	Sidechain
29	X	844	G	Sidechain
29	X	853	C	Sidechain
29	X	873	U	Sidechain
29	X	878	C	Sidechain
29	X	924	C	Sidechain
29	X	939	C	Sidechain
29	X	956	A	Sidechain
29	X	974	U	Sidechain
29	X	978	U	Sidechain
29	X	994	A	Sidechain
30	Y	52	TYR	Sidechain
31	Z	68	A	Sidechain
31	Z	85	G	Sidechain
31	Z	87	C	Sidechain
31	Z	92	G	Sidechain

## 5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	1	53	0	0	2	0
2	2	46	0	0	1	0
3	3	63	0	0	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	4	297	0	328	63	0
5	5	69	0	34	3	0
6	A	1826	0	1885	312	0
7	B	1539	0	1600	305	0
8	C	1506	0	1525	334	0
9	D	1400	0	1481	313	0
10	E	1286	0	1336	201	0
11	F	1044	0	1088	101	0
12	G	1114	0	1144	278	0
13	H	997	0	1046	205	0
14	I	1067	0	1103	244	0
15	J	1090	0	1125	258	0
16	K	878	0	930	205	0
17	L	779	0	820	180	0
18	M	871	0	894	218	0
19	N	978	0	1020	200	0
20	O	741	0	756	191	0
21	P	1014	0	1096	200	0
22	Q	726	0	753	142	0
23	R	825	0	881	212	0
24	S	1345	0	1372	221	0
25	T	625	0	655	118	0
26	U	552	0	604	150	0
27	V	533	0	558	88	0
28	W	424	0	470	67	0
29	X	57651	0	29048	4666	0
30	Y	457	0	460	109	0
31	Z	2598	0	1328	176	0
32	4	1	0	0	0	0
32	Y	1	0	0	0	0
33	5	13	0	7	0	0
34	M	1	0	0	0	0
34	X	28	0	0	0	0
34	Z	6	0	0	0	0
All	All	84444	0	55347	8931	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 64.

All (8931) 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)
18:M:108:ARG:O	18:M:109:GLU:HG3	1.25	1.33
29:X:1854:G:O2'	29:X:1855:G:H5'	1.31	1.28
29:X:1053:G:H2'	29:X:1054:C:C6	1.71	1.25
29:X:1386:A:H5''	29:X:2191:A:N6	1.48	1.25
29:X:2196:U:H2'	29:X:2197:U:O4'	1.31	1.23
31:Z:43:G:H5'	31:Z:44:C:H5'	1.21	1.17
18:M:99:VAL:HG22	18:M:100:ARG:H	1.10	1.14
29:X:1118:G:H2'	29:X:1119:U:H5''	1.19	1.14
7:B:116:VAL:N	7:B:136:ARG:HE	1.46	1.13
22:Q:12:ILE:HG12	22:Q:13:SER:H	1.04	1.12
19:N:24:PHE:HB2	19:N:29:SER:HB3	1.32	1.12
29:X:2672:U:H2'	29:X:2673:G:H8	1.00	1.11
22:Q:10:PRO:HA	22:Q:27:PHE:HB3	1.17	1.11
7:B:9:ILE:HD11	7:B:27:LEU:HB2	1.26	1.11
13:H:27:SER:HB3	13:H:50:ILE:H	1.11	1.11
18:M:28:ARG:HB2	18:M:29:PRO:HD3	1.25	1.11
13:H:75:VAL:HG12	13:H:118:LEU:HD21	1.14	1.11
29:X:1052:C:C3'	29:X:1053:G:H5''	1.81	1.10
12:G:55:ALA:HB1	12:G:134:MET:HE1	1.30	1.10
29:X:1508:G:H5'	29:X:1509:A:H5''	1.17	1.10
29:X:2769:C:H2'	29:X:2770:A:C8	1.85	1.10
14:I:38:LYS:HG2	29:X:954:U:OP2	1.52	1.10
30:Y:4:HIS:HB3	30:Y:5:PRO:CD	1.82	1.09
14:I:18:ARG:HB2	14:I:21:ARG:HB2	1.34	1.09
29:X:1711:C:H4'	29:X:1712:G:H5''	1.17	1.09
29:X:2672:U:H2'	29:X:2673:G:C8	1.86	1.09
29:X:729:A:H2'	29:X:730:C:O4'	1.50	1.09
9:D:66:ILE:HD11	31:Z:43:G:H5''	1.31	1.09
11:F:21:PRO:HG2	11:F:22:PRO:HD3	1.35	1.09
21:P:37:LYS:HE2	21:P:64:ALA:HB2	1.27	1.08
15:J:86:LYS:HD2	29:X:2256:G:OP2	1.53	1.08
16:K:20:LEU:HD11	16:K:24:GLN:HE21	1.17	1.08
13:H:47:VAL:HG23	13:H:77:THR:HG23	1.17	1.08
9:D:150:ARG:HG2	9:D:151:GLY:H	1.17	1.08
10:E:87:LEU:HB2	10:E:131:ILE:HB	1.27	1.08
29:X:1052:C:C2'	29:X:1053:G:H5''	1.84	1.08
29:X:1128:G:H3'	29:X:1129:A:H5''	1.34	1.08
24:S:113:VAL:HA	24:S:171:VAL:HA	1.33	1.08
18:M:108:ARG:O	18:M:109:GLU:CG	2.02	1.08
29:X:2194:A:C3'	29:X:2195:C:H5''	1.84	1.08
29:X:2781:G:H2'	29:X:2782:G:H5''	1.30	1.08
28:W:4:LYS:HG3	28:W:52:GLU:HB3	1.29	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:90:LYS:HB2	23:R:108:VAL:HG21	1.35	1.07
29:X:623:G:H3'	29:X:624:A:H5''	1.37	1.07
9:D:122:PHE:HB3	9:D:129:ASN:HD22	1.15	1.07
12:G:116:ARG:HE	12:G:126:VAL:HG13	1.19	1.07
21:P:27:VAL:HG23	21:P:125:THR:HG22	1.37	1.07
29:X:558:G:N3	29:X:558:G:H3'	1.70	1.07
29:X:2581:A:H3'	29:X:2582:G:H5''	1.34	1.06
29:X:104:C:H2'	29:X:105:G:H5''	1.36	1.06
29:X:1118:G:C2'	29:X:1119:U:H5''	1.85	1.06
26:U:32:ARG:O	29:X:2375:G:H4'	1.55	1.06
29:X:2170:C:H3'	29:X:2171:U:H5''	1.36	1.06
29:X:2194:A:H3'	29:X:2195:C:H5''	1.33	1.06
7:B:116:VAL:H	7:B:136:ARG:NE	1.53	1.05
13:H:4:PRO:O	13:H:5:GLN:HB2	1.56	1.05
13:H:2:ILE:HB	13:H:45:ALA:HB3	1.35	1.05
29:X:758:G:H2'	29:X:759:C:H5''	1.31	1.05
29:X:2195:C:O2'	29:X:2196:U:H5'	1.56	1.05
13:H:10:VAL:HG23	13:H:17:ARG:O	1.57	1.05
29:X:128:C:H2'	29:X:129:A:H5''	1.35	1.05
21:P:95:ALA:HB2	21:P:126:ILE:HD13	1.35	1.04
13:H:8:LEU:HD22	13:H:94:ASN:HB3	1.36	1.04
16:K:79:VAL:HA	16:K:83:VAL:CG1	1.86	1.04
18:M:106:TYR:HE1	18:M:107:LEU:CD2	1.69	1.04
20:O:26:GLN:HG2	20:O:27:GLY:H	0.89	1.04
29:X:2196:U:C2'	29:X:2197:U:O4'	2.04	1.04
6:A:39:LYS:H	6:A:61:LEU:HD22	1.22	1.04
29:X:1056:U:C2'	29:X:1056:U:O2	2.01	1.04
29:X:1181:C:H2'	29:X:1182:U:H5''	1.39	1.04
29:X:2195:C:H2'	29:X:2196:U:C6	1.93	1.04
29:X:822:G:C2'	29:X:823:U:H5'	1.88	1.04
6:A:43:ARG:HH11	6:A:43:ARG:N	1.53	1.03
7:B:116:VAL:HG22	7:B:136:ARG:NE	1.74	1.03
25:T:34:GLY:HA3	29:X:2332:G:H1'	1.07	1.03
29:X:1053:G:H2'	29:X:1054:C:H6	1.01	1.03
28:W:5:LEU:HB2	28:W:25:LEU:HD13	1.37	1.03
29:X:2484:G:O2'	29:X:2485:U:H5'	1.58	1.03
23:R:15:HIS:CD2	29:X:347:C:H4'	1.94	1.02
29:X:2040:A:H2'	29:X:2041:A:H8	1.25	1.02
29:X:3:U:H2'	29:X:4:C:C6	1.95	1.02
29:X:517:A:H5''	29:X:518:A:H5'	1.38	1.02
13:H:27:SER:HB3	13:H:50:ILE:N	1.73	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:26:GLN:CG	20:O:27:GLY:H	1.72	1.02
17:L:26:ARG:NH1	29:X:2357:A:H4'	1.73	1.02
22:Q:51:ILE:HD11	22:Q:83:ALA:HA	1.41	1.02
29:X:2736:U:O2'	29:X:2737:A:H5''	1.59	1.02
9:D:175:LEU:HD12	9:D:176:PRO:HD2	1.37	1.02
29:X:717:G:H2'	29:X:739:G:H22	1.21	1.02
13:H:23:ARG:NH1	13:H:25:LEU:HA	1.75	1.02
26:U:51:ILE:HG23	26:U:59:THR:HA	1.37	1.02
14:I:63:ARG:HH11	29:X:2394:G:H3'	1.24	1.01
14:I:85:ASP:HA	14:I:116:ARG:HH12	1.22	1.01
9:D:13:ARG:HB3	9:D:14:PRO:HD3	1.41	1.01
6:A:208:LYS:HE3	29:X:1782:A:H1'	1.40	1.01
9:D:27:ALA:HB2	31:Z:59:A:H1'	1.40	1.01
8:C:68:ARG:HH12	29:X:2043:A:H62	1.04	1.01
29:X:537:C:H1'	29:X:538:A:C6	1.94	1.01
29:X:2323:U:H2'	29:X:2323:U:O2	1.59	1.00
4:4:24:LEU:HG	4:4:35:ARG:HG3	1.42	1.00
29:X:224:G:H4'	29:X:399:G:C6	1.94	1.00
12:G:33:ILE:HB	12:G:34:PRO:HD2	1.42	1.00
21:P:37:LYS:HB2	29:X:1279:G:N2	1.76	1.00
12:G:33:ILE:HB	12:G:34:PRO:CD	1.91	1.00
29:X:591:G:H2'	29:X:592:G:C8	1.96	1.00
16:K:99:ARG:HG2	16:K:99:ARG:HH11	1.24	1.00
29:X:304:A:H2'	29:X:305:A:H5''	1.43	1.00
7:B:119:ARG:HG2	7:B:119:ARG:HH11	1.24	1.00
29:X:1550:C:H2'	29:X:1553:G:N2	1.76	1.00
29:X:2198:U:H2'	29:X:2199:C:O4'	1.60	1.00
15:J:79:PRO:HD2	15:J:88:LYS:HD2	1.43	1.00
27:V:2:LYS:HG3	27:V:3:PRO:HD3	1.44	1.00
17:L:54:ALA:HB3	17:L:75:LEU:HB2	1.44	0.99
18:M:106:TYR:CE1	18:M:107:LEU:CD2	2.45	0.99
18:M:106:TYR:HE1	18:M:107:LEU:HD21	1.24	0.99
6:A:43:ARG:H	6:A:43:ARG:HD2	1.26	0.99
10:E:124:ALA:HB3	10:E:132:ASP:HB3	1.45	0.99
7:B:116:VAL:HG13	7:B:136:ARG:HH21	1.28	0.99
17:L:63:ASN:HB2	17:L:67:THR:HG23	1.43	0.99
20:O:26:GLN:HG2	20:O:27:GLY:N	1.72	0.99
22:Q:73:ASN:HB2	22:Q:75:ARG:HH12	1.26	0.99
29:X:1850:G:N2	29:X:1867:A:N7	2.08	0.99
29:X:2691:C:H2'	29:X:2692:A:H5''	1.42	0.99
29:X:558:G:C5'	29:X:558:G:N3	2.26	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1056:U:H2'	29:X:1056:U:O2	1.19	0.98
29:X:1467:U:H3'	29:X:1468:A:H5'	1.45	0.98
29:X:871:U:O2'	29:X:2247:A:H2'	1.60	0.98
17:L:40:ALA:HB2	17:L:103:LEU:HD11	1.45	0.98
21:P:66:GLU:HB3	21:P:67:PRO:HD3	1.42	0.98
22:Q:11:VAL:HG23	22:Q:27:PHE:HA	1.41	0.98
23:R:105:ARG:HH22	23:R:112:LYS:HA	1.25	0.98
16:K:102:THR:HA	16:K:109:THR:HA	1.45	0.98
29:X:317:U:H2'	29:X:318:G:H5''	1.45	0.98
21:P:27:VAL:CG2	21:P:125:THR:HG22	1.92	0.98
21:P:57:LEU:HD13	21:P:69:ALA:HA	1.45	0.98
29:X:693:A:H2'	29:X:694:G:C8	1.98	0.98
29:X:1854:G:H2'	29:X:1855:G:OP2	1.61	0.98
26:U:17:SER:HB2	26:U:44:ALA:HA	1.41	0.98
6:A:108:PRO:HA	6:A:196:VAL:HA	1.45	0.97
6:A:229:VAL:HG22	29:X:2056:C:H5''	1.44	0.97
17:L:20:THR:HB	17:L:24:SER:OG	1.63	0.97
15:J:99:LYS:CD	15:J:100:PRO:HD2	1.95	0.97
29:X:1850:G:O2'	29:X:1851:A:H8	1.46	0.97
29:X:2819:G:H2'	29:X:2820:C:C6	1.99	0.97
16:K:63:ARG:NH1	16:K:80:MET:HG2	1.79	0.97
22:Q:12:ILE:HG12	22:Q:13:SER:N	1.80	0.97
22:Q:35:LYS:O	22:Q:38:ILE:HG23	1.63	0.97
20:O:10:LYS:HD2	20:O:37:ALA:HB3	1.44	0.97
29:X:1052:C:H2'	29:X:1053:G:H5''	1.44	0.97
8:C:5:ASN:HA	8:C:118:VAL:HG21	1.43	0.97
8:C:194:GLU:O	8:C:195:ILE:HG12	1.65	0.97
13:H:23:ARG:NH2	13:H:25:LEU:HD23	1.80	0.97
29:X:1386:A:H5''	29:X:2191:A:H62	1.29	0.97
9:D:135:GLN:HG3	9:D:151:GLY:HA2	1.43	0.97
29:X:687:G:C2'	29:X:688:A:H5'	1.94	0.96
30:Y:4:HIS:HB3	30:Y:5:PRO:HD3	1.45	0.96
23:R:38:LEU:HB2	23:R:47:VAL:HB	1.46	0.96
26:U:31:GLY:HA2	26:U:32:ARG:HH11	1.29	0.96
8:C:84:PHE:CE1	29:X:596:C:H5'	2.00	0.96
29:X:796:A:H8	29:X:797:A:H4'	1.29	0.96
14:I:39:SER:O	14:I:40:ARG:HB2	1.61	0.96
26:U:37:ILE:HD11	29:X:400:U:OP2	1.66	0.96
29:X:2196:U:H2'	29:X:2197:U:C1'	1.94	0.96
14:I:30:ALA:HB3	14:I:34:HIS:CE1	2.01	0.96
10:E:105:MET:HB2	10:E:113:VAL:HB	1.46	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:531:G:H2'	29:X:532:A:H8	1.29	0.96
29:X:2030:U:H2'	29:X:2031:A:H8	1.30	0.96
29:X:719:A:H2'	29:X:720:A:O4'	1.66	0.96
10:E:27:LYS:HA	10:E:32:GLU:HA	1.45	0.95
29:X:1052:C:H3'	29:X:1053:G:H5''	1.45	0.95
24:S:69:VAL:HG22	24:S:81:VAL:HG13	1.49	0.95
29:X:635:C:H2'	29:X:636:G:H5''	1.45	0.95
15:J:6:LYS:HE3	15:J:7:ARG:HE	1.28	0.95
29:X:2447:G:H22	29:X:2460:G:H2'	1.30	0.95
29:X:2823:G:HO2'	29:X:2824:C:H6	0.99	0.95
12:G:61:ARG:HA	12:G:65:LYS:HB2	1.49	0.95
7:B:183:LEU:HD21	18:M:16:ILE:HG21	1.46	0.95
10:E:43:VAL:HB	10:E:52:VAL:HG13	1.49	0.95
16:K:13:ASN:ND2	16:K:16:ALA:H	1.64	0.95
24:S:104:SER:HA	24:S:139:THR:HA	1.47	0.95
10:E:58:ALA:H	10:E:62:ARG:HG3	1.31	0.94
21:P:35:PRO:O	21:P:39:ARG:HD3	1.67	0.94
27:V:55:THR:O	27:V:59:GLU:HG3	1.67	0.94
14:I:104:ARG:HB3	14:I:105:PRO:HD2	1.48	0.94
7:B:11:MET:O	7:B:12:THR:HB	1.67	0.94
29:X:1052:C:H3'	29:X:1053:G:C5'	1.96	0.94
29:X:861:G:H2'	29:X:862:A:H5'	1.49	0.94
29:X:651:C:H2'	29:X:652:C:H5''	1.49	0.94
10:E:50:LEU:HD23	10:E:51:LEU:H	1.32	0.94
29:X:2769:C:H2'	29:X:2770:A:H8	1.19	0.94
7:B:11:MET:HG2	7:B:24:THR:OG1	1.68	0.94
12:G:49:VAL:HG21	12:G:170:PRO:HG2	1.50	0.94
23:R:106:VAL:HG23	23:R:113:THR:HG21	1.47	0.94
29:X:1107:A:H3'	29:X:1108:U:H5''	1.48	0.94
29:X:2796:A:H2'	29:X:2797:G:C8	2.02	0.94
29:X:590:C:H2'	29:X:591:G:H8	1.33	0.93
16:K:13:ASN:HD21	16:K:16:ALA:H	1.05	0.93
26:U:19:ILE:HG22	26:U:42:GLN:HG3	1.47	0.93
11:F:126:THR:HA	29:X:1091:C:H1'	1.49	0.93
12:G:51:LEU:HD13	12:G:88:VAL:HG21	1.50	0.93
29:X:2212:U:H2'	29:X:2213:G:C8	2.04	0.93
29:X:314:G:H2'	29:X:315:G:H8	1.34	0.93
30:Y:14:SER:O	30:Y:18:MET:HG2	1.69	0.93
11:F:3:LYS:H	11:F:3:LYS:HD2	1.33	0.93
29:X:2674:C:HO2'	29:X:2675:U:H6	1.02	0.93
29:X:558:G:C4	29:X:558:G:H3'	2.00	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:W:8:SER:HB2	29:X:999:A:H5''	1.51	0.93
8:C:47:THR:HG23	8:C:85:GLY:H	1.31	0.93
26:U:49:LYS:HB2	26:U:61:TRP:HA	1.51	0.93
29:X:1764:A:H2'	29:X:1765:C:H5'	1.49	0.93
20:O:25:LEU:HB2	20:O:32:LYS:HZ3	1.34	0.92
16:K:28:LEU:O	16:K:28:LEU:HD22	1.68	0.92
26:U:48:LYS:HG2	26:U:49:LYS:H	1.32	0.92
17:L:10:LYS:O	17:L:14:ARG:HG3	1.69	0.92
29:X:2040:A:H2'	29:X:2041:A:C8	2.03	0.92
29:X:632:A:H2'	29:X:633:G:H5'	1.52	0.92
29:X:914:C:H2'	29:X:915:C:H6	1.34	0.92
17:L:28:ARG:HH22	31:Z:11:G:P	1.93	0.92
22:Q:65:VAL:HG12	22:Q:66:GLY:H	1.33	0.92
8:C:84:PHE:HE1	29:X:596:C:H5'	1.33	0.92
29:X:109:A:H2'	29:X:110:U:H5''	1.48	0.92
29:X:1301:U:H5''	29:X:1302:C:OP2	1.69	0.92
16:K:11:ASN:HD21	16:K:17:ARG:NH1	1.68	0.92
29:X:1681:A:H61	29:X:1979:C:H42	1.18	0.92
29:X:2826:C:H2'	29:X:2827:G:H5'	1.52	0.92
12:G:88:VAL:HG22	12:G:89:ALA:H	1.31	0.92
29:X:205:A:H2'	29:X:206:U:H5'	1.51	0.92
6:A:183:ARG:HA	6:A:183:ARG:HH11	1.35	0.91
18:M:55:ILE:HG22	18:M:104:LEU:HB2	1.52	0.91
29:X:314:G:H2'	29:X:315:G:C8	2.04	0.91
29:X:822:G:H2'	29:X:823:U:H5'	1.49	0.91
12:G:61:ARG:HB3	12:G:61:ARG:HH21	1.31	0.91
29:X:1053:G:C2'	29:X:1054:C:H6	1.83	0.91
29:X:876:A:H2'	29:X:877:G:C8	2.06	0.91
17:L:8:ARG:HG3	17:L:9:ARG:H	1.33	0.91
20:O:38:LEU:HD13	20:O:39:PHE:N	1.85	0.91
22:Q:62:ARG:HH12	22:Q:73:ASN:HD21	1.17	0.91
29:X:1849:G:N3	29:X:1868:A:N6	2.19	0.91
17:L:64:LYS:H	17:L:64:LYS:HD3	1.35	0.91
29:X:1441:A:H1'	29:X:1442:C:C5	2.05	0.91
26:U:14:VAL:HG12	29:X:409:G:H5''	1.50	0.91
29:X:719:A:N6	29:X:738:G:O2'	2.02	0.91
29:X:793:G:H21	29:X:796:A:H62	1.09	0.91
26:U:78:ILE:HD13	26:U:79:GLU:N	1.84	0.91
29:X:623:G:C3'	29:X:624:A:H5''	2.01	0.91
23:R:97:GLN:HB2	23:R:101:GLY:HA2	1.53	0.91
29:X:663:G:H3'	29:X:664:C:H5''	1.51	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:116:ARG:HH11	13:H:116:ARG:HG3	1.31	0.90
29:X:2691:C:C2'	29:X:2692:A:H5''	2.01	0.90
6:A:95:LEU:HD12	6:A:105:ILE:HD12	1.53	0.90
6:A:67:PHE:HB3	6:A:153:ALA:H	1.34	0.90
6:A:208:LYS:CE	29:X:1782:A:H1'	2.01	0.90
29:X:2757:G:H5''	29:X:2758:A:H5''	1.53	0.90
29:X:1386:A:H5''	29:X:2191:A:C6	2.06	0.90
29:X:1468:A:H5''	29:X:1472:C:N4	1.86	0.90
8:C:102:LEU:O	8:C:102:LEU:HD23	1.72	0.90
15:J:12:LYS:O	15:J:13:GLN:HB2	1.72	0.90
24:S:19:ILE:HG12	24:S:36:ARG:HA	1.54	0.90
29:X:1683:G:O2'	29:X:1684:G:H5'	1.70	0.90
29:X:1982:C:H4'	29:X:2703:C:O2	1.72	0.90
16:K:36:THR:HG23	16:K:37:THR:O	1.71	0.90
29:X:2189:A:H61	29:X:2195:C:H41	1.20	0.90
24:S:19:ILE:HG22	24:S:20:ALA:H	1.37	0.90
31:Z:16:U:H1'	31:Z:109:G:H21	1.36	0.90
9:D:81:GLN:HG2	9:D:82:GLY:H	1.38	0.90
12:G:149:LYS:NZ	29:X:7:G:H5'	1.86	0.90
29:X:922:A:H2'	29:X:923:A:C8	2.07	0.90
9:D:10:ASP:O	9:D:14:PRO:HD2	1.72	0.89
14:I:56:LEU:HD11	29:X:2338:C:O2'	1.71	0.89
16:K:87:TYR:CD1	16:K:90:ARG:HD2	2.06	0.89
29:X:1193:G:C2'	29:X:1194:U:H5''	2.02	0.89
29:X:1711:C:H4'	29:X:1712:G:C5'	2.01	0.89
29:X:2819:G:H2'	29:X:2820:C:H6	1.34	0.89
9:D:38:GLU:HB3	9:D:87:ILE:HB	1.53	0.89
29:X:1978:U:H3'	29:X:1979:C:H5''	1.54	0.89
29:X:1281:A:H1'	29:X:2592:U:C4	2.08	0.89
24:S:105:GLN:O	24:S:142:ASN:HA	1.72	0.89
29:X:1299:A:H2'	29:X:1301:U:OP2	1.71	0.89
29:X:2195:C:C6	29:X:2196:U:C5	2.60	0.89
29:X:2775:U:H5'	29:X:2776:U:H5''	1.52	0.89
29:X:2781:G:C2'	29:X:2782:G:H5''	2.01	0.89
29:X:796:A:C8	29:X:797:A:H4'	2.07	0.89
6:A:222:ARG:CB	6:A:222:ARG:HH21	1.84	0.89
29:X:2708:U:H2'	29:X:2709:C:C6	2.07	0.89
9:D:75:SER:H	9:D:79:LEU:HD22	1.38	0.89
12:G:67:ARG:HE	12:G:70:PHE:HA	1.37	0.89
24:S:120:LEU:HD23	24:S:121:GLN:N	1.87	0.89
29:X:1427:G:H2'	29:X:1428:G:H1'	1.52	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1681:A:C2	29:X:2706:U:C2	2.59	0.89
29:X:1859:A:H2'	29:X:1860:A:C8	2.08	0.89
29:X:1886:G:H2'	29:X:1887:G:H8	1.37	0.89
6:A:252:LYS:HE3	6:A:253:PRO:HD3	1.52	0.89
18:M:38:LYS:HB3	18:M:46:ARG:HB3	1.53	0.89
7:B:144:ARG:HH11	29:X:2551:A:H2'	1.35	0.89
25:T:29:GLU:O	25:T:67:VAL:HG23	1.71	0.89
29:X:2642:G:C2'	29:X:2643:G:H5'	2.02	0.89
6:A:99:ASP:OD1	29:X:1506:C:H2'	1.72	0.89
12:G:61:ARG:HG2	12:G:65:LYS:HD2	1.55	0.89
20:O:11:GLN:NE2	20:O:38:LEU:HB3	1.87	0.89
29:X:1922:U:H1'	29:X:2570:C:O2'	1.73	0.89
7:B:82:ARG:HH21	29:X:2616:U:H5''	1.37	0.89
4:4:29:ASN:HD21	4:4:31:LYS:HD3	1.35	0.88
18:M:28:ARG:HB2	18:M:29:PRO:CD	2.03	0.88
24:S:1:MET:CE	24:S:52:PHE:HB3	2.03	0.88
6:A:160:GLY:HA3	29:X:1812:U:C4	2.07	0.88
6:A:68:LYS:HD3	6:A:68:LYS:H	1.35	0.88
29:X:2195:C:H2'	29:X:2196:U:H6	1.31	0.88
29:X:729:A:H3'	29:X:729:A:N3	1.86	0.88
29:X:758:G:C2'	29:X:759:C:H5''	2.02	0.88
29:X:469:G:N2	29:X:480:G:H2'	1.87	0.88
6:A:126:LYS:HB2	6:A:129:ASN:ND2	1.88	0.88
12:G:107:GLN:C	12:G:109:GLY:H	1.77	0.88
29:X:1193:G:H2'	29:X:1194:U:H5''	1.51	0.88
29:X:2239:C:H2'	29:X:2240:C:H6	1.39	0.88
29:X:666:U:H2'	29:X:667:U:H4'	1.53	0.88
29:X:693:A:H2'	29:X:694:G:H8	1.34	0.88
29:X:765:C:C4	29:X:1772:C:H1'	2.09	0.88
29:X:2736:U:H4'	29:X:2737:A:OP1	1.71	0.88
29:X:38:G:H1	29:X:453:U:H3	1.20	0.88
15:J:131:LYS:HD2	24:S:76:ARG:NH2	1.88	0.88
29:X:104:C:C2'	29:X:105:G:H5''	2.04	0.88
29:X:1885:C:H2'	29:X:1886:G:H5'	1.53	0.88
10:E:126:PRO:HG3	10:E:130:ARG:HD3	1.52	0.88
16:K:32:GLY:HA2	16:K:115:LEU:HD12	1.54	0.88
24:S:6:LYS:HB2	24:S:31:SER:O	1.74	0.88
29:X:1624:A:O2'	29:X:1625:A:H5'	1.72	0.88
29:X:1625:A:H1'	29:X:1632:A:O2'	1.74	0.88
10:E:126:PRO:HG2	10:E:127:GLU:H	1.38	0.88
13:H:47:VAL:HG11	13:H:115:ALA:CB	2.04	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:42:ILE:HD11	17:L:87:VAL:HG13	1.55	0.88
17:L:54:ALA:O	17:L:71:VAL:HG23	1.74	0.88
18:M:101:ARG:O	18:M:103:LYS:N	2.07	0.88
9:D:122:PHE:HD2	9:D:129:ASN:H	1.22	0.88
18:M:99:VAL:HG22	18:M:100:ARG:N	1.87	0.88
23:R:85:ASP:H	23:R:86:PRO:HD3	1.39	0.88
29:X:427:C:H1'	29:X:1856:U:H1'	1.53	0.88
29:X:585:U:H4'	29:X:2481:G:N7	1.89	0.88
29:X:958:G:H2'	29:X:959:C:C6	2.09	0.88
17:L:33:ARG:HG3	17:L:38:ILE:HB	1.56	0.87
22:Q:62:ARG:NH1	22:Q:73:ASN:HD21	1.72	0.87
29:X:1674:C:H2'	29:X:1675:C:C6	2.09	0.87
16:K:96:ARG:HB2	29:X:2857:C:H5'	1.55	0.87
18:M:101:ARG:HH21	18:M:101:ARG:HG2	1.39	0.87
18:M:106:TYR:CE2	29:X:1745:C:H5'	2.09	0.87
8:C:48:ARG:HB2	8:C:51:VAL:HG22	1.56	0.87
28:W:8:SER:HB2	29:X:999:A:C5'	2.05	0.87
29:X:1588:A:H2'	29:X:1589:G:H8	1.39	0.87
29:X:2642:G:H2'	29:X:2643:G:H5'	1.55	0.87
30:Y:51:TYR:CE1	30:Y:55:ARG:HB2	2.09	0.87
7:B:189:PRO:HA	29:X:2659:C:H5'	1.55	0.87
29:X:48:A:H4'	29:X:49:U:O5'	1.74	0.87
7:B:34:VAL:HG21	7:B:78:LEU:HD22	1.56	0.87
9:D:167:ARG:HA	9:D:170:LEU:HD12	1.55	0.87
7:B:116:VAL:HG13	7:B:136:ARG:NH2	1.87	0.87
22:Q:62:ARG:HH12	22:Q:73:ASN:ND2	1.72	0.87
29:X:1508:G:C5'	29:X:1509:A:H5''	2.04	0.87
29:X:731:A:H2'	29:X:732:G:O4'	1.75	0.87
29:X:2604:G:H2'	29:X:2605:C:C6	2.09	0.86
6:A:60:ARG:HD3	6:A:87:ASN:HD21	1.40	0.86
17:L:36:LYS:HE2	17:L:65:THR:HG22	1.57	0.86
29:X:2498:U:H4'	29:X:2499:C:OP1	1.74	0.86
29:X:555:U:H6	29:X:555:U:H3'	1.40	0.86
12:G:42:VAL:HG13	12:G:166:LEU:O	1.74	0.86
17:L:18:ARG:CZ	29:X:2357:A:H61	1.88	0.86
10:E:103:LEU:HD21	10:E:105:MET:HE3	1.56	0.86
10:E:57:ASP:HB3	10:E:62:ARG:HE	1.39	0.86
29:X:460:U:O4	29:X:592:G:H1'	1.75	0.86
8:C:162:ARG:NH1	29:X:333:A:H5''	1.90	0.86
29:X:1992:G:H2'	29:X:1993:G:H5'	1.56	0.86
13:H:29:ILE:HA	13:H:34:LEU:HD23	1.58	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:132:GLU:HB2	18:M:73:PHE:HE1	1.40	0.86
11:F:104:VAL:HA	11:F:107:ILE:HD12	1.57	0.86
11:F:2:LYS:HD3	11:F:2:LYS:N	1.89	0.86
24:S:122:ILE:HG22	24:S:160:LEU:HD23	1.56	0.86
29:X:1468:A:O5'	29:X:1468:A:H8	1.59	0.86
29:X:219:G:N2	29:X:231:G:H2'	1.91	0.86
29:X:813:A:H4'	29:X:814:G:O5'	1.73	0.86
6:A:62:TYR:CE1	29:X:1808:C:H3'	2.11	0.86
9:D:4:LEU:HD11	9:D:173:MET:HE1	1.58	0.86
13:H:47:VAL:CG2	13:H:77:THR:HG23	2.05	0.86
16:K:13:ASN:HD22	16:K:14:SER:N	1.71	0.86
6:A:255:LYS:HE2	29:X:1835:C:H5'	1.58	0.86
29:X:627:A:H2'	29:X:628:A:C8	2.10	0.86
29:X:648:A:H5'	29:X:649:G:H4'	1.58	0.86
8:C:166:TRP:H	8:C:166:TRP:HE3	1.23	0.86
12:G:105:GLY:O	12:G:110:LEU:HD12	1.76	0.86
29:X:929:A:H2	31:Z:81:C:O2	1.57	0.86
14:I:38:LYS:NZ	29:X:954:U:OP2	2.08	0.86
9:D:118:ASN:HD21	9:D:120:ASN:HD22	1.19	0.85
13:H:23:ARG:HH12	13:H:25:LEU:HA	1.38	0.85
18:M:82:PRO:O	18:M:84:ALA:N	2.09	0.85
19:N:55:ARG:HD3	29:X:1166:A:H5''	1.58	0.85
20:O:10:LYS:HD2	20:O:37:ALA:CB	2.05	0.85
29:X:2811:G:H2'	29:X:2812:A:H8	1.40	0.85
6:A:247:VAL:HG23	6:A:248:THR:HG23	1.56	0.85
18:M:106:TYR:CE1	18:M:107:LEU:HG	2.10	0.85
6:A:70:ARG:HH22	6:A:149:PRO:HA	1.40	0.85
16:K:49:GLU:O	16:K:52:ILE:HG12	1.75	0.85
22:Q:61:LYS:HB2	22:Q:72:ARG:HD3	1.57	0.85
23:R:4:PRO:N	29:X:34:U:HO2'	1.74	0.85
26:U:27:ASP:HA	26:U:32:ARG:CZ	2.06	0.85
29:X:876:A:H2'	29:X:877:G:H8	1.42	0.85
7:B:116:VAL:H	7:B:136:ARG:HE	0.90	0.85
16:K:5:LYS:HE3	29:X:2795:A:H4'	1.58	0.85
29:X:1223:G:H4'	29:X:1224:A:H5''	1.58	0.85
29:X:1539:U:H2'	29:X:1540:C:C6	2.10	0.85
8:C:162:ARG:NH2	29:X:333:A:H3'	1.91	0.85
12:G:73:ASN:HD21	29:X:547:U:H1'	1.39	0.85
15:J:99:LYS:HD2	15:J:100:PRO:HD2	1.57	0.85
17:L:33:ARG:CG	17:L:38:ILE:HB	2.07	0.85
17:L:43:ILE:HD12	17:L:43:ILE:N	1.91	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:14:ILE:HG12	18:M:20:HIS:CD2	2.11	0.85
21:P:71:VAL:HG12	21:P:126:ILE:HG22	1.59	0.85
23:R:14:LEU:HD13	23:R:39:ALA:HB1	1.57	0.85
25:T:21:LEU:HD11	25:T:41:ARG:NE	1.90	0.85
13:H:75:VAL:CG1	13:H:118:LEU:HD21	2.05	0.85
24:S:127:PRO:O	24:S:128:ARG:HG2	1.76	0.85
29:X:1281:A:H1'	29:X:2592:U:C5	2.11	0.85
29:X:537:C:C5	29:X:2759:U:H3'	2.11	0.85
9:D:118:ASN:HD21	9:D:120:ASN:ND2	1.73	0.85
18:M:28:ARG:CB	18:M:29:PRO:HD3	1.95	0.85
29:X:841:G:H2'	29:X:842:A:C8	2.11	0.85
29:X:2662:C:H2'	29:X:2663:U:H6	1.41	0.85
29:X:2796:A:H2'	29:X:2797:G:H8	1.38	0.85
19:N:66:ASN:HB3	19:N:76:TYR:HB2	1.59	0.85
29:X:868:U:H2'	29:X:869:C:C6	2.12	0.85
7:B:115:GLY:O	7:B:119:ARG:HB2	1.76	0.85
15:J:77:LYS:O	15:J:79:PRO:HD3	1.77	0.85
20:O:65:ARG:HH11	20:O:65:ARG:HG3	1.42	0.85
15:J:26:ASP:HB3	15:J:68:ARG:HH22	1.41	0.84
21:P:31:VAL:HG21	21:P:124:ILE:HG13	1.59	0.84
29:X:1052:C:C3'	29:X:1053:G:C5'	2.55	0.84
6:A:244:ARG:O	6:A:252:LYS:HE2	1.77	0.84
9:D:166:ALA:O	9:D:170:LEU:HG	1.77	0.84
17:L:68:ALA:HB1	17:L:102:ALA:CB	2.05	0.84
29:X:2404:A:H1'	29:X:2406:C:C4	2.12	0.84
29:X:88:G:H3'	29:X:89:A:H5''	1.57	0.84
31:Z:80:A:H2'	31:Z:81:C:O4'	1.77	0.84
29:X:2030:U:H2'	29:X:2031:A:C8	2.12	0.84
26:U:32:ARG:HG2	26:U:33:LYS:H	1.41	0.84
6:A:99:ASP:HB3	29:X:1507:A:O4'	1.77	0.84
20:O:22:VAL:HG22	29:X:1173:G:H4'	1.57	0.84
24:S:122:ILE:HA	24:S:161:ALA:H	1.41	0.84
29:X:1072:U:H1'	29:X:1081:A:H1'	1.60	0.84
10:E:50:LEU:HD23	10:E:51:LEU:N	1.92	0.84
18:M:27:PHE:HB3	18:M:93:ILE:HD12	1.60	0.84
20:O:11:GLN:HA	20:O:38:LEU:O	1.77	0.84
29:X:400:U:O2'	29:X:401:G:H5''	1.76	0.84
24:S:94:VAL:O	24:S:121:GLN:HG3	1.78	0.84
29:X:162:C:H2'	29:X:163:A:H8	1.43	0.84
15:J:39:GLU:HG2	31:Z:92:G:H22	1.42	0.84
16:K:98:LEU:CD2	30:Y:56:GLN:HG2	2.08	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:109:A:C2'	29:X:110:U:H5''	2.08	0.84
6:A:39:LYS:H	6:A:61:LEU:CD2	1.89	0.83
29:X:1118:G:H2'	29:X:1119:U:C5'	2.07	0.83
29:X:1388:C:H2'	29:X:1389:C:H6	1.41	0.83
21:P:41:VAL:O	21:P:44:VAL:HG22	1.76	0.83
21:P:95:ALA:HB2	21:P:126:ILE:CD1	2.08	0.83
29:X:1125:G:H2'	29:X:1126:A:H8	1.42	0.83
10:E:163:ARG:HD3	10:E:167:GLU:HB3	1.59	0.83
18:M:106:TYR:CE1	18:M:107:LEU:HD21	2.08	0.83
29:X:1053:G:H1	29:X:1124:U:H3	1.26	0.83
29:X:2075:U:O2'	29:X:2076:G:H5''	1.77	0.83
29:X:38:G:H2'	29:X:39:C:C6	2.13	0.83
29:X:679:C:H2'	29:X:680:U:C6	2.13	0.83
10:E:6:LYS:HB3	10:E:69:ARG:HD2	1.59	0.83
14:I:78:SER:HB3	14:I:112:GLY:HA3	1.61	0.83
21:P:35:PRO:HD3	21:P:122:SER:OG	1.79	0.83
29:X:1061:A:C2'	29:X:1062:G:H5'	2.08	0.83
25:T:34:GLY:CA	29:X:2332:G:H1'	2.02	0.83
29:X:712:A:H2'	29:X:713:G:O4'	1.77	0.83
8:C:22:VAL:HG13	8:C:106:MET:HG2	1.59	0.83
15:J:27:TYR:HB3	15:J:137:VAL:HG21	1.61	0.83
29:X:2811:G:H2'	29:X:2812:A:C8	2.13	0.83
29:X:224:G:H4'	29:X:399:G:C5	2.12	0.83
29:X:558:G:C8	29:X:559:C:C5	2.66	0.83
6:A:249:PRO:HG3	29:X:2218:G:O4'	1.77	0.83
12:G:107:GLN:O	12:G:109:GLY:N	2.12	0.83
29:X:1687:C:O2'	29:X:1977:C:H4'	1.79	0.83
29:X:553:C:H5'	29:X:554:U:OP1	1.77	0.83
10:E:96:ALA:HB1	10:E:103:LEU:HD11	1.60	0.83
16:K:64:ARG:NH2	29:X:2684:A:H2	1.76	0.83
18:M:94:VAL:O	18:M:95:GLU:HB3	1.79	0.83
24:S:51:LEU:HA	24:S:64:ALA:O	1.78	0.83
29:X:531:G:H2'	29:X:532:A:C8	2.14	0.83
6:A:39:LYS:N	6:A:61:LEU:HD22	1.93	0.83
17:L:33:ARG:NH1	17:L:103:LEU:HB2	1.92	0.83
17:L:60:LYS:HB2	17:L:63:ASN:O	1.79	0.83
18:M:22:ARG:HD3	18:M:24:LEU:HD21	1.61	0.83
23:R:85:ASP:H	23:R:86:PRO:CD	1.91	0.83
29:X:1011:A:C2	29:X:1166:A:C2	2.66	0.83
29:X:555:U:C6	29:X:555:U:H3'	2.14	0.83
29:X:931:G:H4'	31:Z:83:C:H4'	1.61	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:577:U:H5'	29:X:956:A:H62	1.44	0.83
15:J:99:LYS:O	15:J:102:ARG:HB2	1.79	0.83
17:L:91:ARG:CZ	29:X:2355:A:H61	1.92	0.83
24:S:97:PRO:HA	24:S:119:ASN:HA	1.59	0.83
29:X:1185:C:H2'	29:X:1186:G:H3'	1.61	0.83
15:J:84:MET:HG2	29:X:2229:G:H5'	1.59	0.83
6:A:258:LYS:NZ	6:A:261:ARG:HH21	1.76	0.82
29:X:1128:G:H3'	29:X:1129:A:C5'	2.08	0.82
29:X:426:C:H4'	29:X:1863:U:O2'	1.77	0.82
29:X:2604:G:H2'	29:X:2605:C:H6	1.43	0.82
7:B:136:ARG:HD3	29:X:1673:C:OP1	1.78	0.82
29:X:1018:C:H3'	29:X:1019:U:C5'	2.09	0.82
29:X:1281:A:H1'	29:X:2592:U:O4	1.78	0.82
29:X:930:A:O5'	29:X:930:A:H8	1.60	0.82
7:B:181:LEU:HD21	18:M:12:LEU:HD22	1.61	0.82
19:N:66:ASN:ND2	19:N:70:ARG:HH12	1.76	0.82
25:T:40:GLN:NE2	25:T:43:THR:HA	1.94	0.82
29:X:1468:A:O5'	29:X:1468:A:C8	2.33	0.82
8:C:78:VAL:HG13	29:X:460:U:O2'	1.79	0.82
28:W:40:VAL:HG23	29:X:940:G:O2'	1.79	0.82
7:B:146:THR:HB	7:B:147:PRO:HD2	1.61	0.82
13:H:85:ASP:OD1	13:H:86:GLY:N	2.12	0.82
29:X:1128:G:C3'	29:X:1129:A:H5''	2.10	0.82
29:X:1734:C:H5''	29:X:1735:G:C8	2.15	0.82
29:X:2010:G:H2'	29:X:2011:U:C6	2.14	0.82
15:J:102:ARG:HH11	15:J:102:ARG:HG3	1.44	0.82
29:X:403:A:H5''	29:X:404:A:OP1	1.79	0.82
9:D:13:ARG:NH1	9:D:14:PRO:HG3	1.93	0.82
12:G:100:TYR:HB2	12:G:116:ARG:NH1	1.93	0.82
16:K:87:TYR:HE1	16:K:94:TYR:HD2	1.23	0.82
29:X:1388:C:H2'	29:X:1389:C:C6	2.14	0.82
8:C:74:VAL:O	8:C:76:THR:N	2.12	0.82
9:D:92:ARG:HH12	31:Z:46:G:H4'	1.41	0.82
13:H:116:ARG:NH1	18:M:38:LYS:HE2	1.95	0.82
29:X:558:G:H5''	29:X:558:G:N3	1.93	0.82
16:K:87:TYR:CE1	16:K:94:TYR:HD2	1.97	0.82
29:X:2195:C:C4	29:X:2196:U:C4	2.68	0.82
12:G:142:ARG:HH12	29:X:538:A:H5'	1.41	0.82
23:R:90:LYS:CB	23:R:108:VAL:HG21	2.09	0.82
29:X:2496:C:O2'	29:X:2497:A:H3'	1.80	0.82
15:J:79:PRO:CD	15:J:88:LYS:HD2	2.09	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1817:U:H2'	29:X:1818:G:H8	1.42	0.82
29:X:2451:G:O6	29:X:2455:A:H4'	1.80	0.82
29:X:687:G:O2'	29:X:688:A:H5'	1.78	0.82
31:Z:53:G:H21	31:Z:54:U:H5	1.28	0.82
15:J:86:LYS:HD2	29:X:2256:G:P	2.19	0.81
21:P:66:GLU:HB3	21:P:67:PRO:CD	2.10	0.81
24:S:115:ILE:HA	24:S:169:VAL:HG12	1.62	0.81
29:X:1034:U:H2'	29:X:1035:G:H5'	1.62	0.81
29:X:1288:A:H2'	29:X:1289:A:O4'	1.80	0.81
4:4:6:SER:HB2	29:X:2445:C:H5''	1.62	0.81
9:D:122:PHE:CB	9:D:129:ASN:HD22	1.93	0.81
11:F:55:VAL:HG22	11:F:69:THR:HA	1.61	0.81
20:O:36:LYS:NZ	20:O:54:TYR:HB3	1.94	0.81
6:A:186:HIS:HD2	6:A:188:GLU:HB2	1.45	0.81
12:G:97:ASP:O	12:G:99:VAL:HG23	1.79	0.81
13:H:89:ILE:HG23	18:M:79:ARG:HD3	1.62	0.81
29:X:2306:A:H2'	29:X:2307:A:C8	2.15	0.81
29:X:691:C:H2'	29:X:692:C:H6	1.45	0.81
15:J:15:ARG:HD3	15:J:73:LYS:NZ	1.95	0.81
15:J:42:TRP:HB3	15:J:95:VAL:HG11	1.62	0.81
29:X:648:A:H4'	29:X:649:G:O4'	1.78	0.81
12:G:66:HIS:O	19:N:67:ALA:HB1	1.79	0.81
19:N:61:TRP:HZ3	19:N:94:VAL:N	1.78	0.81
29:X:2699:G:O2'	29:X:2700:U:H5'	1.80	0.81
29:X:546:A:H2'	29:X:547:U:H6	1.44	0.81
20:O:57:GLN:H	20:O:97:GLY:CA	1.93	0.81
21:P:80:LEU:HD21	21:P:87:GLU:HB3	1.61	0.81
22:Q:61:LYS:H	22:Q:72:ARG:HA	1.44	0.81
24:S:64:ALA:HA	24:S:85:MET:HA	1.62	0.81
29:X:1542:G:N2	29:X:1562:G:H1	1.78	0.81
7:B:120:TRP:CD1	7:B:155:ARG:HB3	2.16	0.81
11:F:21:PRO:CG	11:F:22:PRO:HD3	2.10	0.81
24:S:18:MET:HA	24:S:36:ARG:H	1.46	0.81
29:X:1051:U:H2'	29:X:1052:C:C6	2.15	0.81
29:X:559:C:H2'	29:X:560:G:O4'	1.80	0.81
9:D:35:VAL:O	9:D:154:ILE:HA	1.80	0.81
15:J:15:ARG:CD	15:J:73:LYS:HG3	2.10	0.81
26:U:70:LEU:HB3	26:U:79:GLU:OE2	1.80	0.81
29:X:1526:U:H2'	29:X:1527:G:O4'	1.81	0.81
29:X:1849:G:H1'	29:X:1868:A:H61	1.46	0.81
12:G:125:ARG:HH12	29:X:2760:G:H22	1.26	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2826:C:C2'	29:X:2827:G:H5'	2.10	0.81
6:A:85:ASP:OD2	6:A:92:ILE:HD12	1.80	0.81
7:B:72:VAL:HG12	7:B:73:ALA:N	1.95	0.81
12:G:145:HIS:CE1	12:G:148:LEU:HD23	2.16	0.81
25:T:21:LEU:HD11	25:T:41:ARG:CZ	2.10	0.81
29:X:826:U:H2'	29:X:827:C:C6	2.16	0.81
8:C:162:ARG:CZ	29:X:333:A:H3'	2.11	0.81
9:D:150:ARG:HG2	9:D:151:GLY:N	1.96	0.81
13:H:23:ARG:CZ	13:H:25:LEU:HD23	2.09	0.81
29:X:947:C:H2'	29:X:948:C:C6	2.16	0.81
15:J:34:GLY:HA2	15:J:106:GLU:HA	1.62	0.81
17:L:36:LYS:HB3	17:L:64:LYS:HB2	1.60	0.81
24:S:10:PRO:O	24:S:14:LEU:HG	1.79	0.81
29:X:1857:G:N2	29:X:1860:A:OP2	2.14	0.81
7:B:154:LYS:HE3	29:X:2598:C:O2'	1.81	0.81
29:X:752:G:H4'	29:X:753:U:OP1	1.80	0.81
29:X:822:G:O2'	29:X:823:U:H5'	1.80	0.81
9:D:122:PHE:HB3	9:D:129:ASN:ND2	1.94	0.80
29:X:2581:A:H3'	29:X:2582:G:C5'	2.10	0.80
29:X:496:C:C2'	29:X:497:C:H5''	2.09	0.80
29:X:717:G:H2'	29:X:739:G:N2	1.96	0.80
9:D:74:ILE:HA	9:D:79:LEU:HB3	1.61	0.80
10:E:89:LEU:HD12	10:E:129:THR:HA	1.63	0.80
24:S:141:MET:HA	24:S:145:ASP:OD1	1.80	0.80
29:X:2219:U:O2'	29:X:2220:A:H5'	1.81	0.80
6:A:73:SER:HA	6:A:119:ALA:HB3	1.64	0.80
8:C:26:VAL:HA	14:I:18:ARG:HH11	1.46	0.80
12:G:44:VAL:HG12	12:G:45:ASP:N	1.94	0.80
13:H:116:ARG:HH22	18:M:41:GLU:HG3	1.46	0.80
29:X:482:A:H2'	29:X:483:A:O4'	1.80	0.80
14:I:40:ARG:NH2	29:X:577:U:OP1	2.13	0.80
29:X:716:U:H2'	29:X:717:G:O4'	1.82	0.80
29:X:956:A:C4	29:X:2427:A:C2	2.69	0.80
8:C:74:VAL:HG23	8:C:76:THR:OG1	1.81	0.80
28:W:4:LYS:CG	28:W:52:GLU:HB3	2.09	0.80
29:X:1333:G:N2	29:X:1344:C:H41	1.80	0.80
29:X:2245:A:H1'	29:X:2251:U:O4	1.80	0.80
30:Y:16:ARG:HD3	30:Y:20:ARG:CZ	2.11	0.80
30:Y:25:LEU:N	30:Y:25:LEU:HD12	1.96	0.80
17:L:76:ALA:HB2	17:L:107:ALA:HA	1.62	0.80
19:N:99:ALA:HB2	19:N:106:PHE:CD1	2.17	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2286:G:N2	29:X:2290:A:H61	1.78	0.80
8:C:22:VAL:HA	8:C:106:MET:HG3	1.64	0.80
17:L:64:LYS:N	17:L:64:LYS:HD3	1.97	0.80
24:S:100:THR:HG23	24:S:138:VAL:HG21	1.63	0.80
24:S:117:VAL:HG22	24:S:168:VAL:HA	1.64	0.80
29:X:689:A:C8	29:X:2422:C:H1'	2.16	0.80
29:X:2642:G:H2'	29:X:2643:G:C5'	2.12	0.80
31:Z:50:U:H2'	31:Z:51:G:H8	1.47	0.80
10:E:89:LEU:HD13	10:E:95:ARG:HA	1.63	0.80
12:G:30:LYS:N	29:X:1006:C:N4	2.29	0.80
15:J:125:LYS:HD2	15:J:125:LYS:H	1.46	0.80
16:K:79:VAL:HA	16:K:83:VAL:HG11	1.63	0.80
18:M:7:ILE:HD12	18:M:12:LEU:HD11	1.64	0.80
29:X:689:A:H8	29:X:2052:G:H21	1.30	0.80
29:X:76:C:H6	29:X:76:C:H5'	1.46	0.80
7:B:201:ALA:HB1	7:B:204:ALA:HB2	1.64	0.80
23:R:98:ILE:HG22	23:R:99:VAL:H	1.45	0.80
29:X:1763:G:H2'	29:X:1764:A:H4'	1.64	0.80
30:Y:25:LEU:HD12	30:Y:25:LEU:H	1.46	0.80
16:K:82:GLU:O	16:K:85:PRO:HD2	1.81	0.80
8:C:68:ARG:HH12	29:X:2043:A:N6	1.80	0.79
10:E:126:PRO:HG3	10:E:130:ARG:CD	2.12	0.79
14:I:86:THR:C	14:I:88:PHE:H	1.85	0.79
16:K:36:THR:HG23	16:K:37:THR:N	1.96	0.79
21:P:91:PHE:O	21:P:93:LYS:N	2.15	0.79
29:X:701:U:H5'	29:X:1771:A:H2	1.48	0.79
7:B:21:ILE:HG23	7:B:185:LYS:HZ2	1.47	0.79
7:B:31:CYS:HB2	7:B:49:ILE:HD11	1.62	0.79
18:M:25:PRO:O	18:M:27:PHE:CD2	2.36	0.79
29:X:1094:C:H2'	29:X:1096:A:C5'	2.10	0.79
29:X:128:C:C2'	29:X:129:A:H5''	2.12	0.79
29:X:2074:U:H3'	29:X:2075:U:H5''	1.63	0.79
29:X:2189:A:H61	29:X:2195:C:N4	1.79	0.79
16:K:5:LYS:HE3	29:X:2795:A:C4'	2.13	0.79
23:R:11:ASN:HD22	23:R:11:ASN:C	1.83	0.79
25:T:32:LYS:HB3	25:T:35:ASN:ND2	1.96	0.79
29:X:1416:A:H2'	29:X:1417:C:H6	1.47	0.79
29:X:482:A:O2'	29:X:483:A:H5'	1.82	0.79
14:I:18:ARG:HB2	14:I:21:ARG:CB	2.12	0.79
24:S:10:PRO:O	24:S:13:LYS:HG3	1.82	0.79
21:P:27:VAL:HG13	29:X:504:G:H4'	1.64	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:75:THR:HG23	7:B:76:ARG:H	1.45	0.79
29:X:1750:A:C8	29:X:2675:U:H1'	2.18	0.79
29:X:3:U:H2'	29:X:4:C:H6	1.48	0.79
29:X:635:C:C2'	29:X:636:G:H5''	2.12	0.79
29:X:666:U:H2'	29:X:667:U:C4'	2.13	0.79
12:G:92:GLY:C	12:G:93:LYS:HD2	2.02	0.79
21:P:85:MET:HE2	21:P:130:GLU:HG3	1.64	0.79
29:X:1225:G:H2'	29:X:1249:G:N2	1.97	0.79
26:U:19:ILE:HD11	29:X:394:U:OP1	1.81	0.79
7:B:62:PRO:HG3	29:X:2767:C:H1'	1.64	0.79
15:J:37:ALA:HA	15:J:130:THR:HG22	1.64	0.79
17:L:54:ALA:N	17:L:75:LEU:HD13	1.98	0.79
20:O:36:LYS:HD2	20:O:54:TYR:C	2.02	0.79
21:P:85:MET:CE	21:P:130:GLU:HG3	2.13	0.79
29:X:1057:A:N3	29:X:1057:A:H2'	1.98	0.79
29:X:2170:C:H3'	29:X:2171:U:C5'	2.12	0.79
29:X:2807:U:H4'	29:X:2808:U:H5''	1.63	0.79
29:X:685:U:O2'	29:X:686:C:H5'	1.83	0.79
9:D:106:ILE:HG23	9:D:110:ARG:HD2	1.64	0.79
14:I:67:ASN:HD21	29:X:2383:C:H4'	1.47	0.79
27:V:14:PHE:O	27:V:18:ILE:HG13	1.83	0.79
7:B:123:ALA:O	7:B:124:GLY:O	1.99	0.79
14:I:32:ARG:CZ	20:O:81:ARG:HE	1.95	0.79
15:J:15:ARG:HD2	15:J:73:LYS:HG3	1.63	0.79
29:X:1058:G:H2'	29:X:1121:G:H1	1.47	0.79
8:C:27:LEU:O	8:C:30:VAL:HB	1.83	0.79
8:C:28:HIS:ND1	14:I:17:LYS:HA	1.98	0.79
11:F:19:PRO:HG2	11:F:21:PRO:HG2	1.64	0.79
14:I:76:LYS:HG3	14:I:111:SER:HB2	1.65	0.79
22:Q:12:ILE:CG1	22:Q:13:SER:H	1.80	0.79
23:R:105:ARG:NH2	23:R:112:LYS:HA	1.98	0.79
29:X:1061:A:H2'	29:X:1062:G:H5'	1.62	0.79
29:X:143:A:H2'	29:X:144:U:C6	2.18	0.79
29:X:2689:C:O2'	29:X:2690:A:H5'	1.83	0.79
29:X:405:C:H2'	29:X:406:G:H8	1.47	0.79
30:Y:19:ARG:O	30:Y:21:SER:N	2.15	0.79
22:Q:51:ILE:CD1	22:Q:83:ALA:HA	2.12	0.78
28:W:2:LYS:HB3	28:W:54:GLN:CB	2.13	0.78
29:X:1069:G:H2'	29:X:1070:G:H5''	1.65	0.78
29:X:1324:G:H1'	29:X:1326:U:O4	1.82	0.78
29:X:2189:A:H2	29:X:2196:U:H3	1.31	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2793:G:O2'	29:X:2794:G:H5'	1.83	0.78
29:X:78:C:O2	29:X:357:A:H2	1.66	0.78
15:J:69:ILE:CG2	15:J:104:MET:HA	2.13	0.78
15:J:18:MET:HG2	15:J:19:THR:H	1.48	0.78
17:L:40:ALA:HB1	17:L:75:LEU:HD22	1.65	0.78
29:X:1854:G:C2'	29:X:1855:G:OP2	2.27	0.78
14:I:63:ARG:NH1	29:X:2394:G:H3'	1.98	0.78
29:X:215:G:H21	29:X:632:A:H8	1.28	0.78
8:C:112:GLN:HA	8:C:116:LYS:HB3	1.65	0.78
29:X:1324:G:H1'	29:X:1326:U:C4	2.17	0.78
29:X:1623:C:H4'	29:X:1624:A:O5'	1.82	0.78
29:X:2624:G:H4'	29:X:2712:G:O2'	1.83	0.78
29:X:653:G:H2'	29:X:654:A:H5''	1.64	0.78
6:A:68:LYS:H	6:A:68:LYS:CD	1.95	0.78
7:B:91:VAL:HB	7:B:93:VAL:HG12	1.66	0.78
10:E:28:GLY:HA3	10:E:79:VAL:HB	1.65	0.78
13:H:115:ALA:HB3	13:H:118:LEU:HD13	1.64	0.78
28:W:2:LYS:HB3	28:W:54:GLN:HB3	1.65	0.78
29:X:1051:U:H2'	29:X:1052:C:H6	1.47	0.78
29:X:648:A:H5''	29:X:649:G:OP1	1.81	0.78
7:B:39:ALA:HA	7:B:44:TYR:N	1.98	0.78
9:D:65:PRO:HB3	9:D:89:VAL:HG22	1.64	0.78
12:G:128:GLU:HG3	12:G:145:HIS:NE2	1.98	0.78
14:I:85:ASP:HA	14:I:116:ARG:NH1	1.98	0.78
16:K:79:VAL:HA	16:K:83:VAL:HG13	1.62	0.78
26:U:32:ARG:HG2	26:U:34:THR:H	1.48	0.78
29:X:1071:U:H1'	29:X:1073:G:H5'	1.64	0.78
29:X:2447:G:O2'	29:X:2448:A:H5'	1.81	0.78
30:Y:42:SER:O	30:Y:43:HIS:HB2	1.81	0.78
12:G:36:ASN:O	12:G:38:GLU:N	2.15	0.78
29:X:216:U:H2'	29:X:217:U:C6	2.19	0.78
6:A:252:LYS:HE3	6:A:253:PRO:CD	2.13	0.78
11:F:7:ILE:HG22	11:F:8:VAL:H	1.48	0.78
29:X:1094:C:H2'	29:X:1096:A:H5'	1.64	0.78
29:X:24:G:H2'	29:X:25:U:O4'	1.84	0.78
29:X:501:G:H2'	29:X:502:A:H8	1.48	0.78
7:B:101:LYS:HA	7:B:170:LEU:O	1.82	0.78
29:X:1736:C:H2'	29:X:1737:G:C8	2.18	0.78
29:X:925:U:H4'	29:X:926:C:OP1	1.83	0.78
8:C:137:ALA:HA	8:C:142:LEU:HD12	1.66	0.78
13:H:85:ASP:OD1	13:H:87:SER:N	2.14	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:66:ASN:HD22	19:N:70:ARG:HH12	1.32	0.78
22:Q:62:ARG:O	22:Q:63:LYS:HB3	1.83	0.78
24:S:71:MET:HA	24:S:78:PRO:HA	1.64	0.78
29:X:1073:G:H1'	29:X:1099:A:N7	1.98	0.78
29:X:1992:G:C2'	29:X:1993:G:H5'	2.14	0.78
13:H:41:ASN:ND2	29:X:2653:A:O2'	2.16	0.78
29:X:555:U:OP2	29:X:556:A:H2'	1.83	0.78
6:A:222:ARG:HB3	6:A:222:ARG:HH21	1.47	0.78
20:O:20:ILE:HD12	20:O:21:ARG:HG2	1.66	0.78
24:S:36:ARG:HG2	24:S:40:ASP:OD1	1.84	0.78
29:X:2817:A:C2	29:X:2851:G:C2	2.72	0.78
29:X:533:C:H1'	29:X:563:U:O2'	1.84	0.78
12:G:142:ARG:HH12	29:X:538:A:C5'	1.95	0.78
29:X:558:G:C3'	29:X:558:G:N3	2.46	0.78
8:C:66:ASN:HB3	29:X:1268:U:H2'	1.65	0.77
29:X:516:G:O2'	29:X:517:A:H8	1.66	0.77
31:Z:15:A:N6	31:Z:72:C:H5'	1.97	0.77
6:A:60:ARG:HD3	6:A:87:ASN:ND2	1.98	0.77
16:K:81:ASP:O	16:K:85:PRO:HG2	1.83	0.77
17:L:10:LYS:HB3	17:L:14:ARG:HE	1.49	0.77
21:P:92:VAL:HG13	21:P:126:ILE:HD11	1.67	0.77
23:R:24:VAL:O	23:R:30:LYS:HA	1.82	0.77
27:V:20:ALA:O	27:V:23:LYS:HB3	1.84	0.77
29:X:1350:G:H2'	29:X:1351:G:H8	1.48	0.77
29:X:2015:G:H4'	29:X:2016:A:OP1	1.84	0.77
29:X:2019:C:O2'	29:X:2020:G:H5'	1.85	0.77
6:A:183:ARG:CA	6:A:183:ARG:HH11	1.97	0.77
8:C:104:LEU:N	8:C:104:LEU:HD23	2.00	0.77
10:E:18:ASN:HB3	10:E:20:GLN:HE21	1.47	0.77
16:K:39:THR:O	16:K:42:LYS:N	2.18	0.77
29:X:1734:C:C5	29:X:1735:G:H1'	2.19	0.77
30:Y:15:LYS:O	30:Y:18:MET:N	2.16	0.77
31:Z:34:C:H2'	31:Z:35:C:C6	2.19	0.77
8:C:104:LEU:O	8:C:108:ILE:HD13	1.84	0.77
13:H:22:ILE:HG22	13:H:23:ARG:N	1.99	0.77
13:H:83:ARG:HD2	13:H:89:ILE:HD11	1.66	0.77
29:X:2492:G:C2	29:X:2493:U:C2	2.73	0.77
9:D:46:ASP:O	9:D:50:ILE:HG13	1.84	0.77
14:I:117:ALA:HA	14:I:137:GLY:O	1.84	0.77
15:J:35:LEU:HD11	15:J:130:THR:HB	1.65	0.77
17:L:87:VAL:HG12	17:L:88:VAL:H	1.50	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:106:TYR:CE1	18:M:107:LEU:CG	2.67	0.77
23:R:22:VAL:HG11	23:R:80:LYS:HE3	1.66	0.77
29:X:2284:U:H2'	29:X:2285:U:H5''	1.65	0.77
29:X:861:G:C2'	29:X:862:A:H5'	2.15	0.77
7:B:60:ASN:HB3	7:B:62:PRO:HD2	1.67	0.77
10:E:96:ALA:HA	10:E:104:GLU:O	1.85	0.77
20:O:10:LYS:HG3	20:O:11:GLN:HG2	1.66	0.77
29:X:741:G:O2'	29:X:743:A:H5''	1.85	0.77
22:Q:11:VAL:HG23	22:Q:27:PHE:CA	2.15	0.77
29:X:1373:G:C2'	29:X:1374:G:H5'	2.14	0.77
29:X:1468:A:H5''	29:X:1472:C:H41	1.48	0.77
29:X:2311:U:H5'	29:X:2315:A:N6	2.00	0.77
29:X:2824:C:H1'	29:X:2843:A:N3	2.00	0.77
29:X:546:A:H2'	29:X:547:U:C6	2.19	0.77
9:D:108:LEU:HD11	9:D:117:ILE:HD11	1.67	0.77
10:E:29:PRO:HG2	10:E:79:VAL:O	1.84	0.77
16:K:39:THR:HA	16:K:42:LYS:HG3	1.67	0.77
23:R:85:ASP:OD1	23:R:86:PRO:HD3	1.85	0.77
29:X:1505:U:H2'	29:X:1506:C:H5''	1.66	0.77
29:X:2189:A:N6	29:X:2195:C:N4	2.33	0.77
13:H:91:PHE:N	13:H:91:PHE:CD1	2.51	0.77
14:I:86:THR:OG1	14:I:118:VAL:HG12	1.84	0.77
19:N:88:ILE:HG12	20:O:49:GLU:OE1	1.84	0.77
12:G:110:LEU:HD22	29:X:2621:G:OP1	1.85	0.77
8:C:45:THR:HG22	8:C:47:THR:H	1.50	0.77
25:T:32:LYS:O	25:T:61:ALA:HB3	1.85	0.77
26:U:27:ASP:HA	26:U:32:ARG:NH2	2.00	0.77
29:X:1949:A:O2'	29:X:2572:U:H5'	1.85	0.77
29:X:2404:A:H1'	29:X:2406:C:C5	2.19	0.77
8:C:117:LEU:O	8:C:188:ILE:HG13	1.84	0.76
17:L:55:SER:O	17:L:71:VAL:HB	1.84	0.76
24:S:13:LYS:HB2	24:S:13:LYS:NZ	2.00	0.76
24:S:19:ILE:CG1	24:S:36:ARG:HA	2.15	0.76
29:X:2858:A:H3'	29:X:2859:U:H5'	1.67	0.76
29:X:841:G:C5	29:X:842:A:N6	2.53	0.76
29:X:1998:A:H1'	30:Y:3:LYS:CG	2.15	0.76
9:D:67:ILE:HG21	9:D:84:PRO:HB3	1.67	0.76
11:F:19:PRO:HD2	11:F:22:PRO:HG2	1.67	0.76
29:X:1053:G:C2'	29:X:1054:C:C6	2.61	0.76
7:B:82:ARG:NH2	29:X:2616:U:H5''	2.00	0.76
29:X:2642:G:O2'	29:X:2643:G:H5'	1.85	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:15:A:C6	31:Z:72:C:H5'	2.19	0.76
8:C:74:VAL:O	8:C:77:PHE:N	2.18	0.76
9:D:108:LEU:HA	9:D:111:ILE:CD1	2.15	0.76
9:D:79:LEU:HD21	29:X:2289:A:H2	1.50	0.76
17:L:89:PHE:HB2	17:L:91:ARG:HH21	1.49	0.76
18:M:39:VAL:HG12	18:M:45:THR:HG23	1.65	0.76
28:W:1:MET:O	28:W:34:VAL:HG12	1.84	0.76
29:X:1284:G:C2	29:X:1633:C:H4'	2.21	0.76
29:X:1561:A:H2'	29:X:1562:G:O4'	1.84	0.76
29:X:2212:U:H2'	29:X:2213:G:H8	1.51	0.76
21:P:37:LYS:HB2	29:X:1279:G:H22	1.48	0.76
22:Q:58:VAL:O	22:Q:74:ASP:HA	1.86	0.76
26:U:31:GLY:HA2	26:U:32:ARG:NH1	1.97	0.76
29:X:1929:U:H2'	29:X:1930:C:C6	2.20	0.76
29:X:1998:A:H1'	30:Y:3:LYS:HG2	1.65	0.76
25:T:43:THR:H	29:X:2310:G:H4'	1.49	0.76
10:E:30:LYS:HG2	10:E:79:VAL:O	1.86	0.76
12:G:93:LYS:HB3	12:G:96:ASP:O	1.85	0.76
29:X:1252:C:H2'	29:X:1253:C:H5''	1.68	0.76
29:X:2447:G:N2	29:X:2460:G:H2'	2.00	0.76
29:X:2546:G:H2'	29:X:2547:C:C6	2.21	0.76
29:X:2581:A:H5'	29:X:2582:G:OP2	1.85	0.76
29:X:2663:U:C2	29:X:2664:G:C8	2.74	0.76
29:X:577:U:H5'	29:X:956:A:N6	2.00	0.76
12:G:107:GLN:HA	12:G:110:LEU:HG	1.68	0.76
14:I:11:GLY:H	14:I:14:LYS:HB3	1.51	0.76
18:M:78:GLU:O	18:M:79:ARG:HG2	1.84	0.76
26:U:32:ARG:HG2	26:U:33:LYS:N	2.00	0.76
29:X:305:A:H2'	29:X:306:G:H5'	1.66	0.76
29:X:914:C:H2'	29:X:915:C:C6	2.20	0.76
29:X:98:U:H5'	29:X:99:U:H5''	1.67	0.76
7:B:119:ARG:HH11	7:B:119:ARG:CG	1.99	0.76
16:K:63:ARG:CZ	16:K:80:MET:HG2	2.15	0.76
20:O:83:ARG:O	20:O:84:THR:HG23	1.84	0.76
29:X:1144:U:H2'	29:X:1147:G:OP1	1.86	0.76
29:X:1770:U:C2	29:X:1774:A:N7	2.54	0.76
6:A:62:TYR:HE1	29:X:1809:G:OP1	1.69	0.76
8:C:112:GLN:HA	8:C:116:LYS:HD3	1.67	0.76
8:C:95:LEU:HD23	8:C:96:PRO:HD2	1.68	0.76
9:D:119:PRO:HG2	9:D:120:ASN:H	1.51	0.76
15:J:36:ILE:O	15:J:130:THR:HB	1.85	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:82:GLY:HA3	19:N:113:SER:OG	1.85	0.76
29:X:2652:G:O2'	29:X:2653:A:H5'	1.83	0.76
29:X:2828:C:O2'	29:X:2829:A:H5'	1.86	0.76
21:P:72:LEU:O	21:P:72:LEU:HG	1.85	0.76
29:X:1151:U:C5'	29:X:1153:A:H5'	2.15	0.76
29:X:1597:A:H2'	29:X:1598:C:C6	2.21	0.76
29:X:2387:U:H2'	29:X:2388:G:C8	2.21	0.76
29:X:2821:G:H2'	29:X:2822:U:C6	2.21	0.76
29:X:490:A:H1'	29:X:491:A:C8	2.21	0.76
4:4:29:ASN:ND2	4:4:31:LYS:HD3	2.02	0.75
15:J:69:ILE:HG23	15:J:104:MET:HA	1.67	0.75
29:X:1039:A:N6	29:X:1136:G:H2'	2.01	0.75
29:X:1134:C:H2'	29:X:1135:C:H6	1.51	0.75
29:X:2323:U:C2'	29:X:2323:U:O2	2.30	0.75
29:X:2594:U:N1	30:Y:7:PRO:HA	2.01	0.75
29:X:651:C:C2'	29:X:652:C:H5''	2.14	0.75
7:B:98:GLU:HG2	7:B:174:GLU:HA	1.65	0.75
20:O:11:GLN:HE22	20:O:38:LEU:HB3	1.49	0.75
12:G:104:THR:OG1	12:G:110:LEU:HD13	1.87	0.75
24:S:91:PRO:O	24:S:92:VAL:HG13	1.85	0.75
26:U:33:LYS:NZ	29:X:2400:G:H21	1.83	0.75
29:X:1467:U:H3'	29:X:1468:A:C5'	2.16	0.75
14:I:32:ARG:CZ	20:O:81:ARG:NE	2.49	0.75
25:T:36:ILE:HD11	29:X:2343:C:O2	1.87	0.75
29:X:2275:U:H4'	29:X:2276:C:OP1	1.85	0.75
29:X:2756:A:O2'	29:X:2757:G:OP2	2.05	0.75
29:X:978:U:H2'	29:X:979:A:C8	2.22	0.75
9:D:4:LEU:HD12	9:D:5:LYS:H	1.52	0.75
12:G:82:VAL:CG2	12:G:150:VAL:HG22	2.16	0.75
21:P:17:GLN:HG3	21:P:18:VAL:HG23	1.69	0.75
24:S:19:ILE:CD1	24:S:36:ARG:HA	2.15	0.75
29:X:1113:C:H2'	29:X:1114:A:H8	1.51	0.75
29:X:356:A:H2'	29:X:357:A:C8	2.21	0.75
29:X:416:U:O2'	29:X:417:C:H5	1.70	0.75
14:I:45:LYS:HA	29:X:683:A:H5''	1.67	0.75
8:C:147:LYS:HB3	8:C:183:HIS:HB3	1.69	0.75
12:G:162:LYS:N	12:G:163:PRO:CD	2.50	0.75
12:G:70:PHE:CB	19:N:64:ARG:HG2	2.16	0.75
25:T:44:LYS:HE3	29:X:871:U:OP1	1.86	0.75
29:X:321:A:C2	29:X:323:G:H1'	2.20	0.75
29:X:939:C:H5''	29:X:940:G:O5'	1.85	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:38:PRO:HA	6:A:61:LEU:HD22	1.68	0.75
16:K:100:VAL:HG12	16:K:101:GLY:N	2.02	0.75
18:M:55:ILE:HG22	18:M:104:LEU:CB	2.16	0.75
19:N:29:SER:O	19:N:30:LYS:HD3	1.87	0.75
22:Q:43:GLN:HA	22:Q:48:VAL:O	1.86	0.75
24:S:6:LYS:H	24:S:7:PRO:HD3	1.51	0.75
29:X:1373:G:H2'	29:X:1374:G:H5'	1.67	0.75
29:X:1427:G:H2'	29:X:1428:G:C1'	2.15	0.75
29:X:1851:A:H62	29:X:1866:G:H21	1.35	0.75
29:X:2493:U:H2'	29:X:2494:C:C6	2.21	0.75
29:X:2563:U:H2'	29:X:2564:U:H5''	1.67	0.75
29:X:2859:U:H2'	29:X:2860:C:H5'	1.69	0.75
10:E:43:VAL:CG2	10:E:52:VAL:HG22	2.16	0.75
22:Q:26:SER:HB3	22:Q:79:ILE:HG23	1.68	0.75
24:S:91:PRO:HD3	24:S:127:PRO:HD3	1.69	0.75
29:X:1095:A:C3'	29:X:1096:A:H5''	2.17	0.75
29:X:1501:C:H2'	29:X:1502:G:O4'	1.87	0.75
21:P:40:LEU:HB3	30:Y:25:LEU:HD11	1.67	0.75
6:A:44:ASN:HD22	6:A:44:ASN:H	1.34	0.75
7:B:156:MET:HE1	29:X:2033:C:H1'	1.69	0.75
7:B:174:GLU:HB3	7:B:183:LEU:HD12	1.69	0.75
9:D:16:LEU:O	9:D:20:PHE:N	2.19	0.75
15:J:19:THR:HB	31:Z:93:G:H5'	1.69	0.75
23:R:93:ARG:HH12	23:R:108:VAL:C	1.89	0.75
29:X:1964:A:H5''	29:X:1965:U:OP2	1.87	0.75
29:X:2426:G:H4'	29:X:2427:A:O5'	1.86	0.75
29:X:2763:U:O2'	29:X:2764:U:H5'	1.87	0.75
6:A:157:ARG:HG3	29:X:1810:U:H3'	1.69	0.74
7:B:147:PRO:HD3	29:X:1141:U:C4	2.22	0.74
24:S:69:VAL:HG13	24:S:81:VAL:HG22	1.68	0.74
29:X:1061:A:O2'	29:X:1062:G:H5'	1.87	0.74
29:X:2171:U:H2'	29:X:2172:U:C6	2.22	0.74
29:X:496:C:H2'	29:X:497:C:H5''	1.67	0.74
10:E:66:GLY:HA3	29:X:2728:A:H4'	1.69	0.74
7:B:152:LYS:HB2	12:G:106:TYR:HB3	1.68	0.74
23:R:18:LYS:HE2	23:R:19:GLY:N	2.01	0.74
29:X:1479:G:H2'	29:X:1480:G:H8	1.53	0.74
29:X:1482:U:H2'	29:X:1483:G:C8	2.22	0.74
29:X:2713:A:O2'	29:X:2714:A:H5'	1.87	0.74
29:X:631:G:H4'	29:X:632:A:H5''	1.67	0.74
4:4:35:ARG:HH11	29:X:2722:C:P	2.10	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:32:GLU:HB3	9:D:157:VAL:HG12	1.67	0.74
29:X:1850:G:N2	29:X:1867:A:C8	2.54	0.74
29:X:2222:U:H2'	29:X:2223:U:C6	2.22	0.74
16:K:40:LYS:NZ	29:X:1290:A:H5''	2.02	0.74
17:L:26:ARG:HH12	29:X:2357:A:H4'	1.51	0.74
27:V:2:LYS:CG	27:V:3:PRO:HD3	2.16	0.74
29:X:860:U:H2'	29:X:860:U:O2	1.86	0.74
6:A:263:ARG:HG3	29:X:1791:C:OP1	1.87	0.74
9:D:80:ARG:HD3	9:D:83:MET:HB3	1.68	0.74
10:E:11:VAL:HG12	10:E:15:VAL:HG21	1.67	0.74
14:I:84:GLU:OE1	14:I:97:ARG:HD2	1.88	0.74
19:N:74:MET:O	19:N:75:ASN:HB3	1.88	0.74
29:X:1060:C:H2'	29:X:1061:A:H8	1.51	0.74
29:X:1586:A:H2'	29:X:1587:A:C8	2.22	0.74
13:H:42:LYS:HA	29:X:2653:A:O3'	1.87	0.74
9:D:106:ILE:HG21	9:D:139:PRO:HB3	1.70	0.74
29:X:1226:A:OP2	29:X:1249:G:N2	2.20	0.74
29:X:1683:G:C2'	29:X:1684:G:H5'	2.17	0.74
29:X:1764:A:C2'	29:X:1765:C:H5'	2.18	0.74
29:X:487:G:H22	29:X:489:A:H3'	1.52	0.74
18:M:32:THR:HG22	18:M:33:VAL:N	2.03	0.74
29:X:1969:G:H2'	29:X:1970:G:H8	1.53	0.74
6:A:94:LEU:HD11	6:A:102:LYS:HB3	1.69	0.74
12:G:88:VAL:HG22	12:G:89:ALA:N	2.02	0.74
13:H:41:ASN:H	13:H:41:ASN:ND2	1.85	0.74
14:I:38:LYS:HZ3	29:X:954:U:P	2.10	0.74
21:P:71:VAL:HG12	21:P:126:ILE:CG2	2.17	0.74
23:R:9:HIS:CD2	29:X:338:G:H4'	2.23	0.74
26:U:27:ASP:CA	26:U:32:ARG:HD3	2.18	0.74
29:X:1086:C:H3'	29:X:1087:C:H5''	1.68	0.74
29:X:1656:U:O2'	29:X:1657:A:H5''	1.87	0.74
29:X:2779:C:H2'	29:X:2780:A:C8	2.23	0.74
29:X:389:G:H2'	29:X:390:U:C6	2.22	0.74
14:I:40:ARG:NH2	29:X:577:U:P	2.61	0.74
12:G:162:LYS:N	12:G:163:PRO:HD2	2.02	0.74
14:I:85:ASP:CA	14:I:116:ARG:HH12	2.00	0.74
19:N:61:TRP:CZ3	19:N:94:VAL:N	2.55	0.74
29:X:1411:C:H2'	29:X:1412:C:H6	1.52	0.74
29:X:2695:C:H2'	29:X:2696:A:H8	1.52	0.74
4:4:8:LYS:H	4:4:34:GLN:HE22	1.35	0.74
9:D:153:ASP:C	9:D:154:ILE:HD12	2.07	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:74:ILE:HG12	9:D:80:ARG:C	2.08	0.74
16:K:99:ARG:CG	16:K:99:ARG:HH11	1.98	0.74
18:M:104:LEU:HD23	18:M:106:TYR:CZ	2.23	0.74
20:O:28:GLU:O	20:O:30:GLY:N	2.20	0.74
13:H:42:LYS:HA	29:X:2654:A:P	2.28	0.74
29:X:640:C:H4'	29:X:660:G:N3	2.03	0.74
6:A:166:GLN:HB2	6:A:174:ILE:HB	1.70	0.73
9:D:134:GLU:HG2	9:D:136:LEU:H	1.52	0.73
10:E:54:ARG:HH11	10:E:57:ASP:HB3	1.52	0.73
21:P:107:ILE:HG21	21:P:117:ILE:HD11	1.70	0.73
24:S:89:GLY:O	24:S:90:GLU:HG2	1.88	0.73
29:X:1974:U:O5'	29:X:1974:U:H6	1.69	0.73
29:X:2561:G:H5'	29:X:2561:G:H8	1.53	0.73
29:X:978:U:H2'	29:X:979:A:H8	1.52	0.73
6:A:75:VAL:HG11	6:A:97:TYR:HB3	1.69	0.73
24:S:168:VAL:HG12	24:S:169:VAL:HG13	1.70	0.73
29:X:2703:C:O2'	29:X:2704:U:H5'	1.88	0.73
6:A:218:LYS:HD2	6:A:219:PRO:O	1.89	0.73
11:F:7:ILE:O	11:F:8:VAL:HG23	1.89	0.73
14:I:76:LYS:HB3	14:I:79:GLN:HG2	1.68	0.73
19:N:59:ARG:O	19:N:63:GLN:HG3	1.88	0.73
29:X:824:U:O2	29:X:1263:G:H3'	1.88	0.73
29:X:1737:G:H2'	29:X:1738:U:H6	1.53	0.73
29:X:2602:G:O2'	29:X:2603:G:H5'	1.88	0.73
29:X:30:G:H2'	29:X:31:C:C6	2.23	0.73
29:X:843:G:H1'	29:X:2427:A:C6	2.23	0.73
6:A:124:GLU:O	6:A:126:LYS:HG3	1.88	0.73
6:A:252:LYS:H	6:A:253:PRO:HD2	1.53	0.73
10:E:95:ARG:NH2	10:E:97:LYS:HE2	2.03	0.73
15:J:11:ARG:NH2	29:X:920:G:H21	1.86	0.73
22:Q:17:TYR:HE1	22:Q:94:GLN:HB2	1.52	0.73
24:S:136:VAL:HG21	24:S:152:ILE:HD13	1.69	0.73
29:X:1072:U:C1'	29:X:1081:A:H1'	2.18	0.73
29:X:223:C:H2'	29:X:224:G:H5'	1.69	0.73
7:B:70:ALA:HB3	7:B:72:VAL:HG23	1.70	0.73
10:E:137:ASP:O	10:E:141:VAL:HG23	1.88	0.73
12:G:154:GLU:C	12:G:157:PRO:HD2	2.08	0.73
12:G:67:ARG:HH21	12:G:70:PHE:C	1.91	0.73
14:I:72:TYR:HA	14:I:105:PRO:HG2	1.71	0.73
18:M:34:ARG:NH1	18:M:81:PHE:HB3	2.02	0.73
25:T:74:LYS:O	25:T:76:ALA:N	2.22	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:20:ARG:HD3	26:U:43:ARG:CZ	2.17	0.73
29:X:1429:A:H1'	29:X:1603:A:C6	2.24	0.73
29:X:2266:A:C2	29:X:2268:G:H1'	2.22	0.73
29:X:2324:G:H4'	29:X:2326:C:H5''	1.70	0.73
29:X:2405:A:H2'	29:X:2405:A:N3	2.03	0.73
29:X:2594:U:H5'	29:X:2594:U:C6	2.22	0.73
14:I:45:LYS:HE3	14:I:47:ALA:HB3	1.69	0.73
17:L:33:ARG:CZ	17:L:103:LEU:HB2	2.18	0.73
20:O:93:ILE:O	20:O:93:ILE:HD12	1.88	0.73
24:S:63:PRO:C	24:S:86:VAL:HG23	2.09	0.73
29:X:1622:G:H4'	29:X:1624:A:C2	2.23	0.73
29:X:170:U:H2'	29:X:171:G:H8	1.52	0.73
29:X:638:A:H4'	29:X:639:G:H5'	1.69	0.73
29:X:647:G:O2'	29:X:648:A:H5'	1.88	0.73
25:T:26:PHE:HE2	29:X:870:C:H1'	1.53	0.73
8:C:23:ASN:N	8:C:106:MET:SD	2.58	0.73
8:C:48:ARG:H	8:C:48:ARG:HD2	1.52	0.73
12:G:104:THR:HG22	29:X:2620:G:OP1	1.88	0.73
13:H:8:LEU:HD22	13:H:94:ASN:CB	2.17	0.73
14:I:87:THR:O	14:I:93:LEU:HD13	1.88	0.73
29:X:1563:U:H2'	29:X:1564:U:C6	2.24	0.73
29:X:1817:U:H2'	29:X:1818:G:C8	2.22	0.73
29:X:2335:U:H2'	29:X:2336:G:H8	1.53	0.73
29:X:2561:G:H5'	29:X:2561:G:C8	2.23	0.73
29:X:2659:C:H2'	29:X:2660:C:H6	1.54	0.73
29:X:516:G:HO2'	29:X:517:A:H8	1.33	0.73
29:X:554:U:H2'	29:X:554:U:O2	1.87	0.73
18:M:44:ARG:HD2	18:M:46:ARG:NH2	2.03	0.73
29:X:1542:G:H22	29:X:1562:G:H1	1.33	0.73
29:X:1736:C:H2'	29:X:1737:G:H8	1.54	0.73
29:X:1979:C:H6	29:X:1979:C:OP1	1.72	0.73
29:X:198:A:H5''	29:X:199:A:H5'	1.69	0.73
29:X:417:C:O3'	29:X:418:C:H4'	1.87	0.73
8:C:176:ASN:HB2	29:X:626:A:HO2'	1.53	0.73
29:X:1999:U:H1'	30:Y:6:VAL:CG2	2.18	0.73
7:B:154:LYS:HZ1	7:B:156:MET:CE	2.01	0.73
9:D:13:ARG:HB3	9:D:14:PRO:CD	2.18	0.73
12:G:82:VAL:HG21	12:G:150:VAL:HG22	1.71	0.73
14:I:126:SER:O	14:I:129:ALA:HB3	1.89	0.73
18:M:24:LEU:HB3	18:M:25:PRO:HD2	1.69	0.73
18:M:46:ARG:HG3	18:M:47:SER:H	1.51	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:11:ASN:O	23:R:13:LYS:N	2.22	0.73
24:S:13:LYS:HB2	24:S:13:LYS:HZ3	1.53	0.73
26:U:78:ILE:HD13	26:U:79:GLU:H	1.53	0.73
17:L:57:ALA:HB1	31:Z:119:G:H4'	1.69	0.73
6:A:149:PRO:HG2	29:X:2200:G:O2'	1.87	0.73
10:E:64:LEU:HA	10:E:67:LEU:HD12	1.70	0.73
21:P:33:MET:CE	21:P:37:LYS:HZ3	2.02	0.73
29:X:1021:A:N3	29:X:1164:C:H1'	2.04	0.73
29:X:1573:G:O5'	29:X:1574:A:H5''	1.89	0.73
29:X:2194:A:C2'	29:X:2195:C:H5''	2.17	0.73
26:U:45:ASN:OD1	29:X:2210:C:H5''	1.89	0.73
29:X:2618:A:H1'	29:X:2758:A:C2	2.24	0.73
10:E:54:ARG:HH11	10:E:62:ARG:NE	1.87	0.72
13:H:43:ARG:NH2	29:X:1979:C:OP2	2.21	0.72
15:J:15:ARG:HD3	15:J:73:LYS:HZ2	1.53	0.72
16:K:85:PRO:O	16:K:88:ALA:HB2	1.89	0.72
23:R:39:ALA:O	29:X:84:G:H5'	1.88	0.72
27:V:1:MET:HG3	27:V:2:LYS:HG2	1.70	0.72
29:X:1151:U:H5'	29:X:1153:A:H5'	1.69	0.72
29:X:1181:C:C2'	29:X:1182:U:H5''	2.18	0.72
29:X:2197:U:C4	29:X:2198:U:C4	2.77	0.72
29:X:2333:A:N1	29:X:2343:C:N3	2.37	0.72
29:X:242:A:H2'	29:X:243:G:O4'	1.90	0.72
18:M:63:ARG:HB3	29:X:2662:C:OP1	1.89	0.72
12:G:116:ARG:NE	12:G:126:VAL:HG13	2.01	0.72
16:K:64:ARG:NH2	29:X:2684:A:C2	2.56	0.72
29:X:2873:G:H2'	29:X:2874:A:H8	1.54	0.72
6:A:243:GLY:H	6:A:244:ARG:HH11	1.36	0.72
6:A:58:HIS:O	6:A:59:LYS:HB2	1.87	0.72
6:A:68:LYS:HB3	6:A:152:GLY:HA2	1.70	0.72
12:G:84:ASN:O	12:G:152:ALA:HA	1.90	0.72
16:K:20:LEU:HD11	16:K:24:GLN:NE2	2.00	0.72
19:N:22:LYS:HG3	19:N:23:GLY:H	1.54	0.72
29:X:1001:A:H1'	29:X:1167:A:H2	1.54	0.72
29:X:1036:G:C4	29:X:1145:C:H1'	2.24	0.72
29:X:2065:A:H2'	29:X:2066:G:O4'	1.87	0.72
29:X:2195:C:C5	29:X:2196:U:C5	2.76	0.72
29:X:2598:C:O2'	29:X:2599:U:H5'	1.90	0.72
29:X:2675:U:O2	29:X:2676:G:C8	2.42	0.72
29:X:525:A:C8	29:X:526:C:C6	2.77	0.72
6:A:173:VAL:CG2	6:A:187:SER:HB3	2.19	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:63:ASN:CB	17:L:67:THR:HG23	2.19	0.72
29:X:1051:U:H2'	29:X:1052:C:O4'	1.89	0.72
29:X:1999:U:H1'	30:Y:6:VAL:HG21	1.72	0.72
29:X:497:C:H6	29:X:497:C:H5'	1.53	0.72
29:X:788:G:H5'	29:X:790:A:H1'	1.71	0.72
29:X:1275:A:C2	30:Y:10:LYS:HE2	2.24	0.72
14:I:32:ARG:NH1	20:O:81:ARG:HH21	1.85	0.72
29:X:1953:A:H5'	29:X:1954:A:OP1	1.88	0.72
6:A:133:LEU:HD12	6:A:187:SER:HA	1.71	0.72
6:A:50:THR:HG23	29:X:1796:A:H1'	1.72	0.72
7:B:67:PHE:HE1	7:B:78:LEU:HD21	1.54	0.72
9:D:4:LEU:HD21	9:D:173:MET:HE3	1.70	0.72
13:H:10:VAL:HG23	13:H:17:ARG:C	2.09	0.72
18:M:99:VAL:CG2	18:M:100:ARG:H	1.95	0.72
19:N:88:ILE:HG23	20:O:49:GLU:HB2	1.71	0.72
24:S:3:LEU:HD21	24:S:32:PHE:CD2	2.25	0.72
26:U:48:LYS:HG2	26:U:49:LYS:N	2.04	0.72
29:X:199:A:N6	29:X:209:G:H1'	2.04	0.72
29:X:28:A:H1'	29:X:523:A:C2	2.25	0.72
29:X:687:G:H2'	29:X:688:A:H5'	1.70	0.72
9:D:39:GLY:HA2	9:D:86:GLY:HA2	1.70	0.72
13:H:116:ARG:HH11	18:M:38:LYS:HE2	1.53	0.72
17:L:54:ALA:HB3	17:L:75:LEU:CB	2.20	0.72
25:T:43:THR:HG22	25:T:46:LYS:HG2	1.70	0.72
29:X:1522:C:H2'	29:X:1523:A:C4'	2.20	0.72
29:X:1998:A:C4'	30:Y:3:LYS:HZ3	2.02	0.72
7:B:144:ARG:HG3	29:X:2036:G:OP1	1.90	0.72
29:X:2324:G:C6	29:X:2326:C:N4	2.57	0.72
8:C:176:ASN:HB2	29:X:626:A:O2'	1.89	0.72
29:X:793:G:H21	29:X:796:A:N6	1.87	0.72
10:E:124:ALA:HB3	10:E:132:ASP:CB	2.19	0.72
12:G:36:ASN:C	12:G:38:GLU:H	1.89	0.72
14:I:71:THR:HB	14:I:104:ARG:HD3	1.71	0.72
15:J:44:LYS:HD3	15:J:47:GLN:OE1	1.90	0.72
15:J:47:GLN:HE21	29:X:2464:G:C5'	2.03	0.72
16:K:21:ALA:O	16:K:47:PHE:CE2	2.42	0.72
16:K:6:ALA:HB1	29:X:2848:A:H2	1.54	0.72
21:P:8:PHE:O	21:P:9:ARG:HB2	1.89	0.72
26:U:29:GLY:C	26:U:31:GLY:H	1.93	0.72
29:X:1693:A:C2	29:X:1976:U:H5'	2.24	0.72
29:X:1850:G:HO2'	29:X:1851:A:H8	0.73	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1885:C:C2'	29:X:1886:G:H5'	2.20	0.72
29:X:2197:U:O4	29:X:2198:U:O4	2.08	0.72
29:X:2396:C:H6	29:X:2396:C:H5'	1.55	0.72
29:X:317:U:C2'	29:X:318:G:H5''	2.17	0.72
4:4:19:ARG:HH11	4:4:19:ARG:HG3	1.53	0.72
7:B:19:ARG:NH1	7:B:185:LYS:HZ1	1.88	0.72
9:D:150:ARG:CG	9:D:151:GLY:H	1.99	0.72
11:F:20:ALA:N	11:F:21:PRO:HD2	2.05	0.72
16:K:39:THR:O	16:K:42:LYS:HB2	1.90	0.72
20:O:7:THR:HG23	20:O:20:ILE:CD1	2.19	0.72
20:O:61:VAL:HG23	20:O:94:LYS:H	1.54	0.72
24:S:100:THR:OG1	24:S:138:VAL:HG11	1.90	0.72
20:O:71:ILE:HD13	29:X:1003:C:H4'	1.70	0.72
29:X:1312:G:H5''	29:X:1313:U:OP1	1.90	0.72
29:X:2383:C:H2'	29:X:2384:G:O4'	1.89	0.72
29:X:2437:G:O2'	29:X:2438:A:N7	2.20	0.72
29:X:865:A:H61	29:X:937:C:H42	1.37	0.72
29:X:967:G:N2	29:X:970:A:H3'	2.05	0.72
9:D:115:ARG:O	9:D:178:ARG:HG2	1.89	0.72
13:H:116:ARG:HH11	13:H:116:ARG:CG	2.03	0.72
15:J:69:ILE:HG21	15:J:104:MET:HG2	1.70	0.72
15:J:39:GLU:HG2	31:Z:92:G:N2	2.05	0.72
17:L:38:ILE:HD12	17:L:39:TYR:H	1.54	0.72
23:R:44:GLN:O	23:R:77:HIS:HA	1.90	0.72
24:S:94:VAL:HG12	24:S:95:SER:H	1.55	0.72
29:X:1119:U:H6	29:X:1119:U:H5'	1.54	0.72
29:X:2625:U:OP2	29:X:2625:U:H6	1.73	0.72
7:B:137:ARG:HH22	29:X:2034:A:P	2.12	0.71
14:I:7:LYS:N	14:I:7:LYS:HD3	2.04	0.71
14:I:32:ARG:NH2	20:O:81:ARG:HE	1.87	0.71
15:J:100:PRO:HB3	24:S:74:ARG:HG2	1.72	0.71
26:U:53:GLU:HB2	26:U:56:GLN:O	1.90	0.71
29:X:1093:U:H2'	29:X:1094:C:O4'	1.90	0.71
29:X:1355:A:OP2	29:X:1618:U:O4	2.08	0.71
29:X:762:A:C6	29:X:1634:A:C2	2.78	0.71
29:X:1834:G:H2'	29:X:1835:C:C6	2.24	0.71
29:X:2677:U:H2'	29:X:2678:C:H6	1.55	0.71
12:G:125:ARG:HH12	29:X:2760:G:N2	1.86	0.71
6:A:254:THR:O	29:X:1836:C:H5'	1.89	0.71
7:B:105:THR:HG21	7:B:199:ARG:NH2	2.05	0.71
14:I:11:GLY:H	14:I:14:LYS:CB	2.03	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:21:ASP:HA	15:J:99:LYS:HE2	1.72	0.71
16:K:10:LEU:HD23	16:K:17:ARG:HB2	1.70	0.71
24:S:123:VAL:HG23	24:S:161:ALA:HA	1.70	0.71
29:X:1070:G:H2'	29:X:1071:U:C5	2.25	0.71
29:X:417:C:N1	29:X:419:G:C8	2.58	0.71
29:X:438:G:H2'	29:X:439:C:H6	1.55	0.71
8:C:128:ALA:HB2	8:C:159:ARG:CZ	2.20	0.71
12:G:90:LEU:HD13	12:G:94:LYS:HE2	1.70	0.71
14:I:45:LYS:CE	14:I:47:ALA:HB3	2.20	0.71
17:L:43:ILE:HD12	17:L:43:ILE:H	1.53	0.71
31:Z:108:G:O2'	31:Z:109:G:H5'	1.90	0.71
6:A:132:PRO:HB2	6:A:134:ARG:HG2	1.71	0.71
19:N:7:GLY:O	19:N:9:VAL:N	2.24	0.71
22:Q:53:ILE:CD1	22:Q:80:VAL:HG12	2.19	0.71
4:4:36:GLN:HE22	29:X:1135:C:H1'	1.53	0.71
29:X:1347:C:O2'	29:X:1348:C:H5'	1.91	0.71
29:X:1670:G:H4'	29:X:1671:A:OP1	1.89	0.71
29:X:2546:G:H2'	29:X:2547:C:H6	1.56	0.71
7:B:15:TRP:NE1	7:B:20:ALA:HB2	2.05	0.71
15:J:64:LYS:NZ	15:J:110:VAL:HG13	2.04	0.71
23:R:93:ARG:NH1	23:R:108:VAL:O	2.24	0.71
29:X:1482:U:H2'	29:X:1483:G:H8	1.53	0.71
29:X:1586:A:H2'	29:X:1587:A:H8	1.52	0.71
29:X:1673:C:H2'	29:X:1674:C:H6	1.54	0.71
29:X:427:C:H2'	29:X:428:A:C8	2.25	0.71
29:X:862:A:H2'	29:X:863:C:C6	2.26	0.71
15:J:125:LYS:HZ2	15:J:125:LYS:HB3	1.56	0.71
16:K:106:ASP:OD1	16:K:108:VAL:HB	1.89	0.71
29:X:1350:G:H2'	29:X:1351:G:C8	2.25	0.71
29:X:1404:C:H5'	29:X:1405:A:OP2	1.90	0.71
10:E:11:VAL:CG1	10:E:15:VAL:HG21	2.19	0.71
17:L:33:ARG:HH12	17:L:103:LEU:HB2	1.53	0.71
17:L:39:TYR:HA	17:L:55:SER:HB3	1.71	0.71
18:M:103:LYS:HG3	29:X:2698:G:H4'	1.71	0.71
19:N:61:TRP:CZ3	19:N:93:LYS:HA	2.26	0.71
24:S:69:VAL:CG2	24:S:81:VAL:HG13	2.21	0.71
29:X:162:C:H2'	29:X:163:A:C8	2.24	0.71
9:D:138:PHE:HB2	9:D:141:ILE:HB	1.71	0.71
23:R:22:VAL:HG12	23:R:23:ILE:N	2.05	0.71
24:S:100:THR:HG23	24:S:138:VAL:CG2	2.20	0.71
26:U:22:GLY:HA3	26:U:39:LYS:HE2	1.73	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1807:A:O2'	29:X:1808:C:H4'	1.91	0.71
29:X:1913:G:H5''	29:X:1914:U:OP1	1.91	0.71
29:X:343:A:H1'	29:X:346:C:N4	2.05	0.71
29:X:2594:U:C2	30:Y:7:PRO:HA	2.26	0.71
6:A:43:ARG:NH1	6:A:43:ARG:N	2.34	0.71
7:B:120:TRP:O	7:B:121:ASN:HB2	1.89	0.71
7:B:162:MET:HE1	29:X:2796:A:H5''	1.73	0.71
10:E:7:GLN:O	10:E:9:ILE:HG13	1.90	0.71
14:I:98:LEU:O	14:I:99:VAL:HG13	1.91	0.71
16:K:83:VAL:HG22	16:K:84:ALA:N	2.06	0.71
17:L:37:HIS:HE1	17:L:57:ALA:HB2	1.54	0.71
23:R:14:LEU:CD1	23:R:39:ALA:HB1	2.19	0.71
26:U:32:ARG:N	26:U:32:ARG:HE	1.88	0.71
29:X:1411:C:H2'	29:X:1412:C:C6	2.25	0.71
29:X:1779:C:H2'	29:X:1780:A:C8	2.25	0.71
29:X:2502:G:O2'	29:X:2503:G:H5'	1.91	0.71
7:B:26:VAL:HB	7:B:182:ILE:HG23	1.71	0.71
10:E:56:SER:HB2	10:E:61:HIS:CD2	2.24	0.71
24:S:120:LEU:HD23	24:S:121:GLN:H	1.53	0.71
27:V:24:GLU:HG2	27:V:28:LEU:HD23	1.73	0.71
29:X:1302:C:H2'	29:X:1303:U:C6	2.25	0.71
29:X:1355:A:N9	29:X:1410:U:H1'	2.05	0.71
29:X:136:A:H2'	29:X:137:A:O4'	1.91	0.71
12:G:149:LYS:HZ1	29:X:7:G:H5'	1.56	0.71
29:X:701:U:O2	29:X:800:U:H4'	1.91	0.71
29:X:829:C:H2'	29:X:830:C:C6	2.26	0.71
12:G:51:LEU:HD11	12:G:127:ILE:HG13	1.73	0.70
18:M:104:LEU:HD22	18:M:107:LEU:HD11	1.72	0.70
20:O:36:LYS:HZ3	20:O:54:TYR:HB3	1.54	0.70
29:X:416:U:O2'	29:X:417:C:C5	2.43	0.70
29:X:558:G:C4	29:X:558:G:C3'	2.74	0.70
4:4:10:MET:HE1	4:4:32:HIS:HA	1.73	0.70
9:D:75:SER:N	9:D:79:LEU:HD22	2.05	0.70
12:G:51:LEU:CD1	12:G:88:VAL:HG21	2.21	0.70
8:C:26:VAL:HA	14:I:18:ARG:NH1	2.06	0.70
21:P:31:VAL:HG21	21:P:124:ILE:CD1	2.21	0.70
26:U:62:LEU:CD2	26:U:67:LEU:HB2	2.21	0.70
29:X:561:U:O4'	29:X:1233:A:C2	2.44	0.70
29:X:1443:G:H2'	29:X:1444:C:C6	2.27	0.70
29:X:173:A:H5'	29:X:174:A:OP2	1.91	0.70
29:X:1698:C:O2'	29:X:1753:A:H2'	1.91	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2198:U:C2	29:X:2199:C:C6	2.79	0.70
29:X:2824:C:H1'	29:X:2843:A:C4	2.26	0.70
29:X:487:G:N2	29:X:489:A:H3'	2.06	0.70
29:X:558:G:N3	29:X:558:G:O5'	2.24	0.70
17:L:28:ARG:O	17:L:42:ILE:HD13	1.90	0.70
18:M:103:LYS:O	18:M:104:LEU:HB2	1.91	0.70
18:M:108:ARG:C	18:M:109:GLU:HG3	2.09	0.70
23:R:25:LEU:CD1	23:R:25:LEU:H	2.04	0.70
29:X:1225:G:H1'	29:X:1250:A:N6	2.06	0.70
29:X:1976:U:C2	29:X:1977:C:C6	2.80	0.70
29:X:2228:U:H1'	29:X:2254:C:N4	2.06	0.70
29:X:2324:G:O2'	29:X:2361:G:H5'	1.91	0.70
29:X:2663:U:N3	29:X:2664:G:C8	2.59	0.70
29:X:2791:C:O2'	29:X:2792:C:H5'	1.91	0.70
29:X:814:G:H5''	29:X:815:A:OP2	1.92	0.70
29:X:958:G:H2'	29:X:959:C:H6	1.55	0.70
31:Z:72:C:O2'	31:Z:73:C:H5'	1.91	0.70
11:F:86:LYS:HE3	29:X:1076:U:OP1	1.91	0.70
17:L:64:LYS:HG2	17:L:65:THR:HG23	1.73	0.70
22:Q:66:GLY:C	22:Q:68:PHE:H	1.92	0.70
23:R:102:LYS:HE2	29:X:100:G:O6	1.91	0.70
11:F:89:SER:HA	29:X:1075:C:O2'	1.89	0.70
29:X:1440:G:H3'	29:X:1441:A:H5''	1.74	0.70
29:X:1610:A:H2'	29:X:1611:U:C6	2.26	0.70
29:X:165:G:H1'	29:X:1378:A:C6	2.26	0.70
29:X:1681:A:N6	29:X:1979:C:H42	1.89	0.70
6:A:262:LYS:CE	29:X:2206:C:H1'	2.20	0.70
29:X:2463:G:N2	29:X:2464:G:H1'	2.05	0.70
29:X:438:G:H2'	29:X:439:C:C6	2.26	0.70
29:X:554:U:C2'	29:X:554:U:O2	2.38	0.70
8:C:171:PRO:HD2	29:X:626:A:H2	1.57	0.70
30:Y:15:LYS:O	30:Y:18:MET:HB2	1.92	0.70
6:A:147:LEU:HD21	6:A:155:LEU:HD11	1.73	0.70
9:D:104:ILE:HG21	9:D:174:GLY:HA3	1.73	0.70
12:G:105:GLY:O	12:G:106:TYR:C	2.29	0.70
13:H:100:ASN:HD21	13:H:104:GLU:HB2	1.56	0.70
13:H:23:ARG:HH12	13:H:25:LEU:CA	2.04	0.70
16:K:33:ARG:HB2	16:K:114:GLU:HB3	1.73	0.70
20:O:78:VAL:O	20:O:79:GLN:HB2	1.92	0.70
29:X:1710:U:H5'	29:X:1711:C:C5	2.26	0.70
29:X:2528:G:C2	29:X:2529:G:N7	2.60	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2687:G:H2'	29:X:2688:G:O4'	1.92	0.70
29:X:2787:A:H2'	29:X:2788:C:H6	1.56	0.70
29:X:732:G:P	29:X:732:G:H8	2.13	0.70
29:X:81:C:H2'	29:X:82:G:O4'	1.92	0.70
30:Y:58:LEU:HD12	30:Y:58:LEU:H	1.57	0.70
9:D:22:TYR:CG	9:D:28:VAL:HG22	2.27	0.70
9:D:74:ILE:HG12	9:D:80:ARG:O	1.92	0.70
16:K:99:ARG:HB3	16:K:99:ARG:CZ	2.22	0.70
16:K:99:ARG:HG2	16:K:99:ARG:NH1	2.02	0.70
19:N:13:ARG:NE	29:X:1264:C:H5''	2.07	0.70
21:P:31:VAL:HG21	21:P:124:ILE:CG1	2.22	0.70
25:T:43:THR:CG2	25:T:46:LYS:HG2	2.22	0.70
26:U:52:ARG:HD2	26:U:79:GLU:C	2.11	0.70
29:X:1337:G:H1'	29:X:1632:A:N6	2.07	0.70
7:B:137:ARG:NH2	29:X:2034:A:OP1	2.24	0.70
29:X:2189:A:C6	29:X:2195:C:N4	2.60	0.70
29:X:2404:A:H4'	29:X:2405:A:C5'	2.22	0.70
21:P:109:ARG:HG3	29:X:761:G:OP2	1.92	0.70
8:C:48:ARG:O	8:C:51:VAL:HG22	1.91	0.70
28:W:1:MET:SD	28:W:55:GLU:OXT	2.50	0.70
29:X:1094:C:C2'	29:X:1096:A:H5'	2.20	0.70
29:X:1466:C:H2'	29:X:1467:U:O4'	1.92	0.70
29:X:1700:C:H2'	29:X:1701:C:C6	2.26	0.70
29:X:1373:G:H1	29:X:2192:U:H3	1.37	0.70
29:X:2559:U:C4	29:X:2560:G:N7	2.60	0.70
29:X:2764:U:H2'	29:X:2765:C:C6	2.27	0.70
6:A:73:SER:HA	6:A:119:ALA:CB	2.22	0.70
6:A:157:ARG:CG	29:X:1810:U:H3'	2.21	0.70
7:B:61:LYS:N	7:B:62:PRO:CD	2.55	0.70
10:E:105:MET:CB	10:E:113:VAL:HB	2.21	0.70
11:F:20:ALA:H	11:F:21:PRO:HD2	1.57	0.70
14:I:104:ARG:HB3	14:I:105:PRO:CD	2.22	0.70
14:I:53:ARG:HD3	14:I:53:ARG:O	1.91	0.70
15:J:47:GLN:NE2	29:X:2464:G:H5''	2.06	0.70
16:K:63:ARG:HH12	16:K:80:MET:HG2	1.57	0.70
17:L:87:VAL:HG12	17:L:88:VAL:N	2.06	0.70
23:R:59:LYS:HD2	23:R:62:MET:HG3	1.73	0.70
29:X:1069:G:C2'	29:X:1070:G:H5''	2.22	0.70
29:X:1314:A:H2'	29:X:1315:A:H3'	1.74	0.70
29:X:1574:A:H2'	29:X:1575:C:H5''	1.73	0.70
29:X:2084:G:H2'	29:X:2085:G:C8	2.27	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:39:C:H5'	31:Z:40:C:OP2	1.92	0.70
6:A:53:PHE:HA	6:A:217:ARG:NH2	2.07	0.70
13:H:116:ARG:HH22	18:M:41:GLU:CG	2.04	0.70
18:M:95:GLU:HG3	18:M:95:GLU:O	1.92	0.70
23:R:106:VAL:CG2	23:R:113:THR:HG21	2.19	0.70
29:X:1685:A:N6	29:X:1693:A:H61	1.89	0.70
29:X:192:G:H4'	29:X:193:A:O5'	1.91	0.70
29:X:2788:C:O2'	29:X:2789:U:H5'	1.90	0.70
29:X:834:A:H5''	29:X:835:U:H6	1.56	0.70
8:C:138:LYS:C	8:C:140:ASN:H	1.95	0.70
10:E:115:ILE:HD13	10:E:148:VAL:HG22	1.71	0.70
12:G:110:LEU:N	12:G:110:LEU:HD23	2.05	0.70
21:P:110:ALA:HB2	29:X:761:G:O5'	1.91	0.70
25:T:45:PHE:HA	25:T:77:ARG:HB2	1.74	0.70
18:M:100:ARG:CZ	29:X:2824:C:OP1	2.39	0.70
29:X:306:G:N2	29:X:355:G:H1'	2.07	0.70
9:D:46:ASP:HB2	9:D:49:ALA:HB3	1.74	0.69
10:E:89:LEU:HB2	10:E:129:THR:HA	1.72	0.69
14:I:80:LEU:HD21	14:I:89:ASP:OD1	1.91	0.69
15:J:22:ALA:HB2	15:J:99:LYS:O	1.90	0.69
18:M:106:TYR:HE1	18:M:107:LEU:CG	2.03	0.69
22:Q:73:ASN:HB2	22:Q:75:ARG:NH1	2.05	0.69
23:R:97:GLN:OE1	23:R:101:GLY:HA3	1.92	0.69
8:C:166:TRP:N	8:C:166:TRP:HE3	1.89	0.69
9:D:65:PRO:HB2	9:D:87:ILE:CG2	2.22	0.69
13:H:23:ARG:CZ	13:H:25:LEU:HA	2.21	0.69
13:H:26:ASN:HD22	13:H:38:GLY:H	1.38	0.69
15:J:106:GLU:CD	15:J:106:GLU:N	2.46	0.69
20:O:73:LYS:HE3	29:X:1003:C:OP1	1.92	0.69
29:X:1018:C:H3'	29:X:1019:U:H5''	1.74	0.69
29:X:2710:C:O2'	29:X:2711:G:H5'	1.91	0.69
29:X:742:G:O2'	29:X:776:G:H4'	1.92	0.69
28:W:22:ALA:HA	29:X:942:U:O2'	1.93	0.69
31:Z:31:A:H2'	31:Z:32:C:C6	2.26	0.69
6:A:68:LYS:HD3	6:A:68:LYS:N	2.06	0.69
8:C:26:VAL:O	8:C:30:VAL:HG23	1.91	0.69
16:K:98:LEU:HD21	30:Y:56:GLN:HG2	1.74	0.69
18:M:106:TYR:HD1	18:M:107:LEU:N	1.90	0.69
23:R:93:ARG:HG2	23:R:93:ARG:HH11	1.56	0.69
29:X:242:A:O2'	29:X:243:G:H4'	1.92	0.69
29:X:541:C:O2'	29:X:542:A:OP2	2.08	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:55:ALA:CB	12:G:134:MET:HE1	2.16	0.69
22:Q:19:ALA:O	22:Q:22:ARG:HG2	1.92	0.69
22:Q:7:LEU:HD21	27:V:26:MET:HG3	1.74	0.69
23:R:47:VAL:O	23:R:47:VAL:HG12	1.91	0.69
21:P:37:LYS:HG3	29:X:1279:G:H1	1.56	0.69
29:X:1539:U:H2'	29:X:1540:C:H6	1.52	0.69
29:X:1778:U:H2'	29:X:1779:C:H6	1.56	0.69
29:X:2:G:H2'	29:X:3:U:C6	2.27	0.69
29:X:33:C:O2'	29:X:34:U:H5''	1.92	0.69
29:X:417:C:C2	29:X:419:G:C5	2.80	0.69
29:X:451:A:H2'	29:X:452:G:C8	2.27	0.69
29:X:71:A:N6	29:X:110:U:H4'	2.05	0.69
8:C:197:GLU:HG2	8:C:198:GLU:HG3	1.74	0.69
15:J:35:LEU:HD12	15:J:36:ILE:N	2.08	0.69
22:Q:22:ARG:NH1	22:Q:24:VAL:HG21	2.06	0.69
23:R:78:ALA:C	23:R:80:LYS:H	1.96	0.69
23:R:91:ALA:O	23:R:92:THR:HG23	1.93	0.69
29:X:1656:U:C2'	29:X:1657:A:H5''	2.23	0.69
29:X:2395:C:H2'	29:X:2396:C:H5'	1.74	0.69
29:X:2811:G:C6	29:X:2812:A:N6	2.60	0.69
29:X:2847:G:H2'	29:X:2848:A:C8	2.27	0.69
29:X:490:A:O2'	29:X:491:A:H3'	1.93	0.69
12:G:58:ILE:O	12:G:62:ILE:HD12	1.92	0.69
13:H:47:VAL:HG23	13:H:77:THR:CG2	2.11	0.69
16:K:87:TYR:HE1	16:K:94:TYR:CD2	2.07	0.69
29:X:236:C:H2'	29:X:237:G:H8	1.57	0.69
29:X:244:C:H2'	29:X:245:C:H5''	1.74	0.69
7:B:123:ALA:O	7:B:124:GLY:C	2.27	0.69
13:H:91:PHE:H	13:H:91:PHE:HD1	1.41	0.69
18:M:25:PRO:O	18:M:26:ASP:C	2.31	0.69
21:P:14:ARG:HA	21:P:17:GLN:HE21	1.58	0.69
23:R:40:LEU:HB2	23:R:45:LYS:HB2	1.75	0.69
25:T:36:ILE:HG23	25:T:59:LEU:O	1.93	0.69
12:G:30:LYS:N	29:X:1006:C:H42	1.91	0.69
29:X:109:A:C3'	29:X:110:U:H5''	2.23	0.69
29:X:1223:G:H4'	29:X:1224:A:C5'	2.22	0.69
29:X:2239:C:H2'	29:X:2240:C:C6	2.27	0.69
29:X:2307:A:H2'	29:X:2308:A:C8	2.28	0.69
29:X:451:A:H2'	29:X:452:G:H8	1.58	0.69
29:X:731:A:C2'	29:X:732:G:O4'	2.40	0.69
29:X:840:U:H4'	29:X:841:G:C2	2.26	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:175:VAL:O	8:C:176:ASN:HB2	1.92	0.69
10:E:146:ALA:O	10:E:150:LYS:HG3	1.92	0.69
17:L:101:LYS:O	17:L:104:ALA:HB3	1.93	0.69
18:M:82:PRO:O	18:M:85:SER:N	2.24	0.69
24:S:94:VAL:HG12	24:S:95:SER:N	2.06	0.69
29:X:1194:U:H6	29:X:1194:U:H5'	1.58	0.69
29:X:1310:C:H2'	29:X:1311:C:H6	1.56	0.69
29:X:2194:A:H2'	29:X:2195:C:O4'	1.93	0.69
12:G:106:TYR:CZ	12:G:108:GLY:HA2	2.27	0.69
14:I:83:LEU:O	14:I:84:GLU:HB2	1.91	0.69
21:P:110:ALA:HB3	29:X:760:U:O3'	1.93	0.69
23:R:100:ASP:OD1	23:R:102:LYS:HB3	1.93	0.69
23:R:105:ARG:HH22	23:R:112:LYS:CA	2.03	0.69
29:X:1194:U:H2'	29:X:1195:U:C6	2.28	0.69
29:X:1835:C:H2'	29:X:1836:C:C6	2.28	0.69
29:X:2198:U:C4	29:X:2199:C:C5	2.81	0.69
29:X:230:C:C2'	29:X:231:G:H5'	2.23	0.69
29:X:857:U:H2'	29:X:858:G:O4'	1.92	0.69
31:Z:17:A:H1'	31:Z:112:A:C8	2.28	0.69
8:C:162:ARG:HD2	29:X:333:A:H5'	1.75	0.69
8:C:67:ALA:O	8:C:68:ARG:CB	2.40	0.69
13:H:47:VAL:HG11	13:H:115:ALA:HB1	1.74	0.69
29:X:1623:C:O2'	29:X:1624:A:OP2	2.07	0.69
29:X:1655:C:H4'	29:X:2689:C:O2	1.92	0.69
29:X:2018:G:O2'	29:X:2019:C:OP1	2.11	0.69
29:X:2321:C:O2'	29:X:2353:G:H5''	1.93	0.69
29:X:585:U:H4'	29:X:2481:G:C8	2.28	0.69
29:X:2513:A:C2	29:X:2514:G:H1'	2.28	0.69
9:D:123:ASP:HB2	9:D:127:ASN:O	1.92	0.69
9:D:9:ASN:O	9:D:13:ARG:N	2.26	0.69
9:D:60:ILE:HG22	9:D:140:GLU:HB2	1.75	0.69
10:E:27:LYS:HG2	10:E:32:GLU:HB3	1.74	0.69
14:I:90:ARG:O	14:I:121:HIS:HB2	1.93	0.69
17:L:101:LYS:HG2	17:L:105:ASP:OD2	1.93	0.69
25:T:34:GLY:HA3	29:X:2332:G:C1'	2.03	0.69
29:X:1193:G:H2'	29:X:1194:U:C5'	2.24	0.69
29:X:1479:G:H2'	29:X:1480:G:C8	2.28	0.69
29:X:541:C:N3	29:X:572:G:C8	2.61	0.69
17:L:37:HIS:HB3	31:Z:30:C:OP1	1.93	0.69
31:Z:43:G:C5'	31:Z:44:C:H5'	2.13	0.69
8:C:3:GLN:OE1	8:C:116:LYS:HE3	1.92	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:42:LYS:HA	29:X:2654:A:OP1	1.93	0.68
21:P:111:ARG:O	21:P:113:SER:N	2.22	0.68
29:X:1373:G:O2'	29:X:1374:G:H5'	1.93	0.68
29:X:2026:C:H2'	29:X:2027:C:H6	1.58	0.68
29:X:2055:G:O2'	29:X:2056:C:H5'	1.92	0.68
29:X:2787:A:O2'	29:X:2788:C:H5'	1.91	0.68
29:X:947:C:H2'	29:X:948:C:H6	1.57	0.68
8:C:5:ASN:HA	8:C:118:VAL:CG2	2.20	0.68
19:N:93:LYS:HD3	20:O:5:ILE:HG22	1.75	0.68
24:S:154:LEU:HD11	24:S:160:LEU:HG	1.73	0.68
24:S:71:MET:CB	24:S:78:PRO:HA	2.23	0.68
29:X:1522:C:H2'	29:X:1523:A:C5'	2.24	0.68
29:X:160:C:O2	29:X:445:A:H2	1.76	0.68
29:X:1812:U:O2	29:X:1812:U:H2'	1.91	0.68
29:X:1919:A:H2	29:X:1926:U:C4	2.11	0.68
29:X:1937:G:N3	29:X:2530:C:H5'	2.08	0.68
29:X:2603:G:C6	29:X:2604:G:N7	2.62	0.68
7:B:14:ILE:HD12	7:B:183:LEU:HD13	1.74	0.68
10:E:163:ARG:HB2	10:E:167:GLU:HG2	1.73	0.68
19:N:66:ASN:HB2	19:N:70:ARG:NH1	2.08	0.68
22:Q:90:ALA:C	22:Q:92:ALA:H	1.95	0.68
29:X:346:C:H2'	29:X:347:C:H6	1.58	0.68
29:X:822:G:H2'	29:X:823:U:C5'	2.23	0.68
16:K:99:ARG:CG	16:K:99:ARG:NH1	2.57	0.68
17:L:66:ASP:C	17:L:68:ALA:H	1.95	0.68
29:X:149:A:H2'	29:X:150:A:C8	2.28	0.68
29:X:2198:U:H2'	29:X:2199:C:C1'	2.23	0.68
29:X:2492:G:H2'	29:X:2493:U:C6	2.29	0.68
29:X:632:A:H2'	29:X:633:G:C5'	2.23	0.68
11:F:53:ILE:HG12	11:F:72:PRO:HB3	1.73	0.68
14:I:18:ARG:CG	14:I:21:ARG:HD3	2.24	0.68
21:P:109:ARG:HG2	29:X:760:U:O2'	1.93	0.68
21:P:37:LYS:HE2	21:P:64:ALA:CB	2.16	0.68
23:R:27:GLY:O	23:R:30:LYS:HG2	1.93	0.68
29:X:1011:A:O2'	29:X:1012:A:H5'	1.93	0.68
29:X:169:C:H2'	29:X:170:U:H5'	1.74	0.68
29:X:1856:U:C2'	29:X:1857:G:O5'	2.42	0.68
29:X:2311:U:H3'	29:X:2311:U:O2	1.93	0.68
29:X:2555:G:H3'	29:X:2555:G:OP1	1.93	0.68
29:X:2558:C:H2'	29:X:2559:U:H6	1.59	0.68
29:X:817:A:H2'	29:X:819:C:N4	2.08	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:118:ASN:ND2	9:D:120:ASN:HD22	1.92	0.68
14:I:67:ASN:HB2	29:X:643:A:H4'	1.75	0.68
13:H:132:GLU:HB2	18:M:73:PHE:CE1	2.28	0.68
19:N:57:PHE:CE2	29:X:1006:C:C2	2.82	0.68
29:X:1710:U:H4'	29:X:1711:C:OP2	1.92	0.68
29:X:1919:A:H2	29:X:1926:U:N3	1.92	0.68
29:X:2048:C:H2'	29:X:2049:C:C6	2.28	0.68
29:X:421:G:H2'	29:X:422:C:C6	2.28	0.68
29:X:739:G:O2'	29:X:740:A:P	2.51	0.68
29:X:874:A:H2	31:Z:80:A:C2	2.12	0.68
8:C:95:LEU:HD23	8:C:96:PRO:CD	2.23	0.68
9:D:75:SER:CB	9:D:79:LEU:HD22	2.23	0.68
19:N:7:GLY:O	19:N:8:ILE:HG13	1.92	0.68
23:R:22:VAL:HG11	23:R:80:LYS:CE	2.24	0.68
26:U:27:ASP:N	26:U:32:ARG:HD3	2.07	0.68
27:V:7:ARG:HA	27:V:14:PHE:HZ	1.56	0.68
29:X:1333:G:N2	29:X:1344:C:N4	2.41	0.68
29:X:1835:C:H2'	29:X:1836:C:H6	1.57	0.68
29:X:2074:U:H3'	29:X:2075:U:C5'	2.22	0.68
29:X:2197:U:C4	29:X:2198:U:C5	2.81	0.68
8:C:39:ARG:HE	8:C:91:TYR:HD2	1.40	0.68
11:F:13:PRO:HA	11:F:52:ILE:HA	1.76	0.68
19:N:33:ARG:NE	29:X:1265:G:N3	2.41	0.68
29:X:1333:G:OP2	29:X:1333:G:H8	1.77	0.68
29:X:2024:U:O2'	29:X:2025:A:H5'	1.94	0.68
29:X:2387:U:H2'	29:X:2388:G:H8	1.54	0.68
29:X:575:U:H2'	29:X:576:A:O4'	1.93	0.68
8:C:163:ASN:ND2	8:C:166:TRP:HB2	2.09	0.68
8:C:54:THR:OG1	8:C:73:SER:HB3	1.94	0.68
9:D:108:LEU:CD1	9:D:117:ILE:HD11	2.24	0.68
10:E:68:THR:O	10:E:72:VAL:HG23	1.94	0.68
11:F:3:LYS:HD2	11:F:3:LYS:N	2.08	0.68
19:N:75:ASN:HD21	19:N:77:SER:HB3	1.59	0.68
26:U:19:ILE:HA	26:U:42:GLN:HA	1.75	0.68
29:X:1791:C:O2'	29:X:1792:C:H5''	1.94	0.68
29:X:1974:U:H2'	29:X:1975:G:H5'	1.75	0.68
7:B:144:ARG:NH1	29:X:2551:A:H2'	2.09	0.68
29:X:2671:C:O2'	29:X:2672:U:H5'	1.94	0.68
29:X:2861:A:H2'	29:X:2862:G:H8	1.58	0.68
29:X:38:G:H2'	29:X:39:C:H6	1.57	0.68
29:X:653:G:C2'	29:X:654:A:H5''	2.22	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:63:A:O2'	31:Z:64:C:H5'	1.94	0.68
13:H:116:ARG:HH21	18:M:40:ARG:HB2	1.59	0.68
15:J:40:PRO:HG3	15:J:99:LYS:NZ	2.07	0.68
25:T:72:LYS:HD3	31:Z:14:C:H5''	1.75	0.68
26:U:11:LYS:NZ	26:U:75:TYR:HB2	2.09	0.68
29:X:1790:G:C2	29:X:1811:A:N7	2.61	0.68
29:X:1920:A:C6	29:X:1922:U:H5	2.12	0.68
29:X:2320:G:H2'	29:X:2321:C:C6	2.29	0.68
29:X:2712:G:H3'	29:X:2713:A:H5'	1.76	0.68
18:M:100:ARG:NH1	29:X:2824:C:OP1	2.27	0.68
6:A:243:GLY:C	6:A:244:ARG:HD3	2.14	0.67
7:B:122:PHE:O	7:B:123:ALA:HB2	1.93	0.67
9:D:13:ARG:CB	9:D:14:PRO:HD3	2.23	0.67
18:M:31:ASP:OD2	18:M:31:ASP:N	2.26	0.67
19:N:24:PHE:CB	19:N:29:SER:HB3	2.17	0.67
26:U:32:ARG:H	26:U:32:ARG:HE	1.41	0.67
29:X:1851:A:H62	29:X:1866:G:N2	1.91	0.67
29:X:1980:A:C2	29:X:1981:A:C5	2.82	0.67
29:X:417:C:C2	29:X:419:G:N7	2.62	0.67
31:Z:20:A:H2'	31:Z:21:C:C6	2.29	0.67
9:D:36:VAL:O	9:D:89:VAL:HG23	1.94	0.67
11:F:122:ALA:HB1	29:X:1092:U:H4'	1.75	0.67
12:G:40:ASN:HB3	12:G:78:ASP:HB3	1.74	0.67
15:J:50:ALA:O	15:J:54:VAL:HG23	1.93	0.67
24:S:19:ILE:HG22	24:S:20:ALA:N	2.09	0.67
29:X:1033:G:O2'	29:X:1034:U:H5'	1.93	0.67
29:X:1071:U:H1'	29:X:1073:G:C5'	2.24	0.67
7:B:129:HIS:CE1	29:X:1692:C:N3	2.62	0.67
6:A:255:LYS:HE2	29:X:1835:C:C5'	2.23	0.67
29:X:617:U:O2	29:X:617:U:H3'	1.94	0.67
31:Z:36:A:HO2'	31:Z:37:C:H5	1.42	0.67
11:F:104:VAL:HA	11:F:107:ILE:CD1	2.25	0.67
11:F:10:LEU:HD22	11:F:27:LEU:HD21	1.77	0.67
17:L:95:LYS:HB3	17:L:95:LYS:NZ	2.09	0.67
19:N:61:TRP:HZ3	19:N:93:LYS:HA	1.59	0.67
19:N:66:ASN:HA	19:N:69:ALA:CB	2.24	0.67
21:P:106:LEU:HD23	21:P:107:ILE:N	2.10	0.67
24:S:127:PRO:HA	24:S:130:ILE:HD11	1.75	0.67
26:U:33:LYS:HZ2	29:X:2400:G:H21	1.41	0.67
29:X:17:G:C2	29:X:534:U:O2	2.47	0.67
29:X:2284:U:C2'	29:X:2285:U:H5''	2.25	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:113:THR:OG1	29:X:2798:A:OP1	2.11	0.67
31:Z:123:U:OP1	31:Z:123:U:H3'	1.93	0.67
7:B:154:LYS:HZ1	7:B:156:MET:HE1	1.59	0.67
9:D:142:THR:O	9:D:146:VAL:HG13	1.94	0.67
15:J:121:LEU:O	15:J:125:LYS:HE2	1.94	0.67
27:V:46:LEU:O	27:V:50:VAL:HG23	1.94	0.67
29:X:2217:G:H5''	29:X:2218:G:OP1	1.94	0.67
29:X:2677:U:H2'	29:X:2678:C:C6	2.29	0.67
29:X:404:A:H1'	29:X:424:G:H1'	1.77	0.67
29:X:496:C:H2'	29:X:497:C:C5'	2.24	0.67
29:X:580:A:H1'	29:X:582:G:C8	2.28	0.67
4:4:10:MET:CE	4:4:32:HIS:HA	2.24	0.67
7:B:111:LYS:HB2	7:B:160:MET:HG2	1.75	0.67
12:G:93:LYS:N	12:G:93:LYS:HD2	2.09	0.67
17:L:33:ARG:NH2	17:L:103:LEU:HB2	2.10	0.67
19:N:11:ARG:HH22	29:X:29:U:H4'	1.59	0.67
24:S:18:MET:HA	24:S:36:ARG:N	2.09	0.67
26:U:19:ILE:HG22	26:U:41:VAL:O	1.93	0.67
29:X:2329:C:H2'	29:X:2330:G:O4'	1.94	0.67
29:X:2824:C:H1'	29:X:2843:A:C2	2.29	0.67
29:X:691:C:H2'	29:X:692:C:C6	2.30	0.67
29:X:73:A:H4'	29:X:74:G:O5'	1.94	0.67
7:B:70:ALA:CB	7:B:72:VAL:HG23	2.25	0.67
8:C:3:GLN:HB2	8:C:116:LYS:HD2	1.76	0.67
11:F:3:LYS:H	11:F:3:LYS:CD	2.07	0.67
12:G:101:THR:HG23	12:G:103:TYR:CD1	2.29	0.67
14:I:58:ALA:O	14:I:59:ARG:HB2	1.94	0.67
18:M:99:VAL:HG21	18:M:104:LEU:HD21	1.75	0.67
19:N:6:THR:O	19:N:9:VAL:HB	1.95	0.67
21:P:94:GLU:HG2	21:P:127:ILE:HB	1.77	0.67
29:X:1117:G:H2'	29:X:1118:G:C8	2.30	0.67
29:X:1454:U:H2'	29:X:1455:C:H6	1.59	0.67
6:A:157:ARG:HD2	29:X:1810:U:C6	2.30	0.67
29:X:1956:G:H2'	29:X:1957:C:C6	2.30	0.67
29:X:2659:C:H2'	29:X:2660:C:C6	2.29	0.67
29:X:2826:C:H2'	29:X:2827:G:C5'	2.23	0.67
29:X:405:C:H2'	29:X:406:G:C8	2.30	0.67
29:X:571:U:O2'	29:X:581:A:O4'	2.12	0.67
29:X:758:G:H2'	29:X:759:C:C5'	2.19	0.67
29:X:981:C:N4	29:X:982:C:H41	1.92	0.67
8:C:84:PHE:CE1	29:X:596:C:C5'	2.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:132:PHE:CZ	12:G:142:ARG:HA	2.30	0.67
29:X:1139:A:O2'	29:X:1140:A:O4'	2.11	0.67
29:X:1252:C:C2'	29:X:1253:C:H5''	2.25	0.67
21:P:36:ARG:NH2	30:Y:20:ARG:CZ	2.58	0.67
30:Y:25:LEU:CD1	30:Y:25:LEU:H	2.08	0.67
6:A:200:GLU:HG3	6:A:202:LYS:H	1.60	0.67
6:A:66:ASP:OD1	6:A:69:ARG:HB2	1.95	0.67
7:B:150:VAL:CG2	7:B:154:LYS:HG2	2.24	0.67
9:D:175:LEU:HD23	9:D:177:PHE:HE1	1.60	0.67
9:D:37:ASN:ND2	9:D:87:ILE:O	2.27	0.67
16:K:31:GLU:O	16:K:33:ARG:N	2.24	0.67
21:P:10:ASN:O	21:P:12:LYS:N	2.28	0.67
22:Q:5:ASP:O	22:Q:7:LEU:HD12	1.95	0.67
24:S:1:MET:HE2	24:S:52:PHE:HB3	1.75	0.67
29:X:1511:A:H2'	29:X:1512:A:C8	2.30	0.67
7:B:137:ARG:NH2	29:X:2034:A:P	2.67	0.67
29:X:2555:G:H3'	29:X:2555:G:N3	2.09	0.67
29:X:2695:C:H2'	29:X:2696:A:C8	2.30	0.67
29:X:2806:G:O4'	29:X:2858:A:C2	2.48	0.67
29:X:774:A:H8	29:X:774:A:O5'	1.77	0.67
29:X:795:A:H5''	29:X:796:A:OP1	1.94	0.67
7:B:146:THR:O	7:B:147:PRO:C	2.33	0.67
9:D:36:VAL:HG22	9:D:154:ILE:HG13	1.77	0.67
13:H:97:VAL:O	13:H:99:ILE:HG23	1.95	0.67
14:I:13:ARG:HG2	14:I:13:ARG:HH21	1.59	0.67
15:J:77:LYS:HG3	15:J:78:LYS:N	2.10	0.67
23:R:100:ASP:C	23:R:102:LYS:H	1.97	0.67
21:P:37:LYS:HB2	29:X:1279:G:C2	2.30	0.67
29:X:1355:A:H1'	29:X:1410:U:H4'	1.77	0.67
29:X:2015:G:O2'	29:X:2016:A:O5'	2.12	0.67
29:X:2366:U:H6	29:X:2366:U:H3'	1.59	0.67
6:A:142:VAL:HG12	6:A:193:ILE:HA	1.76	0.67
7:B:151:TYR:HB3	12:G:106:TYR:CD2	2.29	0.67
7:B:99:GLY:N	7:B:172:VAL:O	2.26	0.67
8:C:104:LEU:N	8:C:104:LEU:CD2	2.58	0.67
8:C:48:ARG:C	8:C:50:GLN:H	1.97	0.67
17:L:33:ARG:N	17:L:94:TYR:CE1	2.62	0.67
17:L:37:HIS:CE1	17:L:57:ALA:HB2	2.29	0.67
18:M:37:THR:O	18:M:87:LEU:HD22	1.94	0.67
19:N:75:ASN:ND2	19:N:77:SER:HB3	2.10	0.67
24:S:6:LYS:H	24:S:7:PRO:CD	2.08	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:V:31:GLN:O	27:V:35:GLY:N	2.27	0.67
29:X:1923:U:H1'	29:X:1924:C:H5	1.58	0.67
29:X:2205:C:C2'	29:X:2206:C:H5'	2.24	0.67
29:X:2334:C:H6	29:X:2334:C:O5'	1.77	0.67
29:X:33:C:O2'	29:X:34:U:OP1	2.13	0.67
29:X:469:G:H22	29:X:481:A:P	2.18	0.67
9:D:8:TYR:HB2	9:D:173:MET:HE1	1.77	0.66
12:G:103:TYR:CD2	12:G:111:LYS:HA	2.30	0.66
15:J:44:LYS:HB2	15:J:47:GLN:HG3	1.75	0.66
16:K:13:ASN:HD21	16:K:16:ALA:N	1.87	0.66
18:M:106:TYR:CD1	18:M:107:LEU:HG	2.30	0.66
29:X:1542:G:N2	29:X:1562:G:N1	2.39	0.66
29:X:1715:A:O2'	29:X:1716:G:H5''	1.94	0.66
29:X:2006:G:O2'	29:X:2007:G:H5'	1.96	0.66
13:H:23:ARG:HD3	29:X:2540:A:O2'	1.94	0.66
29:X:568:G:H2'	29:X:569:C:O4'	1.95	0.66
29:X:738:G:O5'	29:X:738:G:H8	1.78	0.66
29:X:813:A:C1'	29:X:815:A:H5'	2.25	0.66
30:Y:35:GLN:C	30:Y:37:HIS:H	1.99	0.66
4:4:18:ARG:HD3	4:4:23:VAL:HG22	1.76	0.66
8:C:176:ASN:ND2	8:C:178:TYR:HB3	2.10	0.66
9:D:163:ASP:HA	9:D:166:ALA:HB3	1.77	0.66
12:G:63:ARG:C	12:G:63:ARG:HE	1.98	0.66
20:O:11:GLN:OE1	20:O:38:LEU:HD12	1.94	0.66
24:S:64:ALA:N	24:S:86:VAL:HG23	2.10	0.66
27:V:38:ALA:C	27:V:40:PRO:HD3	2.15	0.66
29:X:1302:C:H2'	29:X:1303:U:H6	1.59	0.66
29:X:1463:A:H2'	29:X:1464:A:H8	1.60	0.66
29:X:1819:U:H2'	29:X:1820:G:O4'	1.95	0.66
29:X:304:A:C2'	29:X:305:A:H5''	2.21	0.66
29:X:623:G:H3'	29:X:624:A:C5'	2.22	0.66
8:C:111:ARG:NH1	8:C:181:LEU:HA	2.10	0.66
8:C:4:ILE:HB	8:C:10:ASN:OD1	1.95	0.66
12:G:149:LYS:NZ	29:X:7:G:C5'	2.59	0.66
14:I:18:ARG:HD2	14:I:21:ARG:HG3	1.76	0.66
14:I:73:GLU:OE1	14:I:73:GLU:N	2.28	0.66
22:Q:68:PHE:O	22:Q:69:ILE:HD12	1.93	0.66
6:A:209:ALA:HB2	29:X:1781:C:O2'	1.95	0.66
29:X:1841:G:H2'	29:X:1842:G:H5'	1.76	0.66
29:X:1854:G:HO2'	29:X:1855:G:H5'	1.56	0.66
29:X:2662:C:H2'	29:X:2663:U:C6	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2708:U:H2'	29:X:2709:C:H6	1.61	0.66
29:X:2823:G:O2'	29:X:2824:C:H6	1.75	0.66
29:X:496:C:O2'	29:X:497:C:H5''	1.96	0.66
29:X:682:G:H5''	29:X:683:A:OP 2	1.94	0.66
6:A:258:LYS:NZ	6:A:261:ARG:NH2	2.43	0.66
8:C:47:THR:HG23	8:C:85:GLY:N	2.09	0.66
12:G:104:THR:O	12:G:107:GLN:NE2	2.29	0.66
12:G:50:PRO:HA	12:G:89:ALA:HB3	1.76	0.66
7:B:147:PRO:HD3	29:X:1141:U:C5	2.30	0.66
29:X:2238:G:O2'	29:X:2239:C:H5'	1.96	0.66
29:X:417:C:C5	29:X:419:G:C4	2.84	0.66
29:X:417:C:C6	29:X:419:G:N9	2.64	0.66
29:X:501:G:H2'	29:X:502:A:C8	2.28	0.66
29:X:590:C:H2'	29:X:591:G:C8	2.22	0.66
6:A:79:VAL:HB	6:A:114:GLY:H	1.60	0.66
8:C:147:LYS:HB2	8:C:184:ASP:H	1.60	0.66
11:F:90:THR:HG21	11:F:93:LYS:HD2	1.78	0.66
16:K:20:LEU:CD1	16:K:24:GLN:HE21	2.01	0.66
16:K:90:ARG:O	16:K:92:GLY:N	2.29	0.66
21:P:77:ALA:C	21:P:78:ASN:HD22	1.98	0.66
29:X:1071:U:H5''	29:X:1072:U:OP1	1.96	0.66
29:X:1355:A:C8	29:X:1410:U:H1'	2.29	0.66
29:X:765:C:N3	29:X:1772:C:H1'	2.11	0.66
29:X:192:G:C1'	29:X:193:A:H4'	2.26	0.66
29:X:2046:C:H2'	29:X:2047:C:H5'	1.78	0.66
29:X:923:A:H2	29:X:2256:G:N3	1.93	0.66
29:X:2790:C:H2'	29:X:2791:C:C6	2.30	0.66
29:X:760:U:C5	30:Y:3:LYS:HG3	2.31	0.66
6:A:223:GLY:HA2	6:A:226:MET:SD	2.35	0.66
9:D:152:MET:CE	9:D:154:ILE:HD11	2.25	0.66
9:D:63:GLN:HG2	31:Z:44:C:O2'	1.95	0.66
10:E:18:ASN:HB3	10:E:20:GLN:NE2	2.10	0.66
12:G:162:LYS:NZ	29:X:5:A:H1'	2.11	0.66
13:H:27:SER:CB	13:H:50:ILE:H	1.98	0.66
18:M:33:VAL:HG22	18:M:51:GLU:HB2	1.78	0.66
22:Q:43:GLN:OE1	22:Q:49:ARG:HA	1.96	0.66
23:R:59:LYS:HB3	23:R:62:MET:HB2	1.78	0.66
24:S:103:ARG:HD3	24:S:108:VAL:CG2	2.26	0.66
27:V:49:GLU:O	27:V:53:LEU:HG	1.95	0.66
29:X:1138:A:H2'	29:X:1139:A:H5''	1.77	0.66
29:X:1419:G:H2'	29:X:1420:A:C8	2.30	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1690:U:H2'	29:X:1691:G:H5'	1.77	0.66
6:A:211:ARG:HH11	6:A:211:ARG:HG2	1.59	0.66
7:B:154:LYS:O	7:B:156:MET:HG3	1.96	0.66
15:J:99:LYS:CE	15:J:100:PRO:HD2	2.24	0.66
16:K:48:VAL:HG13	16:K:49:GLU:N	2.10	0.66
18:M:46:ARG:CG	18:M:47:SER:H	2.07	0.66
29:X:1095:A:H2'	29:X:1096:A:H5''	1.78	0.66
29:X:1391:A:O2'	29:X:1392:U:H3'	1.95	0.66
29:X:1775:A:O5'	29:X:1775:A:H8	1.78	0.66
29:X:1850:G:C2'	29:X:1851:A:H8	2.06	0.66
29:X:2269:G:H2'	29:X:2270:U:O4'	1.94	0.66
25:T:24:LYS:HE3	29:X:2334:C:O2'	1.95	0.66
29:X:2497:A:H5''	29:X:2498:U:OP2	1.95	0.66
29:X:2594:U:H2'	29:X:2595:C:H6	1.60	0.66
29:X:2691:C:C2'	29:X:2692:A:C5'	2.72	0.66
29:X:2876:C:H2'	29:X:2877:A:C8	2.31	0.66
29:X:71:A:C6	29:X:110:U:H4'	2.30	0.66
29:X:802:A:H3'	29:X:802:A:OP1	1.96	0.66
9:D:33:LYS:HD2	9:D:90:THR:HG23	1.78	0.66
10:E:6:LYS:HB3	10:E:69:ARG:CD	2.26	0.66
11:F:75:SER:O	11:F:79:ARG:HG3	1.94	0.66
3:3:12:ARG:CA	14:I:62:LYS:HD3	2.26	0.66
15:J:53:ILE:O	15:J:54:VAL:C	2.34	0.66
23:R:107:ALA:CB	23:R:111:GLY:HA2	2.26	0.66
29:X:1774:A:C2	29:X:2566:A:C4	2.84	0.66
29:X:2084:G:H2'	29:X:2085:G:H8	1.60	0.66
29:X:2700:U:H2'	29:X:2701:A:H8	1.59	0.66
29:X:732:G:C8	29:X:732:G:OP2	2.49	0.66
13:H:64:VAL:C	13:H:65:LYS:HD2	2.17	0.66
16:K:84:ALA:HB3	16:K:85:PRO:HD3	1.78	0.66
20:O:9:GLY:O	20:O:10:LYS:HB3	1.94	0.66
21:P:105:ARG:NH1	21:P:119:LYS:NZ	2.44	0.66
22:Q:10:PRO:HA	22:Q:27:PHE:CB	2.11	0.66
24:S:91:PRO:HD3	24:S:127:PRO:CG	2.26	0.66
24:S:91:PRO:HD3	24:S:127:PRO:HG3	1.78	0.66
29:X:1072:U:H1'	29:X:1081:A:C1'	2.25	0.66
16:K:60:LEU:CD1	29:X:1469:U:H2'	2.26	0.66
29:X:1840:A:H2'	29:X:1841:G:O4'	1.96	0.66
29:X:1998:A:H4'	30:Y:3:LYS:NZ	2.11	0.66
29:X:799:C:O2'	29:X:800:U:H5'	1.96	0.66
6:A:244:ARG:HD2	29:X:1885:C:H5'	1.78	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:14:ILE:HG12	18:M:20:HIS:HD2	1.58	0.66
7:B:162:MET:CE	29:X:2796:A:H5''	2.25	0.66
13:H:88:THR:HB	18:M:80:VAL:HB	1.77	0.66
15:J:35:LEU:HD11	15:J:130:THR:CB	2.25	0.66
24:S:113:VAL:HG13	24:S:171:VAL:HG22	1.76	0.66
26:U:62:LEU:HD23	26:U:67:LEU:HB2	1.78	0.66
29:X:117:A:H4'	29:X:118:U:O5'	1.96	0.66
29:X:230:C:H2'	29:X:231:G:H5'	1.77	0.66
29:X:2569:A:O2'	29:X:2570:C:H5'	1.96	0.66
29:X:2598:C:H2'	29:X:2599:U:C6	2.31	0.66
29:X:640:C:C4'	29:X:660:G:H21	2.08	0.66
29:X:653:G:C3'	29:X:654:A:H5''	2.25	0.66
7:B:16:LYS:O	7:B:17:ASN:HB2	1.96	0.65
8:C:34:GLN:NE2	8:C:177:VAL:HB	2.12	0.65
12:G:98:LYS:HG3	12:G:116:ARG:HD3	1.78	0.65
12:G:72:PRO:O	12:G:73:ASN:C	2.34	0.65
15:J:66:TYR:HB2	15:J:106:GLU:CD	2.15	0.65
15:J:128:ILE:O	15:J:128:ILE:HD12	1.97	0.65
18:M:22:ARG:HD2	18:M:83:PHE:O	1.96	0.65
20:O:5:ILE:HD11	20:O:8:GLY:O	1.96	0.65
20:O:65:ARG:HG2	20:O:87:ARG:HD3	1.78	0.65
27:V:32:ALA:HB2	27:V:37:LEU:HD12	1.76	0.65
29:X:2691:C:H2'	29:X:2692:A:C5'	2.22	0.65
16:K:96:ARG:HB2	29:X:2857:C:C5'	2.26	0.65
29:X:482:A:C2'	29:X:483:A:H5'	2.26	0.65
6:A:254:THR:CB	29:X:1835:C:HO2'	2.09	0.65
11:F:87:GLY:HA3	29:X:1075:C:H5''	1.78	0.65
13:H:29:ILE:CA	13:H:34:LEU:HD23	2.26	0.65
14:I:72:TYR:HB3	14:I:107:LYS:HB2	1.79	0.65
15:J:6:LYS:HE3	15:J:7:ARG:NE	2.06	0.65
16:K:83:VAL:HG23	16:K:87:TYR:CE2	2.31	0.65
29:X:1016:C:C5	29:X:1154:A:H1'	2.32	0.65
29:X:1463:A:H2'	29:X:1464:A:C8	2.31	0.65
29:X:1724:C:N3	29:X:1747:G:C6	2.63	0.65
29:X:2210:C:H2'	29:X:2211:U:H6	1.60	0.65
4:4:1:MET:H1	29:X:2505:G:C2'	2.09	0.65
10:E:126:PRO:HG2	10:E:127:GLU:N	2.10	0.65
14:I:101:ARG:HD3	29:X:637:G:O6	1.95	0.65
18:M:22:ARG:HD3	18:M:24:LEU:CD2	2.25	0.65
18:M:53:VAL:HG12	18:M:54:VAL:N	2.11	0.65
21:P:71:VAL:CG1	21:P:126:ILE:HG22	2.27	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:14:LEU:C	23:R:16:PHE:H	1.99	0.65
26:U:33:LYS:HZ2	29:X:2375:G:H1'	1.61	0.65
26:U:20:ARG:HB3	26:U:43:ARG:NH2	2.11	0.65
29:X:1358:C:H2'	29:X:1359:G:H5'	1.78	0.65
29:X:1923:U:H1'	29:X:1924:C:C5	2.31	0.65
8:C:68:ARG:NH1	29:X:2043:A:H62	1.86	0.65
29:X:2625:U:C6	29:X:2625:U:OP2	2.49	0.65
29:X:457:C:O2'	29:X:458:G:H5'	1.96	0.65
7:B:136:ARG:O	7:B:137:ARG:HB2	1.97	0.65
15:J:77:LYS:HG3	15:J:78:LYS:H	1.60	0.65
17:L:36:LYS:NZ	17:L:99:ARG:HH11	1.95	0.65
21:P:62:ARG:HG3	21:P:62:ARG:HH11	1.61	0.65
29:X:1181:C:H2'	29:X:1182:U:C5'	2.22	0.65
29:X:1984:A:H4'	29:X:2668:U:H2'	1.78	0.65
29:X:2195:C:C6	29:X:2196:U:H5	2.15	0.65
29:X:2302:G:H1	29:X:2311:U:H5	1.45	0.65
29:X:2335:U:H2'	29:X:2336:G:C8	2.31	0.65
29:X:2585:C:C2'	29:X:2586:G:H5'	2.26	0.65
7:B:133:LYS:HG2	7:B:137:ARG:HB3	1.79	0.65
9:D:131:GLY:HA3	29:X:2283:G:O3'	1.97	0.65
12:G:101:THR:HG23	12:G:103:TYR:CE1	2.32	0.65
12:G:61:ARG:CZ	12:G:65:LYS:HD2	2.26	0.65
12:G:49:VAL:O	12:G:89:ALA:HB3	1.97	0.65
21:P:35:PRO:O	21:P:39:ARG:CD	2.44	0.65
25:T:45:PHE:HZ	25:T:77:ARG:NH2	1.95	0.65
29:X:1122:A:H2	29:X:1123:G:H1'	1.62	0.65
6:A:262:LYS:HE2	29:X:2206:C:H1'	1.79	0.65
29:X:2628:C:H2'	29:X:2629:U:C6	2.32	0.65
17:L:57:ALA:CB	31:Z:119:G:H4'	2.26	0.65
10:E:43:VAL:HG21	10:E:52:VAL:HG22	1.77	0.65
10:E:30:LYS:HB2	10:E:79:VAL:HA	1.77	0.65
12:G:52:GLY:O	12:G:55:ALA:HB3	1.97	0.65
15:J:39:GLU:CG	31:Z:92:G:H22	2.10	0.65
7:B:77:ILE:HD12	18:M:3:THR:HG22	1.78	0.65
26:U:32:ARG:CG	26:U:33:LYS:H	2.01	0.65
26:U:54:ASN:ND2	26:U:76:LYS:O	2.29	0.65
29:X:1255:A:H2'	29:X:1256:C:C6	2.32	0.65
29:X:1467:U:H3'	29:X:1467:U:H6	1.60	0.65
29:X:1926:U:O2'	29:X:1927:U:H5''	1.96	0.65
29:X:197:G:N3	29:X:210:A:H2	1.95	0.65
12:G:125:ARG:NH1	29:X:2760:G:H1	1.94	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2766:U:O2'	29:X:2767:C:H5'	1.96	0.65
25:T:69:PHE:CE2	29:X:870:C:H5'	2.32	0.65
29:X:884:C:O5'	29:X:884:C:H6	1.78	0.65
12:G:73:ASN:O	12:G:140:GLN:OE1	2.15	0.65
15:J:77:LYS:H	15:J:89:GLY:HA3	1.61	0.65
13:H:83:ARG:HE	18:M:40:ARG:NH2	1.95	0.65
23:R:10:HIS:O	23:R:11:ASN:HB2	1.95	0.65
24:S:91:PRO:HD3	24:S:127:PRO:CD	2.27	0.65
25:T:45:PHE:HZ	25:T:77:ARG:HH21	1.43	0.65
29:X:1066:G:H2'	29:X:1067:G:C8	2.31	0.65
29:X:1248:G:H2'	29:X:1249:G:O4'	1.97	0.65
29:X:1588:A:H2'	29:X:1589:G:C8	2.28	0.65
29:X:172:A:H3'	29:X:173:A:H5'	1.78	0.65
29:X:2445:C:C2	29:X:2464:G:N2	2.64	0.65
29:X:537:C:H1'	29:X:538:A:N6	2.11	0.65
29:X:619:A:H2'	29:X:620:G:O4'	1.96	0.65
29:X:831:G:H5'	29:X:852:U:OP1	1.97	0.65
6:A:222:ARG:HB2	6:A:222:ARG:NH2	2.11	0.65
8:C:166:TRP:CE3	8:C:166:TRP:N	2.64	0.65
12:G:44:VAL:HG12	12:G:45:ASP:H	1.59	0.65
23:R:106:VAL:HG23	23:R:113:THR:CG2	2.24	0.65
29:X:1095:A:H3'	29:X:1096:A:H5''	1.77	0.65
29:X:1775:A:H4'	29:X:1776:A:O5'	1.96	0.65
29:X:2807:U:HO2'	29:X:2808:U:P	2.20	0.65
29:X:859:U:H1'	29:X:860:U:C4	2.31	0.65
29:X:874:A:C2	31:Z:80:A:H2	2.14	0.65
6:A:146:GLU:HG2	6:A:153:ALA:HA	1.78	0.65
6:A:48:ARG:H	6:A:48:ARG:HD2	1.60	0.65
7:B:189:PRO:HA	29:X:2659:C:C5'	2.27	0.65
16:K:13:ASN:ND2	16:K:14:SER:N	2.43	0.65
17:L:11:LEU:HA	17:L:14:ARG:HD2	1.77	0.65
20:O:32:LYS:HB2	20:O:58:ALA:O	1.96	0.65
21:P:105:ARG:NH1	29:X:1336:G:OP1	2.28	0.65
29:X:1522:C:H2'	29:X:1523:A:H4'	1.76	0.65
29:X:2048:C:H2'	29:X:2049:C:H6	1.60	0.65
6:A:177:LEU:HD12	6:A:181:GLU:HB3	1.79	0.65
11:F:7:ILE:HG22	11:F:8:VAL:N	2.11	0.65
14:I:118:VAL:O	14:I:138:GLY:HA3	1.97	0.65
19:N:62:ILE:O	19:N:66:ASN:OD1	2.14	0.65
21:P:32:ARG:HH21	21:P:33:MET:HA	1.62	0.65
23:R:107:ALA:HB1	23:R:111:GLY:HA2	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:14:LEU:O	23:R:16:PHE:N	2.28	0.65
29:X:1050:G:H2'	29:X:1051:U:H5'	1.78	0.65
29:X:1608:U:H2'	29:X:1609:G:H8	1.61	0.65
29:X:2029:G:H5'	30:Y:19:ARG:HA	1.79	0.65
29:X:2063:A:H2'	29:X:2064:U:C6	2.32	0.65
29:X:2082:C:H2'	29:X:2083:G:H5''	1.78	0.65
29:X:538:A:O2'	29:X:539:A:OP1	2.15	0.65
29:X:853:C:H6	29:X:853:C:O5'	1.80	0.65
29:X:871:U:O2'	29:X:2247:A:C2'	2.43	0.65
31:Z:53:G:N2	31:Z:54:U:H5	1.93	0.65
8:C:56:ARG:HA	8:C:71:ASP:OD2	1.97	0.64
12:G:169:GLN:HB2	12:G:170:PRO:HD2	1.79	0.64
22:Q:15:LYS:HA	22:Q:18:SER:OG	1.96	0.64
24:S:13:LYS:O	24:S:16:GLU:O	2.15	0.64
26:U:32:ARG:NE	26:U:32:ARG:H	1.94	0.64
27:V:37:LEU:HD21	27:V:40:PRO:HA	1.79	0.64
29:X:539:A:N6	29:X:2025:A:H1'	2.12	0.64
29:X:507:A:H8	29:X:507:A:O5'	1.80	0.64
29:X:577:U:H4'	29:X:956:A:N6	2.11	0.64
6:A:150:GLY:C	6:A:152:GLY:H	2.00	0.64
9:D:40:LEU:HA	9:D:150:ARG:NH2	2.13	0.64
13:H:20:MET:O	13:H:21:CYS:C	2.35	0.64
15:J:99:LYS:HE3	15:J:100:PRO:HD2	1.78	0.64
18:M:105:TYR:O	18:M:108:ARG:HG3	1.96	0.64
19:N:72:HIS:CD2	19:N:110:VAL:HG21	2.32	0.64
20:O:23:GLU:O	20:O:24:SER:HB3	1.97	0.64
21:P:72:LEU:HD12	21:P:126:ILE:HG12	1.80	0.64
29:X:1166:A:H2'	29:X:1167:A:H5''	1.79	0.64
29:X:1221:C:H2'	29:X:1222:G:H8	1.62	0.64
29:X:1373:G:N2	29:X:2193:C:H1'	2.12	0.64
29:X:1442:C:N4	29:X:1585:A:H3'	2.12	0.64
29:X:1508:G:H5'	29:X:1509:A:C5'	2.10	0.64
29:X:1672:A:H3'	29:X:1673:C:C5	2.32	0.64
29:X:2007:G:C2	29:X:2023:C:C2	2.85	0.64
29:X:2445:C:O2'	29:X:2446:C:H5'	1.98	0.64
31:Z:64:C:H2'	31:Z:65:A:H8	1.62	0.64
4:4:29:ASN:OD1	4:4:31:LYS:N	2.30	0.64
6:A:126:LYS:HB2	6:A:129:ASN:HD22	1.61	0.64
8:C:153:ASP:HA	8:C:158:ARG:HH21	1.63	0.64
10:E:64:LEU:O	10:E:67:LEU:HB2	1.98	0.64
15:J:102:ARG:NH1	15:J:102:ARG:HG3	2.05	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:119:PHE:HD1	15:J:132:MET:SD	2.20	0.64
15:J:15:ARG:HD2	15:J:74:PRO:HD2	1.79	0.64
21:P:72:LEU:CD1	21:P:126:ILE:HG12	2.27	0.64
23:R:84:VAL:HA	23:R:90:LYS:CD	2.27	0.64
29:X:150:A:H2'	29:X:151:G:O4'	1.97	0.64
26:U:46:LEU:HB2	29:X:2209:G:H5''	1.79	0.64
14:I:61:PRO:HB3	29:X:2372:A:H5''	1.78	0.64
29:X:2457:A:H1'	29:X:2507:U:O2'	1.98	0.64
29:X:585:U:O2'	29:X:2481:G:C6	2.50	0.64
6:A:226:MET:HE3	29:X:795:A:C2	2.32	0.64
7:B:9:ILE:HD11	7:B:27:LEU:CB	2.16	0.64
8:C:137:ALA:HB1	8:C:142:LEU:HB2	1.79	0.64
16:K:106:ASP:O	16:K:107:GLY:C	2.35	0.64
18:M:32:THR:HG22	18:M:33:VAL:H	1.63	0.64
24:S:141:MET:SD	24:S:147:ILE:HG12	2.37	0.64
29:X:1572:C:O2'	29:X:1573:G:H5'	1.97	0.64
29:X:1740:G:O2'	29:X:1741:G:H5'	1.97	0.64
29:X:2265:A:H4'	29:X:2266:A:O5'	1.98	0.64
29:X:537:C:H1'	29:X:538:A:N1	2.13	0.64
29:X:969:U:O2	31:Z:92:G:H5''	1.96	0.64
9:D:138:PHE:CZ	9:D:152:MET:SD	2.91	0.64
9:D:33:LYS:H	9:D:157:VAL:HB	1.61	0.64
20:O:56:VAL:HA	20:O:97:GLY:HA3	1.79	0.64
20:O:85:GLY:H	29:X:1238:A:H5'	1.62	0.64
23:R:105:ARG:HH12	23:R:113:THR:N	1.94	0.64
29:X:1003:C:O2'	29:X:1004:A:H5'	1.97	0.64
29:X:1053:G:C4	29:X:1054:C:C5	2.86	0.64
29:X:1301:U:C5'	29:X:1302:C:OP2	2.44	0.64
29:X:1467:U:C3'	29:X:1468:A:H5'	2.22	0.64
29:X:1281:A:C1'	29:X:2592:U:C5	2.80	0.64
29:X:2689:C:HO2'	29:X:2690:A:H5'	1.62	0.64
12:G:105:GLY:C	12:G:110:LEU:HD12	2.16	0.64
14:I:45:LYS:HE3	14:I:47:ALA:CB	2.28	0.64
19:N:36:PHE:O	19:N:39:LEU:HB2	1.98	0.64
21:P:106:LEU:HD23	21:P:106:LEU:C	2.18	0.64
24:S:100:THR:CG2	24:S:138:VAL:HG21	2.26	0.64
26:U:53:GLU:O	26:U:78:ILE:HG22	1.97	0.64
29:X:1682:A:C2'	29:X:1683:G:H5'	2.28	0.64
29:X:1926:U:H4'	29:X:1927:U:O5'	1.97	0.64
29:X:1686:A:C2	29:X:1977:C:H1'	2.32	0.64
29:X:2205:C:O2'	29:X:2206:C:H5'	1.98	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2237:C:H4'	29:X:2238:G:OP2	1.98	0.64
29:X:757:U:O2'	29:X:758:G:H5'	1.97	0.64
28:W:8:SER:CB	29:X:999:A:H5"	2.25	0.64
6:A:245:VAL:HG12	6:A:251:GLY:N	2.12	0.64
7:B:130:GLY:O	7:B:131:SER:OG	2.15	0.64
8:C:22:VAL:HA	8:C:106:MET:CG	2.26	0.64
10:E:124:ALA:CB	10:E:132:ASP:HB3	2.25	0.64
14:I:32:ARG:NH2	20:O:79:GLN:HA	2.13	0.64
18:M:24:LEU:HD13	18:M:91:VAL:HG21	1.78	0.64
20:O:25:LEU:HB2	20:O:32:LYS:NZ	2.11	0.64
20:O:47:PHE:O	20:O:51:ALA:HB2	1.98	0.64
26:U:17:SER:CB	26:U:44:ALA:HA	2.21	0.64
29:X:1226:A:O2'	29:X:1227:A:H5'	1.98	0.64
29:X:1261:G:O2'	29:X:1262:U:OP1	2.14	0.64
29:X:1749:G:O2'	29:X:1750:A:P	2.55	0.64
29:X:2813:G:H2'	29:X:2814:G:O4'	1.98	0.64
29:X:580:A:H1'	29:X:582:G:H8	1.63	0.64
12:G:41:TRP:HB3	12:G:164:GLN:O	1.98	0.64
13:H:3:MET:SD	13:H:44:TYR:HE1	2.21	0.64
18:M:37:THR:CG2	18:M:39:VAL:HG13	2.28	0.64
18:M:60:SER:CA	18:M:64:LYS:HB2	2.28	0.64
22:Q:7:LEU:HD22	22:Q:7:LEU:C	2.17	0.64
24:S:86:VAL:HG12	24:S:87:THR:H	1.61	0.64
28:W:16:GLN:O	28:W:20:VAL:HG23	1.98	0.64
29:X:1737:G:H2'	29:X:1738:U:C6	2.33	0.64
29:X:1882:G:H21	29:X:1885:C:H41	1.46	0.64
29:X:198:A:H4'	29:X:199:A:OP2	1.97	0.64
29:X:2751:C:H2'	29:X:2752:C:C6	2.32	0.64
29:X:819:C:O3'	29:X:843:G:N2	2.31	0.64
6:A:222:ARG:NH2	6:A:222:ARG:CB	2.57	0.64
7:B:120:TRP:CG	7:B:155:ARG:HB3	2.33	0.64
7:B:150:VAL:HG21	7:B:154:LYS:HE2	1.78	0.64
8:C:112:GLN:CA	8:C:116:LYS:HD3	2.28	0.64
15:J:40:PRO:CG	15:J:99:LYS:NZ	2.60	0.64
17:L:31:VAL:HG23	17:L:38:ILE:HD13	1.79	0.64
22:Q:58:VAL:O	22:Q:75:ARG:N	2.30	0.64
24:S:71:MET:CA	24:S:78:PRO:HA	2.26	0.64
29:X:1324:G:H2'	29:X:1325:U:C6	2.33	0.64
29:X:1683:G:H2'	29:X:1684:G:O4'	1.97	0.64
29:X:1778:U:H2'	29:X:1779:C:C6	2.32	0.64
29:X:2195:C:C5	29:X:2196:U:C4	2.85	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2420:C:O2'	29:X:2421:C:H5'	1.96	0.64
29:X:2563:U:C2'	29:X:2564:U:H5''	2.26	0.64
29:X:2726:U:H2'	29:X:2727:G:H5'	1.80	0.64
29:X:834:A:H5''	29:X:835:U:C6	2.31	0.64
29:X:890:U:H2'	29:X:891:A:H8	1.62	0.64
7:B:21:ILE:HG23	7:B:185:LYS:NZ	2.12	0.64
8:C:67:ALA:O	29:X:1268:U:H5	1.80	0.64
9:D:143:TYR:HA	9:D:146:VAL:HG22	1.80	0.64
10:E:44:ARG:HH22	10:E:46:ASP:HB2	1.63	0.64
12:G:84:ASN:N	12:G:153:GLY:O	2.27	0.64
20:O:35:LEU:CD2	20:O:52:GLY:HA2	2.27	0.64
20:O:22:VAL:CG2	29:X:1173:G:H4'	2.28	0.64
29:X:1226:A:C2	29:X:1250:A:H1'	2.33	0.64
29:X:1341:G:H2'	29:X:1343:C:C5	2.33	0.64
29:X:176:A:H3'	29:X:177:U:C5	2.32	0.64
29:X:2046:C:C2'	29:X:2047:C:H5'	2.27	0.64
29:X:2196:U:O2'	29:X:2197:U:O4'	2.15	0.64
29:X:2211:U:O2'	29:X:2212:U:H5'	1.98	0.64
14:I:63:ARG:NH1	29:X:2395:C:OP2	2.31	0.64
29:X:2869:U:O5'	29:X:2869:U:H6	1.80	0.64
7:B:116:VAL:HG22	7:B:136:ARG:CZ	2.28	0.63
7:B:141:ILE:HG22	7:B:150:VAL:HB	1.79	0.63
8:C:62:LYS:HD3	8:C:62:LYS:C	2.18	0.63
9:D:74:ILE:HG23	9:D:79:LEU:O	1.98	0.63
12:G:84:ASN:C	12:G:86:ALA:H	2.01	0.63
14:I:123:ASP:OD1	14:I:123:ASP:O	2.16	0.63
20:O:20:ILE:HD12	20:O:21:ARG:N	2.13	0.63
23:R:105:ARG:NH2	23:R:111:GLY:O	2.31	0.63
24:S:105:GLN:HB2	24:S:139:THR:O	1.98	0.63
27:V:24:GLU:HG2	27:V:28:LEU:CD2	2.27	0.63
29:X:1855:G:O2'	29:X:1856:U:H5'	1.99	0.63
9:D:122:PHE:HA	29:X:2282:G:H4'	1.80	0.63
29:X:2494:C:O2'	29:X:2495:G:H5'	1.97	0.63
29:X:2787:A:H2'	29:X:2788:C:C6	2.33	0.63
29:X:396:U:O4	29:X:398:C:C2	2.51	0.63
29:X:67:G:H2'	29:X:68:C:C6	2.32	0.63
6:A:83:GLU:OE1	6:A:104:TYR:HE2	1.82	0.63
8:C:107:ALA:O	8:C:110:SER:HB2	1.98	0.63
8:C:162:ARG:HD2	29:X:333:A:C5'	2.28	0.63
10:E:89:LEU:HD12	10:E:129:THR:CA	2.28	0.63
13:H:115:ALA:HB3	13:H:118:LEU:CD1	2.26	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:28:VAL:H	15:J:137:VAL:HG21	1.63	0.63
16:K:14:SER:HG	29:X:2669:C:H5	1.46	0.63
20:O:57:GLN:H	20:O:97:GLY:HA2	1.60	0.63
23:R:59:LYS:CD	23:R:62:MET:HG3	2.29	0.63
24:S:19:ILE:HB	24:S:34:LEU:CD1	2.29	0.63
24:S:46:GLN:HB3	24:S:50:GLY:HA3	1.79	0.63
27:V:5:GLU:HA	27:V:8:ASN:HB2	1.80	0.63
29:X:1122:A:C2	29:X:1123:G:H1'	2.33	0.63
29:X:1685:A:H61	29:X:1693:A:H61	1.46	0.63
29:X:1807:A:H1'	29:X:1809:G:C8	2.32	0.63
29:X:2484:G:HO2'	29:X:2485:U:H6	1.43	0.63
29:X:437:G:O2'	29:X:438:G:H5'	1.98	0.63
29:X:545:C:O2'	29:X:546:A:H5'	1.98	0.63
31:Z:50:U:H2'	31:Z:51:G:C8	2.30	0.63
6:A:222:ARG:HG3	29:X:1780:A:OP1	1.97	0.63
7:B:150:VAL:HG21	7:B:154:LYS:HG2	1.80	0.63
7:B:32:PRO:O	7:B:49:ILE:HA	1.97	0.63
10:E:163:ARG:HB2	10:E:167:GLU:CG	2.29	0.63
11:F:1:MET:HB2	11:F:2:LYS:HD3	1.78	0.63
14:I:117:ALA:O	14:I:118:VAL:HG13	1.97	0.63
16:K:21:ALA:O	16:K:47:PHE:HE2	1.81	0.63
17:L:28:ARG:HA	17:L:88:VAL:O	1.99	0.63
19:N:39:LEU:HA	19:N:42:ALA:HB3	1.81	0.63
19:N:92:ARG:HH11	19:N:92:ARG:HG3	1.62	0.63
29:X:1039:A:H61	29:X:1136:G:H2'	1.61	0.63
29:X:1937:G:N3	29:X:2530:C:C5'	2.61	0.63
29:X:2178:U:O2'	29:X:2179:C:H5'	1.98	0.63
29:X:2267:A:H4'	29:X:2268:G:OP1	1.98	0.63
19:N:37:GLN:NE2	29:X:572:G:N3	2.46	0.63
29:X:591:G:H2'	29:X:592:G:H8	1.61	0.63
29:X:597:U:H2'	29:X:598:U:C6	2.33	0.63
30:Y:12:SER:HB2	30:Y:15:LYS:N	2.13	0.63
31:Z:12:C:H2'	31:Z:13:C:O4'	1.98	0.63
6:A:243:GLY:N	6:A:244:ARG:HH11	1.96	0.63
11:F:100:ASN:HB3	11:F:103:GLN:HE22	1.64	0.63
17:L:89:PHE:HB2	17:L:91:ARG:NH2	2.13	0.63
18:M:8:ASN:HA	29:X:2851:G:O5'	1.97	0.63
26:U:15:VAL:HG23	26:U:16:ASN:H	1.63	0.63
27:V:7:ARG:HA	27:V:14:PHE:CZ	2.33	0.63
28:W:37:THR:O	28:W:41:ARG:HG3	1.98	0.63
29:X:2225:G:C2	29:X:2405:A:H1'	2.33	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2411:A:H2'	29:X:2412:A:C8	2.33	0.63
29:X:2873:G:H2'	29:X:2874:A:C8	2.32	0.63
29:X:417:C:H4'	29:X:418:C:H5'	1.79	0.63
29:X:524:A:O2'	29:X:525:A:H5'	1.98	0.63
29:X:566:U:O2'	29:X:567:G:H5'	1.99	0.63
29:X:817:A:H2'	29:X:819:C:C4	2.33	0.63
29:X:577:U:C5'	29:X:956:A:N6	2.62	0.63
29:X:97:U:H5'	29:X:98:U:OP2	1.98	0.63
9:D:7:LYS:HA	9:D:10:ASP:HB2	1.80	0.63
10:E:126:PRO:CG	10:E:130:ARG:HD3	2.26	0.63
13:H:85:ASP:CG	13:H:87:SER:H	2.01	0.63
16:K:49:GLU:OE1	16:K:95:THR:HG22	1.98	0.63
17:L:105:ASP:O	17:L:109:GLU:HG2	1.98	0.63
19:N:89:ASP:OD1	20:O:47:PHE:HB3	1.98	0.63
22:Q:82:LEU:HD11	22:Q:88:ILE:CG2	2.27	0.63
27:V:50:VAL:O	27:V:54:ASN:ND2	2.31	0.63
29:X:1053:G:N2	29:X:1124:U:O2	2.30	0.63
29:X:2379:G:O2'	29:X:2380:U:H5'	1.98	0.63
29:X:2447:G:HO2'	29:X:2448:A:H8	1.41	0.63
29:X:542:A:H5'	29:X:543:G:O4'	1.98	0.63
29:X:865:A:N6	29:X:937:C:H42	1.97	0.63
9:D:143:TYR:HA	9:D:146:VAL:CG2	2.28	0.63
15:J:131:LYS:HD2	24:S:76:ARG:CZ	2.28	0.63
19:N:106:PHE:O	19:N:110:VAL:HG23	1.99	0.63
27:V:35:GLY:O	27:V:36:GLN:HB2	1.98	0.63
29:X:998:C:H4'	29:X:1012:A:H4'	1.81	0.63
29:X:1416:A:H2'	29:X:1417:C:C6	2.33	0.63
29:X:1949:A:H1'	29:X:2572:U:C5'	2.28	0.63
29:X:2023:C:O2'	29:X:2024:U:H5'	1.99	0.63
7:B:189:PRO:HG3	29:X:2658:A:O2'	1.99	0.63
29:X:2665:G:H2'	29:X:2666:U:C6	2.33	0.63
29:X:631:G:H4'	29:X:632:A:C5'	2.28	0.63
12:G:74:MET:HA	12:G:140:GLN:OE1	1.98	0.63
13:H:35:THR:HG21	29:X:2629:U:H5'	1.79	0.63
17:L:8:ARG:HH11	17:L:8:ARG:CB	2.12	0.63
21:P:109:ARG:NH2	29:X:1996:A:C2	2.66	0.63
22:Q:29:VAL:HG11	22:Q:38:ILE:HD12	1.80	0.63
23:R:82:ALA:O	23:R:83:LEU:HD12	1.99	0.63
25:T:31:VAL:HG22	25:T:67:VAL:HG23	1.80	0.63
29:X:1060:C:H2'	29:X:1061:A:C8	2.34	0.63
29:X:1914:U:H5'	29:X:1914:U:H6	1.64	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2178:U:H2'	29:X:2179:C:H6	1.63	0.63
6:A:149:PRO:CG	29:X:2200:G:O2'	2.46	0.63
29:X:2237:C:H2'	29:X:2406:C:OP2	1.99	0.63
29:X:322:A:O2'	29:X:343:A:H4'	1.97	0.63
29:X:553:C:C5'	29:X:554:U:OP1	2.46	0.63
31:Z:4:C:H6	31:Z:4:C:H5'	1.64	0.63
9:D:70:ALA:O	9:D:82:GLY:HA2	1.99	0.63
10:E:148:VAL:C	10:E:150:LYS:H	2.02	0.63
13:H:13:ASN:ND2	13:H:109:ARG:HG2	2.13	0.63
13:H:70:VAL:HG22	13:H:71:LYS:N	2.14	0.63
15:J:66:TYR:HB2	15:J:106:GLU:OE1	1.99	0.63
19:N:66:ASN:HA	19:N:69:ALA:HB3	1.80	0.63
20:O:26:GLN:HA	20:O:63:HIS:NE2	2.13	0.63
25:T:55:ARG:NH2	29:X:2343:C:OP1	2.31	0.63
28:W:39:ALA:O	28:W:43:MET:HG2	1.99	0.63
29:X:1757:C:O2	29:X:1970:G:C2	2.51	0.63
29:X:1976:U:H2'	29:X:1977:C:H6	1.63	0.63
29:X:1991:C:H2'	29:X:1992:G:H8	1.64	0.63
29:X:2210:C:H2'	29:X:2211:U:C6	2.34	0.63
29:X:695:G:O2'	29:X:696:U:H5'	1.99	0.63
6:A:261:ARG:NH2	29:X:1790:G:H5''	2.14	0.63
6:A:262:LYS:HE2	29:X:2205:C:O2	1.99	0.63
10:E:136:ILE:N	10:E:136:ILE:HD12	2.14	0.63
12:G:128:GLU:CG	12:G:145:HIS:NE2	2.62	0.63
13:H:23:ARG:HH12	13:H:25:LEU:CB	2.12	0.63
17:L:18:ARG:HH12	29:X:2272:A:P	2.22	0.63
24:S:122:ILE:CG2	24:S:160:LEU:HD23	2.28	0.63
29:X:1065:A:O2'	29:X:1066:G:H5'	1.98	0.63
29:X:1621:C:O2'	29:X:1626:A:C8	2.50	0.63
29:X:1787:U:H2'	29:X:1788:C:C6	2.33	0.63
29:X:417:C:H1'	29:X:419:G:C8	2.34	0.63
8:C:98:GLN:HE22	29:X:611:C:C4'	2.12	0.63
29:X:758:G:C3'	29:X:759:C:H5''	2.29	0.63
6:A:211:ARG:HG2	6:A:211:ARG:NH1	2.13	0.62
7:B:95:ILE:HG22	7:B:96:PHE:CD2	2.33	0.62
9:D:110:ARG:HG2	9:D:110:ARG:HH21	1.64	0.62
18:M:7:ILE:HG22	18:M:7:ILE:O	1.99	0.62
23:R:32:GLN:HE21	23:R:50:GLY:HA2	1.64	0.62
29:X:1071:U:H4'	29:X:1072:U:O5'	1.98	0.62
29:X:2205:C:H2'	29:X:2206:C:H5'	1.81	0.62
29:X:2721:A:H2'	29:X:2722:C:O4'	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2748:C:N4	29:X:2749:A:C6	2.66	0.62
29:X:431:G:H2'	29:X:432:C:C6	2.34	0.62
29:X:502:A:O2'	29:X:503:G:H5'	1.99	0.62
31:Z:25:G:H2'	31:Z:26:G:C5	2.34	0.62
6:A:203:ASN:OD1	6:A:204:ILE:HG13	2.00	0.62
6:A:82:ILE:CG2	6:A:91:ARG:HB3	2.28	0.62
12:G:111:LYS:O	12:G:111:LYS:HG3	1.99	0.62
15:J:116:LYS:HE2	15:J:132:MET:HE2	1.81	0.62
15:J:28:VAL:HG21	15:J:135:ARG:HA	1.79	0.62
28:W:42:GLY:HA3	29:X:864:C:O2'	1.99	0.62
29:X:1333:G:H22	29:X:1344:C:N4	1.95	0.62
29:X:1422:C:H2'	29:X:1423:A:H8	1.65	0.62
29:X:1376:C:O2'	29:X:1800:A:H1'	1.99	0.62
29:X:2195:C:C4	29:X:2196:U:O4	2.51	0.62
29:X:2691:C:O2'	29:X:2692:A:P	2.57	0.62
29:X:2836:U:O2'	29:X:2837:G:H5'	1.98	0.62
31:Z:67:C:O2'	31:Z:68:A:H5'	2.00	0.62
6:A:90:ALA:HA	6:A:198:ASN:ND2	2.14	0.62
6:A:245:VAL:HA	6:A:251:GLY:HA2	1.81	0.62
7:B:60:ASN:CB	7:B:62:PRO:HD2	2.30	0.62
8:C:130:THR:O	8:C:133:PHE:HB3	1.99	0.62
10:E:57:ASP:O	10:E:58:ALA:HB2	1.99	0.62
12:G:44:VAL:CG1	12:G:45:ASP:N	2.63	0.62
18:M:82:PRO:HD2	18:M:85:SER:HB2	1.81	0.62
29:X:1281:A:C1'	29:X:2592:U:H5	2.11	0.62
29:X:1917:C:O2'	29:X:1918:G:H5'	2.00	0.62
29:X:1941:C:O2'	29:X:1942:G:H5'	1.99	0.62
29:X:2415:G:N3	29:X:2577:A:H2	1.96	0.62
29:X:649:G:N1	29:X:660:G:N1	2.47	0.62
6:A:210:GLY:HA2	6:A:213:ARG:HG2	1.82	0.62
6:A:53:PHE:HA	6:A:217:ARG:HH21	1.65	0.62
8:C:129:LYS:O	8:C:130:THR:HB	1.98	0.62
9:D:41:GLY:HA2	9:D:44:LYS:O	1.99	0.62
9:D:88:LYS:HE3	29:X:2293:G:OP1	1.99	0.62
12:G:103:TYR:O	12:G:107:GLN:NE2	2.31	0.62
12:G:42:VAL:HG12	12:G:43:VAL:N	2.14	0.62
12:G:67:ARG:HB3	12:G:70:PHE:HA	1.81	0.62
13:H:55:VAL:HG12	13:H:66:ALA:HA	1.82	0.62
17:L:28:ARG:HG3	17:L:43:ILE:HD13	1.82	0.62
18:M:55:ILE:O	18:M:103:LYS:O	2.18	0.62
22:Q:29:VAL:HG22	22:Q:76:LYS:O	1.98	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:136:VAL:HG22	24:S:152:ILE:HG23	1.81	0.62
25:T:17:ASN:O	25:T:19:LYS:HG2	1.99	0.62
29:X:1278:A:O2'	29:X:1279:G:O5'	2.16	0.62
29:X:1324:G:H1'	29:X:1326:U:C5	2.35	0.62
29:X:1724:C:H3'	29:X:1724:C:OP2	2.00	0.62
29:X:1814:G:O2'	29:X:1815:G:H5'	1.98	0.62
29:X:2404:A:H4'	29:X:2405:A:H5'	1.82	0.62
29:X:67:G:H2'	29:X:68:C:H6	1.65	0.62
31:Z:30:C:H2'	31:Z:31:A:O4'	1.98	0.62
10:E:45:GLN:HA	10:E:50:LEU:HG	1.82	0.62
20:O:57:GLN:H	20:O:97:GLY:HA3	1.63	0.62
24:S:69:VAL:HG22	24:S:81:VAL:CG1	2.28	0.62
27:V:56:VAL:HA	27:V:59:GLU:OE1	1.99	0.62
29:X:1682:A:H2'	29:X:1683:G:H5'	1.82	0.62
29:X:1711:C:H5''	29:X:1712:G:OP1	1.99	0.62
29:X:2395:C:H2'	29:X:2396:C:C5'	2.29	0.62
29:X:2438:A:N1	29:X:2439:U:C2	2.68	0.62
29:X:780:U:H2'	29:X:781:G:H8	1.63	0.62
29:X:787:A:H2	29:X:800:U:HO2'	1.46	0.62
29:X:872:G:HO2'	29:X:873:U:H6	1.47	0.62
29:X:986:A:H2'	29:X:987:G:H5'	1.80	0.62
30:Y:52:TYR:O	30:Y:53:ASP:OD2	2.16	0.62
7:B:103:ASP:OD2	7:B:201:ALA:HA	2.00	0.62
8:C:148:VAL:HB	8:C:167:VAL:HA	1.82	0.62
13:H:83:ARG:HG2	18:M:40:ARG:HH22	1.62	0.62
14:I:45:LYS:HG2	14:I:46:GLY:H	1.64	0.62
17:L:42:ILE:HG22	17:L:52:ALA:H	1.64	0.62
18:M:51:GLU:O	18:M:51:GLU:HG3	1.98	0.62
20:O:65:ARG:HG3	20:O:65:ARG:NH1	2.11	0.62
23:R:18:LYS:HA	23:R:36:VAL:CG1	2.30	0.62
23:R:25:LEU:O	23:R:79:SER:O	2.18	0.62
29:X:1031:C:H2'	29:X:1031:C:O2	1.99	0.62
29:X:1448:A:H61	29:X:1574:A:H61	1.47	0.62
29:X:1682:A:H2'	29:X:1683:G:C5'	2.28	0.62
29:X:2194:A:H3'	29:X:2195:C:C5'	2.21	0.62
29:X:335:A:H2'	29:X:336:A:O4'	2.00	0.62
29:X:532:A:C2	29:X:533:C:C2	2.87	0.62
4:4:19:ARG:HA	29:X:2736:U:H5''	1.82	0.62
8:C:3:GLN:NE2	8:C:4:ILE:HG12	2.14	0.62
12:G:113:GLU:CD	12:G:113:GLU:N	2.52	0.62
12:G:115:ALA:O	12:G:118:ALA:HB3	2.00	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:32:GLY:HA2	16:K:115:LEU:CD1	2.29	0.62
18:M:24:LEU:HB3	18:M:25:PRO:CD	2.28	0.62
19:N:66:ASN:HB3	19:N:76:TYR:H	1.64	0.62
20:O:25:LEU:CB	20:O:32:LYS:HZ3	2.11	0.62
20:O:71:ILE:HB	20:O:84:THR:OG1	2.00	0.62
24:S:136:VAL:HG21	24:S:152:ILE:CD1	2.30	0.62
24:S:73:LYS:C	24:S:75:LYS:H	2.03	0.62
29:X:104:C:H2'	29:X:105:G:C5'	2.21	0.62
29:X:1070:G:H2'	29:X:1071:U:C6	2.35	0.62
29:X:1265:G:C2	29:X:1266:G:N2	2.68	0.62
29:X:1987:G:C6	29:X:1988:A:C4	2.88	0.62
29:X:417:C:C1'	29:X:419:G:C8	2.82	0.62
29:X:485:G:C6	29:X:520:C:N4	2.68	0.62
29:X:575:U:H4'	29:X:822:G:OP2	1.99	0.62
29:X:732:G:H8	29:X:732:G:OP2	1.82	0.62
31:Z:114:C:O5'	31:Z:114:C:H6	1.82	0.62
8:C:12:GLY:O	8:C:14:THR:N	2.32	0.62
8:C:162:ARG:O	8:C:162:ARG:HG2	1.98	0.62
8:C:23:ASN:O	8:C:27:LEU:HD13	2.00	0.62
9:D:108:LEU:HA	9:D:111:ILE:HD11	1.81	0.62
9:D:111:ILE:HB	9:D:114:PHE:HB2	1.81	0.62
12:G:88:VAL:HG13	12:G:89:ALA:N	2.14	0.62
14:I:32:ARG:HD2	20:O:81:ARG:HD2	1.80	0.62
15:J:42:TRP:CB	15:J:95:VAL:HG11	2.29	0.62
15:J:69:ILE:HD13	15:J:104:MET:CG	2.30	0.62
26:U:19:ILE:CG2	26:U:42:GLN:HG3	2.25	0.62
26:U:54:ASN:C	26:U:56:GLN:H	2.01	0.62
29:X:1001:A:H1'	29:X:1167:A:C2	2.35	0.62
29:X:1278:A:N6	29:X:1996:A:H5''	2.14	0.62
29:X:1513:U:H5''	29:X:1514:C:OP2	2.00	0.62
6:A:160:GLY:HA3	29:X:1812:U:O4	2.00	0.62
29:X:208:C:C2'	29:X:209:G:H5'	2.30	0.62
29:X:2324:G:H5''	29:X:2326:C:O4'	2.00	0.62
29:X:2639:A:H2'	29:X:2640:G:O4'	1.99	0.62
29:X:2798:A:H2'	29:X:2799:C:H6	1.65	0.62
29:X:2850:U:H5'	29:X:2850:U:H6	1.64	0.62
29:X:829:C:O2'	29:X:830:C:O4'	2.10	0.62
29:X:1998:A:H4'	30:Y:3:LYS:HZ3	1.63	0.62
8:C:171:PRO:O	8:C:173:ALA:N	2.32	0.62
15:J:125:LYS:NZ	15:J:125:LYS:N	2.47	0.62
19:N:54:LYS:O	19:N:58:ARG:HG3	2.00	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:85:ASP:N	23:R:86:PRO:CD	2.61	0.62
29:X:1939:U:C4	29:X:1940:C:C4	2.87	0.62
29:X:2725:C:O5'	29:X:2725:C:H6	1.83	0.62
29:X:321:A:N1	29:X:323:G:H1'	2.14	0.62
29:X:400:U:H1'	29:X:401:G:C5	2.35	0.62
29:X:608:G:O2'	29:X:609:U:H5'	1.99	0.62
29:X:957:G:O2'	29:X:958:G:H5'	2.00	0.62
4:4:15:LYS:HB2	4:4:26:ILE:HG13	1.80	0.62
10:E:89:LEU:HB2	10:E:129:THR:CA	2.29	0.62
15:J:36:ILE:O	15:J:130:THR:CB	2.48	0.62
16:K:79:VAL:CA	16:K:83:VAL:HG13	2.30	0.62
20:O:5:ILE:HG13	20:O:6:GLN:N	2.14	0.62
25:T:41:ARG:HH11	25:T:41:ARG:HG3	1.64	0.62
26:U:70:LEU:HD23	26:U:74:PRO:HA	1.80	0.62
29:X:175:C:H6	29:X:177:U:O4	1.82	0.62
29:X:2080:U:H2'	29:X:2081:U:C6	2.34	0.62
29:X:477:A:C2'	29:X:478:G:H5'	2.30	0.62
29:X:500:G:OP1	29:X:500:G:H8	1.82	0.62
7:B:75:THR:HG23	7:B:76:ARG:N	2.15	0.61
9:D:12:VAL:HG11	9:D:169:LEU:HD13	1.82	0.61
20:O:68:LYS:HB2	20:O:87:ARG:HE	1.65	0.61
25:T:44:LYS:O	25:T:77:ARG:HG3	2.00	0.61
26:U:49:LYS:CB	26:U:61:TRP:HA	2.29	0.61
20:O:71:ILE:HG21	29:X:1003:C:H4'	1.80	0.61
29:X:1058:G:H2'	29:X:1121:G:N1	2.13	0.61
29:X:116:A:N3	29:X:155:G:H1'	2.15	0.61
29:X:1212:U:H2'	29:X:1213:U:C6	2.34	0.61
29:X:1276:U:H1'	30:Y:10:LYS:HG3	1.82	0.61
29:X:1474:A:O2'	29:X:1475:U:H5'	1.99	0.61
29:X:1573:G:H3'	29:X:1574:A:H5''	1.81	0.61
29:X:1683:G:H2'	29:X:1684:G:C5'	2.30	0.61
29:X:670:U:H2'	29:X:671:A:C8	2.34	0.61
6:A:210:GLY:O	6:A:213:ARG:N	2.33	0.61
17:L:102:ALA:O	17:L:104:ALA:N	2.33	0.61
21:P:117:ILE:HG21	29:X:1995:G:H4'	1.81	0.61
25:T:71:ASN:HD22	25:T:77:ARG:CD	2.12	0.61
29:X:119:G:H2'	29:X:120:G:H8	1.65	0.61
29:X:2011:U:H2'	29:X:2012:A:C8	2.34	0.61
29:X:2516:U:H2'	29:X:2517:C:C6	2.35	0.61
10:E:143:GLN:HG2	29:X:2725:C:H1'	1.81	0.61
30:Y:58:LEU:HD12	30:Y:58:LEU:N	2.14	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:119:ARG:HD3	7:B:156:MET:O	1.99	0.61
8:C:130:THR:O	8:C:134:ILE:HG13	2.00	0.61
8:C:164:VAL:O	8:C:166:TRP:N	2.34	0.61
9:D:81:GLN:HG2	9:D:82:GLY:N	2.14	0.61
10:E:105:MET:HB2	10:E:113:VAL:O	1.99	0.61
13:H:81:ILE:HG22	13:H:89:ILE:O	2.00	0.61
16:K:103:ARG:O	16:K:107:GLY:HA2	2.01	0.61
16:K:43:GLU:O	16:K:46:PRO:HD2	2.01	0.61
19:N:7:GLY:C	19:N:9:VAL:H	2.03	0.61
20:O:5:ILE:HG13	20:O:6:GLN:H	1.65	0.61
22:Q:40:ASP:O	22:Q:41:ALA:C	2.38	0.61
29:X:1061:A:H2'	29:X:1062:G:C5'	2.30	0.61
29:X:1467:U:H6	29:X:1468:A:H5'	1.65	0.61
29:X:1827:G:H1'	29:X:1914:U:C2	2.36	0.61
29:X:2082:C:H2'	29:X:2083:G:C5'	2.30	0.61
4:4:4:ARG:HH12	29:X:2456:U:H3	1.47	0.61
29:X:663:G:C3'	29:X:664:C:H5''	2.27	0.61
29:X:882:C:C2	29:X:883:A:C8	2.88	0.61
6:A:43:ARG:N	6:A:43:ARG:HD2	2.05	0.61
11:F:112:MET:CG	11:F:113:PRO:HD3	2.30	0.61
12:G:123:PRO:HA	12:G:126:VAL:HG23	1.82	0.61
12:G:127:ILE:O	12:G:130:ALA:HB3	2.00	0.61
12:G:169:GLN:HB2	12:G:170:PRO:CD	2.30	0.61
15:J:79:PRO:HD2	15:J:88:LYS:CD	2.26	0.61
17:L:8:ARG:NH1	17:L:8:ARG:HB2	2.15	0.61
24:S:10:PRO:HG2	24:S:14:LEU:HD11	1.82	0.61
24:S:51:LEU:H	24:S:51:LEU:HD23	1.64	0.61
29:X:1042:G:H2'	29:X:1043:A:H8	1.64	0.61
29:X:1088:A:C2	29:X:1099:A:C2	2.88	0.61
4:4:36:GLN:NE2	29:X:1135:C:H1'	2.15	0.61
29:X:1296:G:H22	29:X:1299:A:H5''	1.65	0.61
29:X:1365:U:H6	29:X:1365:U:O5'	1.83	0.61
29:X:221:A:H2'	29:X:222:G:O4'	2.00	0.61
29:X:2598:C:H2'	29:X:2599:U:H6	1.65	0.61
29:X:31:C:O3'	29:X:1251:G:H5'	2.00	0.61
29:X:421:G:H2'	29:X:422:C:H6	1.65	0.61
31:Z:22:U:H2'	31:Z:23:G:C8	2.35	0.61
7:B:147:PRO:C	7:B:149:ARG:H	2.04	0.61
8:C:9:GLN:O	8:C:10:ASN:HB2	2.00	0.61
14:I:32:ARG:HH21	20:O:81:ARG:HG3	1.64	0.61
15:J:22:ALA:N	15:J:99:LYS:HG2	2.16	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:40:PRO:HB3	15:J:99:LYS:HZ2	1.66	0.61
15:J:56:SER:O	15:J:59:PHE:N	2.32	0.61
15:J:79:PRO:O	15:J:80:ALA:HB3	2.00	0.61
16:K:106:ASP:O	16:K:108:VAL:HG23	2.01	0.61
19:N:109:LEU:O	19:N:112:ALA:HB3	2.01	0.61
23:R:25:LEU:HG	23:R:81:VAL:HG23	1.81	0.61
24:S:125:PRO:HG2	24:S:126:GLY:H	1.65	0.61
24:S:1:MET:HE3	24:S:52:PHE:HB3	1.80	0.61
25:T:26:PHE:CE2	29:X:870:C:H1'	2.35	0.61
26:U:45:ASN:O	26:U:46:LEU:HD23	2.00	0.61
28:W:45:LYS:HA	28:W:45:LYS:HE3	1.83	0.61
29:X:1062:G:H4'	29:X:2732:C:O2'	2.01	0.61
29:X:1134:C:H2'	29:X:1135:C:C6	2.34	0.61
29:X:1278:A:O2'	29:X:1279:G:P	2.59	0.61
29:X:1599:G:N2	29:X:1600:U:H1'	2.15	0.61
29:X:1699:A:H2'	29:X:1700:C:C6	2.35	0.61
29:X:1802:A:H2'	29:X:1803:G:O4'	2.00	0.61
29:X:2226:A:O2'	29:X:2227:C:H5'	2.00	0.61
29:X:2238:G:O4'	29:X:2406:C:H2'	2.00	0.61
26:U:33:LYS:NZ	29:X:2375:G:H1'	2.15	0.61
29:X:2817:A:O2'	29:X:2818:G:H5'	2.01	0.61
8:C:162:ARG:CD	29:X:333:A:H5'	2.29	0.61
29:X:872:G:H22	29:X:929:A:P	2.23	0.61
6:A:258:LYS:HZ2	6:A:261:ARG:NH2	1.99	0.61
7:B:26:VAL:O	7:B:182:ILE:HG22	2.00	0.61
17:L:33:ARG:NH2	17:L:103:LEU:HD12	2.16	0.61
18:M:101:ARG:HG2	18:M:101:ARG:NH2	2.11	0.61
24:S:138:VAL:HA	24:S:141:MET:HE2	1.82	0.61
29:X:1174:G:H2'	29:X:1175:A:H8	1.65	0.61
29:X:2195:C:C2'	29:X:2196:U:H5'	2.30	0.61
29:X:2522:G:H8	29:X:2522:G:H5'	1.65	0.61
29:X:2585:C:H2'	29:X:2586:G:H5'	1.82	0.61
29:X:2779:C:H2'	29:X:2780:A:N9	2.16	0.61
29:X:322:A:OP1	29:X:322:A:H8	1.82	0.61
29:X:445:A:H2'	29:X:446:C:H6	1.65	0.61
29:X:492:G:H1'	29:X:516:G:H21	1.66	0.61
29:X:659:G:H2'	29:X:660:G:C8	2.36	0.61
29:X:718:A:H62	29:X:739:G:H1'	1.64	0.61
7:B:198:LEU:N	7:B:198:LEU:HD12	2.16	0.61
10:E:54:ARG:HH11	10:E:62:ARG:HE	1.48	0.61
14:I:38:LYS:HG2	29:X:954:U:P	2.38	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:26:ASP:OD1	15:J:27:TYR:N	2.33	0.61
15:J:30:PHE:HB3	15:J:66:TYR:CE2	2.36	0.61
17:L:28:ARG:HD2	17:L:90:ASP:CG	2.20	0.61
18:M:67:THR:HA	18:M:79:ARG:O	2.00	0.61
21:P:32:ARG:NH2	21:P:33:MET:HA	2.15	0.61
23:R:37:LEU:HB2	23:R:47:VAL:HG12	1.83	0.61
24:S:95:SER:HB3	24:S:119:ASN:HD21	1.66	0.61
26:U:46:LEU:O	26:U:47:HIS:ND1	2.34	0.61
29:X:1009:C:H6	29:X:1009:C:O5'	1.83	0.61
29:X:1225:G:H2'	29:X:1249:G:H22	1.65	0.61
29:X:701:U:H5'	29:X:1771:A:C2	2.33	0.61
10:E:154:PRO:HA	10:E:160:LYS:O	2.00	0.61
10:E:9:ILE:HG21	10:E:50:LEU:HB3	1.81	0.61
17:L:36:LYS:N	17:L:36:LYS:HD2	2.16	0.61
18:M:33:VAL:HG22	18:M:51:GLU:CB	2.31	0.61
21:P:34:SER:O	21:P:37:LYS:N	2.33	0.61
22:Q:59:PRO:O	22:Q:75:ARG:NH2	2.34	0.61
29:X:1142:G:O2'	29:X:1143:A:O4'	2.19	0.61
29:X:1448:A:N6	29:X:1574:A:H61	1.99	0.61
29:X:2020:G:C6	29:X:2021:G:C6	2.89	0.61
12:G:104:THR:CG2	29:X:2620:G:H5''	2.30	0.61
29:X:310:A:N3	29:X:330:C:O2'	2.33	0.61
7:B:116:VAL:HG22	7:B:136:ARG:CD	2.31	0.61
9:D:148:LYS:HG3	9:D:149:THR:N	2.16	0.61
11:F:27:LEU:HD23	11:F:57:ILE:HD12	1.83	0.61
22:Q:6:ILE:HG22	22:Q:7:LEU:N	2.14	0.61
25:T:38:VAL:HG21	25:T:79:ILE:HD11	1.82	0.61
29:X:1553:G:H2'	29:X:1554:G:C8	2.35	0.61
29:X:1670:G:O2'	29:X:1671:A:O5'	2.14	0.61
29:X:1674:C:H2'	29:X:1675:C:H6	1.64	0.61
29:X:2026:C:C2	29:X:2027:C:C5	2.88	0.61
29:X:2205:C:H2'	29:X:2206:C:C5'	2.31	0.61
29:X:1140:A:N6	29:X:2549:G:H4'	2.16	0.61
14:I:107:LYS:HE3	29:X:647:G:O6	2.01	0.61
29:X:719:A:H61	29:X:738:G:C2'	2.14	0.61
29:X:697:G:C2	29:X:787:A:C2	2.89	0.61
7:B:115:GLY:O	7:B:119:ARG:CB	2.46	0.61
8:C:190:ALA:C	8:C:192:ALA:H	2.04	0.61
9:D:69:LYS:HE2	9:D:84:PRO:HG3	1.83	0.61
21:P:87:GLU:HA	21:P:90:LEU:HG	1.82	0.61
22:Q:35:LYS:HD3	22:Q:53:ILE:HG23	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:96:LYS:O	23:R:104:VAL:HG12	2.01	0.61
23:R:93:ARG:HH22	23:R:108:VAL:CG1	2.13	0.61
23:R:92:THR:CB	23:R:95:ARG:HH22	2.13	0.61
25:T:45:PHE:CZ	25:T:77:ARG:NH2	2.69	0.61
29:X:1171:A:H2'	29:X:1172:U:C6	2.36	0.61
29:X:1317:G:O2'	29:X:1318:A:H5'	2.01	0.61
29:X:1541:G:H2'	29:X:1542:G:C8	2.35	0.61
29:X:1700:C:H2'	29:X:1701:C:H6	1.66	0.61
29:X:1995:G:O5'	29:X:1995:G:H8	1.84	0.61
29:X:2083:G:H2'	29:X:2084:G:C8	2.36	0.61
29:X:2241:U:C4	29:X:2258:G:N1	2.69	0.61
29:X:2604:G:C2	29:X:2605:C:C2	2.89	0.61
29:X:555:U:C6	29:X:555:U:C3'	2.84	0.61
29:X:558:G:N3	29:X:558:G:C4'	2.63	0.61
29:X:820:U:P	29:X:843:G:H21	2.24	0.61
7:B:34:VAL:CG2	7:B:78:LEU:HD22	2.30	0.60
10:E:66:GLY:CA	29:X:2728:A:H4'	2.31	0.60
16:K:72:ASP:HB3	16:K:75:VAL:CG2	2.31	0.60
17:L:67:THR:O	17:L:70:ALA:HB3	2.00	0.60
19:N:3:ARG:HB3	29:X:457:C:H5''	1.84	0.60
24:S:51:LEU:CA	24:S:64:ALA:O	2.48	0.60
28:W:3:ILE:HD11	28:W:44:VAL:CG2	2.32	0.60
29:X:1426:U:H2'	29:X:1427:G:H5'	1.82	0.60
29:X:1476:G:C6	29:X:1477:C:C4	2.89	0.60
29:X:1681:A:H61	29:X:1979:C:N4	1.95	0.60
29:X:1868:A:H2'	29:X:1869:A:O4'	2.00	0.60
29:X:1993:G:H2'	29:X:1994:U:O5'	2.01	0.60
29:X:2226:A:H2'	29:X:2227:C:H6	1.66	0.60
29:X:698:A:H5''	29:X:699:G:OP1	2.01	0.60
7:B:154:LYS:CE	7:B:156:MET:SD	2.88	0.60
9:D:108:LEU:O	9:D:111:ILE:HG13	2.00	0.60
9:D:32:GLU:HB3	9:D:157:VAL:CG1	2.31	0.60
12:G:156:HIS:HB2	12:G:157:PRO:HD3	1.81	0.60
14:I:86:THR:C	14:I:88:PHE:N	2.54	0.60
16:K:10:LEU:O	16:K:11:ASN:OD1	2.18	0.60
7:B:181:LEU:CD2	18:M:12:LEU:HD22	2.31	0.60
24:S:87:THR:O	24:S:88:TYR:HB2	2.01	0.60
26:U:31:GLY:CA	26:U:32:ARG:HH11	2.09	0.60
29:X:125:A:H5''	29:X:126:C:O4'	2.01	0.60
29:X:1373:G:H2'	29:X:1374:G:C5'	2.31	0.60
29:X:1525:A:H3'	29:X:1526:U:H6	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1337:G:O2'	29:X:1632:A:C6	2.53	0.60
29:X:2270:U:O2'	29:X:2353:G:H1'	2.01	0.60
29:X:2240:C:H1'	29:X:2367:A:H1'	1.82	0.60
29:X:2564:U:H5'	29:X:2565:C:OP1	2.01	0.60
7:B:195:LEU:HB3	18:M:2:GLN:HG2	1.83	0.60
8:C:56:ARG:HD3	8:C:71:ASP:OD2	2.01	0.60
9:D:135:GLN:HG3	9:D:151:GLY:CA	2.26	0.60
14:I:30:ALA:H	14:I:34:HIS:CD2	2.19	0.60
16:K:7:GLY:O	16:K:8:ARG:HG2	2.01	0.60
17:L:42:ILE:HD11	17:L:87:VAL:CG1	2.31	0.60
18:M:63:ARG:NH1	18:M:63:ARG:HB2	2.16	0.60
18:M:82:PRO:HD2	18:M:85:SER:CB	2.32	0.60
22:Q:40:ASP:O	22:Q:42:ILE:N	2.34	0.60
26:U:31:GLY:O	26:U:32:ARG:O	2.19	0.60
29:X:1271:C:O2'	29:X:1272:G:H5'	2.01	0.60
29:X:1442:C:C5	29:X:1585:A:H5''	2.37	0.60
29:X:1525:A:H3'	29:X:1526:U:C6	2.36	0.60
29:X:1745:C:N3	29:X:2696:A:O2'	2.34	0.60
29:X:1888:C:H2'	29:X:1913:G:N7	2.16	0.60
29:X:2299:A:N3	29:X:2299:A:H2'	2.16	0.60
17:L:13:THR:HB	29:X:2313:G:H1'	1.83	0.60
29:X:2324:G:O2'	29:X:2325:A:OP2	2.19	0.60
29:X:1922:U:HO2'	29:X:2571:G:C1'	2.14	0.60
29:X:2576:G:H2'	29:X:2577:A:C8	2.36	0.60
29:X:538:A:N3	29:X:538:A:H3'	2.16	0.60
29:X:657:A:H2'	29:X:658:G:O4'	2.01	0.60
29:X:793:G:N2	29:X:796:A:H62	1.91	0.60
29:X:879:A:H2'	29:X:879:A:N3	2.16	0.60
14:I:38:LYS:HA	29:X:953:G:H5''	1.84	0.60
31:Z:42:U:H1'	31:Z:47:A:N6	2.16	0.60
6:A:271:VAL:HG12	6:A:272:THR:HG23	1.84	0.60
8:C:127:ASP:HB2	8:C:129:LYS:HG2	1.83	0.60
12:G:61:ARG:HH21	12:G:61:ARG:CB	2.10	0.60
15:J:99:LYS:CG	15:J:100:PRO:HD2	2.31	0.60
15:J:11:ARG:HH21	29:X:920:G:H21	1.49	0.60
15:J:119:PHE:CD1	15:J:132:MET:SD	2.94	0.60
21:P:49:SER:O	21:P:52:ASP:N	2.34	0.60
22:Q:12:ILE:CG1	22:Q:13:SER:N	2.45	0.60
24:S:19:ILE:HB	24:S:34:LEU:HD12	1.82	0.60
25:T:43:THR:N	29:X:2310:G:H4'	2.15	0.60
29:X:1714:A:H1'	29:X:1961:A:OP1	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:261:ARG:HH22	29:X:1790:G:H5''	1.66	0.60
29:X:1850:G:O2'	29:X:1851:A:O4'	2.20	0.60
25:T:56:ASP:OD1	29:X:2343:C:H4'	2.01	0.60
29:X:2436:U:O2	29:X:2474:G:C2	2.54	0.60
29:X:2691:C:O2'	29:X:2692:A:H8	1.83	0.60
29:X:2700:U:H6	29:X:2700:U:H5'	1.66	0.60
29:X:2784:A:C2	29:X:2866:A:C4	2.90	0.60
29:X:445:A:H2'	29:X:446:C:C6	2.36	0.60
14:I:65:PHE:HB3	29:X:642:A:O2'	2.02	0.60
4:4:17:VAL:HG12	4:4:18:ARG:N	2.16	0.60
14:I:53:ARG:HH21	14:I:53:ARG:HG3	1.66	0.60
15:J:36:ILE:HD12	15:J:133:VAL:HG11	1.82	0.60
15:J:80:ALA:O	15:J:81:GLU:HB3	2.02	0.60
18:M:55:ILE:HA	18:M:104:LEU:HD12	1.82	0.60
20:O:20:ILE:HD12	20:O:21:ARG:H	1.67	0.60
25:T:52:GLY:N	25:T:62:LEU:HD21	2.17	0.60
29:X:1034:U:C2'	29:X:1035:G:H5'	2.29	0.60
29:X:2171:U:H4'	29:X:2171:U:OP1	2.01	0.60
29:X:2522:G:H21	29:X:2625:U:H5''	1.66	0.60
29:X:2861:A:H2'	29:X:2862:G:C8	2.37	0.60
29:X:48:A:O2'	29:X:49:U:OP2	2.19	0.60
29:X:774:A:C8	29:X:774:A:O5'	2.55	0.60
31:Z:6:C:H2'	31:Z:7:C:H6	1.65	0.60
7:B:144:ARG:HG2	7:B:145:LYS:H	1.65	0.60
8:C:107:ALA:HB1	8:C:180:ILE:HD13	1.83	0.60
9:D:135:GLN:HA	9:D:138:PHE:CE1	2.37	0.60
9:D:30:ARG:O	9:D:158:THR:HB	2.01	0.60
12:G:104:THR:OG1	12:G:110:LEU:CD1	2.48	0.60
15:J:76:THR:HA	15:J:89:GLY:O	2.01	0.60
23:R:16:PHE:HB3	23:R:82:ALA:HB1	1.82	0.60
24:S:106:GLY:HA2	24:S:109:GLN:OE1	2.00	0.60
29:X:1026:U:O2'	29:X:1027:C:H5'	2.02	0.60
29:X:1095:A:C2'	29:X:1096:A:H5''	2.30	0.60
29:X:1102:G:O2'	29:X:1103:C:H5'	2.01	0.60
29:X:1439:G:H2'	29:X:1440:G:C8	2.37	0.60
29:X:1763:G:N2	29:X:1765:C:H5''	2.17	0.60
29:X:2222:U:H2'	29:X:2223:U:H6	1.64	0.60
29:X:2237:C:O2'	29:X:2238:G:OP1	2.15	0.60
29:X:2426:G:H3'	29:X:2479:U:OP2	2.01	0.60
29:X:322:A:O2'	29:X:343:A:C4'	2.50	0.60
29:X:48:A:OP1	29:X:50:G:H5'	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:486:U:H4'	29:X:519:C:H2'	1.84	0.60
29:X:683:A:O2'	29:X:684:C:O5'	2.20	0.60
29:X:736:G:H2'	29:X:737:C:O4'	2.01	0.60
29:X:939:C:H4'	29:X:940:G:OP2	2.00	0.60
31:Z:54:U:H2'	31:Z:55:C:O4'	2.02	0.60
6:A:182:LEU:HD12	6:A:269:PHE:HD2	1.67	0.60
6:A:244:ARG:HD2	29:X:1885:C:C5'	2.32	0.60
10:E:84:THR:HA	10:E:134:SER:HA	1.83	0.60
14:I:11:GLY:N	14:I:14:LYS:HB3	2.15	0.60
17:L:42:ILE:CG2	17:L:52:ALA:H	2.15	0.60
24:S:100:THR:CG2	24:S:138:VAL:HG11	2.31	0.60
24:S:112:LEU:HD12	24:S:113:VAL:H	1.66	0.60
24:S:20:ALA:HA	24:S:33:ALA:HA	1.84	0.60
29:X:1107:A:H3'	29:X:1108:U:C5'	2.29	0.60
29:X:1753:A:O5'	29:X:1753:A:H8	1.84	0.60
29:X:1793:A:H2'	29:X:1794:A:C8	2.36	0.60
29:X:2022:C:H2'	29:X:2023:C:H6	1.67	0.60
29:X:222:G:O2'	29:X:223:C:H5'	2.01	0.60
29:X:2426:G:C2	29:X:2480:C:N4	2.70	0.60
29:X:1939:U:H1'	29:X:2531:U:OP1	2.01	0.60
29:X:2630:C:O2'	29:X:2631:C:H5'	2.01	0.60
29:X:2764:U:H2'	29:X:2765:C:H6	1.65	0.60
29:X:310:A:H2	29:X:331:U:C4'	2.14	0.60
29:X:624:A:N3	29:X:624:A:H5'	2.16	0.60
4:4:31:LYS:H	4:4:31:LYS:HD2	1.67	0.60
11:F:79:ARG:HB3	11:F:84:ILE:O	2.02	0.60
12:G:70:PHE:HB2	19:N:64:ARG:HG2	1.83	0.60
13:H:70:VAL:HG22	13:H:71:LYS:O	2.02	0.60
17:L:85:LYS:HG2	17:L:86:GLN:HE21	1.67	0.60
18:M:34:ARG:CZ	18:M:66:PHE:CZ	2.84	0.60
23:R:100:ASP:C	23:R:102:LYS:N	2.55	0.60
29:X:1050:G:H2'	29:X:1051:U:C5'	2.32	0.60
29:X:1230:C:O2'	29:X:1231:A:H5'	2.01	0.60
29:X:1369:G:N2	29:X:1370:U:H1'	2.17	0.60
29:X:1608:U:H2'	29:X:1609:G:C8	2.37	0.60
6:A:254:THR:HB	29:X:1835:C:O2'	2.01	0.60
29:X:2169:A:H2'	29:X:2170:C:C6	2.37	0.60
29:X:2309:G:C2'	29:X:2310:G:H5'	2.32	0.60
29:X:2397:A:H2'	29:X:2398:U:C6	2.37	0.60
29:X:2656:G:C2	29:X:2711:G:C2	2.90	0.60
29:X:415:A:C2'	29:X:416:U:H5'	2.31	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:543:G:C5	29:X:544:U:C4	2.90	0.60
29:X:577:U:C5'	29:X:956:A:H62	2.12	0.60
31:Z:15:A:O2'	31:Z:17:A:H5"	2.01	0.60
7:B:7:THR:N	7:B:27:LEU:O	2.32	0.60
10:E:54:ARG:HH21	10:E:54:ARG:HG2	1.67	0.60
12:G:39:GLN:O	12:G:39:GLN:HG3	2.01	0.60
15:J:69:ILE:HG21	15:J:104:MET:HA	1.84	0.60
15:J:6:LYS:HG2	15:J:7:ARG:HG2	1.84	0.60
18:M:60:SER:C	18:M:64:LYS:HB2	2.22	0.60
19:N:81:ASN:O	19:N:85:ARG:HD3	2.02	0.60
24:S:105:GLN:HG3	24:S:139:THR:CG2	2.31	0.60
25:T:71:ASN:HB2	25:T:77:ARG:HH11	1.66	0.60
29:X:1596:A:H2'	29:X:1597:A:O4'	2.01	0.60
29:X:1775:A:O5'	29:X:1775:A:C8	2.55	0.60
29:X:2194:A:C3'	29:X:2195:C:C5'	2.71	0.60
29:X:2358:C:C4	29:X:2359:U:C4	2.89	0.60
29:X:2448:A:N6	29:X:2460:G:H1'	2.17	0.60
29:X:2043:A:H1'	29:X:2481:G:O4'	2.02	0.60
12:G:104:THR:HB	29:X:2620:G:H5"	1.82	0.60
29:X:2728:A:H2'	29:X:2729:A:C8	2.37	0.60
29:X:357:A:H2'	29:X:358:C:H5'	1.84	0.60
29:X:767:G:O2'	29:X:768:U:H5'	2.02	0.60
30:Y:35:GLN:O	30:Y:37:HIS:N	2.34	0.60
1:1:39:LYS:CA	29:X:2323:U:H5'	2.31	0.60
7:B:201:ALA:CB	7:B:204:ALA:HB2	2.31	0.60
9:D:171:GLN:HA	9:D:175:LEU:HB3	1.83	0.60
19:N:93:LYS:O	19:N:94:VAL:HG23	2.01	0.60
20:O:14:VAL:O	20:O:15:SER:CB	2.50	0.60
22:Q:35:LYS:HD3	22:Q:53:ILE:CG2	2.32	0.60
23:R:25:LEU:CD1	23:R:81:VAL:HG23	2.32	0.60
29:X:1445:A:H2'	29:X:1446:U:O4'	2.02	0.60
29:X:1705:U:O2	29:X:1717:A:H5"	2.02	0.60
29:X:2665:G:C2	29:X:2704:U:O2	2.55	0.60
29:X:2742:G:O2'	29:X:2743:G:H5'	2.02	0.60
12:G:149:LYS:HZ3	29:X:7:G:H5'	1.67	0.60
29:X:865:A:H61	29:X:937:C:N4	2.00	0.60
4:4:25:VAL:HB	4:4:34:GLN:HB2	1.82	0.59
6:A:173:VAL:HG23	6:A:187:SER:HB3	1.82	0.59
6:A:244:ARG:N	6:A:244:ARG:HD3	2.17	0.59
8:C:104:LEU:H	8:C:104:LEU:CD2	2.15	0.59
10:E:71:LEU:HA	10:E:74:ASN:HD22	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:F:2:LYS:HD3	11:F:2:LYS:H	1.67	0.59
13:H:116:ARG:NH1	18:M:38:LYS:CE	2.65	0.59
22:Q:34:THR:O	22:Q:38:ILE:HG22	2.02	0.59
22:Q:48:VAL:HG21	22:Q:82:LEU:HD13	1.84	0.59
24:S:123:VAL:HG23	24:S:161:ALA:CA	2.32	0.59
27:V:44:ARG:O	27:V:47:ARG:HB2	2.00	0.59
29:X:1107:A:C3'	29:X:1108:U:H5''	2.29	0.59
29:X:1570:C:H5'	29:X:1571:G:OP2	2.01	0.59
29:X:1684:G:N2	29:X:1977:C:N4	2.50	0.59
29:X:1974:U:H2'	29:X:1975:G:C5'	2.32	0.59
29:X:2065:A:H3'	29:X:2066:G:H8	1.65	0.59
12:G:162:LYS:HZ1	29:X:5:A:H1'	1.65	0.59
29:X:732:G:H8	29:X:732:G:O5'	1.85	0.59
29:X:731:A:C3'	29:X:732:G:O4'	2.49	0.59
29:X:981:C:N4	29:X:982:C:N4	2.49	0.59
6:A:160:GLY:H	6:A:196:VAL:HG23	1.65	0.59
6:A:240:THR:HG21	29:X:2577:A:OP1	2.02	0.59
7:B:154:LYS:HE3	7:B:156:MET:SD	2.42	0.59
9:D:16:LEU:O	9:D:20:PHE:HD1	1.85	0.59
9:D:29:PRO:HG2	9:D:165:GLU:HB3	1.83	0.59
9:D:57:LEU:HA	9:D:60:ILE:HD11	1.84	0.59
12:G:116:ARG:HE	12:G:126:VAL:CG1	2.07	0.59
12:G:124:GLU:HG3	12:G:152:ALA:HB2	1.85	0.59
13:H:11:ALA:O	13:H:110:VAL:HG13	2.01	0.59
13:H:76:ARG:O	13:H:94:ASN:HA	2.02	0.59
15:J:131:LYS:HD2	24:S:76:ARG:HH22	1.64	0.59
15:J:76:THR:HB	15:J:88:LYS:O	2.02	0.59
17:L:27:LEU:O	17:L:88:VAL:N	2.36	0.59
17:L:33:ARG:N	17:L:94:TYR:HE1	1.99	0.59
21:P:10:ASN:O	21:P:11:LYS:C	2.39	0.59
29:X:133:C:H2'	29:X:134:G:H5'	1.84	0.59
29:X:1486:A:H2'	29:X:1487:C:C6	2.37	0.59
29:X:1541:G:H2'	29:X:1542:G:H8	1.66	0.59
29:X:1556:A:H2'	29:X:1557:G:H8	1.67	0.59
29:X:1603:A:H2'	29:X:1604:A:C8	2.38	0.59
13:H:1:MET:N	29:X:1682:A:H1'	2.17	0.59
29:X:2578:G:C2	29:X:2579:A:C8	2.90	0.59
29:X:490:A:O2'	29:X:491:A:O5'	2.20	0.59
29:X:50:G:H1'	29:X:116:A:N6	2.17	0.59
29:X:683:A:H4'	29:X:684:C:H5'	1.85	0.59
29:X:73:A:H5''	29:X:74:G:O4'	2.03	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:690:A:N1	29:X:815:A:C5	2.70	0.59
31:Z:52:G:N2	31:Z:53:G:H1'	2.16	0.59
7:B:26:VAL:HB	7:B:182:ILE:CG2	2.32	0.59
9:D:114:PHE:HZ	9:D:176:PRO:CG	2.14	0.59
9:D:114:PHE:HZ	9:D:176:PRO:HG3	1.67	0.59
9:D:152:MET:HE3	9:D:154:ILE:HD11	1.83	0.59
12:G:150:VAL:C	12:G:151:TYR:HD1	2.06	0.59
12:G:154:GLU:O	12:G:157:PRO:HD2	2.02	0.59
13:H:55:VAL:HG11	13:H:65:LYS:O	2.02	0.59
15:J:28:VAL:HG23	15:J:137:VAL:CG2	2.32	0.59
19:N:4:ALA:O	19:N:5:LYS:O	2.20	0.59
21:P:33:MET:CE	21:P:37:LYS:NZ	2.65	0.59
21:P:47:GLY:O	21:P:48:LYS:HB3	2.02	0.59
29:X:1163:C:H2'	29:X:1164:C:H6	1.67	0.59
29:X:165:G:H1'	29:X:1378:A:N1	2.17	0.59
29:X:1920:A:C6	29:X:1922:U:C5	2.90	0.59
29:X:2669:C:N4	29:X:2693:U:O2'	2.35	0.59
29:X:2756:A:H4'	29:X:2757:G:O5'	2.02	0.59
29:X:633:G:C5	29:X:634:G:N7	2.70	0.59
6:A:172:TYR:CE1	6:A:186:HIS:HB3	2.37	0.59
6:A:186:HIS:CE1	29:X:2201:G:H4'	2.37	0.59
6:A:54:ILE:HD12	6:A:216:GLY:HA2	1.83	0.59
7:B:154:LYS:NZ	7:B:156:MET:CE	2.66	0.59
7:B:164:ARG:O	29:X:2753:C:H5''	2.03	0.59
9:D:9:ASN:O	9:D:14:PRO:HD2	2.02	0.59
10:E:97:LYS:HD2	10:E:104:GLU:OE1	2.03	0.59
8:C:29:GLU:CD	14:I:18:ARG:HH22	2.06	0.59
23:R:23:ILE:HD12	23:R:23:ILE:O	2.03	0.59
24:S:3:LEU:HD12	24:S:3:LEU:C	2.22	0.59
24:S:73:LYS:O	24:S:75:LYS:N	2.33	0.59
27:V:32:ALA:CB	27:V:37:LEU:HD12	2.32	0.59
29:X:1068:A:C8	29:X:1097:A:H2'	2.37	0.59
29:X:1682:A:O2'	29:X:1683:G:H5'	2.01	0.59
29:X:1854:G:C6	29:X:1864:G:C6	2.90	0.59
29:X:192:G:H1'	29:X:193:A:H4'	1.83	0.59
9:D:125:ARG:HG3	29:X:2294:U:O2'	2.02	0.59
29:X:2864:C:O2'	29:X:2865:G:H5'	2.01	0.59
29:X:403:A:H4'	29:X:404:A:O5'	2.02	0.59
30:Y:4:HIS:CB	30:Y:5:PRO:HD3	2.27	0.59
8:C:175:VAL:HG23	8:C:176:ASN:N	2.18	0.59
8:C:5:ASN:N	8:C:5:ASN:HD22	1.97	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:108:LEU:HD23	9:D:111:ILE:CD1	2.32	0.59
10:E:147:ASN:HA	10:E:150:LYS:HD2	1.84	0.59
11:F:131:ALA:HB1	11:F:136:VAL:HG23	1.82	0.59
14:I:117:ALA:HA	14:I:137:GLY:C	2.23	0.59
19:N:93:LYS:O	19:N:94:VAL:CB	2.50	0.59
21:P:94:GLU:CD	21:P:127:ILE:HD12	2.23	0.59
27:V:41:HIS:CD2	27:V:42:ARG:N	2.70	0.59
29:X:102:C:O2'	29:X:103:U:H5'	2.02	0.59
29:X:1474:A:H4'	29:X:1475:U:O5'	2.01	0.59
29:X:1693:A:N3	29:X:1976:U:H5'	2.17	0.59
29:X:1856:U:O2'	29:X:1857:G:O5'	2.21	0.59
29:X:2560:G:C4	29:X:2589:C:C4	2.90	0.59
29:X:210:A:H61	29:X:441:A:H62	1.51	0.59
29:X:497:C:C6	29:X:497:C:H5'	2.35	0.59
29:X:591:G:C2'	29:X:592:G:C8	2.81	0.59
29:X:792:U:O2'	29:X:793:G:H5'	2.02	0.59
29:X:983:G:N1	29:X:984:A:N6	2.51	0.59
6:A:132:PRO:O	6:A:136:VAL:HG23	2.02	0.59
8:C:61:GLN:HA	8:C:61:GLN:HE21	1.66	0.59
9:D:29:PRO:O	9:D:169:LEU:HD22	2.03	0.59
10:E:98:LEU:HD12	10:E:99:THR:H	1.67	0.59
15:J:15:ARG:HB3	15:J:73:LYS:HZ2	1.68	0.59
16:K:28:LEU:CD2	16:K:28:LEU:O	2.46	0.59
16:K:30:ARG:C	16:K:31:GLU:HG2	2.22	0.59
19:N:89:ASP:O	19:N:90:LEU:HG	2.03	0.59
20:O:36:LYS:HE3	20:O:55:THR:C	2.23	0.59
21:P:100:GLY:C	21:P:101:PRO:O	2.38	0.59
23:R:18:LYS:HA	23:R:36:VAL:HG11	1.84	0.59
26:U:33:LYS:HZ2	29:X:2400:G:N2	1.99	0.59
29:X:1579:G:O2'	29:X:1580:C:H5'	2.02	0.59
29:X:2046:C:O2	29:X:2430:A:C2	2.56	0.59
29:X:2309:G:H2'	29:X:2310:G:H5'	1.85	0.59
29:X:2322:U:H2'	29:X:2323:U:C6	2.37	0.59
29:X:341:A:C8	29:X:341:A:H3'	2.38	0.59
29:X:640:C:H4'	29:X:660:G:H21	1.68	0.59
29:X:826:U:H2'	29:X:827:C:H6	1.66	0.59
29:X:914:C:O2'	29:X:915:C:H5'	2.03	0.59
7:B:141:ILE:HG13	29:X:2034:A:H4'	1.84	0.59
7:B:147:PRO:O	7:B:149:ARG:N	2.28	0.59
12:G:151:TYR:CE2	12:G:160:ALA:HB3	2.38	0.59
16:K:10:LEU:HD23	16:K:17:ARG:CB	2.33	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:46:ARG:HG3	18:M:47:SER:N	2.17	0.59
24:S:113:VAL:HG22	24:S:171:VAL:HG22	1.84	0.59
27:V:37:LEU:CD1	29:X:60:A:H4'	2.33	0.59
29:X:1173:G:H2'	29:X:1174:G:H8	1.67	0.59
29:X:1419:G:H2'	29:X:1420:A:H8	1.67	0.59
29:X:1661:C:O2'	29:X:1662:G:H5'	2.03	0.59
29:X:1715:A:H4'	29:X:1716:G:O5'	2.02	0.59
29:X:2424:G:O2'	29:X:2425:G:H5'	2.02	0.59
29:X:2673:G:C6	29:X:2696:A:N1	2.71	0.59
29:X:2522:G:N3	29:X:2745:A:H2'	2.18	0.59
29:X:2820:C:O2'	29:X:2821:G:H5'	2.02	0.59
29:X:490:A:O2'	29:X:491:A:C5'	2.50	0.59
31:Z:16:U:C1'	31:Z:109:G:H21	2.13	0.59
9:D:12:VAL:O	9:D:16:LEU:HG	2.02	0.59
12:G:102:ARG:NH2	12:G:112:THR:HG21	2.17	0.59
14:I:13:ARG:HH11	29:X:1218:C:C4'	2.16	0.59
14:I:76:LYS:CG	14:I:111:SER:HB2	2.33	0.59
18:M:73:PHE:O	18:M:75:GLU:N	2.35	0.59
19:N:68:GLY:C	19:N:71:LEU:H	2.06	0.59
21:P:32:ARG:C	21:P:32:ARG:NE	2.56	0.59
23:R:91:ALA:O	23:R:92:THR:CG2	2.50	0.59
23:R:93:ARG:NH1	23:R:93:ARG:HG2	2.17	0.59
24:S:70:GLN:O	24:S:79:ILE:HG22	2.02	0.59
26:U:52:ARG:HE	26:U:79:GLU:HB3	1.68	0.59
29:X:1099:A:H4'	29:X:1100:G:H8	1.68	0.59
29:X:1151:U:H5''	29:X:1153:A:H5'	1.83	0.59
29:X:2194:A:H2'	29:X:2195:C:H5''	1.85	0.59
29:X:2457:A:O4'	29:X:2507:U:H4'	2.03	0.59
29:X:2426:G:C4	29:X:2480:C:C5	2.90	0.59
29:X:2485:U:O2'	29:X:2486:C:H5'	2.03	0.59
13:H:40:GLY:HA3	29:X:2545:A:H61	1.67	0.59
29:X:751:G:C6	29:X:752:G:C2	2.90	0.59
29:X:784:U:H2'	29:X:785:U:C6	2.38	0.59
29:X:981:C:O5'	29:X:981:C:H6	1.86	0.59
31:Z:26:G:H5''	31:Z:27:A:OP1	2.02	0.59
31:Z:58:G:H4'	31:Z:59:A:H5''	1.85	0.59
7:B:161:GLY:O	7:B:163:GLU:HG3	2.03	0.59
7:B:78:LEU:O	7:B:79:ARG:HD3	2.03	0.59
9:D:38:GLU:OE1	9:D:152:MET:HB3	2.03	0.59
10:E:27:LYS:HG2	10:E:32:GLU:CB	2.32	0.59
13:H:28:GLY:HA3	13:H:35:THR:OG1	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:32:THR:O	18:M:51:GLU:HB2	2.03	0.59
23:R:84:VAL:HA	23:R:90:LYS:HD3	1.85	0.59
29:X:1053:G:C5	29:X:1054:C:C5	2.90	0.59
29:X:1055:A:C4	29:X:1055:A:H3'	2.38	0.59
29:X:1326:U:H2'	29:X:1626:A:C2	2.38	0.59
29:X:1672:A:H3'	29:X:1673:C:C6	2.38	0.59
29:X:2558:C:H2'	29:X:2559:U:C6	2.36	0.59
29:X:2602:G:C2	29:X:2603:G:C8	2.90	0.59
29:X:2635:U:N3	29:X:2644:A:N7	2.50	0.59
29:X:731:A:H3'	29:X:732:G:O4'	2.02	0.59
29:X:802:A:H4'	29:X:803:C:OP1	2.00	0.59
30:Y:19:ARG:C	30:Y:21:SER:H	2.05	0.59
7:B:34:VAL:HG12	7:B:72:VAL:HG11	1.83	0.59
17:L:20:THR:CG2	17:L:23:ALA:HB3	2.32	0.59
21:P:10:ASN:OD1	21:P:13:GLN:HG2	2.03	0.59
21:P:49:SER:HB3	21:P:52:ASP:OD2	2.03	0.59
25:T:25:LYS:HB2	25:T:37:LEU:HG	1.84	0.59
26:U:32:ARG:HG2	26:U:34:THR:N	2.17	0.59
29:X:1367:A:C8	29:X:1368:G:C8	2.90	0.59
29:X:1371:G:H1'	29:X:1387:G:H1	1.66	0.59
29:X:1710:U:O4	29:X:1960:A:C8	2.56	0.59
6:A:208:LYS:HE2	29:X:1782:A:N3	2.17	0.59
29:X:588:G:O2'	29:X:2002:A:OP1	2.17	0.59
29:X:2194:A:H2'	29:X:2195:C:C4'	2.32	0.59
29:X:2690:A:C8	29:X:2694:G:O4'	2.56	0.59
29:X:409:G:O2'	29:X:410:A:H5'	2.03	0.59
29:X:839:U:OP1	29:X:2408:G:OP2	2.21	0.59
29:X:871:U:C2'	29:X:2247:A:H2'	2.32	0.59
25:T:72:LYS:HD3	31:Z:14:C:C5'	2.33	0.59
31:Z:43:G:H5'	31:Z:44:C:C5'	2.14	0.59
6:A:172:TYR:HA	6:A:186:HIS:HA	1.84	0.58
6:A:208:LYS:HE3	6:A:208:LYS:HA	1.84	0.58
11:F:42:ASN:HA	11:F:45:THR:OG1	2.02	0.58
14:I:18:ARG:HD2	14:I:21:ARG:CD	2.32	0.58
14:I:63:ARG:O	14:I:64:GLY:O	2.21	0.58
18:M:106:TYR:CD1	18:M:107:LEU:N	2.70	0.58
20:O:57:GLN:HE21	20:O:98:ILE:HG13	1.67	0.58
22:Q:7:LEU:HD23	27:V:30:PHE:HE2	1.67	0.58
27:V:7:ARG:HD2	27:V:8:ASN:N	2.18	0.58
28:W:35:SER:HB3	28:W:40:VAL:HG21	1.85	0.58
29:X:1336:G:O2'	29:X:1337:G:H5'	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1339:U:C5	29:X:1664:G:O2'	2.56	0.58
29:X:1979:C:H2'	29:X:1980:A:O4'	2.02	0.58
29:X:2447:G:O2'	29:X:2448:A:H8	1.84	0.58
29:X:2448:A:H2'	29:X:2449:G:O4'	2.03	0.58
29:X:2038:C:H2'	29:X:2483:U:C4'	2.33	0.58
29:X:2625:U:P	29:X:2625:U:H6	2.26	0.58
29:X:2703:C:HO2'	29:X:2704:U:H5'	1.68	0.58
29:X:2703:C:O5'	29:X:2703:C:H6	1.84	0.58
18:M:8:ASN:OD1	29:X:2850:U:O2'	2.21	0.58
29:X:13:A:C2	29:X:535:U:C2	2.90	0.58
29:X:759:C:H4'	29:X:759:C:OP1	2.02	0.58
29:X:973:U:H3'	29:X:973:U:OP1	2.03	0.58
30:Y:29:ASN:HD22	30:Y:29:ASN:C	2.06	0.58
7:B:61:LYS:HB3	7:B:62:PRO:HD3	1.83	0.58
9:D:3:GLN:O	9:D:4:LEU:HB3	2.03	0.58
12:G:62:ILE:HG13	12:G:80:VAL:HG21	1.84	0.58
15:J:15:ARG:HD3	15:J:73:LYS:HG3	1.82	0.58
19:N:47:TYR:HA	19:N:50:ARG:NH1	2.18	0.58
20:O:17:GLY:HA2	20:O:94:LYS:HA	1.85	0.58
21:P:14:ARG:HA	21:P:17:GLN:HG2	1.84	0.58
21:P:28:ALA:HB2	21:P:71:VAL:HG22	1.85	0.58
21:P:75:ALA:O	21:P:128:VAL:HG21	2.04	0.58
23:R:29:HIS:CD2	23:R:51:VAL:HG22	2.38	0.58
24:S:105:GLN:HG3	24:S:139:THR:HG22	1.84	0.58
29:X:1926:U:C6	29:X:1928:G:H5'	2.38	0.58
29:X:2198:U:C2'	29:X:2199:C:O4'	2.44	0.58
15:J:125:LYS:HB2	29:X:2463:G:O2'	2.02	0.58
29:X:2871:U:H2'	29:X:2872:U:C6	2.39	0.58
6:A:33:LEU:N	6:A:83:GLU:OE2	2.35	0.58
7:B:33:ILE:HD12	7:B:88:GLY:O	2.03	0.58
8:C:128:ALA:HB2	8:C:159:ARG:NE	2.19	0.58
11:F:98:LYS:HZ3	11:F:139:GLU:HB2	1.69	0.58
12:G:57:LEU:CD2	12:G:170:PRO:HA	2.33	0.58
16:K:79:VAL:HG13	16:K:80:MET:N	2.17	0.58
19:N:66:ASN:CB	19:N:76:TYR:HB2	2.31	0.58
23:R:22:VAL:HG13	23:R:81:VAL:O	2.03	0.58
23:R:38:LEU:HB2	23:R:47:VAL:CB	2.28	0.58
29:X:1147:G:H2'	29:X:1148:G:H8	1.68	0.58
29:X:1187:A:H2'	29:X:1188:A:O4'	2.02	0.58
29:X:1467:U:C6	29:X:1468:A:H5'	2.37	0.58
29:X:1583:A:H8	29:X:1583:A:OP2	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:180:C:H6	29:X:180:C:O5'	1.85	0.58
29:X:341:A:H8	29:X:341:A:H3'	1.68	0.58
19:N:31:GLN:NE2	29:X:589:C:H4'	2.17	0.58
29:X:768:U:H2'	29:X:769:C:H6	1.68	0.58
15:J:23:LYS:HD3	29:X:876:A:P	2.43	0.58
29:X:872:G:N2	29:X:929:A:O5'	2.36	0.58
29:X:861:G:H1'	29:X:944:A:N3	2.19	0.58
31:Z:18:G:O2'	31:Z:19:C:H5'	2.03	0.58
31:Z:95:U:H2'	31:Z:96:C:C6	2.39	0.58
12:G:61:ARG:HG2	12:G:65:LYS:CD	2.30	0.58
12:G:61:ARG:NE	12:G:65:LYS:HD2	2.17	0.58
14:I:129:ALA:O	14:I:133:VAL:HG23	2.04	0.58
15:J:34:GLY:O	15:J:133:VAL:HG22	2.04	0.58
15:J:17:ARG:O	15:J:18:MET:HB2	2.01	0.58
16:K:91:PRO:O	16:K:92:GLY:C	2.40	0.58
19:N:74:MET:SD	19:N:110:VAL:HG13	2.44	0.58
19:N:12:ARG:O	19:N:13:ARG:C	2.41	0.58
29:X:1288:A:N6	29:X:1309:G:H5'	2.18	0.58
29:X:152:G:O2'	29:X:153:A:H5'	2.03	0.58
29:X:1621:C:C4'	29:X:1626:A:C6	2.86	0.58
29:X:1764:A:H2'	29:X:1765:C:C5'	2.30	0.58
29:X:2190:A:H3'	29:X:2190:A:C8	2.39	0.58
29:X:965:G:N3	29:X:2253:A:C2	2.71	0.58
29:X:2484:G:H2'	29:X:2485:U:OP2	2.02	0.58
29:X:2490:U:O2'	29:X:2491:C:H5'	2.04	0.58
29:X:2810:A:C2	29:X:2853:U:C4	2.91	0.58
29:X:654:A:N3	29:X:655:A:H5'	2.18	0.58
29:X:840:U:H2'	29:X:2051:U:C2	2.38	0.58
7:B:145:LYS:NZ	29:X:2015:G:H2'	2.18	0.58
8:C:151:VAL:O	8:C:152:THR:HB	2.02	0.58
9:D:8:TYR:O	9:D:12:VAL:HB	2.02	0.58
9:D:92:ARG:CA	9:D:96:MET:HB2	2.34	0.58
12:G:115:ALA:O	12:G:118:ALA:N	2.36	0.58
14:I:47:ALA:HA	14:I:49:PHE:CE2	2.38	0.58
18:M:107:LEU:O	18:M:109:GLU:N	2.28	0.58
19:N:25:TRP:CE3	19:N:26:GLY:N	2.72	0.58
19:N:61:TRP:HZ3	19:N:93:LYS:CA	2.16	0.58
24:S:122:ILE:C	24:S:161:ALA:HB2	2.23	0.58
27:V:37:LEU:HD11	29:X:60:A:H4'	1.85	0.58
29:X:1769:U:O4	29:X:1775:A:H1'	2.04	0.58
29:X:2044:G:O2'	29:X:2046:C:H5	1.87	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2301:A:C4	29:X:2302:G:C8	2.92	0.58
25:T:39:ARG:NH2	29:X:2342:U:O2	2.36	0.58
29:X:244:C:C3'	29:X:245:C:H5''	2.33	0.58
29:X:2594:U:C6	30:Y:7:PRO:HA	2.38	0.58
29:X:717:G:H1'	29:X:740:A:N6	2.18	0.58
29:X:765:C:O2'	29:X:766:A:OP 2	2.17	0.58
29:X:972:C:H5'	29:X:973:U:OP 2	2.03	0.58
7:B:72:VAL:HG12	7:B:73:ALA:H	1.66	0.58
13:H:76:ARG:HB2	13:H:95:ALA:HB3	1.85	0.58
15:J:21:ASP:C	15:J:99:LYS:HG2	2.24	0.58
16:K:27:ALA:O	16:K:31:GLU:N	2.36	0.58
18:M:104:LEU:HB3	18:M:107:LEU:HD12	1.84	0.58
24:S:86:VAL:HG12	24:S:87:THR:N	2.18	0.58
25:T:70:ILE:N	25:T:78:PHE:O	2.36	0.58
26:U:66:ALA:O	26:U:70:LEU:HB2	2.04	0.58
27:V:32:ALA:HA	27:V:37:LEU:HB2	1.86	0.58
29:X:1255:A:C6	29:X:1256:C:N4	2.72	0.58
29:X:1327:C:H6	29:X:1327:C:O5'	1.87	0.58
29:X:1673:C:H2'	29:X:1674:C:C6	2.37	0.58
29:X:1731:C:H2'	29:X:1732:U:H5''	1.85	0.58
29:X:1804:U:H2'	29:X:1805:G:H8	1.69	0.58
29:X:2259:G:H4'	29:X:2306:A:H5'	1.86	0.58
29:X:536:A:N6	29:X:2605:C:H4'	2.18	0.58
29:X:2627:G:O2'	29:X:2628:C:H5'	2.04	0.58
29:X:37:C:H2'	29:X:38:G:H8	1.69	0.58
30:Y:6:VAL:CG2	30:Y:7:PRO:HD2	2.34	0.58
4:4:18:ARG:CD	4:4:23:VAL:HG22	2.32	0.58
6:A:142:VAL:HG12	6:A:193:ILE:HD13	1.86	0.58
6:A:244:ARG:O	6:A:252:LYS:CE	2.50	0.58
8:C:134:ILE:O	8:C:137:ALA:HB3	2.04	0.58
9:D:29:PRO:C	9:D:169:LEU:HD22	2.24	0.58
12:G:85:ALA:HB1	12:G:127:ILE:HD13	1.84	0.58
13:H:110:VAL:HG23	13:H:129:LEU:HB2	1.85	0.58
19:N:93:LYS:O	19:N:94:VAL:HB	2.04	0.58
21:P:94:GLU:OE2	21:P:127:ILE:HD12	2.04	0.58
23:R:82:ALA:O	23:R:83:LEU:O	2.21	0.58
25:T:42:GLY:HA3	29:X:2310:G:O4'	2.04	0.58
29:X:1213:U:H2'	29:X:1214:C:C6	2.39	0.58
29:X:1227:A:H4'	29:X:1252:C:H4'	1.86	0.58
29:X:1724:C:O2'	29:X:1725:C:H5'	2.03	0.58
29:X:2308:A:H2'	29:X:2309:G:C8	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2438:A:C6	29:X:2439:U:C2	2.92	0.58
29:X:2661:G:O2'	29:X:2662:C:H5'	2.03	0.58
29:X:571:U:O2'	29:X:581:A:C1'	2.52	0.58
31:Z:107:C:H2'	31:Z:108:G:O4'	2.03	0.58
31:Z:36:A:O2'	31:Z:37:C:H5	1.87	0.58
4:4:18:ARG:HH11	4:4:23:VAL:HG22	1.67	0.58
13:H:47:VAL:CG1	13:H:115:ALA:CB	2.80	0.58
14:I:18:ARG:HB2	14:I:21:ARG:HD3	1.84	0.58
15:J:64:LYS:HZ3	15:J:110:VAL:HG13	1.68	0.58
17:L:18:ARG:NE	29:X:2357:A:H61	2.01	0.58
23:R:90:LYS:CG	23:R:108:VAL:HG21	2.33	0.58
23:R:32:GLN:NE2	23:R:50:GLY:HA2	2.19	0.58
29:X:1399:C:H2'	29:X:1400:A:H8	1.67	0.58
29:X:1442:C:O2'	29:X:1443:G:OP1	2.17	0.58
29:X:1722:G:C6	29:X:1723:U:N3	2.72	0.58
29:X:1724:C:H2'	29:X:1725:C:C6	2.39	0.58
29:X:230:C:O2'	29:X:231:G:H5'	2.04	0.58
29:X:2560:G:C4	29:X:2589:C:N4	2.72	0.58
29:X:350:U:O5'	29:X:350:U:H6	1.87	0.58
29:X:478:G:C6	29:X:479:G:N7	2.72	0.58
29:X:538:A:C2	29:X:2025:A:C6	2.92	0.58
6:A:257:LEU:HD22	29:X:1795:C:OP1	2.03	0.58
9:D:124:GLY:HA2	9:D:163:ASP:OD2	2.03	0.58
9:D:74:ILE:HG23	9:D:80:ARG:HA	1.86	0.58
12:G:42:VAL:CG1	12:G:43:VAL:N	2.67	0.58
15:J:39:GLU:HB3	15:J:128:ILE:CG2	2.34	0.58
17:L:72:GLY:O	17:L:107:ALA:HB2	2.04	0.58
18:M:27:PHE:HB3	18:M:93:ILE:CD1	2.33	0.58
19:N:29:SER:O	19:N:30:LYS:CD	2.52	0.58
19:N:79:PHE:CE2	19:N:95:LEU:HD21	2.38	0.58
21:P:31:VAL:HG11	21:P:124:ILE:HD11	1.86	0.58
27:V:22:LYS:HA	27:V:25:LEU:HB3	1.84	0.58
29:X:1030:U:H4'	29:X:1132:C:O2	2.03	0.58
29:X:170:U:H2'	29:X:171:G:C8	2.38	0.58
29:X:166:G:N2	29:X:183:U:C5	2.72	0.58
29:X:2234:G:H2'	29:X:2235:G:O4'	2.04	0.58
29:X:2241:U:H4'	29:X:2307:A:C2	2.38	0.58
29:X:2327:U:O4	29:X:2361:G:C2	2.56	0.58
29:X:2669:C:N4	29:X:2693:U:O3'	2.37	0.58
7:B:145:LYS:HE3	29:X:583:C:O2	2.04	0.58
29:X:717:G:N2	29:X:739:G:C4	2.71	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:968:C:N4	29:X:970:A:C4	2.72	0.58
7:B:156:MET:CE	29:X:2033:C:H1'	2.33	0.58
8:C:117:LEU:HD23	8:C:118:VAL:N	2.19	0.58
9:D:57:LEU:HD23	9:D:60:ILE:HD11	1.85	0.58
12:G:162:LYS:HZ3	29:X:2873:G:H21	1.51	0.58
12:G:79:PHE:CE2	12:G:147:ARG:HG2	2.39	0.58
15:J:18:MET:HG2	15:J:19:THR:N	2.19	0.58
15:J:26:ASP:HB3	15:J:68:ARG:NH2	2.16	0.58
19:N:39:LEU:HA	19:N:42:ALA:CB	2.34	0.58
20:O:12:TYR:HB2	20:O:39:PHE:HA	1.86	0.58
21:P:85:MET:HE1	21:P:129:ALA:HA	1.85	0.58
22:Q:35:LYS:C	22:Q:38:ILE:HG23	2.24	0.58
23:R:48:VAL:HG12	23:R:50:GLY:H	1.68	0.58
24:S:54:ILE:HG22	24:S:54:ILE:O	2.02	0.58
25:T:31:VAL:HG22	25:T:67:VAL:CG2	2.34	0.58
29:X:1072:U:H4'	29:X:1073:G:OP2	2.03	0.58
29:X:1339:U:H5	29:X:1664:G:O2'	1.86	0.58
29:X:1685:A:H2'	29:X:1691:G:N7	2.18	0.58
29:X:1745:C:H2'	29:X:1746:A:C8	2.38	0.58
29:X:1777:A:O2'	29:X:1778:U:OP1	2.19	0.58
29:X:1937:G:H2'	29:X:1939:U:O4	2.03	0.58
29:X:21:A:C6	29:X:22:C:C4	2.92	0.58
29:X:2366:U:C6	29:X:2366:U:H3'	2.38	0.58
29:X:1937:G:N2	29:X:2530:C:OP1	2.37	0.58
29:X:2687:G:O5'	29:X:2687:G:H8	1.87	0.58
29:X:405:C:C2	29:X:406:G:C8	2.92	0.58
29:X:471:A:C2	29:X:481:A:C4	2.92	0.58
29:X:666:U:H3'	29:X:667:U:H5"	1.85	0.58
29:X:760:U:C6	30:Y:3:LYS:HG3	2.39	0.58
29:X:834:A:H5'	29:X:835:U:H5	1.69	0.58
29:X:940:G:OP1	29:X:940:G:H4'	2.04	0.58
30:Y:6:VAL:HG22	30:Y:7:PRO:HD2	1.86	0.58
4:4:17:VAL:HG12	4:4:18:ARG:H	1.68	0.57
4:4:4:ARG:O	4:4:36:GLN:HA	2.04	0.57
6:A:226:MET:HE2	6:A:231:HIS:HB2	1.85	0.57
6:A:42:GLY:C	6:A:43:ARG:HH11	2.07	0.57
9:D:65:PRO:HB2	9:D:87:ILE:HG22	1.86	0.57
12:G:150:VAL:C	12:G:151:TYR:CD1	2.77	0.57
13:H:47:VAL:O	13:H:47:VAL:HG12	2.03	0.57
14:I:58:ALA:C	14:I:59:ARG:HD2	2.25	0.57
14:I:54:SER:OG	14:I:59:ARG:CZ	2.52	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:76:ALA:HB1	17:L:111:GLY:N	2.19	0.57
19:N:61:TRP:O	19:N:65:ILE:HG13	2.04	0.57
21:P:105:ARG:NH1	29:X:1337:G:OP2	2.37	0.57
29:X:1774:A:C2	29:X:2566:A:C5	2.92	0.57
29:X:2222:U:C2	29:X:2223:U:C5	2.92	0.57
29:X:2298:U:H4'	29:X:2299:A:C8	2.38	0.57
29:X:2404:A:P	29:X:2406:C:H5'	2.44	0.57
29:X:2470:U:H2'	29:X:2470:U:O2	2.04	0.57
29:X:2800:C:H2'	29:X:2801:A:H5'	1.85	0.57
26:U:47:HIS:ND1	29:X:410:A:OP1	2.37	0.57
29:X:558:G:P	29:X:558:G:O4'	2.62	0.57
29:X:766:A:O2'	29:X:767:G:H5'	2.04	0.57
29:X:810:U:H3'	29:X:810:U:C6	2.39	0.57
29:X:991:A:H8	29:X:991:A:O5'	1.87	0.57
7:B:116:VAL:H	7:B:136:ARG:CD	2.14	0.57
7:B:31:CYS:CB	7:B:49:ILE:HD11	2.32	0.57
8:C:175:VAL:O	8:C:176:ASN:CB	2.52	0.57
8:C:147:LYS:CB	8:C:183:HIS:HB3	2.33	0.57
8:C:48:ARG:HB2	8:C:51:VAL:CG2	2.30	0.57
8:C:48:ARG:HD2	8:C:48:ARG:N	2.17	0.57
10:E:44:ARG:HH22	10:E:46:ASP:CB	2.17	0.57
16:K:47:PHE:O	16:K:50:GLN:HB2	2.04	0.57
18:M:11:GLU:O	18:M:12:LEU:C	2.42	0.57
21:P:99:ALA:HA	21:P:122:SER:HA	1.86	0.57
22:Q:22:ARG:CZ	22:Q:24:VAL:HG21	2.34	0.57
25:T:31:VAL:HG23	25:T:65:GLY:O	2.05	0.57
28:W:5:LEU:HA	28:W:51:LEU:HD23	1.84	0.57
29:X:1168:G:H2'	29:X:1169:C:C6	2.39	0.57
29:X:1685:A:C6	29:X:1976:U:C5	2.92	0.57
29:X:1976:U:O2'	29:X:1977:C:H5'	2.04	0.57
29:X:760:U:O2	29:X:1997:A:H1'	2.03	0.57
29:X:2031:A:C2'	29:X:2032:G:O5'	2.51	0.57
29:X:2053:G:C2	29:X:2421:C:C2	2.92	0.57
29:X:2603:G:C6	29:X:2604:G:C5	2.93	0.57
29:X:683:A:O2'	29:X:684:C:P	2.63	0.57
29:X:577:U:OP1	29:X:956:A:N6	2.37	0.57
6:A:46:ARG:NE	29:X:1383:C:OP1	2.36	0.57
7:B:39:ALA:HA	7:B:43:GLY:C	2.24	0.57
9:D:38:GLU:HG2	9:D:57:LEU:HD11	1.86	0.57
16:K:60:LEU:O	16:K:63:ARG:N	2.37	0.57
18:M:60:SER:HA	18:M:64:LYS:HB2	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:25:TRP:CE3	19:N:26:GLY:HA3	2.38	0.57
21:P:93:LYS:HB2	21:P:129:ALA:HB3	1.87	0.57
29:X:82:G:N2	29:X:100:G:H2'	2.18	0.57
29:X:1277:G:O6	29:X:1278:A:N6	2.37	0.57
16:K:40:LYS:HG3	29:X:1668:G:OP1	2.04	0.57
29:X:2000:U:H4'	30:Y:8:LYS:O	2.04	0.57
29:X:2633:A:H5''	29:X:2634:G:OP1	2.04	0.57
29:X:554:U:H5''	29:X:556:A:C2	2.39	0.57
29:X:704:G:H2'	29:X:705:C:H6	1.68	0.57
29:X:788:G:O2'	29:X:789:G:OP2	2.18	0.57
29:X:848:A:O2'	29:X:849:G:H5'	2.03	0.57
6:A:94:LEU:HG	6:A:94:LEU:O	2.04	0.57
7:B:55:ALA:HB3	7:B:58:LYS:HE3	1.87	0.57
7:B:77:ILE:CD1	18:M:3:THR:HG22	2.34	0.57
8:C:185:ARG:HG2	8:C:185:ARG:HH21	1.70	0.57
9:D:136:LEU:HD21	9:D:149:THR:HG23	1.86	0.57
10:E:6:LYS:HD3	10:E:69:ARG:HH21	1.67	0.57
13:H:119:ARG:HH11	13:H:119:ARG:HG3	1.69	0.57
14:I:32:ARG:HD2	20:O:81:ARG:CD	2.35	0.57
15:J:107:VAL:HG21	15:J:115:ALA:HB1	1.87	0.57
21:P:62:ARG:HG3	21:P:62:ARG:NH1	2.18	0.57
26:U:45:ASN:HA	29:X:2210:C:OP1	2.04	0.57
29:X:1348:C:H2'	29:X:1349:A:H8	1.69	0.57
29:X:1666:G:H2'	29:X:1667:A:H8	1.67	0.57
29:X:1968:G:H2'	29:X:1969:G:O5'	2.04	0.57
29:X:2197:U:C4	29:X:2198:U:O4	2.57	0.57
29:X:227:G:H2'	29:X:228:A:C8	2.38	0.57
29:X:2306:A:C5	29:X:2367:A:N1	2.73	0.57
29:X:2333:A:N6	29:X:2343:C:H42	2.02	0.57
29:X:2441:U:H2'	29:X:2442:C:H6	1.69	0.57
29:X:2663:U:N3	29:X:2664:G:N7	2.51	0.57
29:X:2817:A:N1	29:X:2851:G:C6	2.73	0.57
29:X:310:A:H2	29:X:331:U:H4'	1.68	0.57
29:X:417:C:C6	29:X:419:G:C8	2.93	0.57
6:A:92:ILE:CG2	6:A:104:TYR:HB3	2.35	0.57
7:B:34:VAL:HG12	7:B:72:VAL:HG21	1.85	0.57
8:C:130:THR:HA	8:C:160:ALA:HB1	1.87	0.57
11:F:112:MET:HG2	11:F:113:PRO:HD3	1.87	0.57
14:I:45:LYS:HD3	14:I:46:GLY:N	2.17	0.57
21:P:52:ASP:O	21:P:55:ASP:N	2.37	0.57
26:U:19:ILE:O	29:X:393:U:H4'	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:51:ILE:HD13	26:U:59:THR:HG22	1.86	0.57
27:V:13:ASP:O	27:V:16:LYS:HB3	2.04	0.57
27:V:41:HIS:CD2	27:V:42:ARG:H	2.22	0.57
29:X:1355:A:O2'	29:X:1356:G:OP1	2.23	0.57
29:X:1428:G:H22	29:X:1602:G:C5'	2.17	0.57
29:X:2047:C:O2	29:X:2429:A:C6	2.57	0.57
29:X:422:C:H2'	29:X:423:G:H8	1.70	0.57
29:X:957:G:C4	29:X:958:G:C8	2.93	0.57
31:Z:18:G:C2	31:Z:19:C:C6	2.93	0.57
9:D:132:ILE:HG22	9:D:133:LYS:N	2.20	0.57
12:G:131:VAL:C	12:G:133:GLY:N	2.57	0.57
13:H:70:VAL:CG2	13:H:71:LYS:N	2.67	0.57
8:C:28:HIS:CE1	14:I:21:ARG:NH1	2.73	0.57
21:P:91:PHE:CE1	21:P:131:LYS:HA	2.40	0.57
21:P:57:LEU:HD13	21:P:69:ALA:CA	2.29	0.57
24:S:19:ILE:HG12	24:S:36:ARG:CA	2.32	0.57
29:X:116:A:C8	29:X:117:A:C8	2.92	0.57
29:X:1742:G:H2'	29:X:1743:C:H6	1.68	0.57
29:X:1758:C:O2'	29:X:1759:A:H5'	2.04	0.57
29:X:204:A:N7	29:X:2386:G:H5'	2.19	0.57
29:X:239:A:H2'	29:X:240:U:O4'	2.04	0.57
29:X:2594:U:H6	29:X:2594:U:H5'	1.65	0.57
29:X:2697:G:O2'	29:X:2698:G:H5'	2.05	0.57
29:X:2708:U:C2'	29:X:2709:C:C6	2.84	0.57
29:X:42:G:H2'	29:X:43:A:C8	2.40	0.57
29:X:492:G:H1'	29:X:516:G:N2	2.19	0.57
29:X:517:A:H5''	29:X:518:A:C5'	2.26	0.57
29:X:517:A:C5'	29:X:518:A:H5'	2.26	0.57
29:X:877:G:H1'	29:X:926:C:N4	2.18	0.57
12:G:42:VAL:HG11	12:G:168:THR:OG1	2.05	0.57
15:J:9:LYS:HG3	29:X:884:C:OP1	2.04	0.57
24:S:90:GLU:N	24:S:127:PRO:HG2	2.20	0.57
24:S:155:PRO:HG2	24:S:158:CYS:SG	2.44	0.57
24:S:64:ALA:HB2	24:S:85:MET:HE2	1.86	0.57
25:T:32:LYS:CB	25:T:35:ASN:ND2	2.67	0.57
25:T:47:ALA:HB1	25:T:51:VAL:O	2.04	0.57
22:Q:54:SER:HB2	29:X:1354:A:H1'	1.87	0.57
15:J:47:GLN:HE21	29:X:2464:G:H5'	1.70	0.57
29:X:2849:C:H2'	29:X:2849:C:O2	2.05	0.57
14:I:101:ARG:HD3	29:X:637:G:C6	2.40	0.57
29:X:729:A:N3	29:X:730:C:OP2	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:39:GLY:HA2	9:D:86:GLY:CA	2.35	0.57
11:F:112:MET:N	11:F:113:PRO:CD	2.68	0.57
12:G:101:THR:HG1	12:G:103:TYR:HE1	1.51	0.57
7:B:151:TYR:HB3	12:G:106:TYR:CE2	2.39	0.57
12:G:40:ASN:HB3	12:G:78:ASP:CB	2.35	0.57
13:H:47:VAL:H	13:H:77:THR:HG21	1.69	0.57
14:I:128:ALA:HA	14:I:131:LYS:HB2	1.86	0.57
15:J:6:LYS:CE	15:J:7:ARG:HE	2.10	0.57
22:Q:65:VAL:HG12	22:Q:66:GLY:N	2.14	0.57
27:V:22:LYS:HA	27:V:25:LEU:CB	2.35	0.57
29:X:1069:G:C3'	29:X:1070:G:H5''	2.35	0.57
22:Q:61:LYS:HD3	29:X:1325:U:OP2	2.05	0.57
29:X:1923:U:O2'	29:X:1924:C:P	2.62	0.57
29:X:2340:C:H2'	29:X:2341:G:H5'	1.87	0.57
29:X:2741:G:O2'	29:X:2742:G:H5'	2.04	0.57
29:X:2791:C:H2'	29:X:2792:C:H6	1.70	0.57
29:X:428:A:H2'	29:X:429:C:C6	2.40	0.57
31:Z:39:C:N4	31:Z:51:G:O4'	2.38	0.57
12:G:104:THR:OG1	12:G:110:LEU:HB3	2.05	0.57
13:H:116:ARG:HB2	13:H:133:VAL:HG12	1.87	0.57
16:K:53:THR:O	16:K:56:LYS:HB3	2.04	0.57
17:L:33:ARG:H	17:L:94:TYR:HE1	1.52	0.57
18:M:32:THR:HG21	18:M:91:VAL:CG1	2.35	0.57
19:N:11:ARG:HH22	29:X:29:U:C4'	2.17	0.57
19:N:28:ARG:HE	29:X:542:A:H8	1.53	0.57
12:G:70:PHE:HB2	19:N:64:ARG:NE	2.19	0.57
20:O:34:GLU:HB2	20:O:56:VAL:CG2	2.35	0.57
25:T:25:LYS:HB2	25:T:37:LEU:CB	2.34	0.57
27:V:45:GLN:NE2	27:V:49:GLU:OE2	2.38	0.57
29:X:1057:A:C2'	29:X:1057:A:N3	2.68	0.57
29:X:1226:A:N1	29:X:1250:A:H1'	2.20	0.57
29:X:1251:G:O2'	29:X:1252:C:H5'	2.05	0.57
29:X:1319:C:C2'	29:X:1320:A:H5'	2.35	0.57
29:X:138:G:O2'	29:X:139:A:H5'	2.04	0.57
29:X:1391:A:H2'	29:X:1393:G:N7	2.20	0.57
29:X:1426:U:C2'	29:X:1427:G:H5'	2.34	0.57
29:X:178:C:C2'	29:X:179:U:H5'	2.35	0.57
29:X:1978:U:C3'	29:X:1979:C:H5''	2.32	0.57
29:X:805:G:N7	29:X:2419:C:H1'	2.20	0.57
29:X:2446:C:H2'	29:X:2447:G:O4'	2.04	0.57
29:X:2038:C:H2'	29:X:2483:U:H5'	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2489:C:C4	29:X:2490:U:C5	2.93	0.57
29:X:2522:G:H2'	29:X:2523:G:C8	2.39	0.57
7:B:136:ARG:HH11	7:B:136:ARG:HG2	1.69	0.57
7:B:133:LYS:HG3	7:B:137:ARG:HG2	1.86	0.57
16:K:33:ARG:HB2	16:K:114:GLU:CB	2.35	0.57
13:H:116:ARG:NH2	18:M:40:ARG:HB2	2.19	0.57
22:Q:12:ILE:N	22:Q:12:ILE:HD13	2.20	0.57
24:S:137:ASP:OD2	24:S:138:VAL:N	2.38	0.57
25:T:40:GLN:HE21	25:T:43:THR:HA	1.68	0.57
29:X:2759:U:H4'	29:X:2760:G:H5''	1.86	0.57
29:X:2862:G:O2'	29:X:2863:U:H5'	2.05	0.57
8:C:74:VAL:CG2	8:C:76:THR:OG1	2.52	0.56
12:G:90:LEU:N	12:G:90:LEU:HD12	2.20	0.56
13:H:70:VAL:HG21	13:H:98:ILE:CG2	2.35	0.56
14:I:18:ARG:HG3	14:I:21:ARG:HD3	1.86	0.56
15:J:51:CYS:SG	15:J:126:LEU:HD21	2.45	0.56
16:K:11:ASN:ND2	16:K:17:ARG:NH1	2.47	0.56
29:X:1053:G:H2'	29:X:1054:C:O4'	2.04	0.56
29:X:1247:U:C2'	29:X:1248:G:H5'	2.35	0.56
29:X:1286:U:C6	29:X:1986:G:H4'	2.40	0.56
29:X:1429:A:H2	29:X:1599:G:H21	1.53	0.56
29:X:244:C:C2'	29:X:245:C:H5''	2.34	0.56
29:X:2850:U:C2	29:X:2851:G:C8	2.93	0.56
29:X:433:G:N2	29:X:434:C:H1'	2.20	0.56
6:A:145:LEU:HD12	6:A:146:GLU:H	1.69	0.56
8:C:104:LEU:O	8:C:107:ALA:HB3	2.04	0.56
8:C:128:ALA:O	8:C:130:THR:N	2.38	0.56
8:C:179:ASP:O	8:C:182:ARG:HB3	2.05	0.56
8:C:151:VAL:HG23	8:C:186:LEU:HD11	1.85	0.56
9:D:57:LEU:HA	9:D:60:ILE:CD1	2.34	0.56
10:E:96:ALA:HB1	10:E:103:LEU:CD1	2.34	0.56
13:H:48:GLY:N	13:H:74:VAL:O	2.38	0.56
23:R:22:VAL:HG12	23:R:23:ILE:H	1.69	0.56
23:R:86:PRO:HD3	23:R:90:LYS:HD3	1.87	0.56
26:U:28:GLY:HA3	26:U:32:ARG:CA	2.35	0.56
29:X:2021:G:C2	29:X:2022:C:C2	2.94	0.56
29:X:2628:C:O2'	29:X:2629:U:H5'	2.05	0.56
31:Z:75:A:C2	31:Z:76:U:H1'	2.40	0.56
6:A:208:LYS:HE3	29:X:1782:A:C1'	2.26	0.56
7:B:123:ALA:C	7:B:124:GLY:O	2.40	0.56
7:B:31:CYS:HB3	7:B:49:ILE:HG12	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:20:PRO:HG2	8:C:21:GLU:H	1.70	0.56
8:C:86:PRO:HB3	29:X:1261:G:OP1	2.05	0.56
10:E:52:VAL:HG11	10:E:68:THR:HG21	1.87	0.56
11:F:13:PRO:HA	11:F:52:ILE:HG12	1.86	0.56
14:I:63:ARG:O	14:I:64:GLY:C	2.43	0.56
20:O:36:LYS:HZ2	20:O:54:TYR:HB3	1.68	0.56
23:R:98:ILE:HG22	23:R:99:VAL:N	2.19	0.56
24:S:63:PRO:HB2	24:S:86:VAL:CG2	2.34	0.56
26:U:70:LEU:HD22	26:U:79:GLU:HG2	1.87	0.56
28:W:37:THR:HG21	29:X:940:G:OP1	2.06	0.56
29:X:588:G:C2	29:X:1275:A:C5	2.93	0.56
29:X:174:A:C4	29:X:175:C:O2	2.58	0.56
29:X:1783:G:N1	29:X:1820:G:H1'	2.19	0.56
29:X:2165:A:H2'	29:X:2166:G:H8	1.70	0.56
29:X:2676:G:C2	29:X:2690:A:C2	2.94	0.56
29:X:2702:G:O2'	29:X:2703:C:H5'	2.05	0.56
29:X:706:A:H2'	29:X:707:U:C6	2.40	0.56
29:X:788:G:H5'	29:X:790:A:C1'	2.35	0.56
29:X:799:C:C2'	29:X:800:U:H5'	2.35	0.56
29:X:1275:A:N3	30:Y:10:LYS:HE2	2.20	0.56
31:Z:19:C:H2'	31:Z:20:A:O4'	2.05	0.56
8:C:115:GLY:HA3	8:C:185:ARG:HD2	1.87	0.56
10:E:103:LEU:HD23	10:E:115:ILE:HD12	1.86	0.56
11:F:40:ALA:O	11:F:43:ALA:HB3	2.05	0.56
12:G:55:ALA:C	12:G:134:MET:HE3	2.25	0.56
13:H:116:ARG:HG3	13:H:116:ARG:NH1	2.11	0.56
15:J:55:MET:O	15:J:56:SER:C	2.44	0.56
17:L:33:ARG:HG2	17:L:38:ILE:HB	1.87	0.56
21:P:26:ALA:HB1	21:P:74:SER:HB3	1.88	0.56
23:R:59:LYS:O	23:R:60:PRO:O	2.24	0.56
24:S:72:ASP:O	24:S:75:LYS:O	2.23	0.56
26:U:14:VAL:HB	26:U:47:HIS:NE2	2.21	0.56
28:W:25:LEU:O	28:W:26:ARG:HD3	2.05	0.56
29:X:1041:G:O2'	29:X:1042:G:H5'	2.06	0.56
29:X:10:A:H2'	29:X:11:G:C8	2.41	0.56
29:X:1039:A:C5	29:X:1136:G:N2	2.73	0.56
29:X:1216:G:C6	29:X:1217:U:C4	2.93	0.56
29:X:1247:U:O2'	29:X:1248:G:H5'	2.06	0.56
29:X:1253:C:H5'	29:X:1253:C:H6	1.71	0.56
29:X:1782:A:N6	29:X:1820:G:H2'	2.21	0.56
29:X:1804:U:H2'	29:X:1805:G:C8	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1886:G:H2'	29:X:1887:G:C8	2.29	0.56
29:X:1919:A:C2	29:X:1926:U:C4	2.93	0.56
29:X:1982:C:O2'	29:X:1983:G:H5'	2.06	0.56
9:D:71:LYS:HB2	29:X:2291:U:OP1	2.04	0.56
29:X:2325:A:O2'	29:X:2326:C:OP2	2.18	0.56
29:X:2426:G:C4	29:X:2480:C:C4	2.93	0.56
29:X:1750:A:N7	29:X:2675:U:H1'	2.20	0.56
29:X:2691:C:HO2'	29:X:2692:A:H8	1.50	0.56
29:X:2737:A:N3	29:X:2737:A:H2'	2.21	0.56
30:Y:12:SER:C	30:Y:14:SER:N	2.53	0.56
6:A:249:PRO:HB3	29:X:2218:G:H5'	1.87	0.56
7:B:120:TRP:O	7:B:121:ASN:CB	2.53	0.56
7:B:134:TRP:O	7:B:135:HIS:O	2.23	0.56
12:G:118:ALA:O	12:G:121:LYS:HG3	2.04	0.56
15:J:27:TYR:HB3	15:J:137:VAL:CG2	2.34	0.56
17:L:60:LYS:HG2	17:L:62:GLY:H	1.70	0.56
19:N:114:ARG:C	19:N:116:ALA:H	2.08	0.56
26:U:52:ARG:HD2	26:U:79:GLU:HA	1.88	0.56
28:W:18:LYS:O	28:W:21:GLN:HB3	2.06	0.56
29:X:1337:G:O2'	29:X:1632:A:N1	2.38	0.56
29:X:1846:A:H2'	29:X:1847:G:O4'	2.05	0.56
29:X:201:G:H2'	29:X:202:A:H8	1.69	0.56
29:X:2332:G:C6	29:X:2344:G:N2	2.74	0.56
29:X:2333:A:C2	29:X:2343:C:N3	2.73	0.56
29:X:2691:C:O2'	29:X:2692:A:O5'	2.23	0.56
29:X:553:C:H2'	29:X:557:U:C5	2.41	0.56
8:C:31:VAL:O	8:C:34:GLN:HB2	2.05	0.56
8:C:58:MET:SD	8:C:69:HIS:HB2	2.45	0.56
8:C:47:THR:HA	8:C:82:VAL:HB	1.87	0.56
10:E:28:GLY:HA3	10:E:79:VAL:CB	2.35	0.56
10:E:51:LEU:HD12	10:E:52:VAL:H	1.69	0.56
12:G:131:VAL:C	12:G:133:GLY:H	2.06	0.56
15:J:30:PHE:HB3	15:J:66:TYR:CD2	2.40	0.56
17:L:35:SER:C	17:L:36:LYS:HD2	2.25	0.56
17:L:94:TYR:CD2	17:L:94:TYR:N	2.73	0.56
22:Q:14:GLU:HG3	22:Q:15:LYS:N	2.19	0.56
27:V:31:GLN:HA	27:V:34:ALA:HB3	1.87	0.56
28:W:2:LYS:HB3	28:W:54:GLN:HB2	1.85	0.56
29:X:1088:A:H2	29:X:1099:A:C2	2.23	0.56
29:X:1200:G:H2'	29:X:1201:G:C8	2.40	0.56
29:X:1470:G:O2'	29:X:1471:G:H5'	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1683:G:C2'	29:X:1684:G:C5'	2.84	0.56
29:X:2228:U:H1'	29:X:2254:C:H41	1.69	0.56
29:X:2314:A:O2'	29:X:2315:A:H8	1.88	0.56
29:X:2506:C:O2'	29:X:2507:U:H5'	2.05	0.56
29:X:629:C:H2'	29:X:630:G:O4'	2.05	0.56
29:X:715:U:O2'	29:X:716:U:H5'	2.04	0.56
29:X:73:A:O2'	29:X:74:G:OP2	2.22	0.56
9:D:92:ARG:NH1	31:Z:47:A:C8	2.73	0.56
6:A:63:ARG:HH11	6:A:63:ARG:HG2	1.71	0.56
11:F:5:ALA:HB2	11:F:60:TYR:O	2.06	0.56
15:J:35:LEU:HD12	15:J:36:ILE:H	1.70	0.56
17:L:36:LYS:HA	17:L:36:LYS:HE3	1.87	0.56
20:O:10:LYS:HE3	20:O:11:GLN:HG2	1.87	0.56
22:Q:75:ARG:HG3	22:Q:75:ARG:HH11	1.70	0.56
23:R:105:ARG:NH1	23:R:113:THR:N	2.53	0.56
24:S:122:ILE:HB	24:S:159:THR:O	2.06	0.56
26:U:13:LEU:HG	26:U:14:VAL:N	2.20	0.56
29:X:998:C:H1'	29:X:1012:A:H1'	1.86	0.56
29:X:1053:G:C4	29:X:1054:C:C6	2.93	0.56
29:X:1129:A:OP1	29:X:1129:A:H4'	2.05	0.56
29:X:140:G:H2'	29:X:141:G:C8	2.41	0.56
29:X:1621:C:H4'	29:X:1626:A:C6	2.40	0.56
29:X:176:A:H2'	29:X:177:U:C5	2.39	0.56
29:X:1856:U:H3	29:X:1861:G:H1	1.54	0.56
29:X:2007:G:H2'	29:X:2008:C:C6	2.41	0.56
29:X:2029:G:C5'	30:Y:19:ARG:HA	2.36	0.56
29:X:207:U:O5'	29:X:207:U:H6	1.89	0.56
9:D:155:THR:HG21	29:X:2293:G:H4'	1.88	0.56
29:X:2407:G:H5''	29:X:2408:G:OP1	2.06	0.56
29:X:2592:U:O2'	29:X:2592:U:C6	2.51	0.56
16:K:3:HIS:CE1	29:X:2796:A:OP2	2.59	0.56
29:X:2825:A:C2	29:X:2826:C:C2	2.93	0.56
8:C:48:ARG:CB	8:C:51:VAL:HG22	2.31	0.56
10:E:9:ILE:HD12	10:E:51:LEU:N	2.21	0.56
14:I:18:ARG:CB	14:I:21:ARG:HB2	2.21	0.56
14:I:61:PRO:O	14:I:62:LYS:HB2	2.06	0.56
16:K:87:TYR:CE1	16:K:94:TYR:CD2	2.87	0.56
13:H:83:ARG:HG2	18:M:40:ARG:NH2	2.20	0.56
19:N:93:LYS:HD3	20:O:5:ILE:CG2	2.36	0.56
20:O:13:ARG:HE	20:O:95:ILE:HG13	1.71	0.56
23:R:90:LYS:HD2	23:R:108:VAL:HG21	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:64:ALA:CA	24:S:85:MET:HA	2.34	0.56
26:U:48:LYS:NZ	26:U:48:LYS:HB2	2.21	0.56
29:X:1288:A:H61	29:X:1309:G:H5'	1.70	0.56
29:X:1635:G:O2'	29:X:1636:G:H5'	2.06	0.56
29:X:170:U:O2'	29:X:171:G:H5'	2.06	0.56
29:X:2081:U:H2'	29:X:2082:C:O4'	2.06	0.56
29:X:2807:U:H4'	29:X:2808:U:C5'	2.33	0.56
29:X:689:A:H8	29:X:2422:C:H1'	1.66	0.56
29:X:76:C:H5'	29:X:76:C:C6	2.35	0.56
8:C:58:MET:HE1	8:C:71:ASP:O	2.06	0.56
9:D:11:GLN:O	9:D:15:ALA:HB3	2.05	0.56
13:H:7:ARG:HD3	13:H:18:GLU:CD	2.26	0.56
15:J:27:TYR:CZ	15:J:133:VAL:HG11	2.41	0.56
18:M:33:VAL:O	18:M:92:THR:HG22	2.06	0.56
13:H:83:ARG:HE	18:M:40:ARG:CZ	2.19	0.56
21:P:109:ARG:HG3	21:P:110:ALA:H	1.71	0.56
21:P:31:VAL:CG2	21:P:124:ILE:HG13	2.34	0.56
21:P:85:MET:HE3	21:P:130:GLU:HG3	1.88	0.56
27:V:27:GLU:O	27:V:31:GLN:HG3	2.05	0.56
18:M:101:ARG:NH2	29:X:1745:C:OP1	2.34	0.56
29:X:2083:G:H1	29:X:2172:U:H3	1.54	0.56
29:X:2266:A:N1	29:X:2268:G:H1'	2.20	0.56
29:X:2399:C:O5'	29:X:2399:C:H6	1.89	0.56
29:X:24:G:C2	29:X:25:U:C2	2.94	0.56
29:X:349:G:H2'	29:X:350:U:C6	2.41	0.56
29:X:466:A:H4'	29:X:467:U:O5'	2.04	0.56
29:X:48:A:H1'	29:X:50:G:N3	2.21	0.56
14:I:109:LEU:HD22	29:X:648:A:OP2	2.06	0.56
25:T:29:GLU:HG2	29:X:935:C:H4'	1.87	0.56
29:X:956:A:H5'	29:X:957:G:OP2	2.06	0.56
30:Y:33:CYS:O	30:Y:37:HIS:HA	2.05	0.56
31:Z:67:C:C2'	31:Z:68:A:H5'	2.36	0.56
7:B:63:MET:O	7:B:66:HIS:N	2.38	0.56
7:B:72:VAL:O	7:B:73:ALA:HB2	2.05	0.56
8:C:111:ARG:HH12	8:C:181:LEU:HA	1.71	0.56
8:C:139:GLN:HA	8:C:139:GLN:HE21	1.70	0.56
9:D:13:ARG:CZ	9:D:14:PRO:HG3	2.35	0.56
12:G:106:TYR:O	12:G:110:LEU:HG	2.04	0.56
12:G:49:VAL:CG1	12:G:50:PRO:HD2	2.36	0.56
13:H:62:GLY:O	13:H:65:LYS:NZ	2.37	0.56
13:H:7:ARG:HD3	13:H:18:GLU:OE1	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:130:ILE:HA	14:I:140:VAL:HG21	1.87	0.56
14:I:76:LYS:HE3	14:I:111:SER:HB3	1.88	0.56
15:J:14:PHE:HE2	29:X:2257:A:OP1	1.89	0.56
18:M:37:THR:HG22	18:M:39:VAL:HG13	1.88	0.56
20:O:38:LEU:HD13	20:O:39:PHE:H	1.70	0.56
21:P:109:ARG:NH2	29:X:1996:A:N3	2.53	0.56
29:X:1064:C:H2'	29:X:1065:A:O4'	2.06	0.56
29:X:1270:C:H2'	29:X:1271:C:C6	2.41	0.56
29:X:1549:C:H2'	29:X:1550:C:O4'	2.06	0.56
29:X:2190:A:H8	29:X:2191:A:OP2	1.89	0.56
29:X:2431:C:O2'	29:X:2432:A:H5'	2.06	0.56
29:X:2523:G:H2'	29:X:2524:G:H8	1.71	0.56
29:X:477:A:H2'	29:X:478:G:H5'	1.86	0.56
29:X:674:U:H2'	29:X:675:C:O4'	2.06	0.56
29:X:760:U:C4	30:Y:3:LYS:HG3	2.40	0.56
31:Z:20:A:H2'	31:Z:21:C:H6	1.68	0.56
6:A:156:ALA:HA	6:A:161:THR:HG21	1.87	0.56
7:B:119:ARG:CG	7:B:119:ARG:NH1	2.64	0.56
9:D:4:LEU:CD1	9:D:5:LYS:H	2.17	0.56
14:I:22:GLY:HA2	29:X:674:U:H1'	1.87	0.56
14:I:81:GLN:O	14:I:83:LEU:N	2.39	0.56
16:K:82:GLU:C	16:K:85:PRO:HD2	2.26	0.56
16:K:85:PRO:O	16:K:88:ALA:N	2.35	0.56
18:M:106:TYR:CE1	18:M:107:LEU:HD23	2.38	0.56
20:O:7:THR:HG23	20:O:20:ILE:HD13	1.86	0.56
23:R:56:LYS:HB3	23:R:69:GLN:HG2	1.88	0.56
23:R:60:PRO:C	23:R:62:MET:H	2.09	0.56
24:S:154:LEU:HD13	24:S:158:CYS:O	2.06	0.56
26:U:23:LYS:HB2	26:U:35:THR:HG23	1.88	0.56
29:X:1732:U:H4'	29:X:1733:U:OP2	2.05	0.56
29:X:2322:U:O2'	29:X:2323:U:H1'	2.05	0.56
29:X:2604:G:C6	29:X:2605:C:C4	2.94	0.56
29:X:335:A:N6	29:X:349:G:O2'	2.38	0.56
29:X:594:G:H2'	29:X:595:A:N7	2.20	0.56
29:X:750:C:O2'	29:X:751:G:H5'	2.06	0.56
29:X:825:C:H1'	29:X:1263:G:C2	2.41	0.56
29:X:829:C:N3	29:X:1206:G:C2	2.73	0.56
27:V:40:PRO:HD2	29:X:94:C:O2'	2.06	0.56
6:A:46:ARG:HD3	6:A:46:ARG:C	2.27	0.55
7:B:11:MET:HG2	7:B:24:THR:HG1	1.66	0.55
7:B:142:GLY:C	7:B:143:GLN:NE2	2.60	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:76:ARG:NH1	18:M:4:HIS:HB2	2.21	0.55
9:D:92:ARG:N	9:D:96:MET:HB2	2.21	0.55
11:F:90:THR:CB	11:F:93:LYS:HB2	2.36	0.55
14:I:75:VAL:O	14:I:108:LEU:HD12	2.06	0.55
16:K:45:ARG:O	16:K:49:GLU:HG3	2.06	0.55
16:K:79:VAL:O	16:K:83:VAL:HG13	2.06	0.55
21:P:49:SER:C	21:P:51:GLN:N	2.58	0.55
22:Q:82:LEU:HD11	22:Q:88:ILE:HG22	1.87	0.55
24:S:3:LEU:HD21	24:S:32:PHE:CG	2.40	0.55
24:S:91:PRO:C	24:S:92:VAL:HG22	2.27	0.55
28:W:36:ASP:CG	28:W:41:ARG:HH12	2.08	0.55
28:W:48:LYS:O	28:W:50:LEU:N	2.39	0.55
29:X:1089:C:H1'	29:X:1099:A:H2	1.71	0.55
29:X:1622:G:H4'	29:X:1624:A:N3	2.21	0.55
29:X:2722:C:N4	29:X:2743:G:N2	2.54	0.55
29:X:39:C:H2'	29:X:40:U:C6	2.41	0.55
29:X:983:G:C6	29:X:984:A:C6	2.94	0.55
6:A:149:PRO:CB	29:X:2200:G:O2'	2.55	0.55
6:A:186:HIS:CD2	6:A:188:GLU:HB2	2.35	0.55
8:C:30:VAL:HG11	8:C:177:VAL:HG21	1.88	0.55
9:D:8:TYR:OH	9:D:30:ARG:HB3	2.06	0.55
13:H:7:ARG:HA	13:H:19:ILE:O	2.06	0.55
16:K:24:GLN:HE22	16:K:40:LYS:HD3	1.72	0.55
17:L:36:LYS:NZ	17:L:99:ARG:NH1	2.54	0.55
17:L:60:LYS:O	17:L:61:SER:OG	2.23	0.55
18:M:39:VAL:CG1	18:M:45:THR:HG23	2.36	0.55
19:N:66:ASN:HB3	19:N:76:TYR:CB	2.32	0.55
20:O:69:ILE:HG22	20:O:70:TYR:N	2.21	0.55
26:U:10:LYS:HG2	26:U:11:LYS:N	2.20	0.55
26:U:51:ILE:HG12	26:U:59:THR:HB	1.88	0.55
29:X:1052:C:H3'	29:X:1053:G:H5'	1.86	0.55
29:X:1598:C:H6	29:X:1598:C:O5'	1.90	0.55
29:X:1791:C:H5'	29:X:1792:C:OP1	2.06	0.55
29:X:2075:U:O2	29:X:2075:U:H2'	2.05	0.55
29:X:2618:A:C5	29:X:2619:G:H1'	2.40	0.55
29:X:334:G:O2'	29:X:335:A:OP2	2.22	0.55
29:X:521:U:OP2	29:X:522:G:O6	2.24	0.55
29:X:596:C:O3'	29:X:597:U:H6	1.89	0.55
8:C:98:GLN:NE2	29:X:611:C:O5'	2.35	0.55
29:X:820:U:O2'	29:X:821:A:H5'	2.06	0.55
29:X:932:G:H2'	29:X:933:G:H8	1.70	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:5:C:H2'	31:Z:6:C:O4'	2.07	0.55
12:G:57:LEU:HD22	12:G:170:PRO:HA	1.88	0.55
15:J:61:ARG:HG2	15:J:61:ARG:HH11	1.70	0.55
16:K:39:THR:O	16:K:42:LYS:CB	2.55	0.55
19:N:52:ASN:O	19:N:55:ARG:N	2.39	0.55
19:N:68:GLY:HA2	19:N:71:LEU:HB2	1.88	0.55
21:P:77:ALA:C	21:P:78:ASN:ND2	2.59	0.55
23:R:97:GLN:OE1	23:R:101:GLY:CA	2.54	0.55
23:R:25:LEU:C	23:R:25:LEU:HD22	2.26	0.55
27:V:41:HIS:HD2	27:V:42:ARG:H	1.52	0.55
27:V:50:VAL:HA	27:V:53:LEU:HD12	1.88	0.55
29:X:1194:U:C6	29:X:1194:U:H5'	2.41	0.55
29:X:1281:A:N3	29:X:2592:U:O4	2.39	0.55
29:X:1411:C:O2'	29:X:1412:C:H5'	2.06	0.55
29:X:1683:G:N7	29:X:1684:G:C5	2.75	0.55
6:A:158:SER:HB3	29:X:1810:U:H5''	1.87	0.55
29:X:2010:G:H2'	29:X:2011:U:H6	1.70	0.55
29:X:2177:U:H2'	29:X:2178:U:C6	2.40	0.55
29:X:2324:G:C4	29:X:2326:C:C5	2.94	0.55
29:X:2427:A:O2'	29:X:2428:U:OP1	2.18	0.55
29:X:2506:C:O5'	29:X:2506:C:H6	1.90	0.55
29:X:2523:G:H2'	29:X:2524:G:C8	2.40	0.55
12:G:162:LYS:NZ	29:X:2873:G:H21	2.04	0.55
29:X:638:A:O2'	29:X:639:G:C8	2.57	0.55
29:X:68:C:H3'	29:X:69:G:H8	1.71	0.55
30:Y:46:CYS:C	30:Y:48:ASN:N	2.58	0.55
6:A:182:LEU:O	6:A:183:ARG:HD2	2.06	0.55
7:B:47:VAL:O	7:B:80:GLU:HA	2.05	0.55
9:D:122:PHE:CD2	9:D:129:ASN:HB2	2.42	0.55
9:D:40:LEU:HB3	9:D:150:ARG:NE	2.21	0.55
10:E:165:VAL:C	10:E:167:GLU:H	2.09	0.55
12:G:89:ALA:C	12:G:90:LEU:HD12	2.26	0.55
21:P:80:LEU:O	21:P:84:GLU:N	2.40	0.55
23:R:84:VAL:HG13	23:R:88:THR:O	2.06	0.55
29:X:1073:G:C1'	29:X:1099:A:N7	2.68	0.55
29:X:1141:U:O2'	29:X:1142:G:P	2.64	0.55
29:X:1197:U:H2'	29:X:1198:C:O4'	2.06	0.55
29:X:1263:G:H4'	29:X:1264:C:OP1	2.06	0.55
29:X:1281:A:OP1	29:X:1989:C:OP1	2.23	0.55
29:X:1452:U:O2'	29:X:1453:A:H5'	2.06	0.55
29:X:564:U:H2'	29:X:565:A:C8	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:648:A:C5'	29:X:649:G:H4'	2.32	0.55
29:X:755:C:H2'	29:X:756:C:C6	2.42	0.55
29:X:930:A:O5'	29:X:930:A:C8	2.50	0.55
6:A:163:VAL:HG22	6:A:178:PRO:HD3	1.89	0.55
15:J:98:VAL:HG13	15:J:102:ARG:HG2	1.88	0.55
19:N:10:ARG:O	19:N:11:ARG:C	2.45	0.55
19:N:32:TYR:O	19:N:35:ALA:HB3	2.06	0.55
20:O:36:LYS:HE3	20:O:55:THR:O	2.07	0.55
21:P:39:ARG:HD2	21:P:97:VAL:HB	1.89	0.55
23:R:15:HIS:ND1	23:R:16:PHE:HD2	2.05	0.55
25:T:71:ASN:HD22	25:T:77:ARG:HD3	1.71	0.55
7:B:147:PRO:HG3	29:X:1141:U:C6	2.42	0.55
29:X:1304:U:O2'	29:X:1305:C:H5'	2.06	0.55
29:X:871:U:H2'	29:X:2247:A:N3	2.22	0.55
29:X:2405:A:H4'	29:X:2406:C:OP2	2.07	0.55
29:X:416:U:O2'	29:X:419:G:H1'	2.06	0.55
29:X:636:G:H5'	29:X:636:G:H8	1.71	0.55
29:X:927:C:O2	31:Z:103:A:H4'	2.06	0.55
6:A:182:LEU:HD12	6:A:269:PHE:CD2	2.42	0.55
7:B:54:LYS:CB	7:B:75:THR:O	2.55	0.55
12:G:96:ASP:OD1	12:G:97:ASP:N	2.40	0.55
13:H:10:VAL:CG2	13:H:17:ARG:C	2.75	0.55
15:J:123:GLY:HA2	15:J:126:LEU:HD12	1.88	0.55
19:N:62:ILE:HA	19:N:65:ILE:HD12	1.88	0.55
24:S:117:VAL:HG23	24:S:117:VAL:O	2.05	0.55
14:I:17:LYS:HE2	29:X:1258:G:P	2.46	0.55
29:X:1335:A:O2'	29:X:1336:G:H5'	2.07	0.55
29:X:1377:G:N2	29:X:1380:C:OP2	2.33	0.55
29:X:1581:C:O2'	29:X:1582:A:H8	1.89	0.55
29:X:172:A:H3'	29:X:173:A:C5'	2.37	0.55
29:X:2560:G:C6	29:X:2589:C:C2	2.95	0.55
29:X:2708:U:C4	29:X:2709:C:N4	2.74	0.55
29:X:2811:G:C4	29:X:2812:A:N7	2.75	0.55
29:X:457:C:C2'	29:X:458:G:H5'	2.37	0.55
5:5:7:BB9:SG	11:F:21:PRO:HB3	2.47	0.55
6:A:223:GLY:HA2	6:A:226:MET:HG3	1.87	0.55
8:C:44:SER:OG	29:X:37:C:H1'	2.06	0.55
8:C:48:ARG:C	8:C:50:GLN:N	2.60	0.55
8:C:97:ARG:O	8:C:101:GLN:HG2	2.07	0.55
11:F:103:GLN:O	11:F:107:ILE:HG13	2.07	0.55
11:F:19:PRO:HG2	11:F:21:PRO:CG	2.33	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:119:THR:HG23	14:I:139:ARG:O	2.07	0.55
14:I:18:ARG:CB	14:I:21:ARG:HD3	2.37	0.55
16:K:43:GLU:OE1	16:K:44:LEU:HA	2.07	0.55
12:G:70:PHE:CE1	19:N:67:ALA:HB3	2.41	0.55
20:O:49:GLU:C	20:O:51:ALA:H	2.09	0.55
21:P:49:SER:HB3	21:P:52:ASP:CG	2.27	0.55
29:X:1046:U:H6	29:X:1046:U:H5'	1.71	0.55
29:X:1422:C:H2'	29:X:1423:A:C8	2.42	0.55
29:X:178:C:H2'	29:X:179:U:H5'	1.88	0.55
29:X:1842:G:H5'	29:X:1842:G:H8	1.71	0.55
29:X:2007:G:N2	29:X:2023:C:N1	2.54	0.55
26:U:48:LYS:HE3	29:X:2074:U:H1'	1.88	0.55
29:X:2343:C:H2'	29:X:2344:G:O4'	2.06	0.55
17:L:91:ARG:NH2	29:X:2355:A:H61	2.04	0.55
29:X:2528:G:N3	29:X:2529:G:C8	2.75	0.55
29:X:645:G:H2'	29:X:646:C:C6	2.42	0.55
31:Z:35:C:H2'	31:Z:36:A:O4'	2.07	0.55
8:C:83:ALA:O	8:C:85:GLY:N	2.40	0.55
12:G:106:TYR:CZ	12:G:108:GLY:CA	2.89	0.55
15:J:33:TYR:O	15:J:106:GLU:HB2	2.07	0.55
19:N:10:ARG:O	19:N:13:ARG:HB3	2.07	0.55
19:N:76:TYR:HE2	29:X:1164:C:H5'	1.72	0.55
21:P:85:MET:HE2	21:P:130:GLU:CG	2.33	0.55
23:R:5:SER:O	23:R:6:ALA:HB3	2.07	0.55
27:V:31:GLN:O	27:V:34:ALA:HB3	2.06	0.55
28:W:37:THR:HB	28:W:38:PRO:HD2	1.88	0.55
29:X:1170:U:O2'	29:X:1171:A:H5'	2.06	0.55
29:X:119:G:H2'	29:X:120:G:C8	2.42	0.55
14:I:13:ARG:HE	29:X:1218:C:C1'	2.20	0.55
29:X:1869:A:H2'	29:X:1870:U:O4'	2.06	0.55
29:X:2007:G:N2	29:X:2023:C:C2	2.75	0.55
29:X:2011:U:H2'	29:X:2012:A:O4'	2.07	0.55
29:X:2054:A:H2'	29:X:2055:G:H8	1.71	0.55
29:X:2187:A:H2'	29:X:2188:A:C8	2.42	0.55
29:X:2199:C:H2'	29:X:2199:C:O2	2.05	0.55
29:X:230:C:H2'	29:X:231:G:C5'	2.37	0.55
29:X:2327:U:O2'	29:X:2328:G:H5'	2.07	0.55
29:X:2807:U:H5'	29:X:2807:U:H6	1.71	0.55
29:X:2835:A:OP2	29:X:2836:U:C5	2.60	0.55
29:X:2859:U:H2'	29:X:2860:C:C5'	2.37	0.55
29:X:874:A:H2'	29:X:875:G:O4'	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:83:ARG:HH22	29:X:970:A:H62	1.54	0.55
6:A:149:PRO:HG3	6:A:186:HIS:NE2	2.22	0.55
7:B:91:VAL:HG13	7:B:180:ASN:ND2	2.21	0.55
9:D:71:LYS:O	9:D:72:LYS:HB2	2.06	0.55
11:F:111:LYS:O	11:F:115:LEU:HG	2.07	0.55
13:H:23:ARG:HH22	13:H:25:LEU:HD23	1.68	0.55
13:H:16:ALA:HB2	13:H:64:VAL:CG1	2.37	0.55
16:K:45:ARG:HB3	16:K:46:PRO:HD3	1.89	0.55
17:L:76:ALA:HB2	17:L:107:ALA:CA	2.33	0.55
18:M:104:LEU:HD23	18:M:106:TYR:OH	2.07	0.55
19:N:55:ARG:HG2	29:X:1166:A:OP1	2.07	0.55
24:S:39:PHE:HA	24:S:42:ALA:HB3	1.89	0.55
8:C:86:PRO:HB3	29:X:1261:G:P	2.47	0.55
29:X:1498:G:N2	29:X:1523:A:H1'	2.22	0.55
29:X:2198:U:C6	29:X:2198:U:OP2	2.59	0.55
29:X:2501:U:H5'	29:X:2502:G:OP2	2.06	0.55
29:X:2602:G:N3	29:X:2603:G:C8	2.74	0.55
29:X:2810:A:N6	29:X:2854:G:O4'	2.40	0.55
29:X:305:A:C2'	29:X:306:G:H5'	2.36	0.55
29:X:210:A:N6	29:X:441:A:H62	2.05	0.55
14:I:40:ARG:CZ	29:X:577:U:P	2.95	0.55
29:X:915:C:H2'	29:X:916:U:H6	1.72	0.55
7:B:134:TRP:O	7:B:135:HIS:C	2.44	0.55
7:B:63:MET:O	7:B:64:GLN:C	2.45	0.55
7:B:80:GLU:OE2	29:X:2615:U:H4'	2.07	0.55
7:B:93:VAL:C	7:B:95:ILE:H	2.10	0.55
9:D:128:TYR:HD2	9:D:156:ILE:HD12	1.70	0.55
11:F:19:PRO:HG2	11:F:22:PRO:HD3	1.88	0.55
11:F:19:PRO:HG2	11:F:22:PRO:CD	2.37	0.55
11:F:12:LEU:HD22	11:F:22:PRO:HB3	1.88	0.55
12:G:131:VAL:O	12:G:133:GLY:N	2.39	0.55
12:G:86:ALA:HB2	12:G:152:ALA:HB1	1.88	0.55
14:I:76:LYS:HG3	14:I:111:SER:CB	2.35	0.55
15:J:43:ILE:O	15:J:95:VAL:HA	2.07	0.55
19:N:39:LEU:HB3	20:O:72:ARG:HH22	1.72	0.55
23:R:28:LYS:HG2	23:R:29:HIS:N	2.22	0.55
25:T:14:ARG:HG3	25:T:15:ASP:OD2	2.07	0.55
26:U:28:GLY:O	26:U:30:VAL:N	2.39	0.55
29:X:1429:A:O2'	29:X:1430:G:H4'	2.06	0.55
29:X:165:G:H2'	29:X:166:G:H5'	1.89	0.55
6:A:219:PRO:HB2	29:X:1781:C:OP1	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2070:G:H2'	29:X:2071:G:H8	1.71	0.55
29:X:2264:C:H5'	29:X:2267:A:N6	2.22	0.55
29:X:2241:U:O4'	29:X:2306:A:H2	1.90	0.55
29:X:238:G:O2'	29:X:239:A:H5'	2.07	0.55
29:X:580:A:O2'	29:X:581:A:O5'	2.25	0.55
12:G:119:LEU:HD13	12:G:126:VAL:HG22	1.88	0.54
17:L:72:GLY:HA3	17:L:103:LEU:HA	1.89	0.54
20:O:78:VAL:O	20:O:79:GLN:CB	2.54	0.54
22:Q:50:VAL:HG13	22:Q:81:ARG:O	2.07	0.54
29:X:1025:A:O2'	29:X:1026:U:H5'	2.07	0.54
29:X:1118:G:C3'	29:X:1119:U:H5''	2.37	0.54
14:I:13:ARG:HH11	29:X:1218:C:H5'	1.73	0.54
29:X:1272:G:H2'	29:X:1273:G:H8	1.72	0.54
29:X:1285:A:HO2'	29:X:1286:U:P	2.30	0.54
29:X:1420:A:H2'	29:X:1421:U:C6	2.43	0.54
29:X:1734:C:H5''	29:X:1735:G:H8	1.70	0.54
29:X:1909:U:H5	29:X:1911:A:N6	2.04	0.54
29:X:1920:A:C5	29:X:1922:U:C5	2.96	0.54
29:X:2235:G:N2	29:X:2254:C:C5	2.74	0.54
29:X:2301:A:H2'	29:X:2302:G:H8	1.73	0.54
29:X:604:U:H2'	29:X:605:G:H8	1.73	0.54
29:X:677:G:O2'	29:X:678:G:H5'	2.07	0.54
29:X:990:A:H2'	29:X:993:C:H42	1.73	0.54
30:Y:20:ARG:C	30:Y:22:HIS:H	2.08	0.54
6:A:268:ARG:O	6:A:269:PHE:HB2	2.08	0.54
8:C:112:GLN:CB	8:C:116:LYS:HD3	2.37	0.54
8:C:147:LYS:HB2	8:C:184:ASP:N	2.21	0.54
9:D:72:LYS:HA	9:D:81:GLN:C	2.28	0.54
11:F:74:MET:HE1	11:F:107:ILE:HA	1.89	0.54
12:G:68:PRO:O	12:G:70:PHE:CE2	2.61	0.54
17:L:102:ALA:C	17:L:104:ALA:N	2.58	0.54
18:M:99:VAL:O	18:M:100:ARG:HG2	2.07	0.54
18:M:106:TYR:CD2	29:X:1745:C:H5'	2.41	0.54
18:M:82:PRO:C	18:M:84:ALA:N	2.58	0.54
25:T:18:PRO:C	25:T:19:LYS:HG2	2.28	0.54
25:T:40:GLN:NE2	25:T:43:THR:CA	2.69	0.54
29:X:1194:U:C5'	29:X:1194:U:H6	2.19	0.54
29:X:1234:C:O2	29:X:1242:A:C2	2.61	0.54
29:X:1416:A:O2'	29:X:1417:C:H5'	2.07	0.54
29:X:1442:C:C4	29:X:1585:A:H5''	2.41	0.54
29:X:2201:G:O2'	29:X:2202:G:H5'	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:92:ARG:NH1	31:Z:47:A:H8	2.05	0.54
6:A:244:ARG:HG2	29:X:1884:A:O2'	2.06	0.54
7:B:107:THR:O	7:B:190:GLY:CA	2.56	0.54
12:G:151:TYR:HE2	12:G:160:ALA:HB3	1.71	0.54
13:H:83:ARG:CD	13:H:89:ILE:HD11	2.35	0.54
18:M:55:ILE:CG2	18:M:104:LEU:HB2	2.33	0.54
18:M:34:ARG:NH1	18:M:88:VAL:HG21	2.23	0.54
19:N:79:PHE:HE2	19:N:95:LEU:HD21	1.71	0.54
19:N:93:LYS:HD2	19:N:93:LYS:O	2.07	0.54
22:Q:13:SER:HB3	29:X:1351:G:H5''	1.88	0.54
23:R:4:PRO:HA	29:X:34:U:H1'	1.88	0.54
29:X:1742:G:H2'	29:X:1743:C:C6	2.42	0.54
29:X:2604:G:C5	29:X:2605:C:C4	2.96	0.54
29:X:353:G:H2'	29:X:354:C:O4'	2.07	0.54
29:X:639:G:O5'	29:X:639:G:H8	1.90	0.54
29:X:677:G:C2	29:X:678:G:C8	2.96	0.54
29:X:800:U:C5	29:X:804:C:N3	2.76	0.54
29:X:862:A:H2'	29:X:863:C:H6	1.69	0.54
29:X:944:A:O2'	29:X:945:G:H5'	2.06	0.54
30:Y:46:CYS:C	30:Y:48:ASN:H	2.09	0.54
9:D:92:ARG:CZ	31:Z:45:C:H2'	2.38	0.54
9:D:125:ARG:HH22	29:X:2281:C:H1'	1.72	0.54
13:H:125:LYS:HA	13:H:128:SER:OG	2.07	0.54
15:J:113:GLU:HA	15:J:116:LYS:HB2	1.88	0.54
17:L:33:ARG:O	17:L:99:ARG:CZ	2.55	0.54
18:M:68:VAL:O	18:M:68:VAL:HG23	2.07	0.54
21:P:66:GLU:O	21:P:67:PRO:C	2.46	0.54
23:R:98:ILE:C	23:R:100:ASP:N	2.60	0.54
25:T:44:LYS:HG2	25:T:45:PHE:CE1	2.42	0.54
28:W:14:GLY:O	28:W:17:VAL:HG23	2.07	0.54
29:X:15:G:C4	29:X:16:G:C8	2.96	0.54
29:X:1998:A:N3	30:Y:3:LYS:HB3	2.22	0.54
29:X:2081:U:H6	29:X:2081:U:O5'	1.90	0.54
29:X:2357:A:H2'	29:X:2358:C:H5'	1.90	0.54
29:X:2370:G:H2'	29:X:2403:C:N4	2.22	0.54
13:H:35:THR:HG22	29:X:2629:U:OP1	2.07	0.54
29:X:2820:C:H2'	29:X:2821:G:H8	1.73	0.54
29:X:804:C:O2'	29:X:805:G:C5'	2.54	0.54
31:Z:104:A:C5	31:Z:105:G:N7	2.76	0.54
6:A:50:THR:HG22	6:A:51:SER:N	2.22	0.54
9:D:136:LEU:O	9:D:137:ILE:HG23	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:49:ALA:O	9:D:52:LYS:N	2.40	0.54
12:G:44:VAL:CG1	12:G:45:ASP:H	2.20	0.54
13:H:112:GLY:H	13:H:131:PRO:HG2	1.72	0.54
14:I:97:ARG:O	14:I:98:LEU:HB3	2.08	0.54
15:J:28:VAL:HB	15:J:137:VAL:HB	1.90	0.54
19:N:47:TYR:HD1	19:N:50:ARG:HH12	1.56	0.54
21:P:26:ALA:CB	21:P:74:SER:HB3	2.37	0.54
24:S:107:GLU:HA	24:S:111:GLY:O	2.07	0.54
24:S:63:PRO:O	24:S:85:MET:SD	2.65	0.54
24:S:51:LEU:CB	24:S:64:ALA:O	2.55	0.54
25:T:20:TYR:O	25:T:21:LEU:HB2	2.07	0.54
25:T:40:GLN:HE22	25:T:43:THR:HA	1.69	0.54
26:U:49:LYS:HD3	26:U:61:TRP:CE2	2.42	0.54
29:X:1040:A:C8	29:X:1041:G:C8	2.95	0.54
29:X:1086:C:C3'	29:X:1087:C:H5''	2.36	0.54
29:X:113:C:O2'	29:X:114:C:H5'	2.06	0.54
29:X:1224:A:H4'	29:X:1225:G:OP2	2.08	0.54
29:X:1471:G:O2'	29:X:1472:C:H5'	2.07	0.54
29:X:1640:C:H2'	29:X:1641:C:H6	1.72	0.54
29:X:1811:A:H4'	29:X:1812:U:H5''	1.88	0.54
29:X:2396:C:C6	29:X:2396:C:H5'	2.41	0.54
29:X:2603:G:N1	29:X:2604:G:C5	2.75	0.54
29:X:322:A:O2'	29:X:323:G:OP2	2.25	0.54
29:X:357:A:H3'	29:X:358:C:O4'	2.08	0.54
26:U:45:ASN:ND2	29:X:409:G:H1'	2.23	0.54
19:N:3:ARG:HD3	29:X:458:G:OP1	2.06	0.54
29:X:558:G:H8	29:X:559:C:C5	2.23	0.54
29:X:664:C:H3'	29:X:665:A:C2	2.42	0.54
29:X:699:G:C5'	29:X:700:C:OP2	2.56	0.54
29:X:932:G:H2'	29:X:933:G:C8	2.42	0.54
31:Z:4:C:C2'	31:Z:5:C:H5'	2.38	0.54
7:B:136:ARG:HG2	7:B:137:ARG:N	2.23	0.54
7:B:141:ILE:CG2	7:B:150:VAL:HB	2.37	0.54
8:C:112:GLN:HA	8:C:116:LYS:CD	2.36	0.54
13:H:100:ASN:OD1	13:H:102:GLN:N	2.33	0.54
16:K:100:VAL:CG1	16:K:101:GLY:N	2.68	0.54
16:K:27:ALA:C	16:K:29:LEU:H	2.11	0.54
18:M:91:VAL:HG12	18:M:92:THR:H	1.72	0.54
19:N:22:LYS:NZ	19:N:22:LYS:HB3	2.23	0.54
19:N:52:ASN:HA	19:N:55:ARG:HE	1.73	0.54
20:O:13:ARG:HG2	20:O:14:VAL:H	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:32:ARG:C	21:P:32:ARG:HE	2.10	0.54
23:R:53:VAL:HG21	23:R:74:LEU:CD2	2.37	0.54
29:X:831:G:C2	29:X:1204:G:O6	2.61	0.54
29:X:1211:G:H2'	29:X:1212:U:H6	1.73	0.54
29:X:1266:G:H5'	29:X:1267:A:OP2	2.07	0.54
29:X:2217:G:H5'	29:X:2218:G:N7	2.22	0.54
29:X:2231:G:O2'	29:X:2232:G:H5'	2.08	0.54
29:X:2043:A:O2'	29:X:2481:G:H5'	2.08	0.54
29:X:2799:C:N3	29:X:2800:C:C2	2.75	0.54
29:X:48:A:H1'	29:X:50:G:C4	2.42	0.54
29:X:759:C:H5'	29:X:759:C:C6	2.43	0.54
29:X:968:C:C4	29:X:970:A:C5	2.96	0.54
9:D:122:PHE:HD2	9:D:129:ASN:N	2.00	0.54
9:D:70:ALA:C	9:D:72:LYS:H	2.10	0.54
10:E:163:ARG:HD3	10:E:167:GLU:CB	2.36	0.54
10:E:38:ASN:ND2	10:E:64:LEU:CD1	2.71	0.54
11:F:20:ALA:N	11:F:21:PRO:CD	2.69	0.54
13:H:47:VAL:HG11	13:H:115:ALA:HB2	1.85	0.54
14:I:53:ARG:NH2	29:X:228:A:H5'	2.23	0.54
15:J:136:GLU:HA	15:J:138:TYR:CE2	2.43	0.54
15:J:28:VAL:HG23	15:J:137:VAL:HG21	1.89	0.54
17:L:31:VAL:HA	17:L:38:ILE:CD1	2.38	0.54
20:O:61:VAL:HG23	20:O:94:LYS:N	2.21	0.54
22:Q:39:LYS:O	22:Q:42:ILE:CG2	2.56	0.54
24:S:70:GLN:O	24:S:79:ILE:CG2	2.55	0.54
25:T:40:GLN:HG2	25:T:57:HIS:O	2.08	0.54
29:X:1221:C:H2'	29:X:1222:G:C8	2.42	0.54
29:X:1287:A:N1	29:X:1662:G:H5'	2.23	0.54
29:X:213:C:H2'	29:X:214:C:H6	1.72	0.54
29:X:2528:G:C2	29:X:2529:G:C5	2.95	0.54
29:X:2594:U:C2	29:X:2595:C:C5	2.96	0.54
29:X:537:C:H5	29:X:2759:U:H3'	1.70	0.54
29:X:2859:U:C5	29:X:2860:C:C6	2.96	0.54
29:X:2862:G:C2	29:X:2863:U:C2	2.96	0.54
29:X:318:G:C8	29:X:318:G:H5'	2.42	0.54
29:X:318:G:H8	29:X:318:G:H5'	1.71	0.54
29:X:343:A:H1'	29:X:346:C:H42	1.73	0.54
29:X:503:G:H2'	29:X:504:G:O4'	2.08	0.54
29:X:925:U:O2'	29:X:926:C:H5'	2.08	0.54
29:X:957:G:N3	29:X:958:G:C8	2.76	0.54
29:X:994:A:O2'	29:X:995:A:OP1	2.24	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:77:G:H2'	31:Z:78:A:C8	2.43	0.54
8:C:101:GLN:O	8:C:103:GLY:N	2.41	0.54
8:C:112:GLN:O	8:C:116:LYS:HE2	2.08	0.54
12:G:106:TYR:CE2	12:G:108:GLY:HA3	2.42	0.54
13:H:16:ALA:HB2	13:H:64:VAL:HG11	1.89	0.54
15:J:14:PHE:O	15:J:15:ARG:HG3	2.07	0.54
15:J:69:ILE:HD13	15:J:104:MET:SD	2.48	0.54
16:K:59:ASP:O	16:K:60:LEU:C	2.46	0.54
16:K:87:TYR:CD1	16:K:90:ARG:CD	2.85	0.54
18:M:24:LEU:HD11	18:M:34:ARG:NH2	2.23	0.54
20:O:27:GLY:C	20:O:28:GLU:HG3	2.27	0.54
20:O:29:ALA:O	20:O:31:ASP:N	2.40	0.54
22:Q:26:SER:HB3	22:Q:79:ILE:HG12	1.89	0.54
23:R:108:VAL:HG12	23:R:109:ALA:N	2.23	0.54
29:X:1310:C:H2'	29:X:1311:C:C6	2.41	0.54
29:X:141:G:O2'	29:X:142:U:H5'	2.08	0.54
29:X:1451:C:H2'	29:X:1452:U:C6	2.43	0.54
29:X:1592:U:H2'	29:X:1593:C:H5'	1.90	0.54
29:X:2438:A:C6	29:X:2439:U:N3	2.76	0.54
29:X:2486:C:O2'	29:X:2487:G:H5'	2.08	0.54
29:X:2597:G:C6	29:X:2598:C:C4	2.96	0.54
29:X:2656:G:N2	29:X:2711:G:C4	2.75	0.54
29:X:332:C:H2'	29:X:351:A:O2'	2.07	0.54
29:X:590:C:C2	29:X:591:G:N7	2.76	0.54
29:X:648:A:H4'	29:X:649:G:C4'	2.37	0.54
31:Z:64:C:H2'	31:Z:65:A:C8	2.41	0.54
31:Z:65:A:O2'	31:Z:66:G:H5'	2.08	0.54
7:B:85:ALA:O	7:B:86:PRO:O	2.26	0.54
8:C:112:GLN:NE2	8:C:116:LYS:HB2	2.23	0.54
9:D:33:LYS:HD2	9:D:90:THR:CG2	2.37	0.54
10:E:72:VAL:O	10:E:76:VAL:HG23	2.08	0.54
12:G:113:GLU:CD	12:G:113:GLU:H	2.11	0.54
12:G:128:GLU:OE1	12:G:129:HIS:NE2	2.41	0.54
15:J:128:ILE:HD13	15:J:130:THR:HG23	1.90	0.54
16:K:63:ARG:HG3	16:K:63:ARG:HH11	1.73	0.54
16:K:72:ASP:O	16:K:75:VAL:HB	2.08	0.54
17:L:35:SER:OG	17:L:36:LYS:N	2.41	0.54
22:Q:61:LYS:N	22:Q:72:ARG:HA	2.19	0.54
26:U:46:LEU:HB2	29:X:2209:G:H4'	1.90	0.54
27:V:48:ARG:O	27:V:52:GLN:HG3	2.08	0.54
29:X:1099:A:H4'	29:X:1100:G:C8	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:13:A:O2'	29:X:15:G:N7	2.40	0.54
21:P:117:ILE:CG2	29:X:1995:G:O3'	2.56	0.54
29:X:2275:U:C4'	29:X:2276:C:OP1	2.56	0.54
29:X:2502:G:C2'	29:X:2503:G:H5'	2.38	0.54
29:X:2690:A:OP1	29:X:2692:A:P	2.66	0.54
29:X:1681:A:C2	29:X:2706:U:N1	2.75	0.54
29:X:455:A:H2	29:X:1258:G:N3	2.06	0.54
29:X:531:G:O2'	29:X:532:A:H5'	2.08	0.54
29:X:534:U:O2'	29:X:535:U:H5'	2.08	0.54
29:X:540:G:N3	29:X:2004:U:O2'	2.40	0.54
29:X:813:A:N9	29:X:815:A:H5'	2.23	0.54
29:X:876:A:H8	29:X:876:A:O5'	1.91	0.54
15:J:17:ARG:NH1	29:X:969:U:H5''	2.22	0.54
6:A:153:ALA:O	6:A:157:ARG:NH2	2.41	0.54
8:C:112:GLN:HA	8:C:116:LYS:CB	2.37	0.54
12:G:137:LYS:O	12:G:137:LYS:HG2	2.07	0.54
14:I:93:LEU:O	14:I:97:ARG:HG3	2.08	0.54
15:J:106:GLU:N	15:J:106:GLU:OE1	2.41	0.54
16:K:108:VAL:O	16:K:108:VAL:HG12	2.07	0.54
17:L:33:ARG:CZ	17:L:103:LEU:HD12	2.37	0.54
20:O:88:GLN:NE2	29:X:1004:A:N3	2.56	0.54
23:R:105:ARG:HH12	23:R:112:LYS:HA	1.73	0.54
25:T:29:GLU:OE2	29:X:935:C:H4'	2.07	0.54
27:V:52:GLN:C	27:V:54:ASN:H	2.10	0.54
29:X:1011:A:H2'	29:X:1012:A:O4'	2.07	0.54
29:X:1278:A:HO2'	29:X:1279:G:P	2.31	0.54
29:X:1465:G:H2'	29:X:1466:C:C6	2.43	0.54
29:X:1656:U:H2'	29:X:1657:A:H5''	1.90	0.54
26:U:48:LYS:HG3	29:X:1801:C:N4	2.23	0.54
29:X:1993:G:C2'	29:X:1994:U:O5'	2.56	0.54
29:X:2030:U:O2'	29:X:2031:A:H5'	2.08	0.54
29:X:2849:C:O2	29:X:2850:U:C5	2.61	0.54
29:X:464:G:N2	29:X:465:C:C2	2.76	0.54
29:X:649:G:N2	29:X:661:C:H1'	2.23	0.54
31:Z:118:G:O2'	31:Z:119:G:H5'	2.07	0.54
6:A:43:ARG:H	6:A:43:ARG:CD	2.12	0.53
8:C:155:GLU:O	8:C:157:THR:N	2.41	0.53
11:F:2:LYS:N	11:F:2:LYS:CD	2.61	0.53
13:H:78:SER:HA	13:H:91:PHE:O	2.07	0.53
17:L:102:ALA:O	17:L:103:LEU:C	2.46	0.53
21:P:14:ARG:HA	21:P:17:GLN:NE2	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:27:VAL:HA	21:P:125:THR:HA	1.90	0.53
22:Q:38:ILE:O	22:Q:42:ILE:HG22	2.08	0.53
26:U:33:LYS:O	26:U:34:THR:HB	2.08	0.53
26:U:22:GLY:HA3	26:U:39:LYS:CD	2.38	0.53
26:U:49:LYS:HD3	26:U:61:TRP:CD1	2.42	0.53
29:X:1139:A:O2'	29:X:1140:A:O5'	2.25	0.53
29:X:1737:G:O2'	29:X:1738:U:H5'	2.08	0.53
29:X:1811:A:H4'	29:X:1812:U:C5'	2.38	0.53
29:X:182:G:C2'	29:X:183:U:OP2	2.55	0.53
29:X:189:A:O2'	29:X:190:A:H5'	2.08	0.53
29:X:1923:U:H4'	29:X:1924:C:O5'	2.08	0.53
29:X:2226:A:H2'	29:X:2227:C:C6	2.42	0.53
29:X:2450:A:H2'	29:X:2451:G:H5'	1.90	0.53
29:X:2604:G:C4	29:X:2605:C:C5	2.96	0.53
29:X:2670:C:C6	29:X:2847:G:N1	2.76	0.53
29:X:2699:G:O2'	29:X:2700:U:C5'	2.53	0.53
29:X:2762:G:C2	29:X:2763:U:C6	2.96	0.53
29:X:2798:A:C4	29:X:2799:C:C5	2.96	0.53
29:X:357:A:N7	29:X:358:C:H1'	2.23	0.53
29:X:430:C:O5'	29:X:430:C:H6	1.91	0.53
29:X:699:G:H5'	29:X:700:C:OP2	2.07	0.53
29:X:888:G:C6	29:X:889:C:C2	2.97	0.53
6:A:257:LEU:HB3	29:X:1794:A:O3'	2.08	0.53
8:C:7:ILE:HB	8:C:120:VAL:H	1.72	0.53
8:C:149:LEU:O	8:C:186:LEU:HD12	2.08	0.53
10:E:171:LEU:N	10:E:171:LEU:HD12	2.23	0.53
14:I:45:LYS:CG	14:I:46:GLY:N	2.71	0.53
16:K:91:PRO:O	16:K:92:GLY:O	2.26	0.53
16:K:95:THR:HG22	16:K:95:THR:O	2.08	0.53
18:M:106:TYR:CD1	18:M:107:LEU:HD23	2.42	0.53
18:M:82:PRO:O	18:M:83:PHE:C	2.47	0.53
25:T:44:LYS:HG2	25:T:45:PHE:CD1	2.42	0.53
26:U:22:GLY:HA3	26:U:39:LYS:CE	2.36	0.53
29:X:1071:U:H4'	29:X:1072:U:C5'	2.38	0.53
29:X:1345:G:H4'	29:X:1346:C:OP1	2.07	0.53
29:X:133:C:C2'	29:X:134:G:H5'	2.37	0.53
29:X:1446:U:H3	29:X:1577:G:H1	1.55	0.53
29:X:2178:U:H2'	29:X:2179:C:C6	2.42	0.53
29:X:2485:U:O2'	29:X:2486:C:C5'	2.56	0.53
29:X:2551:A:O5'	29:X:2553:G:H4'	2.09	0.53
8:C:48:ARG:O	8:C:51:VAL:CG2	2.56	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:11:VAL:HG12	10:E:15:VAL:CG2	2.36	0.53
10:E:12:PRO:O	10:E:15:VAL:HG22	2.08	0.53
13:H:26:ASN:HD22	13:H:38:GLY:N	2.05	0.53
15:J:35:LEU:N	15:J:119:PHE:CE1	2.77	0.53
15:J:99:LYS:HD2	15:J:100:PRO:CD	2.34	0.53
18:M:82:PRO:HB2	18:M:85:SER:HB2	1.89	0.53
23:R:90:LYS:HD2	23:R:108:VAL:CG2	2.38	0.53
23:R:108:VAL:HG12	23:R:109:ALA:H	1.74	0.53
29:X:1842:G:O2'	29:X:1843:U:H5'	2.08	0.53
29:X:2037:A:N1	29:X:2595:C:C4	2.76	0.53
29:X:2040:A:C2'	29:X:2041:A:H8	2.11	0.53
29:X:2266:A:O2'	29:X:2267:A:H3'	2.08	0.53
29:X:2337:A:H2'	29:X:2338:C:C6	2.44	0.53
29:X:402:A:C8	29:X:2392:G:H4'	2.43	0.53
14:I:63:ARG:HD2	29:X:2394:G:OP1	2.08	0.53
29:X:2395:C:C2'	29:X:2396:C:C5'	2.86	0.53
29:X:2646:C:H2'	29:X:2647:G:O4'	2.08	0.53
29:X:1982:C:OP1	29:X:2703:C:O2'	2.26	0.53
29:X:2780:A:O2'	29:X:2781:G:H5'	2.07	0.53
29:X:310:A:C2	29:X:331:U:H4'	2.43	0.53
29:X:516:G:O2'	29:X:517:A:P	2.67	0.53
29:X:640:C:C4	29:X:641:G:N7	2.77	0.53
29:X:783:G:H1'	29:X:1392:U:C4	2.43	0.53
29:X:968:C:C4	29:X:970:A:C4	2.97	0.53
31:Z:122:U:O5'	31:Z:122:U:H6	1.92	0.53
4:4:9:LYS:H	4:4:9:LYS:HD2	1.74	0.53
8:C:144:GLY:HA3	8:C:166:TRP:NE1	2.23	0.53
10:E:85:ILE:HG22	10:E:86:ASN:N	2.23	0.53
12:G:43:VAL:O	12:G:167:LYS:HA	2.08	0.53
13:H:100:ASN:O	13:H:102:GLN:N	2.41	0.53
13:H:26:ASN:HB3	13:H:38:GLY:H	1.73	0.53
14:I:32:ARG:NH1	20:O:81:ARG:NH2	2.55	0.53
15:J:79:PRO:CG	15:J:88:LYS:HD2	2.39	0.53
17:L:91:ARG:HG2	17:L:92:GLY:N	2.24	0.53
17:L:33:ARG:NH1	17:L:99:ARG:O	2.41	0.53
22:Q:7:LEU:O	22:Q:7:LEU:HD13	2.08	0.53
23:R:25:LEU:H	23:R:25:LEU:HD13	1.72	0.53
29:X:1749:G:C2'	29:X:1750:A:OP1	2.57	0.53
29:X:1782:A:C6	29:X:1821:A:H5'	2.43	0.53
29:X:1386:A:C5'	29:X:2191:A:C6	2.88	0.53
26:U:46:LEU:HB2	29:X:2209:G:C5'	2.37	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2266:A:N6	29:X:2323:U:H3	2.07	0.53
29:X:2352:A:H2'	29:X:2353:G:C8	2.44	0.53
29:X:2395:C:C2'	29:X:2396:C:H5''	2.39	0.53
29:X:2517:C:O2'	29:X:2518:C:H5'	2.08	0.53
29:X:2557:G:H2'	29:X:2558:C:C6	2.43	0.53
29:X:2620:G:H2'	29:X:2621:G:H8	1.73	0.53
29:X:2760:G:C2'	29:X:2761:A:OP1	2.56	0.53
19:N:24:PHE:CD1	29:X:543:G:H5'	2.43	0.53
19:N:31:GLN:HE22	29:X:589:C:H4'	1.73	0.53
29:X:810:U:C3'	29:X:810:U:C6	2.92	0.53
29:X:822:G:C2'	29:X:823:U:C5'	2.76	0.53
29:X:889:C:H2'	29:X:890:U:O4'	2.08	0.53
29:X:913:A:O5'	29:X:913:A:H8	1.91	0.53
29:X:957:G:H2'	29:X:958:G:H8	1.74	0.53
7:B:146:THR:C	7:B:148:GLY:N	2.60	0.53
7:B:75:THR:CG2	7:B:76:ARG:H	2.11	0.53
12:G:60:SER:O	12:G:64:GLY:N	2.37	0.53
14:I:73:GLU:HG2	14:I:101:ARG:CB	2.38	0.53
14:I:105:PRO:O	14:I:106:VAL:CG2	2.56	0.53
16:K:13:ASN:ND2	16:K:14:SER:H	2.07	0.53
16:K:3:HIS:ND1	16:K:5:LYS:HD2	2.24	0.53
18:M:101:ARG:O	18:M:101:ARG:HG3	2.09	0.53
18:M:106:TYR:CD1	18:M:107:LEU:CD2	2.90	0.53
19:N:37:GLN:HE22	29:X:572:G:H21	1.56	0.53
19:N:37:GLN:HE22	29:X:572:G:N2	2.06	0.53
19:N:66:ASN:HB3	19:N:76:TYR:N	2.23	0.53
20:O:42:GLY:O	20:O:43:GLU:HB2	2.09	0.53
21:P:79:ALA:O	21:P:85:MET:HB2	2.09	0.53
24:S:4:THR:HG22	24:S:57:GLU:HB2	1.90	0.53
26:U:52:ARG:HH12	26:U:67:LEU:HD13	1.73	0.53
29:X:1522:C:H2'	29:X:1523:A:H5''	1.90	0.53
29:X:1693:A:O2'	29:X:1694:A:H5'	2.08	0.53
29:X:2034:A:H2'	29:X:2593:A:H61	1.73	0.53
29:X:2204:A:H4'	29:X:2205:C:O5'	2.09	0.53
29:X:2536:G:O2'	29:X:2537:C:H5'	2.09	0.53
29:X:2818:G:C6	29:X:2819:G:C5	2.97	0.53
23:R:9:HIS:ND1	29:X:337:G:O2'	2.42	0.53
29:X:583:C:O2'	29:X:584:A:OP2	2.27	0.53
29:X:719:A:N6	29:X:738:G:C2'	2.69	0.53
29:X:780:U:H2'	29:X:781:G:C8	2.42	0.53
8:C:8:GLY:O	8:C:9:GLN:HB3	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:75:SER:HB2	9:D:79:LEU:HD22	1.89	0.53
12:G:128:GLU:HG2	12:G:129:HIS:HD2	1.73	0.53
12:G:132:PHE:HZ	12:G:142:ARG:HA	1.71	0.53
13:H:133:VAL:HG12	13:H:133:VAL:O	2.08	0.53
15:J:40:PRO:HG3	15:J:99:LYS:CE	2.39	0.53
16:K:11:ASN:HD21	16:K:17:ARG:HH11	1.52	0.53
16:K:48:VAL:CG1	16:K:49:GLU:N	2.71	0.53
16:K:60:LEU:O	16:K:61:HIS:C	2.47	0.53
17:L:38:ILE:HG13	17:L:39:TYR:N	2.23	0.53
17:L:64:LYS:N	17:L:64:LYS:CD	2.71	0.53
18:M:34:ARG:CZ	18:M:66:PHE:CE2	2.91	0.53
22:Q:66:GLY:C	22:Q:68:PHE:N	2.61	0.53
23:R:98:ILE:C	23:R:100:ASP:H	2.11	0.53
23:R:54:ILE:HD13	23:R:71:GLN:HA	1.91	0.53
25:T:39:ARG:NE	29:X:2334:C:O2'	2.41	0.53
29:X:1189:G:H2'	29:X:1190:C:O4'	2.09	0.53
29:X:1286:U:O3'	29:X:1288:A:OP2	2.27	0.53
29:X:1325:U:H5''	29:X:1326:U:OP1	2.09	0.53
29:X:1487:C:O5'	29:X:1487:C:H6	1.92	0.53
29:X:1505:U:H3'	29:X:1505:U:H6	1.72	0.53
6:A:99:ASP:OD1	29:X:1507:A:H5'	2.09	0.53
29:X:1552:C:O2'	29:X:1553:G:O5'	2.25	0.53
29:X:1787:U:H2'	29:X:1788:C:H6	1.73	0.53
29:X:1979:C:C6	29:X:1979:C:OP1	2.58	0.53
21:P:98:ASP:HB3	29:X:24:G:O2'	2.07	0.53
29:X:525:A:C8	29:X:526:C:C5	2.97	0.53
29:X:737:C:H2'	29:X:738:G:C8	2.44	0.53
29:X:762:A:C5	29:X:1634:A:C2	2.97	0.53
29:X:812:G:H2'	29:X:813:A:C8	2.44	0.53
29:X:976:C:H4'	29:X:2252:A:C1'	2.38	0.53
30:Y:26:THR:O	30:Y:27:ALA:C	2.47	0.53
31:Z:35:C:O2'	31:Z:36:A:H5'	2.09	0.53
4:4:17:VAL:HG23	4:4:26:ILE:HG12	1.91	0.53
7:B:144:ARG:NH1	29:X:2551:A:N3	2.56	0.53
8:C:62:LYS:HD3	8:C:63:GLY:N	2.24	0.53
12:G:103:TYR:N	12:G:103:TYR:CD1	2.76	0.53
15:J:27:TYR:CB	15:J:137:VAL:HG11	2.39	0.53
18:M:94:VAL:O	18:M:95:GLU:CB	2.51	0.53
23:R:49:GLU:HA	23:R:73:GLU:OE2	2.08	0.53
24:S:123:VAL:HG23	24:S:161:ALA:CB	2.39	0.53
24:S:21:ALA:O	24:S:22:VAL:HG13	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1141:U:O2'	29:X:1142:G:OP1	2.26	0.53
29:X:1289:A:C5	29:X:1308:C:O2	2.61	0.53
29:X:1372:A:C5	29:X:1373:G:N7	2.77	0.53
29:X:2213:G:O2'	29:X:2214:G:H5'	2.08	0.53
29:X:2245:A:H1'	29:X:2251:U:C4	2.43	0.53
29:X:2357:A:C2'	29:X:2358:C:H5'	2.39	0.53
29:X:27:G:H1'	29:X:523:A:N6	2.23	0.53
29:X:2827:G:O2'	29:X:2828:C:H5'	2.07	0.53
29:X:2834:A:O2'	29:X:2835:A:H5'	2.09	0.53
29:X:303:C:H6	29:X:303:C:O5'	1.92	0.53
29:X:320:A:H1'	29:X:340:G:O2'	2.09	0.53
29:X:982:C:O2'	29:X:983:G:H5'	2.09	0.53
30:Y:4:HIS:CB	30:Y:5:PRO:CD	2.72	0.53
6:A:262:LYS:HE3	29:X:2206:C:H1'	1.91	0.53
7:B:154:LYS:NZ	7:B:156:MET:SD	2.81	0.53
9:D:110:ARG:HG2	9:D:110:ARG:NH2	2.23	0.53
10:E:45:GLN:HG3	10:E:49:GLN:O	2.08	0.53
11:F:132:ARG:HH11	11:F:132:ARG:HG2	1.74	0.53
12:G:107:GLN:HB3	29:X:1142:G:H5'	1.91	0.53
13:H:69:VAL:HG12	13:H:69:VAL:O	2.08	0.53
14:I:18:ARG:HD2	14:I:21:ARG:CG	2.37	0.53
14:I:30:ALA:H	14:I:34:HIS:CG	2.27	0.53
25:T:3:HIS:HD2	25:T:5:LYS:HD3	1.74	0.53
25:T:73:GLY:O	25:T:74:LYS:HB2	2.07	0.53
26:U:52:ARG:HD2	26:U:79:GLU:CA	2.39	0.53
29:X:122:G:C2'	29:X:123:A:H5''	2.39	0.53
29:X:1285:A:O2'	29:X:1286:U:OP1	2.27	0.53
29:X:1465:G:O2'	29:X:1466:C:H5'	2.08	0.53
29:X:2014:A:O2'	29:X:2015:G:P	2.67	0.53
29:X:201:G:H2'	29:X:202:A:C8	2.43	0.53
29:X:789:G:O6	29:X:2055:G:OP1	2.27	0.53
15:J:84:MET:HG2	29:X:2229:G:C5'	2.34	0.53
29:X:2625:U:O4'	29:X:2625:U:OP2	2.26	0.53
29:X:787:A:H5'	29:X:791:G:O4'	2.08	0.53
15:J:83:ARG:HH22	29:X:970:A:N6	2.06	0.53
7:B:35:GLN:HB3	7:B:48:GLN:OE1	2.08	0.53
8:C:44:SER:CB	29:X:37:C:H1'	2.39	0.53
9:D:138:PHE:HB2	9:D:141:ILE:CB	2.37	0.53
10:E:89:LEU:CD1	10:E:129:THR:HA	2.35	0.53
16:K:100:VAL:HG12	16:K:101:GLY:H	1.73	0.53
20:O:61:VAL:CG2	20:O:94:LYS:H	2.21	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:134:LYS:HG2	21:P:134:LYS:OXT	2.07	0.53
23:R:105:ARG:O	23:R:106:VAL:HG13	2.08	0.53
24:S:68:ALA:H	24:S:82:ASP:HB2	1.73	0.53
25:T:31:VAL:HG13	25:T:67:VAL:HG22	1.91	0.53
29:X:1324:G:H2'	29:X:1325:U:H6	1.74	0.53
29:X:1324:G:H4'	29:X:1325:U:OP1	2.09	0.53
29:X:1454:U:H2'	29:X:1455:C:C6	2.41	0.53
29:X:1621:C:H5'	29:X:1626:A:N6	2.23	0.53
29:X:1879:G:O2'	29:X:1880:G:H5'	2.08	0.53
29:X:2081:U:H2'	29:X:2082:C:H6	1.74	0.53
29:X:2618:A:H1'	29:X:2758:A:N3	2.24	0.53
29:X:2650:G:C6	29:X:2651:U:C4	2.97	0.53
29:X:637:G:H8	29:X:637:G:O5'	1.90	0.53
29:X:688:A:C8	29:X:815:A:N6	2.77	0.53
15:J:78:LYS:HA	29:X:968:C:OP1	2.09	0.53
29:X:1998:A:C1'	30:Y:3:LYS:HG2	2.36	0.53
4:4:25:VAL:HG21	4:4:34:GLN:HE21	1.73	0.53
8:C:138:LYS:O	8:C:140:ASN:N	2.42	0.53
8:C:73:SER:O	8:C:74:VAL:HG12	2.08	0.53
9:D:108:LEU:HB2	9:D:109:PRO:HD3	1.91	0.53
10:E:9:ILE:CG2	10:E:50:LEU:HB3	2.38	0.53
12:G:82:VAL:HG23	12:G:149:LYS:O	2.09	0.53
15:J:22:ALA:N	15:J:99:LYS:CG	2.72	0.53
19:N:66:ASN:CB	19:N:76:TYR:H	2.22	0.53
19:N:78:THR:O	19:N:79:PHE:C	2.47	0.53
20:O:20:ILE:HD11	20:O:23:GLU:OE2	2.08	0.53
20:O:25:LEU:HD12	20:O:32:LYS:NZ	2.24	0.53
21:P:46:ARG:HG2	21:P:46:ARG:HH11	1.74	0.53
24:S:55:THR:CG2	24:S:59:GLY:HA2	2.39	0.53
27:V:36:GLN:HA	27:V:36:GLN:OE1	2.09	0.53
28:W:23:LEU:O	28:W:32:ARG:CZ	2.57	0.53
28:W:49:HIS:CE1	28:W:50:LEU:HG	2.43	0.53
29:X:1504:G:H2'	29:X:1505:U:C2	2.44	0.53
29:X:1671:A:C6	29:X:1672:A:N7	2.77	0.53
29:X:1987:G:H2'	29:X:1988:A:O4'	2.09	0.53
29:X:538:A:H2'	29:X:2025:A:C2	2.44	0.53
8:C:62:LYS:HE3	29:X:2042:A:O2'	2.09	0.53
29:X:2187:A:C6	29:X:2188:A:C6	2.97	0.53
29:X:2355:A:H2'	29:X:2356:A:O4'	2.10	0.53
29:X:2324:G:N2	29:X:2361:G:C8	2.78	0.53
29:X:2571:G:C5	29:X:2572:U:C4	2.96	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2760:G:H2'	29:X:2761:A:OP1	2.08	0.53
8:C:162:ARG:CZ	29:X:333:A:H5''	2.39	0.53
29:X:37:C:H2'	29:X:38:G:C8	2.44	0.53
29:X:417:C:C4	29:X:419:G:C4	2.97	0.53
29:X:418:C:OP2	29:X:418:C:O4'	2.27	0.53
29:X:478:G:O2'	29:X:479:G:H5'	2.09	0.53
29:X:507:A:C6	29:X:508:G:C5	2.97	0.53
29:X:985:G:O2'	29:X:986:A:C8	2.61	0.53
31:Z:65:A:H2'	31:Z:66:G:H8	1.74	0.53
7:B:131:SER:O	7:B:132:LYS:HG2	2.08	0.52
7:B:188:ILE:HG23	7:B:189:PRO:HD2	1.91	0.52
8:C:67:ALA:O	8:C:68:ARG:HB3	2.08	0.52
9:D:117:ILE:HD12	9:D:175:LEU:HD11	1.90	0.52
9:D:69:LYS:HG2	9:D:84:PRO:HG3	1.91	0.52
12:G:84:ASN:O	12:G:86:ALA:N	2.41	0.52
13:H:97:VAL:HG11	13:H:126:ILE:CD1	2.39	0.52
15:J:15:ARG:HD3	15:J:73:LYS:HZ3	1.73	0.52
19:N:42:ALA:O	19:N:43:ALA:C	2.46	0.52
21:P:105:ARG:HD3	29:X:1336:G:OP1	2.09	0.52
21:P:66:GLU:O	21:P:69:ALA:HB3	2.09	0.52
22:Q:8:GLN:O	22:Q:9:ALA:HB2	2.09	0.52
28:W:18:LYS:O	28:W:21:GLN:N	2.42	0.52
28:W:44:VAL:O	28:W:44:VAL:HG12	2.08	0.52
29:X:1969:G:N3	29:X:1970:G:C8	2.76	0.52
29:X:1999:U:H1'	30:Y:6:VAL:HG22	1.90	0.52
29:X:2407:G:H4'	29:X:2408:G:C4	2.44	0.52
29:X:346:C:H2'	29:X:347:C:C6	2.43	0.52
29:X:70:A:OP1	29:X:110:U:H2'	2.09	0.52
29:X:78:C:O2'	29:X:79:G:H5'	2.08	0.52
29:X:825:C:H1'	29:X:1263:G:N2	2.24	0.52
7:B:116:VAL:HG22	7:B:136:ARG:CG	2.40	0.52
8:C:73:SER:C	8:C:74:VAL:CG1	2.78	0.52
9:D:8:TYR:HD1	9:D:173:MET:SD	2.33	0.52
10:E:89:LEU:N	10:E:129:THR:O	2.41	0.52
10:E:64:LEU:HD23	10:E:67:LEU:HD12	1.90	0.52
12:G:56:THR:N	12:G:134:MET:HE3	2.25	0.52
16:K:90:ARG:HB2	16:K:90:ARG:NH1	2.23	0.52
20:O:68:LYS:HE3	20:O:85:GLY:CA	2.39	0.52
23:R:28:LYS:O	23:R:29:HIS:HB2	2.09	0.52
24:S:130:ILE:HD12	24:S:130:ILE:N	2.25	0.52
25:T:40:GLN:NE2	25:T:44:LYS:H	2.06	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1068:A:H3'	29:X:1069:G:C8	2.44	0.52
29:X:1182:U:H2'	29:X:1183:C:O4'	2.09	0.52
29:X:1399:C:H2'	29:X:1400:A:C8	2.45	0.52
29:X:1744:G:O6	29:X:1747:G:C6	2.62	0.52
29:X:1785:A:H2'	29:X:1786:C:C6	2.44	0.52
8:C:63:GLY:N	29:X:2043:A:OP1	2.26	0.52
29:X:2170:C:H2'	29:X:2171:U:H4'	1.91	0.52
29:X:28:A:C2	29:X:523:A:C1'	2.92	0.52
29:X:469:G:O2'	29:X:470:U:P	2.67	0.52
29:X:487:G:H22	29:X:489:A:C3'	2.20	0.52
29:X:712:A:H4'	29:X:1651:U:C4	2.45	0.52
29:X:731:A:H2'	29:X:732:G:C4'	2.39	0.52
29:X:772:G:H2'	29:X:773:G:H8	1.74	0.52
29:X:840:U:H4'	29:X:841:G:N2	2.24	0.52
29:X:843:G:H1'	29:X:2427:A:N6	2.22	0.52
6:A:166:GLN:HG3	6:A:174:ILE:HG22	1.90	0.52
6:A:246:PRO:C	6:A:248:THR:H	2.11	0.52
7:B:70:ALA:O	7:B:71:GLY:C	2.46	0.52
9:D:152:MET:HE2	9:D:154:ILE:HD11	1.91	0.52
9:D:57:LEU:HA	9:D:60:ILE:HG12	1.91	0.52
9:D:33:LYS:HB2	9:D:91:LEU:O	2.09	0.52
10:E:103:LEU:CD2	10:E:105:MET:HE3	2.35	0.52
11:F:122:ALA:CB	29:X:1092:U:H4'	2.40	0.52
14:I:54:SER:OG	14:I:59:ARG:NH1	2.41	0.52
15:J:77:LYS:CG	15:J:78:LYS:H	2.20	0.52
16:K:85:PRO:O	16:K:88:ALA:CB	2.55	0.52
16:K:90:ARG:HH11	16:K:90:ARG:HB2	1.75	0.52
17:L:38:ILE:HD11	17:L:40:ALA:H	1.73	0.52
18:M:14:ARG:O	18:M:17:GLU:HB3	2.08	0.52
19:N:82:GLY:HA3	19:N:113:SER:HG	1.73	0.52
21:P:32:ARG:HH21	21:P:33:MET:CA	2.22	0.52
22:Q:57:ASN:C	22:Q:58:VAL:HG23	2.30	0.52
26:U:29:GLY:C	26:U:31:GLY:N	2.63	0.52
29:X:1153:A:N3	29:X:1155:G:C5	2.77	0.52
29:X:1578:U:O2'	29:X:1579:G:H5'	2.10	0.52
29:X:172:A:H2	29:X:227:G:H22	1.55	0.52
29:X:427:C:H5''	29:X:1862:C:O2'	2.09	0.52
29:X:2082:C:C2'	29:X:2083:G:H5''	2.38	0.52
29:X:2829:A:C2	29:X:2830:U:C2	2.96	0.52
29:X:451:A:O2'	29:X:452:G:H5'	2.09	0.52
29:X:456:C:O2'	29:X:457:C:H5'	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:507:A:O2'	29:X:508:G:H5'	2.09	0.52
29:X:486:U:C4'	29:X:519:C:H2'	2.39	0.52
29:X:648:A:H5'	29:X:649:G:C4'	2.36	0.52
30:Y:35:GLN:C	30:Y:37:HIS:N	2.62	0.52
30:Y:45:ILE:HG21	30:Y:57:VAL:HG23	1.89	0.52
30:Y:58:LEU:CD1	30:Y:58:LEU:H	2.21	0.52
31:Z:58:G:H4'	31:Z:59:A:C5'	2.39	0.52
8:C:152:THR:O	8:C:153:ASP:O	2.28	0.52
8:C:33:TRP:CB	8:C:95:LEU:HD12	2.40	0.52
8:C:54:THR:CB	8:C:73:SER:HB3	2.40	0.52
10:E:41:LEU:CD2	10:E:68:THR:OG1	2.58	0.52
12:G:110:LEU:HD13	29:X:2621:G:OP1	2.09	0.52
12:G:97:ASP:O	12:G:99:VAL:N	2.43	0.52
13:H:34:LEU:HD22	13:H:50:ILE:CD1	2.39	0.52
14:I:30:ALA:O	14:I:31:GLY:O	2.27	0.52
14:I:54:SER:O	14:I:59:ARG:NH2	2.43	0.52
16:K:10:LEU:CD2	16:K:17:ARG:HB2	2.40	0.52
19:N:72:HIS:HD2	19:N:110:VAL:HG21	1.73	0.52
19:N:20:ARG:HD2	19:N:39:LEU:HD13	1.91	0.52
19:N:68:GLY:O	19:N:71:LEU:N	2.42	0.52
19:N:91:ASN:O	19:N:92:ARG:HB2	2.09	0.52
20:O:50:ASP:HA	20:O:53:LYS:HE3	1.90	0.52
19:N:36:PHE:CZ	20:O:81:ARG:NH1	2.77	0.52
26:U:32:ARG:HD2	26:U:34:THR:O	2.08	0.52
28:W:5:LEU:HB2	28:W:25:LEU:CD1	2.24	0.52
29:X:1313:U:H4'	29:X:1314:A:O5'	2.08	0.52
29:X:1354:A:O2'	29:X:1355:A:OP1	2.18	0.52
16:K:60:LEU:HD11	29:X:1469:U:H2'	1.91	0.52
29:X:1785:A:H2'	29:X:1786:C:H6	1.75	0.52
29:X:2046:C:C5	29:X:2047:C:N4	2.78	0.52
15:J:86:LYS:HB2	29:X:2255:G:O3'	2.10	0.52
29:X:2442:C:O2'	29:X:2443:C:H5'	2.09	0.52
29:X:309:G:N2	29:X:350:U:C5	2.78	0.52
29:X:930:A:H5''	31:Z:100:G:O2'	2.08	0.52
31:Z:104:A:C6	31:Z:105:G:C5	2.98	0.52
6:A:48:ARG:N	6:A:48:ARG:HH11	2.08	0.52
7:B:119:ARG:NH1	7:B:120:TRP:CZ2	2.78	0.52
7:B:116:VAL:CG2	7:B:136:ARG:HG3	2.39	0.52
8:C:147:LYS:HB3	8:C:183:HIS:CB	2.38	0.52
10:E:139:GLN:C	10:E:143:GLN:HG3	2.30	0.52
12:G:103:TYR:CE2	12:G:111:LYS:CB	2.93	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:53:ARG:NH2	12:G:171:LEU:HB2	2.25	0.52
14:I:9:THR:O	14:I:13:ARG:HD2	2.10	0.52
15:J:64:LYS:HZ1	15:J:110:VAL:HG13	1.72	0.52
18:M:13:LEU:O	18:M:14:ARG:C	2.48	0.52
18:M:53:VAL:CG1	18:M:54:VAL:N	2.72	0.52
19:N:47:TYR:HB2	20:O:72:ARG:O	2.09	0.52
19:N:95:LEU:HD11	19:N:109:LEU:HD13	1.92	0.52
20:O:69:ILE:CG2	20:O:70:TYR:N	2.72	0.52
20:O:8:GLY:O	20:O:9:GLY:O	2.27	0.52
21:P:35:PRO:CD	21:P:122:SER:OG	2.55	0.52
23:R:21:THR:O	23:R:83:LEU:HA	2.10	0.52
23:R:51:VAL:HG21	23:R:76:LEU:HD11	1.92	0.52
23:R:82:ALA:C	23:R:83:LEU:HG	2.30	0.52
23:R:85:ASP:H	23:R:90:LYS:HD3	1.75	0.52
25:T:34:GLY:O	29:X:2332:G:N3	2.41	0.52
29:X:105:G:H5'	29:X:105:G:C8	2.44	0.52
29:X:1150:C:H6	29:X:1150:C:O5'	1.93	0.52
14:I:13:ARG:NE	29:X:1218:C:O4'	2.38	0.52
29:X:1238:A:C2	29:X:1239:A:C2	2.97	0.52
29:X:143:A:H2'	29:X:144:U:H6	1.68	0.52
29:X:1493:A:H2'	29:X:1494:G:O4'	2.09	0.52
29:X:1625:A:H1'	29:X:1632:A:H1'	1.91	0.52
29:X:1683:G:O6	29:X:1684:G:C2	2.63	0.52
29:X:1974:U:C6	29:X:1974:U:O5'	2.58	0.52
17:L:95:LYS:HD2	29:X:2273:C:H5'	1.92	0.52
29:X:2395:C:O2'	29:X:2396:C:H5''	2.09	0.52
29:X:2504:G:C2	29:X:2518:C:C2	2.97	0.52
29:X:1949:A:H1'	29:X:2572:U:H5'	1.90	0.52
29:X:2681:A:C5	29:X:2682:C:C5	2.97	0.52
26:U:37:ILE:CD1	29:X:400:U:OP2	2.50	0.52
29:X:427:C:H1'	29:X:1856:U:C1'	2.33	0.52
29:X:539:A:H4'	29:X:540:G:C8	2.45	0.52
29:X:835:U:O2	29:X:835:U:H2'	2.07	0.52
15:J:26:ASP:HB2	29:X:919:U:OP1	2.10	0.52
8:C:5:ASN:ND2	8:C:5:ASN:N	2.58	0.52
12:G:103:TYR:CE2	12:G:111:LYS:HB2	2.45	0.52
12:G:51:LEU:CD1	12:G:127:ILE:HG13	2.39	0.52
17:L:33:ARG:HH11	17:L:100:VAL:HA	1.74	0.52
22:Q:43:GLN:O	22:Q:47:GLY:N	2.42	0.52
23:R:18:LYS:HE2	23:R:19:GLY:H	1.74	0.52
23:R:60:PRO:O	23:R:62:MET:N	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:1:MET:O	24:S:3:LEU:N	2.38	0.52
25:T:25:LYS:HB2	25:T:37:LEU:CG	2.39	0.52
29:X:1026:U:H2'	29:X:1027:C:C6	2.45	0.52
16:K:103:ARG:HG3	29:X:1300:A:OP2	2.09	0.52
29:X:1374:G:O2'	29:X:1375:C:H5'	2.09	0.52
29:X:1712:G:H3'	29:X:1712:G:N3	2.25	0.52
29:X:583:C:H1'	29:X:2038:C:C6	2.44	0.52
29:X:2074:U:O5'	29:X:2075:U:H5''	2.10	0.52
29:X:2507:U:HO2'	29:X:2508:G:H8	1.57	0.52
29:X:2057:U:H1'	29:X:2577:A:H1'	1.89	0.52
12:G:104:THR:CB	29:X:2620:G:H5''	2.40	0.52
29:X:649:G:N2	29:X:660:G:N2	2.57	0.52
29:X:841:G:H2'	29:X:842:A:N7	2.23	0.52
9:D:138:PHE:HZ	9:D:152:MET:SD	2.33	0.52
12:G:46:ALA:HB2	12:G:54:LEU:HD21	1.90	0.52
15:J:69:ILE:HD13	15:J:104:MET:HB3	1.92	0.52
16:K:90:ARG:O	16:K:90:ARG:HG3	2.08	0.52
17:L:17:VAL:HB	29:X:2313:G:C2	2.45	0.52
18:M:104:LEU:HB3	18:M:107:LEU:CD1	2.39	0.52
19:N:27:SER:OG	29:X:2003:A:OP1	2.28	0.52
19:N:91:ASN:HA	20:O:10:LYS:NZ	2.25	0.52
20:O:24:SER:O	20:O:25:LEU:C	2.48	0.52
20:O:35:LEU:O	20:O:36:LYS:HB2	2.09	0.52
19:N:88:ILE:O	20:O:48:GLY:HA3	2.10	0.52
22:Q:42:ILE:HG23	22:Q:43:GLN:H	1.74	0.52
29:X:1031:C:H41	29:X:1153:A:N6	2.07	0.52
29:X:1270:C:H2'	29:X:1271:C:H6	1.75	0.52
29:X:1296:G:H2'	29:X:1298:G:OP2	2.09	0.52
29:X:1302:C:O2'	29:X:1303:U:H5'	2.10	0.52
29:X:1459:U:C5	29:X:1475:U:O2	2.62	0.52
6:A:255:LYS:CE	29:X:1835:C:H5'	2.35	0.52
29:X:1827:G:N2	29:X:1913:G:H1'	2.25	0.52
29:X:1695:U:O2	29:X:1974:U:O4'	2.28	0.52
26:U:46:LEU:C	29:X:2209:G:H4'	2.29	0.52
29:X:2366:U:C3'	29:X:2366:U:C6	2.93	0.52
14:I:67:ASN:ND2	29:X:2383:C:H4'	2.22	0.52
29:X:2492:G:C5	29:X:2493:U:C4	2.97	0.52
29:X:2528:G:C2	29:X:2529:G:C8	2.97	0.52
19:N:3:ARG:HD2	29:X:461:A:O2'	2.10	0.52
29:X:513:A:C2	29:X:515:A:C2	2.98	0.52
29:X:689:A:H8	29:X:2052:G:N2	2.04	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:780:U:O2'	29:X:781:G:C5'	2.58	0.52
6:A:218:LYS:C	6:A:218:LYS:HD2	2.29	0.52
6:A:75:VAL:HG21	6:A:99:ASP:OD2	2.10	0.52
7:B:1:MET:HG3	7:B:83:GLY:O	2.09	0.52
12:G:106:TYR:CE2	12:G:108:GLY:CA	2.92	0.52
12:G:81:VAL:HA	12:G:149:LYS:O	2.10	0.52
8:C:28:HIS:CE1	14:I:21:ARG:HH11	2.28	0.52
15:J:44:LYS:HB2	15:J:47:GLN:CG	2.37	0.52
16:K:37:THR:OG1	16:K:40:LYS:HB2	2.09	0.52
16:K:36:THR:HG22	16:K:41:ALA:HB2	1.91	0.52
17:L:11:LEU:HD23	17:L:14:ARG:HD2	1.92	0.52
17:L:89:PHE:CD1	17:L:89:PHE:N	2.73	0.52
17:L:8:ARG:CB	17:L:8:ARG:NH1	2.73	0.52
19:N:108:ALA:O	19:N:112:ALA:HB2	2.09	0.52
19:N:17:VAL:HG21	19:N:32:TYR:HE1	1.74	0.52
20:O:14:VAL:O	20:O:15:SER:HB2	2.08	0.52
20:O:38:LEU:O	20:O:39:PHE:HB3	2.08	0.52
20:O:39:PHE:HE2	20:O:51:ALA:HB1	1.75	0.52
23:R:11:ASN:ND2	23:R:11:ASN:C	2.55	0.52
29:X:1391:A:O2'	29:X:1392:U:P	2.67	0.52
29:X:168:A:C2	29:X:169:C:C4	2.97	0.52
29:X:1856:U:H2'	29:X:1857:G:O5'	2.09	0.52
29:X:1918:G:C6	29:X:1945:C:C5	2.98	0.52
29:X:233:A:O2'	29:X:234:C:H5'	2.09	0.52
29:X:2594:U:H6	29:X:2594:U:C5'	2.22	0.52
29:X:659:G:H2'	29:X:660:G:H8	1.73	0.52
29:X:739:G:O2'	29:X:740:A:OP2	2.28	0.52
29:X:834:A:H5'	29:X:835:U:C5	2.45	0.52
29:X:888:G:H2'	29:X:889:C:O4'	2.10	0.52
29:X:915:C:H2'	29:X:916:U:C6	2.45	0.52
31:Z:16:U:O2'	31:Z:110:U:O2	2.28	0.52
8:C:99:VAL:O	8:C:103:GLY:N	2.42	0.52
14:I:107:LYS:HG3	14:I:108:LEU:N	2.25	0.52
14:I:35:LYS:O	14:I:36:GLY:O	2.27	0.52
17:L:38:ILE:CD1	17:L:40:ALA:H	2.23	0.52
18:M:34:ARG:CZ	18:M:66:PHE:HZ	2.23	0.52
19:N:3:ARG:HD3	29:X:457:C:O3'	2.10	0.52
23:R:75:ALA:O	23:R:76:LEU:HD23	2.10	0.52
24:S:23:ALA:HA	24:S:83:PHE:O	2.10	0.52
24:S:59:GLY:O	24:S:60:GLU:HG3	2.09	0.52
29:X:1358:C:C2'	29:X:1359:G:H5'	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1524:C:H3'	29:X:1525:A:O4'	2.10	0.52
29:X:1621:C:H4'	29:X:1626:A:N6	2.25	0.52
29:X:1734:C:H3'	29:X:1735:G:O4'	2.09	0.52
29:X:1755:G:O2'	29:X:1756:C:H5'	2.09	0.52
29:X:195:A:H2	29:X:212:U:H4'	1.74	0.52
29:X:2379:G:N2	29:X:2380:U:H1'	2.25	0.52
14:I:63:ARG:NE	29:X:2394:G:H5''	2.25	0.52
29:X:357:A:OP2	29:X:358:C:C2	2.63	0.52
29:X:400:U:H1'	29:X:401:G:C4	2.45	0.52
26:U:45:ASN:HB3	29:X:409:G:O2'	2.10	0.52
29:X:471:A:H2'	29:X:472:C:O4'	2.10	0.52
7:B:4:ILE:O	7:B:4:ILE:CG2	2.57	0.52
8:C:68:ARG:O	8:C:69:HIS:ND1	2.43	0.52
10:E:167:GLU:HG3	10:E:169:ILE:HG12	1.92	0.52
10:E:54:ARG:NE	10:E:62:ARG:HG2	2.25	0.52
13:H:116:ARG:HH11	18:M:38:LYS:CE	2.20	0.52
14:I:108:LEU:HB2	14:I:122:VAL:HG11	1.91	0.52
14:I:32:ARG:NH2	20:O:79:GLN:CA	2.73	0.52
15:J:21:ASP:O	15:J:22:ALA:O	2.28	0.52
15:J:52:ARG:HA	15:J:55:MET:HE3	1.91	0.52
15:J:56:SER:O	15:J:57:ARG:C	2.48	0.52
18:M:104:LEU:CD2	18:M:106:TYR:OH	2.58	0.52
18:M:32:THR:CG2	18:M:91:VAL:HG12	2.40	0.52
18:M:43:ASN:O	18:M:44:ARG:C	2.47	0.52
18:M:5:ILE:N	18:M:5:ILE:HD12	2.25	0.52
19:N:60:LEU:HD11	19:N:64:ARG:NH1	2.25	0.52
20:O:34:GLU:HB2	20:O:56:VAL:HG23	1.91	0.52
20:O:75:LYS:NZ	20:O:75:LYS:HB2	2.25	0.52
22:Q:36:THR:O	22:Q:37:GLU:C	2.48	0.52
23:R:112:LYS:O	23:R:113:THR:HG23	2.09	0.52
23:R:16:PHE:HB3	23:R:82:ALA:CB	2.40	0.52
27:V:24:GLU:O	27:V:28:LEU:HD23	2.10	0.52
27:V:4:SER:HB3	27:V:7:ARG:NH2	2.25	0.52
29:X:114:C:H4'	29:X:125:A:O4'	2.10	0.52
29:X:1188:A:H8	29:X:1188:A:O5'	1.93	0.52
29:X:1305:C:H2'	29:X:1306:U:O4'	2.09	0.52
29:X:1343:C:O2'	29:X:1344:C:H5'	2.10	0.52
29:X:1574:A:O2'	29:X:1575:C:H3'	2.09	0.52
29:X:1882:G:H21	29:X:1885:C:N4	2.06	0.52
29:X:1927:U:H1'	29:X:1938:U:C4'	2.39	0.52
7:B:145:LYS:HZ1	29:X:2015:G:H2'	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2245:A:O2'	29:X:2246:A:OP2	2.22	0.52
29:X:2370:G:H2'	29:X:2403:C:H41	1.75	0.52
29:X:689:A:H1'	29:X:2422:C:O4'	2.09	0.52
29:X:2498:U:C4'	29:X:2499:C:OP1	2.54	0.52
29:X:2585:C:O2'	29:X:2586:G:H5'	2.09	0.52
29:X:2721:A:C2'	29:X:2722:C:H5'	2.39	0.52
29:X:29:U:OP1	29:X:592:G:H4'	2.09	0.52
29:X:653:G:C3'	29:X:654:A:C5'	2.88	0.52
29:X:666:U:C2'	29:X:667:U:H4'	2.34	0.52
29:X:796:A:H2'	29:X:797:A:O3'	2.10	0.52
29:X:677:G:O3'	29:X:952:A:OP1	2.27	0.52
31:Z:4:C:O2'	31:Z:5:C:H5'	2.10	0.52
6:A:226:MET:CE	6:A:231:HIS:HB2	2.39	0.51
7:B:38:THR:HG22	7:B:39:ALA:N	2.26	0.51
8:C:148:VAL:HB	8:C:167:VAL:HG12	1.92	0.51
8:C:34:GLN:HE22	8:C:178:TYR:H	1.56	0.51
12:G:161:GLN:C	12:G:163:PRO:HD2	2.29	0.51
14:I:10:PRO:HA	14:I:14:LYS:HB2	1.92	0.51
15:J:59:PHE:CZ	15:J:110:VAL:HG21	2.45	0.51
16:K:49:GLU:OE2	29:X:2814:G:O2'	2.26	0.51
19:N:8:ILE:HG22	19:N:11:ARG:NH2	2.24	0.51
20:O:25:LEU:HD12	20:O:32:LYS:HZ3	1.75	0.51
20:O:49:GLU:C	20:O:51:ALA:N	2.63	0.51
24:S:3:LEU:HB2	24:S:34:LEU:HB3	1.92	0.51
24:S:3:LEU:HD12	24:S:4:THR:N	2.25	0.51
29:X:1004:A:N1	29:X:1173:G:C6	2.78	0.51
29:X:1032:A:H62	29:X:1151:U:H3	1.58	0.51
29:X:1273:G:C6	29:X:1274:C:C4	2.98	0.51
29:X:1328:C:H2'	29:X:1329:U:H6	1.75	0.51
29:X:1592:U:C2'	29:X:1593:C:H5'	2.40	0.51
29:X:1685:A:C6	29:X:1976:U:C6	2.98	0.51
29:X:176:A:H2'	29:X:177:U:H5	1.74	0.51
29:X:2284:U:C3'	29:X:2285:U:H5''	2.39	0.51
29:X:2311:U:C5'	29:X:2315:A:N6	2.71	0.51
29:X:2477:C:H6	29:X:2477:C:H5'	1.75	0.51
29:X:2522:G:H2'	29:X:2523:G:H8	1.75	0.51
16:K:3:HIS:HE1	29:X:2795:A:O3'	1.93	0.51
29:X:342:G:H4'	29:X:343:A:OP1	2.09	0.51
29:X:70:A:H1'	29:X:72:A:N7	2.25	0.51
29:X:882:C:O2'	29:X:883:A:H5'	2.10	0.51
31:Z:68:A:H4'	31:Z:69:G:N7	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:158:SER:OG	29:X:1811:A:C5'	2.58	0.51
6:A:214:TRP:HB3	29:X:1582:A:H1'	1.92	0.51
8:C:97:ARG:O	8:C:100:ARG:N	2.44	0.51
8:C:109:ALA:O	8:C:112:GLN:N	2.43	0.51
8:C:3:GLN:CB	8:C:116:LYS:HD2	2.40	0.51
14:I:120:VAL:HG12	14:I:122:VAL:HG13	1.92	0.51
14:I:17:LYS:O	14:I:18:ARG:HG3	2.11	0.51
17:L:43:ILE:CD1	17:L:43:ILE:N	2.61	0.51
19:N:61:TRP:HZ3	19:N:93:LYS:C	2.14	0.51
25:T:53:MET:HA	25:T:58:THR:O	2.09	0.51
29:X:1095:A:H2'	29:X:1096:A:O4'	2.10	0.51
29:X:1164:C:H2'	29:X:1165:G:O4'	2.09	0.51
8:C:89:ARG:NH2	29:X:1260:A:OP1	2.42	0.51
29:X:1437:A:H2'	29:X:1438:G:H8	1.75	0.51
29:X:1467:U:H3'	29:X:1467:U:C6	2.44	0.51
29:X:1656:U:H4'	29:X:2678:C:H4'	1.93	0.51
29:X:1932:G:C2	29:X:1941:C:N3	2.78	0.51
29:X:2026:C:H2'	29:X:2027:C:C6	2.43	0.51
29:X:1873:A:H4'	29:X:2069:U:H4'	1.92	0.51
29:X:2456:U:H4'	29:X:2458:U:O4	2.10	0.51
29:X:2507:U:C6	29:X:2509:A:C8	2.98	0.51
29:X:2671:C:N3	29:X:2672:U:C5	2.78	0.51
29:X:2708:U:C2'	29:X:2709:C:H6	2.22	0.51
29:X:532:A:C2	29:X:533:C:N3	2.79	0.51
29:X:531:G:N3	29:X:532:A:C8	2.79	0.51
29:X:635:C:C3'	29:X:636:G:H5''	2.39	0.51
29:X:66:U:H1'	29:X:87:G:N2	2.25	0.51
30:Y:44:HIS:CD2	30:Y:44:HIS:N	2.78	0.51
31:Z:114:C:C6	31:Z:114:C:O5'	2.63	0.51
6:A:53:PHE:O	6:A:54:ILE:O	2.27	0.51
8:C:138:LYS:C	8:C:140:ASN:N	2.62	0.51
11:F:90:THR:HB	11:F:93:LYS:HB2	1.92	0.51
12:G:75:ILE:HG21	12:G:144:MET:HG2	1.91	0.51
14:I:88:PHE:O	14:I:93:LEU:HB2	2.10	0.51
16:K:39:THR:O	16:K:40:LYS:C	2.47	0.51
18:M:43:ASN:C	18:M:43:ASN:ND2	2.63	0.51
18:M:82:PRO:C	18:M:84:ALA:H	2.12	0.51
23:R:32:GLN:NE2	23:R:50:GLY:CA	2.73	0.51
23:R:56:LYS:HE3	29:X:493:A:H4'	1.92	0.51
25:T:3:HIS:CG	25:T:4:LYS:H	2.28	0.51
29:X:1043:A:O2'	29:X:1045:G:OP2	2.27	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:168:A:C2	29:X:169:C:C2	2.97	0.51
29:X:1768:U:O2'	29:X:1769:U:H5'	2.11	0.51
29:X:1790:G:N3	29:X:1791:C:H5	2.07	0.51
29:X:191:G:O2'	29:X:192:G:H5'	2.11	0.51
12:G:125:ARG:NH1	29:X:2760:G:H22	2.03	0.51
29:X:2849:C:O2'	29:X:2850:U:H5''	2.10	0.51
29:X:224:G:C4'	29:X:399:G:C6	2.83	0.51
6:A:183:ARG:NH1	6:A:266:SER:O	2.43	0.51
9:D:76:ASN:O	9:D:77:PHE:O	2.27	0.51
10:E:43:VAL:HG23	10:E:52:VAL:HG22	1.91	0.51
17:L:10:LYS:HD3	17:L:14:ARG:HH21	1.74	0.51
20:O:7:THR:HG23	20:O:20:ILE:HD11	1.92	0.51
24:S:51:LEU:N	24:S:51:LEU:HD23	2.26	0.51
15:J:100:PRO:CB	24:S:74:ARG:HG2	2.40	0.51
26:U:48:LYS:HG3	29:X:1801:C:H42	1.75	0.51
29:X:1102:G:H2'	29:X:1103:C:C6	2.46	0.51
29:X:1218:C:O2'	29:X:1219:C:H5'	2.10	0.51
29:X:1347:C:C2'	29:X:1348:C:H5'	2.40	0.51
29:X:1918:G:H1'	29:X:1947:G:N2	2.26	0.51
29:X:45:C:OP2	29:X:192:G:H3'	2.10	0.51
29:X:2004:U:P	30:Y:12:SER:HG	2.33	0.51
29:X:211:U:O2'	29:X:212:U:H5'	2.09	0.51
29:X:2240:C:N3	29:X:2241:U:C5	2.78	0.51
29:X:2484:G:O2'	29:X:2485:U:H6	1.93	0.51
29:X:466:A:O2'	29:X:467:U:OP2	2.22	0.51
29:X:484:G:C2	29:X:485:G:C5	2.99	0.51
21:P:30:TYR:CG	29:X:518:A:N6	2.79	0.51
29:X:613:A:O2'	29:X:614:G:OP2	2.28	0.51
29:X:768:U:C5	29:X:769:C:C5	2.98	0.51
30:Y:19:ARG:HB2	30:Y:19:ARG:NH1	2.25	0.51
31:Z:86:A:H2'	31:Z:87:C:O5'	2.10	0.51
7:B:68:ALA:C	7:B:70:ALA:H	2.13	0.51
7:B:98:GLU:HG3	7:B:175:ILE:HG13	1.92	0.51
8:C:131:LYS:O	8:C:134:ILE:HB	2.10	0.51
8:C:30:VAL:HG11	8:C:177:VAL:HG11	1.92	0.51
12:G:49:VAL:HG13	12:G:50:PRO:HD2	1.92	0.51
15:J:34:GLY:HA2	15:J:106:GLU:CA	2.38	0.51
15:J:44:LYS:HB2	15:J:47:GLN:OE1	2.10	0.51
15:J:79:PRO:HD3	15:J:88:LYS:HZ2	1.76	0.51
17:L:66:ASP:C	17:L:68:ALA:N	2.64	0.51
17:L:63:ASN:HB3	17:L:67:THR:N	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:88:THR:O	18:M:79:ARG:HD2	2.10	0.51
19:N:66:ASN:O	19:N:70:ARG:HG3	2.10	0.51
20:O:27:GLY:O	20:O:28:GLU:HG3	2.10	0.51
20:O:79:GLN:HA	20:O:79:GLN:OE1	2.10	0.51
22:Q:58:VAL:N	22:Q:75:ARG:O	2.44	0.51
26:U:41:VAL:HG23	26:U:42:GLN:N	2.26	0.51
29:X:1555:A:H2'	29:X:1556:A:O4'	2.11	0.51
29:X:1685:A:C2	29:X:1691:G:H1'	2.45	0.51
29:X:2225:G:N1	29:X:2405:A:H1'	2.24	0.51
29:X:23:G:C6	29:X:528:G:C6	2.98	0.51
29:X:2492:G:C4	29:X:2493:U:C5	2.99	0.51
29:X:2628:C:H2'	29:X:2629:U:H6	1.76	0.51
29:X:741:G:H4'	29:X:742:G:OP2	2.09	0.51
1:1:39:LYS:CA	29:X:2323:U:C5'	2.89	0.51
7:B:31:CYS:HB2	7:B:49:ILE:CD1	2.35	0.51
8:C:103:GLY:O	8:C:106:MET:N	2.44	0.51
8:C:78:VAL:C	8:C:80:GLY:H	2.14	0.51
8:C:87:LYS:HE3	8:C:88:PRO:HD3	1.92	0.51
9:D:96:MET:O	9:D:100:LEU:HB2	2.11	0.51
12:G:119:LEU:O	12:G:123:PRO:HG3	2.09	0.51
13:H:116:ARG:CG	13:H:116:ARG:NH1	2.67	0.51
18:M:103:LYS:O	18:M:104:LEU:CB	2.59	0.51
19:N:93:LYS:O	19:N:94:VAL:CG2	2.58	0.51
22:Q:62:ARG:O	22:Q:70:GLY:HA3	2.11	0.51
24:S:51:LEU:HB3	24:S:64:ALA:O	2.10	0.51
26:U:27:ASP:HA	26:U:32:ARG:NE	2.24	0.51
26:U:15:VAL:HG12	26:U:46:LEU:CD2	2.41	0.51
29:X:1071:U:OP1	29:X:1071:U:H6	1.93	0.51
29:X:1102:G:H2'	29:X:1103:C:H6	1.75	0.51
29:X:1125:G:H2'	29:X:1126:A:C8	2.33	0.51
29:X:1283:C:H5''	29:X:1284:G:H5'	1.93	0.51
29:X:1763:G:H2'	29:X:1764:A:C4'	2.38	0.51
6:A:62:TYR:CE1	29:X:1809:G:OP1	2.57	0.51
29:X:219:G:H22	29:X:231:G:H2'	1.71	0.51
29:X:2331:A:H2'	29:X:2332:G:H5'	1.93	0.51
29:X:1774:A:N1	29:X:2566:A:N3	2.59	0.51
29:X:2827:G:H2'	29:X:2828:C:C6	2.46	0.51
29:X:490:A:H1'	29:X:491:A:N7	2.26	0.51
29:X:593:C:N4	29:X:594:G:C6	2.78	0.51
29:X:63:A:C2	29:X:64:C:C6	2.98	0.51
15:J:23:LYS:HD3	29:X:876:A:OP1	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:Y:46:CYS:O	30:Y:48:ASN:N	2.44	0.51
6:A:210:GLY:O	6:A:213:ARG:HB2	2.10	0.51
6:A:42:GLY:C	6:A:43:ARG:NH1	2.63	0.51
6:A:96:HIS:NE2	6:A:97:TYR:O	2.43	0.51
8:C:162:ARG:CZ	29:X:334:G:H21	2.24	0.51
10:E:9:ILE:HD12	10:E:50:LEU:C	2.30	0.51
14:I:76:LYS:HB3	14:I:79:GLN:CG	2.39	0.51
12:G:70:PHE:CD1	19:N:64:ARG:HA	2.46	0.51
21:P:33:MET:SD	21:P:64:ALA:HA	2.50	0.51
21:P:39:ARG:HE	21:P:97:VAL:HB	1.75	0.51
21:P:52:ASP:N	21:P:52:ASP:OD2	2.42	0.51
22:Q:57:ASN:O	22:Q:58:VAL:HG23	2.11	0.51
24:S:97:PRO:O	24:S:134:LEU:HB3	2.11	0.51
29:X:1174:G:O2'	29:X:1175:A:H5'	2.11	0.51
29:X:1919:A:O4'	29:X:1923:U:C4	2.63	0.51
29:X:208:C:O2'	29:X:209:G:H5'	2.11	0.51
29:X:2184:C:H2'	29:X:2185:U:H6	1.75	0.51
29:X:2661:G:O6	29:X:2708:U:H1'	2.10	0.51
29:X:2849:C:O2	29:X:2850:U:C6	2.64	0.51
8:C:162:ARG:HH11	29:X:333:A:H5''	1.74	0.51
29:X:444:U:O2'	29:X:445:A:H5'	2.10	0.51
29:X:537:C:O2'	29:X:538:A:C2	2.62	0.51
29:X:669:G:OP2	29:X:669:G:H8	1.94	0.51
29:X:697:G:H2'	29:X:787:A:H61	1.76	0.51
29:X:889:C:H2'	29:X:890:U:C6	2.45	0.51
7:B:105:THR:HG21	7:B:199:ARG:HH22	1.76	0.51
8:C:14:THR:O	8:C:15:ILE:HB	2.11	0.51
12:G:156:HIS:N	12:G:157:PRO:CD	2.74	0.51
12:G:63:ARG:HE	12:G:63:ARG:CA	2.24	0.51
13:H:24:VAL:HG22	13:H:45:ALA:HB2	1.92	0.51
15:J:125:LYS:HZ3	15:J:125:LYS:N	2.07	0.51
15:J:83:ARG:HH11	15:J:83:ARG:HG2	1.75	0.51
15:J:9:LYS:O	15:J:10:PHE:HB2	2.11	0.51
16:K:103:ARG:NH1	16:K:110:MET:CE	2.74	0.51
16:K:34:ILE:HG13	16:K:113:ILE:HG22	1.92	0.51
16:K:52:ILE:HG13	16:K:53:THR:N	2.25	0.51
17:L:95:LYS:HZ3	17:L:95:LYS:HB3	1.75	0.51
19:N:24:PHE:HD2	19:N:28:ARG:O	1.93	0.51
21:P:105:ARG:NH1	21:P:119:LYS:HZ2	2.08	0.51
22:Q:12:ILE:H	22:Q:12:ILE:CD1	2.23	0.51
29:X:10:A:N1	29:X:2608:A:C2	2.79	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1123:G:H2'	29:X:1124:U:O4'	2.11	0.51
29:X:1141:U:N3	29:X:2008:C:H5''	2.26	0.51
29:X:783:G:O4'	29:X:1392:U:C5	2.64	0.51
29:X:1842:G:H2'	29:X:1843:U:O4'	2.10	0.51
29:X:2074:U:C4	29:X:2075:U:C4	2.99	0.51
29:X:2324:G:C5	29:X:2326:C:C5	2.99	0.51
29:X:428:A:N1	29:X:2388:G:C6	2.78	0.51
29:X:2458:U:H5''	29:X:2459:C:OP2	2.11	0.51
29:X:2676:G:C6	29:X:2690:A:N1	2.79	0.51
7:B:162:MET:HE1	29:X:2796:A:C5'	2.40	0.51
29:X:407:A:H2'	29:X:408:U:C6	2.45	0.51
29:X:417:C:N3	29:X:419:G:C5	2.79	0.51
29:X:510:G:N2	29:X:512:A:H3'	2.26	0.51
29:X:512:A:C5	29:X:515:A:N7	2.78	0.51
29:X:732:G:O5'	29:X:732:G:C8	2.64	0.51
6:A:226:MET:HE3	29:X:795:A:H2	1.72	0.51
31:Z:31:A:C2	31:Z:58:G:C2	2.99	0.51
8:C:135:SER:O	8:C:136:TRP:C	2.49	0.51
8:C:136:TRP:O	8:C:140:ASN:HB2	2.11	0.51
9:D:32:GLU:N	9:D:157:VAL:O	2.44	0.51
9:D:34:ILE:HD13	9:D:156:ILE:HA	1.92	0.51
9:D:97:TYR:HD2	9:D:100:LEU:HD23	1.75	0.51
10:E:140:LEU:O	10:E:144:VAL:HG23	2.10	0.51
12:G:107:GLN:CA	12:G:110:LEU:HG	2.39	0.51
15:J:35:LEU:HB2	15:J:119:PHE:CD1	2.46	0.51
17:L:108:ARG:O	17:L:109:GLU:HB3	2.11	0.51
19:N:74:MET:O	19:N:75:ASN:CB	2.56	0.51
20:O:48:GLY:O	20:O:50:ASP:N	2.44	0.51
24:S:59:GLY:C	24:S:60:GLU:HG3	2.31	0.51
24:S:94:VAL:CG1	24:S:95:SER:H	2.23	0.51
25:T:29:GLU:O	25:T:31:VAL:N	2.44	0.51
29:X:105:G:H5'	29:X:105:G:H8	1.74	0.51
29:X:1177:U:C2	29:X:1198:C:O2	2.64	0.51
29:X:126:C:N4	29:X:127:C:N4	2.59	0.51
29:X:1373:G:N2	29:X:1374:G:H1'	2.25	0.51
29:X:1430:G:H2'	29:X:1431:U:C6	2.45	0.51
29:X:1459:U:O2'	29:X:1460:G:P	2.69	0.51
29:X:1968:G:C2'	29:X:1969:G:O5'	2.59	0.51
29:X:1997:A:H2'	29:X:1998:A:C8	2.46	0.51
29:X:2311:U:H5'	29:X:2315:A:H61	1.74	0.51
29:X:2680:U:H3'	29:X:2681:A:H5''	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:476:G:H2'	29:X:477:A:C8	2.46	0.51
29:X:502:A:H2'	29:X:503:G:O4'	2.11	0.51
29:X:652:C:N4	29:X:657:A:H61	2.08	0.51
29:X:81:C:H5''	29:X:307:C:H5'	1.93	0.51
31:Z:111:C:H5'	31:Z:111:C:H6	1.76	0.51
8:C:82:VAL:O	8:C:82:VAL:HG12	2.11	0.51
9:D:38:GLU:CB	9:D:87:ILE:HB	2.33	0.51
9:D:96:MET:HE2	9:D:97:TYR:CD2	2.46	0.51
11:F:1:MET:N	11:F:31:GLY:HA2	2.26	0.51
11:F:3:LYS:O	11:F:3:LYS:HG2	2.11	0.51
17:L:34:SER:HB2	17:L:94:TYR:OH	2.11	0.51
20:O:83:ARG:HH21	20:O:83:ARG:HG2	1.76	0.51
21:P:38:VAL:HG22	21:P:64:ALA:HB1	1.93	0.51
29:X:1217:U:O2'	29:X:1218:C:H5'	2.11	0.51
29:X:1402:G:N2	29:X:1412:C:C2	2.79	0.51
29:X:1503:G:N2	29:X:1504:G:C2	2.78	0.51
29:X:1699:A:C2	29:X:1700:C:C2	2.99	0.51
29:X:1879:G:H2'	29:X:1880:G:O4'	2.11	0.51
29:X:1928:G:N2	29:X:1929:U:C2	2.79	0.51
29:X:2020:G:H2'	29:X:2021:G:C8	2.46	0.51
29:X:2088:U:H2'	29:X:2089:C:C6	2.46	0.51
29:X:208:C:N4	29:X:209:G:N2	2.59	0.51
29:X:2262:C:H5''	29:X:2368:G:O2'	2.11	0.51
29:X:971:A:C4'	29:X:2436:U:H4'	2.40	0.51
29:X:401:G:H5'	29:X:402:A:OP2	2.11	0.51
29:X:640:C:H4'	29:X:660:G:N2	2.26	0.51
17:L:50:THR:HB	31:Z:117:G:O4'	2.11	0.51
4:4:27:CYS:SG	4:4:29:ASN:N	2.84	0.50
8:C:34:GLN:HE21	8:C:177:VAL:HB	1.73	0.50
8:C:78:VAL:HG13	29:X:460:U:HO2'	1.77	0.50
9:D:26:MET:HE3	31:Z:33:C:H5'	1.93	0.50
10:E:139:GLN:O	10:E:142:GLY:N	2.44	0.50
11:F:27:LEU:CD2	11:F:57:ILE:HD12	2.41	0.50
21:P:74:SER:OG	29:X:498:C:O2	2.27	0.50
23:R:14:LEU:C	23:R:16:PHE:N	2.64	0.50
23:R:25:LEU:CD1	23:R:25:LEU:N	2.71	0.50
23:R:78:ALA:C	23:R:80:LYS:N	2.64	0.50
22:Q:58:VAL:HG13	29:X:1353:A:N6	2.26	0.50
29:X:1806:G:C6	29:X:1807:A:N6	2.79	0.50
29:X:1830:C:N4	29:X:1881:U:H3'	2.26	0.50
29:X:1920:A:N1	29:X:1922:U:H5	2.09	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2530:C:H2'	29:X:2531:U:C6	2.47	0.50
29:X:1774:A:N1	29:X:2566:A:C4	2.79	0.50
29:X:2726:U:C2'	29:X:2727:G:H5'	2.41	0.50
29:X:320:A:O2'	29:X:340:G:H2'	2.11	0.50
29:X:717:G:C2'	29:X:739:G:N2	2.68	0.50
29:X:577:U:C4'	29:X:956:A:N6	2.74	0.50
4:4:18:ARG:HH11	4:4:23:VAL:CG2	2.23	0.50
7:B:136:ARG:CD	29:X:1673:C:OP1	2.54	0.50
7:B:82:ARG:HH22	29:X:2617:G:P	2.34	0.50
9:D:106:ILE:CG2	9:D:139:PRO:HB3	2.38	0.50
9:D:148:LYS:HG3	9:D:149:THR:H	1.77	0.50
12:G:61:ARG:CA	12:G:65:LYS:HB2	2.32	0.50
13:H:2:ILE:HG12	13:H:45:ALA:O	2.11	0.50
14:I:89:ASP:OD2	14:I:120:VAL:HA	2.10	0.50
17:L:33:ARG:HH22	17:L:103:LEU:HB2	1.75	0.50
18:M:6:LYS:O	18:M:7:ILE:HG12	2.11	0.50
19:N:23:GLY:O	19:N:24:PHE:C	2.50	0.50
19:N:86:ALA:C	19:N:88:ILE:N	2.62	0.50
20:O:58:ALA:HB2	20:O:95:ILE:HD13	1.92	0.50
23:R:25:LEU:HD12	23:R:25:LEU:H	1.76	0.50
29:X:1474:A:H4'	29:X:1475:U:C5'	2.41	0.50
29:X:1626:A:H5''	29:X:1627:C:OP2	2.12	0.50
29:X:1693:A:C2	29:X:1976:U:C5'	2.92	0.50
6:A:158:SER:OG	29:X:1811:A:H5'	2.11	0.50
29:X:1887:G:O2'	29:X:1888:C:H5'	2.11	0.50
29:X:1998:A:H1'	30:Y:3:LYS:CB	2.41	0.50
29:X:2264:C:N4	29:X:2325:A:C2	2.80	0.50
29:X:2546:G:C4	29:X:2547:C:C5	3.00	0.50
29:X:2612:G:H2'	29:X:2613:A:O4'	2.11	0.50
29:X:2645:C:H2'	29:X:2646:C:H5'	1.93	0.50
29:X:201:G:N7	29:X:433:G:H4'	2.27	0.50
29:X:27:G:N2	29:X:522:G:O2'	2.45	0.50
29:X:647:G:O2'	29:X:648:A:C5'	2.59	0.50
30:Y:35:GLN:HG3	30:Y:51:TYR:CD2	2.46	0.50
6:A:257:LEU:HD13	29:X:1795:C:P	2.51	0.50
7:B:19:ARG:NH1	7:B:185:LYS:NZ	2.57	0.50
8:C:115:GLY:HA3	8:C:185:ARG:CD	2.41	0.50
10:E:54:ARG:NH1	10:E:57:ASP:HB3	2.22	0.50
14:I:13:ARG:HG2	14:I:13:ARG:NH2	2.26	0.50
14:I:29:THR:HG22	14:I:29:THR:O	2.10	0.50
14:I:48:PHE:O	14:I:49:PHE:O	2.29	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:20:LEU:O	16:K:22:ARG:N	2.44	0.50
22:Q:55:THR:O	22:Q:56:MET:HG2	2.12	0.50
22:Q:90:ALA:C	22:Q:92:ALA:N	2.64	0.50
28:W:8:SER:HB2	29:X:999:A:H5'	1.88	0.50
29:X:1173:G:H2'	29:X:1174:G:C8	2.45	0.50
29:X:168:A:O2'	29:X:169:C:H5'	2.11	0.50
29:X:1732:U:O2'	29:X:1733:U:OP1	2.29	0.50
29:X:1923:U:O2'	29:X:1924:C:OP2	2.28	0.50
29:X:1926:U:O2	29:X:1926:U:H2'	2.11	0.50
29:X:2061:C:O5'	29:X:2061:C:H6	1.95	0.50
29:X:2471:U:N3	29:X:2472:U:C4	2.79	0.50
29:X:2756:A:C6	29:X:2762:G:H1'	2.46	0.50
29:X:2794:G:C5	29:X:2796:A:C6	3.00	0.50
29:X:766:A:O5'	29:X:766:A:H8	1.94	0.50
29:X:956:A:N9	29:X:2427:A:C2	2.79	0.50
29:X:983:G:C6	29:X:984:A:N6	2.79	0.50
6:A:68:LYS:HB3	6:A:152:GLY:CA	2.41	0.50
7:B:105:THR:HB	7:B:166:THR:HG23	1.93	0.50
7:B:154:LYS:HD2	7:B:156:MET:CG	2.41	0.50
7:B:93:VAL:O	7:B:95:ILE:N	2.44	0.50
8:C:34:GLN:OE1	8:C:176:ASN:ND2	2.45	0.50
8:C:33:TRP:O	8:C:36:ALA:HB3	2.11	0.50
8:C:94:THR:HG21	29:X:618:A:OP1	2.12	0.50
9:D:51:ASP:O	9:D:55:LYS:HG2	2.11	0.50
13:H:60:PRO:O	13:H:61:ARG:HB2	2.12	0.50
17:L:87:VAL:CG1	17:L:88:VAL:H	2.21	0.50
20:O:36:LYS:HE3	20:O:56:VAL:HG13	1.93	0.50
19:N:36:PHE:HZ	20:O:81:ARG:NH1	2.09	0.50
24:S:147:ILE:HB	24:S:169:VAL:HG22	1.93	0.50
26:U:41:VAL:HG23	26:U:42:GLN:H	1.76	0.50
29:X:1006:C:H4'	29:X:1007:A:OP1	2.09	0.50
29:X:1047:G:C6	29:X:1131:G:C6	3.00	0.50
29:X:1253:C:C5'	29:X:1253:C:H6	2.25	0.50
29:X:1734:C:C4	29:X:1735:G:H1'	2.46	0.50
29:X:1811:A:O2'	29:X:1812:U:P	2.69	0.50
29:X:1938:U:C5	29:X:2536:G:N2	2.80	0.50
29:X:202:A:H2'	29:X:203:G:O4'	2.10	0.50
29:X:2035:G:O2'	29:X:2036:G:H5'	2.11	0.50
6:A:249:PRO:HD3	29:X:2218:G:C4'	2.42	0.50
29:X:2310:G:N2	29:X:2364:C:C4	2.79	0.50
29:X:2447:G:N2	29:X:2460:G:C2'	2.73	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2680:U:O5'	29:X:2680:U:H6	1.94	0.50
4:4:35:ARG:NH1	29:X:2722:C:P	2.83	0.50
29:X:2845:C:C2'	29:X:2846:G:H5'	2.40	0.50
29:X:679:C:H2'	29:X:680:U:H6	1.74	0.50
29:X:704:G:H2'	29:X:705:C:C6	2.47	0.50
29:X:73:A:C5'	29:X:74:G:O4'	2.60	0.50
29:X:750:C:C2'	29:X:751:G:H5'	2.41	0.50
29:X:789:G:H4'	29:X:790:A:O5'	2.11	0.50
29:X:841:G:C6	29:X:842:A:N6	2.80	0.50
9:D:88:LYS:HE2	31:Z:44:C:N4	2.27	0.50
8:C:106:MET:O	8:C:106:MET:HG2	2.12	0.50
8:C:67:ALA:O	8:C:68:ARG:HB2	2.11	0.50
9:D:133:LYS:O	9:D:134:GLU:C	2.50	0.50
9:D:163:ASP:HA	9:D:166:ALA:CB	2.42	0.50
9:D:40:LEU:HD12	9:D:85:VAL:O	2.12	0.50
12:G:61:ARG:CG	12:G:65:LYS:HD2	2.35	0.50
13:H:100:ASN:C	13:H:100:ASN:OD1	2.49	0.50
13:H:10:VAL:CG2	13:H:17:ARG:O	2.47	0.50
14:I:120:VAL:C	14:I:121:HIS:HD2	2.15	0.50
14:I:130:ILE:HG12	14:I:140:VAL:HG11	1.93	0.50
14:I:18:ARG:HB2	14:I:21:ARG:CG	2.41	0.50
14:I:8:PRO:O	14:I:13:ARG:HD2	2.12	0.50
15:J:45:SER:N	15:J:94:TRP:O	2.43	0.50
19:N:20:ARG:HD2	19:N:39:LEU:CD1	2.41	0.50
24:S:34:LEU:C	24:S:34:LEU:HD12	2.32	0.50
24:S:94:VAL:CG1	24:S:95:SER:N	2.75	0.50
29:X:1339:U:O2'	29:X:1993:G:H1'	2.12	0.50
29:X:1466:C:O2'	29:X:1467:U:C4'	2.60	0.50
29:X:1468:A:H8	29:X:1468:A:P	2.35	0.50
29:X:1657:A:N6	29:X:1658:A:C6	2.79	0.50
17:L:91:ARG:NH1	29:X:2355:A:H61	2.10	0.50
29:X:2367:A:H5'	29:X:2368:G:OP2	2.11	0.50
29:X:2522:G:N2	29:X:2625:U:H5''	2.26	0.50
29:X:2691:C:O2'	29:X:2692:A:C8	2.62	0.50
29:X:2729:A:N1	29:X:2730:A:N6	2.60	0.50
29:X:2867:G:H8	29:X:2867:G:OP2	1.93	0.50
29:X:653:G:H3'	29:X:654:A:C5'	2.40	0.50
29:X:987:G:H5'	29:X:1167:A:N6	2.26	0.50
29:X:988:G:N3	29:X:1012:A:H2	2.10	0.50
7:B:59:VAL:HG12	7:B:60:ASN:O	2.11	0.50
8:C:195:ILE:O	8:C:196:VAL:HB	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:46:ASP:HB2	9:D:49:ALA:CB	2.40	0.50
9:D:66:ILE:HD11	31:Z:43:G:C5'	2.22	0.50
9:D:69:LYS:HG2	9:D:84:PRO:HA	1.94	0.50
15:J:43:ILE:N	15:J:95:VAL:CG1	2.74	0.50
18:M:106:TYR:CD1	18:M:106:TYR:C	2.85	0.50
18:M:107:LEU:C	18:M:109:GLU:H	2.14	0.50
12:G:70:PHE:HE1	19:N:67:ALA:HB3	1.76	0.50
21:P:91:PHE:O	21:P:92:VAL:C	2.50	0.50
22:Q:12:ILE:N	22:Q:12:ILE:CD1	2.74	0.50
22:Q:57:ASN:O	22:Q:58:VAL:CG2	2.60	0.50
24:S:103:ARG:HD3	24:S:108:VAL:HG23	1.93	0.50
28:W:47:VAL:O	28:W:48:LYS:C	2.50	0.50
29:X:1012:A:N7	29:X:1013:G:C4	2.80	0.50
29:X:455:A:C2	29:X:1258:G:N3	2.79	0.50
29:X:1495:G:H5'	29:X:1574:A:C2	2.47	0.50
29:X:15:G:H4'	30:Y:21:SER:HB3	1.92	0.50
29:X:2198:U:N3	29:X:2199:C:C5	2.79	0.50
29:X:2300:G:H3'	29:X:2300:G:N3	2.26	0.50
29:X:2432:A:H2'	29:X:2433:G:H8	1.75	0.50
29:X:2485:U:O2'	29:X:2486:C:O5'	2.29	0.50
29:X:2542:U:C6	29:X:2544:A:OP2	2.65	0.50
29:X:33:C:C2'	29:X:34:U:H5''	2.42	0.50
29:X:417:C:C6	29:X:419:G:C4	2.99	0.50
29:X:706:A:H2'	29:X:707:U:H6	1.75	0.50
29:X:733:G:O2'	29:X:734:G:H5'	2.12	0.50
6:A:218:LYS:NZ	29:X:794:A:H5'	2.26	0.50
30:Y:51:TYR:HE1	30:Y:55:ARG:HD3	1.77	0.50
8:C:109:ALA:O	8:C:110:SER:C	2.49	0.50
9:D:35:VAL:HG12	9:D:36:VAL:N	2.27	0.50
9:D:75:SER:H	9:D:79:LEU:CD2	2.18	0.50
13:H:23:ARG:NH2	13:H:25:LEU:CD2	2.65	0.50
14:I:78:SER:HB3	14:I:112:GLY:CA	2.37	0.50
16:K:98:LEU:N	16:K:98:LEU:HD12	2.27	0.50
17:L:29:LEU:HA	17:L:41:GLN:O	2.12	0.50
19:N:107:LYS:O	19:N:110:VAL:HB	2.12	0.50
21:P:100:GLY:O	21:P:101:PRO:O	2.30	0.50
22:Q:28:TRP:CE3	22:Q:75:ARG:HB3	2.47	0.50
26:U:55:GLY:O	26:U:56:GLN:HB3	2.12	0.50
29:X:1002:C:H2'	29:X:1003:C:H6	1.77	0.50
29:X:1226:A:C6	29:X:1250:A:H1'	2.47	0.50
29:X:1793:A:O5'	29:X:1793:A:H8	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2039:G:H2'	29:X:2039:G:N3	2.26	0.50
29:X:2348:A:H2'	29:X:2349:G:C8	2.47	0.50
29:X:2350:G:C2	29:X:2351:G:C8	2.99	0.50
29:X:2382:C:O2	29:X:2382:C:H2'	2.11	0.50
29:X:302:U:H2'	29:X:303:C:C6	2.47	0.50
29:X:542:A:N6	29:X:2003:A:H1'	2.27	0.50
29:X:689:A:C2'	29:X:690:A:H5'	2.42	0.50
29:X:851:C:C2	29:X:952:A:N1	2.80	0.50
29:X:88:G:O5'	29:X:89:A:H5''	2.11	0.50
6:A:142:VAL:CG1	6:A:193:ILE:HD13	2.42	0.50
6:A:172:TYR:HD2	6:A:184:ARG:O	1.94	0.50
7:B:131:SER:C	7:B:132:LYS:HG2	2.31	0.50
8:C:194:GLU:O	8:C:195:ILE:CG1	2.51	0.50
10:E:109:TYR:O	10:E:110:SER:C	2.50	0.50
11:F:10:LEU:N	11:F:10:LEU:HD23	2.27	0.50
11:F:121:GLU:O	11:F:125:ASN:ND2	2.44	0.50
12:G:69:ASP:C	12:G:70:PHE:HD2	2.15	0.50
12:G:93:LYS:HG2	12:G:97:ASP:CB	2.42	0.50
13:H:4:PRO:O	13:H:5:GLN:CB	2.39	0.50
15:J:62:GLY:HA3	15:J:64:LYS:HE3	1.92	0.50
18:M:26:ASP:O	18:M:27:PHE:O	2.29	0.50
21:P:85:MET:CE	21:P:130:GLU:H	2.24	0.50
26:U:15:VAL:O	26:U:16:ASN:C	2.50	0.50
26:U:63:SER:O	26:U:64:ALA:C	2.50	0.50
29:X:1091:C:O2'	29:X:1092:U:H5'	2.12	0.50
29:X:1154:A:O2'	29:X:1155:G:OP1	2.22	0.50
29:X:1526:U:H3'	29:X:1527:G:C8	2.47	0.50
29:X:1681:A:H2	29:X:2706:U:H1'	1.75	0.50
29:X:1683:G:H2'	29:X:1684:G:H5'	1.91	0.50
29:X:1724:C:C2	29:X:1747:G:C6	3.00	0.50
29:X:1963:G:C2	29:X:1965:U:C2	2.99	0.50
29:X:2058:U:H2'	29:X:2217:G:N2	2.26	0.50
18:M:2:GLN:N	29:X:2795:A:C2	2.80	0.50
29:X:446:C:H2'	29:X:447:U:O4'	2.12	0.50
29:X:617:U:O2	29:X:617:U:C3'	2.60	0.50
29:X:651:C:H42	29:X:658:G:H1	1.60	0.50
29:X:475:U:O2'	29:X:699:G:O6	2.30	0.50
29:X:742:G:H1'	29:X:776:G:O3'	2.12	0.50
29:X:75:C:C2'	29:X:76:C:H5''	2.42	0.50
29:X:998:C:O2	29:X:1011:A:H2	1.95	0.50
4:4:25:VAL:CB	4:4:34:GLN:HB2	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:226:MET:HE2	6:A:231:HIS:CB	2.41	0.50
7:B:119:ARG:HD2	7:B:158:GLY:H	1.76	0.50
7:B:70:ALA:HB3	7:B:72:VAL:CG2	2.42	0.50
7:B:75:THR:O	7:B:76:ARG:HB2	2.11	0.50
9:D:99:PHE:O	9:D:102:LYS:HB2	2.12	0.50
10:E:150:LYS:O	10:E:152:ARG:N	2.44	0.50
12:G:127:ILE:H	12:G:127:ILE:HD12	1.77	0.50
15:J:27:TYR:HB3	15:J:137:VAL:HG11	1.94	0.50
15:J:40:PRO:CG	15:J:99:LYS:HZ1	2.25	0.50
15:J:92:GLU:HA	15:J:92:GLU:OE1	2.11	0.50
16:K:51:LEU:HD21	16:K:70:ILE:HG12	1.94	0.50
19:N:45:TYR:O	19:N:46:GLU:C	2.49	0.50
21:P:47:GLY:O	21:P:48:LYS:CB	2.59	0.50
29:X:1053:G:C5	29:X:1054:C:C4	3.00	0.50
29:X:1226:A:H2'	29:X:1227:A:O4'	2.12	0.50
29:X:141:G:H2'	29:X:142:U:C6	2.47	0.50
29:X:1473:U:H1'	29:X:1474:A:C5	2.47	0.50
29:X:1603:A:H2'	29:X:1604:A:H8	1.76	0.50
29:X:1746:A:C2'	29:X:1747:G:O5'	2.60	0.50
29:X:1744:G:N1	29:X:1747:G:OP2	2.34	0.50
29:X:2081:U:H2'	29:X:2082:C:C6	2.46	0.50
29:X:2175:A:H2'	29:X:2176:U:H6	1.76	0.50
29:X:2363:G:H5''	29:X:2365:U:OP1	2.12	0.50
15:J:47:GLN:HE21	29:X:2464:G:H5''	1.66	0.50
29:X:2468:G:H2'	29:X:2469:G:O4'	2.11	0.50
29:X:2519:C:O2'	29:X:2520:A:H5'	2.11	0.50
29:X:2529:G:C6	29:X:2530:C:C4	3.00	0.50
29:X:2625:U:O4	29:X:2712:G:C6	2.65	0.50
7:B:11:MET:SD	29:X:2661:G:C8	3.05	0.50
29:X:2673:G:C6	29:X:2696:A:C6	3.00	0.50
29:X:2697:G:C2	29:X:2698:G:C4	3.00	0.50
29:X:347:C:O2	29:X:347:C:H2'	2.12	0.50
29:X:579:G:H4'	29:X:994:A:C2	2.47	0.50
29:X:731:A:N3	29:X:731:A:H5''	2.26	0.50
29:X:749:C:H2'	29:X:750:C:H6	1.76	0.50
7:B:155:ARG:HG3	7:B:155:ARG:HH11	1.77	0.49
7:B:4:ILE:HG23	7:B:4:ILE:O	2.11	0.49
7:B:72:VAL:CG1	7:B:73:ALA:H	2.24	0.49
9:D:175:LEU:HD12	9:D:176:PRO:CD	2.26	0.49
10:E:148:VAL:C	10:E:150:LYS:N	2.64	0.49
11:F:27:LEU:HD12	11:F:27:LEU:N	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:F:30:TYR:HB3	11:F:59:ILE:HD13	1.94	0.49
13:H:28:GLY:O	13:H:35:THR:OG1	2.29	0.49
13:H:26:ASN:ND2	13:H:38:GLY:H	2.08	0.49
15:J:52:ARG:HA	15:J:55:MET:CE	2.42	0.49
15:J:21:ASP:CA	15:J:99:LYS:HE2	2.41	0.49
16:K:40:LYS:O	16:K:43:GLU:HB3	2.12	0.49
16:K:72:ASP:O	16:K:75:VAL:N	2.45	0.49
17:L:87:VAL:CG1	17:L:88:VAL:N	2.74	0.49
18:M:46:ARG:CG	18:M:47:SER:N	2.75	0.49
21:P:105:ARG:NH1	21:P:119:LYS:HZ1	2.09	0.49
22:Q:54:SER:OG	22:Q:79:ILE:HB	2.12	0.49
23:R:36:VAL:O	23:R:37:LEU:HD23	2.12	0.49
24:S:23:ALA:HB3	24:S:32:PHE:HE1	1.77	0.49
26:U:40:ARG:NE	29:X:178:C:OP1	2.45	0.49
26:U:41:VAL:CG2	26:U:43:ARG:HH22	2.23	0.49
26:U:52:ARG:CD	26:U:79:GLU:HA	2.42	0.49
29:X:74:G:N2	29:X:110:U:O2	2.43	0.49
29:X:1152:C:C2'	29:X:1153:A:OP1	2.60	0.49
29:X:1460:G:OP2	29:X:1460:G:H8	1.95	0.49
29:X:1513:U:OP2	29:X:1514:C:H5	1.94	0.49
29:X:1524:C:H3'	29:X:1525:A:H5''	1.92	0.49
29:X:1623:C:HO2'	29:X:1624:A:P	2.31	0.49
29:X:2081:U:H3	29:X:2174:G:H1	1.60	0.49
29:X:2264:C:H42	29:X:2325:A:H2	1.60	0.49
29:X:2710:C:C2'	29:X:2711:G:H5'	2.42	0.49
29:X:2794:G:O2'	29:X:2795:A:H5''	2.11	0.49
29:X:333:A:H1'	29:X:351:A:N9	2.27	0.49
29:X:36:G:N2	29:X:457:C:C2	2.79	0.49
29:X:469:G:O2'	29:X:470:U:OP2	2.29	0.49
29:X:540:G:HO2'	29:X:542:A:H2	1.57	0.49
29:X:81:C:C4	29:X:82:G:C2	2.99	0.49
29:X:830:C:H2'	29:X:831:G:O4'	2.12	0.49
30:Y:12:SER:HB2	30:Y:15:LYS:H	1.76	0.49
8:C:6:VAL:HG23	8:C:118:VAL:HG23	1.94	0.49
8:C:45:THR:HG22	8:C:47:THR:N	2.24	0.49
8:C:84:PHE:HE1	29:X:596:C:C5'	2.15	0.49
10:E:149:ARG:HD3	10:E:164:PHE:HE1	1.77	0.49
10:E:163:ARG:HB2	10:E:167:GLU:CB	2.42	0.49
11:F:62:ASP:C	11:F:63:ARG:HD3	2.32	0.49
13:H:27:SER:CB	13:H:50:ILE:HG13	2.41	0.49
14:I:13:ARG:HH11	29:X:1218:C:C5'	2.26	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:73:GLU:HG2	14:I:101:ARG:HB2	1.94	0.49
14:I:80:LEU:O	14:I:83:LEU:O	2.29	0.49
17:L:56:SER:HG	17:L:71:VAL:HB	1.76	0.49
17:L:91:ARG:NH2	29:X:2355:A:N1	2.60	0.49
19:N:40:LEU:O	19:N:41:ASN:C	2.48	0.49
20:O:10:LYS:HG3	20:O:11:GLN:N	2.27	0.49
21:P:49:SER:O	21:P:51:GLN:N	2.45	0.49
22:Q:60:GLY:HA3	22:Q:73:ASN:ND2	2.27	0.49
23:R:25:LEU:N	23:R:25:LEU:HD13	2.26	0.49
24:S:100:THR:OG1	24:S:138:VAL:CG1	2.57	0.49
25:T:71:ASN:HD22	25:T:77:ARG:HH11	1.59	0.49
27:V:13:ASP:HA	27:V:16:LYS:HB3	1.93	0.49
29:X:1299:A:C2'	29:X:1301:U:OP2	2.54	0.49
29:X:1653:C:O2'	29:X:1751:A:N3	2.39	0.49
29:X:2671:C:N3	29:X:2672:U:C4	2.81	0.49
29:X:337:G:O2'	29:X:338:G:H5'	2.12	0.49
29:X:415:A:C3'	29:X:416:U:H5'	2.43	0.49
12:G:73:ASN:ND2	29:X:547:U:H1'	2.17	0.49
29:X:956:A:H1'	29:X:2427:A:H2	1.76	0.49
17:L:35:SER:HB2	31:Z:31:A:P	2.52	0.49
7:B:122:PHE:O	7:B:123:ALA:CB	2.60	0.49
7:B:11:MET:CG	7:B:24:THR:OG1	2.52	0.49
8:C:162:ARG:O	29:X:334:G:H2'	2.11	0.49
9:D:71:LYS:O	9:D:72:LYS:CB	2.59	0.49
13:H:2:ILE:O	13:H:45:ALA:N	2.43	0.49
18:M:10:GLY:O	18:M:13:LEU:N	2.43	0.49
20:O:58:ALA:CB	20:O:95:ILE:HD13	2.41	0.49
21:P:30:TYR:CD1	29:X:518:A:N6	2.80	0.49
22:Q:35:LYS:HA	22:Q:38:ILE:CG2	2.43	0.49
23:R:24:VAL:HB	23:R:29:HIS:O	2.12	0.49
24:S:110:GLY:O	24:S:174:PRO:HB3	2.12	0.49
24:S:55:THR:HG23	24:S:59:GLY:HA2	1.93	0.49
27:V:2:LYS:HA	27:V:6:MET:CE	2.42	0.49
28:W:9:VAL:HG12	28:W:9:VAL:O	2.12	0.49
29:X:1713:G:C6	29:X:1714:A:C5	3.00	0.49
29:X:172:A:C6	29:X:175:C:C5	3.01	0.49
29:X:199:A:H61	29:X:209:G:H1'	1.77	0.49
29:X:2197:U:N3	29:X:2198:U:C5	2.81	0.49
6:A:249:PRO:CG	29:X:2218:G:O4'	2.56	0.49
29:X:2462:C:H2'	29:X:2463:G:O4'	2.11	0.49
29:X:2057:U:C1'	29:X:2577:A:H1'	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2633:A:N6	29:X:2645:C:OP2	2.43	0.49
29:X:2847:G:C2	29:X:2848:A:N6	2.80	0.49
12:G:162:LYS:HD3	29:X:2873:G:H1'	1.94	0.49
29:X:529:U:N3	29:X:530:G:N7	2.61	0.49
29:X:531:G:O2'	29:X:532:A:C5'	2.60	0.49
29:X:963:G:C6	29:X:977:G:C6	3.00	0.49
29:X:98:U:H3'	29:X:98:U:H6	1.77	0.49
30:Y:15:LYS:O	30:Y:18:MET:CB	2.60	0.49
6:A:70:ARG:NH2	6:A:189:CYS:SG	2.86	0.49
7:B:105:THR:CB	7:B:166:THR:OG1	2.61	0.49
8:C:125:ILE:O	8:C:126:ALA:HB3	2.12	0.49
8:C:98:GLN:HE22	29:X:611:C:C5'	2.26	0.49
9:D:26:MET:HB3	31:Z:59:A:C2	2.48	0.49
10:E:140:LEU:HA	10:E:143:GLN:HB2	1.94	0.49
16:K:83:VAL:CG2	16:K:84:ALA:N	2.76	0.49
18:M:36:ASP:OD1	18:M:36:ASP:C	2.50	0.49
20:O:39:PHE:CE2	20:O:51:ALA:HB1	2.48	0.49
24:S:105:GLN:N	24:S:139:THR:O	2.41	0.49
29:X:148:C:H2'	29:X:149:A:O4'	2.12	0.49
29:X:1567:A:N6	29:X:1568:A:C6	2.80	0.49
29:X:155:G:O2'	29:X:156:G:H5'	2.12	0.49
29:X:15:G:H4'	30:Y:21:SER:CB	2.42	0.49
6:A:45:ASN:ND2	29:X:1797:C:O2	2.45	0.49
29:X:1800:A:C6	29:X:1802:A:C6	3.00	0.49
29:X:181:A:H4'	29:X:182:G:OP1	2.12	0.49
29:X:1776:A:OP1	29:X:1965:U:H5'	2.13	0.49
29:X:2002:A:H2'	29:X:2003:A:O5'	2.12	0.49
29:X:2039:G:C6	29:X:2556:A:C4	3.01	0.49
29:X:2046:C:C4	29:X:2047:C:C4	3.00	0.49
29:X:2550:C:N4	29:X:2553:G:C8	2.80	0.49
29:X:2616:U:H2'	29:X:2617:G:O4'	2.12	0.49
29:X:2664:G:N1	29:X:2665:G:C5	2.80	0.49
29:X:2699:G:HO2'	29:X:2700:U:H5'	1.76	0.49
29:X:2775:U:H5'	29:X:2776:U:C5'	2.33	0.49
29:X:39:C:H2'	29:X:40:U:H6	1.77	0.49
29:X:553:C:C4	29:X:557:U:C2	3.01	0.49
29:X:633:G:H2'	29:X:634:G:H8	1.77	0.49
29:X:767:G:C2'	29:X:768:U:H5'	2.42	0.49
29:X:996:C:OP2	29:X:997:C:OP2	2.30	0.49
30:Y:4:HIS:HB3	30:Y:5:PRO:HD2	1.87	0.49
31:Z:11:G:O6	31:Z:114:C:N3	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:27:ALA:CB	31:Z:59:A:H1'	2.29	0.49
6:A:173:VAL:HG21	6:A:187:SER:HB3	1.91	0.49
6:A:223:GLY:HA2	6:A:226:MET:CG	2.43	0.49
6:A:245:VAL:HG12	6:A:251:GLY:CA	2.42	0.49
7:B:32:PRO:O	7:B:49:ILE:HG13	2.12	0.49
8:C:172:VAL:O	8:C:174:GLY:N	2.45	0.49
8:C:28:HIS:O	8:C:29:GLU:C	2.51	0.49
8:C:2:ALA:CB	8:C:13:ARG:HA	2.42	0.49
8:C:47:THR:HA	8:C:82:VAL:O	2.12	0.49
9:D:108:LEU:HD13	9:D:176:PRO:HG3	1.94	0.49
9:D:13:ARG:HG2	9:D:17:MET:HE2	1.94	0.49
12:G:69:ASP:C	12:G:70:PHE:CD2	2.86	0.49
17:L:38:ILE:CD1	17:L:39:TYR:H	2.23	0.49
23:R:22:VAL:HG21	23:R:80:LYS:HZ2	1.77	0.49
25:T:37:LEU:HD12	25:T:37:LEU:N	2.27	0.49
29:X:1329:U:C2	29:X:1330:G:C8	3.01	0.49
29:X:1370:U:H2'	29:X:1371:G:C8	2.47	0.49
29:X:1373:G:N2	29:X:1374:G:C1'	2.76	0.49
29:X:1467:U:C3'	29:X:1467:U:C6	2.95	0.49
29:X:1536:G:O2'	29:X:1537:U:H5'	2.13	0.49
29:X:1635:G:C2	29:X:1636:G:C8	3.00	0.49
29:X:1947:G:H4'	29:X:1948:C:OP2	2.12	0.49
29:X:2175:A:H2'	29:X:2176:U:C6	2.48	0.49
29:X:219:G:O2'	29:X:220:U:C5	2.65	0.49
29:X:2333:A:C2	29:X:2343:C:C2	3.00	0.49
15:J:78:LYS:NZ	29:X:2438:A:N3	2.60	0.49
29:X:2843:A:N6	29:X:2844:G:N1	2.60	0.49
29:X:520:C:C4	29:X:521:U:C4	3.00	0.49
29:X:539:A:N6	29:X:2025:A:C1'	2.75	0.49
29:X:613:A:O2'	29:X:614:G:P	2.70	0.49
29:X:75:C:H2'	29:X:76:C:H5''	1.95	0.49
29:X:828:C:H2'	29:X:829:C:C6	2.48	0.49
29:X:836:G:H2'	29:X:837:U:O4'	2.12	0.49
29:X:830:C:O2'	29:X:852:U:H5''	2.12	0.49
6:A:163:VAL:CG2	6:A:178:PRO:HD3	2.42	0.49
8:C:162:ARG:HD2	29:X:331:U:O2'	2.13	0.49
9:D:112:ARG:O	9:D:113:ASP:HB2	2.13	0.49
10:E:39:THR:C	10:E:41:LEU:H	2.15	0.49
10:E:52:VAL:O	10:E:65:HIS:NE2	2.45	0.49
10:E:98:LEU:HD12	10:E:99:THR:N	2.27	0.49
12:G:90:LEU:HD23	12:G:93:LYS:O	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:50:GLU:OE1	29:X:678:G:H4'	2.13	0.49
15:J:11:ARG:NH2	15:J:15:ARG:HH22	2.09	0.49
15:J:77:LYS:CG	15:J:78:LYS:N	2.75	0.49
22:Q:33:ALA:O	22:Q:34:THR:C	2.51	0.49
22:Q:26:SER:CB	22:Q:79:ILE:HG12	2.41	0.49
23:R:90:LYS:HB2	23:R:108:VAL:CG2	2.24	0.49
24:S:73:LYS:O	24:S:74:ARG:HB2	2.11	0.49
24:S:6:LYS:N	24:S:7:PRO:CD	2.74	0.49
25:T:40:GLN:NE2	25:T:44:LYS:N	2.61	0.49
27:V:4:SER:HB3	27:V:7:ARG:HH21	1.76	0.49
27:V:17:GLU:O	27:V:53:LEU:HD13	2.12	0.49
29:X:1065:A:C2'	29:X:1066:G:H5'	2.42	0.49
29:X:1226:A:OP2	29:X:1248:G:N1	2.45	0.49
6:A:60:ARG:HA	29:X:1584:G:H5'	1.94	0.49
29:X:1644:G:H2'	29:X:1645:U:C6	2.48	0.49
29:X:1710:U:H5'	29:X:1711:C:H5	1.76	0.49
29:X:1776:A:OP1	29:X:1965:U:C5'	2.61	0.49
29:X:2073:A:C5	29:X:2074:U:C4	3.00	0.49
29:X:2228:U:H4'	29:X:2229:G:OP2	2.11	0.49
29:X:223:C:C2'	29:X:224:G:H5'	2.40	0.49
29:X:2307:A:H2'	29:X:2308:A:H8	1.74	0.49
29:X:2311:U:C4'	29:X:2315:A:N6	2.75	0.49
29:X:2324:G:C5	29:X:2326:C:C4	3.01	0.49
29:X:2437:G:H1'	29:X:2438:A:N7	2.28	0.49
29:X:2441:U:H2'	29:X:2442:C:C6	2.47	0.49
29:X:2442:C:H2'	29:X:2443:C:C6	2.47	0.49
29:X:2602:G:C2'	29:X:2603:G:H5'	2.42	0.49
29:X:2651:U:O2	29:X:2652:G:C8	2.65	0.49
29:X:42:G:H2'	29:X:43:A:O4'	2.12	0.49
29:X:454:G:C6	29:X:456:C:N4	2.81	0.49
29:X:540:G:O6	29:X:2006:G:OP1	2.30	0.49
29:X:5:A:N6	29:X:6:A:N6	2.60	0.49
29:X:75:C:H2'	29:X:76:C:C5'	2.43	0.49
29:X:88:G:C3'	29:X:89:A:H5''	2.35	0.49
29:X:931:G:H2'	29:X:932:G:H5'	1.95	0.49
4:4:22:ARG:HG2	4:4:22:ARG:HH11	1.77	0.49
6:A:258:LYS:HZ2	6:A:261:ARG:CZ	2.26	0.49
7:B:136:ARG:NH1	7:B:136:ARG:HG2	2.26	0.49
7:B:197:VAL:C	7:B:198:LEU:HD12	2.33	0.49
9:D:11:GLN:O	9:D:15:ALA:CB	2.60	0.49
9:D:104:ILE:CG2	9:D:174:GLY:HA3	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:F:90:THR:CG2	11:F:93:LYS:HD2	2.40	0.49
14:I:119:THR:HG23	14:I:139:ARG:HB3	1.94	0.49
18:M:32:THR:CG2	18:M:33:VAL:N	2.73	0.49
19:N:68:GLY:HA2	19:N:71:LEU:CB	2.43	0.49
29:X:1145:C:C6	29:X:1147:G:OP2	2.65	0.49
29:X:115:G:C6	29:X:117:A:N6	2.81	0.49
29:X:1164:C:H3'	29:X:1165:G:C8	2.48	0.49
29:X:1237:G:H2'	29:X:1238:A:C8	2.48	0.49
8:C:67:ALA:N	29:X:1268:U:C5	2.71	0.49
29:X:1391:A:N7	29:X:1393:G:C6	2.81	0.49
29:X:1391:A:O2'	29:X:1392:U:O5'	2.30	0.49
29:X:2189:A:H2	29:X:2196:U:N3	2.06	0.49
29:X:242:A:H2'	29:X:243:G:C4'	2.42	0.49
29:X:2488:G:O2'	29:X:2489:C:H5'	2.13	0.49
29:X:2505:G:C2	29:X:2517:C:O2	2.65	0.49
29:X:2658:A:O2'	29:X:2659:C:H5'	2.13	0.49
29:X:2827:G:C5	29:X:2828:C:C4	3.00	0.49
29:X:28:A:N3	29:X:523:A:C4	2.81	0.49
29:X:322:A:HO2'	29:X:323:G:P	2.35	0.49
31:Z:37:C:H2'	31:Z:38:C:O4'	2.13	0.49
7:B:150:VAL:CG2	7:B:151:TYR:N	2.75	0.49
8:C:7:ILE:O	8:C:120:VAL:HB	2.12	0.49
8:C:7:ILE:HG21	8:C:121:ASP:O	2.12	0.49
8:C:23:ASN:OD1	8:C:26:VAL:HG23	2.13	0.49
10:E:54:ARG:NH1	10:E:62:ARG:NE	2.58	0.49
10:E:29:PRO:CG	10:E:79:VAL:O	2.59	0.49
14:I:90:ARG:HA	14:I:121:HIS:ND1	2.28	0.49
15:J:29:ALA:O	15:J:30:PHE:HB2	2.12	0.49
18:M:60:SER:O	18:M:64:LYS:N	2.46	0.49
20:O:68:LYS:HB2	20:O:87:ARG:HH21	1.77	0.49
20:O:86:HIS:CG	20:O:87:ARG:N	2.79	0.49
21:P:114:ALA:O	21:P:115:ASN:OD1	2.31	0.49
23:R:25:LEU:CG	23:R:81:VAL:HG23	2.42	0.49
24:S:37:LYS:O	24:S:40:ASP:HB2	2.13	0.49
25:T:43:THR:HG22	25:T:46:LYS:CG	2.42	0.49
28:W:7:ARG:O	28:W:8:SER:O	2.31	0.49
29:X:1031:C:P	29:X:1045:G:H21	2.35	0.49
29:X:1115:C:H6	29:X:1115:C:O5'	1.96	0.49
29:X:1200:G:H2'	29:X:1201:G:H8	1.76	0.49
29:X:1231:A:H2'	29:X:1232:U:C6	2.48	0.49
29:X:1514:C:O4'	29:X:1593:C:H4'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1725:C:C2	29:X:1742:G:C2	3.01	0.49
29:X:185:C:H2'	29:X:186:C:H6	1.77	0.49
29:X:1969:G:C4	29:X:1970:G:C8	3.01	0.49
29:X:2029:G:C6	29:X:2030:U:O4	2.65	0.49
29:X:2195:C:N1	29:X:2196:U:C5	2.81	0.49
29:X:2280:A:H2'	29:X:2281:C:C6	2.48	0.49
29:X:2500:C:H5'	29:X:2544:A:H4'	1.95	0.49
29:X:2511:G:O5'	29:X:2511:G:H8	1.95	0.49
29:X:2579:A:H2'	29:X:2580:C:C6	2.48	0.49
13:H:43:ARG:N	29:X:2654:A:OP1	2.42	0.49
29:X:2821:G:C6	29:X:2846:G:N1	2.81	0.49
29:X:2876:C:H2'	29:X:2877:A:C5	2.48	0.49
29:X:690:A:N1	29:X:815:A:C4	2.81	0.49
29:X:690:A:O3'	29:X:2054:A:H5'	2.13	0.49
29:X:760:U:C4	29:X:2592:U:O2	2.66	0.49
30:Y:19:ARG:HG2	30:Y:20:ARG:N	2.28	0.49
4:4:3:VAL:HA	4:4:35:ARG:O	2.13	0.49
6:A:53:PHE:HE1	6:A:218:LYS:HE3	1.78	0.49
7:B:120:TRP:CD2	7:B:155:ARG:HD2	2.48	0.49
7:B:62:PRO:HA	29:X:2767:C:O4'	2.13	0.49
8:C:107:ALA:CB	8:C:180:ILE:HD13	2.42	0.49
9:D:57:LEU:HA	9:D:60:ILE:CG1	2.43	0.49
9:D:94:GLU:O	9:D:98:VAL:HG23	2.13	0.49
11:F:57:ILE:HG23	11:F:66:THR:O	2.12	0.49
13:H:23:ARG:HH22	13:H:25:LEU:CG	2.25	0.49
14:I:31:GLY:O	14:I:32:ARG:C	2.50	0.49
15:J:40:PRO:HG3	15:J:99:LYS:HZ1	1.75	0.49
16:K:103:ARG:NH1	16:K:110:MET:HE2	2.27	0.49
16:K:97:ILE:HA	16:K:112:LEU:O	2.13	0.49
17:L:54:ALA:H	17:L:75:LEU:HD13	1.73	0.49
19:N:25:TRP:CE3	19:N:26:GLY:CA	2.96	0.49
20:O:11:GLN:CD	20:O:38:LEU:HB3	2.32	0.49
14:I:32:ARG:NH2	20:O:79:GLN:C	2.65	0.49
21:P:106:LEU:CD2	21:P:106:LEU:C	2.80	0.49
22:Q:20:MET:SD	22:Q:92:ALA:HA	2.52	0.49
22:Q:58:VAL:HG13	22:Q:59:PRO:HD2	1.94	0.49
23:R:54:ILE:HA	23:R:70:GLU:O	2.13	0.49
24:S:149:ALA:C	24:S:151:ASP:H	2.16	0.49
29:X:1313:U:O2'	29:X:1314:A:P	2.71	0.49
29:X:1386:A:H2'	29:X:1387:G:O4'	2.12	0.49
29:X:1409:U:H5''	29:X:1410:U:OP2	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1432:G:H2'	29:X:1594:U:O4	2.13	0.49
29:X:1701:C:OP2	29:X:1701:C:H6	1.96	0.49
29:X:1928:G:C2	29:X:1929:U:N3	2.81	0.49
29:X:1940:C:H2'	29:X:1941:C:C6	2.47	0.49
29:X:2470:U:C2'	29:X:2470:U:O2	2.60	0.49
29:X:2555:G:N3	29:X:2555:G:C3'	2.75	0.49
29:X:2579:A:C2	29:X:2580:C:C4	3.01	0.49
29:X:464:G:C2	29:X:465:C:C2	3.01	0.49
29:X:490:A:N3	29:X:491:A:C5	2.81	0.49
29:X:749:C:O2'	29:X:750:C:H5'	2.13	0.49
30:Y:12:SER:C	30:Y:14:SER:H	2.15	0.49
6:A:210:GLY:O	6:A:211:ARG:C	2.51	0.49
8:C:158:ARG:HD3	8:C:169:VAL:HG13	1.95	0.49
8:C:28:HIS:C	8:C:30:VAL:N	2.64	0.49
11:F:100:ASN:OD1	11:F:101:TRP:N	2.46	0.49
12:G:107:GLN:C	12:G:109:GLY:N	2.42	0.49
15:J:116:LYS:HE2	15:J:132:MET:CE	2.41	0.49
17:L:68:ALA:HB1	17:L:102:ALA:HB3	1.88	0.49
17:L:8:ARG:CG	17:L:9:ARG:H	2.09	0.49
20:O:20:ILE:HG13	20:O:21:ARG:O	2.12	0.49
22:Q:62:ARG:O	22:Q:63:LYS:CB	2.59	0.49
23:R:25:LEU:O	23:R:25:LEU:HD13	2.11	0.49
23:R:29:HIS:CG	23:R:51:VAL:HG22	2.48	0.49
24:S:67:LYS:NZ	31:Z:106:U:H4'	2.28	0.49
24:S:62:PHE:HB3	24:S:85:MET:SD	2.52	0.49
25:T:70:ILE:O	25:T:78:PHE:N	2.46	0.49
28:W:22:ALA:C	28:W:24:GLY:N	2.65	0.49
29:X:1466:C:C2'	29:X:1467:U:O4'	2.60	0.49
29:X:1570:C:C5'	29:X:1571:G:OP2	2.60	0.49
29:X:1586:A:C6	29:X:1587:A:C6	3.00	0.49
29:X:1947:G:O2'	29:X:1950:C:P	2.71	0.49
29:X:2213:G:H2'	29:X:2214:G:H8	1.78	0.49
29:X:2432:A:O2'	29:X:2433:G:H5'	2.13	0.49
29:X:2617:G:O2'	29:X:2618:A:H8	1.96	0.49
29:X:2832:G:H2'	29:X:2834:A:OP2	2.13	0.49
29:X:633:G:C4	29:X:634:G:C8	3.00	0.49
29:X:640:C:H4'	29:X:660:G:C2	2.47	0.49
31:Z:53:G:H2'	31:Z:54:U:O5'	2.12	0.49
6:A:97:TYR:OH	6:A:105:ILE:HD11	2.13	0.48
6:A:247:VAL:CG2	6:A:248:THR:HG23	2.36	0.48
7:B:195:LEU:HB2	18:M:3:THR:HG23	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:49:ILE:HG21	7:B:81:PHE:HE2	1.78	0.48
9:D:79:LEU:HD21	29:X:2289:A:C2	2.39	0.48
11:F:131:ALA:HB1	11:F:136:VAL:CG2	2.43	0.48
12:G:141:GLY:O	12:G:142:ARG:C	2.51	0.48
13:H:23:ARG:HH22	13:H:25:LEU:CA	2.26	0.48
14:I:45:LYS:HG2	14:I:46:GLY:N	2.25	0.48
14:I:77:LEU:HD23	14:I:112:GLY:O	2.13	0.48
14:I:86:THR:O	14:I:88:PHE:N	2.46	0.48
15:J:125:LYS:HZ2	15:J:125:LYS:CB	2.23	0.48
15:J:20:GLY:O	15:J:21:ASP:O	2.30	0.48
17:L:30:SER:C	17:L:31:VAL:HG12	2.34	0.48
18:M:94:VAL:HG12	18:M:94:VAL:O	2.13	0.48
20:O:75:LYS:CB	20:O:75:LYS:HZ2	2.26	0.48
22:Q:25:TYR:OH	22:Q:87:SER:HA	2.12	0.48
24:S:157:GLY:O	24:S:158:CYS:C	2.50	0.48
28:W:12:ARG:HG2	28:W:12:ARG:HH11	1.78	0.48
28:W:32:ARG:HG3	28:W:32:ARG:O	2.12	0.48
29:X:1289:A:C6	29:X:1308:C:O2	2.66	0.48
29:X:1402:G:H2'	29:X:1403:U:O4'	2.13	0.48
29:X:1485:U:H2'	29:X:1486:A:C8	2.47	0.48
29:X:1687:C:H1'	29:X:1976:U:O2	2.13	0.48
29:X:1766:U:H2'	29:X:1767:G:O4'	2.12	0.48
29:X:1872:A:O2'	29:X:1873:A:H5'	2.13	0.48
29:X:199:A:H5''	29:X:200:A:OP2	2.13	0.48
29:X:2032:G:N2	29:X:2599:U:C2	2.81	0.48
29:X:2046:C:C4	29:X:2047:C:N4	2.81	0.48
29:X:2363:G:H3'	29:X:2365:U:OP1	2.12	0.48
29:X:2506:C:C2'	29:X:2507:U:H5'	2.42	0.48
7:B:152:LYS:NZ	29:X:2598:C:OP1	2.37	0.48
29:X:2636:A:H2'	29:X:2637:C:H5'	1.95	0.48
29:X:2712:G:H3'	29:X:2713:A:C5'	2.41	0.48
29:X:2725:C:H2'	29:X:2726:U:C6	2.48	0.48
16:K:5:LYS:NZ	29:X:2795:A:H1'	2.28	0.48
29:X:322:A:O2'	29:X:323:G:P	2.71	0.48
8:C:84:PHE:CD1	29:X:596:C:H5'	2.43	0.48
29:X:627:A:H2'	29:X:628:A:H8	1.69	0.48
29:X:651:C:C3'	29:X:652:C:H5''	2.43	0.48
29:X:836:G:H2'	29:X:837:U:C6	2.48	0.48
6:A:67:PHE:HB3	6:A:153:ALA:N	2.16	0.48
7:B:131:SER:O	7:B:132:LYS:CB	2.61	0.48
8:C:158:ARG:O	8:C:160:ALA:N	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:197:GLU:HG2	8:C:198:GLU:N	2.27	0.48
9:D:122:PHE:CE2	9:D:129:ASN:O	2.66	0.48
10:E:65:HIS:O	10:E:67:LEU:N	2.46	0.48
11:F:58:THR:HB	11:F:66:THR:OG1	2.13	0.48
12:G:104:THR:O	12:G:105:GLY:O	2.31	0.48
12:G:134:MET:HG2	29:X:1017:C:O2	2.13	0.48
16:K:68:GLN:O	16:K:71:HIS:CE1	2.66	0.48
23:R:22:VAL:CG1	23:R:23:ILE:N	2.73	0.48
23:R:92:THR:HB	23:R:95:ARG:HH22	1.77	0.48
29:X:1088:A:H2'	29:X:1089:C:O4'	2.13	0.48
29:X:1166:A:C2'	29:X:1167:A:H5''	2.42	0.48
29:X:1278:A:C2	29:X:1280:U:N3	2.81	0.48
29:X:1541:G:H2'	29:X:1542:G:O4'	2.12	0.48
29:X:1282:A:N6	29:X:1995:G:N2	2.61	0.48
29:X:2228:U:C1'	29:X:2254:C:N4	2.75	0.48
14:I:53:ARG:HG2	29:X:227:G:O2'	2.13	0.48
29:X:956:A:C1'	29:X:2427:A:H2	2.26	0.48
29:X:2793:G:N2	29:X:2804:G:C4	2.81	0.48
29:X:678:G:C5	29:X:679:C:C5	3.02	0.48
29:X:782:U:O2'	29:X:783:G:H5'	2.13	0.48
29:X:872:G:O2'	29:X:873:U:H6	1.96	0.48
25:T:29:GLU:OE2	29:X:935:C:H5'	2.13	0.48
14:I:38:LYS:NZ	29:X:954:U:P	2.82	0.48
6:A:133:LEU:HB2	6:A:173:VAL:HG21	1.95	0.48
6:A:64:ILE:C	6:A:65:ILE:HG13	2.33	0.48
7:B:119:ARG:HE	7:B:158:GLY:HA3	1.78	0.48
8:C:45:THR:HG22	8:C:47:THR:OG1	2.13	0.48
9:D:111:ILE:HA	9:D:137:ILE:CG2	2.43	0.48
9:D:123:ASP:C	9:D:125:ARG:N	2.64	0.48
10:E:66:GLY:HA3	29:X:2728:A:O2'	2.13	0.48
10:E:98:LEU:HD11	10:E:101:LYS:CA	2.42	0.48
13:H:92:ASP:OD2	18:M:69:ARG:NH1	2.45	0.48
15:J:125:LYS:HD2	15:J:125:LYS:N	2.23	0.48
15:J:71:PRO:HA	15:J:96:SER:HB2	1.95	0.48
18:M:25:PRO:O	18:M:26:ASP:O	2.31	0.48
18:M:32:THR:HG21	18:M:91:VAL:HG12	1.95	0.48
19:N:10:ARG:O	19:N:13:ARG:N	2.46	0.48
12:G:70:PHE:HB3	19:N:64:ARG:HG2	1.93	0.48
21:P:35:PRO:HD2	21:P:120:ARG:HB2	1.95	0.48
24:S:91:PRO:O	24:S:92:VAL:HG22	2.13	0.48
25:T:58:THR:CG2	25:T:59:LEU:N	2.76	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:49:LYS:HB3	26:U:61:TRP:CE3	2.47	0.48
29:X:1008:G:H2'	29:X:1009:C:C6	2.48	0.48
29:X:1119:U:C6	29:X:1119:U:H5'	2.43	0.48
29:X:1423:A:O2'	29:X:1424:U:H5'	2.13	0.48
29:X:1466:C:O2'	29:X:1467:U:H4'	2.13	0.48
29:X:1666:G:H2'	29:X:1667:A:C8	2.46	0.48
29:X:2321:C:O2'	29:X:2353:G:OP1	2.24	0.48
29:X:2354:G:H2'	29:X:2356:A:N7	2.29	0.48
29:X:2791:C:O2	29:X:2858:A:O2'	2.31	0.48
29:X:2827:G:C6	29:X:2828:C:N3	2.82	0.48
29:X:2852:G:O2'	29:X:2853:U:H5'	2.13	0.48
29:X:529:U:C2	29:X:530:G:C8	3.00	0.48
29:X:612:G:H2'	29:X:668:A:H61	1.77	0.48
29:X:754:G:N1	29:X:755:C:C4	2.81	0.48
29:X:772:G:H2'	29:X:773:G:C8	2.48	0.48
29:X:81:C:C2'	29:X:82:G:O4'	2.60	0.48
29:X:841:G:H4'	29:X:844:G:N1	2.27	0.48
6:A:150:GLY:C	6:A:152:GLY:N	2.65	0.48
6:A:44:ASN:N	6:A:44:ASN:HD22	1.98	0.48
7:B:9:ILE:CD1	7:B:27:LEU:HB2	2.19	0.48
7:B:5:LEU:N	7:B:5:LEU:HD12	2.28	0.48
8:C:137:ALA:O	8:C:140:ASN:HB2	2.13	0.48
8:C:58:MET:HB2	8:C:70:GLY:O	2.14	0.48
8:C:90:SER:O	8:C:91:TYR:C	2.51	0.48
9:D:129:ASN:ND2	29:X:2282:G:H1'	2.29	0.48
9:D:92:ARG:HH12	31:Z:46:G:C4'	2.18	0.48
12:G:101:THR:OG1	12:G:103:TYR:HE1	1.95	0.48
12:G:128:GLU:HG2	12:G:129:HIS:CD2	2.48	0.48
13:H:26:ASN:ND2	13:H:38:GLY:HA3	2.29	0.48
14:I:119:THR:HG22	14:I:121:HIS:CD2	2.48	0.48
14:I:41:SER:HB2	29:X:845:U:P	2.53	0.48
21:P:32:ARG:O	21:P:32:ARG:NE	2.46	0.48
24:S:141:MET:HA	24:S:145:ASP:CG	2.34	0.48
29:X:1226:A:H8	29:X:1226:A:O5'	1.97	0.48
29:X:1265:G:HO2'	29:X:1266:G:P	2.36	0.48
29:X:1298:G:C6	29:X:1342:U:C6	3.01	0.48
29:X:1631:C:O2	29:X:1631:C:H2'	2.13	0.48
29:X:1678:G:C6	29:X:1679:U:C4	3.01	0.48
29:X:1706:A:O2'	29:X:1707:A:H5'	2.14	0.48
29:X:1785:A:O2'	29:X:1786:C:H5'	2.13	0.48
29:X:2190:A:C3'	29:X:2190:A:C8	2.88	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2204:A:H4'	29:X:2205:C:C6	2.47	0.48
29:X:392:G:H4'	29:X:2211:U:H5''	1.96	0.48
29:X:2247:A:H5'	29:X:2248:A:P	2.53	0.48
9:D:79:LEU:HD11	29:X:2289:A:N1	2.28	0.48
29:X:2266:A:H62	29:X:2323:U:H3	1.61	0.48
29:X:2371:A:OP2	29:X:2401:A:N6	2.41	0.48
29:X:2530:C:C4	29:X:2531:U:C4	3.01	0.48
29:X:26:G:N1	29:X:27:G:N2	2.61	0.48
29:X:33:C:O2'	29:X:34:U:P	2.72	0.48
29:X:6:A:H2'	29:X:7:G:O4'	2.14	0.48
29:X:961:G:C5	29:X:962:C:C4	3.01	0.48
30:Y:42:SER:O	30:Y:43:HIS:CB	2.57	0.48
4:4:23:VAL:C	4:4:24:LEU:HD12	2.34	0.48
7:B:29:GLY:O	7:B:30:PRO:C	2.51	0.48
7:B:61:LYS:H	7:B:62:PRO:CD	2.26	0.48
8:C:154:ASP:O	8:C:157:THR:OG1	2.31	0.48
8:C:147:LYS:HD3	8:C:183:HIS:HA	1.93	0.48
9:D:100:LEU:O	9:D:103:LEU:HB3	2.14	0.48
11:F:41:PHE:HE1	11:F:55:VAL:HG21	1.78	0.48
11:F:90:THR:OG1	11:F:93:LYS:HB2	2.13	0.48
14:I:23:PRO:O	14:I:24:GLY:O	2.31	0.48
15:J:59:PHE:CE2	15:J:118:ALA:HB2	2.49	0.48
15:J:19:THR:HG21	15:J:40:PRO:HB3	1.95	0.48
15:J:37:ALA:CB	15:J:98:VAL:HG11	2.43	0.48
17:L:10:LYS:C	17:L:14:ARG:HG3	2.33	0.48
20:O:12:TYR:O	20:O:13:ARG:HB2	2.12	0.48
20:O:28:GLU:C	20:O:30:GLY:H	2.17	0.48
22:Q:17:TYR:O	22:Q:20:MET:HB3	2.13	0.48
22:Q:6:ILE:O	22:Q:7:LEU:O	2.30	0.48
25:T:36:ILE:HA	25:T:60:PHE:HA	1.95	0.48
26:U:46:LEU:C	26:U:47:HIS:CG	2.86	0.48
29:X:82:G:C2	29:X:100:G:H2'	2.49	0.48
29:X:1122:A:O2'	29:X:1123:G:H4'	2.13	0.48
29:X:1373:G:O6	29:X:1385:C:N3	2.47	0.48
29:X:1578:U:C2	29:X:1579:G:C8	3.01	0.48
29:X:1842:G:C2	29:X:1843:U:C2	3.02	0.48
29:X:218:A:H5'	29:X:220:U:H1'	1.95	0.48
29:X:2262:C:C2	29:X:2368:G:C2	3.01	0.48
29:X:2484:G:C2'	29:X:2485:U:OP2	2.61	0.48
29:X:2594:U:C5'	29:X:2594:U:C6	2.93	0.48
29:X:2629:U:O2'	29:X:2630:C:H5'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2728:A:H2'	29:X:2729:A:H8	1.76	0.48
29:X:2823:G:O2'	29:X:2824:C:P	2.71	0.48
29:X:320:A:N3	29:X:340:G:O2'	2.40	0.48
29:X:321:A:C2	29:X:323:G:C1'	2.94	0.48
29:X:344:G:C5	29:X:345:U:C5	3.01	0.48
29:X:483:A:H2'	29:X:484:G:H5'	1.95	0.48
29:X:691:C:O2'	29:X:692:C:H5'	2.13	0.48
29:X:927:C:O2'	31:Z:103:A:H5''	2.14	0.48
31:Z:15:A:N1	31:Z:71:G:H2'	2.28	0.48
7:B:15:TRP:NE1	18:M:86:PRO:HD2	2.28	0.48
10:E:147:ASN:O	10:E:150:LYS:HB2	2.13	0.48
10:E:54:ARG:HG2	10:E:54:ARG:NH2	2.27	0.48
10:E:71:LEU:HA	10:E:74:ASN:ND2	2.28	0.48
12:G:119:LEU:CD1	12:G:126:VAL:HG22	2.44	0.48
14:I:73:GLU:O	14:I:75:VAL:HG23	2.13	0.48
15:J:128:ILE:C	15:J:128:ILE:HD12	2.34	0.48
21:P:12:LYS:HE3	29:X:319:G:OP1	2.13	0.48
22:Q:38:ILE:O	22:Q:39:LYS:C	2.51	0.48
24:S:64:ALA:HB2	24:S:85:MET:CE	2.44	0.48
29:X:1053:G:C2'	29:X:1054:C:O4'	2.62	0.48
29:X:2239:C:O2'	29:X:2240:C:H5'	2.13	0.48
18:M:100:ARG:O	29:X:2823:G:H3'	2.14	0.48
29:X:580:A:O2'	29:X:581:A:P	2.71	0.48
29:X:663:G:H2'	29:X:664:C:C4'	2.43	0.48
29:X:689:A:H2'	29:X:690:A:H5'	1.95	0.48
29:X:704:G:O2'	29:X:705:C:H5'	2.14	0.48
29:X:989:G:C2	29:X:997:C:C2	3.02	0.48
4:4:19:ARG:NH1	4:4:19:ARG:HG3	2.22	0.48
4:4:1:MET:CB	29:X:2505:G:H1'	2.44	0.48
6:A:231:HIS:CD2	6:A:233:HIS:HB2	2.49	0.48
8:C:97:ARG:HA	8:C:100:ARG:HG3	1.96	0.48
8:C:135:SER:O	8:C:138:LYS:HB2	2.13	0.48
9:D:74:ILE:CA	9:D:79:LEU:HB3	2.35	0.48
17:L:18:ARG:CZ	29:X:2357:A:N6	2.68	0.48
17:L:29:LEU:HD13	17:L:75:LEU:HD21	1.96	0.48
22:Q:66:GLY:O	22:Q:68:PHE:N	2.47	0.48
25:T:14:ARG:O	25:T:15:ASP:HB2	2.14	0.48
25:T:30:VAL:O	25:T:31:VAL:O	2.31	0.48
26:U:21:ARG:C	26:U:39:LYS:HD2	2.33	0.48
27:V:56:VAL:O	27:V:59:GLU:HB2	2.12	0.48
29:X:1051:U:C2'	29:X:1052:C:O4'	2.59	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1147:G:H2'	29:X:1148:G:C8	2.47	0.48
29:X:115:G:OP1	29:X:122:G:N1	2.45	0.48
29:X:1319:C:H2'	29:X:1320:A:H5'	1.94	0.48
29:X:1379:A:H2'	29:X:1380:C:H6	1.79	0.48
29:X:1530:U:H2'	29:X:1531:C:O4'	2.14	0.48
29:X:1917:C:C2'	29:X:1918:G:H5'	2.43	0.48
29:X:191:G:H2'	29:X:192:G:O4'	2.14	0.48
29:X:2240:C:O2'	29:X:2241:U:H5'	2.13	0.48
9:D:71:LYS:NZ	29:X:2278:A:OP2	2.36	0.48
29:X:242:A:C2'	29:X:243:G:H4'	2.44	0.48
29:X:2489:C:C5	29:X:2490:U:C5	3.02	0.48
13:H:42:LYS:H	29:X:2654:A:H5'	1.78	0.48
29:X:2790:C:O2'	30:Y:43:HIS:CD2	2.66	0.48
7:B:162:MET:HE3	29:X:2796:A:H4'	1.94	0.48
29:X:2802:C:H2'	29:X:2803:C:H6	1.79	0.48
29:X:330:C:O2'	29:X:331:U:H5'	2.14	0.48
23:R:4:PRO:CA	29:X:34:U:H1'	2.43	0.48
29:X:496:C:C2'	29:X:497:C:C5'	2.85	0.48
29:X:18:U:O2'	29:X:563:U:OP1	2.30	0.48
29:X:590:C:C2	29:X:591:G:C8	3.01	0.48
29:X:663:G:H2'	29:X:664:C:H4'	1.95	0.48
29:X:701:U:O2	29:X:800:U:C4'	2.60	0.48
29:X:745:C:C2'	29:X:746:G:H5'	2.43	0.48
29:X:757:U:C2	29:X:767:G:C2	3.02	0.48
29:X:78:C:O2	29:X:357:A:C2	2.57	0.48
29:X:786:U:O2'	29:X:791:G:H4'	2.14	0.48
29:X:816:U:C4	29:X:817:A:N7	2.82	0.48
25:T:44:LYS:CE	29:X:871:U:OP1	2.60	0.48
29:X:876:A:H2'	29:X:877:G:O4'	2.14	0.48
6:A:243:GLY:N	6:A:244:ARG:NH1	2.61	0.48
6:A:46:ARG:HD3	6:A:47:GLY:N	2.28	0.48
6:A:49:ILE:HG22	29:X:792:U:OP1	2.14	0.48
7:B:131:SER:HB3	7:B:132:LYS:H	1.38	0.48
7:B:134:TRP:CE2	29:X:1675:C:OP1	2.67	0.48
8:C:148:VAL:N	8:C:166:TRP:O	2.37	0.48
8:C:23:ASN:CG	8:C:26:VAL:HG23	2.33	0.48
9:D:12:VAL:C	9:D:16:LEU:HG	2.34	0.48
9:D:13:ARG:HH21	9:D:17:MET:CE	2.27	0.48
10:E:103:LEU:CG	10:E:115:ILE:HD12	2.44	0.48
13:H:2:ILE:HD12	13:H:8:LEU:HD21	1.96	0.48
15:J:80:ALA:HB1	15:J:81:GLU:OE1	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:20:LEU:O	16:K:21:ALA:C	2.52	0.48
18:M:99:VAL:CG2	18:M:100:ARG:N	2.61	0.48
18:M:107:LEU:C	18:M:109:GLU:N	2.67	0.48
19:N:17:VAL:O	19:N:18:LEU:C	2.52	0.48
20:O:33:VAL:HA	20:O:56:VAL:O	2.14	0.48
20:O:83:ARG:O	20:O:84:THR:CG2	2.58	0.48
23:R:85:ASP:OD1	23:R:86:PRO:CD	2.60	0.48
25:T:20:TYR:HB3	25:T:21:LEU:H	1.52	0.48
26:U:52:ARG:NH1	26:U:67:LEU:HD13	2.28	0.48
22:Q:7:LEU:CD2	27:V:30:PHE:HE2	2.26	0.48
28:W:15:ASN:O	28:W:16:GLN:C	2.52	0.48
28:W:35:SER:O	28:W:40:VAL:HG11	2.14	0.48
29:X:1108:U:H2'	29:X:1109:A:O4'	2.13	0.48
29:X:159:A:O2'	29:X:160:C:H5'	2.13	0.48
29:X:2029:G:C6	29:X:2030:U:C4	3.01	0.48
29:X:2061:C:H2'	29:X:2062:U:H6	1.79	0.48
29:X:2448:A:H61	29:X:2460:G:H1'	1.76	0.48
29:X:2696:A:H2'	29:X:2697:G:H8	1.78	0.48
21:P:101:PRO:HA	29:X:26:G:OP1	2.13	0.48
29:X:2728:A:N1	29:X:2737:A:N7	2.62	0.48
29:X:2837:G:O2'	29:X:2838:U:H5'	2.13	0.48
29:X:2853:U:O5'	29:X:2853:U:H6	1.96	0.48
29:X:309:G:N1	29:X:350:U:H5	2.12	0.48
29:X:400:U:O2'	29:X:401:G:C5'	2.56	0.48
29:X:415:A:O2'	29:X:416:U:H5'	2.14	0.48
29:X:478:G:C4	29:X:479:G:C8	3.02	0.48
29:X:638:A:C4	29:X:647:G:N2	2.76	0.48
29:X:596:C:N1	29:X:684:C:H1'	2.29	0.48
29:X:69:G:H1'	29:X:72:A:H1'	1.95	0.48
29:X:944:A:C2	29:X:945:G:H1'	2.49	0.48
31:Z:91:A:O2'	31:Z:92:G:H5'	2.13	0.48
7:B:131:SER:HB3	7:B:133:LYS:H	1.78	0.48
7:B:75:THR:OG1	7:B:76:ARG:N	2.44	0.48
8:C:190:ALA:C	8:C:192:ALA:N	2.67	0.48
9:D:106:ILE:O	9:D:110:ARG:HB2	2.14	0.48
9:D:36:VAL:HA	9:D:153:ASP:O	2.14	0.48
9:D:80:ARG:HG2	9:D:81:GLN:N	2.29	0.48
10:E:38:ASN:ND2	10:E:64:LEU:HD11	2.28	0.48
11:F:19:PRO:HB2	11:F:21:PRO:HD2	1.95	0.48
13:H:29:ILE:HG21	13:H:123:PHE:CE1	2.49	0.48
16:K:13:ASN:HD22	16:K:13:ASN:C	2.11	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:97:ILE:C	16:K:98:LEU:HD12	2.35	0.48
18:M:81:PHE:HA	18:M:82:PRO:HD3	1.57	0.48
20:O:9:GLY:O	20:O:10:LYS:CB	2.62	0.48
21:P:80:LEU:CD2	21:P:87:GLU:HB3	2.37	0.48
23:R:11:ASN:ND2	23:R:12:ASP:OD1	2.46	0.48
29:X:1141:U:C2	29:X:2008:C:H5''	2.48	0.48
29:X:1552:C:H4'	29:X:1553:G:OP1	2.14	0.48
29:X:1592:U:H2'	29:X:1593:C:C5'	2.44	0.48
29:X:2005:U:H4'	29:X:2006:G:OP1	2.13	0.48
29:X:177:U:C4	29:X:225:G:N2	2.82	0.48
4:4:6:SER:CB	29:X:2445:C:H5''	2.40	0.48
29:X:2691:C:O2'	29:X:2692:A:C5'	2.62	0.48
29:X:2624:G:C4'	29:X:2712:G:O2'	2.60	0.48
29:X:2753:C:N3	29:X:2754:C:C5	2.82	0.48
29:X:2874:A:H2'	29:X:2875:C:C6	2.48	0.48
29:X:600:G:C6	29:X:602:C:C4	3.02	0.48
9:D:92:ARG:NE	31:Z:45:C:H2'	2.28	0.48
6:A:136:VAL:HG12	6:A:140:ALA:HB3	1.96	0.48
6:A:48:ARG:H	6:A:48:ARG:HH11	1.61	0.48
10:E:38:ASN:OD1	10:E:64:LEU:HD22	2.14	0.48
11:F:100:ASN:H	11:F:103:GLN:NE2	2.11	0.48
16:K:87:TYR:HD1	16:K:90:ARG:HD2	1.75	0.48
18:M:71:ILE:HG22	18:M:71:ILE:O	2.12	0.48
19:N:47:TYR:HA	19:N:50:ARG:HH12	1.78	0.48
19:N:53:LYS:HA	19:N:56:ASP:HB2	1.96	0.48
21:P:28:ALA:CB	21:P:71:VAL:HG22	2.44	0.48
21:P:39:ARG:NE	21:P:97:VAL:HB	2.29	0.48
22:Q:38:ILE:HG12	22:Q:39:LYS:N	2.28	0.48
23:R:91:ALA:C	23:R:92:THR:HG23	2.35	0.48
24:S:71:MET:HB2	24:S:78:PRO:HA	1.94	0.48
25:T:59:LEU:HD12	25:T:79:ILE:HD12	1.96	0.48
26:U:15:VAL:HA	26:U:45:ASN:O	2.13	0.48
29:X:1086:C:H2'	29:X:1086:C:O2	2.13	0.48
29:X:116:A:O2'	29:X:155:G:H5'	2.13	0.48
29:X:1182:U:H2'	29:X:1183:C:C6	2.49	0.48
29:X:1287:A:C2	29:X:1662:G:O4'	2.67	0.48
29:X:134:G:C2'	29:X:135:U:H5''	2.44	0.48
29:X:1435:G:O2'	29:X:1436:G:H5'	2.13	0.48
29:X:1485:U:H6	29:X:1485:U:O5'	1.96	0.48
29:X:1525:A:C5	29:X:1526:U:H1'	2.48	0.48
29:X:1629:G:C6	29:X:1635:G:O6	2.67	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2079:A:H61	29:X:2175:A:N6	2.11	0.48
29:X:2205:C:H2'	29:X:2206:C:O4'	2.13	0.48
29:X:2238:G:C8	29:X:2406:C:C4	3.01	0.48
29:X:1937:G:H21	29:X:2530:C:H5''	1.79	0.48
29:X:2594:U:H2'	29:X:2595:C:C6	2.45	0.48
29:X:2660:C:C2	29:X:2704:U:O4	2.66	0.48
18:M:2:GLN:N	29:X:2795:A:N1	2.62	0.48
29:X:487:G:N2	29:X:489:A:C3'	2.76	0.48
29:X:958:G:H2'	29:X:959:C:C5	2.48	0.48
6:A:38:PRO:CA	6:A:61:LEU:HD22	2.43	0.47
9:D:83:MET:HG3	9:D:84:PRO:HD2	1.96	0.47
11:F:23:VAL:HG13	11:F:27:LEU:HB2	1.95	0.47
15:J:32:ASP:O	15:J:134:LYS:O	2.32	0.47
16:K:27:ALA:C	16:K:29:LEU:N	2.67	0.47
18:M:106:TYR:HD1	18:M:106:TYR:C	2.17	0.47
19:N:66:ASN:HA	19:N:69:ALA:HB2	1.93	0.47
20:O:20:ILE:O	20:O:90:PHE:HB2	2.13	0.47
24:S:90:GLU:HA	24:S:90:GLU:OE1	2.13	0.47
27:V:51:ALA:HA	29:X:71:A:H1'	1.94	0.47
29:X:1050:G:C2'	29:X:1051:U:C5'	2.92	0.47
29:X:1115:C:O2'	29:X:1116:U:H5'	2.14	0.47
29:X:131:C:O2'	29:X:132:U:H5'	2.14	0.47
29:X:1337:G:C6	29:X:1341:G:C6	3.02	0.47
29:X:1355:A:O4'	29:X:1410:U:O2'	2.17	0.47
29:X:1380:C:H2'	29:X:1381:G:H5'	1.95	0.47
29:X:1779:C:H2'	29:X:1780:A:H8	1.74	0.47
29:X:1855:G:C2	29:X:1863:U:O2	2.67	0.47
29:X:2032:G:C2'	29:X:2033:C:H5'	2.44	0.47
29:X:2219:U:C2	29:X:2220:A:C8	3.02	0.47
29:X:2238:G:C2'	29:X:2239:C:H5'	2.44	0.47
29:X:2241:U:C2'	29:X:2242:C:O5'	2.63	0.47
17:L:89:PHE:HZ	29:X:2356:A:HO2'	1.62	0.47
29:X:2463:G:H2'	29:X:2464:G:O4'	2.13	0.47
29:X:2473:G:H2'	29:X:2474:G:C8	2.49	0.47
29:X:314:G:H2'	29:X:315:G:O4'	2.12	0.47
29:X:502:A:C2'	29:X:503:G:H5'	2.44	0.47
29:X:755:C:H2'	29:X:756:C:H6	1.78	0.47
29:X:801:A:O2'	29:X:802:A:P	2.72	0.47
15:J:10:PHE:O	29:X:883:A:H4'	2.13	0.47
29:X:973:U:H4'	29:X:2475:C:O2'	2.14	0.47
29:X:995:A:O2'	29:X:996:C:OP1	2.32	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:25:G:H2'	31:Z:26:G:N7	2.28	0.47
6:A:48:ARG:HD3	29:X:1797:C:H4'	1.96	0.47
8:C:54:THR:HG21	8:C:72:ARG:H	1.78	0.47
9:D:150:ARG:HG3	9:D:150:ARG:HH11	1.79	0.47
9:D:42:SER:C	9:D:44:LYS:H	2.18	0.47
9:D:75:SER:O	9:D:79:LEU:HB2	2.14	0.47
12:G:84:ASN:C	12:G:86:ALA:N	2.67	0.47
13:H:40:GLY:HA3	29:X:2545:A:N6	2.28	0.47
14:I:32:ARG:NH2	20:O:81:ARG:HG3	2.29	0.47
15:J:60:ARG:HG2	15:J:60:ARG:HH11	1.79	0.47
16:K:44:LEU:HD23	16:K:113:ILE:CD1	2.44	0.47
20:O:35:LEU:O	20:O:36:LYS:CB	2.61	0.47
21:P:59:PHE:CD1	21:P:59:PHE:N	2.82	0.47
22:Q:31:PRO:HA	22:Q:76:LYS:HB2	1.95	0.47
22:Q:90:ALA:O	22:Q:92:ALA:N	2.46	0.47
23:R:14:LEU:HD21	23:R:41:PRO:HA	1.95	0.47
23:R:80:LYS:HZ1	23:R:82:ALA:HA	1.79	0.47
24:S:51:LEU:HD23	24:S:65:LEU:HD13	1.96	0.47
27:V:29:ARG:HB3	27:V:29:ARG:CZ	2.44	0.47
27:V:42:ARG:O	27:V:43:VAL:C	2.52	0.47
28:W:5:LEU:CB	28:W:25:LEU:HD13	2.28	0.47
29:X:1289:A:C2	29:X:1290:A:C5	3.01	0.47
29:X:1495:G:H5'	29:X:1574:A:H2	1.78	0.47
29:X:1583:A:C8	29:X:1583:A:OP2	2.66	0.47
7:B:113:THR:HB	29:X:1671:A:N3	2.29	0.47
29:X:1750:A:N3	29:X:1750:A:H2'	2.29	0.47
29:X:1767:G:C2	29:X:1768:U:C6	3.02	0.47
29:X:1837:G:O2'	29:X:1838:G:H5'	2.13	0.47
29:X:182:G:O2'	29:X:183:U:OP2	2.32	0.47
29:X:1757:C:N3	29:X:1970:G:C6	2.83	0.47
29:X:2010:G:C5	29:X:2011:U:C4	3.02	0.47
29:X:2049:C:H2'	29:X:2050:G:H8	1.80	0.47
29:X:965:G:O2'	29:X:2253:A:N1	2.34	0.47
29:X:2442:C:H2'	29:X:2443:C:H6	1.79	0.47
29:X:558:G:H2'	29:X:559:C:O4'	2.13	0.47
29:X:626:A:O4'	29:X:626:A:OP2	2.32	0.47
29:X:718:A:N6	29:X:739:G:H1'	2.29	0.47
29:X:848:A:C6	29:X:849:G:C5	3.03	0.47
29:X:883:A:C6	29:X:884:C:N3	2.83	0.47
29:X:938:G:O2'	29:X:939:C:O5'	2.32	0.47
29:X:1276:U:C1'	30:Y:10:LYS:HG3	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:154:GLN:O	29:X:1810:U:C2	2.67	0.47
6:A:49:ILE:CG2	29:X:792:U:OP1	2.63	0.47
7:B:1:MET:HG2	7:B:2:LYS:N	2.29	0.47
8:C:50:GLN:HB2	29:X:814:G:OP1	2.14	0.47
9:D:158:THR:C	9:D:160:ALA:H	2.18	0.47
9:D:52:LYS:HG3	9:D:147:ASP:HB2	1.96	0.47
10:E:103:LEU:CD2	10:E:115:ILE:HD12	2.44	0.47
15:J:40:PRO:CB	15:J:99:LYS:HZ2	2.26	0.47
16:K:63:ARG:HG3	16:K:63:ARG:NH1	2.29	0.47
20:O:26:GLN:HG3	20:O:63:HIS:CD2	2.50	0.47
21:P:114:ALA:HB2	29:X:1630:A:N1	2.29	0.47
24:S:95:SER:HB3	24:S:119:ASN:ND2	2.29	0.47
25:T:24:LYS:N	25:T:37:LEU:O	2.46	0.47
25:T:46:LYS:NZ	25:T:76:ALA:HA	2.29	0.47
26:U:28:GLY:HA3	26:U:32:ARG:HA	1.95	0.47
29:X:1068:A:C3'	29:X:1069:G:H8	2.26	0.47
29:X:1045:G:C6	29:X:1133:G:C2	3.02	0.47
29:X:1224:A:O2'	29:X:1225:G:P	2.72	0.47
29:X:1301:U:C2	29:X:1340:C:O2	2.67	0.47
29:X:1348:C:C2	29:X:1349:A:C8	3.03	0.47
29:X:1348:C:O2'	29:X:1349:A:H5'	2.14	0.47
29:X:1882:G:N2	29:X:1885:C:H41	2.11	0.47
29:X:192:G:O2'	29:X:193:A:H5''	2.15	0.47
29:X:2007:G:O2'	29:X:2008:C:H5'	2.13	0.47
25:T:55:ARG:HD2	29:X:2363:G:OP1	2.15	0.47
29:X:2392:G:H2'	29:X:2393:G:O4'	2.15	0.47
29:X:2519:C:C2'	29:X:2520:A:H5'	2.44	0.47
29:X:2597:G:O2'	29:X:2598:C:H5'	2.14	0.47
29:X:344:G:C4	29:X:345:U:C5	3.02	0.47
29:X:405:C:O2'	29:X:406:G:H5'	2.13	0.47
26:U:68:ARG:NH1	29:X:413:G:O6	2.43	0.47
29:X:452:G:C2	29:X:453:U:C2	3.02	0.47
29:X:28:A:C2	29:X:523:A:H1'	2.50	0.47
29:X:690:A:C2	29:X:815:A:C2	3.03	0.47
29:X:787:A:H2	29:X:800:U:O2'	1.98	0.47
29:X:930:A:H3'	29:X:930:A:C8	2.49	0.47
29:X:868:U:H3	29:X:934:G:H1	1.61	0.47
6:A:108:PRO:HD2	6:A:111:LEU:HD12	1.95	0.47
7:B:133:LYS:HG2	7:B:137:ARG:CB	2.43	0.47
7:B:98:GLU:HG2	7:B:174:GLU:CA	2.40	0.47
8:C:129:LYS:C	8:C:131:LYS:H	2.18	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:14:PRO:O	9:D:15:ALA:C	2.53	0.47
9:D:154:ILE:HD12	9:D:154:ILE:N	2.29	0.47
9:D:33:LYS:N	9:D:157:VAL:HB	2.28	0.47
13:H:35:THR:HG21	29:X:2629:U:C5'	2.44	0.47
14:I:59:ARG:HG3	29:X:2371:A:C8	2.49	0.47
15:J:25:GLY:O	15:J:26:ASP:O	2.32	0.47
17:L:30:SER:O	17:L:31:VAL:HG12	2.15	0.47
19:N:11:ARG:O	19:N:14:HIS:HB2	2.14	0.47
26:U:40:ARG:CD	29:X:178:C:OP1	2.61	0.47
12:G:56:THR:HG23	29:X:1017:C:O4'	2.13	0.47
29:X:1312:G:O5'	29:X:1312:G:H8	1.96	0.47
29:X:1451:C:H2'	29:X:1452:U:H6	1.79	0.47
29:X:1709:U:O5'	29:X:1709:U:H6	1.96	0.47
29:X:2309:G:H2'	29:X:2310:G:C5'	2.44	0.47
29:X:2333:A:N6	29:X:2343:C:N4	2.62	0.47
29:X:2440:C:H2'	29:X:2441:U:H6	1.79	0.47
29:X:2542:U:O2	29:X:2545:A:C5	2.67	0.47
29:X:2557:G:H2'	29:X:2558:C:H6	1.79	0.47
29:X:413:G:C2'	29:X:414:A:H5''	2.45	0.47
29:X:509:U:H2'	29:X:510:G:H5'	1.96	0.47
29:X:591:G:C6	29:X:1272:G:N1	2.83	0.47
29:X:807:A:H2'	29:X:808:C:H6	1.78	0.47
30:Y:40:LYS:HG3	30:Y:41:LEU:N	2.30	0.47
6:A:164:GLN:C	6:A:164:GLN:OE1	2.53	0.47
6:A:49:ILE:O	6:A:49:ILE:HG23	2.14	0.47
7:B:14:ILE:CD1	7:B:183:LEU:HD13	2.41	0.47
9:D:26:MET:HE1	31:Z:33:C:O4'	2.13	0.47
10:E:65:HIS:C	10:E:67:LEU:N	2.67	0.47
21:P:97:VAL:CG1	21:P:122:SER:HB3	2.45	0.47
23:R:65:PRO:C	23:R:67:GLY:N	2.68	0.47
24:S:122:ILE:HD12	24:S:158:CYS:HB3	1.96	0.47
25:T:32:LYS:HB3	25:T:35:ASN:HD21	1.78	0.47
25:T:54:GLY:N	25:T:58:THR:O	2.45	0.47
26:U:48:LYS:HZ3	26:U:48:LYS:HB2	1.79	0.47
27:V:43:VAL:HA	27:V:46:LEU:HD12	1.95	0.47
12:G:91:THR:HG21	29:X:1151:U:C6	2.49	0.47
29:X:1333:G:OP2	29:X:1333:G:C8	2.61	0.47
29:X:1542:G:H2'	29:X:1543:G:C8	2.49	0.47
29:X:1685:A:H61	29:X:1693:A:N6	2.12	0.47
29:X:2006:G:C2	29:X:2024:U:O2	2.67	0.47
29:X:2463:G:C2	29:X:2464:G:H1'	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1922:U:O2'	29:X:2571:G:C1'	2.63	0.47
29:X:558:G:H8	29:X:559:C:C4	2.32	0.47
29:X:759:C:H1'	29:X:761:G:N2	2.29	0.47
29:X:785:U:H6	29:X:785:U:O5'	1.97	0.47
29:X:873:U:O4	29:X:929:A:N7	2.48	0.47
29:X:919:U:H2'	29:X:920:G:H8	1.79	0.47
29:X:986:A:H2'	29:X:987:G:C5'	2.45	0.47
30:Y:33:CYS:SG	30:Y:34:PRO:HD2	2.55	0.47
6:A:243:GLY:H	6:A:244:ARG:HD3	1.80	0.47
7:B:73:ALA:O	7:B:74:PRO:C	2.52	0.47
10:E:9:ILE:HB	10:E:50:LEU:O	2.14	0.47
12:G:142:ARG:HH12	29:X:538:A:H5"	1.76	0.47
13:H:47:VAL:HG22	13:H:74:VAL:HG12	1.97	0.47
8:C:26:VAL:CA	14:I:18:ARG:HH11	2.23	0.47
16:K:113:ILE:O	16:K:113:ILE:HG23	2.14	0.47
16:K:38:LEU:HD21	16:K:42:LYS:CE	2.45	0.47
17:L:8:ARG:HH11	17:L:8:ARG:HB3	1.79	0.47
19:N:40:LEU:C	19:N:42:ALA:N	2.67	0.47
20:O:11:GLN:CA	20:O:38:LEU:O	2.58	0.47
21:P:39:ARG:HH11	21:P:39:ARG:HG2	1.80	0.47
21:P:60:ILE:HA	21:P:61:PRO:HD3	1.52	0.47
22:Q:12:ILE:HD11	29:X:1351:G:OP1	2.15	0.47
22:Q:62:ARG:HG2	22:Q:62:ARG:HH11	1.79	0.47
22:Q:88:ILE:O	22:Q:89:GLU:C	2.52	0.47
23:R:18:LYS:HE2	23:R:18:LYS:N	2.29	0.47
29:X:1838:G:C2	29:X:1878:C:C2	3.03	0.47
29:X:191:G:H21	29:X:193:A:H1'	1.79	0.47
29:X:2208:U:H2'	29:X:2209:G:H8	1.79	0.47
29:X:2240:C:C1'	29:X:2367:A:H1'	2.43	0.47
29:X:2265:A:H4'	29:X:2266:A:C5'	2.45	0.47
29:X:236:C:H1'	29:X:632:A:O2'	2.13	0.47
29:X:2516:U:H2'	29:X:2517:C:H6	1.78	0.47
29:X:2583:U:C4	29:X:2584:U:C5	3.02	0.47
21:P:100:GLY:HA2	29:X:25:U:H5"	1.96	0.47
29:X:2811:G:C6	29:X:2858:A:N6	2.82	0.47
29:X:2869:U:H2'	29:X:2870:C:O4'	2.14	0.47
29:X:303:C:C6	29:X:303:C:O5'	2.67	0.47
29:X:352:G:O2'	29:X:353:G:H5'	2.14	0.47
29:X:454:G:H4'	29:X:455:A:OP1	2.13	0.47
29:X:807:A:H2'	29:X:808:C:C6	2.50	0.47
31:Z:25:G:H2'	31:Z:26:G:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:4:25:VAL:HB	4:4:34:GLN:H	1.79	0.47
6:A:223:GLY:C	6:A:225:ALA:H	2.16	0.47
7:B:16:LYS:HD2	7:B:173:VAL:HG13	1.96	0.47
7:B:33:ILE:HG21	7:B:36:ARG:NH1	2.30	0.47
8:C:34:GLN:O	8:C:38:ARG:HG3	2.15	0.47
9:D:106:ILE:CG2	9:D:110:ARG:HD2	2.42	0.47
11:F:115:LEU:HD13	11:F:123:ALA:HB1	1.96	0.47
12:G:104:THR:HG21	29:X:2620:G:H5''	1.96	0.47
17:L:20:THR:CB	17:L:24:SER:OG	2.48	0.47
17:L:87:VAL:C	17:L:88:VAL:HG23	2.34	0.47
17:L:95:LYS:NZ	17:L:95:LYS:CB	2.77	0.47
24:S:103:ARG:HD3	24:S:108:VAL:HG21	1.97	0.47
24:S:73:LYS:C	24:S:75:LYS:N	2.68	0.47
26:U:67:LEU:O	26:U:67:LEU:HD12	2.15	0.47
27:V:7:ARG:HD2	27:V:7:ARG:C	2.34	0.47
28:W:47:VAL:HB	28:W:50:LEU:HD12	1.96	0.47
29:X:1023:U:H3'	29:X:1023:U:H6	1.79	0.47
29:X:1094:C:H2'	29:X:1096:A:H5''	1.95	0.47
29:X:1299:A:O2'	29:X:1300:A:OP1	2.27	0.47
29:X:1707:A:H2'	29:X:1708:C:O4'	2.14	0.47
29:X:1947:G:O2'	29:X:1950:C:OP2	2.30	0.47
29:X:1992:G:O2'	29:X:1993:G:H5'	2.13	0.47
29:X:2028:C:O2'	29:X:2029:G:O5'	2.27	0.47
29:X:2594:U:C4	30:Y:6:VAL:O	2.68	0.47
13:H:82:LYS:NZ	29:X:2662:C:O2	2.47	0.47
29:X:2826:C:O2'	29:X:2827:G:H5'	2.13	0.47
29:X:457:C:H2'	29:X:458:G:O4'	2.14	0.47
29:X:589:C:N4	29:X:590:C:N4	2.62	0.47
29:X:623:G:O2'	29:X:626:A:N6	2.48	0.47
29:X:1999:U:C1'	30:Y:6:VAL:HG21	2.44	0.47
31:Z:71:G:N2	31:Z:72:C:H1'	2.29	0.47
6:A:108:PRO:HB2	6:A:195:ALA:O	2.14	0.47
7:B:137:ARG:HG3	7:B:137:ARG:HH21	1.79	0.47
8:C:150:LEU:HD13	8:C:167:VAL:HB	1.96	0.47
9:D:12:VAL:HG11	9:D:169:LEU:CD1	2.44	0.47
12:G:123:PRO:O	12:G:126:VAL:HG23	2.14	0.47
13:H:92:ASP:OD2	18:M:69:ARG:NH2	2.46	0.47
14:I:119:THR:HA	14:I:139:ARG:H	1.79	0.47
15:J:125:LYS:H	15:J:125:LYS:CD	2.21	0.47
16:K:36:THR:CG2	16:K:37:THR:O	2.55	0.47
16:K:48:VAL:O	16:K:49:GLU:C	2.53	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:100:VAL:HG13	17:L:101:LYS:N	2.29	0.47
17:L:33:ARG:HE	17:L:38:ILE:HG21	1.79	0.47
17:L:66:ASP:O	17:L:68:ALA:N	2.47	0.47
21:P:108:PRO:HG2	29:X:1631:C:H1'	1.95	0.47
21:P:10:ASN:O	21:P:10:ASN:CG	2.53	0.47
22:Q:36:THR:O	22:Q:39:LYS:N	2.48	0.47
23:R:8:SER:O	23:R:9:HIS:C	2.53	0.47
24:S:112:LEU:O	24:S:172:LEU:N	2.48	0.47
29:X:1038:U:O2'	29:X:1039:A:H5'	2.14	0.47
29:X:1044:U:C4	29:X:2730:A:N3	2.83	0.47
29:X:103:U:O2'	29:X:104:C:H5'	2.15	0.47
29:X:1053:G:C6	29:X:1054:C:C4	3.03	0.47
29:X:984:A:H1'	29:X:1202:U:C5	2.50	0.47
29:X:1272:G:H2'	29:X:1273:G:C8	2.50	0.47
29:X:1302:C:O5'	29:X:1302:C:H6	1.98	0.47
29:X:1327:C:N4	29:X:1328:C:N4	2.62	0.47
29:X:1468:A:H5''	29:X:1472:C:H42	1.74	0.47
29:X:1811:A:H1'	29:X:1813:A:C6	2.49	0.47
29:X:182:G:O2'	29:X:183:U:P	2.72	0.47
29:X:2189:A:C2	29:X:2196:U:N3	2.79	0.47
29:X:2293:G:O2'	29:X:2294:U:H5'	2.15	0.47
29:X:2325:A:C2	29:X:2362:G:C6	3.02	0.47
29:X:2697:G:N1	29:X:2698:G:C5	2.82	0.47
29:X:2702:G:C2'	29:X:2703:C:H5'	2.45	0.47
16:K:93:GLY:HA3	29:X:2855:C:O2	2.15	0.47
29:X:303:C:H3'	29:X:304:A:H5''	1.96	0.47
29:X:736:G:C2	29:X:737:C:H1'	2.50	0.47
29:X:78:C:H2'	29:X:79:G:H8	1.80	0.47
29:X:998:C:H4'	29:X:1012:A:C4'	2.45	0.47
30:Y:12:SER:O	30:Y:15:LYS:N	2.41	0.47
30:Y:3:LYS:HD2	30:Y:3:LYS:N	2.30	0.47
31:Z:68:A:C6	31:Z:110:U:C2	3.03	0.47
4:4:15:LYS:O	4:4:17:VAL:HG23	2.15	0.47
6:A:66:ASP:O	6:A:67:PHE:HD2	1.95	0.47
7:B:85:ALA:HB3	7:B:86:PRO:CD	2.45	0.47
13:H:114:VAL:O	13:H:115:ALA:C	2.53	0.47
16:K:26:THR:HG23	16:K:75:VAL:HG11	1.97	0.47
20:O:68:LYS:CB	20:O:87:ARG:HH21	2.28	0.47
27:V:42:ARG:NH1	27:V:45:GLN:NE2	2.62	0.47
29:X:1366:A:C6	29:X:1367:A:C6	3.02	0.47
29:X:165:G:C1'	29:X:1378:A:C6	2.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1729:C:H2'	29:X:1730:G:C8	2.50	0.47
29:X:174:A:N3	29:X:175:C:O2	2.48	0.47
29:X:1919:A:C6	29:X:1928:G:C4	3.02	0.47
29:X:2073:A:H3'	29:X:2074:U:C6	2.49	0.47
29:X:2196:U:H2'	29:X:2197:U:C6	2.50	0.47
29:X:2488:G:C2	29:X:2489:C:C2	3.03	0.47
29:X:2493:U:H2'	29:X:2494:C:C5	2.50	0.47
29:X:2750:G:C8	29:X:2751:C:H5	2.33	0.47
16:K:5:LYS:CE	29:X:2795:A:H4'	2.35	0.47
29:X:657:A:O2'	29:X:658:G:H5'	2.15	0.47
29:X:797:A:N7	29:X:805:G:C4	2.82	0.47
31:Z:32:C:H2'	31:Z:33:C:H5'	1.96	0.47
31:Z:34:C:H2'	31:Z:35:C:H6	1.79	0.47
6:A:257:LEU:HD13	29:X:1795:C:OP1	2.15	0.47
7:B:107:THR:O	7:B:190:GLY:HA3	2.15	0.47
7:B:60:ASN:O	7:B:64:GLN:HG3	2.15	0.47
8:C:173:ALA:HB1	8:C:193:LEU:HD13	1.96	0.47
9:D:122:PHE:HE2	9:D:129:ASN:O	1.98	0.47
10:E:149:ARG:HA	10:E:162:VAL:HB	1.97	0.47
12:G:103:TYR:N	12:G:103:TYR:HD1	2.12	0.47
12:G:40:ASN:HB3	12:G:78:ASP:CG	2.35	0.47
12:G:62:ILE:HG13	12:G:80:VAL:CG2	2.45	0.47
13:H:125:LYS:O	13:H:128:SER:HB2	2.15	0.47
13:H:113:PRO:HB2	13:H:134:LEU:HD12	1.97	0.47
13:H:27:SER:OG	13:H:49:ASP:HA	2.15	0.47
16:K:26:THR:O	16:K:29:LEU:N	2.42	0.47
18:M:106:TYR:CD1	18:M:107:LEU:CG	2.96	0.47
23:R:105:ARG:HH12	23:R:112:LYS:CA	2.27	0.47
29:X:1138:A:C2'	29:X:1139:A:H5''	2.44	0.47
29:X:1246:G:C5	29:X:1247:U:C5	3.03	0.47
29:X:1292:A:H2'	29:X:1293:A:O4'	2.15	0.47
29:X:1301:U:C4'	29:X:1302:C:OP2	2.62	0.47
29:X:133:C:H2'	29:X:134:G:C5'	2.43	0.47
29:X:1818:G:H2'	29:X:1819:U:C6	2.50	0.47
29:X:1935:A:N3	29:X:2539:C:O2'	2.44	0.47
29:X:1953:A:N3	29:X:1955:G:N7	2.63	0.47
29:X:2043:A:H1'	29:X:2481:G:C1'	2.45	0.47
29:X:2174:G:H2'	29:X:2175:A:C8	2.50	0.47
29:X:2277:A:H2'	29:X:2278:A:O4'	2.15	0.47
25:T:24:LYS:HZ2	29:X:2335:U:P	2.37	0.47
29:X:2504:G:C2	29:X:2518:C:N3	2.83	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:33:C:O5'	29:X:33:C:H6	1.97	0.47
29:X:309:G:C2	29:X:350:U:C5	3.03	0.47
29:X:540:G:O2'	29:X:542:A:H2	1.98	0.47
29:X:574:C:H4'	29:X:1266:G:C6	2.50	0.47
29:X:654:A:C2	29:X:655:A:H5'	2.50	0.47
29:X:681:A:N3	29:X:683:A:N6	2.63	0.47
29:X:820:U:C2	29:X:821:A:C8	3.02	0.47
29:X:979:A:O2'	29:X:980:G:H5'	2.15	0.47
30:Y:6:VAL:HG22	30:Y:7:PRO:CD	2.45	0.47
31:Z:100:G:C2	31:Z:101:A:H1'	2.50	0.47
6:A:149:PRO:HA	6:A:189:CYS:SG	2.54	0.47
6:A:96:HIS:HE2	29:X:1517:C:H1'	1.80	0.47
7:B:119:ARG:HD2	7:B:158:GLY:N	2.30	0.47
8:C:43:ALA:HB1	8:C:86:PRO:HB2	1.97	0.47
9:D:130:LEU:HD22	9:D:132:ILE:CD1	2.45	0.47
10:E:140:LEU:O	10:E:141:VAL:C	2.52	0.47
10:E:52:VAL:HG11	10:E:68:THR:CG2	2.45	0.47
11:F:1:MET:CB	11:F:2:LYS:HD3	2.44	0.47
12:G:51:LEU:O	12:G:55:ALA:HB2	2.15	0.47
12:G:63:ARG:O	12:G:63:ARG:NE	2.40	0.47
14:I:119:THR:HG22	14:I:121:HIS:NE2	2.30	0.47
15:J:99:LYS:HG3	15:J:100:PRO:HD2	1.96	0.47
17:L:15:ARG:NH1	17:L:15:ARG:HG2	2.29	0.47
18:M:22:ARG:HH11	18:M:24:LEU:HD23	1.80	0.47
19:N:8:ILE:O	19:N:12:ARG:HG3	2.15	0.47
19:N:17:VAL:O	19:N:20:ARG:N	2.42	0.47
21:P:39:ARG:CD	21:P:97:VAL:HB	2.45	0.47
23:R:108:VAL:CG1	23:R:109:ALA:H	2.28	0.47
23:R:110:SER:OG	23:R:111:GLY:N	2.46	0.47
29:X:1018:C:C3'	29:X:1019:U:C5'	2.90	0.47
29:X:9:U:H2'	29:X:10:A:H8	1.78	0.47
29:X:1175:A:C2	29:X:1176:U:C2	3.03	0.47
29:X:1327:C:C4	29:X:1328:C:N4	2.83	0.47
29:X:1592:U:O2'	29:X:1593:C:H5'	2.14	0.47
29:X:162:C:O2'	29:X:163:A:H5'	2.14	0.47
29:X:165:G:C2'	29:X:166:G:H5'	2.45	0.47
29:X:1820:G:H4'	29:X:1821:A:OP1	2.14	0.47
29:X:1919:A:C5	29:X:1928:G:C5	3.03	0.47
29:X:1927:U:H1'	29:X:1938:U:O4'	2.14	0.47
29:X:1930:C:O2'	29:X:1931:G:H5'	2.15	0.47
6:A:262:LYS:HE2	29:X:2205:C:C2	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2422:C:O2'	29:X:2423:G:H5'	2.14	0.47
4:4:3:VAL:HG21	29:X:2518:C:H4'	1.97	0.47
7:B:154:LYS:CE	29:X:2598:C:H1'	2.45	0.47
29:X:2652:G:C2'	29:X:2653:A:H5'	2.45	0.47
29:X:388:G:O2'	29:X:389:G:H5'	2.14	0.47
29:X:33:C:O2	29:X:466:A:C2	2.68	0.47
29:X:468:A:H61	29:X:481:A:H5''	1.80	0.47
29:X:490:A:O2'	29:X:492:G:H5''	2.16	0.47
29:X:668:A:O2'	29:X:669:G:O4'	2.33	0.47
29:X:743:A:O2'	29:X:744:C:H5'	2.15	0.47
29:X:929:A:O2'	31:Z:101:A:H4'	2.15	0.47
29:X:992:A:H5''	29:X:993:C:OP2	2.15	0.47
6:A:131:LEU:HD21	6:A:193:ILE:HG12	1.97	0.46
6:A:270:ILE:HG13	6:A:271:VAL:N	2.30	0.46
7:B:130:GLY:O	7:B:131:SER:CB	2.64	0.46
8:C:101:GLN:C	8:C:103:GLY:N	2.68	0.46
8:C:190:ALA:O	8:C:192:ALA:N	2.48	0.46
8:C:41:GLY:HA3	8:C:89:ARG:O	2.15	0.46
10:E:124:ALA:O	10:E:132:ASP:HB3	2.15	0.46
12:G:132:PHE:CE1	12:G:142:ARG:HA	2.50	0.46
12:G:33:ILE:O	12:G:69:ASP:CG	2.54	0.46
13:H:47:VAL:H	13:H:77:THR:CG2	2.28	0.46
14:I:14:LYS:O	14:I:14:LYS:HG3	2.15	0.46
14:I:77:LEU:O	14:I:79:GLN:N	2.48	0.46
14:I:82:ASP:H	14:I:114:ILE:HG21	1.80	0.46
19:N:43:ALA:HB3	20:O:74:TYR:HB3	1.97	0.46
21:P:57:LEU:CD1	21:P:69:ALA:HA	2.31	0.46
24:S:133:GLU:O	24:S:134:LEU:HB2	2.15	0.46
27:V:62:ARG:NH1	27:V:62:ARG:HG2	2.30	0.46
28:W:12:ARG:HH11	28:W:12:ARG:CG	2.29	0.46
29:X:1053:G:H4'	29:X:1054:C:OP1	2.14	0.46
29:X:1067:G:H21	29:X:1114:A:H62	1.63	0.46
21:P:36:ARG:NH2	29:X:1279:G:OP2	2.34	0.46
29:X:136:A:C2	29:X:137:A:H1'	2.49	0.46
29:X:1581:C:O2'	29:X:1582:A:C8	2.68	0.46
29:X:1709:U:HO2'	29:X:1710:U:H6	1.61	0.46
29:X:1760:G:C2	29:X:1761:G:C8	3.03	0.46
29:X:186:C:C2	29:X:187:U:C6	3.03	0.46
29:X:2015:G:HO2'	29:X:2016:A:P	2.39	0.46
29:X:538:A:N3	29:X:2025:A:C6	2.83	0.46
29:X:2320:G:H2'	29:X:2321:C:H6	1.75	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2326:C:H2'	29:X:2327:U:C6	2.50	0.46
29:X:2415:G:N3	29:X:2577:A:C2	2.81	0.46
29:X:2445:C:C6	29:X:2464:G:N2	2.83	0.46
29:X:2821:G:O6	29:X:2846:G:C6	2.68	0.46
29:X:2819:G:N1	29:X:2849:C:C4	2.83	0.46
29:X:580:A:C8	29:X:584:A:N6	2.83	0.46
29:X:758:G:C2	29:X:766:A:C6	3.03	0.46
27:V:48:ARG:HG3	29:X:75:C:H5'	1.97	0.46
27:V:52:GLN:NE2	29:X:76:C:OP1	2.49	0.46
29:X:831:G:H4'	29:X:851:C:O3'	2.15	0.46
21:P:36:ARG:CZ	30:Y:20:ARG:CZ	2.93	0.46
30:Y:32:GLU:HG3	30:Y:37:HIS:O	2.15	0.46
7:B:108:SER:HB3	7:B:163:GLU:H	1.81	0.46
8:C:28:HIS:O	8:C:30:VAL:N	2.48	0.46
8:C:44:SER:HB2	29:X:37:C:H1'	1.97	0.46
10:E:7:GLN:HB3	10:E:51:LEU:HD13	1.98	0.46
12:G:123:PRO:HA	12:G:126:VAL:CG2	2.44	0.46
13:H:37:GLY:C	13:H:39:GLY:H	2.16	0.46
13:H:85:ASP:CG	13:H:86:GLY:N	2.69	0.46
14:I:53:ARG:O	14:I:58:ALA:HB2	2.15	0.46
15:J:11:ARG:HG3	15:J:11:ARG:HH11	1.81	0.46
17:L:32:TYR:O	17:L:32:TYR:CG	2.68	0.46
17:L:38:ILE:CG1	17:L:39:TYR:N	2.77	0.46
20:O:36:LYS:HD2	20:O:55:THR:N	2.30	0.46
20:O:47:PHE:O	20:O:51:ALA:CB	2.63	0.46
20:O:61:VAL:O	20:O:62:GLU:HB2	2.16	0.46
21:P:65:SER:O	21:P:69:ALA:N	2.39	0.46
23:R:95:ARG:HG3	23:R:95:ARG:HH11	1.80	0.46
23:R:102:LYS:HE2	29:X:100:G:C6	2.50	0.46
29:X:1017:C:N3	29:X:1018:C:C5	2.83	0.46
29:X:1007:A:C6	29:X:1171:A:C2	3.03	0.46
20:O:85:GLY:N	29:X:1238:A:H5'	2.28	0.46
29:X:1319:C:O2'	29:X:1320:A:H5'	2.14	0.46
29:X:1569:A:N1	29:X:1571:G:H1'	2.30	0.46
29:X:1450:G:C2	29:X:1573:G:N3	2.83	0.46
29:X:1691:G:H4'	29:X:1692:C:OP1	2.15	0.46
29:X:2048:C:O2'	29:X:2049:C:H5'	2.16	0.46
29:X:20:C:H2'	29:X:21:A:H8	1.80	0.46
29:X:2447:G:H22	29:X:2460:G:C2'	2.15	0.46
29:X:541:C:O2'	29:X:542:A:P	2.73	0.46
29:X:543:G:H2'	29:X:544:U:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:559:C:C2	29:X:560:G:H1'	2.50	0.46
29:X:59:G:C5	29:X:62:U:C4	3.03	0.46
6:A:36:ALA:HB2	6:A:63:ARG:NH1	2.31	0.46
7:B:67:PHE:CE1	7:B:78:LEU:HD21	2.42	0.46
8:C:158:ARG:O	8:C:159:ARG:C	2.53	0.46
9:D:8:TYR:HB2	9:D:173:MET:CE	2.44	0.46
9:D:69:LYS:HG2	9:D:84:PRO:CA	2.45	0.46
12:G:107:GLN:HA	12:G:110:LEU:CG	2.42	0.46
12:G:140:GLN:O	12:G:141:GLY:C	2.51	0.46
14:I:7:LYS:O	14:I:7:LYS:HG2	2.16	0.46
15:J:39:GLU:HB3	15:J:128:ILE:HG22	1.97	0.46
15:J:36:ILE:CG2	15:J:37:ALA:N	2.78	0.46
15:J:6:LYS:HE3	15:J:7:ARG:CG	2.46	0.46
15:J:43:ILE:N	15:J:95:VAL:HG13	2.31	0.46
16:K:48:VAL:CG1	16:K:49:GLU:H	2.29	0.46
17:L:37:HIS:CG	17:L:37:HIS:O	2.69	0.46
17:L:8:ARG:HG3	17:L:9:ARG:N	2.16	0.46
21:P:80:LEU:HD21	21:P:87:GLU:CB	2.38	0.46
23:R:90:LYS:HG3	23:R:90:LYS:O	2.14	0.46
29:X:1121:G:H2'	29:X:1122:A:C8	2.50	0.46
29:X:1316:G:C2	29:X:1317:G:C8	3.04	0.46
29:X:1379:A:H2'	29:X:1380:C:C6	2.50	0.46
29:X:1400:A:H5'	29:X:1484:G:H4'	1.97	0.46
29:X:1573:G:O6	29:X:1574:A:N6	2.49	0.46
29:X:1579:G:C2'	29:X:1580:C:H5'	2.45	0.46
29:X:1432:G:H21	29:X:1596:A:H62	1.64	0.46
29:X:1948:C:C4	29:X:1949:A:C5	3.03	0.46
29:X:1979:C:H2'	29:X:1979:C:O2	2.15	0.46
29:X:2298:U:O2'	29:X:2299:A:C4	2.68	0.46
29:X:2391:A:H2'	29:X:2392:G:O4'	2.14	0.46
29:X:2642:G:C2'	29:X:2643:G:C5'	2.78	0.46
29:X:574:C:C5'	29:X:1266:G:O6	2.64	0.46
29:X:749:C:O5'	29:X:749:C:H6	1.97	0.46
29:X:853:C:O2'	29:X:854:G:H5'	2.16	0.46
15:J:24:GLY:HA3	29:X:919:U:O3'	2.15	0.46
29:X:959:C:O2'	29:X:960:U:H5'	2.16	0.46
29:X:968:C:N4	29:X:970:A:C5	2.83	0.46
29:X:998:C:C4'	29:X:1012:A:H4'	2.43	0.46
17:L:37:HIS:CB	31:Z:30:C:OP1	2.61	0.46
6:A:249:PRO:HD3	29:X:2218:G:H5'	1.96	0.46
8:C:53:LYS:HA	8:C:53:LYS:HD3	1.69	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:128:TYR:O	9:D:156:ILE:HB	2.16	0.46
9:D:4:LEU:HD11	9:D:173:MET:CE	2.38	0.46
10:E:150:LYS:O	10:E:151:VAL:C	2.53	0.46
10:E:84:THR:O	10:E:84:THR:HG23	2.16	0.46
12:G:110:LEU:CD2	12:G:110:LEU:N	2.75	0.46
12:G:154:GLU:N	12:G:157:PRO:HG2	2.31	0.46
14:I:103:ASN:ND2	14:I:104:ARG:HG3	2.31	0.46
19:N:12:ARG:O	19:N:15:LYS:N	2.49	0.46
19:N:86:ALA:O	19:N:87:ASN:C	2.54	0.46
23:R:22:VAL:HG21	23:R:80:LYS:NZ	2.29	0.46
23:R:32:GLN:HE21	23:R:50:GLY:CA	2.27	0.46
29:X:1153:A:N3	29:X:1155:G:N7	2.62	0.46
29:X:1551:U:H5'	29:X:1552:C:C6	2.51	0.46
29:X:1658:A:C8	29:X:1659:G:C8	3.04	0.46
29:X:1754:G:OP1	29:X:1754:G:H4'	2.15	0.46
29:X:1980:A:N1	29:X:1981:A:C6	2.83	0.46
29:X:2204:A:H4'	29:X:2205:C:H6	1.79	0.46
29:X:2324:G:C2'	29:X:2325:A:OP2	2.63	0.46
29:X:2335:U:C2	29:X:2341:G:N1	2.83	0.46
29:X:2331:A:N7	29:X:2345:A:C6	2.83	0.46
29:X:2502:G:O6	29:X:2520:A:C2	2.68	0.46
29:X:2648:G:N2	29:X:2649:A:H1'	2.29	0.46
29:X:2708:U:C3'	29:X:2709:C:H6	2.29	0.46
29:X:2656:G:N2	29:X:2711:G:N3	2.64	0.46
29:X:2611:A:C2	29:X:2767:C:C2	3.04	0.46
29:X:2850:U:N3	29:X:2851:G:N7	2.62	0.46
29:X:2782:G:O6	29:X:2867:G:O6	2.34	0.46
29:X:30:G:H4'	29:X:1228:G:H5'	1.97	0.46
23:R:93:ARG:HB2	29:X:310:A:OP1	2.14	0.46
29:X:333:A:O4'	29:X:351:A:H1'	2.15	0.46
29:X:558:G:H5''	29:X:558:G:C2	2.49	0.46
29:X:810:U:H2'	29:X:811:G:O4'	2.16	0.46
29:X:857:U:H3'	29:X:858:G:H8	1.80	0.46
17:L:97:HIS:CD2	31:Z:50:U:O3'	2.68	0.46
31:Z:71:G:H2'	31:Z:71:G:N3	2.30	0.46
7:B:98:GLU:CG	7:B:174:GLU:HA	2.40	0.46
7:B:15:TRP:CD1	7:B:20:ALA:HB2	2.51	0.46
9:D:134:GLU:OE2	9:D:136:LEU:HB2	2.16	0.46
9:D:135:GLN:HA	9:D:138:PHE:HE1	1.78	0.46
9:D:151:GLY:O	9:D:152:MET:HB3	2.15	0.46
10:E:24:PHE:CD1	10:E:24:PHE:N	2.83	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:F:49:GLY:O	11:F:50:ASP:HB2	2.15	0.46
12:G:111:LYS:O	12:G:113:GLU:OE2	2.34	0.46
12:G:46:ALA:CB	12:G:54:LEU:HD21	2.45	0.46
14:I:18:ARG:O	14:I:19:VAL:C	2.54	0.46
15:J:79:PRO:O	15:J:80:ALA:CB	2.64	0.46
16:K:5:LYS:O	16:K:6:ALA:O	2.34	0.46
18:M:67:THR:HG23	18:M:79:ARG:O	2.16	0.46
22:Q:43:GLN:CA	22:Q:48:VAL:O	2.61	0.46
23:R:16:PHE:HZ	23:R:46:VAL:HG22	1.80	0.46
23:R:85:ASP:C	23:R:87:GLU:H	2.18	0.46
23:R:95:ARG:HG3	23:R:95:ARG:NH1	2.31	0.46
25:T:35:ASN:O	25:T:60:PHE:HA	2.15	0.46
29:X:1101:U:O5'	29:X:1101:U:H6	1.97	0.46
29:X:1228:G:O2'	29:X:1229:C:H5'	2.15	0.46
29:X:1734:C:C6	29:X:1735:G:H1'	2.50	0.46
29:X:1821:A:H2'	29:X:1822:C:O5'	2.16	0.46
29:X:192:G:O2'	29:X:193:A:C5'	2.64	0.46
29:X:1969:G:H2'	29:X:1970:G:C8	2.42	0.46
29:X:200:A:C2	29:X:421:G:O4'	2.69	0.46
29:X:2060:A:H1'	29:X:2414:A:O4'	2.16	0.46
29:X:2426:G:O2'	29:X:2427:A:OP2	2.27	0.46
29:X:2859:U:O2	30:Y:52:TYR:CE2	2.68	0.46
29:X:30:G:O2'	29:X:31:C:H5'	2.15	0.46
29:X:422:C:H2'	29:X:423:G:C8	2.50	0.46
29:X:441:A:N7	29:X:442:A:C5	2.82	0.46
29:X:452:G:H2'	29:X:453:U:O4'	2.16	0.46
29:X:575:U:H2'	29:X:576:A:H8	1.81	0.46
29:X:633:G:C4	29:X:634:G:N7	2.84	0.46
4:4:9:LYS:HD2	4:4:9:LYS:N	2.31	0.46
6:A:188:GLU:OE2	29:X:2201:G:H5''	2.15	0.46
6:A:214:TRP:C	6:A:215:LEU:HD12	2.36	0.46
6:A:217:ARG:O	6:A:218:LYS:C	2.52	0.46
6:A:217:ARG:HG2	6:A:218:LYS:H	1.80	0.46
6:A:43:ARG:HH11	6:A:43:ARG:CA	2.27	0.46
7:B:144:ARG:O	7:B:148:GLY:HA2	2.15	0.46
7:B:5:LEU:N	7:B:5:LEU:CD1	2.78	0.46
9:D:42:SER:O	9:D:78:LYS:NZ	2.47	0.46
14:I:40:ARG:O	14:I:41:SER:CB	2.64	0.46
16:K:103:ARG:HD2	29:X:1300:A:OP2	2.15	0.46
16:K:76:VAL:O	16:K:80:MET:HB2	2.16	0.46
7:B:181:LEU:HD13	18:M:16:ILE:HD11	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:22:ARG:CD	18:M:83:PHE:O	2.63	0.46
19:N:12:ARG:O	19:N:14:HIS:N	2.49	0.46
19:N:14:HIS:CD2	19:N:32:TYR:CE1	3.04	0.46
19:N:91:ASN:HB2	19:N:92:ARG:H	1.49	0.46
19:N:91:ASN:ND2	20:O:11:GLN:NE2	2.64	0.46
21:P:27:VAL:CB	21:P:125:THR:HG22	2.45	0.46
21:P:13:GLN:HA	21:P:16:GLN:OE1	2.15	0.46
22:Q:88:ILE:O	22:Q:90:ALA:N	2.49	0.46
24:S:32:PHE:O	24:S:33:ALA:HB2	2.15	0.46
25:T:85:GLN:HA	25:T:85:GLN:OE1	2.16	0.46
26:U:27:ASP:HA	26:U:32:ARG:HD3	1.97	0.46
27:V:15:ALA:HA	27:V:18:ILE:HD12	1.97	0.46
29:X:1013:G:N2	29:X:1165:G:H1'	2.31	0.46
29:X:1044:U:C4	29:X:2730:A:C2	3.03	0.46
29:X:987:G:H4'	29:X:1167:A:N7	2.31	0.46
29:X:1561:A:C8	29:X:1562:G:C8	3.04	0.46
29:X:1858:C:H2'	29:X:1859:A:O4'	2.15	0.46
29:X:2023:C:C2	29:X:2024:U:C6	3.04	0.46
29:X:2194:A:H2'	29:X:2195:C:C5'	2.44	0.46
29:X:2279:G:O2'	29:X:2280:A:H5'	2.15	0.46
29:X:2311:U:C3'	29:X:2311:U:O2	2.62	0.46
29:X:2745:A:H3'	29:X:2745:A:N3	2.30	0.46
29:X:2811:G:C5	29:X:2858:A:N6	2.83	0.46
29:X:2862:G:N2	29:X:2863:U:O2	2.49	0.46
8:C:42:THR:HB	29:X:454:G:H21	1.79	0.46
29:X:67:G:H2'	29:X:68:C:O4'	2.15	0.46
29:X:714:G:C6	29:X:745:C:N4	2.83	0.46
29:X:759:C:C1'	29:X:761:G:H21	2.29	0.46
29:X:789:G:C6	29:X:806:A:N7	2.84	0.46
7:B:125:GLY:O	7:B:126:PRO:O	2.33	0.46
7:B:116:VAL:CG1	7:B:136:ARG:NH2	2.71	0.46
10:E:51:LEU:HD12	10:E:52:VAL:N	2.31	0.46
10:E:57:ASP:O	10:E:58:ALA:CB	2.63	0.46
12:G:150:VAL:O	12:G:151:TYR:CD1	2.69	0.46
14:I:117:ALA:O	14:I:118:VAL:CG1	2.64	0.46
14:I:32:ARG:NH2	20:O:81:ARG:NE	2.60	0.46
15:J:78:LYS:CA	29:X:968:C:OP1	2.63	0.46
16:K:103:ARG:CG	16:K:104:ARG:N	2.79	0.46
16:K:3:HIS:CE1	16:K:5:LYS:HD2	2.50	0.46
19:N:99:ALA:HB2	19:N:106:PHE:CE1	2.51	0.46
20:O:35:LEU:HD22	20:O:36:LYS:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:75:LYS:NZ	20:O:75:LYS:CB	2.78	0.46
21:P:34:SER:HA	21:P:35:PRO:HD2	1.62	0.46
29:X:1032:A:O2'	29:X:1134:C:H5''	2.16	0.46
29:X:1137:A:H4'	29:X:1138:A:C5'	2.44	0.46
29:X:1298:G:O6	29:X:1342:U:C6	2.68	0.46
29:X:1465:G:H2'	29:X:1466:C:H6	1.79	0.46
29:X:1691:G:C4'	29:X:1692:C:OP1	2.64	0.46
29:X:1742:G:C4	29:X:1743:C:C5	3.04	0.46
29:X:1827:G:C4	29:X:1914:U:C4	3.03	0.46
29:X:167:A:P	29:X:182:G:H22	2.39	0.46
29:X:2070:G:C2	29:X:2212:U:C2	3.04	0.46
29:X:322:A:H2'	29:X:323:G:OP1	2.16	0.46
29:X:416:U:H4'	29:X:419:G:O2'	2.16	0.46
29:X:588:G:N2	29:X:1275:A:C4	2.84	0.46
29:X:801:A:C2'	29:X:802:A:OP2	2.63	0.46
29:X:813:A:C4'	29:X:814:G:O5'	2.54	0.46
15:J:15:ARG:HA	29:X:922:A:N7	2.31	0.46
29:X:953:G:H1'	29:X:1203:A:C2	2.50	0.46
6:A:145:LEU:HD12	6:A:146:GLU:N	2.31	0.46
7:B:97:ALA:HB3	7:B:100:GLU:HG3	1.98	0.46
8:C:108:ILE:O	8:C:109:ALA:C	2.54	0.46
8:C:2:ALA:HA	8:C:13:ARG:CA	2.46	0.46
8:C:144:GLY:CA	8:C:166:TRP:NE1	2.78	0.46
9:D:70:ALA:HB3	9:D:83:MET:H	1.80	0.46
10:E:124:ALA:N	10:E:132:ASP:O	2.48	0.46
11:F:132:ARG:HG2	11:F:132:ARG:NH1	2.29	0.46
12:G:127:ILE:O	12:G:128:GLU:C	2.54	0.46
12:G:42:VAL:HG22	12:G:166:LEU:HB2	1.96	0.46
13:H:99:ILE:HD12	13:H:103:GLY:HA2	1.98	0.46
13:H:119:ARG:NH1	13:H:119:ARG:HG3	2.31	0.46
13:H:75:VAL:HG23	13:H:76:ARG:HG3	1.97	0.46
14:I:97:ARG:O	14:I:98:LEU:CB	2.64	0.46
15:J:69:ILE:HD13	15:J:104:MET:CB	2.46	0.46
15:J:82:THR:O	15:J:83:ARG:CB	2.63	0.46
16:K:49:GLU:OE1	16:K:95:THR:CG2	2.62	0.46
17:L:87:VAL:C	17:L:88:VAL:CG2	2.84	0.46
18:M:76:GLY:C	18:M:77:VAL:HG23	2.36	0.46
19:N:10:ARG:O	19:N:12:ARG:N	2.49	0.46
20:O:35:LEU:HD23	20:O:52:GLY:HA2	1.95	0.46
24:S:51:LEU:CD2	24:S:51:LEU:H	2.22	0.46
26:U:48:LYS:NZ	26:U:48:LYS:CB	2.78	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1081:A:C6	29:X:1108:U:H4'	2.51	0.46
29:X:1298:G:C6	29:X:1342:U:C5	3.04	0.46
29:X:1551:U:H5'	29:X:1552:C:C5	2.51	0.46
29:X:1621:C:H4'	29:X:1626:A:C5	2.51	0.46
29:X:1629:G:H3'	29:X:1633:C:H42	1.81	0.46
29:X:2031:A:H2'	29:X:2032:G:O5'	2.16	0.46
29:X:2062:U:C2	29:X:2063:A:C8	3.04	0.46
29:X:2195:C:C5	29:X:2196:U:O4	2.68	0.46
29:X:218:A:HO2'	29:X:219:G:P	2.39	0.46
29:X:2341:G:O2'	29:X:2342:U:H5'	2.16	0.46
29:X:2494:C:N3	29:X:2549:G:C6	2.83	0.46
29:X:2486:C:C2	29:X:2562:G:C2	3.04	0.46
29:X:2624:G:C5'	29:X:2712:G:O2'	2.63	0.46
29:X:2721:A:O2'	29:X:2722:C:H5'	2.15	0.46
29:X:2806:G:C1'	29:X:2858:A:C2	2.99	0.46
29:X:330:C:H2'	29:X:331:U:O4'	2.16	0.46
29:X:357:A:C2'	29:X:358:C:H5'	2.45	0.46
29:X:28:A:C2	29:X:523:A:N9	2.83	0.46
29:X:761:G:C8	29:X:763:A:C8	3.04	0.46
29:X:820:U:OP1	29:X:843:G:N2	2.49	0.46
29:X:879:A:N6	29:X:926:C:C5	2.83	0.46
31:Z:36:A:C2	31:Z:51:G:C6	3.03	0.46
6:A:63:ARG:NH1	6:A:63:ARG:HG2	2.30	0.46
7:B:136:ARG:NH2	7:B:157:ALA:HB2	2.31	0.46
8:C:136:TRP:O	8:C:137:ALA:C	2.54	0.46
8:C:136:TRP:O	8:C:140:ASN:ND2	2.40	0.46
8:C:2:ALA:HA	8:C:13:ARG:HA	1.97	0.46
10:E:58:ALA:H	10:E:62:ARG:CG	2.15	0.46
14:I:90:ARG:NH2	14:I:93:LEU:HD11	2.31	0.46
15:J:50:ALA:O	15:J:54:VAL:CG2	2.64	0.46
18:M:93:ILE:HG22	18:M:95:GLU:H	1.81	0.46
19:N:8:ILE:HG22	19:N:11:ARG:HH21	1.80	0.46
21:P:25:PHE:CD2	21:P:25:PHE:O	2.68	0.46
24:S:63:PRO:HB2	24:S:86:VAL:HG21	1.98	0.46
26:U:27:ASP:H	26:U:32:ARG:HH21	1.64	0.46
26:U:15:VAL:HG12	26:U:46:LEU:HD23	1.98	0.46
28:W:15:ASN:O	28:W:18:LYS:N	2.49	0.46
29:X:1414:G:H2'	29:X:1415:C:O4'	2.15	0.46
29:X:1596:A:C2	29:X:1597:A:H1'	2.51	0.46
29:X:1652:G:C4	29:X:1653:C:C5	3.03	0.46
29:X:15:G:C6	29:X:16:G:N7	2.84	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1724:C:OP2	29:X:1724:C:H6	1.99	0.46
29:X:1937:G:N3	29:X:2530:C:H5''	2.29	0.46
29:X:2006:G:N2	29:X:2024:U:C2	2.84	0.46
29:X:2045:A:H4'	29:X:2046:C:OP1	2.16	0.46
29:X:2050:G:N1	29:X:2052:G:C5	2.84	0.46
29:X:2429:A:OP1	29:X:2476:A:C8	2.68	0.46
29:X:2563:U:H2'	29:X:2564:U:C5'	2.43	0.46
29:X:2631:C:H2'	29:X:2632:U:O4'	2.15	0.46
29:X:2675:U:H2'	29:X:2676:G:C8	2.50	0.46
29:X:2746:G:C2	29:X:2747:C:C6	3.03	0.46
29:X:2807:U:C5'	29:X:2807:U:H6	2.29	0.46
29:X:2818:G:C6	29:X:2819:G:N7	2.84	0.46
29:X:2849:C:H2'	29:X:2850:U:H5'	1.98	0.46
29:X:520:C:O2'	29:X:1249:G:H5''	2.16	0.46
29:X:573:C:O2'	29:X:574:C:H5'	2.16	0.46
29:X:649:G:N2	29:X:661:C:C2	2.84	0.46
29:X:983:G:H3'	29:X:984:A:H5''	1.97	0.46
6:A:223:GLY:HA3	6:A:231:HIS:CD2	2.51	0.46
7:B:8:LYS:HG2	7:B:192:ASN:HA	1.97	0.46
8:C:112:GLN:NE2	8:C:116:LYS:CB	2.79	0.46
8:C:72:ARG:HG3	8:C:77:PHE:CD2	2.51	0.46
9:D:123:ASP:C	9:D:125:ARG:H	2.18	0.46
9:D:16:LEU:HD12	9:D:28:VAL:CG1	2.46	0.46
11:F:8:VAL:CG1	11:F:57:ILE:HB	2.47	0.46
12:G:98:LYS:HA	12:G:98:LYS:HD2	1.70	0.46
13:H:23:ARG:HH12	13:H:25:LEU:HB3	1.81	0.46
13:H:47:VAL:CG2	13:H:77:THR:H	2.28	0.46
14:I:80:LEU:HD11	14:I:89:ASP:OD1	2.16	0.46
15:J:40:PRO:CG	15:J:99:LYS:HZ2	2.28	0.46
17:L:42:ILE:HG22	17:L:52:ALA:N	2.30	0.46
17:L:43:ILE:HG22	17:L:44:ASP:H	1.81	0.46
17:L:79:ALA:O	17:L:83:GLY:N	2.43	0.46
13:H:131:PRO:O	18:M:73:PHE:CE1	2.69	0.46
18:M:95:GLU:O	18:M:96:ARG:C	2.53	0.46
21:P:80:LEU:O	21:P:84:GLU:HA	2.15	0.46
23:R:52:ASN:OD1	23:R:53:VAL:N	2.49	0.46
24:S:131:PRO:HG2	24:S:155:PRO:HG3	1.97	0.46
29:X:1012:A:H62	29:X:1013:G:N2	2.13	0.46
29:X:1093:U:H3	29:X:1097:A:H2	1.62	0.46
29:X:1194:U:HO2'	29:X:1195:U:P	2.38	0.46
29:X:1281:A:N6	29:X:1282:A:C2	2.84	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1684:G:O2'	29:X:1685:A:OP2	2.33	0.46
29:X:1706:A:C5	29:X:1717:A:C6	3.04	0.46
29:X:172:A:C2	29:X:227:G:N2	2.84	0.46
29:X:1801:C:H1'	29:X:2207:G:O2'	2.15	0.46
29:X:581:A:C2	29:X:2016:A:C2	3.03	0.46
29:X:2018:G:H4'	29:X:2019:C:OP2	2.15	0.46
29:X:2050:G:H5''	29:X:2051:U:OP2	2.16	0.46
29:X:2434:G:N2	29:X:2435:C:C2	2.84	0.46
29:X:2665:G:N1	29:X:2704:U:O2	2.50	0.46
29:X:2725:C:C4	29:X:2726:U:C4	3.04	0.46
29:X:2847:G:N3	29:X:2848:A:N6	2.64	0.46
29:X:314:G:C2	29:X:326:A:C2	3.05	0.46
29:X:649:G:O2'	29:X:650:U:H5'	2.16	0.46
29:X:913:A:H2'	29:X:914:C:O5'	2.17	0.46
29:X:91:A:H2'	29:X:92:U:C6	2.51	0.46
29:X:944:A:C2'	29:X:945:G:H5'	2.46	0.46
29:X:958:G:HO2'	29:X:995:A:H2	1.61	0.46
6:A:228:PRO:O	29:X:2057:U:OP1	2.34	0.45
6:A:258:LYS:NZ	6:A:261:ARG:HE	2.14	0.45
6:A:50:THR:HG21	29:X:1796:A:N3	2.30	0.45
6:A:53:PHE:CZ	6:A:220:HIS:HA	2.51	0.45
8:C:38:ARG:NH2	8:C:178:TYR:CE2	2.82	0.45
8:C:54:THR:CG2	8:C:71:ASP:HB3	2.45	0.45
9:D:134:GLU:HG2	9:D:136:LEU:N	2.26	0.45
9:D:167:ARG:O	9:D:170:LEU:HB2	2.17	0.45
9:D:53:ALA:O	9:D:54:ALA:C	2.54	0.45
9:D:91:LEU:HB3	9:D:96:MET:HA	1.97	0.45
11:F:117:ALA:HB3	11:F:123:ALA:HB2	1.98	0.45
11:F:55:VAL:CG2	11:F:69:THR:HA	2.40	0.45
12:G:102:ARG:O	12:G:112:THR:HB	2.16	0.45
12:G:64:GLY:HA3	12:G:67:ARG:HD2	1.98	0.45
14:I:18:ARG:HB2	14:I:21:ARG:CD	2.46	0.45
16:K:38:LEU:HG	16:K:39:THR:N	2.28	0.45
19:N:27:SER:C	19:N:29:SER:N	2.70	0.45
19:N:7:GLY:O	19:N:9:VAL:HG23	2.17	0.45
19:N:92:ARG:HH11	19:N:92:ARG:CG	2.29	0.45
21:P:18:VAL:HG12	21:P:19:LYS:N	2.32	0.45
21:P:25:PHE:CE2	21:P:27:VAL:HG12	2.52	0.45
21:P:45:ILE:HD11	21:P:57:LEU:HD11	1.98	0.45
21:P:35:PRO:HG3	21:P:99:ALA:HB2	1.99	0.45
22:Q:39:LYS:O	22:Q:42:ILE:HG23	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:105:ARG:NH1	23:R:112:LYS:HA	2.31	0.45
24:S:64:ALA:HA	24:S:86:VAL:N	2.31	0.45
29:X:102:C:H2'	29:X:103:U:O4'	2.15	0.45
29:X:1122:A:H2'	29:X:1123:G:O5'	2.16	0.45
29:X:1318:A:C2	29:X:1319:C:C2	3.03	0.45
29:X:1484:G:H2'	29:X:1485:U:C6	2.51	0.45
29:X:1705:U:C2	29:X:1715:A:C2	3.04	0.45
29:X:976:C:O5'	29:X:2252:A:H1'	2.16	0.45
29:X:227:G:H2'	29:X:228:A:H8	1.81	0.45
29:X:2047:C:O2	29:X:2429:A:N6	2.49	0.45
4:4:15:LYS:NZ	29:X:2733:A:O2'	2.26	0.45
29:X:2871:U:H2'	29:X:2872:U:H6	1.80	0.45
29:X:304:A:N7	29:X:356:A:N6	2.63	0.45
26:U:20:ARG:HG3	29:X:393:U:OP1	2.16	0.45
29:X:495:C:H2'	29:X:496:C:C6	2.51	0.45
29:X:507:A:N6	29:X:508:G:C6	2.85	0.45
29:X:610:G:H2'	29:X:611:C:O4'	2.16	0.45
29:X:701:U:O2'	29:X:702:A:H5'	2.16	0.45
4:4:35:ARG:HD2	29:X:2722:C:OP1	2.15	0.45
8:C:28:HIS:ND1	14:I:16:ARG:O	2.49	0.45
8:C:74:VAL:O	8:C:74:VAL:HG23	2.16	0.45
8:C:83:ALA:O	8:C:84:PHE:C	2.54	0.45
9:D:108:LEU:O	9:D:109:PRO:C	2.53	0.45
10:E:89:LEU:HD13	10:E:95:ARG:CA	2.38	0.45
12:G:132:PHE:CE1	12:G:145:HIS:HB2	2.51	0.45
16:K:34:ILE:HG13	16:K:113:ILE:CG2	2.47	0.45
18:M:72:SER:O	18:M:73:PHE:O	2.34	0.45
21:P:38:VAL:O	21:P:42:VAL:HG23	2.15	0.45
22:Q:61:LYS:HA	22:Q:71:GLN:O	2.16	0.45
22:Q:62:ARG:NH1	22:Q:73:ASN:ND2	2.44	0.45
28:W:34:VAL:HG22	28:W:40:VAL:HG11	1.97	0.45
11:F:122:ALA:CA	29:X:1092:U:H4'	2.46	0.45
29:X:1324:G:OP2	29:X:1324:G:N2	2.28	0.45
29:X:1436:G:H2'	29:X:1437:A:H8	1.82	0.45
29:X:143:A:C2	29:X:144:U:C2	3.04	0.45
29:X:1365:U:O2'	29:X:1586:A:N3	2.40	0.45
29:X:1701:C:OP2	29:X:1701:C:C6	2.70	0.45
29:X:175:C:C6	29:X:177:U:O4	2.67	0.45
29:X:1830:C:H41	29:X:1881:U:H3'	1.81	0.45
29:X:1948:C:C6	29:X:1949:A:C8	3.05	0.45
29:X:219:G:O2'	29:X:220:U:OP2	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:223:C:H2'	29:X:224:G:C5'	2.42	0.45
29:X:2312:A:O2'	29:X:2313:G:P	2.73	0.45
29:X:2438:A:C5	29:X:2439:U:C5	3.04	0.45
29:X:2451:G:H2'	29:X:2454:C:H42	1.82	0.45
29:X:2507:U:C5	29:X:2509:A:C8	3.04	0.45
29:X:2036:G:C2	29:X:2596:C:C2	3.05	0.45
29:X:389:G:H2'	29:X:390:U:C5	2.50	0.45
29:X:393:U:O2'	29:X:394:U:H5'	2.16	0.45
29:X:441:A:H5'	29:X:442:A:OP2	2.16	0.45
19:N:3:ARG:HE	29:X:461:A:H4'	1.82	0.45
29:X:525:A:H8	29:X:526:C:C5	2.33	0.45
19:N:24:PHE:CE1	29:X:543:G:H5'	2.51	0.45
29:X:648:A:C5'	29:X:649:G:C4'	2.94	0.45
29:X:732:G:C2	29:X:733:G:C4	3.04	0.45
31:Z:15:A:N1	31:Z:71:G:O2'	2.41	0.45
17:L:97:HIS:NE2	31:Z:39:C:O2	2.49	0.45
7:B:134:TRP:H	7:B:134:TRP:HD1	1.65	0.45
8:C:162:ARG:HH22	29:X:310:A:H61	1.65	0.45
10:E:54:ARG:HE	10:E:57:ASP:HA	1.80	0.45
12:G:61:ARG:CZ	12:G:65:LYS:CD	2.94	0.45
13:H:12:ASP:OD1	13:H:14:SER:CB	2.65	0.45
14:I:76:LYS:HE3	14:I:111:SER:CB	2.46	0.45
15:J:62:GLY:HA3	15:J:64:LYS:CE	2.46	0.45
16:K:87:TYR:O	16:K:88:ALA:C	2.54	0.45
18:M:14:ARG:O	18:M:18:GLN:N	2.45	0.45
18:M:23:GLN:O	18:M:24:LEU:HD23	2.16	0.45
18:M:78:GLU:O	18:M:79:ARG:CG	2.58	0.45
18:M:91:VAL:HG12	18:M:92:THR:N	2.31	0.45
19:N:64:ARG:O	19:N:67:ALA:N	2.49	0.45
19:N:91:ASN:ND2	20:O:11:GLN:HE22	2.15	0.45
21:P:94:GLU:O	21:P:126:ILE:HD12	2.15	0.45
22:Q:35:LYS:C	22:Q:38:ILE:CG2	2.84	0.45
23:R:40:LEU:HD12	23:R:45:LYS:HB2	1.97	0.45
23:R:23:ILE:HG12	23:R:84:VAL:HG21	1.97	0.45
29:X:1011:A:C2	29:X:1166:A:N3	2.84	0.45
29:X:1081:A:N7	29:X:1107:A:H2'	2.31	0.45
29:X:1476:G:C6	29:X:1477:C:N3	2.84	0.45
29:X:1673:C:N4	29:X:1674:C:H41	2.15	0.45
29:X:1724:C:C6	29:X:1724:C:OP2	2.70	0.45
29:X:2071:G:O2'	29:X:2072:C:H5'	2.14	0.45
29:X:1385:C:H1'	29:X:2192:U:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:689:A:H1'	29:X:2422:C:C1'	2.46	0.45
29:X:2507:U:O3'	29:X:2508:G:H8	1.98	0.45
29:X:2563:U:O2'	29:X:2564:U:H5''	2.15	0.45
29:X:318:G:N1	29:X:321:A:OP2	2.49	0.45
19:N:37:GLN:NE2	29:X:572:G:H21	2.14	0.45
29:X:648:A:H4'	29:X:649:G:O5'	2.16	0.45
29:X:777:A:O2'	29:X:778:G:OP1	2.30	0.45
29:X:815:A:H2'	29:X:816:U:H6	1.81	0.45
7:B:105:THR:CG2	7:B:199:ARG:HH21	2.29	0.45
10:E:54:ARG:HH11	10:E:62:ARG:CZ	2.30	0.45
11:F:53:ILE:CG1	11:F:72:PRO:HB3	2.43	0.45
12:G:70:PHE:N	12:G:70:PHE:CD2	2.84	0.45
14:I:86:THR:O	14:I:86:THR:HG22	2.15	0.45
15:J:49:GLU:O	15:J:50:ALA:C	2.54	0.45
19:N:3:ARG:HG2	19:N:3:ARG:HH11	1.81	0.45
19:N:44:THR:O	19:N:48:ARG:HG3	2.15	0.45
19:N:78:THR:O	19:N:81:ASN:N	2.49	0.45
20:O:66:GLY:N	20:O:88:GLN:O	2.42	0.45
21:P:66:GLU:CB	21:P:67:PRO:CD	2.88	0.45
22:Q:43:GLN:HG2	22:Q:48:VAL:O	2.16	0.45
23:R:34:GLY:HA3	23:R:48:VAL:CG1	2.47	0.45
23:R:84:VAL:HA	23:R:90:LYS:CE	2.47	0.45
24:S:39:PHE:CE1	24:S:81:VAL:HG11	2.52	0.45
25:T:29:GLU:OE2	29:X:935:C:C4'	2.65	0.45
29:X:1174:G:H2'	29:X:1175:A:C8	2.50	0.45
29:X:1352:G:O4'	29:X:1406:A:C2	2.69	0.45
29:X:1363:C:O2'	29:X:1364:C:H5'	2.16	0.45
29:X:1459:U:H4'	29:X:1460:G:OP1	2.17	0.45
29:X:1460:G:C8	29:X:1460:G:OP2	2.69	0.45
29:X:163:A:H2'	29:X:164:G:C8	2.51	0.45
29:X:1704:G:O2'	29:X:1705:U:H5'	2.16	0.45
29:X:1773:C:H2'	29:X:1774:A:H5'	1.99	0.45
29:X:176:A:C2'	29:X:177:U:H5	2.29	0.45
29:X:1815:G:H2'	29:X:1816:G:O4'	2.17	0.45
29:X:1918:G:H21	29:X:1947:G:C1'	2.30	0.45
29:X:1982:C:H5''	29:X:2703:C:O2'	2.17	0.45
29:X:2070:G:H2'	29:X:2071:G:C8	2.51	0.45
29:X:2197:U:N3	29:X:2198:U:C4	2.84	0.45
25:T:42:GLY:HA3	29:X:2310:G:C4'	2.46	0.45
29:X:219:G:H2'	29:X:231:G:O6	2.17	0.45
29:X:2426:G:O2'	29:X:2427:A:H5'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2496:C:HO2'	29:X:2497:A:P	2.39	0.45
29:X:2569:A:O2'	29:X:2570:C:C5'	2.64	0.45
29:X:2586:G:H2'	29:X:2587:G:O4'	2.16	0.45
29:X:2597:G:O6	29:X:2598:C:N4	2.50	0.45
29:X:2665:G:N2	29:X:2704:U:H1'	2.31	0.45
29:X:2763:U:HO2'	29:X:2764:U:H5'	1.81	0.45
29:X:307:C:O2'	29:X:308:C:H5'	2.16	0.45
29:X:38:G:O2'	29:X:39:C:P	2.73	0.45
26:U:19:ILE:CD1	29:X:394:U:OP1	2.60	0.45
29:X:464:G:H2'	29:X:465:C:C6	2.51	0.45
29:X:501:G:C4	29:X:502:A:C8	3.05	0.45
29:X:51:A:H2'	29:X:52:A:C8	2.52	0.45
29:X:597:U:H2'	29:X:598:U:H6	1.81	0.45
29:X:623:G:C3'	29:X:624:A:C5'	2.87	0.45
29:X:649:G:H2'	29:X:650:U:O5'	2.15	0.45
29:X:931:G:C6	29:X:932:G:C5	3.04	0.45
30:Y:45:ILE:HD13	30:Y:57:VAL:HG23	1.99	0.45
4:4:27:CYS:SG	4:4:29:ASN:HB3	2.56	0.45
6:A:100:GLY:HA3	29:X:1516:A:C2	2.52	0.45
6:A:126:LYS:O	6:A:193:ILE:HB	2.17	0.45
8:C:101:GLN:O	8:C:104:LEU:HD23	2.17	0.45
9:D:108:LEU:HD13	9:D:176:PRO:CG	2.47	0.45
9:D:37:ASN:OD1	29:X:2292:C:O4'	2.34	0.45
10:E:31:GLY:O	10:E:79:VAL:HG12	2.17	0.45
12:G:106:TYR:O	12:G:108:GLY:N	2.45	0.45
13:H:37:GLY:O	13:H:39:GLY:N	2.43	0.45
15:J:64:LYS:HD2	15:J:64:LYS:H	1.82	0.45
18:M:56:ALA:O	18:M:66:PHE:HA	2.16	0.45
19:N:40:LEU:O	19:N:42:ALA:N	2.49	0.45
19:N:66:ASN:HB3	19:N:76:TYR:CA	2.46	0.45
23:R:93:ARG:HH22	23:R:108:VAL:HG12	1.81	0.45
23:R:90:LYS:CD	23:R:108:VAL:HG21	2.46	0.45
23:R:105:ARG:CZ	23:R:112:LYS:HA	2.47	0.45
23:R:25:LEU:CD1	23:R:80:LYS:HA	2.46	0.45
15:J:136:GLU:OE2	24:S:44:ARG:HA	2.15	0.45
25:T:17:ASN:OD1	29:X:2240:C:OP2	2.33	0.45
29:X:1048:U:H2'	29:X:1049:C:O4'	2.17	0.45
29:X:1364:C:C2	29:X:1394:G:C2	3.04	0.45
29:X:1422:C:C2	29:X:1423:A:C8	3.04	0.45
29:X:171:G:H2'	29:X:172:A:O4'	2.16	0.45
29:X:1851:A:N6	29:X:1866:G:H21	2.09	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2020:G:N1	29:X:2021:G:C6	2.84	0.45
29:X:2061:C:O2'	29:X:2062:U:H5'	2.16	0.45
29:X:2065:A:H3'	29:X:2066:G:C8	2.50	0.45
29:X:2580:C:C2	29:X:2582:G:N7	2.85	0.45
29:X:2597:G:N1	29:X:2598:C:N3	2.65	0.45
29:X:2673:G:H2'	29:X:2674:C:H6	1.81	0.45
29:X:2682:C:N4	29:X:2683:C:H41	2.15	0.45
29:X:2861:A:O2'	29:X:2862:G:H5'	2.16	0.45
29:X:405:C:C4	29:X:406:G:N7	2.85	0.45
9:D:92:ARG:NH1	31:Z:46:G:H4'	2.22	0.45
7:B:7:THR:HG1	7:B:51:TYR:HH	1.65	0.45
8:C:86:PRO:O	8:C:87:LYS:HD2	2.17	0.45
12:G:126:VAL:O	12:G:130:ALA:HB2	2.17	0.45
14:I:18:ARG:NH2	29:X:609:U:H1'	2.30	0.45
14:I:89:ASP:O	14:I:90:ARG:HB2	2.17	0.45
17:L:38:ILE:HG12	17:L:103:LEU:HD12	1.98	0.45
20:O:11:GLN:HE22	20:O:38:LEU:CB	2.22	0.45
20:O:61:VAL:HB	20:O:92:ALA:CB	2.47	0.45
29:X:1042:G:H2'	29:X:1043:A:C8	2.48	0.45
29:X:114:C:O2'	29:X:115:G:H5'	2.16	0.45
29:X:1187:A:H2'	29:X:1188:A:C8	2.52	0.45
8:C:147:LYS:NZ	29:X:1218:C:OP1	2.50	0.45
29:X:1228:G:C6	29:X:1229:C:C4	3.05	0.45
29:X:1542:G:N2	29:X:1562:G:H22	2.14	0.45
29:X:1322:G:H1'	29:X:1627:C:O2'	2.15	0.45
29:X:1687:C:O2'	29:X:1977:C:C4'	2.57	0.45
29:X:1845:A:C8	29:X:1872:A:N6	2.84	0.45
29:X:1969:G:C2	29:X:1970:G:C8	3.05	0.45
29:X:1986:G:H2'	29:X:1987:G:O5'	2.16	0.45
29:X:2274:C:H2'	29:X:2275:U:H6	1.81	0.45
29:X:2358:C:N4	29:X:2359:U:O4	2.50	0.45
29:X:2371:A:H2	29:X:2403:C:H42	1.65	0.45
29:X:2441:U:C2	29:X:2442:C:C5	3.05	0.45
29:X:244:C:H2'	29:X:245:C:O4'	2.17	0.45
29:X:2476:A:H1'	29:X:2477:C:H5	1.82	0.45
29:X:2484:G:O2'	29:X:2485:U:C5'	2.47	0.45
29:X:2639:A:H2'	29:X:2640:G:C8	2.51	0.45
29:X:2740:C:O2'	29:X:2741:G:H5'	2.16	0.45
29:X:2779:C:H2'	29:X:2780:A:C1'	2.46	0.45
29:X:2798:A:C4	29:X:2799:C:C6	3.04	0.45
29:X:717:G:C2'	29:X:739:G:H22	2.07	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:826:U:C2	29:X:827:C:C5	3.04	0.45
29:X:882:C:H2'	29:X:883:A:H8	1.82	0.45
29:X:930:A:C3'	29:X:930:A:C8	3.00	0.45
29:X:988:G:N3	29:X:1012:A:C2	2.84	0.45
31:Z:84:G:C5	31:Z:85:G:N7	2.85	0.45
4:4:1:MET:HB2	29:X:2505:G:H1'	1.99	0.45
9:D:8:TYR:CD1	9:D:173:MET:HE2	2.51	0.45
10:E:127:GLU:H	10:E:127:GLU:HG2	1.53	0.45
11:F:51:ALA:HB1	11:F:73:PRO:HD2	1.97	0.45
13:H:77:THR:C	13:H:79:HIS:N	2.70	0.45
15:J:10:PHE:CD1	15:J:11:ARG:N	2.84	0.45
16:K:100:VAL:CG1	16:K:101:GLY:H	2.29	0.45
16:K:45:ARG:O	16:K:48:VAL:HG12	2.17	0.45
17:L:63:ASN:HB3	17:L:67:THR:H	1.81	0.45
18:M:19:ASP:O	18:M:20:HIS:ND1	2.49	0.45
18:M:34:ARG:CZ	18:M:88:VAL:HG11	2.46	0.45
22:Q:14:GLU:CG	22:Q:15:LYS:N	2.79	0.45
24:S:113:VAL:HG22	24:S:171:VAL:HG13	1.99	0.45
28:W:17:VAL:O	28:W:20:VAL:HB	2.17	0.45
29:X:1005:U:O2	29:X:1007:A:N7	2.49	0.45
19:N:93:LYS:HB3	29:X:1007:A:O3'	2.17	0.45
29:X:1373:G:C2'	29:X:1374:G:C5'	2.91	0.45
29:X:1439:G:HO2'	29:X:1440:G:P	2.39	0.45
29:X:1440:G:C6	29:X:1441:A:N6	2.84	0.45
29:X:1550:C:H2'	29:X:1553:G:H22	1.76	0.45
29:X:1575:C:H5''	29:X:1576:G:OP2	2.16	0.45
29:X:166:G:N2	29:X:183:U:H5	2.12	0.45
29:X:1731:C:H2'	29:X:1732:U:C5'	2.47	0.45
29:X:1780:A:H2'	29:X:1781:C:O4'	2.17	0.45
29:X:1838:G:H2'	29:X:1839:A:O4'	2.16	0.45
29:X:1861:G:O2'	29:X:1862:C:H5'	2.16	0.45
29:X:211:U:H2'	29:X:212:U:O4'	2.16	0.45
29:X:2440:C:H2'	29:X:2441:U:C6	2.52	0.45
29:X:1922:U:C1'	29:X:2570:C:O2'	2.57	0.45
29:X:2595:C:C2	29:X:2596:C:C5	3.05	0.45
29:X:2695:C:C2	29:X:2696:A:C8	3.04	0.45
18:M:103:LYS:CG	29:X:2698:G:H4'	2.43	0.45
29:X:2706:U:HO2'	29:X:2707:G:P	2.39	0.45
29:X:2721:A:H2'	29:X:2722:C:C5'	2.47	0.45
29:X:478:G:C2	29:X:479:G:C8	3.05	0.45
29:X:610:G:O5'	29:X:610:G:H8	2.00	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:614:G:O2'	29:X:615:C:H5'	2.17	0.45
29:X:70:A:H4'	29:X:71:A:H3'	1.98	0.45
29:X:758:G:N2	29:X:766:A:C6	2.85	0.45
29:X:936:A:O2'	29:X:937:C:H5'	2.16	0.45
29:X:989:G:C5	29:X:990:A:N7	2.85	0.45
31:Z:5:C:H2'	31:Z:6:C:C6	2.51	0.45
31:Z:79:U:O2'	31:Z:80:A:H5'	2.17	0.45
6:A:255:LYS:O	29:X:1788:C:H4'	2.16	0.45
7:B:152:LYS:HB2	12:G:106:TYR:CB	2.42	0.45
7:B:155:ARG:NH1	7:B:155:ARG:HG3	2.31	0.45
7:B:31:CYS:CB	7:B:49:ILE:CD1	2.95	0.45
7:B:60:ASN:HB2	7:B:63:MET:H	1.82	0.45
8:C:73:SER:C	8:C:74:VAL:HG13	2.37	0.45
10:E:103:LEU:HB2	10:E:123:PHE:CD2	2.51	0.45
10:E:67:LEU:O	10:E:71:LEU:HG	2.17	0.45
11:F:53:ILE:HG12	11:F:72:PRO:CB	2.45	0.45
12:G:88:VAL:CG2	12:G:89:ALA:N	2.71	0.45
14:I:90:ARG:HA	14:I:121:HIS:HD1	1.82	0.45
15:J:61:ARG:HG2	15:J:61:ARG:NH1	2.32	0.45
16:K:45:ARG:HB3	16:K:46:PRO:CD	2.46	0.45
18:M:105:TYR:CE1	18:M:108:ARG:NH2	2.85	0.45
20:O:28:GLU:C	20:O:30:GLY:N	2.69	0.45
24:S:105:GLN:O	24:S:141:MET:O	2.35	0.45
25:T:69:PHE:HD2	29:X:870:C:OP1	2.00	0.45
26:U:23:LYS:CB	26:U:35:THR:HG23	2.46	0.45
27:V:47:ARG:O	27:V:50:VAL:N	2.50	0.45
28:W:23:LEU:O	28:W:32:ARG:NH1	2.49	0.45
28:W:22:ALA:O	28:W:24:GLY:N	2.50	0.45
29:X:1068:A:H2'	29:X:1068:A:N3	2.31	0.45
29:X:1265:G:O2'	29:X:1266:G:O5'	2.34	0.45
29:X:1509:A:C8	29:X:1510:A:C8	3.04	0.45
29:X:169:C:C2'	29:X:170:U:H5'	2.45	0.45
29:X:1807:A:O4'	29:X:1809:G:H1'	2.16	0.45
29:X:1855:G:H4'	29:X:2390:A:H4'	1.98	0.45
29:X:1919:A:N6	29:X:1946:U:H3	2.15	0.45
29:X:2398:U:H2'	29:X:2399:C:C6	2.52	0.45
29:X:244:C:H3'	29:X:245:C:H5''	1.99	0.45
29:X:2043:A:O2'	29:X:2481:G:C5'	2.65	0.45
29:X:2784:A:H8	29:X:2784:A:O5'	1.99	0.45
29:X:2817:A:H2'	29:X:2818:G:O4'	2.16	0.45
29:X:314:G:H1	29:X:325:U:H3	1.65	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:70:A:H1'	29:X:72:A:C5	2.52	0.45
29:X:717:G:N3	29:X:739:G:C2	2.85	0.45
29:X:813:A:H1'	29:X:815:A:H5'	1.96	0.45
29:X:89:A:H4'	29:X:90:G:C1'	2.47	0.45
8:C:75:PRO:HB3	8:C:83:ALA:HB2	1.97	0.45
12:G:65:LYS:HE3	12:G:66:HIS:NE2	2.31	0.45
13:H:23:ARG:NH2	13:H:25:LEU:CA	2.80	0.45
13:H:81:ILE:HG23	13:H:81:ILE:O	2.15	0.45
15:J:117:GLU:C	15:J:119:PHE:N	2.66	0.45
15:J:11:ARG:HH21	29:X:920:G:N2	2.13	0.45
16:K:5:LYS:HZ1	29:X:2795:A:H1'	1.82	0.45
18:M:102:ALA:O	18:M:103:LYS:HD3	2.16	0.45
19:N:91:ASN:O	19:N:92:ARG:CB	2.64	0.45
20:O:95:ILE:O	20:O:96:LEU:HB2	2.16	0.45
21:P:32:ARG:O	21:P:32:ARG:CZ	2.65	0.45
22:Q:7:LEU:HD23	27:V:30:PHE:CE2	2.51	0.45
23:R:105:ARG:HH22	23:R:111:GLY:C	2.20	0.45
23:R:10:HIS:HD2	29:X:347:C:O2'	2.00	0.45
24:S:94:VAL:HG23	24:S:125:PRO:HG3	1.98	0.45
26:U:20:ARG:HB3	26:U:43:ARG:HH21	1.81	0.45
29:X:1141:U:HO2'	29:X:1142:G:P	2.40	0.45
29:X:1325:U:H4'	29:X:1326:U:O5'	2.17	0.45
29:X:1486:A:C6	29:X:1538:A:N1	2.85	0.45
29:X:1646:G:C5	29:X:1647:U:C4	3.04	0.45
29:X:1692:C:N4	29:X:1976:U:O4'	2.49	0.45
29:X:208:C:H2'	29:X:209:G:H5'	1.98	0.45
29:X:2037:A:N1	29:X:2595:C:N4	2.65	0.45
29:X:2673:G:O2'	29:X:2674:C:H5'	2.16	0.45
29:X:2800:C:C2'	29:X:2801:A:H5'	2.47	0.45
29:X:449:C:H2'	29:X:450:C:H6	1.82	0.45
29:X:976:C:C4'	29:X:2252:A:H1'	2.47	0.45
4:4:1:MET:CE	4:4:35:ARG:NH2	2.80	0.45
6:A:252:LYS:CE	6:A:253:PRO:CD	2.93	0.45
6:A:38:PRO:HA	6:A:61:LEU:HD13	1.99	0.45
7:B:51:TYR:CG	7:B:52:ALA:N	2.85	0.45
8:C:27:LEU:CD1	8:C:106:MET:SD	3.05	0.45
8:C:108:ILE:O	8:C:111:ARG:N	2.50	0.45
8:C:82:VAL:O	8:C:83:ALA:C	2.55	0.45
9:D:108:LEU:HD23	9:D:111:ILE:HD11	1.99	0.45
9:D:116:GLY:HA2	9:D:176:PRO:HB2	1.99	0.45
9:D:13:ARG:HG2	9:D:17:MET:CE	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:138:PHE:HB2	9:D:141:ILE:CG1	2.46	0.45
9:D:52:LYS:HE3	9:D:148:LYS:HG3	1.98	0.45
9:D:57:LEU:O	9:D:60:ILE:HG12	2.17	0.45
9:D:9:ASN:O	9:D:14:PRO:CD	2.65	0.45
10:E:15:VAL:O	10:E:16:THR:OG1	2.20	0.45
10:E:6:LYS:HD3	10:E:69:ARG:NH2	2.31	0.45
11:F:41:PHE:C	11:F:43:ALA:H	2.20	0.45
12:G:153:GLY:C	12:G:157:PRO:HG2	2.37	0.45
13:H:100:ASN:OD1	13:H:100:ASN:O	2.34	0.45
14:I:102:LYS:O	14:I:103:ASN:HB3	2.16	0.45
14:I:134:GLU:C	14:I:136:ALA:H	2.21	0.45
19:N:28:ARG:NH1	19:N:38:THR:OG1	2.50	0.45
20:O:35:LEU:HD21	20:O:52:GLY:HA2	1.97	0.45
21:P:48:LYS:O	21:P:49:SER:C	2.55	0.45
24:S:23:ALA:O	24:S:24:TYR:HB3	2.16	0.45
26:U:13:LEU:HG	26:U:14:VAL:H	1.82	0.45
26:U:20:ARG:HD3	26:U:43:ARG:NH2	2.31	0.45
26:U:49:LYS:HD3	26:U:61:TRP:NE1	2.32	0.45
29:X:1122:A:C2'	29:X:1123:G:O5'	2.65	0.45
12:G:130:ALA:O	29:X:1148:G:O2'	2.35	0.45
12:G:50:PRO:HD3	29:X:1152:C:N3	2.32	0.45
29:X:1242:A:O2'	29:X:1243:G:H5'	2.17	0.45
29:X:1730:G:O2'	29:X:1731:C:H5'	2.17	0.45
6:A:209:ALA:HB2	29:X:1781:C:HO2'	1.82	0.45
6:A:239:ARG:HB3	29:X:1954:A:O2'	2.17	0.45
29:X:1953:A:C5'	29:X:1954:A:OP1	2.62	0.45
29:X:1991:C:H6	29:X:1991:C:O5'	1.99	0.45
29:X:923:A:C2	29:X:2256:G:N3	2.79	0.45
29:X:227:G:OP1	29:X:2373:C:H4'	2.17	0.45
29:X:2433:G:O2'	29:X:2434:G:H5'	2.17	0.45
29:X:2731:G:N3	29:X:2731:G:O4'	2.50	0.45
29:X:2859:U:C2'	29:X:2860:C:H5'	2.43	0.45
29:X:353:G:H2'	29:X:354:C:C6	2.52	0.45
29:X:70:A:H5'	29:X:71:A:OP1	2.16	0.45
29:X:731:A:C2'	29:X:732:G:C4'	2.95	0.45
29:X:714:G:N1	29:X:745:C:C4	2.85	0.45
29:X:751:G:O2'	29:X:752:G:P	2.75	0.45
29:X:789:G:N3	29:X:789:G:H2'	2.31	0.45
29:X:946:U:H2'	29:X:947:C:C6	2.52	0.45
29:X:984:A:H1'	29:X:1202:U:C6	2.51	0.45
7:B:31:CYS:HA	7:B:32:PRO:HD3	1.76	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:103:GLY:O	8:C:105:ALA:N	2.50	0.44
8:C:104:LEU:HA	8:C:107:ALA:HB3	1.99	0.44
9:D:38:GLU:O	9:D:40:LEU:HG	2.17	0.44
9:D:81:GLN:CG	9:D:82:GLY:H	2.15	0.44
10:E:15:VAL:HG23	10:E:16:THR:N	2.31	0.44
10:E:30:LYS:HG2	10:E:79:VAL:C	2.37	0.44
13:H:52:VAL:O	13:H:53:ALA:HB2	2.17	0.44
14:I:37:GLN:HE21	14:I:37:GLN:HB3	1.51	0.44
16:K:79:VAL:CA	16:K:83:VAL:CG1	2.76	0.44
17:L:17:VAL:HB	29:X:2313:G:N3	2.32	0.44
19:N:66:ASN:C	19:N:68:GLY:N	2.70	0.44
21:P:45:ILE:HG22	21:P:92:VAL:HG11	1.98	0.44
22:Q:53:ILE:HD12	22:Q:80:VAL:HG12	1.96	0.44
23:R:28:LYS:HG2	23:R:29:HIS:H	1.82	0.44
24:S:105:GLN:CB	24:S:139:THR:O	2.64	0.44
25:T:29:GLU:OE2	29:X:935:C:C5'	2.65	0.44
26:U:78:ILE:CD1	26:U:79:GLU:N	2.69	0.44
27:V:42:ARG:HH12	27:V:45:GLN:HE22	1.65	0.44
29:X:1066:G:H2'	29:X:1067:G:O4'	2.17	0.44
29:X:124:A:H2'	29:X:125:A:C8	2.52	0.44
29:X:1502:G:N1	29:X:1503:G:C5	2.85	0.44
29:X:1552:C:H1'	29:X:1553:G:N3	2.32	0.44
29:X:1749:G:N3	29:X:1749:G:O4'	2.50	0.44
29:X:1787:U:O2'	29:X:1788:C:H5'	2.17	0.44
8:C:62:LYS:CE	29:X:2042:A:O2'	2.66	0.44
29:X:2084:G:O2'	29:X:2085:G:H5'	2.17	0.44
29:X:2324:G:C4'	29:X:2326:C:H5''	2.43	0.44
29:X:2336:G:H1'	29:X:2339:A:H62	1.82	0.44
29:X:2394:G:H2'	29:X:2395:C:C6	2.52	0.44
29:X:2419:C:C4	29:X:2420:C:H1'	2.51	0.44
29:X:2499:C:C6	29:X:2546:G:H1'	2.52	0.44
29:X:2787:A:O2'	29:X:2788:C:C5'	2.63	0.44
29:X:242:A:N6	29:X:441:A:C8	2.85	0.44
29:X:542:A:H5'	29:X:543:G:C1'	2.46	0.44
29:X:633:G:C6	29:X:634:G:N7	2.85	0.44
14:I:109:LEU:HD13	29:X:638:A:C6	2.52	0.44
29:X:757:U:C2	29:X:767:G:N2	2.85	0.44
29:X:780:U:H6	29:X:780:U:H5''	1.82	0.44
29:X:812:G:H2'	29:X:813:A:H8	1.81	0.44
6:A:150:GLY:O	6:A:151:LYS:HB3	2.18	0.44
6:A:133:LEU:CB	6:A:173:VAL:HG21	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:174:GLU:HB3	7:B:183:LEU:CD1	2.45	0.44
8:C:137:ALA:CB	8:C:142:LEU:HB2	2.47	0.44
8:C:176:ASN:HD21	8:C:178:TYR:HB3	1.81	0.44
9:D:88:LYS:HE2	9:D:90:THR:HG1	1.82	0.44
14:I:34:HIS:O	14:I:35:LYS:HG3	2.16	0.44
15:J:64:LYS:HD3	15:J:108:ALA:O	2.17	0.44
15:J:36:ILE:HD12	15:J:133:VAL:CG1	2.47	0.44
15:J:52:ARG:HD2	15:J:53:ILE:N	2.32	0.44
16:K:40:LYS:O	16:K:43:GLU:N	2.50	0.44
16:K:60:LEU:HG	16:K:64:ARG:HG3	1.99	0.44
17:L:104:ALA:O	17:L:108:ARG:N	2.37	0.44
20:O:15:SER:OG	20:O:96:LEU:HA	2.17	0.44
26:U:27:ASP:CA	26:U:32:ARG:NH2	2.76	0.44
28:W:3:ILE:HD11	28:W:44:VAL:HG21	1.98	0.44
29:X:1039:A:H61	29:X:1136:G:C2'	2.29	0.44
29:X:1056:U:O2'	29:X:1058:G:C8	2.70	0.44
29:X:1601:U:O2'	29:X:1602:G:OP1	2.29	0.44
29:X:1284:G:N2	29:X:1633:C:H1'	2.33	0.44
29:X:1664:G:O5'	29:X:1665:C:OP1	2.35	0.44
29:X:1683:G:HO2'	29:X:1684:G:H5'	1.80	0.44
29:X:1691:G:H5'	29:X:1692:C:OP1	2.17	0.44
29:X:1910:A:O5'	29:X:1910:A:H8	2.00	0.44
29:X:1928:G:C2	29:X:1929:U:C2	3.05	0.44
29:X:1685:A:C5	29:X:1976:U:C4	3.06	0.44
29:X:2286:G:H21	29:X:2290:A:H61	1.58	0.44
29:X:2292:C:O2'	29:X:2293:G:H5'	2.17	0.44
29:X:2270:U:O2'	29:X:2353:G:N3	2.47	0.44
4:4:1:MET:N	29:X:2505:G:C2'	2.79	0.44
29:X:2529:G:C6	29:X:2530:C:N4	2.85	0.44
29:X:2529:G:N1	29:X:2530:C:C4	2.85	0.44
13:H:42:LYS:CA	29:X:2653:A:O3'	2.63	0.44
29:X:2700:U:H2'	29:X:2701:A:C8	2.47	0.44
29:X:729:A:C2	29:X:730:C:OP2	2.70	0.44
29:X:740:A:OP1	29:X:1445:A:O2'	2.33	0.44
29:X:780:U:C6	29:X:780:U:H5''	2.52	0.44
29:X:953:G:C6	29:X:954:U:N3	2.85	0.44
29:X:95:G:O2'	29:X:96:C:H5'	2.18	0.44
9:D:92:ARG:NH1	31:Z:45:C:H2'	2.32	0.44
5:5:3:THR:HG21	5:5:7:BB9:HN1	1.83	0.44
6:A:201:HIS:HA	6:A:204:ILE:HD12	1.98	0.44
6:A:42:GLY:H	6:A:43:ARG:NH1	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:136:TRP:CD1	8:C:137:ALA:N	2.86	0.44
8:C:47:THR:HB	8:C:48:ARG:HD2	1.98	0.44
9:D:114:PHE:CZ	9:D:176:PRO:HG3	2.51	0.44
10:E:103:LEU:HG	10:E:115:ILE:HD12	1.98	0.44
10:E:76:VAL:C	10:E:78:GLY:N	2.67	0.44
13:H:83:ARG:NH2	18:M:79:ARG:NH2	2.65	0.44
8:C:28:HIS:CE1	14:I:17:LYS:HA	2.53	0.44
15:J:122:ALA:O	15:J:125:LYS:HD2	2.17	0.44
16:K:87:TYR:HD1	16:K:90:ARG:CD	2.29	0.44
16:K:90:ARG:CD	16:K:94:TYR:HB2	2.46	0.44
13:H:116:ARG:HG3	18:M:38:LYS:HE2	1.99	0.44
19:N:3:ARG:CG	19:N:3:ARG:HH11	2.31	0.44
20:O:6:GLN:O	20:O:7:THR:CB	2.65	0.44
20:O:79:GLN:O	20:O:80:TYR:O	2.36	0.44
21:P:105:ARG:O	21:P:117:ILE:N	2.46	0.44
22:Q:46:PHE:O	22:Q:47:GLY:C	2.56	0.44
23:R:83:LEU:C	23:R:90:LYS:HE2	2.37	0.44
24:S:19:ILE:HD11	24:S:36:ARG:HA	1.94	0.44
25:T:41:ARG:HH11	25:T:41:ARG:CG	2.26	0.44
26:U:17:SER:HB2	26:U:44:ALA:CA	2.30	0.44
29:X:1055:A:H8	29:X:1055:A:H2'	1.20	0.44
29:X:1068:A:H3'	29:X:1069:G:H8	1.81	0.44
29:X:1112:U:O2'	29:X:1113:C:H5'	2.17	0.44
29:X:1337:G:C5	29:X:1341:G:O6	2.71	0.44
29:X:1370:U:O2'	29:X:1371:G:H5'	2.17	0.44
29:X:1419:G:C2	29:X:1613:G:C2	3.06	0.44
29:X:1422:C:O2'	29:X:1423:A:H5'	2.17	0.44
29:X:1628:C:N3	29:X:1629:G:C8	2.85	0.44
29:X:1672:A:C2	29:X:1673:C:H1'	2.52	0.44
29:X:1790:G:O2'	29:X:1791:C:H5''	2.17	0.44
29:X:1926:U:C2'	29:X:1926:U:O2	2.65	0.44
29:X:2053:G:H2'	29:X:2054:A:C8	2.53	0.44
29:X:2229:G:O4'	29:X:2229:G:N3	2.50	0.44
9:D:79:LEU:HD11	29:X:2289:A:C2	2.52	0.44
29:X:2290:A:N3	29:X:2290:A:H2'	2.32	0.44
29:X:2364:C:OP1	29:X:2365:U:OP2	2.35	0.44
29:X:2450:A:N6	29:X:2451:G:C2	2.86	0.44
29:X:2661:G:C2'	29:X:2662:C:H5'	2.46	0.44
29:X:474:G:N2	29:X:477:A:OP2	2.42	0.44
29:X:539:A:N3	29:X:540:G:O6	2.50	0.44
29:X:562:G:H2'	29:X:563:U:O4'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:Y:19:ARG:CG	30:Y:20:ARG:N	2.80	0.44
31:Z:4:C:H2'	31:Z:5:C:H5'	1.98	0.44
6:A:131:LEU:HG	6:A:136:VAL:HG22	2.00	0.44
6:A:254:THR:CB	29:X:1835:C:O2'	2.61	0.44
7:B:97:ALA:N	7:B:100:GLU:OE2	2.51	0.44
7:B:165:VAL:HG21	29:X:2658:A:H5'	1.99	0.44
7:B:34:VAL:HG23	7:B:48:GLN:OE1	2.17	0.44
9:D:46:ASP:C	9:D:48:LYS:H	2.20	0.44
9:D:4:LEU:HD21	9:D:173:MET:CE	2.42	0.44
9:D:37:ASN:HA	9:D:87:ILE:O	2.18	0.44
10:E:11:VAL:HG13	10:E:15:VAL:HG21	1.99	0.44
10:E:149:ARG:HD3	10:E:164:PHE:CE1	2.51	0.44
14:I:108:LEU:O	14:I:109:LEU:HD23	2.18	0.44
18:M:39:VAL:HG12	18:M:45:THR:CG2	2.39	0.44
22:Q:75:ARG:NH1	22:Q:75:ARG:HG3	2.31	0.44
23:R:56:LYS:HD3	23:R:69:GLN:HE21	1.82	0.44
24:S:21:ALA:O	24:S:32:PHE:HB2	2.16	0.44
25:T:68:VAL:O	25:T:80:SER:N	2.37	0.44
25:T:80:SER:C	25:T:81:ILE:HG13	2.38	0.44
27:V:26:MET:HA	27:V:29:ARG:NH2	2.33	0.44
28:W:3:ILE:HD11	28:W:44:VAL:HG22	1.99	0.44
29:X:1250:A:O2'	29:X:1251:G:O4'	2.35	0.44
29:X:1448:A:C6	29:X:1576:G:C2	3.05	0.44
29:X:167:A:H2'	29:X:168:A:C8	2.52	0.44
29:X:1968:G:C4	29:X:1969:G:C8	3.06	0.44
29:X:196:A:O2'	29:X:197:G:H5'	2.18	0.44
29:X:2038:C:H2'	29:X:2483:U:C5'	2.46	0.44
29:X:2068:C:H2'	29:X:2069:U:O4'	2.16	0.44
29:X:2359:U:C4	29:X:2360:C:C5	3.05	0.44
4:4:8:LYS:HE3	29:X:2446:C:OP1	2.17	0.44
29:X:2501:U:H3	29:X:2522:G:H1	1.65	0.44
13:H:23:ARG:NE	29:X:2541:U:O2'	2.38	0.44
29:X:2570:C:H2'	29:X:2571:G:C8	2.52	0.44
29:X:1981:A:O3'	29:X:2704:U:H4'	2.17	0.44
29:X:2829:A:H2'	29:X:2830:U:C6	2.52	0.44
29:X:2866:A:N6	29:X:2867:G:N1	2.66	0.44
29:X:665:A:N3	29:X:665:A:H3'	2.33	0.44
29:X:688:A:C2	29:X:689:A:N7	2.86	0.44
29:X:804:C:HO2'	29:X:805:G:C5'	2.29	0.44
29:X:83:A:N3	29:X:98:U:O2	2.50	0.44
29:X:868:U:C4	29:X:869:C:N4	2.85	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:931:G:H2'	29:X:932:G:C5'	2.47	0.44
31:Z:112:A:H2'	31:Z:113:G:C8	2.51	0.44
31:Z:22:U:H2'	31:Z:23:G:H8	1.79	0.44
6:A:129:ASN:O	6:A:192:THR:HG23	2.17	0.44
7:B:116:VAL:HG22	7:B:136:ARG:HG3	1.99	0.44
7:B:137:ARG:O	7:B:138:PRO:C	2.53	0.44
7:B:67:PHE:CE1	7:B:78:LEU:HD11	2.52	0.44
9:D:75:SER:HB2	9:D:79:LEU:HD13	1.98	0.44
10:E:96:ALA:HB2	10:E:105:MET:HE1	1.99	0.44
12:G:42:VAL:CG1	12:G:43:VAL:H	2.30	0.44
14:I:53:ARG:HH21	14:I:53:ARG:CG	2.29	0.44
19:N:79:PHE:CD2	19:N:80:ILE:HD13	2.52	0.44
20:O:68:LYS:HA	20:O:87:ARG:HB3	1.98	0.44
21:P:110:ALA:HB2	29:X:761:G:P	2.58	0.44
21:P:13:GLN:O	21:P:16:GLN:HG2	2.18	0.44
21:P:65:SER:O	21:P:66:GLU:C	2.55	0.44
21:P:66:GLU:O	21:P:69:ALA:N	2.51	0.44
22:Q:15:LYS:HA	22:Q:18:SER:HG	1.82	0.44
23:R:60:PRO:O	23:R:65:PRO:HG3	2.17	0.44
23:R:93:ARG:HH12	23:R:108:VAL:CA	2.31	0.44
23:R:92:THR:C	23:R:95:ARG:HH22	2.19	0.44
24:S:136:VAL:CG1	24:S:152:ILE:HG12	2.48	0.44
24:S:53:ASP:OD2	24:S:53:ASP:N	2.48	0.44
29:X:1086:C:H3'	29:X:1087:C:C5'	2.42	0.44
29:X:1187:A:H3'	29:X:1188:A:C8	2.52	0.44
29:X:1759:A:C2	29:X:1968:G:C6	3.06	0.44
6:A:161:THR:HG21	29:X:1811:A:OP1	2.18	0.44
29:X:2165:A:H2'	29:X:2166:G:C8	2.51	0.44
29:X:2293:G:H2'	29:X:2294:U:C6	2.52	0.44
29:X:2482:A:H4'	29:X:2483:U:OP1	2.17	0.44
29:X:2536:G:H2'	29:X:2537:C:C6	2.52	0.44
4:4:19:ARG:HG2	29:X:2736:U:O5'	2.17	0.44
29:X:829:C:H2'	29:X:830:C:H6	1.80	0.44
29:X:931:G:C2'	29:X:932:G:H5'	2.47	0.44
29:X:989:G:N2	29:X:997:C:C2	2.85	0.44
21:P:56:LEU:HD22	30:Y:27:ALA:HB1	2.00	0.44
30:Y:46:CYS:HB3	30:Y:49:CYS:SG	2.58	0.44
31:Z:75:A:C6	31:Z:76:U:C2	3.06	0.44
6:A:206:LEU:O	6:A:207:GLY:C	2.56	0.44
9:D:16:LEU:HD22	9:D:20:PHE:CE1	2.53	0.44
12:G:55:ALA:O	12:G:56:THR:C	2.55	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:50:PRO:CA	12:G:89:ALA:HB3	2.45	0.44
13:H:123:PHE:O	13:H:124:MET:C	2.56	0.44
15:J:36:ILE:HD11	15:J:133:VAL:HG21	2.00	0.44
17:L:17:VAL:HG13	17:L:18:ARG:N	2.32	0.44
17:L:32:TYR:C	17:L:94:TYR:OH	2.56	0.44
17:L:75:LEU:O	17:L:76:ALA:C	2.56	0.44
17:L:15:ARG:HD2	17:L:91:ARG:HH11	1.82	0.44
18:M:41:GLU:OE1	18:M:46:ARG:HB2	2.17	0.44
19:N:18:LEU:HA	19:N:18:LEU:HD12	1.69	0.44
20:O:70:TYR:CE2	20:O:83:ARG:NH1	2.85	0.44
24:S:149:ALA:HB1	24:S:160:LEU:HD13	1.99	0.44
26:U:46:LEU:C	26:U:47:HIS:ND1	2.71	0.44
28:W:14:GLY:O	28:W:17:VAL:CG2	2.65	0.44
29:X:1007:A:C2	29:X:1008:G:C8	3.06	0.44
29:X:1096:A:H2'	29:X:1097:A:O4'	2.16	0.44
29:X:1482:U:OP2	29:X:1562:G:O2'	2.36	0.44
29:X:1557:G:O2'	29:X:1558:C:H5'	2.18	0.44
29:X:1407:G:H4'	29:X:1619:A:H4'	1.98	0.44
29:X:1745:C:O2'	29:X:1746:A:H5'	2.17	0.44
29:X:1958:G:H2'	29:X:1959:U:C6	2.52	0.44
21:P:117:ILE:HG23	29:X:1995:G:O3'	2.18	0.44
29:X:2062:U:H2'	29:X:2063:A:C8	2.52	0.44
29:X:219:G:O2'	29:X:220:U:H5	2.01	0.44
29:X:2222:U:N3	29:X:2223:U:C4	2.85	0.44
29:X:2445:C:N1	29:X:2464:G:N2	2.66	0.44
29:X:2560:G:H1	29:X:2589:C:H2'	1.82	0.44
29:X:2590:U:O2	29:X:2590:U:H2'	2.18	0.44
29:X:2620:G:H2'	29:X:2621:G:C8	2.52	0.44
29:X:2641:A:H2'	29:X:2642:G:O4'	2.16	0.44
29:X:2660:C:C2	29:X:2704:U:C4	3.06	0.44
29:X:2720:A:C2	29:X:2744:A:C4	3.06	0.44
29:X:2786:G:O2'	29:X:2787:A:H5'	2.18	0.44
29:X:340:G:H8	29:X:340:G:OP2	2.01	0.44
29:X:512:A:C4	29:X:515:A:N7	2.85	0.44
29:X:536:A:N1	29:X:2605:C:O4'	2.51	0.44
29:X:613:A:C2'	29:X:614:G:OP2	2.65	0.44
29:X:965:G:H2'	29:X:966:A:O4'	2.18	0.44
30:Y:58:LEU:O	30:Y:59:ALA:C	2.56	0.44
6:A:223:GLY:O	6:A:226:MET:HG3	2.18	0.44
6:A:267:ASP:OD1	6:A:268:ARG:N	2.50	0.44
6:A:42:GLY:O	29:X:1806:G:OP1	2.35	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:119:PRO:HG2	9:D:120:ASN:N	2.26	0.44
9:D:138:PHE:CE2	9:D:152:MET:SD	3.10	0.44
9:D:15:ALA:O	9:D:19:GLN:HB2	2.18	0.44
10:E:98:LEU:HD12	10:E:102:ALA:O	2.18	0.44
10:E:65:HIS:C	10:E:67:LEU:H	2.21	0.44
11:F:7:ILE:CG2	11:F:8:VAL:H	2.26	0.44
13:H:121:ARG:O	13:H:122:ARG:HB2	2.18	0.44
15:J:52:ARG:HB2	15:J:67:ILE:HD11	2.00	0.44
16:K:46:PRO:HG2	16:K:47:PHE:H	1.82	0.44
16:K:90:ARG:NE	16:K:94:TYR:HB2	2.32	0.44
19:N:66:ASN:C	19:N:68:GLY:H	2.20	0.44
21:P:45:ILE:HD11	21:P:57:LEU:HD21	1.99	0.44
22:Q:52:GLY:H	22:Q:81:ARG:HB3	1.82	0.44
24:S:3:LEU:HD13	24:S:33:ALA:O	2.18	0.44
29:X:82:G:H22	29:X:100:G:H2'	1.83	0.44
11:F:86:LYS:HE3	29:X:1076:U:P	2.58	0.44
29:X:1459:U:O2'	29:X:1460:G:OP1	2.33	0.44
29:X:1499:A:O2'	29:X:1500:U:H5'	2.18	0.44
29:X:1920:A:C2	29:X:1922:U:H5	2.35	0.44
29:X:1984:A:H2'	29:X:1985:G:O4'	2.18	0.44
29:X:2210:C:C4	29:X:2211:U:C4	3.06	0.44
29:X:2265:A:H1'	29:X:2266:A:N9	2.33	0.44
29:X:2312:A:H1'	29:X:2314:A:N7	2.33	0.44
25:T:62:LEU:HD12	29:X:2345:A:H4'	2.00	0.44
29:X:2392:G:O2'	29:X:2393:G:H5'	2.17	0.44
29:X:2426:G:C5	29:X:2480:C:C4	3.05	0.44
29:X:2483:U:O5'	29:X:2483:U:H6	2.01	0.44
29:X:2482:A:O2'	29:X:2484:G:OP2	2.36	0.44
29:X:2626:U:O2'	29:X:2627:G:H5'	2.18	0.44
29:X:2721:A:H2'	29:X:2722:C:H5'	2.00	0.44
29:X:2794:G:C8	29:X:2796:A:N6	2.85	0.44
29:X:47:G:H2'	29:X:48:A:H2	1.82	0.44
29:X:718:A:O2'	29:X:719:A:H5'	2.18	0.44
29:X:774:A:C8	29:X:774:A:H3'	2.53	0.44
29:X:85:C:H6	29:X:85:C:O5'	2.01	0.44
29:X:937:C:H2'	29:X:938:G:O4'	2.16	0.44
30:Y:41:LEU:O	30:Y:42:SER:C	2.56	0.44
31:Z:110:U:C3'	31:Z:111:C:H5''	2.47	0.44
31:Z:58:G:C4'	31:Z:59:A:H8	2.30	0.44
6:A:211:ARG:NH2	29:X:1582:A:OP1	2.51	0.44
6:A:42:GLY:H	6:A:43:ARG:HH12	1.64	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:2:LYS:HD3	7:B:95:ILE:HD12	1.99	0.44
8:C:74:VAL:O	8:C:75:PRO:C	2.56	0.44
9:D:96:MET:O	9:D:100:LEU:CB	2.65	0.44
9:D:47:SER:HA	9:D:50:ILE:HD12	1.99	0.44
10:E:126:PRO:HG2	10:E:127:GLU:HG2	1.99	0.44
10:E:131:ILE:HG22	10:E:132:ASP:N	2.33	0.44
12:G:105:GLY:O	12:G:107:GLN:N	2.50	0.44
13:H:23:ARG:HH22	13:H:25:LEU:CD2	2.30	0.44
13:H:67:GLY:O	13:H:68:ASP:C	2.55	0.44
14:I:47:ALA:C	14:I:49:PHE:H	2.20	0.44
16:K:73:LYS:HA	16:K:76:VAL:HG12	2.00	0.44
18:M:101:ARG:C	18:M:103:LYS:H	2.10	0.44
19:N:7:GLY:C	19:N:9:VAL:N	2.70	0.44
20:O:38:LEU:HD22	20:O:46:VAL:O	2.17	0.44
21:P:34:SER:O	21:P:35:PRO:C	2.55	0.44
22:Q:19:ALA:O	22:Q:22:ARG:CG	2.64	0.44
22:Q:91:LEU:N	22:Q:91:LEU:HD22	2.32	0.44
24:S:98:VAL:HG23	24:S:118:HIS:O	2.18	0.44
25:T:41:ARG:HD3	25:T:41:ARG:HA	1.43	0.44
29:X:1149:G:N3	29:X:1154:A:H2	2.15	0.44
29:X:1495:G:H2'	29:X:1496:G:H8	1.82	0.44
13:H:1:MET:H3	29:X:1682:A:H1'	1.82	0.44
29:X:1856:U:H5''	29:X:2389:G:N3	2.33	0.44
29:X:428:A:H1'	29:X:1857:G:H5'	2.00	0.44
29:X:1922:U:O2'	29:X:1923:U:P	2.76	0.44
29:X:1979:C:C2'	29:X:1980:A:O4'	2.65	0.44
29:X:1278:A:H61	29:X:1996:A:H5''	1.80	0.44
29:X:2018:G:HO2'	29:X:2019:C:P	2.39	0.44
29:X:2301:A:O2'	29:X:2302:G:H5'	2.17	0.44
29:X:204:A:N6	29:X:2386:G:O4'	2.51	0.44
29:X:2423:G:C6	29:X:2424:G:N7	2.86	0.44
29:X:2452:U:O2	29:X:2452:U:H2'	2.18	0.44
29:X:2042:A:C2	29:X:2482:A:C6	3.05	0.44
29:X:2555:G:P	29:X:2555:G:N2	2.91	0.44
29:X:38:G:HO2'	29:X:39:C:P	2.41	0.44
29:X:431:G:H2'	29:X:432:C:H6	1.81	0.44
29:X:54:G:C2	29:X:55:A:C8	3.05	0.44
29:X:642:A:H2'	29:X:643:A:O4'	2.17	0.44
29:X:815:A:C6	29:X:816:U:N3	2.86	0.44
29:X:815:A:H2'	29:X:816:U:C6	2.53	0.44
29:X:815:A:N1	29:X:816:U:C2	2.86	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:876:A:O2'	29:X:877:G:O4'	2.33	0.44
29:X:947:C:C2	29:X:948:C:C5	3.06	0.44
20:O:75:LYS:HE2	29:X:985:G:OP1	2.18	0.44
31:Z:30:C:H2'	31:Z:31:A:C8	2.52	0.44
9:D:92:ARG:NE	31:Z:45:C:O2	2.46	0.44
6:A:88:ARG:HD3	6:A:106:LEU:CD2	2.48	0.44
6:A:183:ARG:CB	6:A:183:ARG:HH11	2.31	0.44
6:A:60:ARG:O	6:A:61:LEU:HD23	2.18	0.44
8:C:74:VAL:O	8:C:74:VAL:CG2	2.65	0.44
8:C:79:GLY:O	8:C:80:GLY:O	2.36	0.44
9:D:131:GLY:HA2	9:D:153:ASP:OD2	2.17	0.44
9:D:30:ARG:O	9:D:169:LEU:HD21	2.18	0.44
10:E:164:PHE:O	10:E:166:GLY:N	2.51	0.44
12:G:63:ARG:NH2	12:G:75:ILE:HG22	2.33	0.44
14:I:117:ALA:HA	14:I:137:GLY:CA	2.47	0.44
14:I:45:LYS:CD	14:I:46:GLY:N	2.81	0.44
16:K:97:ILE:CG2	16:K:112:LEU:O	2.66	0.44
20:O:30:GLY:O	20:O:31:ASP:C	2.57	0.44
21:P:30:TYR:CD1	21:P:123:HIS:HE1	2.36	0.44
22:Q:35:LYS:HE3	29:X:1615:C:OP2	2.18	0.44
22:Q:62:ARG:NH1	22:Q:62:ARG:HG2	2.33	0.44
22:Q:88:ILE:HD12	22:Q:88:ILE:O	2.17	0.44
24:S:87:THR:HG21	24:S:90:GLU:O	2.18	0.44
26:U:13:LEU:CG	26:U:14:VAL:N	2.81	0.44
27:V:3:PRO:C	27:V:5:GLU:H	2.21	0.44
29:X:1153:A:C4	29:X:1155:G:N7	2.86	0.44
29:X:1238:A:O5'	29:X:1238:A:H8	2.01	0.44
29:X:1243:G:H2'	29:X:1244:U:C6	2.53	0.44
29:X:1376:C:C2	29:X:1377:G:C8	3.06	0.44
29:X:1453:A:H2'	29:X:1454:U:O4'	2.18	0.44
29:X:1490:U:H2'	29:X:1491:C:H6	1.82	0.44
29:X:1429:A:H1'	29:X:1603:A:N1	2.33	0.44
29:X:1888:C:H2'	29:X:1913:G:C5	2.53	0.44
29:X:2325:A:HO2'	29:X:2326:C:P	2.39	0.44
29:X:805:G:N7	29:X:2419:C:C1'	2.81	0.44
29:X:2476:A:O2'	29:X:2477:C:C5	2.71	0.44
29:X:2482:A:O2'	29:X:2484:G:P	2.76	0.44
29:X:2608:A:HO2'	29:X:2609:G:P	2.40	0.44
7:B:168:GLN:O	29:X:2710:C:H4'	2.17	0.44
29:X:2728:A:C2	29:X:2737:A:C5	3.06	0.44
29:X:30:G:H2'	29:X:31:C:H6	1.79	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:33:C:O2'	29:X:34:U:C5'	2.64	0.44
29:X:477:A:H2'	29:X:478:G:C5'	2.47	0.44
29:X:481:A:C6	29:X:482:A:C6	3.06	0.44
29:X:599:A:C2	29:X:681:A:C2	3.05	0.44
14:I:18:ARG:NH2	29:X:609:U:C1'	2.81	0.44
29:X:686:C:C2'	29:X:687:G:H5'	2.47	0.44
29:X:866:U:H6	29:X:866:U:O5'	2.01	0.44
29:X:969:U:O2'	29:X:970:A:OP2	2.33	0.44
30:Y:45:ILE:O	30:Y:47:PRO:HD3	2.17	0.44
24:S:22:VAL:HG21	31:Z:77:G:H1'	1.99	0.44
6:A:126:LYS:CB	6:A:129:ASN:HD22	2.31	0.43
6:A:251:GLY:C	6:A:252:LYS:HG3	2.38	0.43
8:C:25:GLY:O	8:C:28:HIS:HB3	2.17	0.43
8:C:7:ILE:HG22	8:C:8:GLY:N	2.32	0.43
8:C:45:THR:O	8:C:87:LYS:NZ	2.48	0.43
9:D:108:LEU:HD23	9:D:111:ILE:HD12	1.99	0.43
9:D:4:LEU:O	9:D:5:LYS:CB	2.65	0.43
10:E:109:TYR:CE1	10:E:152:ARG:CZ	3.01	0.43
10:E:167:GLU:HG3	10:E:169:ILE:CG1	2.48	0.43
13:H:77:THR:HB	13:H:79:HIS:HB3	2.00	0.43
14:I:49:PHE:CE2	29:X:680:U:OP1	2.71	0.43
16:K:87:TYR:CG	16:K:90:ARG:HD2	2.52	0.43
18:M:7:ILE:HG23	18:M:12:LEU:HD12	2.00	0.43
19:N:62:ILE:HG23	19:N:76:TYR:CE1	2.53	0.43
20:O:13:ARG:HD2	20:O:16:GLU:H	1.83	0.43
21:P:39:ARG:HG2	21:P:39:ARG:NH1	2.33	0.43
21:P:62:ARG:CG	21:P:62:ARG:NH1	2.79	0.43
21:P:75:ALA:HB1	21:P:128:VAL:HG13	2.00	0.43
23:R:39:ALA:O	23:R:41:PRO:HD3	2.18	0.43
26:U:64:ALA:O	26:U:66:ALA:N	2.50	0.43
29:X:1031:C:C2'	29:X:1031:C:O2	2.65	0.43
29:X:1073:G:N1	29:X:1088:A:C2	2.86	0.43
29:X:1153:A:N3	29:X:1155:G:C8	2.86	0.43
29:X:1271:C:C2	29:X:1272:G:C8	3.06	0.43
29:X:1336:G:C2'	29:X:1337:G:H5'	2.48	0.43
29:X:1496:G:H2'	29:X:1497:C:C6	2.53	0.43
29:X:1496:G:H4'	29:X:1497:C:OP1	2.18	0.43
29:X:1581:C:O2'	29:X:1582:A:O5'	2.26	0.43
29:X:2235:G:N2	29:X:2254:C:C4	2.86	0.43
29:X:2289:A:H3'	29:X:2290:A:C8	2.52	0.43
29:X:2333:A:O2'	29:X:2334:C:H5'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2438:A:N6	29:X:2439:U:N3	2.66	0.43
29:X:2463:G:H21	29:X:2464:G:H1'	1.79	0.43
29:X:2560:G:C2'	29:X:2589:C:H41	2.31	0.43
29:X:2560:G:H4'	29:X:2561:G:C8	2.53	0.43
30:Y:4:HIS:O	30:Y:5:PRO:C	2.53	0.43
31:Z:2:C:H6	31:Z:2:C:HO5'	1.66	0.43
6:A:217:ARG:HG2	6:A:218:LYS:N	2.33	0.43
7:B:118:LYS:CG	7:B:118:LYS:O	2.66	0.43
9:D:34:ILE:HA	9:D:155:THR:O	2.18	0.43
12:G:96:ASP:O	12:G:98:LYS:N	2.51	0.43
14:I:65:PHE:O	29:X:643:A:H5'	2.18	0.43
14:I:85:ASP:O	14:I:86:THR:C	2.57	0.43
15:J:79:PRO:HG2	15:J:88:LYS:HD2	2.00	0.43
16:K:10:LEU:C	16:K:11:ASN:CG	2.75	0.43
16:K:33:ARG:HA	16:K:113:ILE:O	2.18	0.43
19:N:29:SER:O	19:N:30:LYS:CG	2.66	0.43
23:R:56:LYS:HG2	23:R:56:LYS:H	1.57	0.43
24:S:136:VAL:HG11	24:S:152:ILE:HG12	1.99	0.43
26:U:11:LYS:HZ3	26:U:75:TYR:HB2	1.81	0.43
29:X:1084:A:H8	29:X:1084:A:O5'	2.00	0.43
29:X:1168:G:H2'	29:X:1169:C:H6	1.78	0.43
29:X:1223:G:H5'	29:X:1225:G:O4'	2.17	0.43
29:X:1223:G:C5'	29:X:1224:A:H5''	2.49	0.43
29:X:1450:G:O2'	29:X:1451:C:H5'	2.18	0.43
29:X:1503:G:N1	29:X:1504:G:C6	2.86	0.43
29:X:1513:U:OP2	29:X:1514:C:OP2	2.35	0.43
29:X:1623:C:N4	29:X:1637:U:H2'	2.33	0.43
6:A:219:PRO:HD2	29:X:1781:C:H5''	2.00	0.43
29:X:1937:G:H2'	29:X:1939:U:C4	2.53	0.43
29:X:2014:A:HO2'	29:X:2015:G:P	2.41	0.43
29:X:2082:C:C2'	29:X:2083:G:C5'	2.96	0.43
29:X:2268:G:C2	29:X:2269:G:C8	3.06	0.43
29:X:238:G:O4'	29:X:619:A:H2	2.01	0.43
29:X:2690:A:N7	29:X:2694:G:C8	2.85	0.43
29:X:2736:U:O2'	29:X:2737:A:C5'	2.49	0.43
29:X:27:G:HO2'	29:X:28:A:H8	1.64	0.43
29:X:2845:C:H2'	29:X:2846:G:H5'	2.00	0.43
29:X:29:U:H2'	29:X:30:G:C8	2.53	0.43
29:X:469:G:C2'	29:X:470:U:OP2	2.67	0.43
29:X:475:U:C2	29:X:801:A:N6	2.87	0.43
29:X:579:G:C4'	29:X:994:A:C2	3.02	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:15:A:N1	31:Z:71:G:C2'	2.81	0.43
2:2:6:GLN:CA	29:X:1628:C:H4'	2.49	0.43
9:D:65:PRO:CB	9:D:89:VAL:HG22	2.42	0.43
15:J:54:VAL:HG21	15:J:125:LYS:HE3	2.00	0.43
16:K:5:LYS:HE3	29:X:2795:A:O4'	2.18	0.43
17:L:8:ARG:CG	17:L:9:ARG:N	2.79	0.43
7:B:195:LEU:H	18:M:2:GLN:HB3	1.82	0.43
18:M:44:ARG:HB3	18:M:44:ARG:HE	1.63	0.43
20:O:85:GLY:HA3	29:X:1237:G:O3'	2.19	0.43
21:P:111:ARG:NH1	29:X:759:C:O2'	2.51	0.43
22:Q:62:ARG:O	22:Q:70:GLY:CA	2.66	0.43
23:R:4:PRO:N	29:X:34:U:H1'	2.34	0.43
25:T:20:TYR:O	25:T:21:LEU:CB	2.64	0.43
26:U:27:ASP:C	26:U:32:ARG:HD3	2.39	0.43
26:U:75:TYR:C	26:U:77:GLY:H	2.20	0.43
28:W:3:ILE:HG22	28:W:4:LYS:N	2.32	0.43
29:X:1038:U:H2'	29:X:1039:A:C8	2.53	0.43
29:X:1078:A:OP1	29:X:1078:A:H3'	2.17	0.43
29:X:1089:C:H1'	29:X:1099:A:C2	2.51	0.43
29:X:1277:G:OP2	29:X:1277:G:H8	2.01	0.43
29:X:1283:C:H5''	29:X:1284:G:C5'	2.48	0.43
29:X:1300:A:C2	29:X:1301:U:C2	3.07	0.43
29:X:1314:A:N7	29:X:1316:G:C8	2.86	0.43
29:X:1602:G:H5'	29:X:1603:A:OP2	2.19	0.43
29:X:1731:C:C3'	29:X:1732:U:C5'	2.97	0.43
29:X:1938:U:H5	29:X:2536:G:N2	2.16	0.43
29:X:196:A:H2'	29:X:197:G:O4'	2.18	0.43
29:X:2438:A:N3	29:X:2438:A:H2'	2.32	0.43
29:X:2522:G:H2'	29:X:2523:G:O4'	2.18	0.43
29:X:2542:U:H2'	29:X:2544:A:OP2	2.18	0.43
29:X:2687:G:O2'	29:X:2688:G:H5'	2.18	0.43
29:X:2788:C:O2'	29:X:2789:U:C5'	2.63	0.43
29:X:26:G:C2	29:X:27:G:N2	2.86	0.43
29:X:2811:G:O6	29:X:2812:A:N6	2.52	0.43
29:X:2819:G:C2'	29:X:2820:C:C6	2.88	0.43
29:X:2837:G:H2'	29:X:2838:U:H6	1.83	0.43
26:U:21:ARG:NH2	29:X:400:U:OP2	2.51	0.43
29:X:415:A:H2'	29:X:416:U:O4'	2.19	0.43
29:X:599:A:H2'	29:X:600:G:C8	2.53	0.43
29:X:814:G:C5'	29:X:815:A:OP2	2.64	0.43
29:X:976:C:H4'	29:X:2252:A:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:4:17:VAL:CG1	4:4:18:ARG:H	2.32	0.43
6:A:172:TYR:HH	29:X:2202:G:P	2.41	0.43
6:A:271:VAL:O	6:A:272:THR:OG1	2.31	0.43
8:C:137:ALA:CA	8:C:142:LEU:HB2	2.47	0.43
8:C:162:ARG:CZ	29:X:333:A:C3'	2.90	0.43
8:C:61:GLN:HA	8:C:61:GLN:NE2	2.32	0.43
9:D:12:VAL:O	9:D:13:ARG:C	2.56	0.43
9:D:12:VAL:HG22	9:D:172:SER:OG	2.18	0.43
9:D:80:ARG:H	9:D:80:ARG:HD2	1.83	0.43
11:F:19:PRO:HD2	11:F:22:PRO:CG	2.45	0.43
12:G:102:ARG:HB2	12:G:102:ARG:HE	1.69	0.43
13:H:28:GLY:CA	13:H:35:THR:OG1	2.65	0.43
14:I:18:ARG:HH22	29:X:609:U:H1'	1.83	0.43
15:J:62:GLY:CA	15:J:64:LYS:HE3	2.48	0.43
15:J:98:VAL:HG21	15:J:104:MET:SD	2.58	0.43
16:K:51:LEU:HD11	16:K:69:ASP:HB2	2.00	0.43
19:N:75:ASN:OD1	19:N:78:THR:HB	2.19	0.43
20:O:91:THR:O	20:O:93:ILE:HG23	2.18	0.43
24:S:120:LEU:CD2	24:S:121:GLN:N	2.70	0.43
26:U:16:ASN:OD1	29:X:165:G:OP1	2.36	0.43
27:V:14:PHE:CD2	27:V:57:LYS:HB2	2.53	0.43
27:V:37:LEU:HD21	27:V:40:PRO:CA	2.48	0.43
29:X:1051:U:C6	29:X:1051:U:C3'	3.02	0.43
29:X:1051:U:H3'	29:X:1051:U:C6	2.52	0.43
29:X:1225:G:H1'	29:X:1250:A:H61	1.80	0.43
29:X:1622:G:C4'	29:X:1624:A:C2	2.99	0.43
29:X:1657:A:N6	29:X:1658:A:N1	2.67	0.43
29:X:1687:C:OP2	29:X:2529:G:OP1	2.36	0.43
29:X:1731:C:C2'	29:X:1732:U:H5''	2.48	0.43
29:X:1750:A:C2	29:X:1751:A:C5	3.06	0.43
29:X:1753:A:C8	29:X:1753:A:O5'	2.69	0.43
29:X:1911:A:N7	29:X:1912:G:C5	2.87	0.43
29:X:1759:A:C2	29:X:1968:G:C5	3.07	0.43
29:X:2023:C:H2'	29:X:2024:U:H6	1.83	0.43
29:X:2070:G:O2'	29:X:2071:G:H5'	2.18	0.43
29:X:2473:G:H2'	29:X:2474:G:H8	1.84	0.43
29:X:2426:G:N3	29:X:2480:C:N4	2.67	0.43
29:X:2507:U:O3'	29:X:2508:G:C8	2.71	0.43
29:X:2515:G:H2'	29:X:2516:U:O4'	2.19	0.43
29:X:2578:G:N2	29:X:2579:A:H1'	2.33	0.43
29:X:2640:G:H2'	29:X:2641:A:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2652:G:C2	29:X:2653:A:C8	3.07	0.43
29:X:321:A:H2'	29:X:323:G:N7	2.34	0.43
29:X:351:A:C6	29:X:352:G:C4	3.06	0.43
29:X:417:C:H4'	29:X:418:C:C5'	2.47	0.43
29:X:447:U:OP2	29:X:447:U:H6	2.01	0.43
29:X:544:U:H2'	29:X:545:C:C6	2.53	0.43
29:X:89:A:H4'	29:X:90:G:O4'	2.18	0.43
29:X:918:A:H2'	29:X:919:U:H5''	2.00	0.43
29:X:982:C:C2'	29:X:983:G:H5'	2.49	0.43
8:C:112:GLN:HE22	8:C:188:ILE:HD11	1.83	0.43
8:C:87:LYS:HB3	8:C:88:PRO:CD	2.48	0.43
8:C:89:ARG:HH22	29:X:1260:A:P	2.41	0.43
9:D:96:MET:HE2	9:D:97:TYR:CE2	2.54	0.43
10:E:57:ASP:HB3	10:E:62:ARG:NE	2.21	0.43
10:E:41:LEU:HD23	10:E:68:THR:OG1	2.18	0.43
12:G:116:ARG:HH21	12:G:126:VAL:HA	1.84	0.43
13:H:10:VAL:HG21	13:H:16:ALA:O	2.18	0.43
13:H:12:ASP:OD1	13:H:14:SER:HB3	2.19	0.43
14:I:35:LYS:HG2	29:X:823:U:C5	2.53	0.43
16:K:9:LYS:O	16:K:10:LEU:HG	2.18	0.43
18:M:100:ARG:HD2	29:X:1744:G:OP1	2.19	0.43
20:O:46:VAL:HG12	20:O:51:ALA:HB2	2.00	0.43
14:I:33:GLY:HA2	20:O:79:GLN:HE21	1.83	0.43
23:R:105:ARG:HH12	23:R:112:LYS:C	2.21	0.43
24:S:114:ASP:O	24:S:170:SER:N	2.43	0.43
29:X:1002:C:C2	29:X:1003:C:C5	3.06	0.43
29:X:1025:A:H2'	29:X:1026:U:C6	2.53	0.43
29:X:1072:U:O2'	29:X:1073:G:P	2.77	0.43
29:X:1232:U:O5'	29:X:1232:U:H6	2.02	0.43
29:X:1439:G:O5'	29:X:1439:G:H8	2.02	0.43
29:X:1456:C:C2	29:X:1566:G:C2	3.07	0.43
29:X:1474:A:O2'	29:X:1475:U:OP2	2.33	0.43
29:X:1323:G:H1'	29:X:1627:C:H5'	1.99	0.43
29:X:1672:A:C6	29:X:1673:C:O2	2.71	0.43
29:X:1816:G:C6	29:X:1817:U:C4	3.07	0.43
29:X:186:C:H4'	29:X:694:G:H4'	2.00	0.43
29:X:1838:G:C2	29:X:1878:C:N3	2.87	0.43
29:X:1922:U:O2'	29:X:1923:U:OP1	2.37	0.43
29:X:571:U:C5	29:X:2019:C:O4'	2.71	0.43
29:X:2029:G:H2'	29:X:2030:U:C6	2.54	0.43
29:X:2061:C:H2'	29:X:2062:U:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2322:U:H2'	29:X:2323:U:N1	2.33	0.43
29:X:2634:G:H2'	29:X:2643:G:O6	2.19	0.43
10:E:59:GLN:HG3	29:X:2729:A:O2'	2.18	0.43
29:X:2522:G:C2	29:X:2745:A:H2'	2.53	0.43
29:X:2832:G:N2	29:X:2836:U:C4	2.87	0.43
29:X:356:A:C2'	29:X:357:A:C8	2.96	0.43
29:X:463:C:C2	29:X:465:C:C5	3.06	0.43
29:X:617:U:H2'	29:X:618:A:H8	1.83	0.43
29:X:746:G:N7	29:X:774:A:C6	2.86	0.43
29:X:886:A:C6	29:X:887:G:C5	3.06	0.43
29:X:951:G:H2'	29:X:952:A:O4'	2.19	0.43
30:Y:45:ILE:HD13	30:Y:57:VAL:CG2	2.48	0.43
31:Z:39:C:C5	31:Z:40:C:C4	3.06	0.43
6:A:78:LYS:HA	6:A:115:ALA:O	2.18	0.43
6:A:206:LEU:HD22	6:A:211:ARG:NH1	2.33	0.43
6:A:42:GLY:N	6:A:43:ARG:NH1	2.66	0.43
7:B:19:ARG:HG3	7:B:19:ARG:O	2.18	0.43
8:C:54:THR:HB	8:C:73:SER:OG	2.18	0.43
9:D:68:THR:HG21	29:X:2292:C:H5''	2.00	0.43
9:D:75:SER:O	9:D:76:ASN:C	2.57	0.43
10:E:126:PRO:HG3	10:E:130:ARG:NE	2.33	0.43
10:E:124:ALA:O	10:E:132:ASP:N	2.52	0.43
12:G:85:ALA:HB1	12:G:127:ILE:CD1	2.48	0.43
13:H:13:ASN:HD22	13:H:109:ARG:CG	2.32	0.43
14:I:72:TYR:C	14:I:73:GLU:OE1	2.56	0.43
20:O:15:SER:HB3	20:O:95:ILE:O	2.19	0.43
23:R:100:ASP:O	23:R:102:LYS:N	2.51	0.43
27:V:36:GLN:O	27:V:38:ALA:N	2.50	0.43
29:X:1145:C:C4	29:X:1149:G:O6	2.72	0.43
29:X:1337:G:C2	29:X:1341:G:N1	2.87	0.43
29:X:1660:G:H2'	29:X:1661:C:O4'	2.18	0.43
29:X:174:A:H2'	29:X:175:C:O2	2.19	0.43
29:X:1818:G:H2'	29:X:1819:U:H6	1.84	0.43
29:X:2006:G:N2	29:X:2024:U:O2	2.52	0.43
29:X:2457:A:H1'	29:X:2507:U:HO2'	1.84	0.43
29:X:2807:U:C6	29:X:2807:U:H5'	2.52	0.43
23:R:10:HIS:CE1	29:X:338:G:N3	2.86	0.43
29:X:340:G:O4'	29:X:340:G:P	2.77	0.43
29:X:568:G:H2'	29:X:569:C:C6	2.53	0.43
8:C:176:ASN:CB	29:X:626:A:O2'	2.61	0.43
29:X:751:G:HO2'	29:X:752:G:P	2.41	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:752:G:C4'	29:X:753:U:OP1	2.57	0.43
28:W:39:ALA:HB2	29:X:938:G:H21	1.83	0.43
6:A:71:ASP:OD2	6:A:72:LYS:HG2	2.19	0.43
7:B:105:THR:OG1	7:B:166:THR:OG1	2.24	0.43
7:B:181:LEU:HD21	18:M:12:LEU:CD2	2.39	0.43
8:C:58:MET:CE	8:C:71:ASP:O	2.67	0.43
9:D:3:GLN:O	9:D:4:LEU:CB	2.67	0.43
10:E:22:GLY:O	10:E:24:PHE:CD1	2.72	0.43
12:G:67:ARG:HE	12:G:70:PHE:CA	2.18	0.43
12:G:84:ASN:O	12:G:152:ALA:CA	2.64	0.43
14:I:120:VAL:C	14:I:121:HIS:CD2	2.92	0.43
14:I:77:LEU:HA	14:I:77:LEU:HD12	1.89	0.43
16:K:108:VAL:O	16:K:109:THR:C	2.57	0.43
19:N:6:THR:O	19:N:9:VAL:CB	2.66	0.43
21:P:107:ILE:HA	21:P:108:PRO:HD3	1.85	0.43
21:P:38:VAL:O	21:P:38:VAL:HG12	2.18	0.43
22:Q:40:ASP:CG	22:Q:41:ALA:N	2.70	0.43
23:R:88:THR:O	23:R:89:GLY:C	2.57	0.43
24:S:10:PRO:HB2	24:S:14:LEU:HD21	1.99	0.43
24:S:3:LEU:O	24:S:3:LEU:HG	2.18	0.43
29:X:1004:A:C2	29:X:1173:G:C2	3.06	0.43
29:X:1011:A:C2'	29:X:1012:A:H5'	2.49	0.43
29:X:1137:A:H4'	29:X:1138:A:O5'	2.18	0.43
29:X:1370:U:H2'	29:X:1371:G:O4'	2.18	0.43
29:X:13:A:H5''	29:X:14:A:OP1	2.19	0.43
29:X:1436:G:H2'	29:X:1437:A:C8	2.54	0.43
29:X:1469:U:H3'	29:X:1470:G:C8	2.53	0.43
29:X:1473:U:C2'	29:X:1474:A:OP2	2.67	0.43
29:X:1554:G:H2'	29:X:1555:A:C8	2.54	0.43
29:X:1621:C:C5'	29:X:1626:A:N6	2.82	0.43
29:X:1665:C:O2'	29:X:1666:G:H5'	2.18	0.43
29:X:168:A:O2'	29:X:169:C:O4'	2.31	0.43
29:X:1790:G:O2'	29:X:1791:C:P	2.76	0.43
29:X:1789:U:H1'	29:X:1794:A:H1'	1.99	0.43
6:A:88:ARG:NH2	29:X:1809:G:OP1	2.52	0.43
29:X:1815:G:C6	29:X:1816:G:C5	3.07	0.43
29:X:1826:U:O4'	29:X:1952:A:C2	2.72	0.43
29:X:2020:G:H2'	29:X:2021:G:H8	1.83	0.43
29:X:2179:C:H2'	29:X:2180:U:C6	2.54	0.43
29:X:223:C:C4	29:X:224:G:N7	2.87	0.43
29:X:2315:A:H2	29:X:2364:C:O2	2.02	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2331:A:C8	29:X:2345:A:N1	2.87	0.43
29:X:2476:A:O2'	29:X:2477:C:OP2	2.37	0.43
29:X:2511:G:N7	29:X:2512:A:N7	2.67	0.43
29:X:2635:U:C5	29:X:2643:G:N2	2.86	0.43
29:X:2714:A:H2'	29:X:2715:C:O4'	2.18	0.43
29:X:2759:U:C5'	29:X:2760:G:OP1	2.67	0.43
29:X:351:A:N6	29:X:352:G:C2	2.87	0.43
29:X:594:G:C6	29:X:1264:C:C2	3.07	0.43
29:X:784:U:H2'	29:X:785:U:C5	2.54	0.43
29:X:810:U:H6	29:X:810:U:H3'	1.80	0.43
29:X:98:U:C6	29:X:98:U:H3'	2.53	0.43
30:Y:34:PRO:HB2	30:Y:35:GLN:HE21	1.82	0.43
6:A:126:LYS:HB2	6:A:129:ASN:HD21	1.77	0.43
6:A:150:GLY:O	6:A:152:GLY:N	2.52	0.43
8:C:112:GLN:HA	8:C:116:LYS:CG	2.48	0.43
8:C:174:GLY:O	8:C:175:VAL:O	2.36	0.43
8:C:168:SER:HB2	8:C:183:HIS:NE2	2.34	0.43
8:C:29:GLU:CD	14:I:18:ARG:NH2	2.72	0.43
9:D:10:ASP:O	9:D:12:VAL:N	2.51	0.43
9:D:4:LEU:CG	9:D:5:LYS:N	2.82	0.43
9:D:68:THR:N	9:D:86:GLY:O	2.52	0.43
10:E:126:PRO:HD2	10:E:130:ARG:O	2.19	0.43
10:E:44:ARG:NH2	10:E:44:ARG:HG3	2.34	0.43
11:F:13:PRO:HB2	11:F:16:LYS:HB2	2.00	0.43
12:G:71:THR:HA	12:G:72:PRO:HD3	1.73	0.43
13:H:1:MET:SD	13:H:1:MET:N	2.80	0.43
14:I:86:THR:HG1	14:I:118:VAL:HG12	1.83	0.43
14:I:77:LEU:C	14:I:79:GLN:N	2.71	0.43
15:J:35:LEU:HD11	15:J:130:THR:OG1	2.19	0.43
15:J:15:ARG:HB3	15:J:16:GLY:H	1.54	0.43
19:N:117:ARG:HH21	19:N:117:ARG:HG3	1.84	0.43
20:O:73:LYS:HB2	20:O:82:ARG:HB2	2.00	0.43
21:P:31:VAL:O	21:P:33:MET:N	2.49	0.43
23:R:10:HIS:O	23:R:11:ASN:CB	2.61	0.43
25:T:31:VAL:CG1	25:T:37:LEU:HD21	2.49	0.43
26:U:27:ASP:HA	26:U:32:ARG:CD	2.49	0.43
27:V:7:ARG:C	27:V:9:LEU:H	2.21	0.43
29:X:1004:A:C2'	29:X:1005:U:H5'	2.48	0.43
29:X:1008:G:C6	29:X:1170:U:N3	2.87	0.43
29:X:1202:U:H2'	29:X:1203:A:H8	1.84	0.43
29:X:1265:G:C4	29:X:1266:G:C2	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1281:A:H2'	29:X:1282:A:O4'	2.19	0.43
29:X:1289:A:N7	29:X:1662:G:C2	2.86	0.43
29:X:1426:U:H2'	29:X:1427:G:C5'	2.49	0.43
29:X:1450:G:C4	29:X:1573:G:N2	2.87	0.43
29:X:1492:A:O2'	29:X:1493:A:C8	2.61	0.43
29:X:1629:G:C3'	29:X:1633:C:H42	2.32	0.43
29:X:1644:G:H2'	29:X:1645:U:H6	1.83	0.43
29:X:1742:G:O2'	29:X:1743:C:H5'	2.17	0.43
29:X:1821:A:C2'	29:X:1822:C:O5'	2.67	0.43
29:X:1858:C:H2'	29:X:1859:A:C8	2.53	0.43
29:X:1987:G:C5	29:X:1988:A:C5	3.06	0.43
29:X:1995:G:C8	29:X:1995:G:H3'	2.54	0.43
29:X:2043:A:O2'	29:X:2481:G:O4'	2.31	0.43
29:X:2526:U:C6	29:X:2545:A:C5	3.06	0.43
29:X:2561:G:O2'	29:X:2562:G:H5'	2.18	0.43
29:X:2798:A:N3	29:X:2799:C:C6	2.86	0.43
29:X:2862:G:N2	29:X:2863:U:C2	2.87	0.43
29:X:2784:A:N1	29:X:2866:A:C4	2.87	0.43
29:X:413:G:O2'	29:X:414:A:H5''	2.19	0.43
29:X:507:A:O5'	29:X:507:A:C8	2.66	0.43
29:X:57:G:N2	29:X:69:G:C4	2.86	0.43
29:X:750:C:H2'	29:X:751:G:H5'	2.01	0.43
23:R:17:LYS:HZ3	29:X:83:A:P	2.41	0.43
29:X:970:A:C6	29:X:971:A:C6	3.06	0.43
4:4:9:LYS:HE3	4:4:16:VAL:HG23	2.01	0.43
6:A:50:THR:CG2	29:X:1796:A:N3	2.82	0.43
8:C:124:ASP:O	8:C:132:ASN:ND2	2.52	0.43
8:C:48:ARG:HB2	8:C:51:VAL:HG13	2.01	0.43
9:D:102:LYS:O	9:D:107:GLY:N	2.46	0.43
9:D:132:ILE:HG22	9:D:133:LYS:H	1.82	0.43
9:D:148:LYS:CG	9:D:149:THR:H	2.30	0.43
9:D:175:LEU:CD2	9:D:177:PHE:HE1	2.30	0.43
9:D:80:ARG:N	9:D:80:ARG:HD2	2.34	0.43
9:D:8:TYR:OH	9:D:30:ARG:HA	2.19	0.43
10:E:96:ALA:O	10:E:125:VAL:HG11	2.18	0.43
10:E:165:VAL:O	10:E:167:GLU:N	2.45	0.43
11:F:12:LEU:C	11:F:52:ILE:HG23	2.39	0.43
14:I:80:LEU:CD2	14:I:89:ASP:OD1	2.64	0.43
15:J:119:PHE:CD1	15:J:132:MET:HG3	2.53	0.43
15:J:19:THR:HB	31:Z:93:G:C5'	2.45	0.43
19:N:3:ARG:HD3	29:X:458:G:P	2.59	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:38:VAL:HG12	21:P:42:VAL:HG23	2.01	0.43
22:Q:68:PHE:O	22:Q:69:ILE:O	2.37	0.43
23:R:25:LEU:HD13	23:R:79:SER:O	2.19	0.43
23:R:28:LYS:O	23:R:29:HIS:CB	2.66	0.43
24:S:3:LEU:HB2	24:S:34:LEU:CB	2.49	0.43
24:S:63:PRO:O	24:S:86:VAL:N	2.47	0.43
29:X:98:U:O2'	29:X:100:G:N3	2.50	0.43
29:X:1210:C:H2'	29:X:1211:G:H8	1.83	0.43
29:X:1371:G:H1'	29:X:1387:G:N1	2.32	0.43
29:X:1418:C:H2'	29:X:1419:G:C8	2.54	0.43
29:X:163:A:H2'	29:X:164:G:H8	1.83	0.43
29:X:165:G:H4'	29:X:1378:A:C5	2.53	0.43
29:X:1672:A:C6	29:X:1673:C:C2	3.06	0.43
29:X:1749:G:HO2'	29:X:1750:A:P	2.37	0.43
29:X:1814:G:C2'	29:X:1815:G:H5'	2.49	0.43
29:X:1935:A:C6	29:X:1936:A:N1	2.87	0.43
29:X:204:A:N6	29:X:2386:G:C8	2.87	0.43
29:X:2210:C:C2	29:X:2211:U:C6	3.07	0.43
29:X:2429:A:C2	29:X:2430:A:C4	3.07	0.43
29:X:2781:G:C3'	29:X:2782:G:H5''	2.47	0.43
29:X:2789:U:H2'	29:X:2790:C:C6	2.54	0.43
29:X:2803:C:C2	29:X:2804:G:C8	3.07	0.43
29:X:2858:A:H3'	29:X:2859:U:C5'	2.43	0.43
29:X:308:C:H2'	29:X:309:G:O4'	2.19	0.43
29:X:510:G:N1	29:X:513:A:OP2	2.43	0.43
29:X:530:G:O2'	29:X:531:G:H5'	2.19	0.43
29:X:649:G:C2	29:X:661:C:C2	3.06	0.43
29:X:661:C:C2	29:X:662:G:C8	3.07	0.43
29:X:994:A:C8	29:X:994:A:H3'	2.54	0.43
7:B:105:THR:HB	7:B:166:THR:OG1	2.19	0.43
8:C:122:GLY:C	8:C:124:ASP:N	2.73	0.43
9:D:119:PRO:O	9:D:120:ASN:C	2.56	0.43
9:D:49:ALA:O	9:D:50:ILE:C	2.57	0.43
12:G:61:ARG:HG2	12:G:65:LYS:CG	2.49	0.43
13:H:116:ARG:CB	13:H:133:VAL:HG12	2.48	0.43
13:H:46:HIS:O	13:H:47:VAL:C	2.56	0.43
19:N:45:TYR:O	19:N:46:GLU:O	2.37	0.43
19:N:70:ARG:HG3	19:N:70:ARG:HH11	1.83	0.43
21:P:79:ALA:HB2	21:P:128:VAL:HG23	2.01	0.43
22:Q:42:ILE:O	22:Q:43:GLN:C	2.57	0.43
23:R:40:LEU:HA	23:R:41:PRO:HD2	1.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:63:PRO:HB2	24:S:86:VAL:HB	2.00	0.43
29:X:1060:C:N4	29:X:1061:A:N6	2.67	0.43
29:X:114:C:H2'	29:X:115:G:O4'	2.19	0.43
29:X:1418:C:O2'	29:X:1419:G:H5'	2.18	0.43
29:X:1450:G:C2	29:X:1573:G:C2	3.07	0.43
29:X:1510:A:C8	29:X:1511:A:N7	2.87	0.43
29:X:1538:A:H2'	29:X:1539:U:O4'	2.19	0.43
29:X:1574:A:C2'	29:X:1575:C:H5''	2.47	0.43
29:X:1668:G:H2'	29:X:1669:A:O4'	2.18	0.43
29:X:1672:A:H3'	29:X:1673:C:H5	1.83	0.43
29:X:1716:G:O2'	29:X:1717:A:P	2.76	0.43
29:X:1739:G:H2'	29:X:1740:G:C8	2.54	0.43
29:X:1775:A:O2'	29:X:1776:A:OP2	2.32	0.43
29:X:1968:G:O2'	29:X:1969:G:H5'	2.18	0.43
29:X:1982:C:H5''	29:X:2703:C:HO2'	1.84	0.43
29:X:2002:A:C2'	29:X:2003:A:O5'	2.64	0.43
29:X:538:A:N7	29:X:2026:C:H4'	2.33	0.43
29:X:2309:G:O2'	29:X:2310:G:H5'	2.19	0.43
14:I:59:ARG:HA	29:X:2371:A:H8	1.84	0.43
29:X:2571:G:C6	29:X:2572:U:C4	3.07	0.43
29:X:2657:G:C6	29:X:2658:A:C6	3.06	0.43
29:X:2674:C:O2'	29:X:2675:U:H5'	2.19	0.43
29:X:2690:A:C8	29:X:2694:G:C1'	3.02	0.43
29:X:2824:C:H4'	29:X:2825:A:H5'	2.00	0.43
29:X:2852:G:C2'	29:X:2853:U:H5'	2.49	0.43
29:X:311:A:C5	29:X:345:U:H4'	2.54	0.43
29:X:468:A:C2	29:X:470:U:O4	2.72	0.43
29:X:484:G:N2	29:X:485:G:C4	2.87	0.43
29:X:774:A:C8	29:X:774:A:C3'	3.02	0.43
30:Y:45:ILE:O	30:Y:47:PRO:N	2.52	0.43
31:Z:123:U:H6	31:Z:123:U:P	2.42	0.43
31:Z:14:C:H4'	31:Z:17:A:N6	2.34	0.43
31:Z:27:A:H61	31:Z:55:C:C5'	2.32	0.43
7:B:144:ARG:NH1	29:X:2551:A:C4	2.87	0.42
7:B:67:PHE:CZ	7:B:78:LEU:HD11	2.54	0.42
8:C:151:VAL:CG2	8:C:186:LEU:HD11	2.48	0.42
9:D:146:VAL:HB	9:D:147:ASP:H	1.61	0.42
9:D:57:LEU:CA	9:D:60:ILE:HG12	2.49	0.42
10:E:9:ILE:HD12	10:E:51:LEU:CA	2.49	0.42
12:G:102:ARG:CZ	12:G:112:THR:HG21	2.49	0.42
12:G:162:LYS:NZ	29:X:2873:G:N2	2.66	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:93:LYS:HG2	12:G:97:ASP:HB3	2.02	0.42
15:J:27:TYR:CE2	15:J:133:VAL:HG11	2.54	0.42
16:K:109:THR:O	16:K:110:MET:SD	2.77	0.42
16:K:10:LEU:HD22	16:K:13:ASN:O	2.18	0.42
16:K:46:PRO:HG2	16:K:47:PHE:N	2.34	0.42
16:K:83:VAL:H	16:K:83:VAL:HG12	1.57	0.42
19:N:22:LYS:CG	19:N:23:GLY:H	2.26	0.42
19:N:91:ASN:O	19:N:93:LYS:NZ	2.42	0.42
20:O:78:VAL:O	20:O:78:VAL:HG22	2.18	0.42
20:O:80:TYR:CE2	20:O:82:ARG:NE	2.87	0.42
20:O:70:TYR:CD2	20:O:83:ARG:NH1	2.87	0.42
21:P:23:PRO:O	21:P:24:GLY:C	2.57	0.42
21:P:34:SER:O	21:P:36:ARG:N	2.52	0.42
21:P:49:SER:C	21:P:51:GLN:H	2.21	0.42
21:P:52:ASP:O	21:P:53:ALA:C	2.55	0.42
24:S:142:ASN:H	24:S:145:ASP:CG	2.22	0.42
27:V:15:ALA:HA	27:V:18:ILE:HB	2.01	0.42
28:W:4:LYS:HA	28:W:30:ASP:O	2.19	0.42
12:G:31:THR:HG23	29:X:1006:C:O2	2.19	0.42
29:X:1022:A:C6	29:X:1024:G:C5	3.07	0.42
29:X:1072:U:O4'	29:X:1081:A:H1'	2.18	0.42
29:X:1134:C:H6	29:X:1134:C:O5'	2.02	0.42
29:X:1195:U:H2'	29:X:1196:G:C8	2.54	0.42
29:X:574:C:H5'	29:X:1266:G:O6	2.19	0.42
29:X:141:G:H2'	29:X:142:U:H6	1.85	0.42
29:X:1653:C:H2'	29:X:1654:A:C8	2.54	0.42
29:X:1655:C:H5''	29:X:2689:C:H1'	2.00	0.42
29:X:1929:U:H2'	29:X:1930:C:H6	1.78	0.42
29:X:1279:G:O2'	29:X:1995:G:N1	2.52	0.42
29:X:2205:C:C2'	29:X:2206:C:C5'	2.94	0.42
29:X:2437:G:O2'	29:X:2438:A:C8	2.55	0.42
29:X:2555:G:P	29:X:2555:G:H21	2.41	0.42
29:X:2649:A:H5'	29:X:2650:G:OP2	2.19	0.42
29:X:2798:A:C5	29:X:2799:C:C5	3.07	0.42
29:X:471:A:C2	29:X:481:A:C5	3.07	0.42
29:X:591:G:C2'	29:X:592:G:H8	2.27	0.42
14:I:101:ARG:HD3	29:X:637:G:N1	2.34	0.42
29:X:834:A:C5'	29:X:835:U:C5	3.02	0.42
29:X:957:G:C2	29:X:958:G:C8	3.07	0.42
29:X:984:A:H1'	29:X:1202:U:C4	2.54	0.42
31:Z:110:U:H2'	31:Z:111:C:H5''	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:28:ARG:NH2	31:Z:11:G:P	2.76	0.42
6:A:247:VAL:C	6:A:248:THR:HG23	2.39	0.42
7:B:131:SER:O	7:B:132:LYS:CG	2.67	0.42
8:C:38:ARG:NH2	8:C:178:TYR:CD2	2.81	0.42
8:C:30:VAL:O	8:C:33:TRP:HB3	2.18	0.42
8:C:95:LEU:HD23	8:C:96:PRO:N	2.34	0.42
9:D:134:GLU:CD	9:D:136:LEU:HB2	2.40	0.42
10:E:103:LEU:HD21	10:E:131:ILE:HD13	2.01	0.42
11:F:126:THR:HG23	29:X:1091:C:O2	2.19	0.42
12:G:40:ASN:OD1	12:G:42:VAL:HG23	2.19	0.42
12:G:93:LYS:HG2	12:G:97:ASP:HB2	2.01	0.42
14:I:95:ALA:O	14:I:98:LEU:HA	2.19	0.42
15:J:99:LYS:O	15:J:100:PRO:C	2.58	0.42
18:M:54:VAL:HG23	18:M:68:VAL:HG12	2.01	0.42
19:N:69:ALA:HB1	19:N:75:ASN:H	1.84	0.42
21:P:94:GLU:CG	21:P:127:ILE:HB	2.45	0.42
22:Q:20:MET:CE	22:Q:92:ALA:O	2.67	0.42
23:R:93:ARG:HH22	23:R:108:VAL:CA	2.31	0.42
23:R:84:VAL:N	23:R:90:LYS:HE2	2.34	0.42
23:R:92:THR:HA	23:R:107:ALA:O	2.19	0.42
24:S:1:MET:HG3	24:S:52:PHE:HD2	1.83	0.42
24:S:4:THR:OG1	24:S:5:ALA:N	2.49	0.42
24:S:91:PRO:HG2	24:S:92:VAL:H	1.83	0.42
25:T:71:ASN:ND2	25:T:77:ARG:HD3	2.34	0.42
27:V:42:ARG:HD2	27:V:42:ARG:HA	1.77	0.42
28:W:34:VAL:HG22	28:W:35:SER:N	2.33	0.42
29:X:1015:U:H5'	29:X:1021:A:N6	2.34	0.42
29:X:1073:G:C6	29:X:1088:A:N1	2.88	0.42
29:X:1128:G:C3'	29:X:1129:A:C5'	2.85	0.42
29:X:1542:G:N2	29:X:1562:G:N2	2.67	0.42
29:X:1644:G:O2'	29:X:1645:U:H5'	2.19	0.42
29:X:1743:C:O2	29:X:1744:G:C8	2.73	0.42
29:X:1818:G:C2	29:X:1819:U:C2	3.07	0.42
29:X:1854:G:C2'	29:X:1855:G:H5'	2.40	0.42
29:X:1924:C:C4	29:X:1925:C:C4	3.07	0.42
29:X:1918:G:N2	29:X:1947:G:O4'	2.51	0.42
29:X:2012:A:H2'	29:X:2014:A:OP1	2.19	0.42
29:X:2012:A:H3'	29:X:2014:A:OP1	2.20	0.42
29:X:2281:C:N3	29:X:2282:G:N7	2.67	0.42
29:X:2475:C:N4	29:X:2476:A:C2	2.87	0.42
29:X:24:G:N1	29:X:25:U:C2	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2015:G:N1	29:X:2551:A:C8	2.86	0.42
29:X:2567:G:H8	29:X:2567:G:O5'	2.02	0.42
29:X:2034:A:C5	29:X:2593:A:C5	3.07	0.42
29:X:2863:U:O2'	29:X:2864:C:H5'	2.19	0.42
29:X:390:U:H6	29:X:390:U:O5'	2.02	0.42
29:X:404:A:H8	29:X:404:A:O5'	2.02	0.42
29:X:422:C:O2'	29:X:423:G:H5'	2.19	0.42
29:X:537:C:C1'	29:X:538:A:C6	2.84	0.42
29:X:575:U:H2'	29:X:576:A:C8	2.53	0.42
29:X:623:G:N2	29:X:624:A:H1'	2.34	0.42
29:X:759:C:H6	29:X:759:C:H3'	1.84	0.42
29:X:795:A:H5'	29:X:796:A:C2	2.54	0.42
29:X:817:A:C2'	29:X:819:C:C4	3.00	0.42
31:Z:30:C:O2'	31:Z:31:A:H5'	2.18	0.42
6:A:133:LEU:HD13	6:A:173:VAL:HB	2.01	0.42
6:A:183:ARG:NH1	6:A:183:ARG:HB3	2.35	0.42
6:A:62:TYR:C	6:A:63:ARG:HG3	2.38	0.42
6:A:72:LYS:HE2	6:A:97:TYR:CD2	2.54	0.42
7:B:120:TRP:CE2	7:B:155:ARG:HD2	2.54	0.42
7:B:78:LEU:O	7:B:79:ARG:CD	2.67	0.42
9:D:28:VAL:O	9:D:30:ARG:HG3	2.19	0.42
11:F:63:ARG:N	11:F:63:ARG:HD3	2.34	0.42
12:G:136:PRO:HD2	12:G:144:MET:HE3	2.01	0.42
13:H:77:THR:C	13:H:79:HIS:H	2.23	0.42
14:I:49:PHE:N	14:I:49:PHE:CD2	2.87	0.42
15:J:125:LYS:HZ2	15:J:125:LYS:N	2.17	0.42
15:J:21:ASP:N	15:J:99:LYS:HE2	2.33	0.42
15:J:99:LYS:O	15:J:102:ARG:CB	2.60	0.42
16:K:11:ASN:HD22	16:K:12:ARG:HG3	1.85	0.42
18:M:105:TYR:O	18:M:107:LEU:N	2.52	0.42
19:N:37:GLN:HA	19:N:40:LEU:HG	1.99	0.42
20:O:38:LEU:HD22	20:O:39:PHE:H	1.84	0.42
22:Q:46:PHE:N	22:Q:46:PHE:CD1	2.87	0.42
23:R:105:ARG:HH12	23:R:113:THR:H	1.67	0.42
25:T:41:ARG:NH1	25:T:41:ARG:CG	2.81	0.42
26:U:52:ARG:O	26:U:53:GLU:HB3	2.19	0.42
29:X:10:A:C2	29:X:2608:A:C2	3.07	0.42
29:X:1241:G:O2'	29:X:1242:A:H5'	2.19	0.42
29:X:1288:A:N6	29:X:1309:G:C5'	2.82	0.42
29:X:141:G:H2'	29:X:142:U:O4'	2.19	0.42
29:X:1558:C:O2'	29:X:1559:G:H5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1571:G:OP2	29:X:1571:G:C8	2.73	0.42
29:X:1575:C:H4'	29:X:1576:G:OP1	2.18	0.42
29:X:1794:A:H2	29:X:1814:G:N3	2.17	0.42
29:X:1986:G:C2'	29:X:1987:G:O5'	2.67	0.42
29:X:2378:G:C6	29:X:2397:A:C6	3.07	0.42
29:X:2438:A:C4	29:X:2439:U:C6	3.07	0.42
29:X:242:A:C2'	29:X:243:G:C4'	2.98	0.42
29:X:2487:G:C4	29:X:2488:G:C8	3.08	0.42
29:X:1686:A:O3'	29:X:2528:G:H5'	2.19	0.42
29:X:2533:U:C4	29:X:2534:U:C4	3.07	0.42
29:X:2557:G:C2	29:X:2558:C:C5	3.07	0.42
29:X:1990:U:H4'	29:X:2799:C:H4'	2.00	0.42
29:X:2863:U:C4	29:X:2864:C:C5	3.07	0.42
29:X:417:C:N3	29:X:419:G:C6	2.87	0.42
29:X:539:A:H4'	29:X:540:G:C4	2.54	0.42
29:X:664:C:O3'	29:X:665:A:H3'	2.19	0.42
29:X:698:A:H1'	29:X:701:U:O4	2.19	0.42
29:X:749:C:H2'	29:X:750:C:C6	2.53	0.42
7:B:110:GLY:O	16:K:3:HIS:CD2	2.72	0.42
8:C:154:ASP:HB2	8:C:157:THR:OG1	2.19	0.42
8:C:163:ASN:ND2	8:C:166:TRP:CB	2.80	0.42
10:E:39:THR:C	10:E:41:LEU:N	2.73	0.42
13:H:109:ARG:HA	13:H:129:LEU:HD13	2.02	0.42
15:J:28:VAL:O	15:J:29:ALA:HB2	2.19	0.42
15:J:33:TYR:O	15:J:106:GLU:CA	2.67	0.42
15:J:39:GLU:HA	15:J:40:PRO:HD3	1.60	0.42
18:M:25:PRO:HB3	18:M:93:ILE:HD11	2.01	0.42
19:N:27:SER:C	19:N:29:SER:H	2.21	0.42
20:O:55:THR:OG1	20:O:98:ILE:HD12	2.20	0.42
21:P:27:VAL:HG13	21:P:27:VAL:O	2.19	0.42
22:Q:10:PRO:HD3	27:V:30:PHE:CG	2.53	0.42
23:R:25:LEU:CD1	23:R:80:LYS:CA	2.98	0.42
24:S:123:VAL:N	24:S:159:THR:O	2.53	0.42
25:T:52:GLY:N	25:T:62:LEU:CD2	2.82	0.42
29:X:1047:G:H1	29:X:1130:U:H3	1.67	0.42
29:X:1050:G:C2'	29:X:1051:U:H5''	2.50	0.42
29:X:1278:A:H1'	29:X:1280:U:C6	2.53	0.42
29:X:1299:A:C6	29:X:1302:C:N3	2.88	0.42
29:X:1373:G:N2	29:X:1374:G:O4'	2.52	0.42
29:X:142:U:H5''	29:X:143:A:OP2	2.19	0.42
29:X:1440:G:H3'	29:X:1441:A:C5'	2.46	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1723:U:O2'	29:X:1724:C:P	2.78	0.42
29:X:1767:G:C6	29:X:1768:U:C5	3.07	0.42
29:X:2196:U:H2'	29:X:2197:U:N1	2.34	0.42
29:X:2671:C:C2	29:X:2672:U:C6	3.07	0.42
29:X:2728:A:C6	29:X:2729:A:C6	3.08	0.42
29:X:2748:C:N4	29:X:2749:A:N6	2.68	0.42
29:X:441:A:C8	29:X:442:A:N7	2.87	0.42
29:X:605:G:C2	29:X:606:A:C5	3.08	0.42
29:X:677:G:N3	29:X:678:G:C8	2.87	0.42
29:X:729:A:H2'	29:X:730:C:C4'	2.46	0.42
29:X:76:C:H6	29:X:76:C:C5'	2.24	0.42
29:X:84:G:N1	29:X:97:U:C2	2.87	0.42
29:X:994:A:O2'	29:X:995:A:P	2.76	0.42
30:Y:16:ARG:HD3	30:Y:20:ARG:NE	2.33	0.42
4:4:26:ILE:HG13	4:4:26:ILE:O	2.20	0.42
6:A:133:LEU:HB2	6:A:187:SER:CB	2.50	0.42
6:A:244:ARG:C	6:A:252:LYS:NZ	2.73	0.42
7:B:151:TYR:CD1	12:G:106:TYR:CZ	3.08	0.42
8:C:137:ALA:C	8:C:142:LEU:HB2	2.39	0.42
9:D:112:ARG:O	9:D:113:ASP:CB	2.68	0.42
9:D:26:MET:HB3	31:Z:59:A:N1	2.34	0.42
11:F:101:TRP:HZ3	11:F:140:GLY:HA3	1.83	0.42
13:H:30:GLY:O	13:H:31:GLY:C	2.57	0.42
15:J:27:TYR:OH	24:S:76:ARG:HG2	2.19	0.42
15:J:70:PHE:HA	15:J:71:PRO:HD3	1.78	0.42
16:K:20:LEU:O	16:K:23:ALA:N	2.52	0.42
23:R:16:PHE:HZ	23:R:46:VAL:CG2	2.32	0.42
23:R:41:PRO:HG2	23:R:42:ARG:H	1.84	0.42
24:S:141:MET:HB3	24:S:145:ASP:HB2	2.01	0.42
25:T:66:LYS:HE2	25:T:66:LYS:HB3	1.80	0.42
29:X:103:U:H2'	29:X:104:C:C6	2.54	0.42
29:X:1139:A:H2	29:X:2496:C:H1'	1.85	0.42
29:X:1166:A:C3'	29:X:1167:A:H5''	2.49	0.42
29:X:1347:C:N3	29:X:1348:C:C5	2.87	0.42
29:X:1885:C:H2'	29:X:1886:G:C5'	2.37	0.42
29:X:2002:A:N7	30:Y:9:LYS:HE2	2.34	0.42
29:X:2021:G:C6	29:X:2022:C:C4	3.07	0.42
29:X:2495:G:H2'	29:X:2496:C:O4'	2.19	0.42
29:X:2511:G:C6	29:X:2512:A:C5	3.07	0.42
29:X:2543:A:N7	29:X:2626:U:O2'	2.50	0.42
29:X:2564:U:H5'	29:X:2565:C:P	2.60	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2573:C:H2'	29:X:2574:G:H8	1.84	0.42
29:X:2663:U:O2	29:X:2664:G:C8	2.72	0.42
29:X:2696:A:N3	29:X:2697:G:C8	2.88	0.42
29:X:1745:C:N3	29:X:2697:G:H5'	2.34	0.42
29:X:2858:A:C3'	29:X:2859:U:H5'	2.45	0.42
29:X:408:U:H2'	29:X:409:G:C8	2.55	0.42
29:X:516:G:C2'	29:X:517:A:OP2	2.66	0.42
29:X:729:A:H3'	29:X:729:A:C4	2.54	0.42
14:I:41:SER:HB2	29:X:844:G:O3'	2.20	0.42
29:X:853:C:C2	29:X:950:G:N1	2.88	0.42
29:X:930:A:H1'	31:Z:82:U:O2'	2.20	0.42
31:Z:108:G:HO2'	31:Z:109:G:H5'	1.83	0.42
31:Z:93:G:N2	31:Z:94:G:H1'	2.34	0.42
31:Z:93:G:H2'	31:Z:94:G:O4'	2.19	0.42
4:4:17:VAL:CG1	4:4:18:ARG:N	2.82	0.42
4:4:9:LYS:H	4:4:9:LYS:CD	2.32	0.42
7:B:45:GLU:O	7:B:82:ARG:HD3	2.19	0.42
8:C:139:GLN:NE2	8:C:139:GLN:HA	2.34	0.42
8:C:180:ILE:HG23	8:C:181:LEU:H	1.85	0.42
10:E:7:GLN:OE1	10:E:7:GLN:N	2.53	0.42
11:F:2:LYS:H	11:F:2:LYS:CD	2.29	0.42
14:I:120:VAL:CG1	14:I:122:VAL:HG13	2.48	0.42
14:I:30:ALA:CB	14:I:34:HIS:CE1	2.88	0.42
16:K:29:LEU:HA	16:K:29:LEU:HD23	1.88	0.42
16:K:36:THR:CG2	16:K:41:ALA:HB2	2.49	0.42
17:L:45:ASP:CG	17:L:46:SER:H	2.23	0.42
19:N:25:TRP:O	19:N:28:ARG:HB2	2.19	0.42
19:N:95:LEU:CD1	19:N:109:LEU:HD13	2.49	0.42
20:O:28:GLU:OE1	20:O:28:GLU:N	2.51	0.42
22:Q:16:ALA:O	22:Q:20:MET:N	2.52	0.42
22:Q:68:PHE:O	22:Q:69:ILE:C	2.57	0.42
22:Q:6:ILE:O	22:Q:7:LEU:C	2.57	0.42
24:S:123:VAL:N	24:S:161:ALA:HB2	2.35	0.42
24:S:92:VAL:HG23	24:S:93:GLU:H	1.85	0.42
26:U:29:GLY:O	26:U:31:GLY:N	2.53	0.42
29:X:1025:A:H2'	29:X:1026:U:H6	1.85	0.42
29:X:1063:C:O2'	29:X:1064:C:H5'	2.19	0.42
29:X:1071:U:H4'	29:X:1072:U:H5''	2.01	0.42
29:X:1183:C:H2'	29:X:1184:G:C8	2.54	0.42
29:X:1187:A:H2'	29:X:1188:A:C1'	2.49	0.42
19:N:13:ARG:HE	29:X:1264:C:H5''	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1461:C:H2'	29:X:1462:C:C6	2.54	0.42
29:X:1547:U:H2'	29:X:1548:U:C6	2.54	0.42
29:X:1684:G:C2'	29:X:1685:A:OP2	2.67	0.42
29:X:168:A:O2'	29:X:169:C:C5'	2.67	0.42
29:X:1834:G:H2'	29:X:1835:C:H6	1.83	0.42
29:X:1952:A:H1'	29:X:1956:G:O4'	2.20	0.42
29:X:205:A:C6	29:X:207:U:C2	3.07	0.42
29:X:2225:G:H2'	29:X:2226:A:H8	1.85	0.42
29:X:2438:A:C6	29:X:2439:U:C4	3.07	0.42
29:X:2511:G:C5	29:X:2512:A:C5	3.08	0.42
29:X:2595:C:O2	29:X:2596:C:C6	2.72	0.42
29:X:2618:A:C4	29:X:2619:G:H1'	2.55	0.42
29:X:2874:A:H2'	29:X:2875:C:H6	1.83	0.42
29:X:193:A:C2	29:X:445:A:C2	3.08	0.42
29:X:93:A:H2'	29:X:94:C:O4'	2.20	0.42
31:Z:93:G:O2'	31:Z:94:G:H5'	2.20	0.42
6:A:159:ALA:HB1	6:A:197:GLY:O	2.20	0.42
6:A:258:LYS:HZ3	6:A:261:ARG:HH21	1.65	0.42
7:B:117:MET:HA	7:B:121:ASN:O	2.18	0.42
8:C:179:ASP:HA	8:C:182:ARG:CB	2.49	0.42
9:D:142:THR:HG22	9:D:144:ASP:H	1.85	0.42
10:E:7:GLN:HB3	10:E:51:LEU:CD1	2.49	0.42
10:E:66:GLY:HA3	29:X:2728:A:C4'	2.42	0.42
12:G:125:ARG:NH1	29:X:2760:G:N1	2.63	0.42
12:G:150:VAL:HG12	12:G:151:TYR:N	2.35	0.42
12:G:66:HIS:O	12:G:70:PHE:CE1	2.73	0.42
12:G:70:PHE:HB2	19:N:64:ARG:CD	2.49	0.42
13:H:75:VAL:HG12	13:H:118:LEU:CD2	2.09	0.42
14:I:78:SER:CB	14:I:112:GLY:HA3	2.39	0.42
16:K:108:VAL:HG12	16:K:110:MET:SD	2.60	0.42
19:N:61:TRP:HZ3	19:N:94:VAL:H	1.41	0.42
20:O:7:THR:OG1	20:O:21:ARG:HG3	2.20	0.42
21:P:75:ALA:HB1	21:P:128:VAL:HG22	2.01	0.42
24:S:114:ASP:O	24:S:169:VAL:HA	2.20	0.42
24:S:100:THR:HG23	24:S:138:VAL:CG1	2.50	0.42
24:S:3:LEU:O	24:S:56:VAL:HA	2.20	0.42
25:T:46:LYS:HZ1	25:T:76:ALA:HA	1.84	0.42
28:W:14:GLY:O	28:W:17:VAL:HB	2.20	0.42
19:N:57:PHE:CD2	29:X:1006:C:C2	3.07	0.42
29:X:1046:U:O4	29:X:1131:G:O6	2.37	0.42
29:X:1299:A:C6	29:X:1342:U:C2	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1355:A:C4	29:X:1410:U:H1'	2.54	0.42
29:X:1486:A:C6	29:X:1538:A:C2	3.07	0.42
29:X:1427:G:H21	29:X:1604:A:H62	1.67	0.42
29:X:159:A:H2'	29:X:160:C:C6	2.55	0.42
29:X:1783:G:H1	29:X:1820:G:H1'	1.81	0.42
29:X:1918:G:N2	29:X:1947:G:N9	2.68	0.42
13:H:43:ARG:CZ	29:X:1979:C:OP2	2.68	0.42
29:X:2040:A:C2'	29:X:2041:A:C8	2.90	0.42
29:X:2046:C:C3'	29:X:2047:C:H5'	2.50	0.42
29:X:2184:C:H2'	29:X:2185:U:C6	2.55	0.42
29:X:2261:G:H4'	29:X:2262:C:OP2	2.19	0.42
29:X:2444:C:O2'	29:X:2445:C:H5'	2.19	0.42
29:X:2603:G:C2	29:X:2604:G:C8	3.08	0.42
29:X:2811:G:C6	29:X:2812:A:C6	3.07	0.42
29:X:2824:C:O2'	29:X:2825:A:P	2.77	0.42
29:X:353:G:O2'	29:X:354:C:H5'	2.18	0.42
29:X:396:U:O4	29:X:398:C:H2'	2.20	0.42
29:X:478:G:N1	29:X:479:G:C5	2.88	0.42
29:X:584:A:OP2	29:X:2038:C:H5	2.02	0.42
29:X:600:G:H3'	29:X:601:A:H5''	2.01	0.42
29:X:755:C:O2'	29:X:756:C:H5'	2.18	0.42
29:X:704:G:C2	29:X:785:U:C2	3.08	0.42
29:X:934:G:H2'	29:X:935:C:O4'	2.18	0.42
4:4:22:ARG:HG2	4:4:22:ARG:NH1	2.34	0.42
6:A:60:ARG:HD3	6:A:87:ASN:CG	2.40	0.42
6:A:96:HIS:HE1	6:A:100:GLY:O	2.03	0.42
7:B:116:VAL:O	7:B:122:PHE:HB2	2.20	0.42
7:B:144:ARG:O	7:B:145:LYS:C	2.58	0.42
8:C:153:ASP:HA	8:C:158:ARG:NH2	2.33	0.42
8:C:98:GLN:HE22	29:X:611:C:H4'	1.82	0.42
9:D:33:LYS:O	9:D:157:VAL:HG23	2.20	0.42
10:E:99:THR:HB	10:E:102:ALA:HB3	2.01	0.42
12:G:84:ASN:O	12:G:85:ALA:HB3	2.19	0.42
13:H:23:ARG:NH2	13:H:25:LEU:HA	2.34	0.42
14:I:61:PRO:HB3	29:X:2372:A:C5'	2.46	0.42
14:I:71:THR:O	14:I:104:ARG:HD3	2.20	0.42
15:J:11:ARG:HG3	15:J:11:ARG:NH1	2.35	0.42
16:K:48:VAL:HG13	16:K:49:GLU:H	1.81	0.42
17:L:43:ILE:HG22	17:L:44:ASP:N	2.34	0.42
18:M:87:LEU:HD23	18:M:87:LEU:HA	1.89	0.42
20:O:10:LYS:HE3	20:O:11:GLN:HE21	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:27:GLY:C	20:O:28:GLU:CG	2.88	0.42
23:R:25:LEU:O	23:R:26:SER:O	2.38	0.42
23:R:66:GLN:O	23:R:66:GLN:HG2	2.19	0.42
25:T:30:VAL:HA	25:T:66:LYS:HA	2.02	0.42
25:T:52:GLY:HA3	25:T:60:PHE:CZ	2.54	0.42
26:U:49:LYS:HB3	26:U:61:TRP:CD2	2.55	0.42
27:V:17:GLU:O	27:V:21:ARG:HD3	2.20	0.42
29:X:107:G:N2	29:X:108:G:H1'	2.34	0.42
29:X:55:A:C2	29:X:113:C:C2	3.07	0.42
29:X:1506:C:H2'	29:X:1507:A:H5'	2.01	0.42
6:A:102:LYS:HE3	29:X:1516:A:O2'	2.18	0.42
29:X:1550:C:H2'	29:X:1553:G:H21	1.71	0.42
29:X:1567:A:C6	29:X:1568:A:C5	3.08	0.42
29:X:1621:C:O4'	29:X:1626:A:C6	2.73	0.42
29:X:1777:A:O2'	29:X:1778:U:P	2.78	0.42
29:X:1815:G:C4	29:X:1816:G:C8	3.07	0.42
29:X:2000:U:O2'	30:Y:9:LYS:HA	2.20	0.42
29:X:2210:C:C2	29:X:2211:U:C5	3.08	0.42
29:X:2333:A:N1	29:X:2343:C:C4	2.88	0.42
29:X:236:C:H2'	29:X:237:G:C8	2.46	0.42
29:X:2419:C:N4	29:X:2420:C:C2	2.88	0.42
23:R:27:GLY:H	29:X:321:A:P	2.43	0.42
29:X:349:G:C2	29:X:350:U:C2	3.08	0.42
29:X:559:C:O2	29:X:560:G:H1'	2.19	0.42
29:X:541:C:C4	29:X:572:G:C8	3.08	0.42
29:X:580:A:C5	29:X:2013:A:C6	3.07	0.42
28:W:18:LYS:HB2	29:X:863:C:H4'	2.01	0.42
29:X:887:G:O2'	29:X:888:G:H5'	2.20	0.42
31:Z:8:C:O2'	31:Z:9:G:H5'	2.19	0.42
4:4:15:LYS:HB2	4:4:26:ILE:CG1	2.49	0.42
8:C:103:GLY:O	8:C:104:LEU:C	2.58	0.42
8:C:3:GLN:CG	8:C:116:LYS:HD2	2.50	0.42
8:C:73:SER:O	8:C:74:VAL:CG1	2.68	0.42
9:D:56:GLU:O	9:D:60:ILE:HG23	2.19	0.42
10:E:10:ALA:O	10:E:76:VAL:HG11	2.20	0.42
12:G:154:GLU:H	12:G:157:PRO:HD2	1.83	0.42
12:G:168:THR:O	12:G:169:GLN:O	2.38	0.42
13:H:41:ASN:O	13:H:42:LYS:O	2.37	0.42
15:J:43:ILE:C	15:J:95:VAL:HG13	2.39	0.42
15:J:99:LYS:O	15:J:100:PRO:O	2.37	0.42
19:N:14:HIS:HD2	19:N:32:TYR:CE1	2.37	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:95:ARG:NH1	23:R:106:VAL:HA	2.35	0.42
24:S:105:GLN:HG3	24:S:139:THR:HG23	2.00	0.42
24:S:19:ILE:HB	24:S:34:LEU:HD11	2.00	0.42
28:W:46:THR:HG22	28:W:47:VAL:HG13	2.02	0.42
29:X:1059:A:N3	29:X:1059:A:H2'	2.35	0.42
29:X:1108:U:C2	29:X:1109:A:H1'	2.54	0.42
7:B:147:PRO:HG3	29:X:1141:U:N1	2.34	0.42
29:X:1512:A:H2'	29:X:1514:C:C5	2.55	0.42
29:X:1573:G:C5'	29:X:1574:A:H5''	2.48	0.42
29:X:1639:U:O2'	29:X:1640:C:H5'	2.20	0.42
29:X:1845:A:C2	29:X:1846:A:C4	3.07	0.42
29:X:1949:A:H1'	29:X:2572:U:H4'	2.02	0.42
29:X:1281:A:C6	29:X:1996:A:C8	3.08	0.42
29:X:2036:G:C6	29:X:2037:A:C5	3.07	0.42
29:X:2039:G:C2	29:X:2040:A:C8	3.07	0.42
29:X:2048:C:H1'	29:X:2428:U:N3	2.35	0.42
29:X:312:G:C6	29:X:328:A:C5	3.07	0.42
23:R:9:HIS:CG	29:X:338:G:H4'	2.52	0.42
29:X:309:G:N1	29:X:350:U:C5	2.88	0.42
29:X:409:G:C2'	29:X:410:A:H5'	2.49	0.42
29:X:416:U:H4'	29:X:419:G:C1'	2.49	0.42
29:X:54:G:H2'	29:X:55:A:H8	1.85	0.42
29:X:571:U:O2'	29:X:581:A:H1'	2.20	0.42
29:X:589:C:C4	29:X:590:C:N4	2.87	0.42
29:X:594:G:C6	29:X:1264:C:N3	2.88	0.42
29:X:818:G:H21	29:X:844:G:H1'	1.83	0.42
29:X:861:G:N1	29:X:943:U:O2	2.52	0.42
29:X:970:A:N3	29:X:2436:U:O2'	2.50	0.42
31:Z:104:A:C5	31:Z:105:G:C8	3.07	0.42
4:4:35:ARG:HG2	4:4:37:GLY:O	2.20	0.42
6:A:121:PRO:HB2	6:A:135:PHE:HE1	1.85	0.42
7:B:13:GLN:O	7:B:14:ILE:HG13	2.20	0.42
7:B:146:THR:O	7:B:148:GLY:N	2.52	0.42
7:B:147:PRO:C	7:B:149:ARG:N	2.70	0.42
7:B:165:VAL:HG21	29:X:2658:A:C5'	2.50	0.42
9:D:40:LEU:HA	9:D:150:ARG:CZ	2.50	0.42
10:E:136:ILE:N	10:E:136:ILE:CD1	2.82	0.42
10:E:26:VAL:HG12	10:E:27:LYS:N	2.35	0.42
12:G:115:ALA:O	12:G:118:ALA:CB	2.68	0.42
12:G:141:GLY:O	12:G:144:MET:HB2	2.20	0.42
13:H:10:VAL:HG12	13:H:12:ASP:OD1	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:51:ILE:HG13	13:H:51:ILE:O	2.19	0.42
13:H:6:SER:HA	29:X:1684:G:OP1	2.20	0.42
15:J:135:ARG:HB3	15:J:136:GLU:H	1.72	0.42
17:L:14:ARG:O	17:L:17:VAL:HG12	2.20	0.42
21:P:40:LEU:HD23	21:P:40:LEU:HA	1.83	0.42
22:Q:20:MET:HG3	22:Q:25:TYR:CE1	2.55	0.42
22:Q:19:ALA:C	22:Q:22:ARG:HG2	2.40	0.42
22:Q:61:LYS:HD2	22:Q:72:ARG:CZ	2.49	0.42
24:S:54:ILE:CD1	24:S:64:ALA:HB3	2.50	0.42
25:T:44:LYS:HE3	25:T:45:PHE:HE1	1.84	0.42
26:U:18:VAL:CG2	29:X:393:U:O2'	2.68	0.42
26:U:52:ARG:HE	26:U:79:GLU:CB	2.32	0.42
27:V:39:GLN:N	27:V:40:PRO:HD3	2.35	0.42
27:V:14:PHE:HD2	27:V:57:LYS:HB2	1.83	0.42
29:X:1014:G:H2'	29:X:1015:U:H6	1.84	0.42
29:X:1055:A:C8	29:X:1055:A:C3'	2.79	0.42
20:O:80:TYR:CE2	29:X:1201:G:H5''	2.55	0.42
29:X:1272:G:O2'	29:X:1273:G:H5'	2.20	0.42
29:X:1312:G:C5'	29:X:1313:U:OP1	2.63	0.42
29:X:1505:U:C6	29:X:1505:U:H3'	2.54	0.42
29:X:1554:G:H2'	29:X:1555:A:H8	1.83	0.42
29:X:1597:A:C2	29:X:1598:C:N3	2.88	0.42
29:X:176:A:C2'	29:X:177:U:C5	3.03	0.42
6:A:157:ARG:HG2	29:X:1810:U:H3'	2.00	0.42
29:X:2068:C:O2'	29:X:2069:U:H5'	2.20	0.42
29:X:2664:G:C2	29:X:2665:G:C8	3.08	0.42
29:X:2702:G:H2'	29:X:2703:C:C6	2.55	0.42
29:X:2803:C:H2'	29:X:2804:G:H8	1.85	0.42
23:R:10:HIS:CD2	29:X:347:C:O2'	2.73	0.42
29:X:527:C:O2'	29:X:528:G:H5'	2.20	0.42
29:X:575:U:C5	29:X:576:A:N7	2.88	0.42
29:X:685:U:OP1	29:X:814:G:N2	2.53	0.42
29:X:71:A:O2'	29:X:72:A:OP1	2.32	0.42
29:X:59:G:H21	29:X:73:A:H2'	1.85	0.42
29:X:853:C:O2	29:X:950:G:C2	2.73	0.42
7:B:134:TRP:NE1	29:X:1675:C:OP1	2.53	0.41
7:B:55:ALA:CB	7:B:58:LYS:HE3	2.49	0.41
9:D:49:ALA:C	9:D:51:ASP:N	2.73	0.41
12:G:105:GLY:N	12:G:110:LEU:HD12	2.35	0.41
12:G:60:SER:C	12:G:62:ILE:N	2.72	0.41
13:H:27:SER:HB3	13:H:50:ILE:HG13	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:84:ALA:C	13:H:86:GLY:N	2.71	0.41
15:J:107:VAL:HG21	15:J:115:ALA:CB	2.49	0.41
15:J:19:THR:HB	31:Z:93:G:OP1	2.20	0.41
17:L:21:THR:HG22	17:L:22:ALA:N	2.34	0.41
17:L:91:ARG:HE	17:L:91:ARG:HB3	1.51	0.41
18:M:95:GLU:O	18:M:96:ARG:O	2.38	0.41
21:P:107:ILE:HG23	21:P:107:ILE:O	2.18	0.41
22:Q:42:ILE:HG23	22:Q:43:GLN:N	2.34	0.41
25:T:31:VAL:HG22	25:T:67:VAL:N	2.35	0.41
26:U:47:HIS:CE1	29:X:409:G:O3'	2.73	0.41
29:X:1035:G:H3'	29:X:1036:G:H3'	2.02	0.41
29:X:1072:U:HO2'	29:X:1073:G:P	2.43	0.41
29:X:110:U:H5'	29:X:110:U:H6	1.84	0.41
29:X:1251:G:N2	29:X:1252:C:C2	2.88	0.41
29:X:141:G:C6	29:X:142:U:C4	3.08	0.41
29:X:1665:C:C2	29:X:1666:G:C8	3.08	0.41
29:X:1668:G:O2'	29:X:1669:A:H5'	2.20	0.41
29:X:1738:U:H2'	29:X:1739:G:C8	2.55	0.41
29:X:1994:U:H2'	29:X:1995:G:H5'	2.01	0.41
29:X:1282:A:N6	29:X:1995:G:C2	2.88	0.41
29:X:2082:C:H2'	29:X:2083:G:H5'	2.01	0.41
29:X:214:C:C2	29:X:215:G:C8	3.08	0.41
29:X:2238:G:C6	29:X:2239:C:C4	3.08	0.41
29:X:871:U:N3	29:X:2247:A:C6	2.88	0.41
25:T:20:TYR:CE1	29:X:2250:G:H5'	2.55	0.41
29:X:2539:C:C4	29:X:2540:A:N7	2.88	0.41
29:X:2710:C:H2'	29:X:2711:G:O4'	2.20	0.41
29:X:2804:G:C2	29:X:2805:G:C4	3.07	0.41
29:X:403:A:OP2	29:X:403:A:H3'	2.20	0.41
29:X:421:G:N2	29:X:433:G:H1'	2.35	0.41
29:X:490:A:O2'	29:X:491:A:H5'	2.20	0.41
29:X:494:A:H3'	29:X:495:C:H6	1.85	0.41
29:X:19:C:H5'	29:X:563:U:OP1	2.19	0.41
29:X:652:C:H42	29:X:657:A:N6	2.18	0.41
29:X:696:U:N3	29:X:697:G:N7	2.68	0.41
29:X:708:G:C4	29:X:709:A:C8	3.07	0.41
29:X:739:G:O2'	29:X:740:A:O5'	2.38	0.41
29:X:745:C:H2'	29:X:746:G:O4'	2.20	0.41
29:X:990:A:H2'	29:X:991:A:OP1	2.20	0.41
31:Z:56:G:O2'	31:Z:57:U:H5'	2.19	0.41
31:Z:98:C:H6	31:Z:98:C:O5'	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:148:VAL:HA	6:A:149:PRO:HD3	1.88	0.41
6:A:86:PRO:C	6:A:88:ARG:H	2.24	0.41
8:C:108:ILE:HD12	8:C:180:ILE:HD12	2.01	0.41
8:C:30:VAL:HG12	8:C:31:VAL:N	2.35	0.41
8:C:33:TRP:HB2	8:C:93:TYR:OH	2.19	0.41
10:E:124:ALA:HB3	10:E:132:ASP:CG	2.40	0.41
12:G:170:PRO:HB2	12:G:171:LEU:H	1.61	0.41
13:H:133:VAL:O	13:H:134:LEU:O	2.38	0.41
15:J:125:LYS:HB2	29:X:2463:G:HO2'	1.85	0.41
15:J:128:ILE:HD13	15:J:130:THR:CG2	2.49	0.41
15:J:11:ARG:HB3	15:J:12:LYS:H	1.62	0.41
15:J:79:PRO:CG	15:J:88:LYS:HB3	2.50	0.41
15:J:80:ALA:O	15:J:81:GLU:OE1	2.38	0.41
18:M:10:GLY:O	18:M:11:GLU:C	2.58	0.41
18:M:33:VAL:HG23	18:M:94:VAL:HG21	2.01	0.41
18:M:60:SER:HA	18:M:64:LYS:CB	2.50	0.41
19:N:101:ARG:O	19:N:103:PRO:HD3	2.20	0.41
21:P:91:PHE:HD1	21:P:129:ALA:O	2.03	0.41
23:R:45:LYS:HA	23:R:76:LEU:O	2.20	0.41
23:R:84:VAL:CA	23:R:90:LYS:HE2	2.50	0.41
25:T:3:HIS:ND1	25:T:3:HIS:N	2.68	0.41
26:U:15:VAL:HG23	26:U:16:ASN:N	2.34	0.41
27:V:41:HIS:ND1	29:X:95:G:H4'	2.35	0.41
29:X:1048:U:H6	29:X:1048:U:O5'	2.02	0.41
29:X:1164:C:H3'	29:X:1165:G:H8	1.85	0.41
29:X:1256:C:H6	29:X:1256:C:O5'	2.03	0.41
29:X:1322:G:O2'	29:X:1323:G:H5'	2.21	0.41
29:X:1324:G:HO2'	29:X:1325:U:C5'	2.32	0.41
29:X:1329:U:H2'	29:X:1330:G:H8	1.86	0.41
29:X:1336:G:H2'	29:X:1337:G:H5'	2.03	0.41
29:X:1394:G:O2'	29:X:1395:A:H5'	2.20	0.41
29:X:1419:G:O2'	29:X:1420:A:H5'	2.20	0.41
29:X:1454:U:C2	29:X:1455:C:C5	3.08	0.41
29:X:1542:G:N2	29:X:1562:G:C2	2.88	0.41
29:X:1625:A:C2	29:X:1632:A:C8	3.08	0.41
29:X:168:A:C2	29:X:169:C:N3	2.88	0.41
29:X:1746:A:H2'	29:X:1747:G:O5'	2.20	0.41
29:X:2020:G:C2	29:X:2021:G:C4	3.08	0.41
29:X:2039:G:C5	29:X:2556:A:C4	3.08	0.41
29:X:203:G:C2	29:X:204:A:C2	3.08	0.41
29:X:221:A:C2	29:X:397:U:C2	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2241:U:C6	29:X:2258:G:N2	2.88	0.41
29:X:2323:U:O2'	29:X:2324:G:H5'	2.20	0.41
29:X:2411:A:H2'	29:X:2412:A:H8	1.82	0.41
29:X:971:A:H2	29:X:2475:C:C1'	2.33	0.41
29:X:2426:G:C5	29:X:2480:C:C5	3.08	0.41
29:X:2725:C:H2'	29:X:2726:U:H6	1.86	0.41
29:X:2807:U:O2'	29:X:2808:U:C5'	2.68	0.41
29:X:2824:C:H2'	29:X:2824:C:O2	2.20	0.41
29:X:2839:G:C2	29:X:2840:U:C2	3.08	0.41
29:X:2844:G:H8	29:X:2844:G:O5'	2.03	0.41
29:X:394:U:H2'	29:X:395:G:C8	2.54	0.41
29:X:596:C:C6	29:X:684:C:H1'	2.55	0.41
29:X:758:G:C2	29:X:766:A:N1	2.88	0.41
29:X:848:A:N6	29:X:849:G:C6	2.88	0.41
29:X:852:U:H2'	29:X:853:C:C6	2.55	0.41
29:X:865:A:N1	29:X:937:C:N3	2.68	0.41
29:X:939:C:C5'	29:X:940:G:O5'	2.62	0.41
30:Y:19:ARG:HB2	30:Y:19:ARG:HH11	1.86	0.41
4:4:10:MET:SD	4:4:32:HIS:CD2	3.14	0.41
6:A:165:VAL:HG13	6:A:173:VAL:CG1	2.50	0.41
6:A:68:LYS:O	6:A:70:ARG:HG3	2.20	0.41
7:B:120:TRP:CE3	7:B:155:ARG:HD2	2.55	0.41
7:B:188:ILE:HA	7:B:189:PRO:HD3	1.68	0.41
7:B:32:PRO:O	7:B:50:GLY:N	2.51	0.41
7:B:51:TYR:O	7:B:52:ALA:C	2.59	0.41
8:C:144:GLY:HA2	8:C:166:TRP:CD1	2.54	0.41
8:C:111:ARG:NH1	8:C:180:ILE:O	2.53	0.41
8:C:20:PRO:O	8:C:21:GLU:HG3	2.19	0.41
8:C:54:THR:HG21	8:C:71:ASP:HB3	2.02	0.41
9:D:70:ALA:N	9:D:85:VAL:HG22	2.36	0.41
10:E:157:TYR:CE2	29:X:2510:A:H4'	2.55	0.41
10:E:24:PHE:HB2	10:E:35:VAL:O	2.20	0.41
13:H:133:VAL:O	13:H:134:LEU:C	2.57	0.41
13:H:64:VAL:O	13:H:65:LYS:HD2	2.20	0.41
14:I:105:PRO:C	14:I:106:VAL:HG23	2.40	0.41
14:I:77:LEU:HB2	14:I:111:SER:H	1.83	0.41
14:I:117:ALA:CB	14:I:137:GLY:HA3	2.50	0.41
14:I:42:GLY:O	14:I:43:ALA:HB2	2.19	0.41
15:J:17:ARG:HB2	29:X:969:U:C5	2.55	0.41
15:J:80:ALA:O	15:J:81:GLU:CB	2.66	0.41
17:L:104:ALA:O	17:L:105:ASP:C	2.59	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:15:ARG:HH21	29:X:2272:A:H5'	1.84	0.41
17:L:87:VAL:O	17:L:88:VAL:CG2	2.68	0.41
22:Q:35:LYS:HB3	29:X:1614:C:H5''	2.02	0.41
25:T:3:HIS:CG	25:T:4:LYS:N	2.88	0.41
25:T:71:ASN:ND2	25:T:77:ARG:HH11	2.18	0.41
28:W:22:ALA:HB3	28:W:43:MET:HE3	2.02	0.41
29:X:1031:C:O2'	29:X:1032:A:P	2.79	0.41
29:X:1153:A:H1'	29:X:1155:G:C8	2.55	0.41
29:X:1260:A:C6	29:X:1262:U:C2	3.09	0.41
29:X:1350:G:C4	29:X:1351:G:C8	3.08	0.41
29:X:1482:U:C2'	29:X:1483:G:H8	2.28	0.41
29:X:1537:U:H2'	29:X:1538:A:O4'	2.20	0.41
29:X:1554:G:O2'	29:X:1555:A:H5'	2.20	0.41
29:X:46:C:N3	29:X:156:G:C2	2.89	0.41
29:X:1610:A:H2'	29:X:1611:U:H6	1.82	0.41
29:X:1621:C:O2'	29:X:1626:A:N7	2.49	0.41
29:X:165:G:HO2'	29:X:1378:A:N6	2.19	0.41
29:X:1728:A:N1	29:X:1739:G:C6	2.88	0.41
29:X:1789:U:O2'	29:X:1793:A:H1'	2.21	0.41
29:X:1855:G:C2'	29:X:1856:U:H5'	2.50	0.41
29:X:1938:U:H3'	29:X:2530:C:O2'	2.20	0.41
29:X:2007:G:N1	29:X:2023:C:N3	2.68	0.41
29:X:2031:A:N6	29:X:2600:A:C6	2.88	0.41
29:X:208:C:N4	29:X:209:G:H21	2.17	0.41
29:X:20:C:O2'	29:X:21:A:H5'	2.20	0.41
6:A:188:GLU:OE2	29:X:2201:G:OP1	2.38	0.41
29:X:2314:A:H2'	29:X:2316:G:N7	2.35	0.41
29:X:2436:U:O2	29:X:2474:G:N2	2.53	0.41
15:J:120:ARG:NH2	29:X:2447:G:OP1	2.53	0.41
7:B:162:MET:CE	29:X:2796:A:H4'	2.50	0.41
29:X:2796:A:C2'	29:X:2797:G:H8	2.20	0.41
29:X:2791:C:C2	29:X:2806:G:N2	2.88	0.41
29:X:2876:C:H2'	29:X:2877:A:C4	2.55	0.41
29:X:2:G:H2'	29:X:3:U:C5	2.55	0.41
23:R:27:GLY:N	29:X:321:A:OP1	2.54	0.41
29:X:310:A:C4	29:X:333:A:N6	2.88	0.41
29:X:354:C:H2'	29:X:355:G:O4'	2.20	0.41
29:X:481:A:H2'	29:X:481:A:N3	2.35	0.41
29:X:487:G:N2	29:X:489:A:C2'	2.83	0.41
29:X:48:A:P	29:X:50:G:H5'	2.60	0.41
29:X:63:A:H2'	29:X:63:A:N3	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:595:A:H2	29:X:822:G:N3	2.18	0.41
31:Z:23:G:O2'	31:Z:24:U:H5'	2.20	0.41
4:4:15:LYS:HZ3	29:X:2733:A:H1'	1.85	0.41
7:B:142:GLY:C	7:B:143:GLN:HE21	2.21	0.41
7:B:16:LYS:HB2	7:B:21:ILE:HD12	2.01	0.41
7:B:54:LYS:HB2	7:B:75:THR:O	2.19	0.41
8:C:112:GLN:CD	8:C:116:LYS:HD3	2.41	0.41
8:C:46:ARG:O	8:C:47:THR:C	2.58	0.41
10:E:40:GLU:OE2	10:E:61:HIS:CE1	2.73	0.41
11:F:100:ASN:HB3	11:F:103:GLN:NE2	2.34	0.41
12:G:104:THR:OG1	12:G:105:GLY:N	2.53	0.41
12:G:94:LYS:O	12:G:117:GLU:HB2	2.20	0.41
12:G:153:GLY:CA	12:G:157:PRO:HG2	2.50	0.41
13:H:13:ASN:ND2	13:H:109:ARG:CG	2.82	0.41
13:H:79:HIS:CD2	13:H:80:ALA:N	2.88	0.41
14:I:58:ALA:O	14:I:59:ARG:CB	2.65	0.41
15:J:15:ARG:CB	15:J:73:LYS:HZ2	2.33	0.41
17:L:97:HIS:O	17:L:101:LYS:HB2	2.20	0.41
17:L:10:LYS:O	17:L:13:THR:OG1	2.25	0.41
7:B:176:ARG:NH2	18:M:19:ASP:OD2	2.53	0.41
19:N:31:GLN:O	19:N:32:TYR:C	2.57	0.41
14:I:32:ARG:CZ	20:O:79:GLN:HA	2.49	0.41
21:P:91:PHE:CG	21:P:91:PHE:O	2.74	0.41
22:Q:8:GLN:O	27:V:29:ARG:NH1	2.52	0.41
23:R:11:ASN:O	23:R:12:ASP:C	2.59	0.41
24:S:149:ALA:C	24:S:151:ASP:N	2.73	0.41
24:S:77:ALA:HA	24:S:78:PRO:HD3	1.87	0.41
26:U:15:VAL:O	26:U:16:ASN:O	2.38	0.41
26:U:51:ILE:HA	26:U:59:THR:O	2.21	0.41
27:V:52:GLN:O	27:V:54:ASN:N	2.52	0.41
28:W:18:LYS:O	28:W:22:ALA:N	2.45	0.41
29:X:1056:U:C2'	29:X:1057:A:OP2	2.69	0.41
29:X:1159:U:O2'	29:X:1160:C:H5'	2.20	0.41
29:X:11:G:O5'	29:X:11:G:H8	2.03	0.41
29:X:148:C:H3'	29:X:149:A:H8	1.84	0.41
29:X:1557:G:N2	29:X:1558:C:H1'	2.36	0.41
29:X:1621:C:C4'	29:X:1626:A:N6	2.83	0.41
29:X:168:A:H2'	29:X:169:C:C6	2.55	0.41
29:X:168:A:H2'	29:X:169:C:H6	1.84	0.41
6:A:88:ARG:NH1	29:X:1810:U:OP2	2.53	0.41
29:X:190:A:H2'	29:X:191:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2053:G:O2'	29:X:2054:A:H5'	2.20	0.41
29:X:2064:U:O5'	29:X:2064:U:H6	2.04	0.41
29:X:227:G:C6	29:X:228:A:C6	3.09	0.41
29:X:2333:A:H61	29:X:2343:C:N4	2.18	0.41
29:X:2262:C:C5	29:X:2368:G:C4	3.08	0.41
29:X:2238:G:C8	29:X:2406:C:C5	3.08	0.41
4:4:4:ARG:NH1	29:X:2456:U:H3	2.15	0.41
29:X:247:A:H2'	29:X:248:A:C8	2.56	0.41
29:X:2674:C:O2'	29:X:2675:U:C5'	2.68	0.41
29:X:2750:G:C8	29:X:2751:C:C5	3.08	0.41
29:X:304:A:H62	29:X:356:A:N6	2.17	0.41
29:X:467:U:H2'	29:X:467:U:O2	2.20	0.41
29:X:501:G:C5	29:X:502:A:N7	2.88	0.41
29:X:688:A:C6	29:X:689:A:N6	2.88	0.41
29:X:758:G:H3'	29:X:759:C:H5''	2.02	0.41
15:J:12:LYS:HE3	29:X:923:A:C6	2.56	0.41
29:X:956:A:N9	29:X:2427:A:H2	2.17	0.41
29:X:962:C:H2'	29:X:963:G:H5'	2.02	0.41
31:Z:105:G:O2'	31:Z:106:U:H5'	2.20	0.41
4:4:22:ARG:HD2	4:4:37:GLY:HA3	2.03	0.41
6:A:206:LEU:HD22	6:A:211:ARG:HH12	1.85	0.41
9:D:19:GLN:HB3	9:D:20:PHE:CD1	2.55	0.41
9:D:4:LEU:O	9:D:5:LYS:HB3	2.20	0.41
10:E:18:ASN:C	10:E:20:GLN:H	2.22	0.41
10:E:54:ARG:CZ	10:E:57:ASP:OD2	2.68	0.41
12:G:100:TYR:HB2	12:G:116:ARG:HH11	1.82	0.41
12:G:56:THR:N	12:G:134:MET:CE	2.83	0.41
13:H:109:ARG:HG3	13:H:111:PHE:HE1	1.85	0.41
13:H:127:VAL:O	13:H:130:ALA:HB3	2.20	0.41
14:I:92:THR:O	14:I:94:GLU:N	2.54	0.41
15:J:125:LYS:CD	15:J:125:LYS:N	2.83	0.41
18:M:55:ILE:HB	18:M:103:LYS:O	2.20	0.41
19:N:3:ARG:CD	29:X:457:C:O3'	2.68	0.41
19:N:3:ARG:NH1	19:N:3:ARG:CG	2.82	0.41
20:O:26:GLN:CG	20:O:27:GLY:N	2.46	0.41
21:P:11:LYS:O	21:P:12:LYS:C	2.59	0.41
22:Q:30:SER:HB2	22:Q:33:ALA:HB2	2.01	0.41
23:R:84:VAL:HA	23:R:90:LYS:HE2	2.01	0.41
24:S:99:HIS:HB3	24:S:100:THR:H	1.66	0.41
24:S:10:PRO:HB2	24:S:14:LEU:CD2	2.51	0.41
29:X:1032:A:N6	29:X:1151:U:C2	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1127:C:C2'	29:X:1128:G:O5'	2.68	0.41
29:X:1200:G:C6	29:X:1201:G:C4	3.09	0.41
29:X:1255:A:H2'	29:X:1256:C:H6	1.80	0.41
29:X:1278:A:O2'	29:X:1279:G:H4'	2.21	0.41
29:X:1555:A:H2'	29:X:1556:A:C8	2.56	0.41
29:X:1793:A:OP2	29:X:1806:G:N1	2.53	0.41
29:X:1782:A:N1	29:X:1821:A:H5'	2.36	0.41
29:X:199:A:N1	29:X:201:G:C2	2.89	0.41
7:B:148:GLY:O	29:X:2036:G:O4'	2.39	0.41
29:X:2228:U:O2'	29:X:2254:C:N4	2.54	0.41
29:X:2237:C:O2'	29:X:2238:G:P	2.79	0.41
29:X:2340:C:C2'	29:X:2341:G:H5'	2.49	0.41
29:X:2378:G:H2'	29:X:2379:G:O4'	2.21	0.41
29:X:2505:G:O5'	29:X:2505:G:H8	2.03	0.41
29:X:2521:A:N1	29:X:2546:G:C6	2.88	0.41
29:X:2674:C:C2	29:X:2675:U:H5	2.38	0.41
29:X:2697:G:C2'	29:X:2698:G:H5'	2.51	0.41
29:X:2717:G:H2'	29:X:2718:A:O4'	2.20	0.41
29:X:60:A:C5	29:X:61:U:C5	3.08	0.41
6:A:208:LYS:HB3	29:X:742:G:O6	2.21	0.41
29:X:746:G:N7	29:X:774:A:C5	2.89	0.41
29:X:695:G:N2	29:X:809:C:C2	2.89	0.41
29:X:990:A:H2'	29:X:993:C:N4	2.35	0.41
29:X:994:A:C3'	29:X:994:A:C8	3.04	0.41
30:Y:31:THR:O	30:Y:40:LYS:N	2.46	0.41
30:Y:33:CYS:SG	30:Y:34:PRO:CD	3.09	0.41
30:Y:58:LEU:CD1	30:Y:58:LEU:N	2.82	0.41
31:Z:39:C:N4	31:Z:50:U:O2'	2.54	0.41
6:A:131:LEU:HD23	6:A:131:LEU:N	2.36	0.41
6:A:145:LEU:HD11	6:A:185:VAL:HG11	2.03	0.41
7:B:72:VAL:CG1	7:B:73:ALA:N	2.63	0.41
8:C:151:VAL:CG1	8:C:173:ALA:HA	2.51	0.41
9:D:123:ASP:O	9:D:125:ARG:N	2.54	0.41
9:D:52:LYS:HE3	9:D:148:LYS:CG	2.50	0.41
10:E:33:LEU:HG	10:E:34:THR:H	1.84	0.41
11:F:1:MET:HB2	11:F:2:LYS:CD	2.48	0.41
13:H:41:ASN:ND2	13:H:41:ASN:N	2.55	0.41
13:H:9:ASP:OD2	13:H:9:ASP:N	2.52	0.41
14:I:54:SER:OG	14:I:59:ARG:NH2	2.53	0.41
14:I:59:ARG:HG3	29:X:2371:A:H8	1.85	0.41
14:I:86:THR:N	14:I:116:ARG:NH1	2.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:50:PHE:CE2	18:M:70:LYS:HB3	2.55	0.41
18:M:72:SER:O	18:M:73:PHE:C	2.59	0.41
20:O:58:ALA:HB2	20:O:95:ILE:HA	2.02	0.41
20:O:61:VAL:HB	20:O:92:ALA:HB3	2.03	0.41
21:P:24:GLY:HA3	21:P:128:VAL:HG23	2.02	0.41
21:P:34:SER:O	21:P:37:LYS:HB3	2.19	0.41
21:P:53:ALA:HB1	21:P:72:LEU:HD22	2.02	0.41
22:Q:38:ILE:HG23	22:Q:39:LYS:H	1.85	0.41
23:R:105:ARG:HB3	23:R:106:VAL:H	1.58	0.41
23:R:68:GLY:C	23:R:69:GLN:HG3	2.41	0.41
24:S:5:ALA:O	24:S:6:LYS:HB3	2.20	0.41
26:U:8:THR:HG23	26:U:8:THR:O	2.21	0.41
27:V:26:MET:O	27:V:27:GLU:C	2.58	0.41
29:X:104:C:C3'	29:X:105:G:H5''	2.49	0.41
29:X:1496:G:O2'	29:X:1497:C:O5'	2.35	0.41
29:X:1742:G:C6	29:X:1743:C:N4	2.88	0.41
29:X:701:U:C5'	29:X:1771:A:C2	3.01	0.41
6:A:200:GLU:OE2	29:X:1812:U:C2	2.73	0.41
29:X:1850:G:H2'	29:X:1851:A:H8	1.84	0.41
29:X:1947:G:H2'	29:X:1950:C:OP1	2.20	0.41
29:X:1975:G:O2'	29:X:1976:U:OP2	2.32	0.41
29:X:1998:A:H1'	30:Y:3:LYS:HB2	2.01	0.41
29:X:1801:C:H1'	29:X:2207:G:HO2'	1.84	0.41
29:X:2270:U:O5'	29:X:2270:U:H6	2.02	0.41
29:X:2492:G:N2	29:X:2493:U:C2	2.88	0.41
29:X:2500:C:H4'	29:X:2543:A:O2'	2.21	0.41
29:X:1949:A:HO2'	29:X:2572:U:H5'	1.84	0.41
29:X:2717:G:N2	29:X:2748:C:C2	2.89	0.41
29:X:2806:G:H1'	29:X:2858:A:N3	2.36	0.41
29:X:314:G:C6	29:X:315:G:C6	3.09	0.41
29:X:309:G:H1	29:X:350:U:H5	1.69	0.41
29:X:548:G:C2	29:X:549:G:C8	3.08	0.41
29:X:636:G:H2'	29:X:637:G:H5'	2.03	0.41
29:X:759:C:C3'	29:X:759:C:C6	3.04	0.41
29:X:813:A:H1'	29:X:815:A:OP2	2.20	0.41
29:X:834:A:C5'	29:X:835:U:C6	3.01	0.41
29:X:849:G:C8	29:X:850:C:C5	3.09	0.41
30:Y:52:TYR:O	30:Y:53:ASP:CB	2.68	0.41
31:Z:4:C:H2'	31:Z:5:C:C5'	2.51	0.41
31:Z:68:A:N6	31:Z:110:U:C2	2.88	0.41
6:A:108:PRO:CA	6:A:196:VAL:HA	2.33	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:214:TRP:CE3	6:A:214:TRP:HA	2.55	0.41
6:A:244:ARG:C	6:A:252:LYS:HZ3	2.24	0.41
7:B:136:ARG:CG	7:B:137:ARG:N	2.84	0.41
9:D:70:ALA:C	9:D:72:LYS:N	2.74	0.41
10:E:150:LYS:C	10:E:152:ARG:N	2.74	0.41
10:E:95:ARG:HH22	10:E:97:LYS:HE2	1.84	0.41
12:G:56:THR:O	12:G:57:LEU:C	2.57	0.41
14:I:86:THR:H	14:I:116:ARG:NH1	2.19	0.41
15:J:6:LYS:HB3	15:J:6:LYS:HE2	1.80	0.41
15:J:92:GLU:HG3	15:J:93:TYR:CD2	2.56	0.41
16:K:10:LEU:C	16:K:11:ASN:OD1	2.58	0.41
16:K:63:ARG:NH2	16:K:80:MET:HG2	2.36	0.41
16:K:8:ARG:HB3	16:K:9:LYS:H	1.78	0.41
18:M:104:LEU:CD2	18:M:106:TYR:CZ	3.01	0.41
18:M:29:PRO:O	18:M:30:GLY:O	2.39	0.41
18:M:36:ASP:HB2	18:M:87:LEU:O	2.20	0.41
19:N:14:HIS:CD2	19:N:32:TYR:CD1	3.08	0.41
21:P:80:LEU:O	21:P:84:GLU:CA	2.69	0.41
29:X:1012:A:N6	29:X:1013:G:N3	2.69	0.41
29:X:1033:G:C2'	29:X:1034:U:OP2	2.69	0.41
29:X:1053:G:C6	29:X:1125:G:C6	3.09	0.41
29:X:1090:C:O2'	29:X:1091:C:H5'	2.21	0.41
29:X:1289:A:C2	29:X:1290:A:N7	2.88	0.41
29:X:1419:G:H2'	29:X:1420:A:O4'	2.20	0.41
29:X:1498:G:H2'	29:X:1499:A:C8	2.56	0.41
6:A:100:GLY:CA	29:X:1516:A:C2	3.03	0.41
29:X:1534:A:O2'	29:X:1535:C:H5'	2.20	0.41
29:X:1727:C:O2'	29:X:1728:A:H5'	2.21	0.41
29:X:2028:C:C2'	29:X:2029:G:O5'	2.69	0.41
29:X:1386:A:C5'	29:X:2191:A:H62	2.15	0.41
29:X:2206:C:N4	29:X:2207:G:C6	2.89	0.41
29:X:2225:G:H2'	29:X:2226:A:C8	2.55	0.41
29:X:2249:U:H2'	29:X:2250:G:O4'	2.21	0.41
9:D:125:ARG:NH1	29:X:2294:U:O2	2.53	0.41
29:X:2410:U:O2	29:X:2412:A:C8	2.73	0.41
29:X:2485:U:C2'	29:X:2486:C:O5'	2.69	0.41
29:X:2492:G:C4	29:X:2493:U:C4	3.09	0.41
7:B:203:LYS:HG2	29:X:2713:A:N1	2.36	0.41
29:X:2839:G:C5	29:X:2840:U:C4	3.09	0.41
29:X:586:G:C6	29:X:587:A:C6	3.08	0.41
29:X:756:C:C2'	29:X:757:U:H5'	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:819:C:O2'	29:X:820:U:H5'	2.21	0.41
23:R:17:LYS:NZ	29:X:83:A:N7	2.61	0.41
29:X:931:G:H4'	31:Z:83:C:C4'	2.39	0.41
29:X:982:C:H2'	29:X:983:G:C5'	2.50	0.41
31:Z:80:A:H3'	31:Z:81:C:H6	1.86	0.41
6:A:182:LEU:HB2	6:A:268:ARG:HB2	2.01	0.41
7:B:170:LEU:HA	7:B:170:LEU:HD23	1.70	0.41
7:B:174:GLU:CB	7:B:183:LEU:HD12	2.46	0.41
7:B:36:ARG:HG2	7:B:36:ARG:HH11	1.86	0.41
8:C:101:GLN:C	8:C:103:GLY:H	2.23	0.41
8:C:137:ALA:HB1	8:C:142:LEU:CB	2.47	0.41
8:C:155:GLU:HB3	8:C:156:ASN:H	1.61	0.41
13:H:26:ASN:HB3	13:H:37:GLY:HA2	2.03	0.41
15:J:69:ILE:HG13	15:J:69:ILE:O	2.20	0.41
16:K:106:ASP:O	16:K:108:VAL:N	2.53	0.41
16:K:38:LEU:HA	16:K:111:ALA:HB3	2.03	0.41
17:L:52:ALA:O	17:L:53:ALA:HB3	2.21	0.41
18:M:76:GLY:C	18:M:77:VAL:CG2	2.89	0.41
21:P:107:ILE:HG21	21:P:117:ILE:CD1	2.46	0.41
24:S:105:GLN:OE1	24:S:140:LYS:HA	2.20	0.41
24:S:60:GLU:O	24:S:62:PHE:CD2	2.74	0.41
25:T:50:GLY:O	25:T:62:LEU:HD23	2.20	0.41
26:U:19:ILE:CG2	26:U:41:VAL:O	2.66	0.41
29:X:1153:A:HO2'	29:X:1154:A:P	2.43	0.41
29:X:1401:G:O2'	29:X:1402:G:H5'	2.21	0.41
29:X:1564:U:O5'	29:X:1564:U:H6	2.04	0.41
13:H:5:GLN:HG2	29:X:1685:A:H5''	2.03	0.41
29:X:1835:C:O5'	29:X:1835:C:H6	2.04	0.41
29:X:1949:A:O2'	29:X:2572:U:C5'	2.62	0.41
29:X:1963:G:O2'	29:X:1964:A:OP1	2.33	0.41
29:X:580:A:C6	29:X:2013:A:N1	2.89	0.41
29:X:2216:G:O5'	29:X:2216:G:H8	2.04	0.41
29:X:224:G:HO2'	29:X:399:G:H1	1.69	0.41
29:X:2528:G:N3	29:X:2529:G:N7	2.69	0.41
29:X:2558:C:O2'	29:X:2559:U:O4'	2.38	0.41
29:X:2633:A:O4'	29:X:2633:A:OP1	2.38	0.41
29:X:2627:G:C6	29:X:2652:G:C6	3.09	0.41
16:K:68:GLN:HG2	29:X:2686:C:O2'	2.20	0.41
29:X:2785:A:C8	29:X:2786:G:C8	3.09	0.41
29:X:2811:G:N1	29:X:2812:A:C6	2.88	0.41
29:X:322:A:P	29:X:322:A:H8	2.43	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:339:U:O4	29:X:343:A:C8	2.73	0.41
29:X:404:A:C5	29:X:405:C:C4	3.08	0.41
29:X:516:G:O2'	29:X:517:A:OP2	2.39	0.41
29:X:780:U:C5'	29:X:780:U:H6	2.34	0.41
29:X:870:C:H2'	29:X:871:U:O4'	2.21	0.41
29:X:996:C:O2'	29:X:997:C:H5'	2.20	0.41
31:Z:108:G:C2'	31:Z:109:G:H5'	2.51	0.41
31:Z:42:U:H1'	31:Z:47:A:H62	1.85	0.41
31:Z:68:A:H61	31:Z:110:U:H3'	1.86	0.41
4:4:25:VAL:CG2	4:4:34:GLN:HB2	2.51	0.41
6:A:184:ARG:HH11	6:A:184:ARG:HG2	1.84	0.41
6:A:54:ILE:HG23	6:A:54:ILE:O	2.21	0.41
7:B:120:TRP:NE1	7:B:155:ARG:HB3	2.35	0.41
7:B:39:ALA:HB2	7:B:44:TYR:HA	2.03	0.41
7:B:9:ILE:O	7:B:9:ILE:HG22	2.20	0.41
8:C:188:ILE:HG13	8:C:188:ILE:H	1.55	0.41
8:C:30:VAL:O	8:C:33:TRP:N	2.52	0.41
9:D:74:ILE:HG12	9:D:80:ARG:CA	2.50	0.41
10:E:109:TYR:O	10:E:111:HIS:N	2.54	0.41
10:E:148:VAL:HG12	10:E:162:VAL:HG21	2.03	0.41
14:I:32:ARG:CZ	20:O:81:ARG:CZ	2.98	0.41
14:I:65:PHE:CE2	29:X:643:A:H4'	2.55	0.41
14:I:94:GLU:HG2	14:I:94:GLU:H	1.48	0.41
17:L:15:ARG:NH2	29:X:2272:A:H5'	2.35	0.41
20:O:14:VAL:HG12	20:O:14:VAL:O	2.21	0.41
20:O:69:ILE:CG2	20:O:70:TYR:H	2.34	0.41
23:R:25:LEU:HD22	23:R:26:SER:CB	2.51	0.41
24:S:71:MET:HB2	24:S:77:ALA:O	2.21	0.41
24:S:69:VAL:CG1	24:S:81:VAL:HG22	2.43	0.41
25:T:28:GLY:N	25:T:67:VAL:O	2.38	0.41
26:U:41:VAL:HG21	26:U:43:ARG:HH22	1.86	0.41
26:U:11:LYS:HZ1	26:U:75:TYR:HB2	1.85	0.41
28:W:34:VAL:HG22	28:W:35:SER:H	1.86	0.41
28:W:44:VAL:CG1	28:W:44:VAL:O	2.68	0.41
29:X:1251:G:C2	29:X:1252:C:C2	3.09	0.41
29:X:1556:A:H2'	29:X:1557:G:C8	2.53	0.41
29:X:1326:U:C2'	29:X:1626:A:C2	3.02	0.41
29:X:1629:G:H2'	29:X:1633:C:H42	1.85	0.41
29:X:167:A:C8	29:X:184:A:C6	3.08	0.41
29:X:1758:C:C2	29:X:1969:G:C2	3.09	0.41
29:X:2036:G:O2'	29:X:2037:A:H5'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2263:C:O2'	29:X:2264:C:H5'	2.21	0.41
29:X:2282:G:C2	29:X:2283:G:C4	3.08	0.41
29:X:2289:A:H3'	29:X:2290:A:H8	1.85	0.41
29:X:2501:U:O2'	29:X:2626:U:H5''	2.20	0.41
29:X:2824:C:O2	29:X:2824:C:C2'	2.69	0.41
29:X:462:G:O6	29:X:465:C:OP1	2.39	0.41
29:X:623:G:C2	29:X:624:A:C1'	3.04	0.41
29:X:623:G:C2'	29:X:624:A:H5''	2.50	0.41
29:X:696:U:C2	29:X:697:G:C8	3.09	0.41
29:X:749:C:C6	29:X:749:C:H3'	2.56	0.41
29:X:787:A:H5'	29:X:791:G:C4'	2.50	0.41
29:X:835:U:C2'	29:X:835:U:O2	2.69	0.41
6:A:261:ARG:HG3	6:A:263:ARG:H	1.85	0.41
6:A:86:PRO:O	6:A:88:ARG:N	2.54	0.41
7:B:16:LYS:O	7:B:17:ASN:CB	2.68	0.41
9:D:7:LYS:HB3	9:D:11:GLN:OE1	2.20	0.41
9:D:37:ASN:HD22	9:D:38:GLU:H	1.69	0.41
10:E:148:VAL:O	10:E:150:LYS:N	2.54	0.41
10:E:171:LEU:N	10:E:171:LEU:CD1	2.84	0.41
11:F:55:VAL:HG13	11:F:68:ILE:C	2.41	0.41
11:F:7:ILE:CG2	11:F:8:VAL:N	2.82	0.41
12:G:90:LEU:CD1	12:G:90:LEU:N	2.83	0.41
13:H:134:LEU:HD23	13:H:134:LEU:HA	1.82	0.41
13:H:23:ARG:HH22	13:H:25:LEU:CB	2.33	0.41
14:I:114:ILE:O	14:I:115:SER:HB3	2.20	0.41
17:L:11:LEU:HA	17:L:14:ARG:CD	2.49	0.41
17:L:26:ARG:HB3	17:L:88:VAL:HG23	2.02	0.41
18:M:34:ARG:NH1	18:M:66:PHE:CE2	2.89	0.41
18:M:34:ARG:HH11	18:M:81:PHE:HB3	1.80	0.41
19:N:91:ASN:HD22	20:O:11:GLN:NE2	2.16	0.41
20:O:12:TYR:CD2	20:O:40:VAL:HG23	2.56	0.41
22:Q:10:PRO:HD3	27:V:30:PHE:CD1	2.55	0.41
24:S:64:ALA:HA	24:S:86:VAL:H	1.85	0.41
25:T:72:LYS:HD3	31:Z:14:C:O5'	2.21	0.41
27:V:27:GLU:O	27:V:30:PHE:HB2	2.20	0.41
28:W:26:ARG:HH11	28:W:26:ARG:HG3	1.85	0.41
29:X:1038:U:H2'	29:X:1039:A:H8	1.85	0.41
29:X:455:A:H1'	29:X:1215:A:O4'	2.21	0.41
29:X:140:G:H2'	29:X:141:G:H8	1.85	0.41
29:X:147:G:O2'	29:X:149:A:N6	2.48	0.41
29:X:1603:A:C6	29:X:1604:A:C6	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1816:G:H2'	29:X:1817:U:C6	2.55	0.41
29:X:1953:A:H1'	29:X:1955:G:C8	2.55	0.41
29:X:2170:C:C3'	29:X:2171:U:C5'	2.92	0.41
29:X:2204:A:O2'	29:X:2205:C:OP2	2.30	0.41
29:X:219:G:C2'	29:X:220:U:OP2	2.69	0.41
29:X:2228:U:C1'	29:X:2254:C:H41	2.30	0.41
29:X:2037:A:C2	29:X:2595:C:C4	3.09	0.41
29:X:2696:A:O2'	29:X:2697:G:H5'	2.20	0.41
29:X:2784:A:C6	29:X:2866:A:C8	3.09	0.41
29:X:2876:C:O2	29:X:2877:A:C6	2.74	0.41
29:X:32:C:H2'	29:X:33:C:C6	2.56	0.41
29:X:517:A:H1'	29:X:519:C:N3	2.35	0.41
29:X:13:A:N1	29:X:535:U:C2	2.89	0.41
14:I:45:LYS:CA	29:X:683:A:H5''	2.42	0.41
29:X:688:A:H2'	29:X:689:A:N3	2.35	0.41
29:X:730:C:H4'	29:X:731:A:OP1	2.21	0.41
21:P:110:ALA:CB	29:X:761:G:P	3.09	0.41
29:X:761:G:C8	29:X:763:A:N7	2.89	0.41
29:X:77:C:C2	29:X:78:C:C5	3.09	0.41
29:X:828:C:H2'	29:X:829:C:H6	1.85	0.41
29:X:849:G:C5	29:X:850:C:C5	3.09	0.41
31:Z:3:A:H2'	31:Z:4:C:H5'	2.02	0.41
15:J:19:THR:CB	31:Z:93:G:H5'	2.47	0.41
3:3:11:LYS:CA	14:I:62:LYS:HE2	2.51	0.41
6:A:132:PRO:HG3	6:A:134:ARG:HE	1.86	0.41
6:A:147:LEU:HD11	6:A:155:LEU:HD21	2.03	0.41
6:A:243:GLY:C	6:A:244:ARG:CD	2.87	0.41
7:B:49:ILE:O	7:B:78:LEU:HA	2.20	0.41
7:B:92:ASN:O	7:B:93:VAL:C	2.59	0.41
7:B:93:VAL:C	7:B:95:ILE:N	2.74	0.41
8:C:3:GLN:HG2	8:C:116:LYS:HD2	2.03	0.41
8:C:112:GLN:HB3	8:C:116:LYS:HD3	2.01	0.41
8:C:20:PRO:C	8:C:21:GLU:HG3	2.41	0.41
9:D:118:ASN:O	9:D:128:TYR:OH	2.39	0.41
9:D:12:VAL:HG12	9:D:16:LEU:CD1	2.51	0.41
10:E:121:VAL:HG12	10:E:122:THR:N	2.36	0.41
14:I:36:GLY:HA3	29:X:596:C:N4	2.35	0.41
17:L:84:ILE:HD12	17:L:84:ILE:N	2.35	0.41
20:O:38:LEU:HD23	20:O:47:PHE:HA	2.02	0.41
23:R:91:ALA:O	23:R:108:VAL:HG22	2.21	0.41
27:V:48:ARG:NE	29:X:75:C:OP1	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:V:52:GLN:C	27:V:54:ASN:N	2.73	0.41
29:X:1008:G:N1	29:X:1170:U:C2	2.89	0.41
11:F:117:ALA:HA	29:X:1092:U:O2'	2.21	0.41
29:X:1004:A:C2	29:X:1173:G:C4	3.09	0.41
29:X:1391:A:C8	29:X:1393:G:C6	3.09	0.41
29:X:1682:A:C2'	29:X:1683:G:C5'	2.93	0.41
29:X:15:G:C5	29:X:16:G:N7	2.89	0.41
29:X:1993:G:C5	29:X:1994:U:C5	3.09	0.41
29:X:2057:U:H5'	29:X:2058:U:OP2	2.21	0.41
29:X:2088:U:H2'	29:X:2089:C:H6	1.86	0.41
29:X:214:C:O2'	29:X:215:G:H5'	2.21	0.41
29:X:2187:A:N6	29:X:2188:A:N6	2.69	0.41
29:X:2218:G:O2'	29:X:2219:U:H5'	2.21	0.41
29:X:2375:G:C2	29:X:2400:G:C2	3.09	0.41
29:X:322:A:O2'	29:X:343:A:H5'	2.21	0.41
29:X:312:G:C2	29:X:328:A:C4	3.09	0.41
29:X:417:C:C4	29:X:419:G:C5	3.09	0.41
29:X:532:A:O2'	29:X:533:C:H5'	2.21	0.41
8:C:98:GLN:NE2	29:X:611:C:H4'	2.36	0.41
29:X:715:U:H2'	29:X:716:U:O4'	2.21	0.41
29:X:757:U:C2'	29:X:758:G:H5'	2.51	0.41
31:Z:73:C:C2	31:Z:109:G:C2	3.09	0.41
31:Z:122:U:H5''	31:Z:123:U:OP1	2.21	0.41
6:A:124:GLU:HA	6:A:125:PRO:HD3	1.81	0.40
6:A:214:TRP:CA	6:A:214:TRP:CE3	3.04	0.40
8:C:27:LEU:HD11	8:C:106:MET:SD	2.62	0.40
8:C:173:ALA:O	8:C:175:VAL:N	2.44	0.40
8:C:24:SER:O	8:C:27:LEU:N	2.54	0.40
9:D:123:ASP:O	9:D:126:GLY:N	2.52	0.40
9:D:169:LEU:O	9:D:170:LEU:C	2.57	0.40
9:D:16:LEU:O	9:D:20:PHE:CD1	2.71	0.40
12:G:134:MET:HB3	29:X:1017:C:H1'	2.02	0.40
13:H:79:HIS:CD2	13:H:80:ALA:O	2.74	0.40
15:J:74:PRO:HB3	15:J:94:TRP:NE1	2.37	0.40
16:K:24:GLN:NE2	16:K:40:LYS:HD3	2.36	0.40
17:L:87:VAL:O	17:L:88:VAL:HG22	2.21	0.40
18:M:39:VAL:HA	18:M:45:THR:HA	2.02	0.40
20:O:38:LEU:HA	20:O:46:VAL:O	2.20	0.40
21:P:20:LEU:HA	21:P:20:LEU:HD12	1.78	0.40
21:P:40:LEU:HD22	30:Y:25:LEU:HD11	2.03	0.40
22:Q:30:SER:O	22:Q:33:ALA:HB3	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:95:ARG:CG	23:R:105:ARG:O	2.69	0.40
23:R:36:VAL:HG12	23:R:37:LEU:N	2.36	0.40
24:S:24:TYR:HB3	24:S:29:ASN:HA	2.04	0.40
25:T:31:VAL:HG23	25:T:65:GLY:C	2.42	0.40
29:X:1140:A:N6	29:X:2549:G:C4'	2.83	0.40
16:K:40:LYS:HZ2	29:X:1290:A:H5''	1.79	0.40
29:X:1295:U:O4	29:X:1296:G:C6	2.74	0.40
29:X:1332:G:C6	29:X:1333:G:N1	2.89	0.40
29:X:1336:G:H2'	29:X:1337:G:C5'	2.51	0.40
29:X:1685:A:H4'	29:X:1686:A:O5'	2.20	0.40
29:X:1713:G:C6	29:X:1714:A:C4	3.09	0.40
29:X:426:C:C4'	29:X:1863:U:O2'	2.61	0.40
29:X:1885:C:N4	29:X:1886:G:C4	2.89	0.40
29:X:1976:U:N3	29:X:1977:C:C6	2.88	0.40
29:X:2072:C:H2'	29:X:2072:C:O2	2.21	0.40
29:X:2411:A:C6	29:X:2412:A:C6	3.09	0.40
29:X:2426:G:H4'	29:X:2427:A:C5'	2.51	0.40
29:X:2539:C:N3	29:X:2540:A:C8	2.89	0.40
29:X:2671:C:C4'	29:X:2821:G:N2	2.84	0.40
29:X:2756:A:O2'	29:X:2757:G:P	2.78	0.40
29:X:2790:C:H2'	29:X:2791:C:H6	1.84	0.40
29:X:2797:G:C2'	29:X:2798:A:O5'	2.69	0.40
29:X:417:C:C6	29:X:419:G:C1'	3.04	0.40
29:X:59:G:N3	29:X:73:A:C2	2.90	0.40
8:C:98:GLN:OE1	29:X:611:C:H4'	2.20	0.40
29:X:651:C:C3'	29:X:652:C:C5'	2.99	0.40
29:X:686:C:O2'	29:X:687:G:H5'	2.21	0.40
29:X:715:U:C2	29:X:716:U:C6	3.10	0.40
29:X:768:U:C6	29:X:769:C:C5	3.09	0.40
29:X:968:C:N4	29:X:970:A:C2	2.89	0.40
7:B:128:SER:OG	29:X:1976:U:H4'	2.22	0.40
7:B:189:PRO:O	7:B:190:GLY:O	2.40	0.40
7:B:32:PRO:HD2	7:B:50:GLY:O	2.20	0.40
8:C:48:ARG:CA	8:C:51:VAL:HG22	2.52	0.40
8:C:74:VAL:HG22	8:C:77:PHE:CD1	2.56	0.40
9:D:4:LEU:HG	9:D:5:LYS:N	2.36	0.40
9:D:93:GLY:N	9:D:96:MET:HB3	2.36	0.40
10:E:137:ASP:OD2	10:E:139:GLN:HB2	2.22	0.40
10:E:59:GLN:O	10:E:60:LYS:C	2.60	0.40
10:E:89:LEU:HB2	10:E:129:THR:C	2.42	0.40
11:F:52:ILE:O	11:F:73:PRO:HD3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:105:PRO:O	14:I:106:VAL:HG23	2.22	0.40
14:I:96:TYR:C	14:I:98:LEU:N	2.75	0.40
16:K:27:ALA:O	16:K:29:LEU:N	2.54	0.40
16:K:49:GLU:O	16:K:50:GLN:C	2.59	0.40
16:K:72:ASP:HB3	16:K:75:VAL:HG23	2.03	0.40
16:K:76:VAL:O	16:K:79:VAL:CG1	2.70	0.40
16:K:87:TYR:O	16:K:90:ARG:HG2	2.21	0.40
17:L:11:LEU:HA	17:L:11:LEU:HD23	1.93	0.40
14:I:32:ARG:NE	20:O:81:ARG:NE	2.68	0.40
22:Q:57:ASN:HA	22:Q:76:LYS:HA	2.03	0.40
23:R:83:LEU:O	23:R:84:VAL:HG23	2.21	0.40
27:V:22:LYS:HA	27:V:25:LEU:HB2	2.03	0.40
29:X:1019:U:O2'	29:X:1020:A:H5'	2.21	0.40
29:X:1044:U:N3	29:X:2730:A:C4	2.89	0.40
29:X:1064:C:O5'	29:X:1064:C:H6	2.04	0.40
29:X:1074:G:O2'	29:X:1075:C:H5'	2.21	0.40
5:5:4:DBU:HG1	29:X:1107:A:H1'	2.03	0.40
29:X:1124:U:O2'	29:X:1125:G:H5'	2.22	0.40
29:X:1137:A:H4'	29:X:1138:A:H5''	2.02	0.40
29:X:1179:A:H2'	29:X:1180:A:C8	2.56	0.40
29:X:1188:A:H8	29:X:1188:A:P	2.43	0.40
29:X:1218:C:H42	29:X:1255:A:N6	2.19	0.40
29:X:1330:G:C4	29:X:1331:G:C8	3.09	0.40
29:X:1405:A:H2'	29:X:1406:A:C8	2.56	0.40
29:X:1567:A:C6	29:X:1568:A:C6	3.10	0.40
29:X:1573:G:OP1	29:X:1574:A:H5'	2.21	0.40
29:X:1634:A:O2'	29:X:1635:G:H5'	2.20	0.40
29:X:1749:G:O2'	29:X:1750:A:OP1	2.39	0.40
29:X:176:A:C3'	29:X:177:U:C5	3.02	0.40
29:X:1871:G:H3'	29:X:1871:G:N3	2.36	0.40
4:4:35:ARG:NH2	29:X:2723:C:OP2	2.49	0.40
10:E:70:THR:HG21	29:X:2727:G:H5''	2.03	0.40
29:X:2756:A:O2'	29:X:2761:A:H4'	2.21	0.40
29:X:322:A:C2'	29:X:323:G:OP1	2.69	0.40
29:X:312:G:C6	29:X:328:A:C6	3.10	0.40
29:X:310:A:C2	29:X:331:U:C4'	3.00	0.40
29:X:883:A:N1	29:X:884:C:C2	2.88	0.40
31:Z:6:C:H2'	31:Z:7:C:C6	2.50	0.40
8:C:170:LEU:HA	8:C:170:LEU:HD12	1.85	0.40
8:C:182:ARG:HD3	8:C:183:HIS:CE1	2.57	0.40
9:D:134:GLU:CG	9:D:136:LEU:H	2.26	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:34:ILE:O	9:D:91:LEU:HB2	2.22	0.40
11:F:1:MET:HB2	11:F:2:LYS:NZ	2.35	0.40
12:G:142:ARG:NH1	29:X:538:A:H5''	2.36	0.40
12:G:36:ASN:C	12:G:38:GLU:N	2.59	0.40
12:G:46:ALA:CB	12:G:54:LEU:CD2	2.99	0.40
13:H:11:ALA:O	13:H:110:VAL:HA	2.21	0.40
13:H:35:THR:HB	13:H:36:THR:H	1.65	0.40
15:J:28:VAL:HG23	15:J:137:VAL:HG23	2.00	0.40
15:J:36:ILE:HG22	15:J:37:ALA:N	2.35	0.40
15:J:86:LYS:HB3	29:X:2255:G:H5'	2.03	0.40
16:K:79:VAL:CG1	16:K:80:MET:N	2.83	0.40
17:L:74:ALA:O	17:L:78:ALA:HB2	2.21	0.40
19:N:76:TYR:O	19:N:77:SER:C	2.60	0.40
20:O:33:VAL:O	20:O:33:VAL:HG23	2.21	0.40
19:N:108:ALA:HB1	20:O:47:PHE:CE2	2.56	0.40
23:R:53:VAL:HG21	23:R:74:LEU:HD22	2.02	0.40
23:R:65:PRO:C	23:R:67:GLY:H	2.24	0.40
24:S:94:VAL:HG21	24:S:130:ILE:HG21	2.03	0.40
27:V:2:LYS:HG3	27:V:3:PRO:CD	2.32	0.40
11:F:88:SER:O	29:X:1075:C:H4'	2.21	0.40
29:X:1177:U:H2'	29:X:1178:C:C6	2.56	0.40
29:X:1195:U:H2'	29:X:1196:G:H8	1.86	0.40
29:X:1249:G:O2'	29:X:1250:A:O5'	2.38	0.40
29:X:1357:U:O2'	29:X:1358:C:OP1	2.36	0.40
29:X:1380:C:C2'	29:X:1381:G:H5'	2.52	0.40
29:X:1441:A:H4'	29:X:1442:C:O5'	2.21	0.40
29:X:1541:G:C4	29:X:1542:G:C8	3.09	0.40
29:X:1549:C:H2'	29:X:1550:C:C6	2.56	0.40
29:X:168:A:N3	29:X:169:C:C6	2.90	0.40
29:X:1705:U:N3	29:X:1715:A:C2	2.89	0.40
29:X:1845:A:O2'	29:X:1846:A:H5'	2.20	0.40
29:X:1978:U:H3'	29:X:1979:C:C5'	2.39	0.40
29:X:2082:C:C3'	29:X:2083:G:C5'	2.99	0.40
29:X:2195:C:C2'	29:X:2196:U:C6	2.84	0.40
29:X:2213:G:H2'	29:X:2214:G:C8	2.56	0.40
29:X:2604:G:C6	29:X:2605:C:N4	2.89	0.40
29:X:2670:C:O4'	29:X:2847:G:C5	2.75	0.40
29:X:2690:A:OP1	29:X:2692:A:OP2	2.38	0.40
29:X:474:G:N2	29:X:476:G:H3'	2.36	0.40
29:X:469:G:H21	29:X:480:G:H2'	1.80	0.40
29:X:528:G:H2'	29:X:529:U:H6	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:663:G:H3'	29:X:664:C:C5'	2.37	0.40
29:X:813:A:C4	29:X:815:A:H5'	2.56	0.40
29:X:829:C:C4	29:X:1206:G:N1	2.90	0.40
30:Y:12:SER:C	30:Y:15:LYS:H	2.23	0.40
9:D:92:ARG:CZ	31:Z:47:A:H8	2.34	0.40
6:A:227:ASN:OD1	29:X:797:A:H5''	2.22	0.40
6:A:253:PRO:O	6:A:254:THR:OG1	2.37	0.40
6:A:64:ILE:O	6:A:65:ILE:HG13	2.21	0.40
7:B:154:LYS:O	7:B:154:LYS:CG	2.69	0.40
8:C:191:ALA:O	8:C:194:GLU:O	2.40	0.40
8:C:46:ARG:HG2	29:X:463:C:P	2.62	0.40
10:E:98:LEU:HD11	10:E:101:LYS:C	2.41	0.40
10:E:109:TYR:HE1	10:E:152:ARG:CZ	2.34	0.40
10:E:38:ASN:HB2	10:E:41:LEU:HB2	2.04	0.40
12:G:151:TYR:HE2	12:G:160:ALA:CB	2.33	0.40
13:H:113:PRO:CB	13:H:134:LEU:HD12	2.52	0.40
13:H:23:ARG:NH1	13:H:25:LEU:HD23	2.36	0.40
13:H:9:ASP:O	13:H:95:ALA:HA	2.21	0.40
14:I:122:VAL:HG21	14:I:124:ALA:O	2.21	0.40
14:I:88:PHE:HB3	14:I:93:LEU:HD12	2.03	0.40
15:J:51:CYS:O	15:J:54:VAL:HB	2.21	0.40
16:K:3:HIS:ND1	16:K:5:LYS:CD	2.83	0.40
16:K:64:ARG:O	16:K:67:ALA:HB3	2.22	0.40
21:P:52:ASP:O	21:P:54:GLU:N	2.55	0.40
21:P:81:HIS:CD2	21:P:82:ASN:N	2.89	0.40
21:P:92:VAL:HG13	21:P:126:ILE:CD1	2.45	0.40
21:P:92:VAL:O	21:P:93:LYS:C	2.58	0.40
22:Q:88:ILE:HG13	22:Q:92:ALA:HB2	2.04	0.40
24:S:115:ILE:HG23	24:S:169:VAL:HG12	2.03	0.40
24:S:25:ASN:O	24:S:26:LYS:HB3	2.22	0.40
26:U:13:LEU:CG	26:U:14:VAL:H	2.35	0.40
26:U:34:THR:HG23	26:U:35:THR:N	2.35	0.40
27:V:4:SER:O	27:V:8:ASN:HB2	2.22	0.40
28:W:23:LEU:HA	28:W:23:LEU:HD23	1.96	0.40
28:W:26:ARG:NH1	28:W:26:ARG:HG3	2.36	0.40
29:X:1162:A:H2'	29:X:1163:C:C6	2.56	0.40
29:X:119:G:C2	29:X:120:G:C5	3.10	0.40
29:X:1358:C:C2'	29:X:1359:G:C5'	3.00	0.40
29:X:1374:G:H4'	29:X:2193:C:O2'	2.21	0.40
29:X:1412:C:O5'	29:X:1412:C:H6	2.04	0.40
29:X:1479:G:O2'	29:X:1480:G:H5'	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:96:HIS:CD2	29:X:1517:C:H4'	2.57	0.40
29:X:1578:U:H2'	29:X:1579:G:O4'	2.22	0.40
29:X:1597:A:H2'	29:X:1598:C:C5	2.55	0.40
29:X:167:A:H2'	29:X:168:A:H8	1.87	0.40
29:X:172:A:C6	29:X:175:C:H5	2.40	0.40
29:X:1763:G:O2'	29:X:1764:A:H5'	2.21	0.40
29:X:742:G:C2	29:X:1766:U:N1	2.89	0.40
29:X:1948:C:C5	29:X:1949:A:C8	3.09	0.40
29:X:1970:G:H2'	29:X:1971:C:H6	1.86	0.40
29:X:1982:C:OP1	29:X:2704:U:H5'	2.20	0.40
29:X:2032:G:C5	29:X:2033:C:C5	3.10	0.40
29:X:2046:C:O2	29:X:2429:A:N1	2.54	0.40
29:X:2238:G:H2'	29:X:2239:C:C5'	2.51	0.40
29:X:2245:A:O2'	29:X:2246:A:P	2.80	0.40
29:X:2288:A:C5	29:X:2289:A:N7	2.89	0.40
29:X:2331:A:C2'	29:X:2332:G:H5'	2.51	0.40
29:X:2511:G:O6	29:X:2512:A:C6	2.74	0.40
29:X:2754:C:O2'	29:X:2755:A:H5'	2.21	0.40
29:X:2790:C:O2'	30:Y:43:HIS:HD2	2.04	0.40
29:X:2800:C:H5''	29:X:2800:C:H6	1.87	0.40
29:X:2870:C:H2'	29:X:2871:U:H6	1.85	0.40
29:X:403:A:H4'	29:X:404:A:C5'	2.51	0.40
29:X:559:C:H2'	29:X:560:G:C4'	2.52	0.40
29:X:632:A:C2	29:X:633:G:C4	3.09	0.40
29:X:638:A:H4'	29:X:639:G:C5'	2.45	0.40
29:X:753:U:O4'	29:X:1964:A:C4	2.75	0.40
31:Z:80:A:H3'	31:Z:81:C:C6	2.56	0.40
6:A:252:LYS:HB2	6:A:252:LYS:HE3	1.78	0.40
6:A:97:TYR:C	6:A:99:ASP:N	2.75	0.40
7:B:79:ARG:HA	7:B:79:ARG:HD3	1.87	0.40
8:C:130:THR:HA	8:C:133:PHE:HB3	2.03	0.40
8:C:185:ARG:NH2	8:C:185:ARG:HG2	2.34	0.40
12:G:91:THR:HB	12:G:92:GLY:H	1.61	0.40
13:H:3:MET:CE	29:X:1978:U:O2	2.69	0.40
14:I:115:SER:O	14:I:116:ARG:HB2	2.21	0.40
15:J:100:PRO:HB2	24:S:74:ARG:HE	1.86	0.40
16:K:51:LEU:HD21	16:K:70:ILE:CG1	2.52	0.40
17:L:31:VAL:HA	17:L:38:ILE:HD12	2.03	0.40
18:M:34:ARG:NH2	18:M:66:PHE:HE2	2.20	0.40
19:N:117:ARG:HG3	19:N:117:ARG:NH2	2.36	0.40
23:R:22:VAL:O	23:R:33:THR:HA	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:76:ARG:HG3	24:S:76:ARG:HH11	1.87	0.40
26:U:47:HIS:HB2	26:U:48:LYS:H	1.51	0.40
27:V:29:ARG:HB3	27:V:29:ARG:NH1	2.37	0.40
29:X:1002:C:N4	29:X:1003:C:H41	2.20	0.40
29:X:1050:G:C2'	29:X:1051:U:H5'	2.49	0.40
29:X:1193:G:C3'	29:X:1194:U:H5''	2.48	0.40
29:X:122:G:H2'	29:X:123:A:H5''	2.04	0.40
29:X:783:G:C1'	29:X:1392:U:C4	3.05	0.40
29:X:1480:G:H2'	29:X:1481:U:O4'	2.21	0.40
29:X:1505:U:O2	29:X:1506:C:C5	2.74	0.40
29:X:1524:C:H3'	29:X:1525:A:C5'	2.51	0.40
29:X:1813:A:H2'	29:X:1814:G:C8	2.56	0.40
29:X:1836:C:H2'	29:X:1837:G:O4'	2.22	0.40
29:X:1850:G:C2'	29:X:1851:A:C8	2.95	0.40
29:X:192:G:HO2'	29:X:193:A:P	2.44	0.40
29:X:205:A:H2'	29:X:206:U:C5'	2.34	0.40
29:X:2285:U:H5'	29:X:2286:G:O4'	2.22	0.40
9:D:79:LEU:CD2	29:X:2289:A:H2	2.25	0.40
29:X:2042:A:C5	29:X:2482:A:C2	3.09	0.40
29:X:2498:U:C4	29:X:2520:A:C5	3.09	0.40
29:X:2571:G:N2	29:X:2582:G:C5	2.89	0.40
29:X:2691:C:H1'	29:X:2692:A:C8	2.56	0.40
29:X:2791:C:HO2'	29:X:2792:C:H5'	1.83	0.40
29:X:2602:G:OP1	29:X:2801:A:H1'	2.21	0.40
29:X:2810:A:N6	29:X:2853:U:H2'	2.36	0.40
29:X:317:U:H2'	29:X:318:G:C5'	2.33	0.40
29:X:341:A:C8	29:X:341:A:C3'	3.00	0.40
29:X:387:A:H2'	29:X:387:A:N3	2.36	0.40
29:X:471:A:H2'	29:X:472:C:H5'	2.02	0.40
29:X:599:A:C6	29:X:681:A:N1	2.90	0.40
29:X:780:U:O2'	29:X:781:G:H5'	2.21	0.40
29:X:780:U:O2'	29:X:781:G:O5'	2.39	0.40
31:Z:112:A:H2'	31:Z:113:G:O4'	2.22	0.40

There are no symmetry-related clashes.



## 5.3 Torsion angles

### 5.3.1 Protein backbone

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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	4	35/37 (95%)	20 (57%)	12 (34%)	3 (9%)	1	10
5	5	2/13 (15%)	1 (50%)	1 (50%)	0	100	100
6	A	238/274 (87%)	166 (70%)	51 (21%)	21 (9%)	1	10
7	B	203/211 (96%)	143 (70%)	33 (16%)	27 (13%)	0	4
8	C	195/205 (95%)	94 (48%)	55 (28%)	46 (24%)	0	0
9	D	175/180 (97%)	99 (57%)	50 (29%)	26 (15%)	0	3
10	E	169/185 (91%)	110 (65%)	40 (24%)	19 (11%)	0	5
11	F	142/144 (99%)	101 (71%)	33 (23%)	8 (6%)	2	19
12	G	140/174 (80%)	76 (54%)	34 (24%)	30 (21%)	0	1
13	H	132/134 (98%)	106 (80%)	18 (14%)	8 (6%)	1	18
14	I	139/156 (89%)	60 (43%)	41 (30%)	38 (27%)	0	0
15	J	134/142 (94%)	76 (57%)	41 (31%)	17 (13%)	0	4
16	K	111/116 (96%)	70 (63%)	23 (21%)	18 (16%)	0	3
17	L	102/114 (90%)	65 (64%)	23 (22%)	14 (14%)	0	3
18	M	106/166 (64%)	64 (60%)	22 (21%)	20 (19%)	0	1
19	N	115/118 (98%)	65 (56%)	30 (26%)	20 (17%)	0	2
20	O	92/100 (92%)	52 (56%)	23 (25%)	17 (18%)	0	1
21	P	125/134 (93%)	84 (67%)	26 (21%)	15 (12%)	0	5
22	Q	91/95 (96%)	45 (50%)	25 (28%)	21 (23%)	0	0
23	R	108/115 (94%)	61 (56%)	28 (26%)	19 (18%)	0	2
24	S	173/237 (73%)	96 (56%)	50 (29%)	27 (16%)	0	3
25	T	82/91 (90%)	56 (68%)	16 (20%)	10 (12%)	0	4
26	U	70/81 (86%)	34 (49%)	19 (27%)	17 (24%)	0	0
27	V	64/67 (96%)	44 (69%)	12 (19%)	8 (12%)	0	4
28	W	53/55 (96%)	36 (68%)	13 (24%)	4 (8%)	1	13

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
30	Y	56/60 (93%)	35 (62%)	15 (27%)	6 (11%)	0	6
All	All	3052/3404 (90%)	1859 (61%)	734 (24%)	459 (15%)	0	3

All (459) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	A	54	ILE
6	A	59	LYS
7	B	76	ARG
7	B	85	ALA
7	B	86	PRO
7	B	123	ALA
7	B	126	PRO
7	B	131	SER
7	B	132	LYS
7	B	135	HIS
7	B	137	ARG
7	B	147	PRO
7	B	189	PRO
8	C	9	GLN
8	C	10	ASN
8	C	13	ARG
8	C	68	ARG
8	C	75	PRO
8	C	84	PHE
8	C	129	LYS
8	C	138	LYS
8	C	153	ASP
8	C	154	ASP
8	C	155	GLU
8	C	156	ASN
8	C	164	VAL
8	C	165	SER
8	C	166	TRP
8	C	172	VAL
8	C	173	ALA
8	C	175	VAL
8	C	176	ASN
8	C	192	ALA
9	D	10	ASP
9	D	77	PHE
9	D	119	PRO

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Mol	Chain	Res	Type
9	D	120	ASN
10	E	15	VAL
10	E	16	THR
10	E	58	ALA
10	E	126	PRO
12	G	37	ASP
12	G	65	LYS
12	G	88	VAL
12	G	98	LYS
12	G	104	THR
12	G	166	LEU
12	G	170	PRO
13	H	5	GLN
13	H	27	SER
14	I	29	THR
14	I	36	GLY
14	I	38	LYS
14	I	39	SER
14	I	49	PHE
14	I	76	LYS
14	I	99	VAL
14	I	127	ALA
14	I	132	ALA
15	J	21	ASP
15	J	22	ALA
15	J	26	ASP
15	J	27	TYR
15	J	81	GLU
15	J	83	ARG
15	J	97	VAL
15	J	100	PRO
16	K	6	ALA
16	K	11	ASN
16	K	13	ASN
16	K	32	GLY
17	L	31	VAL
17	L	45	ASP
17	L	96	TYR
17	L	109	GLU
18	M	26	ASP
18	M	27	PHE
18	M	29	PRO

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Mol	Chain	Res	Type
18	M	47	SER
18	M	53	VAL
18	M	74	GLY
18	M	83	PHE
18	M	95	GLU
18	M	102	ALA
19	N	5	LYS
19	N	8	ILE
19	N	32	TYR
19	N	75	ASN
19	N	91	ASN
19	N	94	VAL
19	N	110	VAL
20	O	7	THR
20	O	9	GLY
20	O	10	LYS
20	O	13	ARG
20	O	15	SER
20	O	29	ALA
20	O	36	LYS
20	O	49	GLU
20	O	80	TYR
20	O	96	LEU
21	P	11	LYS
21	P	92	VAL
22	Q	7	LEU
22	Q	12	ILE
22	Q	41	ALA
22	Q	61	LYS
22	Q	63	LYS
22	Q	74	ASP
23	R	11	ASN
23	R	12	ASP
23	R	60	PRO
23	R	83	LEU
23	R	91	ALA
23	R	96	LYS
24	S	5	ALA
24	S	6	LYS
24	S	13	LYS
24	S	17	SER
24	S	26	LYS

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Mol	Chain	Res	Type
24	S	33	ALA
24	S	36	ARG
24	S	45	GLN
24	S	88	TYR
24	S	92	VAL
24	S	118	HIS
25	T	3	HIS
25	T	4	LYS
25	T	19	LYS
25	T	31	VAL
25	T	75	GLY
26	U	10	LYS
26	U	14	VAL
26	U	16	ASN
26	U	30	VAL
26	U	32	ARG
26	U	34	THR
26	U	56	GLN
26	U	60	VAL
27	V	2	LYS
27	V	36	GLN
28	W	8	SER
28	W	49	HIS
30	Y	4	HIS
30	Y	20	ARG
30	Y	53	ASP
4	4	16	VAL
6	A	47	GLY
6	A	125	PRO
6	A	156	ALA
7	B	12	THR
7	B	17	ASN
7	B	29	GLY
7	B	72	VAL
7	B	94	ASP
7	B	124	GLY
7	B	130	GLY
7	B	148	GLY
7	B	190	GLY
8	C	11	GLY
8	C	22	VAL
8	C	30	VAL

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Mol	Chain	Res	Type
8	C	67	ALA
8	C	80	GLY
8	C	103	GLY
8	C	139	GLN
8	C	159	ARG
8	C	196	VAL
9	D	5	LYS
9	D	40	LEU
9	D	53	ALA
9	D	123	ASP
9	D	137	ILE
9	D	168	ALA
10	E	13	SER
10	E	14	GLY
10	E	49	GLN
10	E	55	PRO
10	E	78	GLY
10	E	119	ALA
10	E	165	VAL
11	F	19	PRO
11	F	118	GLY
12	G	32	TYR
12	G	33	ILE
12	G	55	ALA
12	G	73	ASN
12	G	78	ASP
12	G	107	GLN
12	G	108	GLY
12	G	141	GLY
13	H	32	LYS
13	H	37	GLY
13	H	42	LYS
13	H	101	ASN
14	I	16	ARG
14	I	24	GLY
14	I	31	GLY
14	I	40	ARG
14	I	44	GLY
14	I	47	ALA
14	I	62	LYS
14	I	64	GLY
14	I	82	ASP

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Mol	Chain	Res	Type
14	I	91	ASP
14	I	98	LEU
14	I	114	ILE
15	J	13	GLN
15	J	29	ALA
15	J	111	THR
16	K	18	VAL
16	K	92	GLY
16	K	95	THR
17	L	33	ARG
17	L	46	SER
17	L	52	ALA
17	L	67	THR
17	L	104	ALA
18	M	17	GLU
18	M	46	ARG
18	M	73	PHE
18	M	96	ARG
19	N	7	GLY
19	N	11	ARG
19	N	46	GLU
19	N	78	THR
19	N	79	PHE
20	O	31	ASP
20	O	79	GLN
21	P	9	ARG
21	P	46	ARG
21	P	81	HIS
21	P	112	GLY
22	Q	40	ASP
22	Q	69	ILE
22	Q	83	ALA
22	Q	89	GLU
23	R	10	HIS
23	R	15	HIS
23	R	26	SER
23	R	61	SER
23	R	63	THR
24	S	37	LYS
24	S	38	ALA
25	T	30	VAL
26	U	15	VAL

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Mol	Chain	Res	Type
26	U	27	ASP
26	U	29	GLY
26	U	41	VAL
26	U	65	ASN
26	U	72	LYS
27	V	37	LEU
27	V	65	GLU
28	W	54	GLN
30	Y	36	CYS
6	A	60	ARG
6	A	86	PRO
6	A	108	PRO
6	A	219	PRO
6	A	237	GLU
6	A	241	GLY
6	A	252	LYS
8	C	14	THR
8	C	15	ILE
8	C	47	THR
8	C	102	LEU
8	C	171	PRO
8	C	190	ALA
8	C	191	ALA
8	C	195	ILE
9	D	11	GLN
9	D	42	SER
9	D	71	LYS
9	D	76	ASN
9	D	94	GLU
10	E	7	GLN
10	E	21	ASP
10	E	173	ALA
11	F	26	ALA
11	F	120	VAL
12	G	36	ASN
12	G	39	GLN
12	G	72	PRO
12	G	97	ASP
12	G	169	GLN
14	I	105	PRO
14	I	136	ALA
15	J	11	ARG

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Mol	Chain	Res	Type
15	J	18	MET
15	J	56	SER
15	J	117	GLU
16	K	4	GLY
16	K	20	LEU
16	K	21	ALA
16	K	91	PRO
17	L	103	LEU
18	M	10	GLY
18	M	44	ARG
18	M	108	ARG
19	N	33	ARG
19	N	65	ILE
19	N	77	SER
20	O	35	LEU
20	O	39	PHE
20	O	66	GLY
21	P	35	PRO
21	P	48	LYS
21	P	49	SER
22	Q	6	ILE
22	Q	91	LEU
23	R	50	GLY
23	R	65	PRO
23	R	89	GLY
23	R	108	VAL
24	S	2	GLU
24	S	46	GLN
24	S	106	GLY
24	S	125	PRO
24	S	134	LEU
24	S	140	LYS
24	S	158	CYS
25	T	16	SER
25	T	74	LYS
25	T	83	ALA
27	V	47	ARG
27	V	53	LEU
6	A	87	ASN
6	A	209	ALA
6	A	220	HIS
6	A	224	SER

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Mol	Chain	Res	Type
6	A	235	GLY
7	B	73	ALA
7	B	134	TRP
7	B	136	ARG
7	B	144	ARG
7	B	154	LYS
7	B	185	LYS
8	C	20	PRO
8	C	44	SER
8	C	83	ALA
8	C	121	ASP
8	C	178	TYR
9	D	81	GLN
9	D	134	GLU
10	E	20	GLN
10	E	42	THR
11	F	93	LYS
11	F	135	GLY
12	G	67	ARG
12	G	106	TYR
12	G	130	ALA
12	G	143	ALA
14	I	19	VAL
14	I	32	ARG
14	I	41	SER
14	I	65	PHE
14	I	87	THR
14	I	93	LEU
16	K	56	LYS
16	K	88	ALA
17	L	55	SER
17	L	56	SER
17	L	102	ALA
18	M	28	ARG
18	M	39	VAL
18	M	106	TYR
19	N	12	ARG
19	N	13	ARG
19	N	27	SER
20	O	24	SER
21	P	82	ASN
22	Q	67	ARG

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Mol	Chain	Res	Type
23	R	20	ASP
23	R	79	SER
24	S	25	ASN
24	S	91	PRO
26	U	47	HIS
27	V	43	VAL
30	Y	21	SER
4	4	19	ARG
4	4	33	LYS
7	B	121	ASN
8	C	31	VAL
9	D	145	MET
9	D	146	VAL
9	D	152	MET
10	E	151	VAL
12	G	34	PRO
12	G	68	PRO
12	G	105	GLY
13	H	61	ARG
14	I	9	THR
14	I	17	LYS
14	I	81	GLN
14	I	90	ARG
15	J	106	GLU
16	K	8	ARG
16	K	26	THR
16	K	45	ARG
19	N	10	ARG
19	N	50	ARG
21	P	20	LEU
21	P	53	ALA
22	Q	13	SER
22	Q	43	GLN
23	R	85	ASP
24	S	24	TYR
24	S	110	GLY
26	U	64	ALA
27	V	4	SER
30	Y	19	ARG
6	A	69	ARG
8	C	126	ALA
8	C	152	THR

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Mol	Chain	Res	Type
9	D	72	LYS
9	D	170	LEU
10	E	136	ILE
10	E	139	GLN
12	G	132	PHE
13	H	124	MET
14	I	78	SER
14	I	88	PHE
16	K	7	GLY
20	O	18	ASP
21	P	32	ARG
21	P	132	GLY
22	Q	35	LYS
22	Q	47	GLY
22	Q	90	ALA
24	S	124	ALA
26	U	39	LYS
28	W	48	LYS
6	A	246	PRO
9	D	13	ARG
23	R	64	ASN
9	D	21	GLY
12	G	64	GLY
12	G	127	ILE
17	L	38	ILE
21	P	101	PRO
22	Q	48	VAL
22	Q	60	GLY
6	A	197	GLY
6	A	247	VAL
9	D	176	PRO
11	F	22	PRO
11	F	96	VAL
14	I	10	PRO
14	I	33	GLY
15	J	54	VAL
24	S	86	VAL
24	S	155	PRO
8	C	177	VAL
16	K	83	VAL
22	Q	65	VAL
25	T	81	ILE

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Mol	Chain	Res	Type
9	D	14	PRO
14	I	122	VAL
18	M	86	PRO

### 5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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	4	35/35 (100%)	35 (100%)	0	100	100
5	5	2/3 (67%)	2 (100%)	0	100	100
6	A	185/215 (86%)	170 (92%)	15 (8%)	11	41
7	B	155/157 (99%)	145 (94%)	10 (6%)	17	48
8	C	157/163 (96%)	146 (93%)	11 (7%)	15	45
9	D	153/156 (98%)	145 (95%)	8 (5%)	23	55
10	E	136/144 (94%)	133 (98%)	3 (2%)	52	72
11	F	107/107 (100%)	103 (96%)	4 (4%)	34	61
12	G	118/146 (81%)	100 (85%)	18 (15%)	2	17
13	H	103/103 (100%)	94 (91%)	9 (9%)	10	38
14	I	108/121 (89%)	99 (92%)	9 (8%)	11	40
15	J	110/116 (95%)	94 (86%)	16 (14%)	3	18
16	K	90/93 (97%)	74 (82%)	16 (18%)	2	12
17	L	74/82 (90%)	62 (84%)	12 (16%)	2	15
18	M	94/134 (70%)	79 (84%)	15 (16%)	2	15
19	N	96/97 (99%)	91 (95%)	5 (5%)	23	55
20	O	75/79 (95%)	70 (93%)	5 (7%)	16	47
21	P	109/115 (95%)	101 (93%)	8 (7%)	14	44
22	Q	75/76 (99%)	68 (91%)	7 (9%)	9	35
23	R	91/96 (95%)	79 (87%)	12 (13%)	4	22
24	S	149/192 (78%)	141 (95%)	8 (5%)	22	54

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
25	T	62/67 (92%)	59 (95%)	3 (5%)	25	56
26	U	57/66 (86%)	50 (88%)	7 (12%)	4	24
27	V	54/55 (98%)	52 (96%)	2 (4%)	34	61
28	W	48/48 (100%)	44 (92%)	4 (8%)	11	40
30	Y	51/53 (96%)	46 (90%)	5 (10%)	8	33
All	All	2494/2719 (92%)	2282 (92%)	212 (8%)	10	40

All (212) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
6	A	43	ARG
6	A	44	ASN
6	A	48	ARG
6	A	68	LYS
6	A	122	GLU
6	A	164	GLN
6	A	183	ARG
6	A	208	LYS
6	A	214	TRP
6	A	218	LYS
6	A	222	ARG
6	A	226	MET
6	A	244	ARG
6	A	245	VAL
6	A	252	LYS
7	B	75	THR
7	B	86	PRO
7	B	94	ASP
7	B	119	ARG
7	B	137	ARG
7	B	147	PRO
7	B	150	VAL
7	B	154	LYS
7	B	160	MET
7	B	199	ARG
8	C	13	ARG
8	C	48	ARG
8	C	62	LYS
8	C	71	ASP
8	C	75	PRO

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Mol	Chain	Res	Type
8	C	104	LEU
8	C	124	ASP
8	C	136	TRP
8	C	153	ASP
8	C	154	ASP
8	C	166	TRP
9	D	40	LEU
9	D	80	ARG
9	D	89	VAL
9	D	105	ASN
9	D	112	ARG
9	D	123	ASP
9	D	125	ARG
9	D	130	LEU
10	E	35	VAL
10	E	48	ASP
10	E	57	ASP
11	F	2	LYS
11	F	3	LYS
11	F	63	ARG
11	F	103	GLN
12	G	34	PRO
12	G	37	ASP
12	G	61	ARG
12	G	71	THR
12	G	82	VAL
12	G	91	THR
12	G	93	LYS
12	G	101	THR
12	G	102	ARG
12	G	103	TYR
12	G	104	THR
12	G	110	LEU
12	G	113	GLU
12	G	116	ARG
12	G	132	PHE
12	G	151	TYR
12	G	154	GLU
12	G	157	PRO
13	H	3	MET
13	H	22	ILE
13	H	23	ARG

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Mol	Chain	Res	Type
13	H	41	ASN
13	H	47	VAL
13	H	88	THR
13	H	91	PHE
13	H	108	THR
13	H	116	ARG
14	I	7	LYS
14	I	13	ARG
14	I	34	HIS
14	I	37	GLN
14	I	38	LYS
14	I	45	LYS
14	I	53	ARG
14	I	99	VAL
14	I	103	ASN
15	J	7	ARG
15	J	11	ARG
15	J	21	ASP
15	J	27	TYR
15	J	32	ASP
15	J	52	ARG
15	J	60	ARG
15	J	64	LYS
15	J	68	ARG
15	J	75	VAL
15	J	81	GLU
15	J	93	TYR
15	J	94	TRP
15	J	100	PRO
15	J	106	GLU
15	J	125	LYS
16	K	11	ASN
16	K	13	ASN
16	K	28	LEU
16	K	31	GLU
16	K	33	ARG
16	K	35	GLN
16	K	36	THR
16	K	39	THR
16	K	43	GLU
16	K	83	VAL
16	K	95	THR

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Mol	Chain	Res	Type
16	K	96	ARG
16	K	97	ILE
16	K	99	ARG
16	K	109	THR
16	K	113	ILE
17	L	8	ARG
17	L	38	ILE
17	L	41	GLN
17	L	42	ILE
17	L	43	ILE
17	L	44	ASP
17	L	60	LYS
17	L	64	LYS
17	L	67	THR
17	L	71	VAL
17	L	89	PHE
17	L	91	ARG
18	M	5	ILE
18	M	25	PRO
18	M	31	ASP
18	M	43	ASN
18	M	46	ARG
18	M	47	SER
18	M	51	GLU
18	M	54	VAL
18	M	63	ARG
18	M	69	ARG
18	M	85	SER
18	M	89	ASN
18	M	90	GLN
18	M	101	ARG
18	M	106	TYR
19	N	13	ARG
19	N	22	LYS
19	N	49	ASP
19	N	85	ARG
19	N	93	LYS
20	O	20	ILE
20	O	28	GLU
20	O	35	LEU
20	O	47	PHE
20	O	72	ARG

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Mol	Chain	Res	Type
21	P	16	GLN
21	P	32	ARG
21	P	39	ARG
21	P	67	PRO
21	P	74	SER
21	P	91	PHE
21	P	96	TYR
21	P	106	LEU
22	Q	5	ASP
22	Q	7	LEU
22	Q	12	ILE
22	Q	27	PHE
22	Q	37	GLU
22	Q	38	ILE
22	Q	62	ARG
23	R	11	ASN
23	R	18	LYS
23	R	25	LEU
23	R	44	GLN
23	R	80	LYS
23	R	83	LEU
23	R	93	ARG
23	R	95	ARG
23	R	105	ARG
23	R	106	VAL
23	R	112	LYS
23	R	113	THR
24	S	3	LEU
24	S	9	THR
24	S	13	LYS
24	S	49	THR
24	S	51	LEU
24	S	53	ASP
24	S	71	MET
24	S	92	VAL
25	T	31	VAL
25	T	37	LEU
25	T	64	ASP
26	U	14	VAL
26	U	27	ASP
26	U	32	ARG
26	U	42	GLN

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Mol	Chain	Res	Type
26	U	67	LEU
26	U	70	LEU
26	U	78	ILE
27	V	21	ARG
27	V	41	HIS
28	W	12	ARG
28	W	30	ASP
28	W	32	ARG
28	W	45	LYS
30	Y	3	LYS
30	Y	4	HIS
30	Y	29	ASN
30	Y	32	GLU
30	Y	49	CYS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (69) such sidechains are listed below:

Mol	Chain	Res	Type
4	4	34	GLN
4	4	36	GLN
6	A	44	ASN
6	A	129	ASN
6	A	166	GLN
7	B	180	ASN
8	C	9	GLN
8	C	61	GLN
8	C	112	GLN
8	C	132	ASN
8	C	139	GLN
9	D	9	ASN
9	D	120	ASN
9	D	129	ASN
10	E	20	GLN
10	E	45	GLN
10	E	61	HIS
11	F	103	GLN
12	G	73	ASN
12	G	140	GLN
13	H	13	ASN
13	H	26	ASN
13	H	41	ASN
13	H	79	HIS

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Mol	Chain	Res	Type
14	I	34	HIS
14	I	37	GLN
14	I	67	ASN
14	I	79	GLN
14	I	81	GLN
14	I	103	ASN
15	J	13	GLN
16	K	11	ASN
16	K	13	ASN
16	K	24	GLN
17	L	37	HIS
17	L	41	GLN
17	L	49	GLN
17	L	63	ASN
17	L	86	GLN
18	M	43	ASN
18	M	48	GLN
19	N	31	GLN
19	N	72	HIS
20	O	11	GLN
20	O	57	GLN
21	P	17	GLN
21	P	78	ASN
21	P	81	HIS
21	P	115	ASN
21	P	133	ASN
22	Q	73	ASN
23	R	10	HIS
23	R	11	ASN
23	R	29	HIS
23	R	32	GLN
23	R	69	GLN
24	S	70	GLN
24	S	146	HIS
25	T	17	ASN
25	T	57	HIS
25	T	71	ASN
27	V	41	HIS
27	V	45	GLN
28	W	49	HIS
30	Y	23	HIS
30	Y	29	ASN

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Mol	Chain	Res	Type
30	Y	35	GLN
30	Y	43	HIS
30	Y	44	HIS

### 5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
29	X	2680/2880 (93%)	653 (24%)	239 (8%)
31	Z	121/123 (98%)	24 (19%)	1 (0%)
All	All	2801/3003 (93%)	677 (24%)	240 (8%)

All (677) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
29	X	4	C
29	X	13	A
29	X	14	A
29	X	27	G
29	X	29	U
29	X	34	U
29	X	35	G
29	X	39	C
29	X	45	C
29	X	49	U
29	X	50	G
29	X	59	G
29	X	63	A
29	X	69	G
29	X	70	A
29	X	71	A
29	X	72	A
29	X	74	G
29	X	76	C
29	X	82	G
29	X	83	A
29	X	84	G
29	X	87	G
29	X	89	A
29	X	90	G
29	X	91	A
29	X	98	U

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Mol	Chain	Res	Type
29	X	99	U
29	X	100	G
29	X	105	G
29	X	110	U
29	X	117	A
29	X	118	U
29	X	119	G
29	X	123	A
29	X	124	A
29	X	129	A
29	X	135	U
29	X	143	A
29	X	147	G
29	X	155	G
29	X	158	A
29	X	173	A
29	X	176	A
29	X	181	A
29	X	182	G
29	X	193	A
29	X	199	A
29	X	200	A
29	X	205	A
29	X	206	U
29	X	210	A
29	X	218	A
29	X	219	G
29	X	225	G
29	X	227	G
29	X	229	G
29	X	242	A
29	X	243	G
29	X	245	C
29	X	304	A
29	X	305	A
29	X	318	G
29	X	322	A
29	X	323	G
29	X	333	A
29	X	334	G
29	X	335	A
29	X	340	G

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Mol	Chain	Res	Type
29	X	341	A
29	X	342	G
29	X	343	A
29	X	399	G
29	X	400	U
29	X	401	G
29	X	403	A
29	X	404	A
29	X	414	A
29	X	416	U
29	X	417	C
29	X	418	C
29	X	419	G
29	X	420	C
29	X	424	G
29	X	425	A
29	X	441	A
29	X	447	U
29	X	448	C
29	X	455	A
29	X	456	C
29	X	459	A
29	X	460	U
29	X	461	A
29	X	463	C
29	X	466	A
29	X	467	U
29	X	468	A
29	X	470	U
29	X	480	G
29	X	483	A
29	X	485	G
29	X	486	U
29	X	491	A
29	X	492	G
29	X	497	C
29	X	514	G
29	X	515	A
29	X	517	A
29	X	519	C
29	X	537	C
29	X	538	A

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Mol	Chain	Res	Type
29	X	539	A
29	X	540	G
29	X	541	C
29	X	542	A
29	X	554	U
29	X	555	U
29	X	556	A
29	X	557	U
29	X	558	G
29	X	559	C
29	X	571	U
29	X	572	G
29	X	581	A
29	X	582	G
29	X	583	C
29	X	584	A
29	X	601	A
29	X	613	A
29	X	614	G
29	X	624	A
29	X	625	A
29	X	626	A
29	X	631	G
29	X	632	A
29	X	633	G
29	X	636	G
29	X	639	G
29	X	649	G
29	X	652	C
29	X	654	A
29	X	655	A
29	X	657	A
29	X	664	C
29	X	665	A
29	X	666	U
29	X	667	U
29	X	668	A
29	X	669	G
29	X	670	U
29	X	684	C
29	X	699	G
29	X	700	C

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Mol	Chain	Res	Type
29	X	728	G
29	X	729	A
29	X	730	C
29	X	731	A
29	X	732	G
29	X	740	A
29	X	742	G
29	X	743	A
29	X	748	A
29	X	752	G
29	X	753	U
29	X	759	C
29	X	760	U
29	X	766	A
29	X	776	G
29	X	778	G
29	X	781	G
29	X	789	G
29	X	790	A
29	X	795	A
29	X	796	A
29	X	797	A
29	X	798	G
29	X	802	A
29	X	803	C
29	X	804	C
29	X	805	G
29	X	806	A
29	X	807	A
29	X	813	A
29	X	814	G
29	X	815	A
29	X	818	G
29	X	819	C
29	X	825	C
29	X	832	A
29	X	840	U
29	X	841	G
29	X	843	G
29	X	844	G
29	X	859	U
29	X	862	A

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Mol	Chain	Res	Type
29	X	872	G
29	X	879	A
29	X	914	C
29	X	919	U
29	X	922	A
29	X	926	C
29	X	927	C
29	X	940	G
29	X	944	A
29	X	952	A
29	X	957	G
29	X	968	C
29	X	969	U
29	X	970	A
29	X	971	A
29	X	972	C
29	X	973	U
29	X	984	A
29	X	985	G
29	X	994	A
29	X	995	A
29	X	996	C
29	X	1006	C
29	X	1007	A
29	X	1016	C
29	X	1019	U
29	X	1022	A
29	X	1023	U
29	X	1024	G
29	X	1032	A
29	X	1033	G
29	X	1034	U
29	X	1036	G
29	X	1037	U
29	X	1044	U
29	X	1045	G
29	X	1051	U
29	X	1053	G
29	X	1054	C
29	X	1055	A
29	X	1056	U
29	X	1057	A

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Mol	Chain	Res	Type
29	X	1058	G
29	X	1059	A
29	X	1060	C
29	X	1061	A
29	X	1070	G
29	X	1071	U
29	X	1072	U
29	X	1073	G
29	X	1078	A
29	X	1079	G
29	X	1081	A
29	X	1082	G
29	X	1087	C
29	X	1090	C
29	X	1095	A
29	X	1096	A
29	X	1097	A
29	X	1098	G
29	X	1099	A
29	X	1108	U
29	X	1115	C
29	X	1119	U
29	X	1123	G
29	X	1128	G
29	X	1129	A
29	X	1137	A
29	X	1138	A
29	X	1139	A
29	X	1142	G
29	X	1143	A
29	X	1145	C
29	X	1146	G
29	X	1152	C
29	X	1153	A
29	X	1154	A
29	X	1155	G
29	X	1166	A
29	X	1167	A
29	X	1168	G
29	X	1182	U
29	X	1183	C
29	X	1185	C

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Mol	Chain	Res	Type
29	X	1187	A
29	X	1189	G
29	X	1192	A
29	X	1194	U
29	X	1195	U
29	X	1220	G
29	X	1224	A
29	X	1225	G
29	X	1226	A
29	X	1233	A
29	X	1234	C
29	X	1249	G
29	X	1250	A
29	X	1251	G
29	X	1253	C
29	X	1262	U
29	X	1264	C
29	X	1265	G
29	X	1266	G
29	X	1269	G
29	X	1278	A
29	X	1279	G
29	X	1284	G
29	X	1285	A
29	X	1288	A
29	X	1300	A
29	X	1302	C
29	X	1313	U
29	X	1314	A
29	X	1316	G
29	X	1319	C
29	X	1325	U
29	X	1326	U
29	X	1333	G
29	X	1334	A
29	X	1338	G
29	X	1339	U
29	X	1342	U
29	X	1343	C
29	X	1346	C
29	X	1354	A
29	X	1355	A

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Mol	Chain	Res	Type
29	X	1356	G
29	X	1358	C
29	X	1359	G
29	X	1378	A
29	X	1391	A
29	X	1392	U
29	X	1398	G
29	X	1410	U
29	X	1411	C
29	X	1428	G
29	X	1429	A
29	X	1432	G
29	X	1433	A
29	X	1434	U
29	X	1440	G
29	X	1441	A
29	X	1442	C
29	X	1443	G
29	X	1460	G
29	X	1465	G
29	X	1467	U
29	X	1468	A
29	X	1469	U
29	X	1470	G
29	X	1474	A
29	X	1475	U
29	X	1482	U
29	X	1489	C
29	X	1490	U
29	X	1497	C
29	X	1498	G
29	X	1506	C
29	X	1513	U
29	X	1514	C
29	X	1523	A
29	X	1524	C
29	X	1525	A
29	X	1528	C
29	X	1551	U
29	X	1552	C
29	X	1553	G
29	X	1554	G

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Mol	Chain	Res	Type
29	X	1562	G
29	X	1563	U
29	X	1570	C
29	X	1571	G
29	X	1574	A
29	X	1575	C
29	X	1576	G
29	X	1583	A
29	X	1585	A
29	X	1601	U
29	X	1602	G
29	X	1608	U
29	X	1624	A
29	X	1625	A
29	X	1626	A
29	X	1627	C
29	X	1632	A
29	X	1633	C
29	X	1635	G
29	X	1648	C
29	X	1652	G
29	X	1657	A
29	X	1664	G
29	X	1665	C
29	X	1671	A
29	X	1685	A
29	X	1686	A
29	X	1688	U
29	X	1691	G
29	X	1692	C
29	X	1699	A
29	X	1701	C
29	X	1710	U
29	X	1711	C
29	X	1712	G
29	X	1713	G
29	X	1715	A
29	X	1716	G
29	X	1717	A
29	X	1724	C
29	X	1732	U
29	X	1733	U

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Mol	Chain	Res	Type
29	X	1734	C
29	X	1747	G
29	X	1749	G
29	X	1750	A
29	X	1754	G
29	X	1755	G
29	X	1764	A
29	X	1771	A
29	X	1772	C
29	X	1776	A
29	X	1778	U
29	X	1790	G
29	X	1791	C
29	X	1792	C
29	X	1793	A
29	X	1801	C
29	X	1802	A
29	X	1807	A
29	X	1808	C
29	X	1812	U
29	X	1821	A
29	X	1822	C
29	X	1825	C
29	X	1831	G
29	X	1842	G
29	X	1851	A
29	X	1852	G
29	X	1854	G
29	X	1855	G
29	X	1856	U
29	X	1857	G
29	X	1859	A
29	X	1861	G
29	X	1865	C
29	X	1867	A
29	X	1868	A
29	X	1872	A
29	X	1910	A
29	X	1912	G
29	X	1914	U
29	X	1919	A
29	X	1922	U

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Mol	Chain	Res	Type
29	X	1923	U
29	X	1924	C
29	X	1925	C
29	X	1926	U
29	X	1927	U
29	X	1928	G
29	X	1938	U
29	X	1939	U
29	X	1946	U
29	X	1947	G
29	X	1948	C
29	X	1949	A
29	X	1950	C
29	X	1953	A
29	X	1954	A
29	X	1955	G
29	X	1964	A
29	X	1965	U
29	X	1976	U
29	X	1979	C
29	X	1980	A
29	X	1993	G
29	X	2003	A
29	X	2004	U
29	X	2005	U
29	X	2006	G
29	X	2014	A
29	X	2015	G
29	X	2016	A
29	X	2019	C
29	X	2026	C
29	X	2032	G
29	X	2034	A
29	X	2035	G
29	X	2038	C
29	X	2039	G
29	X	2044	G
29	X	2045	A
29	X	2046	C
29	X	2047	C
29	X	2051	U
29	X	2052	G

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Mol	Chain	Res	Type
29	X	2075	U
29	X	2076	G
29	X	2083	G
29	X	2089	C
29	X	2171	U
29	X	2181	A
29	X	2190	A
29	X	2191	A
29	X	2192	U
29	X	2195	C
29	X	2196	U
29	X	2197	U
29	X	2198	U
29	X	2199	C
29	X	2200	G
29	X	2205	C
29	X	2217	G
29	X	2218	G
29	X	2229	G
29	X	2238	G
29	X	2245	A
29	X	2246	A
29	X	2247	A
29	X	2254	C
29	X	2259	G
29	X	2262	C
29	X	2265	A
29	X	2266	A
29	X	2267	A
29	X	2268	G
29	X	2276	C
29	X	2284	U
29	X	2285	U
29	X	2286	G
29	X	2287	G
29	X	2288	A
29	X	2298	U
29	X	2300	G
29	X	2306	A
29	X	2313	G
29	X	2314	A
29	X	2315	A

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Mol	Chain	Res	Type
29	X	2322	U
29	X	2323	U
29	X	2324	G
29	X	2325	A
29	X	2326	C
29	X	2362	G
29	X	2364	C
29	X	2369	U
29	X	2396	C
29	X	2402	U
29	X	2403	C
29	X	2405	A
29	X	2406	C
29	X	2407	G
29	X	2408	G
29	X	2409	A
29	X	2410	U
29	X	2418	A
29	X	2419	C
29	X	2420	C
29	X	2427	A
29	X	2428	U
29	X	2438	A
29	X	2448	A
29	X	2452	U
29	X	2455	A
29	X	2458	U
29	X	2469	G
29	X	2470	U
29	X	2477	C
29	X	2481	G
29	X	2483	U
29	X	2484	G
29	X	2485	U
29	X	2492	G
29	X	2497	A
29	X	2498	U
29	X	2499	C
29	X	2508	G
29	X	2509	A
29	X	2521	A
29	X	2522	G

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Mol	Chain	Res	Type
29	X	2533	U
29	X	2545	A
29	X	2546	G
29	X	2552	C
29	X	2557	G
29	X	2560	G
29	X	2561	G
29	X	2564	U
29	X	2565	C
29	X	2581	A
29	X	2582	G
29	X	2588	U
29	X	2591	C
29	X	2592	U
29	X	2593	A
29	X	2594	U
29	X	2609	G
29	X	2613	A
29	X	2625	U
29	X	2633	A
29	X	2634	G
29	X	2650	G
29	X	2660	C
29	X	2661	G
29	X	2668	U
29	X	2669	C
29	X	2670	C
29	X	2679	G
29	X	2691	C
29	X	2692	A
29	X	2693	U
29	X	2694	G
29	X	2700	U
29	X	2705	A
29	X	2707	G
29	X	2711	G
29	X	2712	G
29	X	2713	A
29	X	2728	A
29	X	2730	A
29	X	2731	G
29	X	2732	C

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Mol	Chain	Res	Type
29	X	2736	U
29	X	2737	A
29	X	2738	A
29	X	2744	A
29	X	2745	A
29	X	2746	G
29	X	2757	G
29	X	2758	A
29	X	2759	U
29	X	2760	G
29	X	2761	A
29	X	2770	A
29	X	2771	C
29	X	2775	U
29	X	2777	A
29	X	2778	U
29	X	2779	C
29	X	2782	G
29	X	2783	U
29	X	2795	A
29	X	2796	A
29	X	2807	U
29	X	2808	U
29	X	2809	A
29	X	2811	G
29	X	2812	A
29	X	2824	C
29	X	2825	A
29	X	2841	U
29	X	2842	C
29	X	2846	G
29	X	2847	G
29	X	2850	U
29	X	2854	G
29	X	2855	C
29	X	2858	A
29	X	2867	G
29	X	2868	G
31	Z	4	C
31	Z	11	G
31	Z	14	C
31	Z	15	A

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Mol	Chain	Res	Type
31	Z	17	A
31	Z	18	G
31	Z	27	A
31	Z	28	A
31	Z	37	C
31	Z	43	G
31	Z	44	C
31	Z	46	G
31	Z	47	A
31	Z	54	U
31	Z	59	A
31	Z	68	A
31	Z	69	G
31	Z	87	C
31	Z	102	A
31	Z	110	U
31	Z	111	C
31	Z	112	A
31	Z	115	G
31	Z	123	U

All (240) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
29	X	3	U
29	X	13	A
29	X	33	C
29	X	38	G
29	X	48	A
29	X	71	A
29	X	73	A
29	X	117	A
29	X	173	A
29	X	176	A
29	X	181	A
29	X	192	G
29	X	198	A
29	X	218	A
29	X	226	C
29	X	322	A
29	X	334	G
29	X	340	G

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Mol	Chain	Res	Type
29	X	341	A
29	X	342	G
29	X	399	G
29	X	403	A
29	X	417	C
29	X	424	G
29	X	454	G
29	X	460	U
29	X	466	A
29	X	467	U
29	X	468	A
29	X	469	G
29	X	485	G
29	X	490	A
29	X	516	G
29	X	538	A
29	X	539	A
29	X	553	C
29	X	554	U
29	X	555	U
29	X	556	A
29	X	557	U
29	X	571	U
29	X	580	A
29	X	582	G
29	X	583	C
29	X	613	A
29	X	631	G
29	X	638	A
29	X	648	A
29	X	664	C
29	X	683	A
29	X	698	A
29	X	699	G
29	X	729	A
29	X	730	C
29	X	739	G
29	X	741	G
29	X	751	G
29	X	752	G
29	X	765	C
29	X	775	U

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Mol	Chain	Res	Type
29	X	777	A
29	X	780	U
29	X	788	G
29	X	789	G
29	X	795	A
29	X	801	A
29	X	802	A
29	X	803	C
29	X	804	C
29	X	813	A
29	X	814	G
29	X	824	U
29	X	842	A
29	X	843	G
29	X	925	U
29	X	939	C
29	X	956	A
29	X	969	U
29	X	971	A
29	X	984	A
29	X	985	G
29	X	994	A
29	X	1006	C
29	X	1023	U
29	X	1031	C
29	X	1033	G
29	X	1036	G
29	X	1044	U
29	X	1053	G
29	X	1055	A
29	X	1071	U
29	X	1072	U
29	X	1096	A
29	X	1122	A
29	X	1141	U
29	X	1142	G
29	X	1152	C
29	X	1153	A
29	X	1154	A
29	X	1182	U
29	X	1186	G
29	X	1194	U

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Mol	Chain	Res	Type
29	X	1223	G
29	X	1224	A
29	X	1225	G
29	X	1233	A
29	X	1249	G
29	X	1260	A
29	X	1261	G
29	X	1263	G
29	X	1264	C
29	X	1265	G
29	X	1266	G
29	X	1278	A
29	X	1285	A
29	X	1299	A
29	X	1301	U
29	X	1313	U
29	X	1315	A
29	X	1324	G
29	X	1325	U
29	X	1338	G
29	X	1342	U
29	X	1345	G
29	X	1354	A
29	X	1355	A
29	X	1391	A
29	X	1409	U
29	X	1439	G
29	X	1441	A
29	X	1442	C
29	X	1459	U
29	X	1473	U
29	X	1474	A
29	X	1496	G
29	X	1552	C
29	X	1561	A
29	X	1575	C
29	X	1601	U
29	X	1607	A
29	X	1618	U
29	X	1623	C
29	X	1626	A
29	X	1632	A

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Mol	Chain	Res	Type
29	X	1633	C
29	X	1634	A
29	X	1651	U
29	X	1664	G
29	X	1670	G
29	X	1684	G
29	X	1685	A
29	X	1691	G
29	X	1698	C
29	X	1710	U
29	X	1711	C
29	X	1715	A
29	X	1716	G
29	X	1723	U
29	X	1732	U
29	X	1733	U
29	X	1749	G
29	X	1775	A
29	X	1777	A
29	X	1790	G
29	X	1791	C
29	X	1811	A
29	X	1820	G
29	X	1867	A
29	X	1913	G
29	X	1922	U
29	X	1923	U
29	X	1926	U
29	X	1927	U
29	X	1938	U
29	X	1947	G
29	X	1953	A
29	X	1963	G
29	X	1975	G
29	X	1979	C
29	X	2004	U
29	X	2005	U
29	X	2014	A
29	X	2015	G
29	X	2018	G
29	X	2034	A
29	X	2044	G

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Mol	Chain	Res	Type
29	X	2045	A
29	X	2050	G
29	X	2088	U
29	X	2196	U
29	X	2197	U
29	X	2204	A
29	X	2217	G
29	X	2228	U
29	X	2237	C
29	X	2245	A
29	X	2261	G
29	X	2265	A
29	X	2267	A
29	X	2275	U
29	X	2312	A
29	X	2322	U
29	X	2323	U
29	X	2324	G
29	X	2404	A
29	X	2405	A
29	X	2418	A
29	X	2426	G
29	X	2427	A
29	X	2428	U
29	X	2469	G
29	X	2482	A
29	X	2497	A
29	X	2498	U
29	X	2521	A
29	X	2545	A
29	X	2551	A
29	X	2560	G
29	X	2592	U
29	X	2593	A
29	X	2633	A
29	X	2660	C
29	X	2668	U
29	X	2669	C
29	X	2691	C
29	X	2693	U
29	X	2706	U
29	X	2712	G

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Mol	Chain	Res	Type
29	X	2736	U
29	X	2756	A
29	X	2770	A
29	X	2807	U
29	X	2810	A
29	X	2823	G
29	X	2824	C
29	X	2841	U
29	X	2848	A
29	X	2854	G
29	X	2867	G
31	Z	26	G

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

Of 10 non-standard protein/DNA/RNA residues modelled in this entry, 1 is modelled with single atom - leaving 9 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# $ Z  > 2$	Counts	RMSZ	# $ Z  > 2$
5	BB9	5	5	5	3,5,6	4.14	1 (33%)	1,5,7	0.14	0
5	BB9	5	7	5	3,5,6	3.15	2 (66%)	1,5,7	4.72	1 (100%)
5	BB9	5	11	5	3,5,6	0.69	0	1,5,7	1.85	0
5	DBU	5	4	5	4,4,6	4.92	4 (100%)	4,4,7	2.20	1 (25%)
5	DHA	5	12	5	4,4,5	4.99	2 (50%)	2,4,6	2.86	2 (100%)
5	BB9	5	9	5	2,4,6	1.52	1 (50%)	3,4,7	2.11	2 (66%)
5	BB9	5	2	5	3,5,6	6.54	2 (66%)	1,5,7	5.98	1 (100%)
5	3GL	5	6	33,5	5,8,10	2.40	3 (60%)	6,10,13	1.65	1 (16%)
5	MH6	5	10	5	3,4,6	3.22	1 (33%)	2,4,7	3.95	2 (100%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns.

'-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	BB9	5	5	5	-	0/0/4/6	-
5	BB9	5	7	5	-	0/0/4/6	-
5	BB9	5	11	5	-	0/0/4/6	-
5	DBU	5	4	5	-	1/1/2/6	-
5	DHA	5	12	5	-	0/0/2/4	-
5	BB9	5	9	5	-	0/0/2/6	-
5	BB9	5	2	5	-	0/0/4/6	-
5	3GL	5	6	33,5	-	0/4/8/12	-
5	MH6	5	10	5	-	1/1/2/6	-

All (16) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	5	2	BB9	C-CA	10.97	1.62	1.45
5	5	12	DHA	C-CA	9.31	1.60	1.45
5	5	5	BB9	C-CA	7.11	1.56	1.45
5	5	4	DBU	CA-N	6.37	1.49	1.33
5	5	10	MH6	CA-N	5.30	1.41	1.27
5	5	4	DBU	CB-CA	-5.21	1.27	1.33
5	5	7	BB9	O-C	4.75	1.33	1.22
5	5	4	DBU	CG-CB	3.87	1.64	1.49
5	5	4	DBU	C-CA	-3.72	1.38	1.49
5	5	6	3GL	CA-N	-3.42	1.39	1.49
5	5	12	DHA	O-C	-3.27	1.14	1.22
5	5	2	BB9	CA-N	2.68	1.42	1.35
5	5	6	3GL	OH-CG	-2.58	1.37	1.42
5	5	6	3GL	CB-CA	2.54	1.57	1.53
5	5	7	BB9	C-CA	2.21	1.48	1.45
5	5	9	BB9	C-CA	2.03	1.56	1.49

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	5	2	BB9	O-C-CA	-5.98	117.79	125.39
5	5	7	BB9	O-C-CA	-4.72	119.39	125.39
5	5	10	MH6	OG-CB-CA	4.21	120.27	112.19
5	5	6	3GL	OH-CG-CB	3.67	116.39	108.78
5	5	10	MH6	C-CA-CB	3.67	126.14	118.30
5	5	4	DBU	C-CA-N	-3.67	112.42	116.53
5	5	12	DHA	O-C-CA	-3.39	119.22	125.54
5	5	9	BB9	C-CA-N	2.80	119.65	116.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	5	9	BB9	C-CA-CB	-2.35	117.11	121.39
5	5	12	DHA	CB-CA-N	2.20	131.03	125.81

There are no chirality outliers.

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	5	10	MH6	C-CA-CB-OG
5	5	4	DBU	C-CA-CB-CG

There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	5	7	BB9	2	0
5	5	4	DBU	1	0

## 5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

## 5.6 Ligand geometry [i](#)

Of 38 ligands modelled in this entry, 37 are monoatomic - leaving 1 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
33	NO1	5	14	5	11,14,16	4.69	6 (54%)	12,20,23	4.52	9 (75%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns.



'-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
33	NO1	5	14	5	-	0/0/2/6	0/2/2/2

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
33	5	14	NO1	CE3-CD2	10.42	1.61	1.44
33	5	14	NO1	CF-CE3	-7.89	1.36	1.51
33	5	14	NO1	CH2-CZ3	6.13	1.51	1.38
33	5	14	NO1	CZ3-CE3	-4.06	1.29	1.37
33	5	14	NO1	CD1-C	-2.31	1.46	1.48
33	5	14	NO1	CZ2-CE2	-2.04	1.38	1.41

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	5	14	NO1	CE3-CD2-CE2	-9.91	106.80	122.70
33	5	14	NO1	CZ2-CE2-CD2	7.96	135.30	120.76
33	5	14	NO1	CF-CE3-CD2	-5.37	114.51	124.37
33	5	14	NO1	CH2-CZ2-CE2	-4.22	114.00	120.08
33	5	14	NO1	CZ2-CE2-NE1	-3.05	121.93	130.78
33	5	14	NO1	O-C-CD1	2.96	127.03	124.22
33	5	14	NO1	CH2-CZ3-CE3	2.55	126.53	122.15
33	5	14	NO1	CF-CE3-CZ3	2.24	125.90	120.19
33	5	14	NO1	CZ2-CH2-CZ3	-2.22	117.45	120.99

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 6 Fit of model and data ⓘ

### 6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95<sup>th</sup> percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	1	53/55 (96%)	3.66	39 (73%) 0 0	91, 120, 138, 158	0
2	2	46/47 (97%)	5.49	42 (91%) 0 0	42, 90, 117, 151	0
3	3	63/66 (95%)	4.98	57 (90%) 0 0	52, 106, 135, 145	0
4	4	37/37 (100%)	0.53	3 (8%) 12 9	73, 124, 148, 152	0
5	5	3/13 (23%)	-0.10	0 100 100	84, 84, 84, 84	0
6	A	240/274 (87%)	0.28	14 (5%) 23 16	36, 129, 160, 198	0
7	B	205/211 (97%)	-0.53	0 100 100	13, 85, 130, 161	0
8	C	197/205 (96%)	-0.28	3 (1%) 73 63	24, 110, 147, 170	0
9	D	177/180 (98%)	-0.02	7 (3%) 38 28	101, 136, 160, 179	0
10	E	171/185 (92%)	-0.23	3 (1%) 68 57	79, 131, 158, 176	0
11	F	144/144 (100%)	0.62	13 (9%) 9 7	117, 148, 172, 188	0
12	G	142/174 (81%)	0.02	6 (4%) 36 27	30, 112, 143, 169	0
13	H	134/134 (100%)	-0.69	0 100 100	13, 67, 106, 127	0
14	I	141/156 (90%)	0.18	6 (4%) 35 26	13, 128, 156, 181	0
15	J	136/142 (95%)	-0.03	4 (2%) 51 39	25, 112, 155, 202	0
16	K	113/116 (97%)	-0.67	0 100 100	13, 57, 111, 148	0
17	L	104/114 (91%)	0.18	5 (4%) 30 22	73, 125, 149, 167	0
18	M	108/166 (65%)	-0.56	0 100 100	13, 76, 121, 150	0
19	N	117/118 (99%)	-0.30	2 (1%) 70 59	16, 104, 144, 182	0
20	O	94/100 (94%)	-0.15	1 (1%) 80 71	28, 117, 151, 160	0
21	P	127/134 (94%)	-0.61	1 (0%) 86 78	13, 76, 126, 155	0
22	Q	93/95 (97%)	-0.34	0 100 100	35, 114, 152, 159	0
23	R	110/115 (95%)	-0.41	0 100 100	53, 118, 145, 161	0
24	S	175/237 (73%)	0.25	11 (6%) 20 13	78, 136, 159, 184	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
25	T	84/91 (92%)	0.20	5 (5%) 21 15	75, 117, 145, 181	0
26	U	72/81 (88%)	0.27	2 (2%) 53 40	60, 130, 160, 180	0
27	V	66/67 (98%)	-0.42	1 (1%) 73 63	83, 126, 158, 169	0
28	W	55/55 (100%)	-0.20	0 100 100	35, 105, 140, 169	0
29	X	2686/2880 (93%)	0.25	116 (4%) 35 26	13, 114, 186, 250	0
30	Y	58/60 (96%)	-0.66	0 100 100	13, 70, 119, 132	0
31	Z	122/123 (99%)	0.67	10 (8%) 11 9	38, 143, 188, 205	0
All	All	6073/6575 (92%)	0.18	351 (5%) 23 16	13, 116, 174, 250	0

All (351) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	2	6	GLN	16.9
3	3	35	GLY	13.4
3	3	7	HIS	13.4
2	2	8	ASN	13.2
3	3	33	ASN	11.9
3	3	10	ALA	11.7
3	3	34	THR	11.5
2	2	20	ALA	11.2
3	3	32	GLN	11.1
3	3	8	LYS	10.8
2	2	24	THR	10.2
3	3	31	HIS	9.3
1	1	26	LYS	9.2
3	3	62	LEU	9.0
1	1	24	THR	8.9
2	2	10	ARG	8.9
2	2	26	SER	8.8
2	2	22	MET	8.7
1	1	44	ALA	8.7
29	X	1057	A	8.5
3	3	6	THR	8.0
3	3	5	LYS	7.9
1	1	40	TYR	7.8
3	3	44	LYS	7.7
3	3	41	ILE	7.5
1	1	42	PRO	7.4
3	3	11	LYS	7.4
29	X	1085	G	7.1

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Mol	Chain	Res	Type	RSRZ
2	2	15	THR	7.1
2	2	9	ASN	7.1
3	3	63	PRO	7.0
2	2	36	ALA	6.9
2	2	38	GLY	6.9
6	A	249	PRO	6.8
29	X	699	G	6.7
2	2	7	PRO	6.7
2	2	34	ARG	6.6
2	2	35	ARG	6.6
2	2	11	LYS	6.6
2	2	4	THR	6.5
1	1	27	ASN	6.4
6	A	250	TRP	6.2
3	3	4	MET	6.1
3	3	56	ALA	6.0
2	2	39	ARG	6.0
2	2	23	LYS	6.0
2	2	13	ALA	5.9
3	3	64	ARG	5.8
2	2	3	ARG	5.8
29	X	1086	C	5.8
1	1	43	VAL	5.8
1	1	21	TYR	5.8
1	1	38	LYS	5.7
11	F	137	THR	5.7
29	X	514	G	5.7
3	3	46	LYS	5.7
11	F	114	ASP	5.6
31	Z	4	C	5.5
1	1	47	HIS	5.4
3	3	58	MET	5.3
3	3	51	ALA	5.2
1	1	39	LYS	5.1
3	3	14	ILE	5.0
1	1	14	SER	5.0
1	1	46	LYS	5.0
2	2	43	THR	5.0
2	2	40	HIS	4.9
3	3	39	ASP	4.9
3	3	61	MET	4.9
1	1	11	LYS	4.9

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Mol	Chain	Res	Type	RSRZ
3	3	26	LYS	4.9
2	2	45	SER	4.9
3	3	27	SER	4.8
2	2	21	ARG	4.8
2	2	25	LYS	4.8
2	2	42	LEU	4.7
3	3	30	ARG	4.7
3	3	38	GLY	4.6
2	2	44	VAL	4.6
3	3	22	VAL	4.5
1	1	45	LYS	4.5
2	2	16	HIS	4.5
1	1	41	ASP	4.5
29	X	248	A	4.5
3	3	53	ALA	4.3
29	X	731	A	4.3
29	X	1072	U	4.3
3	3	42	ARG	4.3
1	1	2	ALA	4.3
3	3	60	LEU	4.2
9	D	23	SER	4.2
11	F	125	ASN	4.2
1	1	31	THR	4.2
29	X	1089	C	4.2
29	X	1084	A	4.1
1	1	36	GLU	4.1
2	2	41	GLN	4.1
2	2	31	LEU	4.1
2	2	18	PHE	4.0
1	1	10	VAL	4.0
2	2	46	ASP	4.0
1	1	25	THR	4.0
1	1	22	TYR	4.0
1	1	35	LEU	4.0
24	S	17	SER	3.9
14	I	60	LEU	3.9
4	4	37	GLY	3.9
29	X	1091	C	3.9
29	X	1095	A	3.8
15	J	107	VAL	3.8
29	X	1069	G	3.8
24	S	91	PRO	3.8

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Mol	Chain	Res	Type	RSRZ
1	1	15	SER	3.8
29	X	2731	G	3.8
3	3	17	THR	3.8
2	2	27	GLY	3.7
12	G	158	HIS	3.7
3	3	47	GLY	3.7
3	3	59	LYS	3.7
2	2	28	ARG	3.7
3	3	12	ARG	3.7
29	X	2170	C	3.7
11	F	130	THR	3.7
1	1	12	MET	3.7
29	X	2174	G	3.6
2	2	17	GLY	3.6
29	X	2326	C	3.6
14	I	52	GLY	3.6
12	G	94	LYS	3.6
1	1	48	VAL	3.6
2	2	12	ARG	3.5
12	G	155	THR	3.5
3	3	20	GLY	3.5
29	X	665	A	3.5
1	1	30	ASN	3.5
1	1	37	LEU	3.5
29	X	1056	U	3.5
29	X	434	C	3.5
29	X	1524	C	3.5
6	A	47	GLY	3.5
1	1	28	ARG	3.5
3	3	19	THR	3.5
29	X	1081	A	3.4
29	X	1114	A	3.4
29	X	2409	A	3.4
14	I	29	THR	3.4
3	3	3	LYS	3.4
6	A	149	PRO	3.4
29	X	928	G	3.4
29	X	1090	C	3.4
3	3	18	GLY	3.4
29	X	1058	G	3.4
20	O	23	GLU	3.4
29	X	1080	A	3.4

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
31	Z	2	C	3.4
1	1	3	LYS	3.4
11	F	128	ALA	3.4
11	F	18	THR	3.3
24	S	92	VAL	3.3
3	3	54	GLU	3.3
1	1	13	GLU	3.3
3	3	13	ARG	3.3
11	F	129	GLY	3.3
29	X	1017	C	3.3
12	G	40	ASN	3.2
3	3	2	PRO	3.2
31	Z	5	C	3.2
3	3	25	PHE	3.2
29	X	926	C	3.2
1	1	4	ASP	3.2
3	3	52	LYS	3.2
29	X	1913	G	3.1
10	E	68	THR	3.1
3	3	29	LYS	3.1
31	Z	42	U	3.1
2	2	30	ILE	3.1
29	X	1120	C	3.1
2	2	1	MET	3.1
27	V	3	PRO	3.0
11	F	96	VAL	3.0
29	X	2877	A	3.0
17	L	56	SER	3.0
24	S	93	GLU	3.0
29	X	2778	U	3.0
17	L	57	ALA	3.0
29	X	872	G	3.0
29	X	1525	A	3.0
1	1	9	ILE	3.0
19	N	91	ASN	3.0
29	X	2359	U	3.0
19	N	89	ASP	3.0
4	4	36	GLN	2.9
29	X	1060	C	2.9
29	X	1514	C	2.9
6	A	251	GLY	2.9
25	T	10	SER	2.9

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Mol	Chain	Res	Type	RSRZ
3	3	50	LEU	2.9
11	F	135	GLY	2.9
12	G	159	SER	2.9
29	X	520	C	2.9
11	F	97	GLY	2.9
24	S	23	ALA	2.9
6	A	170	SER	2.9
29	X	2280	A	2.8
1	1	20	PHE	2.8
31	Z	123	U	2.8
3	3	9	MET	2.8
31	Z	3	A	2.8
11	F	136	VAL	2.8
29	X	2779	C	2.8
29	X	2777	A	2.8
9	D	145	MET	2.8
29	X	1115	C	2.8
31	Z	43	G	2.8
25	T	66	LYS	2.8
29	X	1100	G	2.8
29	X	700	C	2.7
29	X	1187	A	2.7
12	G	156	HIS	2.7
3	3	57	ARG	2.7
15	J	32	ASP	2.7
3	3	23	MET	2.7
3	3	16	ILE	2.7
3	3	24	ALA	2.7
4	4	24	LEU	2.7
29	X	1068	A	2.7
29	X	1526	U	2.7
1	1	16	ALA	2.7
2	2	32	ALA	2.6
29	X	1061	A	2.6
26	U	14	VAL	2.6
29	X	75	C	2.6
3	3	55	TRP	2.6
29	X	417	C	2.6
6	A	41	GLY	2.6
29	X	2776	U	2.6
24	S	83	PHE	2.6
29	X	1951	G	2.6

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Mol	Chain	Res	Type	RSRZ
29	X	1121	G	2.5
8	C	20	PRO	2.5
21	P	24	GLY	2.5
11	F	91	PRO	2.5
29	X	1107	A	2.5
29	X	1045	G	2.5
24	S	171	VAL	2.5
29	X	1592	U	2.5
29	X	2324	G	2.5
29	X	1092	U	2.5
10	E	162	VAL	2.5
11	F	108	ALA	2.5
26	U	50	ALA	2.5
29	X	416	U	2.5
29	X	1432	G	2.5
1	1	19	GLY	2.4
29	X	1087	C	2.4
29	X	2290	A	2.4
29	X	2289	A	2.4
29	X	999	A	2.4
29	X	1110	G	2.4
29	X	1059	A	2.4
29	X	730	C	2.4
29	X	865	A	2.4
6	A	42	GLY	2.4
9	D	61	THR	2.4
25	T	9	SER	2.4
29	X	1023	U	2.4
29	X	984	A	2.4
29	X	2328	G	2.3
2	2	2	LYS	2.3
31	Z	8	C	2.3
6	A	138	VAL	2.3
17	L	9	ARG	2.3
29	X	1106	A	2.3
29	X	1601	U	2.3
24	S	155	PRO	2.3
10	E	23	VAL	2.3
9	D	27	ALA	2.3
29	X	1513	U	2.3
29	X	461	A	2.3
29	X	729	A	2.3

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Mol	Chain	Res	Type	RSRZ
29	X	1032	A	2.3
29	X	2444	C	2.3
29	X	2780	A	2.3
29	X	311	A	2.3
29	X	732	G	2.3
9	D	62	LEU	2.3
29	X	2385	U	2.3
15	J	60	ARG	2.3
29	X	418	C	2.3
29	X	2449	G	2.2
17	L	103	LEU	2.2
8	C	71	ASP	2.2
14	I	8	PRO	2.2
29	X	1099	A	2.2
29	X	1094	C	2.2
31	Z	81	C	2.2
3	3	40	GLU	2.2
29	X	631	G	2.2
29	X	1874	G	2.2
29	X	2701	A	2.2
6	A	190	TYR	2.2
1	1	52	GLU	2.2
6	A	171	ASP	2.2
29	X	2345	A	2.2
29	X	111	G	2.2
29	X	1279	G	2.2
2	2	14	LYS	2.2
29	X	1020	A	2.2
29	X	1062	G	2.2
31	Z	61	A	2.1
1	1	51	ARG	2.1
3	3	21	LYS	2.1
29	X	705	C	2.1
29	X	2270	U	2.1
1	1	8	ILE	2.1
29	X	1409	U	2.1
29	X	1515	U	2.1
6	A	38	PRO	2.1
3	3	48	PHE	2.1
29	X	356	A	2.1
29	X	1109	A	2.1
2	2	29	ASN	2.1

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Mol	Chain	Res	Type	RSRZ
29	X	2087	U	2.1
15	J	140	GLU	2.1
3	3	15	LYS	2.1
8	C	58	MET	2.1
17	L	55	SER	2.1
25	T	3	HIS	2.1
29	X	2072	C	2.1
29	X	2089	C	2.1
9	D	66	ILE	2.1
29	X	1864	G	2.1
24	S	2	GLU	2.1
29	X	879	A	2.1
29	X	1046	U	2.1
29	X	2035	G	2.1
29	X	2465	G	2.1
29	X	2520	A	2.1
9	D	42	SER	2.0
6	A	202	LYS	2.0
29	X	2165	A	2.0
14	I	23	PRO	2.0
24	S	82	ASP	2.0
29	X	443	A	2.0
24	S	55	THR	2.0
29	X	2354	G	2.0
6	A	45	ASN	2.0
25	T	74	LYS	2.0
14	I	33	GLY	2.0
29	X	1064	C	2.0
29	X	2169	A	2.0

## 6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
5	BB9	5	7	6/7	0.74	0.43	83,83,83,83	0
5	3GL	5	6	9/11	0.77	0.36	83,83,83,83	0
5	DHA	5	12	5/6	0.81	0.50	83,83,83,83	0
5	BB9	5	2	6/7	0.84	0.18	83,83,83,83	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
5	BB9	5	9	5/7	0.84	0.26	83,83,83,83	0
5	DBU	5	4	5/7	0.85	0.26	83,83,83,83	0
5	BB9	5	5	6/7	0.86	0.26	83,83,83,83	0
5	MH6	5	10	5/7	0.86	0.27	83,83,83,83	0
5	BB9	5	11	6/7	0.91	0.34	83,83,83,83	0
5	NH2	5	13	1/1	0.95	0.42	83,83,83,83	0

## 6.3 Carbohydrates [i](#)

There are no carbohydrates in this entry.

## 6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
34	MG	X	2908	1/1	0.69	1.05	83,83,83,83	0
34	MG	X	2889	1/1	0.70	0.83	131,131,131,131	0
34	MG	X	2903	1/1	0.74	2.21	82,82,82,82	0
34	MG	X	2883	1/1	0.74	1.51	104,104,104,104	0
34	MG	X	2891	1/1	0.74	0.52	84,84,84,84	0
34	MG	Z	127	1/1	0.78	0.91	98,98,98,98	0
34	MG	X	2881	1/1	0.81	0.70	77,77,77,77	0
34	MG	X	2902	1/1	0.81	1.36	76,76,76,76	0
34	MG	Z	128	1/1	0.81	0.26	110,110,110,110	0
34	MG	X	2885	1/1	0.82	0.69	98,98,98,98	0
34	MG	X	2882	1/1	0.82	0.35	112,112,112,112	0
34	MG	Z	125	1/1	0.82	1.00	83,83,83,83	0
34	MG	X	2892	1/1	0.82	0.57	109,109,109,109	0
34	MG	X	2895	1/1	0.83	0.22	81,81,81,81	0
34	MG	Z	129	1/1	0.83	0.86	101,101,101,101	0
33	NO1	5	14	13/15	0.83	0.28	83,83,83,83	0
34	MG	Z	126	1/1	0.84	1.16	122,122,122,122	0
34	MG	X	2896	1/1	0.85	1.48	86,86,86,86	0
34	MG	X	2893	1/1	0.88	1.13	85,85,85,85	0
32	ZN	4	38	1/1	0.89	0.05	125,125,125,125	0
34	MG	X	2888	1/1	0.89	2.17	73,73,73,73	0
34	MG	X	2901	1/1	0.89	0.54	100,100,100,100	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
32	ZN	Y	61	1/1	0.91	0.08	118,118,118,118	0
34	MG	M	167	1/1	0.91	1.30	68,68,68,68	0
34	MG	Z	124	1/1	0.92	0.63	113,113,113,113	0
34	MG	X	2906	1/1	0.93	1.36	82,82,82,82	0
34	MG	X	2886	1/1	0.94	0.20	80,80,80,80	0
34	MG	X	2907	1/1	0.94	0.38	66,66,66,66	0
34	MG	X	2897	1/1	0.95	0.95	100,100,100,100	0
34	MG	X	2905	1/1	0.95	0.57	123,123,123,123	0
34	MG	X	2898	1/1	0.96	0.57	57,57,57,57	0
34	MG	X	2890	1/1	0.97	0.22	58,58,58,58	0
34	MG	X	2904	1/1	0.97	0.79	81,81,81,81	0
34	MG	X	2900	1/1	0.97	0.12	104,104,104,104	0
34	MG	X	2899	1/1	0.97	0.65	57,57,57,57	0
34	MG	X	2884	1/1	0.98	0.28	98,98,98,98	0
34	MG	X	2887	1/1	0.98	0.75	98,98,98,98	0
34	MG	X	2894	1/1	0.98	0.60	57,57,57,57	0

## 6.5 Other polymers

There are no such residues in this entry.