



# Full wwPDB X-ray Structure Validation Report ⓘ

Jun 7, 2020 – 12:09 am BST

PDB ID : 3CF5  
Title : Thiopeptide antibiotic Thiostrepton 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 : 2008-03-02  
Resolution : 3.30 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

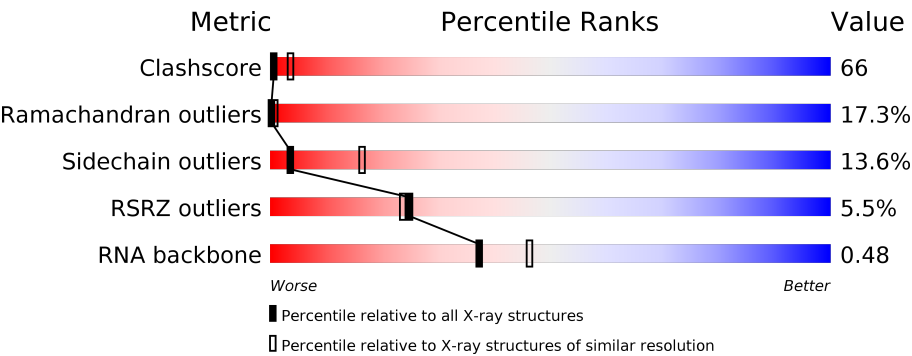
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.30 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	1205 (3.34-3.26)
Ramachandran outliers	138981	1183 (3.34-3.26)
Sidechain outliers	138945	1182 (3.34-3.26)
RSRZ outliers	127900	1115 (3.34-3.26)
RNA backbone	3102	1117 (3.70-2.90)

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>96%</div><div>.</div></div></div>
2	2	47	<div><div>98%</div><div><div></div><div>98%</div><div>.</div></div></div>
3	3	66	<div><div>89%</div><div><div></div><div>94%</div><div>5%</div></div></div>
4	4	37	<div><div>19%</div><div><div>8%</div><div>73%</div><div>19%</div></div></div>
5	5	19	<div><div>5%</div><div><div></div><div>68%</div><div>32%</div></div></div>
6	A	274	<div><div>2%</div><div><div></div><div>17%</div><div>54%</div><div>15%</div><div>12%</div></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
5	BB9	5	13	-	X	-	-
5	BB9	5	15	-	-	-	X
5	DHA	5	16	-	-	-	X
5	DHA	5	3	-	-	-	X

## 2 Entry composition

There are 32 unique types of molecules in this entry. The entry contains 84475 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 THIOSTREPTON.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
5	5	19	Total C N O S 114 72 19 18 5	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 RRNA-23S RIBOSOMAL 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 RRNA-5S RIBOSOMAL RNA.

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

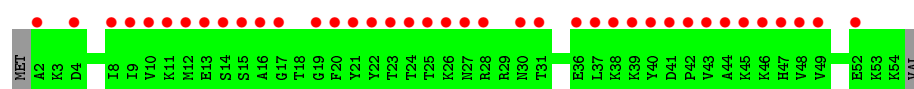
- Molecule 32 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
32	X	30	Total	Mg	0	0
			30	30		
32	Z	5	Total	Mg	0	0
			5	5		
32	M	1	Total	Mg	0	0
			1	1		

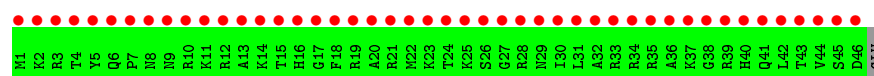
### 3 Residue-property plots [i](#)

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.

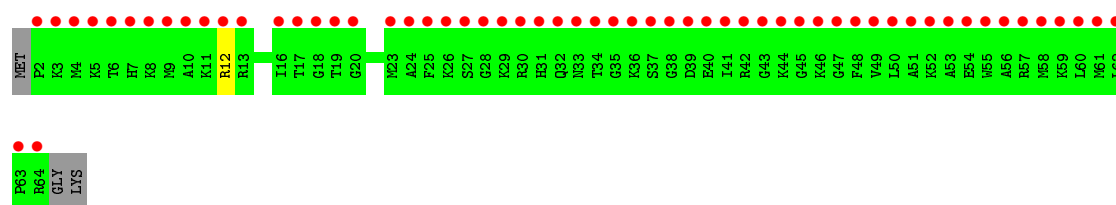
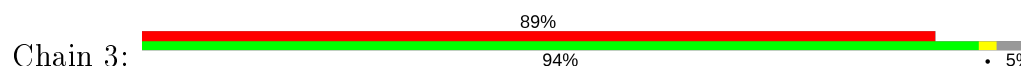
#### • Molecule 1: 50S RIBOSOMAL PROTEIN L33



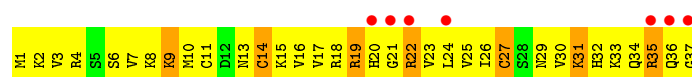
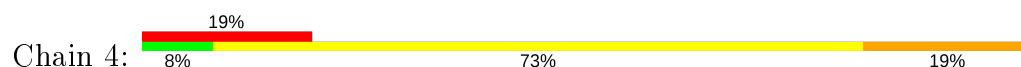
#### • Molecule 2: 50S RIBOSOMAL PROTEIN L34



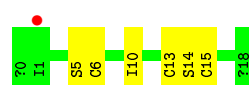
#### • Molecule 3: 50S RIBOSOMAL PROTEIN L35



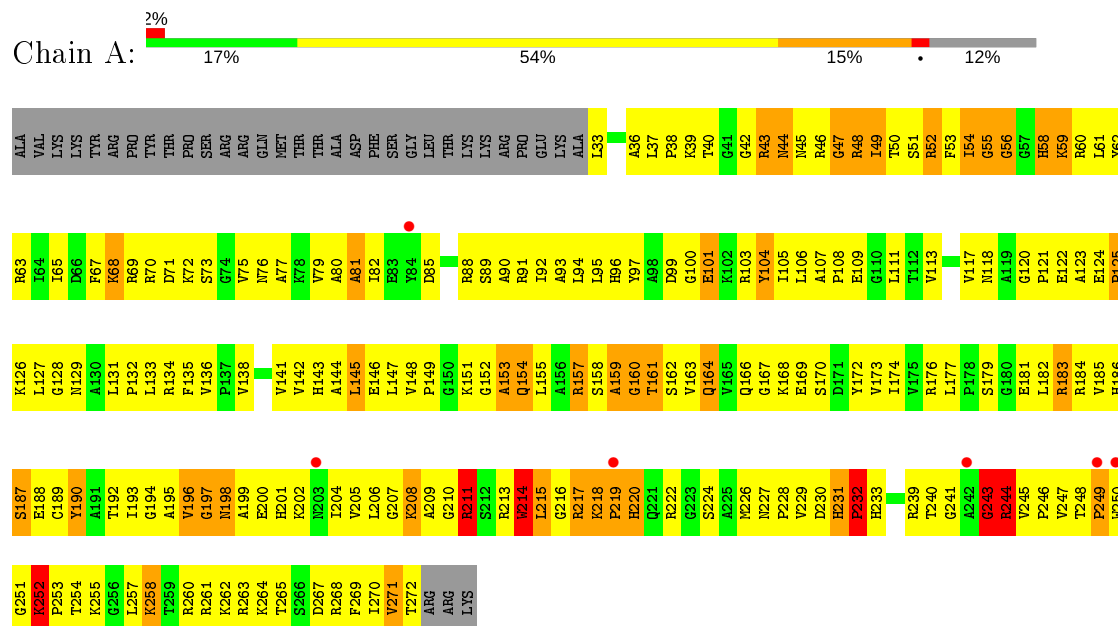
#### • Molecule 4: 50S RIBOSOMAL PROTEIN L36



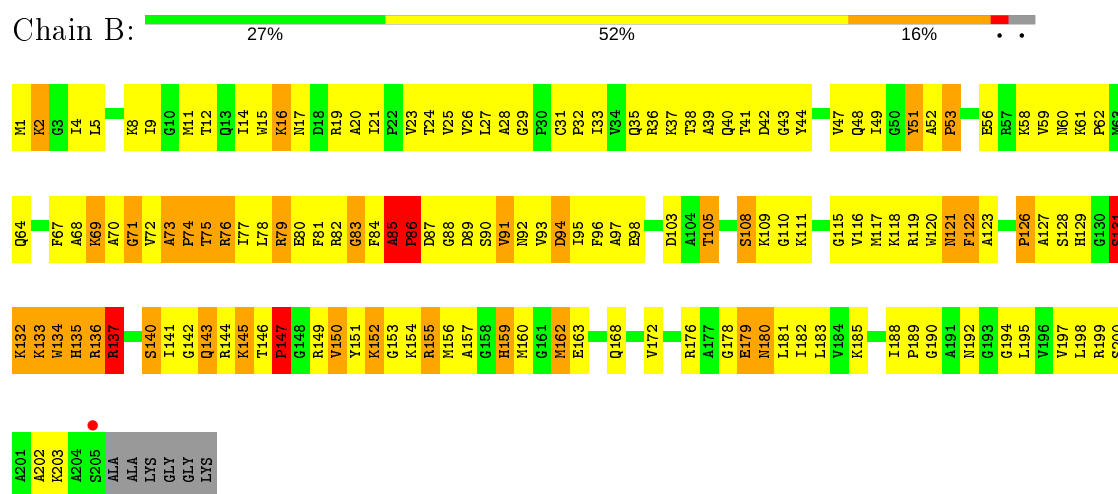
#### • Molecule 5: THIOSTREPTON



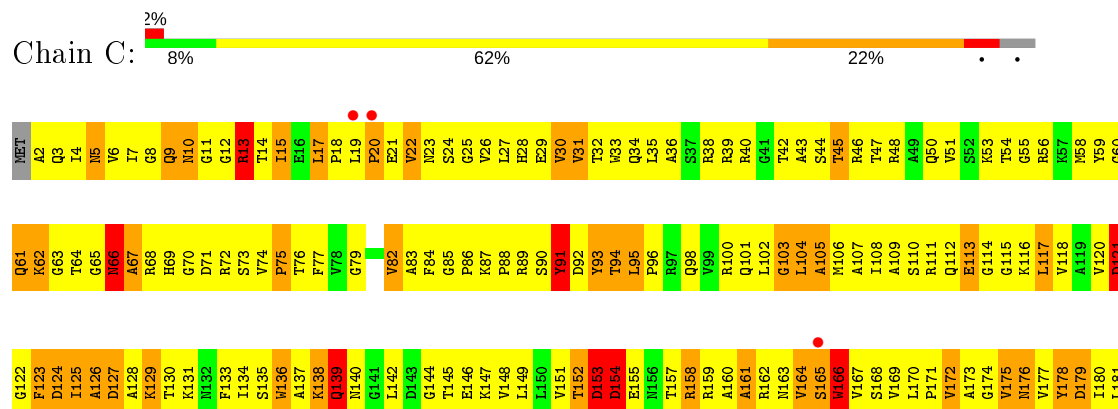
- Molecule 6: 50S RIBOSOMAL PROTEIN L2



- Molecule 7: 50S RIBOSOMAL PROTEIN L3

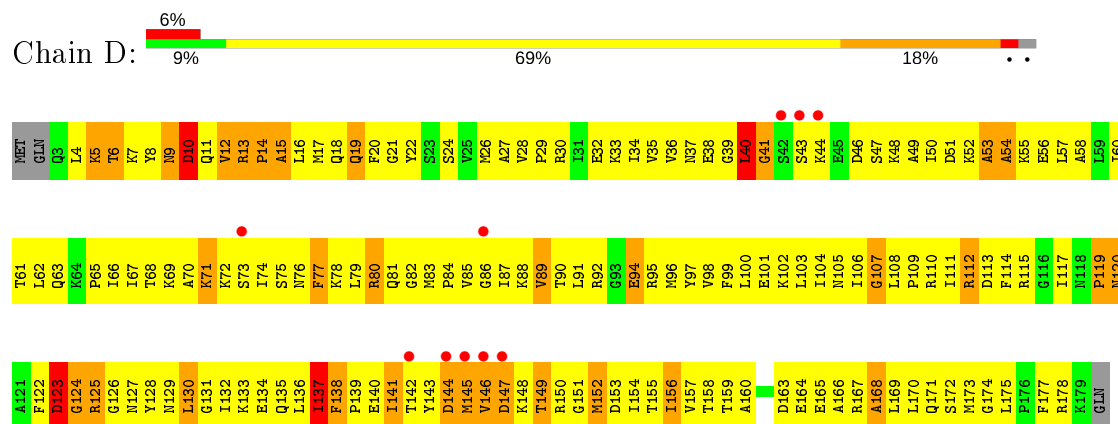


- Molecule 8: 50S RIBOSOMAL PROTEIN L4

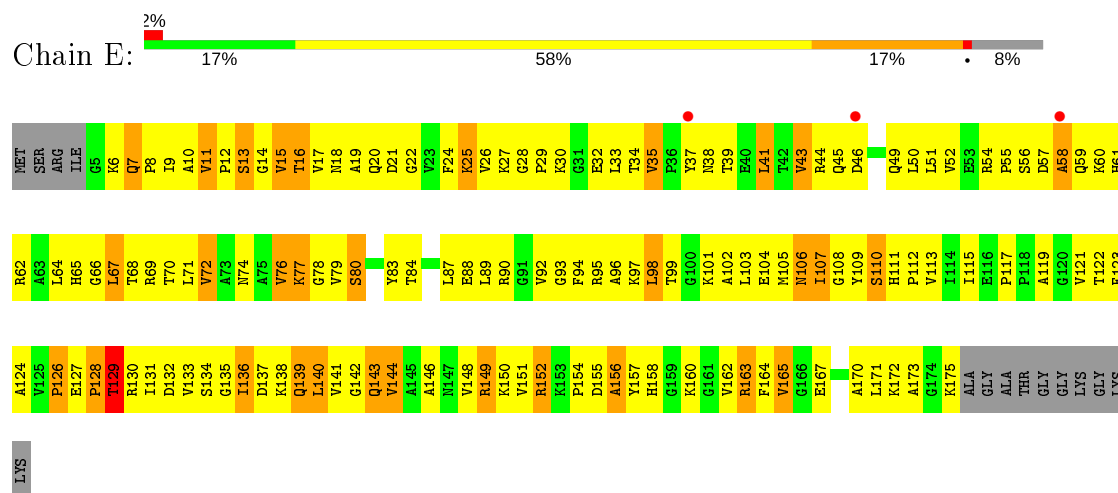




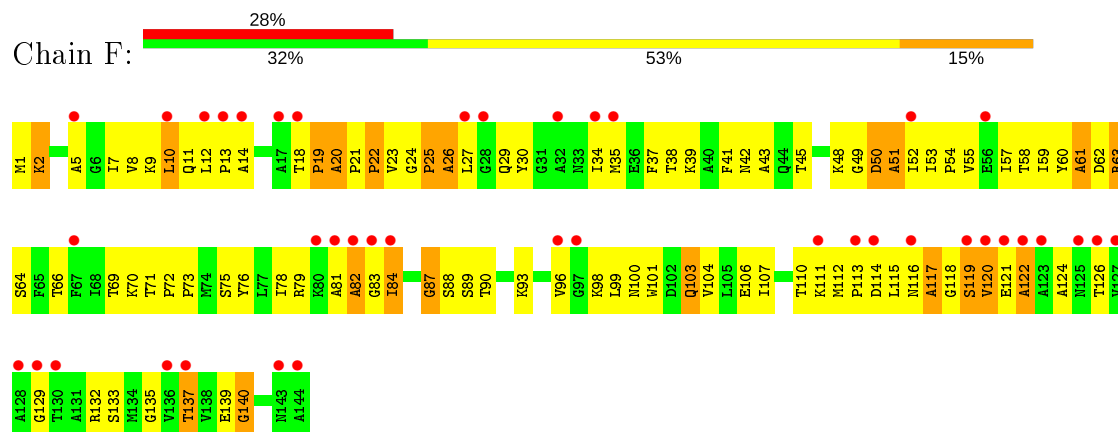
• Molecule 9: 50S RIBOSOMAL PROTEIN L5



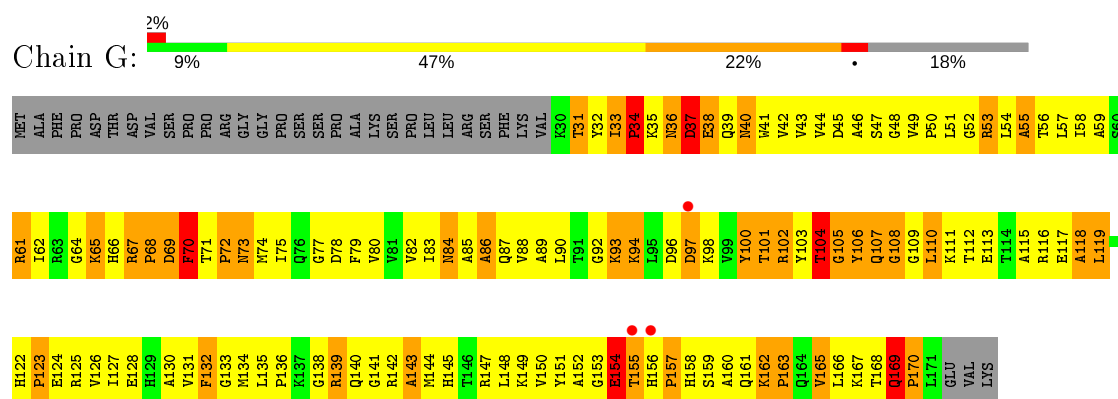
• Molecule 10: 50S RIBOSOMAL PROTEIN L6



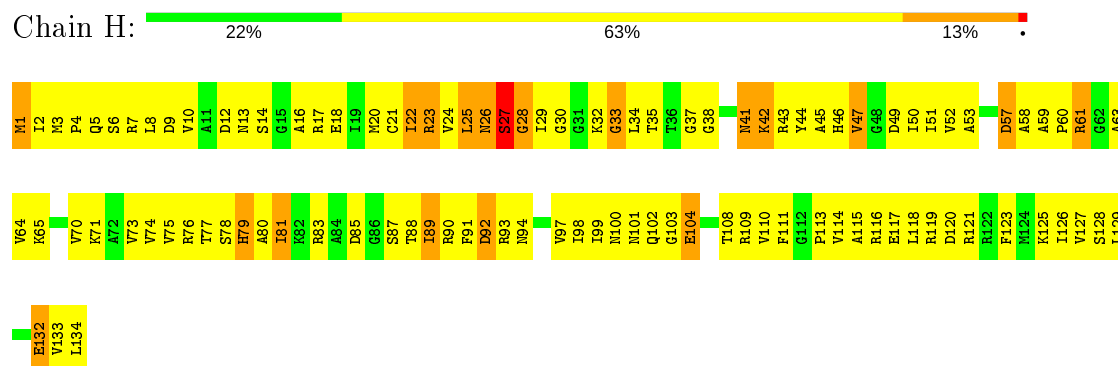
• Molecule 11: 50S RIBOSOMAL PROTEIN L11



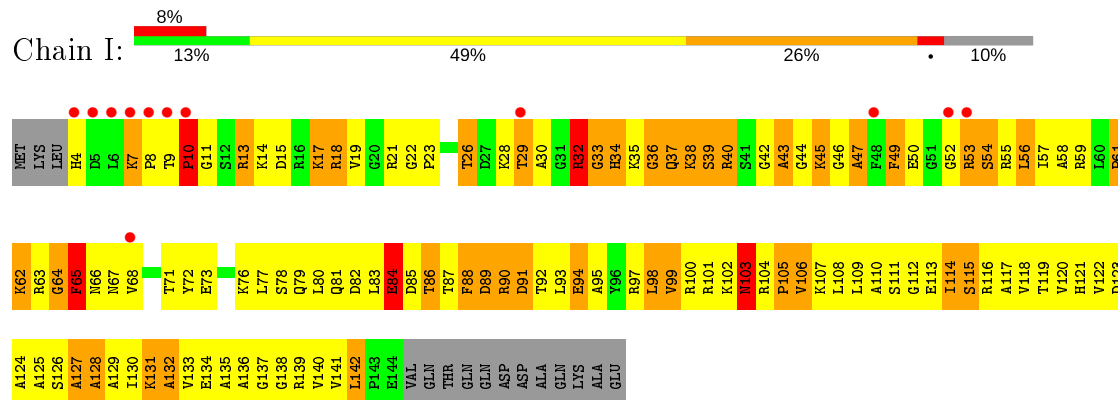
• Molecule 12: 50S RIBOSOMAL PROTEIN L13



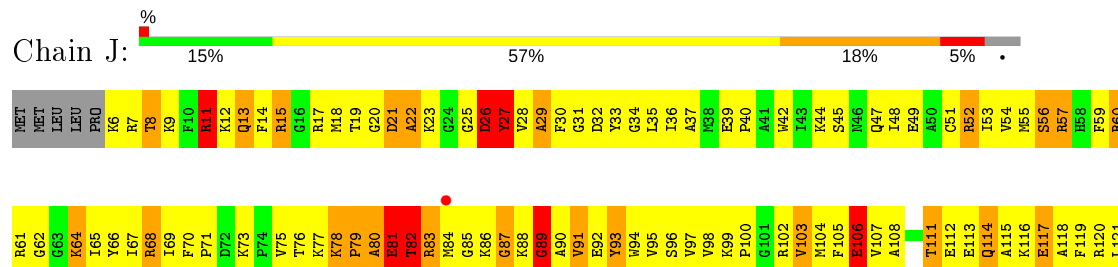
• Molecule 13: 50S RIBOSOMAL PROTEIN L14

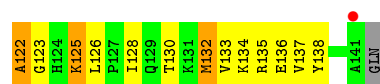


• Molecule 14: 50S RIBOSOMAL PROTEIN L15

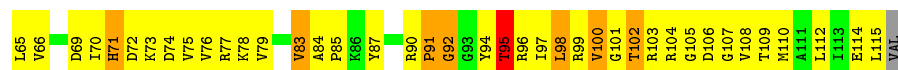


• Molecule 15: 50S RIBOSOMAL PROTEIN L16

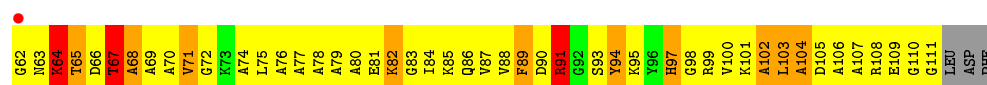
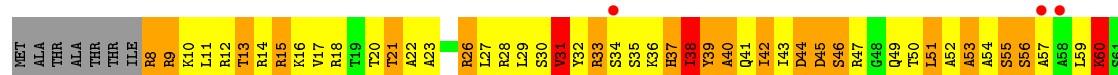




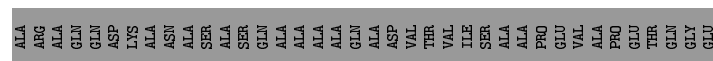
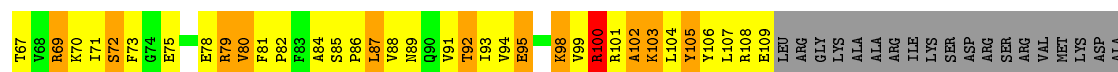
• Molecule 16: 50S RIBOSOMAL PROTEIN L17



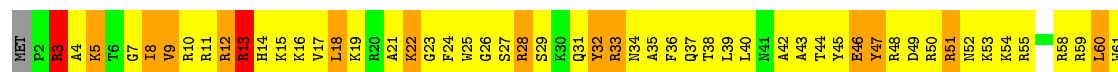
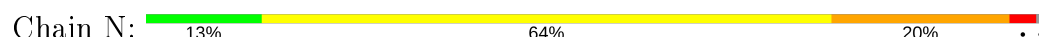
• Molecule 17: 50S RIBOSOMAL PROTEIN L18



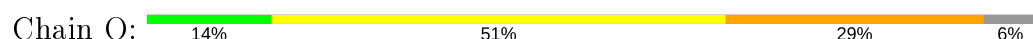
• Molecule 18: 50S RIBOSOMAL PROTEIN L19

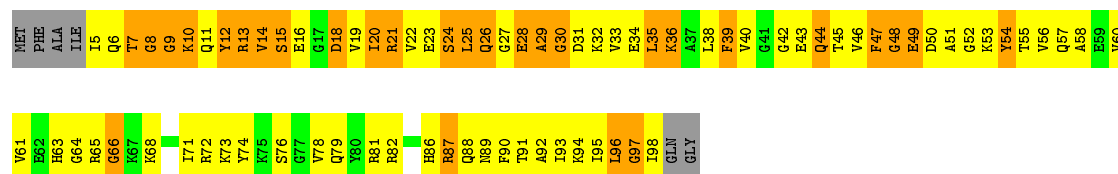


• Molecule 19: 50S RIBOSOMAL PROTEIN L20



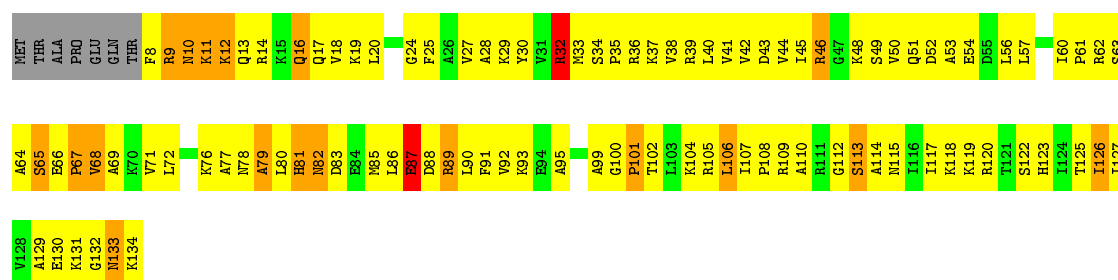
• Molecule 20: 50S RIBOSOMAL PROTEIN L21





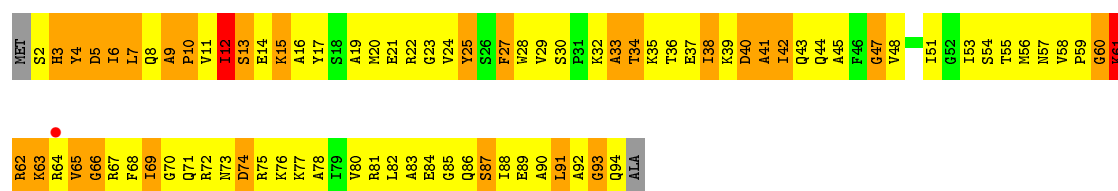
• Molecule 21: 50S RIBOSOMAL PROTEIN L22

Chain P: 19% 61% 13% 5%



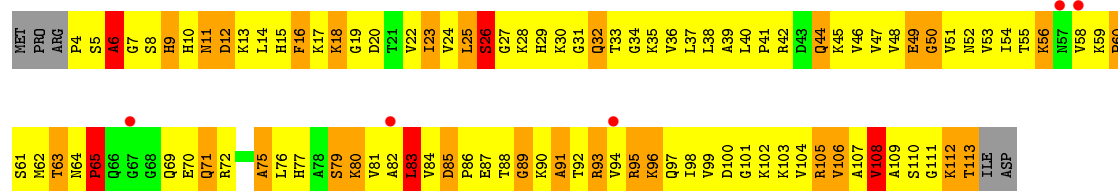
• Molecule 22: 50S RIBOSOMAL PROTEIN L23

Chain Q: 8% 58% 29% . .



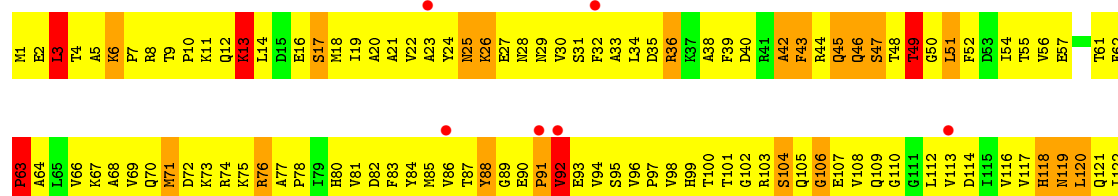
• Molecule 23: 50S RIBOSOMAL PROTEIN L24

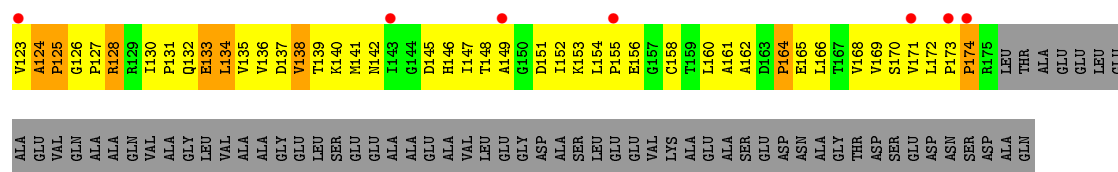
Chain R: 4% 8% 59% 24% . .



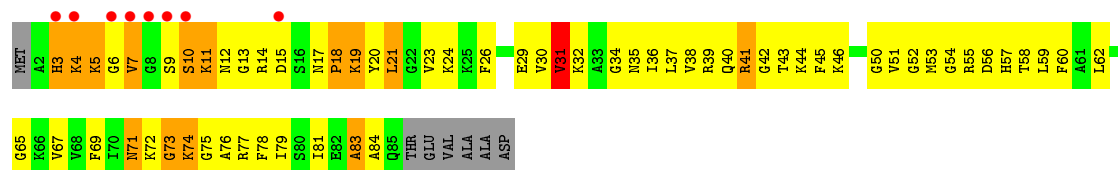
• Molecule 24: 50S RIBOSOMAL PROTEIN L25

Chain S: 5% 8% 51% 12% 26%

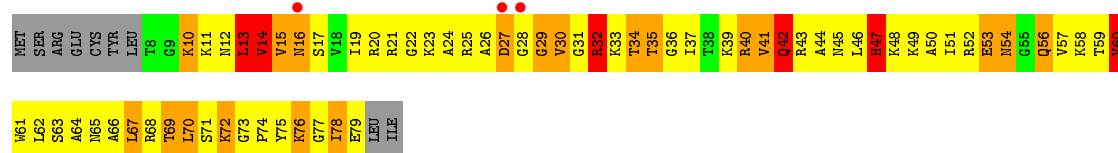




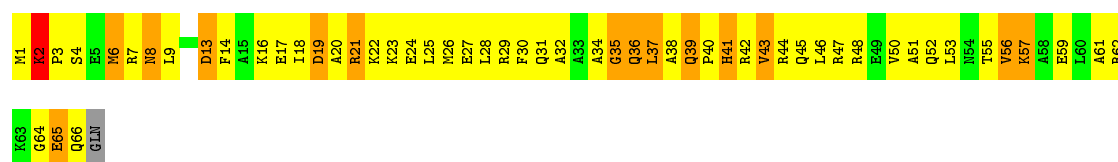
● Molecule 25: 50S RIBOSOMAL PROTEIN L27



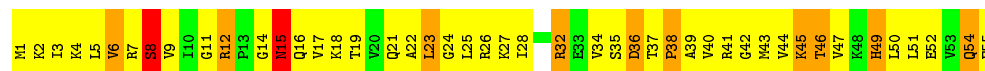
• Molecule 26: 50S RIBOSOMAL PROTEIN L28



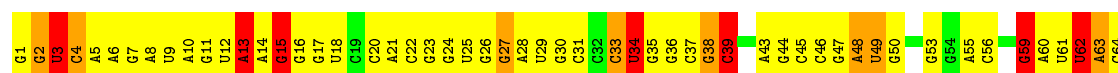
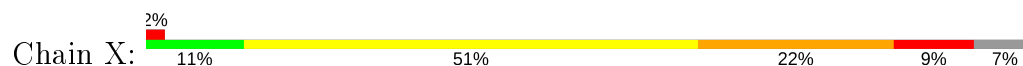
● Molecule 27: 50S RIBOSOMAL PROTEIN L29



- Molecule 28: 50S RIBOSOMAL PROTEIN L30



- Molecule 29: RRNA-23S RIBOSOMAL RNA

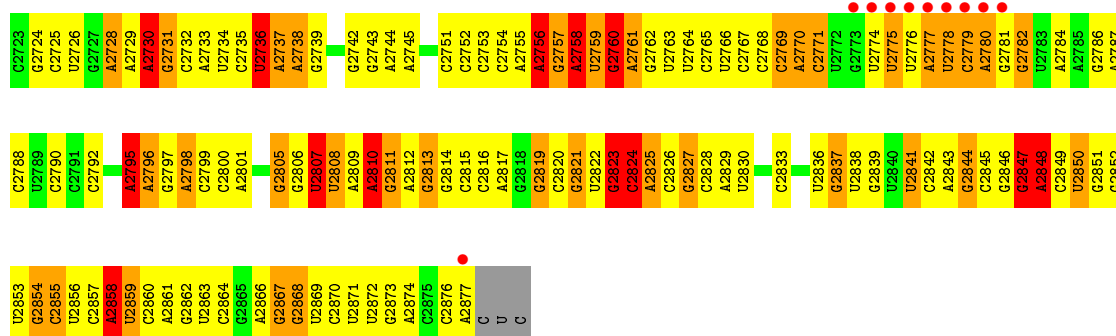




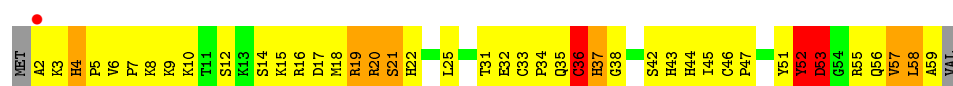
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A929	U866	A801	G620	A494	G433	A	G312	A190	C128	U66
A930	G867	A802	U621	C495	U313	C	U313	G191	A129	
G931	U868	G881	G682	C496	G314	A	G314	G192	C130	G69
G932	G869	A743	U622	C497	A435	U	G315	A193	C131	A70
G933	C870	G744	G683	C498	A436	G	G316	A194	U132	A71
G934	C871	C745	A624	C499	G437	C	U317	G195	A72	A72
A935	U872	U685	A625	G499	G438	G	G318	A196	U135	A73
C936	G872	C686	A626	G500	C439	C	G319	G197	A136	G74
A936	U873	U687	A627	G501	U440	A	G319	G197	A137	C75
C937	A874	A688	A628	A502	U441	C	A320	A198	A138	C76
G938	C875	U689	A629	G503	A442	U	A321	A199	G138	C77
C939	A876	G690	G630	G504	A443	C	A322	A200	A139	C77
G940	G877	A691	G631	G505	U444	G	G323	G201	G140	C78
U941	C878	C692	A632	G506	U445	G	C324	A202	G141	C79
U942	A879	G693	G633	G510	U446	U	U325	G203	U142	A80
U943	U814	A694	G634	G511	U447	A387	A326	A204	A143	C81
A944	U815	G695	C635	A511	C448	G388	C327	A205	U144	G82
G945	A817	U696	G636	A512	C449	G389	A328	U206	C145	A83
U946	G818	G697	G637	A513	C450	U390	C329	G207	C146	G84
C947	C819	U698	A638	G514	A451	C391	C330	C208	G147	
C948	U820	G699	G639	A515	G452	G392	U331	G209	C148	G87
	A821	C700	G640	G516	U453	U393	A332	A210	A149	G88
	G822	U701	G641	A517	G454	U394	A333	U211	A150	A89
	U823	G704	A642	A518	A455	G395	G334	U212	G151	G90
	U824	C705	A643	C520	C456	U396	A335	C213	G152	A91
	G825	G706	A644	C521	C457	U397	A336	C214	A153	U82
	U826	A706	G645	U521	C458	G398	G337	G215	U154	A93
	C827	G707	C646	G522	A459	G399	G338	G155	G155	C94
	C828	G708	G647	A523	U460	U400	U339	G156	G157	G95
	C829	A709	A648	A524	A461	U401	G340	G157	C158	C96
	C830	C710	G649	A525	G462	A402	A341	U220	A158	U97
	G831	C711	U650	C526	C463	A403	G342	A221		U88
	A832	A712	C651	C527	G464	A404	A343	G222	U161	U89
	A833	G713	G652	G528	C465	C405	G344	C223	C162	G100
	U835	G714	G653	U529	A466	G406	U345	G224	A163	A101
	G836	U715	A654	G530	U467	A407	C346	G225	G164	C102
	U837	U716	A655	G531	A468	U408	C347	G226	G165	U103
	A838	G717	U656	A532	G469	G409	U348	G227	G166	C104
	U839	A718	A657	C533	U470	G409	G349	A228	A167	G105
	U840	A719	G658	U534	C471	C411	U350	G229	A168	G106
	A841	A720	G659	C536	C472	U412	A351	G230	C169	G107
	A842	C721	G660	U597	C473	G413	G352	G231	U170	G108
	G843	C722	C661	U598	U474	A414	G353	A232	G171	A109
	U844	C723	G662	A599	U475	A415	C354	A233	A172	U110
	G845	C724	G663	G600	G476	U416	G355	C234	A173	G111
	U846	C725	C664	A601	A477	C417	A356	C235	A174	U112
	C847	G726	U666	A542		C418	A357	C236	C175	C113
	A848	U727	G667	G543	G480	G419	G358	G237	A176	G114
	C849	G728	A668	U544	A481	C420		G238	U177	G115
	C850	A729	G669	C545	A482	G421	G361	A239	C178	A116
		C730	G670	A546	A483	G422	C	C	U179	A117
		A731	U670	U547	G484	G423	C	C	C180	U118
		G732	A671	G548	G485	A424	U302	C241	G181	G119
		C733	C672	G549	U486	A425	C303	A242	G182	G120
		G734	G673	C550	G487	C426	A304	G243	G183	G121
		U735	U674	A551	A488	C427	A305	C244	U183	G122
		G736	C675	C552	A489	A428	G306	C245	A184	G123
		C737	G676	C553	A490	C429	G307	A248	C185	A123
		G738	G677	U554	A491	C	C308	A	C186	A124
		G739	G678	U555	G492	G431	A310	C	U187	A125
									G188	C126
G951	A891	U823	A763	A518	A455	G395	G334	U212	G151	G90
A952	U824	C705	A643	C520	C456	U396	A335	C213	G152	A91
G953	G825	G706	A644	C521	C457	U397	A336	C214	A153	U82
U954	U826	A706	G645	U521	C458	G398	G337	G215	U154	A93
G955	C827	G707	C646	G522	A459	G399	G338	G155	G155	C94
A956	C828	G708	G647	A523	U460	U400	U339	G156	G157	G95
G957	C829	A709	A648	A524	A461	U401	G340	G157	C158	C96
G958	C830	C710	G649	A525	G462	A402	A341	U220	A158	U97
C959	G831	C711	U650	C526	C463	A403	G342	A221		U88
U960	A832	A712	C651	C527	G464	A404	A343	G222	U161	U89
	A833	G713	G652	G528	C465	C405	G344	C223	C162	G100
G965	U835	G714	G653	U529	A466	G406	U345	G224	A163	A101
A966	G836	U715	A654	G530	U467	A407	C346	G225	G164	C102
G967	U837	U716	A655	G531	A468	U408	C347	G226	G165	U103
C968	U838	G717	U656	A532	G469	G409	U348	G227	G166	C104
U969	A838	A718	A657	C533	U470	G409	G349	A228	A167	G105
A970	U839	A719	G658	U534	C471	C411	U350	G229	A168	G106
C971	A840	A720	G659	C536	C472	U412	A351	G230	C169	G107
U972	A841	A721	G660	U597	C473	G413	G352	G231	U170	G108
U974	A842	C721	G661	U598	U474	A414	G353	A232	G171	A109
C975	G843	C722	C662	A599	U475	A415	C354	A233	A172	U110
G976	U844	C723	G663	G600	G476	U416	G355	C234	A173	G111
G977	U845	C724	G664	A601	A477	C417	A356	C235	A174	U112
	C846	C725	C664	A542		C418	A357	C236	C175	C113
	A847	G726	U666	G543	G480	G419	G358	G237	A176	G114
C914	C847	U727	G667	U544	A481	C420		G238	U177	G115
U915	A848	G728	A668	C545	A482	G421	G361	A239	C178	A116
U917	C849	A729	G669	A546	A483	G422	C	C	U179	A117
A918	C850	C730	G670	U547	G484	G423	C	C	C180	U118
U919		A731	U670	G548	G485	A424	U302	C241	G181	G119
A984		G732	A671	G549	U486	A425	C303	A242	G182	G120
G985		C733	C672	C550	G487	C426	A304	G243	G183	G121
A986		G734	G673	A551	A488	C427	A305	C244	U183	G122
G987		U735	U674	C552	A489	A428	G306	C245	A184	G123
A988		G736	C675	C553	A490	C429	G307	A248	C185	A123
C924		C737	G676	U554	A491	C	C308	A	C186	A124
U925		G738	G677	U555	G492	G431	A310	C	U187	A125
A991		G739	G678						G188	C126
C992										
C993										

A1799	C1736	A1607	A1544	G1483	G1361	A1300	C1178	G1117	U1056	A894
A1800	G1737	U1608	G1545	G1484	A1362	U1301	A1179	G1118	A1057	A995
A1801	U1738	G1609	G1546	U1485	C1363	U1302	C1180	U1119	G1058	C996
A1802	C1677	A1610	U1547	A1486	C1364	U1303	C1181	C1120	A1059	C997
G1803	G1678	U1611	U1548	G1487	U1365	U1304	U1182	G1121	C1060	C998
U1804	G1679	A1612	U1549	G1488	G1366	C1305	G1427	A1122	A1061	A999
G1805	U1680	G1613	C1550	G1489	A1367	U1306	G1245	G1123	G1062	G1000
G1806	C1742	C1614	U1551	U1490	G1368	U1307	G1246	G1124	C1063	A1001
A1807	C1743	C1615	C1552	U1491	G1369	C1308	C1185	U1125	G1064	A1002
C1808	G1744	G1616	G1553	A1492	U1370	G1309	U1247	G1126	A1065	C1003
G1809	U1683	U1617	G1554	A1493	G1371	C1310	A1187	C1127	G1066	A1004
A1810	C1684	U1618	A1555	G1494	G1372	C1311	A1188	G1128	G1067	U1005
G1811	A1685	G1621	A1556	G1495	A1373	G1312	C1189	U1129	A1068	U1006
A1812	G1747	G1622	G1557	G1496	G1374	U1313	G1191	U1130	G1069	A1007
U1813	U1686	G1623	C1558	G1497	C1375	A1314	A1192	G1131	G1070	G1008
A1814	U1688	A1624	G1559	G1498	C1376	A1315	G1254	C1132	U1071	C1009
G1815	U1689	A1625	A1560	A1499	G1377	G1316	U1194	G1072	U1073	U1010
A1816	A1626	A1626	A1561	U1500	A1378	G1317	U1195	G1073	A1011	A1011
U1817	C1627	G1627	G1562	C1501	A1379	A1318	G1196	G1074	A1012	A1012
G1818	C1628	U1563	U1564	G1502	C1380	C1319	U1197	G1075	G1013	G1013
A1819	A1694	G1629	G1565	G1503	C1381	A1320	C1198	U1076	U1015	U1015
G1820	C1757	A1630	G1566	U1504	G1382	A1321	U1199	U1077	A1016	C1016
A1821	C1758	C1631	G1567	U1505	G1383	G1322	G1200	A1139	U1078	G1017
U1822	A1759	A1632	G1570	C1506	A1384	G1323	G1201	A1140	G1079	G1018
G1823	G1698	A1633	G1571	A1507	C1385	G1324	U1202	U1141	A1080	C1018
C1824	A1699	A1634	C1572	G1508	A1386	U1325	A1283	G1142	A1081	U1019
C1825	G1763	G1635	G1573	A1509	G1387	U1326	G1204	A1143	G1082	A1022
U1826	A1764	G1636	A1574	G1510	C1388	G1327	G1205	U1144	C1083	U1023
G1827	U1765	C1637	G1575	A1511	G1389	U1328	G1206	G1145	A1084	G1024
C1830	G1766	C1638	G1576	A1512	C1390	G1329	G1207	G1146	G1085	A1025
G1831	U1769	A1644	G1577	U1513	G1391	G1331	A1208	G1147	C1086	U1026
A1832	U1770	G1645	U1578	C1514	U1392	G1332	G1209	G1148	C1087	U1027
U1833	A1771	A1646	U1579	U1515	G1393	G1333	C1210	U1149	A1088	
G1834	C1772	G1647	C1580	A1516	G1394	A1334	G1211	C1150	C1089	U1030
C1835	C1773	U1647	C1581	C1517	A1395	G1335	U1212	G1151	C1090	C1031
G1836	A1774	C1648	A1582	C1518	C1396	G1336	A1275	A1152	C1091	A1032
C1837	U1775	G1651	A1583	G1519	U1397	G1337	C1214	A1153	U1092	G1033
G1838	A1776	G1652	C1584	G1520	G1398	G1338	A1215	A1154	U1093	G1034
A1839	C1777	A1653	A1585	C1521	C1399	U1339	G1216	G1155	C1094	U1035
A1840	U1778	A1654	A1586	C1522	A1400	C1340	U1217	U1156	A1095	G1036
G1841	A1779	C1655	A1587	A1523	G1401	G1341	C1218	U1159	A1096	U1037
C1842	C1781	A1656	A1588	C1524	A1464	U1342	C1219	A1162	A1097	U1038
U1843	G1782	A1657	G1590	U1525	U1403	C1343	G1220	U1163	G1098	A1039
C1844	A1782	A1658	U1591	G1526	C1466	C1344	G1223	A1164	G1100	A1040
A1845	U1783	G1659	U1592	G1527	U1467	G1345	A1224	A1165	U1101	G1041
U1846	C1786	G1660	C1593	C1528	A1468	C1346	G1225	C1163	G1102	G1042
G1847	U1787	C1661	U1594	U1529	U1469	G1347	A1226	C1164	C1103	A1043
U1848	C1788	A1662	A1595	U1530	G1470	C1348	A1287	G1165	G1104	U1044
C1849	U1789	C1663	A1596	C1531	U1409	A1349	A1288	A1166	U1105	G1045
G1850	C1790	G1664	A1597	A1534	U1410	G1350	G1228	A1167	A1106	U1046
A1851	C1791	C1665	C1598	C1535	C1411	G1351	C1229	G1168	A1107	G1047
G1852	C1792	G1666	U1599	G1536	C1412	G1352	C1230	C1169	U1108	U1048
C1853	C1793	A1667	U1600	U1537	U1413	A1353	A1231	U1170	U1049	C1049
G1854	A1793	G1668	U1601	A1538	G1414	A1354	A1232	A1171	G1050	
U1855	C1794	C1669	G1602	U1539	C1415	A1355	A1233	U1172	U1051	
G1856	C1795	G1670	A1603	C1540	A1416	G1356	U1295	G1173	C1052	
C1857	U1796	A1671	A1604	G1541	C1417	U1357	G1296	G1174	C1113	
G1858	C1797	C1672	U1605	G1542	U1418	C1358	G1297	A1175	A1114	G1053
A1859	G1798	C1673	C1606	G1543	A1420	G1360	U1298	U1176	C1115	C1054
							U1299	U1177	U1116	A1055

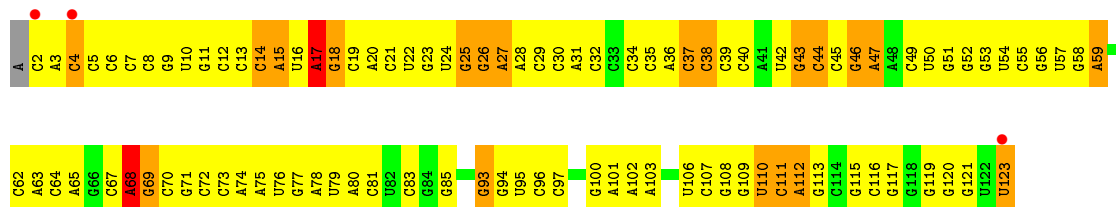
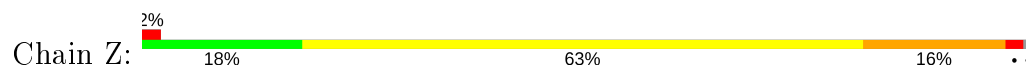




• Molecule 30: 50S RIBOSOMAL PROTEIN L32



• Molecule 31: RRNA-5S RIBOSOMAL 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 – 3.30 29.76 – 3.31	Depositor EDS
% Data completeness (in resolution range)	94.1 (30.00-3.30) 93.2 (29.76-3.31)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.14 (at 3.31Å)	Xtriage
Refinement program	CNS	Depositor
R, $R_{free}$	0.276 , 0.318 0.241 , (Not available)	Depositor DCC
$R_{free}$ test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	67.5	Xtriage
Anisotropy	0.110	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.18 , 60.4	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.42$ , $\langle L^2 \rangle = 0.25$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.87	EDS
Total number of atoms	84475	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	49.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.08% 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: MG, DCY, DHA, QUA, BB9, NH2, MH6, DBU, TS9

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	0.46	0/298	0.67	0/390
5	5	1.46	0/31	1.18	0/38
6	A	0.55	0/1862	0.85	2/2510 (0.1%)
7	B	0.77	0/1567	1.04	4/2105 (0.2%)
8	C	0.63	0/1529	0.91	0/2070
9	D	0.48	0/1419	0.71	0/1903
10	E	0.48	0/1308	0.80	1/1771 (0.1%)
11	F	0.50	0/1063	0.71	0/1440
12	G	0.69	0/1138	1.00	3/1539 (0.2%)
13	H	0.79	0/1007	0.96	1/1352 (0.1%)
14	I	0.65	0/1081	0.94	3/1448 (0.2%)
15	J	0.67	0/1113	0.91	2/1486 (0.1%)
16	K	0.87	0/886	1.06	2/1188 (0.2%)
17	L	0.52	0/785	0.86	0/1048
18	M	0.73	0/884	1.20	6/1186 (0.5%)
19	N	0.63	0/994	0.89	0/1323
20	O	0.61	0/750	0.90	0/1000
21	P	0.77	0/1027	0.93	1/1373 (0.1%)
22	Q	0.67	0/737	0.98	4/988 (0.4%)
23	R	0.55	0/835	0.95	2/1121 (0.2%)
24	S	0.50	0/1370	0.75	0/1862
25	T	0.56	0/633	0.83	1/838 (0.1%)
26	U	0.58	0/556	0.95	1/741 (0.1%)
27	V	0.44	0/537	0.67	0/714
28	W	0.56	0/426	0.84	0/568
29	X	0.88	59/64561 (0.1%)	1.05	497/100708 (0.5%)
30	Y	0.70	0/469	1.11	2/629 (0.3%)
31	Z	0.55	0/2904	0.76	0/4525
All	All	0.81	59/91770 (0.1%)	1.01	532/137864 (0.4%)

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
6	A	0	1
19	N	0	2
22	Q	0	1
29	X	2	257
30	Y	0	1
31	Z	0	4
All	All	2	266

All (59) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	X	1856	U	C4'-C3'	-9.30	1.43	1.53
29	X	1856	U	O3'-P	-8.64	1.50	1.61
29	X	1056	U	P-O5'	8.52	1.68	1.59
29	X	1855	G	O3'-P	-8.11	1.51	1.61
29	X	551	A	O3'-P	-8.05	1.51	1.61
29	X	1860	A	O3'-P	-7.56	1.52	1.61
29	X	2189	A	N9-C4	7.30	1.42	1.37
29	X	1750	A	C5-C6	-7.03	1.34	1.41
29	X	1859	A	O3'-P	-6.91	1.52	1.61
29	X	1858	C	C4'-C3'	-6.73	1.45	1.53
29	X	728	G	C2'-C1'	6.65	1.60	1.53
29	X	1688	U	C4-O4	6.60	1.28	1.23
29	X	1858	C	N1-C2	-6.25	1.33	1.40
29	X	2199	C	N1-C2	-6.23	1.33	1.40
29	X	722	C	N1-C2	-6.12	1.34	1.40
29	X	2326	C	N1-C2	-6.10	1.34	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	415	A	C3'-O3'	6.01	1.50	1.42
29	X	1688	U	N3-C4	6.00	1.43	1.38
29	X	557	U	C2'-C1'	5.99	1.59	1.53
29	X	2190	A	C4'-C3'	5.95	1.59	1.53
29	X	1052	C	N1-C2	-5.93	1.34	1.40
29	X	1857	G	O3'-P	-5.90	1.54	1.61
29	X	725	C	N1-C2	-5.88	1.34	1.40
29	X	1282	A	C5-C6	-5.85	1.35	1.41
29	X	1853	C	N1-C2	-5.79	1.34	1.40
29	X	556	A	N7-C5	-5.75	1.35	1.39
29	X	1969	G	C5-C6	-5.72	1.36	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	X	1981	A	C5-C6	-5.67	1.35	1.41
29	X	1063	C	N1-C2	-5.66	1.34	1.40
29	X	1862	C	C2'-C1'	-5.54	1.47	1.53
29	X	1846	A	O3'-P	-5.48	1.54	1.61
29	X	728	G	N9-C4	5.48	1.42	1.38
29	X	415	A	C2'-C1'	5.47	1.59	1.53
29	X	1632	A	C5-C6	-5.46	1.36	1.41
29	X	728	G	C3'-O3'	5.42	1.49	1.42
29	X	2320	G	P-O5'	5.40	1.65	1.59
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	796	A	C5-C6	-5.37	1.36	1.41
29	X	1055	A	C3'-O3'	5.37	1.49	1.42
29	X	723	C	N1-C2	-5.37	1.34	1.40
29	X	774	A	C5-C6	-5.36	1.36	1.41
29	X	2189	A	C3'-O3'	5.34	1.49	1.42
29	X	1860	A	C4'-C3'	-5.34	1.47	1.52
29	X	699	G	N9-C4	-5.30	1.33	1.38
29	X	1859	A	C3'-C2'	-5.29	1.47	1.52
29	X	2571	G	C5-C6	-5.28	1.37	1.42
29	X	2189	A	C2'-C1'	5.26	1.59	1.53
29	X	1865	C	O3'-P	-5.24	1.54	1.61
29	X	975	C	C2-N3	-5.21	1.31	1.35
29	X	540	G	C2-N3	5.20	1.36	1.32
29	X	1644	G	C5-C6	-5.17	1.37	1.42
29	X	557	U	C3'-O3'	5.14	1.49	1.42
29	X	417	C	C2'-C1'	5.06	1.58	1.53
29	X	833	A	C5-C6	-5.04	1.36	1.41
29	X	1851	A	C3'-O3'	5.04	1.49	1.42
29	X	2189	A	C8-N7	-5.02	1.28	1.31

All (532) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1055	A	N9-C1'-C2'	-29.46	75.70	114.00
29	X	2324	G	N9-C1'-C2'	22.22	142.88	114.00
29	X	557	U	N1-C1'-C2'	19.61	139.50	114.00
29	X	417	C	N1-C1'-C2'	18.73	138.35	114.00
18	M	28	ARG	C-N-CD	-18.52	79.85	120.60
29	X	1856	U	P-O3'-C3'	-15.68	100.89	119.70
29	X	1854	G	P-O3'-C3'	-15.22	101.44	119.70
29	X	1861	G	P-O3'-C3'	-15.03	101.66	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2854	G	N9-C1'-C2'	14.06	132.28	114.00
29	X	558	G	C3'-C2'-C1'	-13.92	90.37	101.50
29	X	1632	A	N9-C1'-C2'	13.61	131.69	114.00
29	X	2327	U	P-O3'-C3'	-13.11	103.97	119.70
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	1857	G	P-O3'-C3'	-12.39	104.83	119.70
29	X	2324	G	O4'-C1'-N9	-12.15	98.48	108.20
29	X	731	A	N9-C1'-C2'	12.13	129.76	114.00
29	X	557	U	C6-N1-C2	-11.69	113.98	121.00
29	X	1052	C	C6-N1-C2	11.50	124.90	120.30
29	X	1859	A	P-O3'-C3'	-11.34	106.09	119.70
29	X	2325	A	N9-C1'-C2'	11.12	128.46	114.00
29	X	554	U	C6-N1-C2	10.92	127.55	121.00
29	X	1055	A	P-O3'-C3'	10.87	132.74	119.70
29	X	556	A	P-O3'-C3'	10.81	132.67	119.70
29	X	1853	C	P-O3'-C3'	-10.76	106.79	119.70
29	X	2326	C	O4'-C4'-C3'	-10.72	93.28	104.00
29	X	1278	A	N9-C1'-C2'	10.70	127.91	114.00
29	X	2594	U	O5'-P-OP2	-10.68	96.09	105.70
29	X	2034	A	N9-C1'-C2'	10.63	127.82	114.00
29	X	1142	G	N9-C1'-C2'	10.54	127.70	114.00
29	X	557	U	C3'-C2'-C1'	10.53	109.92	101.50
29	X	1314	A	N9-C1'-C2'	10.38	127.50	114.00
29	X	417	C	C3'-C2'-C1'	10.33	109.76	101.50
29	X	1056	U	O4'-C1'-N1	10.05	116.24	108.20
29	X	580	A	N9-C1'-C2'	9.98	126.97	114.00
29	X	2319	G	P-O3'-C3'	-9.90	107.81	119.70
29	X	2189	A	P-O3'-C3'	9.83	131.50	119.70
29	X	1853	C	C6-N1-C2	9.81	124.23	120.30
29	X	2320	G	P-O3'-C3'	-9.74	108.02	119.70
29	X	1979	C	N1-C1'-C2'	9.72	126.64	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	2197	U	C3'-C2'-C1'	-9.61	93.81	101.50
29	X	1288	A	N9-C1'-C2'	9.58	126.46	114.00
29	X	1056	U	O4'-C4'-C3'	-9.51	94.49	104.00
29	X	415	A	P-O3'-C3'	9.45	131.04	119.70
29	X	2824	C	N1-C1'-C2'	9.24	126.01	114.00
29	X	417	C	P-O3'-C3'	9.13	130.66	119.70
29	X	218	A	N9-C1'-C2'	9.10	125.83	114.00
29	X	1353	A	N9-C1'-C2'	9.10	125.82	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1264	C	N1-C1'-C2'	9.02	125.72	114.00
29	X	729	A	O4'-C4'-C3'	-8.95	95.05	104.00
29	X	1265	G	N9-C1'-C2'	8.93	125.60	114.00
29	X	2323	U	C3'-C2'-C1'	-8.90	94.38	101.50
29	X	551	A	P-O3'-C3'	8.90	130.38	119.70
29	X	1664	G	N9-C1'-C2'	8.85	125.51	114.00
29	X	1052	C	O4'-C1'-N1	-8.83	101.14	108.20
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	558	G	C8-N9-C4	-8.70	102.92	106.40
29	X	571	U	N1-C1'-C2'	8.59	125.16	114.00
29	X	1862	C	P-O3'-C3'	-8.57	109.42	119.70
29	X	728	G	N9-C1'-C2'	8.50	125.05	114.00
29	X	2313	G	N9-C1'-C2'	8.43	124.95	114.00
29	X	1054	C	C6-N1-C2	-8.40	116.94	120.30
29	X	557	U	C5-C6-N1	8.35	126.87	122.70
29	X	1056	U	N1-C1'-C2'	-8.33	102.83	112.00
29	X	1975	G	C2'-C3'-O3'	8.31	127.79	109.50
29	X	2325	A	P-O3'-C3'	8.31	129.68	119.70
29	X	2189	A	N9-C4-C5	-8.31	102.48	105.80
29	X	2823	G	N9-C1'-C2'	8.31	124.80	114.00
29	X	2593	A	N9-C1'-C2'	8.31	124.80	114.00
29	X	1057	A	N9-C4-C5	8.27	109.11	105.80
29	X	984	A	N9-C1'-C2'	8.24	124.71	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	1266	G	N9-C1'-C2'	8.08	124.50	114.00
29	X	1947	G	N9-C1'-C2'	7.98	124.38	114.00
29	X	415	A	N9-C1'-C2'	7.98	124.38	114.00
29	X	1337	G	N9-C1'-C2'	7.98	124.38	114.00
29	X	1862	C	O4'-C4'-C3'	-7.96	96.04	104.00
29	X	985	G	N9-C1'-C2'	7.86	124.21	114.00
29	X	1167	A	N9-C1'-C2'	7.86	124.21	114.00
29	X	2476	A	N9-C1'-C2'	7.85	124.20	114.00
29	X	2521	A	N9-C1'-C2'	7.82	124.17	114.00
29	X	555	U	C3'-C2'-C1'	-7.78	95.28	101.50
29	X	683	A	N9-C1'-C2'	7.78	124.11	114.00
29	X	1055	A	C3'-C2'-C1'	-7.77	95.28	101.50
18	M	28	ARG	C-N-CA	7.77	154.64	122.00
29	X	2196	U	P-O3'-C3'	7.77	129.02	119.70
29	X	2428	U	N1-C1'-C2'	7.75	124.07	114.00
29	X	555	U	O4'-C4'-C3'	-7.74	96.26	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	312	G	N9-C1'-C2'	7.73	124.04	114.00
29	X	1867	A	O4'-C1'-N9	-7.71	102.03	108.20
29	X	460	U	N1-C1'-C2'	7.67	123.98	114.00
29	X	2190	A	N9-C1'-C2'	-7.66	103.58	112.00
29	X	1927	U	N1-C1'-C2'	7.61	123.90	114.00
29	X	1862	C	C4'-C3'-C2'	7.61	110.21	102.60
29	X	1582	A	N9-C1'-C2'	7.55	123.81	114.00
29	X	554	U	N1-C2-O2	7.54	128.08	122.80
29	X	417	C	O4'-C1'-N1	-7.54	102.17	108.20
29	X	1632	A	C2'-C3'-O3'	7.52	126.04	109.50
29	X	1139	A	N9-C1'-C2'	7.51	123.76	114.00
29	X	2608	A	N9-C1'-C2'	7.48	123.72	114.00
29	X	729	A	C3'-C2'-C1'	-7.47	95.52	101.50
29	X	804	C	N1-C1'-C2'	7.44	123.67	114.00
29	X	2496	C	N1-C1'-C2'	7.44	123.67	114.00
29	X	1975	G	N9-C1'-C2'	7.42	123.64	114.00
29	X	1581	C	N1-C1'-C2'	7.38	123.60	114.00
29	X	2854	G	O4'-C1'-N9	7.37	114.10	108.20
29	X	1855	G	OP1-P-OP2	-7.36	108.55	119.60
29	X	2320	G	OP1-P-OP2	-7.33	108.60	119.60
29	X	1855	G	P-O3'-C3'	-7.31	110.92	119.70
29	X	1854	G	OP1-P-OP2	-7.29	108.67	119.60
29	X	613	A	N9-C1'-C2'	7.28	123.46	114.00
29	X	1633	C	N1-C1'-C2'	7.28	123.46	114.00
29	X	1058	G	OP1-P-OP2	-7.26	108.72	119.60
29	X	490	A	N9-C1'-C2'	7.25	123.42	114.00
29	X	2015	G	N9-C1'-C2'	7.21	123.37	114.00
29	X	1858	C	C6-N1-C2	7.20	123.18	120.30
29	X	118	U	N1-C1'-C2'	7.20	123.36	114.00
29	X	1865	C	P-O3'-C3'	-7.16	111.10	119.70
29	X	727	U	C3'-C2'-C1'	7.15	107.22	101.50
29	X	419	G	OP1-P-OP2	-7.12	108.92	119.60
29	X	1716	G	N9-C1'-C2'	7.11	123.24	114.00
29	X	841	G	N9-C1'-C2'	7.10	123.23	114.00
29	X	555	U	OP1-P-OP2	-7.09	108.97	119.60
29	X	2325	A	C2'-C3'-O3'	7.08	125.07	109.50
29	X	1850	G	C8-N9-C4	-7.07	103.57	106.40
29	X	747	A	C5'-C4'-C3'	7.05	127.28	116.00
29	X	418	C	N1-C1'-C2'	7.04	123.15	114.00
29	X	418	C	C6-N1-C2	7.03	123.11	120.30
29	X	2854	G	C1'-O4'-C4'	-7.02	104.28	109.90
12	G	119	LEU	CA-CB-CG	-7.00	99.21	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2323	U	OP1-P-OP2	-7.00	109.11	119.60
29	X	1864	G	P-O3'-C3'	-6.99	111.31	119.70
29	X	818	G	N9-C1'-C2'	6.99	123.08	114.00
29	X	1339	U	OP2-P-O3'	6.99	120.57	105.20
29	X	1869	A	OP1-P-OP2	-6.99	109.12	119.60
29	X	729	A	OP1-P-OP2	-6.97	109.14	119.60
29	X	2075	U	N1-C1'-C2'	6.97	123.06	114.00
29	X	1856	U	C4'-C3'-C2'	6.96	109.56	102.60
29	X	556	A	C3'-C2'-C1'	6.95	107.06	101.50
29	X	1864	G	OP1-P-OP2	-6.95	109.18	119.60
29	X	1033	G	N9-C1'-C2'	6.93	123.01	114.00
29	X	1807	A	N9-C1'-C2'	6.92	123.00	114.00
29	X	2589	C	N1-C1'-C2'	6.91	122.98	114.00
29	X	1921	A	N9-C1'-C2'	6.89	122.96	114.00
29	X	1285	A	N9-C1'-C2'	6.87	122.93	114.00
29	X	1060	C	OP1-P-OP2	-6.86	109.31	119.60
30	Y	36	CYS	CB-CA-C	6.85	124.09	110.40
29	X	1059	A	OP1-P-OP2	-6.84	109.34	119.60
29	X	2321	C	OP1-P-OP2	-6.83	109.35	119.60
29	X	420	C	OP1-P-OP2	-6.83	109.36	119.60
29	X	716	U	OP1-P-OP2	-6.82	109.37	119.60
29	X	1055	A	C8-N9-C4	-6.82	103.07	105.80
29	X	2326	C	C6-N1-C2	6.81	123.03	120.30
29	X	2848	A	N9-C1'-C2'	6.81	122.86	114.00
29	X	1867	A	P-O3'-C3'	6.81	127.87	119.70
7	B	85	ALA	C-N-CD	-6.80	105.64	120.60
29	X	1864	G	O4'-C1'-N9	-6.80	102.76	108.20
29	X	1849	G	OP1-P-OP2	-6.79	109.41	119.60
29	X	728	G	N7-C8-N9	6.78	116.49	113.10
29	X	2188	A	OP1-P-OP2	-6.77	109.45	119.60
29	X	1583	A	N9-C1'-C2'	6.76	122.79	114.00
29	X	1847	G	OP1-P-OP2	-6.76	109.46	119.60
29	X	417	C	OP1-P-OP2	-6.76	109.47	119.60
29	X	1064	C	OP1-P-OP2	-6.75	109.47	119.60
29	X	1856	U	OP1-P-OP2	-6.75	109.47	119.60
29	X	557	U	N3-C4-O4	6.75	124.12	119.40
29	X	1046	U	OP1-P-OP2	-6.74	109.49	119.60
29	X	719	A	OP1-P-OP2	-6.73	109.50	119.60
29	X	2190	A	C3'-C2'-C1'	-6.73	96.12	101.50
29	X	2370	G	N9-C1'-C2'	6.73	122.75	114.00
29	X	1047	G	OP1-P-OP2	-6.73	109.51	119.60
29	X	558	G	O4'-C1'-N9	6.72	113.58	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1052	C	N1-C2-O2	6.72	122.93	118.90
29	X	1848	U	OP1-P-OP2	-6.71	109.53	119.60
29	X	1860	A	OP1-P-OP2	-6.71	109.53	119.60
29	X	1863	U	OP1-P-OP2	-6.70	109.54	119.60
29	X	2326	C	OP1-P-OP2	-6.70	109.55	119.60
29	X	739	G	OP1-P-OP2	-6.70	109.55	119.60
29	X	554	U	OP1-P-OP2	-6.68	109.57	119.60
29	X	1866	G	OP1-P-OP2	-6.67	109.59	119.60
18	M	3	THR	N-CA-C	-6.67	92.99	111.00
29	X	1333	G	N9-C1'-C2'	6.67	122.67	114.00
29	X	1664	G	O5'-P-OP1	-6.66	99.70	105.70
29	X	1723	U	C2'-C3'-O3'	6.66	124.36	113.70
29	X	736	G	OP1-P-OP2	-6.65	109.62	119.60
29	X	557	U	OP1-P-OP2	-6.65	109.62	119.60
29	X	1050	G	OP1-P-OP2	-6.65	109.63	119.60
29	X	1054	C	OP1-P-OP2	-6.64	109.63	119.60
29	X	2469	G	N9-C1'-C2'	6.64	122.63	114.00
29	X	1852	G	O4'-C4'-C3'	-6.64	97.36	104.00
29	X	2854	G	C4'-C3'-O3'	-6.63	95.47	109.40
29	X	552	C	OP1-P-OP2	-6.63	109.66	119.60
29	X	738	G	OP1-P-OP2	-6.62	109.67	119.60
29	X	1850	G	OP1-P-OP2	-6.62	109.67	119.60
29	X	458	G	N9-C1'-C2'	6.62	122.61	114.00
29	X	2201	G	OP1-P-OP2	-6.61	109.68	119.60
29	X	400	U	N1-C1'-C2'	6.61	122.59	114.00
29	X	2324	G	OP1-P-OP2	-6.61	109.69	119.60
29	X	780	U	C2'-C3'-O3'	6.60	124.26	113.70
29	X	726	G	OP1-P-OP2	-6.60	109.70	119.60
29	X	2323	U	O4'-C1'-N1	6.60	113.48	108.20
29	X	1618	U	N1-C1'-C2'	6.60	122.58	114.00
29	X	460	U	C4'-C3'-O3'	-6.59	95.55	109.40
29	X	2322	U	OP1-P-OP2	-6.59	109.71	119.60
29	X	2326	C	P-O3'-C3'	-6.58	111.80	119.70
29	X	2187	A	OP1-P-OP2	-6.57	109.75	119.60
29	X	416	U	N1-C1'-C2'	6.57	122.54	114.00
29	X	69	G	N9-C1'-C2'	6.56	122.53	114.00
29	X	1056	U	OP1-P-OP2	-6.56	109.76	119.60
29	X	2190	A	OP1-P-OP2	-6.56	109.77	119.60
29	X	734	G	OP1-P-OP2	-6.54	109.79	119.60
29	X	2186	G	OP1-P-OP2	-6.54	109.79	119.60
29	X	1869	A	P-O5'-C5'	-6.53	110.45	120.90
29	X	2016	A	N9-C1'-C2'	6.52	122.48	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	717	G	OP1-P-OP2	-6.51	109.83	119.60
29	X	724	C	C6-N1-C2	6.50	122.90	120.30
29	X	1870	U	P-O3'-C3'	6.50	127.50	119.70
29	X	731	A	C8-N9-C4	-6.49	103.20	105.80
29	X	725	C	OP1-P-OP2	-6.49	109.87	119.60
29	X	731	A	OP1-P-OP2	-6.48	109.88	119.60
29	X	1866	G	P-O3'-C3'	6.48	127.48	119.70
29	X	1065	A	OP1-P-OP2	-6.48	109.88	119.60
29	X	2190	A	O4'-C1'-N9	6.48	113.38	108.20
29	X	415	A	OP1-P-OP2	-6.47	109.89	119.60
29	X	720	A	OP1-P-OP2	-6.47	109.89	119.60
29	X	2197	U	OP1-P-OP2	-6.47	109.90	119.60
29	X	718	A	OP1-P-OP2	-6.47	109.90	119.60
29	X	1853	C	OP1-P-OP2	-6.47	109.90	119.60
29	X	421	G	OP1-P-OP2	-6.46	109.90	119.60
29	X	721	C	OP1-P-OP2	-6.46	109.90	119.60
29	X	1063	C	OP1-P-OP2	-6.46	109.91	119.60
29	X	968	C	N1-C1'-C2'	6.46	122.40	114.00
29	X	804	C	C4'-C3'-O3'	-6.46	95.83	109.40
29	X	562	G	OP1-P-OP2	-6.45	109.92	119.60
21	P	106	LEU	CA-CB-CG	-6.45	100.47	115.30
29	X	2185	U	OP1-P-OP2	-6.44	109.95	119.60
29	X	2200	G	OP1-P-OP2	-6.43	109.96	119.60
29	X	557	U	P-O3'-C3'	6.41	127.39	119.70
29	X	735	G	OP1-P-OP2	-6.41	109.98	119.60
29	X	1410	U	N1-C1'-C2'	6.38	122.30	114.00
29	X	2198	U	N1-C1'-C2'	6.38	122.29	114.00
29	X	1851	A	OP1-P-OP2	-6.37	110.04	119.60
29	X	722	C	OP1-P-OP2	-6.37	110.05	119.60
29	X	1052	C	OP1-P-OP2	-6.36	110.06	119.60
29	X	724	C	OP1-P-OP2	-6.36	110.06	119.60
29	X	730	C	OP1-P-OP2	-6.36	110.06	119.60
29	X	2195	C	OP1-P-OP2	-6.36	110.06	119.60
29	X	1865	C	OP1-P-OP2	-6.36	110.07	119.60
29	X	417	C	O4'-C4'-C3'	6.35	111.18	106.10
29	X	737	C	OP1-P-OP2	-6.34	110.09	119.60
29	X	1051	U	OP1-P-OP2	-6.34	110.09	119.60
29	X	1665	C	O5'-P-OP2	-6.33	100.00	105.70
29	X	741	G	OP1-P-OP2	-6.33	110.11	119.60
29	X	1852	G	OP1-P-OP2	-6.33	110.11	119.60
29	X	2841	U	N1-C1'-C2'	6.32	122.22	114.00
29	X	2760	G	N9-C1'-C2'	6.31	122.21	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2324	G	C1'-O4'-C4'	6.31	114.95	109.90
29	X	2325	A	OP1-P-OP2	-6.31	110.13	119.60
29	X	731	A	C3'-C2'-C1'	6.31	106.55	101.50
29	X	2323	U	C6-N1-C1'	6.31	130.03	121.20
29	X	1859	A	OP1-P-OP2	-6.31	110.14	119.60
29	X	1342	U	N1-C1'-C2'	6.30	122.20	114.00
29	X	2481	G	O5'-P-OP1	-6.30	100.03	105.70
29	X	416	U	OP1-P-OP2	-6.30	110.15	119.60
29	X	1862	C	OP1-P-OP2	-6.30	110.15	119.60
29	X	1868	A	OP1-P-OP2	-6.29	110.16	119.60
29	X	1772	C	N1-C1'-C2'	6.28	122.17	114.00
29	X	1861	G	OP1-P-OP2	-6.28	110.18	119.60
29	X	795	A	C2'-C3'-O3'	-6.28	95.69	109.50
29	X	2191	A	OP1-P-OP2	-6.26	110.20	119.60
29	X	955	G	N9-C1'-C2'	6.26	122.14	114.00
29	X	1459	U	N1-C1'-C2'	6.26	122.14	114.00
29	X	2841	U	C2'-C3'-O3'	6.26	123.71	113.70
29	X	1799	A	N9-C1'-C2'	6.25	122.12	114.00
29	X	1865	C	O4'-C4'-C3'	-6.25	97.75	104.00
29	X	2192	U	OP1-P-OP2	-6.24	110.23	119.60
29	X	1631	C	N1-C1'-C2'	6.24	122.11	114.00
29	X	1867	A	OP1-P-OP2	-6.24	110.24	119.60
29	X	2328	G	OP1-P-OP2	-6.23	110.25	119.60
29	X	1055	A	OP1-P-OP2	-6.22	110.26	119.60
29	X	596	C	N1-C1'-C2'	6.22	122.08	114.00
29	X	1710	U	N1-C1'-C2'	6.21	122.08	114.00
29	X	2580	C	N1-C1'-C2'	6.21	122.08	114.00
29	X	1055	A	C4'-C3'-O3'	6.20	125.40	113.00
29	X	2323	U	C2-N1-C1'	-6.20	110.26	117.70
29	X	732	G	OP1-P-OP2	-6.20	110.31	119.60
29	X	1054	C	C5-C6-N1	6.20	124.10	121.00
29	X	414	A	OP1-P-OP2	-6.18	110.32	119.60
29	X	558	G	OP1-P-OP2	-6.18	110.33	119.60
29	X	796	A	N9-C1'-C2'	-6.16	105.22	112.00
29	X	1771	A	N9-C1'-C2'	6.16	122.01	114.00
29	X	2756	A	C2'-C3'-O3'	6.16	123.55	113.70
29	X	1049	C	OP1-P-OP2	-6.15	110.37	119.60
29	X	82	G	N9-C1'-C2'	6.15	121.99	114.00
29	X	343	A	N9-C1'-C2'	6.14	121.99	114.00
29	X	559	C	OP1-P-OP2	-6.14	110.38	119.60
29	X	1858	C	OP1-P-OP2	-6.14	110.39	119.60
29	X	560	G	OP1-P-OP2	-6.14	110.39	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	740	A	OP1-P-OP2	-6.14	110.39	119.60
29	X	1153	A	O4'-C1'-N9	-6.13	103.30	108.20
29	X	1152	C	N1-C1'-C2'	6.13	121.96	114.00
29	X	2196	U	OP1-P-OP2	-6.12	110.42	119.60
29	X	1871	G	OP1-P-OP2	-6.11	110.43	119.60
29	X	1288	A	O4'-C4'-C3'	-6.11	97.89	104.00
29	X	727	U	OP1-P-OP2	-6.10	110.45	119.60
29	X	805	G	N9-C1'-C2'	6.09	121.92	114.00
29	X	1061	A	OP1-P-OP2	-6.09	110.47	119.60
29	X	582	G	OP2-P-O3'	6.08	118.58	105.20
29	X	801	A	N9-C1'-C2'	6.08	121.91	114.00
29	X	733	G	OP1-P-OP2	-6.07	110.49	119.60
29	X	1870	U	OP1-P-OP2	-6.06	110.50	119.60
12	G	108	GLY	N-CA-C	-6.06	97.95	113.10
29	X	557	U	O4'-C1'-N1	-6.06	103.35	108.20
29	X	2823	G	C2'-C3'-O3'	6.06	123.40	113.70
29	X	13	A	N9-C1'-C2'	6.05	121.86	114.00
29	X	2323	U	P-O3'-C3'	6.05	126.96	119.70
29	X	2322	U	C3'-C2'-C1'	-6.04	96.66	101.50
29	X	2194	A	OP1-P-OP2	-6.03	110.56	119.60
29	X	2327	U	OP1-P-OP2	-6.03	110.56	119.60
29	X	1062	G	OP1-P-OP2	-6.02	110.56	119.60
29	X	1863	U	P-O3'-C3'	-6.02	112.47	119.70
29	X	2668	U	C5'-C4'-C3'	-6.02	106.38	116.00
29	X	556	A	OP1-P-OP2	-6.01	110.59	119.60
29	X	2608	A	C2'-C3'-O3'	6.01	123.31	113.70
29	X	1624	A	N9-C1'-C2'	6.00	121.80	114.00
29	X	1266	G	O4'-C1'-N9	5.98	112.99	108.20
29	X	1860	A	C4'-C3'-C2'	5.97	108.57	102.60
29	X	2418	A	O4'-C1'-N9	5.96	112.97	108.20
29	X	219	G	N9-C1'-C2'	5.96	121.75	114.00
29	X	1278	A	C2'-C3'-O3'	5.96	123.24	113.70
29	X	2193	C	OP1-P-OP2	-5.95	110.68	119.60
29	X	2392	G	N9-C1'-C2'	-5.95	105.46	112.00
29	X	561	U	OP1-P-OP2	-5.93	110.70	119.60
29	X	1866	G	C8-N9-C4	-5.93	104.03	106.40
29	X	2189	A	OP1-P-OP2	-5.92	110.72	119.60
29	X	467	U	N1-C1'-C2'	5.91	121.69	114.00
29	X	777	A	C2'-C3'-O3'	5.91	123.15	113.70
29	X	2198	U	P-O5'-C5'	-5.91	111.45	120.90
29	X	2322	U	C4'-C3'-O3'	5.90	124.81	113.00
29	X	728	G	C2'-C3'-O3'	5.90	123.14	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1866	G	O4'-C1'-N9	-5.89	103.49	108.20
29	X	731	A	P-O3'-C3'	5.89	126.77	119.70
18	M	29	PRO	CA-N-CD	-5.88	103.27	111.50
29	X	1285	A	C2'-C3'-O3'	5.88	123.11	113.70
29	X	553	C	OP1-P-OP2	-5.88	110.79	119.60
29	X	1053	G	OP1-P-OP2	-5.86	110.81	119.60
29	X	1153	A	C2'-C3'-O3'	5.86	123.08	113.70
29	X	539	A	N9-C1'-C2'	5.86	121.61	114.00
29	X	176	A	N9-C1'-C2'	5.85	121.61	114.00
29	X	728	G	OP1-P-OP2	-5.84	110.84	119.60
29	X	824	U	N1-C1'-C2'	5.81	121.55	114.00
29	X	1057	A	N9-C1'-C2'	-5.80	105.62	112.00
29	X	871	U	N1-C1'-C2'	5.79	121.53	114.00
29	X	1561	A	C2'-C3'-O3'	5.79	122.96	113.70
29	X	1851	A	P-O3'-C3'	5.76	126.61	119.70
29	X	177	U	N1-C1'-C2'	5.75	121.48	114.00
29	X	2633	A	N9-C1'-C2'	5.75	121.48	114.00
29	X	1057	A	OP1-P-OP2	-5.75	110.97	119.60
29	X	1865	C	O4'-C1'-N1	5.75	112.80	108.20
25	T	19	LYS	N-CA-C	5.74	126.51	111.00
29	X	226	C	O4'-C1'-N1	5.74	112.79	108.20
29	X	723	C	C5-C6-N1	5.74	123.87	121.00
29	X	2045	A	N9-C1'-C2'	5.74	121.46	114.00
29	X	73	A	N9-C1'-C2'	5.74	121.46	114.00
29	X	555	U	N1-C1'-C2'	-5.73	105.69	112.00
6	A	243	GLY	N-CA-C	5.73	127.43	113.10
29	X	2229	G	N9-C1'-C2'	5.72	121.44	114.00
29	X	730	C	N1-C1'-C2'	5.72	121.44	114.00
29	X	418	C	OP1-P-OP2	-5.71	111.04	119.60
29	X	1963	G	N9-C1'-C2'	5.70	121.41	114.00
29	X	1723	U	N1-C1'-C2'	5.69	121.40	114.00
29	X	2545	A	N9-C1'-C2'	5.69	121.40	114.00
29	X	1056	U	C6-N1-C2	-5.69	117.59	121.00
29	X	557	U	O4'-C1'-C2'	-5.68	100.12	105.80
29	X	723	C	OP1-P-OP2	-5.68	111.08	119.60
29	X	1852	G	C4'-C3'-C2'	5.68	108.28	102.60
29	X	1810	U	N1-C1'-C2'	5.65	121.35	114.00
29	X	2323	U	C1'-O4'-C4'	-5.65	105.38	109.90
29	X	2199	C	OP1-P-OP2	-5.65	111.13	119.60
29	X	2693	U	N1-C1'-C2'	5.64	121.33	114.00
29	X	1853	C	O4'-C4'-C3'	-5.64	98.36	104.00
29	X	1057	A	N3-C4-N9	-5.64	122.89	127.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1854	G	O3'-P-O5'	5.63	114.70	104.00
29	X	557	U	N3-C4-C5	-5.62	111.23	114.60
29	X	2484	G	N9-C1'-C2'	-5.62	105.82	112.00
29	X	2823	G	OP2-P-O3'	5.62	117.56	105.20
29	X	1266	G	C1'-O4'-C4'	-5.61	105.42	109.90
29	X	2188	A	C4'-C3'-C2'	5.59	108.19	102.60
29	X	555	U	P-O3'-C3'	5.58	126.40	119.70
29	X	469	G	OP2-P-O3'	5.58	117.48	105.20
29	X	2315	A	N9-C1'-C2'	5.58	121.25	114.00
29	X	2592	U	C5-C4-O4	-5.58	122.55	125.90
29	X	580	A	C4'-C3'-O3'	-5.58	97.69	109.40
29	X	780	U	N1-C1'-C2'	-5.57	105.87	112.00
29	X	1854	G	C5'-C4'-C3'	5.57	124.92	116.00
29	X	538	A	C2'-C3'-O3'	5.57	122.61	113.70
29	X	1052	C	P-O5'-C5'	-5.57	111.99	120.90
29	X	1058	G	N9-C1'-C2'	5.56	121.23	114.00
29	X	731	A	O4'-C4'-C3'	5.56	110.55	106.10
29	X	459	A	N9-C1'-C2'	5.55	121.22	114.00
29	X	2189	A	C2'-C3'-O3'	5.55	122.58	113.70
29	X	2229	G	C4'-C3'-O3'	-5.54	97.76	109.40
29	X	2482	A	O4'-C1'-N9	5.54	112.63	108.20
29	X	721	C	C6-N1-C2	5.53	122.51	120.30
29	X	728	G	C4-N9-C1'	5.51	133.66	126.50
22	Q	61	LYS	N-CA-C	5.51	125.87	111.00
22	Q	85	GLY	N-CA-C	-5.50	99.34	113.10
29	X	818	G	C4'-C3'-O3'	-5.50	97.85	109.40
29	X	2807	U	C2'-C3'-O3'	5.50	122.50	113.70
29	X	418	C	C3'-C2'-C1'	5.50	105.90	101.50
29	X	447	U	N1-C1'-C2'	5.49	121.13	114.00
29	X	1048	U	OP1-P-OP2	-5.47	111.39	119.60
29	X	59	G	N9-C1'-C2'	5.46	121.10	114.00
29	X	1775	A	N9-C1'-C2'	5.46	121.10	114.00
18	M	103	LYS	N-CA-C	5.45	125.72	111.00
29	X	1858	C	C4'-C3'-C2'	5.45	108.05	102.60
29	X	2551	A	N9-C1'-C2'	5.45	121.09	114.00
29	X	34	U	N1-C1'-C2'	5.45	121.09	114.00
29	X	1407	G	N9-C1'-C2'	5.45	121.08	114.00
29	X	15	G	N9-C1'-C2'	-5.43	106.02	112.00
29	X	551	A	OP1-P-O3'	5.42	117.13	105.20
29	X	2320	G	C5'-C4'-C3'	5.42	124.67	116.00
29	X	2810	A	N9-C1'-C2'	5.42	121.05	114.00
29	X	1854	G	C4'-C3'-O3'	5.42	123.84	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1861	G	P-O5'-C5'	-5.42	112.23	120.90
29	X	2323	U	C5'-C4'-O4'	-5.42	102.60	109.10
29	X	797	A	N9-C1'-C2'	5.41	121.03	114.00
29	X	1373	G	C5-C6-O6	-5.41	125.36	128.60
29	X	1862	C	C1'-O4'-C4'	5.40	114.22	109.90
29	X	1800	A	N9-C1'-C2'	5.40	121.02	114.00
29	X	1666	G	O4'-C4'-C3'	-5.40	98.60	104.00
29	X	2482	A	N9-C1'-C2'	5.40	121.02	114.00
22	Q	66	GLY	N-CA-C	-5.40	99.61	113.10
29	X	557	U	N1-C2-N3	5.39	118.13	114.90
29	X	1857	G	OP1-P-OP2	-5.39	111.52	119.60
29	X	2198	U	OP1-P-OP2	-5.38	111.52	119.60
29	X	1685	A	C5'-C4'-C3'	-5.37	107.40	116.00
29	X	2188	A	N9-C1'-C2'	-5.37	106.09	112.00
29	X	1345	G	O4'-C1'-N9	5.37	112.50	108.20
29	X	2592	U	C2-N1-C1'	5.37	124.15	117.70
29	X	2795	A	N9-C1'-C2'	5.37	120.98	114.00
23	R	71	GLN	N-CA-C	-5.37	96.51	111.00
29	X	1675	C	O5'-P-OP1	-5.35	100.89	105.70
29	X	2254	C	N1-C1'-C2'	5.34	120.95	114.00
7	B	137	ARG	N-CA-C	-5.33	96.61	111.00
29	X	1212	U	C2'-C3'-O3'	5.33	122.23	113.70
29	X	1496	G	C2'-C3'-O3'	5.33	122.23	113.70
29	X	2189	A	C4'-C3'-C2'	-5.32	97.28	102.60
7	B	51	TYR	N-CA-C	5.32	125.36	111.00
29	X	2015	G	C5'-C4'-C3'	-5.30	107.52	116.00
29	X	2769	C	O4'-C1'-N1	5.30	112.44	108.20
29	X	1850	G	O4'-C1'-N9	5.30	112.44	108.20
29	X	1866	G	N7-C8-N9	5.30	115.75	113.10
23	R	6	ALA	N-CA-C	5.28	125.27	111.00
29	X	2588	U	N1-C1'-C2'	5.27	120.85	114.00
29	X	1299	A	C2'-C3'-O3'	5.26	122.12	113.70
29	X	2261	G	O4'-C1'-N9	5.26	112.41	108.20
29	X	2322	U	C6-N1-C2	-5.26	117.84	121.00
29	X	1056	U	C5'-C4'-C3'	5.26	124.41	116.00
29	X	2191	A	O4'-C1'-N9	-5.25	104.00	108.20
29	X	795	A	N9-C1'-C2'	5.25	120.83	114.00
29	X	1871	G	O4'-C4'-C3'	-5.25	98.75	104.00
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
10	E	41	LEU	CA-CB-CG	5.24	127.35	115.30
29	X	723	C	C4-C5-C6	-5.24	114.78	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2193	C	C6-N1-C2	5.24	122.39	120.30
29	X	1849	G	C4'-C3'-C2'	-5.23	97.37	102.60
29	X	1716	G	OP1-P-O3'	5.23	116.70	105.20
29	X	2660	C	N1-C1'-C2'	5.23	120.80	114.00
29	X	2197	U	C6-N1-C2	-5.22	117.87	121.00
29	X	688	A	C5'-C4'-C3'	5.22	124.35	116.00
29	X	1071	U	N1-C1'-C2'	5.21	120.78	114.00
29	X	1847	G	P-O5'-C5'	-5.21	112.57	120.90
29	X	2480	C	N1-C1'-C2'	5.20	120.76	114.00
22	Q	60	GLY	N-CA-C	5.20	126.09	113.10
29	X	683	A	C2'-C3'-O3'	5.19	122.01	113.70
16	K	60	LEU	CA-CB-CG	5.18	127.22	115.30
29	X	742	G	N9-C1'-C2'	5.18	120.74	114.00
15	J	89	GLY	N-CA-C	5.18	126.05	113.10
29	X	1790	G	C2'-C3'-O3'	5.17	121.97	113.70
29	X	558	G	C4'-C3'-O3'	5.16	123.33	113.00
29	X	1715	A	C5'-C4'-O4'	-5.16	102.91	109.10
14	I	36	GLY	N-CA-C	5.16	125.99	113.10
7	B	16	LYS	N-CA-C	-5.14	97.11	111.00
14	I	32	ARG	N-CA-C	-5.14	97.11	111.00
29	X	334	G	N9-C1'-C2'	5.14	120.69	114.00
29	X	1855	G	O3'-P-O5'	5.14	113.77	104.00
29	X	684	C	C5'-C4'-C3'	-5.14	107.77	116.00
29	X	1634	A	N9-C1'-C2'	5.14	120.68	114.00
30	Y	53	ASP	CB-CG-OD2	5.14	122.92	118.30
29	X	2668	U	O4'-C1'-N1	5.13	112.31	108.20
16	K	95	THR	N-CA-C	-5.13	97.15	111.00
29	X	469	G	O4'-C1'-N9	5.13	112.30	108.20
29	X	552	C	C6-N1-C2	5.13	122.35	120.30
29	X	1194	U	C2'-C3'-O3'	5.13	121.90	113.70
29	X	2191	A	N9-C1'-C2'	5.11	120.65	114.00
6	A	211	ARG	N-CA-C	-5.11	97.20	111.00
29	X	2199	C	C2'-C3'-O3'	5.11	121.88	113.70
29	X	2756	A	OP2-P-O3'	5.11	116.44	105.20
29	X	469	G	N9-C1'-C2'	5.10	120.63	114.00
29	X	1249	G	C2'-C3'-O3'	5.09	121.85	113.70
29	X	3	U	C2'-C3'-O3'	5.09	121.84	113.70
29	X	558	G	N7-C8-N9	5.08	115.64	113.10
29	X	558	G	N9-C4-C5	5.08	107.43	105.40
29	X	1701	C	C5'-C4'-C3'	-5.08	107.87	116.00
29	X	1775	A	OP2-P-O3'	5.08	116.37	105.20
29	X	1978	U	OP2-P-O3'	5.08	116.37	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2188	A	P-O3'-C3'	-5.08	113.61	119.70
29	X	2200	G	P-O5'-C5'	-5.07	112.78	120.90
29	X	2470	U	N1-C1'-C2'	5.07	120.60	114.00
29	X	1849	G	N9-C1'-C2'	5.07	120.59	114.00
29	X	1337	G	C4'-C3'-O3'	-5.06	98.77	109.40
12	G	69	ASP	N-CA-C	-5.05	97.38	111.00
29	X	1000	G	N9-C1'-C2'	5.05	120.56	114.00
29	X	2758	A	O4'-C1'-N9	5.05	112.24	108.20
29	X	1054	C	N3-C4-C5	-5.04	119.88	121.90
29	X	994	A	C2'-C3'-O3'	5.04	121.77	113.70
29	X	1685	A	C4'-C3'-C2'	5.04	107.64	102.60
29	X	1081	A	N9-C1'-C2'	5.04	120.55	114.00
18	M	100	ARG	NE-CZ-NH1	-5.03	117.78	120.30
29	X	1937	G	N9-C1'-C2'	5.02	120.53	114.00
13	H	28	GLY	N-CA-C	5.01	125.63	113.10
26	U	67	LEU	CB-CA-C	5.01	119.72	110.20
29	X	1710	U	OP1-P-O3'	5.01	116.23	105.20
14	I	35	LYS	N-CA-C	-5.01	97.47	111.00
29	X	583	C	OP2-P-O3'	5.01	116.22	105.20
15	J	85	GLY	N-CA-C	-5.01	100.58	113.10

All (2) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
29	X	1278	A	C1'
29	X	2592	U	C1'

All (266) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
6	A	104	TYR	Sidechain
19	N	32	TYR	Sidechain
19	N	76	TYR	Sidechain
22	Q	25	TYR	Sidechain
29	X	1000	G	Sidechain
29	X	1023	U	Sidechain
29	X	1030	U	Sidechain
29	X	1037	U	Sidechain
29	X	1044	U	Sidechain
29	X	1054	C	Sidechain
29	X	1056	U	Sidechain
29	X	112	U	Sidechain

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Mol	Chain	Res	Type	Group
29	X	1124	U	Sidechain
29	X	1136	G	Sidechain
29	X	1141	U	Sidechain
29	X	1142	G	Sidechain
29	X	1143	A	Sidechain
29	X	1152	C	Sidechain
29	X	1153	A	Sidechain
29	X	1156	U	Sidechain
29	X	1165	G	Sidechain
29	X	1167	A	Sidechain
29	X	118	U	Sidechain
29	X	1184	G	Sidechain
29	X	12	U	Sidechain
29	X	1200	G	Sidechain
29	X	1202	U	Sidechain
29	X	1206	G	Sidechain
29	X	1213	U	Sidechain
29	X	1236	G	Sidechain
29	X	124	A	Sidechain
29	X	1240	G	Sidechain
29	X	1250	A	Sidechain
29	X	1251	G	Sidechain
29	X	1253	C	Sidechain
29	X	1261	G	Sidechain
29	X	1265	G	Sidechain
29	X	1269	G	Sidechain
29	X	1281	A	Sidechain
29	X	1282	A	Sidechain
29	X	1284	G	Sidechain
29	X	1287	A	Sidechain
29	X	1290	A	Sidechain
29	X	1294	G	Sidechain
29	X	13	A	Sidechain
29	X	1314	A	Sidechain
29	X	1322	G	Sidechain
29	X	1332	G	Sidechain
29	X	1342	U	Sidechain
29	X	1357	U	Sidechain
29	X	1370	U	Sidechain
29	X	1373	G	Sidechain
29	X	1377	G	Sidechain
29	X	1452	U	Sidechain

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Mol	Chain	Res	Type	Group
29	X	1467	U	Sidechain
29	X	15	G	Sidechain
29	X	1573	G	Sidechain
29	X	1574	A	Sidechain
29	X	1581	C	Sidechain
29	X	1583	A	Sidechain
29	X	1623	C	Sidechain
29	X	1629	G	Sidechain
29	X	1631	C	Sidechain
29	X	1632	A	Sidechain
29	X	165	G	Sidechain
29	X	1651	U	Sidechain
29	X	1664	G	Sidechain
29	X	1666	G	Sidechain
29	X	1671	A	Sidechain
29	X	1672	A	Sidechain
29	X	1673	C	Sidechain
29	X	1690	U	Sidechain
29	X	1692	C	Sidechain
29	X	1698	C	Sidechain
29	X	1705	U	Sidechain
29	X	1710	U	Sidechain
29	X	1711	C	Sidechain
29	X	1716	G	Sidechain
29	X	172	A	Sidechain
29	X	1749	G	Sidechain
29	X	1752	U	Sidechain
29	X	1763	G	Sidechain
29	X	177	U	Sidechain
29	X	1772	C	Sidechain
29	X	1774	A	Sidechain
29	X	1777	A	Sidechain
29	X	178	C	Sidechain
29	X	1789	U	Sidechain
29	X	1792	C	Sidechain
29	X	1807	A	Sidechain
29	X	1810	U	Sidechain
29	X	1815	G	Sidechain
29	X	1819	U	Sidechain
29	X	1820	G	Sidechain
29	X	1849	G	Sidechain
29	X	1851	A	Sidechain

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Mol	Chain	Res	Type	Group
29	X	1922	U	Sidechain
29	X	1938	U	Sidechain
29	X	1945	C	Sidechain
29	X	1947	G	Sidechain
29	X	1961	A	Sidechain
29	X	1974	U	Sidechain
29	X	1975	G	Sidechain
29	X	1976	U	Sidechain
29	X	1994	U	Sidechain
29	X	1996	A	Sidechain
29	X	1998	A	Sidechain
29	X	2009	U	Sidechain
29	X	2015	G	Sidechain
29	X	2016	A	Sidechain
29	X	2022	C	Sidechain
29	X	2028	C	Sidechain
29	X	2034	A	Sidechain
29	X	2037	A	Sidechain
29	X	2042	A	Sidechain
29	X	2045	A	Sidechain
29	X	214	C	Sidechain
29	X	218	A	Sidechain
29	X	2189	A	Sidechain
29	X	219	G	Sidechain
29	X	2192	U	Sidechain
29	X	2195	C	Sidechain
29	X	2196	U	Sidechain
29	X	2199	C	Sidechain
29	X	2211	U	Sidechain
29	X	2223	U	Sidechain
29	X	224	G	Sidechain
29	X	2243	C	Sidechain
29	X	2258	G	Sidechain
29	X	228	A	Sidechain
29	X	2284	U	Sidechain
29	X	2310	G	Sidechain
29	X	2313	G	Sidechain
29	X	2315	A	Sidechain
29	X	2323	U	Sidechain
29	X	2324	G	Sidechain
29	X	2342	U	Sidechain
29	X	2355	A	Sidechain

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Mol	Chain	Res	Type	Group
29	X	2361	G	Sidechain
29	X	2363	G	Sidechain
29	X	2369	U	Sidechain
29	X	2371	A	Sidechain
29	X	2392	G	Sidechain
29	X	2402	U	Sidechain
29	X	2416	U	Sidechain
29	X	2427	A	Sidechain
29	X	2428	U	Sidechain
29	X	2430	A	Sidechain
29	X	2460	G	Sidechain
29	X	2482	A	Sidechain
29	X	2486	C	Sidechain
29	X	2487	G	Sidechain
29	X	2492	G	Sidechain
29	X	2496	C	Sidechain
29	X	2501	U	Sidechain
29	X	2504	G	Sidechain
29	X	2508	G	Sidechain
29	X	2513	A	Sidechain
29	X	2525	U	Sidechain
29	X	2528	G	Sidechain
29	X	2534	U	Sidechain
29	X	2540	A	Sidechain
29	X	2541	U	Sidechain
29	X	2548	G	Sidechain
29	X	2549	G	Sidechain
29	X	2557	G	Sidechain
29	X	2559	U	Sidechain
29	X	2560	G	Sidechain
29	X	2580	C	Sidechain
29	X	2588	U	Sidechain
29	X	2590	U	Sidechain
29	X	2592	U	Sidechain
29	X	2595	C	Sidechain
29	X	2596	C	Sidechain
29	X	2613	A	Sidechain
29	X	2626	U	Sidechain
29	X	2663	U	Sidechain
29	X	2693	U	Sidechain
29	X	2694	G	Sidechain
29	X	2698	G	Sidechain

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Mol	Chain	Res	Type	Group
29	X	2702	G	Sidechain
29	X	2706	U	Sidechain
29	X	2711	G	Sidechain
29	X	2730	A	Sidechain
29	X	2734	U	Sidechain
29	X	2736	U	Sidechain
29	X	2805	G	Sidechain
29	X	2813	G	Sidechain
29	X	2817	A	Sidechain
29	X	2819	G	Sidechain
29	X	2821	G	Sidechain
29	X	2824	C	Sidechain
29	X	2837	G	Sidechain
29	X	2844	G	Sidechain
29	X	2847	G	Sidechain
29	X	2855	C	Sidechain
29	X	2858	A	Sidechain
29	X	318	G	Sidechain
29	X	320	A	Sidechain
29	X	333	A	Sidechain
29	X	335	A	Sidechain
29	X	342	G	Sidechain
29	X	39	C	Sidechain
29	X	396	U	Sidechain
29	X	400	U	Sidechain
29	X	404	A	Sidechain
29	X	415	A	Sidechain
29	X	424	G	Sidechain
29	X	447	U	Sidechain
29	X	456	C	Sidechain
29	X	467	U	Sidechain
29	X	474	G	Sidechain
29	X	482	A	Sidechain
29	X	490	A	Sidechain
29	X	505	G	Sidechain
29	X	518	A	Sidechain
29	X	520	C	Sidechain
29	X	539	A	Sidechain
29	X	557	U	Sidechain
29	X	570	G	Sidechain
29	X	571	U	Sidechain
29	X	577	U	Sidechain

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Mol	Chain	Res	Type	Group
29	X	59	G	Sidechain
29	X	594	G	Sidechain
29	X	617	U	Sidechain
29	X	62	U	Sidechain
29	X	631	G	Sidechain
29	X	671	A	Sidechain
29	X	681	A	Sidechain
29	X	683	A	Sidechain
29	X	685	U	Sidechain
29	X	69	G	Sidechain
29	X	701	U	Sidechain
29	X	713	G	Sidechain
29	X	731	A	Sidechain
29	X	752	G	Sidechain
29	X	756	C	Sidechain
29	X	774	A	Sidechain
29	X	780	U	Sidechain
29	X	794	A	Sidechain
29	X	804	C	Sidechain
29	X	805	G	Sidechain
29	X	814	G	Sidechain
29	X	816	U	Sidechain
29	X	824	U	Sidechain
29	X	831	G	Sidechain
29	X	833	A	Sidechain
29	X	835	U	Sidechain
29	X	836	G	Sidechain
29	X	840	U	Sidechain
29	X	859	U	Sidechain
29	X	873	U	Sidechain
29	X	919	U	Sidechain
29	X	920	G	Sidechain
29	X	943	U	Sidechain
29	X	951	G	Sidechain
29	X	956	A	Sidechain
29	X	969	U	Sidechain
29	X	985	G	Sidechain
29	X	991	A	Sidechain
29	X	993	C	Sidechain
30	Y	52	TYR	Sidechain
31	Z	101	A	Sidechain
31	Z	17	A	Sidechain

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Mol	Chain	Res	Type	Group
31	Z	25	G	Sidechain
31	Z	68	A	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	0	0
2	2	46	0	0	0	0
3	3	63	0	0	1	0
4	4	297	0	330	62	0
5	5	114	0	79	5	0
6	A	1826	0	1885	451	0
7	B	1539	0	1600	303	0
8	C	1506	0	1525	371	0
9	D	1400	0	1481	373	0
10	E	1286	0	1336	264	0
11	F	1044	0	1088	176	0
12	G	1114	0	1144	310	0
13	H	997	0	1046	194	0
14	I	1067	0	1103	301	0
15	J	1090	0	1125	273	0
16	K	878	0	930	135	0
17	L	779	0	820	231	0
18	M	871	0	894	208	0
19	N	978	0	1020	239	0
20	O	741	0	756	186	0
21	P	1014	0	1096	181	0
22	Q	726	0	753	150	0
23	R	825	0	881	266	0
24	S	1345	0	1372	303	0
25	T	625	0	655	111	0
26	U	552	0	604	207	0
27	V	533	0	558	109	0
28	W	424	0	470	83	0
29	X	57651	0	29049	4301	0
30	Y	457	0	462	86	0
31	Z	2598	0	1328	185	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
32	M	1	0	0	0	0
32	X	30	0	0	0	0
32	Z	5	0	0	0	0
All	All	84475	0	55390	9214	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 66.

All (9214) 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)
7:B:116:VAL:N	7:B:136:ARG:HE	1.23	1.30
29:X:1053:G:H2'	29:X:1054:C:C6	1.70	1.26
29:X:2196:U:H2'	29:X:2197:U:O4'	1.31	1.23
29:X:2736:U:O2'	29:X:2737:A:H5''	1.36	1.21
29:X:2496:C:O2'	29:X:2497:A:H3'	1.40	1.19
6:A:252:LYS:N	6:A:252:LYS:HE3	1.58	1.18
7:B:116:VAL:H	7:B:136:ARG:NE	1.39	1.18
8:C:3:GLN:HG2	8:C:116:LYS:HD2	1.27	1.17
18:M:108:ARG:O	18:M:109:GLU:HG3	1.03	1.17
4:4:19:ARG:HA	29:X:2736:U:H5''	1.25	1.17
17:L:40:ALA:HB2	17:L:103:LEU:HD11	1.25	1.16
18:M:28:ARG:HB2	18:M:29:PRO:HD3	1.27	1.16
29:X:1128:G:H3'	29:X:1129:A:H5''	1.28	1.15
26:U:27:ASP:HA	26:U:32:ARG:NH2	1.58	1.15
28:W:23:LEU:HD21	28:W:43:MET:HB3	1.25	1.14
31:Z:43:G:H5'	31:Z:44:C:H5'	1.28	1.14
8:C:162:ARG:CZ	29:X:333:A:H3'	1.77	1.14
18:M:108:ARG:O	18:M:109:GLU:CG	1.95	1.13
19:N:47:TYR:HE1	20:O:73:LYS:HE2	1.13	1.13
17:L:15:ARG:HD2	17:L:91:ARG:HH11	1.11	1.13
14:I:30:ALA:HB3	14:I:34:HIS:CE1	1.83	1.13
29:X:517:A:H5''	29:X:518:A:H5'	1.26	1.12
29:X:1854:G:H2'	29:X:1855:G:OP2	1.39	1.12
15:J:34:GLY:HA2	15:J:106:GLU:HA	1.27	1.12
28:W:4:LYS:HG3	28:W:52:GLU:HB3	1.18	1.12
18:M:33:VAL:HG22	18:M:51:GLU:HB2	1.18	1.11
24:S:19:ILE:HG12	24:S:36:ARG:HA	1.30	1.11
17:L:97:HIS:O	17:L:101:LYS:HB2	1.50	1.11
26:U:49:LYS:HB2	26:U:61:TRP:HA	1.33	1.11
7:B:38:THR:HG22	7:B:40:GLN:H	1.07	1.11

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:108:LEU:HB2	14:I:122:VAL:HG11	1.27	1.11
7:B:183:LEU:HD21	18:M:16:ILE:HD13	1.32	1.11
29:X:1052:C:C3'	29:X:1053:G:H5''	1.79	1.11
29:X:2323:U:H6	29:X:2323:U:H5''	1.09	1.11
4:4:10:MET:HE3	4:4:32:HIS:HA	1.32	1.11
18:M:34:ARG:NH1	18:M:88:VAL:HG21	1.65	1.11
13:H:116:ARG:HD2	18:M:38:LYS:HE2	1.11	1.11
7:B:150:VAL:HG21	7:B:154:LYS:HE2	1.31	1.10
6:A:208:LYS:HE3	29:X:1782:A:H1'	1.33	1.10
24:S:127:PRO:HA	24:S:130:ILE:HD11	1.28	1.10
11:F:51:ALA:HB1	11:F:73:PRO:HD2	1.20	1.10
29:X:558:G:N3	29:X:558:G:H3'	1.67	1.10
10:E:11:VAL:HG12	10:E:15:VAL:HG21	1.28	1.10
29:X:1468:A:H5''	29:X:1472:C:N4	1.66	1.10
26:U:51:ILE:HG23	26:U:59:THR:HA	1.18	1.09
29:X:304:A:H2'	29:X:305:A:H5''	1.32	1.09
9:D:13:ARG:NH1	9:D:14:PRO:HG3	1.67	1.09
6:A:43:ARG:H	6:A:43:ARG:HD2	0.97	1.09
29:X:729:A:H2'	29:X:730:C:O4'	1.50	1.09
13:H:47:VAL:HG23	13:H:77:THR:HG23	1.17	1.09
6:A:43:ARG:N	6:A:43:ARG:HD2	1.63	1.09
26:U:32:ARG:NE	26:U:32:ARG:H	1.50	1.09
11:F:19:PRO:HG2	11:F:21:PRO:HD2	1.12	1.08
29:X:1550:C:H2'	29:X:1553:G:N2	1.67	1.08
12:G:103:TYR:HB3	12:G:107:GLN:HE21	1.12	1.08
26:U:48:LYS:HG2	26:U:49:LYS:H	0.95	1.08
29:X:542:A:C2	29:X:2004:U:H2'	1.87	1.08
14:I:18:ARG:HB2	14:I:21:ARG:HD3	1.28	1.08
18:M:6:LYS:H	18:M:6:LYS:HD2	1.08	1.08
11:F:126:THR:HA	29:X:1091:C:H1'	1.34	1.08
26:U:48:LYS:HE3	29:X:2074:U:H1'	1.31	1.08
23:R:84:VAL:HA	23:R:90:LYS:HD3	1.33	1.08
29:X:1058:G:H2'	29:X:1121:G:H1	1.10	1.08
29:X:2194:A:C3'	29:X:2195:C:H5''	1.84	1.08
6:A:183:ARG:HB3	6:A:183:ARG:HH11	1.05	1.08
15:J:37:ALA:HA	15:J:130:THR:HG22	1.33	1.07
16:K:100:VAL:HG12	16:K:101:GLY:H	0.92	1.07
20:O:40:VAL:HG12	20:O:45:THR:HA	1.33	1.07
8:C:148:VAL:HB	8:C:167:VAL:HG12	1.13	1.07
25:T:71:ASN:HD22	25:T:77:ARG:HD3	1.06	1.07
29:X:663:G:H3'	29:X:664:C:H5''	1.36	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2170:C:H3'	29:X:2171:U:H5''	1.35	1.07
29:X:752:G:H4'	29:X:753:U:OP1	1.53	1.07
30:Y:4:HIS:HB3	30:Y:5:PRO:HD3	1.37	1.07
29:X:1056:U:C2'	29:X:1056:U:O2	1.98	1.06
16:K:5:LYS:HE2	29:X:2795:A:H4'	1.27	1.06
9:D:27:ALA:HB2	31:Z:59:A:H1'	1.36	1.06
16:K:3:HIS:ND1	16:K:5:LYS:HD2	1.68	1.06
24:S:104:SER:HA	24:S:139:THR:HA	1.36	1.06
13:H:23:ARG:HH12	13:H:25:LEU:HD23	1.18	1.06
29:X:2194:A:H3'	29:X:2195:C:H5''	1.33	1.06
6:A:77:ALA:HB2	6:A:97:TYR:HD1	1.20	1.05
13:H:23:ARG:NH1	13:H:25:LEU:HD23	1.71	1.05
29:X:1052:C:C2'	29:X:1053:G:H5''	1.86	1.05
29:X:109:A:H2'	29:X:110:U:H5''	1.38	1.05
29:X:1058:G:H2'	29:X:1121:G:N1	1.72	1.05
12:G:33:ILE:HB	12:G:34:PRO:CD	1.87	1.05
8:C:5:ASN:HA	8:C:118:VAL:HG21	1.33	1.05
15:J:64:LYS:HD2	15:J:64:LYS:H	1.15	1.05
24:S:120:LEU:HD21	24:S:162:ALA:HB2	1.38	1.05
29:X:2195:C:O2'	29:X:2196:U:H5'	1.56	1.05
28:W:8:SER:HB2	29:X:999:A:H5''	1.36	1.05
8:C:95:LEU:HD23	8:C:96:PRO:HD2	1.36	1.05
29:X:1508:G:H5'	29:X:1509:A:H5''	1.33	1.05
9:D:66:ILE:HD11	31:Z:43:G:H5''	1.35	1.05
11:F:112:MET:HG3	11:F:113:PRO:HD3	1.09	1.04
14:I:94:GLU:HA	14:I:97:ARG:NE	1.70	1.04
29:X:317:U:H2'	29:X:318:G:H5''	1.38	1.04
9:D:150:ARG:HG2	9:D:151:GLY:H	1.19	1.04
12:G:67:ARG:HB3	12:G:70:PHE:HA	1.39	1.04
17:L:60:LYS:HG2	17:L:62:GLY:H	1.20	1.04
8:C:68:ARG:NH1	29:X:2043:A:H62	1.53	1.04
29:X:2196:U:C2'	29:X:2197:U:O4'	2.04	1.04
16:K:100:VAL:HG12	16:K:101:GLY:N	1.67	1.04
29:X:2195:C:H2'	29:X:2196:U:C6	1.93	1.04
23:R:22:VAL:HG11	23:R:80:LYS:HD2	1.40	1.04
27:V:41:HIS:CD2	27:V:42:ARG:H	1.76	1.04
17:L:15:ARG:HH11	17:L:15:ARG:HA	1.22	1.03
14:I:94:GLU:HA	14:I:97:ARG:HE	0.88	1.03
17:L:54:ALA:HB3	17:L:75:LEU:HB2	1.36	1.03
29:X:2769:C:H2'	29:X:2770:A:H8	1.24	1.03
6:A:72:LYS:HE2	6:A:97:TYR:CD2	1.94	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2563:U:H2'	29:X:2564:U:H5''	1.35	1.03
29:X:871:U:O2'	29:X:2247:A:H2'	1.57	1.03
8:C:68:ARG:HH12	29:X:2043:A:N6	1.55	1.03
19:N:66:ASN:HB2	19:N:70:ARG:HH12	1.18	1.03
29:X:1053:G:H2'	29:X:1054:C:H6	1.00	1.03
9:D:122:PHE:HB3	9:D:129:ASN:HD22	1.19	1.03
9:D:81:GLN:HG2	9:D:82:GLY:H	1.24	1.03
16:K:87:TYR:HE1	16:K:94:TYR:HD2	1.07	1.03
29:X:1118:G:H2'	29:X:1119:U:H5''	1.39	1.03
29:X:2516:U:H2'	29:X:2517:C:C6	1.94	1.02
14:I:11:GLY:H	14:I:14:LYS:HB3	1.21	1.02
20:O:22:VAL:HG22	29:X:1173:G:H4'	1.41	1.02
29:X:2482:A:H4'	29:X:2483:U:OP1	1.56	1.02
19:N:82:GLY:HA3	19:N:113:SER:OG	1.59	1.02
6:A:252:LYS:H	6:A:252:LYS:HE3	0.88	1.02
12:G:61:ARG:HE	12:G:65:LYS:HD2	1.22	1.02
13:H:47:VAL:HA	13:H:74:VAL:HG12	1.42	1.01
14:I:93:LEU:O	14:I:97:ARG:HG3	1.61	1.01
25:T:39:ARG:HH21	29:X:2334:C:H1'	1.17	1.01
13:H:116:ARG:CD	18:M:38:LYS:HE2	1.90	1.01
19:N:47:TYR:CE1	20:O:73:LYS:HE2	1.95	1.01
9:D:69:LYS:HE2	9:D:84:PRO:HG3	1.42	1.01
9:D:40:LEU:HB3	9:D:150:ARG:HE	1.23	1.01
8:C:2:ALA:HA	8:C:13:ARG:HA	1.40	1.01
17:L:33:ARG:HH11	17:L:100:VAL:HA	1.17	1.01
29:X:2672:U:H2'	29:X:2673:G:H8	1.24	1.00
9:D:38:GLU:HB3	9:D:87:ILE:HB	1.39	1.00
26:U:41:VAL:HG23	26:U:42:GLN:H	1.22	1.00
29:X:2222:U:H2'	29:X:2223:U:C6	1.95	1.00
28:W:2:LYS:HB3	28:W:54:GLN:CB	1.91	1.00
10:E:44:ARG:HH22	10:E:46:ASP:HB2	1.21	1.00
22:Q:29:VAL:HG11	22:Q:38:ILE:HD12	1.43	1.00
26:U:27:ASP:HA	26:U:32:ARG:HH21	1.25	1.00
29:X:219:G:N2	29:X:231:G:H2'	1.76	1.00
24:S:123:VAL:N	24:S:161:ALA:HB2	1.77	1.00
29:X:542:A:H2	29:X:2004:U:H2'	1.19	1.00
20:O:11:GLN:HE22	20:O:38:LEU:HB3	1.23	0.99
29:X:2286:G:H21	29:X:2290:A:H61	1.07	0.99
23:R:97:GLN:HB2	23:R:101:GLY:HA2	1.44	0.99
7:B:116:VAL:HG22	7:B:136:ARG:CZ	1.91	0.99
11:F:53:ILE:HG12	11:F:72:PRO:HB3	1.44	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:152:LYS:HB2	12:G:106:TYR:HB3	1.42	0.99
8:C:48:ARG:HB2	8:C:51:VAL:HG22	1.44	0.99
29:X:1978:U:H3'	29:X:1979:C:H5''	1.41	0.99
24:S:113:VAL:HG22	24:S:171:VAL:HG22	1.45	0.99
29:X:1710:U:H5'	29:X:1711:C:H5	1.23	0.99
29:X:1850:G:N2	29:X:1867:A:N7	2.08	0.99
29:X:2781:G:H2'	29:X:2782:G:H5''	1.43	0.99
29:X:653:G:H2'	29:X:654:A:H5''	1.43	0.99
13:H:116:ARG:HG2	18:M:40:ARG:HH21	1.20	0.98
29:X:1052:C:H3'	29:X:1053:G:H5''	1.40	0.98
29:X:1542:G:N2	29:X:1562:G:H1	1.61	0.98
10:E:58:ALA:H	10:E:62:ARG:HG3	1.28	0.98
26:U:49:LYS:HB3	26:U:61:TRP:CE3	1.97	0.98
27:V:50:VAL:HA	27:V:53:LEU:HD12	1.45	0.98
29:X:1448:A:H61	29:X:1574:A:H61	1.11	0.98
29:X:623:G:H3'	29:X:624:A:H5''	1.45	0.98
7:B:117:MET:H	7:B:136:ARG:HD2	1.21	0.98
7:B:2:LYS:HA	7:B:84:PHE:CE1	1.98	0.98
19:N:24:PHE:HB2	19:N:29:SER:HB3	1.43	0.98
29:X:2581:A:H3'	29:X:2582:G:H5''	1.43	0.98
29:X:88:G:H3'	29:X:89:A:H5''	1.41	0.98
29:X:1314:A:O2'	29:X:1315:A:H3'	1.64	0.98
13:H:23:ARG:HH11	29:X:2541:U:H4'	1.26	0.98
26:U:48:LYS:HG2	26:U:49:LYS:N	1.74	0.98
7:B:9:ILE:HD11	7:B:27:LEU:HB2	1.43	0.98
29:X:1850:G:O2'	29:X:1851:A:H8	1.46	0.98
15:J:21:ASP:HA	15:J:99:LYS:HG3	1.46	0.97
19:N:66:ASN:HB2	19:N:70:ARG:NH1	1.78	0.97
29:X:1128:G:C3'	29:X:1129:A:H5''	1.93	0.97
29:X:1281:A:H1'	29:X:2592:U:C5	1.98	0.97
29:X:1542:G:H22	29:X:1562:G:H1	1.02	0.97
29:X:2306:A:H2'	29:X:2307:A:C8	1.99	0.97
29:X:2447:G:O2'	29:X:2448:A:H5'	1.64	0.97
7:B:116:VAL:HG13	7:B:136:ARG:HH21	1.30	0.97
15:J:12:LYS:O	15:J:13:GLN:HB2	1.65	0.97
18:M:6:LYS:HD2	18:M:6:LYS:N	1.80	0.97
29:X:1252:C:O2'	29:X:1253:C:H5''	1.64	0.97
8:C:66:ASN:HB3	29:X:1268:U:H2'	1.45	0.97
17:L:38:ILE:HD12	17:L:39:TYR:H	1.25	0.97
23:R:15:HIS:CD2	29:X:347:C:H4'	1.99	0.97
29:X:717:G:H2'	29:X:739:G:H22	1.24	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:12:VAL:HG12	9:D:16:LEU:HD11	1.46	0.97
23:R:105:ARG:HH22	23:R:112:LYS:HA	1.26	0.97
29:X:1223:G:H4'	29:X:1224:A:H5''	1.46	0.97
7:B:154:LYS:HE3	7:B:156:MET:SD	2.05	0.97
19:N:81:ASN:O	19:N:84:LYS:HB3	1.64	0.97
6:A:247:VAL:HG23	6:A:248:THR:HG23	1.43	0.97
23:R:107:ALA:HB1	23:R:111:GLY:HA2	1.45	0.97
9:D:122:PHE:HB3	9:D:129:ASN:ND2	1.79	0.96
13:H:13:ASN:HD21	13:H:109:ARG:HG2	1.30	0.96
14:I:90:ARG:HD2	14:I:93:LEU:HD12	1.47	0.96
22:Q:7:LEU:HD21	27:V:30:PHE:HE2	1.28	0.96
29:X:143:A:H2'	29:X:144:U:C6	2.01	0.96
29:X:2196:U:H2'	29:X:2197:U:C1'	1.94	0.96
12:G:100:TYR:HB2	12:G:116:ARG:NH1	1.79	0.96
17:L:55:SER:O	17:L:71:VAL:HB	1.64	0.96
6:A:211:ARG:HH11	6:A:211:ARG:HG2	1.28	0.96
6:A:246:PRO:HG2	6:A:248:THR:O	1.66	0.96
12:G:110:LEU:N	12:G:110:LEU:HD23	1.80	0.96
17:L:20:THR:HG21	17:L:23:ALA:HB3	1.45	0.96
29:X:758:G:H2'	29:X:759:C:H5''	1.44	0.96
9:D:75:SER:H	9:D:79:LEU:HD22	1.29	0.96
14:I:10:PRO:HA	14:I:14:LYS:HB2	1.47	0.96
29:X:1052:C:H3'	29:X:1053:G:C5'	1.95	0.96
8:C:98:GLN:HE22	29:X:611:C:C4'	1.78	0.96
29:X:1854:G:O2'	29:X:1855:G:H5'	1.66	0.96
29:X:862:A:H2'	29:X:863:C:H6	1.31	0.96
29:X:2323:U:C6	29:X:2323:U:H5''	2.00	0.95
18:M:99:VAL:HG21	18:M:104:LEU:HD21	1.45	0.95
26:U:32:ARG:H	26:U:32:ARG:HE	0.97	0.95
29:X:2498:U:H4'	29:X:2499:C:OP1	1.65	0.95
29:X:1057:A:N3	29:X:1057:A:H2'	1.79	0.95
18:M:79:ARG:HH11	18:M:79:ARG:HG3	1.29	0.95
17:L:16:LYS:HE2	17:L:28:ARG:HH12	1.31	0.95
22:Q:75:ARG:HH11	22:Q:75:ARG:HG3	1.30	0.95
18:M:101:ARG:HH22	29:X:1745:C:P	1.89	0.95
29:X:788:G:H5'	29:X:790:A:H1'	1.47	0.95
8:C:162:ARG:NH1	29:X:333:A:H5''	1.81	0.95
9:D:148:LYS:HG3	9:D:149:THR:H	1.32	0.95
8:C:162:ARG:HH11	29:X:333:A:H5''	1.31	0.95
9:D:143:TYR:HA	9:D:146:VAL:HG22	1.47	0.95
17:L:33:ARG:HG3	17:L:38:ILE:HB	1.44	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:108:PRO:HG2	29:X:1631:C:H1'	1.49	0.95
29:X:1113:C:H2'	29:X:1114:A:H8	1.28	0.95
16:K:79:VAL:HA	16:K:83:VAL:HG13	1.48	0.94
26:U:29:GLY:C	26:U:31:GLY:H	1.49	0.94
29:X:1854:G:C2'	29:X:1855:G:OP2	2.10	0.94
7:B:9:ILE:HD13	18:M:12:LEU:HD13	1.48	0.94
14:I:94:GLU:HB3	14:I:97:ARG:HH11	1.32	0.94
29:X:516:G:HO2'	29:X:517:A:H8	1.07	0.94
8:C:162:ARG:HD2	29:X:333:A:C5'	1.98	0.94
16:K:11:ASN:ND2	16:K:12:ARG:HE	1.63	0.94
29:X:2811:G:H2'	29:X:2812:A:C8	2.03	0.94
27:V:2:LYS:HG3	27:V:3:PRO:HD3	1.46	0.94
6:A:206:LEU:C	6:A:211:ARG:HD3	1.87	0.94
26:U:70:LEU:HB3	26:U:79:GLU:OE2	1.67	0.94
29:X:2661:G:O6	29:X:2708:U:H1'	1.66	0.94
13:H:13:ASN:ND2	13:H:109:ARG:HG2	1.82	0.94
13:H:23:ARG:HH12	13:H:25:LEU:CD2	1.81	0.94
12:G:61:ARG:NE	12:G:65:LYS:HD2	1.82	0.94
18:M:39:VAL:HG12	18:M:45:THR:HG23	1.49	0.94
18:M:34:ARG:CZ	18:M:88:VAL:HG11	1.96	0.94
29:X:76:C:H6	29:X:76:C:H5'	1.31	0.94
14:I:104:ARG:HB3	14:I:105:PRO:HD2	1.48	0.93
19:N:101:ARG:O	19:N:103:PRO:HD3	1.68	0.93
28:W:2:LYS:HB3	28:W:54:GLN:HB3	1.47	0.93
29:X:1052:C:H2'	29:X:1053:G:H5''	1.47	0.93
29:X:2404:A:H4'	29:X:2405:A:C5'	1.99	0.93
19:N:24:PHE:CE1	29:X:543:G:H5'	2.02	0.93
31:Z:53:G:H21	31:Z:54:U:H5	1.11	0.93
6:A:36:ALA:HB1	6:A:62:TYR:O	1.66	0.93
29:X:636:G:H8	29:X:636:G:H5'	1.34	0.93
17:L:15:ARG:CD	17:L:91:ARG:HH11	1.82	0.93
18:M:33:VAL:HG22	18:M:51:GLU:CB	1.99	0.93
19:N:61:TRP:HZ3	19:N:94:VAL:H	1.11	0.93
21:P:114:ALA:HB2	29:X:1630:A:N1	1.83	0.93
29:X:1067:G:H21	29:X:1114:A:H62	1.16	0.93
11:F:112:MET:CG	11:F:113:PRO:HD3	1.97	0.93
29:X:1386:A:H5''	29:X:2191:A:N6	1.84	0.93
11:F:20:ALA:H	11:F:21:PRO:HD2	1.30	0.93
11:F:54:PRO:HG2	11:F:70:LYS:HB2	1.48	0.93
18:M:27:PHE:C	18:M:28:ARG:HG2	1.87	0.93
29:X:2662:C:H2'	29:X:2663:U:H6	1.34	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1128:G:H3'	29:X:1129:A:C5'	1.98	0.93
9:D:13:ARG:CZ	9:D:14:PRO:HG3	1.99	0.93
25:T:40:GLN:NE2	25:T:43:THR:HA	1.84	0.93
29:X:558:G:C4	29:X:558:G:H3'	1.98	0.93
10:E:30:LYS:HG2	10:E:79:VAL:O	1.69	0.93
17:L:10:LYS:HB2	17:L:14:ARG:HH21	1.33	0.93
29:X:224:G:H4'	29:X:399:G:C6	2.04	0.93
29:X:317:U:C2'	29:X:318:G:H5''	1.99	0.92
30:Y:45:ILE:HG21	30:Y:57:VAL:HG23	1.46	0.92
4:4:9:LYS:H	4:4:9:LYS:HD2	1.32	0.92
24:S:113:VAL:HA	24:S:171:VAL:HA	1.51	0.92
29:X:1056:U:H2'	29:X:1056:U:O2	1.13	0.92
29:X:1539:U:H2'	29:X:1540:C:H6	1.34	0.92
28:W:4:LYS:CG	28:W:52:GLU:HB3	1.97	0.92
13:H:116:ARG:HH21	18:M:40:ARG:HB2	1.33	0.92
25:T:3:HIS:HD2	25:T:5:LYS:HD3	1.32	0.92
29:X:109:A:C2'	29:X:110:U:H5''	1.98	0.92
29:X:2083:G:H1	29:X:2172:U:H3	1.17	0.92
13:H:16:ALA:HB2	13:H:64:VAL:HG11	1.51	0.92
29:X:1473:U:OP2	29:X:1473:U:H6	1.51	0.92
29:X:1670:G:H4'	29:X:1671:A:OP1	1.68	0.92
29:X:2736:U:HO2'	29:X:2737:A:H5''	1.15	0.92
29:X:558:G:C5'	29:X:558:G:N3	2.33	0.92
28:W:40:VAL:HA	28:W:43:MET:HG2	1.51	0.92
29:X:2023:C:H2'	29:X:2024:U:H6	1.35	0.92
24:S:154:LEU:HD11	24:S:160:LEU:HG	1.50	0.92
6:A:44:ASN:HB3	6:A:49:ILE:HA	1.50	0.92
17:L:33:ARG:CZ	17:L:103:LEU:HB2	2.00	0.92
29:X:1118:G:C2'	29:X:1119:U:H5''	1.99	0.92
10:E:18:ASN:HB2	10:E:25:LYS:HB3	1.51	0.91
29:X:1053:G:C2'	29:X:1054:C:H6	1.83	0.91
23:R:15:HIS:HD1	23:R:16:PHE:HD2	1.10	0.91
29:X:2212:U:H2'	29:X:2213:G:C8	2.05	0.91
6:A:270:ILE:HG13	6:A:271:VAL:H	1.32	0.91
9:D:150:ARG:CG	9:D:151:GLY:H	1.83	0.91
19:N:88:ILE:HA	20:O:49:GLU:HG3	1.53	0.91
29:X:1467:U:H3'	29:X:1467:U:H6	1.32	0.91
31:Z:36:A:HO2'	31:Z:37:C:H5	1.14	0.91
8:C:110:SER:HA	8:C:113:GLU:OE1	1.71	0.91
29:X:176:A:H3'	29:X:177:U:H5	1.35	0.91
29:X:1849:G:N3	29:X:1868:A:N6	2.19	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:F:79:ARG:HB3	11:F:84:ILE:O	1.71	0.91
28:W:23:LEU:HD21	28:W:43:MET:CB	1.99	0.91
23:R:9:HIS:HD1	29:X:337:G:HO2'	1.18	0.91
20:O:57:GLN:H	20:O:97:GLY:CA	1.84	0.91
29:X:2691:C:HO2'	29:X:2692:A:H8	0.93	0.91
6:A:182:LEU:HD12	6:A:269:PHE:CD2	2.06	0.91
7:B:75:THR:O	7:B:76:ARG:HB3	1.68	0.91
9:D:29:PRO:HG2	9:D:165:GLU:HB3	1.52	0.91
17:L:97:HIS:CD2	17:L:98:GLY:H	1.89	0.91
19:N:88:ILE:HG12	20:O:49:GLU:OE1	1.70	0.91
29:X:537:C:H1'	29:X:538:A:C6	2.05	0.91
6:A:211:ARG:HH11	6:A:211:ARG:CG	1.84	0.91
20:O:26:GLN:HG2	20:O:27:GLY:H	1.35	0.91
29:X:652:C:H42	29:X:657:A:H61	1.18	0.91
6:A:72:LYS:HE2	6:A:97:TYR:HD2	1.32	0.90
20:O:28:GLU:O	20:O:30:GLY:N	2.04	0.90
19:N:88:ILE:HG23	20:O:49:GLU:HB2	1.50	0.90
21:P:50:VAL:HB	21:P:90:LEU:O	1.70	0.90
27:V:42:ARG:NH1	27:V:45:GLN:HE22	1.69	0.90
29:X:1919:A:H2	29:X:1926:U:N3	1.67	0.90
29:X:497:C:H6	29:X:497:C:H5'	1.35	0.90
6:A:132:PRO:HA	6:A:190:TYR:HA	1.53	0.90
10:E:89:LEU:HB2	10:E:129:THR:HA	1.53	0.90
9:D:60:ILE:HG22	9:D:140:GLU:HB2	1.51	0.90
17:L:38:ILE:CD1	17:L:40:ALA:H	1.85	0.90
29:X:2490:U:H2'	29:X:2491:C:C6	2.06	0.90
6:A:88:ARG:HG2	6:A:90:ALA:HB3	1.53	0.90
8:C:47:THR:HG23	8:C:85:GLY:H	1.36	0.90
14:I:94:GLU:CA	14:I:97:ARG:HE	1.80	0.90
29:X:2189:A:H61	29:X:2195:C:H41	1.20	0.90
29:X:482:A:H2'	29:X:483:A:O4'	1.71	0.90
14:I:11:GLY:H	14:I:14:LYS:CB	1.84	0.90
17:L:38:ILE:HD11	17:L:40:ALA:H	1.35	0.90
29:X:1095:A:C3'	29:X:1096:A:H5''	2.02	0.90
18:M:28:ARG:CB	18:M:29:PRO:HD3	1.88	0.90
6:A:50:THR:HG21	29:X:1805:G:N3	1.86	0.90
29:X:1281:A:H1'	29:X:2592:U:C4	2.06	0.90
16:K:60:LEU:HD11	16:K:64:ARG:HE	1.38	0.89
6:A:209:ALA:HB2	29:X:1781:C:O2'	1.71	0.89
11:F:71:THR:HG22	11:F:110:THR:HG22	1.52	0.89
21:P:8:PHE:O	21:P:9:ARG:HB2	1.71	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1086:C:H3'	29:X:1087:C:H5''	1.54	0.89
24:S:133:GLU:OE2	24:S:135:VAL:HG23	1.73	0.89
29:X:2195:C:C6	29:X:2196:U:C5	2.60	0.89
29:X:538:A:N3	29:X:538:A:H3'	1.87	0.89
10:E:109:TYR:HE1	10:E:152:ARG:CZ	1.85	0.89
19:N:3:ARG:HG2	19:N:3:ARG:HH11	1.35	0.89
7:B:120:TRP:CD2	7:B:155:ARG:HD2	2.07	0.89
9:D:40:LEU:HB3	9:D:150:ARG:NE	1.86	0.89
17:L:33:ARG:NH1	17:L:103:LEU:HB2	1.87	0.89
29:X:1859:A:H2'	29:X:1860:A:C8	2.06	0.89
9:D:12:VAL:O	9:D:16:LEU:HG	1.72	0.89
10:E:126:PRO:HG2	10:E:127:GLU:H	1.37	0.89
13:H:76:ARG:O	13:H:94:ASN:HA	1.71	0.89
20:O:57:GLN:H	20:O:97:GLY:HA2	1.35	0.89
29:X:1734:C:C5	29:X:1735:G:H1'	2.08	0.89
14:I:122:VAL:HG21	14:I:125:ALA:HB2	1.55	0.89
15:J:15:ARG:HH11	15:J:15:ARG:HG3	1.38	0.89
20:O:36:LYS:HE3	20:O:56:VAL:HG13	1.52	0.89
26:U:29:GLY:C	26:U:31:GLY:N	2.26	0.89
8:C:112:GLN:O	8:C:116:LYS:HE2	1.72	0.89
26:U:27:ASP:C	26:U:32:ARG:HD3	1.93	0.89
26:U:70:LEU:HD21	26:U:77:GLY:O	1.72	0.89
20:O:22:VAL:CG2	29:X:1173:G:H4'	2.02	0.89
29:X:98:U:H5'	29:X:99:U:H5''	1.55	0.89
15:J:62:GLY:HA3	15:J:64:LYS:HE3	1.55	0.89
29:X:1299:A:H2'	29:X:1301:U:OP2	1.73	0.89
29:X:169:C:H2'	29:X:170:U:H5'	1.54	0.89
23:R:95:ARG:CZ	23:R:106:VAL:HG12	2.03	0.88
29:X:635:C:H2'	29:X:636:G:H5''	1.54	0.88
13:H:2:ILE:HB	13:H:45:ALA:HB3	1.53	0.88
20:O:5:ILE:HD11	20:O:8:GLY:O	1.72	0.88
29:X:2075:U:O2'	29:X:2076:G:H5''	1.71	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
10:E:44:ARG:NH2	10:E:46:ASP:HB2	1.88	0.88
11:F:13:PRO:HA	11:F:52:ILE:HA	1.54	0.88
12:G:61:ARG:HE	12:G:65:LYS:CD	1.84	0.88
20:O:11:GLN:NE2	20:O:38:LEU:HB3	1.88	0.88
22:Q:51:ILE:HD11	22:Q:83:ALA:HA	1.54	0.88
26:U:32:ARG:N	26:U:32:ARG:HE	1.72	0.88
12:G:36:ASN:O	12:G:38:GLU:N	2.06	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:101:ARG:HD3	29:X:637:G:H1	1.39	0.88
29:X:857:U:H2'	29:X:858:G:O4'	1.73	0.88
29:X:914:C:H2'	29:X:915:C:H6	1.35	0.88
6:A:125:PRO:HG3	6:A:131:LEU:HD13	1.53	0.88
6:A:246:PRO:HD3	6:A:251:GLY:H	1.38	0.88
6:A:77:ALA:HB2	6:A:97:TYR:CD1	2.09	0.88
11:F:19:PRO:HG2	11:F:21:PRO:CD	2.02	0.88
19:N:70:ARG:HH11	19:N:70:ARG:HG3	1.38	0.88
26:U:67:LEU:HD23	26:U:67:LEU:O	1.73	0.88
27:V:7:ARG:HD2	27:V:8:ASN:N	1.87	0.88
30:Y:16:ARG:HD3	30:Y:20:ARG:CZ	2.03	0.88
29:X:2871:U:H2'	29:X:2872:U:C6	2.09	0.88
6:A:70:ARG:HG2	6:A:190:TYR:CE1	2.09	0.88
10:E:139:GLN:HB3	10:E:143:GLN:CD	1.94	0.88
26:U:13:LEU:HD12	26:U:14:VAL:H	1.37	0.87
29:X:116:A:H5'	29:X:117:A:H8	1.36	0.87
6:A:231:HIS:HD2	6:A:233:HIS:H	1.21	0.87
6:A:68:LYS:HD3	6:A:68:LYS:H	1.39	0.87
20:O:36:LYS:HZ2	20:O:54:TYR:HB3	1.36	0.87
24:S:95:SER:HB3	24:S:119:ASN:HD21	1.39	0.87
29:X:1354:A:H3'	29:X:1410:U:O2	1.73	0.87
29:X:862:A:H2'	29:X:863:C:C6	2.08	0.87
15:J:27:TYR:HB3	15:J:137:VAL:HG21	1.55	0.87
25:T:71:ASN:ND2	25:T:77:ARG:HD3	1.89	0.87
29:X:1181:C:H2'	29:X:1182:U:H5''	1.54	0.87
12:G:52:GLY:O	12:G:55:ALA:HB3	1.74	0.87
21:P:14:ARG:HA	21:P:17:GLN:HG2	1.56	0.87
7:B:194:GLY:HA2	18:M:2:GLN:HB3	1.55	0.87
29:X:1018:C:H3'	29:X:1019:U:C5'	2.04	0.87
29:X:1223:G:H4'	29:X:1224:A:C5'	2.04	0.87
29:X:1313:U:H4'	29:X:1314:A:O5'	1.75	0.87
29:X:2170:C:H3'	29:X:2171:U:C5'	2.04	0.87
29:X:314:G:H2'	29:X:315:G:H8	1.36	0.87
11:F:12:LEU:HD13	11:F:18:THR:HG21	1.54	0.87
29:X:2326:C:C2	29:X:2327:U:C5	2.63	0.87
10:E:43:VAL:HB	10:E:52:VAL:HA	1.55	0.87
10:E:37:TYR:CD2	10:E:68:THR:HG23	2.09	0.87
29:X:2058:U:H3'	29:X:2217:G:N2	1.89	0.87
29:X:689:A:C8	29:X:2422:C:H1'	2.09	0.87
29:X:497:C:C6	29:X:497:C:H5'	2.09	0.87
29:X:2796:A:H2'	29:X:2797:G:C8	2.09	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:389:G:H2'	29:X:390:U:C6	2.10	0.87
29:X:788:G:H5'	29:X:790:A:C1'	2.04	0.87
15:J:78:LYS:HA	15:J:88:LYS:HZ3	1.40	0.87
25:T:40:GLN:HE22	25:T:43:THR:HA	1.35	0.87
29:X:1275:A:C2	30:Y:10:LYS:HE2	2.10	0.87
30:Y:4:HIS:HB3	30:Y:5:PRO:CD	2.03	0.87
7:B:2:LYS:HA	7:B:84:PHE:HE1	1.36	0.86
10:E:43:VAL:HG21	10:E:52:VAL:HG22	1.57	0.86
7:B:53:PRO:HD2	18:M:6:LYS:HZ2	1.40	0.86
27:V:14:PHE:HD2	27:V:57:LYS:HB2	1.40	0.86
29:X:176:A:H3'	29:X:177:U:C5	2.09	0.86
29:X:2691:C:H2'	29:X:2692:A:H5''	1.55	0.86
29:X:516:G:O2'	29:X:517:A:H8	1.58	0.86
21:P:45:ILE:HD11	21:P:57:LEU:HG	1.57	0.86
22:Q:90:ALA:C	22:Q:92:ALA:H	1.75	0.86
22:Q:7:LEU:HD22	22:Q:7:LEU:C	1.96	0.86
29:X:1052:C:C3'	29:X:1053:G:C5'	2.53	0.86
29:X:460:U:O4	29:X:592:G:H1'	1.75	0.86
6:A:183:ARG:HB3	6:A:183:ARG:NH1	1.90	0.86
29:X:1573:G:H3'	29:X:1574:A:H5''	1.56	0.86
29:X:731:A:H2'	29:X:732:G:O4'	1.75	0.86
14:I:13:ARG:HH11	29:X:1218:C:C4'	1.87	0.86
17:L:63:ASN:HB3	17:L:66:ASP:HB2	1.55	0.86
18:M:101:ARG:NH2	29:X:1745:C:OP1	2.09	0.86
22:Q:66:GLY:O	22:Q:68:PHE:N	2.07	0.86
29:X:2198:U:H2'	29:X:2199:C:O4'	1.75	0.86
26:U:13:LEU:CD1	26:U:14:VAL:H	1.87	0.86
26:U:53:GLU:O	26:U:78:ILE:HG22	1.74	0.86
29:X:1512:A:H2'	29:X:1514:C:C5	2.09	0.86
29:X:1775:A:H4'	29:X:1776:A:O5'	1.72	0.86
29:X:789:G:H4'	29:X:790:A:O5'	1.76	0.86
8:C:22:VAL:HA	8:C:106:MET:HG3	1.56	0.86
13:H:110:VAL:HG23	13:H:129:LEU:HB2	1.55	0.86
23:R:93:ARG:HH12	23:R:108:VAL:HA	1.38	0.86
9:D:13:ARG:HB3	9:D:14:PRO:HD3	1.58	0.86
20:O:13:ARG:HG2	20:O:14:VAL:H	1.39	0.86
24:S:36:ARG:HG2	24:S:40:ASP:OD1	1.73	0.86
26:U:51:ILE:HA	26:U:59:THR:O	1.76	0.86
6:A:258:LYS:NZ	6:A:261:ARG:HE	1.74	0.86
22:Q:25:TYR:OH	22:Q:87:SER:HA	1.74	0.86
23:R:38:LEU:HD12	23:R:47:VAL:HG21	1.58	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:T:3:HIS:CD2	25:T:5:LYS:HD3	2.10	0.86
25:T:71:ASN:HD22	25:T:77:ARG:CD	1.89	0.86
29:X:1468:A:H5''	29:X:1472:C:H41	1.36	0.86
29:X:1856:U:C2'	29:X:1857:G:O5'	2.24	0.86
12:G:115:ALA:O	12:G:118:ALA:HB3	1.76	0.86
13:H:10:VAL:HG21	13:H:16:ALA:O	1.76	0.86
19:N:66:ASN:CB	19:N:70:ARG:HH12	1.88	0.86
17:L:33:ARG:NH2	17:L:103:LEU:HB2	1.90	0.85
18:M:34:ARG:NH1	18:M:81:PHE:HB3	1.91	0.85
19:N:13:ARG:NE	29:X:1264:C:H5''	1.91	0.85
29:X:824:U:H1'	29:X:1264:C:H1'	1.58	0.85
29:X:476:G:H2'	29:X:477:A:C8	2.10	0.85
8:C:186:LEU:HG	8:C:188:ILE:HG12	1.56	0.85
9:D:33:LYS:HG3	9:D:157:VAL:HG21	1.57	0.85
10:E:88:GLU:OE2	10:E:90:ARG:HD2	1.76	0.85
23:R:18:LYS:HE2	23:R:18:LYS:N	1.91	0.85
23:R:90:LYS:HD2	23:R:108:VAL:HG21	1.55	0.85
19:N:8:ILE:O	19:N:12:ARG:HG3	1.75	0.85
24:S:105:GLN:OE1	24:S:140:LYS:HA	1.76	0.85
30:Y:51:TYR:CE1	30:Y:55:ARG:HB2	2.11	0.85
9:D:171:GLN:HA	9:D:175:LEU:HB3	1.58	0.85
12:G:98:LYS:HB3	12:G:116:ARG:HB2	1.58	0.85
8:C:28:HIS:CE1	14:I:21:ARG:HH11	1.93	0.85
16:K:100:VAL:CG1	16:K:101:GLY:H	1.78	0.85
29:X:1119:U:H6	29:X:1119:U:H5'	1.40	0.85
29:X:958:G:H2'	29:X:959:C:H6	1.40	0.85
30:Y:19:ARG:HB3	30:Y:19:ARG:HH11	1.39	0.85
7:B:37:LYS:HD2	7:B:42:ASP:OD1	1.75	0.85
22:Q:69:ILE:HD13	22:Q:70:GLY:O	1.77	0.85
29:X:1281:A:C1'	29:X:2592:U:H5	1.89	0.85
8:C:162:ARG:HD2	29:X:333:A:H5'	1.59	0.85
9:D:74:ILE:HG23	9:D:80:ARG:HA	1.59	0.85
14:I:11:GLY:N	14:I:14:LYS:HB3	1.90	0.85
21:P:66:GLU:HB3	21:P:67:PRO:HD3	1.58	0.85
24:S:51:LEU:H	24:S:51:LEU:HD23	1.39	0.85
29:X:1031:C:H41	29:X:1153:A:N6	1.74	0.85
12:G:36:ASN:C	12:G:38:GLU:H	1.78	0.85
18:M:99:VAL:HG22	18:M:100:ARG:N	1.90	0.85
8:C:93:TYR:CD1	29:X:673:G:H5'	2.11	0.85
23:R:40:LEU:HB2	23:R:45:LYS:HB2	1.57	0.85
24:S:19:ILE:CG1	24:S:36:ARG:HA	2.06	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1813:A:H2'	29:X:1814:G:H8	1.41	0.85
29:X:623:G:C3'	29:X:624:A:H5''	2.07	0.85
6:A:231:HIS:CD2	6:A:233:HIS:H	1.94	0.85
29:X:149:A:H2'	29:X:150:A:C8	2.11	0.85
10:E:103:LEU:HD21	10:E:131:ILE:HD13	1.59	0.85
22:Q:68:PHE:O	22:Q:69:ILE:HD12	1.76	0.85
29:X:2023:C:H2'	29:X:2024:U:C6	2.10	0.85
12:G:132:PHE:CZ	12:G:145:HIS:HB2	2.10	0.84
29:X:1185:C:H2'	29:X:1186:G:H3'	1.59	0.84
29:X:1710:U:H5'	29:X:1711:C:C5	2.11	0.84
29:X:2706:U:H2'	29:X:2706:U:O2	1.76	0.84
29:X:833:A:H1'	29:X:954:U:O2'	1.77	0.84
7:B:116:VAL:N	7:B:136:ARG:NE	2.09	0.84
9:D:142:THR:O	9:D:146:VAL:HG13	1.75	0.84
21:P:46:ARG:HG2	21:P:46:ARG:HH11	1.42	0.84
24:S:3:LEU:HD12	24:S:4:THR:N	1.91	0.84
29:X:1018:C:H3'	29:X:1019:U:H5''	1.59	0.84
29:X:2177:U:H2'	29:X:2178:U:C6	2.12	0.84
29:X:2490:U:H2'	29:X:2491:C:H6	1.38	0.84
29:X:2850:U:H6	29:X:2850:U:H5'	1.41	0.84
19:N:31:GLN:NE2	29:X:589:C:H4'	1.92	0.84
8:C:148:VAL:CB	8:C:167:VAL:HG12	2.03	0.84
26:U:50:ALA:HB3	26:U:52:ARG:HH22	1.42	0.84
29:X:1385:C:H1'	29:X:2192:U:C5	2.12	0.84
29:X:1526:U:H2'	29:X:1527:G:O4'	1.75	0.84
29:X:555:U:H6	29:X:555:U:H3'	1.42	0.84
6:A:244:ARG:HB3	6:A:252:LYS:NZ	1.91	0.84
7:B:188:ILE:CG2	7:B:189:PRO:HD2	2.07	0.84
8:C:27:LEU:O	8:C:31:VAL:HG22	1.76	0.84
25:T:60:PHE:CE1	29:X:2344:G:H4'	2.12	0.84
26:U:51:ILE:CG2	26:U:59:THR:HA	2.05	0.84
29:X:553:C:H5'	29:X:554:U:OP1	1.76	0.84
12:G:34:PRO:HA	12:G:69:ASP:CG	1.98	0.84
14:I:53:ARG:O	14:I:53:ARG:HD2	1.76	0.84
18:M:33:VAL:CG2	18:M:51:GLU:HB2	2.07	0.84
23:R:38:LEU:HB2	23:R:47:VAL:HB	1.58	0.84
23:R:25:LEU:HD11	23:R:81:VAL:HG23	1.60	0.84
26:U:22:GLY:H	26:U:39:LYS:HB2	1.41	0.84
29:X:2240:C:O2'	29:X:2241:U:H5'	1.78	0.84
29:X:759:C:H6	29:X:759:C:H5'	1.40	0.84
7:B:116:VAL:HG22	7:B:136:ARG:NE	1.90	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:56:LYS:HA	23:R:69:GLN:HA	1.60	0.84
23:R:20:ASP:OD1	23:R:83:LEU:HD23	1.76	0.84
29:X:1194:U:H2'	29:X:1195:U:C6	2.12	0.84
6:A:99:ASP:HB3	29:X:1507:A:O4'	1.78	0.84
8:C:93:TYR:HD2	8:C:93:TYR:H	1.24	0.84
9:D:115:ARG:HB2	9:D:178:ARG:HD2	1.60	0.84
18:M:37:THR:HG22	18:M:39:VAL:HG13	1.59	0.84
19:N:114:ARG:NH1	19:N:115:ASN:HD21	1.74	0.84
26:U:31:GLY:HA2	26:U:32:ARG:NH1	1.92	0.84
29:X:2811:G:H2'	29:X:2812:A:H8	1.40	0.84
29:X:1231:A:H2'	29:X:1232:U:H6	1.42	0.84
29:X:2040:A:H2'	29:X:2041:A:H8	1.43	0.84
10:E:50:LEU:HD23	10:E:51:LEU:H	1.41	0.83
13:H:116:ARG:HD2	18:M:38:LYS:CE	2.04	0.83
16:K:73:LYS:O	16:K:76:VAL:HG12	1.78	0.83
24:S:117:VAL:HG22	24:S:168:VAL:HA	1.59	0.83
29:X:2712:G:H3'	29:X:2713:A:H5'	1.59	0.83
6:A:183:ARG:CB	6:A:183:ARG:HH11	1.90	0.83
7:B:117:MET:H	7:B:136:ARG:CD	1.91	0.83
11:F:10:LEU:HD21	11:F:57:ILE:HG13	1.60	0.83
14:I:81:GLN:HE22	14:I:115:SER:HA	1.42	0.83
16:K:10:LEU:CD2	16:K:17:ARG:HB2	2.08	0.83
24:S:120:LEU:HD23	24:S:121:GLN:N	1.93	0.83
29:X:173:A:H61	29:X:844:G:H21	1.26	0.83
29:X:777:A:H62	29:X:1766:U:H3	1.20	0.83
6:A:160:GLY:HA2	6:A:196:VAL:O	1.78	0.83
13:H:16:ALA:HB3	13:H:98:ILE:HD11	1.60	0.83
29:X:1574:A:H2'	29:X:1575:C:H5''	1.60	0.83
29:X:318:G:H8	29:X:318:G:H5'	1.40	0.83
8:C:22:VAL:HG13	8:C:106:MET:HG2	1.58	0.83
9:D:119:PRO:HG2	9:D:120:ASN:H	1.40	0.83
14:I:13:ARG:HG2	14:I:13:ARG:HH21	1.42	0.83
18:M:99:VAL:HG22	18:M:100:ARG:H	1.43	0.83
23:R:85:ASP:H	23:R:86:PRO:HD3	1.41	0.83
29:X:1698:C:O2'	29:X:1753:A:H2'	1.78	0.83
29:X:751:G:H2'	29:X:752:G:C8	2.14	0.83
16:K:87:TYR:HE1	16:K:94:TYR:CD2	1.95	0.83
19:N:61:TRP:HZ3	19:N:94:VAL:N	1.76	0.83
26:U:13:LEU:O	26:U:14:VAL:HG13	1.78	0.83
29:X:1513:U:H5''	29:X:1514:C:OP2	1.77	0.83
4:4:24:LEU:HG	4:4:35:ARG:HG3	1.60	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:54:ILE:O	6:A:54:ILE:HG23	1.78	0.83
14:I:18:ARG:CB	14:I:21:ARG:HD3	2.09	0.83
18:M:34:ARG:NH2	18:M:88:VAL:HG11	1.92	0.83
20:O:38:LEU:HD13	20:O:39:PHE:N	1.93	0.83
23:R:112:LYS:O	23:R:113:THR:HG23	1.78	0.83
29:X:558:G:C8	29:X:559:C:C5	2.66	0.83
31:Z:64:C:H2'	31:Z:65:A:H8	1.42	0.83
15:J:44:LYS:HB2	15:J:47:GLN:HG3	1.59	0.83
21:P:29:LYS:HG2	21:P:123:HIS:CE1	2.12	0.83
29:X:2484:G:O2'	29:X:2485:U:H5'	1.76	0.83
9:D:4:LEU:CG	9:D:5:LYS:H	1.90	0.83
10:E:43:VAL:HG23	10:E:51:LEU:O	1.77	0.83
14:I:86:THR:OG1	14:I:118:VAL:HG12	1.77	0.83
14:I:28:LYS:HZ2	14:I:37:GLN:N	1.76	0.83
19:N:13:ARG:HG3	19:N:13:ARG:HH21	1.43	0.83
23:R:105:ARG:NH2	23:R:112:LYS:HA	1.92	0.83
29:X:2581:A:H5'	29:X:2582:G:OP2	1.78	0.83
29:X:760:U:C5	30:Y:3:LYS:HG3	2.14	0.83
9:D:111:ILE:HB	9:D:114:PHE:HB2	1.59	0.83
10:E:29:PRO:HG2	10:E:79:VAL:O	1.76	0.83
29:X:704:G:H2'	29:X:705:C:H6	1.42	0.83
29:X:760:U:C4	30:Y:3:LYS:HG3	2.13	0.83
29:X:2440:C:H2'	29:X:2441:U:H6	1.44	0.83
23:R:93:ARG:HG2	23:R:93:ARG:HH11	1.43	0.82
29:X:2672:U:H2'	29:X:2673:G:C8	2.14	0.82
6:A:244:ARG:HD2	29:X:1885:C:H5'	1.60	0.82
16:K:87:TYR:CE1	16:K:94:TYR:HD2	1.96	0.82
17:L:33:ARG:NH1	17:L:100:VAL:HA	1.93	0.82
17:L:40:ALA:HB1	17:L:75:LEU:HD22	1.61	0.82
6:A:250:TRP:O	6:A:255:LYS:NZ	2.13	0.82
9:D:12:VAL:HG11	9:D:169:LEU:HD12	1.59	0.82
13:H:41:ASN:H	13:H:41:ASN:ND2	1.78	0.82
15:J:69:ILE:HG23	15:J:104:MET:HA	1.61	0.82
15:J:22:ALA:HB2	15:J:100:PRO:O	1.79	0.82
6:A:149:PRO:HG2	29:X:2200:G:O2'	1.79	0.82
12:G:103:TYR:CZ	12:G:111:LYS:HB2	2.14	0.82
24:S:67:LYS:HZ3	31:Z:106:U:H4'	1.43	0.82
29:X:940:G:OP1	29:X:940:G:H4'	1.79	0.82
15:J:17:ARG:NH1	29:X:969:U:H5''	1.93	0.82
4:4:30:VAL:HG12	4:4:33:LYS:HE3	1.61	0.82
7:B:38:THR:HG22	7:B:40:GLN:N	1.92	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:105:TYR:O	18:M:108:ARG:HG3	1.78	0.82
23:R:4:PRO:N	29:X:34:U:HO2'	1.78	0.82
24:S:123:VAL:HG23	24:S:161:ALA:HA	1.62	0.82
27:V:21:ARG:HH11	27:V:53:LEU:HD11	1.44	0.82
29:X:2029:G:H5'	30:Y:19:ARG:HB2	1.62	0.82
8:C:3:GLN:HE22	8:C:4:ILE:HG12	1.44	0.82
18:M:46:ARG:CG	18:M:47:SER:H	1.92	0.82
24:S:10:PRO:O	24:S:13:LYS:HG3	1.77	0.82
22:Q:70:GLY:HA2	29:X:63:A:O2'	1.80	0.82
29:X:757:U:O2'	29:X:758:G:H5'	1.79	0.82
30:Y:35:GLN:O	30:Y:36:CYS:HB3	1.79	0.82
7:B:198:LEU:N	7:B:198:LEU:HD12	1.95	0.82
17:L:20:THR:CG2	17:L:23:ALA:HB3	2.08	0.82
23:R:54:ILE:HD13	23:R:71:GLN:HA	1.60	0.82
23:R:56:LYS:HE3	29:X:493:A:H4'	1.60	0.82
29:X:2634:G:H2'	29:X:2643:G:O6	1.80	0.82
29:X:501:G:H2'	29:X:502:A:H8	1.44	0.82
6:A:95:LEU:HD12	6:A:105:ILE:HD12	1.59	0.82
6:A:85:ASP:OD2	6:A:92:ILE:HD12	1.79	0.82
8:C:179:ASP:O	8:C:182:ARG:HB3	1.80	0.82
10:E:105:MET:HE3	10:E:131:ILE:HD11	1.61	0.82
15:J:125:LYS:H	15:J:125:LYS:HD2	1.43	0.82
15:J:64:LYS:HD2	15:J:64:LYS:N	1.95	0.82
26:U:14:VAL:HB	26:U:47:HIS:CE1	2.15	0.82
19:N:13:ARG:HE	29:X:1264:C:H5''	1.43	0.82
29:X:1711:C:H4'	29:X:1712:G:H5''	1.59	0.82
29:X:2195:C:C4	29:X:2196:U:C4	2.68	0.82
16:K:3:HIS:CE1	29:X:2796:A:OP2	2.33	0.82
29:X:501:G:H2'	29:X:502:A:C8	2.15	0.82
7:B:176:ARG:HE	18:M:16:ILE:HG12	1.45	0.82
9:D:4:LEU:HG	9:D:5:LYS:H	1.43	0.82
13:H:70:VAL:HG21	13:H:98:ILE:CG2	2.10	0.82
23:R:90:LYS:HB2	23:R:108:VAL:HG11	1.62	0.82
29:X:2787:A:H2'	29:X:2788:C:H6	1.43	0.82
29:X:663:G:C3'	29:X:664:C:H5''	2.10	0.82
29:X:2275:U:H4'	29:X:2276:C:OP1	1.78	0.82
29:X:2405:A:H4'	29:X:2406:C:OP2	1.80	0.82
29:X:2516:U:H2'	29:X:2517:C:H6	1.42	0.81
29:X:2769:C:H2'	29:X:2770:A:C8	2.14	0.81
19:N:93:LYS:HD3	20:O:5:ILE:HG22	1.62	0.81
29:X:1919:A:C2	29:X:1926:U:N3	2.46	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2222:U:H2'	29:X:2223:U:H6	1.40	0.81
10:E:43:VAL:HB	10:E:52:VAL:HG13	1.63	0.81
13:H:116:ARG:CG	18:M:40:ARG:HH21	1.93	0.81
29:X:3:U:H2'	29:X:4:C:C6	2.15	0.81
29:X:555:U:C6	29:X:555:U:H3'	2.16	0.81
21:P:25:PHE:HD1	21:P:127:ILE:HD11	1.46	0.81
29:X:1429:A:H1'	29:X:1603:A:C6	2.15	0.81
29:X:427:C:H1'	29:X:1856:U:H1'	1.60	0.81
7:B:31:CYS:HB3	7:B:49:ILE:HG12	1.60	0.81
18:M:5:ILE:HD13	18:M:7:ILE:HB	1.62	0.81
21:P:102:THR:HG22	21:P:102:THR:O	1.81	0.81
29:X:143:A:H2'	29:X:144:U:H6	1.43	0.81
29:X:37:C:H2'	29:X:38:G:H8	1.45	0.81
8:C:176:ASN:HD21	8:C:178:TYR:HB3	1.45	0.81
9:D:74:ILE:HG12	9:D:80:ARG:O	1.80	0.81
15:J:78:LYS:HE2	15:J:81:GLU:HA	1.62	0.81
19:N:50:ARG:C	19:N:52:ASN:H	1.83	0.81
21:P:71:VAL:HG12	21:P:126:ILE:HG23	1.61	0.81
29:X:1118:G:H2'	29:X:1119:U:C5'	2.10	0.81
29:X:2326:C:H2'	29:X:2327:U:H6	1.44	0.81
29:X:813:A:H4'	29:X:814:G:O5'	1.78	0.81
29:X:857:U:H3'	29:X:858:G:C8	2.16	0.81
11:F:27:LEU:HD22	11:F:57:ILE:HD12	1.60	0.81
16:K:60:LEU:HD11	16:K:64:ARG:NE	1.94	0.81
17:L:36:LYS:HE3	17:L:36:LYS:HA	1.61	0.81
29:X:1051:U:H2'	29:X:1052:C:C6	2.15	0.81
29:X:1787:U:H2'	29:X:1788:C:H6	1.43	0.81
29:X:559:C:H2'	29:X:560:G:O4'	1.80	0.81
29:X:759:C:H5'	29:X:759:C:C6	2.16	0.81
16:K:91:PRO:O	16:K:92:GLY:O	1.98	0.81
17:L:101:LYS:HG2	17:L:105:ASP:OD2	1.79	0.81
26:U:20:ARG:HB3	26:U:43:ARG:HH21	1.46	0.81
29:X:1194:U:H6	29:X:1194:U:H5'	1.43	0.81
29:X:1385:C:H1'	29:X:2192:U:C6	2.15	0.81
26:U:40:ARG:NE	29:X:178:C:OP1	2.14	0.81
29:X:1849:G:H1'	29:X:1868:A:H61	1.46	0.81
29:X:187:U:H2'	29:X:188:G:H8	1.46	0.81
29:X:689:A:H8	29:X:2422:C:H1'	1.44	0.81
6:A:263:ARG:HG3	29:X:1791:C:OP1	1.81	0.81
10:E:136:ILE:HD12	10:E:136:ILE:H	1.46	0.81
12:G:158:HIS:HA	12:G:161:GLN:CD	2.01	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:70:VAL:HG21	13:H:98:ILE:HG23	1.61	0.81
14:I:18:ARG:HB2	14:I:21:ARG:CD	2.09	0.81
26:U:27:ASP:CA	26:U:32:ARG:HH21	1.93	0.81
6:A:172:TYR:CE1	6:A:186:HIS:HB3	2.16	0.81
6:A:246:PRO:CD	6:A:251:GLY:H	1.93	0.81
9:D:123:ASP:C	9:D:125:ARG:H	1.84	0.81
14:I:108:LEU:O	14:I:109:LEU:HD23	1.80	0.81
15:J:44:LYS:HB2	15:J:47:GLN:CD	2.02	0.81
29:X:2177:U:H2'	29:X:2178:U:H6	1.43	0.81
29:X:404:A:H1'	29:X:424:G:H1'	1.63	0.81
6:A:252:LYS:H	6:A:252:LYS:CE	1.84	0.80
7:B:189:PRO:HA	29:X:2659:C:H5'	1.61	0.80
8:C:44:SER:OG	29:X:37:C:H1'	1.79	0.80
10:E:89:LEU:HD13	10:E:95:ARG:HA	1.63	0.80
12:G:154:GLU:N	12:G:154:GLU:OE1	2.14	0.80
13:H:47:VAL:HG23	13:H:77:THR:CG2	2.06	0.80
14:I:77:LEU:HB2	14:I:111:SER:H	1.45	0.80
16:K:13:ASN:ND2	16:K:16:ALA:H	1.79	0.80
22:Q:6:ILE:HG22	22:Q:7:LEU:N	1.96	0.80
29:X:2225:G:H2'	29:X:2226:A:H8	1.46	0.80
10:E:30:LYS:HB2	10:E:79:VAL:HA	1.60	0.80
10:E:98:LEU:HD12	10:E:99:THR:H	1.45	0.80
13:H:27:SER:HB3	13:H:50:ILE:H	1.45	0.80
29:X:914:C:H2'	29:X:915:C:C6	2.16	0.80
29:X:2617:G:HO2'	29:X:2618:A:H8	1.28	0.80
10:E:139:GLN:HE21	29:X:2726:U:H1'	1.46	0.80
16:K:103:ARG:NH2	16:K:106:ASP:OD2	2.14	0.80
17:L:36:LYS:HB3	17:L:64:LYS:HB2	1.62	0.80
29:X:1107:A:H3'	29:X:1108:U:H5'	1.60	0.80
29:X:1231:A:H2'	29:X:1232:U:C6	2.16	0.80
8:C:39:ARG:HH21	8:C:91:TYR:HD2	1.27	0.80
19:N:72:HIS:CD2	19:N:110:VAL:HG21	2.17	0.80
24:S:10:PRO:O	24:S:14:LEU:HG	1.81	0.80
24:S:120:LEU:HD23	24:S:121:GLN:H	1.46	0.80
24:S:127:PRO:CA	24:S:130:ILE:HD11	2.12	0.80
24:S:154:LEU:HD21	24:S:160:LEU:HD21	1.64	0.80
24:S:46:GLN:HB3	24:S:50:GLY:HA3	1.62	0.80
29:X:402:A:C8	29:X:2392:G:H4'	2.16	0.80
7:B:188:ILE:HG23	7:B:189:PRO:HD2	1.62	0.80
9:D:4:LEU:HG	9:D:5:LYS:N	1.96	0.80
12:G:116:ARG:HD2	12:G:119:LEU:HD12	1.64	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1439:G:H2'	29:X:1440:G:C8	2.17	0.80
19:N:55:ARG:HD3	29:X:1166:A:H5''	1.63	0.80
29:X:1452:U:O2'	29:X:1453:A:H5'	1.81	0.80
14:I:86:THR:H	14:I:116:ARG:NH1	1.79	0.80
26:U:22:GLY:N	26:U:39:LYS:HB2	1.96	0.80
26:U:49:LYS:HB2	26:U:61:TRP:CA	2.10	0.80
29:X:1811:A:H4'	29:X:1812:U:H5''	1.62	0.80
9:D:122:PHE:HA	29:X:2282:G:H4'	1.64	0.80
29:X:2326:C:H2'	29:X:2327:U:C6	2.16	0.80
29:X:2324:G:N3	29:X:2360:C:H2'	1.97	0.80
29:X:693:A:H2'	29:X:694:G:H8	1.45	0.80
13:H:132:GLU:HB2	18:M:73:PHE:HE1	1.45	0.80
29:X:2266:A:N6	29:X:2323:U:N3	2.29	0.80
29:X:2311:U:H5'	29:X:2315:A:N6	1.95	0.80
29:X:2563:U:C2'	29:X:2564:U:H5''	2.11	0.80
31:Z:53:G:N2	31:Z:54:U:H5	1.80	0.80
27:V:14:PHE:CD2	27:V:57:LYS:HB2	2.16	0.80
28:W:40:VAL:HA	28:W:43:MET:CG	2.10	0.80
28:W:46:THR:HG22	28:W:47:VAL:HG13	1.63	0.80
28:W:47:VAL:HB	28:W:50:LEU:HD12	1.63	0.80
29:X:2426:G:H3'	29:X:2479:U:OP2	1.82	0.80
29:X:685:U:O2'	29:X:686:C:H5'	1.82	0.80
7:B:136:ARG:HD3	29:X:1673:C:OP1	1.81	0.79
13:H:35:THR:HG21	29:X:2629:U:H5'	1.64	0.79
17:L:21:THR:HG22	17:L:22:ALA:N	1.97	0.79
17:L:32:TYR:CE2	31:Z:9:G:H5'	2.16	0.79
26:U:51:ILE:HG12	26:U:59:THR:HB	1.63	0.79
11:F:104:VAL:HA	11:F:107:ILE:HD12	1.64	0.79
12:G:104:THR:OG1	12:G:110:LEU:HB3	1.82	0.79
13:H:9:ASP:OD1	13:H:93:ARG:NH2	2.16	0.79
17:L:89:PHE:CE2	29:X:2356:A:H1'	2.17	0.79
18:M:79:ARG:NH1	18:M:79:ARG:HG3	1.93	0.79
26:U:13:LEU:CG	26:U:14:VAL:H	1.95	0.79
12:G:103:TYR:CD2	29:X:1142:G:H1'	2.17	0.79
29:X:2189:A:H61	29:X:2195:C:N4	1.79	0.79
8:C:95:LEU:HD23	8:C:96:PRO:CD	2.13	0.79
12:G:155:THR:HG23	12:G:156:HIS:H	1.46	0.79
12:G:35:LYS:O	12:G:36:ASN:HB3	1.82	0.79
23:R:15:HIS:HD2	29:X:347:C:H4'	1.46	0.79
29:X:1468:A:O5'	29:X:1468:A:H8	1.64	0.79
29:X:2781:G:C2'	29:X:2782:G:H5''	2.11	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:631:G:H4'	29:X:632:A:H5''	1.65	0.79
31:Z:108:G:O2'	31:Z:109:G:H5'	1.83	0.79
9:D:8:TYR:HD1	9:D:173:MET:SD	2.05	0.79
9:D:65:PRO:HB3	9:D:89:VAL:HG22	1.63	0.79
26:U:48:LYS:CG	26:U:49:LYS:H	1.86	0.79
29:X:1432:G:H2'	29:X:1594:U:O4	1.81	0.79
29:X:1281:A:C1'	29:X:2592:U:C5	2.62	0.79
8:C:5:ASN:HA	8:C:118:VAL:CG2	2.12	0.79
14:I:30:ALA:CB	14:I:34:HIS:CE1	2.66	0.79
15:J:125:LYS:HZ2	15:J:125:LYS:HB3	1.44	0.79
23:R:83:LEU:O	23:R:84:VAL:HG23	1.83	0.79
26:U:41:VAL:HG23	26:U:42:GLN:N	1.97	0.79
29:X:104:C:H2'	29:X:105:G:H5'	1.62	0.79
16:K:98:LEU:HD22	30:Y:56:GLN:HG2	1.64	0.79
23:R:22:VAL:HG13	23:R:81:VAL:O	1.83	0.79
29:X:1473:U:OP2	29:X:1473:U:C6	2.36	0.79
29:X:1882:G:H21	29:X:1885:C:H41	1.29	0.79
8:C:194:GLU:O	8:C:195:ILE:HG12	1.83	0.79
9:D:38:GLU:CB	9:D:87:ILE:HB	2.11	0.79
12:G:162:LYS:H	12:G:163:PRO:CD	1.95	0.79
24:S:141:MET:SD	24:S:147:ILE:HG12	2.21	0.79
27:V:42:ARG:O	27:V:46:LEU:HG	1.83	0.79
29:X:1909:U:H5	29:X:1911:A:H62	1.29	0.79
29:X:693:A:H2'	29:X:694:G:C8	2.17	0.79
17:L:66:ASP:C	17:L:68:ALA:H	1.86	0.79
20:O:10:LYS:HG3	20:O:11:GLN:HG2	1.64	0.79
29:X:2628:C:H2'	29:X:2629:U:H6	1.48	0.79
29:X:958:G:H2'	29:X:959:C:C6	2.18	0.79
9:D:80:ARG:HD3	9:D:83:MET:HB3	1.62	0.79
12:G:150:VAL:HG12	12:G:151:TYR:N	1.98	0.79
15:J:125:LYS:HB3	15:J:125:LYS:NZ	1.96	0.79
15:J:44:LYS:HB2	15:J:47:GLN:CG	2.13	0.79
21:P:71:VAL:CG1	21:P:126:ILE:HG23	2.13	0.79
29:X:1625:A:H4'	29:X:1626:A:OP1	1.81	0.79
29:X:2263:C:H1'	29:X:2304:G:N2	1.98	0.79
29:X:2821:G:H2'	29:X:2822:U:C6	2.17	0.79
29:X:37:C:H2'	29:X:38:G:C8	2.16	0.79
7:B:142:GLY:C	7:B:143:GLN:HE21	1.84	0.79
8:C:23:ASN:HB3	8:C:26:VAL:HG23	1.64	0.79
12:G:61:ARG:HB3	12:G:61:ARG:HH21	1.47	0.79
25:T:41:ARG:NH1	29:X:2366:U:H1'	1.98	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:54:ASN:C	26:U:56:GLN:H	1.86	0.79
29:X:1467:U:H3'	29:X:1467:U:C6	2.18	0.79
29:X:555:U:OP2	29:X:556:A:H2'	1.82	0.79
29:X:857:U:H3'	29:X:858:G:H8	1.46	0.79
8:C:162:ARG:O	8:C:162:ARG:HG2	1.83	0.78
10:E:124:ALA:HB3	10:E:132:ASP:HB3	1.65	0.78
10:E:68:THR:O	10:E:72:VAL:HG23	1.83	0.78
13:H:23:ARG:HB3	13:H:23:ARG:NH2	1.98	0.78
13:H:28:GLY:O	13:H:35:THR:N	2.16	0.78
23:R:112:LYS:HD2	23:R:112:LYS:N	1.97	0.78
29:X:2189:A:H2	29:X:2196:U:H3	1.31	0.78
29:X:314:G:H2'	29:X:315:G:C8	2.17	0.78
29:X:865:A:H2'	29:X:866:U:C6	2.18	0.78
6:A:48:ARG:NH2	29:X:787:A:H5''	1.99	0.78
8:C:148:VAL:HB	8:C:167:VAL:CG1	2.07	0.78
8:C:162:ARG:HH22	29:X:310:A:H61	1.30	0.78
12:G:67:ARG:HE	12:G:70:PHE:HA	1.48	0.78
15:J:44:LYS:HD3	15:J:47:GLN:NE2	1.98	0.78
11:F:122:ALA:HA	29:X:1092:U:H4'	1.65	0.78
6:A:124:GLU:O	6:A:126:LYS:HG3	1.83	0.78
11:F:112:MET:HG3	11:F:113:PRO:CD	2.04	0.78
15:J:21:ASP:HA	15:J:99:LYS:CG	2.14	0.78
18:M:100:ARG:HD2	29:X:1744:G:OP1	1.83	0.78
19:N:13:ARG:NH1	29:X:825:C:OP1	2.16	0.78
23:R:84:VAL:HG13	23:R:86:PRO:HD2	1.65	0.78
29:X:1051:U:H2'	29:X:1052:C:H6	1.47	0.78
29:X:999:A:HO2'	29:X:1166:A:H2	1.31	0.78
29:X:2040:A:H2'	29:X:2041:A:C8	2.17	0.78
29:X:2259:G:H4'	29:X:2306:A:H5'	1.64	0.78
29:X:558:G:C3'	29:X:558:G:N3	2.45	0.78
7:B:134:TRP:H	7:B:134:TRP:HD1	1.27	0.78
12:G:100:TYR:HB2	12:G:116:ARG:HH12	1.48	0.78
12:G:103:TYR:HD2	29:X:1142:G:C1'	1.97	0.78
12:G:33:ILE:HB	12:G:34:PRO:HD2	1.64	0.78
13:H:41:ASN:O	13:H:42:LYS:O	2.01	0.78
14:I:53:ARG:HH21	14:I:53:ARG:HG3	1.49	0.78
29:X:2440:C:H2'	29:X:2441:U:C6	2.17	0.78
29:X:2475:C:C2'	29:X:2476:A:H5'	2.13	0.78
29:X:2569:A:H2'	29:X:2570:C:H6	1.49	0.78
29:X:1281:A:H1'	29:X:2592:U:O4	1.83	0.78
6:A:231:HIS:ND1	6:A:247:VAL:HA	1.97	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:69:ARG:HD3	6:A:105:ILE:HD11	1.64	0.78
8:C:162:ARG:NH1	29:X:333:A:H3'	1.97	0.78
10:E:71:LEU:O	10:E:74:ASN:HB2	1.82	0.78
13:H:27:SER:HB3	13:H:50:ILE:N	1.97	0.78
19:N:76:TYR:CZ	19:N:80:ILE:HG13	2.17	0.78
29:X:2170:C:H2'	29:X:2171:U:H4'	1.66	0.78
6:A:132:PRO:O	6:A:136:VAL:HG23	1.84	0.78
7:B:131:SER:O	7:B:132:LYS:HG2	1.83	0.78
12:G:67:ARG:HH21	12:G:70:PHE:C	1.86	0.78
14:I:76:LYS:HE3	14:I:111:SER:HB3	1.66	0.78
15:J:55:MET:HG2	15:J:118:ALA:O	1.83	0.78
23:R:105:ARG:HH22	23:R:112:LYS:CA	1.96	0.78
25:T:51:VAL:HG21	25:T:79:ILE:O	1.82	0.78
26:U:50:ALA:CB	26:U:52:ARG:HH22	1.97	0.78
6:A:163:VAL:HG22	6:A:177:LEU:HA	1.63	0.78
8:C:66:ASN:HB3	29:X:1268:U:C2'	2.12	0.78
10:E:149:ARG:HH21	10:E:149:ARG:HG2	1.49	0.78
10:E:154:PRO:HA	10:E:160:LYS:O	1.83	0.78
11:F:41:PHE:O	11:F:45:THR:HG23	1.83	0.78
14:I:66:ASN:HD21	14:I:68:VAL:HG23	1.48	0.78
20:O:12:TYR:O	20:O:13:ARG:HB2	1.84	0.78
23:R:84:VAL:HG21	23:R:89:GLY:HA2	1.63	0.78
26:U:49:LYS:CB	26:U:61:TRP:HA	2.11	0.78
29:X:104:C:H2'	29:X:105:G:C5'	2.13	0.78
29:X:1474:A:H4'	29:X:1475:U:O5'	1.83	0.78
29:X:687:G:O2'	29:X:688:A:H5'	1.84	0.78
12:G:62:ILE:O	12:G:77:GLY:HA3	1.84	0.78
19:N:3:ARG:HD3	29:X:457:C:O3'	1.81	0.78
24:S:127:PRO:O	24:S:128:ARG:HG2	1.82	0.78
24:S:13:LYS:HB2	24:S:13:LYS:NZ	1.98	0.78
31:Z:17:A:H1'	31:Z:112:A:C8	2.19	0.78
8:C:30:VAL:HG12	8:C:31:VAL:H	1.48	0.78
12:G:162:LYS:NZ	29:X:5:A:H1'	1.99	0.78
13:H:41:ASN:ND2	29:X:2653:A:O2'	2.16	0.78
29:X:704:G:H2'	29:X:705:C:C6	2.19	0.78
21:P:40:LEU:HD22	30:Y:25:LEU:CD1	2.14	0.78
10:E:44:ARG:HG3	10:E:44:ARG:HH21	1.49	0.78
11:F:54:PRO:HG2	11:F:70:LYS:HD2	1.66	0.78
12:G:103:TYR:CB	12:G:107:GLN:HE21	1.96	0.78
26:U:33:LYS:NZ	29:X:2400:G:H21	1.80	0.78
29:X:2796:A:H2'	29:X:2797:G:H8	1.49	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:4:HIS:HA	14:I:7:LYS:NZ	1.98	0.77
29:X:1337:G:H1'	29:X:1632:A:N6	1.98	0.77
29:X:1539:U:H2'	29:X:1540:C:C6	2.18	0.77
29:X:652:C:H42	29:X:657:A:N6	1.83	0.77
29:X:925:U:H4'	29:X:926:C:OP1	1.84	0.77
30:Y:58:LEU:HD12	30:Y:58:LEU:H	1.48	0.77
11:F:23:VAL:HA	11:F:26:ALA:HB3	1.65	0.77
18:M:103:LYS:O	18:M:104:LEU:HB2	1.82	0.77
22:Q:54:SER:HB2	29:X:1354:A:O2'	1.85	0.77
26:U:23:LYS:HD2	26:U:35:THR:OG1	1.84	0.77
29:X:2228:U:H5''	29:X:2229:G:OP2	1.83	0.77
9:D:71:LYS:HB2	29:X:2291:U:OP1	1.84	0.77
31:Z:34:C:H2'	31:Z:35:C:C6	2.19	0.77
6:A:43:ARG:N	6:A:43:ARG:CD	2.43	0.77
8:C:84:PHE:HE1	29:X:596:C:H5'	1.48	0.77
13:H:116:ARG:HG2	18:M:40:ARG:NH2	1.97	0.77
29:X:1117:G:H2'	29:X:1118:G:C8	2.19	0.77
29:X:987:G:H4'	29:X:1167:A:N7	1.98	0.77
29:X:1597:A:H2'	29:X:1598:C:C6	2.20	0.77
29:X:172:A:C5	29:X:175:C:H5	2.01	0.77
12:G:107:GLN:HA	12:G:110:LEU:HG	1.65	0.77
16:K:11:ASN:HD21	16:K:12:ARG:HE	1.30	0.77
18:M:28:ARG:HB2	18:M:29:PRO:CD	2.11	0.77
23:R:54:ILE:HA	23:R:70:GLU:O	1.84	0.77
23:R:82:ALA:O	23:R:83:LEU:HD12	1.85	0.77
24:S:6:LYS:H	24:S:7:PRO:CD	1.97	0.77
29:X:1061:A:O2'	29:X:1062:G:H5'	1.85	0.77
29:X:1095:A:C2'	29:X:1096:A:H5''	2.14	0.77
8:C:148:VAL:O	8:C:167:VAL:HA	1.84	0.77
12:G:132:PHE:CE1	12:G:145:HIS:HB2	2.18	0.77
13:H:27:SER:HB3	13:H:50:ILE:HG13	1.67	0.77
18:M:104:LEU:HA	18:M:106:TYR:CE2	2.19	0.77
20:O:20:ILE:HD12	20:O:21:ARG:N	1.99	0.77
21:P:37:LYS:HG3	29:X:1279:G:N1	1.99	0.77
23:R:18:LYS:HE3	23:R:19:GLY:N	1.99	0.77
23:R:82:ALA:O	23:R:83:LEU:O	2.03	0.77
24:S:141:MET:HA	24:S:145:ASP:OD1	1.84	0.77
26:U:10:LYS:HG2	26:U:11:LYS:N	2.00	0.77
27:V:21:ARG:NH1	27:V:53:LEU:HD11	1.99	0.77
29:X:172:A:N1	29:X:178:C:N3	2.33	0.77
29:X:2:G:H2'	29:X:3:U:C6	2.18	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:24:PHE:CD1	29:X:543:G:H5'	2.19	0.77
17:L:16:LYS:HD3	31:Z:11:G:OP1	1.84	0.77
29:X:1095:A:H2'	29:X:1096:A:H5''	1.65	0.77
29:X:215:G:H21	29:X:632:A:H8	1.31	0.77
10:E:98:LEU:HD12	10:E:99:THR:N	1.98	0.77
12:G:67:ARG:HB3	12:G:70:PHE:CA	2.14	0.77
29:X:1072:U:H1'	29:X:1081:A:H1'	1.65	0.77
29:X:2074:U:H3'	29:X:2075:U:H5''	1.65	0.77
9:D:66:ILE:HD11	31:Z:43:G:C5'	2.14	0.77
19:N:48:ARG:O	19:N:52:ASN:HB2	1.84	0.77
29:X:2189:A:N6	29:X:2195:C:N4	2.33	0.77
29:X:2871:U:H2'	29:X:2872:U:H6	1.49	0.77
29:X:427:C:H2'	29:X:428:A:C8	2.20	0.77
29:X:445:A:H2'	29:X:446:C:C6	2.20	0.77
29:X:746:G:N7	29:X:774:A:C5	2.53	0.77
31:Z:16:U:H1'	31:Z:109:G:H21	1.50	0.77
9:D:92:ARG:HH12	31:Z:46:G:C4'	1.97	0.77
11:F:21:PRO:HG2	11:F:22:PRO:HD3	1.67	0.77
20:O:20:ILE:HD12	20:O:21:ARG:H	1.50	0.77
27:V:41:HIS:CD2	27:V:42:ARG:N	2.52	0.77
28:W:12:ARG:HH11	28:W:12:ARG:HG2	1.48	0.77
29:X:1053:G:C2'	29:X:1054:C:C6	2.61	0.77
29:X:1448:A:N6	29:X:1574:A:H61	1.83	0.77
29:X:861:G:H2'	29:X:862:A:H5'	1.66	0.77
8:C:147:LYS:HA	8:C:165:SER:O	1.85	0.77
8:C:48:ARG:H	8:C:48:ARG:HD2	1.48	0.77
8:C:75:PRO:CG	8:C:83:ALA:HB2	2.14	0.77
18:M:79:ARG:HH11	18:M:79:ARG:CG	1.96	0.77
22:Q:7:LEU:O	22:Q:7:LEU:HD13	1.85	0.77
23:R:93:ARG:HH12	23:R:108:VAL:CA	1.97	0.77
24:S:67:LYS:NZ	31:Z:106:U:H4'	1.99	0.77
24:S:91:PRO:O	24:S:92:VAL:HG13	1.85	0.77
29:X:208:C:C2'	29:X:209:G:H5'	2.15	0.77
15:J:66:TYR:HB2	15:J:106:GLU:CD	2.05	0.76
23:R:93:ARG:HH22	23:R:108:VAL:HA	1.49	0.76
29:X:1505:U:H2'	29:X:1506:C:H5''	1.66	0.76
7:B:33:ILE:HD13	7:B:36:ARG:HH12	1.50	0.76
14:I:126:SER:O	14:I:129:ALA:HB3	1.85	0.76
17:L:33:ARG:CG	17:L:38:ILE:HB	2.14	0.76
19:N:66:ASN:HD22	19:N:70:ARG:NH1	1.84	0.76
26:U:28:GLY:O	26:U:30:VAL:N	2.18	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:T:24:LYS:HD2	29:X:2334:C:H4'	1.67	0.76
8:C:162:ARG:HD2	29:X:333:A:H5''	1.65	0.76
7:B:82:ARG:HH22	29:X:2617:G:P	2.09	0.76
10:E:54:ARG:HH11	10:E:57:ASP:HB3	1.48	0.76
19:N:66:ASN:HD22	19:N:70:ARG:HH12	1.33	0.76
22:Q:62:ARG:O	22:Q:63:LYS:HB3	1.85	0.76
29:X:847:C:C2	29:X:848:A:C8	2.73	0.76
6:A:134:ARG:N	6:A:187:SER:HB2	2.00	0.76
8:C:30:VAL:O	8:C:32:THR:N	2.18	0.76
12:G:72:PRO:O	12:G:73:ASN:C	2.24	0.76
19:N:66:ASN:CB	19:N:76:TYR:H	1.99	0.76
24:S:103:ARG:HH21	24:S:108:VAL:HG23	1.48	0.76
29:X:1561:A:H2'	29:X:1562:G:O4'	1.85	0.76
29:X:2769:C:C2'	29:X:2770:A:H8	1.97	0.76
18:M:100:ARG:NH1	29:X:2824:C:OP1	2.19	0.76
29:X:482:A:O2'	29:X:483:A:H5'	1.84	0.76
29:X:490:A:O2'	29:X:491:A:H5'	1.85	0.76
29:X:517:A:C5'	29:X:518:A:H5'	2.12	0.76
11:F:20:ALA:H	11:F:21:PRO:CD	1.99	0.76
14:I:89:ASP:OD2	14:I:120:VAL:HA	1.85	0.76
24:S:120:LEU:HD21	24:S:162:ALA:CB	2.14	0.76
29:X:1229:C:H2'	29:X:1230:C:H6	1.50	0.76
29:X:1964:A:H5''	29:X:1965:U:OP2	1.85	0.76
6:A:67:PHE:HB3	6:A:153:ALA:H	1.49	0.76
8:C:22:VAL:HG11	8:C:110:SER:OG	1.85	0.76
9:D:10:ASP:O	9:D:14:PRO:HD2	1.85	0.76
10:E:87:LEU:HB2	10:E:131:ILE:HB	1.65	0.76
21:P:106:LEU:HD23	21:P:107:ILE:H	1.51	0.76
20:O:71:ILE:HD13	29:X:1003:C:O3'	1.85	0.76
29:X:2265:A:H4'	29:X:2266:A:O5'	1.86	0.76
29:X:652:C:N4	29:X:657:A:H61	1.83	0.76
6:A:43:ARG:HH11	6:A:43:ARG:N	1.84	0.76
8:C:180:ILE:HG23	8:C:181:LEU:H	1.49	0.76
10:E:95:ARG:CZ	10:E:97:LYS:HE2	2.15	0.76
13:H:132:GLU:HG3	13:H:133:VAL:N	2.01	0.76
13:H:70:VAL:HG22	13:H:71:LYS:H	1.50	0.76
24:S:3:LEU:HB2	24:S:34:LEU:HB3	1.67	0.76
24:S:23:ALA:HB2	24:S:83:PHE:HB2	1.67	0.76
27:V:41:HIS:HA	27:V:44:ARG:HE	1.50	0.76
29:X:1834:G:H2'	29:X:1835:C:C6	2.21	0.76
29:X:1953:A:H5'	29:X:1954:A:OP1	1.84	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2286:G:N2	29:X:2290:A:H61	1.82	0.76
29:X:487:G:H4'	29:X:512:A:N1	2.00	0.76
29:X:627:A:H2'	29:X:628:A:C8	2.21	0.76
29:X:717:G:H2'	29:X:739:G:N2	1.99	0.76
6:A:249:PRO:HG3	29:X:2218:G:O4'	1.84	0.76
6:A:43:ARG:HH11	6:A:43:ARG:CB	1.99	0.76
14:I:13:ARG:HB3	14:I:13:ARG:CZ	2.14	0.76
14:I:133:VAL:HG21	14:I:140:VAL:CG2	2.16	0.76
14:I:94:GLU:HB3	14:I:97:ARG:NH1	2.00	0.76
17:L:68:ALA:O	17:L:71:VAL:HG13	1.86	0.76
26:U:51:ILE:HG23	26:U:59:THR:CA	2.10	0.76
12:G:67:ARG:HE	12:G:70:PHE:CA	1.99	0.76
15:J:106:GLU:CD	15:J:106:GLU:N	2.38	0.76
13:H:116:ARG:NH2	18:M:40:ARG:HB2	2.01	0.76
23:R:18:LYS:HA	23:R:36:VAL:CG1	2.16	0.76
29:X:1729:C:H2'	29:X:1730:G:C8	2.21	0.76
29:X:2329:C:H2'	29:X:2330:G:O4'	1.86	0.76
29:X:2660:C:C2	29:X:2704:U:O4	2.39	0.76
7:B:142:GLY:CA	7:B:143:GLN:HE21	1.98	0.76
9:D:30:ARG:HE	9:D:159:THR:HG21	1.51	0.76
29:X:1468:A:O5'	29:X:1468:A:C8	2.39	0.76
6:A:250:TRP:CD1	6:A:255:LYS:HD2	2.21	0.75
29:X:1448:A:H61	29:X:1574:A:N6	1.84	0.75
29:X:1778:U:H2'	29:X:1779:C:C6	2.20	0.75
14:I:13:ARG:HE	29:X:1218:C:H1'	1.51	0.75
29:X:318:G:N2	29:X:320:A:H3'	2.01	0.75
6:A:89:SER:OG	6:A:159:ALA:HB2	1.86	0.75
23:R:10:HIS:O	23:R:11:ASN:HB3	1.85	0.75
23:R:38:LEU:HB2	23:R:47:VAL:CG2	2.16	0.75
14:I:13:ARG:HE	29:X:1218:C:C1'	2.00	0.75
29:X:1426:U:H2'	29:X:1427:G:O4'	1.86	0.75
29:X:1503:G:H2'	29:X:1504:G:C8	2.21	0.75
29:X:2175:A:H2'	29:X:2176:U:H6	1.51	0.75
8:C:84:PHE:CE1	29:X:596:C:H5'	2.21	0.75
30:Y:35:GLN:O	30:Y:36:CYS:CB	2.34	0.75
12:G:140:GLN:HG2	12:G:144:MET:HE2	1.66	0.75
6:A:229:VAL:HG21	29:X:797:A:C5	2.21	0.75
29:X:917:U:H2'	29:X:918:A:H5'	1.68	0.75
9:D:108:LEU:HA	9:D:111:ILE:CD1	2.17	0.75
17:L:15:ARG:HD2	17:L:91:ARG:NH1	1.95	0.75
17:L:64:LYS:N	17:L:64:LYS:HD3	2.02	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1279:G:O2'	29:X:1995:G:N1	2.20	0.75
29:X:1374:G:O2'	29:X:1375:C:H5'	1.87	0.75
29:X:1737:G:H2'	29:X:1738:U:H6	1.50	0.75
14:I:53:ARG:HB3	29:X:228:A:OP1	1.86	0.75
6:A:245:VAL:HA	6:A:252:LYS:HE2	1.68	0.75
13:H:79:HIS:CD2	13:H:80:ALA:H	2.05	0.75
17:L:76:ALA:HB1	17:L:111:GLY:N	2.01	0.75
23:R:93:ARG:NH1	23:R:108:VAL:HA	2.01	0.75
29:X:1508:G:H5'	29:X:1509:A:C5'	2.16	0.75
29:X:2548:G:O2'	29:X:2549:G:H5'	1.87	0.75
6:A:210:GLY:HA2	6:A:213:ARG:HG2	1.69	0.75
15:J:27:TYR:HB3	15:J:137:VAL:CG2	2.17	0.75
15:J:17:ARG:HH11	29:X:969:U:H5''	1.48	0.75
16:K:3:HIS:ND1	16:K:5:LYS:CD	2.49	0.75
17:L:91:ARG:HH22	29:X:2356:A:H2	1.35	0.75
24:S:3:LEU:HD21	24:S:32:PHE:HB3	1.67	0.75
25:T:74:LYS:O	25:T:76:ALA:N	2.19	0.75
29:X:1851:A:H62	29:X:1866:G:H21	1.35	0.75
29:X:304:A:C2'	29:X:305:A:H5''	2.13	0.75
29:X:617:U:O2	29:X:617:U:H3'	1.86	0.75
4:4:9:LYS:H	4:4:9:LYS:CD	1.98	0.75
15:J:69:ILE:CG2	15:J:104:MET:HA	2.17	0.75
23:R:93:ARG:HG2	23:R:94:VAL:H	1.52	0.75
29:X:1283:C:H5''	29:X:1284:G:H5'	1.68	0.75
8:C:7:ILE:O	8:C:120:VAL:HB	1.86	0.75
10:E:56:SER:HB2	10:E:61:HIS:CD2	2.21	0.75
12:G:61:ARG:NH2	12:G:61:ARG:HB3	2.02	0.75
17:L:10:LYS:O	17:L:14:ARG:HG3	1.87	0.75
24:S:91:PRO:HD3	24:S:127:PRO:HD3	1.68	0.75
6:A:96:HIS:CD2	29:X:1517:C:H4'	2.22	0.75
29:X:1811:A:H1'	29:X:1813:A:C6	2.22	0.75
12:G:117:GLU:C	12:G:119:LEU:H	1.89	0.74
19:N:93:LYS:HE2	20:O:10:LYS:HZ3	1.51	0.74
23:R:60:PRO:O	23:R:62:MET:N	2.19	0.74
24:S:10:PRO:HG2	24:S:14:LEU:HD11	1.69	0.74
14:I:63:ARG:HH11	29:X:2394:G:H3'	1.51	0.74
6:A:149:PRO:HD3	6:A:186:HIS:NE2	2.02	0.74
7:B:75:THR:O	7:B:76:ARG:CB	2.35	0.74
10:E:126:PRO:HD2	10:E:130:ARG:O	1.86	0.74
12:G:39:GLN:O	12:G:39:GLN:HG3	1.87	0.74
13:H:70:VAL:HG22	13:H:71:LYS:N	2.02	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:76:LYS:HG3	14:I:111:SER:HB2	1.69	0.74
20:O:29:ALA:O	20:O:31:ASP:N	2.20	0.74
29:X:1051:U:H2'	29:X:1052:C:O4'	1.86	0.74
29:X:1416:A:H2'	29:X:1417:C:H6	1.52	0.74
29:X:1830:C:H41	29:X:1881:U:H3'	1.51	0.74
8:C:68:ARG:HH12	29:X:2043:A:H62	0.79	0.74
29:X:2640:G:H2'	29:X:2641:A:C8	2.22	0.74
29:X:2867:G:H4'	29:X:2868:G:O5'	1.87	0.74
8:C:31:VAL:HG23	8:C:32:THR:H	1.52	0.74
18:M:46:ARG:HG3	18:M:47:SER:H	1.49	0.74
18:M:99:VAL:CG2	18:M:100:ARG:H	1.99	0.74
19:N:66:ASN:ND2	19:N:70:ARG:HH12	1.85	0.74
21:P:27:VAL:HB	21:P:125:THR:HG22	1.68	0.74
23:R:111:GLY:C	23:R:112:LYS:HD2	2.07	0.74
23:R:85:ASP:OD1	23:R:86:PRO:HD3	1.87	0.74
25:T:44:LYS:HG2	25:T:45:PHE:CD1	2.22	0.74
29:X:1850:G:N2	29:X:1867:A:C8	2.54	0.74
29:X:689:A:H1'	29:X:2422:C:O4'	1.87	0.74
29:X:2641:A:H2'	29:X:2642:G:O4'	1.87	0.74
29:X:306:G:N2	29:X:355:G:H1'	2.02	0.74
15:J:20:GLY:C	15:J:99:LYS:HE2	2.06	0.74
29:X:1312:G:H5''	29:X:1313:U:OP1	1.87	0.74
29:X:2706:U:O2'	29:X:2707:G:OP1	2.05	0.74
31:Z:42:U:H1'	31:Z:47:A:N6	2.02	0.74
26:U:15:VAL:HG12	26:U:46:LEU:HD22	1.67	0.74
29:X:1193:G:C2'	29:X:1194:U:H5''	2.17	0.74
29:X:1913:G:H5''	29:X:1914:U:OP1	1.87	0.74
29:X:2856:U:O2'	29:X:2857:C:H5'	1.88	0.74
29:X:651:C:H2'	29:X:652:C:H5''	1.69	0.74
25:T:26:PHE:HE2	29:X:870:C:H1'	1.52	0.74
9:D:66:ILE:CD1	31:Z:43:G:H5''	2.15	0.74
6:A:95:LEU:CD1	6:A:105:ILE:HD12	2.17	0.74
7:B:120:TRP:O	7:B:121:ASN:HB2	1.88	0.74
12:G:55:ALA:HB1	12:G:134:MET:HE1	1.69	0.74
21:P:11:LYS:O	21:P:14:ARG:N	2.19	0.74
22:Q:11:VAL:HG23	22:Q:27:PHE:HA	1.70	0.74
22:Q:4:TYR:CD2	27:V:23:LYS:HB2	2.22	0.74
29:X:1416:A:H2'	29:X:1417:C:C6	2.23	0.74
29:X:1525:A:H3'	29:X:1526:U:H6	1.51	0.74
29:X:242:A:H61	29:X:440:U:H2'	1.53	0.74
8:C:139:GLN:HA	8:C:139:GLN:HE21	1.53	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:34:PRO:HA	12:G:69:ASP:OD2	1.86	0.74
14:I:28:LYS:CD	14:I:36:GLY:HA3	2.17	0.74
14:I:45:LYS:HG2	14:I:46:GLY:H	1.53	0.74
20:O:44:GLN:O	20:O:46:VAL:HG23	1.87	0.74
23:R:95:ARG:NH1	23:R:106:VAL:HA	2.01	0.74
24:S:4:THR:HB	24:S:57:GLU:HB2	1.70	0.74
29:X:1007:A:C2	29:X:1008:G:C8	2.76	0.74
29:X:1071:U:H1'	29:X:1073:G:H5'	1.70	0.74
11:F:122:ALA:CA	29:X:1092:U:H4'	2.18	0.74
29:X:1466:C:H2'	29:X:1467:U:O4'	1.87	0.74
29:X:1775:A:H3'	29:X:1775:A:OP1	1.88	0.74
29:X:2286:G:C6	29:X:2287:G:H1'	2.23	0.74
29:X:2320:G:H2'	29:X:2321:C:H6	1.52	0.74
29:X:2266:A:N6	29:X:2323:U:H3	1.83	0.74
12:G:110:LEU:CD2	12:G:110:LEU:N	2.51	0.74
14:I:13:ARG:HH21	14:I:13:ARG:CG	2.01	0.74
14:I:42:GLY:O	14:I:43:ALA:HB2	1.87	0.74
19:N:66:ASN:HB3	19:N:76:TYR:H	1.53	0.74
21:P:66:GLU:O	21:P:69:ALA:HB3	1.87	0.74
22:Q:32:LYS:O	22:Q:33:ALA:HB2	1.87	0.74
26:U:70:LEU:HD23	26:U:74:PRO:HA	1.70	0.74
27:V:18:ILE:C	27:V:20:ALA:H	1.91	0.74
29:X:847:C:H2'	29:X:848:A:H8	1.53	0.74
15:J:17:ARG:NH2	29:X:967:G:O6	2.20	0.74
4:4:9:LYS:HD2	4:4:9:LYS:N	2.03	0.73
8:C:23:ASN:O	8:C:27:LEU:HD12	1.87	0.73
14:I:28:LYS:NZ	14:I:36:GLY:CA	2.51	0.73
29:X:1058:G:C2'	29:X:1121:G:H1	1.96	0.73
29:X:1482:U:H2'	29:X:1483:G:C8	2.22	0.73
29:X:2639:A:H2'	29:X:2640:G:O4'	1.88	0.73
29:X:2677:U:H2'	29:X:2678:C:C6	2.23	0.73
9:D:13:ARG:O	9:D:16:LEU:HB2	1.89	0.73
10:E:50:LEU:HD23	10:E:51:LEU:N	2.02	0.73
24:S:71:MET:CB	24:S:78:PRO:HA	2.19	0.73
15:J:100:PRO:HG2	24:S:74:ARG:HH11	1.53	0.73
29:X:2764:U:H2'	29:X:2765:C:C6	2.22	0.73
29:X:2852:G:O2'	29:X:2853:U:H5'	1.88	0.73
29:X:871:U:O2'	29:X:2247:A:C2'	2.36	0.73
6:A:131:LEU:HD21	6:A:193:ILE:HG12	1.70	0.73
6:A:43:ARG:NH1	6:A:43:ARG:HB3	2.04	0.73
11:F:88:SER:O	29:X:1075:C:H4'	1.89	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:162:LYS:H	12:G:163:PRO:HD2	1.51	0.73
13:H:14:SER:OG	13:H:98:ILE:HD12	1.87	0.73
18:M:27:PHE:O	18:M:28:ARG:HG2	1.86	0.73
26:U:78:ILE:HD13	26:U:79:GLU:N	2.03	0.73
29:X:1086:C:C3'	29:X:1087:C:H5''	2.18	0.73
29:X:1475:U:H4'	29:X:1475:U:OP2	1.87	0.73
29:X:2252:A:O2'	29:X:2253:A:H5'	1.88	0.73
29:X:469:G:O2'	29:X:470:U:OP2	2.06	0.73
29:X:954:U:H2'	29:X:955:G:H5''	1.70	0.73
6:A:257:LEU:HD22	29:X:1795:C:OP1	1.88	0.73
12:G:105:GLY:O	12:G:106:TYR:C	2.27	0.73
12:G:33:ILE:HB	12:G:34:PRO:HD3	1.71	0.73
14:I:108:LEU:HB3	14:I:125:ALA:CB	2.19	0.73
24:S:97:PRO:HA	24:S:119:ASN:HA	1.70	0.73
24:S:147:ILE:HB	24:S:169:VAL:HG22	1.69	0.73
26:U:49:LYS:HB3	26:U:61:TRP:HE3	1.52	0.73
29:X:1574:A:O2'	29:X:1575:C:H3'	1.87	0.73
29:X:1787:U:H2'	29:X:1788:C:C6	2.23	0.73
29:X:2404:A:H4'	29:X:2405:A:H5'	1.68	0.73
28:W:8:SER:CB	29:X:999:A:H5''	2.15	0.73
8:C:3:GLN:HE22	8:C:4:ILE:CG1	2.00	0.73
9:D:138:PHE:HB2	9:D:141:ILE:HB	1.69	0.73
9:D:35:VAL:HG12	9:D:36:VAL:H	1.54	0.73
14:I:90:ARG:HA	14:I:121:HIS:ND1	2.03	0.73
22:Q:22:ARG:NH1	22:Q:24:VAL:HG21	2.03	0.73
22:Q:53:ILE:HG13	22:Q:54:SER:H	1.54	0.73
29:X:1055:A:C4	29:X:1055:A:H3'	2.20	0.73
29:X:2451:G:O6	29:X:2455:A:H4'	1.88	0.73
29:X:939:C:H5''	29:X:940:G:O5'	1.87	0.73
29:X:98:U:C5'	29:X:99:U:H5''	2.18	0.73
6:A:211:ARG:HG2	6:A:211:ARG:NH1	2.02	0.73
8:C:117:LEU:HD23	8:C:117:LEU:C	2.09	0.73
10:E:109:TYR:O	10:E:111:HIS:N	2.21	0.73
12:G:154:GLU:C	12:G:157:PRO:HD2	2.08	0.73
13:H:99:ILE:HD12	13:H:103:GLY:HA2	1.71	0.73
22:Q:65:VAL:HG12	22:Q:66:GLY:H	1.53	0.73
24:S:51:LEU:N	24:S:51:LEU:HD23	2.04	0.73
28:W:34:VAL:HG22	28:W:40:VAL:HG11	1.71	0.73
6:A:43:ARG:HH11	6:A:43:ARG:HB3	1.53	0.73
8:C:48:ARG:CB	8:C:51:VAL:HG22	2.18	0.73
9:D:143:TYR:HA	9:D:146:VAL:CG2	2.17	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:85:ASP:O	14:I:87:THR:N	2.21	0.73
17:L:67:THR:O	17:L:70:ALA:HB3	1.89	0.73
19:N:13:ARG:HG3	19:N:13:ARG:NH2	2.02	0.73
24:S:44:ARG:HD3	24:S:45:GLN:HE22	1.54	0.73
27:V:37:LEU:HD11	29:X:60:A:H4'	1.70	0.73
29:X:116:A:H5'	29:X:117:A:C8	2.22	0.73
29:X:554:U:O2	29:X:554:U:H2'	1.87	0.73
8:C:43:ALA:HB1	8:C:86:PRO:O	1.89	0.73
9:D:28:VAL:O	9:D:30:ARG:HG3	1.87	0.73
12:G:103:TYR:O	12:G:107:GLN:NE2	2.22	0.73
19:N:11:ARG:HH22	29:X:29:U:C4'	2.01	0.73
25:T:32:LYS:N	25:T:35:ASN:HD22	1.87	0.73
29:X:610:G:H1	29:X:670:U:H3	1.37	0.73
29:X:76:C:H5'	29:X:76:C:C6	2.20	0.73
14:I:18:ARG:HB2	14:I:21:ARG:HB2	1.71	0.73
17:L:38:ILE:HD12	17:L:39:TYR:N	2.02	0.73
22:Q:59:PRO:O	22:Q:75:ARG:NH2	2.20	0.73
25:T:37:LEU:O	25:T:38:VAL:HG23	1.87	0.73
27:V:38:ALA:C	27:V:40:PRO:HD3	2.09	0.73
29:X:2194:A:C2'	29:X:2195:C:H5''	2.17	0.73
29:X:2225:G:H2'	29:X:2226:A:C8	2.23	0.73
8:C:62:LYS:HD3	8:C:63:GLY:N	2.03	0.73
15:J:125:LYS:HZ2	15:J:125:LYS:CB	2.02	0.73
17:L:8:ARG:HH11	17:L:8:ARG:CB	2.02	0.73
22:Q:9:ALA:HB1	22:Q:10:PRO:HD2	1.69	0.73
26:U:32:ARG:HG2	26:U:34:THR:H	1.54	0.73
29:X:1149:G:N3	29:X:1154:A:H2	1.86	0.73
21:P:37:LYS:HG3	29:X:1279:G:N2	2.04	0.73
29:X:1524:C:H5''	29:X:1525:A:H8	1.54	0.73
29:X:1644:G:H2'	29:X:1645:U:C6	2.24	0.73
29:X:465:C:O2'	29:X:467:U:H1'	1.89	0.73
30:Y:33:CYS:SG	30:Y:34:PRO:HD2	2.29	0.73
6:A:153:ALA:O	6:A:154:GLN:HG3	1.88	0.72
7:B:116:VAL:HG13	7:B:136:ARG:NH2	2.03	0.72
7:B:131:SER:C	7:B:132:LYS:HG2	2.08	0.72
9:D:111:ILE:CB	9:D:114:PHE:HB2	2.17	0.72
12:G:124:GLU:N	12:G:124:GLU:OE1	2.21	0.72
12:G:142:ARG:HH12	29:X:538:A:H5''	1.54	0.72
14:I:63:ARG:O	14:I:64:GLY:C	2.27	0.72
26:U:11:LYS:NZ	26:U:75:TYR:HB2	2.03	0.72
29:X:2197:U:C4	29:X:2198:U:C4	2.77	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2569:A:H2'	29:X:2570:C:C6	2.23	0.72
8:C:162:ARG:NH2	29:X:333:A:H3'	2.02	0.72
31:Z:19:C:H2'	31:Z:20:A:O4'	1.88	0.72
6:A:63:ARG:O	6:A:65:ILE:HG13	1.88	0.72
14:I:82:ASP:H	14:I:114:ILE:HG21	1.54	0.72
21:P:37:LYS:HE2	21:P:64:ALA:HB2	1.68	0.72
23:R:38:LEU:HB2	23:R:47:VAL:CB	2.18	0.72
24:S:122:ILE:HG21	24:S:160:LEU:HD23	1.71	0.72
29:X:1058:G:C2'	29:X:1121:G:N1	2.52	0.72
6:A:208:LYS:CE	29:X:1782:A:H1'	2.17	0.72
29:X:558:G:H5''	29:X:558:G:N3	2.03	0.72
29:X:564:U:H2'	29:X:565:A:C8	2.25	0.72
29:X:617:U:C5	29:X:632:A:C2	2.77	0.72
8:C:164:VAL:O	8:C:166:TRP:N	2.23	0.72
9:D:4:LEU:HD11	9:D:173:MET:HE1	1.70	0.72
11:F:87:GLY:HA3	29:X:1075:C:H5''	1.69	0.72
14:I:128:ALA:HA	14:I:131:LYS:HB2	1.70	0.72
17:L:16:LYS:HE2	17:L:28:ARG:NH1	2.03	0.72
23:R:105:ARG:HH12	23:R:112:LYS:HA	1.53	0.72
29:X:1778:U:H2'	29:X:1779:C:H6	1.52	0.72
7:B:137:ARG:NH2	29:X:2034:A:OP1	2.22	0.72
29:X:2195:C:C5	29:X:2196:U:C5	2.76	0.72
29:X:2058:U:H3'	29:X:2217:G:H21	1.53	0.72
29:X:356:A:H2'	29:X:357:A:C8	2.23	0.72
29:X:793:G:H21	29:X:796:A:H62	1.35	0.72
10:E:6:LYS:HB3	10:E:69:ARG:HD2	1.72	0.72
12:G:150:VAL:HG12	12:G:151:TYR:H	1.52	0.72
13:H:16:ALA:HB2	13:H:64:VAL:CG1	2.17	0.72
17:L:28:ARG:HA	17:L:88:VAL:O	1.89	0.72
29:X:1283:C:H5''	29:X:1284:G:C5'	2.19	0.72
29:X:1314:A:H2	29:X:1642:G:N3	1.87	0.72
6:A:261:ARG:HH22	29:X:1790:G:H5''	1.53	0.72
9:D:108:LEU:CD1	9:D:117:ILE:HD11	2.19	0.72
12:G:70:PHE:HB2	19:N:64:ARG:HG2	1.71	0.72
12:G:58:ILE:HG23	12:G:80:VAL:HG11	1.71	0.72
14:I:28:LYS:HZ2	14:I:37:GLN:H	1.35	0.72
28:W:5:LEU:HB2	28:W:25:LEU:HD13	1.70	0.72
29:X:653:G:C2'	29:X:654:A:H5''	2.20	0.72
9:D:33:LYS:HG3	9:D:157:VAL:CG2	2.18	0.72
9:D:5:LYS:O	9:D:8:TYR:HB3	1.89	0.72
16:K:3:HIS:HE1	29:X:2796:A:P	2.13	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:5:ILE:CD1	18:M:7:ILE:HB	2.19	0.72
19:N:50:ARG:O	19:N:52:ASN:N	2.22	0.72
21:P:126:ILE:HD12	21:P:127:ILE:N	2.04	0.72
29:X:1061:A:C2'	29:X:1062:G:H5'	2.19	0.72
29:X:1231:A:C4	29:X:1232:U:C5	2.78	0.72
29:X:1329:U:O2'	29:X:1330:G:H5'	1.90	0.72
29:X:1979:C:O2'	29:X:1980:A:O4'	2.07	0.72
7:B:140:SER:HB2	29:X:2557:G:N7	2.05	0.72
14:I:30:ALA:H	14:I:34:HIS:CG	2.06	0.72
20:O:40:VAL:HG12	20:O:45:THR:CA	2.15	0.72
23:R:18:LYS:HA	23:R:36:VAL:HG11	1.70	0.72
24:S:13:LYS:O	24:S:16:GLU:O	2.07	0.72
24:S:18:MET:HA	24:S:36:ARG:H	1.55	0.72
29:X:1233:A:O2'	29:X:1234:C:OP1	2.07	0.72
29:X:1255:A:H2'	29:X:1256:C:C6	2.25	0.72
29:X:2662:C:H2'	29:X:2663:U:C6	2.23	0.72
29:X:428:A:H2'	29:X:429:C:C6	2.23	0.72
29:X:746:G:N7	29:X:774:A:C6	2.57	0.72
6:A:252:LYS:N	6:A:252:LYS:CE	2.48	0.72
12:G:84:ASN:O	12:G:152:ALA:HA	1.89	0.72
14:I:28:LYS:NZ	14:I:36:GLY:HA3	2.04	0.72
15:J:34:GLY:HA2	15:J:106:GLU:CA	2.14	0.72
23:R:11:ASN:HD22	23:R:11:ASN:C	1.93	0.72
29:X:1060:C:H2'	29:X:1061:A:H8	1.54	0.72
29:X:150:A:H2'	29:X:151:G:O4'	1.90	0.72
29:X:2197:U:O4	29:X:2198:U:O4	2.08	0.72
29:X:2225:G:C2	29:X:2405:A:H1'	2.24	0.72
29:X:2441:U:H2'	29:X:2442:C:H6	1.54	0.72
29:X:317:U:C3'	29:X:318:G:H5''	2.20	0.72
29:X:925:U:O2'	29:X:926:C:H5'	1.89	0.72
6:A:243:GLY:CA	6:A:244:ARG:NH1	2.53	0.72
6:A:244:ARG:N	6:A:244:ARG:HD3	2.04	0.72
7:B:117:MET:N	7:B:136:ARG:HD2	2.00	0.72
9:D:74:ILE:HA	9:D:79:LEU:HB3	1.71	0.72
16:K:84:ALA:HB3	16:K:85:PRO:HD3	1.71	0.72
21:P:27:VAL:CG2	21:P:125:THR:HG22	2.20	0.72
21:P:37:LYS:HG3	29:X:1279:G:C2	2.24	0.72
23:R:4:PRO:N	29:X:34:U:H1'	2.05	0.72
23:R:84:VAL:HA	23:R:90:LYS:CD	2.18	0.72
29:X:1057:A:C2'	29:X:1057:A:N3	2.52	0.72
29:X:1113:C:H2'	29:X:1114:A:C8	2.19	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1857:G:N2	29:X:1860:A:OP2	2.22	0.72
29:X:777:A:O2'	29:X:778:G:OP1	2.08	0.72
6:A:134:ARG:H	6:A:187:SER:HB2	1.53	0.72
8:C:48:ARG:HB2	8:C:51:VAL:CG2	2.19	0.72
8:C:95:LEU:CD2	8:C:96:PRO:HD2	2.16	0.72
17:L:101:LYS:O	17:L:104:ALA:HB3	1.90	0.72
17:L:97:HIS:O	17:L:101:LYS:CB	2.35	0.72
21:P:85:MET:HE3	21:P:130:GLU:HG3	1.72	0.72
26:U:33:LYS:O	26:U:34:THR:HB	1.89	0.72
29:X:521:U:H5''	29:X:522:G:OP2	1.89	0.72
6:A:42:GLY:C	6:A:43:ARG:NH1	2.43	0.71
8:C:45:THR:HG21	8:C:85:GLY:HA3	1.72	0.71
16:K:11:ASN:OD1	16:K:17:ARG:CZ	2.37	0.71
21:P:66:GLU:HB3	21:P:67:PRO:CD	2.19	0.71
23:R:22:VAL:CG1	23:R:80:LYS:HD2	2.18	0.71
27:V:42:ARG:NH1	27:V:45:GLN:NE2	2.38	0.71
29:X:172:A:N7	29:X:175:C:H5	1.88	0.71
17:L:37:HIS:CB	31:Z:30:C:OP1	2.38	0.71
6:A:182:LEU:HD12	6:A:269:PHE:HD2	1.52	0.71
17:L:97:HIS:CG	17:L:98:GLY:H	2.05	0.71
25:T:56:ASP:OD1	29:X:2343:C:H4'	1.89	0.71
29:X:417:C:N1	29:X:419:G:C8	2.58	0.71
14:I:101:ARG:HD3	29:X:637:G:N1	2.04	0.71
4:4:25:VAL:HB	4:4:34:GLN:HB2	1.72	0.71
8:C:135:SER:O	8:C:138:LYS:HB2	1.90	0.71
12:G:116:ARG:NE	12:G:126:VAL:HG13	2.06	0.71
27:V:1:MET:HG3	27:V:2:LYS:HG3	1.70	0.71
29:X:1122:A:C2	29:X:1123:G:H1'	2.25	0.71
29:X:1850:G:HO2'	29:X:1851:A:H8	0.72	0.71
31:Z:4:C:O2'	31:Z:5:C:H5'	1.91	0.71
10:E:105:MET:HE3	10:E:131:ILE:CD1	2.20	0.71
10:E:157:TYR:C	10:E:171:LEU:HD23	2.11	0.71
10:E:45:GLN:HG3	10:E:49:GLN:O	1.90	0.71
23:R:27:GLY:N	29:X:321:A:OP1	2.23	0.71
29:X:1072:U:C1'	29:X:1081:A:H1'	2.21	0.71
29:X:1554:G:H2'	29:X:1555:A:C8	2.26	0.71
29:X:173:A:H5'	29:X:174:A:OP2	1.90	0.71
6:A:246:PRO:HD2	6:A:250:TRP:H	1.55	0.71
7:B:152:LYS:HD2	12:G:106:TYR:H	1.55	0.71
8:C:128:ALA:O	8:C:130:THR:N	2.24	0.71
10:E:107:ILE:N	10:E:107:ILE:HD13	2.06	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:10:VAL:HG23	13:H:17:ARG:O	1.91	0.71
19:N:52:ASN:OD1	19:N:55:ARG:NH2	2.23	0.71
22:Q:29:VAL:CG1	22:Q:38:ILE:HD12	2.20	0.71
23:R:24:VAL:O	23:R:30:LYS:HA	1.90	0.71
24:S:3:LEU:HD21	24:S:32:PHE:CD2	2.25	0.71
29:X:1193:G:H2'	29:X:1194:U:H5''	1.71	0.71
29:X:1391:A:O2'	29:X:1392:U:C6	2.43	0.71
29:X:1468:A:H5''	29:X:1472:C:H42	1.52	0.71
29:X:27:G:H1'	29:X:523:A:H62	1.54	0.71
9:D:123:ASP:O	9:D:125:ARG:N	2.24	0.71
17:L:28:ARG:HD2	17:L:90:ASP:CG	2.10	0.71
17:L:28:ARG:NH1	17:L:90:ASP:OD2	2.24	0.71
17:L:54:ALA:CB	17:L:75:LEU:HB2	2.19	0.71
22:Q:20:MET:HA	22:Q:24:VAL:O	1.91	0.71
27:V:55:THR:O	27:V:59:GLU:HG3	1.90	0.71
29:X:1682:A:O2'	29:X:1683:G:H5'	1.91	0.71
29:X:1724:C:O2'	29:X:1725:C:H5'	1.90	0.71
29:X:2306:A:H2'	29:X:2307:A:H8	1.56	0.71
26:U:32:ARG:O	29:X:2375:G:H4'	1.90	0.71
29:X:429:C:H2'	29:X:430:C:H6	1.56	0.71
29:X:48:A:H4'	29:X:49:U:H5'	1.71	0.71
6:A:250:TRP:HD1	6:A:255:LYS:HD2	1.55	0.71
9:D:10:ASP:HA	9:D:14:PRO:HG2	1.71	0.71
10:E:84:THR:HA	10:E:134:SER:HA	1.72	0.71
13:H:109:ARG:HA	13:H:129:LEU:HD13	1.73	0.71
20:O:5:ILE:HG21	20:O:10:LYS:HE2	1.71	0.71
20:O:64:GLY:HA3	20:O:90:PHE:CZ	2.25	0.71
24:S:100:THR:HG23	24:S:138:VAL:HG11	1.71	0.71
24:S:105:GLN:O	24:S:142:ASN:HA	1.91	0.71
29:X:1095:A:H3'	29:X:1096:A:H5''	1.70	0.71
6:A:43:ARG:HH11	6:A:43:ARG:CA	2.04	0.71
10:E:143:GLN:HG2	29:X:2725:C:O2'	1.91	0.71
17:L:60:LYS:HG2	17:L:62:GLY:N	2.02	0.71
17:L:87:VAL:HG12	17:L:88:VAL:N	2.05	0.71
19:N:44:THR:O	19:N:48:ARG:HG3	1.91	0.71
23:R:107:ALA:CB	23:R:111:GLY:HA2	2.21	0.71
23:R:80:LYS:HE3	23:R:80:LYS:O	1.91	0.71
26:U:41:VAL:O	26:U:42:GLN:HB2	1.90	0.71
8:C:91:TYR:HE2	29:X:1259:A:H4'	1.54	0.71
29:X:594:G:H2'	29:X:1264:C:H42	1.56	0.71
29:X:1317:G:O2'	29:X:1318:A:H5'	1.91	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2323:U:C5'	29:X:2323:U:H6	1.97	0.71
14:I:61:PRO:HB3	29:X:2372:A:H5'	1.72	0.71
29:X:2713:A:O2'	29:X:2714:A:H5'	1.90	0.71
7:B:25:VAL:HG13	7:B:183:LEU:CD2	2.20	0.71
9:D:166:ALA:O	9:D:170:LEU:HG	1.90	0.71
9:D:38:GLU:HB3	9:D:87:ILE:CB	2.19	0.71
9:D:4:LEU:CG	9:D:5:LYS:N	2.53	0.71
12:G:105:GLY:O	12:G:110:LEU:HD12	1.91	0.71
16:K:30:ARG:HG3	16:K:30:ARG:O	1.91	0.71
20:O:36:LYS:NZ	20:O:54:TYR:HB3	2.05	0.71
9:D:125:ARG:HG3	29:X:2294:U:O2'	1.91	0.71
29:X:2323:U:O2'	29:X:2324:G:H5'	1.90	0.71
29:X:2555:G:H3'	29:X:2555:G:OP1	1.91	0.71
29:X:547:U:H2'	29:X:548:G:C8	2.26	0.71
14:I:107:LYS:HE3	29:X:647:G:O6	1.91	0.71
30:Y:45:ILE:HG21	30:Y:57:VAL:CG2	2.21	0.71
6:A:244:ARG:HD2	29:X:1885:C:C5'	2.20	0.71
7:B:33:ILE:HG21	7:B:36:ARG:NH1	2.05	0.71
10:E:95:ARG:NH2	10:E:97:LYS:HE2	2.05	0.71
29:X:1655:C:H4'	29:X:2689:C:O2	1.91	0.71
29:X:1730:G:O2'	29:X:1731:C:H5'	1.91	0.71
9:D:92:ARG:HH12	31:Z:46:G:H5'	1.55	0.71
9:D:74:ILE:HG12	9:D:80:ARG:C	2.11	0.70
14:I:103:ASN:OD1	14:I:104:ARG:HG3	1.90	0.70
14:I:107:LYS:HG2	14:I:109:LEU:HD21	1.73	0.70
19:N:70:ARG:NH1	19:N:70:ARG:HG3	2.02	0.70
23:R:25:LEU:CD1	23:R:81:VAL:HG23	2.21	0.70
12:G:103:TYR:CD2	29:X:1142:G:C1'	2.73	0.70
29:X:2198:U:C2	29:X:2199:C:C6	2.79	0.70
29:X:540:G:O2'	29:X:542:A:C2	2.44	0.70
29:X:659:G:H2'	29:X:660:G:H8	1.56	0.70
29:X:666:U:H2'	29:X:667:U:H4'	1.73	0.70
12:G:104:THR:O	12:G:105:GLY:O	2.08	0.70
12:G:56:THR:N	12:G:134:MET:HE1	2.07	0.70
29:X:460:U:C4	29:X:592:G:H1'	2.26	0.70
29:X:617:U:H5	29:X:632:A:C2	2.09	0.70
29:X:689:A:H2'	29:X:690:A:H5'	1.73	0.70
7:B:134:TRP:CE2	29:X:1675:C:OP1	2.44	0.70
9:D:8:TYR:O	9:D:12:VAL:HB	1.91	0.70
10:E:139:GLN:C	10:E:143:GLN:HG3	2.11	0.70
29:X:537:C:O2'	29:X:538:A:C2	2.44	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:64:C:H2'	31:Z:65:A:C8	2.24	0.70
9:D:4:LEU:CD1	9:D:5:LYS:H	2.04	0.70
12:G:154:GLU:N	12:G:157:PRO:HG2	2.05	0.70
21:P:38:VAL:HG22	21:P:64:ALA:HB1	1.73	0.70
23:R:85:ASP:H	23:R:86:PRO:CD	2.05	0.70
24:S:64:ALA:N	24:S:86:VAL:HG23	2.05	0.70
29:X:1373:G:O6	29:X:1385:C:C4	2.43	0.70
29:X:1978:U:C3'	29:X:1979:C:H5''	2.18	0.70
29:X:2594:U:O2'	29:X:2595:C:H5'	1.91	0.70
29:X:554:U:O2	29:X:554:U:C2'	2.38	0.70
29:X:636:G:H2'	29:X:637:G:H5'	1.71	0.70
8:C:112:GLN:HB3	8:C:116:LYS:NZ	2.06	0.70
12:G:106:TYR:O	12:G:110:LEU:HG	1.91	0.70
14:I:32:ARG:CZ	20:O:81:ARG:NE	2.54	0.70
29:X:1429:A:O2'	29:X:1430:G:H4'	1.91	0.70
29:X:709:A:O2'	29:X:710:C:H5'	1.92	0.70
7:B:154:LYS:CE	7:B:156:MET:SD	2.80	0.70
9:D:38:GLU:N	9:D:87:ILE:O	2.24	0.70
18:M:99:VAL:CG2	18:M:100:ARG:N	2.54	0.70
18:M:39:VAL:HG12	18:M:45:THR:CG2	2.22	0.70
21:P:14:ARG:HA	21:P:17:GLN:CG	2.20	0.70
25:T:44:LYS:HG2	25:T:45:PHE:HD1	1.57	0.70
25:T:52:GLY:HA3	25:T:60:PHE:CE2	2.26	0.70
29:X:1656:U:O2'	29:X:1657:A:H5''	1.92	0.70
29:X:2189:A:C6	29:X:2195:C:N4	2.60	0.70
29:X:2560:G:H4'	29:X:2561:G:C8	2.27	0.70
29:X:400:U:O2'	29:X:401:G:H5''	1.92	0.70
29:X:651:C:C2'	29:X:652:C:H5''	2.22	0.70
29:X:826:U:H2'	29:X:827:C:C6	2.27	0.70
7:B:150:VAL:CG2	7:B:154:LYS:HE2	2.18	0.70
8:C:115:GLY:O	8:C:185:ARG:HD2	1.91	0.70
8:C:122:GLY:HA2	8:C:124:ASP:OD1	1.92	0.70
9:D:58:ALA:O	9:D:62:LEU:HA	1.91	0.70
10:E:71:LEU:HA	10:E:74:ASN:HD22	1.56	0.70
24:S:6:LYS:H	24:S:7:PRO:HD3	1.57	0.70
29:X:1354:A:H2'	29:X:1410:U:O2'	1.90	0.70
29:X:1467:U:C3'	29:X:1467:U:H6	2.05	0.70
29:X:1490:U:H2'	29:X:1491:C:H6	1.57	0.70
29:X:2691:C:C2'	29:X:2692:A:H5''	2.21	0.70
29:X:503:G:H2'	29:X:504:G:O4'	1.92	0.70
6:A:68:LYS:HA	6:A:152:GLY:HA2	1.71	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:139:GLN:CA	8:C:139:GLN:HE21	2.05	0.70
12:G:141:GLY:O	12:G:144:MET:HB2	1.92	0.70
13:H:23:ARG:CG	13:H:23:ARG:HH21	2.04	0.70
7:B:9:ILE:HD13	18:M:12:LEU:CD1	2.21	0.70
19:N:50:ARG:C	19:N:52:ASN:N	2.44	0.70
21:P:133:ASN:HD22	21:P:133:ASN:N	1.90	0.70
26:U:70:LEU:HD22	26:U:79:GLU:HG2	1.74	0.70
29:X:1071:U:H1'	29:X:1073:G:C5'	2.21	0.70
29:X:1177:U:H2'	29:X:1178:C:C6	2.27	0.70
29:X:1644:G:H2'	29:X:1645:U:H6	1.56	0.70
29:X:1741:G:O2'	29:X:1742:G:H5'	1.91	0.70
15:J:84:MET:HG2	29:X:2229:G:H5'	1.74	0.70
29:X:490:A:O2'	29:X:491:A:H3'	1.91	0.70
29:X:687:G:C2'	29:X:688:A:H5'	2.22	0.70
29:X:796:A:H8	29:X:797:A:H4'	1.57	0.70
6:A:91:ARG:HB2	6:A:107:ALA:HB3	1.72	0.70
6:A:77:ALA:CB	6:A:97:TYR:HD1	2.03	0.70
7:B:146:THR:HB	7:B:147:PRO:HD2	1.73	0.70
10:E:29:PRO:HD2	10:E:79:VAL:HB	1.73	0.70
20:O:13:ARG:HD3	20:O:16:GLU:OE1	1.92	0.70
20:O:13:ARG:HG2	20:O:14:VAL:N	2.07	0.70
25:T:73:GLY:O	25:T:74:LYS:HB2	1.91	0.70
29:X:1911:A:H2'	29:X:1912:G:H1'	1.72	0.70
29:X:2387:U:H2'	29:X:2388:G:H8	1.56	0.70
6:A:188:GLU:OE2	29:X:2201:G:H5''	1.90	0.70
18:M:43:ASN:C	18:M:43:ASN:ND2	2.45	0.70
24:S:138:VAL:HA	24:S:141:MET:HE2	1.74	0.70
29:X:1255:A:H2'	29:X:1256:C:H6	1.56	0.70
31:Z:15:A:C6	31:Z:72:C:H5'	2.26	0.70
6:A:206:LEU:O	6:A:211:ARG:HD3	1.91	0.69
11:F:10:LEU:HD12	11:F:12:LEU:HG	1.72	0.69
21:P:40:LEU:HD13	21:P:62:ARG:HH12	1.57	0.69
25:T:40:GLN:HE21	25:T:57:HIS:HB3	1.54	0.69
26:U:69:THR:HG22	26:U:70:LEU:N	2.06	0.69
29:X:1467:U:C3'	29:X:1467:U:C6	2.74	0.69
26:U:33:LYS:CE	29:X:2400:G:H21	2.05	0.69
19:N:31:GLN:HE22	29:X:589:C:H4'	1.55	0.69
29:X:683:A:H4'	29:X:684:C:H5'	1.74	0.69
7:B:20:ALA:HB2	13:H:85:ASP:O	1.92	0.69
9:D:70:ALA:C	9:D:72:LYS:H	1.92	0.69
12:G:138:GLY:O	12:G:141:GLY:N	2.24	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:43:ALA:HB1	29:X:684:C:C5	2.26	0.69
19:N:93:LYS:CE	20:O:10:LYS:HZ3	2.05	0.69
26:U:23:LYS:HB2	26:U:35:THR:HG23	1.74	0.69
29:X:1840:A:H2'	29:X:1841:G:O4'	1.91	0.69
29:X:1845:A:N1	29:X:2070:G:H1'	2.06	0.69
6:A:108:PRO:HB3	6:A:143:HIS:HE2	1.57	0.69
6:A:68:LYS:CA	6:A:152:GLY:HA2	2.22	0.69
6:A:158:SER:O	6:A:196:VAL:HG21	1.92	0.69
7:B:49:ILE:HD11	7:B:90:SER:HB3	1.73	0.69
12:G:103:TYR:CD1	12:G:111:LYS:HA	2.26	0.69
14:I:39:SER:O	14:I:40:ARG:HB2	1.92	0.69
29:X:2585:C:H2'	29:X:2586:G:H5'	1.74	0.69
29:X:70:A:H4'	29:X:71:A:H3'	1.73	0.69
6:A:200:GLU:HG3	6:A:202:LYS:HB2	1.74	0.69
8:C:112:GLN:CD	8:C:116:LYS:HD3	2.12	0.69
8:C:98:GLN:HE22	29:X:611:C:H4'	1.56	0.69
10:E:38:ASN:HB2	10:E:41:LEU:HB2	1.73	0.69
13:H:1:MET:HB3	13:H:44:TYR:HB3	1.73	0.69
14:I:107:LYS:HG3	14:I:108:LEU:N	2.06	0.69
17:L:41:GLN:HG2	17:L:43:ILE:HD11	1.74	0.69
20:O:35:LEU:HD21	20:O:52:GLY:HA2	1.73	0.69
21:P:37:LYS:HG3	29:X:1279:G:H1	1.57	0.69
29:X:1478:U:H2'	29:X:1479:G:H8	1.56	0.69
29:X:2211:U:O2'	29:X:2212:U:H5'	1.93	0.69
29:X:2307:A:H2'	29:X:2308:A:C8	2.28	0.69
29:X:2441:U:H2'	29:X:2442:C:C6	2.27	0.69
29:X:2628:C:H2'	29:X:2629:U:C6	2.27	0.69
29:X:2671:C:O2'	29:X:2672:U:H5'	1.92	0.69
29:X:417:C:C2	29:X:419:G:C5	2.80	0.69
29:X:520:C:H2'	29:X:520:C:O2	1.92	0.69
29:X:651:C:C3'	29:X:652:C:H5''	2.22	0.69
29:X:5:A:H2'	29:X:6:A:H8	1.57	0.69
29:X:717:G:H1'	29:X:740:A:N6	2.08	0.69
29:X:931:G:H4'	31:Z:83:C:H4'	1.74	0.69
10:E:105:MET:CE	10:E:131:ILE:HD11	2.22	0.69
11:F:12:LEU:HD22	11:F:22:PRO:HB3	1.75	0.69
18:M:37:THR:CG2	18:M:39:VAL:HG13	2.22	0.69
13:H:132:GLU:HB2	18:M:73:PHE:CE1	2.26	0.69
20:O:6:GLN:HG2	29:X:1007:A:H1'	1.74	0.69
23:R:59:LYS:O	23:R:60:PRO:O	2.10	0.69
29:X:469:G:N2	29:X:480:G:H2'	2.07	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:28:ARG:HH21	29:X:542:A:H8	1.39	0.69
29:X:757:U:C2'	29:X:758:G:H5'	2.22	0.69
7:B:117:MET:HB2	7:B:136:ARG:HD2	1.75	0.69
8:C:83:ALA:O	8:C:84:PHE:HB2	1.92	0.69
10:E:96:ALA:HA	10:E:104:GLU:O	1.92	0.69
15:J:113:GLU:C	15:J:115:ALA:H	1.92	0.69
29:X:2596:C:O2'	29:X:2597:G:H5'	1.93	0.69
29:X:732:G:P	29:X:732:G:H8	2.15	0.69
30:Y:58:LEU:HD12	30:Y:58:LEU:N	2.06	0.69
9:D:11:GLN:O	9:D:15:ALA:HB3	1.93	0.69
11:F:21:PRO:CG	11:F:22:PRO:HD3	2.23	0.69
11:F:5:ALA:HB2	11:F:60:TYR:O	1.92	0.69
12:G:84:ASN:O	12:G:85:ALA:HB3	1.91	0.69
24:S:3:LEU:CD2	24:S:32:PHE:HB3	2.21	0.69
29:X:1107:A:C3'	29:X:1108:U:H5''	2.22	0.69
29:X:1437:A:H2'	29:X:1438:G:H8	1.55	0.69
29:X:445:A:H2'	29:X:446:C:H6	1.56	0.69
8:C:62:LYS:HD3	8:C:62:LYS:C	2.12	0.69
9:D:75:SER:N	9:D:79:LEU:HD22	2.06	0.69
11:F:21:PRO:CD	11:F:22:PRO:HD3	2.23	0.69
13:H:23:ARG:CB	13:H:23:ARG:NH2	2.56	0.69
14:I:56:LEU:O	14:I:58:ALA:O	2.11	0.69
25:T:41:ARG:HH12	29:X:2366:U:H1'	1.58	0.69
29:X:104:C:C2'	29:X:105:G:H5''	2.22	0.69
29:X:1672:A:H3'	29:X:1673:C:C6	2.27	0.69
29:X:2194:A:H2'	29:X:2195:C:O4'	1.93	0.69
29:X:871:U:H2'	29:X:2247:A:N3	2.08	0.69
29:X:2633:A:H61	29:X:2644:A:H3'	1.58	0.69
29:X:48:A:H1'	29:X:50:G:N3	2.08	0.69
29:X:731:A:C2'	29:X:732:G:O4'	2.40	0.69
31:Z:58:G:H4'	31:Z:59:A:H5''	1.74	0.69
6:A:245:VAL:CA	6:A:252:LYS:HE2	2.22	0.69
13:H:7:ARG:NH1	13:H:20:MET:HE3	2.07	0.69
21:P:35:PRO:HG2	21:P:99:ALA:HB2	1.75	0.69
26:U:67:LEU:O	26:U:71:SER:HB3	1.93	0.69
27:V:42:ARG:HH12	27:V:45:GLN:HE22	1.39	0.69
29:X:2198:U:C4	29:X:2199:C:C5	2.81	0.69
28:W:22:ALA:HA	29:X:942:U:O2'	1.93	0.69
13:H:13:ASN:ND2	13:H:109:ARG:CG	2.56	0.69
15:J:65:ILE:HG12	15:J:107:VAL:HG12	1.74	0.69
21:P:29:LYS:HG2	21:P:123:HIS:ND1	2.07	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:10:LYS:HZ3	26:U:70:LEU:HG	1.56	0.69
29:X:1072:U:H4'	29:X:1073:G:OP2	1.92	0.69
29:X:1301:U:H5''	29:X:1302:C:OP2	1.93	0.69
29:X:1813:A:H2'	29:X:1814:G:C8	2.26	0.69
29:X:1850:G:O2'	29:X:1851:A:O4'	2.11	0.69
29:X:188:G:O2'	29:X:189:A:H5'	1.93	0.69
29:X:2736:U:H4'	29:X:2737:A:OP1	1.92	0.69
8:C:58:MET:HB2	8:C:70:GLY:O	1.93	0.69
24:S:24:TYR:HB3	24:S:29:ASN:HA	1.75	0.69
29:X:1737:G:H2'	29:X:1738:U:C6	2.27	0.69
29:X:2266:A:H62	29:X:2323:U:H3	1.35	0.69
29:X:2581:A:H3'	29:X:2582:G:C5'	2.22	0.69
29:X:1681:A:N1	29:X:2706:U:C6	2.61	0.69
29:X:451:A:H2'	29:X:452:G:C8	2.28	0.69
29:X:5:A:O2'	29:X:6:A:H5'	1.92	0.69
29:X:765:C:O2'	29:X:766:A:OP2	2.10	0.69
4:4:3:VAL:HA	4:4:35:ARG:O	1.93	0.68
6:A:181:GLU:HG2	6:A:182:LEU:N	2.08	0.68
6:A:243:GLY:O	6:A:244:ARG:CZ	2.41	0.68
8:C:93:TYR:N	8:C:93:TYR:CD2	2.61	0.68
9:D:126:GLY:O	9:D:160:ALA:HB3	1.93	0.68
9:D:79:LEU:HA	9:D:80:ARG:CZ	2.22	0.68
11:F:98:LYS:HB2	11:F:137:THR:OG1	1.93	0.68
26:U:51:ILE:HG12	26:U:59:THR:CB	2.22	0.68
29:X:173:A:H61	29:X:844:G:N2	1.91	0.68
29:X:2708:U:H2'	29:X:2709:C:C6	2.28	0.68
29:X:2756:A:O2'	29:X:2757:G:OP2	2.10	0.68
29:X:2873:G:H2'	29:X:2874:A:C8	2.28	0.68
12:G:162:LYS:HZ1	29:X:5:A:H1'	1.57	0.68
29:X:635:C:C2'	29:X:636:G:H5''	2.22	0.68
29:X:738:G:O5'	29:X:738:G:H8	1.76	0.68
6:A:181:GLU:HG3	6:A:269:PHE:O	1.93	0.68
9:D:106:ILE:HG21	9:D:139:PRO:HB3	1.75	0.68
29:X:2169:A:H2'	29:X:2170:C:C6	2.28	0.68
9:D:123:ASP:OD1	29:X:2294:U:H1'	1.93	0.68
31:Z:25:G:H2'	31:Z:26:G:N7	2.08	0.68
8:C:8:GLY:O	8:C:9:GLN:HB3	1.93	0.68
15:J:102:ARG:HG3	15:J:103:VAL:H	1.58	0.68
20:O:61:VAL:HG23	20:O:94:LYS:H	1.58	0.68
29:X:1729:C:H2'	29:X:1730:G:H8	1.55	0.68
29:X:946:U:H2'	29:X:947:C:H6	1.57	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:112:A:H2'	31:Z:113:G:C8	2.29	0.68
4:4:1:MET:HA	4:4:1:MET:HE2	1.74	0.68
12:G:42:VAL:HG13	12:G:166:LEU:O	1.94	0.68
13:H:23:ARG:CB	13:H:23:ARG:HH21	2.07	0.68
17:L:87:VAL:HG12	17:L:88:VAL:H	1.59	0.68
22:Q:54:SER:HB2	29:X:1354:A:HO2'	1.58	0.68
24:S:103:ARG:NH2	24:S:108:VAL:HG23	2.09	0.68
24:S:92:VAL:HG23	24:S:93:GLU:H	1.57	0.68
29:X:1275:A:H2	30:Y:10:LYS:HE2	1.57	0.68
29:X:1522:C:H2'	29:X:1523:A:C4'	2.23	0.68
29:X:617:U:H5	29:X:632:A:H2	1.40	0.68
12:G:102:ARG:NH2	12:G:112:THR:HG21	2.08	0.68
15:J:116:LYS:NZ	15:J:132:MET:HB3	2.09	0.68
19:N:11:ARG:HH22	29:X:29:U:H4'	1.56	0.68
22:Q:62:ARG:O	22:Q:70:GLY:HA3	1.93	0.68
22:Q:7:LEU:HD21	27:V:30:PHE:CE2	2.19	0.68
24:S:123:VAL:HG23	24:S:161:ALA:CA	2.23	0.68
29:X:1441:A:H1'	29:X:1442:C:C5	2.28	0.68
29:X:2586:G:N1	29:X:2587:G:C2	2.62	0.68
29:X:649:G:N2	29:X:661:C:H1'	2.08	0.68
8:C:5:ASN:HB2	8:C:10:ASN:HA	1.74	0.68
9:D:83:MET:O	9:D:85:VAL:HG13	1.94	0.68
12:G:153:GLY:C	12:G:157:PRO:HG2	2.14	0.68
12:G:162:LYS:N	12:G:163:PRO:CD	2.56	0.68
15:J:17:ARG:O	15:J:17:ARG:HG3	1.92	0.68
23:R:93:ARG:NH2	23:R:108:VAL:HA	2.09	0.68
24:S:71:MET:HB2	24:S:78:PRO:HA	1.75	0.68
29:X:1478:U:O2'	29:X:1479:G:H5'	1.93	0.68
29:X:172:A:C5	29:X:175:C:C5	2.80	0.68
29:X:2448:A:H2'	29:X:2449:G:O4'	1.92	0.68
29:X:416:U:O2'	29:X:417:C:H5	1.77	0.68
29:X:922:A:H2'	29:X:923:A:C8	2.28	0.68
30:Y:19:ARG:O	30:Y:21:SER:N	2.27	0.68
31:Z:12:C:H2'	31:Z:13:C:O4'	1.93	0.68
9:D:92:ARG:NH1	31:Z:46:G:H4'	2.08	0.68
10:E:105:MET:HB3	10:E:107:ILE:CD1	2.23	0.68
10:E:43:VAL:CG2	10:E:52:VAL:HG22	2.24	0.68
18:M:26:ASP:OD1	18:M:27:PHE:N	2.26	0.68
19:N:24:PHE:HB3	19:N:28:ARG:O	1.92	0.68
21:P:85:MET:CE	21:P:130:GLU:HG3	2.24	0.68
23:R:60:PRO:O	23:R:65:PRO:HG3	1.93	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:133:GLU:HG3	24:S:134:LEU:N	2.06	0.68
24:S:3:LEU:HD13	24:S:33:ALA:H	1.57	0.68
26:U:34:THR:HG23	26:U:35:THR:N	2.08	0.68
28:W:38:PRO:N	28:W:41:ARG:HE	1.92	0.68
29:X:1672:A:H3'	29:X:1673:C:H6	1.58	0.68
29:X:1681:A:H61	29:X:1979:C:H42	1.42	0.68
29:X:2057:U:H5''	29:X:2057:U:H6	1.58	0.68
29:X:2197:U:C4	29:X:2198:U:C5	2.81	0.68
29:X:2699:G:O2'	29:X:2700:U:H5'	1.93	0.68
29:X:431:G:H2'	29:X:432:C:C6	2.28	0.68
29:X:539:A:H5'	29:X:540:G:OP1	1.93	0.68
29:X:558:G:N3	29:X:558:G:O5'	2.27	0.68
29:X:739:G:O2'	29:X:740:A:P	2.51	0.68
6:A:33:LEU:HD12	6:A:63:ARG:HH22	1.59	0.68
7:B:147:PRO:HD3	29:X:1141:U:C4	2.29	0.68
14:I:104:ARG:HB3	14:I:105:PRO:CD	2.23	0.68
15:J:102:ARG:HG3	15:J:103:VAL:N	2.07	0.68
15:J:40:PRO:HB3	15:J:99:LYS:HZ2	1.58	0.68
19:N:10:ARG:HH11	29:X:592:G:P	2.16	0.68
21:P:87:GLU:HA	21:P:90:LEU:CD1	2.24	0.68
24:S:103:ARG:HH21	24:S:108:VAL:CG2	2.05	0.68
29:X:1323:G:H3'	29:X:1324:G:H21	1.57	0.68
29:X:1430:G:H2'	29:X:1431:U:C6	2.29	0.68
29:X:2644:A:O2'	29:X:2645:C:H5'	1.93	0.68
6:A:79:VAL:O	6:A:113:VAL:HG13	1.94	0.68
14:I:28:LYS:CE	14:I:36:GLY:HA3	2.24	0.68
18:M:38:LYS:HB3	18:M:46:ARG:HB3	1.76	0.68
18:M:34:ARG:CZ	18:M:88:VAL:HG21	2.23	0.68
20:O:13:ARG:CG	20:O:14:VAL:H	2.04	0.68
24:S:122:ILE:HG22	24:S:160:LEU:HA	1.75	0.68
29:X:1252:C:HO2'	29:X:1253:C:H5''	1.58	0.68
29:X:1459:U:C2	29:X:1475:U:H1'	2.29	0.68
29:X:1514:C:O4'	29:X:1593:C:H4'	1.93	0.68
26:U:48:LYS:CE	29:X:2074:U:H1'	2.19	0.68
29:X:2787:A:H2'	29:X:2788:C:C6	2.28	0.68
6:A:48:ARG:HH22	29:X:787:A:H5''	1.58	0.68
7:B:28:ALA:O	7:B:180:ASN:HB3	1.94	0.68
11:F:52:ILE:H	11:F:73:PRO:CD	2.07	0.68
22:Q:92:ALA:O	22:Q:94:GLN:N	2.27	0.68
23:R:5:SER:O	23:R:6:ALA:HB3	1.94	0.68
7:B:151:TYR:HB3	12:G:106:TYR:CD2	2.29	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:104:ILE:HG21	9:D:174:GLY:HA3	1.74	0.67
11:F:48:LYS:HD3	11:F:72:PRO:HD3	1.75	0.67
17:L:68:ALA:HB1	17:L:102:ALA:CB	2.24	0.67
29:X:1031:C:H41	29:X:1153:A:H61	1.39	0.67
29:X:1851:A:H62	29:X:1866:G:N2	1.91	0.67
29:X:2665:G:C2	29:X:2704:U:O2	2.48	0.67
29:X:417:C:C2	29:X:419:G:N7	2.62	0.67
29:X:837:U:H2'	29:X:838:A:H8	1.60	0.67
14:I:38:LYS:HZ3	29:X:954:U:P	2.15	0.67
6:A:81:ALA:HA	6:A:113:VAL:HG22	1.76	0.67
7:B:134:TRP:NE1	29:X:1675:C:OP1	2.27	0.67
9:D:92:ARG:HH12	31:Z:46:G:C5'	2.06	0.67
10:E:126:PRO:HG2	10:E:127:GLU:N	2.09	0.67
13:H:102:GLN:HB2	13:H:104:GLU:HG3	1.74	0.67
13:H:97:VAL:O	13:H:99:ILE:HG23	1.93	0.67
16:K:20:LEU:O	16:K:21:ALA:C	2.31	0.67
29:X:1399:C:H2'	29:X:1400:A:H8	1.59	0.67
29:X:1922:U:H4'	29:X:1923:U:OP2	1.94	0.67
14:I:63:ARG:CZ	29:X:2394:G:OP1	2.42	0.67
29:X:2700:U:H6	29:X:2700:U:H5'	1.59	0.67
29:X:2845:C:C4	29:X:2846:G:N7	2.62	0.67
29:X:313:U:H2'	29:X:314:G:H8	1.58	0.67
6:A:54:ILE:O	6:A:54:ILE:CG2	2.42	0.67
7:B:76:ARG:HG2	7:B:77:ILE:HG13	1.75	0.67
8:C:28:HIS:ND1	14:I:21:ARG:NH1	2.42	0.67
12:G:69:ASP:C	12:G:70:PHE:HD2	1.96	0.67
15:J:99:LYS:HE3	15:J:100:PRO:HD2	1.74	0.67
14:I:32:ARG:NH2	20:O:81:ARG:NE	2.42	0.67
21:P:62:ARG:HG3	21:P:62:ARG:NH1	2.07	0.67
29:X:1837:G:O2'	29:X:1838:G:H5'	1.94	0.67
29:X:2837:G:O2'	29:X:2838:U:H5'	1.94	0.67
29:X:421:G:H2'	29:X:422:C:H6	1.57	0.67
29:X:777:A:N6	29:X:1766:U:H3	1.92	0.67
5:5:5:SER:H	5:5:13:BB9:HN1	1.41	0.67
7:B:116:VAL:H	7:B:136:ARG:CZ	2.07	0.67
9:D:46:ASP:HB2	9:D:49:ALA:CB	2.25	0.67
9:D:81:GLN:HG2	9:D:82:GLY:N	2.05	0.67
10:E:41:LEU:HD21	10:E:68:THR:OG1	1.93	0.67
11:F:84:ILE:HD12	11:F:96:VAL:HG13	1.76	0.67
12:G:103:TYR:HB3	12:G:107:GLN:NE2	1.98	0.67
19:N:10:ARG:HD2	29:X:592:G:OP2	1.95	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:39:PHE:CE2	20:O:51:ALA:HB1	2.30	0.67
22:Q:63:LYS:HB3	22:Q:69:ILE:O	1.94	0.67
24:S:137:ASP:OD2	24:S:138:VAL:N	2.26	0.67
24:S:87:THR:O	24:S:88:TYR:HB2	1.94	0.67
24:S:94:VAL:HG12	24:S:95:SER:H	1.58	0.67
29:X:1329:U:H2'	29:X:1330:G:H8	1.59	0.67
29:X:2057:U:H5''	29:X:2057:U:C6	2.30	0.67
29:X:2594:U:H2'	29:X:2595:C:C6	2.29	0.67
29:X:341:A:HO2'	29:X:342:G:H8	1.36	0.67
29:X:529:U:H2'	29:X:530:G:H8	1.56	0.67
29:X:558:G:C4	29:X:558:G:C3'	2.74	0.67
29:X:890:U:H2'	29:X:891:A:H8	1.59	0.67
7:B:60:ASN:HB3	7:B:62:PRO:HD2	1.77	0.67
7:B:91:VAL:HB	7:B:93:VAL:HG12	1.77	0.67
8:C:2:ALA:CA	8:C:13:ARG:HA	2.21	0.67
17:L:27:LEU:O	17:L:88:VAL:N	2.28	0.67
26:U:31:GLY:HA2	26:U:32:ARG:HH11	1.60	0.67
29:X:1468:A:H8	29:X:1468:A:P	2.18	0.67
7:B:143:GLN:O	29:X:2035:G:H4'	1.93	0.67
29:X:421:G:H2'	29:X:422:C:C6	2.29	0.67
29:X:659:G:H2'	29:X:660:G:C8	2.28	0.67
29:X:76:C:H6	29:X:76:C:C5'	2.07	0.67
31:Z:5:C:H2'	31:Z:6:C:O4'	1.94	0.67
6:A:243:GLY:HA2	6:A:244:ARG:NH1	2.10	0.67
7:B:72:VAL:O	7:B:73:ALA:CB	2.41	0.67
11:F:50:ASP:O	11:F:51:ALA:HB2	1.95	0.67
14:I:109:LEU:HB3	29:X:648:A:OP2	1.94	0.67
14:I:86:THR:C	14:I:88:PHE:H	1.95	0.67
15:J:64:LYS:CB	15:J:108:ALA:O	2.43	0.67
17:L:85:LYS:HG2	17:L:86:GLN:HG2	1.74	0.67
23:R:71:GLN:O	23:R:72:ARG:HG3	1.94	0.67
25:T:71:ASN:HB2	25:T:77:ARG:HD2	1.76	0.67
26:U:28:GLY:N	26:U:32:ARG:HD3	2.09	0.67
28:W:36:ASP:CG	28:W:41:ARG:HH12	1.98	0.67
29:X:1064:C:O5'	29:X:1064:C:H6	1.77	0.67
29:X:1973:C:H2'	29:X:1974:U:C6	2.29	0.67
29:X:2501:U:H5'	29:X:2502:G:OP2	1.95	0.67
29:X:732:G:C8	29:X:732:G:OP2	2.48	0.67
6:A:44:ASN:N	6:A:44:ASN:ND2	2.41	0.67
8:C:166:TRP:H	8:C:166:TRP:HE3	1.40	0.67
15:J:19:THR:HB	31:Z:93:G:OP1	1.95	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:93:LYS:HD2	21:P:129:ALA:HB2	1.77	0.67
24:S:122:ILE:HA	24:S:161:ALA:H	1.59	0.67
24:S:113:VAL:CG2	24:S:171:VAL:HG22	2.23	0.67
29:X:136:A:H2'	29:X:137:A:O4'	1.94	0.67
29:X:2178:U:O2'	29:X:2179:C:H5'	1.93	0.67
29:X:33:C:O2'	29:X:34:U:H5''	1.94	0.67
9:D:16:LEU:O	9:D:20:PHE:N	2.27	0.67
10:E:103:LEU:HB2	10:E:123:PHE:CD2	2.29	0.67
12:G:116:ARG:HE	12:G:126:VAL:HG13	1.59	0.67
13:H:29:ILE:HG21	13:H:123:PHE:CE1	2.29	0.67
14:I:28:LYS:HZ3	14:I:36:GLY:CA	2.08	0.67
15:J:20:GLY:O	15:J:99:LYS:HG2	1.95	0.67
17:L:32:TYR:CD2	31:Z:9:G:H5'	2.30	0.67
29:X:1522:C:H2'	29:X:1523:A:C5'	2.24	0.67
29:X:192:G:H4'	29:X:193:A:O5'	1.94	0.67
29:X:2352:A:H2'	29:X:2353:G:C8	2.28	0.67
29:X:2828:C:H2'	29:X:2829:A:H8	1.59	0.67
29:X:416:U:O2'	29:X:417:C:C5	2.48	0.67
29:X:422:C:O2'	29:X:423:G:H5'	1.95	0.67
14:I:45:LYS:NZ	29:X:818:G:OP1	2.27	0.67
29:X:841:G:H2'	29:X:842:A:C8	2.30	0.67
4:4:10:MET:N	4:4:14:CYS:SG	2.65	0.67
9:D:16:LEU:O	9:D:20:PHE:HD1	1.77	0.67
14:I:54:SER:OG	14:I:59:ARG:CZ	2.43	0.67
19:N:7:GLY:O	19:N:8:ILE:HG12	1.94	0.67
20:O:48:GLY:O	20:O:50:ASP:N	2.27	0.67
21:P:79:ALA:O	21:P:85:MET:HB2	1.95	0.67
22:Q:59:PRO:HA	22:Q:74:ASP:OD1	1.95	0.67
23:R:22:VAL:HG11	23:R:80:LYS:CD	2.20	0.67
27:V:56:VAL:O	27:V:59:GLU:N	2.25	0.67
19:N:58:ARG:NH2	29:X:1007:A:H3'	2.09	0.67
29:X:455:A:C2	29:X:1258:G:N3	2.62	0.67
29:X:1770:U:C2	29:X:1774:A:N7	2.63	0.67
29:X:1937:G:O2'	29:X:1939:U:C5	2.47	0.67
29:X:2165:A:H2'	29:X:2166:G:H8	1.59	0.67
29:X:2319:G:O2'	29:X:2320:G:H5'	1.95	0.67
17:L:37:HIS:HB3	31:Z:30:C:OP1	1.95	0.67
6:A:67:PHE:HB3	6:A:153:ALA:N	2.10	0.67
14:I:47:ALA:HA	14:I:49:PHE:CE2	2.30	0.67
16:K:10:LEU:HD22	16:K:17:ARG:HB2	1.75	0.67
19:N:66:ASN:ND2	19:N:70:ARG:NH1	2.43	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:25:LEU:HD22	23:R:26:SER:HB3	1.77	0.67
29:X:1391:A:O2'	29:X:1392:U:P	2.53	0.67
29:X:2395:C:H2'	29:X:2396:C:H5'	1.77	0.67
29:X:758:G:C2'	29:X:759:C:H5''	2.22	0.67
4:4:26:ILE:HG13	4:4:26:ILE:O	1.93	0.66
8:C:125:ILE:O	8:C:126:ALA:HB3	1.94	0.66
12:G:105:GLY:C	12:G:110:LEU:HD12	2.15	0.66
18:M:16:ILE:HG22	18:M:16:ILE:O	1.95	0.66
22:Q:53:ILE:HG13	22:Q:54:SER:N	2.10	0.66
22:Q:90:ALA:C	22:Q:92:ALA:N	2.49	0.66
23:R:93:ARG:HG2	23:R:94:VAL:N	2.09	0.66
24:S:64:ALA:HA	24:S:86:VAL:H	1.60	0.66
25:T:31:VAL:HG11	25:T:37:LEU:HD21	1.77	0.66
28:W:38:PRO:HA	28:W:41:ARG:HD2	1.77	0.66
29:X:1031:C:H2'	29:X:1031:C:O2	1.94	0.66
29:X:1053:G:H1	29:X:1124:U:H3	1.39	0.66
29:X:1171:A:H2'	29:X:1172:U:C6	2.31	0.66
29:X:1246:G:H2'	29:X:1247:U:H6	1.60	0.66
29:X:1347:C:O2'	29:X:1348:C:H5'	1.94	0.66
29:X:1467:U:H3'	29:X:1468:A:H5'	1.76	0.66
8:C:63:GLY:N	29:X:2043:A:OP1	2.26	0.66
25:T:43:THR:H	29:X:2310:G:H4'	1.60	0.66
7:B:178:GLY:O	7:B:179:GLU:HG3	1.94	0.66
14:I:101:ARG:CD	29:X:637:G:H1	2.06	0.66
16:K:28:LEU:HD21	16:K:115:LEU:HG	1.77	0.66
24:S:123:VAL:HG23	24:S:161:ALA:CB	2.25	0.66
26:U:27:ASP:CA	26:U:32:ARG:HD3	2.25	0.66
29:X:1069:G:H2'	29:X:1070:G:H5''	1.77	0.66
29:X:1071:U:H4'	29:X:1072:U:O5'	1.94	0.66
29:X:1442:C:O2'	29:X:1443:G:OP1	2.09	0.66
29:X:1648:C:H6	29:X:1648:C:H5'	1.60	0.66
29:X:2470:U:H2'	29:X:2470:U:O2	1.93	0.66
29:X:2691:C:O2'	29:X:2692:A:O5'	2.13	0.66
9:D:92:ARG:NH1	31:Z:46:G:H5'	2.10	0.66
6:A:251:GLY:HA3	6:A:255:LYS:NZ	2.10	0.66
9:D:123:ASP:C	9:D:125:ARG:N	2.45	0.66
12:G:117:GLU:O	12:G:119:LEU:N	2.27	0.66
23:R:11:ASN:O	23:R:13:LYS:N	2.28	0.66
24:S:145:ASP:O	24:S:170:SER:HA	1.95	0.66
28:W:2:LYS:HB3	28:W:54:GLN:HB2	1.76	0.66
29:X:1332:G:C5	29:X:1333:G:C6	2.83	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:173:A:N6	29:X:844:G:H21	1.93	0.66
29:X:1856:U:H2'	29:X:1857:G:O5'	1.94	0.66
17:L:26:ARG:NH1	29:X:2357:A:H4'	2.09	0.66
29:X:2387:U:H2'	29:X:2388:G:C8	2.29	0.66
29:X:666:U:H2'	29:X:667:U:C4'	2.24	0.66
29:X:939:C:H5''	29:X:940:G:C5'	2.25	0.66
11:F:111:LYS:O	11:F:115:LEU:HG	1.95	0.66
15:J:103:VAL:O	15:J:103:VAL:HG12	1.94	0.66
18:M:31:ASP:OD2	18:M:31:ASP:N	2.25	0.66
22:Q:61:LYS:H	22:Q:72:ARG:HA	1.60	0.66
23:R:102:LYS:HE2	29:X:100:G:O6	1.95	0.66
26:U:10:LYS:HG2	26:U:11:LYS:HG3	1.76	0.66
29:X:1234:C:H2'	29:X:1235:C:H6	1.58	0.66
29:X:1348:C:H2'	29:X:1349:A:H8	1.59	0.66
29:X:2302:G:H1	29:X:2311:U:H5	1.41	0.66
29:X:2482:A:C4'	29:X:2483:U:OP1	2.40	0.66
29:X:2634:G:HO2'	29:X:2643:G:H1	1.44	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
16:K:25:ALA:HB2	16:K:47:PHE:HE2	1.61	0.66
17:L:54:ALA:O	17:L:71:VAL:HG23	1.96	0.66
23:R:9:HIS:CE1	29:X:338:G:H5'	2.30	0.66
6:A:252:LYS:HB2	6:A:253:PRO:CD	2.26	0.66
7:B:26:VAL:HB	7:B:182:ILE:HG23	1.78	0.66
11:F:75:SER:O	11:F:79:ARG:HG3	1.96	0.66
17:L:30:SER:C	17:L:31:VAL:HG12	2.16	0.66
18:M:102:ALA:O	18:M:103:LYS:HD2	1.95	0.66
23:R:96:LYS:HG3	23:R:97:GLN:N	2.10	0.66
29:X:1247:U:O2'	29:X:1248:G:H5'	1.96	0.66
29:X:2426:G:O2'	29:X:2427:A:OP2	2.14	0.66
6:A:161:THR:O	6:A:195:ALA:HB1	1.95	0.66
7:B:14:ILE:HD11	7:B:183:LEU:CD1	2.26	0.66
8:C:3:GLN:NE2	8:C:4:ILE:HG12	2.11	0.66
9:D:9:ASN:O	9:D:13:ARG:N	2.28	0.66
10:E:58:ALA:N	10:E:62:ARG:HG3	2.07	0.66
16:K:6:ALA:HB1	29:X:2848:A:H2	1.61	0.66
26:U:45:ASN:HA	29:X:2210:C:OP1	1.94	0.66
29:X:104:C:O2'	29:X:105:G:H5''	1.95	0.66
29:X:1151:U:C5'	29:X:1153:A:H5''	2.26	0.66
29:X:1437:A:H2'	29:X:1438:G:C8	2.31	0.66
29:X:1745:C:O2'	29:X:1746:A:H5'	1.94	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:965:G:N3	29:X:2253:A:C2	2.64	0.66
31:Z:4:C:C2'	31:Z:5:C:H5'	2.25	0.66
4:4:31:LYS:H	4:4:31:LYS:CD	2.09	0.66
7:B:143:GLN:HE21	7:B:143:GLN:N	1.94	0.66
8:C:162:ARG:CZ	29:X:333:A:C3'	2.66	0.66
11:F:25:PRO:HG2	11:F:26:ALA:H	1.61	0.66
12:G:162:LYS:N	12:G:163:PRO:HD2	2.09	0.66
15:J:37:ALA:HB2	15:J:104:MET:CE	2.25	0.66
19:N:84:LYS:HB2	19:N:92:ARG:NH2	2.11	0.66
24:S:19:ILE:HG22	24:S:20:ALA:H	1.61	0.66
24:S:69:VAL:HG22	24:S:81:VAL:HG13	1.78	0.66
29:X:2407:G:H5''	29:X:2408:G:OP1	1.94	0.66
29:X:2594:U:H2'	29:X:2595:C:H6	1.59	0.66
29:X:946:U:H2'	29:X:947:C:C6	2.30	0.66
9:D:108:LEU:HD11	9:D:117:ILE:HD11	1.78	0.66
17:L:76:ALA:HB2	17:L:107:ALA:HA	1.78	0.66
18:M:101:ARG:HH21	18:M:101:ARG:HG2	1.61	0.66
21:P:27:VAL:CB	21:P:125:THR:HG22	2.25	0.66
23:R:84:VAL:HG21	23:R:89:GLY:CA	2.26	0.66
24:S:142:ASN:H	24:S:145:ASP:CG	1.98	0.66
29:X:1517:C:H2'	29:X:1518:C:H6	1.61	0.66
29:X:197:G:N3	29:X:210:A:H2	1.93	0.66
29:X:2266:A:O2'	29:X:2267:A:H3'	1.94	0.66
29:X:2506:C:O2'	29:X:2507:U:H5'	1.96	0.66
29:X:357:A:N7	29:X:358:C:H1'	2.11	0.66
29:X:914:C:O2'	29:X:915:C:H5'	1.96	0.66
8:C:28:HIS:CE1	14:I:21:ARG:NH1	2.63	0.66
15:J:79:PRO:CD	15:J:88:LYS:HD2	2.25	0.66
16:K:79:VAL:HA	16:K:83:VAL:CG1	2.25	0.66
23:R:105:ARG:NH1	23:R:112:LYS:HA	2.10	0.66
28:W:4:LYS:HG2	28:W:52:GLU:O	1.96	0.66
29:X:1135:C:H2'	29:X:1136:G:H8	1.59	0.66
29:X:1554:G:H2'	29:X:1555:A:H8	1.61	0.66
25:T:39:ARG:NH2	29:X:2334:C:H1'	2.01	0.66
29:X:568:G:H2'	29:X:569:C:O4'	1.96	0.66
29:X:591:G:H2'	29:X:592:G:C8	2.31	0.66
12:G:92:GLY:HA3	12:G:93:LYS:HE2	1.77	0.65
16:K:44:LEU:HD12	16:K:44:LEU:O	1.95	0.65
17:L:33:ARG:HH12	17:L:103:LEU:HB2	1.60	0.65
20:O:93:ILE:O	20:O:93:ILE:HG13	1.96	0.65
21:P:108:PRO:HG2	29:X:1631:C:C1'	2.25	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Q:42:ILE:HG23	22:Q:43:GLN:H	1.59	0.65
24:S:68:ALA:H	24:S:82:ASP:HB2	1.60	0.65
29:X:1086:C:H3'	29:X:1087:C:C5'	2.25	0.65
29:X:1850:G:C2'	29:X:1851:A:H8	2.07	0.65
6:A:244:ARG:HD2	29:X:1885:C:C4'	2.26	0.65
29:X:2700:U:C6	29:X:2700:U:H5'	2.30	0.65
29:X:2712:G:H3'	29:X:2713:A:C5'	2.26	0.65
29:X:796:A:C8	29:X:797:A:H4'	2.30	0.65
9:D:122:PHE:CB	9:D:129:ASN:HD22	2.04	0.65
11:F:39:LYS:O	11:F:43:ALA:HB2	1.96	0.65
14:I:32:ARG:HD2	20:O:81:ARG:HD2	1.77	0.65
29:X:168:A:O2'	29:X:169:C:H5'	1.96	0.65
29:X:1830:C:N4	29:X:1881:U:H3'	2.11	0.65
29:X:2368:G:H5''	29:X:2369:U:O5'	1.96	0.65
29:X:2405:A:H2'	29:X:2405:A:N3	2.11	0.65
29:X:322:A:O2'	29:X:343:A:H4'	1.96	0.65
29:X:350:U:O5'	29:X:350:U:H6	1.78	0.65
29:X:801:A:O2'	29:X:802:A:P	2.53	0.65
29:X:820:U:H2'	29:X:821:A:H8	1.60	0.65
31:Z:43:G:C5'	31:Z:44:C:H5'	2.18	0.65
4:4:6:SER:HB2	29:X:2445:C:H5''	1.78	0.65
9:D:150:ARG:CG	9:D:151:GLY:N	2.53	0.65
28:W:38:PRO:CD	28:W:41:ARG:HE	2.10	0.65
29:X:1059:A:N6	29:X:1122:A:C2	2.65	0.65
29:X:1386:A:H5''	29:X:2191:A:C6	2.31	0.65
14:I:53:ARG:NH2	29:X:173:A:OP2	2.29	0.65
29:X:71:A:C6	29:X:110:U:H4'	2.32	0.65
6:A:206:LEU:CA	6:A:211:ARG:HD3	2.26	0.65
8:C:30:VAL:HG12	8:C:31:VAL:N	2.11	0.65
9:D:153:ASP:C	9:D:154:ILE:HD12	2.16	0.65
12:G:148:LEU:HD12	12:G:149:LYS:N	2.11	0.65
15:J:66:TYR:O	15:J:106:GLU:OE2	2.14	0.65
17:L:81:GLU:O	17:L:82:LYS:HG2	1.96	0.65
19:N:22:LYS:HG3	19:N:23:GLY:H	1.60	0.65
22:Q:71:GLN:HG2	22:Q:72:ARG:O	1.97	0.65
23:R:93:ARG:NH1	23:R:107:ALA:O	2.29	0.65
26:U:15:VAL:O	26:U:16:ASN:O	2.15	0.65
27:V:18:ILE:O	27:V:20:ALA:N	2.28	0.65
29:X:1482:U:H2'	29:X:1483:G:H8	1.60	0.65
29:X:1501:C:H2'	29:X:1502:G:O4'	1.96	0.65
29:X:1681:A:N1	29:X:2706:U:C5	2.65	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2195:C:C6	29:X:2196:U:H5	2.15	0.65
25:T:18:PRO:HD2	29:X:2240:C:OP2	1.97	0.65
29:X:2796:A:O2'	29:X:2797:G:H5'	1.96	0.65
29:X:645:G:H2'	29:X:646:C:C6	2.32	0.65
29:X:70:A:OP1	29:X:110:U:H2'	1.96	0.65
13:H:110:VAL:HG12	13:H:111:PHE:N	2.12	0.65
19:N:24:PHE:CB	19:N:29:SER:HB3	2.22	0.65
19:N:88:ILE:HA	20:O:49:GLU:CG	2.25	0.65
24:S:84:TYR:HE1	31:Z:107:C:H4'	1.61	0.65
26:U:13:LEU:CG	26:U:14:VAL:N	2.59	0.65
27:V:41:HIS:HB3	27:V:44:ARG:HH21	1.61	0.65
29:X:1914:U:H6	29:X:1914:U:H5'	1.61	0.65
29:X:5:A:H2'	29:X:6:A:C8	2.31	0.65
29:X:865:A:H2'	29:X:866:U:H6	1.60	0.65
15:J:23:LYS:HD3	29:X:876:A:P	2.37	0.65
6:A:213:ARG:O	6:A:215:LEU:N	2.30	0.65
12:G:103:TYR:CZ	12:G:111:LYS:CB	2.79	0.65
12:G:157:PRO:O	12:G:161:GLN:NE2	2.28	0.65
14:I:81:GLN:NE2	14:I:115:SER:HA	2.09	0.65
22:Q:62:ARG:HH12	22:Q:73:ASN:ND2	1.95	0.65
25:T:4:LYS:C	25:T:5:LYS:HD2	2.17	0.65
29:X:104:C:C2'	29:X:105:G:C5'	2.75	0.65
29:X:1212:U:H2'	29:X:1213:U:C6	2.32	0.65
29:X:1446:U:H2'	29:X:1447:U:C6	2.32	0.65
29:X:2320:G:H2'	29:X:2321:C:C6	2.32	0.65
29:X:930:A:N6	29:X:2247:A:C8	2.63	0.65
6:A:218:LYS:HD2	6:A:218:LYS:C	2.17	0.65
9:D:134:GLU:HG2	9:D:136:LEU:H	1.61	0.65
11:F:101:TRP:O	11:F:104:VAL:HB	1.97	0.65
11:F:13:PRO:HG3	11:F:52:ILE:HG12	1.77	0.65
12:G:55:ALA:CB	12:G:134:MET:HE1	2.26	0.65
16:K:5:LYS:HE2	29:X:2795:A:C4'	2.17	0.65
18:M:34:ARG:CZ	18:M:88:VAL:CG1	2.73	0.65
18:M:6:LYS:H	18:M:6:LYS:CD	1.97	0.65
19:N:66:ASN:HB3	19:N:76:TYR:HB2	1.78	0.65
23:R:15:HIS:ND1	23:R:16:PHE:HD2	1.90	0.65
26:U:23:LYS:HD2	26:U:35:THR:CG2	2.27	0.65
11:F:93:LYS:NZ	29:X:1087:C:OP2	2.29	0.65
29:X:1486:A:H2'	29:X:1487:C:C6	2.32	0.65
26:U:33:LYS:NZ	29:X:2400:G:N2	2.45	0.65
29:X:2775:U:H5'	29:X:2776:U:H5''	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:433:G:N2	29:X:434:C:H1'	2.11	0.65
10:E:44:ARG:HG3	10:E:44:ARG:NH2	2.12	0.65
17:L:66:ASP:C	17:L:68:ALA:N	2.49	0.65
20:O:18:ASP:OD1	20:O:20:ILE:HG22	1.97	0.65
22:Q:28:TRP:CE3	22:Q:75:ARG:HB3	2.32	0.65
23:R:105:ARG:NH1	23:R:113:THR:N	2.44	0.65
23:R:35:LYS:HE3	23:R:37:LEU:HD21	1.78	0.65
24:S:62:PHE:HB3	24:S:85:MET:SD	2.36	0.65
29:X:1314:A:C2'	29:X:1315:A:H3'	2.26	0.65
29:X:1503:G:H2'	29:X:1504:G:H8	1.59	0.65
29:X:1711:C:C4'	29:X:1712:G:H5''	2.27	0.65
29:X:691:C:H2'	29:X:692:C:H6	1.62	0.65
31:Z:39:C:H5'	31:Z:40:C:OP2	1.97	0.65
7:B:70:ALA:O	7:B:72:VAL:HG23	1.96	0.65
19:N:3:ARG:NH1	19:N:3:ARG:HG2	2.06	0.65
19:N:88:ILE:HG22	20:O:48:GLY:O	1.96	0.65
28:W:54:GLN:HG2	28:W:55:GLU:N	2.11	0.65
29:X:1514:C:H4'	29:X:1593:C:H5'	1.79	0.65
29:X:2030:U:O2'	29:X:2031:A:H5'	1.96	0.65
29:X:2226:A:H2'	29:X:2227:C:H6	1.60	0.65
29:X:219:G:H22	29:X:231:G:H2'	1.59	0.65
29:X:2475:C:H2'	29:X:2476:A:H5'	1.77	0.65
29:X:2484:G:O2'	29:X:2485:U:C5'	2.44	0.65
29:X:2706:U:O2	29:X:2706:U:C2'	2.45	0.65
29:X:415:A:C2'	29:X:416:U:H5'	2.26	0.65
6:A:108:PRO:HB3	6:A:143:HIS:NE2	2.12	0.65
11:F:55:VAL:HG22	11:F:69:THR:HA	1.79	0.65
12:G:108:GLY:C	12:G:110:LEU:HD23	2.18	0.65
13:H:102:GLN:HB2	13:H:104:GLU:CG	2.26	0.65
14:I:29:THR:HA	14:I:34:HIS:HB2	1.78	0.65
14:I:88:PHE:HB3	14:I:93:LEU:HD12	1.79	0.65
18:M:34:ARG:HH21	18:M:91:VAL:CG2	2.09	0.65
24:S:122:ILE:CG2	24:S:160:LEU:HD23	2.26	0.65
26:U:29:GLY:O	26:U:31:GLY:N	2.27	0.65
26:U:33:LYS:HZ2	29:X:2400:G:N2	1.94	0.65
26:U:41:VAL:HG21	26:U:43:ARG:NH2	2.12	0.65
29:X:1050:G:H2'	29:X:1051:U:H5'	1.78	0.65
29:X:1151:U:H5''	29:X:1153:A:H5''	1.79	0.65
29:X:1332:G:C6	29:X:1333:G:N1	2.65	0.65
29:X:174:A:C2	29:X:175:C:O2	2.49	0.65
29:X:1975:G:O2'	29:X:1976:U:OP2	2.13	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:687:G:H2'	29:X:817:A:H61	1.61	0.65
6:A:258:LYS:HE3	6:A:264:LYS:HD3	1.78	0.64
11:F:104:VAL:HA	11:F:107:ILE:CD1	2.26	0.64
12:G:127:ILE:HG22	12:G:128:GLU:N	2.12	0.64
12:G:84:ASN:N	12:G:153:GLY:O	2.29	0.64
19:N:107:LYS:O	19:N:110:VAL:HB	1.97	0.64
21:P:89:ARG:CZ	21:P:132:GLY:HA2	2.27	0.64
22:Q:4:TYR:HE1	22:Q:45:ALA:HA	1.60	0.64
22:Q:63:LYS:CB	22:Q:69:ILE:O	2.44	0.64
22:Q:81:ARG:HH11	22:Q:81:ARG:HG3	1.63	0.64
23:R:15:HIS:ND1	23:R:16:PHE:CD2	2.66	0.64
26:U:13:LEU:HD12	26:U:14:VAL:N	2.12	0.64
29:X:169:C:C2'	29:X:170:U:H5'	2.27	0.64
29:X:357:A:H3'	29:X:358:C:C6	2.32	0.64
29:X:408:U:O2'	29:X:409:G:H8	1.80	0.64
6:A:173:VAL:HG21	6:A:187:SER:HB3	1.79	0.64
6:A:257:LEU:HD13	29:X:1794:A:O3'	1.96	0.64
7:B:1:MET:HG3	7:B:83:GLY:O	1.97	0.64
15:J:71:PRO:HA	15:J:96:SER:HB2	1.80	0.64
17:L:33:ARG:NH2	17:L:103:LEU:HD12	2.12	0.64
18:M:105:TYR:CE1	18:M:108:ARG:NH2	2.66	0.64
19:N:60:LEU:HD11	19:N:64:ARG:NE	2.12	0.64
29:X:1242:A:O2'	29:X:1243:G:H5'	1.96	0.64
29:X:1553:G:H2'	29:X:1554:G:C8	2.32	0.64
29:X:187:U:O2'	29:X:188:G:H5'	1.97	0.64
29:X:2345:A:H2'	29:X:2346:G:O4'	1.97	0.64
29:X:2663:U:N3	29:X:2664:G:C8	2.66	0.64
7:B:168:GLN:O	29:X:2710:C:H4'	1.97	0.64
29:X:2807:U:H4'	29:X:2808:U:H5''	1.79	0.64
29:X:75:C:H2'	29:X:76:C:H5''	1.78	0.64
8:C:172:VAL:O	8:C:172:VAL:HG12	1.97	0.64
9:D:135:GLN:HG3	9:D:151:GLY:HA2	1.80	0.64
21:P:79:ALA:HB1	21:P:85:MET:SD	2.37	0.64
24:S:3:LEU:HD21	24:S:32:PHE:CB	2.27	0.64
29:X:1536:G:H2'	29:X:1537:U:C6	2.33	0.64
29:X:1629:G:H2'	29:X:1633:C:N4	2.12	0.64
29:X:1856:U:O2'	29:X:1857:G:O5'	2.15	0.64
21:P:134:LYS:HB2	29:X:2777:A:C5	2.31	0.64
29:X:2838:U:O2'	29:X:2839:G:H5'	1.97	0.64
29:X:701:U:O2	29:X:800:U:H4'	1.97	0.64
7:B:127:ALA:HB2	7:B:135:HIS:CE1	2.32	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:92:ASN:HA	7:B:95:ILE:HB	1.80	0.64
15:J:35:LEU:N	15:J:105:PHE:O	2.26	0.64
18:M:103:LYS:O	18:M:104:LEU:CB	2.44	0.64
14:I:32:ARG:NH2	20:O:81:ARG:HE	1.95	0.64
24:S:43:PHE:CE1	24:S:66:VAL:HG11	2.32	0.64
26:U:78:ILE:HD13	26:U:79:GLU:O	1.96	0.64
27:V:31:GLN:HA	27:V:34:ALA:HB3	1.80	0.64
6:A:229:VAL:HG21	29:X:797:A:C6	2.33	0.64
6:A:186:HIS:HD1	6:A:186:HIS:H	1.45	0.64
7:B:51:TYR:N	7:B:75:THR:OG1	2.29	0.64
9:D:74:ILE:HG23	9:D:79:LEU:O	1.98	0.64
11:F:27:LEU:HA	11:F:30:TYR:CD2	2.32	0.64
11:F:42:ASN:HA	11:F:45:THR:CG2	2.27	0.64
13:H:41:ASN:H	13:H:41:ASN:HD22	1.43	0.64
14:I:102:LYS:O	14:I:104:ARG:N	2.29	0.64
14:I:38:LYS:NZ	29:X:954:U:OP2	2.29	0.64
15:J:79:PRO:HD3	15:J:88:LYS:NZ	2.13	0.64
17:L:75:LEU:O	17:L:78:ALA:HB3	1.97	0.64
19:N:27:SER:C	19:N:29:SER:H	2.00	0.64
23:R:33:THR:OG1	23:R:34:GLY:N	2.29	0.64
29:X:1065:A:O2'	29:X:1066:G:H5'	1.97	0.64
29:X:1218:C:O2'	29:X:1219:C:H5'	1.96	0.64
29:X:2074:U:H3'	29:X:2075:U:C5'	2.27	0.64
29:X:583:C:H4'	29:X:584:A:O5'	1.96	0.64
6:A:214:TRP:HH2	29:X:777:A:OP2	1.80	0.64
29:X:824:U:H1'	29:X:1264:C:C1'	2.27	0.64
15:J:30:PHE:CE1	29:X:886:A:H1'	2.33	0.64
29:X:889:C:H2'	29:X:890:U:O4'	1.97	0.64
6:A:55:GLY:O	6:A:56:GLY:O	2.14	0.64
8:C:158:ARG:O	8:C:160:ALA:N	2.31	0.64
13:H:23:ARG:NH1	13:H:25:LEU:CD2	2.48	0.64
13:H:26:ASN:HB3	13:H:38:GLY:H	1.61	0.64
14:I:32:ARG:CZ	20:O:79:GLN:HA	2.28	0.64
25:T:72:LYS:HD3	31:Z:14:C:H5''	1.80	0.64
26:U:20:ARG:HB3	26:U:43:ARG:NH2	2.12	0.64
29:X:1128:G:C2'	29:X:1129:A:H5''	2.27	0.64
29:X:2030:U:H2'	29:X:2031:A:C8	2.32	0.64
29:X:2261:G:H21	29:X:2369:U:H3	1.44	0.64
29:X:2373:C:H2'	29:X:2374:C:C6	2.32	0.64
29:X:392:G:N2	29:X:409:G:C4	2.66	0.64
29:X:712:A:H2'	29:X:713:G:O4'	1.98	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:839:U:OP1	29:X:2408:G:OP2	2.15	0.64
29:X:995:A:OP2	29:X:996:C:N4	2.22	0.64
7:B:14:ILE:HD11	7:B:183:LEU:HD13	1.80	0.64
7:B:72:VAL:O	7:B:73:ALA:HB2	1.98	0.64
8:C:75:PRO:HG3	8:C:83:ALA:HB2	1.79	0.64
9:D:111:ILE:CG2	9:D:114:PHE:HB2	2.28	0.64
10:E:139:GLN:O	10:E:142:GLY:N	2.31	0.64
10:E:16:THR:HG22	10:E:16:THR:O	1.97	0.64
20:O:38:LEU:HA	20:O:46:VAL:O	1.98	0.64
24:S:3:LEU:CD1	24:S:33:ALA:H	2.11	0.64
29:X:1069:G:C3'	29:X:1070:G:H5''	2.27	0.64
29:X:1440:G:H3'	29:X:1441:A:H5''	1.78	0.64
29:X:648:A:H5'	29:X:649:G:H4'	1.80	0.64
29:X:752:G:C4'	29:X:753:U:OP1	2.40	0.64
6:A:169:GLU:HG2	6:A:170:SER:H	1.63	0.64
6:A:219:PRO:O	6:A:220:HIS:O	2.16	0.64
6:A:244:ARG:HB3	6:A:252:LYS:HZ1	1.62	0.64
6:A:270:ILE:HG13	6:A:271:VAL:N	2.11	0.64
8:C:176:ASN:O	8:C:180:ILE:HG22	1.98	0.64
14:I:76:LYS:CG	14:I:111:SER:HB2	2.28	0.64
15:J:35:LEU:HB2	15:J:119:PHE:CE1	2.32	0.64
15:J:9:LYS:HG3	29:X:884:C:OP1	1.98	0.64
18:M:82:PRO:HB2	18:M:85:SER:HB2	1.80	0.64
26:U:27:ASP:HA	26:U:32:ARG:CZ	2.26	0.64
26:U:22:GLY:HA3	26:U:39:LYS:CD	2.27	0.64
29:X:1016:C:H4'	29:X:1023:U:H5''	1.79	0.64
29:X:1471:G:O2'	29:X:1472:C:H5'	1.97	0.64
29:X:1882:G:H21	29:X:1885:C:N4	1.95	0.64
29:X:2226:A:H2'	29:X:2227:C:C6	2.32	0.64
29:X:2437:G:O2'	29:X:2438:A:N7	2.30	0.64
29:X:742:G:O2'	29:X:776:G:H4'	1.97	0.64
29:X:879:A:H2'	29:X:879:A:N3	2.13	0.64
14:I:130:ILE:O	14:I:132:ALA:N	2.26	0.64
15:J:116:LYS:HD3	15:J:132:MET:SD	2.37	0.64
17:L:33:ARG:HH22	17:L:103:LEU:HB2	1.63	0.64
29:X:1095:A:H2'	29:X:1096:A:O4'	1.97	0.64
29:X:1215:A:H2'	29:X:1216:G:C8	2.33	0.64
29:X:1281:A:O4'	29:X:2592:U:H5	1.80	0.64
29:X:1563:U:H2'	29:X:1564:U:C6	2.32	0.64
29:X:163:A:H2'	29:X:164:G:H8	1.61	0.64
29:X:760:U:O2	29:X:1997:A:H1'	1.98	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2195:C:C5	29:X:2196:U:C4	2.85	0.64
29:X:2494:C:O2	29:X:2549:G:C2	2.51	0.64
29:X:2736:U:O2'	29:X:2737:A:C5'	2.31	0.64
29:X:2824:C:H1'	29:X:2843:A:C4	2.33	0.64
29:X:2825:A:C2	29:X:2826:C:C2	2.86	0.64
29:X:456:C:O2'	29:X:457:C:H5'	1.97	0.64
29:X:48:A:C8	29:X:50:G:N2	2.66	0.64
29:X:553:C:C5'	29:X:554:U:OP1	2.45	0.64
29:X:699:G:H4'	29:X:700:C:OP2	1.98	0.64
7:B:67:PHE:CZ	7:B:75:THR:HG22	2.33	0.64
8:C:24:SER:HA	8:C:27:LEU:HD13	1.80	0.64
12:G:51:LEU:HD12	12:G:88:VAL:HG21	1.79	0.64
17:L:8:ARG:NH1	17:L:8:ARG:HB2	2.13	0.64
29:X:1188:A:H8	29:X:1188:A:O5'	1.79	0.64
29:X:763:A:OP1	29:X:1631:C:N4	2.30	0.64
29:X:1782:A:N6	29:X:1820:G:O2'	2.31	0.64
29:X:1997:A:H2'	29:X:1998:A:C8	2.33	0.64
29:X:2030:U:H2'	29:X:2031:A:H8	1.62	0.64
29:X:2196:U:O2'	29:X:2197:U:O4'	2.15	0.64
29:X:490:A:O2'	29:X:491:A:C5'	2.46	0.64
9:D:35:VAL:O	9:D:154:ILE:HG13	1.98	0.63
11:F:11:GLN:HG2	11:F:52:ILE:CG2	2.29	0.63
16:K:100:VAL:CG1	16:K:101:GLY:N	2.43	0.63
17:L:63:ASN:CB	17:L:66:ASP:HB2	2.28	0.63
23:R:93:ARG:NH1	23:R:108:VAL:CA	2.61	0.63
24:S:13:LYS:HB2	24:S:13:LYS:HZ2	1.60	0.63
24:S:18:MET:SD	24:S:35:ASP:HA	2.37	0.63
29:X:1002:C:C4	29:X:1003:C:H5	2.15	0.63
6:A:252:LYS:HG2	29:X:1816:G:O2'	1.98	0.63
30:Y:12:SER:HB2	30:Y:15:LYS:H	1.61	0.63
9:D:13:ARG:NH1	9:D:14:PRO:CG	2.55	0.63
9:D:75:SER:O	9:D:79:LEU:HD13	1.99	0.63
26:U:53:GLU:CD	26:U:57:VAL:HA	2.18	0.63
27:V:41:HIS:HD2	27:V:42:ARG:H	1.43	0.63
29:X:191:G:O2'	29:X:192:G:H5'	1.98	0.63
29:X:1773:C:H2'	29:X:2587:G:O2'	1.98	0.63
29:X:311:A:N7	29:X:345:U:H4'	2.13	0.63
29:X:455:A:H2	29:X:1258:G:N3	1.95	0.63
8:C:39:ARG:NH2	8:C:91:TYR:HD2	1.95	0.63
10:E:136:ILE:HD12	10:E:136:ILE:N	2.13	0.63
20:O:35:LEU:CD2	20:O:52:GLY:HA2	2.28	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:13:GLN:O	21:P:16:GLN:HG3	1.97	0.63
21:P:37:LYS:CE	21:P:64:ALA:HB2	2.28	0.63
12:G:107:GLN:HG2	29:X:1142:G:O4'	1.99	0.63
29:X:1793:A:H2'	29:X:1794:A:C8	2.33	0.63
29:X:2473:G:H2'	29:X:2474:G:H8	1.63	0.63
8:C:162:ARG:CD	29:X:333:A:H5'	2.27	0.63
29:X:648:A:H4'	29:X:649:G:O4'	1.98	0.63
29:X:717:G:HO2'	29:X:718:A:P	2.21	0.63
4:4:1:MET:SD	4:4:35:ARG:HB2	2.39	0.63
6:A:227:ASN:O	6:A:228:PRO:C	2.34	0.63
14:I:77:LEU:HD22	14:I:110:ALA:HA	1.81	0.63
22:Q:35:LYS:HE3	29:X:1615:C:OP2	1.98	0.63
24:S:48:THR:O	24:S:49:THR:HG23	1.98	0.63
25:T:42:GLY:HA3	29:X:2310:G:O4'	1.99	0.63
27:V:24:GLU:O	27:V:28:LEU:HD23	1.97	0.63
29:X:2633:A:N1	29:X:2644:A:H5''	2.14	0.63
14:I:38:LYS:HG2	29:X:954:U:OP2	1.98	0.63
7:B:37:LYS:HD2	7:B:42:ASP:CG	2.18	0.63
8:C:197:GLU:HG2	8:C:198:GLU:HG3	1.80	0.63
12:G:73:ASN:O	12:G:140:GLN:OE1	2.16	0.63
14:I:58:ALA:O	14:I:59:ARG:HB2	1.99	0.63
15:J:78:LYS:HA	15:J:88:LYS:NZ	2.13	0.63
19:N:19:LYS:O	19:N:19:LYS:HG3	1.97	0.63
22:Q:75:ARG:NH1	22:Q:75:ARG:HG3	2.04	0.63
25:T:21:LEU:HD11	25:T:41:ARG:NE	2.13	0.63
26:U:27:ASP:CA	26:U:32:ARG:NH2	2.47	0.63
27:V:7:ARG:O	27:V:9:LEU:N	2.32	0.63
29:X:1061:A:H2'	29:X:1062:G:H5'	1.79	0.63
29:X:1001:A:H5'	29:X:1168:G:OP1	1.98	0.63
29:X:1922:U:O2	29:X:2570:C:O2'	2.16	0.63
29:X:2477:C:O2'	29:X:2478:C:H5'	1.98	0.63
29:X:2556:A:H5''	29:X:2557:G:H5'	1.80	0.63
26:U:45:ASN:HB3	29:X:409:G:O2'	1.99	0.63
27:V:37:LEU:HD13	29:X:60:A:O2'	1.99	0.63
6:A:181:GLU:HG2	6:A:182:LEU:H	1.62	0.63
8:C:48:ARG:O	8:C:51:VAL:HG22	1.99	0.63
12:G:155:THR:HA	12:G:158:HIS:HD2	1.64	0.63
13:H:132:GLU:HG2	13:H:134:LEU:HG	1.79	0.63
13:H:23:ARG:HH12	13:H:25:LEU:CG	2.10	0.63
13:H:46:HIS:N	13:H:49:ASP:OD2	2.27	0.63
14:I:14:LYS:O	14:I:14:LYS:HG3	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:73:GLU:OE1	14:I:73:GLU:N	2.32	0.63
15:J:15:ARG:NH1	15:J:15:ARG:HG3	2.09	0.63
18:M:11:GLU:O	18:M:14:ARG:N	2.31	0.63
20:O:36:LYS:HD3	20:O:39:PHE:CE2	2.34	0.63
24:S:100:THR:O	24:S:101:THR:HG23	1.98	0.63
26:U:13:LEU:HG	26:U:14:VAL:N	2.14	0.63
29:X:1073:G:OP2	29:X:1081:A:H4'	1.98	0.63
29:X:1122:A:H2	29:X:1123:G:H1'	1.63	0.63
29:X:1965:U:OP1	29:X:1965:U:H3'	1.98	0.63
29:X:490:A:HO2'	29:X:491:A:H5'	1.63	0.63
29:X:532:A:H2'	29:X:533:C:C6	2.33	0.63
29:X:546:A:H2'	29:X:547:U:H6	1.64	0.63
29:X:719:A:H2'	29:X:720:A:O4'	1.98	0.63
7:B:20:ALA:C	7:B:21:ILE:HG13	2.19	0.63
7:B:52:ALA:O	7:B:75:THR:O	2.17	0.63
9:D:133:LYS:O	9:D:151:GLY:HA2	1.99	0.63
9:D:75:SER:H	9:D:79:LEU:CD2	2.10	0.63
9:D:79:LEU:HD21	29:X:2289:A:H2	1.64	0.63
15:J:125:LYS:HD2	15:J:125:LYS:N	2.14	0.63
22:Q:90:ALA:O	22:Q:92:ALA:N	2.29	0.63
29:X:1072:U:H1'	29:X:1081:A:C1'	2.28	0.63
29:X:1372:A:C5	29:X:1373:G:N7	2.67	0.63
29:X:13:A:C2	29:X:15:G:O6	2.52	0.63
29:X:1493:A:H2'	29:X:1494:G:O4'	1.99	0.63
29:X:1909:U:C5	29:X:1911:A:N6	2.67	0.63
29:X:198:A:H4'	29:X:199:A:OP2	1.98	0.63
29:X:2383:C:H2'	29:X:2384:G:O4'	1.99	0.63
29:X:2737:A:N3	29:X:2737:A:H2'	2.13	0.63
29:X:48:A:H1'	29:X:50:G:C2	2.33	0.63
29:X:766:A:O2'	29:X:767:G:H5'	1.99	0.63
9:D:46:ASP:C	9:D:48:LYS:N	2.50	0.63
9:D:46:ASP:C	9:D:48:LYS:H	1.99	0.63
13:H:23:ARG:C	13:H:23:ARG:NH2	2.51	0.63
17:L:35:SER:C	17:L:36:LYS:HD2	2.19	0.63
23:R:28:LYS:O	23:R:29:HIS:HB2	1.97	0.63
24:S:95:SER:HB3	24:S:119:ASN:ND2	2.11	0.63
24:S:100:THR:HG23	24:S:138:VAL:HG21	1.80	0.63
24:S:89:GLY:O	24:S:90:GLU:HG2	1.98	0.63
26:U:19:ILE:HA	26:U:42:GLN:HA	1.81	0.63
29:X:1175:A:C2	29:X:1176:U:C2	2.87	0.63
29:X:1764:A:H2'	29:X:1765:C:H5'	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:542:A:N6	29:X:2003:A:N3	2.47	0.63
29:X:663:G:H2'	29:X:664:C:C4'	2.29	0.63
29:X:801:A:O2'	29:X:802:A:OP2	2.17	0.63
8:C:112:GLN:HA	8:C:116:LYS:CG	2.29	0.63
9:D:101:GLU:HA	9:D:104:ILE:HD12	1.79	0.63
10:E:56:SER:HB2	10:E:61:HIS:HD2	1.63	0.63
10:E:92:VAL:O	10:E:94:PHE:N	2.31	0.63
17:L:33:ARG:NH2	17:L:103:LEU:CB	2.61	0.63
17:L:34:SER:HB2	17:L:94:TYR:CE2	2.34	0.63
20:O:65:ARG:HG3	20:O:89:ASN:OD1	1.99	0.63
20:O:65:ARG:HH11	20:O:65:ARG:HG3	1.64	0.63
20:O:19:VAL:HG13	20:O:90:PHE:CD1	2.34	0.63
21:P:10:ASN:O	21:P:10:ASN:OD1	2.17	0.63
21:P:105:ARG:NH1	21:P:119:LYS:NZ	2.47	0.63
24:S:3:LEU:HD13	24:S:33:ALA:C	2.19	0.63
19:N:93:LYS:HB3	29:X:1007:A:O3'	1.99	0.63
23:R:102:LYS:HE2	29:X:100:G:C6	2.34	0.63
29:X:1141:U:O2'	29:X:1142:G:O5'	2.17	0.63
29:X:1705:U:O2	29:X:1717:A:H5''	1.99	0.63
29:X:1791:C:H5'	29:X:1792:C:OP1	1.99	0.63
29:X:2286:G:H21	29:X:2290:A:N6	1.87	0.63
29:X:2691:C:O2'	29:X:2692:A:P	2.57	0.63
29:X:2850:U:C6	29:X:2850:U:H5'	2.28	0.63
29:X:469:G:HO2'	29:X:480:G:H1	1.47	0.63
6:A:93:ALA:HB1	6:A:95:LEU:HD21	1.81	0.62
8:C:148:VAL:N	8:C:166:TRP:O	2.25	0.62
8:C:194:GLU:O	8:C:195:ILE:HG23	1.99	0.62
12:G:65:LYS:HE3	12:G:66:HIS:CE1	2.33	0.62
19:N:79:PHE:O	19:N:83:LEU:HD12	1.98	0.62
25:T:43:THR:N	29:X:2310:G:H4'	2.13	0.62
27:V:46:LEU:O	27:V:50:VAL:HG23	1.98	0.62
29:X:1250:A:O2'	29:X:1251:G:O4'	2.15	0.62
29:X:2239:C:H2'	29:X:2240:C:H6	1.63	0.62
29:X:38:G:H1	29:X:453:U:H3	1.47	0.62
31:Z:36:A:O2'	31:Z:37:C:H5	1.80	0.62
9:D:63:GLN:HG3	9:D:95:ARG:HH21	1.64	0.62
12:G:132:PHE:HB2	12:G:145:HIS:CE1	2.33	0.62
12:G:65:LYS:HE3	12:G:66:HIS:NE2	2.13	0.62
14:I:38:LYS:NZ	14:I:38:LYS:HB3	2.14	0.62
14:I:97:ARG:O	14:I:98:LEU:HB3	1.98	0.62
16:K:31:GLU:O	16:K:33:ARG:N	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:43:ASN:C	18:M:43:ASN:HD22	2.03	0.62
24:S:98:VAL:HG21	24:S:168:VAL:HG13	1.80	0.62
29:X:1337:G:O2'	29:X:1632:A:C6	2.51	0.62
29:X:2195:C:C4	29:X:2196:U:O4	2.51	0.62
29:X:2222:U:C2	29:X:2223:U:C5	2.86	0.62
29:X:417:C:H4'	29:X:418:C:H5'	1.79	0.62
29:X:492:G:H1'	29:X:516:G:H21	1.63	0.62
29:X:654:A:N3	29:X:654:A:H2'	2.14	0.62
9:D:136:LEU:O	9:D:137:ILE:HG23	1.99	0.62
14:I:76:LYS:O	14:I:79:GLN:HG2	1.99	0.62
12:G:66:HIS:O	19:N:67:ALA:HB1	1.99	0.62
23:R:80:LYS:HE3	23:R:80:LYS:C	2.19	0.62
29:X:1536:G:H2'	29:X:1537:U:H6	1.65	0.62
29:X:1610:A:H2'	29:X:1611:U:C6	2.33	0.62
29:X:2850:U:H6	29:X:2850:U:C5'	2.12	0.62
14:I:43:ALA:HB1	29:X:684:C:H5	1.65	0.62
29:X:717:G:C2'	29:X:739:G:N2	2.61	0.62
6:A:142:VAL:HG12	6:A:193:ILE:HD13	1.80	0.62
12:G:64:GLY:C	12:G:67:ARG:HG3	2.20	0.62
14:I:130:ILE:HA	14:I:140:VAL:HG21	1.82	0.62
15:J:66:TYR:HB2	15:J:106:GLU:OE1	1.99	0.62
18:M:93:ILE:N	18:M:93:ILE:HD12	2.14	0.62
21:P:37:LYS:HG3	29:X:1279:G:H22	1.64	0.62
21:P:93:LYS:HD2	21:P:129:ALA:CB	2.29	0.62
22:Q:68:PHE:O	22:Q:69:ILE:C	2.38	0.62
23:R:8:SER:O	23:R:11:ASN:N	2.31	0.62
23:R:23:ILE:HD12	23:R:23:ILE:H	1.62	0.62
23:R:37:LEU:HD11	23:R:49:GLU:HG2	1.82	0.62
23:R:84:VAL:CG2	23:R:89:GLY:HA2	2.29	0.62
24:S:3:LEU:HB2	24:S:34:LEU:CA	2.30	0.62
29:X:2212:U:H2'	29:X:2213:G:H8	1.62	0.62
29:X:417:C:H1'	29:X:419:G:C8	2.35	0.62
14:I:40:ARG:NH2	29:X:577:U:OP1	2.32	0.62
29:X:748:A:H3'	29:X:749:C:C6	2.35	0.62
30:Y:43:HIS:C	30:Y:44:HIS:HD2	2.02	0.62
7:B:1:MET:HG2	7:B:2:LYS:N	2.14	0.62
8:C:134:ILE:O	8:C:137:ALA:HB3	1.98	0.62
10:E:30:LYS:HG2	10:E:79:VAL:C	2.20	0.62
19:N:76:TYR:CE2	19:N:80:ILE:HG13	2.34	0.62
23:R:93:ARG:HH22	23:R:108:VAL:CA	2.13	0.62
23:R:56:LYS:HB3	23:R:69:GLN:HG2	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:106:GLY:HA2	24:S:109:GLN:OE1	1.98	0.62
24:S:6:LYS:HB2	24:S:31:SER:HB3	1.82	0.62
29:X:1040:A:C8	29:X:1041:G:C8	2.88	0.62
29:X:1053:G:C4	29:X:1054:C:C5	2.88	0.62
6:A:219:PRO:HB2	29:X:1781:C:OP1	1.99	0.62
29:X:1963:G:C4	29:X:1965:U:C5	2.88	0.62
29:X:2081:U:H2'	29:X:2082:C:C6	2.33	0.62
29:X:2310:G:N2	29:X:2364:C:C4	2.68	0.62
17:L:89:PHE:CE1	29:X:2356:A:N3	2.68	0.62
29:X:27:G:H1'	29:X:523:A:N6	2.14	0.62
29:X:343:A:H1'	29:X:346:C:N4	2.15	0.62
29:X:433:G:H21	29:X:434:C:H1'	1.63	0.62
29:X:481:A:C6	29:X:482:A:C6	2.88	0.62
8:C:176:ASN:HB2	29:X:626:A:O2'	2.00	0.62
9:D:122:PHE:HD2	9:D:129:ASN:H	1.46	0.62
10:E:41:LEU:HD13	10:E:64:LEU:HB3	1.81	0.62
12:G:42:VAL:HG11	12:G:168:THR:OG1	2.00	0.62
22:Q:35:LYS:HD3	22:Q:53:ILE:HG23	1.80	0.62
23:R:29:HIS:CE1	23:R:51:VAL:HG22	2.35	0.62
29:X:1193:G:H2'	29:X:1194:U:C5'	2.30	0.62
29:X:1223:G:C4'	29:X:1224:A:H5''	2.28	0.62
29:X:2194:A:H3'	29:X:2195:C:C5'	2.21	0.62
29:X:2240:C:C2'	29:X:2241:U:H5'	2.29	0.62
29:X:2311:U:O2	29:X:2311:U:H3'	1.99	0.62
29:X:2691:C:H2'	29:X:2692:A:C5'	2.28	0.62
16:K:3:HIS:HE1	29:X:2795:A:O3'	1.81	0.62
29:X:403:A:H5''	29:X:404:A:OP1	2.00	0.62
29:X:451:A:H2'	29:X:452:G:H8	1.61	0.62
29:X:580:A:C8	29:X:584:A:N6	2.67	0.62
29:X:754:G:H2'	29:X:755:C:H6	1.63	0.62
29:X:774:A:C8	29:X:774:A:O5'	2.53	0.62
8:C:104:LEU:HD23	8:C:104:LEU:N	2.14	0.62
9:D:138:PHE:HB2	9:D:141:ILE:CB	2.28	0.62
12:G:103:TYR:OH	12:G:111:LYS:HB2	1.99	0.62
12:G:93:LYS:HB3	12:G:96:ASP:O	2.00	0.62
14:I:32:ARG:CZ	20:O:81:ARG:CZ	2.77	0.62
14:I:32:ARG:HD2	20:O:81:ARG:CD	2.29	0.62
14:I:32:ARG:HH21	20:O:81:ARG:HG3	1.63	0.62
16:K:49:GLU:O	16:K:52:ILE:HG12	2.00	0.62
16:K:74:ASP:OD1	16:K:77:ARG:NH2	2.32	0.62
23:R:90:LYS:HD2	23:R:108:VAL:CG2	2.26	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1066:G:H2'	29:X:1067:G:C8	2.35	0.62
29:X:1356:G:H1'	29:X:1613:G:C2	2.35	0.62
29:X:1919:A:H1'	29:X:1923:U:C2	2.35	0.62
29:X:1923:U:H4'	29:X:1924:C:O5'	1.99	0.62
29:X:1991:C:H2'	29:X:1992:G:H8	1.64	0.62
29:X:2471:U:O2'	29:X:2472:U:H5'	2.00	0.62
29:X:2663:U:C2	29:X:2664:G:C8	2.87	0.62
29:X:396:U:O4	29:X:398:C:C2	2.52	0.62
29:X:417:C:C1'	29:X:419:G:C8	2.82	0.62
31:Z:67:C:O2'	31:Z:68:A:H5'	1.99	0.62
13:H:90:ARG:HH22	18:M:78:GLU:CD	2.03	0.62
19:N:42:ALA:O	19:N:46:GLU:HG3	1.99	0.62
22:Q:29:VAL:HG23	22:Q:30:SER:O	1.99	0.62
20:O:88:GLN:NE2	29:X:1004:A:N3	2.45	0.62
29:X:1838:G:H2'	29:X:1839:A:O4'	1.99	0.62
29:X:2220:A:H2'	29:X:2221:G:C8	2.35	0.62
29:X:2876:C:H2'	29:X:2877:A:C4	2.34	0.62
29:X:566:U:H2'	29:X:567:G:H8	1.65	0.62
29:X:748:A:H5'	29:X:749:C:OP2	2.00	0.62
29:X:972:C:H4'	29:X:973:U:OP2	1.98	0.62
9:D:135:GLN:HG3	9:D:151:GLY:CA	2.30	0.62
10:E:37:TYR:CZ	10:E:72:VAL:HG22	2.34	0.62
11:F:62:ASP:C	11:F:63:ARG:HD3	2.20	0.62
14:I:120:VAL:CG1	14:I:122:VAL:HG13	2.30	0.62
14:I:127:ALA:O	14:I:129:ALA:N	2.33	0.62
16:K:6:ALA:HB1	29:X:2848:A:C2	2.35	0.62
7:B:183:LEU:CD2	18:M:16:ILE:HD13	2.21	0.62
18:M:22:ARG:HD3	18:M:24:LEU:HD23	1.81	0.62
18:M:46:ARG:HG3	18:M:47:SER:N	2.14	0.62
23:R:85:ASP:N	23:R:86:PRO:CD	2.63	0.62
29:X:1060:C:H2'	29:X:1061:A:C8	2.34	0.62
29:X:1919:A:H2	29:X:1926:U:H3	1.28	0.62
29:X:2053:G:C2	29:X:2054:A:C4	2.88	0.62
29:X:416:U:O2'	29:X:419:G:H1'	1.99	0.62
29:X:530:G:O2'	29:X:531:G:H5'	1.99	0.62
19:N:28:ARG:CD	29:X:542:A:H3'	2.29	0.62
7:B:141:ILE:HG21	7:B:154:LYS:HZ3	1.65	0.62
8:C:112:GLN:HA	8:C:116:LYS:CD	2.30	0.62
8:C:112:GLN:HA	8:C:116:LYS:HD3	1.82	0.62
11:F:54:PRO:CG	11:F:70:LYS:HD2	2.30	0.62
15:J:75:VAL:HG12	15:J:76:THR:H	1.65	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:15:ARG:HD2	17:L:91:ARG:CD	2.30	0.62
7:B:12:THR:OG1	18:M:17:GLU:OE1	2.15	0.62
19:N:75:ASN:O	19:N:76:TYR:C	2.38	0.62
19:N:74:MET:CE	19:N:79:PHE:HA	2.30	0.62
20:O:14:VAL:O	20:O:15:SER:CB	2.47	0.62
20:O:9:GLY:O	20:O:10:LYS:HB3	2.00	0.62
21:P:62:ARG:HG3	21:P:62:ARG:HH11	1.65	0.62
24:S:44:ARG:HD3	24:S:45:GLN:NE2	2.15	0.62
25:T:41:ARG:HH11	25:T:41:ARG:HG3	1.64	0.62
27:V:13:ASP:O	27:V:17:GLU:HG2	2.00	0.62
29:X:1466:C:H2'	29:X:1467:U:C1'	2.30	0.62
29:X:194:G:H3'	29:X:195:A:H8	1.65	0.62
29:X:2355:A:H2'	29:X:2356:A:O4'	1.99	0.62
29:X:2642:G:H2'	29:X:2643:G:C5'	2.30	0.62
29:X:341:A:H2	29:X:1223:G:H2'	1.65	0.62
29:X:922:A:N1	29:X:2256:G:H1'	2.14	0.62
6:A:208:LYS:HE3	6:A:208:LYS:HA	1.82	0.61
7:B:136:ARG:HH11	7:B:136:ARG:CG	2.14	0.61
9:D:75:SER:CB	9:D:79:LEU:HD22	2.30	0.61
11:F:121:GLU:CD	11:F:121:GLU:H	2.04	0.61
13:H:116:ARG:HG3	13:H:116:ARG:HH11	1.65	0.61
13:H:1:MET:HE2	13:H:44:TYR:CZ	2.35	0.61
13:H:7:ARG:HD3	13:H:18:GLU:CD	2.21	0.61
14:I:112:GLY:O	14:I:113:GLU:HG3	2.00	0.61
14:I:18:ARG:CB	14:I:21:ARG:HB2	2.30	0.61
14:I:86:THR:C	14:I:88:PHE:N	2.53	0.61
18:M:95:GLU:HG3	18:M:95:GLU:O	2.00	0.61
20:O:36:LYS:HD2	20:O:54:TYR:C	2.20	0.61
24:S:168:VAL:HG12	24:S:169:VAL:HG13	1.82	0.61
29:X:179:U:H2'	29:X:180:C:C6	2.35	0.61
29:X:2426:G:H4'	29:X:2427:A:O5'	2.00	0.61
29:X:415:A:C3'	29:X:416:U:H5'	2.30	0.61
29:X:429:C:H2'	29:X:430:C:C6	2.35	0.61
29:X:585:U:H2'	29:X:586:G:C8	2.35	0.61
29:X:732:G:H8	29:X:732:G:OP2	1.81	0.61
29:X:748:A:H3'	29:X:749:C:H6	1.65	0.61
29:X:872:G:H2'	29:X:928:G:C6	2.35	0.61
17:L:57:ALA:HB1	31:Z:119:G:H4'	1.82	0.61
14:I:82:ASP:H	14:I:114:ILE:CG2	2.12	0.61
14:I:86:THR:O	14:I:86:THR:HG22	2.00	0.61
24:S:6:LYS:N	24:S:7:PRO:CD	2.63	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1121:G:H2'	29:X:1122:A:C8	2.35	0.61
29:X:583:C:H1'	29:X:2038:C:C6	2.35	0.61
29:X:497:C:C5'	29:X:497:C:H6	2.09	0.61
29:X:65:C:H2'	29:X:66:U:H6	1.65	0.61
31:Z:35:C:H2'	31:Z:36:A:O4'	2.00	0.61
4:4:10:MET:HE3	4:4:32:HIS:CA	2.21	0.61
7:B:153:GLY:O	7:B:154:LYS:C	2.39	0.61
8:C:129:LYS:C	8:C:131:LYS:H	2.03	0.61
9:D:150:ARG:HH11	9:D:150:ARG:HG3	1.65	0.61
10:E:84:THR:HA	10:E:133:VAL:O	2.01	0.61
11:F:100:ASN:OD1	11:F:101:TRP:N	2.33	0.61
14:I:73:GLU:HG2	14:I:101:ARG:CB	2.31	0.61
14:I:54:SER:OG	14:I:59:ARG:NH1	2.34	0.61
15:J:64:LYS:CD	15:J:64:LYS:H	1.87	0.61
18:M:24:LEU:O	18:M:25:PRO:O	2.18	0.61
20:O:18:ASP:C	20:O:18:ASP:OD1	2.39	0.61
20:O:78:VAL:O	20:O:79:GLN:HB2	2.01	0.61
23:R:39:ALA:O	23:R:41:PRO:HD3	2.01	0.61
29:X:2245:A:H4'	29:X:2246:A:OP2	1.98	0.61
10:E:143:GLN:HG2	29:X:2725:C:H1'	1.81	0.61
29:X:590:C:H2'	29:X:591:G:H8	1.64	0.61
29:X:731:A:C3'	29:X:732:G:O4'	2.47	0.61
8:C:197:GLU:HG2	8:C:198:GLU:N	2.14	0.61
12:G:103:TYR:CE1	12:G:111:LYS:HA	2.35	0.61
14:I:117:ALA:HA	14:I:137:GLY:O	1.98	0.61
14:I:10:PRO:CA	14:I:14:LYS:HB2	2.28	0.61
14:I:53:ARG:CD	14:I:53:ARG:O	2.47	0.61
15:J:77:LYS:HG3	15:J:78:LYS:H	1.64	0.61
17:L:30:SER:O	17:L:31:VAL:HG12	1.99	0.61
17:L:9:ARG:O	17:L:10:LYS:C	2.39	0.61
23:R:63:THR:HG22	23:R:64:ASN:HD22	1.65	0.61
29:X:999:A:O2'	29:X:1166:A:H2	1.82	0.61
29:X:1383:C:C2	29:X:1384:G:C8	2.87	0.61
29:X:2585:C:C2'	29:X:2586:G:H5'	2.30	0.61
29:X:26:G:N1	29:X:27:G:N2	2.47	0.61
29:X:471:A:H2'	29:X:472:C:O4'	2.00	0.61
21:P:39:ARG:NH2	29:X:527:C:O2'	2.32	0.61
29:X:917:U:C2'	29:X:918:A:H5'	2.30	0.61
6:A:37:LEU:HD12	29:X:1808:C:H41	1.65	0.61
9:D:36:VAL:HG11	9:D:57:LEU:HD22	1.83	0.61
9:D:63:GLN:NE2	9:D:91:LEU:HD23	2.15	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:49:GLU:O	15:J:53:ILE:HG13	1.99	0.61
18:M:105:TYR:CD1	18:M:108:ARG:NH2	2.68	0.61
24:S:138:VAL:HA	24:S:141:MET:CE	2.29	0.61
24:S:73:LYS:C	24:S:75:LYS:H	2.03	0.61
26:U:11:LYS:NZ	26:U:75:TYR:CD1	2.68	0.61
6:A:39:LYS:HE2	29:X:1808:C:O5'	2.00	0.61
29:X:1974:U:H2'	29:X:1975:G:H5'	1.82	0.61
29:X:731:A:H3'	29:X:732:G:O4'	1.99	0.61
29:X:774:A:C8	29:X:774:A:H3'	2.35	0.61
29:X:774:A:H8	29:X:774:A:H3'	1.62	0.61
29:X:988:G:N3	29:X:1012:A:H2	1.97	0.61
31:Z:95:U:H2'	31:Z:96:C:C6	2.35	0.61
6:A:69:ARG:CZ	6:A:105:ILE:HD13	2.29	0.61
6:A:76:ASN:OD1	6:A:118:ASN:HB2	2.01	0.61
10:E:17:VAL:HG12	10:E:18:ASN:N	2.15	0.61
10:E:38:ASN:H	10:E:41:LEU:HD23	1.64	0.61
10:E:89:LEU:HD11	10:E:96:ALA:CB	2.31	0.61
16:K:11:ASN:OD1	16:K:17:ARG:NH2	2.34	0.61
16:K:45:ARG:HB3	16:K:46:PRO:HD3	1.82	0.61
18:M:108:ARG:C	18:M:109:GLU:HG3	2.06	0.61
19:N:84:LYS:HB2	19:N:92:ARG:HH22	1.62	0.61
26:U:20:ARG:HB2	26:U:43:ARG:HD2	1.82	0.61
29:X:208:C:O2'	29:X:209:G:H5'	2.00	0.61
29:X:2301:A:H2'	29:X:2302:G:H8	1.66	0.61
29:X:2543:A:C2	29:X:2626:U:H4'	2.36	0.61
29:X:224:G:H4'	29:X:399:G:C5	2.34	0.61
29:X:649:G:H22	29:X:661:C:H1'	1.66	0.61
29:X:822:G:C2'	29:X:823:U:H5'	2.31	0.61
6:A:226:MET:HE2	6:A:230:ASP:HB3	1.83	0.61
6:A:245:VAL:HA	6:A:251:GLY:HA2	1.82	0.61
8:C:3:GLN:CG	8:C:116:LYS:HD2	2.18	0.61
12:G:54:LEU:O	12:G:58:ILE:HG13	2.01	0.61
15:J:99:LYS:HD2	15:J:100:PRO:HD3	1.82	0.61
17:L:54:ALA:HB3	17:L:75:LEU:CB	2.22	0.61
18:M:13:LEU:HD12	18:M:13:LEU:N	2.15	0.61
24:S:13:LYS:NZ	24:S:18:MET:HB2	2.15	0.61
25:T:71:ASN:HD21	25:T:74:LYS:HD3	1.64	0.61
29:X:1324:G:H1'	29:X:1326:U:O4	2.00	0.61
29:X:1431:U:H4'	29:X:1604:A:H4'	1.82	0.61
29:X:1909:U:H5	29:X:1911:A:N6	1.96	0.61
29:X:2195:C:C2'	29:X:2196:U:H5'	2.30	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2500:C:H2'	29:X:2501:U:C6	2.36	0.61
29:X:320:A:N3	29:X:340:G:O2'	2.30	0.61
29:X:333:A:H2'	29:X:350:U:O2	2.00	0.61
29:X:38:G:H2'	29:X:39:C:C6	2.35	0.61
29:X:716:U:H2'	29:X:717:G:O4'	2.01	0.61
4:4:2:LYS:HG2	4:4:4:ARG:CD	2.31	0.61
8:C:93:TYR:N	8:C:93:TYR:HD2	1.98	0.61
16:K:20:LEU:O	16:K:23:ALA:N	2.34	0.61
22:Q:38:ILE:O	22:Q:42:ILE:HG22	2.01	0.61
23:R:24:VAL:HB	23:R:29:HIS:O	2.01	0.61
23:R:25:LEU:CD1	23:R:25:LEU:H	2.12	0.61
24:S:69:VAL:HG13	24:S:81:VAL:HG22	1.81	0.61
29:X:1122:A:O2'	29:X:1123:G:H4'	2.01	0.61
29:X:1339:U:OP2	29:X:1339:U:C6	2.53	0.61
29:X:1468:A:C5'	29:X:1472:C:N4	2.55	0.61
29:X:1142:G:C8	29:X:2008:C:H4'	2.36	0.61
14:I:53:ARG:NE	29:X:227:G:O2'	2.33	0.61
29:X:2312:A:H4'	29:X:2313:G:O5'	2.00	0.61
29:X:2389:G:N2	29:X:2390:A:H1'	2.16	0.61
29:X:2594:U:C2	29:X:2595:C:C5	2.88	0.61
29:X:1982:C:OP1	29:X:2704:U:H5'	2.00	0.61
29:X:408:U:O2'	29:X:409:G:C8	2.53	0.61
28:W:11:GLY:HA2	29:X:980:G:O3'	2.00	0.61
31:Z:14:C:H4'	31:Z:17:A:N6	2.16	0.61
4:4:19:ARG:NH1	4:4:24:LEU:HD22	2.15	0.61
7:B:78:LEU:O	7:B:79:ARG:NE	2.34	0.61
8:C:47:THR:CG2	8:C:85:GLY:H	2.13	0.61
9:D:35:VAL:HG12	9:D:36:VAL:N	2.15	0.61
10:E:105:MET:HB2	10:E:113:VAL:HB	1.83	0.61
14:I:76:LYS:HG3	14:I:111:SER:CB	2.31	0.61
19:N:91:ASN:O	19:N:93:LYS:N	2.34	0.61
20:O:12:TYR:O	20:O:13:ARG:CB	2.48	0.61
23:R:93:ARG:CG	23:R:94:VAL:N	2.63	0.61
24:S:123:VAL:O	24:S:124:ALA:O	2.19	0.61
24:S:154:LEU:HD21	24:S:160:LEU:CD2	2.30	0.61
24:S:1:MET:HG3	24:S:52:PHE:CD2	2.36	0.61
29:X:1171:A:H2'	29:X:1172:U:H6	1.64	0.61
29:X:1624:A:O2'	29:X:1625:A:H5'	2.00	0.61
29:X:174:A:H2'	29:X:174:A:N3	2.16	0.61
29:X:2080:U:H2'	29:X:2081:U:C6	2.35	0.61
29:X:2220:A:H2'	29:X:2221:G:H8	1.66	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:638:A:O2'	29:X:639:G:C8	2.51	0.61
29:X:936:A:O2'	29:X:937:C:H5'	2.01	0.61
29:X:987:G:H5'	29:X:1167:A:N6	2.16	0.61
6:A:132:PRO:HD3	6:A:190:TYR:CD2	2.35	0.61
6:A:38:PRO:HA	6:A:61:LEU:HD22	1.83	0.61
7:B:183:LEU:HD23	7:B:183:LEU:N	2.16	0.61
8:C:66:ASN:HA	29:X:1268:U:C6	2.36	0.61
9:D:12:VAL:HG12	9:D:16:LEU:CD1	2.27	0.61
9:D:72:LYS:HA	9:D:81:GLN:C	2.21	0.61
9:D:85:VAL:HG23	9:D:86:GLY:H	1.65	0.61
9:D:92:ARG:HH12	31:Z:46:G:H4'	1.64	0.61
11:F:71:THR:CG2	11:F:110:THR:HG22	2.28	0.61
14:I:8:PRO:O	29:X:1218:C:H1'	2.01	0.61
18:M:32:THR:HG22	18:M:33:VAL:N	2.16	0.61
18:M:39:VAL:CG1	18:M:45:THR:HG23	2.29	0.61
22:Q:35:LYS:HA	22:Q:38:ILE:HG23	1.83	0.61
23:R:105:ARG:HH12	23:R:112:LYS:CA	2.12	0.61
23:R:108:VAL:C	23:R:110:SER:H	2.03	0.61
24:S:109:GLN:NE2	24:S:142:ASN:OD1	2.33	0.61
27:V:16:LYS:HG2	27:V:17:GLU:OE2	2.01	0.61
27:V:21:ARG:HD2	27:V:21:ARG:N	2.15	0.61
29:X:1854:G:HO2'	29:X:1855:G:H5'	1.65	0.61
25:T:24:LYS:HZ2	29:X:2335:U:P	2.23	0.61
31:Z:17:A:HO2'	31:Z:112:A:H8	1.47	0.61
7:B:121:ASN:O	7:B:122:PHE:C	2.38	0.60
8:C:34:GLN:HG2	29:X:627:A:OP1	2.01	0.60
9:D:108:LEU:HD22	9:D:114:PHE:CE1	2.36	0.60
10:E:137:ASP:OD2	10:E:139:GLN:HB2	2.01	0.60
13:H:113:PRO:HB2	13:H:134:LEU:HD12	1.82	0.60
13:H:75:VAL:HG12	13:H:118:LEU:HD21	1.81	0.60
14:I:120:VAL:HG12	14:I:122:VAL:HG13	1.83	0.60
14:I:127:ALA:C	14:I:129:ALA:H	2.05	0.60
18:M:44:ARG:HD2	18:M:46:ARG:HH21	1.66	0.60
19:N:79:PHE:CE2	19:N:83:LEU:HD11	2.36	0.60
20:O:24:SER:O	20:O:26:GLN:N	2.34	0.60
22:Q:40:ASP:O	22:Q:41:ALA:C	2.38	0.60
23:R:110:SER:OG	23:R:111:GLY:N	2.34	0.60
24:S:64:ALA:HA	24:S:86:VAL:N	2.16	0.60
29:X:1578:U:H2'	29:X:1579:G:H8	1.64	0.60
29:X:1629:G:H2'	29:X:1633:C:H42	1.65	0.60
29:X:172:A:N7	29:X:175:C:C5	2.69	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2238:G:H1'	29:X:2406:C:C2	2.36	0.60
29:X:2352:A:H2'	29:X:2353:G:H8	1.65	0.60
29:X:2498:U:C4'	29:X:2499:C:OP1	2.44	0.60
29:X:580:A:N7	29:X:584:A:C5	2.68	0.60
29:X:754:G:H2'	29:X:755:C:C6	2.36	0.60
6:A:172:TYR:HA	6:A:186:HIS:HA	1.82	0.60
9:D:122:PHE:CD2	9:D:129:ASN:HB2	2.36	0.60
12:G:158:HIS:HA	12:G:161:GLN:OE1	2.01	0.60
13:H:43:ARG:HD3	13:H:44:TYR:CE2	2.35	0.60
14:I:141:VAL:C	14:I:142:LEU:HD23	2.20	0.60
14:I:28:LYS:HZ3	14:I:36:GLY:HA2	1.65	0.60
7:B:195:LEU:H	18:M:2:GLN:HG2	1.65	0.60
20:O:66:GLY:O	20:O:87:ARG:NH1	2.33	0.60
21:P:68:VAL:HG12	21:P:68:VAL:O	2.01	0.60
24:S:130:ILE:HD12	24:S:130:ILE:N	2.16	0.60
26:U:13:LEU:HG	26:U:14:VAL:H	1.65	0.60
29:X:107:G:N2	29:X:108:G:H1'	2.15	0.60
29:X:1373:G:N2	29:X:1374:G:H1'	2.17	0.60
29:X:187:U:H2'	29:X:188:G:C8	2.34	0.60
29:X:2422:C:O2'	29:X:2423:G:H5'	2.00	0.60
29:X:2431:C:H42	29:X:2483:U:H3	1.48	0.60
29:X:2495:G:O2'	29:X:2496:C:H5'	2.01	0.60
29:X:2857:C:H2'	29:X:2858:A:O5'	2.02	0.60
29:X:48:A:H4'	29:X:49:U:C5'	2.31	0.60
6:A:227:ASN:ND2	29:X:797:A:H5''	2.16	0.60
29:X:837:U:H3	29:X:846:A:H61	1.49	0.60
7:B:116:VAL:H	7:B:136:ARG:HE	0.64	0.60
7:B:176:ARG:HH21	18:M:16:ILE:HA	1.66	0.60
8:C:147:LYS:N	8:C:184:ASP:OD2	2.27	0.60
9:D:103:LEU:HA	9:D:107:GLY:HA3	1.83	0.60
9:D:122:PHE:O	9:D:124:GLY:N	2.35	0.60
9:D:46:ASP:HB2	9:D:49:ALA:HB3	1.81	0.60
11:F:60:TYR:O	11:F:61:ALA:HB2	2.00	0.60
14:I:100:ARG:O	14:I:100:ARG:HG3	2.02	0.60
14:I:13:ARG:NH2	14:I:13:ARG:CG	2.61	0.60
17:L:38:ILE:CD1	17:L:39:TYR:H	2.06	0.60
17:L:8:ARG:HH11	17:L:8:ARG:HB2	1.65	0.60
24:S:1:MET:HE2	24:S:52:PHE:HB3	1.82	0.60
29:X:1467:U:C6	29:X:1467:U:H5''	2.36	0.60
29:X:1690:U:H2'	29:X:1691:G:H5'	1.82	0.60
29:X:1339:U:H5''	29:X:1994:U:H1'	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2327:U:O4	29:X:2361:G:C2	2.53	0.60
29:X:2725:C:H2'	29:X:2726:U:H6	1.65	0.60
29:X:538:A:C2	29:X:2025:A:C6	2.89	0.60
29:X:760:U:C4	29:X:2592:U:O2	2.54	0.60
30:Y:19:ARG:CB	30:Y:19:ARG:HH11	2.13	0.60
6:A:105:ILE:HG22	6:A:106:LEU:O	2.01	0.60
7:B:120:TRP:CD1	7:B:155:ARG:HB3	2.36	0.60
9:D:151:GLY:O	9:D:152:MET:HB3	2.01	0.60
13:H:23:ARG:HB3	13:H:23:ARG:CZ	2.32	0.60
13:H:79:HIS:CG	13:H:80:ALA:H	2.17	0.60
15:J:37:ALA:CA	15:J:130:THR:HG22	2.21	0.60
17:L:37:HIS:O	17:L:38:ILE:O	2.19	0.60
19:N:13:ARG:CG	19:N:13:ARG:HH21	2.13	0.60
21:P:106:LEU:HD23	21:P:107:ILE:N	2.16	0.60
22:Q:76:LYS:HG2	22:Q:76:LYS:O	2.00	0.60
23:R:98:ILE:HB	23:R:100:ASP:H	1.67	0.60
23:R:8:SER:C	23:R:10:HIS:N	2.54	0.60
29:X:1090:C:O2'	29:X:1091:C:H5'	2.01	0.60
29:X:1181:C:H2'	29:X:1182:U:C5'	2.27	0.60
29:X:1373:G:H2'	29:X:1374:G:H5'	1.84	0.60
29:X:162:C:H2'	29:X:163:A:H8	1.66	0.60
29:X:1841:G:H2'	29:X:1842:G:H5'	1.82	0.60
29:X:2812:A:H2'	29:X:2813:G:H8	1.66	0.60
6:A:68:LYS:H	6:A:68:LYS:CD	2.12	0.60
7:B:40:GLN:O	7:B:40:GLN:HG2	2.01	0.60
12:G:154:GLU:H	12:G:157:PRO:HD2	1.66	0.60
18:M:57:ILE:HG13	18:M:57:ILE:O	2.00	0.60
21:P:46:ARG:CG	21:P:46:ARG:HH11	2.10	0.60
22:Q:91:LEU:N	22:Q:91:LEU:HD22	2.15	0.60
24:S:1:MET:CE	24:S:52:PHE:HB3	2.31	0.60
28:W:19:THR:O	28:W:23:LEU:HG	2.01	0.60
29:X:1473:U:O2'	29:X:1474:A:OP2	2.19	0.60
29:X:1734:C:H5''	29:X:1735:G:C8	2.36	0.60
8:C:33:TRP:CD1	8:C:95:LEU:HB2	2.37	0.60
9:D:136:LEU:HD11	9:D:149:THR:HG21	1.83	0.60
12:G:140:GLN:O	12:G:143:ALA:HB3	2.02	0.60
13:H:116:ARG:HH21	18:M:40:ARG:CB	2.11	0.60
20:O:12:TYR:HB2	20:O:39:PHE:HA	1.83	0.60
20:O:65:ARG:NE	20:O:87:ARG:HD2	2.17	0.60
22:Q:34:THR:O	22:Q:38:ILE:HG22	2.02	0.60
27:V:2:LYS:HA	27:V:6:MET:HE2	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1134:C:H2'	29:X:1135:C:H6	1.67	0.60
29:X:1698:C:C2'	29:X:1753:A:H2'	2.32	0.60
29:X:1919:A:H2	29:X:1926:U:C2	2.20	0.60
29:X:2170:C:H2'	29:X:2171:U:C4'	2.30	0.60
29:X:2252:A:C2	29:X:2253:A:C5	2.90	0.60
29:X:2298:U:H4'	29:X:2299:A:C8	2.37	0.60
29:X:2501:U:O2'	29:X:2626:U:H5''	2.02	0.60
29:X:2522:G:H2'	29:X:2523:G:C8	2.37	0.60
29:X:2553:G:H2'	29:X:2554:C:C6	2.37	0.60
29:X:527:C:O2'	29:X:528:G:H5'	2.01	0.60
29:X:736:G:H2'	29:X:737:C:O4'	2.01	0.60
30:Y:45:ILE:HD13	30:Y:57:VAL:CG2	2.31	0.60
6:A:184:ARG:NH2	6:A:268:ARG:NH1	2.50	0.60
9:D:75:SER:HB2	29:X:2289:A:C2	2.36	0.60
10:E:109:TYR:HE1	10:E:152:ARG:NH1	1.99	0.60
10:E:84:THR:CA	10:E:134:SER:HA	2.30	0.60
13:H:17:ARG:N	13:H:57:ASP:O	2.35	0.60
13:H:47:VAL:CG2	13:H:77:THR:HG23	2.12	0.60
15:J:80:ALA:CB	15:J:81:GLU:OE1	2.49	0.60
17:L:33:ARG:HH22	17:L:103:LEU:CB	2.14	0.60
22:Q:56:MET:SD	29:X:1355:A:OP2	2.60	0.60
24:S:91:PRO:HD3	24:S:127:PRO:CD	2.31	0.60
24:S:94:VAL:HG12	24:S:95:SER:N	2.16	0.60
25:T:71:ASN:HD21	25:T:74:LYS:HA	1.66	0.60
29:X:1166:A:C2'	29:X:1167:A:H5''	2.32	0.60
29:X:1508:G:C5'	29:X:1509:A:H5''	2.21	0.60
29:X:2370:G:O2'	29:X:2403:C:N4	2.35	0.60
29:X:2824:C:H4'	29:X:2825:A:H5'	1.83	0.60
29:X:510:G:N2	29:X:512:A:H3'	2.17	0.60
29:X:663:G:H2'	29:X:664:C:H4'	1.83	0.60
31:Z:39:C:H3'	31:Z:40:C:C6	2.37	0.60
12:G:106:TYR:CE2	12:G:108:GLY:CA	2.84	0.60
12:G:155:THR:HG23	12:G:156:HIS:ND1	2.17	0.60
12:G:55:ALA:C	12:G:134:MET:HE1	2.22	0.60
21:P:40:LEU:HD22	30:Y:25:LEU:HD11	1.83	0.60
23:R:25:LEU:HD12	23:R:81:VAL:N	2.17	0.60
25:T:17:ASN:ND2	29:X:2241:U:C5	2.70	0.60
29:X:1050:G:H2'	29:X:1051:U:C5'	2.32	0.60
29:X:1454:U:H2'	29:X:1455:C:H6	1.65	0.60
21:P:114:ALA:HB2	29:X:1630:A:C2	2.36	0.60
29:X:840:U:O2	29:X:2225:G:H4'	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:871:U:C2'	29:X:2247:A:H2'	2.31	0.60
29:X:93:A:O2'	29:X:94:C:H5'	2.02	0.60
31:Z:58:G:H4'	31:Z:59:A:C5'	2.31	0.60
8:C:173:ALA:HB1	8:C:193:LEU:HD13	1.83	0.60
9:D:108:LEU:HB2	9:D:109:PRO:HD3	1.84	0.60
10:E:35:VAL:HB	10:E:37:TYR:CE1	2.36	0.60
11:F:52:ILE:O	11:F:73:PRO:HD3	2.02	0.60
14:I:62:LYS:HG3	14:I:63:ARG:H	1.67	0.60
14:I:62:LYS:CG	14:I:63:ARG:N	2.64	0.60
16:K:91:PRO:C	16:K:92:GLY:O	2.40	0.60
17:L:97:HIS:CG	17:L:98:GLY:N	2.70	0.60
18:M:43:ASN:ND2	18:M:43:ASN:O	2.34	0.60
23:R:15:HIS:O	23:R:16:PHE:HB3	2.01	0.60
24:S:64:ALA:CB	24:S:85:MET:HA	2.32	0.60
25:T:26:PHE:CE2	29:X:870:C:H1'	2.36	0.60
29:X:1448:A:H2'	29:X:1449:C:H6	1.67	0.60
29:X:1551:U:H5'	29:X:1552:C:C6	2.36	0.60
21:P:117:ILE:HD13	29:X:1996:A:H4'	1.83	0.60
29:X:2194:A:C3'	29:X:2195:C:C5'	2.71	0.60
29:X:2279:G:H2'	29:X:2280:A:C8	2.37	0.60
29:X:2292:C:O2'	29:X:2293:G:H5'	2.02	0.60
29:X:2475:C:O2'	29:X:2476:A:H5'	2.02	0.60
29:X:2860:C:H2'	29:X:2861:A:O4'	2.02	0.60
29:X:449:C:H2'	29:X:450:C:H6	1.66	0.60
29:X:664:C:H5'	29:X:664:C:H6	1.66	0.60
29:X:913:A:H2'	29:X:914:C:O5'	2.02	0.60
29:X:957:G:O2'	29:X:958:G:H5'	2.01	0.60
31:Z:37:C:H2'	31:Z:38:C:O4'	2.01	0.60
6:A:53:PHE:O	6:A:54:ILE:HG22	2.01	0.60
7:B:119:ARG:HA	7:B:160:MET:CE	2.31	0.60
7:B:146:THR:O	7:B:147:PRO:C	2.40	0.60
7:B:53:PRO:HD2	18:M:6:LYS:NZ	2.14	0.60
7:B:8:LYS:HG2	7:B:192:ASN:HA	1.83	0.60
8:C:54:THR:HG21	8:C:72:ARG:H	1.66	0.60
9:D:13:ARG:HB3	9:D:14:PRO:CD	2.31	0.60
10:E:121:VAL:HG12	10:E:122:THR:N	2.17	0.60
15:J:51:CYS:O	15:J:52:ARG:C	2.39	0.60
15:J:21:ASP:HA	15:J:99:LYS:CE	2.32	0.60
18:M:11:GLU:O	18:M:12:LEU:C	2.40	0.60
18:M:34:ARG:HH21	18:M:91:VAL:HG23	1.65	0.60
22:Q:61:LYS:HB2	22:Q:72:ARG:HD3	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:61:ARG:HD3	24:S:174:PRO:HB2	1.83	0.60
27:V:2:LYS:CG	27:V:3:PRO:HD3	2.26	0.60
29:X:1004:A:C5	29:X:1005:U:C5	2.90	0.60
12:G:107:GLN:O	29:X:1142:G:OP1	2.20	0.60
29:X:1685:A:H2'	29:X:1691:G:N7	2.16	0.60
29:X:176:A:C3'	29:X:177:U:H5	2.09	0.60
29:X:2011:U:O2'	29:X:2012:A:H5'	2.02	0.60
29:X:2500:C:H2'	29:X:2501:U:H6	1.66	0.60
29:X:2699:G:O2'	29:X:2700:U:C5'	2.49	0.60
29:X:648:A:H4'	29:X:649:G:O5'	2.01	0.60
6:A:246:PRO:HD3	6:A:251:GLY:N	2.15	0.59
7:B:121:ASN:O	7:B:122:PHE:O	2.20	0.59
12:G:103:TYR:CE2	29:X:1142:G:H4'	2.37	0.59
12:G:64:GLY:CA	12:G:67:ARG:HG3	2.32	0.59
14:I:98:LEU:O	14:I:99:VAL:HG13	2.02	0.59
18:M:55:ILE:O	18:M:56:ALA:HB2	2.01	0.59
19:N:24:PHE:O	19:N:29:SER:OG	2.12	0.59
19:N:86:ALA:C	19:N:88:ILE:N	2.53	0.59
29:X:1069:G:C2'	29:X:1070:G:H5''	2.32	0.59
29:X:148:C:H6	29:X:148:C:OP1	1.85	0.59
29:X:1685:A:C8	29:X:1691:G:C5	2.89	0.59
29:X:1921:A:O2'	29:X:1922:U:OP1	2.20	0.59
29:X:2677:U:H2'	29:X:2678:C:H6	1.65	0.59
6:A:244:ARG:N	6:A:244:ARG:CD	2.64	0.59
7:B:48:GLN:NE2	29:X:2614:A:O2'	2.35	0.59
7:B:80:GLU:OE2	29:X:2615:U:H4'	2.02	0.59
8:C:187:VAL:HG12	8:C:189:ASP:HB2	1.84	0.59
11:F:18:THR:HB	11:F:22:PRO:HB2	1.84	0.59
12:G:107:GLN:CA	12:G:110:LEU:HG	2.32	0.59
16:K:72:ASP:HB3	16:K:75:VAL:HG23	1.84	0.59
19:N:10:ARG:O	19:N:13:ARG:HB3	2.03	0.59
22:Q:11:VAL:HG22	22:Q:28:TRP:NE1	2.18	0.59
24:S:3:LEU:HB2	24:S:34:LEU:CB	2.32	0.59
25:T:45:PHE:CZ	25:T:77:ARG:NH2	2.70	0.59
28:W:38:PRO:N	28:W:41:ARG:NE	2.50	0.59
29:X:1058:G:H2'	29:X:1121:G:C6	2.36	0.59
29:X:1135:C:N4	29:X:1136:G:O6	2.34	0.59
8:C:67:ALA:N	29:X:1268:U:C5	2.60	0.59
29:X:1524:C:H3'	29:X:1525:A:O4'	2.02	0.59
29:X:400:U:HO2'	29:X:401:G:H5''	1.66	0.59
29:X:464:G:H2'	29:X:465:C:C6	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:633:G:O2'	29:X:634:G:H5'	2.01	0.59
29:X:715:U:O2'	29:X:716:U:H5'	2.00	0.59
29:X:784:U:H2'	29:X:785:U:C6	2.37	0.59
9:D:4:LEU:HD11	9:D:173:MET:CE	2.32	0.59
17:L:37:HIS:CE1	17:L:39:TYR:CZ	2.91	0.59
18:M:55:ILE:CG1	18:M:67:THR:HG22	2.33	0.59
22:Q:91:LEU:CD2	22:Q:91:LEU:N	2.64	0.59
24:S:97:PRO:HB2	24:S:99:HIS:HE1	1.67	0.59
27:V:41:HIS:ND1	29:X:95:G:H4'	2.18	0.59
29:X:1033:G:O2'	29:X:1034:U:H5'	2.02	0.59
29:X:1129:A:H8	29:X:1129:A:H5'	1.68	0.59
29:X:1323:G:H3'	29:X:1324:G:N2	2.17	0.59
29:X:1953:A:H1'	29:X:1955:G:C8	2.37	0.59
29:X:2451:G:H2'	29:X:2454:C:H42	1.68	0.59
29:X:2496:C:C5	29:X:2521:A:C5	2.90	0.59
9:D:70:ALA:O	9:D:72:LYS:N	2.35	0.59
12:G:79:PHE:CE2	12:G:147:ARG:HG2	2.37	0.59
15:J:64:LYS:HB2	15:J:108:ALA:O	2.02	0.59
17:L:38:ILE:HD11	17:L:40:ALA:N	2.10	0.59
19:N:17:VAL:HG13	19:N:39:LEU:HD12	1.85	0.59
19:N:66:ASN:HB3	19:N:76:TYR:N	2.17	0.59
20:O:14:VAL:O	20:O:15:SER:HB2	2.01	0.59
24:S:10:PRO:HB2	24:S:14:LEU:HD21	1.85	0.59
24:S:123:VAL:H	24:S:161:ALA:HB2	1.66	0.59
25:T:20:TYR:O	25:T:21:LEU:HG	2.03	0.59
26:U:14:VAL:HB	26:U:47:HIS:NE2	2.18	0.59
26:U:52:ARG:C	26:U:53:GLU:HG2	2.20	0.59
29:X:1786:C:H2'	29:X:1787:U:O4'	2.01	0.59
29:X:1854:G:C6	29:X:1864:G:C6	2.90	0.59
29:X:1994:U:H2'	29:X:1995:G:H5'	1.84	0.59
6:A:184:ARG:NH2	6:A:268:ARG:HH11	2.01	0.59
7:B:155:ARG:NH1	7:B:155:ARG:HG3	2.16	0.59
9:D:15:ALA:HA	9:D:18:GLN:HB2	1.83	0.59
15:J:69:ILE:HD13	15:J:104:MET:CG	2.33	0.59
19:N:79:PHE:CE2	19:N:95:LEU:HD21	2.36	0.59
23:R:85:ASP:N	23:R:86:PRO:HD3	2.16	0.59
24:S:11:LYS:O	24:S:13:LYS:N	2.31	0.59
28:W:38:PRO:HD3	28:W:41:ARG:HE	1.67	0.59
29:X:1081:A:C6	29:X:1108:U:H4'	2.38	0.59
29:X:1705:U:O4'	29:X:1718:A:N6	2.35	0.59
29:X:1710:U:H4'	29:X:1711:C:OP2	2.03	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2046:C:O2	29:X:2430:A:C2	2.55	0.59
29:X:2075:U:HO2'	29:X:2076:G:H5''	1.67	0.59
29:X:2210:C:H2'	29:X:2211:U:H6	1.67	0.59
29:X:2264:C:H42	29:X:2325:A:H2	1.51	0.59
29:X:2598:C:O2'	29:X:2599:U:H5'	2.03	0.59
29:X:2857:C:C2'	29:X:2858:A:O5'	2.51	0.59
29:X:531:G:H2'	29:X:532:A:H8	1.67	0.59
14:I:22:GLY:CA	29:X:674:U:H1'	2.32	0.59
29:X:837:U:H2'	29:X:838:A:C8	2.37	0.59
29:X:88:G:C3'	29:X:89:A:H5''	2.25	0.59
29:X:98:U:H5''	29:X:99:U:OP1	2.03	0.59
6:A:52:ARG:NH2	6:A:53:PHE:HZ	2.00	0.59
7:B:39:ALA:HA	7:B:43:GLY:C	2.23	0.59
7:B:31:CYS:HB3	7:B:49:ILE:CG1	2.32	0.59
8:C:62:LYS:CD	8:C:63:GLY:N	2.66	0.59
9:D:138:PHE:HB2	9:D:141:ILE:CG1	2.32	0.59
9:D:13:ARG:HH12	9:D:14:PRO:HG3	1.63	0.59
9:D:97:TYR:HD2	9:D:100:LEU:HD23	1.67	0.59
10:E:87:LEU:O	10:E:131:ILE:N	2.36	0.59
12:G:100:TYR:HB2	12:G:116:ARG:HH11	1.64	0.59
14:I:17:LYS:HA	14:I:21:ARG:HE	1.67	0.59
15:J:14:PHE:O	15:J:15:ARG:HG3	2.03	0.59
16:K:28:LEU:CD2	16:K:115:LEU:HG	2.31	0.59
16:K:25:ALA:HB2	16:K:47:PHE:CE2	2.37	0.59
19:N:25:TRP:CE3	19:N:26:GLY:N	2.70	0.59
22:Q:14:GLU:HG3	22:Q:15:LYS:N	2.16	0.59
22:Q:29:VAL:HG11	22:Q:38:ILE:CD1	2.24	0.59
29:X:181:A:H4'	29:X:182:G:OP1	2.03	0.59
29:X:2429:A:C2	29:X:2430:A:C4	2.90	0.59
29:X:717:G:C2'	29:X:739:G:H22	2.04	0.59
29:X:872:G:OP2	29:X:872:G:C8	2.56	0.59
29:X:890:U:H2'	29:X:891:A:C8	2.37	0.59
6:A:182:LEU:HB2	6:A:268:ARG:O	2.03	0.59
8:C:22:VAL:HA	8:C:106:MET:CG	2.31	0.59
9:D:103:LEU:CD1	9:D:108:LEU:HG	2.32	0.59
10:E:37:TYR:HE2	10:E:71:LEU:HB2	1.67	0.59
12:G:125:ARG:HD3	12:G:128:GLU:OE1	2.01	0.59
14:I:53:ARG:HH21	14:I:53:ARG:CG	2.14	0.59
18:M:93:ILE:HG22	18:M:94:VAL:N	2.18	0.59
19:N:61:TRP:CZ3	19:N:94:VAL:N	2.58	0.59
21:P:78:ASN:O	21:P:80:LEU:N	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:17:SER:HB2	26:U:44:ALA:HA	1.85	0.59
29:X:1573:G:H3'	29:X:1574:A:C5'	2.31	0.59
29:X:1578:U:H2'	29:X:1579:G:C8	2.37	0.59
29:X:2194:A:H2'	29:X:2195:C:H5''	1.84	0.59
29:X:2236:U:H2'	29:X:2237:C:C6	2.38	0.59
29:X:236:C:O2'	29:X:632:A:O2'	2.19	0.59
29:X:2391:A:H2'	29:X:2392:G:O4'	2.03	0.59
29:X:562:G:H2'	29:X:563:U:O4'	2.01	0.59
29:X:784:U:H2'	29:X:785:U:H6	1.67	0.59
29:X:872:G:H2'	29:X:928:G:N1	2.18	0.59
31:Z:15:A:C2	31:Z:71:G:H2'	2.38	0.59
31:Z:75:A:C2	31:Z:76:U:H1'	2.37	0.59
6:A:134:ARG:NE	6:A:135:PHE:CE2	2.70	0.59
8:C:112:GLN:CB	8:C:116:LYS:HD3	2.33	0.59
8:C:50:GLN:CD	29:X:814:G:OP1	2.40	0.59
10:E:128:PRO:O	10:E:129:THR:HG23	2.02	0.59
10:E:87:LEU:N	10:E:131:ILE:O	2.31	0.59
11:F:20:ALA:N	11:F:21:PRO:HD2	2.09	0.59
12:G:45:ASP:OD1	12:G:47:SER:HB2	2.03	0.59
13:H:63:ALA:O	13:H:65:LYS:HD2	2.02	0.59
15:J:69:ILE:HD13	15:J:104:MET:HB3	1.85	0.59
15:J:125:LYS:HZ2	15:J:125:LYS:N	2.00	0.59
15:J:27:TYR:CB	15:J:137:VAL:HG11	2.32	0.59
18:M:34:ARG:HH12	18:M:81:PHE:HB3	1.66	0.59
21:P:33:MET:SD	21:P:64:ALA:HA	2.43	0.59
24:S:23:ALA:HA	24:S:83:PHE:O	2.03	0.59
29:X:1252:C:C2'	29:X:1253:C:H5''	2.33	0.59
29:X:1656:U:C2'	29:X:1657:A:H5''	2.33	0.59
29:X:1699:A:H2'	29:X:1700:C:C6	2.37	0.59
6:A:222:ARG:NH1	29:X:1779:C:H5''	2.18	0.59
29:X:1973:C:H2'	29:X:1974:U:H6	1.67	0.59
29:X:1686:A:C2	29:X:1977:C:H1'	2.37	0.59
29:X:224:G:OP2	29:X:226:C:N4	2.36	0.59
29:X:2685:A:C2	29:X:2686:C:C2	2.91	0.59
29:X:492:G:HO2'	29:X:517:A:N6	2.00	0.59
29:X:542:A:N6	29:X:2003:A:H1'	2.17	0.59
30:Y:55:ARG:NH1	30:Y:59:ALA:HB2	2.17	0.59
17:L:28:ARG:NH2	31:Z:10:U:O3'	2.30	0.59
7:B:67:PHE:CE2	7:B:74:PRO:HA	2.37	0.59
9:D:74:ILE:HA	9:D:79:LEU:CB	2.32	0.59
10:E:103:LEU:CD2	10:E:131:ILE:HD13	2.30	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:F:117:ALA:HB1	11:F:122:ALA:HB1	1.84	0.59
15:J:34:GLY:CA	15:J:106:GLU:HA	2.19	0.59
15:J:44:LYS:HD3	15:J:47:GLN:HE22	1.68	0.59
15:J:80:ALA:O	15:J:81:GLU:HB3	2.03	0.59
20:O:26:GLN:HG2	20:O:27:GLY:N	2.11	0.59
20:O:68:LYS:HD2	20:O:86:HIS:O	2.03	0.59
24:S:19:ILE:HD11	24:S:36:ARG:HG3	1.85	0.59
29:X:1053:G:C5	29:X:1054:C:C5	2.90	0.59
29:X:542:A:N1	29:X:2004:U:H2'	2.16	0.59
29:X:2175:A:H2'	29:X:2176:U:C6	2.34	0.59
29:X:2280:A:H2'	29:X:2281:C:C6	2.38	0.59
29:X:2624:G:H4'	29:X:2712:G:O2'	2.02	0.59
29:X:2764:U:H2'	29:X:2765:C:H6	1.63	0.59
29:X:2779:C:H2'	29:X:2780:A:O4'	2.03	0.59
29:X:487:G:H4'	29:X:512:A:H61	1.68	0.59
29:X:631:G:H4'	29:X:632:A:C5'	2.31	0.59
29:X:941:U:H2'	29:X:942:U:O4'	2.02	0.59
31:Z:20:A:H2'	31:Z:21:C:C6	2.37	0.59
31:Z:81:C:H6	31:Z:81:C:O5'	1.86	0.59
6:A:73:SER:HB2	6:A:120:GLY:CA	2.33	0.59
7:B:141:ILE:HG21	7:B:150:VAL:HG11	1.85	0.59
7:B:82:ARG:NH2	29:X:2617:G:P	2.76	0.59
7:B:85:ALA:HB3	7:B:86:PRO:CD	2.33	0.59
8:C:151:VAL:O	8:C:152:THR:HB	2.02	0.59
9:D:152:MET:HE3	9:D:154:ILE:HD11	1.83	0.59
9:D:13:ARG:HA	9:D:16:LEU:HD12	1.82	0.59
12:G:84:ASN:HA	12:G:152:ALA:O	2.02	0.59
12:G:85:ALA:O	12:G:88:VAL:N	2.33	0.59
12:G:96:ASP:O	12:G:98:LYS:N	2.27	0.59
15:J:35:LEU:HB2	15:J:119:PHE:CD1	2.38	0.59
15:J:73:LYS:HB3	15:J:95:VAL:O	2.03	0.59
15:J:6:LYS:HG2	15:J:7:ARG:HG3	1.83	0.59
24:S:1:MET:HG3	24:S:52:PHE:HD2	1.66	0.59
25:T:42:GLY:O	25:T:57:HIS:CD2	2.56	0.59
26:U:28:GLY:HA3	26:U:32:ARG:HB3	1.85	0.59
29:X:1238:A:C6	29:X:1239:A:N1	2.71	0.59
29:X:2058:U:H1'	29:X:2576:G:H21	1.67	0.59
29:X:2194:A:H2'	29:X:2195:C:C4'	2.32	0.59
29:X:2448:A:N6	29:X:2460:G:H1'	2.18	0.59
29:X:2492:G:N2	29:X:2493:U:C2	2.70	0.59
29:X:2690:A:OP1	29:X:2692:A:P	2.61	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:322:A:O2'	29:X:343:A:C4'	2.51	0.59
24:S:22:VAL:HG21	31:Z:77:G:H1'	1.84	0.59
6:A:48:ARG:HB3	6:A:48:ARG:NH1	2.18	0.58
9:D:46:ASP:HB2	9:D:49:ALA:H	1.67	0.58
10:E:39:THR:C	10:E:41:LEU:H	2.07	0.58
10:E:76:VAL:C	10:E:78:GLY:H	2.05	0.58
13:H:132:GLU:HG3	13:H:133:VAL:H	1.66	0.58
14:I:108:LEU:HB3	14:I:125:ALA:HB1	1.84	0.58
16:K:69:ASP:O	16:K:70:ILE:HD13	2.03	0.58
19:N:93:LYS:O	19:N:94:VAL:HB	2.03	0.58
20:O:15:SER:C	20:O:16:GLU:HG3	2.22	0.58
20:O:71:ILE:CD1	29:X:1003:C:O3'	2.50	0.58
22:Q:10:PRO:HA	22:Q:27:PHE:HB3	1.85	0.58
22:Q:32:LYS:O	22:Q:33:ALA:CB	2.51	0.58
23:R:105:ARG:CZ	23:R:112:LYS:HA	2.31	0.58
28:W:15:ASN:ND2	28:W:15:ASN:H	2.01	0.58
29:X:1011:A:O2'	29:X:1012:A:H5'	2.02	0.58
29:X:1419:G:H2'	29:X:1420:A:C8	2.38	0.58
29:X:2286:G:C5	29:X:2287:G:H1'	2.37	0.58
30:Y:45:ILE:HD13	30:Y:57:VAL:HG22	1.84	0.58
6:A:71:ASP:CG	6:A:103:ARG:HH12	2.06	0.58
6:A:52:ARG:HD3	29:X:1816:G:OP1	2.02	0.58
8:C:147:LYS:HA	8:C:166:TRP:O	2.03	0.58
8:C:12:GLY:O	8:C:14:THR:N	2.36	0.58
9:D:60:ILE:HG22	9:D:140:GLU:CB	2.30	0.58
12:G:158:HIS:HA	12:G:161:GLN:NE2	2.18	0.58
13:H:70:VAL:CG2	13:H:98:ILE:HG23	2.31	0.58
15:J:69:ILE:HD13	15:J:104:MET:HG2	1.84	0.58
15:J:136:GLU:HA	15:J:138:TYR:HE2	1.67	0.58
15:J:82:THR:O	15:J:83:ARG:CB	2.52	0.58
16:K:3:HIS:CG	16:K:5:LYS:HD2	2.36	0.58
17:L:13:THR:O	17:L:17:VAL:HG12	2.02	0.58
19:N:74:MET:HE1	19:N:79:PHE:HA	1.83	0.58
19:N:82:GLY:O	19:N:85:ARG:N	2.36	0.58
20:O:46:VAL:HG12	20:O:51:ALA:HB2	1.86	0.58
22:Q:71:GLN:HG2	22:Q:72:ARG:N	2.17	0.58
27:V:25:LEU:HD21	27:V:47:ARG:HD2	1.85	0.58
27:V:1:MET:HG3	27:V:2:LYS:N	2.17	0.58
27:V:43:VAL:HA	27:V:46:LEU:HD12	1.85	0.58
28:W:8:SER:HB2	29:X:999:A:C5'	2.23	0.58
29:X:1253:C:H5'	29:X:1253:C:H6	1.67	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1426:U:C2'	29:X:1427:G:H5'	2.33	0.58
29:X:1450:G:O2'	29:X:1451:C:H5'	2.03	0.58
29:X:1541:G:H2'	29:X:1542:G:C8	2.38	0.58
6:A:160:GLY:O	29:X:1812:U:C4	2.56	0.58
29:X:189:A:O2'	29:X:190:A:H5'	2.03	0.58
29:X:2181:A:O2'	29:X:2182:A:H5'	2.02	0.58
29:X:318:G:C8	29:X:318:G:H5'	2.30	0.58
29:X:636:G:H5'	29:X:636:G:C8	2.25	0.58
29:X:874:A:H2	31:Z:80:A:C2	2.21	0.58
6:A:92:ILE:CG2	6:A:104:TYR:HD2	2.15	0.58
6:A:173:VAL:CG2	6:A:187:SER:HB3	2.34	0.58
8:C:107:ALA:HB1	8:C:180:ILE:HD13	1.85	0.58
8:C:74:VAL:O	8:C:77:PHE:N	2.32	0.58
9:D:60:ILE:HD12	9:D:138:PHE:CE2	2.38	0.58
14:I:105:PRO:O	14:I:106:VAL:CG2	2.52	0.58
15:J:30:PHE:HE1	29:X:886:A:H1'	1.69	0.58
16:K:36:THR:OG1	16:K:37:THR:N	2.33	0.58
17:L:99:ARG:HG3	17:L:100:VAL:N	2.17	0.58
17:L:17:VAL:HG13	17:L:18:ARG:N	2.18	0.58
18:M:101:ARG:O	18:M:103:LYS:N	2.37	0.58
21:P:87:GLU:HG3	21:P:88:ASP:OD2	2.04	0.58
29:X:1283:C:H5''	29:X:1284:G:O5'	2.02	0.58
29:X:2002:A:N7	30:Y:9:LYS:HE2	2.17	0.58
29:X:2190:A:C8	29:X:2190:A:H3'	2.39	0.58
29:X:2335:U:H2'	29:X:2336:G:H8	1.69	0.58
29:X:2560:G:H4'	29:X:2561:G:N7	2.18	0.58
29:X:428:A:H2'	29:X:429:C:H6	1.67	0.58
29:X:838:A:O2'	29:X:839:U:H5'	2.02	0.58
6:A:149:PRO:HG2	29:X:2200:G:HO2'	1.68	0.58
8:C:109:ALA:O	8:C:112:GLN:N	2.34	0.58
9:D:102:LYS:O	9:D:106:ILE:N	2.32	0.58
9:D:74:ILE:CG2	9:D:80:ARG:HA	2.31	0.58
12:G:101:THR:HG23	12:G:103:TYR:CE1	2.38	0.58
12:G:66:HIS:O	12:G:70:PHE:CD1	2.56	0.58
14:I:107:LYS:HG3	14:I:108:LEU:H	1.66	0.58
14:I:29:THR:HG22	14:I:29:THR:O	2.03	0.58
17:L:33:ARG:O	17:L:99:ARG:CZ	2.50	0.58
21:P:9:ARG:O	21:P:10:ASN:HB3	2.03	0.58
22:Q:21:GLU:C	22:Q:23:GLY:H	2.05	0.58
24:S:64:ALA:HB2	24:S:85:MET:HA	1.85	0.58
26:U:75:TYR:O	26:U:76:LYS:HB2	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:W:32:ARG:HG3	28:W:32:ARG:O	2.02	0.58
29:X:1074:G:H2'	29:X:1075:C:O4'	2.03	0.58
29:X:1068:A:C8	29:X:1097:A:H2'	2.38	0.58
29:X:1522:C:H2'	29:X:1523:A:H4'	1.84	0.58
29:X:2029:G:H5'	30:Y:19:ARG:CB	2.31	0.58
29:X:2217:G:H5''	29:X:2218:G:OP1	2.02	0.58
29:X:2628:C:C2	29:X:2629:U:C5	2.92	0.58
29:X:417:C:O3'	29:X:418:C:H4'	2.02	0.58
29:X:640:C:C4'	29:X:660:G:H21	2.16	0.58
7:B:103:ASP:OD2	7:B:202:ALA:N	2.33	0.58
7:B:144:ARG:HD3	29:X:2551:A:C8	2.38	0.58
7:B:49:ILE:HG21	7:B:81:PHE:HE2	1.68	0.58
7:B:2:LYS:HA	7:B:84:PHE:CD1	2.38	0.58
9:D:92:ARG:HE	31:Z:47:A:H8	1.51	0.58
10:E:172:LYS:HD3	29:X:2508:G:OP2	2.03	0.58
11:F:34:ILE:O	11:F:37:PHE:HB3	2.04	0.58
12:G:42:VAL:HG13	12:G:168:THR:HG23	1.84	0.58
13:H:47:VAL:HG11	13:H:115:ALA:CB	2.34	0.58
13:H:116:ARG:HG3	13:H:116:ARG:NH1	2.19	0.58
13:H:23:ARG:HG2	13:H:23:ARG:HH21	1.66	0.58
14:I:80:LEU:HD21	14:I:97:ARG:NH2	2.18	0.58
18:M:104:LEU:O	18:M:105:TYR:C	2.40	0.58
23:R:27:GLY:O	23:R:30:LYS:HG2	2.03	0.58
24:S:25:ASN:OD1	24:S:27:GLU:N	2.37	0.58
25:T:36:ILE:HD11	29:X:2343:C:O2	2.04	0.58
27:V:42:ARG:NE	27:V:46:LEU:HD21	2.18	0.58
29:X:1108:U:H2'	29:X:1109:A:O4'	2.02	0.58
29:X:1322:G:O2'	29:X:1323:G:H5'	2.03	0.58
29:X:1409:U:H5''	29:X:1410:U:OP2	2.03	0.58
29:X:1524:C:H5''	29:X:1525:A:C8	2.36	0.58
29:X:826:U:C2	29:X:827:C:C5	2.90	0.58
29:X:861:G:C2'	29:X:862:A:H5'	2.32	0.58
29:X:930:A:O5'	29:X:930:A:H8	1.86	0.58
7:B:4:ILE:HG21	7:B:28:ALA:HB1	1.86	0.58
8:C:61:GLN:HA	8:C:61:GLN:NE2	2.18	0.58
11:F:101:TRP:HA	11:F:104:VAL:CG2	2.33	0.58
13:H:29:ILE:HA	13:H:34:LEU:HD23	1.85	0.58
17:L:52:ALA:O	17:L:53:ALA:CB	2.52	0.58
29:X:1002:C:N4	29:X:1003:C:H41	2.02	0.58
29:X:1105:U:N3	29:X:1107:A:H5''	2.18	0.58
29:X:1631:C:O2	29:X:1631:C:H2'	2.02	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:163:A:H2'	29:X:164:G:C8	2.38	0.58
29:X:175:C:C6	29:X:175:C:H3'	2.39	0.58
29:X:175:C:H6	29:X:175:C:H3'	1.67	0.58
29:X:204:A:N6	29:X:2386:G:C8	2.72	0.58
29:X:2301:A:C4	29:X:2302:G:C8	2.91	0.58
29:X:2609:G:H1'	29:X:2868:G:C4	2.38	0.58
29:X:476:G:C6	29:X:477:A:N6	2.72	0.58
29:X:810:U:H2'	29:X:811:G:O4'	2.03	0.58
30:Y:32:GLU:HG3	30:Y:37:HIS:O	2.03	0.58
6:A:200:GLU:OE2	6:A:201:HIS:N	2.36	0.58
6:A:244:ARG:CB	6:A:252:LYS:NZ	2.66	0.58
6:A:251:GLY:HA3	6:A:255:LYS:HZ1	1.69	0.58
8:C:130:THR:OG1	8:C:160:ALA:HA	2.04	0.58
12:G:51:LEU:CD1	12:G:88:VAL:HG21	2.33	0.58
17:L:29:LEU:HD13	17:L:75:LEU:HD21	1.85	0.58
20:O:79:GLN:HA	20:O:79:GLN:OE1	2.02	0.58
23:R:44:GLN:O	23:R:77:HIS:HA	2.04	0.58
29:X:1067:G:H21	29:X:1114:A:N6	1.94	0.58
29:X:1112:U:O2'	29:X:1113:C:H5'	2.03	0.58
29:X:196:A:O2'	29:X:197:G:H5'	2.04	0.58
29:X:2284:U:H2'	29:X:2285:U:H5''	1.85	0.58
29:X:2550:C:N4	29:X:2553:G:C8	2.72	0.58
29:X:542:A:H2	29:X:2004:U:C2'	2.05	0.58
31:Z:25:G:H2'	31:Z:26:G:C5	2.38	0.58
6:A:249:PRO:HD3	29:X:2218:G:H5'	1.85	0.58
6:A:79:VAL:HG12	6:A:79:VAL:O	2.02	0.58
9:D:52:LYS:HZ1	9:D:149:THR:HA	1.68	0.58
9:D:22:TYR:CD2	9:D:27:ALA:O	2.57	0.58
12:G:66:HIS:CD2	19:N:71:LEU:HD12	2.38	0.58
12:G:67:ARG:O	12:G:70:PHE:CG	2.57	0.58
13:H:23:ARG:C	13:H:23:ARG:HH21	2.06	0.58
17:L:15:ARG:HD2	17:L:91:ARG:HD3	1.84	0.58
25:T:21:LEU:CD1	25:T:41:ARG:HG2	2.34	0.58
27:V:38:ALA:O	27:V:40:PRO:HD3	2.02	0.58
29:X:1525:A:H3'	29:X:1526:U:C6	2.37	0.58
29:X:1698:C:O2'	29:X:1753:A:C2'	2.51	0.58
29:X:222:G:O2'	29:X:223:C:H5'	2.04	0.58
29:X:2266:A:C2	29:X:2325:A:N7	2.71	0.58
29:X:2358:C:H2'	29:X:2359:U:H6	1.69	0.58
29:X:2448:A:H61	29:X:2460:G:H1'	1.68	0.58
10:E:172:LYS:HE2	29:X:2508:G:OP2	2.02	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2836:U:O2'	29:X:2837:G:H5'	2.03	0.58
29:X:357:A:H3'	29:X:358:C:H6	1.67	0.58
8:C:40:ARG:NH2	29:X:39:C:O2	2.36	0.58
29:X:542:A:H5'	29:X:543:G:O4'	2.04	0.58
29:X:639:G:O5'	29:X:639:G:H8	1.87	0.58
29:X:649:G:N1	29:X:660:G:N1	2.52	0.58
31:Z:31:A:H2'	31:Z:32:C:C6	2.39	0.58
6:A:247:VAL:HG23	6:A:248:THR:N	2.19	0.58
7:B:42:ASP:OD2	29:X:2764:U:H4'	2.04	0.58
7:B:47:VAL:O	7:B:80:GLU:HA	2.04	0.58
9:D:13:ARG:CB	9:D:14:PRO:HD3	2.32	0.58
13:H:133:VAL:HG12	13:H:133:VAL:O	2.03	0.58
13:H:5:GLN:HG3	29:X:1685:A:OP1	2.03	0.58
24:S:21:ALA:HB2	24:S:81:VAL:HB	1.86	0.58
27:V:50:VAL:O	27:V:53:LEU:HB2	2.03	0.58
29:X:977:G:O4'	29:X:2246:A:N6	2.37	0.58
29:X:2511:G:H2'	29:X:2512:A:H8	1.68	0.58
29:X:2725:C:H2'	29:X:2726:U:C6	2.39	0.58
29:X:2819:G:H2'	29:X:2820:C:H6	1.68	0.58
29:X:530:G:H2'	29:X:531:G:H8	1.68	0.58
29:X:540:G:N2	29:X:2005:U:OP1	2.37	0.58
4:4:1:MET:H1	29:X:2505:G:C2'	2.17	0.58
6:A:247:VAL:CG2	6:A:248:THR:N	2.67	0.58
6:A:46:ARG:HD3	6:A:47:GLY:N	2.19	0.58
8:C:45:THR:HG22	8:C:47:THR:OG1	2.03	0.58
10:E:171:LEU:HD12	10:E:171:LEU:N	2.19	0.58
12:G:82:VAL:HB	12:G:150:VAL:HG13	1.86	0.58
20:O:54:TYR:N	20:O:54:TYR:CD1	2.71	0.58
24:S:100:THR:CG2	24:S:138:VAL:HG11	2.34	0.58
26:U:31:GLY:CA	26:U:32:ARG:HH11	2.17	0.58
29:X:1868:A:H2'	29:X:1869:A:O4'	2.03	0.58
29:X:2081:U:H2'	29:X:2082:C:H6	1.69	0.58
29:X:2265:A:H4'	29:X:2266:A:C5'	2.33	0.58
29:X:2829:A:H2'	29:X:2830:U:C6	2.39	0.58
29:X:689:A:C2'	29:X:690:A:H5'	2.34	0.58
29:X:2039:G:O2'	30:Y:8:LYS:HE2	2.04	0.58
8:C:180:ILE:HG23	8:C:181:LEU:N	2.16	0.57
9:D:39:GLY:HA2	9:D:86:GLY:HA2	1.86	0.57
13:H:114:VAL:HG22	13:H:133:VAL:HG22	1.86	0.57
13:H:41:ASN:ND2	13:H:41:ASN:N	2.45	0.57
14:I:28:LYS:HD2	14:I:36:GLY:HA3	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:43:GLU:OE1	16:K:44:LEU:HA	2.03	0.57
18:M:94:VAL:O	18:M:95:GLU:HB3	2.03	0.57
20:O:11:GLN:HA	20:O:38:LEU:O	2.04	0.57
23:R:90:LYS:HB2	23:R:108:VAL:CG1	2.33	0.57
24:S:75:LYS:C	24:S:77:ALA:H	2.05	0.57
29:X:1071:U:H5'	29:X:1072:U:OP1	2.04	0.57
29:X:1174:G:C2	29:X:1175:A:C5	2.92	0.57
29:X:1294:G:H2'	29:X:1295:U:H6	1.69	0.57
29:X:1425:G:O2'	29:X:1426:U:H5'	2.04	0.57
29:X:538:A:H2'	29:X:2025:A:C2	2.39	0.57
29:X:205:A:H2'	29:X:206:U:H5'	1.86	0.57
29:X:2691:C:C2'	29:X:2692:A:C5'	2.82	0.57
6:A:96:HIS:HE1	6:A:100:GLY:CA	2.17	0.57
6:A:257:LEU:HB3	29:X:1794:A:O3'	2.04	0.57
6:A:267:ASP:O	6:A:268:ARG:HD2	2.04	0.57
7:B:62:PRO:HG3	29:X:2767:C:H1'	1.84	0.57
8:C:129:LYS:O	8:C:130:THR:HB	2.03	0.57
9:D:103:LEU:HD11	9:D:108:LEU:HG	1.86	0.57
14:I:68:VAL:O	14:I:68:VAL:HG12	2.04	0.57
17:L:74:ALA:O	17:L:78:ALA:HB2	2.04	0.57
19:N:88:ILE:HG22	20:O:48:GLY:C	2.25	0.57
29:X:1598:C:H6	29:X:1598:C:O5'	1.87	0.57
29:X:833:A:C1'	29:X:954:U:O2'	2.50	0.57
29:X:994:A:O2'	29:X:995:A:OP1	2.21	0.57
6:A:164:GLN:HE22	6:A:166:GLN:NE2	2.01	0.57
6:A:99:ASP:OD1	29:X:1506:C:H2'	2.05	0.57
8:C:109:ALA:O	8:C:113:GLU:HG3	2.04	0.57
8:C:173:ALA:CB	8:C:193:LEU:HB2	2.35	0.57
8:C:48:ARG:C	8:C:50:GLN:N	2.57	0.57
9:D:85:VAL:HG23	9:D:86:GLY:N	2.19	0.57
10:E:43:VAL:CB	10:E:52:VAL:HA	2.30	0.57
12:G:150:VAL:CG1	12:G:151:TYR:N	2.68	0.57
13:H:22:ILE:HD11	29:X:1935:A:N3	2.18	0.57
15:J:113:GLU:HA	15:J:113:GLU:OE2	2.05	0.57
15:J:25:GLY:O	15:J:26:ASP:O	2.23	0.57
15:J:35:LEU:HD11	15:J:130:THR:HB	1.86	0.57
16:K:72:ASP:HB3	16:K:75:VAL:CG2	2.33	0.57
20:O:65:ARG:HG2	20:O:87:ARG:HD3	1.86	0.57
21:P:50:VAL:HG23	21:P:72:LEU:HD11	1.86	0.57
27:V:45:GLN:O	27:V:46:LEU:C	2.42	0.57
29:X:1310:C:H2'	29:X:1311:C:H6	1.67	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:174:A:H8	29:X:2051:U:N3	2.02	0.57
29:X:1979:C:C2'	29:X:1980:A:O4'	2.52	0.57
29:X:2237:C:H4'	29:X:2238:G:OP2	2.05	0.57
9:D:75:SER:HB2	29:X:2289:A:H2	1.68	0.57
7:B:203:LYS:HG2	29:X:2713:A:C6	2.39	0.57
29:X:558:G:N3	29:X:558:G:C4'	2.65	0.57
6:A:217:ARG:O	6:A:218:LYS:C	2.42	0.57
6:A:243:GLY:C	6:A:244:ARG:CZ	2.73	0.57
8:C:122:GLY:C	8:C:124:ASP:N	2.56	0.57
9:D:115:ARG:HD2	9:D:178:ARG:NH2	2.18	0.57
10:E:30:LYS:CB	10:E:79:VAL:HA	2.33	0.57
12:G:84:ASN:O	12:G:86:ALA:N	2.30	0.57
13:H:23:ARG:HH21	13:H:24:VAL:N	2.02	0.57
14:I:38:LYS:HZ3	14:I:38:LYS:HB3	1.69	0.57
17:L:42:ILE:HD11	17:L:87:VAL:CG1	2.34	0.57
18:M:44:ARG:HD2	18:M:46:ARG:NH2	2.19	0.57
18:M:46:ARG:CG	18:M:47:SER:N	2.63	0.57
23:R:8:SER:O	23:R:10:HIS:N	2.37	0.57
26:U:11:LYS:HZ1	26:U:75:TYR:HB2	1.69	0.57
29:X:1611:U:H2'	29:X:1612:U:O4'	2.03	0.57
29:X:16:G:C2	29:X:17:G:C8	2.92	0.57
29:X:1919:A:H1'	29:X:1923:U:N3	2.19	0.57
29:X:2197:U:C4	29:X:2198:U:O4	2.57	0.57
29:X:2372:A:H2'	29:X:2373:C:H6	1.69	0.57
29:X:2474:G:N2	29:X:2475:C:O2	2.37	0.57
29:X:417:C:C6	29:X:419:G:C8	2.93	0.57
29:X:596:C:C2	29:X:684:C:C1'	2.87	0.57
29:X:888:G:O2'	29:X:889:C:H5'	2.04	0.57
31:Z:15:A:H2	31:Z:71:G:N3	2.02	0.57
7:B:39:ALA:HA	7:B:44:TYR:N	2.18	0.57
9:D:122:PHE:HE2	9:D:129:ASN:O	1.88	0.57
13:H:3:MET:O	13:H:6:SER:CB	2.52	0.57
13:H:27:SER:CB	13:H:50:ILE:HG13	2.35	0.57
15:J:27:TYR:HB3	15:J:137:VAL:HG11	1.85	0.57
17:L:14:ARG:O	17:L:17:VAL:HG12	2.04	0.57
22:Q:63:LYS:HE3	22:Q:65:VAL:HA	1.86	0.57
27:V:13:ASP:HA	27:V:16:LYS:HB3	1.86	0.57
29:X:1354:A:C2'	29:X:1410:U:O2'	2.53	0.57
29:X:1463:A:H2'	29:X:1464:A:C8	2.39	0.57
29:X:1545:G:O2'	29:X:1546:C:H5'	2.04	0.57
29:X:1775:A:H4'	29:X:1776:A:C5'	2.34	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2009:U:H6	29:X:2009:U:H5'	1.70	0.57
29:X:2071:G:O2'	29:X:2072:C:H5'	2.04	0.57
29:X:2702:G:C6	29:X:2703:C:N3	2.72	0.57
29:X:590:C:H2'	29:X:591:G:C8	2.38	0.57
30:Y:19:ARG:HG3	30:Y:20:ARG:N	2.20	0.57
14:I:22:GLY:HA2	29:X:674:U:H1'	1.84	0.57
14:I:30:ALA:H	14:I:34:HIS:CD2	2.22	0.57
14:I:76:LYS:HE3	14:I:111:SER:CB	2.35	0.57
14:I:82:ASP:N	14:I:114:ILE:HG21	2.20	0.57
24:S:103:ARG:HD3	24:S:108:VAL:HG23	1.87	0.57
26:U:49:LYS:HD3	26:U:61:TRP:CG	2.39	0.57
29:X:1343:C:H2'	29:X:1344:C:H6	1.69	0.57
29:X:2081:U:H3	29:X:2174:G:H1	1.52	0.57
29:X:2265:A:C2	29:X:2325:A:N7	2.73	0.57
29:X:2483:U:H6	29:X:2483:U:O5'	1.87	0.57
29:X:937:C:H2'	29:X:938:G:O4'	2.04	0.57
9:D:92:ARG:NH2	31:Z:47:A:OP1	2.37	0.57
9:D:79:LEU:HD21	29:X:2289:A:C2	2.40	0.57
10:E:9:ILE:HD12	10:E:51:LEU:N	2.20	0.57
14:I:130:ILE:O	14:I:133:VAL:HG23	2.04	0.57
15:J:113:GLU:C	15:J:115:ALA:N	2.56	0.57
15:J:116:LYS:HG2	15:J:132:MET:HE1	1.85	0.57
15:J:77:LYS:O	15:J:88:LYS:NZ	2.36	0.57
18:M:5:ILE:HD12	18:M:5:ILE:O	2.04	0.57
19:N:66:ASN:HD22	19:N:70:ARG:CZ	2.17	0.57
22:Q:33:ALA:O	22:Q:34:THR:C	2.43	0.57
23:R:45:LYS:HA	23:R:76:LEU:O	2.04	0.57
24:S:75:LYS:C	24:S:77:ALA:N	2.58	0.57
28:W:5:LEU:HD12	28:W:50:LEU:O	2.03	0.57
29:X:1153:A:H5'	29:X:1153:A:C8	2.39	0.57
20:O:88:GLN:NE2	29:X:1173:G:N3	2.53	0.57
29:X:1886:G:H2'	29:X:1887:G:H8	1.70	0.57
29:X:208:C:H2'	29:X:209:G:H5'	1.86	0.57
29:X:2441:U:C2	29:X:2442:C:C5	2.93	0.57
7:B:154:LYS:CE	29:X:2598:C:H1'	2.34	0.57
29:X:303:C:H6	29:X:303:C:O5'	1.88	0.57
29:X:692:C:O2'	29:X:693:A:H5'	2.05	0.57
29:X:729:A:N3	29:X:730:C:OP2	2.38	0.57
31:Z:63:A:O2'	31:Z:64:C:H5'	2.04	0.57
6:A:43:ARG:NH1	6:A:43:ARG:N	2.51	0.57
10:E:77:LYS:HA	10:E:80:SER:HB3	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:91:VAL:HG12	18:M:92:THR:N	2.18	0.57
19:N:66:ASN:HB2	19:N:76:TYR:H	1.70	0.57
20:O:5:ILE:CG2	20:O:10:LYS:HE2	2.35	0.57
26:U:31:GLY:HA2	26:U:32:ARG:CZ	2.35	0.57
29:X:1194:U:H2'	29:X:1195:U:H6	1.68	0.57
29:X:1573:G:C3'	29:X:1574:A:H5''	2.31	0.57
6:A:214:TRP:CD1	29:X:1582:A:O4'	2.57	0.57
25:T:24:LYS:HE3	29:X:2334:C:O2'	2.05	0.57
8:C:42:THR:HB	29:X:454:G:H21	1.69	0.57
29:X:538:A:H4'	29:X:539:A:OP1	2.04	0.57
29:X:813:A:C4'	29:X:814:G:O5'	2.53	0.57
8:C:108:ILE:O	8:C:111:ARG:HB2	2.04	0.57
9:D:119:PRO:CG	9:D:120:ASN:H	2.15	0.57
11:F:26:ALA:C	11:F:27:LEU:HD12	2.25	0.57
15:J:111:THR:HG23	15:J:114:GLN:HB2	1.86	0.57
24:S:148:THR:HB	24:S:164:PRO:O	2.04	0.57
25:T:32:LYS:N	25:T:35:ASN:ND2	2.51	0.57
26:U:27:ASP:N	26:U:32:ARG:HH21	2.03	0.57
28:W:12:ARG:HH11	28:W:12:ARG:CG	2.17	0.57
28:W:27:LYS:O	28:W:28:ILE:C	2.38	0.57
28:W:42:GLY:HA3	29:X:864:C:O2'	2.05	0.57
29:X:124:A:H2'	29:X:125:A:C8	2.40	0.57
29:X:13:A:O2'	29:X:15:G:N7	2.36	0.57
29:X:547:U:H2'	29:X:548:G:H8	1.68	0.57
31:Z:53:G:N2	31:Z:54:U:C5	2.67	0.57
6:A:211:ARG:NH1	29:X:1582:A:OP1	2.37	0.57
7:B:188:ILE:HG22	7:B:189:PRO:HD2	1.83	0.57
8:C:56:ARG:HA	8:C:71:ASP:OD2	2.05	0.57
8:C:47:THR:HG23	8:C:84:PHE:N	2.20	0.57
9:D:4:LEU:HD12	9:D:5:LYS:H	1.69	0.57
12:G:61:ARG:NH2	12:G:78:ASP:OD2	2.33	0.57
15:J:116:LYS:HZ1	15:J:132:MET:HB3	1.70	0.57
15:J:21:ASP:HA	15:J:99:LYS:HE3	1.86	0.57
29:X:1552:C:H1'	29:X:1553:G:N3	2.20	0.57
17:L:95:LYS:HD2	29:X:2273:C:H5'	1.86	0.57
29:X:2434:G:H2'	29:X:2435:C:C6	2.40	0.57
29:X:324:C:H2'	29:X:325:U:O4'	2.04	0.57
6:A:258:LYS:HZ1	6:A:261:ARG:HE	1.51	0.56
6:A:258:LYS:NZ	6:A:261:ARG:HH21	2.03	0.56
7:B:108:SER:OG	7:B:163:GLU:N	2.38	0.56
8:C:116:LYS:O	8:C:117:LEU:HB2	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:40:LEU:HA	9:D:150:ARG:NH2	2.20	0.56
10:E:18:ASN:HB2	10:E:25:LYS:CB	2.32	0.56
11:F:100:ASN:HB3	11:F:103:GLN:OE1	2.05	0.56
13:H:7:ARG:NH1	13:H:20:MET:CE	2.68	0.56
13:H:16:ALA:HA	13:H:58:ALA:HA	1.87	0.56
14:I:72:TYR:CD2	14:I:107:LYS:HB2	2.40	0.56
14:I:126:SER:OG	14:I:129:ALA:HB2	2.05	0.56
14:I:76:LYS:HB3	14:I:79:GLN:HG2	1.86	0.56
14:I:7:LYS:O	14:I:7:LYS:HG2	2.05	0.56
15:J:123:GLY:HA2	15:J:126:LEU:HD12	1.86	0.56
15:J:19:THR:CG2	15:J:99:LYS:NZ	2.68	0.56
16:K:45:ARG:HB3	16:K:46:PRO:CD	2.35	0.56
18:M:104:LEU:O	18:M:106:TYR:N	2.38	0.56
24:S:13:LYS:NZ	24:S:18:MET:O	2.38	0.56
26:U:46:LEU:C	26:U:47:HIS:CG	2.77	0.56
29:X:1004:A:C5	29:X:1005:U:H5	2.22	0.56
29:X:1770:U:O2	29:X:1774:A:C5	2.58	0.56
29:X:1997:A:C2	29:X:1998:A:C2	2.93	0.56
7:B:146:THR:HG23	29:X:2015:G:H21	1.70	0.56
29:X:2081:U:H2'	29:X:2082:C:O4'	2.04	0.56
29:X:2210:C:C2	29:X:2211:U:C6	2.92	0.56
29:X:2271:C:H2'	29:X:2272:A:H8	1.70	0.56
29:X:328:A:H2'	29:X:329:C:H6	1.70	0.56
29:X:580:A:O2'	29:X:582:G:OP2	2.23	0.56
6:A:214:TRP:CH2	29:X:777:A:OP2	2.58	0.56
4:4:24:LEU:HD12	4:4:24:LEU:N	2.20	0.56
6:A:252:LYS:CE	6:A:253:PRO:HD2	2.35	0.56
6:A:258:LYS:HZ2	6:A:261:ARG:HE	1.49	0.56
9:D:108:LEU:HB3	9:D:114:PHE:CZ	2.39	0.56
9:D:52:LYS:NZ	9:D:149:THR:HA	2.20	0.56
9:D:92:ARG:HG3	9:D:92:ARG:HH21	1.70	0.56
10:E:65:HIS:C	10:E:67:LEU:H	2.08	0.56
10:E:6:LYS:HB3	10:E:69:ARG:CD	2.35	0.56
15:J:75:VAL:HG21	15:J:93:TYR:HE2	1.69	0.56
17:L:28:ARG:HH22	31:Z:10:U:C3'	2.18	0.56
17:L:37:HIS:O	17:L:37:HIS:ND1	2.38	0.56
19:N:47:TYR:C	19:N:47:TYR:CD2	2.79	0.56
21:P:134:LYS:HG2	21:P:134:LYS:OXT	2.05	0.56
23:R:96:LYS:O	23:R:104:VAL:HA	2.05	0.56
23:R:96:LYS:HG3	23:R:97:GLN:H	1.70	0.56
29:X:1276:U:H1'	30:Y:10:LYS:HG3	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1466:C:C2'	29:X:1467:U:O4'	2.53	0.56
29:X:1734:C:C4	29:X:1735:G:H1'	2.41	0.56
29:X:1770:U:H5	29:X:1775:A:N7	2.03	0.56
29:X:242:A:H61	29:X:440:U:C2'	2.18	0.56
29:X:2526:U:H2'	29:X:2527:G:H8	1.68	0.56
29:X:2691:C:OP1	29:X:2694:G:H4'	2.05	0.56
29:X:2792:C:C2	29:X:2805:G:N2	2.73	0.56
29:X:2819:G:H2'	29:X:2820:C:C6	2.40	0.56
29:X:1:G:H2'	29:X:2:G:C8	2.39	0.56
29:X:305:A:H2'	29:X:306:G:H5'	1.86	0.56
29:X:341:A:C2	29:X:1223:G:H2'	2.39	0.56
29:X:529:U:C2	29:X:530:G:C8	2.94	0.56
29:X:603:C:O2	29:X:603:C:H2'	2.05	0.56
29:X:614:G:O2'	29:X:615:C:H5'	2.05	0.56
29:X:754:G:C6	29:X:755:C:N4	2.73	0.56
8:C:130:THR:O	8:C:134:ILE:HG13	2.03	0.56
9:D:12:VAL:HG22	9:D:172:SER:OG	2.05	0.56
11:F:19:PRO:HG2	11:F:20:ALA:H	1.70	0.56
11:F:83:GLY:O	11:F:84:ILE:HG13	2.05	0.56
15:J:117:GLU:O	15:J:121:LEU:HG	2.05	0.56
15:J:80:ALA:HB1	15:J:81:GLU:OE1	2.05	0.56
15:J:21:ASP:CA	15:J:99:LYS:HG3	2.30	0.56
16:K:96:ARG:HD2	16:K:114:GLU:OE2	2.05	0.56
16:K:7:GLY:O	16:K:8:ARG:HG2	2.04	0.56
19:N:93:LYS:O	19:N:93:LYS:HD2	2.05	0.56
19:N:93:LYS:O	19:N:94:VAL:CB	2.52	0.56
20:O:42:GLY:O	20:O:43:GLU:HB2	2.04	0.56
22:Q:61:LYS:HD3	22:Q:72:ARG:NH2	2.20	0.56
22:Q:88:ILE:HD12	22:Q:88:ILE:O	2.05	0.56
23:R:80:LYS:O	23:R:80:LYS:CE	2.52	0.56
28:W:49:HIS:CE1	28:W:50:LEU:HG	2.39	0.56
29:X:1465:G:H2'	29:X:1466:C:C6	2.41	0.56
29:X:2203:G:H4'	29:X:2205:C:C2	2.39	0.56
29:X:2264:C:N4	29:X:2325:A:H2	2.02	0.56
29:X:2426:G:HO2'	29:X:2427:A:P	2.28	0.56
29:X:2463:G:O2'	29:X:2464:G:H5'	2.04	0.56
29:X:2564:U:H5'	29:X:2565:C:OP1	2.06	0.56
29:X:2:G:H2'	29:X:3:U:H6	1.70	0.56
29:X:313:U:O2'	29:X:314:G:H5'	2.06	0.56
29:X:340:G:OP2	29:X:340:G:H8	1.87	0.56
29:X:648:A:H5''	29:X:649:G:OP1	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:874:A:H2'	29:X:875:G:O4'	2.05	0.56
31:Z:16:U:C1'	31:Z:109:G:H21	2.15	0.56
9:D:66:ILE:HG13	31:Z:44:C:O4'	2.05	0.56
6:A:244:ARG:C	6:A:252:LYS:NZ	2.58	0.56
6:A:44:ASN:N	6:A:44:ASN:HD22	2.00	0.56
8:C:162:ARG:NH1	29:X:333:A:C8	2.73	0.56
11:F:10:LEU:N	11:F:10:LEU:HD23	2.19	0.56
12:G:119:LEU:HD13	12:G:126:VAL:HG22	1.87	0.56
13:H:2:ILE:HD12	13:H:8:LEU:HD21	1.87	0.56
18:M:13:LEU:CD1	18:M:13:LEU:N	2.69	0.56
19:N:96:ALA:O	19:N:99:ALA:HB3	2.05	0.56
23:R:16:PHE:HZ	23:R:46:VAL:HG22	1.71	0.56
24:S:30:VAL:HB	24:S:32:PHE:CZ	2.41	0.56
25:T:23:VAL:HG13	25:T:38:VAL:CG2	2.35	0.56
25:T:44:LYS:HE3	25:T:45:PHE:CE1	2.40	0.56
29:X:1002:C:N3	29:X:1003:C:C5	2.73	0.56
29:X:1509:A:H2'	29:X:1510:A:H5'	1.87	0.56
29:X:1514:C:C4'	29:X:1593:C:H5'	2.35	0.56
29:X:1926:U:C1'	29:X:1928:G:H5'	2.35	0.56
29:X:242:A:O2'	29:X:243:G:H4'	2.05	0.56
29:X:2553:G:H2'	29:X:2554:C:H6	1.70	0.56
29:X:2627:G:O2'	29:X:2628:C:H5'	2.05	0.56
10:E:143:GLN:CG	29:X:2725:C:O2'	2.53	0.56
29:X:431:G:H2'	29:X:432:C:H6	1.70	0.56
29:X:531:G:H2'	29:X:532:A:C8	2.41	0.56
6:A:254:THR:O	29:X:1836:C:H5'	2.06	0.56
7:B:152:LYS:H	12:G:106:TYR:CB	2.18	0.56
8:C:47:THR:HB	8:C:48:ARG:HD2	1.87	0.56
10:E:149:ARG:HG2	10:E:149:ARG:NH2	2.17	0.56
10:E:95:ARG:NH1	10:E:97:LYS:NZ	2.54	0.56
14:I:73:GLU:OE2	14:I:105:PRO:O	2.23	0.56
15:J:15:ARG:CD	15:J:73:LYS:HG3	2.36	0.56
21:P:25:PHE:HA	21:P:127:ILE:HG12	1.88	0.56
21:P:50:VAL:O	21:P:54:GLU:HG3	2.06	0.56
24:S:125:PRO:HA	24:S:158:CYS:SG	2.45	0.56
25:T:45:PHE:HZ	25:T:77:ARG:NH2	2.04	0.56
29:X:1933:G:C8	29:X:1934:U:C5	2.93	0.56
29:X:21:A:C6	29:X:530:G:C6	2.94	0.56
23:R:9:HIS:CG	29:X:338:G:H4'	2.41	0.56
29:X:553:C:H2'	29:X:557:U:C5	2.41	0.56
29:X:782:U:O2'	29:X:783:G:H5'	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:154:LYS:NZ	7:B:156:MET:CE	2.68	0.56
8:C:46:ARG:O	8:C:47:THR:C	2.43	0.56
9:D:124:GLY:HA2	9:D:163:ASP:OD2	2.05	0.56
10:E:64:LEU:HA	10:E:67:LEU:HB2	1.88	0.56
10:E:84:THR:CB	10:E:134:SER:HA	2.36	0.56
11:F:27:LEU:CD2	11:F:57:ILE:HD12	2.34	0.56
17:L:38:ILE:CD1	17:L:39:TYR:N	2.67	0.56
23:R:17:LYS:C	23:R:19:GLY:H	2.09	0.56
23:R:25:LEU:HD13	23:R:25:LEU:O	2.05	0.56
29:X:1001:A:H1'	29:X:1167:A:C2	2.39	0.56
11:F:133:SER:HB3	29:X:1073:G:H21	1.70	0.56
29:X:1162:A:H2'	29:X:1163:C:H6	1.70	0.56
29:X:1802:A:O2'	29:X:1803:G:H5'	2.05	0.56
29:X:2299:A:N3	29:X:2299:A:H2'	2.20	0.56
29:X:47:G:N3	29:X:48:A:H2	2.03	0.56
6:A:226:MET:CE	6:A:230:ASP:HB3	2.36	0.56
6:A:265:THR:C	6:A:267:ASP:H	2.06	0.56
9:D:8:TYR:HA	9:D:173:MET:SD	2.45	0.56
11:F:103:GLN:O	11:F:107:ILE:HG13	2.05	0.56
12:G:61:ARG:NE	12:G:65:LYS:CD	2.57	0.56
18:M:55:ILE:HD11	18:M:67:THR:HG22	1.88	0.56
23:R:93:ARG:HH22	23:R:108:VAL:CG1	2.19	0.56
23:R:23:ILE:HD12	23:R:81:VAL:O	2.05	0.56
24:S:72:ASP:OD1	24:S:75:LYS:HD2	2.06	0.56
27:V:2:LYS:HA	27:V:6:MET:CE	2.35	0.56
29:X:1053:G:C4	29:X:1054:C:C6	2.93	0.56
29:X:824:U:O2	29:X:1263:G:H3'	2.05	0.56
21:P:108:PRO:CG	29:X:1631:C:H1'	2.30	0.56
29:X:1856:U:H3	29:X:1861:G:H1	1.54	0.56
29:X:1938:U:O3'	29:X:1939:U:H6	1.89	0.56
29:X:1949:A:O2'	29:X:2572:U:H5'	2.06	0.56
29:X:203:G:C2	29:X:204:A:C2	2.93	0.56
29:X:2672:U:O2'	29:X:2673:G:H5'	2.06	0.56
29:X:796:A:H4'	29:X:2567:G:H4'	1.86	0.56
29:X:876:A:H2'	29:X:877:G:C8	2.41	0.56
4:4:1:MET:CE	4:4:33:LYS:HB3	2.36	0.56
8:C:112:GLN:HA	8:C:116:LYS:HB3	1.87	0.56
9:D:13:ARG:CZ	9:D:14:PRO:CG	2.79	0.56
10:E:54:ARG:HE	10:E:57:ASP:CB	2.18	0.56
10:E:97:LYS:O	10:E:98:LEU:CB	2.53	0.56
12:G:33:ILE:CD1	12:G:34:PRO:N	2.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:35:LYS:N	12:G:69:ASP:OD2	2.39	0.56
13:H:25:LEU:HD11	13:H:52:VAL:HG23	1.88	0.56
14:I:116:ARG:HG2	14:I:117:ALA:N	2.20	0.56
15:J:19:THR:HG23	15:J:20:GLY:N	2.20	0.56
15:J:79:PRO:O	15:J:80:ALA:HB2	2.05	0.56
24:S:94:VAL:O	24:S:121:GLN:HG3	2.05	0.56
29:X:109:A:C3'	29:X:110:U:H5''	2.36	0.56
29:X:1815:G:O2'	29:X:1816:G:H5'	2.05	0.56
29:X:1835:C:O5'	29:X:1835:C:H6	1.89	0.56
29:X:1965:U:H2'	29:X:1966:C:C6	2.40	0.56
29:X:2395:C:O2'	29:X:2396:C:H5''	2.05	0.56
29:X:2493:U:N3	29:X:2494:C:C4	2.74	0.56
6:A:131:LEU:H	6:A:131:LEU:HD23	1.70	0.56
6:A:142:VAL:CG1	6:A:193:ILE:HD13	2.36	0.56
6:A:213:ARG:C	6:A:215:LEU:H	2.10	0.56
7:B:136:ARG:NH1	7:B:136:ARG:HG2	2.19	0.56
8:C:153:ASP:C	8:C:154:ASP:OD1	2.44	0.56
9:D:69:LYS:HE2	9:D:84:PRO:CG	2.25	0.56
10:E:30:LYS:HG3	10:E:78:GLY:O	2.06	0.56
10:E:54:ARG:NE	10:E:57:ASP:OD2	2.38	0.56
11:F:103:GLN:O	11:F:106:GLU:HG2	2.05	0.56
15:J:77:LYS:O	15:J:79:PRO:HD3	2.06	0.56
17:L:29:LEU:HA	17:L:41:GLN:O	2.06	0.56
19:N:66:ASN:HD22	19:N:70:ARG:NH2	2.03	0.56
21:P:67:PRO:C	21:P:69:ALA:H	2.09	0.56
22:Q:62:ARG:NH1	22:Q:73:ASN:ND2	2.54	0.56
24:S:36:ARG:O	24:S:40:ASP:OD2	2.23	0.56
25:T:34:GLY:HA3	29:X:2332:G:H1'	1.88	0.56
29:X:1107:A:H3'	29:X:1108:U:C5'	2.35	0.56
29:X:1339:U:OP2	29:X:1339:U:H6	1.88	0.56
29:X:1368:G:C4	29:X:1369:G:C8	2.94	0.56
29:X:1675:C:H2'	29:X:1676:U:C6	2.41	0.56
6:A:261:ARG:HH22	29:X:1790:G:C5'	2.19	0.56
29:X:2047:C:H2'	29:X:2048:C:C6	2.41	0.56
8:C:40:ARG:HH22	29:X:452:G:N2	2.04	0.56
29:X:537:C:O2'	29:X:538:A:N3	2.39	0.56
29:X:621:U:H2'	29:X:622:U:C6	2.41	0.56
6:A:141:VAL:HG22	6:A:164:GLN:HB3	1.87	0.56
6:A:184:ARG:HH21	6:A:268:ARG:HH11	1.53	0.56
8:C:161:ALA:HB3	8:C:169:VAL:CG2	2.36	0.56
10:E:45:GLN:HA	10:E:50:LEU:HG	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:84:THR:HB	10:E:134:SER:HA	1.87	0.56
11:F:129:GLY:HA3	29:X:1090:C:O2	2.05	0.56
12:G:64:GLY:HA3	12:G:67:ARG:CG	2.36	0.56
12:G:64:GLY:HA3	12:G:67:ARG:HG3	1.87	0.56
13:H:47:VAL:O	13:H:117:GLU:OE2	2.23	0.56
19:N:40:LEU:O	19:N:43:ALA:HB3	2.06	0.56
22:Q:7:LEU:CD2	22:Q:7:LEU:C	2.71	0.56
23:R:105:ARG:NH1	23:R:113:THR:H	2.04	0.56
23:R:25:LEU:HD22	23:R:26:SER:N	2.21	0.56
24:S:13:LYS:HA	24:S:16:GLU:HB2	1.87	0.56
24:S:19:ILE:HG12	24:S:36:ARG:CA	2.20	0.56
26:U:10:LYS:NZ	26:U:70:LEU:HG	2.20	0.56
29:X:1058:G:C4	29:X:1121:G:C6	2.94	0.56
29:X:10:A:H2'	29:X:11:G:C8	2.41	0.56
29:X:1623:C:H4'	29:X:1624:A:O5'	2.05	0.56
29:X:1979:C:O2'	29:X:1980:A:P	2.64	0.56
29:X:2190:A:H8	29:X:2191:A:OP2	1.89	0.56
29:X:2379:G:C2'	29:X:2380:U:H5'	2.35	0.56
8:C:162:ARG:CD	29:X:333:A:C5'	2.80	0.56
29:X:401:G:H5'	29:X:402:A:OP2	2.05	0.56
29:X:409:G:O2'	29:X:410:A:H5'	2.05	0.56
29:X:765:C:N4	29:X:1772:C:O2	2.39	0.56
29:X:75:C:C2'	29:X:76:C:H5''	2.35	0.56
29:X:830:C:H2'	29:X:831:G:C8	2.41	0.56
29:X:874:A:H2	31:Z:80:A:H2	1.53	0.56
29:X:1275:A:N3	30:Y:10:LYS:HE2	2.21	0.56
30:Y:19:ARG:C	30:Y:21:SER:H	2.09	0.56
31:Z:4:C:C6	31:Z:4:C:H3'	2.41	0.56
7:B:88:GLY:O	7:B:89:ASP:OD1	2.23	0.56
8:C:136:TRP:C	8:C:140:ASN:HD22	2.10	0.56
8:C:58:MET:SD	8:C:69:HIS:HB2	2.46	0.56
10:E:137:ASP:O	10:E:141:VAL:HG23	2.06	0.56
12:G:128:GLU:O	12:G:145:HIS:CE1	2.58	0.56
12:G:67:ARG:O	12:G:70:PHE:CD1	2.59	0.56
12:G:92:GLY:C	12:G:93:LYS:HE2	2.25	0.56
13:H:60:PRO:O	13:H:61:ARG:HB2	2.05	0.56
13:H:75:VAL:HA	13:H:118:LEU:HD11	1.87	0.56
14:I:71:THR:O	14:I:104:ARG:HD3	2.05	0.56
15:J:136:GLU:HA	15:J:138:TYR:CE2	2.41	0.56
18:M:55:ILE:O	18:M:103:LYS:O	2.23	0.56
21:P:108:PRO:HG2	29:X:1631:C:N1	2.20	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:27:VAL:HB	21:P:125:THR:CG2	2.36	0.56
24:S:75:LYS:O	24:S:77:ALA:N	2.39	0.56
25:T:40:GLN:NE2	25:T:42:GLY:O	2.39	0.56
29:X:829:C:C2	29:X:1206:G:N2	2.74	0.56
29:X:1320:A:H2'	29:X:1321:A:O4'	2.06	0.56
29:X:1921:A:HO2'	29:X:1922:U:P	2.27	0.56
29:X:1979:C:O2'	29:X:1980:A:C4'	2.54	0.56
29:X:2074:U:OP2	29:X:2075:U:H3'	2.05	0.56
26:U:46:LEU:HB2	29:X:2209:G:H5''	1.88	0.56
29:X:233:A:O2'	29:X:234:C:H5'	2.06	0.56
29:X:759:C:H6	29:X:759:C:C5'	2.17	0.56
31:Z:112:A:H2'	31:Z:113:G:H8	1.69	0.56
29:X:931:G:H4'	31:Z:83:C:C4'	2.35	0.56
6:A:227:ASN:HD21	29:X:797:A:H5''	1.71	0.55
9:D:135:GLN:O	9:D:141:ILE:HG13	2.05	0.55
9:D:163:ASP:O	9:D:166:ALA:HB3	2.05	0.55
9:D:46:ASP:HB3	9:D:48:LYS:HG3	1.87	0.55
12:G:55:ALA:HB1	12:G:134:MET:CE	2.34	0.55
14:I:83:LEU:O	14:I:84:GLU:HB2	2.05	0.55
17:L:107:ALA:C	17:L:109:GLU:H	2.10	0.55
19:N:74:MET:HE2	19:N:78:THR:HG22	1.86	0.55
19:N:40:LEU:HB3	20:O:74:TYR:CE2	2.41	0.55
14:I:33:GLY:HA2	20:O:79:GLN:HG3	1.88	0.55
20:O:82:ARG:HA	29:X:827:C:OP1	2.05	0.55
29:X:1662:G:H5''	29:X:1663:C:H5'	1.88	0.55
29:X:333:A:C2'	29:X:350:U:O2	2.54	0.55
19:N:28:ARG:HD2	29:X:543:G:OP1	2.06	0.55
29:X:558:G:O4'	29:X:558:G:P	2.64	0.55
6:A:231:HIS:C	6:A:231:HIS:CD2	2.79	0.55
6:A:58:HIS:O	6:A:59:LYS:CB	2.55	0.55
8:C:136:TRP:CD1	8:C:137:ALA:N	2.74	0.55
8:C:166:TRP:N	8:C:166:TRP:HE3	2.01	0.55
8:C:90:SER:O	8:C:91:TYR:C	2.44	0.55
9:D:80:ARG:HG2	9:D:81:GLN:N	2.21	0.55
5:5:14:MH6:N	11:F:25:PRO:HG3	2.21	0.55
14:I:108:LEU:CB	14:I:122:VAL:HG11	2.19	0.55
14:I:81:GLN:HB3	14:I:114:ILE:HG22	1.88	0.55
15:J:78:LYS:HG2	15:J:78:LYS:O	2.04	0.55
17:L:102:ALA:O	17:L:103:LEU:C	2.44	0.55
17:L:89:PHE:CZ	29:X:2356:A:N3	2.74	0.55
18:M:104:LEU:HB3	18:M:107:LEU:HD12	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:6:LYS:CD	18:M:6:LYS:N	2.59	0.55
19:N:36:PHE:O	19:N:39:LEU:HB2	2.06	0.55
20:O:40:VAL:CG1	20:O:45:THR:HA	2.22	0.55
20:O:86:HIS:CG	20:O:87:ARG:N	2.74	0.55
21:P:44:VAL:HG21	21:P:60:ILE:CD1	2.36	0.55
21:P:91:PHE:CD1	21:P:131:LYS:HB2	2.41	0.55
23:R:93:ARG:CZ	23:R:108:VAL:HA	2.37	0.55
23:R:92:THR:C	23:R:95:ARG:HH22	2.09	0.55
25:T:56:ASP:OD2	25:T:58:THR:OG1	2.24	0.55
27:V:42:ARG:HE	27:V:46:LEU:HD21	1.71	0.55
29:X:1073:G:H2'	29:X:1074:G:C8	2.41	0.55
29:X:560:G:O2'	29:X:1233:A:N3	2.33	0.55
29:X:1648:C:H5'	29:X:1648:C:C6	2.40	0.55
29:X:2065:A:H2'	29:X:2066:G:O4'	2.06	0.55
29:X:2082:C:H2'	29:X:2083:G:C5'	2.36	0.55
29:X:2323:U:O2'	29:X:2324:G:C5'	2.53	0.55
29:X:2812:A:H2'	29:X:2813:G:C8	2.42	0.55
29:X:387:A:H2'	29:X:387:A:N3	2.22	0.55
29:X:558:G:H8	29:X:559:C:C5	2.21	0.55
29:X:632:A:C2	29:X:633:G:C4	2.94	0.55
29:X:749:C:H2'	29:X:750:C:H6	1.71	0.55
29:X:765:C:C4	29:X:1772:C:H1'	2.42	0.55
6:A:218:LYS:HD2	6:A:219:PRO:O	2.06	0.55
7:B:179:GLU:O	7:B:181:LEU:N	2.39	0.55
8:C:149:LEU:HD12	8:C:168:SER:O	2.07	0.55
9:D:148:LYS:HG3	9:D:149:THR:N	2.11	0.55
11:F:53:ILE:HG12	11:F:72:PRO:CB	2.29	0.55
13:H:116:ARG:HA	13:H:133:VAL:HG13	1.88	0.55
17:L:38:ILE:HG12	17:L:71:VAL:HG21	1.87	0.55
21:P:14:ARG:CA	21:P:17:GLN:HG2	2.32	0.55
23:R:95:ARG:HG3	23:R:105:ARG:O	2.05	0.55
24:S:120:LEU:CD2	24:S:121:GLN:N	2.67	0.55
24:S:42:ALA:O	24:S:44:ARG:N	2.40	0.55
27:V:13:ASP:O	27:V:17:GLU:N	2.38	0.55
29:X:127:C:O2'	29:X:128:C:H5'	2.07	0.55
29:X:1391:A:N7	29:X:1393:G:C5	2.74	0.55
29:X:169:C:H2'	29:X:170:U:C5'	2.32	0.55
29:X:1770:U:C5	29:X:1775:A:N7	2.74	0.55
29:X:2203:G:H4'	29:X:2205:C:O2	2.07	0.55
29:X:2229:G:O2'	29:X:2230:G:OP2	2.25	0.55
29:X:2397:A:H2'	29:X:2398:U:O4'	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:638:A:C6	29:X:648:A:C8	2.94	0.55
29:X:810:U:C6	29:X:810:U:H3'	2.41	0.55
29:X:957:G:H2'	29:X:958:G:H8	1.72	0.55
29:X:976:C:O2'	29:X:977:G:H5'	2.06	0.55
6:A:126:LYS:O	6:A:193:ILE:HB	2.07	0.55
6:A:131:LEU:HG	6:A:131:LEU:O	2.05	0.55
6:A:244:ARG:CB	6:A:252:LYS:HZ1	2.18	0.55
9:D:112:ARG:O	9:D:113:ASP:HB2	2.06	0.55
10:E:89:LEU:HD21	10:E:105:MET:HE1	1.88	0.55
12:G:105:GLY:CA	12:G:110:LEU:HD12	2.37	0.55
12:G:156:HIS:HB2	12:G:157:PRO:HD3	1.89	0.55
12:G:159:SER:C	12:G:161:GLN:H	2.10	0.55
16:K:30:ARG:HG2	16:K:31:GLU:HG2	1.88	0.55
17:L:43:ILE:HG23	17:L:49:GLN:O	2.06	0.55
17:L:63:ASN:C	17:L:64:LYS:HD3	2.27	0.55
22:Q:9:ALA:HB1	22:Q:10:PRO:CD	2.34	0.55
23:R:11:ASN:ND2	23:R:11:ASN:C	2.58	0.55
23:R:18:LYS:HA	23:R:36:VAL:HG12	1.88	0.55
24:S:116:VAL:HG12	24:S:117:VAL:HG13	1.88	0.55
24:S:123:VAL:N	24:S:161:ALA:CB	2.61	0.55
24:S:96:VAL:O	24:S:120:LEU:N	2.28	0.55
26:U:64:ALA:C	26:U:66:ALA:H	2.08	0.55
29:X:1182:U:C2'	29:X:1183:C:O5'	2.54	0.55
29:X:1391:A:O2'	29:X:1392:U:O5'	2.23	0.55
29:X:1522:C:H2'	29:X:1523:A:H5''	1.88	0.55
29:X:1442:C:N4	29:X:1586:A:OP2	2.39	0.55
29:X:1746:A:C2'	29:X:1747:G:O5'	2.55	0.55
29:X:1966:C:H4'	29:X:2585:C:H4'	1.87	0.55
29:X:2695:C:O2'	29:X:2696:A:H5'	2.07	0.55
29:X:573:C:H2'	29:X:574:C:O4'	2.06	0.55
14:I:18:ARG:HD3	29:X:608:G:O2'	2.05	0.55
31:Z:4:C:H2'	31:Z:5:C:H5'	1.89	0.55
7:B:127:ALA:CB	7:B:135:HIS:CE1	2.90	0.55
7:B:73:ALA:O	7:B:74:PRO:C	2.45	0.55
10:E:109:TYR:CE1	10:E:152:ARG:CZ	2.77	0.55
11:F:57:ILE:HG22	11:F:58:THR:N	2.20	0.55
15:J:35:LEU:HB3	15:J:105:PHE:HB2	1.89	0.55
22:Q:2:SER:O	22:Q:3:HIS:CG	2.60	0.55
22:Q:51:ILE:CD1	22:Q:82:LEU:O	2.55	0.55
23:R:11:ASN:O	23:R:12:ASP:C	2.44	0.55
24:S:54:ILE:HG22	24:S:54:ILE:O	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1189:G:H2'	29:X:1190:C:O4'	2.07	0.55
29:X:1301:U:H2'	29:X:1340:C:O2	2.07	0.55
29:X:1869:A:H2'	29:X:1870:U:O4'	2.06	0.55
29:X:555:U:C6	29:X:555:U:C3'	2.85	0.55
29:X:554:U:H5''	29:X:556:A:C2	2.41	0.55
21:P:36:ARG:NH2	30:Y:20:ARG:CZ	2.70	0.55
9:D:33:LYS:CG	9:D:157:VAL:HG21	2.34	0.55
10:E:170:ALA:C	10:E:171:LEU:HD12	2.27	0.55
12:G:150:VAL:CG1	12:G:151:TYR:H	2.20	0.55
14:I:42:GLY:O	14:I:43:ALA:CB	2.53	0.55
18:M:34:ARG:NH1	18:M:81:PHE:CB	2.66	0.55
7:B:53:PRO:CD	18:M:6:LYS:HZ2	2.16	0.55
22:Q:72:ARG:O	22:Q:73:ASN:OD1	2.25	0.55
23:R:103:LYS:HG3	23:R:104:VAL:H	1.72	0.55
23:R:23:ILE:CD1	23:R:81:VAL:O	2.54	0.55
23:R:9:HIS:CD2	29:X:338:G:H4'	2.42	0.55
29:X:1229:C:O2'	29:X:1230:C:H5'	2.07	0.55
29:X:1242:A:H2'	29:X:1243:G:H8	1.71	0.55
29:X:1427:G:H2'	29:X:1428:G:H1'	1.89	0.55
29:X:1586:A:H2'	29:X:1587:A:H8	1.72	0.55
29:X:171:G:H2'	29:X:172:A:O4'	2.06	0.55
29:X:1918:G:H2'	29:X:1945:C:H42	1.71	0.55
29:X:1919:A:C6	29:X:1928:G:C4	2.94	0.55
29:X:2198:U:H2'	29:X:2199:C:C1'	2.36	0.55
29:X:2210:C:H2'	29:X:2211:U:C6	2.41	0.55
29:X:2217:G:H5'	29:X:2218:G:N7	2.21	0.55
29:X:2270:U:O2'	29:X:2271:C:H5'	2.06	0.55
29:X:2585:C:H2'	29:X:2586:G:C5'	2.35	0.55
29:X:1681:A:C2	29:X:2706:U:C6	2.95	0.55
29:X:563:U:H2'	29:X:564:U:O4'	2.07	0.55
29:X:746:G:C8	29:X:774:A:C6	2.95	0.55
4:4:2:LYS:HG2	4:4:4:ARG:HD3	1.87	0.55
6:A:126:LYS:HB2	6:A:129:ASN:HD22	1.72	0.55
6:A:96:HIS:HE1	6:A:100:GLY:C	2.10	0.55
8:C:104:LEU:N	8:C:177:VAL:HG22	2.22	0.55
8:C:108:ILE:HG22	8:C:109:ALA:N	2.22	0.55
9:D:168:ALA:O	9:D:169:LEU:C	2.45	0.55
12:G:92:GLY:CA	12:G:93:LYS:HE2	2.36	0.55
19:N:25:TRP:O	19:N:28:ARG:HB2	2.07	0.55
19:N:31:GLN:O	19:N:32:TYR:C	2.45	0.55
20:O:71:ILE:HD11	29:X:1004:A:H5'	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:34:SER:O	21:P:35:PRO:C	2.45	0.55
23:R:29:HIS:ND1	23:R:51:VAL:HG22	2.21	0.55
23:R:5:SER:O	23:R:6:ALA:CB	2.55	0.55
24:S:113:VAL:HG13	24:S:171:VAL:CG2	2.36	0.55
26:U:60:VAL:HG23	26:U:61:TRP:O	2.06	0.55
29:X:1174:G:C2	29:X:1175:A:N7	2.75	0.55
29:X:1300:A:H5'	29:X:1301:U:OP2	2.06	0.55
29:X:1474:A:O2'	29:X:1475:U:H5'	2.07	0.55
29:X:1641:C:O2	29:X:1641:C:H2'	2.06	0.55
18:M:101:ARG:NH2	29:X:1745:C:P	2.71	0.55
29:X:1910:A:O5'	29:X:1910:A:H8	1.90	0.55
29:X:2083:G:H2'	29:X:2084:G:C8	2.42	0.55
29:X:2326:C:C4	29:X:2327:U:O4	2.60	0.55
29:X:2474:G:C2	29:X:2475:C:C2	2.94	0.55
29:X:2586:G:C2	29:X:2587:G:N3	2.75	0.55
29:X:2849:C:H2'	29:X:2850:U:C5'	2.37	0.55
8:C:98:GLN:NE2	29:X:611:C:H4'	2.22	0.55
29:X:706:A:O2'	29:X:707:U:H5'	2.07	0.55
29:X:788:G:C5'	29:X:790:A:H1'	2.30	0.55
29:X:981:C:O2'	29:X:995:A:H4'	2.07	0.55
8:C:173:ALA:C	8:C:175:VAL:H	2.10	0.55
9:D:99:PHE:O	9:D:102:LYS:HB2	2.06	0.55
11:F:54:PRO:HG2	11:F:70:LYS:CB	2.30	0.55
12:G:100:TYR:CB	12:G:116:ARG:NH1	2.63	0.55
12:G:32:TYR:OH	12:G:35:LYS:HE3	2.06	0.55
12:G:85:ALA:O	12:G:87:GLN:N	2.39	0.55
14:I:61:PRO:O	14:I:62:LYS:HB2	2.07	0.55
14:I:72:TYR:HD2	14:I:107:LYS:HB2	1.72	0.55
15:J:75:VAL:HG12	15:J:76:THR:N	2.21	0.55
15:J:97:VAL:HG23	15:J:97:VAL:O	2.06	0.55
13:H:116:ARG:HE	18:M:40:ARG:HE	1.54	0.55
20:O:57:GLN:H	20:O:97:GLY:HA3	1.66	0.55
20:O:15:SER:OG	20:O:96:LEU:HA	2.06	0.55
21:P:25:PHE:CD1	21:P:127:ILE:HD11	2.34	0.55
22:Q:69:ILE:CD1	22:Q:70:GLY:N	2.70	0.55
23:R:93:ARG:O	23:R:95:ARG:CZ	2.54	0.55
28:W:16:GLN:OE1	28:W:49:HIS:CE1	2.60	0.55
29:X:105:G:H5'	29:X:105:G:H8	1.72	0.55
29:X:1102:G:O2'	29:X:1103:C:H5'	2.06	0.55
14:I:13:ARG:NH1	29:X:1218:C:O4'	2.32	0.55
29:X:1996:A:N6	29:X:2592:U:C4	2.75	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2057:U:H3'	29:X:2058:U:C6	2.42	0.55
29:X:2187:A:H2'	29:X:2188:A:C8	2.42	0.55
29:X:2492:G:C2	29:X:2493:U:C2	2.95	0.55
29:X:2604:G:H2'	29:X:2605:C:C6	2.41	0.55
29:X:2873:G:H2'	29:X:2874:A:H8	1.71	0.55
12:G:162:LYS:NZ	29:X:5:A:N3	2.49	0.55
29:X:76:C:O2'	29:X:77:C:H5'	2.07	0.55
4:4:23:VAL:C	4:4:24:LEU:HD12	2.27	0.55
7:B:117:MET:CG	7:B:136:ARG:HG3	2.37	0.55
8:C:122:GLY:O	8:C:124:ASP:N	2.39	0.55
9:D:65:PRO:HB2	9:D:87:ILE:HG22	1.87	0.55
10:E:146:ALA:O	10:E:149:ARG:N	2.39	0.55
15:J:100:PRO:HB2	24:S:74:ARG:HG2	1.89	0.55
16:K:99:ARG:HG2	16:K:99:ARG:HH11	1.71	0.55
7:B:181:LEU:HD21	18:M:12:LEU:HD22	1.89	0.55
20:O:12:TYR:CG	20:O:13:ARG:N	2.74	0.55
20:O:40:VAL:HG23	20:O:40:VAL:O	2.06	0.55
21:P:32:ARG:NH2	21:P:120:ARG:O	2.37	0.55
22:Q:14:GLU:CG	22:Q:15:LYS:N	2.70	0.55
23:R:96:LYS:O	23:R:104:VAL:HG12	2.06	0.55
23:R:29:HIS:CE1	23:R:51:VAL:HA	2.42	0.55
26:U:25:ARG:O	26:U:32:ARG:HG3	2.06	0.55
26:U:69:THR:HG23	26:U:75:TYR:CE1	2.41	0.55
27:V:41:HIS:CB	27:V:44:ARG:HH21	2.20	0.55
29:X:1373:G:N2	29:X:1374:G:C1'	2.70	0.55
29:X:1953:A:C5'	29:X:1954:A:OP1	2.54	0.55
29:X:2198:U:C6	29:X:2198:U:OP2	2.59	0.55
29:X:20:C:H2'	29:X:21:A:H8	1.72	0.55
29:X:965:G:O2'	29:X:2253:A:N1	2.35	0.55
29:X:2674:C:H2'	29:X:2675:U:H6	1.72	0.55
29:X:2823:G:O2'	29:X:2824:C:OP2	2.25	0.55
29:X:481:A:H2'	29:X:481:A:N3	2.22	0.55
29:X:71:A:N6	29:X:110:U:H4'	2.22	0.55
31:Z:27:A:H61	31:Z:55:C:C5'	2.19	0.55
6:A:144:ALA:O	6:A:153:ALA:HB1	2.07	0.55
6:A:207:GLY:O	29:X:1782:A:H4'	2.07	0.55
6:A:42:GLY:C	6:A:43:ARG:HH11	2.08	0.55
7:B:155:ARG:HG3	7:B:155:ARG:HH11	1.70	0.55
8:C:104:LEU:HA	8:C:107:ALA:CB	2.37	0.55
9:D:108:LEU:HD13	9:D:117:ILE:HD11	1.87	0.55
14:I:36:GLY:O	14:I:37:GLN:CB	2.55	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:56:LEU:O	14:I:57:ILE:C	2.44	0.55
26:U:51:ILE:O	26:U:52:ARG:HD3	2.07	0.55
28:W:9:VAL:HG12	28:W:17:VAL:HG22	1.89	0.55
29:X:1128:G:C3'	29:X:1129:A:C5'	2.71	0.55
29:X:1153:A:O2'	29:X:1154:A:H3'	2.08	0.55
29:X:1294:G:C5	29:X:1295:U:C5	2.95	0.55
29:X:1467:U:C6	29:X:1468:A:H5'	2.42	0.55
29:X:1711:C:H4'	29:X:1712:G:OP1	2.06	0.55
29:X:1750:A:C8	29:X:2675:U:H1'	2.42	0.55
29:X:172:A:C2	29:X:178:C:C2	2.95	0.55
17:L:11:LEU:HD21	29:X:2273:C:H5''	1.89	0.55
29:X:2432:A:O2'	29:X:2433:G:H5'	2.07	0.55
29:X:2616:U:H2'	29:X:2617:G:O4'	2.06	0.55
29:X:2642:G:H2'	29:X:2643:G:H5'	1.88	0.55
29:X:2665:G:C6	29:X:2666:U:N3	2.75	0.55
25:T:72:LYS:HD3	31:Z:14:C:C5'	2.37	0.55
4:4:9:LYS:HZ2	4:4:16:VAL:HG21	1.71	0.54
6:A:173:VAL:N	6:A:185:VAL:O	2.40	0.54
9:D:46:ASP:O	9:D:48:LYS:N	2.39	0.54
10:E:43:VAL:HB	10:E:52:VAL:CG1	2.35	0.54
12:G:106:TYR:O	12:G:110:LEU:CG	2.54	0.54
17:L:52:ALA:O	17:L:53:ALA:HB3	2.07	0.54
21:P:28:ALA:HB2	21:P:71:VAL:CG2	2.37	0.54
22:Q:12:ILE:HD13	22:Q:12:ILE:H	1.71	0.54
23:R:18:LYS:CE	23:R:19:GLY:N	2.68	0.54
24:S:91:PRO:CD	24:S:92:VAL:H	2.19	0.54
25:T:44:LYS:CE	29:X:871:U:OP1	2.55	0.54
29:X:1038:U:O2'	29:X:1039:A:H5'	2.07	0.54
29:X:1302:C:H2'	29:X:1303:U:C6	2.41	0.54
29:X:1499:A:H2'	29:X:1500:U:O4'	2.07	0.54
29:X:1512:A:H2'	29:X:1514:C:H5	1.71	0.54
29:X:175:C:C3'	29:X:175:C:C6	2.90	0.54
29:X:2617:G:O2'	29:X:2618:A:H8	1.88	0.54
7:B:203:LYS:HG2	29:X:2713:A:N1	2.22	0.54
29:X:457:C:O2'	29:X:458:G:H5'	2.07	0.54
29:X:827:C:O2'	29:X:828:C:H5'	2.07	0.54
29:X:939:C:H5''	29:X:940:G:H5''	1.89	0.54
29:X:956:A:C4	29:X:2427:A:C2	2.95	0.54
31:Z:46:G:C2	31:Z:50:U:O2	2.60	0.54
4:4:7:VAL:HG13	4:4:34:GLN:HE21	1.73	0.54
11:F:25:PRO:HA	11:F:29:GLN:HG3	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:150:VAL:O	12:G:151:TYR:CG	2.60	0.54
13:H:10:VAL:CG2	13:H:16:ALA:O	2.53	0.54
14:I:37:GLN:O	14:I:38:LYS:C	2.44	0.54
14:I:85:ASP:HA	14:I:116:ARG:NH1	2.21	0.54
20:O:36:LYS:HZ2	20:O:54:TYR:CB	2.13	0.54
23:R:101:GLY:C	23:R:103:LYS:H	2.10	0.54
24:S:13:LYS:NZ	24:S:18:MET:CB	2.70	0.54
24:S:3:LEU:CB	24:S:34:LEU:HB3	2.36	0.54
25:T:31:VAL:HG13	25:T:67:VAL:CG2	2.37	0.54
27:V:31:GLN:O	27:V:35:GLY:N	2.40	0.54
29:X:1324:G:H2'	29:X:1325:U:C6	2.42	0.54
29:X:1456:C:H4'	29:X:1645:U:OP1	2.06	0.54
29:X:16:G:O2'	29:X:17:G:H5'	2.07	0.54
29:X:796:A:H5''	29:X:2567:G:O3'	2.07	0.54
29:X:490:A:HO2'	29:X:491:A:H3'	1.72	0.54
29:X:81:C:C5	29:X:82:G:C6	2.95	0.54
4:4:15:LYS:HB2	4:4:26:ILE:HG13	1.89	0.54
6:A:126:LYS:HB2	6:A:129:ASN:ND2	2.22	0.54
6:A:160:GLY:H	6:A:196:VAL:HG23	1.72	0.54
6:A:197:GLY:O	6:A:198:ASN:C	2.46	0.54
7:B:26:VAL:HB	7:B:182:ILE:CG2	2.37	0.54
7:B:70:ALA:O	7:B:72:VAL:N	2.40	0.54
8:C:154:ASP:HB2	8:C:157:THR:HG23	1.90	0.54
8:C:44:SER:HA	29:X:37:C:O2'	2.07	0.54
10:E:121:VAL:CG1	10:E:122:THR:N	2.71	0.54
10:E:76:VAL:O	10:E:80:SER:HB2	2.06	0.54
8:C:24:SER:HB2	14:I:15:ASP:OD1	2.07	0.54
15:J:42:TRP:HB3	15:J:95:VAL:HG11	1.89	0.54
17:L:42:ILE:HD11	17:L:87:VAL:HG11	1.88	0.54
17:L:68:ALA:HB1	17:L:102:ALA:HB1	1.89	0.54
17:L:84:ILE:HD12	17:L:84:ILE:N	2.23	0.54
18:M:34:ARG:NH1	18:M:88:VAL:CG2	2.55	0.54
20:O:72:ARG:HA	20:O:82:ARG:O	2.07	0.54
21:P:67:PRO:O	21:P:69:ALA:N	2.40	0.54
23:R:9:HIS:ND1	29:X:338:G:H5'	2.22	0.54
28:W:22:ALA:C	28:W:24:GLY:H	2.11	0.54
29:X:1467:U:C4	29:X:1473:U:N3	2.66	0.54
29:X:145:C:C2	29:X:153:A:C2	2.95	0.54
29:X:1574:A:C2'	29:X:1575:C:H5''	2.36	0.54
29:X:1608:U:H2'	29:X:1609:G:H8	1.72	0.54
29:X:1629:G:C2	29:X:1633:C:C2	2.96	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1695:U:H2'	29:X:1696:C:O4'	2.07	0.54
29:X:2058:U:C4	29:X:2217:G:C6	2.95	0.54
29:X:2358:C:H2'	29:X:2359:U:C6	2.41	0.54
29:X:2526:U:C5	29:X:2545:A:C5	2.96	0.54
29:X:2542:U:O2	29:X:2544:A:H8	1.90	0.54
29:X:2779:C:H2'	29:X:2780:A:C1'	2.37	0.54
29:X:2863:U:H2'	29:X:2864:C:O4'	2.07	0.54
31:Z:108:G:C2'	31:Z:109:G:H5'	2.37	0.54
6:A:108:PRO:HA	6:A:196:VAL:HA	1.90	0.54
6:A:213:ARG:C	6:A:215:LEU:N	2.61	0.54
6:A:69:ARG:NH1	6:A:105:ILE:HD13	2.22	0.54
7:B:116:VAL:HG22	7:B:136:ARG:NH2	2.23	0.54
8:C:20:PRO:HG2	8:C:21:GLU:H	1.71	0.54
10:E:102:ALA:HA	10:E:117:PRO:HD3	1.90	0.54
10:E:54:ARG:HE	10:E:57:ASP:HA	1.73	0.54
10:E:92:VAL:O	10:E:94:PHE:HD1	1.91	0.54
13:H:23:ARG:NH2	13:H:24:VAL:N	2.55	0.54
13:H:26:ASN:ND2	13:H:26:ASN:O	2.39	0.54
14:I:101:ARG:NH1	14:I:104:ARG:NH2	2.55	0.54
19:N:37:GLN:HE22	29:X:572:G:H21	1.55	0.54
20:O:14:VAL:HG12	20:O:14:VAL:O	2.08	0.54
24:S:21:ALA:O	24:S:22:VAL:HG13	2.06	0.54
27:V:41:HIS:O	27:V:42:ARG:C	2.46	0.54
29:X:1026:U:O2'	29:X:1027:C:H5'	2.07	0.54
29:X:1053:G:H2'	29:X:1054:C:O4'	2.08	0.54
29:X:1145:C:C6	29:X:1147:G:OP2	2.60	0.54
29:X:2058:U:C3'	29:X:2217:G:N2	2.67	0.54
29:X:2209:G:C5	29:X:2210:C:H5	2.26	0.54
29:X:2501:U:C5'	29:X:2502:G:OP2	2.55	0.54
29:X:26:G:C2	29:X:27:G:N2	2.76	0.54
29:X:313:U:H2'	29:X:314:G:C8	2.42	0.54
29:X:471:A:C8	29:X:472:C:C6	2.96	0.54
29:X:640:C:H4'	29:X:660:G:N3	2.23	0.54
7:B:72:VAL:HG12	7:B:73:ALA:N	2.23	0.54
8:C:7:ILE:HG21	8:C:121:ASP:O	2.08	0.54
9:D:17:MET:N	9:D:17:MET:SD	2.80	0.54
12:G:157:PRO:C	12:G:161:GLN:NE2	2.60	0.54
14:I:119:THR:HG23	14:I:139:ARG:O	2.08	0.54
15:J:37:ALA:HB2	15:J:104:MET:HE1	1.90	0.54
16:K:30:ARG:O	16:K:30:ARG:CG	2.56	0.54
19:N:88:ILE:CG2	20:O:48:GLY:O	2.55	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:93:ARG:O	23:R:95:ARG:HD2	2.07	0.54
29:X:1115:C:H6	29:X:1115:C:O5'	1.89	0.54
29:X:525:A:H2	29:X:1273:G:N3	2.06	0.54
29:X:588:G:O2'	29:X:2002:A:OP1	2.19	0.54
29:X:2247:A:H5''	29:X:2247:A:H8	1.72	0.54
14:I:63:ARG:NH1	29:X:2395:C:OP2	2.41	0.54
29:X:930:A:H5''	31:Z:100:G:O2'	2.07	0.54
6:A:117:VAL:HG22	6:A:128:GLY:HA3	1.89	0.54
7:B:70:ALA:O	7:B:71:GLY:C	2.46	0.54
8:C:43:ALA:HB3	8:C:87:LYS:C	2.27	0.54
10:E:140:LEU:HA	10:E:143:GLN:HB2	1.88	0.54
10:E:148:VAL:C	10:E:150:LYS:H	2.10	0.54
11:F:52:ILE:C	11:F:73:PRO:HD3	2.27	0.54
12:G:61:ARG:HH22	12:G:78:ASP:CG	2.11	0.54
13:H:1:MET:HB2	13:H:44:TYR:CD1	2.43	0.54
15:J:34:GLY:O	15:J:133:VAL:HG22	2.08	0.54
15:J:21:ASP:O	15:J:22:ALA:O	2.25	0.54
19:N:10:ARG:HA	19:N:13:ARG:HD2	1.88	0.54
19:N:66:ASN:C	19:N:68:GLY:H	2.10	0.54
23:R:103:LYS:HG3	23:R:104:VAL:N	2.23	0.54
23:R:40:LEU:CB	23:R:45:LYS:HB2	2.34	0.54
26:U:53:GLU:HB2	26:U:56:GLN:O	2.07	0.54
26:U:54:ASN:OD1	26:U:54:ASN:C	2.45	0.54
29:X:1431:U:H4'	29:X:1604:A:C4'	2.37	0.54
29:X:2070:G:O5'	29:X:2070:G:H8	1.90	0.54
29:X:2204:A:H4'	29:X:2205:C:O5'	2.08	0.54
29:X:2268:G:C2	29:X:2269:G:C8	2.96	0.54
29:X:2469:G:H8	29:X:2469:G:OP2	1.91	0.54
31:Z:34:C:H2'	31:Z:35:C:H6	1.72	0.54
6:A:145:LEU:HD12	6:A:146:GLU:N	2.23	0.54
6:A:166:GLN:HE22	6:A:176:ARG:NH2	2.06	0.54
7:B:105:THR:HG21	7:B:199:ARG:HH21	1.73	0.54
8:C:158:ARG:HH11	8:C:158:ARG:HB2	1.73	0.54
10:E:9:ILE:CG2	10:E:50:LEU:HB3	2.37	0.54
10:E:6:LYS:HD2	10:E:66:GLY:HA2	1.90	0.54
11:F:58:THR:HB	11:F:66:THR:OG1	2.08	0.54
13:H:97:VAL:HG11	13:H:126:ILE:CD1	2.38	0.54
13:H:60:PRO:O	13:H:61:ARG:CB	2.55	0.54
14:I:62:LYS:HG3	14:I:63:ARG:N	2.21	0.54
16:K:59:ASP:N	16:K:59:ASP:OD1	2.41	0.54
17:L:94:TYR:N	17:L:94:TYR:CD2	2.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:22:ARG:HD3	18:M:24:LEU:CD2	2.38	0.54
19:N:89:ASP:OD1	20:O:47:PHE:HB2	2.08	0.54
23:R:18:LYS:HE2	23:R:18:LYS:H	1.69	0.54
25:T:39:ARG:HD3	25:T:58:THR:HG23	1.89	0.54
29:X:1336:G:C2'	29:X:1337:G:H5'	2.37	0.54
29:X:139:A:O2'	29:X:140:G:H5'	2.08	0.54
29:X:1588:A:H2'	29:X:1589:G:O4'	2.07	0.54
29:X:1745:C:N3	29:X:1746:A:C5	2.75	0.54
29:X:2084:G:H2'	29:X:2085:G:H8	1.72	0.54
29:X:872:G:H1'	29:X:2247:A:H1'	1.90	0.54
29:X:2263:C:H1'	29:X:2304:G:C2	2.42	0.54
29:X:402:A:H8	29:X:2392:G:H4'	1.72	0.54
29:X:2494:C:O2'	29:X:2495:G:H5'	2.08	0.54
29:X:2034:A:C5	29:X:2593:A:N7	2.76	0.54
29:X:304:A:N7	29:X:356:A:N6	2.53	0.54
29:X:649:G:O2'	29:X:650:U:H5'	2.07	0.54
29:X:677:G:O2'	29:X:678:G:H5'	2.07	0.54
6:A:206:LEU:HA	6:A:211:ARG:HD3	1.89	0.54
12:G:154:GLU:H	12:G:157:PRO:CD	2.21	0.54
14:I:108:LEU:HB3	14:I:125:ALA:HB2	1.88	0.54
14:I:32:ARG:HD2	20:O:81:ARG:HG3	1.90	0.54
14:I:76:LYS:O	14:I:79:GLN:CG	2.56	0.54
14:I:85:ASP:O	14:I:86:THR:C	2.46	0.54
15:J:56:SER:O	15:J:59:PHE:N	2.35	0.54
16:K:10:LEU:CD2	16:K:17:ARG:CB	2.85	0.54
19:N:72:HIS:HD2	19:N:110:VAL:HG21	1.71	0.54
19:N:13:ARG:O	19:N:16:LYS:HB2	2.08	0.54
20:O:74:TYR:OH	20:O:76:SER:HB3	2.08	0.54
21:P:27:VAL:HG23	21:P:125:THR:HG22	1.89	0.54
23:R:93:ARG:NH1	23:R:108:VAL:O	2.41	0.54
24:S:149:ALA:C	24:S:151:ASP:H	2.11	0.54
29:X:1074:G:C2'	29:X:1075:C:H5'	2.37	0.54
29:X:1096:A:H4'	29:X:1097:A:OP1	2.06	0.54
29:X:1544:A:C2	29:X:1560:A:C5	2.96	0.54
29:X:1812:U:O2	29:X:1812:U:H2'	2.08	0.54
29:X:2174:G:H2'	29:X:2175:A:C8	2.43	0.54
7:B:82:ARG:NH2	29:X:2616:U:H5''	2.22	0.54
29:X:573:C:O2'	29:X:574:C:H5'	2.08	0.54
29:X:695:G:O2'	29:X:696:U:H5'	2.08	0.54
29:X:888:G:H2'	29:X:889:C:O4'	2.08	0.54
29:X:954:U:C2'	29:X:955:G:H5''	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:37:LYS:CD	7:B:42:ASP:OD1	2.51	0.54
9:D:7:LYS:HA	9:D:10:ASP:HB2	1.89	0.54
9:D:143:TYR:CA	9:D:146:VAL:HG22	2.32	0.54
9:D:52:LYS:HE2	9:D:56:GLU:OE2	2.08	0.54
10:E:149:ARG:HG2	10:E:149:ARG:O	2.08	0.54
12:G:160:ALA:C	12:G:161:GLN:HG3	2.28	0.54
12:G:49:VAL:HG21	12:G:170:PRO:HG2	1.90	0.54
14:I:28:LYS:NZ	14:I:37:GLN:H	2.03	0.54
15:J:69:ILE:HG21	15:J:104:MET:HG2	1.90	0.54
16:K:16:ALA:O	16:K:17:ARG:C	2.45	0.54
17:L:15:ARG:CA	17:L:15:ARG:HH11	2.08	0.54
18:M:24:LEU:HB3	18:M:25:PRO:HD2	1.89	0.54
23:R:92:THR:C	23:R:95:ARG:NH2	2.61	0.54
26:U:22:GLY:HA3	26:U:39:LYS:HD2	1.89	0.54
26:U:54:ASN:O	26:U:56:GLN:N	2.38	0.54
29:X:1053:G:N2	29:X:1124:U:O2	2.38	0.54
29:X:594:G:H2'	29:X:1264:C:N4	2.20	0.54
29:X:1752:U:H5''	29:X:1753:A:OP2	2.07	0.54
29:X:1804:U:H2'	29:X:1805:G:H8	1.73	0.54
29:X:1979:C:H6	29:X:1979:C:OP1	1.91	0.54
29:X:2202:G:C2	29:X:2203:G:H1'	2.43	0.54
29:X:418:C:O4'	29:X:418:C:OP2	2.26	0.54
29:X:482:A:C2'	29:X:483:A:H5'	2.37	0.54
29:X:528:G:H2'	29:X:529:U:C6	2.43	0.54
29:X:660:G:C2'	29:X:661:C:H5'	2.37	0.54
29:X:699:G:C4'	29:X:700:C:OP2	2.55	0.54
29:X:829:C:H2'	29:X:830:C:H6	1.72	0.54
4:4:25:VAL:O	4:4:33:LYS:HA	2.07	0.54
6:A:80:ALA:O	6:A:81:ALA:HB2	2.08	0.54
7:B:68:ALA:O	7:B:70:ALA:N	2.40	0.54
9:D:100:LEU:HG	9:D:104:ILE:HD11	1.89	0.54
9:D:26:MET:HB3	31:Z:59:A:C2	2.42	0.54
9:D:5:LYS:HA	9:D:8:TYR:HB3	1.90	0.54
5:5:15:BB9:HN1	11:F:29:GLN:NE2	2.05	0.54
11:F:53:ILE:CG1	11:F:72:PRO:HB3	2.29	0.54
12:G:69:ASP:C	12:G:70:PHE:CD2	2.81	0.54
12:G:72:PRO:O	12:G:74:MET:N	2.41	0.54
15:J:35:LEU:HD11	15:J:130:THR:CB	2.38	0.54
16:K:13:ASN:HD22	16:K:14:SER:N	2.05	0.54
17:L:91:ARG:NH2	29:X:2356:A:H2	2.03	0.54
21:P:133:ASN:ND2	21:P:133:ASN:N	2.54	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:39:LYS:O	26:U:40:ARG:CB	2.56	0.54
27:V:18:ILE:C	27:V:20:ALA:N	2.61	0.54
29:X:1402:G:H2'	29:X:1403:U:O4'	2.07	0.54
29:X:2824:C:O2'	29:X:2825:A:O5'	2.24	0.54
29:X:471:A:C8	29:X:472:C:C5	2.96	0.54
6:A:160:GLY:HA2	6:A:196:VAL:C	2.26	0.53
6:A:43:ARG:HB3	6:A:54:ILE:HG23	1.90	0.53
6:A:55:GLY:H	6:A:217:ARG:H	1.56	0.53
8:C:104:LEU:HA	8:C:107:ALA:HB3	1.91	0.53
10:E:43:VAL:HB	10:E:52:VAL:CA	2.32	0.53
15:J:83:ARG:HH22	29:X:971:A:H61	1.54	0.53
15:J:79:PRO:HD2	15:J:88:LYS:HD2	1.88	0.53
18:M:66:PHE:CE2	18:M:81:PHE:HB2	2.43	0.53
19:N:7:GLY:O	19:N:9:VAL:N	2.38	0.53
19:N:93:LYS:O	19:N:94:VAL:HG23	2.08	0.53
24:S:18:MET:HA	24:S:36:ARG:N	2.23	0.53
26:U:28:GLY:HA3	26:U:32:ARG:CA	2.38	0.53
29:X:130:C:H2'	29:X:131:C:C6	2.43	0.53
29:X:1359:G:O2'	29:X:1360:G:H5'	2.08	0.53
29:X:1419:G:H2'	29:X:1420:A:H8	1.72	0.53
29:X:1673:C:N3	29:X:1674:C:C5	2.76	0.53
29:X:176:A:H2'	29:X:177:U:C5	2.43	0.53
29:X:2178:U:H2'	29:X:2179:C:C6	2.43	0.53
29:X:2286:G:N2	29:X:2290:A:N6	2.52	0.53
29:X:2323:U:C5'	29:X:2323:U:C6	2.81	0.53
29:X:2570:C:H2'	29:X:2571:G:C8	2.43	0.53
7:B:111:LYS:NZ	29:X:2704:U:OP1	2.41	0.53
29:X:2820:C:O2'	29:X:2821:G:H5'	2.08	0.53
29:X:493:A:OP2	29:X:517:A:N6	2.40	0.53
29:X:544:U:H2'	29:X:545:C:C6	2.43	0.53
29:X:660:G:O2'	29:X:661:C:H5'	2.07	0.53
29:X:739:G:O2'	29:X:740:A:OP2	2.26	0.53
29:X:759:C:C5'	29:X:759:C:C6	2.90	0.53
9:D:92:ARG:NH1	31:Z:46:G:O3'	2.40	0.53
7:B:105:THR:HG23	7:B:197:VAL:HB	1.89	0.53
8:C:9:GLN:HG2	8:C:120:VAL:HG21	1.89	0.53
9:D:54:ALA:O	9:D:55:LYS:C	2.46	0.53
12:G:154:GLU:O	12:G:157:PRO:HD2	2.08	0.53
12:G:66:HIS:O	12:G:70:PHE:CE1	2.61	0.53
14:I:45:LYS:CG	14:I:46:GLY:N	2.70	0.53
18:M:102:ALA:C	18:M:103:LYS:HD2	2.28	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Q:61:LYS:HD3	22:Q:72:ARG:CZ	2.38	0.53
23:R:25:LEU:HD22	23:R:26:SER:CB	2.37	0.53
23:R:25:LEU:HD12	23:R:25:LEU:H	1.74	0.53
23:R:41:PRO:HG2	23:R:42:ARG:H	1.73	0.53
26:U:66:ALA:O	26:U:70:LEU:HB2	2.09	0.53
29:X:1965:U:H2'	29:X:1966:C:H6	1.74	0.53
29:X:2184:C:C4	29:X:2185:U:C4	2.97	0.53
29:X:219:G:C2'	29:X:220:U:OP2	2.56	0.53
29:X:2288:A:H2'	29:X:2289:A:H8	1.72	0.53
25:T:24:LYS:NZ	29:X:2335:U:OP1	2.40	0.53
29:X:2766:U:O2'	29:X:2767:C:H5'	2.07	0.53
29:X:665:A:N3	29:X:665:A:H3'	2.23	0.53
29:X:690:A:O2'	29:X:691:C:H5'	2.08	0.53
29:X:801:A:C2'	29:X:802:A:OP2	2.57	0.53
29:X:828:C:H2'	29:X:829:C:H6	1.74	0.53
29:X:88:G:H3'	29:X:89:A:C5'	2.28	0.53
29:X:988:G:N3	29:X:1012:A:C2	2.76	0.53
4:4:22:ARG:HG2	4:4:22:ARG:HH11	1.74	0.53
6:A:131:LEU:HD11	6:A:136:VAL:HG22	1.90	0.53
8:C:120:VAL:O	8:C:121:ASP:O	2.27	0.53
8:C:125:ILE:HD12	8:C:133:PHE:HA	1.89	0.53
8:C:169:VAL:O	8:C:170:LEU:HD13	2.08	0.53
9:D:156:ILE:HG23	9:D:158:THR:HG23	1.90	0.53
9:D:70:ALA:C	9:D:72:LYS:N	2.61	0.53
10:E:33:LEU:HG	10:E:34:THR:H	1.73	0.53
14:I:123:ASP:O	14:I:123:ASP:OD1	2.25	0.53
19:N:79:PHE:CD2	19:N:80:ILE:HD13	2.43	0.53
23:R:93:ARG:C	23:R:95:ARG:CZ	2.76	0.53
23:R:98:ILE:HG22	23:R:99:VAL:H	1.72	0.53
24:S:19:ILE:CD1	24:S:36:ARG:HA	2.38	0.53
24:S:64:ALA:CA	24:S:86:VAL:HG23	2.39	0.53
29:X:1067:G:N2	29:X:1114:A:H62	1.98	0.53
29:X:116:A:H1'	29:X:155:G:O4'	2.08	0.53
29:X:1416:A:C2	29:X:1417:C:C2	2.96	0.53
29:X:1509:A:C8	29:X:1510:A:C8	2.97	0.53
29:X:1515:U:H2'	29:X:1516:A:H8	1.71	0.53
29:X:2404:A:H1'	29:X:2406:C:C5	2.43	0.53
29:X:2546:G:H2'	29:X:2547:C:H6	1.73	0.53
29:X:2757:G:OP2	29:X:2761:A:O2'	2.25	0.53
29:X:393:U:O2'	29:X:394:U:H5'	2.08	0.53
29:X:460:U:O2'	29:X:461:A:OP1	2.22	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:732:G:H8	29:X:732:G:O5'	1.91	0.53
29:X:872:G:OP2	29:X:872:G:H8	1.91	0.53
6:A:169:GLU:CG	6:A:170:SER:H	2.19	0.53
7:B:159:HIS:NE2	7:B:162:MET:HB2	2.23	0.53
8:C:125:ILE:O	8:C:126:ALA:CB	2.56	0.53
8:C:53:LYS:O	8:C:54:THR:OG1	2.19	0.53
9:D:22:TYR:CG	9:D:28:VAL:HG22	2.44	0.53
10:E:139:GLN:HB3	10:E:143:GLN:OE1	2.07	0.53
11:F:101:TRP:HZ3	11:F:140:GLY:HA3	1.74	0.53
11:F:2:LYS:HD3	11:F:2:LYS:N	2.23	0.53
12:G:84:ASN:O	12:G:85:ALA:CB	2.57	0.53
15:J:19:THR:CG2	15:J:20:GLY:N	2.71	0.53
20:O:38:LEU:O	20:O:39:PHE:HB3	2.08	0.53
21:P:110:ALA:HB3	29:X:760:U:O3'	2.09	0.53
21:P:24:GLY:O	21:P:127:ILE:HA	2.08	0.53
23:R:46:VAL:O	23:R:75:ALA:HA	2.08	0.53
29:X:1032:A:H8	29:X:1032:A:H3'	1.73	0.53
29:X:1166:A:H2'	29:X:1167:A:H5''	1.91	0.53
29:X:1724:C:N3	29:X:1747:G:C6	2.77	0.53
29:X:1835:C:H2'	29:X:1836:C:H6	1.72	0.53
29:X:1982:C:H4'	29:X:2703:C:O2	2.08	0.53
29:X:1278:A:H61	29:X:1996:A:H5''	1.74	0.53
29:X:2080:U:H2'	29:X:2081:U:H6	1.74	0.53
19:N:10:ARG:NH1	29:X:592:G:OP2	2.29	0.53
6:A:224:SER:HA	6:A:233:HIS:O	2.08	0.53
8:C:138:LYS:C	8:C:140:ASN:H	2.11	0.53
8:C:43:ALA:HB3	8:C:88:PRO:N	2.23	0.53
9:D:75:SER:C	9:D:79:LEU:HD13	2.28	0.53
14:I:117:ALA:HB2	14:I:137:GLY:HA3	1.91	0.53
14:I:32:ARG:NH1	20:O:81:ARG:NH2	2.56	0.53
15:J:128:ILE:C	15:J:128:ILE:HD12	2.29	0.53
15:J:15:ARG:HD2	15:J:73:LYS:HG3	1.91	0.53
15:J:44:LYS:HD3	15:J:47:GLN:CD	2.29	0.53
23:R:17:LYS:HB3	23:R:18:LYS:HE2	1.89	0.53
24:S:99:HIS:O	24:S:136:VAL:N	2.42	0.53
25:T:72:LYS:O	25:T:74:LYS:N	2.41	0.53
26:U:10:LYS:HG2	26:U:11:LYS:CG	2.38	0.53
26:U:10:LYS:CD	26:U:11:LYS:HG3	2.38	0.53
29:X:1356:G:H1'	29:X:1613:G:N3	2.23	0.53
29:X:1552:C:O2'	29:X:1553:G:O5'	2.25	0.53
29:X:1802:A:H2'	29:X:1803:G:O4'	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:149:ARG:HA	29:X:2035:G:N3	2.23	0.53
6:A:151:LYS:HD3	29:X:2186:G:O3'	2.09	0.53
29:X:2200:G:H2'	29:X:2201:G:H8	1.73	0.53
26:U:33:LYS:NZ	29:X:2375:G:H1'	2.24	0.53
7:B:150:VAL:CG2	29:X:2598:C:O4'	2.56	0.53
29:X:462:G:N1	29:X:466:A:OP2	2.40	0.53
29:X:537:C:O2'	29:X:538:A:C4	2.61	0.53
14:I:45:LYS:HA	29:X:683:A:H5''	1.89	0.53
4:4:22:ARG:HD2	4:4:37:GLY:HA3	1.91	0.53
6:A:154:GLN:O	6:A:155:LEU:HD23	2.07	0.53
7:B:134:TRP:O	7:B:135:HIS:C	2.45	0.53
8:C:112:GLN:HB3	8:C:116:LYS:HZ2	1.74	0.53
8:C:158:ARG:C	8:C:160:ALA:N	2.62	0.53
7:B:152:LYS:CB	12:G:106:TYR:HB3	2.28	0.53
12:G:168:THR:O	12:G:169:GLN:O	2.26	0.53
12:G:36:ASN:CG	12:G:37:ASP:N	2.61	0.53
17:L:99:ARG:O	17:L:102:ALA:HB3	2.08	0.53
17:L:15:ARG:NH1	17:L:15:ARG:HA	2.07	0.53
17:L:21:THR:CG2	17:L:22:ALA:N	2.68	0.53
21:P:78:ASN:C	21:P:80:LEU:N	2.60	0.53
24:S:3:LEU:HD21	24:S:32:PHE:CG	2.44	0.53
26:U:10:LYS:CG	26:U:11:LYS:HG3	2.39	0.53
26:U:15:VAL:H	26:U:47:HIS:CE1	2.27	0.53
26:U:64:ALA:O	26:U:66:ALA:N	2.42	0.53
29:X:1478:U:H2'	29:X:1479:G:C8	2.41	0.53
29:X:1685:A:C8	29:X:1691:G:C6	2.96	0.53
29:X:1731:C:H3'	29:X:1732:U:C5'	2.38	0.53
29:X:2396:C:H6	29:X:2396:C:H5'	1.74	0.53
13:H:23:ARG:NH1	29:X:2541:U:H4'	2.10	0.53
29:X:2800:C:H3'	29:X:2801:A:H8	1.74	0.53
29:X:3:U:H2'	29:X:4:C:H6	1.73	0.53
14:I:101:ARG:HD3	29:X:637:G:C6	2.43	0.53
29:X:717:G:O2'	29:X:718:A:P	2.65	0.53
29:X:737:C:H2'	29:X:738:G:C8	2.44	0.53
9:D:92:ARG:NE	31:Z:47:A:H8	2.05	0.53
6:A:69:ARG:NH2	6:A:192:THR:OG1	2.42	0.53
6:A:70:ARG:NH2	6:A:189:CYS:HA	2.24	0.53
7:B:1:MET:O	7:B:2:LYS:C	2.47	0.53
8:C:153:ASP:OD1	8:C:172:VAL:HA	2.08	0.53
9:D:135:GLN:OE1	9:D:150:ARG:HB3	2.08	0.53
9:D:15:ALA:O	9:D:19:GLN:HB2	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:79:LEU:HA	9:D:80:ARG:NH2	2.24	0.53
9:D:92:ARG:HG3	9:D:92:ARG:NH2	2.22	0.53
10:E:13:SER:O	10:E:15:VAL:N	2.42	0.53
12:G:155:THR:O	12:G:158:HIS:HB2	2.08	0.53
13:H:88:THR:HB	18:M:80:VAL:HB	1.91	0.53
13:H:90:ARG:NH1	18:M:78:GLU:OE1	2.42	0.53
14:I:80:LEU:HG	14:I:97:ARG:HH22	1.74	0.53
14:I:84:GLU:O	14:I:116:ARG:NH2	2.38	0.53
18:M:55:ILE:HD11	18:M:67:THR:CG2	2.38	0.53
20:O:32:LYS:N	20:O:58:ALA:O	2.19	0.53
23:R:51:VAL:HG21	23:R:76:LEU:HD11	1.89	0.53
23:R:84:VAL:HG11	23:R:88:THR:N	2.24	0.53
24:S:125:PRO:HG2	24:S:126:GLY:H	1.74	0.53
26:U:67:LEU:HD23	26:U:67:LEU:C	2.29	0.53
29:X:1148:G:H5''	29:X:1149:G:OP2	2.08	0.53
29:X:1610:A:H2'	29:X:1611:U:H6	1.74	0.53
29:X:1690:U:C2'	29:X:1691:G:H5'	2.38	0.53
29:X:2546:G:H2'	29:X:2547:C:C6	2.44	0.53
29:X:2849:C:C2	29:X:2850:U:C5	2.96	0.53
19:N:3:ARG:HD3	29:X:458:G:P	2.47	0.53
29:X:617:U:O2	29:X:617:U:C3'	2.56	0.53
29:X:872:G:O2'	29:X:873:U:H6	1.92	0.53
31:Z:15:A:O2'	31:Z:17:A:H5''	2.08	0.53
6:A:49:ILE:HD11	6:A:52:ARG:HA	1.91	0.53
8:C:102:LEU:O	8:C:102:LEU:HD23	2.09	0.53
8:C:14:THR:O	8:C:15:ILE:HB	2.09	0.53
9:D:35:VAL:O	9:D:154:ILE:HA	2.08	0.53
9:D:52:LYS:HG2	9:D:56:GLU:OE2	2.09	0.53
10:E:54:ARG:CZ	10:E:57:ASP:OD2	2.57	0.53
11:F:9:LYS:C	11:F:10:LEU:HD23	2.29	0.53
13:H:110:VAL:C	13:H:111:PHE:HD1	2.12	0.53
14:I:141:VAL:O	14:I:142:LEU:HD23	2.09	0.53
19:N:66:ASN:HB3	19:N:76:TYR:CA	2.39	0.53
20:O:33:VAL:O	20:O:33:VAL:HG23	2.09	0.53
20:O:54:TYR:HD1	20:O:54:TYR:H	1.57	0.53
22:Q:14:GLU:HG3	22:Q:15:LYS:HD2	1.91	0.53
23:R:22:VAL:HG12	23:R:23:ILE:N	2.24	0.53
15:J:23:LYS:HA	24:S:73:LYS:NZ	2.23	0.53
26:U:11:LYS:HZ1	26:U:75:TYR:HD1	1.51	0.53
27:V:7:ARG:C	27:V:9:LEU:N	2.62	0.53
29:X:1058:G:C4	29:X:1121:G:O6	2.62	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1469:U:O5'	29:X:1470:G:OP2	2.26	0.53
29:X:1474:A:H1'	29:X:1475:U:H5'	1.91	0.53
6:A:59:LYS:O	29:X:1584:G:H5'	2.09	0.53
29:X:1685:A:N6	29:X:1693:A:H61	2.07	0.53
29:X:172:A:C2	29:X:178:C:O2	2.62	0.53
29:X:202:A:H2'	29:X:203:G:O4'	2.09	0.53
29:X:2234:G:H2'	29:X:2235:G:O4'	2.09	0.53
19:N:11:ARG:NH2	29:X:29:U:H4'	2.22	0.53
29:X:312:G:O2'	29:X:313:U:O4'	2.27	0.53
29:X:538:A:H2'	29:X:2025:A:H2	1.73	0.53
29:X:537:C:H1'	29:X:538:A:N6	2.23	0.53
29:X:580:A:C8	29:X:584:A:C6	2.96	0.53
8:C:98:GLN:NE2	29:X:611:C:O5'	2.42	0.53
29:X:836:G:H2'	29:X:837:U:H6	1.73	0.53
31:Z:4:C:H2'	31:Z:5:C:C5'	2.38	0.53
6:A:169:GLU:CG	6:A:170:SER:N	2.71	0.53
7:B:38:THR:HB	7:B:41:THR:HG23	1.90	0.53
9:D:33:LYS:HD2	9:D:90:THR:CG2	2.39	0.53
10:E:18:ASN:C	10:E:20:GLN:H	2.12	0.53
10:E:92:VAL:O	10:E:94:PHE:CD1	2.62	0.53
12:G:101:THR:HG23	12:G:103:TYR:CD1	2.44	0.53
13:H:27:SER:CB	13:H:50:ILE:H	2.20	0.53
13:H:90:ARG:NH2	18:M:78:GLU:OE1	2.41	0.53
14:I:38:LYS:HA	29:X:953:G:O3'	2.09	0.53
15:J:116:LYS:O	15:J:117:GLU:HB2	2.09	0.53
15:J:79:PRO:CD	15:J:88:LYS:HZ3	2.22	0.53
16:K:83:VAL:HG23	16:K:87:TYR:HE2	1.73	0.53
19:N:82:GLY:HA3	19:N:113:SER:HG	1.72	0.53
22:Q:35:LYS:HG2	22:Q:53:ILE:HG12	1.91	0.53
29:X:1006:C:H4'	29:X:1007:A:OP1	2.09	0.53
29:X:1092:U:H2'	29:X:1093:U:C6	2.44	0.53
29:X:1233:A:HO2'	29:X:1234:C:P	2.31	0.53
29:X:1505:U:H3'	29:X:1505:U:H6	1.74	0.53
29:X:1958:G:H2'	29:X:1959:U:C6	2.43	0.53
29:X:2037:A:N7	29:X:2039:G:H1'	2.24	0.53
29:X:2391:A:C8	29:X:2392:G:C8	2.96	0.53
29:X:2675:U:H2'	29:X:2676:G:C8	2.44	0.53
29:X:446:C:H2'	29:X:447:U:O4'	2.09	0.53
29:X:454:G:H4'	29:X:455:A:OP1	2.09	0.53
29:X:731:A:H2'	29:X:732:G:C4'	2.39	0.53
29:X:913:A:C2'	29:X:914:C:O5'	2.57	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:984:A:C4	29:X:1202:U:O4	2.62	0.53
31:Z:5:C:H2'	31:Z:6:C:H6	1.74	0.53
4:4:30:VAL:O	4:4:33:LYS:N	2.32	0.53
6:A:142:VAL:HA	6:A:194:GLY:O	2.09	0.53
6:A:252:LYS:NZ	6:A:253:PRO:HD2	2.24	0.53
7:B:19:ARG:HG3	7:B:21:ILE:HD11	1.91	0.53
8:C:45:THR:CG2	8:C:47:THR:OG1	2.57	0.53
10:E:154:PRO:HG3	10:E:162:VAL:O	2.08	0.53
10:E:33:LEU:O	10:E:34:THR:HG23	2.09	0.53
12:G:106:TYR:CE2	12:G:108:GLY:HA3	2.44	0.53
13:H:25:LEU:HD21	13:H:52:VAL:CG2	2.39	0.53
14:I:45:LYS:CG	14:I:46:GLY:H	2.22	0.53
16:K:106:ASP:CG	16:K:108:VAL:HG23	2.30	0.53
21:P:87:GLU:HA	21:P:90:LEU:HG	1.90	0.53
22:Q:55:THR:O	22:Q:56:MET:HG2	2.07	0.53
22:Q:89:GLU:CB	22:Q:91:LEU:HD23	2.38	0.53
24:S:113:VAL:HG13	24:S:171:VAL:HG22	1.90	0.53
24:S:131:PRO:HG2	24:S:155:PRO:HG3	1.91	0.53
24:S:81:VAL:HG12	24:S:82:ASP:N	2.23	0.53
25:T:50:GLY:O	25:T:81:ILE:HD12	2.09	0.53
12:G:56:THR:HG21	29:X:1016:C:O2'	2.09	0.53
29:X:1288:A:H2'	29:X:1289:A:O4'	2.09	0.53
29:X:1648:C:H6	29:X:1648:C:C5'	2.22	0.53
29:X:1685:A:C5	29:X:1691:G:C4	2.97	0.53
29:X:1769:U:O4	29:X:1775:A:H1'	2.09	0.53
29:X:581:A:C2	29:X:2016:A:C2	2.97	0.53
29:X:211:U:O2'	29:X:212:U:H5'	2.09	0.53
29:X:2187:A:C6	29:X:2188:A:C6	2.97	0.53
29:X:2200:G:H2'	29:X:2201:G:C8	2.43	0.53
17:L:89:PHE:CD2	29:X:2355:A:H2	2.26	0.53
29:X:322:A:HO2'	29:X:323:G:P	2.32	0.53
29:X:417:C:C4	29:X:419:G:C4	2.97	0.53
29:X:663:G:C3'	29:X:664:C:C5'	2.86	0.53
29:X:692:C:H2'	29:X:693:A:H8	1.73	0.53
29:X:73:A:H5''	29:X:74:G:O4'	2.08	0.53
6:A:132:PRO:HB3	6:A:190:TYR:HD2	1.74	0.52
7:B:118:LYS:CG	7:B:118:LYS:O	2.57	0.52
7:B:25:VAL:HG13	7:B:183:LEU:HD22	1.89	0.52
8:C:29:GLU:OE1	14:I:18:ARG:NH1	2.27	0.52
10:E:76:VAL:C	10:E:78:GLY:N	2.62	0.52
12:G:33:ILE:CB	12:G:34:PRO:CD	2.70	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:107:LYS:HA	14:I:124:ALA:O	2.10	0.52
12:G:66:HIS:HA	19:N:67:ALA:HB1	1.90	0.52
24:S:13:LYS:HB2	24:S:18:MET:HB2	1.91	0.52
24:S:120:LEU:CD2	24:S:162:ALA:HB2	2.24	0.52
25:T:53:MET:HE2	25:T:59:LEU:HD21	1.91	0.52
26:U:32:ARG:H	26:U:32:ARG:CD	2.18	0.52
29:X:1094:C:H2'	29:X:1096:A:C5'	2.38	0.52
29:X:1339:U:H5	29:X:1664:G:O2'	1.92	0.52
29:X:1399:C:O2'	29:X:1400:A:H5'	2.09	0.52
29:X:1473:U:O2'	29:X:1474:A:P	2.67	0.52
29:X:1703:C:H2'	29:X:1704:G:O4'	2.09	0.52
29:X:2063:A:H2'	29:X:2064:U:C6	2.44	0.52
29:X:2171:U:OP1	29:X:2171:U:H4'	2.09	0.52
29:X:332:C:H5''	29:X:333:A:OP2	2.09	0.52
21:P:39:ARG:HH12	29:X:528:G:C5'	2.22	0.52
29:X:661:C:C2	29:X:662:G:C8	2.96	0.52
6:A:181:GLU:O	6:A:182:LEU:HD23	2.09	0.52
7:B:53:PRO:CD	18:M:5:ILE:HG22	2.38	0.52
8:C:129:LYS:C	8:C:131:LYS:N	2.62	0.52
9:D:152:MET:CE	9:D:154:ILE:HD11	2.39	0.52
9:D:74:ILE:HG23	9:D:80:ARG:CA	2.33	0.52
10:E:103:LEU:HD21	10:E:131:ILE:CD1	2.37	0.52
11:F:25:PRO:HG2	11:F:26:ALA:N	2.24	0.52
12:G:117:GLU:C	12:G:119:LEU:N	2.57	0.52
13:H:29:ILE:O	13:H:29:ILE:HG23	2.09	0.52
14:I:127:ALA:C	14:I:129:ALA:N	2.61	0.52
16:K:94:TYR:CE1	16:K:115:LEU:O	2.62	0.52
16:K:95:THR:HG22	16:K:95:THR:O	2.08	0.52
19:N:79:PHE:HE2	19:N:95:LEU:HD21	1.73	0.52
21:P:91:PHE:CE1	21:P:131:LYS:HA	2.44	0.52
26:U:22:GLY:HA3	26:U:39:LYS:HG3	1.91	0.52
26:U:23:LYS:HE3	26:U:26:ALA:HA	1.90	0.52
26:U:71:SER:HA	26:U:79:GLU:HG3	1.92	0.52
27:V:62:ARG:HH11	27:V:62:ARG:HG2	1.75	0.52
29:X:1300:A:C2	29:X:1301:U:C2	2.97	0.52
29:X:1474:A:C2	29:X:1476:G:C6	2.97	0.52
29:X:1541:G:H2'	29:X:1542:G:H8	1.72	0.52
29:X:1713:G:C6	29:X:1714:A:C4	2.97	0.52
29:X:1785:A:H2'	29:X:1786:C:H6	1.73	0.52
29:X:204:A:O2'	29:X:205:A:C8	2.61	0.52
29:X:2261:G:H5'	29:X:2262:C:O4'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2507:U:O2'	29:X:2508:G:H3'	2.09	0.52
29:X:2824:C:O2'	29:X:2825:A:P	2.67	0.52
29:X:404:A:C4	29:X:424:G:C2	2.97	0.52
29:X:810:U:H6	29:X:810:U:H3'	1.73	0.52
31:Z:3:A:H2'	31:Z:4:C:H5'	1.91	0.52
8:C:23:ASN:HB3	8:C:26:VAL:CG2	2.36	0.52
11:F:12:LEU:HD12	11:F:37:PHE:CE2	2.44	0.52
11:F:23:VAL:O	11:F:26:ALA:N	2.42	0.52
15:J:18:MET:HG2	15:J:19:THR:H	1.74	0.52
22:Q:42:ILE:HG23	22:Q:43:GLN:N	2.24	0.52
23:R:11:ASN:ND2	23:R:11:ASN:O	2.42	0.52
24:S:3:LEU:HD13	24:S:33:ALA:O	2.09	0.52
29:X:1141:U:HO2'	29:X:1142:G:P	2.32	0.52
29:X:1558:C:O2'	29:X:1559:G:H5'	2.09	0.52
6:A:261:ARG:NH2	29:X:1790:G:O3'	2.42	0.52
6:A:149:PRO:CG	29:X:2200:G:O2'	2.53	0.52
29:X:971:A:C4'	29:X:2436:U:H4'	2.40	0.52
31:Z:54:U:O2'	31:Z:55:C:H5'	2.08	0.52
7:B:179:GLU:O	7:B:180:ASN:C	2.47	0.52
8:C:104:LEU:N	8:C:104:LEU:CD2	2.72	0.52
8:C:138:LYS:O	8:C:140:ASN:N	2.37	0.52
9:D:111:ILE:HA	9:D:137:ILE:CG2	2.39	0.52
10:E:9:ILE:HG21	10:E:50:LEU:HB3	1.90	0.52
12:G:106:TYR:CZ	12:G:108:GLY:HA2	2.45	0.52
12:G:36:ASN:C	12:G:38:GLU:N	2.52	0.52
16:K:3:HIS:NE2	29:X:2797:G:OP2	2.42	0.52
16:K:76:VAL:HG13	16:K:77:ARG:N	2.24	0.52
17:L:66:ASP:O	17:L:68:ALA:N	2.42	0.52
20:O:13:ARG:HB2	20:O:13:ARG:NH2	2.23	0.52
26:U:49:LYS:HD3	26:U:61:TRP:CD2	2.45	0.52
29:X:1145:C:C6	29:X:1147:G:P	3.03	0.52
29:X:1318:A:C2	29:X:1319:C:C2	2.97	0.52
29:X:1555:A:H2'	29:X:1556:A:O4'	2.09	0.52
29:X:17:G:N2	29:X:18:U:C2	2.78	0.52
29:X:203:G:N2	29:X:204:A:C2	2.77	0.52
29:X:219:G:O2'	29:X:220:U:P	2.67	0.52
29:X:649:G:H22	29:X:661:C:C1'	2.22	0.52
6:A:108:PRO:HD2	6:A:111:LEU:HD12	1.91	0.52
6:A:143:HIS:ND1	6:A:143:HIS:N	2.57	0.52
6:A:210:GLY:HA2	6:A:213:ARG:CG	2.39	0.52
6:A:182:LEU:O	6:A:268:ARG:N	2.39	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:136:ARG:O	29:X:1674:C:OP1	2.27	0.52
8:C:102:LEU:HD21	8:C:106:MET:CE	2.39	0.52
8:C:128:ALA:HB1	29:X:332:C:H5'	1.91	0.52
8:C:175:VAL:HG23	8:C:176:ASN:N	2.24	0.52
8:C:35:LEU:HD23	8:C:38:ARG:HD2	1.91	0.52
12:G:70:PHE:N	12:G:70:PHE:CD2	2.78	0.52
15:J:21:ASP:N	15:J:99:LYS:HE2	2.23	0.52
15:J:76:THR:CG2	15:J:88:LYS:O	2.57	0.52
16:K:76:VAL:O	16:K:79:VAL:CG1	2.57	0.52
17:L:60:LYS:HG3	17:L:63:ASN:O	2.08	0.52
13:H:116:ARG:CD	18:M:40:ARG:HH21	2.22	0.52
20:O:20:ILE:CD1	20:O:21:ARG:N	2.72	0.52
20:O:35:LEU:HD22	20:O:36:LYS:O	2.09	0.52
20:O:64:GLY:HA3	20:O:90:PHE:CE1	2.44	0.52
23:R:10:HIS:CB	23:R:44:GLN:NE2	2.72	0.52
24:S:84:TYR:CE1	31:Z:107:C:H4'	2.42	0.52
29:X:1002:C:C4	29:X:1003:C:C5	2.97	0.52
29:X:122:G:C2'	29:X:123:A:H5''	2.40	0.52
29:X:1313:U:O2'	29:X:1314:A:P	2.67	0.52
29:X:1398:G:H4'	29:X:1398:G:OP1	2.10	0.52
29:X:1504:G:H2'	29:X:1505:U:C2	2.45	0.52
29:X:1603:A:OP2	29:X:1603:A:H8	1.93	0.52
29:X:1657:A:H8	29:X:1657:A:H5'	1.74	0.52
29:X:1793:A:C6	29:X:1809:G:N2	2.77	0.52
29:X:223:C:H2'	29:X:224:G:H5'	1.92	0.52
29:X:2576:G:C5	29:X:2577:A:C6	2.98	0.52
29:X:2837:G:C6	29:X:2838:U:C4	2.98	0.52
29:X:2856:U:C2	29:X:2857:C:C5	2.98	0.52
29:X:4:C:O2'	29:X:5:A:H5'	2.09	0.52
14:I:26:THR:OG1	29:X:676:G:OP1	2.28	0.52
29:X:829:C:O2'	29:X:830:C:H5'	2.10	0.52
29:X:836:G:H2'	29:X:837:U:C6	2.43	0.52
29:X:8:A:H2'	29:X:9:U:O4'	2.10	0.52
31:Z:36:A:C2	31:Z:51:G:C6	2.98	0.52
8:C:136:TRP:CD2	8:C:140:ASN:ND2	2.78	0.52
8:C:186:LEU:HG	8:C:188:ILE:CG1	2.34	0.52
10:E:144:VAL:C	10:E:146:ALA:N	2.61	0.52
10:E:57:ASP:O	10:E:58:ALA:HB2	2.09	0.52
16:K:28:LEU:C	16:K:28:LEU:HD23	2.29	0.52
16:K:3:HIS:CE1	29:X:2796:A:P	2.97	0.52
17:L:33:ARG:HH12	17:L:103:LEU:H	1.58	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Q:24:VAL:HG13	22:Q:80:VAL:O	2.09	0.52
24:S:64:ALA:HA	24:S:85:MET:HA	1.91	0.52
27:V:37:LEU:CD1	29:X:60:A:H4'	2.37	0.52
28:W:1:MET:O	28:W:34:VAL:HG12	2.09	0.52
29:X:1135:C:C4	29:X:1136:G:N7	2.77	0.52
29:X:1240:G:O2'	29:X:1241:G:H5'	2.09	0.52
29:X:1249:G:O2'	29:X:1250:A:O5'	2.25	0.52
29:X:1372:A:C4	29:X:1373:G:C8	2.98	0.52
29:X:1569:A:N1	29:X:1571:G:H1'	2.24	0.52
29:X:1602:G:H5'	29:X:1603:A:OP2	2.10	0.52
29:X:1923:U:O2'	29:X:1924:C:OP2	2.28	0.52
29:X:208:C:N4	29:X:209:G:N2	2.57	0.52
29:X:2204:A:O2'	29:X:2205:C:OP2	2.20	0.52
17:L:89:PHE:CZ	29:X:2356:A:H1'	2.44	0.52
15:J:47:GLN:NE2	29:X:2464:G:OP1	2.40	0.52
29:X:2705:A:O2'	29:X:2706:U:C6	2.63	0.52
23:R:4:PRO:CA	29:X:34:U:H1'	2.40	0.52
8:C:176:ASN:CB	29:X:626:A:O2'	2.58	0.52
29:X:682:G:N3	29:X:682:G:H2'	2.23	0.52
29:X:756:C:C2'	29:X:757:U:H5'	2.40	0.52
29:X:77:C:C2	29:X:78:C:C5	2.97	0.52
31:Z:123:U:OP1	31:Z:123:U:H3'	2.09	0.52
6:A:123:ALA:O	6:A:125:PRO:HD3	2.10	0.52
6:A:205:VAL:O	6:A:206:LEU:HB2	2.09	0.52
7:B:115:GLY:HA2	7:B:157:ALA:HB2	1.91	0.52
7:B:198:LEU:CD1	7:B:198:LEU:N	2.68	0.52
8:C:108:ILE:O	8:C:111:ARG:N	2.43	0.52
11:F:52:ILE:H	11:F:73:PRO:HD2	1.75	0.52
12:G:131:VAL:C	12:G:133:GLY:N	2.63	0.52
13:H:16:ALA:HB3	13:H:98:ILE:CD1	2.36	0.52
15:J:82:THR:O	15:J:83:ARG:HB2	2.10	0.52
17:L:56:SER:HG	17:L:71:VAL:HB	1.75	0.52
21:P:18:VAL:HG12	21:P:19:LYS:N	2.23	0.52
26:U:22:GLY:CA	26:U:39:LYS:HD2	2.39	0.52
29:X:1052:C:H3'	29:X:1053:G:H5'	1.89	0.52
29:X:1179:A:H2'	29:X:1180:A:C8	2.45	0.52
29:X:1242:A:C2	29:X:1243:G:C4	2.98	0.52
29:X:1350:G:C4	29:X:1351:G:C8	2.97	0.52
29:X:1505:U:H2'	29:X:1506:C:C5'	2.37	0.52
29:X:1817:U:H2'	29:X:1818:G:O4'	2.10	0.52
29:X:1920:A:C2	29:X:1922:U:H5	2.28	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2175:A:O2'	29:X:2176:U:H5'	2.09	0.52
10:E:160:LYS:HZ1	29:X:2637:C:P	2.32	0.52
29:X:2660:C:C4	29:X:2704:U:C5	2.98	0.52
29:X:2674:C:H2'	29:X:2675:U:C6	2.44	0.52
29:X:2805:G:H2'	29:X:2806:G:O4'	2.10	0.52
29:X:356:A:C2'	29:X:357:A:C8	2.92	0.52
6:A:211:ARG:NH1	6:A:211:ARG:CG	2.55	0.52
7:B:127:ALA:CB	7:B:135:HIS:HE1	2.23	0.52
8:C:42:THR:HG22	29:X:38:G:N3	2.25	0.52
9:D:65:PRO:CB	9:D:89:VAL:HG22	2.36	0.52
15:J:95:VAL:HG12	15:J:96:SER:N	2.25	0.52
16:K:24:GLN:O	16:K:25:ALA:C	2.48	0.52
16:K:87:TYR:CE1	16:K:94:TYR:CD2	2.82	0.52
19:N:45:TYR:O	19:N:46:GLU:C	2.48	0.52
14:I:32:ARG:CD	20:O:81:ARG:HD2	2.39	0.52
23:R:25:LEU:CD1	23:R:25:LEU:N	2.72	0.52
29:X:1068:A:H2'	29:X:1068:A:N3	2.24	0.52
29:X:1128:G:H2'	29:X:1129:A:H5''	1.91	0.52
29:X:1242:A:H2'	29:X:1243:G:C8	2.44	0.52
6:A:254:THR:H	29:X:1787:U:H4'	1.75	0.52
9:D:155:THR:HG21	29:X:2293:G:H4'	1.92	0.52
29:X:565:A:H2'	29:X:566:U:C6	2.45	0.52
29:X:566:U:H2'	29:X:567:G:C8	2.44	0.52
29:X:571:U:O2	29:X:581:A:C4	2.63	0.52
29:X:636:G:C5'	29:X:636:G:H8	2.14	0.52
29:X:847:C:N3	29:X:848:A:N7	2.58	0.52
29:X:929:A:H2	31:Z:81:C:O2	1.93	0.52
6:A:134:ARG:HG3	6:A:135:PHE:CD2	2.45	0.52
6:A:184:ARG:HH21	6:A:268:ARG:NH1	2.06	0.52
6:A:186:HIS:C	6:A:188:GLU:H	2.14	0.52
6:A:243:GLY:C	6:A:244:ARG:HD3	2.30	0.52
7:B:120:TRP:CE3	7:B:155:ARG:HD2	2.45	0.52
7:B:95:ILE:HG22	7:B:96:PHE:N	2.25	0.52
9:D:27:ALA:HB2	31:Z:59:A:C1'	2.23	0.52
12:G:148:LEU:HD12	12:G:148:LEU:C	2.31	0.52
12:G:33:ILE:HD12	12:G:34:PRO:N	2.25	0.52
13:H:27:SER:OG	13:H:49:ASP:HA	2.09	0.52
13:H:3:MET:O	13:H:6:SER:HB3	2.10	0.52
13:H:70:VAL:CG2	13:H:71:LYS:H	2.22	0.52
15:J:15:ARG:NH1	15:J:15:ARG:CG	2.72	0.52
15:J:27:TYR:HB3	15:J:137:VAL:CG1	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:11:LEU:HD21	29:X:2273:C:C5'	2.40	0.52
17:L:89:PHE:O	17:L:89:PHE:HD1	1.93	0.52
18:M:101:ARG:NH2	18:M:101:ARG:HG2	2.23	0.52
12:G:70:PHE:CB	19:N:64:ARG:HG2	2.39	0.52
26:U:10:LYS:HD3	26:U:11:LYS:HG3	1.92	0.52
26:U:20:ARG:HD3	26:U:43:ARG:CZ	2.40	0.52
28:W:9:VAL:O	28:W:12:ARG:HB2	2.10	0.52
29:X:1074:G:O2'	29:X:1075:C:H5'	2.10	0.52
8:C:66:ASN:HA	29:X:1268:U:C5	2.45	0.52
29:X:1425:G:C2'	29:X:1426:U:H5'	2.39	0.52
29:X:1448:A:H2'	29:X:1449:C:C6	2.45	0.52
29:X:1753:A:O5'	29:X:1753:A:H8	1.93	0.52
29:X:229:G:H2'	29:X:230:C:H6	1.75	0.52
29:X:2431:C:O2'	29:X:2432:A:H5'	2.10	0.52
29:X:1939:U:H1'	29:X:2531:U:OP1	2.10	0.52
29:X:457:C:N4	29:X:458:G:C6	2.78	0.52
29:X:694:G:H2'	29:X:695:G:O4'	2.09	0.52
29:X:777:A:HO2'	29:X:778:G:P	2.31	0.52
29:X:872:G:N2	29:X:928:G:H2'	2.25	0.52
29:X:2039:G:N2	30:Y:4:HIS:O	2.43	0.52
6:A:132:PRO:HD3	6:A:190:TYR:CE2	2.45	0.52
6:A:132:PRO:CA	6:A:190:TYR:HA	2.34	0.52
7:B:188:ILE:CG2	7:B:189:PRO:CD	2.84	0.52
7:B:93:VAL:O	7:B:94:ASP:HB2	2.08	0.52
11:F:78:ILE:O	11:F:81:ALA:N	2.40	0.52
15:J:69:ILE:HD13	15:J:104:MET:CB	2.40	0.52
17:L:67:THR:O	17:L:71:VAL:HG12	2.10	0.52
21:P:30:TYR:CD1	21:P:123:HIS:HE1	2.28	0.52
26:U:59:THR:O	26:U:60:VAL:O	2.28	0.52
29:X:1336:G:O2'	29:X:1337:G:H5'	2.10	0.52
29:X:1918:G:C4	29:X:1945:C:N4	2.77	0.52
29:X:1918:G:H1'	29:X:1947:G:N2	2.25	0.52
29:X:1987:G:C5	29:X:1988:A:C8	2.98	0.52
29:X:2178:U:H2'	29:X:2179:C:H6	1.73	0.52
29:X:219:G:H2'	29:X:231:G:O6	2.10	0.52
29:X:2662:C:O2'	29:X:2663:U:H5'	2.10	0.52
29:X:222:G:H1'	29:X:397:U:O2	2.10	0.52
29:X:654:A:OP1	29:X:654:A:O4'	2.28	0.52
29:X:930:A:C8	29:X:931:G:C8	2.98	0.52
24:S:67:LYS:NZ	31:Z:106:U:O3'	2.43	0.52
6:A:121:PRO:HB2	6:A:135:PHE:CE1	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:142:VAL:HB	6:A:192:THR:O	2.10	0.51
7:B:141:ILE:HG23	7:B:154:LYS:HD3	1.90	0.51
8:C:151:VAL:HG11	8:C:175:VAL:HG12	1.92	0.51
8:C:171:PRO:O	8:C:173:ALA:N	2.42	0.51
8:C:186:LEU:CG	8:C:188:ILE:HG12	2.35	0.51
9:D:34:ILE:HD11	9:D:156:ILE:HG12	1.92	0.51
12:G:103:TYR:CG	12:G:111:LYS:HA	2.45	0.51
12:G:68:PRO:O	12:G:70:PHE:CE2	2.63	0.51
12:G:84:ASN:C	12:G:86:ALA:N	2.63	0.51
13:H:100:ASN:OD1	13:H:100:ASN:C	2.49	0.51
14:I:39:SER:O	14:I:40:ARG:CB	2.58	0.51
16:K:79:VAL:CA	16:K:83:VAL:HG13	2.31	0.51
17:L:21:THR:HG22	17:L:22:ALA:H	1.70	0.51
19:N:114:ARG:NH1	19:N:115:ASN:ND2	2.54	0.51
19:N:66:ASN:CG	19:N:70:ARG:HH12	2.12	0.51
20:O:13:ARG:HB2	20:O:13:ARG:CZ	2.40	0.51
26:U:46:LEU:C	26:U:47:HIS:ND1	2.63	0.51
27:V:64:GLY:O	27:V:65:GLU:CB	2.57	0.51
29:X:102:C:C4	29:X:103:U:C4	2.98	0.51
29:X:1216:G:C6	29:X:1217:U:C4	2.98	0.51
29:X:1329:U:C2	29:X:1330:G:C8	2.98	0.51
29:X:1430:G:H2'	29:X:1431:U:H6	1.71	0.51
29:X:1494:G:N2	29:X:1495:G:H1'	2.25	0.51
29:X:172:A:C2	29:X:227:G:N2	2.60	0.51
29:X:1911:A:H2'	29:X:1912:G:C1'	2.39	0.51
29:X:197:G:N3	29:X:210:A:C2	2.76	0.51
29:X:2228:U:N3	29:X:2232:G:OP2	2.42	0.51
25:T:60:PHE:CZ	29:X:2344:G:H4'	2.45	0.51
17:L:89:PHE:HZ	29:X:2356:A:HO2'	1.50	0.51
29:X:497:C:C6	29:X:497:C:C3'	2.93	0.51
29:X:946:U:C2	29:X:947:C:C5	2.98	0.51
29:X:945:G:C5	29:X:946:U:C5	2.97	0.51
6:A:244:ARG:HG2	29:X:1884:A:O2'	2.09	0.51
7:B:68:ALA:C	7:B:70:ALA:H	2.12	0.51
8:C:112:GLN:CA	8:C:116:LYS:HD3	2.40	0.51
10:E:9:ILE:O	10:E:11:VAL:HG23	2.09	0.51
17:L:53:ALA:C	17:L:75:LEU:HD13	2.30	0.51
22:Q:63:LYS:HG3	22:Q:64:ARG:N	2.25	0.51
23:R:8:SER:C	23:R:10:HIS:H	2.13	0.51
24:S:71:MET:N	24:S:71:MET:HE2	2.25	0.51
27:V:37:LEU:C	27:V:37:LEU:HD23	2.30	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1154:A:H4'	29:X:1155:G:OP2	2.08	0.51
29:X:1236:G:H2'	29:X:1238:A:OP2	2.10	0.51
29:X:1544:A:C2	29:X:1560:A:C4	2.98	0.51
29:X:1432:G:H21	29:X:1596:A:H62	1.58	0.51
29:X:762:A:C6	29:X:1634:A:C2	2.98	0.51
29:X:171:G:C2	29:X:179:U:H1'	2.45	0.51
29:X:2210:C:C2	29:X:2211:U:C5	2.97	0.51
29:X:2264:C:H5'	29:X:2267:A:N6	2.25	0.51
29:X:2309:G:C2'	29:X:2310:G:H5'	2.39	0.51
29:X:2379:G:O2'	29:X:2380:U:H5'	2.09	0.51
29:X:492:G:H1'	29:X:516:G:N2	2.25	0.51
29:X:549:G:H2'	29:X:550:C:H6	1.75	0.51
29:X:584:A:C2	29:X:585:U:C5	2.97	0.51
29:X:664:C:H3'	29:X:665:A:C2	2.45	0.51
29:X:889:C:H2'	29:X:890:U:C6	2.46	0.51
28:W:49:HIS:CD2	31:Z:85:G:H5'	2.46	0.51
7:B:9:ILE:O	7:B:9:ILE:HG22	2.08	0.51
8:C:195:ILE:HG13	8:C:195:ILE:O	2.11	0.51
9:D:60:ILE:HD12	9:D:138:PHE:CD2	2.45	0.51
10:E:103:LEU:HB2	10:E:123:PHE:CE2	2.45	0.51
12:G:116:ARG:CZ	12:G:126:VAL:HG13	2.39	0.51
14:I:11:GLY:N	14:I:14:LYS:CB	2.61	0.51
14:I:18:ARG:HD2	14:I:21:ARG:HG3	1.92	0.51
15:J:119:PHE:O	15:J:123:GLY:N	2.43	0.51
15:J:30:PHE:HB3	15:J:66:TYR:CE2	2.46	0.51
16:K:11:ASN:HD21	16:K:12:ARG:NE	2.06	0.51
17:L:32:TYR:CZ	31:Z:9:G:H5'	2.45	0.51
22:Q:35:LYS:HA	22:Q:38:ILE:CG2	2.39	0.51
23:R:111:GLY:H	23:R:112:LYS:HD2	1.75	0.51
24:S:127:PRO:O	24:S:128:ARG:CG	2.56	0.51
25:T:23:VAL:HG13	25:T:38:VAL:HG22	1.91	0.51
26:U:22:GLY:HA3	26:U:39:LYS:CG	2.40	0.51
28:W:18:LYS:O	28:W:21:GLN:N	2.43	0.51
29:X:105:G:O2'	29:X:106:G:H5'	2.10	0.51
29:X:1016:C:C2	29:X:1154:A:C5	2.99	0.51
29:X:1194:U:C6	29:X:1194:U:H5'	2.33	0.51
29:X:1246:G:C5	29:X:1247:U:C5	2.99	0.51
29:X:1970:G:O2'	29:X:1971:C:H5'	2.10	0.51
29:X:2018:G:H4'	29:X:2019:C:OP2	2.09	0.51
29:X:2060:A:H1'	29:X:2414:A:O4'	2.09	0.51
29:X:220:U:H2'	29:X:220:U:O2	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:994:A:N7	29:X:995:A:C6	2.79	0.51
31:Z:62:C:H2'	31:Z:63:A:C8	2.45	0.51
8:C:162:ARG:NH1	29:X:310:A:N1	2.59	0.51
11:F:10:LEU:HD21	11:F:57:ILE:CG1	2.38	0.51
11:F:52:ILE:H	11:F:73:PRO:CG	2.24	0.51
7:B:152:LYS:H	12:G:106:TYR:HB3	1.74	0.51
13:H:73:VAL:O	13:H:73:VAL:HG13	2.11	0.51
14:I:86:THR:H	14:I:116:ARG:HH11	1.58	0.51
14:I:89:ASP:C	14:I:90:ARG:HG3	2.31	0.51
15:J:17:ARG:NH1	29:X:967:G:O6	2.43	0.51
15:J:36:ILE:HG23	15:J:102:ARG:O	2.10	0.51
16:K:45:ARG:O	16:K:48:VAL:HG12	2.10	0.51
20:O:47:PHE:O	20:O:48:GLY:O	2.28	0.51
21:P:62:ARG:O	21:P:65:SER:HB2	2.10	0.51
23:R:93:ARG:NH2	23:R:108:VAL:CA	2.73	0.51
24:S:91:PRO:CD	24:S:127:PRO:HG3	2.39	0.51
24:S:39:PHE:HA	24:S:42:ALA:HB3	1.93	0.51
29:X:1139:A:O2'	29:X:1140:A:P	2.68	0.51
29:X:1302:C:H2'	29:X:1303:U:H6	1.75	0.51
29:X:1404:C:H5'	29:X:1405:A:OP2	2.10	0.51
29:X:1525:A:C5	29:X:1526:U:H1'	2.46	0.51
29:X:1705:U:O2	29:X:1717:A:C5'	2.58	0.51
29:X:182:G:O2'	29:X:183:U:P	2.69	0.51
29:X:20:C:H2'	29:X:21:A:C8	2.46	0.51
29:X:2236:U:H2'	29:X:2237:C:H6	1.75	0.51
29:X:2619:G:C6	29:X:2755:A:C2	2.98	0.51
29:X:1750:A:N7	29:X:2675:U:H1'	2.25	0.51
29:X:357:A:H2'	29:X:358:C:H5'	1.93	0.51
29:X:498:C:C5	29:X:499:G:N7	2.79	0.51
12:G:74:MET:SD	29:X:566:U:H4'	2.50	0.51
29:X:822:G:H2'	29:X:823:U:H5'	1.92	0.51
6:A:149:PRO:HA	6:A:189:CYS:SG	2.50	0.51
6:A:226:MET:HE2	29:X:795:A:C2	2.46	0.51
8:C:129:LYS:O	8:C:131:LYS:N	2.35	0.51
8:C:136:TRP:O	8:C:137:ALA:C	2.48	0.51
9:D:13:ARG:HG2	9:D:13:ARG:HH21	1.74	0.51
9:D:16:LEU:HD13	9:D:28:VAL:CG1	2.41	0.51
9:D:166:ALA:C	9:D:170:LEU:HG	2.31	0.51
10:E:66:GLY:HA3	29:X:2728:A:O2'	2.10	0.51
12:G:104:THR:OG1	12:G:110:LEU:CD1	2.59	0.51
12:G:141:GLY:O	12:G:142:ARG:C	2.49	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:116:ARG:NE	18:M:40:ARG:HE	2.09	0.51
14:I:134:GLU:C	14:I:136:ALA:H	2.13	0.51
15:J:119:PHE:O	15:J:120:ARG:C	2.49	0.51
19:N:79:PHE:CZ	19:N:83:LEU:HD11	2.46	0.51
21:P:67:PRO:C	21:P:69:ALA:N	2.62	0.51
22:Q:27:PHE:CZ	22:Q:42:ILE:HD13	2.45	0.51
24:S:19:ILE:CD1	24:S:36:ARG:HG3	2.41	0.51
25:T:52:GLY:N	25:T:62:LEU:HD21	2.25	0.51
29:X:1069:G:H3'	29:X:1070:G:H5''	1.93	0.51
29:X:1234:C:N3	29:X:1242:A:C6	2.78	0.51
29:X:1629:G:C6	29:X:1633:C:C6	2.97	0.51
29:X:165:G:H1'	29:X:1378:A:C6	2.45	0.51
29:X:765:C:C4	29:X:1772:C:C2	2.98	0.51
29:X:1871:G:N3	29:X:1871:G:H3'	2.25	0.51
29:X:2275:U:C4'	29:X:2276:C:OP1	2.56	0.51
29:X:2334:C:H6	29:X:2334:C:O5'	1.93	0.51
29:X:2345:A:O2'	29:X:2346:G:H5'	2.11	0.51
29:X:2376:G:C2	29:X:2399:C:C2	2.99	0.51
29:X:24:G:H2'	29:X:25:U:H6	1.75	0.51
29:X:24:G:N2	29:X:25:U:H1'	2.25	0.51
29:X:2816:C:C2	29:X:2852:G:N2	2.78	0.51
29:X:361:G:O5'	29:X:361:G:H8	1.93	0.51
29:X:549:G:H2'	29:X:550:C:C6	2.46	0.51
29:X:748:A:C5'	29:X:749:C:OP2	2.58	0.51
25:T:44:LYS:NZ	29:X:871:U:OP1	2.42	0.51
29:X:939:C:C5'	29:X:940:G:O5'	2.57	0.51
7:B:37:LYS:HB3	7:B:42:ASP:HB2	1.91	0.51
8:C:158:ARG:HB3	8:C:169:VAL:HG11	1.92	0.51
9:D:122:PHE:HD2	9:D:129:ASN:N	2.09	0.51
9:D:175:LEU:CD2	9:D:177:PHE:HE1	2.23	0.51
11:F:21:PRO:N	11:F:22:PRO:HD3	2.25	0.51
12:G:155:THR:O	12:G:158:HIS:N	2.39	0.51
14:I:9:THR:O	14:I:13:ARG:HD2	2.11	0.51
17:L:34:SER:HB2	17:L:94:TYR:HE2	1.75	0.51
17:L:87:VAL:CG1	17:L:88:VAL:N	2.73	0.51
21:P:49:SER:OG	21:P:51:GLN:HB2	2.10	0.51
24:S:10:PRO:O	24:S:13:LYS:CG	2.56	0.51
24:S:92:VAL:HG23	24:S:93:GLU:N	2.25	0.51
28:W:27:LYS:C	28:W:28:ILE:O	2.46	0.51
29:X:1031:C:O2'	29:X:1032:A:H5''	2.11	0.51
29:X:1102:G:H2'	29:X:1103:C:H6	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1125:G:H2'	29:X:1126:A:H8	1.76	0.51
29:X:1646:G:C6	29:X:1647:U:N3	2.79	0.51
29:X:2016:A:N1	29:X:2019:C:C6	2.78	0.51
29:X:2417:U:O2'	29:X:2419:C:OP1	2.23	0.51
29:X:2607:C:O2'	29:X:2761:A:H2'	2.10	0.51
30:Y:51:TYR:HE1	30:Y:55:ARG:HD3	1.75	0.51
29:X:1999:U:O2'	30:Y:7:PRO:O	2.25	0.51
31:Z:112:A:H2'	31:Z:113:G:O4'	2.10	0.51
7:B:144:ARG:O	7:B:146:THR:N	2.44	0.51
7:B:61:LYS:N	7:B:62:PRO:CD	2.73	0.51
8:C:169:VAL:CG1	8:C:170:LEU:N	2.74	0.51
9:D:11:GLN:O	9:D:15:ALA:CB	2.59	0.51
9:D:138:PHE:HB2	9:D:141:ILE:HG12	1.91	0.51
9:D:16:LEU:O	9:D:20:PHE:CD1	2.63	0.51
11:F:21:PRO:N	11:F:22:PRO:CD	2.74	0.51
11:F:27:LEU:HD12	11:F:27:LEU:N	2.26	0.51
12:G:67:ARG:NH2	12:G:70:PHE:C	2.59	0.51
15:J:56:SER:O	15:J:57:ARG:C	2.49	0.51
17:L:10:LYS:C	17:L:14:ARG:HE	2.14	0.51
17:L:83:GLY:C	17:L:84:ILE:HD12	2.31	0.51
18:M:38:LYS:HD3	18:M:41:GLU:OE2	2.11	0.51
21:P:106:LEU:HD23	21:P:115:ASN:O	2.10	0.51
24:S:105:GLN:OE1	24:S:140:LYS:CA	2.53	0.51
24:S:100:THR:HG23	24:S:138:VAL:CG1	2.39	0.51
24:S:138:VAL:O	24:S:141:MET:HB2	2.10	0.51
28:W:39:ALA:O	28:W:43:MET:HG2	2.10	0.51
29:X:1031:C:C2'	29:X:1031:C:O2	2.57	0.51
29:X:1186:G:H2'	29:X:1188:A:N6	2.25	0.51
29:X:1820:G:O2'	29:X:1821:A:H5'	2.11	0.51
29:X:2404:A:H4'	29:X:2405:A:H5''	1.85	0.51
29:X:2852:G:C2'	29:X:2853:U:H5'	2.41	0.51
29:X:357:A:C5	29:X:358:C:H1'	2.45	0.51
29:X:437:G:O2'	29:X:438:G:H5'	2.10	0.51
31:Z:42:U:N3	31:Z:45:C:H5''	2.25	0.51
6:A:92:ILE:HG21	6:A:104:TYR:CD2	2.46	0.51
7:B:119:ARG:HA	7:B:160:MET:HE3	1.92	0.51
7:B:188:ILE:HG22	7:B:189:PRO:CD	2.41	0.51
8:C:30:VAL:O	8:C:31:VAL:C	2.47	0.51
8:C:42:THR:HG21	29:X:454:G:N3	2.24	0.51
8:C:48:ARG:O	8:C:51:VAL:CG2	2.59	0.51
10:E:11:VAL:HG21	10:E:50:LEU:HB2	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:43:VAL:CB	10:E:52:VAL:HG13	2.37	0.51
10:E:89:LEU:HD11	10:E:96:ALA:N	2.26	0.51
14:I:13:ARG:HG2	14:I:14:LYS:N	2.24	0.51
15:J:28:VAL:O	15:J:29:ALA:HB2	2.11	0.51
17:L:77:ALA:O	17:L:80:ALA:HB3	2.11	0.51
18:M:93:ILE:N	18:M:93:ILE:CD1	2.74	0.51
22:Q:19:ALA:O	22:Q:22:ARG:HG2	2.11	0.51
23:R:93:ARG:O	23:R:95:ARG:NE	2.44	0.51
24:S:105:GLN:O	24:S:141:MET:O	2.29	0.51
24:S:117:VAL:CG2	24:S:168:VAL:HA	2.35	0.51
26:U:46:LEU:O	26:U:47:HIS:ND1	2.44	0.51
27:V:26:MET:HA	27:V:29:ARG:NH2	2.25	0.51
29:X:1511:A:C6	29:X:1512:A:C6	2.99	0.51
29:X:1570:C:H5'	29:X:1571:G:OP2	2.11	0.51
29:X:162:C:O2'	29:X:163:A:H5'	2.11	0.51
29:X:1681:A:O5'	29:X:1681:A:H8	1.93	0.51
29:X:1838:G:H3'	29:X:1839:A:H8	1.75	0.51
29:X:1949:A:H1'	29:X:2572:U:C5'	2.40	0.51
29:X:223:C:O2'	29:X:398:C:H5'	2.11	0.51
29:X:2266:A:N6	29:X:2323:U:C4	2.77	0.51
29:X:2826:C:H6	29:X:2826:C:O5'	1.92	0.51
29:X:417:C:N3	29:X:419:G:C5	2.79	0.51
29:X:539:A:N3	29:X:540:G:O6	2.43	0.51
29:X:813:A:C2	29:X:815:A:C8	2.98	0.51
6:A:92:ILE:HG22	6:A:104:TYR:HD2	1.75	0.51
6:A:69:ARG:CD	6:A:105:ILE:HD11	2.35	0.51
7:B:133:LYS:HG2	7:B:137:ARG:HB3	1.93	0.51
9:D:111:ILE:HB	9:D:114:PHE:CB	2.34	0.51
9:D:14:PRO:O	9:D:17:MET:N	2.44	0.51
9:D:117:ILE:HD12	9:D:175:LEU:HD12	1.93	0.51
10:E:126:PRO:CG	10:E:127:GLU:H	2.10	0.51
10:E:43:VAL:CG2	10:E:44:ARG:N	2.74	0.51
10:E:89:LEU:HD12	10:E:129:THR:HA	1.93	0.51
12:G:109:GLY:C	12:G:110:LEU:HD23	2.31	0.51
13:H:79:HIS:CG	13:H:80:ALA:N	2.79	0.51
14:I:94:GLU:O	14:I:99:VAL:HG22	2.10	0.51
23:R:17:LYS:C	23:R:19:GLY:N	2.65	0.51
24:S:72:ASP:O	24:S:75:LYS:O	2.29	0.51
25:T:52:GLY:N	25:T:62:LEU:CD2	2.74	0.51
26:U:68:ARG:NH1	29:X:412:U:C5	2.79	0.51
12:G:103:TYR:CE2	29:X:1142:G:H1'	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:53:ARG:HH22	29:X:173:A:P	2.33	0.51
29:X:1779:C:H2'	29:X:1780:A:C8	2.46	0.51
29:X:2048:C:O2'	29:X:2049:C:H5'	2.11	0.51
29:X:2216:G:O5'	29:X:2216:G:H8	1.94	0.51
29:X:2247:A:H5''	29:X:2247:A:C8	2.46	0.51
29:X:2379:G:H2'	29:X:2380:U:H5'	1.91	0.51
29:X:2510:A:C6	29:X:2511:G:C5	2.99	0.51
29:X:2597:G:C2	29:X:2598:C:C2	2.99	0.51
29:X:2645:C:H3'	29:X:2646:C:C6	2.45	0.51
29:X:389:G:H2'	29:X:390:U:C5	2.44	0.51
29:X:546:A:H2'	29:X:547:U:C6	2.44	0.51
29:X:575:U:H2'	29:X:576:A:H8	1.76	0.51
29:X:750:C:H2'	29:X:751:G:H5'	1.93	0.51
29:X:972:C:C4'	29:X:973:U:OP2	2.57	0.51
31:Z:106:U:H6	31:Z:106:U:O5'	1.94	0.51
9:D:119:PRO:HG2	9:D:120:ASN:N	2.20	0.51
11:F:52:ILE:H	11:F:73:PRO:HG2	1.75	0.51
12:G:67:ARG:HB3	12:G:70:PHE:CB	2.40	0.51
12:G:73:ASN:HD21	29:X:547:U:H1'	1.76	0.51
13:H:125:LYS:O	13:H:128:SER:HB2	2.10	0.51
13:H:25:LEU:HD11	13:H:52:VAL:CG2	2.40	0.51
13:H:78:SER:HA	13:H:91:PHE:O	2.11	0.51
14:I:36:GLY:O	14:I:37:GLN:HB2	2.11	0.51
15:J:128:ILE:CD1	15:J:130:THR:HG23	2.42	0.51
15:J:31:GLY:CA	15:J:108:ALA:HB2	2.40	0.51
17:L:106:ALA:O	17:L:109:GLU:HG2	2.11	0.51
19:N:93:LYS:HD2	20:O:10:LYS:HZ1	1.76	0.51
21:P:38:VAL:HG22	21:P:64:ALA:CB	2.41	0.51
21:P:80:LEU:HD21	21:P:87:GLU:CB	2.41	0.51
25:T:44:LYS:HE3	25:T:45:PHE:HE1	1.75	0.51
26:U:41:VAL:O	26:U:42:GLN:CB	2.59	0.51
27:V:7:ARG:C	27:V:9:LEU:H	2.13	0.51
28:W:14:GLY:O	28:W:18:LYS:HG2	2.10	0.51
29:X:1053:G:C2'	29:X:1054:C:O4'	2.59	0.51
29:X:1332:G:C2	29:X:1333:G:N2	2.79	0.51
29:X:1495:G:H5'	29:X:1574:A:C2	2.46	0.51
29:X:1361:G:C6	29:X:1615:C:N4	2.78	0.51
7:B:129:HIS:CE1	29:X:1692:C:N3	2.79	0.51
29:X:1757:C:O2	29:X:1970:G:C2	2.64	0.51
29:X:1782:A:N1	29:X:1821:A:H5'	2.26	0.51
29:X:194:G:H2'	29:X:195:A:O4'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2228:U:C5'	29:X:2229:G:OP2	2.57	0.51
29:X:2284:U:C2'	29:X:2285:U:H5''	2.41	0.51
9:D:88:LYS:NZ	29:X:2293:G:OP1	2.42	0.51
29:X:2322:U:H4'	29:X:2323:U:OP1	2.11	0.51
14:I:63:ARG:CZ	29:X:2394:G:P	2.99	0.51
29:X:242:A:H2'	29:X:243:G:O4'	2.10	0.51
29:X:2429:A:OP1	29:X:2476:A:C8	2.64	0.51
29:X:2635:U:OP2	29:X:2643:G:N1	2.31	0.51
29:X:2778:U:H5'	29:X:2779:C:H1'	1.93	0.51
29:X:462:G:O6	29:X:465:C:OP1	2.28	0.51
29:X:490:A:O2'	29:X:492:G:H5''	2.11	0.51
29:X:774:A:C8	29:X:774:A:C3'	2.94	0.51
29:X:79:G:H2'	29:X:80:A:O4'	2.11	0.51
31:Z:29:C:C5	31:Z:30:C:C5	2.99	0.51
31:Z:49:C:H5'	31:Z:50:U:OP2	2.10	0.51
6:A:77:ALA:CB	6:A:97:TYR:CD1	2.87	0.50
7:B:52:ALA:HB3	7:B:76:ARG:HD2	1.92	0.50
9:D:110:ARG:HH21	9:D:110:ARG:HG2	1.75	0.50
9:D:65:PRO:HB3	9:D:89:VAL:CG2	2.39	0.50
11:F:83:GLY:C	11:F:84:ILE:HG13	2.31	0.50
12:G:106:TYR:O	12:G:108:GLY:N	2.38	0.50
14:I:36:GLY:O	14:I:37:GLN:HG3	2.11	0.50
14:I:76:LYS:HB3	14:I:79:GLN:NE2	2.26	0.50
14:I:80:LEU:CD2	14:I:97:ARG:NH2	2.74	0.50
15:J:8:THR:HA	15:J:70:PHE:HZ	1.77	0.50
18:M:28:ARG:CB	18:M:29:PRO:CD	2.73	0.50
19:N:11:ARG:O	19:N:15:LYS:HG3	2.11	0.50
19:N:22:LYS:C	19:N:24:PHE:H	2.14	0.50
23:R:95:ARG:NH1	23:R:106:VAL:HG12	2.25	0.50
27:V:62:ARG:O	27:V:66:GLN:HA	2.11	0.50
28:W:14:GLY:O	28:W:17:VAL:HB	2.11	0.50
21:P:36:ARG:NH2	29:X:1279:G:H5''	2.26	0.50
29:X:1542:G:N2	29:X:1562:G:N1	2.42	0.50
29:X:1563:U:H2'	29:X:1564:U:H6	1.72	0.50
29:X:1652:G:C4	29:X:1653:C:C5	2.99	0.50
29:X:1731:C:C3'	29:X:1732:U:C5'	2.89	0.50
29:X:2288:A:H2'	29:X:2289:A:C8	2.45	0.50
29:X:341:A:O2'	29:X:342:G:H8	1.92	0.50
29:X:469:G:O2'	29:X:470:U:P	2.68	0.50
29:X:591:G:H2'	29:X:592:G:H8	1.74	0.50
21:P:36:ARG:CZ	30:Y:20:ARG:CZ	2.89	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:111:LEU:HD21	6:A:127:LEU:O	2.11	0.50
6:A:163:VAL:HG12	6:A:163:VAL:O	2.11	0.50
6:A:257:LEU:HD13	29:X:1795:C:P	2.51	0.50
7:B:136:ARG:HH11	7:B:136:ARG:HG2	1.76	0.50
7:B:120:TRP:CE2	7:B:155:ARG:HD2	2.47	0.50
9:D:29:PRO:HA	9:D:159:THR:OG1	2.09	0.50
10:E:97:LYS:O	10:E:98:LEU:HB3	2.11	0.50
15:J:79:PRO:CD	15:J:88:LYS:NZ	2.74	0.50
17:L:42:ILE:HG22	17:L:51:LEU:HB2	1.93	0.50
18:M:39:VAL:HA	18:M:45:THR:HA	1.93	0.50
19:N:66:ASN:HD22	19:N:70:ARG:HH22	1.59	0.50
23:R:95:ARG:CG	23:R:105:ARG:O	2.58	0.50
23:R:52:ASN:HD21	23:R:71:GLN:CG	2.23	0.50
24:S:97:PRO:HB2	24:S:99:HIS:CE1	2.45	0.50
27:V:62:ARG:NH1	27:V:62:ARG:HG2	2.27	0.50
29:X:1032:A:C8	29:X:1032:A:H3'	2.46	0.50
29:X:1042:G:H2'	29:X:1043:A:C8	2.47	0.50
29:X:1139:A:O2'	29:X:1140:A:O4'	2.28	0.50
29:X:1261:G:O2'	29:X:1262:U:P	2.69	0.50
29:X:165:G:H1'	29:X:1378:A:N6	2.26	0.50
29:X:1391:A:H1'	29:X:1392:U:C4	2.46	0.50
29:X:1762:C:H2'	29:X:1763:G:O4'	2.11	0.50
29:X:176:A:C3'	29:X:177:U:C5	2.88	0.50
29:X:182:G:C2'	29:X:183:U:OP2	2.59	0.50
29:X:1996:A:C2'	29:X:1997:A:H5'	2.41	0.50
29:X:2016:A:N6	29:X:2019:C:C2	2.80	0.50
29:X:2382:C:O2	29:X:2382:C:H2'	2.10	0.50
29:X:1949:A:H1'	29:X:2572:U:H5'	1.92	0.50
29:X:2707:G:H8	29:X:2707:G:H5'	1.76	0.50
29:X:2756:A:H4'	29:X:2757:G:H5''	1.93	0.50
29:X:27:G:HO2'	29:X:28:A:H8	1.60	0.50
29:X:754:G:C6	29:X:770:U:O2	2.64	0.50
30:Y:43:HIS:C	30:Y:44:HIS:CD2	2.84	0.50
4:4:29:ASN:OD1	4:4:31:LYS:HD3	2.11	0.50
7:B:1:MET:CG	7:B:2:LYS:N	2.73	0.50
7:B:53:PRO:HD3	18:M:5:ILE:HG22	1.93	0.50
8:C:122:GLY:C	8:C:124:ASP:H	2.14	0.50
8:C:3:GLN:NE2	8:C:4:ILE:CG1	2.71	0.50
9:D:108:LEU:HA	9:D:111:ILE:HD12	1.92	0.50
9:D:74:ILE:HG23	9:D:79:LEU:C	2.31	0.50
10:E:103:LEU:HD21	10:E:105:MET:HE3	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:119:ARG:HH11	13:H:119:ARG:HG3	1.77	0.50
13:H:8:LEU:HD22	13:H:94:ASN:HB3	1.93	0.50
17:L:42:ILE:CG2	17:L:51:LEU:HB2	2.42	0.50
21:P:53:ALA:HB3	21:P:72:LEU:HD21	1.92	0.50
22:Q:3:HIS:C	22:Q:5:ASP:H	2.12	0.50
22:Q:66:GLY:C	22:Q:68:PHE:H	2.06	0.50
23:R:24:VAL:HG11	23:R:29:HIS:HB2	1.92	0.50
26:U:32:ARG:HG2	26:U:34:THR:N	2.25	0.50
26:U:49:LYS:CD	26:U:61:TRP:HA	2.41	0.50
27:V:14:PHE:HE2	27:V:57:LYS:N	2.09	0.50
28:W:22:ALA:O	28:W:24:GLY:N	2.44	0.50
29:X:1034:U:H2'	29:X:1035:G:H5'	1.92	0.50
29:X:1194:U:C5'	29:X:1194:U:H6	2.18	0.50
29:X:1284:G:OP2	29:X:1285:A:OP1	2.30	0.50
29:X:1332:G:C2	29:X:1333:G:C2	2.98	0.50
29:X:1357:U:C2'	29:X:1358:C:OP1	2.60	0.50
29:X:1363:C:O2'	29:X:1364:C:H5'	2.11	0.50
29:X:1366:A:C6	29:X:1367:A:C6	2.99	0.50
29:X:1517:C:H2'	29:X:1518:C:C6	2.43	0.50
29:X:171:G:C6	29:X:179:U:C2	2.98	0.50
29:X:172:A:C6	29:X:175:C:C5	3.00	0.50
29:X:2031:A:H2'	29:X:2032:G:O4'	2.11	0.50
29:X:2038:C:H2'	29:X:2483:U:C4'	2.42	0.50
29:X:2651:U:O2	29:X:2652:G:C8	2.64	0.50
29:X:2829:A:C6	29:X:2839:G:C6	2.99	0.50
23:R:13:LYS:NZ	29:X:349:G:OP1	2.29	0.50
29:X:861:G:H1'	29:X:944:A:N3	2.26	0.50
29:X:2590:U:O2	30:Y:2:ALA:N	2.44	0.50
30:Y:52:TYR:O	30:Y:53:ASP:HB2	2.11	0.50
6:A:252:LYS:O	6:A:253:PRO:C	2.50	0.50
6:A:252:LYS:HE3	6:A:253:PRO:HD2	1.93	0.50
6:A:62:TYR:CE2	29:X:1808:C:C4	3.00	0.50
7:B:67:PHE:CE1	7:B:75:THR:HG22	2.47	0.50
8:C:191:ALA:O	8:C:194:GLU:O	2.29	0.50
8:C:47:THR:CG2	8:C:84:PHE:H	2.24	0.50
14:I:4:HIS:HA	14:I:7:LYS:HZ1	1.74	0.50
15:J:64:LYS:HG2	15:J:108:ALA:O	2.11	0.50
19:N:91:ASN:HA	20:O:10:LYS:HZ2	1.76	0.50
24:S:3:LEU:HD13	24:S:33:ALA:N	2.25	0.50
24:S:73:LYS:O	24:S:75:LYS:N	2.44	0.50
25:T:65:GLY:HA3	25:T:83:ALA:HA	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:V:1:MET:HG3	27:V:2:LYS:H	1.75	0.50
29:X:1307:U:H2'	29:X:1308:C:O4'	2.11	0.50
29:X:1411:C:H2'	29:X:1412:C:H6	1.76	0.50
29:X:1629:G:C6	29:X:1633:C:C5	3.00	0.50
29:X:176:A:H2'	29:X:2412:A:H61	1.77	0.50
29:X:2055:G:O2'	29:X:2056:C:H5'	2.11	0.50
29:X:2279:G:H2'	29:X:2280:A:H8	1.74	0.50
29:X:2299:A:C2	29:X:2312:A:C5	2.99	0.50
29:X:218:A:N6	29:X:232:A:H5''	2.26	0.50
29:X:2471:U:N3	29:X:2472:U:C4	2.79	0.50
29:X:2701:A:H2'	29:X:2702:G:O4'	2.11	0.50
29:X:2660:C:C2	29:X:2704:U:C4	2.99	0.50
29:X:342:G:H4'	29:X:343:A:OP1	2.10	0.50
29:X:670:U:H2'	29:X:671:A:C8	2.46	0.50
29:X:75:C:H2'	29:X:76:C:C5'	2.42	0.50
29:X:874:A:C2	31:Z:80:A:H2	2.29	0.50
29:X:956:A:H5'	29:X:957:G:OP2	2.11	0.50
29:X:994:A:H2'	29:X:995:A:C8	2.47	0.50
31:Z:4:C:C6	31:Z:4:C:C3'	2.95	0.50
6:A:46:ARG:C	6:A:46:ARG:HD3	2.32	0.50
6:A:70:ARG:HG2	6:A:190:TYR:CD1	2.44	0.50
6:A:79:VAL:HG12	6:A:113:VAL:HA	1.94	0.50
8:C:147:LYS:HB2	8:C:184:ASP:OD2	2.11	0.50
9:D:52:LYS:O	9:D:56:GLU:HB2	2.11	0.50
10:E:94:PHE:CD2	10:E:107:ILE:HG22	2.47	0.50
11:F:101:TRP:HA	11:F:104:VAL:HG21	1.93	0.50
14:I:118:VAL:O	14:I:138:GLY:HA3	2.12	0.50
14:I:4:HIS:HA	14:I:7:LYS:HZ2	1.76	0.50
19:N:13:ARG:CZ	29:X:1264:C:H5''	2.41	0.50
20:O:79:GLN:OE1	20:O:79:GLN:CA	2.58	0.50
22:Q:75:ARG:NH1	22:Q:75:ARG:CG	2.71	0.50
23:R:96:LYS:CG	23:R:97:GLN:N	2.70	0.50
24:S:90:GLU:OE1	24:S:90:GLU:HA	2.12	0.50
26:U:19:ILE:HG22	26:U:41:VAL:O	2.12	0.50
27:V:21:ARG:O	27:V:25:LEU:N	2.37	0.50
29:X:1102:G:H2'	29:X:1103:C:C6	2.46	0.50
29:X:1479:G:C2	29:X:1480:G:C4	2.99	0.50
29:X:1681:A:C6	29:X:2706:U:C5	3.00	0.50
29:X:1926:U:H5''	29:X:1927:U:OP1	2.12	0.50
29:X:1938:U:O2'	29:X:1939:U:OP1	2.24	0.50
29:X:581:A:N1	29:X:2012:A:H2	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2165:A:H2'	29:X:2166:G:C8	2.45	0.50
29:X:2299:A:H2'	29:X:2312:A:N6	2.27	0.50
29:X:2551:A:O2'	29:X:2552:C:OP2	2.28	0.50
29:X:413:G:O5'	29:X:413:G:H8	1.94	0.50
21:P:27:VAL:HG13	29:X:504:G:H4'	1.93	0.50
29:X:917:U:H2'	29:X:918:A:C5'	2.40	0.50
30:Y:19:ARG:CG	30:Y:20:ARG:N	2.74	0.50
4:4:1:MET:HE2	4:4:33:LYS:HB3	1.94	0.50
6:A:166:GLN:HB2	6:A:174:ILE:HB	1.93	0.50
6:A:200:GLU:CG	6:A:202:LYS:HB2	2.40	0.50
8:C:166:TRP:CE3	8:C:166:TRP:N	2.79	0.50
8:C:19:LEU:HA	8:C:20:PRO:O	2.10	0.50
9:D:130:LEU:HD23	9:D:131:GLY:N	2.27	0.50
9:D:56:GLU:O	9:D:57:LEU:C	2.49	0.50
9:D:40:LEU:HD12	9:D:85:VAL:O	2.11	0.50
10:E:107:ILE:HD13	10:E:107:ILE:H	1.76	0.50
11:F:50:ASP:O	11:F:51:ALA:CB	2.60	0.50
12:G:154:GLU:O	12:G:157:PRO:HB2	2.10	0.50
12:G:33:ILE:O	12:G:69:ASP:HB3	2.12	0.50
16:K:10:LEU:HD23	16:K:17:ARG:HG2	1.94	0.50
16:K:24:GLN:CB	16:K:44:LEU:HD22	2.42	0.50
17:L:38:ILE:CG1	17:L:39:TYR:N	2.74	0.50
13:H:92:ASP:OD1	18:M:69:ARG:NH1	2.45	0.50
19:N:12:ARG:O	19:N:13:ARG:C	2.50	0.50
20:O:22:VAL:HA	20:O:91:THR:OG1	2.10	0.50
23:R:55:THR:HG23	23:R:55:THR:O	2.11	0.50
24:S:19:ILE:HG22	24:S:20:ALA:N	2.26	0.50
27:V:35:GLY:O	27:V:36:GLN:HB2	2.10	0.50
29:X:1219:C:H2'	29:X:1220:G:O4'	2.11	0.50
29:X:1468:A:P	29:X:1468:A:C8	3.02	0.50
29:X:1490:U:H3'	29:X:1490:U:P	2.52	0.50
29:X:165:G:H2'	29:X:166:G:C5'	2.42	0.50
29:X:186:C:O2'	29:X:187:U:H5'	2.10	0.50
29:X:2198:U:N3	29:X:2199:C:C5	2.79	0.50
13:H:1:MET:CE	29:X:2706:U:H1'	2.41	0.50
29:X:417:C:C6	29:X:419:G:C4	2.99	0.50
29:X:555:U:C5	29:X:1233:A:H3'	2.47	0.50
29:X:641:G:N2	29:X:643:A:H3'	2.26	0.50
29:X:733:G:O2'	29:X:734:G:H5'	2.12	0.50
29:X:859:U:H1'	29:X:860:U:N3	2.27	0.50
30:Y:20:ARG:C	30:Y:22:HIS:H	2.15	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:78:A:H2'	31:Z:79:U:O4'	2.11	0.50
6:A:101:GLU:CD	6:A:103:ARG:HE	2.14	0.50
6:A:252:LYS:HZ2	6:A:253:PRO:HD2	1.77	0.50
6:A:50:THR:HG22	6:A:51:SER:N	2.26	0.50
6:A:96:HIS:HE1	6:A:100:GLY:HA2	1.77	0.50
7:B:133:LYS:O	7:B:134:TRP:C	2.49	0.50
7:B:136:ARG:NH1	7:B:136:ARG:CG	2.73	0.50
7:B:183:LEU:HD11	18:M:16:ILE:HG23	1.94	0.50
9:D:111:ILE:HG22	9:D:114:PHE:HB2	1.92	0.50
11:F:100:ASN:HA	11:F:139:GLU:OE1	2.12	0.50
26:U:48:LYS:CG	26:U:49:LYS:N	2.54	0.50
27:V:65:GLU:O	27:V:66:GLN:HB2	2.12	0.50
28:W:34:VAL:HG22	28:W:40:VAL:CG1	2.39	0.50
14:I:13:ARG:NH1	29:X:1218:C:C4'	2.67	0.50
29:X:1223:G:C5'	29:X:1224:A:H5''	2.41	0.50
19:N:13:ARG:NH1	29:X:1264:C:H5'	2.27	0.50
29:X:1336:G:H2'	29:X:1337:G:H5'	1.92	0.50
29:X:1419:G:H2'	29:X:1420:A:O4'	2.11	0.50
29:X:141:G:H2'	29:X:142:U:O4'	2.11	0.50
29:X:1624:A:C5	29:X:1627:C:C4	2.98	0.50
29:X:1731:C:H2'	29:X:1732:U:H5''	1.94	0.50
29:X:1794:A:H2	29:X:1814:G:N3	2.10	0.50
29:X:1845:A:H2'	29:X:1846:A:C8	2.47	0.50
29:X:1995:G:O5'	29:X:1995:G:H8	1.94	0.50
29:X:2314:A:O2'	29:X:2315:A:H8	1.95	0.50
29:X:2642:G:C2'	29:X:2643:G:H5'	2.41	0.50
29:X:2701:A:H2'	29:X:2702:G:C5'	2.41	0.50
29:X:793:G:H21	29:X:796:A:N6	2.07	0.50
29:X:860:U:C2'	29:X:860:U:O2	2.60	0.50
29:X:873:U:H2'	29:X:873:U:O2	2.12	0.50
29:X:996:C:OP2	29:X:996:C:H3'	2.11	0.50
31:Z:42:U:H1'	31:Z:47:A:H61	1.75	0.50
8:C:117:LEU:CD2	8:C:117:LEU:C	2.80	0.50
10:E:83:TYR:OH	10:E:138:LYS:HD2	2.10	0.50
10:E:54:ARG:NH1	10:E:57:ASP:HB3	2.22	0.50
10:E:76:VAL:O	10:E:78:GLY:N	2.45	0.50
13:H:23:ARG:NH2	13:H:24:VAL:C	2.65	0.50
14:I:73:GLU:HG2	14:I:101:ARG:HB2	1.93	0.50
15:J:100:PRO:CB	24:S:74:ARG:HE	2.25	0.50
15:J:86:LYS:HB2	29:X:2256:G:P	2.52	0.50
17:L:27:LEU:HD23	17:L:44:ASP:HA	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:66:ASN:CB	19:N:76:TYR:HB2	2.42	0.50
20:O:15:SER:HB3	20:O:95:ILE:O	2.12	0.50
21:P:105:ARG:NH1	21:P:119:LYS:HZ1	2.09	0.50
24:S:73:LYS:O	24:S:74:ARG:HB2	2.12	0.50
24:S:71:MET:HA	24:S:78:PRO:HA	1.93	0.50
24:S:98:VAL:HG23	24:S:118:HIS:O	2.12	0.50
25:T:20:TYR:O	25:T:21:LEU:CB	2.59	0.50
27:V:38:ALA:O	27:V:40:PRO:CD	2.59	0.50
27:V:52:GLN:O	27:V:53:LEU:C	2.50	0.50
29:X:1135:C:C2	29:X:1136:G:C8	2.99	0.50
29:X:1361:G:C6	29:X:1362:A:C6	3.00	0.50
29:X:1450:G:C2'	29:X:1451:C:H5'	2.41	0.50
29:X:1484:G:H2'	29:X:1485:U:O4'	2.12	0.50
29:X:1524:C:H2'	29:X:1524:C:O2	2.10	0.50
29:X:1685:A:N7	29:X:1691:G:C6	2.79	0.50
29:X:1770:U:O2	29:X:1774:A:C6	2.65	0.50
29:X:1818:G:C5	29:X:1819:U:C5	2.99	0.50
29:X:2243:C:H2'	29:X:2244:C:O4'	2.12	0.50
29:X:2738:A:OP2	29:X:2739:G:OP2	2.30	0.50
29:X:2779:C:H3'	29:X:2779:C:H6	1.77	0.50
29:X:330:C:C2	29:X:331:U:C6	3.00	0.50
29:X:391:C:O2'	29:X:392:G:H5'	2.11	0.50
29:X:455:A:H5''	29:X:456:C:OP1	2.12	0.50
29:X:463:C:C2	29:X:465:C:C5	3.00	0.50
30:Y:42:SER:O	30:Y:43:HIS:HB2	2.11	0.50
16:K:98:LEU:CD2	30:Y:56:GLN:HG2	2.38	0.50
31:Z:5:C:H2'	31:Z:6:C:C6	2.46	0.50
7:B:150:VAL:CG2	29:X:2598:C:C4'	2.90	0.50
7:B:1:MET:CG	7:B:2:LYS:H	2.24	0.50
9:D:108:LEU:HA	9:D:111:ILE:HG13	1.94	0.50
10:E:71:LEU:HA	10:E:74:ASN:ND2	2.26	0.50
10:E:7:GLN:H	10:E:8:PRO:CD	2.25	0.50
17:L:8:ARG:CB	17:L:8:ARG:NH1	2.71	0.50
19:N:10:ARG:NH1	29:X:592:G:P	2.83	0.50
19:N:50:ARG:HA	19:N:53:LYS:HG2	1.94	0.50
22:Q:81:ARG:HG3	22:Q:81:ARG:NH1	2.26	0.50
22:Q:25:TYR:CE2	22:Q:82:LEU:HD11	2.47	0.50
23:R:4:PRO:HA	29:X:34:U:H1'	1.94	0.50
26:U:14:VAL:O	26:U:15:VAL:CG2	2.60	0.50
29:X:1035:G:C8	29:X:1036:G:C8	2.99	0.50
29:X:1053:G:C5	29:X:1054:C:C4	3.00	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1256:C:H2'	29:X:1257:U:O4'	2.12	0.50
29:X:1304:U:O2'	29:X:1305:C:H5'	2.12	0.50
29:X:1430:G:H2'	29:X:1431:U:O4'	2.11	0.50
29:X:1475:U:O2	29:X:1475:U:H2'	2.12	0.50
29:X:1557:G:O2'	29:X:1558:C:H5'	2.12	0.50
29:X:1442:C:C4	29:X:1585:A:H5''	2.46	0.50
29:X:2082:C:H2'	29:X:2083:G:H5'	1.93	0.50
29:X:2214:G:H2'	29:X:2215:C:O4'	2.12	0.50
29:X:2396:C:H2'	29:X:2397:A:O4'	2.11	0.50
29:X:2662:C:C2	29:X:2663:U:C5	3.00	0.50
29:X:2782:G:O6	29:X:2867:G:O6	2.30	0.50
29:X:533:C:H1'	29:X:563:U:O2'	2.11	0.50
14:I:107:LYS:HE3	29:X:647:G:C6	2.47	0.50
29:X:695:G:H2'	29:X:696:U:H6	1.75	0.50
29:X:731:A:N3	29:X:731:A:H5''	2.26	0.50
29:X:751:G:H2'	29:X:752:G:H8	1.68	0.50
29:X:810:U:C3'	29:X:810:U:C6	2.95	0.50
28:W:43:MET:HE1	29:X:941:U:O2	2.12	0.50
30:Y:16:ARG:HD3	30:Y:20:ARG:NH1	2.24	0.50
6:A:182:LEU:HB2	6:A:268:ARG:HB2	1.93	0.49
6:A:197:GLY:O	6:A:199:ALA:O	2.30	0.49
7:B:117:MET:HB2	7:B:136:ARG:CD	2.42	0.49
9:D:12:VAL:C	9:D:16:LEU:HG	2.33	0.49
9:D:63:GLN:HG3	9:D:95:ARG:NH2	2.27	0.49
11:F:23:VAL:HA	11:F:26:ALA:CB	2.40	0.49
12:G:115:ALA:O	12:G:118:ALA:CB	2.56	0.49
12:G:35:LYS:O	12:G:36:ASN:CB	2.55	0.49
12:G:44:VAL:HG12	12:G:45:ASP:N	2.27	0.49
13:H:119:ARG:NH1	13:H:119:ARG:HG3	2.27	0.49
14:I:13:ARG:NH2	14:I:13:ARG:CB	2.75	0.49
14:I:45:LYS:HG2	14:I:46:GLY:N	2.22	0.49
15:J:113:GLU:O	15:J:115:ALA:N	2.45	0.49
17:L:37:HIS:HD2	31:Z:29:C:O3'	1.94	0.49
17:L:41:GLN:HG2	17:L:43:ILE:CD1	2.42	0.49
17:L:89:PHE:CD1	17:L:91:ARG:NH2	2.80	0.49
18:M:104:LEU:HB3	18:M:107:LEU:CD1	2.42	0.49
19:N:13:ARG:NH1	29:X:1264:C:C5'	2.75	0.49
20:O:49:GLU:C	20:O:51:ALA:H	2.15	0.49
21:P:45:ILE:CD1	21:P:57:LEU:HG	2.35	0.49
24:S:64:ALA:CA	24:S:85:MET:HA	2.42	0.49
25:T:31:VAL:C	25:T:35:ASN:HD22	2.15	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:V:4:SER:HA	27:V:7:ARG:HG3	1.94	0.49
29:X:1051:U:C2'	29:X:1052:C:O4'	2.59	0.49
29:X:1182:U:H2'	29:X:1183:C:O5'	2.12	0.49
29:X:1179:A:C2	29:X:1196:G:C2	3.00	0.49
29:X:1467:U:H3'	29:X:1468:A:C5'	2.42	0.49
29:X:1776:A:C8	29:X:1778:U:C5	3.00	0.49
29:X:1780:A:H2'	29:X:1781:C:O4'	2.12	0.49
29:X:1804:U:H2'	29:X:1805:G:C8	2.47	0.49
29:X:1842:G:H2'	29:X:1843:U:H6	1.77	0.49
29:X:2209:G:C5	29:X:2210:C:C5	3.00	0.49
29:X:805:G:N7	29:X:2419:C:H1'	2.27	0.49
29:X:2550:C:C4	29:X:2553:G:C8	3.00	0.49
29:X:531:G:C2	29:X:532:A:C5	3.00	0.49
29:X:919:U:O2'	29:X:920:G:H5'	2.12	0.49
7:B:183:LEU:HD21	18:M:16:ILE:CD1	2.24	0.49
9:D:10:ASP:C	9:D:14:PRO:HD2	2.32	0.49
10:E:105:MET:HB3	10:E:107:ILE:HD11	1.94	0.49
10:E:12:PRO:O	10:E:15:VAL:HG13	2.13	0.49
11:F:7:ILE:HG22	11:F:8:VAL:N	2.27	0.49
13:H:46:HIS:O	13:H:47:VAL:C	2.50	0.49
19:N:66:ASN:HB3	19:N:76:TYR:CB	2.42	0.49
24:S:117:VAL:HG22	24:S:168:VAL:CA	2.36	0.49
15:J:100:PRO:CB	24:S:74:ARG:HG2	2.43	0.49
29:X:1348:C:H2'	29:X:1349:A:C8	2.44	0.49
29:X:1385:C:H2'	29:X:1386:A:O4'	2.11	0.49
29:X:141:G:O2'	29:X:142:U:H5'	2.12	0.49
29:X:154:U:H5'	29:X:155:G:OP2	2.11	0.49
29:X:1695:U:O2'	29:X:1696:C:H5'	2.12	0.49
29:X:1771:A:O2'	29:X:1772:C:OP1	2.29	0.49
29:X:1974:U:O2'	29:X:1975:G:H5''	2.12	0.49
29:X:1994:U:C2'	29:X:1995:G:H5'	2.41	0.49
7:B:141:ILE:CD1	29:X:2034:A:H4'	2.42	0.49
29:X:2057:U:H6	29:X:2057:U:C5'	2.24	0.49
29:X:2293:G:H2'	29:X:2294:U:C6	2.48	0.49
29:X:2742:G:O2'	29:X:2743:G:H5'	2.11	0.49
29:X:2753:C:O2'	29:X:2754:C:H5'	2.12	0.49
29:X:350:U:O5'	29:X:350:U:C6	2.61	0.49
29:X:212:U:C2	29:X:443:A:C2	3.00	0.49
29:X:571:U:O2'	29:X:581:A:O4'	2.20	0.49
29:X:768:U:H2'	29:X:769:C:O4'	2.11	0.49
29:X:777:A:O2'	29:X:778:G:P	2.70	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:78:C:O2'	29:X:79:G:H5'	2.11	0.49
29:X:884:C:H2'	29:X:885:A:H8	1.77	0.49
7:B:127:ALA:HB2	7:B:135:HIS:HE1	1.76	0.49
7:B:159:HIS:CE1	7:B:162:MET:HB2	2.47	0.49
7:B:75:THR:HG23	7:B:76:ARG:H	1.76	0.49
9:D:125:ARG:HB2	9:D:127:ASN:HD22	1.78	0.49
9:D:6:THR:HG22	9:D:7:LYS:N	2.26	0.49
10:E:95:ARG:HG3	10:E:106:ASN:HB3	1.94	0.49
14:I:105:PRO:O	14:I:106:VAL:HG23	2.11	0.49
15:J:60:ARG:HH11	15:J:60:ARG:HG2	1.77	0.49
15:J:81:GLU:HG2	15:J:82:THR:N	2.28	0.49
19:N:99:ALA:HB2	19:N:106:PHE:CE1	2.47	0.49
19:N:66:ASN:CB	19:N:70:ARG:NH1	2.59	0.49
20:O:36:LYS:HD2	20:O:55:THR:N	2.27	0.49
21:P:76:LYS:C	21:P:78:ASN:H	2.16	0.49
23:R:24:VAL:O	23:R:31:GLY:N	2.45	0.49
24:S:123:VAL:H	24:S:161:ALA:N	2.09	0.49
29:X:1441:A:H4'	29:X:1442:C:O5'	2.12	0.49
29:X:1459:U:H4'	29:X:1460:G:OP1	2.10	0.49
29:X:2197:U:N3	29:X:2198:U:C5	2.81	0.49
29:X:240:U:H2'	29:X:241:C:O4'	2.12	0.49
29:X:2522:G:H2'	29:X:2523:G:H8	1.75	0.49
29:X:2797:G:H2'	29:X:2798:A:H5''	1.94	0.49
29:X:333:A:O4'	29:X:351:A:H1'	2.11	0.49
29:X:36:G:HO2'	29:X:462:G:C2'	2.25	0.49
29:X:564:U:H2'	29:X:565:A:H8	1.76	0.49
29:X:847:C:H2'	29:X:848:A:C8	2.40	0.49
29:X:863:C:H2'	29:X:864:C:C6	2.47	0.49
4:4:27:CYS:HG	4:4:32:HIS:CG	2.30	0.49
8:C:104:LEU:HD23	8:C:105:ALA:H	1.77	0.49
9:D:6:THR:O	9:D:10:ASP:HB2	2.12	0.49
10:E:17:VAL:CG1	10:E:18:ASN:N	2.74	0.49
11:F:35:MET:C	11:F:37:PHE:H	2.15	0.49
15:J:30:PHE:CD1	15:J:66:TYR:CE2	3.00	0.49
15:J:76:THR:HG21	15:J:88:LYS:O	2.13	0.49
13:H:76:ARG:NH2	18:M:75:GLU:OE2	2.46	0.49
21:P:112:GLY:O	21:P:113:SER:O	2.31	0.49
23:R:98:ILE:C	23:R:100:ASP:N	2.64	0.49
24:S:17:SER:O	24:S:18:MET:HG2	2.13	0.49
26:U:27:ASP:H	26:U:32:ARG:HH21	1.60	0.49
29:X:1278:A:O2'	29:X:1279:G:P	2.70	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1287:A:H2	29:X:1661:C:O2	1.95	0.49
29:X:1372:A:N7	29:X:1373:G:N7	2.61	0.49
29:X:1386:A:N6	29:X:1387:G:C2	2.80	0.49
29:X:1560:A:N1	29:X:1561:A:C2	2.80	0.49
29:X:1578:U:C2	29:X:1579:G:C8	3.00	0.49
29:X:789:G:O6	29:X:2055:G:OP1	2.31	0.49
29:X:2522:G:H21	29:X:2625:U:H5''	1.76	0.49
29:X:2526:U:H2'	29:X:2527:G:C8	2.45	0.49
29:X:2532:G:C2	29:X:2562:G:H1'	2.47	0.49
29:X:2851:G:H5''	29:X:2851:G:H8	1.77	0.49
29:X:47:G:N3	29:X:48:A:C2	2.80	0.49
29:X:542:A:C2	29:X:2004:U:C2'	2.77	0.49
29:X:553:C:C4	29:X:557:U:C2	3.01	0.49
29:X:65:C:O2'	29:X:66:U:H5'	2.11	0.49
29:X:872:G:H2'	29:X:928:G:O6	2.11	0.49
31:Z:26:G:N3	31:Z:29:C:N4	2.60	0.49
6:A:131:LEU:HD21	6:A:193:ILE:CG1	2.41	0.49
6:A:60:ARG:NH2	29:X:1583:A:OP1	2.46	0.49
7:B:38:THR:HG22	7:B:39:ALA:N	2.28	0.49
8:C:104:LEU:HD12	8:C:175:VAL:HG21	1.93	0.49
8:C:158:ARG:C	8:C:160:ALA:H	2.16	0.49
8:C:43:ALA:HB1	8:C:86:PRO:C	2.31	0.49
8:C:48:ARG:N	8:C:48:ARG:HD2	2.24	0.49
11:F:54:PRO:HD2	11:F:71:THR:O	2.11	0.49
12:G:84:ASN:CA	12:G:153:GLY:O	2.61	0.49
16:K:60:LEU:CD1	16:K:64:ARG:NE	2.72	0.49
17:L:102:ALA:O	17:L:104:ALA:N	2.46	0.49
23:R:48:VAL:HG12	23:R:50:GLY:H	1.76	0.49
26:U:15:VAL:HG12	26:U:46:LEU:CD2	2.40	0.49
26:U:32:ARG:NE	26:U:32:ARG:N	2.35	0.49
27:V:43:VAL:O	27:V:46:LEU:HB2	2.12	0.49
28:W:45:LYS:HA	28:W:45:LYS:HE3	1.94	0.49
29:X:118:U:O2'	29:X:119:G:OP2	2.23	0.49
29:X:119:G:H2'	29:X:120:G:H8	1.76	0.49
29:X:1246:G:O2'	29:X:1247:U:H5'	2.13	0.49
29:X:1352:G:H2'	29:X:1353:A:C8	2.48	0.49
29:X:1468:A:C5'	29:X:1472:C:H42	2.23	0.49
29:X:1569:A:C6	29:X:1571:G:C4	3.00	0.49
29:X:1594:U:H2'	29:X:1595:A:H8	1.77	0.49
29:X:1427:G:H21	29:X:1604:A:H62	1.60	0.49
29:X:1673:C:H2'	29:X:1674:C:H6	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1842:G:O2'	29:X:1843:U:H5'	2.12	0.49
29:X:2201:G:H2'	29:X:2202:G:H8	1.77	0.49
9:D:71:LYS:HE2	29:X:2277:A:OP1	2.13	0.49
29:X:2522:G:H2'	29:X:2523:G:O4'	2.12	0.49
29:X:353:G:H2'	29:X:354:C:H6	1.78	0.49
29:X:55:A:H2'	29:X:56:C:C6	2.48	0.49
29:X:580:A:N7	29:X:584:A:C6	2.81	0.49
29:X:815:A:H2'	29:X:816:U:H6	1.77	0.49
30:Y:52:TYR:O	30:Y:53:ASP:CB	2.60	0.49
6:A:169:GLU:HB3	6:A:172:TYR:O	2.12	0.49
7:B:172:VAL:HG12	7:B:172:VAL:O	2.10	0.49
7:B:19:ARG:NH1	7:B:185:LYS:NZ	2.61	0.49
7:B:203:LYS:HE3	29:X:2713:A:N1	2.28	0.49
8:C:24:SER:O	8:C:25:GLY:C	2.51	0.49
9:D:122:PHE:CE2	9:D:129:ASN:O	2.65	0.49
9:D:34:ILE:HA	9:D:155:THR:O	2.13	0.49
9:D:81:GLN:CG	9:D:82:GLY:H	2.06	0.49
11:F:54:PRO:CG	11:F:70:LYS:HB2	2.30	0.49
12:G:135:LEU:O	12:G:136:PRO:C	2.51	0.49
15:J:40:PRO:HG3	15:J:99:LYS:HZ1	1.77	0.49
20:O:11:GLN:OE1	20:O:38:LEU:HD12	2.13	0.49
22:Q:15:LYS:HD3	29:X:1406:A:H62	1.77	0.49
22:Q:53:ILE:CG1	22:Q:54:SER:H	2.23	0.49
23:R:25:LEU:C	23:R:25:LEU:HD22	2.33	0.49
24:S:62:PHE:HB3	24:S:85:MET:CE	2.43	0.49
26:U:33:LYS:HZ2	29:X:2375:G:H1'	1.78	0.49
26:U:75:TYR:O	26:U:76:LYS:CB	2.60	0.49
29:X:1053:G:O2'	29:X:1054:C:O4'	2.19	0.49
29:X:455:A:H1'	29:X:1215:A:O4'	2.13	0.49
29:X:1324:G:H4'	29:X:1325:U:OP1	2.12	0.49
29:X:1373:G:H2'	29:X:1374:G:C5'	2.43	0.49
29:X:1476:G:C6	29:X:1477:C:C4	3.01	0.49
29:X:1684:G:O2'	29:X:1974:U:O4	2.30	0.49
29:X:1687:C:P	29:X:1688:U:H5	2.36	0.49
29:X:1699:A:C2	29:X:1700:C:C2	3.01	0.49
29:X:1782:A:C6	29:X:1821:A:H5'	2.47	0.49
29:X:192:G:C4'	29:X:193:A:H4'	2.42	0.49
29:X:1695:U:O2	29:X:1974:U:O4'	2.30	0.49
29:X:2026:C:H1'	29:X:2759:U:O4	2.13	0.49
29:X:2239:C:C2	29:X:2240:C:C5	3.00	0.49
17:L:15:ARG:HH21	29:X:2272:A:P	2.35	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:403:A:OP2	29:X:403:A:H3'	2.13	0.49
29:X:438:G:O2'	29:X:439:C:H5'	2.13	0.49
29:X:632:A:C2	29:X:633:G:C5	3.01	0.49
29:X:663:G:H3'	29:X:664:C:C5'	2.25	0.49
29:X:692:C:O2	29:X:693:A:C8	2.65	0.49
29:X:929:A:C2	31:Z:81:C:O2	2.66	0.49
29:X:937:C:C4	29:X:938:G:N7	2.81	0.49
6:A:147:LEU:O	6:A:148:VAL:HG23	2.12	0.49
6:A:250:TRP:O	6:A:255:LYS:CD	2.60	0.49
7:B:141:ILE:HG23	7:B:154:LYS:CD	2.43	0.49
9:D:29:PRO:O	9:D:169:LEU:HD13	2.13	0.49
9:D:5:LYS:C	9:D:8:TYR:HB3	2.32	0.49
10:E:101:LYS:HB2	10:E:117:PRO:HG3	1.95	0.49
12:G:154:GLU:N	12:G:157:PRO:HD2	2.26	0.49
12:G:155:THR:HG23	12:G:156:HIS:N	2.21	0.49
13:H:7:ARG:HH12	13:H:20:MET:CE	2.25	0.49
14:I:76:LYS:C	14:I:79:GLN:HG2	2.31	0.49
15:J:28:VAL:HG21	15:J:135:ARG:HA	1.94	0.49
15:J:18:MET:HG2	15:J:19:THR:N	2.27	0.49
15:J:71:PRO:CA	15:J:96:SER:HB2	2.43	0.49
17:L:8:ARG:O	17:L:9:ARG:C	2.49	0.49
19:N:7:GLY:O	19:N:8:ILE:CG1	2.59	0.49
24:S:106:GLY:N	24:S:109:GLN:HG3	2.28	0.49
24:S:3:LEU:HB2	24:S:34:LEU:HA	1.94	0.49
26:U:53:GLU:OE1	26:U:58:LYS:N	2.37	0.49
26:U:49:LYS:CB	26:U:61:TRP:CE3	2.84	0.49
29:X:1095:A:H2'	29:X:1096:A:C5'	2.41	0.49
29:X:1177:U:C2	29:X:1198:C:O2	2.66	0.49
29:X:11:G:O5'	29:X:11:G:H8	1.96	0.49
29:X:165:G:H2'	29:X:166:G:H5'	1.94	0.49
29:X:1673:C:C2	29:X:1674:C:C5	3.01	0.49
29:X:182:G:H1'	29:X:183:U:H5	1.77	0.49
29:X:1858:C:H2'	29:X:1859:A:O4'	2.13	0.49
29:X:1965:U:C2	29:X:1966:C:C5	3.01	0.49
29:X:2189:A:H2	29:X:2196:U:N3	2.06	0.49
29:X:2261:G:H5'	29:X:2262:C:C4'	2.42	0.49
29:X:242:A:N6	29:X:440:U:H2'	2.24	0.49
19:N:31:GLN:CD	29:X:589:C:H4'	2.33	0.49
29:X:683:A:H4'	29:X:684:C:C5'	2.39	0.49
30:Y:25:LEU:N	30:Y:25:LEU:HD12	2.27	0.49
31:Z:75:A:N3	31:Z:75:A:H2'	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:82:ILE:CG2	6:A:91:ARG:HB3	2.42	0.49
8:C:145:THR:O	8:C:146:GLU:OE2	2.30	0.49
8:C:46:ARG:HA	8:C:51:VAL:HG21	1.93	0.49
9:D:10:ASP:HA	9:D:14:PRO:CG	2.42	0.49
10:E:18:ASN:O	10:E:20:GLN:N	2.46	0.49
10:E:27:LYS:HG2	10:E:32:GLU:HB2	1.95	0.49
11:F:83:GLY:O	11:F:84:ILE:CG1	2.61	0.49
12:G:46:ALA:HB3	12:G:85:ALA:H	1.77	0.49
12:G:90:LEU:HD23	12:G:93:LYS:O	2.13	0.49
14:I:77:LEU:HB3	14:I:112:GLY:N	2.28	0.49
14:I:54:SER:HA	14:I:58:ALA:HB3	1.95	0.49
16:K:10:LEU:O	16:K:11:ASN:OD1	2.31	0.49
17:L:76:ALA:HB1	17:L:110:GLY:C	2.33	0.49
24:S:112:LEU:O	24:S:172:LEU:HB2	2.12	0.49
27:V:30:PHE:O	27:V:31:GLN:C	2.50	0.49
29:X:1025:A:O2'	29:X:1026:U:H5'	2.13	0.49
29:X:1482:U:OP2	29:X:1562:G:O2'	2.30	0.49
29:X:1679:U:H2'	29:X:1680:U:O4'	2.12	0.49
29:X:1920:A:C5	29:X:1922:U:C5	3.01	0.49
29:X:1927:U:O2'	29:X:1928:G:OP1	2.29	0.49
29:X:2195:C:N1	29:X:2196:U:C5	2.81	0.49
29:X:2284:U:C3'	29:X:2285:U:H5''	2.42	0.49
29:X:2395:C:C2'	29:X:2396:C:H5'	2.42	0.49
29:X:545:C:O2'	29:X:546:A:H5'	2.13	0.49
29:X:921:A:C6	29:X:924:C:C2	3.01	0.49
30:Y:31:THR:HG22	30:Y:32:GLU:N	2.27	0.49
7:B:33:ILE:HG21	7:B:36:ARG:HH12	1.77	0.49
7:B:75:THR:HG21	7:B:78:LEU:HD21	1.94	0.49
8:C:60:GLY:O	8:C:61:GLN:C	2.52	0.49
9:D:119:PRO:O	9:D:167:ARG:NH2	2.46	0.49
10:E:54:ARG:HD2	10:E:56:SER:O	2.13	0.49
10:E:41:LEU:CD1	10:E:64:LEU:HB3	2.43	0.49
12:G:44:VAL:CG1	12:G:45:ASP:N	2.75	0.49
13:H:81:ILE:HD12	13:H:117:GLU:OE1	2.13	0.49
15:J:119:PHE:CD1	15:J:132:MET:HG3	2.48	0.49
16:K:99:ARG:HG2	16:K:99:ARG:NH1	2.28	0.49
17:L:39:TYR:O	17:L:40:ALA:C	2.51	0.49
19:N:27:SER:C	19:N:29:SER:N	2.66	0.49
19:N:47:TYR:O	19:N:51:ARG:HG2	2.13	0.49
20:O:71:ILE:CD1	29:X:1003:C:O2'	2.61	0.49
21:P:71:VAL:HG11	21:P:126:ILE:HG23	1.91	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:8:PHE:O	21:P:9:ARG:CB	2.52	0.49
22:Q:15:LYS:HG2	29:X:1404:C:O2	2.13	0.49
23:R:97:GLN:CB	23:R:101:GLY:HA2	2.28	0.49
23:R:59:LYS:CD	23:R:62:MET:HG3	2.42	0.49
26:U:17:SER:OG	26:U:45:ASN:N	2.46	0.49
29:X:1022:A:C6	29:X:1162:A:C6	3.00	0.49
29:X:1142:G:H8	29:X:2008:C:H4'	1.76	0.49
29:X:1241:G:O2'	29:X:1242:A:H5'	2.13	0.49
29:X:1249:G:HO2'	29:X:1250:A:P	2.34	0.49
29:X:1606:C:O2'	29:X:1607:A:H5'	2.13	0.49
29:X:2044:G:O2'	29:X:2046:C:H5	1.96	0.49
29:X:2236:U:C4	29:X:2237:C:N4	2.81	0.49
29:X:2271:C:N4	29:X:2272:A:H62	2.09	0.49
7:B:42:ASP:OD2	29:X:2764:U:C4'	2.61	0.49
29:X:2827:G:C6	29:X:2828:C:N3	2.81	0.49
29:X:2844:G:O2'	29:X:2845:C:H5'	2.13	0.49
29:X:328:A:H2'	29:X:329:C:C6	2.47	0.49
31:Z:69:G:O2'	31:Z:70:C:H5'	2.13	0.49
4:4:9:LYS:NZ	4:4:16:VAL:HG21	2.27	0.49
6:A:131:LEU:N	6:A:131:LEU:HD23	2.28	0.49
6:A:153:ALA:O	6:A:154:GLN:CG	2.59	0.49
6:A:68:LYS:HG2	6:A:69:ARG:H	1.78	0.49
8:C:7:ILE:HB	8:C:120:VAL:H	1.78	0.49
8:C:154:ASP:HB2	8:C:157:THR:CG2	2.43	0.49
8:C:24:SER:O	8:C:28:HIS:N	2.41	0.49
9:D:7:LYS:O	9:D:11:GLN:HB2	2.12	0.49
9:D:122:PHE:O	9:D:123:ASP:C	2.51	0.49
9:D:102:LYS:NZ	9:D:140:GLU:OE2	2.42	0.49
9:D:9:ASN:O	9:D:14:PRO:HD2	2.13	0.49
12:G:103:TYR:CE1	12:G:111:LYS:CA	2.96	0.49
14:I:67:ASN:HB2	29:X:643:A:H4'	1.95	0.49
16:K:60:LEU:HD13	29:X:1469:U:H2'	1.95	0.49
16:K:76:VAL:O	16:K:79:VAL:HG13	2.13	0.49
19:N:117:ARG:HG2	19:N:118:GLN:HG3	1.95	0.49
19:N:47:TYR:C	19:N:47:TYR:HD2	2.16	0.49
20:O:26:GLN:HA	20:O:63:HIS:NE2	2.27	0.49
22:Q:17:TYR:O	22:Q:20:MET:HB3	2.13	0.49
22:Q:35:LYS:O	22:Q:38:ILE:HG23	2.12	0.49
27:V:41:HIS:CG	27:V:42:ARG:N	2.81	0.49
11:F:116:ASN:OD1	29:X:1069:G:H1'	2.13	0.49
29:X:1235:C:H2'	29:X:1236:G:C8	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:105:ARG:NH1	29:X:1337:G:OP2	2.46	0.49
29:X:1371:G:O5'	29:X:1371:G:H8	1.95	0.49
29:X:1411:C:C2	29:X:1412:C:C5	3.01	0.49
29:X:177:U:H3'	29:X:178:C:H6	1.78	0.49
29:X:2304:G:H8	29:X:2304:G:OP2	1.95	0.49
29:X:2417:U:O2'	29:X:2418:A:H5''	2.13	0.49
29:X:2440:C:C2	29:X:2441:U:C5	3.01	0.49
29:X:2629:U:O2'	29:X:2630:C:H5'	2.13	0.49
29:X:2826:C:H2'	29:X:2827:G:C5'	2.43	0.49
8:C:40:ARG:NH1	29:X:453:U:O2'	2.46	0.49
29:X:572:G:C4	29:X:2001:G:C2	3.00	0.49
8:C:98:GLN:NE2	29:X:611:C:C4'	2.61	0.49
29:X:922:A:C2	29:X:923:A:C2	3.01	0.49
31:Z:35:C:H2'	31:Z:36:A:C8	2.47	0.49
4:4:19:ARG:HH11	4:4:24:LEU:HD22	1.76	0.48
8:C:48:ARG:CZ	8:C:87:LYS:HE2	2.43	0.48
8:C:46:ARG:HB3	8:C:51:VAL:HG23	1.94	0.48
11:F:57:ILE:CG2	11:F:58:THR:N	2.76	0.48
11:F:90:THR:OG1	11:F:93:LYS:HB2	2.13	0.48
12:G:107:GLN:HG2	29:X:1142:G:C8	2.48	0.48
12:G:116:ARG:NH2	12:G:126:VAL:HG13	2.28	0.48
14:I:97:ARG:O	14:I:98:LEU:CB	2.61	0.48
18:M:24:LEU:C	18:M:25:PRO:O	2.51	0.48
19:N:24:PHE:CB	19:N:28:ARG:O	2.61	0.48
21:P:109:ARG:HH11	21:P:115:ASN:ND2	2.10	0.48
23:R:27:GLY:HA2	29:X:320:A:O3'	2.13	0.48
24:S:152:ILE:HG22	24:S:153:LYS:O	2.13	0.48
24:S:4:THR:CB	24:S:57:GLU:HB2	2.39	0.48
28:W:22:ALA:C	28:W:24:GLY:N	2.65	0.48
29:X:1089:C:H5''	29:X:1090:C:OP1	2.12	0.48
29:X:116:A:C5'	29:X:117:A:H8	2.18	0.48
29:X:1312:G:C5'	29:X:1313:U:OP1	2.60	0.48
29:X:136:A:H8	29:X:136:A:O5'	1.95	0.48
29:X:1514:C:O4'	29:X:1593:C:C4'	2.61	0.48
29:X:1734:C:H3'	29:X:1735:G:O4'	2.13	0.48
29:X:1734:C:C6	29:X:1735:G:H1'	2.48	0.48
29:X:1735:G:C6	29:X:1736:C:C4	3.02	0.48
29:X:1770:U:C2	29:X:1774:A:C5	3.01	0.48
29:X:1935:A:H2	29:X:2539:C:O2	1.95	0.48
29:X:2057:U:H3'	29:X:2058:U:H6	1.77	0.48
29:X:2240:C:HO2'	29:X:2241:U:H5'	1.75	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2382:C:N4	29:X:2394:G:C6	2.80	0.48
29:X:242:A:C2'	29:X:243:G:H4'	2.43	0.48
29:X:2578:G:N2	29:X:2579:A:H1'	2.28	0.48
29:X:317:U:C3'	29:X:318:G:C5'	2.91	0.48
29:X:338:G:O6	29:X:343:A:C8	2.65	0.48
29:X:683:A:O2'	29:X:684:C:P	2.71	0.48
29:X:753:U:C2	29:X:754:G:N7	2.81	0.48
29:X:930:A:H61	29:X:2247:A:H8	1.56	0.48
29:X:952:A:O2'	29:X:1204:G:H4'	2.13	0.48
31:Z:73:C:H2'	31:Z:74:A:O4'	2.13	0.48
7:B:109:LYS:HZ3	29:X:2703:C:P	2.36	0.48
7:B:4:ILE:HG23	7:B:5:LEU:N	2.28	0.48
8:C:19:LEU:HA	8:C:20:PRO:C	2.33	0.48
8:C:48:ARG:C	8:C:50:GLN:H	2.15	0.48
8:C:48:ARG:CA	8:C:51:VAL:HG22	2.44	0.48
9:D:138:PHE:CZ	9:D:152:MET:SD	3.06	0.48
10:E:108:GLY:O	29:X:2645:C:N4	2.42	0.48
10:E:109:TYR:CE1	10:E:152:ARG:NH1	2.80	0.48
12:G:103:TYR:CE2	12:G:111:LYS:CB	2.96	0.48
12:G:47:SER:O	12:G:49:VAL:HG23	2.13	0.48
13:H:133:VAL:O	18:M:38:LYS:NZ	2.41	0.48
15:J:37:ALA:HB2	15:J:104:MET:HE2	1.94	0.48
15:J:70:PHE:O	15:J:96:SER:OG	2.29	0.48
16:K:16:ALA:O	16:K:18:VAL:N	2.45	0.48
17:L:10:LYS:CB	17:L:14:ARG:HH21	2.15	0.48
19:N:84:LYS:CA	19:N:92:ARG:NH2	2.76	0.48
21:P:40:LEU:CD1	21:P:62:ARG:HH12	2.26	0.48
22:Q:51:ILE:HD12	22:Q:81:ARG:HG2	1.94	0.48
23:R:28:LYS:O	23:R:29:HIS:CB	2.60	0.48
23:R:96:LYS:HG3	23:R:97:GLN:O	2.12	0.48
26:U:15:VAL:HA	26:U:45:ASN:O	2.13	0.48
27:V:56:VAL:HA	27:V:59:GLU:OE1	2.13	0.48
29:X:1002:C:O2	29:X:1175:A:C2	2.66	0.48
11:F:89:SER:HA	29:X:1075:C:O2'	2.13	0.48
29:X:1236:G:N2	29:X:1239:A:OP2	2.40	0.48
29:X:1504:G:H21	29:X:1506:C:H41	1.61	0.48
29:X:1536:G:C2	29:X:1537:U:C2	3.00	0.48
29:X:1587:A:C2	29:X:1588:A:C4	3.01	0.48
29:X:1685:A:H4'	29:X:1686:A:O5'	2.12	0.48
29:X:1774:A:H5'	29:X:2587:G:H4'	1.95	0.48
29:X:1873:A:H2	29:X:2213:G:N3	2.10	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2067:U:H2'	29:X:2068:C:C6	2.47	0.48
29:X:2681:A:O2'	29:X:2682:C:H5'	2.13	0.48
29:X:395:G:C4	29:X:406:G:N2	2.81	0.48
29:X:428:A:C5	29:X:429:C:C4	3.01	0.48
29:X:43:A:H8	29:X:43:A:O5'	1.96	0.48
29:X:477:A:C2	29:X:809:C:O4'	2.66	0.48
29:X:490:A:H1'	29:X:491:A:C8	2.47	0.48
12:G:162:LYS:HZ2	29:X:5:A:H1'	1.74	0.48
29:X:872:G:H2'	29:X:928:G:H1	1.78	0.48
29:X:958:G:C4	29:X:959:C:C5	3.01	0.48
6:A:143:HIS:CE1	6:A:192:THR:HG22	2.48	0.48
7:B:120:TRP:O	7:B:121:ASN:CB	2.58	0.48
7:B:67:PHE:CD2	7:B:74:PRO:HA	2.48	0.48
8:C:176:ASN:ND2	8:C:178:TYR:HB3	2.22	0.48
9:D:106:ILE:O	9:D:107:GLY:C	2.51	0.48
10:E:83:TYR:O	10:E:135:GLY:N	2.46	0.48
10:E:37:TYR:CE2	10:E:68:THR:HG23	2.47	0.48
11:F:27:LEU:HA	11:F:30:TYR:CE2	2.48	0.48
14:I:49:PHE:O	14:I:50:GLU:HG2	2.14	0.48
15:J:27:TYR:CB	15:J:137:VAL:CG1	2.91	0.48
15:J:28:VAL:HG22	15:J:134:LYS:O	2.13	0.48
17:L:46:SER:OG	17:L:47:ARG:N	2.46	0.48
17:L:8:ARG:HH11	17:L:8:ARG:HB3	1.77	0.48
21:P:44:VAL:HG21	21:P:60:ILE:HD11	1.95	0.48
23:R:101:GLY:C	23:R:103:LYS:N	2.66	0.48
23:R:6:ALA:O	23:R:8:SER:N	2.46	0.48
24:S:141:MET:SD	24:S:147:ILE:CG1	2.99	0.48
29:X:1002:C:C2	29:X:1003:C:C5	3.01	0.48
29:X:1145:C:C5	29:X:1147:G:P	3.06	0.48
29:X:1174:G:H2'	29:X:1175:A:H8	1.76	0.48
29:X:1269:G:N3	29:X:1269:G:H2'	2.27	0.48
29:X:1331:G:N2	29:X:1332:G:H1'	2.29	0.48
29:X:1711:C:H4'	29:X:1712:G:C5'	2.36	0.48
29:X:1920:A:C6	29:X:1922:U:H5	2.31	0.48
29:X:2007:G:C2	29:X:2023:C:C2	3.01	0.48
29:X:2190:A:C8	29:X:2190:A:C3'	2.87	0.48
29:X:222:G:H2'	29:X:223:C:H6	1.77	0.48
29:X:2404:A:H1'	29:X:2406:C:C4	2.48	0.48
29:X:2559:U:C2'	29:X:2560:G:H5'	2.44	0.48
29:X:2673:G:C6	29:X:2696:A:C6	3.01	0.48
16:K:99:ARG:NH2	29:X:2792:C:OP1	2.39	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:640:C:C4	29:X:641:G:N7	2.82	0.48
29:X:971:A:H4'	29:X:2436:U:H4'	1.96	0.48
30:Y:44:HIS:CD2	30:Y:44:HIS:N	2.79	0.48
31:Z:96:C:H2'	31:Z:97:C:C6	2.48	0.48
6:A:138:VAL:HG22	6:A:167:GLY:HA2	1.95	0.48
6:A:93:ALA:HB3	6:A:105:ILE:O	2.13	0.48
7:B:131:SER:O	7:B:132:LYS:CG	2.59	0.48
7:B:159:HIS:CE1	7:B:162:MET:CB	2.97	0.48
7:B:27:LEU:HD23	7:B:27:LEU:O	2.14	0.48
9:D:60:ILE:HG13	9:D:61:THR:HG23	1.96	0.48
10:E:94:PHE:CG	10:E:107:ILE:HG22	2.48	0.48
14:I:38:LYS:CG	29:X:954:U:OP2	2.61	0.48
19:N:47:TYR:CD1	20:O:73:LYS:HG2	2.49	0.48
21:P:65:SER:O	21:P:66:GLU:C	2.51	0.48
22:Q:68:PHE:O	22:Q:69:ILE:O	2.31	0.48
24:S:117:VAL:HG23	24:S:117:VAL:O	2.12	0.48
24:S:91:PRO:HD3	24:S:127:PRO:CG	2.43	0.48
29:X:1153:A:C4	29:X:1155:G:N7	2.82	0.48
29:X:1368:G:H2'	29:X:1369:G:O4'	2.12	0.48
29:X:1428:G:H2'	29:X:1428:G:N3	2.29	0.48
29:X:1631:C:C2'	29:X:1631:C:O2	2.62	0.48
29:X:170:U:O2'	29:X:171:G:H5'	2.13	0.48
29:X:1730:G:C2'	29:X:1731:C:H5'	2.43	0.48
18:M:100:ARG:HD3	29:X:1744:G:H5''	1.96	0.48
29:X:1835:C:H2'	29:X:1836:C:C6	2.47	0.48
29:X:1920:A:C6	29:X:1922:U:C5	3.02	0.48
29:X:311:A:C5	29:X:345:U:H4'	2.48	0.48
29:X:340:G:C8	29:X:340:G:OP2	2.65	0.48
29:X:427:C:O2	29:X:1856:U:H4'	2.13	0.48
12:G:142:ARG:NH1	29:X:538:A:H5''	2.25	0.48
30:Y:16:ARG:O	30:Y:20:ARG:HG3	2.14	0.48
6:A:68:LYS:HG2	6:A:69:ARG:N	2.28	0.48
7:B:182:ILE:O	7:B:182:ILE:HG23	2.13	0.48
8:C:107:ALA:CB	8:C:180:ILE:HD13	2.44	0.48
8:C:173:ALA:HB1	8:C:193:LEU:HB2	1.95	0.48
8:C:33:TRP:CG	8:C:95:LEU:HD12	2.49	0.48
8:C:43:ALA:CB	8:C:87:LYS:C	2.81	0.48
9:D:60:ILE:HA	9:D:140:GLU:HG3	1.95	0.48
12:G:57:LEU:HD22	12:G:170:PRO:HA	1.95	0.48
16:K:16:ALA:O	16:K:19:ALA:N	2.45	0.48
16:K:24:GLN:HB3	16:K:44:LEU:HD22	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:18:ARG:HH12	29:X:2272:A:P	2.36	0.48
12:G:70:PHE:CG	19:N:64:ARG:HG2	2.48	0.48
24:S:125:PRO:HG2	24:S:126:GLY:N	2.29	0.48
24:S:3:LEU:HD12	24:S:3:LEU:C	2.33	0.48
25:T:31:VAL:HG11	25:T:37:LEU:CD2	2.43	0.48
26:U:23:LYS:HB2	26:U:36:GLY:O	2.12	0.48
28:W:40:VAL:CG1	28:W:40:VAL:O	2.60	0.48
29:X:1228:G:C6	29:X:1229:C:C4	3.02	0.48
29:X:1229:C:H2'	29:X:1230:C:C6	2.40	0.48
29:X:1687:C:H3'	29:X:1688:U:C6	2.47	0.48
29:X:1929:U:H2'	29:X:1930:C:C6	2.48	0.48
29:X:1994:U:H2'	29:X:1995:G:C5'	2.43	0.48
29:X:2170:C:C2'	29:X:2171:U:H4'	2.41	0.48
29:X:2266:A:C2	29:X:2268:G:H1'	2.49	0.48
29:X:2634:G:C2'	29:X:2643:G:O6	2.58	0.48
29:X:2756:A:HO2'	29:X:2757:G:P	2.36	0.48
29:X:2769:C:O2	29:X:2866:A:H2	1.97	0.48
29:X:596:C:C2	29:X:684:C:H1'	2.47	0.48
29:X:600:G:C6	29:X:602:C:C4	3.02	0.48
29:X:873:U:O4	29:X:929:A:N7	2.46	0.48
6:A:209:ALA:CB	29:X:1781:C:H4'	2.43	0.48
7:B:141:ILE:HG21	7:B:150:VAL:CG1	2.43	0.48
8:C:112:GLN:HA	8:C:116:LYS:CB	2.44	0.48
9:D:132:ILE:HG22	9:D:133:LYS:N	2.28	0.48
15:J:36:ILE:HG12	15:J:103:VAL:HG23	1.95	0.48
16:K:13:ASN:HD21	16:K:16:ALA:H	1.60	0.48
17:L:18:ARG:HH21	29:X:2271:C:P	2.36	0.48
17:L:42:ILE:HG22	17:L:42:ILE:O	2.13	0.48
19:N:108:ALA:O	19:N:112:ALA:N	2.39	0.48
19:N:79:PHE:CE2	19:N:80:ILE:HD13	2.48	0.48
20:O:13:ARG:CG	20:O:14:VAL:N	2.72	0.48
20:O:23:GLU:HB2	20:O:91:THR:HG21	1.95	0.48
23:R:82:ALA:C	23:R:83:LEU:HD12	2.34	0.48
26:U:24:ALA:O	26:U:25:ARG:HB2	2.13	0.48
29:X:82:G:N2	29:X:100:G:H2'	2.28	0.48
29:X:1094:C:H2'	29:X:1096:A:H5'	1.95	0.48
29:X:1657:A:H2'	29:X:1658:A:O4'	2.14	0.48
29:X:17:G:C2	29:X:18:U:C2	3.01	0.48
29:X:1836:C:H2'	29:X:1837:G:H8	1.77	0.48
29:X:1856:U:O3'	29:X:2388:G:N2	2.46	0.48
29:X:2084:G:O2'	29:X:2085:G:H5'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2511:G:C6	29:X:2512:A:C5	3.02	0.48
29:X:2651:U:C2'	29:X:2652:G:O5'	2.61	0.48
29:X:2799:C:H2'	29:X:2800:C:O4'	2.14	0.48
29:X:2784:A:C6	29:X:2866:A:C8	3.02	0.48
29:X:435:A:C2	29:X:436:A:C2	3.01	0.48
14:I:38:LYS:CE	29:X:954:U:OP2	2.61	0.48
6:A:258:LYS:NZ	6:A:261:ARG:NE	2.53	0.48
6:A:68:LYS:N	6:A:152:GLY:HA2	2.27	0.48
7:B:85:ALA:CB	7:B:86:PRO:CD	2.88	0.48
8:C:33:TRP:HB2	8:C:93:TYR:OH	2.13	0.48
9:D:151:GLY:O	9:D:152:MET:CB	2.62	0.48
12:G:108:GLY:O	12:G:110:LEU:CD2	2.61	0.48
12:G:125:ARG:HA	12:G:128:GLU:HB3	1.96	0.48
13:H:109:ARG:HG3	13:H:111:PHE:HE1	1.78	0.48
13:H:24:VAL:HA	13:H:51:ILE:HG22	1.96	0.48
15:J:22:ALA:CB	15:J:100:PRO:O	2.55	0.48
15:J:30:PHE:HD1	15:J:66:TYR:CE2	2.32	0.48
18:M:17:GLU:OE2	18:M:63:ARG:NH2	2.47	0.48
23:R:48:VAL:O	23:R:50:GLY:N	2.45	0.48
24:S:71:MET:CA	24:S:78:PRO:HA	2.42	0.48
26:U:19:ILE:O	29:X:393:U:H4'	2.13	0.48
29:X:1168:G:C2	29:X:1169:C:C2	3.02	0.48
29:X:1273:G:H2'	29:X:1274:C:O4'	2.14	0.48
29:X:1538:A:H2'	29:X:1539:U:O4'	2.13	0.48
29:X:1827:G:H1'	29:X:1914:U:C2	2.49	0.48
29:X:1830:C:N4	29:X:1881:U:C3'	2.77	0.48
29:X:2301:A:C6	29:X:2312:A:N6	2.77	0.48
29:X:2345:A:H2'	29:X:2346:G:C8	2.49	0.48
7:B:109:LYS:NZ	29:X:2703:C:P	2.86	0.48
29:X:2779:C:H2'	29:X:2780:A:C8	2.49	0.48
29:X:353:G:O2'	29:X:354:C:H5'	2.13	0.48
29:X:396:U:N3	29:X:398:C:C4	2.82	0.48
29:X:465:C:HO2'	29:X:467:U:H1'	1.77	0.48
29:X:497:C:C6	29:X:497:C:H3'	2.48	0.48
29:X:558:G:H8	29:X:559:C:C4	2.31	0.48
29:X:624:A:N3	29:X:624:A:H5'	2.29	0.48
29:X:875:G:C2'	29:X:876:A:H5'	2.44	0.48
6:A:270:ILE:O	6:A:271:VAL:C	2.51	0.48
6:A:271:VAL:O	6:A:272:THR:OG1	2.29	0.48
6:A:91:ARG:HG2	6:A:198:ASN:OD1	2.14	0.48
10:E:109:TYR:C	10:E:111:HIS:N	2.64	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:102:THR:HA	16:K:109:THR:HA	1.96	0.48
17:L:54:ALA:HB2	17:L:75:LEU:HA	1.96	0.48
21:P:71:VAL:CG1	21:P:126:ILE:CG2	2.87	0.48
23:R:48:VAL:C	23:R:50:GLY:H	2.17	0.48
23:R:93:ARG:NH1	23:R:93:ARG:HG2	2.21	0.48
26:U:11:LYS:HZ2	26:U:69:THR:HG21	1.79	0.48
29:X:1002:C:N3	29:X:1003:C:H5	2.09	0.48
29:X:1121:G:C2'	29:X:1122:A:C8	2.97	0.48
29:X:1332:G:C5	29:X:1333:G:N1	2.82	0.48
29:X:1504:G:H2'	29:X:1505:U:O2	2.14	0.48
29:X:1547:U:H2'	29:X:1548:U:C6	2.48	0.48
29:X:1626:A:H5''	29:X:1627:C:OP2	2.12	0.48
29:X:1736:C:H2'	29:X:1737:G:C8	2.48	0.48
29:X:765:C:C5	29:X:1772:C:C2	3.02	0.48
29:X:2040:A:O2'	29:X:2041:A:H5'	2.14	0.48
6:A:239:ARG:HD3	29:X:2570:C:OP1	2.14	0.48
29:X:2692:A:H5'	29:X:2693:U:OP2	2.14	0.48
29:X:395:G:C2	29:X:406:G:C2	3.01	0.48
29:X:576:A:C2	29:X:577:U:H1'	2.49	0.48
29:X:697:G:C2	29:X:807:A:C2	3.02	0.48
29:X:825:C:H2'	29:X:826:U:H6	1.78	0.48
30:Y:3:LYS:O	30:Y:4:HIS:C	2.52	0.48
31:Z:30:C:H42	31:Z:58:G:H1	1.62	0.48
4:4:9:LYS:NZ	29:X:1043:A:H5''	2.29	0.48
6:A:246:PRO:O	6:A:247:VAL:C	2.51	0.48
7:B:27:LEU:O	7:B:29:GLY:N	2.47	0.48
7:B:61:LYS:HB3	7:B:62:PRO:HD3	1.96	0.48
10:E:6:LYS:O	10:E:7:GLN:HG3	2.14	0.48
14:I:108:LEU:H	14:I:125:ALA:HA	1.78	0.48
14:I:116:ARG:CG	14:I:117:ALA:N	2.77	0.48
14:I:18:ARG:HB2	14:I:21:ARG:CB	2.41	0.48
14:I:85:ASP:HA	14:I:116:ARG:HH12	1.78	0.48
15:J:125:LYS:HZ2	15:J:125:LYS:CA	2.27	0.48
15:J:116:LYS:HZ3	15:J:132:MET:HB3	1.79	0.48
21:P:46:ARG:CG	21:P:46:ARG:NH1	2.72	0.48
21:P:82:ASN:OD1	29:X:506:G:H1'	2.13	0.48
26:U:24:ALA:C	26:U:26:ALA:H	2.14	0.48
28:W:21:GLN:O	28:W:24:GLY:N	2.37	0.48
29:X:1329:U:H2'	29:X:1330:G:C8	2.44	0.48
29:X:1343:C:H2'	29:X:1344:C:C6	2.49	0.48
29:X:1399:C:C2	29:X:1400:A:C8	3.02	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:140:G:H2'	29:X:141:G:C8	2.49	0.48
29:X:1440:G:H3'	29:X:1441:A:C5'	2.40	0.48
29:X:581:A:N1	29:X:2012:A:C2	2.82	0.48
17:L:11:LEU:HD21	29:X:2273:C:O5'	2.13	0.48
29:X:2335:U:H2'	29:X:2336:G:C8	2.49	0.48
29:X:2511:G:H2'	29:X:2512:A:C8	2.48	0.48
29:X:309:G:N2	29:X:352:G:O6	2.47	0.48
29:X:487:G:H4'	29:X:512:A:C6	2.48	0.48
29:X:632:A:H3'	29:X:633:G:H8	1.78	0.48
29:X:649:G:N2	29:X:660:G:N2	2.62	0.48
29:X:694:G:C2	29:X:695:G:C4	3.02	0.48
29:X:833:A:N3	29:X:954:U:O2'	2.43	0.48
29:X:865:A:H61	29:X:937:C:H42	1.60	0.48
29:X:982:C:OP2	29:X:985:G:N7	2.46	0.48
4:4:17:VAL:HG12	4:4:18:ARG:N	2.28	0.48
8:C:67:ALA:H	29:X:1268:U:H5	1.53	0.48
9:D:111:ILE:HA	9:D:137:ILE:HG21	1.95	0.48
10:E:9:ILE:HB	10:E:50:LEU:O	2.13	0.48
14:I:86:THR:N	14:I:116:ARG:NH1	2.57	0.48
14:I:11:GLY:C	14:I:13:ARG:N	2.66	0.48
15:J:106:GLU:N	15:J:106:GLU:OE1	2.47	0.48
17:L:54:ALA:N	17:L:75:LEU:HD13	2.29	0.48
20:O:19:VAL:CG1	20:O:90:PHE:CG	2.97	0.48
21:P:117:ILE:CD1	29:X:1996:A:H4'	2.43	0.48
24:S:91:PRO:HD3	24:S:127:PRO:HG3	1.95	0.48
24:S:3:LEU:HD11	24:S:5:ALA:O	2.14	0.48
25:T:17:ASN:ND2	29:X:2241:U:H5	2.10	0.48
26:U:78:ILE:CD1	26:U:79:GLU:O	2.61	0.48
27:V:6:MET:CE	27:V:52:GLN:HB3	2.43	0.48
28:W:36:ASP:O	28:W:36:ASP:OD1	2.32	0.48
29:X:1513:U:C5'	29:X:1514:C:OP2	2.56	0.48
29:X:155:G:O2'	29:X:156:G:H5'	2.14	0.48
29:X:1313:U:H1'	29:X:1642:G:N2	2.28	0.48
26:U:46:LEU:HB2	29:X:2209:G:C5'	2.44	0.48
29:X:227:G:H2'	29:X:228:A:C8	2.49	0.48
29:X:2306:A:C5	29:X:2367:A:N1	2.82	0.48
29:X:971:A:H4'	29:X:2436:U:H5'	1.95	0.48
29:X:2651:U:H2'	29:X:2652:G:O5'	2.14	0.48
29:X:2705:A:O2'	29:X:2706:U:C5	2.66	0.48
7:B:203:LYS:CG	29:X:2713:A:N1	2.77	0.48
29:X:947:C:H2'	29:X:948:C:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:947:C:C2	29:X:948:C:C5	3.01	0.48
29:X:982:C:H2'	29:X:983:G:O5'	2.14	0.48
6:A:93:ALA:HB1	6:A:95:LEU:CD2	2.44	0.47
8:C:24:SER:HA	8:C:27:LEU:CD1	2.43	0.47
8:C:47:THR:HG23	8:C:85:GLY:N	2.18	0.47
8:C:62:LYS:HE3	29:X:2042:A:O3'	2.14	0.47
10:E:155:ASP:C	10:E:157:TYR:H	2.18	0.47
11:F:121:GLU:HA	11:F:124:ALA:HB3	1.96	0.47
11:F:78:ILE:C	11:F:81:ALA:H	2.17	0.47
13:H:21:CYS:SG	13:H:22:ILE:N	2.87	0.47
14:I:32:ARG:HD2	20:O:81:ARG:CG	2.44	0.47
15:J:92:GLU:OE1	15:J:92:GLU:HA	2.13	0.47
18:M:91:VAL:CG1	18:M:92:THR:N	2.76	0.47
19:N:88:ILE:HG23	20:O:49:GLU:CB	2.34	0.47
20:O:90:PHE:CD1	20:O:90:PHE:C	2.88	0.47
22:Q:7:LEU:HD22	22:Q:8:GLN:N	2.28	0.47
23:R:93:ARG:HH12	23:R:107:ALA:C	2.16	0.47
24:S:103:ARG:NH2	24:S:108:VAL:CG2	2.73	0.47
25:T:3:HIS:C	25:T:4:LYS:HG2	2.35	0.47
29:X:1050:G:C2'	29:X:1051:U:C5'	2.92	0.47
29:X:1212:U:H2'	29:X:1213:U:H6	1.77	0.47
29:X:1238:A:C2	29:X:1239:A:C2	3.02	0.47
29:X:1286:U:H4'	29:X:1288:A:OP2	2.13	0.47
29:X:1301:U:O2'	29:X:1664:G:N2	2.38	0.47
29:X:1339:U:H5	29:X:1664:G:HO2'	1.59	0.47
29:X:1550:C:C2'	29:X:1553:G:N2	2.58	0.47
29:X:1855:G:C2	29:X:1863:U:O2	2.67	0.47
29:X:2289:A:H3'	29:X:2290:A:H8	1.78	0.47
29:X:2321:C:O2'	29:X:2353:G:OP1	2.31	0.47
29:X:2824:C:H2'	29:X:2824:C:O2	2.14	0.47
29:X:30:G:H2'	29:X:31:C:C6	2.49	0.47
29:X:566:U:O2'	29:X:567:G:H5'	2.15	0.47
6:A:206:LEU:O	6:A:207:GLY:C	2.51	0.47
7:B:136:ARG:O	7:B:137:ARG:HB2	2.14	0.47
9:D:67:ILE:O	9:D:69:LYS:N	2.47	0.47
9:D:80:ARG:N	9:D:80:ARG:HD2	2.29	0.47
12:G:106:TYR:CZ	12:G:108:GLY:CA	2.97	0.47
12:G:162:LYS:HZ3	29:X:2873:G:H21	1.62	0.47
12:G:168:THR:O	12:G:169:GLN:C	2.52	0.47
13:H:116:ARG:HA	13:H:133:VAL:CG1	2.45	0.47
15:J:37:ALA:CB	15:J:98:VAL:HG11	2.43	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:13:ASN:HD22	16:K:16:ALA:H	1.60	0.47
16:K:44:LEU:O	16:K:45:ARG:C	2.53	0.47
17:L:104:ALA:O	17:L:105:ASP:C	2.52	0.47
19:N:34:ASN:O	19:N:35:ALA:C	2.52	0.47
12:G:66:HIS:CG	19:N:71:LEU:HD12	2.49	0.47
19:N:86:ALA:O	19:N:88:ILE:N	2.47	0.47
19:N:93:LYS:HD2	20:O:10:LYS:NZ	2.29	0.47
20:O:13:ARG:O	20:O:14:VAL:CG2	2.62	0.47
21:P:102:THR:CG2	21:P:102:THR:O	2.52	0.47
21:P:11:LYS:O	21:P:12:LYS:C	2.53	0.47
21:P:53:ALA:CB	21:P:72:LEU:HD21	2.44	0.47
23:R:77:HIS:C	23:R:79:SER:H	2.16	0.47
23:R:84:VAL:CG1	23:R:88:THR:O	2.61	0.47
26:U:63:SER:O	26:U:64:ALA:C	2.52	0.47
29:X:1091:C:O2'	29:X:1092:U:H5'	2.14	0.47
29:X:1253:C:H5'	29:X:1253:C:C6	2.47	0.47
29:X:1256:C:H2'	29:X:1257:U:C6	2.49	0.47
29:X:1391:A:N3	29:X:1392:U:C2	2.83	0.47
29:X:1920:A:C4	29:X:1922:U:C5	3.02	0.47
29:X:2058:U:H1'	29:X:2576:G:N2	2.29	0.47
29:X:2046:C:O2	29:X:2429:A:N1	2.47	0.47
29:X:2613:A:H2'	29:X:2614:A:H8	1.79	0.47
29:X:2710:C:O2'	29:X:2711:G:H5'	2.14	0.47
29:X:815:A:H2'	29:X:816:U:C6	2.49	0.47
29:X:828:C:C2	29:X:1207:G:C2	3.02	0.47
28:W:18:LYS:HB2	29:X:863:C:H4'	1.96	0.47
29:X:929:A:N6	29:X:930:A:C2	2.82	0.47
8:C:194:GLU:O	8:C:195:ILE:CG1	2.58	0.47
8:C:62:LYS:CG	8:C:63:GLY:N	2.77	0.47
8:C:98:GLN:HE22	29:X:611:C:C5'	2.25	0.47
10:E:10:ALA:O	10:E:12:PRO:CD	2.62	0.47
12:G:42:VAL:CG1	12:G:168:THR:HG23	2.43	0.47
13:H:113:PRO:CB	13:H:134:LEU:HD12	2.43	0.47
16:K:98:LEU:O	16:K:112:LEU:N	2.36	0.47
17:L:37:HIS:CG	17:L:37:HIS:O	2.67	0.47
18:M:72:SER:O	18:M:73:PHE:C	2.51	0.47
19:N:109:LEU:O	19:N:112:ALA:HB3	2.14	0.47
19:N:37:GLN:HE22	29:X:572:G:N2	2.12	0.47
19:N:76:TYR:O	19:N:77:SER:C	2.53	0.47
20:O:78:VAL:O	20:O:78:VAL:HG22	2.14	0.47
24:S:123:VAL:HG23	24:S:161:ALA:HB2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:146:HIS:O	24:S:147:ILE:HD13	2.14	0.47
26:U:68:ARG:NH1	29:X:412:U:H5	2.12	0.47
28:W:54:GLN:CG	28:W:55:GLU:N	2.72	0.47
12:G:31:THR:OG1	29:X:1006:C:N3	2.45	0.47
29:X:1142:G:O2'	29:X:1143:A:P	2.72	0.47
16:K:105:GLY:HA2	29:X:1301:U:O4	2.14	0.47
29:X:1724:C:C4	29:X:1747:G:C6	3.02	0.47
29:X:1744:G:O6	29:X:1747:G:C6	2.66	0.47
29:X:1818:G:C6	29:X:1819:U:C4	3.02	0.47
29:X:1933:G:H2'	29:X:1934:U:H6	1.79	0.47
29:X:2393:G:C6	29:X:2394:G:N7	2.82	0.47
29:X:2494:C:N3	29:X:2549:G:C6	2.82	0.47
29:X:2604:G:H2'	29:X:2605:C:O4'	2.15	0.47
29:X:343:A:OP2	29:X:343:A:C4	2.67	0.47
29:X:358:C:H6	29:X:358:C:O5'	1.98	0.47
29:X:485:G:C4	29:X:520:C:C5	3.01	0.47
29:X:614:G:C2'	29:X:615:C:H5'	2.45	0.47
29:X:613:A:C4	29:X:668:A:C2	3.02	0.47
29:X:826:U:O2	29:X:827:C:C6	2.68	0.47
29:X:873:U:O4	29:X:929:A:C8	2.66	0.47
31:Z:16:U:HO2'	31:Z:110:U:C2'	2.27	0.47
7:B:136:ARG:HG2	7:B:137:ARG:H	1.79	0.47
7:B:59:VAL:HG12	7:B:64:GLN:HG3	1.95	0.47
8:C:44:SER:CB	29:X:37:C:H1'	2.44	0.47
9:D:156:ILE:O	9:D:156:ILE:HG22	2.13	0.47
9:D:22:TYR:HD2	9:D:27:ALA:O	1.97	0.47
13:H:76:ARG:NH1	13:H:113:PRO:O	2.43	0.47
14:I:43:ALA:CB	29:X:684:C:H41	2.27	0.47
15:J:11:ARG:NH2	15:J:15:ARG:HH22	2.12	0.47
15:J:79:PRO:HD3	15:J:88:LYS:HZ2	1.80	0.47
16:K:41:ALA:O	16:K:44:LEU:N	2.47	0.47
17:L:89:PHE:CD2	29:X:2355:A:C2	3.03	0.47
18:M:69:ARG:HG3	18:M:70:LYS:N	2.30	0.47
19:N:21:ALA:CB	19:N:24:PHE:CD2	2.97	0.47
19:N:76:TYR:CE1	19:N:80:ILE:HG13	2.49	0.47
20:O:34:GLU:O	20:O:35:LEU:O	2.33	0.47
21:P:17:GLN:HG3	21:P:18:VAL:HG23	1.96	0.47
22:Q:53:ILE:CG1	22:Q:54:SER:N	2.77	0.47
24:S:64:ALA:HB2	24:S:85:MET:CE	2.45	0.47
28:W:49:HIS:CD2	31:Z:85:G:C5'	2.98	0.47
29:X:1061:A:H2'	29:X:1062:G:C5'	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1301:U:C5'	29:X:1302:C:OP2	2.63	0.47
29:X:1494:G:O2'	29:X:1574:A:H2	1.97	0.47
29:X:1601:U:H4'	29:X:1602:G:OP2	2.14	0.47
29:X:1909:U:H5'	29:X:1911:A:OP2	2.14	0.47
29:X:1339:U:H5''	29:X:1994:U:C1'	2.44	0.47
29:X:540:G:C2	29:X:2005:U:OP1	2.67	0.47
29:X:2249:U:H2'	29:X:2250:G:O4'	2.13	0.47
29:X:2311:U:C5'	29:X:2315:A:N6	2.72	0.47
29:X:2327:U:C4	29:X:2361:G:N2	2.82	0.47
29:X:2386:G:H2'	29:X:2387:U:C6	2.49	0.47
29:X:2426:G:C4	29:X:2480:C:C4	3.02	0.47
29:X:2528:G:O2'	29:X:2529:G:H5'	2.14	0.47
29:X:2587:G:H8	29:X:2587:G:O5'	1.98	0.47
29:X:2685:A:C2	29:X:2686:C:N1	2.82	0.47
29:X:2760:G:C2'	29:X:2761:A:OP1	2.61	0.47
8:C:162:ARG:CZ	29:X:333:A:H5''	2.44	0.47
29:X:322:A:O2'	29:X:343:A:H5'	2.14	0.47
29:X:487:G:H4'	29:X:512:A:N6	2.28	0.47
29:X:597:U:H2'	29:X:598:U:C6	2.49	0.47
14:I:65:PHE:HB3	29:X:642:A:O2'	2.14	0.47
29:X:666:U:H3'	29:X:667:U:H5''	1.95	0.47
29:X:6:A:C4	29:X:7:G:C8	3.01	0.47
29:X:826:U:N3	29:X:827:C:C4	2.82	0.47
29:X:2029:G:O5'	30:Y:19:ARG:HA	2.13	0.47
31:Z:110:U:H2'	31:Z:110:U:O2	2.13	0.47
7:B:15:TRP:CE2	18:M:86:PRO:HD3	2.50	0.47
7:B:181:LEU:CD1	18:M:16:ILE:HD11	2.45	0.47
7:B:68:ALA:C	7:B:70:ALA:N	2.68	0.47
9:D:135:GLN:O	9:D:138:PHE:CD1	2.67	0.47
10:E:158:HIS:N	10:E:171:LEU:HD23	2.28	0.47
10:E:43:VAL:HG22	10:E:44:ARG:N	2.30	0.47
11:F:129:GLY:O	11:F:132:ARG:HB3	2.13	0.47
11:F:1:MET:HB3	11:F:2:LYS:HD3	1.95	0.47
12:G:142:ARG:O	12:G:144:MET:N	2.48	0.47
14:I:53:ARG:NH2	14:I:53:ARG:CG	2.78	0.47
16:K:44:LEU:HD11	16:K:48:VAL:HB	1.95	0.47
17:L:79:ALA:O	17:L:82:LYS:HB2	2.14	0.47
18:M:50:PHE:CZ	18:M:70:LYS:HB3	2.48	0.47
19:N:81:ASN:HD21	19:N:85:ARG:NE	2.12	0.47
21:P:93:LYS:HB2	21:P:129:ALA:HB3	1.96	0.47
24:S:13:LYS:HZ2	24:S:18:MET:HB2	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:T:40:GLN:O	25:T:41:ARG:HD3	2.14	0.47
26:U:20:ARG:CB	26:U:43:ARG:HD2	2.43	0.47
26:U:28:GLY:O	26:U:31:GLY:N	2.47	0.47
29:X:105:G:H5'	29:X:105:G:C8	2.48	0.47
29:X:1135:C:H2'	29:X:1136:G:C8	2.46	0.47
29:X:1412:C:HO2'	29:X:1413:U:P	2.37	0.47
29:X:1544:A:N7	29:X:1545:G:C4	2.83	0.47
29:X:1337:G:H4'	29:X:1632:A:N7	2.29	0.47
29:X:2625:U:OP2	29:X:2625:U:H6	1.97	0.47
29:X:2859:U:OP2	30:Y:43:HIS:CE1	2.68	0.47
29:X:623:G:H3'	29:X:624:A:C5'	2.29	0.47
29:X:766:A:H8	29:X:766:A:O5'	1.97	0.47
29:X:982:C:OP2	29:X:985:G:C8	2.67	0.47
6:A:131:LEU:CD1	6:A:136:VAL:HG22	2.45	0.47
7:B:117:MET:O	7:B:121:ASN:HA	2.15	0.47
7:B:118:LYS:HG3	7:B:118:LYS:O	2.14	0.47
7:B:189:PRO:HA	29:X:2659:C:C5'	2.40	0.47
7:B:5:LEU:CD1	7:B:81:PHE:CZ	2.97	0.47
10:E:127:GLU:O	10:E:129:THR:N	2.44	0.47
10:E:155:ASP:OD1	10:E:160:LYS:N	2.47	0.47
10:E:9:ILE:HD12	10:E:51:LEU:CA	2.45	0.47
10:E:9:ILE:HB	10:E:50:LEU:C	2.34	0.47
11:F:12:LEU:HD22	11:F:22:PRO:CB	2.44	0.47
11:F:25:PRO:CG	11:F:26:ALA:H	2.27	0.47
12:G:131:VAL:C	12:G:133:GLY:H	2.18	0.47
15:J:35:LEU:CD1	15:J:130:THR:HB	2.43	0.47
15:J:89:GLY:O	15:J:91:VAL:N	2.48	0.47
16:K:76:VAL:HA	16:K:79:VAL:HG12	1.97	0.47
16:K:83:VAL:HG23	16:K:87:TYR:CE2	2.50	0.47
17:L:42:ILE:C	17:L:43:ILE:HD12	2.35	0.47
13:H:83:ARG:HH11	18:M:40:ARG:CD	2.28	0.47
19:N:66:ASN:HA	19:N:69:ALA:CB	2.45	0.47
19:N:84:LYS:CB	19:N:92:ARG:HH22	2.26	0.47
20:O:53:LYS:HB2	20:O:54:TYR:CD1	2.50	0.47
20:O:65:ARG:HH11	20:O:65:ARG:CG	2.27	0.47
21:P:66:GLU:O	21:P:69:ALA:CB	2.60	0.47
27:V:22:LYS:HA	27:V:25:LEU:HB3	1.97	0.47
28:W:45:LYS:HE3	28:W:45:LYS:CA	2.44	0.47
29:X:1207:G:O2'	29:X:1208:A:H5'	2.14	0.47
29:X:1350:G:H2'	29:X:1351:G:H8	1.79	0.47
29:X:1359:G:H8	29:X:1359:G:H5'	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1656:U:H2'	29:X:1657:A:H5''	1.97	0.47
29:X:165:G:C2'	29:X:166:G:H5'	2.43	0.47
29:X:426:C:H4'	29:X:1863:U:O2'	2.14	0.47
29:X:2084:G:H2'	29:X:2085:G:C8	2.49	0.47
29:X:2321:C:O2'	29:X:2353:G:H5''	2.15	0.47
29:X:2594:U:O2	29:X:2595:C:C6	2.67	0.47
29:X:2659:C:H2'	29:X:2660:C:C6	2.50	0.47
29:X:2659:C:N4	29:X:2660:C:H41	2.12	0.47
4:4:19:ARG:HE	29:X:2735:C:H3'	1.79	0.47
29:X:540:G:N3	29:X:2004:U:O2'	2.48	0.47
29:X:601:A:H2'	29:X:602:C:OP1	2.14	0.47
29:X:632:A:H3'	29:X:633:G:C8	2.50	0.47
29:X:63:A:N3	29:X:63:A:H2'	2.29	0.47
29:X:682:G:C2'	29:X:682:G:N3	2.77	0.47
29:X:780:U:H4'	29:X:781:G:OP1	2.14	0.47
30:Y:58:LEU:CD1	30:Y:58:LEU:H	2.22	0.47
30:Y:8:LYS:O	30:Y:9:LYS:HD3	2.14	0.47
31:Z:71:G:C5	31:Z:72:C:C5	3.03	0.47
6:A:143:HIS:O	6:A:144:ALA:HB3	2.15	0.47
7:B:120:TRP:CG	7:B:155:ARG:HB3	2.50	0.47
7:B:14:ILE:CD1	7:B:183:LEU:CD1	2.91	0.47
8:C:15:ILE:HG22	8:C:17:LEU:HD13	1.95	0.47
9:D:12:VAL:CG1	9:D:16:LEU:HD11	2.32	0.47
9:D:71:LYS:C	9:D:73:SER:H	2.17	0.47
14:I:78:SER:CA	14:I:112:GLY:HA3	2.45	0.47
16:K:65:LEU:HD11	29:X:2845:C:H5''	1.96	0.47
19:N:13:ARG:CZ	29:X:1264:C:C5'	2.93	0.47
20:O:78:VAL:HG22	29:X:1202:U:H5'	1.97	0.47
20:O:87:ARG:HG3	20:O:87:ARG:O	2.14	0.47
21:P:81:HIS:CD2	21:P:82:ASN:N	2.83	0.47
22:Q:63:LYS:HB2	22:Q:69:ILE:O	2.13	0.47
22:Q:66:GLY:C	22:Q:68:PHE:N	2.68	0.47
23:R:95:ARG:NH2	23:R:106:VAL:HG12	2.30	0.47
24:S:87:THR:O	24:S:88:TYR:CB	2.62	0.47
28:W:40:VAL:HA	28:W:43:MET:HG3	1.93	0.47
22:Q:72:ARG:NH2	29:X:1324:G:O3'	2.44	0.47
29:X:1364:C:HO2'	29:X:1587:A:H1'	1.79	0.47
29:X:1550:C:H2'	29:X:1553:G:H21	1.71	0.47
29:X:1575:C:H4'	29:X:1576:G:OP2	2.14	0.47
29:X:1771:A:HO2'	29:X:1772:C:P	2.37	0.47
29:X:1841:G:C2'	29:X:1842:G:H5'	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1872:A:N1	29:X:2213:G:H1'	2.29	0.47
29:X:2071:G:H2'	29:X:2072:C:H6	1.80	0.47
25:T:17:ASN:OD1	29:X:2240:C:C6	2.68	0.47
29:X:797:A:OP2	29:X:2568:A:OP1	2.32	0.47
29:X:347:C:O2'	29:X:348:U:H5'	2.13	0.47
29:X:529:U:C2	29:X:530:G:N7	2.83	0.47
29:X:63:A:C2	29:X:64:C:C6	3.03	0.47
29:X:689:A:C2	29:X:815:A:N6	2.83	0.47
29:X:982:C:O2'	29:X:983:G:H5'	2.14	0.47
31:Z:4:C:HO2'	31:Z:5:C:H5'	1.80	0.47
4:4:30:VAL:C	4:4:32:HIS:N	2.65	0.47
8:C:173:ALA:HB1	8:C:193:LEU:CD1	2.44	0.47
8:C:47:THR:HA	8:C:82:VAL:HB	1.95	0.47
9:D:33:LYS:HD2	9:D:90:THR:HG23	1.96	0.47
10:E:12:PRO:O	10:E:15:VAL:HG22	2.15	0.47
10:E:89:LEU:HB2	10:E:129:THR:CA	2.33	0.47
11:F:38:THR:O	11:F:42:ASN:HB2	2.14	0.47
12:G:104:THR:OG1	12:G:110:LEU:HD13	2.15	0.47
15:J:71:PRO:HA	15:J:96:SER:CB	2.43	0.47
15:J:99:LYS:HD2	15:J:100:PRO:CD	2.44	0.47
17:L:89:PHE:O	17:L:91:ARG:NH2	2.47	0.47
21:P:10:ASN:O	21:P:11:LYS:C	2.53	0.47
21:P:45:ILE:HD12	21:P:57:LEU:HD21	1.96	0.47
23:R:112:LYS:O	23:R:113:THR:CG2	2.57	0.47
24:S:90:GLU:HA	24:S:127:PRO:HD3	1.96	0.47
24:S:43:PHE:HD1	24:S:66:VAL:HG21	1.79	0.47
29:X:1053:G:C6	29:X:1054:C:C4	3.03	0.47
29:X:1304:U:H2'	29:X:1305:C:C6	2.50	0.47
29:X:1332:G:N2	29:X:1347:C:C2	2.83	0.47
29:X:1395:A:H2'	29:X:1396:C:C6	2.50	0.47
29:X:1746:A:H2'	29:X:1747:G:O5'	2.15	0.47
29:X:2021:G:O2'	29:X:2022:C:H5'	2.15	0.47
29:X:538:A:C4	29:X:2025:A:C2	3.02	0.47
29:X:2189:A:C2	29:X:2196:U:N3	2.79	0.47
29:X:2395:C:C2'	29:X:2396:C:C5'	2.93	0.47
29:X:2058:U:N3	29:X:2414:A:C2	2.83	0.47
29:X:2436:U:H2'	29:X:2437:G:O4'	2.15	0.47
29:X:416:U:H4'	29:X:419:G:O2'	2.14	0.47
29:X:540:G:O2'	29:X:542:A:H2	1.95	0.47
29:X:658:G:H2'	29:X:659:G:H8	1.79	0.47
29:X:736:G:C2	29:X:737:C:H1'	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:746:G:O6	29:X:774:A:C8	2.67	0.47
30:Y:51:TYR:CZ	30:Y:55:ARG:HB2	2.49	0.47
31:Z:47:A:H2'	31:Z:47:A:N3	2.28	0.47
6:A:44:ASN:CB	6:A:49:ILE:HA	2.34	0.47
8:C:172:VAL:C	8:C:174:GLY:N	2.68	0.47
9:D:13:ARG:CB	9:D:14:PRO:CD	2.92	0.47
9:D:175:LEU:HG	9:D:177:PHE:HE1	1.80	0.47
9:D:22:TYR:CD2	9:D:28:VAL:HG22	2.49	0.47
12:G:33:ILE:O	12:G:69:ASP:CG	2.53	0.47
13:H:22:ILE:HG22	13:H:52:VAL:C	2.35	0.47
15:J:42:TRP:CB	15:J:95:VAL:HG11	2.45	0.47
16:K:72:ASP:CB	16:K:75:VAL:HG23	2.45	0.47
17:L:9:ARG:O	17:L:12:ARG:N	2.44	0.47
19:N:82:GLY:HA2	19:N:85:ARG:HB2	1.96	0.47
21:P:105:ARG:HH12	21:P:119:LYS:HZ1	1.63	0.47
22:Q:42:ILE:O	22:Q:43:GLN:C	2.52	0.47
23:R:35:LYS:HE3	23:R:37:LEU:CD2	2.44	0.47
24:S:48:THR:HG22	24:S:66:VAL:HB	1.96	0.47
24:S:98:VAL:HG11	24:S:168:VAL:CG1	2.44	0.47
28:W:49:HIS:ND1	28:W:50:LEU:HG	2.29	0.47
29:X:1038:U:H2'	29:X:1039:A:H8	1.79	0.47
29:X:1162:A:H2'	29:X:1163:C:C6	2.49	0.47
29:X:1552:C:H1'	29:X:1553:G:C4	2.50	0.47
29:X:1629:G:C2'	29:X:1633:C:H42	2.28	0.47
7:B:128:SER:OG	29:X:1692:C:N3	2.47	0.47
29:X:2286:G:N7	29:X:2287:G:C8	2.83	0.47
29:X:2262:C:C5	29:X:2368:G:C4	3.03	0.47
29:X:2488:G:H2'	29:X:2489:C:H6	1.80	0.47
29:X:2015:G:O6	29:X:2551:A:C4	2.67	0.47
10:E:110:SER:OG	29:X:2646:C:N3	2.47	0.47
29:X:2779:C:C2'	29:X:2780:A:O4'	2.63	0.47
29:X:2823:G:O2'	29:X:2824:C:P	2.73	0.47
29:X:428:A:H2'	29:X:429:C:O4'	2.15	0.47
29:X:708:G:OP1	29:X:1393:G:O2'	2.32	0.47
29:X:774:A:H8	29:X:774:A:O5'	1.97	0.47
29:X:830:C:H2'	29:X:831:G:H8	1.80	0.47
29:X:860:U:H2'	29:X:860:U:O2	2.15	0.47
29:X:938:G:HO2'	29:X:939:C:P	2.38	0.47
17:L:50:THR:N	31:Z:116:C:O2'	2.44	0.47
6:A:160:GLY:CA	6:A:197:GLY:HA2	2.44	0.47
6:A:214:TRP:HD1	29:X:1582:A:O4'	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:227:ASN:H	6:A:230:ASP:HB2	1.78	0.47
7:B:14:ILE:HD12	7:B:23:VAL:HG21	1.97	0.47
7:B:192:ASN:HD22	18:M:9:ARG:NH1	2.12	0.47
9:D:44:LYS:HB3	9:D:46:ASP:OD2	2.15	0.47
10:E:57:ASP:HB3	10:E:62:ARG:HE	1.79	0.47
12:G:124:GLU:CD	12:G:124:GLU:H	2.11	0.47
14:I:13:ARG:HB3	14:I:13:ARG:NH2	2.29	0.47
14:I:92:THR:C	14:I:94:GLU:N	2.68	0.47
15:J:100:PRO:HG2	24:S:74:ARG:NH1	2.27	0.47
17:L:107:ALA:O	17:L:109:GLU:N	2.47	0.47
20:O:65:ARG:CZ	20:O:87:ARG:HD2	2.44	0.47
23:R:36:VAL:O	23:R:37:LEU:HD23	2.15	0.47
24:S:128:ARG:N	24:S:130:ILE:HD11	2.29	0.47
24:S:148:THR:CB	24:S:164:PRO:O	2.62	0.47
24:S:71:MET:HE3	24:S:71:MET:O	2.15	0.47
25:T:42:GLY:C	25:T:57:HIS:CD2	2.89	0.47
26:U:48:LYS:NZ	29:X:2208:U:O2	2.47	0.47
27:V:21:ARG:CD	27:V:21:ARG:N	2.78	0.47
29:X:1448:A:H2'	29:X:1449:C:O4'	2.14	0.47
29:X:162:C:H2'	29:X:163:A:C8	2.49	0.47
29:X:1725:C:O2'	29:X:1726:C:H5'	2.15	0.47
29:X:2082:C:H2'	29:X:2083:G:H5''	1.97	0.47
29:X:2196:U:H2'	29:X:2197:U:C6	2.50	0.47
29:X:2220:A:O2'	29:X:2221:G:H5'	2.15	0.47
29:X:2242:C:N4	29:X:2243:C:N4	2.62	0.47
29:X:428:A:N1	29:X:2388:G:C6	2.83	0.47
29:X:2411:A:H2'	29:X:2412:A:O4'	2.15	0.47
4:4:2:LYS:HE3	29:X:2457:A:OP2	2.15	0.47
12:G:104:THR:HB	29:X:2620:G:H5''	1.97	0.47
29:X:2708:U:H2'	29:X:2709:C:H6	1.79	0.47
29:X:520:C:C2'	29:X:520:C:O2	2.59	0.47
29:X:790:A:C2	29:X:791:G:C8	3.03	0.47
31:Z:20:A:C2	31:Z:69:G:C6	3.03	0.47
31:Z:80:A:H2'	31:Z:81:C:O4'	2.15	0.47
7:B:16:LYS:HB2	7:B:21:ILE:CD1	2.45	0.47
8:C:169:VAL:HG12	8:C:170:LEU:N	2.29	0.47
8:C:195:ILE:O	8:C:196:VAL:HB	2.14	0.47
11:F:23:VAL:HG11	11:F:34:ILE:HG12	1.96	0.47
12:G:108:GLY:C	12:G:110:LEU:CD2	2.83	0.47
13:H:1:MET:CB	13:H:44:TYR:HB3	2.41	0.47
15:J:36:ILE:HD12	15:J:133:VAL:HG11	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:38:ILE:HD12	17:L:40:ALA:H	1.74	0.47
17:L:91:ARG:NH2	29:X:2356:A:C2	2.82	0.47
20:O:90:PHE:HD1	20:O:91:THR:N	2.13	0.47
21:P:60:ILE:HA	21:P:61:PRO:HD3	1.61	0.47
22:Q:7:LEU:HD22	22:Q:7:LEU:O	2.13	0.47
23:R:16:PHE:CD2	23:R:80:LYS:NZ	2.83	0.47
23:R:46:VAL:HG12	23:R:48:VAL:HG23	1.96	0.47
24:S:63:PRO:C	24:S:86:VAL:HG23	2.34	0.47
29:X:1249:G:O2'	29:X:1250:A:P	2.73	0.47
29:X:1685:A:N7	29:X:1691:G:C5	2.83	0.47
29:X:1693:A:C2	29:X:1976:U:H5'	2.50	0.47
29:X:1879:G:O2'	29:X:1880:G:H5'	2.14	0.47
29:X:1920:A:H62	29:X:1923:U:H5	1.62	0.47
29:X:2348:A:H2'	29:X:2349:G:C8	2.50	0.47
29:X:2498:U:H2'	29:X:2520:A:H61	1.79	0.47
29:X:2654:A:C2	29:X:2655:C:C2	3.03	0.47
29:X:26:G:C6	29:X:27:G:N2	2.83	0.47
10:E:150:LYS:NZ	29:X:2724:G:H1'	2.29	0.47
29:X:403:A:H4'	29:X:404:A:O5'	2.14	0.47
14:I:22:GLY:HA3	29:X:674:U:H1'	1.97	0.47
29:X:991:A:C5	29:X:992:A:C6	3.03	0.47
4:4:8:LYS:N	4:4:34:GLN:HE22	2.13	0.46
6:A:227:ASN:O	6:A:230:ASP:N	2.49	0.46
7:B:154:LYS:HZ1	7:B:156:MET:HE1	1.80	0.46
7:B:183:LEU:HD11	18:M:16:ILE:CG2	2.46	0.46
8:C:108:ILE:O	8:C:109:ALA:C	2.50	0.46
8:C:65:GLY:O	8:C:66:ASN:O	2.33	0.46
9:D:12:VAL:HG11	9:D:169:LEU:CD1	2.36	0.46
9:D:14:PRO:O	9:D:16:LEU:N	2.48	0.46
10:E:83:TYR:CE2	10:E:138:LYS:HG3	2.50	0.46
12:G:103:TYR:HD2	29:X:1142:G:O4'	1.98	0.46
13:H:22:ILE:HG22	13:H:52:VAL:O	2.15	0.46
14:I:90:ARG:HD2	14:I:93:LEU:CD1	2.32	0.46
15:J:64:LYS:CG	15:J:108:ALA:O	2.63	0.46
15:J:116:LYS:HE2	15:J:132:MET:HE2	1.98	0.46
17:L:81:GLU:O	17:L:82:LYS:CG	2.64	0.46
17:L:87:VAL:CG1	17:L:88:VAL:H	2.25	0.46
19:N:82:GLY:C	19:N:84:LYS:N	2.68	0.46
19:N:81:ASN:HD21	19:N:85:ARG:HE	1.63	0.46
20:O:23:GLU:O	20:O:24:SER:HB3	2.15	0.46
20:O:55:THR:OG1	20:O:98:ILE:HD12	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:13:LYS:HE2	24:S:20:ALA:HB2	1.97	0.46
26:U:13:LEU:C	26:U:14:VAL:HG22	2.36	0.46
26:U:23:LYS:HE3	26:U:26:ALA:CB	2.45	0.46
27:V:39:GLN:HB3	27:V:42:ARG:CB	2.45	0.46
28:W:37:THR:C	28:W:41:ARG:HG3	2.34	0.46
28:W:8:SER:HB2	29:X:999:A:P	2.55	0.46
29:X:1134:C:H2'	29:X:1135:C:C6	2.48	0.46
29:X:1200:G:N7	29:X:1201:G:N7	2.62	0.46
29:X:1296:G:H22	29:X:1299:A:H5''	1.79	0.46
29:X:1474:A:C1'	29:X:1475:U:H5'	2.44	0.46
29:X:1594:U:H2'	29:X:1595:A:C8	2.49	0.46
6:A:62:TYR:CE2	29:X:1808:C:C5	3.03	0.46
29:X:1883:A:C2	29:X:1953:A:C2	3.03	0.46
29:X:1919:A:C2	29:X:1928:G:C8	3.03	0.46
29:X:1933:G:C8	29:X:1934:U:H5	2.31	0.46
29:X:1681:A:N6	29:X:1979:C:H42	2.10	0.46
29:X:2379:G:H2'	29:X:2380:U:C5'	2.45	0.46
29:X:971:A:H4'	29:X:2436:U:C5'	2.45	0.46
29:X:2468:G:H2'	29:X:2469:G:O4'	2.14	0.46
29:X:2496:C:O2'	29:X:2497:A:O5'	2.31	0.46
29:X:2681:A:N7	29:X:2682:C:C5	2.83	0.46
10:E:150:LYS:HZ2	29:X:2724:G:H1'	1.81	0.46
10:E:66:GLY:O	29:X:2728:A:H4'	2.15	0.46
29:X:2729:A:N1	29:X:2730:A:N6	2.64	0.46
29:X:2780:A:H2'	29:X:2781:G:H8	1.80	0.46
29:X:541:C:O2'	29:X:542:A:OP2	2.31	0.46
29:X:89:A:O4'	29:X:89:A:OP1	2.33	0.46
29:X:886:A:C2	29:X:917:U:O2	2.68	0.46
29:X:921:A:N1	29:X:924:C:H1'	2.30	0.46
31:Z:39:C:N4	31:Z:51:G:O4'	2.48	0.46
31:Z:72:C:O2'	31:Z:73:C:H5'	2.15	0.46
6:A:231:HIS:CG	6:A:232:PRO:HD2	2.50	0.46
9:D:128:TYR:H	9:D:156:ILE:HG22	1.81	0.46
9:D:36:VAL:O	9:D:89:VAL:HG23	2.15	0.46
9:D:53:ALA:O	9:D:57:LEU:N	2.45	0.46
10:E:107:ILE:N	10:E:107:ILE:CD1	2.74	0.46
10:E:24:PHE:CD1	10:E:37:TYR:HD1	2.32	0.46
12:G:155:THR:HG23	12:G:156:HIS:CE1	2.50	0.46
15:J:106:GLU:OE1	15:J:106:GLU:O	2.34	0.46
15:J:61:ARG:HD3	24:S:174:PRO:CB	2.44	0.46
7:B:9:ILE:CD1	18:M:12:LEU:HD13	2.32	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:34:ARG:NE	18:M:88:VAL:CG1	2.78	0.46
20:O:56:VAL:HA	20:O:97:GLY:HA3	1.98	0.46
21:P:56:LEU:O	21:P:57:LEU:C	2.53	0.46
24:S:92:VAL:CG2	24:S:93:GLU:H	2.20	0.46
25:T:3:HIS:CG	25:T:4:LYS:H	2.32	0.46
26:U:58:LYS:O	26:U:59:THR:HG23	2.16	0.46
29:X:1108:U:C2	29:X:1109:A:H1'	2.50	0.46
29:X:1129:A:OP1	29:X:1129:A:H4'	2.14	0.46
29:X:112:U:C2	29:X:113:C:C5	3.04	0.46
29:X:1206:G:O2'	29:X:1207:G:H5'	2.14	0.46
29:X:1224:A:HO2'	29:X:1225:G:P	2.39	0.46
29:X:1281:A:OP1	29:X:1989:C:OP1	2.33	0.46
29:X:1629:G:N1	29:X:1633:C:C6	2.83	0.46
29:X:1313:U:H1'	29:X:1642:G:C2	2.50	0.46
29:X:1722:G:C6	29:X:1723:U:N3	2.83	0.46
29:X:1887:G:N3	29:X:1911:A:H2	2.13	0.46
29:X:2017:U:OP1	29:X:2017:U:H6	1.97	0.46
29:X:2075:U:O2	29:X:2075:U:H2'	2.14	0.46
29:X:2185:U:H2'	29:X:2186:G:C8	2.50	0.46
29:X:2379:G:N2	29:X:2380:U:H1'	2.30	0.46
29:X:2388:G:C4	29:X:2389:G:C8	3.03	0.46
29:X:2448:A:H5'	29:X:2448:A:H8	1.80	0.46
29:X:2652:G:N3	29:X:2653:A:C8	2.83	0.46
29:X:343:A:H1'	29:X:346:C:H42	1.79	0.46
29:X:559:C:C2	29:X:560:G:H1'	2.50	0.46
29:X:215:G:N2	29:X:632:A:H8	2.06	0.46
29:X:792:U:O2'	29:X:793:G:H5'	2.15	0.46
6:A:218:LYS:NZ	29:X:794:A:H5'	2.31	0.46
30:Y:51:TYR:CE1	30:Y:55:ARG:CB	2.94	0.46
6:A:246:PRO:HD2	6:A:251:GLY:H	1.76	0.46
6:A:92:ILE:CG2	6:A:104:TYR:CD2	2.98	0.46
8:C:136:TRP:O	8:C:140:ASN:ND2	2.42	0.46
8:C:144:GLY:CA	8:C:166:TRP:NE1	2.78	0.46
12:G:131:VAL:O	12:G:133:GLY:N	2.48	0.46
18:M:34:ARG:CZ	18:M:88:VAL:CG2	2.93	0.46
18:M:34:ARG:NE	18:M:88:VAL:HG11	2.30	0.46
20:O:25:LEU:HG	20:O:32:LYS:NZ	2.30	0.46
21:P:52:ASP:O	21:P:53:ALA:C	2.53	0.46
23:R:100:ASP:C	23:R:102:LYS:N	2.66	0.46
23:R:14:LEU:CD1	23:R:39:ALA:HB1	2.45	0.46
25:T:44:LYS:HG2	25:T:45:PHE:CE1	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:T:51:VAL:CG2	25:T:79:ILE:O	2.58	0.46
27:V:14:PHE:HZ	27:V:56:VAL:HG11	1.80	0.46
29:X:1193:G:C6	29:X:1194:U:C4	3.02	0.46
14:I:7:LYS:O	29:X:1219:C:H5'	2.15	0.46
29:X:1355:A:O2'	29:X:1357:U:OP2	2.15	0.46
29:X:138:G:H2'	29:X:139:A:H8	1.80	0.46
29:X:1401:G:O2'	29:X:1402:G:H5'	2.15	0.46
6:A:61:LEU:CD1	29:X:1584:G:H5''	2.45	0.46
29:X:1924:C:C4	29:X:1925:C:C4	3.03	0.46
29:X:2046:C:C5	29:X:2047:C:N4	2.83	0.46
29:X:2264:C:N4	29:X:2325:A:C2	2.82	0.46
26:U:33:LYS:HE3	29:X:2400:G:H21	1.80	0.46
26:U:35:THR:HB	29:X:401:G:OP1	2.15	0.46
29:X:613:A:C2	29:X:636:G:N3	2.83	0.46
29:X:596:C:N1	29:X:684:C:H1'	2.30	0.46
30:Y:17:ASP:O	30:Y:18:MET:C	2.53	0.46
30:Y:25:LEU:HD12	30:Y:25:LEU:H	1.80	0.46
6:A:124:GLU:O	6:A:126:LYS:N	2.49	0.46
6:A:50:THR:HG21	29:X:1805:G:C2	2.49	0.46
8:C:144:GLY:HA2	8:C:166:TRP:CD1	2.51	0.46
8:C:112:GLN:HE22	8:C:188:ILE:HD11	1.79	0.46
9:D:108:LEU:HA	9:D:111:ILE:CG1	2.45	0.46
9:D:14:PRO:C	9:D:16:LEU:N	2.68	0.46
9:D:22:TYR:CE2	9:D:28:VAL:HA	2.50	0.46
9:D:75:SER:HB2	9:D:79:LEU:HD22	1.97	0.46
10:E:110:SER:HB2	29:X:2646:C:O2	2.16	0.46
10:E:131:ILE:HG22	10:E:132:ASP:N	2.29	0.46
11:F:23:VAL:O	11:F:25:PRO:N	2.49	0.46
11:F:5:ALA:HB1	11:F:59:ILE:O	2.14	0.46
12:G:142:ARG:O	12:G:143:ALA:C	2.53	0.46
13:H:30:GLY:O	13:H:33:GLY:O	2.33	0.46
15:J:28:VAL:HG23	15:J:137:VAL:CG2	2.45	0.46
17:L:28:ARG:O	17:L:42:ILE:HD13	2.16	0.46
18:M:26:ASP:O	18:M:27:PHE:CG	2.68	0.46
18:M:94:VAL:HG12	18:M:95:GLU:HG2	1.98	0.46
20:O:71:ILE:HD11	29:X:1003:C:O2'	2.15	0.46
21:P:25:PHE:CD2	21:P:25:PHE:C	2.89	0.46
22:Q:21:GLU:C	22:Q:23:GLY:N	2.69	0.46
23:R:106:VAL:O	23:R:107:ALA:HB2	2.15	0.46
23:R:90:LYS:C	23:R:91:ALA:O	2.49	0.46
24:S:142:ASN:O	24:S:171:VAL:HG11	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:148:THR:HA	24:S:166:LEU:O	2.14	0.46
27:V:6:MET:HE1	27:V:52:GLN:HB3	1.96	0.46
29:X:1096:A:H2'	29:X:1097:A:O4'	2.16	0.46
29:X:1336:G:C2	29:X:1346:C:H1'	2.50	0.46
29:X:144:U:O2'	29:X:145:C:H5'	2.16	0.46
29:X:1467:U:H2'	29:X:1468:A:OP1	2.15	0.46
29:X:1569:A:C5	29:X:1571:G:C5	3.04	0.46
29:X:1934:U:C2	29:X:1936:A:OP2	2.68	0.46
29:X:2028:C:O2'	30:Y:18:MET:O	2.32	0.46
29:X:230:C:H2'	29:X:231:G:H5'	1.97	0.46
29:X:2526:U:C6	29:X:2545:A:C6	3.03	0.46
7:B:145:LYS:HB2	29:X:2551:A:N7	2.30	0.46
29:X:2762:G:C2	29:X:2763:U:C6	3.02	0.46
29:X:2763:U:O2'	29:X:2764:U:H5'	2.15	0.46
29:X:393:U:H2'	29:X:394:U:H6	1.80	0.46
29:X:497:C:C6	29:X:497:C:C5'	2.89	0.46
29:X:633:G:H2'	29:X:634:G:H8	1.80	0.46
29:X:644:A:H2'	29:X:645:G:O4'	2.15	0.46
29:X:740:A:OP1	29:X:1445:A:O2'	2.31	0.46
29:X:771:C:O2'	29:X:772:G:H5'	2.15	0.46
29:X:837:U:H3	29:X:846:A:N6	2.13	0.46
29:X:889:C:O5'	29:X:889:C:H6	1.99	0.46
29:X:972:C:C5'	29:X:973:U:OP2	2.63	0.46
31:Z:18:G:O2'	31:Z:19:C:H5'	2.16	0.46
17:L:99:ARG:HD3	31:Z:51:G:OP2	2.15	0.46
24:S:22:VAL:HG11	31:Z:77:G:C1'	2.45	0.46
6:A:55:GLY:N	6:A:217:ARG:HB2	2.31	0.46
9:D:159:THR:O	9:D:160:ALA:C	2.54	0.46
10:E:37:TYR:HE2	10:E:71:LEU:CB	2.27	0.46
11:F:49:GLY:O	11:F:50:ASP:CB	2.63	0.46
12:G:98:LYS:CB	12:G:116:ARG:HB2	2.37	0.46
13:H:47:VAL:HG11	13:H:115:ALA:HB1	1.96	0.46
15:J:22:ALA:N	15:J:99:LYS:HG3	2.31	0.46
16:K:103:ARG:HD2	29:X:1300:A:OP2	2.16	0.46
17:L:69:ALA:HA	17:L:106:ALA:HB2	1.98	0.46
19:N:13:ARG:NE	29:X:1264:C:C5'	2.74	0.46
20:O:35:LEU:HD21	20:O:52:GLY:CA	2.41	0.46
26:U:47:HIS:HB2	26:U:48:LYS:H	1.54	0.46
29:X:1010:U:O2'	29:X:1011:A:H5'	2.16	0.46
29:X:1018:C:C3'	29:X:1019:U:C5'	2.87	0.46
29:X:1044:U:H4'	29:X:1045:G:OP1	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1175:A:H2'	29:X:1176:U:O4'	2.16	0.46
29:X:1274:C:H2'	29:X:1275:A:O5'	2.16	0.46
29:X:1357:U:O2'	29:X:1358:C:OP1	2.33	0.46
29:X:1391:A:C8	29:X:1393:G:N7	2.83	0.46
29:X:1514:C:H4'	29:X:1592:U:O2'	2.16	0.46
29:X:1557:G:H2'	29:X:1558:C:H6	1.79	0.46
29:X:1587:A:C2	29:X:1588:A:C5	3.04	0.46
29:X:172:A:N1	29:X:178:C:C2	2.84	0.46
29:X:1918:G:C2'	29:X:1945:C:H42	2.28	0.46
29:X:1941:C:O2'	29:X:1942:G:H5'	2.16	0.46
29:X:2170:C:C3'	29:X:2171:U:C5'	2.87	0.46
29:X:2280:A:H2'	29:X:2281:C:H6	1.80	0.46
29:X:2324:G:N7	29:X:2351:G:C2	2.83	0.46
29:X:2508:G:O5'	29:X:2509:A:H5''	2.15	0.46
29:X:1996:A:N6	29:X:2592:U:C5	2.83	0.46
29:X:2618:A:N7	29:X:2755:A:H2	2.13	0.46
29:X:2821:G:H2'	29:X:2822:U:H6	1.73	0.46
29:X:353:G:H2'	29:X:354:C:O4'	2.15	0.46
29:X:224:G:C4'	29:X:399:G:C6	2.87	0.46
29:X:501:G:H2'	29:X:502:A:O4'	2.15	0.46
29:X:55:A:C2	29:X:56:C:C2	3.02	0.46
29:X:641:G:H4'	29:X:651:C:O2'	2.15	0.46
29:X:754:G:C4	29:X:755:C:C5	3.03	0.46
29:X:801:A:HO2'	29:X:802:A:P	2.35	0.46
29:X:868:U:H2'	29:X:869:C:C6	2.50	0.46
29:X:931:G:C4	29:X:932:G:C8	3.04	0.46
29:X:934:G:H2'	29:X:935:C:O4'	2.16	0.46
30:Y:12:SER:C	30:Y:14:SER:N	2.64	0.46
29:X:760:U:C6	30:Y:3:LYS:HG3	2.50	0.46
6:A:208:LYS:CE	6:A:208:LYS:HA	2.46	0.46
6:A:262:LYS:HE3	29:X:2206:C:H1'	1.98	0.46
6:A:94:LEU:HG	6:A:94:LEU:O	2.16	0.46
10:E:162:VAL:HG12	10:E:163:ARG:N	2.29	0.46
10:E:22:GLY:O	10:E:24:PHE:CE1	2.68	0.46
10:E:65:HIS:C	10:E:67:LEU:N	2.67	0.46
10:E:89:LEU:CD1	10:E:96:ALA:N	2.78	0.46
11:F:122:ALA:HA	29:X:1092:U:C4'	2.42	0.46
11:F:54:PRO:HG2	11:F:70:LYS:CD	2.40	0.46
15:J:121:LEU:O	15:J:125:LYS:HE2	2.16	0.46
15:J:28:VAL:N	15:J:137:VAL:HG11	2.30	0.46
15:J:17:ARG:HB2	29:X:969:U:C4	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:8:THR:CA	15:J:70:PHE:HZ	2.29	0.46
15:J:19:THR:CG2	15:J:99:LYS:HZ3	2.29	0.46
19:N:28:ARG:HG2	19:N:38:THR:OG1	2.15	0.46
19:N:3:ARG:HB2	29:X:457:C:H5''	1.97	0.46
20:O:35:LEU:HD22	20:O:36:LYS:N	2.31	0.46
21:P:93:LYS:HB2	21:P:129:ALA:CB	2.46	0.46
21:P:76:LYS:O	21:P:78:ASN:N	2.49	0.46
25:T:37:LEU:HD12	25:T:37:LEU:N	2.31	0.46
27:V:2:LYS:H	27:V:3:PRO:CD	2.28	0.46
28:W:18:LYS:O	28:W:22:ALA:N	2.43	0.46
29:X:1119:U:C5'	29:X:1119:U:H6	2.21	0.46
29:X:1215:A:H2'	29:X:1216:G:H8	1.78	0.46
29:X:1313:U:HO2'	29:X:1314:A:P	2.39	0.46
29:X:1463:A:H2'	29:X:1464:A:H8	1.79	0.46
29:X:1741:G:C2'	29:X:1742:G:H5'	2.46	0.46
29:X:1744:G:N2	29:X:1746:A:H3'	2.31	0.46
29:X:1807:A:H1'	29:X:1809:G:C8	2.51	0.46
29:X:192:G:H4'	29:X:193:A:H4'	1.97	0.46
29:X:1952:A:H1'	29:X:1956:G:O4'	2.15	0.46
29:X:1986:G:C6	29:X:1987:G:C5	3.03	0.46
29:X:2083:G:H3'	29:X:2083:G:C8	2.50	0.46
29:X:2194:A:H2'	29:X:2195:C:C5'	2.44	0.46
25:T:24:LYS:CD	29:X:2334:C:H4'	2.42	0.46
29:X:2433:G:C4	29:X:2434:G:C8	3.03	0.46
29:X:2792:C:C2	29:X:2805:G:C2	3.04	0.46
29:X:494:A:C8	29:X:495:C:C5	3.04	0.46
29:X:516:G:O2'	29:X:517:A:P	2.74	0.46
29:X:529:U:O2'	29:X:530:G:H5'	2.15	0.46
29:X:875:G:H2'	29:X:876:A:H5'	1.97	0.46
29:X:969:U:O2'	29:X:970:A:P	2.74	0.46
8:C:109:ALA:O	8:C:110:SER:C	2.52	0.46
8:C:31:VAL:O	8:C:34:GLN:HB2	2.16	0.46
9:D:130:LEU:HD22	9:D:132:ILE:CD1	2.46	0.46
10:E:15:VAL:O	10:E:16:THR:OG1	2.23	0.46
10:E:172:LYS:CE	29:X:2508:G:OP2	2.63	0.46
10:E:37:TYR:HB3	10:E:41:LEU:HD23	1.97	0.46
12:G:154:GLU:N	12:G:157:PRO:CD	2.79	0.46
12:G:32:TYR:OH	12:G:35:LYS:CE	2.64	0.46
12:G:69:ASP:O	19:N:64:ARG:NE	2.48	0.46
13:H:27:SER:HA	13:H:50:ILE:HD12	1.97	0.46
13:H:8:LEU:HD22	13:H:94:ASN:CB	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:33:TYR:CE2	15:J:112:GLU:HA	2.51	0.46
15:J:125:LYS:CD	15:J:125:LYS:N	2.79	0.46
17:L:75:LEU:HA	17:L:78:ALA:HB3	1.97	0.46
13:H:116:ARG:HH11	18:M:38:LYS:HZ3	1.62	0.46
21:P:68:VAL:CG1	21:P:68:VAL:O	2.63	0.46
22:Q:89:GLU:HB2	22:Q:91:LEU:HD23	1.98	0.46
23:R:16:PHE:CZ	23:R:46:VAL:HG22	2.49	0.46
24:S:2:GLU:O	24:S:3:LEU:C	2.53	0.46
25:T:45:PHE:CZ	25:T:77:ARG:CZ	2.98	0.46
29:X:1117:G:H2'	29:X:1118:G:H8	1.72	0.46
29:X:1289:A:C2	29:X:1290:A:C5	3.04	0.46
29:X:1292:A:H2'	29:X:1293:A:O4'	2.16	0.46
29:X:1479:G:H2'	29:X:1480:G:C8	2.50	0.46
29:X:1486:A:H2'	29:X:1487:C:H6	1.78	0.46
29:X:1947:G:O2'	29:X:1950:C:OP2	2.27	0.46
29:X:805:G:N7	29:X:2419:C:C1'	2.79	0.46
29:X:2838:U:C2'	29:X:2839:G:H5'	2.46	0.46
29:X:319:G:H1'	29:X:511:A:O4'	2.16	0.46
29:X:78:C:O2	29:X:357:A:H2	1.99	0.46
29:X:412:U:H2'	29:X:413:G:O4'	2.15	0.46
29:X:417:C:H4'	29:X:418:C:C5'	2.45	0.46
29:X:649:G:C5	29:X:650:U:C5	3.04	0.46
29:X:796:A:H3'	29:X:796:A:C8	2.51	0.46
29:X:972:C:H5'	29:X:973:U:OP2	2.16	0.46
31:Z:93:G:H2'	31:Z:94:G:O4'	2.16	0.46
6:A:126:LYS:C	6:A:193:ILE:HG21	2.36	0.46
6:A:169:GLU:OE1	6:A:184:ARG:NH1	2.48	0.46
6:A:257:LEU:HD12	29:X:1794:A:O2'	2.15	0.46
6:A:70:ARG:C	6:A:72:LYS:H	2.18	0.46
6:A:72:LYS:HE3	6:A:99:ASP:OD2	2.16	0.46
7:B:142:GLY:CA	7:B:143:GLN:NE2	2.74	0.46
8:C:158:ARG:HB3	8:C:169:VAL:CG1	2.46	0.46
8:C:2:ALA:HA	8:C:13:ARG:CA	2.29	0.46
9:D:175:LEU:HG	9:D:177:PHE:CE1	2.51	0.46
9:D:77:PHE:CD1	9:D:77:PHE:N	2.84	0.46
12:G:108:GLY:O	12:G:110:LEU:HD23	2.16	0.46
13:H:85:ASP:OD2	13:H:87:SER:HB3	2.16	0.46
14:I:101:ARG:HH11	14:I:104:ARG:NH2	2.14	0.46
15:J:59:PHE:CD1	15:J:65:ILE:HD11	2.50	0.46
17:L:44:ASP:OD1	17:L:44:ASP:C	2.53	0.46
19:N:65:ILE:HG21	19:N:80:ILE:HD11	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:75:ASN:O	19:N:75:ASN:ND2	2.48	0.46
21:P:105:ARG:NH1	21:P:119:LYS:HZ2	2.13	0.46
22:Q:27:PHE:HZ	22:Q:42:ILE:HD13	1.81	0.46
23:R:15:HIS:O	23:R:82:ALA:HB1	2.16	0.46
23:R:56:LYS:HG2	23:R:56:LYS:H	1.46	0.46
27:V:4:SER:HB3	27:V:7:ARG:HE	1.81	0.46
29:X:1302:C:O2'	29:X:1303:U:H5'	2.15	0.46
29:X:1502:G:O2'	29:X:1503:G:H5'	2.15	0.46
29:X:1510:A:H2'	29:X:1511:A:C8	2.51	0.46
29:X:2034:A:C4	29:X:2593:A:N6	2.83	0.46
29:X:2195:C:C5	29:X:2196:U:O4	2.68	0.46
29:X:2222:U:H2'	29:X:2223:U:C5	2.45	0.46
29:X:2687:G:O2'	29:X:2688:G:H5'	2.15	0.46
29:X:1750:A:H4'	29:X:2695:C:O4'	2.16	0.46
29:X:402:A:N7	29:X:2392:G:O2'	2.42	0.46
29:X:664:C:H6	29:X:664:C:C5'	2.29	0.46
29:X:66:U:H1'	29:X:87:G:N2	2.31	0.46
30:Y:25:LEU:CD1	30:Y:25:LEU:H	2.28	0.46
31:Z:42:U:H1'	31:Z:47:A:H62	1.78	0.46
6:A:133:LEU:O	6:A:136:VAL:N	2.44	0.46
6:A:215:LEU:HD12	6:A:215:LEU:N	2.31	0.46
6:A:55:GLY:C	6:A:56:GLY:O	2.54	0.46
6:A:72:LYS:NZ	6:A:99:ASP:OD2	2.49	0.46
7:B:19:ARG:O	7:B:19:ARG:HG3	2.15	0.46
12:G:122:HIS:C	12:G:124:GLU:OE1	2.54	0.46
12:G:86:ALA:HA	12:G:123:PRO:HB3	1.96	0.46
15:J:44:LYS:CB	15:J:47:GLN:HG3	2.39	0.46
17:L:18:ARG:NH2	29:X:2271:C:O5'	2.49	0.46
17:L:64:LYS:HG2	17:L:65:THR:HG23	1.97	0.46
18:M:108:ARG:O	18:M:109:GLU:CB	2.62	0.46
19:N:59:ARG:O	19:N:63:GLN:HG3	2.16	0.46
23:R:29:HIS:CG	23:R:51:VAL:HG22	2.51	0.46
22:Q:7:LEU:HD11	27:V:26:MET:HG3	1.98	0.46
29:X:1036:G:C4	29:X:1145:C:H1'	2.51	0.46
29:X:1208:A:H2'	29:X:1209:G:O4'	2.16	0.46
29:X:1209:G:C2	29:X:1210:C:C5	3.04	0.46
29:X:1391:A:N7	29:X:1393:G:C6	2.83	0.46
29:X:13:A:N3	29:X:15:G:O6	2.49	0.46
29:X:1920:A:C2	29:X:1922:U:C5	3.04	0.46
29:X:194:G:H3'	29:X:195:A:C8	2.49	0.46
29:X:2309:G:N2	29:X:2365:U:C2	2.84	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2561:G:H5'	29:X:2561:G:H8	1.80	0.46
29:X:2718:A:C2	29:X:2719:U:H1'	2.51	0.46
29:X:2799:C:C4	29:X:2800:C:N3	2.83	0.46
29:X:2849:C:C2'	29:X:2850:U:H5''	2.46	0.46
29:X:340:G:H4'	29:X:341:A:OP1	2.14	0.46
29:X:459:A:H4'	29:X:461:A:N7	2.30	0.46
29:X:678:G:O2'	29:X:679:C:H5'	2.16	0.46
29:X:756:C:H2'	29:X:757:U:H5'	1.97	0.46
29:X:947:C:H2'	29:X:948:C:H6	1.81	0.46
6:A:186:HIS:O	6:A:188:GLU:N	2.45	0.46
6:A:75:VAL:HG11	6:A:97:TYR:HB3	1.98	0.46
8:C:187:VAL:HG12	8:C:187:VAL:O	2.15	0.46
9:D:123:ASP:HB3	9:D:127:ASN:HB2	1.97	0.46
11:F:103:GLN:H	11:F:103:GLN:CD	2.19	0.46
7:B:151:TYR:HB3	12:G:106:TYR:CE2	2.51	0.46
12:G:79:PHE:CZ	12:G:147:ARG:NE	2.84	0.46
12:G:66:HIS:C	19:N:67:ALA:HB1	2.37	0.46
13:H:133:VAL:HG12	18:M:38:LYS:NZ	2.31	0.46
14:I:102:LYS:C	14:I:104:ARG:H	2.17	0.46
18:M:33:VAL:HG23	18:M:94:VAL:HG21	1.97	0.46
18:M:5:ILE:C	18:M:5:ILE:HD12	2.35	0.46
19:N:93:LYS:O	19:N:94:VAL:CG2	2.64	0.46
23:R:105:ARG:NH2	23:R:112:LYS:CA	2.67	0.46
24:S:137:ASP:O	24:S:138:VAL:HG13	2.16	0.46
24:S:47:SER:OG	24:S:48:THR:N	2.49	0.46
29:X:1074:G:C2	29:X:1075:C:H1'	2.50	0.46
29:X:1373:G:N2	29:X:2193:C:H1'	2.30	0.46
29:X:1455:C:O2'	29:X:1456:C:H5'	2.16	0.46
29:X:1819:U:O2'	29:X:1820:G:H5'	2.16	0.46
29:X:185:C:H2'	29:X:186:C:H6	1.81	0.46
29:X:1920:A:N1	29:X:1922:U:H5	2.13	0.46
29:X:2043:A:C2	29:X:2481:G:C5	3.04	0.46
29:X:2068:C:H2'	29:X:2069:U:O4'	2.16	0.46
29:X:2359:U:N3	29:X:2360:C:C5	2.85	0.46
29:X:2585:C:O2'	29:X:2586:G:H5'	2.16	0.46
29:X:2849:C:O2'	29:X:2850:U:H5''	2.16	0.46
29:X:2870:C:H2'	29:X:2871:U:H6	1.81	0.46
4:4:7:VAL:HG22	4:4:34:GLN:HB3	1.97	0.45
6:A:268:ARG:HB3	6:A:269:PHE:CD2	2.51	0.45
7:B:14:ILE:CD1	7:B:183:LEU:HD12	2.46	0.45
8:C:164:VAL:HB	8:C:165:SER:H	1.41	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:136:LEU:C	9:D:137:ILE:HG12	2.37	0.45
9:D:10:ASP:CA	9:D:14:PRO:HD2	2.46	0.45
10:E:109:TYR:O	10:E:110:SER:C	2.55	0.45
10:E:18:ASN:CB	10:E:25:LYS:HB3	2.33	0.45
10:E:38:ASN:HB2	10:E:41:LEU:CB	2.42	0.45
11:F:42:ASN:HA	11:F:45:THR:HG23	1.98	0.45
14:I:116:ARG:HG2	14:I:117:ALA:H	1.80	0.45
15:J:17:ARG:HH11	29:X:969:U:C5'	2.21	0.45
15:J:19:THR:CG2	31:Z:93:G:H5'	2.45	0.45
15:J:75:VAL:HG21	15:J:93:TYR:CE2	2.51	0.45
19:N:61:TRP:CZ3	19:N:93:LYS:HA	2.51	0.45
20:O:49:GLU:C	20:O:51:ALA:N	2.68	0.45
23:R:93:ARG:NH1	23:R:108:VAL:C	2.70	0.45
23:R:52:ASN:HD21	23:R:71:GLN:NE2	2.14	0.45
23:R:83:LEU:O	23:R:84:VAL:CG2	2.59	0.45
23:R:88:THR:O	23:R:89:GLY:C	2.54	0.45
24:S:133:GLU:O	24:S:134:LEU:HB2	2.16	0.45
24:S:56:VAL:O	24:S:57:GLU:C	2.54	0.45
25:T:3:HIS:HD2	25:T:5:LYS:CD	2.15	0.45
27:V:39:GLN:HB3	27:V:42:ARG:HB2	1.98	0.45
29:X:1024:G:O2'	29:X:1025:A:H5'	2.16	0.45
29:X:109:A:C2	29:X:110:U:C2	3.04	0.45
29:X:1122:A:C2'	29:X:1123:G:O5'	2.64	0.45
29:X:122:G:O2'	29:X:123:A:H5''	2.16	0.45
14:I:17:LYS:NZ	29:X:1258:G:OP2	2.46	0.45
29:X:1513:U:OP2	29:X:1514:C:H5	1.99	0.45
6:A:157:ARG:HD2	29:X:1810:U:C6	2.51	0.45
29:X:2055:G:C6	29:X:2056:C:C4	3.04	0.45
29:X:196:A:H2	29:X:211:U:O2	1.99	0.45
29:X:2289:A:H3'	29:X:2290:A:C8	2.51	0.45
29:X:2625:U:C6	29:X:2625:U:OP2	2.69	0.45
29:X:2642:G:O2'	29:X:2643:G:H5'	2.16	0.45
29:X:2698:G:H2'	29:X:2699:G:C8	2.51	0.45
29:X:327:C:H2'	29:X:328:A:H5'	1.98	0.45
8:C:44:SER:HG	29:X:37:C:H1'	1.81	0.45
29:X:427:C:H2'	29:X:428:A:H8	1.79	0.45
29:X:438:G:H2'	29:X:439:C:C6	2.50	0.45
29:X:537:C:O2	29:X:537:C:H2'	2.17	0.45
29:X:649:G:N2	29:X:661:C:C2	2.84	0.45
29:X:88:G:O5'	29:X:89:A:H5''	2.15	0.45
9:D:92:ARG:NH1	31:Z:46:G:C4'	2.67	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:27:A:N6	31:Z:56:G:OP2	2.50	0.45
6:A:134:ARG:HH21	6:A:135:PHE:HZ	1.63	0.45
10:E:7:GLN:HB3	10:E:51:LEU:HD13	1.98	0.45
11:F:13:PRO:CG	11:F:52:ILE:HG12	2.44	0.45
12:G:106:TYR:O	12:G:110:LEU:CD1	2.64	0.45
12:G:94:LYS:O	12:G:117:GLU:N	2.49	0.45
12:G:154:GLU:N	12:G:157:PRO:CG	2.75	0.45
12:G:42:VAL:HG22	12:G:166:LEU:HB2	1.99	0.45
12:G:59:ALA:O	12:G:62:ILE:HB	2.16	0.45
14:I:64:GLY:O	14:I:65:PHE:CB	2.63	0.45
15:J:111:THR:HG23	15:J:114:GLN:CG	2.46	0.45
15:J:136:GLU:OE1	15:J:136:GLU:HA	2.16	0.45
15:J:28:VAL:H	15:J:137:VAL:HG21	1.80	0.45
15:J:77:LYS:HG3	15:J:78:LYS:N	2.30	0.45
15:J:81:GLU:HG2	15:J:82:THR:H	1.80	0.45
20:O:19:VAL:HG13	20:O:90:PHE:CG	2.51	0.45
21:P:12:LYS:O	21:P:16:GLN:HG2	2.16	0.45
22:Q:91:LEU:CD2	22:Q:91:LEU:H	2.29	0.45
23:R:90:LYS:HG3	23:R:91:ALA:O	2.16	0.45
26:U:15:VAL:O	26:U:16:ASN:C	2.54	0.45
27:V:17:GLU:O	27:V:21:ARG:HD3	2.16	0.45
29:X:1173:G:C4	29:X:1174:G:C8	3.04	0.45
29:X:1234:C:O2	29:X:1242:A:C2	2.70	0.45
29:X:1288:A:C2	29:X:1289:A:H1'	2.51	0.45
29:X:1376:C:C2	29:X:1377:G:C8	3.05	0.45
29:X:1724:C:C2'	29:X:1725:C:H5'	2.46	0.45
29:X:1802:A:C2'	29:X:1803:G:H5'	2.47	0.45
29:X:1847:G:O5'	29:X:1847:G:H8	1.99	0.45
29:X:1858:C:C2'	29:X:1859:A:O5'	2.64	0.45
29:X:192:G:O2'	29:X:193:A:OP2	2.32	0.45
29:X:2038:C:H2'	29:X:2483:U:H4'	1.98	0.45
29:X:2199:C:C2	29:X:2200:G:C8	3.04	0.45
29:X:2404:A:O2'	29:X:2405:A:OP2	2.32	0.45
29:X:2797:G:O2'	29:X:2798:A:O5'	2.34	0.45
29:X:2849:C:H2'	29:X:2850:U:H5'	1.97	0.45
29:X:404:A:C6	29:X:405:C:C4	3.05	0.45
19:N:37:GLN:NE2	29:X:572:G:H21	2.14	0.45
29:X:638:A:H4'	29:X:639:G:H5'	1.98	0.45
29:X:695:G:H2'	29:X:696:U:C6	2.51	0.45
29:X:732:G:C2	29:X:733:G:C4	3.04	0.45
29:X:741:G:C4	29:X:743:A:C8	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:745:C:H2'	29:X:746:G:O4'	2.16	0.45
29:X:796:A:C3'	29:X:796:A:C8	3.00	0.45
29:X:862:A:H2'	29:X:863:C:O4'	2.16	0.45
6:A:121:PRO:HA	6:A:132:PRO:HD2	1.98	0.45
6:A:131:LEU:CD2	6:A:193:ILE:HG12	2.44	0.45
6:A:231:HIS:CE1	6:A:247:VAL:HA	2.52	0.45
6:A:72:LYS:HG3	6:A:97:TYR:HE2	1.82	0.45
8:C:154:ASP:O	8:C:157:THR:OG1	2.34	0.45
8:C:144:GLY:CA	8:C:166:TRP:CE2	2.99	0.45
8:C:173:ALA:HB1	8:C:193:LEU:CB	2.47	0.45
8:C:45:THR:O	8:C:87:LYS:NZ	2.47	0.45
8:C:74:VAL:O	8:C:76:THR:N	2.49	0.45
9:D:67:ILE:HG21	9:D:84:PRO:HB3	1.98	0.45
11:F:122:ALA:CB	29:X:1092:U:H4'	2.46	0.45
14:I:54:SER:O	14:I:59:ARG:HD3	2.16	0.45
19:N:66:ASN:C	19:N:68:GLY:N	2.65	0.45
21:P:45:ILE:HD11	21:P:57:LEU:CG	2.39	0.45
23:R:93:ARG:O	23:R:95:ARG:CD	2.64	0.45
25:T:71:ASN:ND2	25:T:74:LYS:HA	2.28	0.45
29:X:1129:A:H2'	29:X:1130:U:O4'	2.16	0.45
29:X:1332:G:C2	29:X:1347:C:C2	3.05	0.45
29:X:1651:U:H4'	29:X:1652:G:OP2	2.10	0.45
29:X:1681:A:C8	29:X:1681:A:O5'	2.70	0.45
29:X:1710:U:C5'	29:X:1711:C:C5	2.93	0.45
29:X:2048:C:O2	29:X:2428:U:N3	2.44	0.45
29:X:20:C:N4	29:X:21:A:H62	2.14	0.45
29:X:2209:G:C4	29:X:2210:C:C5	3.04	0.45
29:X:2293:G:H2'	29:X:2294:U:H6	1.82	0.45
29:X:2315:A:C2	29:X:2364:C:H1'	2.51	0.45
29:X:2043:A:C2	29:X:2481:G:C6	3.04	0.45
29:X:404:A:C5	29:X:405:C:C4	3.03	0.45
29:X:558:G:H2'	29:X:559:C:O4'	2.15	0.45
29:X:815:A:C5	29:X:816:U:C4	3.04	0.45
15:J:17:ARG:CZ	29:X:967:G:O6	2.64	0.45
7:B:136:ARG:NH1	7:B:137:ARG:N	2.65	0.45
7:B:38:THR:CG2	7:B:39:ALA:N	2.79	0.45
8:C:101:GLN:C	8:C:103:GLY:N	2.70	0.45
8:C:54:THR:HB	8:C:73:SER:HB3	1.98	0.45
9:D:8:TYR:O	9:D:12:VAL:CB	2.61	0.45
11:F:50:ASP:HB3	11:F:76:TYR:CE2	2.51	0.45
11:F:62:ASP:HB3	11:F:63:ARG:CZ	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:72:TYR:CE1	14:I:105:PRO:HG3	2.51	0.45
15:J:64:LYS:O	15:J:107:VAL:HA	2.16	0.45
15:J:35:LEU:HD11	15:J:130:THR:OG1	2.16	0.45
16:K:84:ALA:N	16:K:85:PRO:CD	2.80	0.45
16:K:94:TYR:CZ	16:K:115:LEU:O	2.70	0.45
18:M:8:ASN:HA	29:X:2851:G:OP1	2.16	0.45
19:N:33:ARG:HH11	19:N:33:ARG:HG3	1.81	0.45
20:O:38:LEU:O	20:O:39:PHE:CB	2.64	0.45
22:Q:64:ARG:O	22:Q:65:VAL:HG22	2.17	0.45
22:Q:77:LYS:HG3	22:Q:78:ALA:N	2.30	0.45
23:R:10:HIS:CD2	23:R:44:GLN:HE21	2.35	0.45
29:X:1033:G:N2	29:X:1035:G:N2	2.64	0.45
29:X:1174:G:N2	29:X:1175:A:C4	2.84	0.45
29:X:1173:G:C6	29:X:1174:G:N7	2.84	0.45
29:X:1373:G:N2	29:X:1374:G:O4'	2.50	0.45
29:X:1491:C:C2	29:X:1492:A:C8	3.04	0.45
29:X:1796:A:C2	29:X:1797:C:C5	3.04	0.45
29:X:1811:A:O2'	29:X:1812:U:P	2.75	0.45
29:X:181:A:H1'	29:X:183:U:C5	2.52	0.45
29:X:2197:U:N3	29:X:2198:U:C4	2.84	0.45
29:X:219:G:O2'	29:X:220:U:OP2	2.33	0.45
29:X:2323:U:H3'	29:X:2323:U:C6	2.51	0.45
29:X:2043:A:H1'	29:X:2481:G:O4'	2.16	0.45
29:X:2576:G:C6	29:X:2577:A:C6	3.05	0.45
29:X:2721:A:H2'	29:X:2722:C:O4'	2.16	0.45
29:X:329:C:O2'	29:X:330:C:H5'	2.17	0.45
29:X:343:A:O2'	29:X:346:C:N4	2.48	0.45
29:X:531:G:O2'	29:X:532:A:H5'	2.17	0.45
29:X:618:A:N9	29:X:632:A:N6	2.65	0.45
29:X:654:A:N3	29:X:654:A:C2'	2.80	0.45
29:X:805:G:C8	29:X:2419:C:H1'	2.51	0.45
17:L:37:HIS:HB2	31:Z:30:C:OP1	2.13	0.45
4:4:11:CYS:HG	4:4:32:HIS:CE1	2.35	0.45
6:A:91:ARG:HE	6:A:198:ASN:HA	1.81	0.45
6:A:42:GLY:H	6:A:43:ARG:NH1	2.15	0.45
6:A:52:ARG:NH2	6:A:53:PHE:CZ	2.83	0.45
7:B:143:GLN:HB3	29:X:2553:G:O2'	2.17	0.45
8:C:102:LEU:HD21	8:C:106:MET:HE1	1.97	0.45
8:C:50:GLN:HB2	29:X:814:G:OP1	2.17	0.45
9:D:108:LEU:HD22	9:D:114:PHE:HE1	1.80	0.45
10:E:9:ILE:HG22	10:E:11:VAL:CG2	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:126:PRO:HG3	10:E:130:ARG:HD3	1.99	0.45
11:F:111:LYS:HB3	11:F:111:LYS:HE3	1.87	0.45
11:F:119:SER:O	11:F:121:GLU:N	2.50	0.45
17:L:47:ARG:O	17:L:49:GLN:N	2.45	0.45
19:N:81:ASN:ND2	19:N:85:ARG:HE	2.14	0.45
22:Q:58:VAL:O	22:Q:75:ARG:N	2.41	0.45
25:T:3:HIS:CD2	25:T:4:LYS:H	2.34	0.45
26:U:28:GLY:HA3	26:U:32:ARG:CB	2.45	0.45
26:U:41:VAL:CG2	26:U:42:GLN:N	2.66	0.45
28:W:46:THR:OG1	29:X:864:C:H5''	2.16	0.45
29:X:1086:C:C2'	29:X:1087:C:H5''	2.46	0.45
29:X:1086:C:H2'	29:X:1087:C:H5''	1.99	0.45
29:X:1324:G:O2'	29:X:1325:U:O5'	2.32	0.45
6:A:200:GLU:OE1	29:X:1812:U:C2	2.69	0.45
29:X:1851:A:N6	29:X:1866:G:H21	2.09	0.45
29:X:2058:U:C2	29:X:2414:A:C2	3.05	0.45
29:X:1385:C:C1'	29:X:2192:U:C6	2.94	0.45
29:X:965:G:C2'	29:X:2253:A:N1	2.79	0.45
29:X:2351:G:C2	29:X:2352:A:N7	2.84	0.45
29:X:2386:G:H2'	29:X:2387:U:H6	1.82	0.45
29:X:2438:A:C6	29:X:2473:G:C2	3.05	0.45
29:X:24:G:H2'	29:X:25:U:C6	2.51	0.45
29:X:2511:G:C4	29:X:2512:A:C8	3.05	0.45
29:X:2602:G:H2'	29:X:2603:G:H8	1.82	0.45
10:E:160:LYS:NZ	29:X:2636:A:O3'	2.50	0.45
29:X:2827:G:C2	29:X:2828:C:C2	3.05	0.45
29:X:620:G:O2'	29:X:621:U:H5'	2.17	0.45
29:X:832:A:H2'	29:X:833:A:O5'	2.17	0.45
29:X:862:A:C4	29:X:863:C:C5	3.04	0.45
29:X:872:G:O2'	29:X:873:U:C6	2.68	0.45
31:Z:54:U:H2'	31:Z:55:C:O4'	2.17	0.45
6:A:226:MET:HB3	6:A:230:ASP:HB2	1.98	0.45
6:A:257:LEU:O	6:A:258:LYS:C	2.55	0.45
7:B:19:ARG:NH1	7:B:185:LYS:HZ1	2.14	0.45
7:B:35:GLN:HB3	7:B:48:GLN:HB3	1.99	0.45
8:C:8:GLY:O	8:C:9:GLN:CB	2.62	0.45
9:D:14:PRO:O	9:D:15:ALA:C	2.55	0.45
10:E:113:VAL:HG11	10:E:151:VAL:HG13	1.98	0.45
10:E:38:ASN:H	10:E:41:LEU:CD2	2.29	0.45
12:G:43:VAL:HG23	12:G:165:VAL:HA	1.98	0.45
13:H:47:VAL:HG12	13:H:117:GLU:CD	2.36	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:120:VAL:HG11	14:I:122:VAL:HG13	1.99	0.45
15:J:78:LYS:HG3	15:J:80:ALA:H	1.81	0.45
17:L:32:TYR:CE1	31:Z:9:G:H5''	2.51	0.45
18:M:100:ARG:O	18:M:101:ARG:HB3	2.15	0.45
18:M:9:ARG:O	18:M:13:LEU:HD13	2.16	0.45
19:N:24:PHE:CD1	29:X:543:G:C5'	2.97	0.45
20:O:6:GLN:O	20:O:7:THR:CB	2.64	0.45
22:Q:12:ILE:O	22:Q:16:ALA:HB3	2.17	0.45
22:Q:25:TYR:CD2	22:Q:25:TYR:N	2.84	0.45
22:Q:68:PHE:C	22:Q:69:ILE:HD12	2.35	0.45
23:R:25:LEU:N	23:R:25:LEU:HD13	2.32	0.45
29:X:1393:G:C2	29:X:1394:G:C8	3.05	0.45
29:X:1608:U:H2'	29:X:1609:G:C8	2.51	0.45
29:X:689:A:H8	29:X:2052:G:H21	1.58	0.45
29:X:2282:G:C6	29:X:2293:G:C6	3.05	0.45
29:X:2290:A:C8	29:X:2290:A:O5'	2.70	0.45
29:X:2437:G:O2'	29:X:2439:U:C4	2.70	0.45
29:X:1773:C:C2'	29:X:2587:G:O2'	2.65	0.45
29:X:2779:C:C6	29:X:2779:C:H3'	2.51	0.45
29:X:2797:G:H8	29:X:2797:G:O5'	2.00	0.45
29:X:492:G:O2'	29:X:517:A:N6	2.50	0.45
29:X:651:C:H42	29:X:658:G:H1	1.63	0.45
29:X:664:C:O2'	29:X:665:A:OP1	2.31	0.45
29:X:677:G:H4'	29:X:951:G:H5''	1.99	0.45
31:Z:35:C:H2'	31:Z:36:A:H8	1.80	0.45
31:Z:50:U:H2'	31:Z:51:G:H8	1.81	0.45
31:Z:54:U:H2'	31:Z:55:C:C6	2.51	0.45
31:Z:93:G:N2	31:Z:94:G:H1'	2.31	0.45
6:A:164:GLN:OE1	6:A:176:ARG:HB3	2.17	0.45
7:B:136:ARG:HH12	7:B:137:ARG:HA	1.82	0.45
7:B:5:LEU:CD1	7:B:81:PHE:HZ	2.29	0.45
8:C:122:GLY:CA	8:C:124:ASP:OD1	2.61	0.45
9:D:138:PHE:N	9:D:138:PHE:CD1	2.83	0.45
9:D:138:PHE:N	9:D:138:PHE:HD1	2.15	0.45
9:D:36:VAL:CG1	9:D:57:LEU:HD22	2.45	0.45
11:F:53:ILE:CG2	11:F:54:PRO:HD2	2.47	0.45
12:G:107:GLN:C	12:G:109:GLY:N	2.69	0.45
15:J:29:ALA:O	15:J:30:PHE:HB2	2.17	0.45
15:J:70:PHE:HA	15:J:71:PRO:HD3	1.61	0.45
16:K:115:LEU:HD23	16:K:115:LEU:HA	1.63	0.45
19:N:49:ASP:O	19:N:53:LYS:HG2	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Q:27:PHE:N	22:Q:27:PHE:CD1	2.85	0.45
22:Q:51:ILE:HD12	22:Q:82:LEU:O	2.17	0.45
23:R:59:LYS:HD3	23:R:62:MET:HG3	1.97	0.45
26:U:22:GLY:N	26:U:39:LYS:HD2	2.32	0.45
26:U:28:GLY:HA3	26:U:32:ARG:N	2.32	0.45
26:U:72:LYS:HB2	26:U:73:GLY:H	1.57	0.45
29:X:1777:A:H1'	29:X:1921:A:N6	2.32	0.45
29:X:1963:G:HO2'	29:X:1965:U:P	2.39	0.45
29:X:2036:G:O2'	29:X:2037:A:H5'	2.17	0.45
29:X:203:G:N2	29:X:204:A:H2	2.15	0.45
29:X:2324:G:C2	29:X:2360:C:H2'	2.52	0.45
29:X:235:C:C5	29:X:236:C:C4	3.04	0.45
29:X:235:C:C5	29:X:236:C:C5	3.05	0.45
29:X:2380:U:C4	29:X:2381:A:C2	3.05	0.45
29:X:2433:G:O2'	29:X:2434:G:H5'	2.17	0.45
29:X:198:A:C8	29:X:243:G:C5	3.04	0.45
29:X:2652:G:C2	29:X:2653:A:C8	3.05	0.45
29:X:2738:A:C2'	29:X:2739:G:H5'	2.46	0.45
29:X:2770:A:O2'	29:X:2771:C:P	2.75	0.45
29:X:2876:C:H2'	29:X:2877:A:C8	2.50	0.45
29:X:314:G:C6	29:X:326:A:C2	3.05	0.45
29:X:415:A:O2'	29:X:416:U:H5'	2.16	0.45
29:X:415:A:H2'	29:X:416:U:O4'	2.17	0.45
29:X:482:A:HO2'	29:X:483:A:H5'	1.78	0.45
29:X:732:G:O5'	29:X:732:G:C8	2.70	0.45
31:Z:38:C:OP2	31:Z:38:C:H6	1.98	0.45
6:A:143:HIS:HD2	6:A:196:VAL:HG12	1.82	0.45
6:A:144:ALA:O	6:A:153:ALA:CB	2.65	0.45
9:D:133:LYS:O	9:D:134:GLU:C	2.54	0.45
9:D:39:GLY:HA2	9:D:86:GLY:CA	2.46	0.45
9:D:70:ALA:O	9:D:82:GLY:HA2	2.17	0.45
12:G:45:ASP:O	12:G:54:LEU:HD11	2.16	0.45
13:H:110:VAL:HG12	13:H:111:PHE:H	1.82	0.45
13:H:47:VAL:H	13:H:77:THR:HG21	1.82	0.45
13:H:17:ARG:HE	13:H:59:ALA:HB2	1.82	0.45
15:J:15:ARG:HD3	15:J:73:LYS:NZ	2.31	0.45
16:K:72:ASP:CG	16:K:75:VAL:HG23	2.37	0.45
20:O:30:GLY:O	20:O:31:ASP:C	2.55	0.45
23:R:93:ARG:CG	23:R:93:ARG:HH11	2.16	0.45
24:S:123:VAL:CA	24:S:161:ALA:HB2	2.45	0.45
29:X:1072:U:O4'	29:X:1081:A:H1'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1147:G:C4	29:X:1148:G:C8	3.05	0.45
29:X:1376:C:H2'	29:X:1377:G:O4'	2.17	0.45
29:X:13:A:C2	29:X:15:G:C6	3.04	0.45
29:X:1586:A:C5	29:X:1587:A:N7	2.85	0.45
29:X:165:G:O2'	29:X:166:G:H5'	2.16	0.45
29:X:1730:G:C6	29:X:1737:G:N1	2.85	0.45
29:X:1773:C:O4'	29:X:2588:U:C2	2.70	0.45
29:X:2264:C:H4'	29:X:2267:A:C5	2.51	0.45
29:X:2646:C:H2'	29:X:2647:G:O4'	2.17	0.45
29:X:2756:A:O2'	29:X:2761:A:O2'	2.32	0.45
12:G:162:LYS:NZ	29:X:2873:G:H21	2.15	0.45
29:X:311:A:N3	29:X:330:C:H1'	2.32	0.45
29:X:33:C:N4	29:X:458:G:O2'	2.50	0.45
29:X:496:C:C2'	29:X:497:C:H5''	2.47	0.45
29:X:529:U:H2'	29:X:530:G:C8	2.45	0.45
29:X:623:G:C6	29:X:627:A:N6	2.85	0.45
29:X:837:U:C2	29:X:838:A:C8	3.05	0.45
6:A:61:LEU:HG	29:X:1584:G:H5''	1.99	0.45
7:B:147:PRO:HG3	29:X:1141:U:C2	2.51	0.45
8:C:165:SER:O	8:C:166:TRP:O	2.34	0.45
9:D:34:ILE:HD13	9:D:156:ILE:HA	1.99	0.45
9:D:94:GLU:O	9:D:98:VAL:HG23	2.17	0.45
10:E:139:GLN:O	10:E:140:LEU:C	2.55	0.45
11:F:26:ALA:O	11:F:30:TYR:HE2	2.00	0.45
12:G:98:LYS:HG3	12:G:116:ARG:HD3	1.99	0.45
13:H:4:PRO:O	13:H:5:GLN:HB2	2.17	0.45
15:J:103:VAL:O	15:J:103:VAL:CG1	2.63	0.45
15:J:12:LYS:HD3	29:X:923:A:C6	2.52	0.45
15:J:12:LYS:O	15:J:13:GLN:CB	2.48	0.45
15:J:19:THR:HG21	15:J:99:LYS:HZ2	1.81	0.45
18:M:100:ARG:HB3	18:M:100:ARG:HE	1.65	0.45
19:N:14:HIS:CD2	19:N:32:TYR:CE1	3.05	0.45
21:P:11:LYS:O	21:P:13:GLN:N	2.50	0.45
23:R:17:LYS:HB3	23:R:18:LYS:CE	2.47	0.45
25:T:20:TYR:O	25:T:21:LEU:HB2	2.17	0.45
27:V:25:LEU:HD21	27:V:47:ARG:CD	2.47	0.45
28:W:40:VAL:HG12	28:W:40:VAL:O	2.17	0.45
29:X:1107:A:C2'	29:X:1108:U:H5''	2.47	0.45
22:Q:15:LYS:CG	29:X:1404:C:O2	2.64	0.45
29:X:1520:G:H2'	29:X:1521:U:O4'	2.17	0.45
29:X:1556:A:H2'	29:X:1557:G:H8	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1558:C:C2'	29:X:1559:G:O5'	2.65	0.45
29:X:1714:A:OP2	29:X:1715:A:H3'	2.16	0.45
29:X:2030:U:O2'	29:X:2031:A:C5'	2.65	0.45
29:X:2229:G:O4'	29:X:2229:G:N3	2.46	0.45
29:X:24:G:C4	29:X:25:U:C6	3.05	0.45
29:X:2629:U:H2'	29:X:2630:C:H6	1.82	0.45
29:X:2847:G:C4	29:X:2848:A:N7	2.85	0.45
29:X:2849:C:H2'	29:X:2850:U:H5''	1.98	0.45
29:X:330:C:C4	29:X:331:U:C4	3.05	0.45
29:X:764:A:C6	29:X:802:A:C6	3.05	0.45
29:X:849:G:C5	29:X:850:C:C4	3.04	0.45
29:X:876:A:C2	29:X:877:G:C4	3.05	0.45
29:X:677:G:H5'	29:X:951:G:H4'	1.98	0.45
30:Y:6:VAL:HG13	30:Y:7:PRO:HD2	1.98	0.45
31:Z:15:A:N1	31:Z:72:C:H5'	2.31	0.45
31:Z:2:C:HO5'	31:Z:2:C:H6	1.64	0.45
31:Z:62:C:H2'	31:Z:63:A:H8	1.81	0.45
6:A:42:GLY:H	6:A:43:ARG:CZ	2.30	0.45
8:C:94:THR:HG21	29:X:618:A:OP1	2.17	0.45
9:D:36:VAL:HG13	9:D:152:MET:HE3	1.99	0.45
11:F:41:PHE:CE1	11:F:55:VAL:HG21	2.52	0.45
11:F:60:TYR:O	11:F:61:ALA:CB	2.65	0.45
12:G:85:ALA:C	12:G:87:GLN:N	2.70	0.45
13:H:3:MET:O	13:H:6:SER:HB2	2.16	0.45
17:L:76:ALA:HB1	17:L:111:GLY:CA	2.47	0.45
18:M:32:THR:HG22	18:M:33:VAL:H	1.82	0.45
19:N:79:PHE:CE2	19:N:83:LEU:CD1	2.99	0.45
20:O:26:GLN:O	20:O:27:GLY:C	2.55	0.45
22:Q:16:ALA:O	22:Q:19:ALA:HB3	2.16	0.45
22:Q:28:TRP:CZ3	22:Q:75:ARG:HB3	2.51	0.45
22:Q:84:GLU:HA	22:Q:84:GLU:OE2	2.17	0.45
23:R:23:ILE:HD12	23:R:23:ILE:O	2.17	0.45
24:S:173:PRO:HB2	24:S:174:PRO:HD2	1.98	0.45
24:S:8:ARG:O	24:S:10:PRO:HD3	2.17	0.45
26:U:12:ASN:O	26:U:13:LEU:O	2.35	0.45
28:W:15:ASN:O	28:W:18:LYS:N	2.49	0.45
28:W:9:VAL:CG1	28:W:17:VAL:HG22	2.47	0.45
29:X:1008:G:C2	29:X:1170:U:C2	3.06	0.45
29:X:1073:G:H2'	29:X:1074:G:H8	1.81	0.45
12:G:93:LYS:HE3	29:X:1151:U:O4	2.17	0.45
29:X:1226:A:C2	29:X:1250:A:H1'	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1399:C:O2'	29:X:1400:A:C5'	2.65	0.45
6:A:60:ARG:CZ	29:X:1583:A:OP1	2.64	0.45
29:X:1778:U:C4	29:X:1779:C:N4	2.85	0.45
29:X:1793:A:O5'	29:X:1793:A:H8	1.99	0.45
29:X:1939:U:C4	29:X:1940:C:C4	3.05	0.45
29:X:2088:U:H2'	29:X:2089:C:C6	2.52	0.45
29:X:2179:C:H2'	29:X:2180:U:O4'	2.17	0.45
29:X:2487:G:C2	29:X:2561:G:C6	3.05	0.45
7:B:154:LYS:HE3	29:X:2598:C:O2'	2.17	0.45
29:X:2870:C:H2'	29:X:2871:U:C6	2.52	0.45
29:X:194:G:O6	29:X:444:U:O2	2.35	0.45
29:X:522:G:HO2'	29:X:523:A:P	2.40	0.45
8:C:93:TYR:CE1	29:X:673:G:H5'	2.51	0.45
29:X:731:A:C2'	29:X:732:G:C4'	2.95	0.45
29:X:808:C:O2'	29:X:809:C:H5'	2.17	0.45
29:X:677:G:C4'	29:X:951:G:H5''	2.46	0.45
6:A:82:ILE:HG21	6:A:91:ARG:HB3	1.98	0.44
7:B:85:ALA:N	7:B:86:PRO:HD2	2.30	0.44
9:D:123:ASP:CB	9:D:127:ASN:HB2	2.48	0.44
10:E:9:ILE:HG22	10:E:11:VAL:HG22	1.99	0.44
11:F:53:ILE:HA	11:F:72:PRO:HA	1.99	0.44
14:I:28:LYS:HZ2	14:I:36:GLY:CA	2.30	0.44
15:J:59:PHE:HE2	15:J:114:GLN:O	2.00	0.44
16:K:66:VAL:CG1	16:K:70:ILE:HG13	2.48	0.44
17:L:15:ARG:CD	17:L:91:ARG:NH1	2.65	0.44
17:L:97:HIS:CD2	17:L:98:GLY:N	2.72	0.44
19:N:31:GLN:NE2	29:X:589:C:C4'	2.73	0.44
19:N:93:LYS:HE3	20:O:5:ILE:HB	1.99	0.44
21:P:35:PRO:O	21:P:39:ARG:HD2	2.17	0.44
21:P:78:ASN:O	21:P:79:ALA:C	2.54	0.44
22:Q:25:TYR:CD2	22:Q:82:LEU:HD11	2.52	0.44
23:R:10:HIS:O	23:R:11:ASN:CB	2.59	0.44
23:R:85:ASP:C	23:R:87:GLU:H	2.21	0.44
24:S:100:THR:HG23	24:S:138:VAL:CG2	2.46	0.44
24:S:43:PHE:CE1	24:S:47:SER:HA	2.52	0.44
26:U:21:ARG:NH1	29:X:394:U:OP2	2.50	0.44
29:X:82:G:C2	29:X:100:G:H2'	2.52	0.44
29:X:1153:A:O2'	29:X:1154:A:C3'	2.65	0.44
29:X:1289:A:C2	29:X:1290:A:C8	3.05	0.44
29:X:1600:U:H5'	29:X:1601:U:OP1	2.16	0.44
29:X:1607:A:HO2'	29:X:1608:U:P	2.41	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1715:A:OP1	29:X:1715:A:H8	1.99	0.44
29:X:1716:G:O3'	29:X:1717:A:H4'	2.17	0.44
29:X:1991:C:O2'	29:X:1992:G:H5'	2.17	0.44
29:X:2661:G:N2	29:X:2662:C:H1'	2.32	0.44
29:X:2707:G:H2'	29:X:2708:U:H6	1.82	0.44
29:X:2026:C:N3	29:X:2757:G:C2	2.85	0.44
29:X:474:G:N2	29:X:477:A:C8	2.85	0.44
29:X:757:U:H2'	29:X:758:G:C5'	2.47	0.44
29:X:91:A:H2'	29:X:92:U:C6	2.52	0.44
17:L:64:LYS:HZ3	31:Z:53:G:P	2.40	0.44
6:A:143:HIS:HE1	6:A:193:ILE:O	2.00	0.44
6:A:208:LYS:HD2	29:X:1764:A:N6	2.31	0.44
6:A:216:GLY:O	6:A:217:ARG:O	2.34	0.44
6:A:250:TRP:O	6:A:255:LYS:HD2	2.17	0.44
6:A:39:LYS:HA	6:A:39:LYS:HD2	1.73	0.44
6:A:49:ILE:HG22	29:X:792:U:P	2.57	0.44
7:B:60:ASN:CB	7:B:62:PRO:HD2	2.46	0.44
8:C:112:GLN:HB3	8:C:116:LYS:HD3	1.98	0.44
8:C:144:GLY:HA2	8:C:166:TRP:NE1	2.32	0.44
8:C:28:HIS:O	8:C:29:GLU:C	2.56	0.44
8:C:83:ALA:O	8:C:84:PHE:CB	2.64	0.44
9:D:108:LEU:O	9:D:111:ILE:HG13	2.16	0.44
10:E:83:TYR:CE1	10:E:138:LYS:HB2	2.52	0.44
13:H:7:ARG:HA	13:H:20:MET:HA	1.99	0.44
15:J:99:LYS:CE	15:J:100:PRO:HD2	2.45	0.44
16:K:32:GLY:HA2	16:K:115:LEU:HD12	1.99	0.44
17:L:33:ARG:HH22	17:L:103:LEU:CA	2.31	0.44
18:M:38:LYS:O	18:M:40:ARG:N	2.50	0.44
19:N:40:LEU:HD13	20:O:74:TYR:CE1	2.53	0.44
12:G:66:HIS:CA	19:N:67:ALA:HB1	2.46	0.44
19:N:91:ASN:HA	20:O:10:LYS:NZ	2.33	0.44
21:P:39:ARG:O	21:P:43:ASP:N	2.46	0.44
21:P:81:HIS:O	21:P:83:ASP:N	2.50	0.44
22:Q:55:THR:O	22:Q:56:MET:CG	2.65	0.44
22:Q:51:ILE:CD1	22:Q:83:ALA:HA	2.37	0.44
24:S:132:GLN:O	24:S:133:GLU:HB3	2.17	0.44
24:S:141:MET:HB3	24:S:145:ASP:HB2	2.00	0.44
25:T:32:LYS:HB2	25:T:35:ASN:ND2	2.32	0.44
25:T:56:ASP:CG	25:T:58:THR:OG1	2.56	0.44
26:U:63:SER:O	26:U:66:ALA:N	2.43	0.44
27:V:1:MET:HG3	27:V:3:PRO:CD	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:W:36:ASP:CG	28:W:41:ARG:NH1	2.68	0.44
29:X:1003:C:O2	29:X:1003:C:H2'	2.16	0.44
29:X:1175:A:O2'	29:X:1176:U:H5'	2.17	0.44
29:X:1411:C:O2'	29:X:1412:C:H5'	2.17	0.44
29:X:1462:C:O2'	29:X:1463:A:H5'	2.18	0.44
29:X:1645:U:H2'	29:X:1646:G:O4'	2.17	0.44
29:X:1698:C:H4'	29:X:1699:A:OP2	2.13	0.44
29:X:1775:A:H3'	29:X:1775:A:P	2.55	0.44
6:A:37:LEU:CD1	29:X:1808:C:H41	2.29	0.44
6:A:200:GLU:OE1	29:X:1812:U:N3	2.50	0.44
29:X:1820:G:O2'	29:X:1821:A:C5'	2.65	0.44
29:X:2057:U:H1'	29:X:2577:A:N3	2.32	0.44
29:X:2634:G:O2'	29:X:2643:G:C6	2.71	0.44
29:X:2759:U:H4'	29:X:2760:G:H5''	1.99	0.44
29:X:729:A:C2	29:X:730:C:OP2	2.70	0.44
29:X:939:C:C4'	29:X:940:G:O5'	2.65	0.44
29:X:984:A:C4	29:X:1202:U:C4	3.05	0.44
31:Z:120:G:C6	31:Z:121:G:N7	2.85	0.44
31:Z:30:C:H2'	31:Z:31:A:C8	2.52	0.44
6:A:158:SER:O	6:A:196:VAL:CG2	2.63	0.44
6:A:205:VAL:HG23	6:A:207:GLY:H	1.81	0.44
6:A:82:ILE:HA	6:A:92:ILE:O	2.17	0.44
6:A:88:ARG:HG2	6:A:90:ALA:CB	2.37	0.44
8:C:112:GLN:NE2	8:C:116:LYS:HB2	2.33	0.44
9:D:115:ARG:CB	9:D:178:ARG:HD2	2.39	0.44
10:E:22:GLY:O	10:E:24:PHE:CD1	2.70	0.44
11:F:63:ARG:N	11:F:63:ARG:HD3	2.32	0.44
12:G:107:GLN:HA	12:G:110:LEU:CG	2.43	0.44
12:G:155:THR:O	12:G:156:HIS:C	2.56	0.44
12:G:32:TYR:CD1	12:G:33:ILE:N	2.85	0.44
14:I:18:ARG:HB2	14:I:21:ARG:CG	2.47	0.44
7:B:176:ARG:NE	18:M:16:ILE:HG12	2.24	0.44
19:N:74:MET:SD	19:N:110:VAL:HG13	2.57	0.44
20:O:36:LYS:NZ	20:O:55:THR:O	2.48	0.44
23:R:22:VAL:HG22	23:R:83:LEU:H	1.81	0.44
23:R:23:ILE:H	23:R:23:ILE:CD1	2.22	0.44
23:R:14:LEU:HD13	23:R:39:ALA:HB1	1.98	0.44
23:R:58:VAL:C	23:R:60:PRO:HD3	2.38	0.44
23:R:93:ARG:C	23:R:95:ARG:NH1	2.70	0.44
28:W:25:LEU:HA	28:W:25:LEU:HD23	1.60	0.44
19:N:58:ARG:CZ	29:X:1008:G:OP2	2.65	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1013:G:H5''	29:X:1013:G:H8	1.83	0.44
29:X:1135:C:C2	29:X:1136:G:N7	2.86	0.44
29:X:1182:U:H5'	29:X:1182:U:H6	1.81	0.44
29:X:1332:G:C2	29:X:1347:C:N3	2.86	0.44
29:X:1375:C:N3	29:X:1376:C:C6	2.85	0.44
29:X:1424:U:H2'	29:X:1425:G:H8	1.82	0.44
29:X:1569:A:C5	29:X:1571:G:C4	3.05	0.44
29:X:1629:G:H3'	29:X:1633:C:N4	2.33	0.44
6:A:179:SER:CB	29:X:1790:G:O6	2.65	0.44
29:X:1804:U:O2'	29:X:1805:G:H5'	2.16	0.44
29:X:1920:A:N6	29:X:1923:U:H5	2.16	0.44
13:H:22:ILE:HD11	29:X:1935:A:C4	2.52	0.44
29:X:1996:A:H2'	29:X:1997:A:H5'	1.97	0.44
29:X:2055:G:N1	29:X:2417:U:C2	2.85	0.44
29:X:2073:A:C6	29:X:2074:U:C4	3.06	0.44
13:H:1:MET:HE1	29:X:2706:U:H1'	2.00	0.44
29:X:2814:G:C4	29:X:2815:C:C6	3.05	0.44
29:X:467:U:H3'	29:X:467:U:O2	2.17	0.44
8:C:98:GLN:NE2	29:X:611:C:O4'	2.48	0.44
29:X:692:C:H2'	29:X:693:A:C8	2.52	0.44
6:A:218:LYS:HZ2	29:X:794:A:H5'	1.81	0.44
31:Z:16:U:O2'	31:Z:110:U:O2'	2.35	0.44
6:A:255:LYS:O	29:X:1788:C:H4'	2.16	0.44
7:B:80:GLU:OE2	29:X:2615:U:C4'	2.64	0.44
9:D:120:ASN:O	9:D:122:PHE:CE1	2.71	0.44
9:D:133:LYS:O	9:D:151:GLY:CA	2.64	0.44
9:D:40:LEU:HA	9:D:150:ARG:HH21	1.82	0.44
12:G:140:GLN:O	12:G:141:GLY:C	2.54	0.44
13:H:121:ARG:HB3	13:H:123:PHE:CD1	2.52	0.44
14:I:8:PRO:C	29:X:1218:C:O2'	2.55	0.44
15:J:112:GLU:O	15:J:115:ALA:HB3	2.17	0.44
16:K:56:LYS:HG2	16:K:56:LYS:O	2.16	0.44
21:P:87:GLU:HA	21:P:90:LEU:CG	2.47	0.44
23:R:108:VAL:HB	23:R:109:ALA:H	1.44	0.44
23:R:25:LEU:C	23:R:25:LEU:HD13	2.38	0.44
24:S:105:GLN:O	24:S:109:GLN:CD	2.56	0.44
24:S:70:GLN:HA	24:S:70:GLN:NE2	2.33	0.44
26:U:64:ALA:C	26:U:66:ALA:N	2.70	0.44
28:W:37:THR:HA	28:W:41:ARG:NH2	2.32	0.44
29:X:1038:U:O2	29:X:2466:G:O3'	2.35	0.44
29:X:1136:G:H3'	29:X:1137:A:H8	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1248:G:C6	29:X:1249:G:N1	2.86	0.44
29:X:1372:A:C5	29:X:1373:G:C8	3.05	0.44
29:X:1816:G:C6	29:X:1817:U:C4	3.05	0.44
29:X:1947:G:N1	29:X:1950:C:C4	2.85	0.44
29:X:1963:G:N3	29:X:1965:U:C5	2.86	0.44
29:X:2036:G:C2'	29:X:2037:A:H5'	2.47	0.44
29:X:208:C:N4	29:X:209:G:H21	2.15	0.44
29:X:2311:U:O2	29:X:2311:U:C3'	2.65	0.44
29:X:2526:U:O2'	29:X:2527:G:H5'	2.17	0.44
29:X:2576:G:C6	29:X:2577:A:N6	2.86	0.44
29:X:2824:C:H1'	29:X:2843:A:C5	2.51	0.44
29:X:309:G:C2	29:X:350:U:C4	3.05	0.44
21:P:39:ARG:HH12	29:X:528:G:H5''	1.83	0.44
29:X:580:A:C5	29:X:584:A:N7	2.86	0.44
29:X:632:A:H2'	29:X:633:G:C5'	2.47	0.44
29:X:59:G:N3	29:X:73:A:C2	2.85	0.44
29:X:757:U:C2'	29:X:758:G:C5'	2.92	0.44
29:X:936:A:H2'	29:X:937:C:C6	2.52	0.44
29:X:944:A:O2'	29:X:945:G:H5'	2.17	0.44
31:Z:22:U:H2'	31:Z:23:G:C8	2.53	0.44
31:Z:25:G:H2'	31:Z:26:G:C8	2.52	0.44
31:Z:3:A:C8	31:Z:3:A:O5'	2.71	0.44
31:Z:75:A:C6	31:Z:76:U:C2	3.05	0.44
4:4:1:MET:HA	4:4:1:MET:CE	2.45	0.44
6:A:149:PRO:CA	6:A:189:CYS:SG	3.06	0.44
6:A:249:PRO:CG	29:X:2218:G:H5'	2.47	0.44
7:B:59:VAL:HG21	7:B:74:PRO:HB3	1.99	0.44
8:C:161:ALA:HB3	8:C:169:VAL:HG21	1.99	0.44
10:E:10:ALA:O	10:E:12:PRO:HD3	2.18	0.44
11:F:69:THR:HG22	11:F:70:LYS:N	2.32	0.44
14:I:116:ARG:CG	14:I:117:ALA:H	2.30	0.44
16:K:10:LEU:HD23	16:K:17:ARG:HB2	1.95	0.44
20:O:13:ARG:O	20:O:14:VAL:HG23	2.17	0.44
21:P:18:VAL:CG1	21:P:19:LYS:N	2.80	0.44
23:R:17:LYS:O	23:R:19:GLY:N	2.51	0.44
24:S:127:PRO:O	24:S:128:ARG:CB	2.65	0.44
24:S:1:MET:N	24:S:52:PHE:HE2	2.15	0.44
24:S:64:ALA:HB2	24:S:85:MET:HE2	1.98	0.44
25:T:29:GLU:O	25:T:31:VAL:N	2.50	0.44
26:U:11:LYS:NZ	26:U:75:TYR:CB	2.76	0.44
26:U:53:GLU:OE1	26:U:57:VAL:HG13	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:78:ILE:HD13	26:U:78:ILE:C	2.38	0.44
27:V:14:PHE:HE2	27:V:57:LYS:H	1.65	0.44
28:W:3:ILE:HD11	28:W:44:VAL:CG2	2.47	0.44
29:X:1005:U:O2	29:X:1007:A:N7	2.51	0.44
29:X:1215:A:C2	29:X:1258:G:C4	3.05	0.44
29:X:1281:A:H2'	29:X:1282:A:H8	1.82	0.44
29:X:1351:G:C2	29:X:1352:G:C4	3.06	0.44
29:X:1375:C:N3	29:X:1376:C:C5	2.85	0.44
29:X:1842:G:H2'	29:X:1843:U:O4'	2.17	0.44
29:X:2212:U:C2'	29:X:2213:G:H8	2.29	0.44
29:X:2239:C:N3	29:X:2240:C:C5	2.86	0.44
29:X:2307:A:H2'	29:X:2308:A:H8	1.80	0.44
29:X:2493:U:N3	29:X:2494:C:N4	2.65	0.44
29:X:1922:U:O2'	29:X:2571:G:C1'	2.66	0.44
29:X:2618:A:H1'	29:X:2758:A:C2	2.52	0.44
29:X:2759:U:H5''	29:X:2760:G:H3'	1.98	0.44
29:X:2767:C:O2'	29:X:2768:C:H5'	2.17	0.44
29:X:938:G:O2'	29:X:939:C:O5'	2.26	0.44
29:X:965:G:H2'	29:X:966:A:O4'	2.18	0.44
31:Z:16:U:O2'	31:Z:110:U:H1'	2.18	0.44
4:4:15:LYS:HB2	4:4:26:ILE:CG1	2.47	0.44
4:4:8:LYS:H	4:4:34:GLN:HE22	1.66	0.44
6:A:204:ILE:O	6:A:204:ILE:HG22	2.17	0.44
6:A:219:PRO:O	6:A:220:HIS:C	2.55	0.44
6:A:247:VAL:CG2	6:A:248:THR:H	2.31	0.44
6:A:257:LEU:HA	6:A:257:LEU:HD23	1.64	0.44
9:D:33:LYS:HE3	9:D:157:VAL:HG21	1.98	0.44
11:F:100:ASN:O	11:F:103:GLN:NE2	2.51	0.44
11:F:25:PRO:O	11:F:26:ALA:C	2.54	0.44
12:G:123:PRO:N	12:G:124:GLU:OE1	2.50	0.44
12:G:75:ILE:HD13	12:G:144:MET:HG2	1.99	0.44
13:H:22:ILE:HG21	13:H:52:VAL:HG12	1.99	0.44
14:I:7:LYS:N	14:I:7:LYS:HD3	2.32	0.44
15:J:99:LYS:CD	15:J:100:PRO:CD	2.95	0.44
16:K:90:ARG:HA	16:K:91:PRO:HD3	1.62	0.44
17:L:39:TYR:O	17:L:41:GLN:N	2.51	0.44
21:P:112:GLY:O	21:P:113:SER:C	2.54	0.44
21:P:41:VAL:O	21:P:44:VAL:HG22	2.18	0.44
21:P:63:SER:C	21:P:65:SER:N	2.69	0.44
23:R:41:PRO:O	23:R:44:GLN:OE1	2.35	0.44
24:S:24:TYR:O	24:S:85:MET:HB2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:71:MET:HE2	24:S:71:MET:H	1.83	0.44
25:T:65:GLY:CA	25:T:83:ALA:HA	2.47	0.44
25:T:6:GLY:O	25:T:7:VAL:C	2.56	0.44
26:U:20:ARG:HD3	26:U:43:ARG:NH2	2.32	0.44
28:W:38:PRO:HA	28:W:41:ARG:CD	2.47	0.44
29:X:1174:G:N2	29:X:1175:A:C5	2.86	0.44
29:X:121:G:O3'	29:X:1389:C:H4'	2.17	0.44
29:X:1230:C:N3	29:X:1231:A:N7	2.66	0.44
29:X:1399:C:H2'	29:X:1400:A:C8	2.45	0.44
29:X:1552:C:O2	29:X:1553:G:C2	2.71	0.44
29:X:1621:C:O4'	29:X:1626:A:C6	2.70	0.44
6:A:50:THR:CG2	29:X:1805:G:H21	2.31	0.44
29:X:1832:G:C6	29:X:1833:U:C4	3.06	0.44
29:X:1840:A:C8	29:X:1841:G:C8	3.06	0.44
29:X:184:A:C8	29:X:185:C:C5	3.05	0.44
29:X:2031:A:C6	29:X:2600:A:N1	2.85	0.44
29:X:2033:C:C4	29:X:2034:A:C6	3.06	0.44
29:X:204:A:N7	29:X:2386:G:C4'	2.81	0.44
29:X:2063:A:H2'	29:X:2064:U:H6	1.82	0.44
29:X:2085:G:H2'	29:X:2086:U:C6	2.53	0.44
6:A:249:PRO:CD	29:X:2218:G:H5'	2.48	0.44
29:X:2232:G:H2'	29:X:2233:C:C6	2.53	0.44
29:X:2327:U:O4	29:X:2361:G:N2	2.51	0.44
29:X:2329:C:H2'	29:X:2330:G:C8	2.53	0.44
29:X:2423:G:C2	29:X:2424:G:H1'	2.53	0.44
29:X:2666:U:C5	29:X:2667:C:C4	3.06	0.44
29:X:2690:A:OP1	29:X:2692:A:OP1	2.36	0.44
29:X:2714:A:H2'	29:X:2715:C:O4'	2.18	0.44
29:X:2828:C:O2'	29:X:2829:A:H5'	2.17	0.44
29:X:416:U:H4'	29:X:419:G:C1'	2.47	0.44
29:X:644:A:H2'	29:X:645:G:C4'	2.47	0.44
29:X:671:A:H2'	29:X:672:C:C6	2.53	0.44
29:X:76:C:H2'	29:X:77:C:H6	1.83	0.44
29:X:777:A:C3'	29:X:778:G:H5'	2.47	0.44
31:Z:116:C:H2'	31:Z:117:G:O4'	2.18	0.44
6:A:147:LEU:HD23	6:A:147:LEU:HA	1.83	0.44
6:A:160:GLY:HA2	6:A:197:GLY:HA2	2.00	0.44
6:A:243:GLY:C	6:A:244:ARG:NE	2.71	0.44
7:B:117:MET:SD	7:B:136:ARG:HG3	2.58	0.44
7:B:143:GLN:NE2	7:B:143:GLN:N	2.61	0.44
10:E:54:ARG:HE	10:E:57:ASP:CA	2.29	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:F:42:ASN:HA	11:F:45:THR:HG21	1.99	0.44
12:G:119:LEU:HD23	12:G:119:LEU:HA	1.64	0.44
12:G:43:VAL:O	12:G:167:LYS:HG3	2.18	0.44
17:L:107:ALA:C	17:L:109:GLU:N	2.71	0.44
18:M:93:ILE:CG2	18:M:94:VAL:N	2.81	0.44
19:N:108:ALA:O	19:N:109:LEU:C	2.56	0.44
19:N:60:LEU:HD11	19:N:64:ARG:CZ	2.48	0.44
21:P:85:MET:HE2	21:P:130:GLU:HG3	2.00	0.44
21:P:48:LYS:O	21:P:49:SER:C	2.56	0.44
22:Q:8:GLN:O	22:Q:9:ALA:HB2	2.17	0.44
23:R:95:ARG:O	23:R:96:LYS:HB3	2.17	0.44
24:S:6:LYS:HB2	24:S:31:SER:CB	2.45	0.44
24:S:73:LYS:C	24:S:75:LYS:N	2.70	0.44
24:S:67:LYS:HB3	24:S:82:ASP:CB	2.48	0.44
26:U:11:LYS:O	26:U:12:ASN:HB2	2.17	0.44
29:X:1031:C:P	29:X:1045:G:H21	2.40	0.44
29:X:1094:C:C2'	29:X:1096:A:H5'	2.46	0.44
29:X:1183:C:H2'	29:X:1184:G:C8	2.53	0.44
29:X:1385:C:H1'	29:X:2192:U:C4	2.52	0.44
29:X:1515:U:O2'	29:X:1516:A:H5'	2.18	0.44
29:X:1652:G:C6	29:X:1653:C:C4	3.05	0.44
6:A:159:ALA:O	29:X:1812:U:C2	2.70	0.44
29:X:2022:C:C4	29:X:2023:C:C5	3.05	0.44
29:X:2229:G:HO2'	29:X:2230:G:P	2.41	0.44
29:X:2232:G:H2'	29:X:2233:C:H6	1.83	0.44
29:X:2301:A:C5	29:X:2312:A:N6	2.85	0.44
29:X:2499:C:O2'	29:X:2500:C:H5'	2.17	0.44
29:X:1949:A:C2	29:X:2572:U:O4'	2.70	0.44
29:X:2586:G:C2	29:X:2587:G:C4	3.05	0.44
29:X:2698:G:O2'	29:X:2822:U:OP1	2.35	0.44
29:X:1:G:H2'	29:X:2:G:O4'	2.17	0.44
29:X:320:A:O2'	29:X:340:G:H2'	2.18	0.44
29:X:338:G:N7	29:X:343:A:N7	2.66	0.44
29:X:353:G:H2'	29:X:354:C:C6	2.53	0.44
29:X:427:C:H1'	29:X:1856:U:C1'	2.41	0.44
29:X:532:A:H2'	29:X:533:C:H6	1.82	0.44
29:X:676:G:C6	29:X:677:G:C5	3.06	0.44
29:X:915:C:O2'	29:X:916:U:H5'	2.18	0.44
29:X:973:U:C4	29:X:974:U:C5	3.06	0.44
29:X:972:C:H5'	29:X:973:U:P	2.58	0.44
29:X:2861:A:O2'	30:Y:31:THR:HG23	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:136:ARG:CB	7:B:136:ARG:HH11	2.31	0.44
7:B:141:ILE:CG2	7:B:150:VAL:CG1	2.95	0.44
7:B:179:GLU:C	7:B:181:LEU:N	2.70	0.44
7:B:75:THR:CG2	7:B:78:LEU:HD21	2.48	0.44
8:C:158:ARG:HD2	8:C:169:VAL:CG1	2.48	0.44
8:C:179:ASP:C	8:C:182:ARG:HB3	2.37	0.44
9:D:80:ARG:CG	9:D:81:GLN:N	2.80	0.44
11:F:13:PRO:HG3	11:F:52:ILE:CG1	2.46	0.44
11:F:41:PHE:C	11:F:43:ALA:H	2.21	0.44
13:H:79:HIS:O	13:H:90:ARG:HB3	2.17	0.44
14:I:55:ARG:O	14:I:56:LEU:HB2	2.17	0.44
15:J:44:LYS:O	15:J:45:SER:C	2.55	0.44
15:J:89:GLY:C	15:J:91:VAL:N	2.72	0.44
17:L:37:HIS:C	17:L:38:ILE:O	2.55	0.44
17:L:81:GLU:C	17:L:82:LYS:HG2	2.38	0.44
17:L:89:PHE:CD1	17:L:89:PHE:N	2.83	0.44
21:P:118:LYS:HD2	21:P:120:ARG:NH2	2.33	0.44
21:P:39:ARG:HH22	29:X:528:G:H5'	1.83	0.44
21:P:37:LYS:NZ	21:P:64:ALA:N	2.66	0.44
21:P:8:PHE:O	21:P:17:GLN:NE2	2.46	0.44
22:Q:3:HIS:O	22:Q:5:ASP:N	2.51	0.44
24:S:98:VAL:HG11	24:S:168:VAL:HG12	1.98	0.44
29:X:1269:G:C2	29:X:1270:C:C6	3.04	0.44
29:X:1369:G:N2	29:X:1370:U:H1'	2.33	0.44
29:X:1414:G:H2'	29:X:1415:C:O4'	2.18	0.44
29:X:1502:G:N1	29:X:1503:G:C5	2.86	0.44
29:X:161:U:C4	29:X:190:A:N6	2.86	0.44
29:X:1926:U:N1	29:X:1928:G:H5'	2.33	0.44
29:X:1974:U:H2'	29:X:1975:G:C5'	2.47	0.44
29:X:2174:G:H2'	29:X:2175:A:H8	1.83	0.44
29:X:2298:U:O2'	29:X:2299:A:C4	2.68	0.44
29:X:2697:G:O2'	29:X:2698:G:H5'	2.18	0.44
29:X:423:G:C6	29:X:431:G:C6	3.06	0.44
29:X:469:G:H22	29:X:480:G:H2'	1.82	0.44
29:X:26:G:H1'	29:X:524:A:H61	1.82	0.44
29:X:679:C:H2'	29:X:680:U:C6	2.52	0.44
14:I:45:LYS:NZ	29:X:817:A:OP1	2.47	0.44
29:X:84:G:N3	29:X:101:A:C2	2.86	0.44
29:X:959:C:H2'	29:X:960:U:C6	2.52	0.44
30:Y:55:ARG:CZ	30:Y:59:ALA:HB2	2.47	0.44
6:A:164:GLN:NE2	6:A:176:ARG:NH1	2.66	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:31:VAL:O	8:C:32:THR:C	2.57	0.44
8:C:45:THR:O	8:C:45:THR:HG22	2.18	0.44
12:G:104:THR:OG1	12:G:105:GLY:N	2.49	0.44
13:H:53:ALA:N	13:H:70:VAL:O	2.46	0.44
14:I:11:GLY:O	14:I:13:ARG:N	2.50	0.44
14:I:18:ARG:CG	14:I:21:ARG:HD3	2.47	0.44
15:J:53:ILE:O	15:J:54:VAL:C	2.54	0.44
20:O:32:LYS:HA	20:O:32:LYS:HD3	1.89	0.44
20:O:97:GLY:O	20:O:98:ILE:O	2.35	0.44
24:S:112:LEU:O	24:S:172:LEU:N	2.48	0.44
24:S:172:LEU:HD23	24:S:172:LEU:HA	1.81	0.44
24:S:172:LEU:HD22	24:S:173:PRO:HD2	1.99	0.44
24:S:35:ASP:OD1	24:S:38:ALA:N	2.36	0.44
26:U:52:ARG:NH1	26:U:67:LEU:HD11	2.33	0.44
28:W:5:LEU:HD13	28:W:51:LEU:HD23	2.00	0.44
29:X:985:G:C4	29:X:1200:G:N2	2.85	0.44
29:X:1928:G:C2	29:X:1929:U:C2	3.06	0.44
29:X:2262:C:C2	29:X:2368:G:C2	3.06	0.44
29:X:2271:C:H2'	29:X:2272:A:C8	2.52	0.44
29:X:2321:C:H2'	29:X:2321:C:O2	2.18	0.44
29:X:209:G:N2	29:X:433:G:OP1	2.51	0.44
29:X:714:G:C6	29:X:715:U:C5	3.06	0.44
29:X:857:U:C3'	29:X:858:G:H8	2.24	0.44
29:X:862:A:C4	29:X:863:C:C6	3.06	0.44
29:X:927:C:O2	31:Z:103:A:H4'	2.17	0.44
7:B:110:GLY:O	16:K:3:HIS:CD2	2.71	0.43
8:C:179:ASP:HA	8:C:182:ARG:HB3	1.99	0.43
8:C:28:HIS:CG	14:I:21:ARG:NH1	2.86	0.43
8:C:3:GLN:HE22	8:C:4:ILE:HG13	1.81	0.43
8:C:61:GLN:HA	8:C:61:GLN:HE21	1.80	0.43
9:D:8:TYR:CD1	9:D:173:MET:SD	2.97	0.43
9:D:88:LYS:HE3	29:X:2293:G:OP1	2.18	0.43
11:F:26:ALA:HB1	11:F:27:LEU:HD12	2.00	0.43
11:F:49:GLY:O	11:F:50:ASP:HB2	2.18	0.43
11:F:7:ILE:HG23	11:F:57:ILE:O	2.18	0.43
12:G:107:GLN:O	12:G:109:GLY:N	2.47	0.43
12:G:33:ILE:C	12:G:33:ILE:HD12	2.38	0.43
13:H:23:ARG:HH22	13:H:24:VAL:C	2.20	0.43
15:J:26:ASP:O	15:J:27:TYR:HD1	2.01	0.43
22:Q:89:GLU:HB3	22:Q:91:LEU:HD23	2.00	0.43
25:T:46:LYS:HB2	25:T:78:PHE:CE2	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:V:64:GLY:O	27:V:65:GLU:HB2	2.17	0.43
29:X:1055:A:C4	29:X:1055:A:C3'	2.83	0.43
29:X:1092:U:H2'	29:X:1093:U:H6	1.82	0.43
29:X:1114:A:N3	29:X:1114:A:H2'	2.33	0.43
29:X:1539:U:C2	29:X:1540:C:C5	3.06	0.43
29:X:1549:C:H2'	29:X:1550:C:C6	2.52	0.43
29:X:1973:C:H2'	29:X:1974:U:O4'	2.16	0.43
29:X:1998:A:H1'	30:Y:3:LYS:HG2	1.99	0.43
29:X:2212:U:C2'	29:X:2213:G:C8	2.90	0.43
29:X:2277:A:H2'	29:X:2278:A:O4'	2.17	0.43
29:X:2048:C:H1'	29:X:2428:U:N3	2.33	0.43
29:X:197:G:N2	29:X:242:A:H62	2.15	0.43
29:X:2438:A:C6	29:X:2439:U:C2	3.06	0.43
29:X:2491:C:N3	29:X:2492:G:C8	2.86	0.43
29:X:2663:U:N3	29:X:2664:G:N7	2.65	0.43
29:X:2663:U:C4	29:X:2664:G:N7	2.86	0.43
29:X:2787:A:C4	29:X:2788:C:C5	3.06	0.43
18:M:10:GLY:HA3	29:X:2850:U:O2'	2.18	0.43
29:X:349:G:H3'	29:X:350:U:C5	2.52	0.43
21:P:39:ARG:HH12	29:X:528:G:H5'	1.81	0.43
29:X:601:A:C2'	29:X:602:C:OP1	2.65	0.43
29:X:688:A:C2	29:X:689:A:N7	2.86	0.43
29:X:757:U:H2'	29:X:758:G:H5'	1.98	0.43
29:X:930:A:N7	29:X:931:G:C8	2.85	0.43
30:Y:46:CYS:HA	30:Y:47:PRO:HD2	1.80	0.43
31:Z:35:C:O2'	31:Z:36:A:H5'	2.18	0.43
6:A:135:PHE:N	6:A:135:PHE:CD2	2.85	0.43
6:A:182:LEU:O	6:A:268:ARG:HB2	2.18	0.43
7:B:189:PRO:HB3	29:X:2658:A:O2'	2.17	0.43
9:D:13:ARG:NH2	9:D:14:PRO:HG3	2.32	0.43
9:D:75:SER:HB2	9:D:79:LEU:HD13	1.99	0.43
10:E:163:ARG:HD3	10:E:167:GLU:HB3	2.01	0.43
12:G:150:VAL:O	12:G:151:TYR:CD1	2.71	0.43
12:G:39:GLN:HB2	12:G:79:PHE:CE1	2.52	0.43
14:I:82:ASP:HA	14:I:114:ILE:HG21	2.00	0.43
14:I:66:ASN:ND2	14:I:68:VAL:HG23	2.26	0.43
16:K:76:VAL:CG1	16:K:77:ARG:N	2.82	0.43
18:M:78:GLU:OE2	18:M:108:ARG:CZ	2.65	0.43
19:N:14:HIS:CD2	19:N:32:TYR:CD1	3.06	0.43
22:Q:28:TRP:CE3	22:Q:77:LYS:N	2.86	0.43
23:R:84:VAL:HG11	23:R:88:THR:C	2.38	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:25:ASN:O	24:S:26:LYS:HB3	2.18	0.43
26:U:41:VAL:HG21	26:U:43:ARG:HH22	1.82	0.43
28:W:5:LEU:HD12	28:W:6:VAL:N	2.33	0.43
29:X:1004:A:O2'	29:X:1005:U:H5'	2.18	0.43
29:X:1051:U:H3'	29:X:1051:U:C6	2.52	0.43
29:X:1030:U:H5'	29:X:1132:C:H1'	1.99	0.43
29:X:1186:G:H21	29:X:1187:A:H62	1.66	0.43
29:X:1237:G:H2'	29:X:1238:A:C8	2.53	0.43
29:X:1388:C:H6	29:X:1388:C:O5'	2.01	0.43
29:X:1436:G:C4	29:X:1437:A:C8	3.07	0.43
29:X:1445:A:H2'	29:X:1446:U:C6	2.53	0.43
29:X:1479:G:H2'	29:X:1480:G:H8	1.83	0.43
29:X:148:C:C6	29:X:148:C:OP1	2.68	0.43
29:X:1707:A:H3'	29:X:1708:C:H6	1.83	0.43
29:X:1786:C:C2	29:X:1787:U:C6	3.05	0.43
29:X:1916:G:H2'	29:X:1917:C:O4'	2.17	0.43
15:J:86:LYS:CD	29:X:2256:G:OP2	2.66	0.43
29:X:2372:A:H2'	29:X:2373:C:C6	2.51	0.43
29:X:2642:G:H2'	29:X:2643:G:O5'	2.18	0.43
29:X:2663:U:H2'	29:X:2664:G:O4'	2.17	0.43
29:X:2667:C:H5	29:X:2699:G:C5	2.36	0.43
16:K:3:HIS:CE1	29:X:2795:A:O3'	2.68	0.43
28:W:40:VAL:HG23	29:X:940:G:O2'	2.17	0.43
31:Z:17:A:OP2	31:Z:110:U:O2	2.36	0.43
8:C:6:VAL:HG23	8:C:118:VAL:HG23	1.99	0.43
8:C:145:THR:O	8:C:145:THR:HG22	2.19	0.43
8:C:189:ASP:O	8:C:190:ALA:C	2.57	0.43
9:D:138:PHE:CE2	9:D:152:MET:SD	3.11	0.43
9:D:80:ARG:CD	9:D:80:ARG:N	2.81	0.43
10:E:33:LEU:O	10:E:34:THR:CG2	2.65	0.43
12:G:53:ARG:O	12:G:54:LEU:C	2.56	0.43
12:G:90:LEU:HD23	12:G:94:LYS:HA	1.99	0.43
14:I:101:ARG:HD3	29:X:637:G:O6	2.18	0.43
14:I:9:THR:OG1	29:X:1218:C:H4'	2.18	0.43
15:J:11:ARG:HB3	15:J:12:LYS:H	1.47	0.43
15:J:33:TYR:O	15:J:106:GLU:CA	2.66	0.43
16:K:30:ARG:C	16:K:31:GLU:HG2	2.38	0.43
17:L:38:ILE:HG13	17:L:39:TYR:N	2.32	0.43
17:L:72:GLY:HA3	17:L:106:ALA:HB3	2.00	0.43
20:O:65:ARG:HG2	20:O:87:ARG:CD	2.47	0.43
21:P:95:ALA:HB1	21:P:126:ILE:HB	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:V:26:MET:O	27:V:27:GLU:C	2.56	0.43
28:W:27:LYS:O	28:W:28:ILE:O	2.35	0.43
28:W:45:LYS:N	28:W:45:LYS:HE3	2.33	0.43
29:X:1082:G:H1'	29:X:1100:G:C4	2.53	0.43
29:X:1126:A:C2	29:X:1127:C:C2	3.06	0.43
29:X:1039:A:C5	29:X:1136:G:N2	2.85	0.43
29:X:1144:U:H2'	29:X:1147:G:OP1	2.18	0.43
29:X:1174:G:N3	29:X:1175:A:C8	2.86	0.43
8:C:86:PRO:HD3	29:X:1261:G:O5'	2.18	0.43
29:X:1375:C:C4	29:X:1376:C:C5	3.06	0.43
29:X:1549:C:H2'	29:X:1550:C:O4'	2.18	0.43
29:X:161:U:H2'	29:X:162:C:C6	2.52	0.43
29:X:1830:C:H41	29:X:1881:U:C3'	2.25	0.43
29:X:182:G:O2'	29:X:183:U:OP2	2.37	0.43
29:X:2167:A:H2'	29:X:2168:A:C8	2.53	0.43
29:X:2198:U:C2'	29:X:2199:C:O4'	2.58	0.43
29:X:2319:G:C2'	29:X:2320:G:H5'	2.48	0.43
29:X:2383:C:C6	29:X:2393:G:N2	2.86	0.43
29:X:2523:G:O2'	29:X:2524:G:H5'	2.19	0.43
29:X:2778:U:H4'	29:X:2779:C:O2	2.18	0.43
29:X:2820:C:O2	29:X:2821:G:C8	2.71	0.43
29:X:2849:C:C2'	29:X:2850:U:C5'	2.96	0.43
29:X:2861:A:H2'	29:X:2862:G:H8	1.84	0.43
29:X:514:G:N3	29:X:514:G:H2'	2.33	0.43
29:X:991:A:C6	29:X:992:A:N1	2.85	0.43
30:Y:31:THR:CG2	30:Y:32:GLU:N	2.81	0.43
7:B:178:GLY:O	7:B:179:GLU:CG	2.63	0.43
7:B:1:MET:O	7:B:2:LYS:O	2.35	0.43
7:B:37:LYS:HB3	7:B:42:ASP:OD1	2.19	0.43
7:B:59:VAL:HG21	7:B:74:PRO:CB	2.48	0.43
7:B:85:ALA:H	7:B:86:PRO:HD2	1.83	0.43
8:C:112:GLN:NE2	8:C:116:LYS:CB	2.82	0.43
8:C:125:ILE:CD1	8:C:133:PHE:HA	2.48	0.43
8:C:139:GLN:NE2	8:C:139:GLN:CA	2.74	0.43
8:C:75:PRO:HG2	8:C:83:ALA:HB2	1.93	0.43
9:D:97:TYR:HA	9:D:100:LEU:HB3	1.99	0.43
9:D:33:LYS:O	9:D:157:VAL:HG23	2.19	0.43
9:D:41:GLY:O	9:D:43:SER:N	2.50	0.43
10:E:96:ALA:HB2	10:E:105:MET:HE1	1.99	0.43
10:E:133:VAL:HG12	10:E:141:VAL:HG13	2.00	0.43
11:F:19:PRO:HD2	11:F:22:PRO:HG2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:110:LEU:H	12:G:110:LEU:HD23	1.77	0.43
13:H:24:VAL:HG22	13:H:45:ALA:HB2	2.00	0.43
15:J:69:ILE:O	15:J:69:ILE:HG13	2.18	0.43
15:J:86:LYS:HD2	29:X:2256:G:OP2	2.18	0.43
17:L:37:HIS:O	17:L:38:ILE:C	2.56	0.43
13:H:116:ARG:NH1	18:M:38:LYS:HZ3	2.16	0.43
20:O:74:TYR:OH	20:O:76:SER:CB	2.65	0.43
22:Q:41:ALA:O	22:Q:42:ILE:C	2.56	0.43
23:R:86:PRO:O	23:R:87:GLU:HB2	2.18	0.43
24:S:6:LYS:HB2	24:S:31:SER:C	2.39	0.43
29:X:1025:A:C2	29:X:1160:C:C2	3.06	0.43
29:X:1051:U:C6	29:X:1051:U:C3'	3.02	0.43
29:X:1097:A:H3'	29:X:1097:A:N3	2.33	0.43
29:X:1255:A:C4	29:X:1256:C:C5	3.06	0.43
14:I:17:LYS:HE2	29:X:1258:G:P	2.57	0.43
29:X:1275:A:N3	30:Y:10:LYS:CE	2.81	0.43
29:X:131:C:O2'	29:X:132:U:H5'	2.17	0.43
29:X:1371:G:C8	29:X:1371:G:H3'	2.53	0.43
29:X:1529:C:H2'	29:X:1530:U:O4'	2.17	0.43
29:X:164:G:C2	29:X:187:U:O2	2.71	0.43
29:X:1785:A:H2'	29:X:1786:C:C6	2.52	0.43
29:X:166:G:H2'	29:X:182:G:N2	2.34	0.43
29:X:2018:G:O2'	29:X:2019:C:OP1	2.35	0.43
29:X:2351:G:C2	29:X:2352:A:C8	3.07	0.43
29:X:2386:G:O2'	29:X:2387:U:H5'	2.19	0.43
29:X:23:G:C6	29:X:528:G:C6	3.07	0.43
29:X:2594:U:C6	30:Y:7:PRO:HA	2.53	0.43
29:X:1681:A:C2	29:X:2706:U:N1	2.86	0.43
29:X:2876:C:H2'	29:X:2877:A:N9	2.34	0.43
29:X:421:G:O2'	29:X:422:C:H5'	2.18	0.43
29:X:471:A:C2	29:X:481:A:C4	3.06	0.43
29:X:822:G:O2'	29:X:823:U:H5'	2.18	0.43
29:X:82:G:OP2	29:X:82:G:C8	2.72	0.43
29:X:830:C:O2'	29:X:831:G:H5'	2.19	0.43
29:X:840:U:H2'	29:X:2051:U:O2	2.18	0.43
29:X:965:G:H1'	29:X:2253:A:N1	2.32	0.43
31:Z:15:A:C2'	31:Z:16:U:H5''	2.49	0.43
31:Z:42:U:H2'	31:Z:45:C:H5	1.82	0.43
6:A:93:ALA:N	6:A:105:ILE:O	2.41	0.43
6:A:243:GLY:C	6:A:244:ARG:CD	2.87	0.43
8:C:160:ALA:O	8:C:161:ALA:HB2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:59:GLN:O	10:E:60:LYS:C	2.57	0.43
14:I:82:ASP:CA	14:I:114:ILE:HG21	2.48	0.43
18:M:82:PRO:O	18:M:84:ALA:N	2.51	0.43
18:M:98:LYS:HD2	18:M:98:LYS:HA	1.93	0.43
19:N:25:TRP:CE3	19:N:26:GLY:HA3	2.53	0.43
19:N:86:ALA:O	19:N:87:ASN:C	2.56	0.43
22:Q:36:THR:O	22:Q:37:GLU:C	2.57	0.43
22:Q:43:GLN:O	22:Q:47:GLY:N	2.51	0.43
23:R:25:LEU:O	23:R:79:SER:O	2.35	0.43
26:U:24:ALA:C	26:U:26:ALA:N	2.69	0.43
29:X:1053:G:H4'	29:X:1054:C:OP1	2.18	0.43
29:X:588:G:C2	29:X:1275:A:C5	3.06	0.43
29:X:1437:A:O2'	29:X:1438:G:H5'	2.19	0.43
29:X:1459:U:N3	29:X:1475:U:H1'	2.33	0.43
29:X:1692:C:H2'	29:X:1693:A:O4'	2.18	0.43
6:A:159:ALA:HB1	29:X:1812:U:O2	2.18	0.43
29:X:1933:G:H2'	29:X:1934:U:C6	2.52	0.43
29:X:2022:C:C5	29:X:2023:C:C5	3.06	0.43
29:X:2024:U:O2'	29:X:2025:A:H5'	2.18	0.43
29:X:2039:G:C2	29:X:2040:A:C8	3.07	0.43
29:X:2061:C:O4'	29:X:2413:A:O4'	2.36	0.43
29:X:2086:U:H6	29:X:2086:U:O5'	2.00	0.43
29:X:2222:U:O2	29:X:2223:U:C6	2.71	0.43
29:X:2252:A:C2	29:X:2253:A:C4	3.07	0.43
29:X:2345:A:H2'	29:X:2346:G:H8	1.83	0.43
17:L:89:PHE:HE2	29:X:2356:A:HO2'	1.59	0.43
29:X:2371:A:C8	29:X:2372:A:C8	3.06	0.43
29:X:2551:A:HO2'	29:X:2552:C:P	2.40	0.43
29:X:2642:G:C6	29:X:2643:G:C4	3.06	0.43
7:B:109:LYS:NZ	29:X:2703:C:OP2	2.50	0.43
29:X:334:G:O2'	29:X:335:A:P	2.77	0.43
29:X:704:G:C2	29:X:705:C:C2	3.07	0.43
8:C:197:GLU:HG2	8:C:198:GLU:CG	2.48	0.43
8:C:5:ASN:N	8:C:5:ASN:HD22	2.17	0.43
9:D:122:PHE:HD2	9:D:129:ASN:HB2	1.81	0.43
9:D:75:SER:HB2	9:D:79:LEU:CD2	2.49	0.43
10:E:113:VAL:HG11	10:E:151:VAL:CG1	2.49	0.43
11:F:112:MET:C	11:F:114:ASP:H	2.21	0.43
11:F:121:GLU:O	11:F:122:ALA:C	2.56	0.43
12:G:61:ARG:HH11	12:G:65:LYS:HD3	1.83	0.43
13:H:12:ASP:OD1	13:H:12:ASP:O	2.37	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:72:TYR:HB3	14:I:107:LYS:CB	2.48	0.43
14:I:18:ARG:HD2	14:I:21:ARG:CG	2.49	0.43
14:I:32:ARG:HH21	20:O:81:ARG:CG	2.28	0.43
14:I:32:ARG:NH2	20:O:79:GLN:HA	2.33	0.43
15:J:100:PRO:HB2	24:S:74:ARG:HE	1.84	0.43
15:J:33:TYR:O	15:J:106:GLU:HA	2.19	0.43
16:K:25:ALA:CB	16:K:47:PHE:HE2	2.29	0.43
17:L:17:VAL:CG1	17:L:18:ARG:N	2.80	0.43
17:L:28:ARG:HD2	17:L:90:ASP:OD1	2.17	0.43
17:L:90:ASP:CG	17:L:90:ASP:O	2.57	0.43
21:P:112:GLY:O	29:X:1630:A:N6	2.51	0.43
21:P:95:ALA:CB	21:P:126:ILE:HB	2.48	0.43
21:P:33:MET:SD	21:P:37:LYS:NZ	2.91	0.43
21:P:80:LEU:HD21	21:P:90:LEU:HD11	2.00	0.43
23:R:36:VAL:HG12	23:R:37:LEU:N	2.34	0.43
23:R:84:VAL:HG13	23:R:88:THR:O	2.18	0.43
23:R:98:ILE:C	23:R:100:ASP:H	2.14	0.43
29:X:1040:A:N7	29:X:1041:G:C8	2.86	0.43
29:X:1189:G:H8	29:X:1189:G:O5'	2.02	0.43
29:X:1587:A:N1	29:X:1588:A:C6	2.86	0.43
29:X:1605:A:O2'	29:X:1606:C:H5'	2.18	0.43
29:X:1778:U:C2'	29:X:1779:C:C6	2.98	0.43
29:X:1872:A:H1'	29:X:2070:G:O4'	2.19	0.43
29:X:1928:G:N2	29:X:1929:U:C2	2.86	0.43
29:X:197:G:H22	29:X:242:A:H62	1.65	0.43
29:X:204:A:H1'	29:X:205:A:N7	2.33	0.43
29:X:230:C:C2'	29:X:231:G:H5'	2.49	0.43
29:X:2586:G:N1	29:X:2587:G:N3	2.66	0.43
29:X:2790:C:O2'	30:Y:43:HIS:CD2	2.72	0.43
29:X:2876:C:H2'	29:X:2877:A:C5	2.53	0.43
29:X:319:G:C1'	29:X:511:A:O4'	2.66	0.43
29:X:310:A:H2	29:X:331:U:O4'	2.01	0.43
29:X:912:A:O5'	29:X:912:A:H8	2.02	0.43
29:X:982:C:P	29:X:985:G:C8	3.12	0.43
31:Z:15:A:C2	31:Z:71:G:N3	2.85	0.43
6:A:258:LYS:HZ2	6:A:261:ARG:NE	2.13	0.43
6:A:81:ALA:HA	6:A:113:VAL:CG2	2.47	0.43
8:C:111:ARG:NH2	8:C:111:ARG:HG2	2.34	0.43
8:C:108:ILE:O	8:C:112:GLN:N	2.51	0.43
8:C:170:LEU:HA	8:C:170:LEU:HD12	1.80	0.43
8:C:28:HIS:C	8:C:30:VAL:N	2.69	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:105:ASN:O	9:D:109:PRO:HG2	2.19	0.43
12:G:67:ARG:O	12:G:70:PHE:CD2	2.72	0.43
12:G:84:ASN:HA	12:G:153:GLY:O	2.18	0.43
13:H:110:VAL:CG1	13:H:111:PHE:N	2.80	0.43
13:H:115:ALA:C	13:H:117:GLU:N	2.71	0.43
15:J:29:ALA:C	15:J:30:PHE:CD2	2.92	0.43
18:M:104:LEU:O	18:M:107:LEU:HG	2.19	0.43
19:N:106:PHE:O	19:N:107:LYS:C	2.56	0.43
19:N:12:ARG:O	19:N:15:LYS:N	2.51	0.43
19:N:66:ASN:HA	19:N:69:ALA:HB3	2.01	0.43
19:N:78:THR:HG23	19:N:117:ARG:CZ	2.49	0.43
21:P:79:ALA:CB	21:P:85:MET:SD	3.06	0.43
23:R:15:HIS:O	23:R:16:PHE:CB	2.66	0.43
24:S:100:THR:CG2	24:S:101:THR:N	2.81	0.43
25:T:42:GLY:HA3	29:X:2310:G:C4'	2.48	0.43
29:X:1047:G:C2	29:X:1131:G:C4	3.06	0.43
29:X:1099:A:H4'	29:X:1100:G:H8	1.84	0.43
29:X:1122:A:H2'	29:X:1123:G:O5'	2.19	0.43
20:O:22:VAL:HG21	29:X:1173:G:O3'	2.19	0.43
29:X:1287:A:H2'	29:X:1288:A:H5''	1.99	0.43
29:X:1330:G:C4	29:X:1331:G:C8	3.07	0.43
29:X:1399:C:OP2	29:X:1409:U:N3	2.45	0.43
6:A:59:LYS:O	29:X:1584:G:H4'	2.18	0.43
29:X:1611:U:O2'	29:X:1612:U:H5'	2.19	0.43
29:X:168:A:H2'	29:X:169:C:C6	2.54	0.43
9:D:125:ARG:CG	29:X:2294:U:O2'	2.64	0.43
29:X:2404:A:P	29:X:2406:C:H5'	2.59	0.43
29:X:2431:C:C4	29:X:2432:A:C6	3.07	0.43
29:X:2441:U:C2	29:X:2442:C:C6	3.06	0.43
29:X:2503:G:N2	29:X:2504:G:H1'	2.34	0.43
29:X:2516:U:C2	29:X:2517:C:C5	3.06	0.43
29:X:2524:G:O2'	29:X:2525:U:H5'	2.18	0.43
29:X:2630:C:H2'	29:X:2631:C:H6	1.83	0.43
29:X:27:G:N2	29:X:522:G:O2'	2.52	0.43
8:C:34:GLN:CG	29:X:627:A:OP1	2.67	0.43
29:X:710:C:O2'	29:X:711:C:H5'	2.19	0.43
29:X:967:G:H3'	29:X:968:C:H5''	2.00	0.43
31:Z:20:A:C2	31:Z:69:G:O6	2.72	0.43
4:4:25:VAL:HB	4:4:34:GLN:H	1.84	0.43
4:4:25:VAL:HG21	4:4:34:GLN:NE2	2.33	0.43
4:4:7:VAL:HG13	4:4:34:GLN:NE2	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:143:HIS:CD2	6:A:196:VAL:HG12	2.54	0.43
6:A:58:HIS:O	6:A:59:LYS:HB2	2.18	0.43
7:B:179:GLU:HB3	7:B:181:LEU:HG	1.99	0.43
8:C:127:ASP:HB2	8:C:129:LYS:HG2	1.99	0.43
9:D:150:ARG:HG3	9:D:150:ARG:NH1	2.33	0.43
9:D:43:SER:C	9:D:44:LYS:HG3	2.38	0.43
10:E:108:GLY:C	10:E:109:TYR:HD1	2.22	0.43
11:F:61:ALA:O	11:F:64:SER:HB2	2.19	0.43
12:G:131:VAL:O	12:G:134:MET:N	2.51	0.43
12:G:61:ARG:HH22	12:G:78:ASP:CB	2.32	0.43
14:I:47:ALA:C	14:I:49:PHE:N	2.71	0.43
14:I:52:GLY:HA3	14:I:55:ARG:CZ	2.48	0.43
14:I:92:THR:C	14:I:94:GLU:H	2.22	0.43
15:J:31:GLY:HA2	15:J:108:ALA:HB2	2.01	0.43
16:K:18:VAL:HG12	16:K:19:ALA:N	2.34	0.43
17:L:43:ILE:HD12	17:L:43:ILE:N	2.33	0.43
18:M:63:ARG:HG3	18:M:63:ARG:H	1.53	0.43
18:M:55:ILE:CD1	18:M:67:THR:HG22	2.47	0.43
18:M:34:ARG:NH1	18:M:81:PHE:CG	2.86	0.43
23:R:52:ASN:O	23:R:53:VAL:HG23	2.19	0.43
26:U:28:GLY:N	26:U:32:ARG:CD	2.81	0.43
27:V:37:LEU:HD11	29:X:60:A:C4'	2.46	0.43
27:V:4:SER:O	27:V:8:ASN:OD1	2.36	0.43
29:X:1172:U:H2'	29:X:1173:G:H8	1.84	0.43
29:X:1223:G:H5'	29:X:1225:G:O4'	2.18	0.43
29:X:1331:G:N3	29:X:1331:G:H2'	2.33	0.43
29:X:1337:G:N2	29:X:1344:C:C2	2.86	0.43
29:X:1383:C:C4	29:X:1384:G:N7	2.86	0.43
29:X:1454:U:H2'	29:X:1455:C:C6	2.50	0.43
29:X:1687:C:H6	29:X:1687:C:O5'	2.02	0.43
29:X:2215:C:N4	29:X:2216:G:C2	2.86	0.43
29:X:2235:G:N2	29:X:2254:C:C4	2.87	0.43
29:X:2250:G:O5'	29:X:2250:G:H8	2.02	0.43
29:X:2335:U:O2'	29:X:2336:G:H5'	2.19	0.43
29:X:2350:G:C6	29:X:2351:G:N7	2.86	0.43
29:X:2652:G:C4	29:X:2653:A:C8	3.07	0.43
29:X:2806:G:H4'	29:X:2858:A:C6	2.54	0.43
29:X:2825:A:H2'	29:X:2826:C:C6	2.54	0.43
29:X:36:G:C5	29:X:37:C:C5	3.06	0.43
29:X:492:G:HO2'	29:X:493:A:P	2.39	0.43
29:X:586:G:O3'	29:X:1268:U:H4'	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:832:A:C4	29:X:833:A:C8	3.07	0.43
29:X:1276:U:C1'	30:Y:10:LYS:HG3	2.48	0.43
30:Y:32:GLU:OE1	30:Y:37:HIS:O	2.37	0.43
6:A:124:GLU:O	6:A:129:ASN:ND2	2.52	0.43
6:A:62:TYR:HE1	29:X:1808:C:H3'	1.83	0.43
7:B:117:MET:HB2	7:B:136:ARG:HG3	2.01	0.43
7:B:137:ARG:HG2	7:B:137:ARG:NH2	2.34	0.43
7:B:152:LYS:HB2	12:G:106:TYR:CB	2.31	0.43
11:F:54:PRO:CD	11:F:71:THR:O	2.67	0.43
14:I:66:ASN:ND2	14:I:67:ASN:N	2.67	0.43
15:J:48:ILE:O	15:J:51:CYS:N	2.47	0.43
17:L:84:ILE:CD1	17:L:84:ILE:N	2.81	0.43
13:H:83:ARG:HH11	18:M:40:ARG:HD3	1.84	0.43
18:M:80:VAL:HG12	18:M:80:VAL:O	2.19	0.43
18:M:81:PHE:HA	18:M:82:PRO:HD3	1.68	0.43
19:N:107:LYS:O	19:N:108:ALA:C	2.56	0.43
19:N:24:PHE:O	19:N:29:SER:CB	2.67	0.43
21:P:126:ILE:HD12	21:P:126:ILE:C	2.39	0.43
24:S:101:THR:CG2	24:S:135:VAL:HG13	2.48	0.43
24:S:91:PRO:CG	24:S:92:VAL:H	2.32	0.43
24:S:94:VAL:O	24:S:121:GLN:HA	2.19	0.43
29:X:1136:G:N1	29:X:1137:A:N6	2.66	0.43
29:X:1274:C:C2'	29:X:1275:A:O5'	2.67	0.43
29:X:1324:G:O2'	29:X:1325:U:P	2.76	0.43
29:X:1586:A:H2'	29:X:1587:A:C8	2.51	0.43
29:X:1599:G:N2	29:X:1600:U:H1'	2.33	0.43
29:X:177:U:H2'	29:X:178:C:O4'	2.18	0.43
29:X:1789:U:C4	29:X:1811:A:C2	3.07	0.43
29:X:1948:C:C6	29:X:1949:A:C8	3.07	0.43
29:X:2173:G:O2'	29:X:2174:G:H5'	2.19	0.43
29:X:2235:G:N2	29:X:2254:C:N4	2.67	0.43
25:T:17:ASN:OD1	29:X:2240:C:O5'	2.37	0.43
29:X:2327:U:O2'	29:X:2328:G:H5'	2.19	0.43
29:X:2386:G:C4	29:X:2387:U:C5	3.07	0.43
29:X:238:G:O4'	29:X:619:A:H2	2.01	0.43
29:X:2703:C:H2'	29:X:2704:U:C5'	2.48	0.43
29:X:2778:U:H5'	29:X:2779:C:C1'	2.49	0.43
29:X:2871:U:C2	29:X:2872:U:C5	3.07	0.43
29:X:466:A:O2'	29:X:467:U:OP2	2.30	0.43
29:X:522:G:O2'	29:X:523:A:P	2.77	0.43
29:X:549:G:O2'	29:X:550:C:H5'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:603:C:O2	29:X:603:C:C2'	2.64	0.43
29:X:62:U:H4'	29:X:63:A:OP1	2.19	0.43
29:X:778:G:H2'	29:X:779:U:H6	1.83	0.43
29:X:815:A:C5	29:X:816:U:C5	3.07	0.43
29:X:820:U:C2	29:X:821:A:C8	3.07	0.43
30:Y:37:HIS:C	30:Y:38:GLY:O	2.55	0.43
6:A:193:ILE:HA	6:A:193:ILE:HD13	1.92	0.43
8:C:158:ARG:CG	8:C:158:ARG:HH11	2.32	0.43
8:C:162:ARG:NH1	29:X:333:A:C3'	2.77	0.43
9:D:5:LYS:HA	9:D:8:TYR:CB	2.49	0.43
9:D:78:LYS:C	9:D:79:LEU:HD12	2.39	0.43
9:D:37:ASN:HA	9:D:87:ILE:O	2.19	0.43
10:E:117:PRO:HB3	10:E:123:PHE:CD1	2.54	0.43
10:E:9:ILE:HD12	10:E:51:LEU:HA	2.00	0.43
11:F:23:VAL:CA	11:F:26:ALA:HB3	2.43	0.43
13:H:73:VAL:HG21	13:H:123:PHE:CE2	2.54	0.43
14:I:50:GLU:OE1	29:X:678:G:H4'	2.19	0.43
19:N:77:SER:HB2	29:X:1022:A:OP1	2.19	0.43
21:P:109:ARG:HA	21:P:109:ARG:HD2	1.73	0.43
22:Q:35:LYS:CA	22:Q:38:ILE:HG23	2.49	0.43
23:R:93:ARG:CZ	23:R:108:VAL:C	2.87	0.43
23:R:95:ARG:N	23:R:95:ARG:HD2	2.34	0.43
24:S:96:VAL:N	24:S:119:ASN:OD1	2.52	0.43
25:T:20:TYR:HB3	25:T:21:LEU:H	1.64	0.43
22:Q:7:LEU:CD2	27:V:30:PHE:HE2	2.15	0.43
29:X:1004:A:C2'	29:X:1005:U:H5'	2.49	0.43
29:X:1135:C:N3	29:X:1136:G:N7	2.67	0.43
29:X:1153:A:N3	29:X:1155:G:C8	2.87	0.43
29:X:1318:A:H2'	29:X:1319:C:O5'	2.18	0.43
29:X:1478:U:C2	29:X:1479:G:C8	3.07	0.43
29:X:1811:A:H1'	29:X:1813:A:C5	2.53	0.43
29:X:1882:G:N2	29:X:1885:C:N4	2.66	0.43
29:X:2022:C:H2'	29:X:2023:C:O5'	2.19	0.43
29:X:2044:G:O2'	29:X:2046:C:C5	2.71	0.43
29:X:2276:C:O2'	29:X:2277:A:H5'	2.18	0.43
9:D:88:LYS:CE	29:X:2293:G:OP1	2.67	0.43
29:X:2528:G:C2	29:X:2529:G:N7	2.87	0.43
29:X:2695:C:H2'	29:X:2696:A:H8	1.83	0.43
29:X:2714:A:H2'	29:X:2715:C:H6	1.84	0.43
29:X:30:G:H2'	29:X:31:C:H6	1.84	0.43
29:X:312:G:C5	29:X:313:U:C4	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:314:G:C6	29:X:326:A:N1	2.87	0.43
29:X:393:U:H2'	29:X:394:U:C6	2.54	0.43
29:X:430:C:C2	29:X:431:G:C8	3.07	0.43
29:X:577:U:H2'	29:X:579:G:OP2	2.19	0.43
29:X:765:C:N4	29:X:1772:C:C2	2.87	0.43
29:X:83:A:O3'	29:X:84:G:O4'	2.37	0.43
29:X:930:A:C3'	29:X:930:A:C8	3.02	0.43
7:B:155:ARG:HH11	7:B:155:ARG:CG	2.31	0.42
8:C:178:TYR:O	8:C:179:ASP:C	2.56	0.42
9:D:123:ASP:HB2	9:D:127:ASN:O	2.19	0.42
9:D:19:GLN:HB3	9:D:20:PHE:CD1	2.54	0.42
11:F:111:LYS:HB2	11:F:115:LEU:HD11	2.01	0.42
11:F:23:VAL:HB	11:F:34:ILE:HD13	2.00	0.42
11:F:71:THR:HG22	11:F:110:THR:CG2	2.37	0.42
12:G:83:ILE:HB	12:G:154:GLU:HA	2.00	0.42
14:I:76:LYS:HB3	14:I:79:GLN:HE21	1.82	0.42
15:J:34:GLY:C	15:J:119:PHE:HE1	2.23	0.42
15:J:54:VAL:HG12	15:J:55:MET:N	2.33	0.42
15:J:79:PRO:HG2	15:J:88:LYS:HD2	2.01	0.42
17:L:27:LEU:O	17:L:88:VAL:HG23	2.19	0.42
17:L:89:PHE:CD1	17:L:89:PHE:O	2.72	0.42
18:M:93:ILE:CD1	18:M:93:ILE:H	2.32	0.42
19:N:66:ASN:N	19:N:66:ASN:OD1	2.52	0.42
22:Q:36:THR:O	22:Q:39:LYS:N	2.50	0.42
23:R:22:VAL:CG1	23:R:23:ILE:N	2.82	0.42
24:S:43:PHE:O	24:S:44:ARG:C	2.57	0.42
25:T:23:VAL:HA	25:T:38:VAL:HG22	2.01	0.42
25:T:52:GLY:H	25:T:62:LEU:HD22	1.84	0.42
26:U:69:THR:HG23	26:U:75:TYR:HE1	1.82	0.42
29:X:1007:A:N6	29:X:1171:A:C6	2.87	0.42
29:X:1182:U:H2'	29:X:1183:C:O4'	2.19	0.42
29:X:1287:A:C2	29:X:1315:A:H2	2.36	0.42
29:X:1446:U:H2'	29:X:1447:U:H6	1.80	0.42
29:X:1597:A:C2	29:X:1598:C:N3	2.87	0.42
29:X:171:G:O2'	29:X:172:A:H5'	2.18	0.42
29:X:172:A:C6	29:X:175:C:H5	2.32	0.42
29:X:1824:C:H6	29:X:1824:C:O5'	2.02	0.42
29:X:1935:A:C6	29:X:1936:A:N1	2.87	0.42
29:X:1971:C:O2'	29:X:1972:G:H5'	2.19	0.42
29:X:1987:G:C6	29:X:1988:A:C4	3.07	0.42
29:X:212:U:O2'	29:X:213:C:H5'	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2511:G:C5	29:X:2512:A:N7	2.87	0.42
29:X:2759:U:H1'	29:X:2761:A:C6	2.54	0.42
29:X:2813:G:H2'	29:X:2814:G:O4'	2.19	0.42
19:N:28:ARG:HD2	29:X:542:A:H3'	2.01	0.42
29:X:623:G:C2'	29:X:624:A:H5''	2.49	0.42
29:X:788:G:H4'	29:X:789:G:O5'	2.18	0.42
29:X:815:A:C4	29:X:816:U:C6	3.06	0.42
29:X:915:C:H2'	29:X:916:U:H6	1.84	0.42
29:X:982:C:C2'	29:X:983:G:O5'	2.67	0.42
29:X:997:C:O2'	29:X:998:C:H5'	2.19	0.42
31:Z:42:U:H3	31:Z:45:C:H5''	1.84	0.42
31:Z:75:A:C2	31:Z:76:U:C1'	3.01	0.42
6:A:92:ILE:CG2	6:A:104:TYR:HB3	2.48	0.42
6:A:107:ALA:HA	6:A:108:PRO:HD2	1.90	0.42
6:A:214:TRP:HH2	29:X:777:A:P	2.42	0.42
7:B:154:LYS:HZ2	7:B:156:MET:HE3	1.83	0.42
7:B:181:LEU:HD13	18:M:16:ILE:CD1	2.49	0.42
7:B:26:VAL:HG12	7:B:27:LEU:N	2.33	0.42
8:C:112:GLN:HB3	8:C:116:LYS:HZ3	1.82	0.42
8:C:32:THR:HG22	8:C:33:TRP:N	2.33	0.42
8:C:82:VAL:O	8:C:83:ALA:C	2.57	0.42
9:D:108:LEU:O	9:D:109:PRO:C	2.56	0.42
9:D:117:ILE:HD12	9:D:175:LEU:CD1	2.48	0.42
9:D:119:PRO:CG	9:D:120:ASN:N	2.80	0.42
12:G:74:MET:HA	12:G:140:GLN:OE1	2.19	0.42
12:G:33:ILE:O	12:G:69:ASP:OD1	2.36	0.42
13:H:12:ASP:OD1	13:H:12:ASP:C	2.58	0.42
15:J:111:THR:O	15:J:112:GLU:C	2.57	0.42
15:J:95:VAL:CG1	15:J:96:SER:N	2.82	0.42
18:M:11:GLU:O	18:M:13:LEU:N	2.51	0.42
19:N:84:LYS:HA	19:N:92:ARG:NH2	2.34	0.42
19:N:84:LYS:CB	19:N:92:ARG:NH2	2.81	0.42
21:P:110:ALA:HB2	29:X:761:G:O5'	2.18	0.42
23:R:8:SER:O	23:R:9:HIS:C	2.57	0.42
24:S:114:ASP:HB2	24:S:172:LEU:HD12	2.01	0.42
26:U:14:VAL:C	26:U:15:VAL:HG22	2.39	0.42
29:X:1031:C:O2'	29:X:1032:A:P	2.77	0.42
29:X:1159:U:O2'	29:X:1160:C:H5'	2.20	0.42
29:X:1172:U:O2'	29:X:1173:G:H5'	2.19	0.42
29:X:1210:C:C2	29:X:1211:G:C8	3.08	0.42
29:X:1250:A:O2'	29:X:1251:G:C4'	2.67	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1337:G:C5	29:X:1341:G:O6	2.72	0.42
29:X:1391:A:O2'	29:X:1392:U:OP1	2.36	0.42
29:X:1467:U:N3	29:X:1473:U:N3	2.60	0.42
29:X:174:A:N1	29:X:175:C:O2	2.52	0.42
6:A:209:ALA:HB2	29:X:1781:C:H4'	2.00	0.42
29:X:1979:C:O2'	29:X:1980:A:O5'	2.36	0.42
29:X:2240:C:N3	29:X:2241:U:C5	2.87	0.42
29:X:2292:C:C2'	29:X:2293:G:H5'	2.49	0.42
29:X:657:A:O2'	29:X:2330:G:H4'	2.19	0.42
29:X:2423:G:C2'	29:X:2424:G:O5'	2.67	0.42
29:X:2484:G:C6	29:X:2555:G:C5	3.06	0.42
29:X:2493:U:C2	29:X:2494:C:C5	3.06	0.42
29:X:2617:G:C5	29:X:2755:A:C6	3.07	0.42
29:X:2786:G:C6	29:X:2787:A:C5	3.08	0.42
29:X:309:G:H5''	29:X:310:A:OP1	2.19	0.42
29:X:212:U:O2	29:X:443:A:C2	2.72	0.42
29:X:522:G:O2'	29:X:523:A:OP2	2.31	0.42
29:X:544:U:C4	29:X:545:C:N4	2.87	0.42
29:X:577:U:O4	29:X:984:A:OP2	2.37	0.42
29:X:754:G:C6	29:X:755:C:C4	3.07	0.42
31:Z:26:G:H5''	31:Z:27:A:OP1	2.19	0.42
4:4:19:ARG:HH11	4:4:19:ARG:HG3	1.84	0.42
6:A:79:VAL:CG1	6:A:113:VAL:HA	2.49	0.42
7:B:141:ILE:CG2	7:B:154:LYS:NZ	2.82	0.42
7:B:156:MET:CE	29:X:2033:C:H1'	2.50	0.42
7:B:8:LYS:HD3	7:B:190:GLY:O	2.19	0.42
8:C:147:LYS:O	8:C:183:HIS:HB3	2.19	0.42
9:D:58:ALA:O	9:D:62:LEU:CA	2.64	0.42
10:E:139:GLN:O	10:E:143:GLN:HG3	2.18	0.42
11:F:100:ASN:H	11:F:103:GLN:HE22	1.65	0.42
11:F:139:GLU:HG2	11:F:140:GLY:N	2.34	0.42
11:F:25:PRO:HB2	11:F:29:GLN:OE1	2.20	0.42
11:F:27:LEU:HD22	11:F:57:ILE:CD1	2.41	0.42
12:G:139:ARG:HB2	29:X:567:G:OP1	2.19	0.42
12:G:67:ARG:CB	12:G:70:PHE:HA	2.30	0.42
15:J:19:THR:HB	31:Z:93:G:H5'	2.00	0.42
15:J:76:THR:HG22	15:J:89:GLY:C	2.40	0.42
13:H:83:ARG:HE	18:M:40:ARG:NH1	2.17	0.42
19:N:17:VAL:O	19:N:18:LEU:C	2.55	0.42
19:N:94:VAL:O	19:N:95:LEU:C	2.57	0.42
20:O:13:ARG:C	20:O:14:VAL:HG23	2.38	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Q:92:ALA:O	22:Q:93:GLY:C	2.57	0.42
23:R:95:ARG:HG3	23:R:95:ARG:NH1	2.33	0.42
24:S:26:LYS:HE3	24:S:26:LYS:HB2	1.75	0.42
24:S:71:MET:O	24:S:71:MET:CE	2.68	0.42
26:U:49:LYS:HB2	26:U:62:LEU:N	2.35	0.42
27:V:4:SER:HB3	27:V:7:ARG:NE	2.35	0.42
29:X:1025:A:H2'	29:X:1026:U:C6	2.54	0.42
4:4:18:ARG:HG3	29:X:1045:G:H5'	2.00	0.42
29:X:1048:U:H6	29:X:1048:U:O5'	2.02	0.42
29:X:1118:G:C2'	29:X:1119:U:C5'	2.80	0.42
29:X:1191:G:C6	29:X:1192:A:C6	3.07	0.42
29:X:1214:C:O2	29:X:1259:A:C2	2.72	0.42
29:X:127:C:H2'	29:X:128:C:C6	2.55	0.42
29:X:1296:G:H2'	29:X:1298:G:OP2	2.19	0.42
29:X:1490:U:H2'	29:X:1491:C:C6	2.45	0.42
29:X:1505:U:H3'	29:X:1505:U:C6	2.53	0.42
29:X:1737:G:C4	29:X:1738:U:C5	3.07	0.42
29:X:188:G:C2	29:X:189:A:C4	3.08	0.42
29:X:1924:C:C4	29:X:1925:C:N4	2.87	0.42
29:X:2074:U:C4	29:X:2075:U:C4	3.08	0.42
29:X:796:A:O3'	29:X:2567:G:H5''	2.19	0.42
29:X:2613:A:O2'	29:X:2614:A:H5'	2.19	0.42
29:X:2738:A:H2'	29:X:2739:G:O4'	2.20	0.42
29:X:417:C:N3	29:X:419:G:C6	2.87	0.42
29:X:428:A:C2	29:X:429:C:C2	3.07	0.42
29:X:718:A:C8	29:X:740:A:C4	3.07	0.42
29:X:760:U:C1'	30:Y:3:LYS:HE3	2.49	0.42
29:X:807:A:C4	29:X:808:C:C5	3.07	0.42
29:X:862:A:C2'	29:X:863:C:H6	2.17	0.42
29:X:994:A:HO2'	29:X:995:A:P	2.38	0.42
31:Z:52:G:N2	31:Z:53:G:H1'	2.33	0.42
6:A:70:ARG:HH21	6:A:189:CYS:HA	1.85	0.42
9:D:52:LYS:NZ	9:D:149:THR:CA	2.82	0.42
9:D:52:LYS:CE	9:D:56:GLU:OE2	2.67	0.42
9:D:74:ILE:HG12	9:D:80:ARG:CA	2.49	0.42
10:E:72:VAL:C	10:E:74:ASN:N	2.72	0.42
11:F:27:LEU:C	11:F:30:TYR:HD2	2.23	0.42
15:J:86:LYS:HE3	25:T:12:ASN:HA	2.00	0.42
17:L:42:ILE:HD11	17:L:87:VAL:HG13	2.02	0.42
18:M:32:THR:CG2	18:M:33:VAL:N	2.82	0.42
19:N:39:LEU:HA	19:N:42:ALA:CB	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:79:ALA:O	21:P:85:MET:CB	2.64	0.42
22:Q:72:ARG:HH22	29:X:1324:G:C3'	2.31	0.42
22:Q:92:ALA:C	22:Q:94:GLN:N	2.72	0.42
26:U:10:LYS:HE2	26:U:11:LYS:HE2	2.02	0.42
29:X:1050:G:C2'	29:X:1051:U:H5''	2.50	0.42
29:X:1391:A:H1'	29:X:1392:U:C5	2.54	0.42
29:X:1467:U:C2'	29:X:1468:A:OP1	2.67	0.42
6:A:59:LYS:O	29:X:1584:G:C4'	2.68	0.42
29:X:1586:A:N6	29:X:1587:A:N6	2.67	0.42
29:X:1355:A:OP2	29:X:1618:U:O4	2.38	0.42
29:X:1687:C:H2'	29:X:1688:U:O4'	2.20	0.42
29:X:1869:A:O2'	29:X:1870:U:H5'	2.19	0.42
29:X:2196:U:H2'	29:X:2197:U:N1	2.34	0.42
29:X:2257:A:H2'	29:X:2258:G:H5'	2.01	0.42
29:X:2496:C:C6	29:X:2521:A:N7	2.87	0.42
29:X:26:G:H1'	29:X:524:A:N6	2.34	0.42
29:X:630:G:H3'	29:X:631:G:H21	1.84	0.42
29:X:659:G:C6	29:X:660:G:C6	3.07	0.42
29:X:640:C:H4'	29:X:660:G:H21	1.82	0.42
29:X:729:A:H2'	29:X:730:C:C4'	2.46	0.42
29:X:695:G:N2	29:X:809:C:C2	2.87	0.42
29:X:829:C:C2	29:X:1206:G:C2	3.07	0.42
29:X:987:G:C2	29:X:988:G:C8	3.07	0.42
31:Z:18:G:C2'	31:Z:19:C:H5'	2.50	0.42
6:A:166:GLN:NE2	6:A:176:ARG:NH2	2.67	0.42
6:A:172:TYR:CZ	6:A:186:HIS:HB3	2.52	0.42
6:A:200:GLU:O	6:A:202:LYS:N	2.52	0.42
7:B:20:ALA:O	7:B:21:ILE:HG13	2.19	0.42
8:C:147:LYS:O	8:C:184:ASP:N	2.53	0.42
8:C:34:GLN:OE1	8:C:176:ASN:OD1	2.37	0.42
9:D:32:GLU:HB3	9:D:157:VAL:HG12	2.01	0.42
9:D:34:ILE:CD1	9:D:156:ILE:HG12	2.49	0.42
11:F:54:PRO:CB	11:F:70:LYS:HD2	2.50	0.42
12:G:101:THR:CG2	12:G:102:ARG:N	2.81	0.42
12:G:40:ASN:HB3	12:G:78:ASP:OD1	2.19	0.42
13:H:116:ARG:NH1	18:M:38:LYS:CE	2.83	0.42
15:J:67:ILE:HG22	15:J:67:ILE:O	2.18	0.42
15:J:19:THR:HG21	15:J:99:LYS:NZ	2.33	0.42
18:M:25:PRO:HB3	18:M:93:ILE:CD1	2.48	0.42
18:M:67:THR:OG1	18:M:80:VAL:HG22	2.20	0.42
19:N:52:ASN:C	19:N:54:LYS:N	2.70	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:21:ARG:HH22	29:X:1005:U:C1'	2.32	0.42
20:O:26:GLN:CG	20:O:27:GLY:N	2.76	0.42
21:P:35:PRO:HA	21:P:122:SER:OG	2.19	0.42
23:R:38:LEU:HB2	23:R:47:VAL:HG23	2.00	0.42
24:S:128:ARG:H	24:S:130:ILE:HD11	1.85	0.42
28:W:37:THR:O	28:W:41:ARG:HG3	2.19	0.42
11:F:122:ALA:HA	29:X:1092:U:C5'	2.49	0.42
29:X:1101:U:O2	29:X:1113:C:H1'	2.19	0.42
14:I:13:ARG:NE	29:X:1218:C:H1'	2.29	0.42
29:X:1256:C:H2'	29:X:1257:U:H6	1.84	0.42
29:X:1363:C:C2'	29:X:1364:C:H5'	2.48	0.42
29:X:1376:C:C4	29:X:1377:G:N7	2.86	0.42
29:X:1428:G:H2'	29:X:1429:A:OP2	2.19	0.42
29:X:1606:C:H2'	29:X:1607:A:H8	1.85	0.42
29:X:1707:A:C8	29:X:1708:C:C6	3.08	0.42
29:X:1723:U:O2'	29:X:1724:C:P	2.78	0.42
29:X:1858:C:H2'	29:X:1859:A:C8	2.54	0.42
29:X:2003:A:O2'	29:X:2004:U:H3'	2.19	0.42
29:X:2301:A:H2'	29:X:2302:G:C8	2.50	0.42
29:X:837:U:H1'	29:X:2337:A:N7	2.35	0.42
4:4:4:ARG:HH12	29:X:2456:U:H3	1.68	0.42
29:X:2559:U:C5	29:X:2560:G:C5	3.07	0.42
29:X:2594:U:O2	29:X:2595:C:C5	2.73	0.42
29:X:2641:A:O5'	29:X:2641:A:H8	2.03	0.42
29:X:322:A:O2'	29:X:343:A:C5'	2.67	0.42
29:X:341:A:O2'	29:X:342:G:OP1	2.38	0.42
29:X:463:C:O2	29:X:465:C:N4	2.53	0.42
29:X:729:A:C4	29:X:729:A:H3'	2.54	0.42
29:X:807:A:H2'	29:X:808:C:C6	2.55	0.42
29:X:830:C:H2'	29:X:831:G:O4'	2.19	0.42
6:A:106:LEU:HD23	6:A:106:LEU:HA	1.71	0.42
6:A:149:PRO:N	6:A:189:CYS:SG	2.92	0.42
6:A:244:ARG:HB3	6:A:252:LYS:HZ3	1.81	0.42
6:A:243:GLY:N	6:A:244:ARG:HH11	2.17	0.42
9:D:129:ASN:ND2	29:X:2282:G:H1'	2.33	0.42
9:D:15:ALA:O	9:D:18:GLN:C	2.58	0.42
10:E:7:GLN:O	10:E:9:ILE:HG13	2.18	0.42
12:G:157:PRO:C	12:G:159:SER:H	2.23	0.42
12:G:51:LEU:HD13	12:G:88:VAL:HG11	2.02	0.42
14:I:89:ASP:O	14:I:91:ASP:N	2.53	0.42
15:J:31:GLY:HA2	15:J:108:ALA:CB	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:54:THR:HG22	16:K:66:VAL:HG23	2.02	0.42
16:K:73:LYS:HA	16:K:76:VAL:HG12	2.00	0.42
17:L:95:LYS:HD3	31:Z:49:C:O2'	2.20	0.42
18:M:104:LEU:HD23	18:M:104:LEU:HA	1.74	0.42
18:M:22:ARG:CD	18:M:24:LEU:CD2	2.96	0.42
19:N:89:ASP:OD1	20:O:47:PHE:CB	2.68	0.42
20:O:28:GLU:C	20:O:30:GLY:N	2.71	0.42
21:P:100:GLY:C	21:P:101:PRO:O	2.57	0.42
22:Q:39:LYS:O	22:Q:42:ILE:CG2	2.67	0.42
22:Q:69:ILE:HB	22:Q:70:GLY:H	1.42	0.42
23:R:105:ARG:NH1	23:R:112:LYS:CA	2.79	0.42
23:R:23:ILE:HD12	23:R:23:ILE:N	2.27	0.42
25:T:14:ARG:O	25:T:15:ASP:HB2	2.19	0.42
27:V:25:LEU:CD2	27:V:47:ARG:HG2	2.50	0.42
27:V:6:MET:O	27:V:14:PHE:HE1	2.02	0.42
29:X:1032:A:C8	29:X:1032:A:C3'	3.03	0.42
29:X:1032:A:O2'	29:X:1134:C:H5''	2.19	0.42
29:X:1094:C:H6	29:X:1094:C:O5'	2.02	0.42
29:X:1231:A:C5	29:X:1232:U:C4	3.08	0.42
29:X:1287:A:N3	29:X:1310:C:H1'	2.35	0.42
29:X:1571:G:N2	29:X:1572:C:C2	2.88	0.42
29:X:1670:G:C4'	29:X:1671:A:OP1	2.55	0.42
29:X:1778:U:C2'	29:X:1779:C:H6	2.24	0.42
29:X:177:U:H3'	29:X:178:C:C6	2.54	0.42
29:X:1791:C:C5'	29:X:1792:C:OP1	2.66	0.42
29:X:1968:G:O2'	29:X:1969:G:H5'	2.19	0.42
29:X:210:A:H2'	29:X:211:U:H5'	2.02	0.42
29:X:2470:U:C2'	29:X:2470:U:O2	2.63	0.42
29:X:2627:G:C6	29:X:2652:G:C5	3.07	0.42
29:X:2656:G:O2'	29:X:2657:G:H5'	2.19	0.42
29:X:2810:A:C2	29:X:2853:U:C4	3.07	0.42
29:X:387:A:C2	29:X:388:G:C8	3.08	0.42
29:X:566:U:C2	29:X:567:G:C8	3.07	0.42
19:N:37:GLN:NE2	29:X:572:G:N3	2.68	0.42
29:X:599:A:H2'	29:X:600:G:C8	2.55	0.42
29:X:602:C:H2'	29:X:603:C:H6	1.85	0.42
29:X:629:C:H2'	29:X:630:G:O4'	2.19	0.42
4:4:13:ASN:O	4:4:15:LYS:HG3	2.20	0.42
4:4:15:LYS:O	4:4:17:VAL:HG23	2.19	0.42
4:4:30:VAL:C	4:4:32:HIS:H	2.23	0.42
6:A:96:HIS:CE1	6:A:100:GLY:HA2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:56:ARG:NH1	29:X:814:G:OP2	2.53	0.42
10:E:126:PRO:CG	10:E:127:GLU:N	2.70	0.42
10:E:115:ILE:HD11	10:E:151:VAL:HG21	2.00	0.42
10:E:9:ILE:HB	10:E:50:LEU:HB3	2.01	0.42
12:G:32:TYR:OH	12:G:35:LYS:NZ	2.47	0.42
16:K:103:ARG:O	16:K:107:GLY:HA2	2.19	0.42
16:K:27:ALA:O	16:K:30:ARG:N	2.50	0.42
17:L:29:LEU:HD12	17:L:41:GLN:O	2.19	0.42
17:L:36:LYS:N	17:L:36:LYS:HD2	2.34	0.42
23:R:25:LEU:HD12	23:R:81:VAL:H	1.82	0.42
23:R:60:PRO:C	23:R:62:MET:N	2.73	0.42
24:S:24:TYR:HB2	24:S:25:ASN:H	1.68	0.42
24:S:30:VAL:HG12	24:S:31:SER:O	2.20	0.42
25:T:20:TYR:O	25:T:21:LEU:CG	2.68	0.42
26:U:11:LYS:NZ	26:U:75:TYR:CG	2.87	0.42
26:U:17:SER:CB	26:U:44:ALA:HA	2.49	0.42
26:U:53:GLU:CB	26:U:56:GLN:O	2.68	0.42
27:V:37:LEU:C	27:V:37:LEU:CD2	2.88	0.42
11:F:11:GLN:HB2	29:X:1072:U:O4	2.19	0.42
29:X:1122:A:C2'	29:X:1123:G:H4'	2.50	0.42
29:X:1386:A:H5''	29:X:2191:A:H62	1.78	0.42
29:X:1496:G:C2'	29:X:1497:C:O5'	2.67	0.42
29:X:1525:A:H2'	29:X:1526:U:H5'	2.02	0.42
22:Q:56:MET:SD	29:X:1618:U:O4	2.77	0.42
29:X:1674:C:O2'	29:X:1675:C:H5'	2.20	0.42
29:X:1701:C:C2	29:X:1722:G:N2	2.87	0.42
29:X:1759:A:C6	29:X:1968:G:C6	3.07	0.42
29:X:1973:C:H6	29:X:1973:C:O5'	2.02	0.42
29:X:2309:G:H2'	29:X:2310:G:O4'	2.19	0.42
29:X:2324:G:H4'	29:X:2326:C:H5''	2.01	0.42
29:X:2399:C:O5'	29:X:2399:C:H6	2.02	0.42
29:X:2703:C:H2'	29:X:2704:U:O5'	2.19	0.42
29:X:2707:G:H2'	29:X:2708:U:C6	2.55	0.42
29:X:416:U:H5''	29:X:419:G:H4'	2.01	0.42
29:X:531:G:N2	29:X:532:A:C4	2.87	0.42
29:X:749:C:C2	29:X:750:C:C5	3.08	0.42
29:X:931:G:C5	29:X:932:G:C8	3.08	0.42
29:X:953:G:O5'	29:X:953:G:H8	2.03	0.42
6:A:263:ARG:O	6:A:264:LYS:C	2.58	0.42
8:C:112:GLN:NE2	8:C:188:ILE:HD11	2.34	0.42
8:C:39:ARG:HG2	8:C:39:ARG:HH11	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:25:LYS:O	10:E:26:VAL:HG23	2.19	0.42
14:I:117:ALA:CB	14:I:137:GLY:HA3	2.49	0.42
15:J:99:LYS:HA	15:J:99:LYS:HD2	1.81	0.42
16:K:76:VAL:HA	16:K:79:VAL:CG1	2.50	0.42
19:N:12:ARG:HB2	19:N:13:ARG:H	1.67	0.42
19:N:32:TYR:O	19:N:33:ARG:C	2.58	0.42
20:O:22:VAL:CG2	29:X:1173:G:C4'	2.87	0.42
20:O:61:VAL:N	20:O:92:ALA:O	2.50	0.42
22:Q:57:ASN:OD1	22:Q:76:LYS:HD2	2.20	0.42
23:R:93:ARG:CG	23:R:94:VAL:HG23	2.50	0.42
24:S:141:MET:HB3	24:S:171:VAL:HG23	2.01	0.42
24:S:172:LEU:CD2	24:S:173:PRO:HD2	2.50	0.42
29:X:1030:U:H5''	29:X:1132:C:O2	2.19	0.42
4:4:36:GLN:NE2	29:X:1135:C:H1'	2.34	0.42
29:X:1318:A:C2'	29:X:1319:C:O5'	2.67	0.42
29:X:1299:A:C4	29:X:1342:U:C4	3.07	0.42
29:X:137:A:H2'	29:X:138:G:H5'	2.01	0.42
29:X:1512:A:N3	29:X:1593:C:O2'	2.51	0.42
29:X:1629:G:C2'	29:X:1633:C:N4	2.81	0.42
29:X:1715:A:H4'	29:X:1716:G:O5'	2.20	0.42
29:X:1727:C:H4'	29:X:2833:C:N3	2.34	0.42
29:X:1790:G:C4	29:X:1811:A:N6	2.88	0.42
29:X:1807:A:OP2	29:X:1814:G:H5''	2.20	0.42
29:X:1876:C:C5	29:X:1877:C:C5	3.08	0.42
29:X:2007:G:O2'	29:X:2008:C:H5'	2.20	0.42
29:X:2210:C:O2	29:X:2211:U:C6	2.73	0.42
29:X:2290:A:N1	29:X:2291:U:C4	2.88	0.42
29:X:2299:A:C2'	29:X:2312:A:N6	2.83	0.42
29:X:2519:C:H2'	29:X:2520:A:H5'	2.02	0.42
29:X:2005:U:H2'	29:X:2595:C:O2'	2.20	0.42
7:B:154:LYS:HE2	29:X:2598:C:H1'	2.01	0.42
29:X:2027:C:C2	29:X:2604:G:C2	3.07	0.42
29:X:2624:G:H5''	29:X:2625:U:OP2	2.19	0.42
29:X:2860:C:C2'	29:X:2861:A:H5'	2.50	0.42
29:X:43:A:N1	29:X:44:G:C6	2.88	0.42
29:X:559:C:O2	29:X:560:G:H1'	2.19	0.42
29:X:580:A:C6	29:X:584:A:C8	3.07	0.42
29:X:587:A:H2'	29:X:588:G:H5''	2.01	0.42
29:X:651:C:N4	29:X:658:G:H1	2.18	0.42
29:X:677:G:C2	29:X:678:G:C8	3.08	0.42
29:X:6:A:C5	29:X:7:G:N7	2.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:36:ARG:CZ	30:Y:20:ARG:NH1	2.83	0.42
31:Z:15:A:N1	31:Z:71:G:H2'	2.34	0.42
4:4:31:LYS:H	4:4:31:LYS:HD2	1.81	0.42
6:A:250:TRP:O	6:A:255:LYS:CE	2.68	0.42
7:B:134:TRP:CD1	7:B:134:TRP:N	2.72	0.42
8:C:117:LEU:HD23	8:C:117:LEU:O	2.20	0.42
8:C:137:ALA:HB1	8:C:142:LEU:HB2	2.02	0.42
8:C:161:ALA:CB	8:C:169:VAL:CG2	2.98	0.42
9:D:53:ALA:O	9:D:56:GLU:HB2	2.20	0.42
10:E:140:LEU:HD23	10:E:140:LEU:HA	1.84	0.42
12:G:105:GLY:O	12:G:110:LEU:CD1	2.64	0.42
13:H:47:VAL:CG1	13:H:117:GLU:HB3	2.50	0.42
14:I:8:PRO:C	29:X:1218:C:HO2'	2.23	0.42
16:K:97:ILE:HA	16:K:112:LEU:O	2.20	0.42
19:N:75:ASN:ND2	19:N:77:SER:HB3	2.34	0.42
23:R:15:HIS:CE1	23:R:16:PHE:CE2	3.08	0.42
23:R:48:VAL:C	23:R:50:GLY:N	2.73	0.42
24:S:139:THR:O	24:S:140:LYS:C	2.57	0.42
24:S:13:LYS:CB	24:S:13:LYS:HZ2	2.31	0.42
26:U:33:LYS:HD3	29:X:2375:G:H1'	2.01	0.42
26:U:46:LEU:HA	26:U:47:HIS:CE1	2.54	0.42
29:X:1125:G:O2'	29:X:1126:A:H5'	2.20	0.42
29:X:1153:A:O2'	29:X:1154:A:O5'	2.38	0.42
29:X:1888:C:H2'	29:X:1913:G:N7	2.35	0.42
29:X:1992:G:O2'	29:X:1993:G:H5'	2.20	0.42
29:X:2057:U:H5'	29:X:2058:U:OP2	2.19	0.42
29:X:1873:A:H4'	29:X:2069:U:H4'	2.02	0.42
29:X:21:A:N1	29:X:530:G:C6	2.88	0.42
29:X:923:A:H2	29:X:2256:G:N3	2.17	0.42
29:X:2312:A:O2'	29:X:2313:G:P	2.78	0.42
29:X:2534:U:C5	29:X:2535:C:C2	3.07	0.42
29:X:2814:G:C5	29:X:2815:C:C4	3.07	0.42
29:X:2869:U:H2'	29:X:2870:C:O4'	2.20	0.42
29:X:346:C:O2	29:X:347:C:C6	2.73	0.42
29:X:403:A:H4'	29:X:404:A:C5'	2.50	0.42
29:X:33:C:O2	29:X:466:A:C2	2.73	0.42
29:X:783:G:C6	29:X:784:U:N3	2.87	0.42
29:X:788:G:H5'	29:X:790:A:O4'	2.20	0.42
6:A:265:THR:C	6:A:267:ASP:N	2.71	0.42
7:B:95:ILE:HA	7:B:95:ILE:HD13	1.65	0.42
8:C:173:ALA:C	8:C:175:VAL:N	2.72	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:106:ILE:HG23	9:D:110:ARG:HD2	2.01	0.42
9:D:135:GLN:HG3	9:D:151:GLY:N	2.35	0.42
9:D:33:LYS:H	9:D:157:VAL:HB	1.85	0.42
9:D:32:GLU:N	9:D:157:VAL:O	2.49	0.42
9:D:156:ILE:CG2	9:D:158:THR:HG23	2.49	0.42
9:D:92:ARG:HH12	31:Z:46:G:C3'	2.32	0.42
13:H:9:ASP:OD1	13:H:93:ARG:CZ	2.68	0.42
15:J:17:ARG:NH1	29:X:969:U:C5'	2.75	0.42
15:J:39:GLU:HA	15:J:40:PRO:HD3	1.74	0.42
16:K:51:LEU:HD12	16:K:66:VAL:HG22	2.01	0.42
16:K:78:LYS:HG2	16:K:83:VAL:HG12	2.02	0.42
17:L:33:ARG:CZ	17:L:103:LEU:HD12	2.49	0.42
17:L:44:ASP:O	17:L:44:ASP:OD1	2.38	0.42
18:M:18:GLN:C	18:M:20:HIS:H	2.23	0.42
18:M:70:LYS:HG2	18:M:71:ILE:N	2.34	0.42
21:P:45:ILE:HD13	21:P:53:ALA:HB1	2.02	0.42
22:Q:39:LYS:O	22:Q:42:ILE:HG23	2.20	0.42
24:S:4:THR:HB	24:S:57:GLU:CB	2.44	0.42
25:T:11:LYS:H	25:T:11:LYS:HG3	1.77	0.42
25:T:41:ARG:NH1	25:T:41:ARG:HG3	2.33	0.42
26:U:27:ASP:CA	26:U:32:ARG:CD	2.95	0.42
26:U:46:LEU:HD23	26:U:46:LEU:N	2.35	0.42
29:X:984:A:C8	29:X:1202:U:N3	2.88	0.42
29:X:1441:A:O2'	29:X:1442:C:OP2	2.34	0.42
29:X:1445:A:H2'	29:X:1446:U:H6	1.84	0.42
29:X:148:C:H3'	29:X:149:A:H8	1.84	0.42
29:X:1682:A:C2'	29:X:1683:G:H5'	2.50	0.42
6:A:209:ALA:HA	29:X:1782:A:H5'	2.02	0.42
29:X:1147:G:O2'	29:X:2022:C:H5''	2.20	0.42
29:X:2054:A:H2'	29:X:2055:G:H8	1.85	0.42
29:X:2542:U:O2	29:X:2544:A:C8	2.70	0.42
29:X:2546:G:O2'	29:X:2547:C:H5'	2.20	0.42
7:B:154:LYS:HE3	29:X:2598:C:H1'	2.02	0.42
29:X:2792:C:N3	29:X:2805:G:C2	2.88	0.42
29:X:2829:A:H2'	29:X:2830:U:H6	1.83	0.42
29:X:328:A:O2'	29:X:329:C:H5'	2.20	0.42
29:X:404:A:C5	29:X:405:C:C5	3.07	0.42
29:X:200:A:C6	29:X:435:A:C5	3.08	0.42
29:X:60:A:C6	29:X:61:U:C4	3.07	0.42
29:X:879:A:OP1	29:X:879:A:C8	2.73	0.42
3:3:12:ARG:CA	14:I:62:LYS:HB3	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:101:GLU:OE2	6:A:103:ARG:NE	2.53	0.41
6:A:264:LYS:HA	6:A:264:LYS:HD2	1.83	0.41
7:B:85:ALA:HB3	7:B:86:PRO:HD2	2.02	0.41
8:C:122:GLY:O	8:C:123:PHE:C	2.58	0.41
8:C:158:ARG:HH11	8:C:158:ARG:CB	2.32	0.41
8:C:50:GLN:CG	8:C:50:GLN:O	2.68	0.41
9:D:16:LEU:HD22	9:D:20:PHE:CE1	2.55	0.41
10:E:109:TYR:HE1	10:E:152:ARG:NE	2.16	0.41
14:I:105:PRO:C	14:I:106:VAL:HG23	2.40	0.41
15:J:36:ILE:HA	15:J:102:ARG:O	2.20	0.41
15:J:23:LYS:HA	24:S:73:LYS:HZ3	1.83	0.41
15:J:75:VAL:CG2	15:J:93:TYR:HE2	2.32	0.41
17:L:98:GLY:O	17:L:99:ARG:C	2.58	0.41
19:N:117:ARG:HG3	19:N:117:ARG:NH2	2.34	0.41
20:O:86:HIS:CD2	20:O:87:ARG:N	2.88	0.41
21:P:42:VAL:HG12	21:P:42:VAL:O	2.19	0.41
26:U:23:LYS:HE3	26:U:26:ALA:CA	2.49	0.41
27:V:47:ARG:O	27:V:50:VAL:N	2.52	0.41
29:X:1002:C:H2'	29:X:1003:C:H6	1.84	0.41
29:X:1200:G:H2'	29:X:1201:G:H8	1.85	0.41
29:X:1247:U:C2'	29:X:1248:G:H5'	2.50	0.41
29:X:1248:G:O5'	29:X:1248:G:H8	2.03	0.41
29:X:1426:U:O2'	29:X:1427:G:H5'	2.20	0.41
29:X:1778:U:C6	29:X:1779:C:H5	2.38	0.41
29:X:2217:G:H2'	29:X:2217:G:N3	2.34	0.41
29:X:2219:U:O2'	29:X:2220:A:H5'	2.19	0.41
29:X:2343:C:H2'	29:X:2344:G:H5'	2.02	0.41
29:X:2381:A:C2'	29:X:2382:C:OP2	2.68	0.41
29:X:2440:C:C4	29:X:2441:U:O4	2.72	0.41
29:X:2707:G:C8	29:X:2707:G:H5'	2.55	0.41
29:X:612:G:H2'	29:X:668:A:H61	1.85	0.41
29:X:847:C:C2	29:X:848:A:N7	2.88	0.41
15:J:12:LYS:HD3	29:X:923:A:C5	2.55	0.41
6:A:160:GLY:N	6:A:196:VAL:CG2	2.84	0.41
8:C:102:LEU:CD2	8:C:106:MET:CE	2.98	0.41
8:C:32:THR:O	8:C:33:TRP:C	2.59	0.41
9:D:13:ARG:HG2	9:D:13:ARG:NH2	2.35	0.41
9:D:70:ALA:HB3	9:D:83:MET:H	1.84	0.41
10:E:106:ASN:N	10:E:107:ILE:HD13	2.35	0.41
10:E:131:ILE:CG2	10:E:132:ASP:N	2.82	0.41
12:G:132:PHE:CB	12:G:145:HIS:CE1	3.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:57:LEU:CD2	12:G:170:PRO:HA	2.51	0.41
15:J:119:PHE:HD1	15:J:132:MET:HG3	1.84	0.41
18:M:72:SER:HG	18:M:73:PHE:HD1	1.68	0.41
19:N:40:LEU:HA	19:N:40:LEU:HD23	1.80	0.41
12:G:66:HIS:HB3	19:N:67:ALA:O	2.20	0.41
21:P:62:ARG:CG	21:P:62:ARG:HH11	2.29	0.41
21:P:71:VAL:HG11	21:P:126:ILE:CG2	2.50	0.41
24:S:55:THR:HG22	24:S:55:THR:O	2.19	0.41
24:S:72:ASP:N	24:S:77:ALA:O	2.49	0.41
27:V:50:VAL:CA	27:V:53:LEU:HD12	2.33	0.41
28:W:46:THR:HG22	28:W:47:VAL:N	2.35	0.41
29:X:117:A:H4'	29:X:118:U:O5'	2.20	0.41
20:O:78:VAL:CG2	29:X:1202:U:H5'	2.50	0.41
29:X:1426:U:H2'	29:X:1427:G:C5'	2.50	0.41
29:X:1495:G:H5'	29:X:1574:A:H2	1.85	0.41
6:A:59:LYS:CG	29:X:1584:G:H4'	2.50	0.41
29:X:1693:A:N6	29:X:1694:A:C6	2.88	0.41
29:X:1730:G:C4	29:X:1737:G:N2	2.88	0.41
29:X:2029:G:N2	29:X:2030:U:C2	2.88	0.41
29:X:2261:G:H5'	29:X:2262:C:O5'	2.20	0.41
29:X:312:G:C4	29:X:313:U:C5	3.08	0.41
29:X:356:A:H2'	29:X:357:A:N7	2.35	0.41
29:X:400:U:H4'	29:X:401:G:O4'	2.19	0.41
29:X:404:A:C6	29:X:405:C:N3	2.87	0.41
29:X:439:C:O2'	29:X:440:U:H5'	2.19	0.41
29:X:471:A:C2	29:X:481:A:C5	3.08	0.41
21:P:82:ASN:ND2	29:X:505:G:N3	2.68	0.41
29:X:518:A:C4'	29:X:518:A:OP2	2.67	0.41
29:X:586:G:C6	29:X:587:A:N6	2.87	0.41
29:X:618:A:O2'	29:X:619:A:H5'	2.20	0.41
29:X:665:A:C2	29:X:666:U:C6	3.08	0.41
29:X:59:G:H1'	29:X:73:A:C2	2.55	0.41
29:X:751:G:O2'	29:X:752:G:OP1	2.35	0.41
29:X:767:G:O2'	29:X:768:U:H5'	2.20	0.41
29:X:973:U:O2'	29:X:974:U:H5'	2.19	0.41
31:Z:68:A:C2	31:Z:111:C:C2	3.09	0.41
31:Z:23:G:C6	31:Z:24:U:C4	3.08	0.41
6:A:133:LEU:HB2	6:A:187:SER:HA	2.03	0.41
6:A:151:LYS:HD2	6:A:151:LYS:HA	1.87	0.41
6:A:209:ALA:HB2	29:X:1781:C:C2'	2.49	0.41
6:A:258:LYS:HZ2	6:A:261:ARG:HH21	1.67	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:130:THR:HA	8:C:160:ALA:HB1	2.01	0.41
9:D:46:ASP:O	9:D:50:ILE:HG13	2.20	0.41
10:E:102:ALA:HB1	10:E:115:ILE:O	2.21	0.41
10:E:164:PHE:O	10:E:165:VAL:C	2.58	0.41
10:E:89:LEU:HD11	10:E:96:ALA:HB2	2.02	0.41
11:F:63:ARG:N	11:F:63:ARG:CD	2.83	0.41
11:F:51:ALA:CB	11:F:72:PRO:HB2	2.51	0.41
11:F:98:LYS:HE2	11:F:139:GLU:HB2	2.01	0.41
13:H:100:ASN:C	13:H:102:GLN:H	2.23	0.41
13:H:28:GLY:O	13:H:35:THR:OG1	2.38	0.41
13:H:41:ASN:O	13:H:42:LYS:C	2.58	0.41
14:I:126:SER:O	14:I:130:ILE:HG13	2.20	0.41
14:I:83:LEU:HA	14:I:83:LEU:HD23	1.80	0.41
17:L:10:LYS:HB2	17:L:14:ARG:NH2	2.15	0.41
19:N:78:THR:O	19:N:81:ASN:N	2.53	0.41
21:P:9:ARG:HB3	21:P:13:GLN:HB2	2.02	0.41
23:R:18:LYS:C	23:R:36:VAL:HB	2.40	0.41
24:S:43:PHE:CD1	24:S:66:VAL:HG21	2.55	0.41
24:S:71:MET:CE	24:S:71:MET:H	2.33	0.41
25:T:43:THR:HG22	25:T:46:LYS:HG2	2.02	0.41
26:U:41:VAL:CG2	26:U:43:ARG:NH2	2.81	0.41
27:V:1:MET:O	27:V:6:MET:HE1	2.20	0.41
29:X:102:C:C5	29:X:103:U:C4	3.08	0.41
29:X:1217:U:H2'	29:X:1218:C:H6	1.85	0.41
29:X:123:A:O4'	29:X:123:A:OP1	2.38	0.41
29:X:1526:U:H2'	29:X:1527:G:C8	2.55	0.41
29:X:1697:U:H2'	29:X:1698:C:O4'	2.20	0.41
29:X:18:U:H6	29:X:18:U:O5'	2.04	0.41
29:X:1991:C:H2'	29:X:1992:G:C8	2.51	0.41
29:X:2041:A:O5'	29:X:2041:A:H8	2.03	0.41
29:X:219:G:H2'	29:X:231:G:C6	2.55	0.41
29:X:2528:G:C2	29:X:2529:G:C8	3.08	0.41
29:X:2626:U:O2'	29:X:2627:G:H5'	2.20	0.41
29:X:2670:C:C6	29:X:2847:G:C6	3.08	0.41
29:X:2731:G:N3	29:X:2731:G:O4'	2.53	0.41
29:X:2611:A:C2	29:X:2767:C:C2	3.08	0.41
29:X:2781:G:C3'	29:X:2782:G:H5''	2.49	0.41
29:X:308:C:H2'	29:X:309:G:O4'	2.20	0.41
29:X:351:A:C6	29:X:352:G:C4	3.08	0.41
29:X:53:G:C6	29:X:115:G:N2	2.89	0.41
29:X:628:A:H2'	29:X:629:C:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:803:C:H4'	29:X:804:C:OP1	2.15	0.41
29:X:815:A:C4	29:X:816:U:C5	3.08	0.41
31:Z:16:U:HO2'	31:Z:17:A:P	2.42	0.41
9:D:24:SER:OG	31:Z:57:U:O3'	2.37	0.41
4:4:25:VAL:CB	4:4:34:GLN:HB2	2.48	0.41
6:A:126:LYS:O	6:A:129:ASN:HB2	2.21	0.41
6:A:148:VAL:C	6:A:189:CYS:SG	2.99	0.41
6:A:210:GLY:O	6:A:213:ARG:HB2	2.20	0.41
6:A:244:ARG:HE	6:A:244:ARG:HB2	1.69	0.41
7:B:77:ILE:O	7:B:78:LEU:HD23	2.19	0.41
8:C:47:THR:HA	8:C:82:VAL:O	2.21	0.41
9:D:71:LYS:C	9:D:73:SER:N	2.74	0.41
10:E:69:ARG:O	10:E:70:THR:C	2.57	0.41
11:F:13:PRO:HG3	11:F:52:ILE:CD1	2.50	0.41
12:G:50:PRO:HD3	29:X:1152:C:H42	1.85	0.41
13:H:83:ARG:HD2	13:H:89:ILE:HD11	2.01	0.41
14:I:107:LYS:HB2	14:I:107:LYS:HE2	1.87	0.41
18:M:104:LEU:HD23	18:M:106:TYR:HE2	1.84	0.41
19:N:75:ASN:ND2	19:N:78:THR:H	2.18	0.41
20:O:39:PHE:CE1	20:O:46:VAL:HB	2.56	0.41
23:R:84:VAL:HG22	23:R:90:LYS:N	2.35	0.41
23:R:93:ARG:HH22	23:R:108:VAL:HG12	1.85	0.41
24:S:116:VAL:HG12	24:S:117:VAL:CG1	2.50	0.41
25:T:3:HIS:CG	25:T:4:LYS:N	2.89	0.41
25:T:40:GLN:NE2	25:T:57:HIS:HB3	2.29	0.41
26:U:17:SER:HB2	26:U:44:ALA:CA	2.50	0.41
29:X:1042:G:H2'	29:X:1043:A:H8	1.85	0.41
29:X:1129:A:C6	29:X:1130:U:N3	2.89	0.41
29:X:1438:G:H2'	29:X:1439:G:C8	2.56	0.41
29:X:1658:A:N6	29:X:1659:G:C2	2.88	0.41
29:X:1781:C:H2'	29:X:1782:A:C5	2.55	0.41
29:X:1933:G:N7	29:X:1934:U:C5	2.88	0.41
29:X:1939:U:O2	29:X:1939:U:H2'	2.19	0.41
29:X:2082:C:C2'	29:X:2083:G:H5''	2.50	0.41
29:X:21:A:H2'	29:X:22:C:C6	2.54	0.41
29:X:2301:A:O2'	29:X:2302:G:H5'	2.21	0.41
29:X:2006:G:H5'	29:X:2596:C:H4'	2.02	0.41
29:X:2779:C:C6	29:X:2779:C:C3'	3.03	0.41
29:X:2799:C:N3	29:X:2800:C:C2	2.89	0.41
29:X:459:A:C2	29:X:466:A:C8	3.09	0.41
29:X:820:U:H2'	29:X:821:A:C8	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:117:VAL:HG13	6:A:128:GLY:O	2.21	0.41
8:C:177:VAL:O	8:C:180:ILE:HG23	2.20	0.41
8:C:61:GLN:CD	29:X:688:A:H4'	2.40	0.41
9:D:146:VAL:HB	9:D:147:ASP:H	1.62	0.41
9:D:35:VAL:CG1	9:D:36:VAL:H	2.29	0.41
10:E:41:LEU:HD22	10:E:64:LEU:HD22	2.02	0.41
10:E:9:ILE:CD1	10:E:51:LEU:HA	2.50	0.41
11:F:11:GLN:HG2	11:F:11:GLN:O	2.21	0.41
11:F:12:LEU:HD12	11:F:37:PHE:CZ	2.56	0.41
11:F:38:THR:C	11:F:42:ASN:HD22	2.23	0.41
12:G:45:ASP:OD1	12:G:47:SER:N	2.47	0.41
14:I:28:LYS:NZ	14:I:37:GLN:N	2.58	0.41
15:J:79:PRO:CG	15:J:88:LYS:HD2	2.49	0.41
16:K:31:GLU:C	16:K:33:ARG:H	2.22	0.41
16:K:60:LEU:O	16:K:63:ARG:HB3	2.20	0.41
17:L:10:LYS:HB3	17:L:14:ARG:HE	1.85	0.41
13:H:116:ARG:CZ	18:M:38:LYS:HD3	2.50	0.41
20:O:13:ARG:CB	20:O:13:ARG:CZ	2.98	0.41
24:S:5:ALA:HB1	24:S:7:PRO:HD3	2.03	0.41
27:V:42:ARG:CZ	27:V:46:LEU:HD21	2.51	0.41
29:X:1424:U:H2'	29:X:1425:G:C8	2.56	0.41
29:X:1625:A:C2	29:X:1632:A:C4	3.09	0.41
29:X:1732:U:H4'	29:X:1733:U:OP2	2.20	0.41
29:X:1742:G:C2	29:X:1743:C:C4	3.09	0.41
29:X:1845:A:N3	29:X:2212:U:O2'	2.45	0.41
29:X:1915:A:H61	29:X:1951:G:H1'	1.85	0.41
29:X:1978:U:H3'	29:X:1979:C:C5'	2.30	0.41
29:X:2047:C:H1'	29:X:2429:A:C5	2.56	0.41
29:X:2070:G:C6	29:X:2212:U:N3	2.89	0.41
29:X:210:A:C2'	29:X:211:U:H5'	2.49	0.41
17:L:14:ARG:HH12	29:X:2274:C:H5	1.69	0.41
29:X:2434:G:N1	29:X:2477:C:N4	2.69	0.41
29:X:2564:U:H4'	29:X:2565:C:OP1	2.21	0.41
29:X:2566:A:N6	29:X:2587:G:H1'	2.35	0.41
29:X:24:G:C5	29:X:25:U:C5	3.09	0.41
7:B:82:ARG:NH2	29:X:2617:G:OP2	2.53	0.41
29:X:2650:G:C5	29:X:2651:U:C5	3.08	0.41
29:X:2684:A:C4	29:X:2685:A:C8	3.08	0.41
29:X:312:G:C6	29:X:328:A:C6	3.08	0.41
29:X:584:A:OP1	29:X:584:A:H8	2.04	0.41
29:X:59:G:C5	29:X:62:U:C4	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:618:A:C2	29:X:619:A:C4	3.08	0.41
29:X:630:G:H3'	29:X:631:G:N2	2.36	0.41
29:X:640:C:N4	29:X:641:G:O6	2.54	0.41
29:X:812:G:C6	29:X:813:A:C6	3.08	0.41
29:X:920:G:C2'	29:X:921:A:O5'	2.69	0.41
29:X:994:A:O2'	29:X:995:A:P	2.79	0.41
29:X:1997:A:O2'	30:Y:3:LYS:HE2	2.20	0.41
6:A:48:ARG:CZ	6:A:48:ARG:HB3	2.50	0.41
7:B:16:LYS:O	7:B:17:ASN:HB2	2.20	0.41
8:C:22:VAL:HG21	8:C:110:SER:OG	2.20	0.41
8:C:191:ALA:O	8:C:192:ALA:C	2.57	0.41
9:D:53:ALA:O	9:D:54:ALA:C	2.58	0.41
9:D:71:LYS:O	9:D:72:LYS:HB2	2.20	0.41
10:E:95:ARG:O	10:E:106:ASN:HB3	2.20	0.41
10:E:84:THR:HB	10:E:134:SER:CB	2.50	0.41
10:E:64:LEU:CA	10:E:67:LEU:HB2	2.49	0.41
15:J:136:GLU:CA	15:J:138:TYR:CE2	3.04	0.41
15:J:27:TYR:OH	24:S:76:ARG:HG2	2.20	0.41
15:J:80:ALA:C	15:J:81:GLU:OE1	2.59	0.41
21:P:29:LYS:O	21:P:30:TYR:HB2	2.20	0.41
21:P:49:SER:C	21:P:51:GLN:N	2.73	0.41
22:Q:12:ILE:O	22:Q:13:SER:OG	2.37	0.41
23:R:17:LYS:HB3	23:R:18:LYS:NZ	2.36	0.41
23:R:94:VAL:C	23:R:95:ARG:HH11	2.24	0.41
24:S:125:PRO:CG	24:S:126:GLY:N	2.83	0.41
24:S:11:LYS:C	24:S:13:LYS:H	2.17	0.41
27:V:39:GLN:O	27:V:42:ARG:HB3	2.20	0.41
27:V:50:VAL:HA	27:V:53:LEU:CD1	2.34	0.41
19:N:93:LYS:HG2	29:X:1007:A:O2'	2.20	0.41
29:X:1149:G:N3	29:X:1154:A:C2	2.77	0.41
29:X:1153:A:C4	29:X:1155:G:C5	3.09	0.41
29:X:1164:C:O2'	29:X:1165:G:H5'	2.20	0.41
29:X:1473:U:C2'	29:X:1474:A:OP2	2.68	0.41
29:X:184:A:H2'	29:X:185:C:O4'	2.21	0.41
29:X:1982:C:O2	29:X:2666:U:O2'	2.30	0.41
29:X:1281:A:C2	29:X:1996:A:C4	3.09	0.41
29:X:2171:U:C4	29:X:2172:U:C4	3.09	0.41
29:X:2201:G:C2	29:X:2202:G:C8	3.09	0.41
29:X:2378:G:H2'	29:X:2379:G:O4'	2.19	0.41
29:X:242:A:H2'	29:X:243:G:C1'	2.50	0.41
29:X:2441:U:N3	29:X:2442:C:C5	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2513:A:C6	29:X:2514:G:C8	3.09	0.41
10:E:158:HIS:NE2	29:X:2638:G:OP1	2.41	0.41
29:X:2673:G:H2'	29:X:2674:C:H6	1.86	0.41
29:X:2728:A:H2'	29:X:2729:A:H8	1.86	0.41
29:X:2798:A:C5	29:X:2799:C:C5	3.08	0.41
29:X:339:U:O4	29:X:343:A:C8	2.73	0.41
29:X:341:A:O2'	29:X:342:G:P	2.78	0.41
29:X:447:U:O2'	29:X:448:C:C5	2.72	0.41
29:X:468:A:H1'	29:X:470:U:C6	2.55	0.41
29:X:524:A:O2'	29:X:525:A:H5'	2.21	0.41
15:J:66:TYR:CE2	29:X:886:A:H4'	2.55	0.41
29:X:930:A:H3'	29:X:930:A:C8	2.55	0.41
29:X:942:U:O2	29:X:942:U:H2'	2.19	0.41
29:X:95:G:O2'	29:X:96:C:H5'	2.20	0.41
6:A:186:HIS:ND1	6:A:186:HIS:N	2.69	0.41
6:A:218:LYS:CD	6:A:218:LYS:O	2.69	0.41
6:A:227:ASN:HD21	29:X:797:A:C5'	2.34	0.41
6:A:61:LEU:HD23	6:A:61:LEU:HA	1.81	0.41
7:B:11:MET:HG2	7:B:24:THR:OG1	2.21	0.41
7:B:131:SER:C	7:B:132:LYS:CG	2.80	0.41
7:B:31:CYS:HA	7:B:32:PRO:HD3	1.75	0.41
8:C:163:ASN:O	8:C:164:VAL:O	2.38	0.41
9:D:144:ASP:O	9:D:145:MET:HG2	2.20	0.41
10:E:106:ASN:H	10:E:107:ILE:HD13	1.85	0.41
10:E:148:VAL:O	10:E:150:LYS:N	2.53	0.41
10:E:18:ASN:C	10:E:20:GLN:N	2.73	0.41
10:E:24:PHE:CD1	10:E:24:PHE:N	2.88	0.41
11:F:25:PRO:CG	11:F:26:ALA:N	2.83	0.41
12:G:96:ASP:OD1	12:G:97:ASP:HB2	2.21	0.41
14:I:134:GLU:C	14:I:136:ALA:N	2.74	0.41
16:K:38:LEU:O	16:K:41:ALA:HB3	2.20	0.41
16:K:76:VAL:O	16:K:79:VAL:HG12	2.19	0.41
17:L:104:ALA:O	17:L:107:ALA:N	2.54	0.41
17:L:99:ARG:HG2	31:Z:51:G:OP1	2.21	0.41
17:L:33:ARG:NH1	17:L:99:ARG:O	2.54	0.41
13:H:90:ARG:NH2	18:M:78:GLU:CD	2.71	0.41
18:M:87:LEU:O	18:M:87:LEU:HD13	2.20	0.41
20:O:25:LEU:HG	20:O:32:LYS:HZ3	1.85	0.41
20:O:29:ALA:O	20:O:30:GLY:C	2.57	0.41
20:O:9:GLY:O	20:O:10:LYS:CB	2.67	0.41
23:R:84:VAL:CA	23:R:90:LYS:HD3	2.24	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:45:GLN:HB2	24:S:46:GLN:H	1.71	0.41
24:S:46:GLN:O	24:S:47:SER:C	2.59	0.41
26:U:23:LYS:HD2	26:U:35:THR:CB	2.50	0.41
26:U:50:ALA:HB3	26:U:52:ARG:NH2	2.24	0.41
26:U:53:GLU:HB3	26:U:58:LYS:N	2.36	0.41
27:V:48:ARG:NE	29:X:75:C:OP1	2.53	0.41
29:X:1081:A:C5	29:X:1108:U:H4'	2.56	0.41
29:X:1170:U:O2'	29:X:1171:A:H5'	2.21	0.41
29:X:1211:G:N2	29:X:1263:G:C5	2.89	0.41
29:X:1313:U:O2'	29:X:1314:A:OP2	2.36	0.41
29:X:1494:G:H2'	29:X:1495:G:O4'	2.21	0.41
29:X:1509:A:C2'	29:X:1510:A:H5'	2.49	0.41
29:X:1547:U:H2'	29:X:1548:U:H6	1.85	0.41
29:X:1707:A:C8	29:X:1708:C:C5	3.09	0.41
29:X:2328:G:H8	29:X:2328:G:OP2	2.03	0.41
29:X:2373:C:H2'	29:X:2374:C:H6	1.84	0.41
29:X:204:A:N7	29:X:2386:G:H5'	2.36	0.41
15:J:125:LYS:HB2	29:X:2463:G:H1'	2.03	0.41
29:X:318:G:H21	29:X:341:A:H62	1.69	0.41
29:X:541:C:O2'	29:X:542:A:P	2.79	0.41
29:X:657:A:N3	29:X:2329:C:O2'	2.47	0.41
29:X:887:G:O2'	29:X:888:G:H5'	2.20	0.41
6:A:108:PRO:HG2	6:A:111:LEU:HG	2.02	0.41
6:A:67:PHE:CE1	6:A:157:ARG:NH2	2.89	0.41
8:C:33:TRP:CH2	8:C:100:ARG:HD2	2.55	0.41
9:D:167:ARG:O	9:D:168:ALA:C	2.58	0.41
9:D:79:LEU:HA	9:D:80:ARG:NH1	2.34	0.41
9:D:61:THR:HG22	9:D:99:PHE:CE2	2.56	0.41
10:E:77:LYS:HA	10:E:80:SER:CB	2.51	0.41
14:I:88:PHE:O	14:I:93:LEU:HB2	2.21	0.41
15:J:69:ILE:HG21	15:J:104:MET:HA	1.98	0.41
15:J:119:PHE:HA	15:J:122:ALA:HB3	2.02	0.41
15:J:104:MET:CE	15:J:130:THR:HG21	2.50	0.41
16:K:71:HIS:ND1	16:K:71:HIS:N	2.68	0.41
20:O:35:LEU:CD2	20:O:36:LYS:N	2.84	0.41
24:S:36:ARG:C	24:S:40:ASP:OD2	2.59	0.41
29:X:1006:C:HO2'	29:X:1007:A:C5'	2.34	0.41
29:X:1053:G:O6	29:X:1124:U:O4	2.39	0.41
29:X:1166:A:C3'	29:X:1167:A:H5''	2.50	0.41
29:X:1355:A:H1'	29:X:1410:U:H4'	2.02	0.41
29:X:1569:A:C4	29:X:1571:G:C8	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1687:C:OP2	29:X:1688:U:O4	2.39	0.41
29:X:1794:A:H2'	29:X:1795:C:H5'	2.02	0.41
29:X:1811:A:HO2'	29:X:1812:U:P	2.44	0.41
29:X:1879:G:H2'	29:X:1880:G:O4'	2.21	0.41
29:X:1759:A:N1	29:X:1968:G:C6	2.89	0.41
29:X:2299:A:O2'	29:X:2312:A:N6	2.54	0.41
29:X:2309:G:O2'	29:X:2310:G:H5'	2.21	0.41
29:X:2472:U:H2'	29:X:2473:G:O4'	2.20	0.41
29:X:2229:G:H2'	29:X:2475:C:OP1	2.21	0.41
29:X:2510:A:N6	29:X:2511:G:C6	2.88	0.41
29:X:2519:C:C2'	29:X:2520:A:H5'	2.50	0.41
29:X:2587:G:C8	29:X:2587:G:H3'	2.56	0.41
29:X:2701:A:O2'	29:X:2702:G:H5'	2.21	0.41
29:X:1981:A:O3'	29:X:2704:U:H4'	2.20	0.41
29:X:2505:G:H5'	29:X:2722:C:O2'	2.20	0.41
29:X:2733:A:O5'	29:X:2733:A:H8	2.04	0.41
29:X:340:G:OP1	29:X:340:G:H3'	2.20	0.41
29:X:516:G:O2'	29:X:517:A:C8	2.50	0.41
29:X:620:G:C4	29:X:621:U:C5	3.09	0.41
29:X:656:U:C2'	29:X:657:A:OP2	2.69	0.41
29:X:760:U:C4	30:Y:3:LYS:CG	2.95	0.41
15:J:70:PHE:CG	29:X:884:C:H4'	2.56	0.41
29:X:861:G:N2	29:X:943:U:H1'	2.36	0.41
28:W:7:ARG:HD3	29:X:999:A:OP1	2.21	0.41
4:4:24:LEU:HG	4:4:35:ARG:CG	2.41	0.41
6:A:124:GLU:CB	6:A:126:LYS:HD2	2.51	0.41
8:C:23:ASN:C	8:C:27:LEU:HD12	2.41	0.41
10:E:155:ASP:OD2	10:E:158:HIS:HB2	2.20	0.41
10:E:175:LYS:HD3	10:E:175:LYS:HA	1.89	0.41
10:E:20:GLN:O	10:E:21:ASP:HB2	2.20	0.41
12:G:61:ARG:HH22	12:G:78:ASP:HB2	1.84	0.41
14:I:92:THR:O	14:I:95:ALA:N	2.53	0.41
15:J:68:ARG:HE	15:J:103:VAL:HG11	1.86	0.41
19:N:25:TRP:CE3	19:N:26:GLY:CA	3.03	0.41
19:N:86:ALA:C	19:N:88:ILE:H	2.22	0.41
20:O:26:GLN:CG	20:O:27:GLY:H	2.09	0.41
24:S:89:GLY:C	24:S:127:PRO:HD2	2.41	0.41
25:T:5:LYS:HD2	25:T:5:LYS:N	2.36	0.41
26:U:39:LYS:HB3	26:U:40:ARG:H	1.59	0.41
28:W:45:LYS:CE	28:W:45:LYS:HA	2.51	0.41
5:5:6:BB9:O	29:X:1106:A:H1'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1142:G:O2'	29:X:1143:A:O5'	2.39	0.41
29:X:1211:G:C2	29:X:1263:G:C5	3.09	0.41
29:X:1281:A:H2'	29:X:1282:A:O4'	2.20	0.41
29:X:1355:A:C2'	29:X:1357:U:OP2	2.69	0.41
29:X:1429:A:C2'	29:X:1430:G:H4'	2.51	0.41
29:X:1438:G:C2	29:X:1591:U:C2	3.09	0.41
29:X:1494:G:HO2'	29:X:1574:A:H2	1.69	0.41
29:X:1505:U:C6	29:X:1505:U:C3'	3.04	0.41
29:X:1623:C:O2'	29:X:1624:A:OP2	2.34	0.41
29:X:1641:C:O2	29:X:1641:C:C2'	2.64	0.41
29:X:1695:U:C2'	29:X:1696:C:H5'	2.51	0.41
29:X:176:A:N6	29:X:2413:A:C5	2.89	0.41
29:X:1811:A:C4	29:X:1813:A:N1	2.89	0.41
29:X:1830:C:N4	29:X:1881:U:H2'	2.36	0.41
29:X:2046:C:N3	29:X:2429:A:N6	2.61	0.41
29:X:2264:C:C4'	29:X:2267:A:C6	3.03	0.41
29:X:2281:C:C2	29:X:2282:G:C8	3.09	0.41
29:X:2394:G:C6	29:X:2395:C:C4	3.08	0.41
29:X:2371:A:C2	29:X:2408:G:C2	3.09	0.41
29:X:2433:G:C5	29:X:2434:G:N7	2.89	0.41
10:E:172:LYS:CD	29:X:2508:G:OP2	2.69	0.41
29:X:2578:G:C2	29:X:2579:A:C8	3.08	0.41
29:X:2649:A:C2	29:X:2650:G:C4	3.09	0.41
29:X:2676:G:C2	29:X:2690:A:C2	3.09	0.41
29:X:2800:C:C5	29:X:2801:A:C8	3.09	0.41
29:X:2864:C:H2'	29:X:2864:C:O2	2.21	0.41
29:X:492:G:C2'	29:X:493:A:OP2	2.68	0.41
29:X:497:C:C4'	29:X:497:C:C6	3.03	0.41
29:X:551:A:H2'	29:X:552:C:O4'	2.20	0.41
29:X:643:A:N3	29:X:2382:C:H1'	2.36	0.41
29:X:658:G:H4'	29:X:2330:G:H5''	2.03	0.41
29:X:685:U:O2'	29:X:686:C:C5'	2.63	0.41
29:X:925:U:C4'	29:X:926:C:OP1	2.63	0.41
29:X:971:A:H4'	29:X:2436:U:C4'	2.50	0.41
29:X:760:U:H1'	30:Y:3:LYS:HE3	2.01	0.41
31:Z:70:C:H2'	31:Z:71:G:O4'	2.21	0.41
4:4:20:HIS:O	4:4:22:ARG:N	2.53	0.41
4:4:25:VAL:HG12	4:4:25:VAL:O	2.21	0.41
4:4:11:CYS:SG	4:4:32:HIS:CE1	3.14	0.41
6:A:218:LYS:CD	6:A:218:LYS:C	2.84	0.41
6:A:262:LYS:O	6:A:263:ARG:C	2.58	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:88:ARG:O	6:A:89:SER:HB3	2.21	0.41
8:C:137:ALA:HA	8:C:142:LEU:HD12	2.03	0.41
8:C:60:GLY:O	8:C:62:LYS:N	2.54	0.41
8:C:67:ALA:O	8:C:68:ARG:HB3	2.21	0.41
9:D:120:ASN:O	9:D:122:PHE:CD1	2.74	0.41
9:D:138:PHE:CB	9:D:141:ILE:HG12	2.51	0.41
9:D:91:LEU:HB3	9:D:96:MET:HA	2.03	0.41
10:E:148:VAL:C	10:E:150:LYS:N	2.74	0.41
10:E:28:GLY:HA3	10:E:79:VAL:HB	2.02	0.41
11:F:20:ALA:N	11:F:21:PRO:CD	2.68	0.41
12:G:125:ARG:O	12:G:126:VAL:C	2.59	0.41
12:G:153:GLY:CA	12:G:157:PRO:HG2	2.51	0.41
14:I:9:THR:OG1	14:I:13:ARG:CZ	2.69	0.41
14:I:90:ARG:O	14:I:91:ASP:HB3	2.21	0.41
16:K:94:TYR:CD1	16:K:115:LEU:O	2.74	0.41
16:K:22:ARG:O	16:K:25:ALA:HB3	2.21	0.41
17:L:101:LYS:O	17:L:102:ALA:O	2.38	0.41
17:L:64:LYS:HA	17:L:67:THR:OG1	2.20	0.41
18:M:22:ARG:CD	18:M:24:LEU:HD21	2.50	0.41
19:N:4:ALA:HB3	29:X:1262:U:H5'	2.02	0.41
20:O:61:VAL:HG23	20:O:94:LYS:N	2.30	0.41
21:P:107:ILE:HA	21:P:108:PRO:HD3	1.94	0.41
24:S:13:LYS:HZ2	24:S:18:MET:CB	2.33	0.41
24:S:22:VAL:HG22	24:S:80:HIS:CE1	2.56	0.41
24:S:91:PRO:CG	24:S:92:VAL:N	2.84	0.41
27:V:42:ARG:HD2	27:V:42:ARG:HA	1.91	0.41
27:V:47:ARG:O	27:V:48:ARG:C	2.57	0.41
29:X:1014:G:C6	29:X:1015:U:C4	3.09	0.41
5:5:10:TS9:CD1	29:X:1078:A:H1'	2.51	0.41
29:X:1244:U:C2	29:X:1245:G:C8	3.09	0.41
29:X:1299:A:C6	29:X:1302:C:C4	3.09	0.41
29:X:1309:G:C2'	29:X:1310:C:O5'	2.68	0.41
29:X:1347:C:H2'	29:X:1348:C:O5'	2.20	0.41
29:X:1350:G:H2'	29:X:1351:G:O4'	2.21	0.41
29:X:1414:G:C5	29:X:1415:C:C4	3.09	0.41
29:X:1526:U:H3'	29:X:1527:G:C8	2.56	0.41
29:X:1672:A:H3'	29:X:1673:C:C5	2.55	0.41
29:X:1683:G:O2'	29:X:1684:G:H5'	2.21	0.41
29:X:1737:G:O2'	29:X:1738:U:H5'	2.20	0.41
29:X:179:U:H2'	29:X:180:C:O4'	2.21	0.41
29:X:2209:G:C6	29:X:2210:C:N4	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2238:G:C6	29:X:2239:C:C4	3.09	0.41
29:X:872:G:C1'	29:X:2247:A:H1'	2.50	0.41
29:X:2262:C:H2'	29:X:2263:C:O4'	2.20	0.41
29:X:2307:A:C2	29:X:2308:A:C5	3.09	0.41
29:X:2543:A:C2	29:X:2626:U:C4'	3.03	0.41
21:P:134:LYS:HD3	29:X:2776:U:O2	2.21	0.41
29:X:33:C:O2'	29:X:34:U:O4'	2.39	0.41
29:X:644:A:C8	29:X:645:G:H1'	2.55	0.41
29:X:730:C:H4'	29:X:731:A:OP1	2.21	0.41
29:X:759:C:C4'	29:X:759:C:C6	3.04	0.41
27:V:51:ALA:HB3	29:X:75:C:H4'	2.03	0.41
6:A:160:GLY:N	6:A:196:VAL:HG23	2.34	0.41
7:B:52:ALA:HA	18:M:5:ILE:CG2	2.50	0.41
8:C:17:LEU:HA	8:C:18:PRO:HD3	1.79	0.41
8:C:77:PHE:O	8:C:79:GLY:N	2.54	0.41
8:C:47:THR:HG23	8:C:84:PHE:H	1.82	0.41
9:D:175:LEU:CG	9:D:177:PHE:HE1	2.34	0.41
10:E:143:GLN:HG2	29:X:2725:C:C2'	2.51	0.41
10:E:27:LYS:HA	10:E:32:GLU:HA	2.01	0.41
12:G:155:THR:CG2	12:G:156:HIS:H	2.24	0.41
13:H:23:ARG:HH22	13:H:25:LEU:N	2.18	0.41
14:I:71:THR:HG21	14:I:104:ARG:CZ	2.51	0.41
14:I:17:LYS:HE2	29:X:1258:G:OP2	2.21	0.41
17:L:54:ALA:CB	17:L:75:LEU:CA	2.99	0.41
18:M:104:LEU:HA	18:M:106:TYR:HE2	1.82	0.41
19:N:91:ASN:O	19:N:92:ARG:HB2	2.21	0.41
21:P:102:THR:HG22	21:P:104:LYS:HD3	2.01	0.41
23:R:25:LEU:CD1	23:R:81:VAL:N	2.83	0.41
23:R:84:VAL:CG2	23:R:89:GLY:CA	2.94	0.41
25:T:3:HIS:HB2	25:T:5:LYS:HE2	2.03	0.41
26:U:54:ASN:C	26:U:56:GLN:N	2.58	0.41
27:V:31:GLN:CA	27:V:34:ALA:HB3	2.49	0.41
27:V:56:VAL:O	27:V:57:LYS:C	2.59	0.41
27:V:4:SER:O	27:V:7:ARG:HG3	2.21	0.41
29:X:1023:U:O2	29:X:1154:A:H8	2.04	0.41
29:X:1098:G:H8	29:X:1098:G:P	2.44	0.41
12:G:130:ALA:CB	29:X:1149:G:OP1	2.69	0.41
29:X:1211:G:C2	29:X:1263:G:C6	3.09	0.41
29:X:1514:C:C1'	29:X:1593:C:H4'	2.51	0.41
29:X:1423:A:C2	29:X:1609:G:C2	3.09	0.41
29:X:172:A:H2'	29:X:175:C:H42	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1876:C:H2'	29:X:1877:C:H5'	2.02	0.41
29:X:1923:U:O2'	29:X:1924:C:P	2.79	0.41
29:X:2004:U:H4'	29:X:2005:U:OP2	2.15	0.41
29:X:208:C:H2'	29:X:209:G:C5'	2.50	0.41
29:X:2187:A:N6	29:X:2188:A:N6	2.69	0.41
6:A:172:TYR:HH	29:X:2202:G:P	2.44	0.41
14:I:53:ARG:NE	29:X:227:G:HO2'	2.18	0.41
29:X:2332:G:H2'	29:X:2333:A:O4'	2.21	0.41
29:X:2691:C:H1'	29:X:2692:A:C8	2.55	0.41
29:X:2698:G:H2'	29:X:2699:G:H8	1.86	0.41
7:B:109:LYS:NZ	29:X:2703:C:OP1	2.50	0.41
29:X:2869:U:O2'	29:X:2870:C:H5'	2.21	0.41
29:X:417:C:C4	29:X:419:G:C5	3.09	0.41
29:X:464:G:C6	29:X:465:C:N4	2.89	0.41
29:X:466:A:H4'	29:X:467:U:O5'	2.20	0.41
29:X:847:C:H2'	29:X:848:A:O4'	2.21	0.41
30:Y:15:LYS:O	30:Y:16:ARG:C	2.57	0.41
30:Y:19:ARG:C	30:Y:21:SER:N	2.70	0.41
31:Z:5:C:C2'	31:Z:6:C:O4'	2.68	0.41
6:A:209:ALA:O	29:X:742:G:N7	2.54	0.40
6:A:214:TRP:CH2	29:X:777:A:P	3.14	0.40
6:A:245:VAL:N	6:A:252:LYS:HE2	2.36	0.40
6:A:71:ASP:OD2	6:A:103:ARG:NH1	2.54	0.40
6:A:73:SER:HB2	6:A:120:GLY:HA3	2.03	0.40
7:B:117:MET:CB	7:B:136:ARG:HG3	2.51	0.40
7:B:27:LEU:HD22	7:B:51:TYR:OH	2.21	0.40
7:B:97:ALA:O	7:B:98:GLU:C	2.57	0.40
8:C:144:GLY:HA3	8:C:166:TRP:NE1	2.36	0.40
12:G:141:GLY:O	12:G:144:MET:N	2.55	0.40
12:G:154:GLU:O	12:G:157:PRO:CD	2.69	0.40
13:H:116:ARG:CZ	18:M:38:LYS:CD	2.98	0.40
15:J:135:ARG:HB3	15:J:136:GLU:H	1.72	0.40
15:J:86:LYS:O	15:J:87:GLY:O	2.39	0.40
17:L:12:ARG:O	17:L:16:LYS:HB2	2.21	0.40
20:O:20:ILE:O	20:O:21:ARG:O	2.38	0.40
21:P:37:LYS:HZ3	21:P:64:ALA:CA	2.34	0.40
21:P:28:ALA:HB2	21:P:71:VAL:HG22	2.02	0.40
22:Q:43:GLN:HA	22:Q:48:VAL:O	2.21	0.40
23:R:28:LYS:HG2	23:R:29:HIS:CD2	2.55	0.40
23:R:29:HIS:O	23:R:32:GLN:HB2	2.21	0.40
24:S:39:PHE:CE1	24:S:81:VAL:HG11	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:W:3:ILE:CG2	28:W:4:LYS:N	2.84	0.40
29:X:1007:A:O2'	29:X:1008:G:H5'	2.22	0.40
29:X:1018:C:C4	29:X:1019:U:H5	2.40	0.40
29:X:1145:C:C6	29:X:1147:G:OP1	2.74	0.40
29:X:1460:G:C6	29:X:1461:C:C4	3.09	0.40
29:X:1581:C:O2'	29:X:1582:A:O5'	2.27	0.40
29:X:1511:A:H2	29:X:1594:U:H1'	1.85	0.40
29:X:1710:U:O2'	29:X:1711:C:P	2.79	0.40
29:X:172:A:H2'	29:X:175:C:N4	2.35	0.40
29:X:1730:G:N2	29:X:1731:C:H1'	2.37	0.40
6:A:62:TYR:CE1	29:X:1808:C:H3'	2.56	0.40
29:X:1850:G:H2'	29:X:1851:A:H8	1.85	0.40
29:X:1678:G:C4	29:X:1983:G:N2	2.90	0.40
29:X:224:G:N2	29:X:227:G:H3'	2.36	0.40
29:X:2557:G:H2'	29:X:2558:C:C6	2.56	0.40
29:X:2645:C:H3'	29:X:2646:C:H6	1.84	0.40
29:X:311:A:C5	29:X:345:U:C4'	3.04	0.40
29:X:391:C:C2'	29:X:392:G:H5'	2.51	0.40
29:X:487:G:N2	29:X:490:A:O4'	2.54	0.40
29:X:664:C:O3'	29:X:665:A:H3'	2.21	0.40
29:X:70:A:C4'	29:X:71:A:H3'	2.46	0.40
29:X:759:C:C3'	29:X:759:C:C6	3.04	0.40
6:A:217:ARG:NH1	29:X:793:G:OP1	2.53	0.40
29:X:825:C:H1'	29:X:1263:G:N2	2.36	0.40
29:X:939:C:H4'	29:X:940:G:O5'	2.20	0.40
31:Z:26:G:O3'	31:Z:27:A:O4'	2.40	0.40
9:D:92:ARG:NH1	31:Z:46:G:C5'	2.76	0.40
6:A:134:ARG:NH2	6:A:135:PHE:CZ	2.85	0.40
6:A:144:ALA:O	6:A:153:ALA:HA	2.21	0.40
6:A:52:ARG:HH11	6:A:247:VAL:HG11	1.87	0.40
6:A:43:ARG:NH1	6:A:43:ARG:CB	2.69	0.40
6:A:52:ARG:HH21	6:A:53:PHE:HZ	1.69	0.40
7:B:56:GLU:C	7:B:58:LYS:H	2.23	0.40
8:C:164:VAL:C	8:C:166:TRP:N	2.74	0.40
9:D:106:ILE:CG2	9:D:110:ARG:HD2	2.50	0.40
9:D:122:PHE:HA	29:X:2282:G:C4'	2.43	0.40
9:D:41:GLY:HA2	9:D:44:LYS:O	2.21	0.40
10:E:33:LEU:CG	10:E:34:THR:H	2.34	0.40
10:E:89:LEU:HD13	10:E:95:ARG:CA	2.42	0.40
11:F:54:PRO:HB2	11:F:70:LYS:HD2	2.04	0.40
12:G:88:VAL:HG22	12:G:89:ALA:H	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:88:VAL:HG13	12:G:89:ALA:N	2.36	0.40
13:H:108:THR:O	13:H:109:ARG:HB3	2.22	0.40
13:H:83:ARG:HH11	18:M:40:ARG:NE	2.19	0.40
14:I:56:LEU:C	14:I:58:ALA:O	2.59	0.40
15:J:91:VAL:O	15:J:92:GLU:C	2.58	0.40
17:L:69:ALA:CB	17:L:106:ALA:HB2	2.51	0.40
18:M:11:GLU:C	18:M:13:LEU:N	2.70	0.40
7:B:53:PRO:HG2	18:M:6:LYS:NZ	2.35	0.40
19:N:5:LYS:HB3	19:N:7:GLY:H	1.86	0.40
20:O:78:VAL:HG22	29:X:1202:U:C5'	2.51	0.40
21:P:19:LYS:O	21:P:20:LEU:CB	2.67	0.40
22:Q:69:ILE:HD13	22:Q:70:GLY:N	2.36	0.40
24:S:51:LEU:CD2	24:S:51:LEU:N	2.74	0.40
25:T:9:SER:O	25:T:10:SER:O	2.40	0.40
26:U:40:ARG:HG2	26:U:40:ARG:HH21	1.87	0.40
26:U:62:LEU:HD23	26:U:67:LEU:HG	2.03	0.40
29:X:126:C:C2	29:X:127:C:C5	3.09	0.40
29:X:1379:A:H2'	29:X:1380:C:C6	2.56	0.40
29:X:1477:C:H1'	29:X:2681:A:N3	2.36	0.40
29:X:1506:C:H2'	29:X:1507:A:H5'	2.03	0.40
29:X:1739:G:H2'	29:X:1740:G:C8	2.56	0.40
29:X:1764:A:C2'	29:X:1765:C:H5'	2.49	0.40
29:X:1807:A:P	29:X:1814:G:H4'	2.61	0.40
29:X:2028:C:C2	29:X:2603:G:C2	3.09	0.40
29:X:2047:C:C4	29:X:2048:C:N4	2.90	0.40
29:X:2071:G:C5	29:X:2072:C:C5	3.09	0.40
29:X:2195:C:C2'	29:X:2196:U:C6	2.84	0.40
29:X:2209:G:C4	29:X:2210:C:H5	2.40	0.40
29:X:2231:G:C6	29:X:2232:G:N7	2.89	0.40
29:X:2280:A:C6	29:X:2281:C:N4	2.90	0.40
29:X:2377:U:O5'	29:X:2377:U:H6	2.04	0.40
29:X:2529:G:C6	29:X:2530:C:C4	3.10	0.40
29:X:2718:A:H2'	29:X:2719:U:O5'	2.21	0.40
8:C:75:PRO:O	29:X:594:G:H4'	2.21	0.40
29:X:760:U:O5'	29:X:760:U:H6	2.04	0.40
29:X:956:A:C5	29:X:2427:A:N1	2.90	0.40
29:X:577:U:O5'	29:X:956:A:N6	2.54	0.40
6:A:97:TYR:O	6:A:99:ASP:N	2.55	0.40
7:B:37:LYS:CG	7:B:42:ASP:OD1	2.70	0.40
8:C:111:ARG:HA	8:C:111:ARG:HD3	1.86	0.40
8:C:130:THR:O	8:C:133:PHE:N	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:33:TRP:O	8:C:36:ALA:HB3	2.21	0.40
9:D:148:LYS:O	9:D:149:THR:OG1	2.21	0.40
9:D:154:ILE:HD12	9:D:154:ILE:N	2.36	0.40
10:E:38:ASN:ND2	10:E:64:LEU:HD11	2.37	0.40
11:F:12:LEU:CD1	11:F:37:PHE:HE2	2.34	0.40
11:F:81:ALA:O	11:F:82:ALA:HB2	2.21	0.40
13:H:7:ARG:HH12	13:H:20:MET:HE1	1.86	0.40
14:I:78:SER:N	14:I:112:GLY:HA3	2.36	0.40
15:J:40:PRO:HG3	15:J:99:LYS:NZ	2.36	0.40
16:K:20:LEU:HA	16:K:20:LEU:HD12	1.87	0.40
17:L:100:VAL:HG13	17:L:101:LYS:N	2.37	0.40
17:L:17:VAL:HB	29:X:2313:G:N2	2.37	0.40
17:L:72:GLY:O	17:L:107:ALA:HB2	2.21	0.40
18:M:39:VAL:HA	18:M:45:THR:HG23	2.03	0.40
19:N:86:ALA:O	19:N:89:ASP:N	2.54	0.40
21:P:118:LYS:HD2	21:P:120:ARG:HH21	1.86	0.40
21:P:30:TYR:H	21:P:123:HIS:CE1	2.38	0.40
22:Q:17:TYR:C	22:Q:19:ALA:H	2.24	0.40
23:R:15:HIS:CE1	23:R:16:PHE:HE2	2.40	0.40
23:R:59:LYS:HA	23:R:62:MET:HG3	2.03	0.40
24:S:99:HIS:HB2	24:S:135:VAL:HA	2.03	0.40
25:T:55:ARG:HD2	29:X:2363:G:OP1	2.22	0.40
25:T:57:HIS:ND1	25:T:57:HIS:N	2.68	0.40
19:N:54:LYS:NZ	29:X:1007:A:N7	2.67	0.40
29:X:1089:C:O2	29:X:1099:A:H5'	2.21	0.40
12:G:107:GLN:O	29:X:1142:G:P	2.79	0.40
29:X:1213:U:H2'	29:X:1214:C:O4'	2.22	0.40
29:X:1235:C:H2'	29:X:1236:G:H8	1.85	0.40
29:X:1251:G:O2'	29:X:1252:C:H5'	2.21	0.40
29:X:1625:A:H1'	29:X:1632:A:O2'	2.21	0.40
29:X:1659:G:H2'	29:X:1660:G:O4'	2.20	0.40
29:X:1687:C:OP2	29:X:2529:G:OP1	2.40	0.40
6:A:209:ALA:CB	29:X:1781:C:O2'	2.58	0.40
29:X:1987:G:C4	29:X:1988:A:C8	3.08	0.40
29:X:2036:G:N1	29:X:2037:A:C4	2.89	0.40
29:X:2039:G:C5	29:X:2556:A:C4	3.10	0.40
29:X:2221:G:C2'	29:X:2222:U:O5'	2.69	0.40
29:X:2309:G:H2'	29:X:2310:G:H5'	2.01	0.40
29:X:2323:U:C3'	29:X:2323:U:C6	3.04	0.40
14:I:61:PRO:CB	29:X:2372:A:H5''	2.47	0.40
29:X:2605:C:H2'	29:X:2606:G:O4'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:30:G:O2'	29:X:31:C:H5'	2.21	0.40
29:X:488:A:C6	29:X:489:A:C6	3.09	0.40
29:X:540:G:O6	29:X:2006:G:OP1	2.40	0.40
29:X:55:A:H2'	29:X:56:C:H6	1.86	0.40
14:I:65:PHE:CB	29:X:642:A:O2'	2.69	0.40
29:X:648:A:H4'	29:X:649:G:C4'	2.52	0.40
29:X:654:A:N3	29:X:655:A:H5'	2.36	0.40
29:X:674:U:H2'	29:X:675:C:O4'	2.22	0.40
29:X:689:A:N1	29:X:815:A:N1	2.69	0.40
29:X:739:G:O2'	29:X:740:A:O5'	2.40	0.40
29:X:885:A:C5	29:X:918:A:C2	3.09	0.40
29:X:2594:U:C4	30:Y:6:VAL:O	2.74	0.40
25:T:72:LYS:HD3	31:Z:14:C:O5'	2.22	0.40
7:B:11:MET:SD	29:X:2661:G:C8	3.15	0.40
7:B:116:VAL:CG2	7:B:136:ARG:NE	2.74	0.40
8:C:116:LYS:O	8:C:117:LEU:CB	2.70	0.40
8:C:151:VAL:HA	8:C:170:LEU:O	2.22	0.40
8:C:66:ASN:HA	29:X:1268:U:C2	2.56	0.40
9:D:63:GLN:HG2	31:Z:44:C:O2'	2.21	0.40
9:D:79:LEU:CA	9:D:80:ARG:CZ	2.97	0.40
9:D:80:ARG:HG2	9:D:81:GLN:H	1.85	0.40
11:F:101:TRP:O	11:F:104:VAL:CB	2.67	0.40
11:F:120:VAL:O	11:F:121:GLU:C	2.59	0.40
12:G:46:ALA:CB	12:G:54:LEU:HD21	2.51	0.40
13:H:41:ASN:N	13:H:41:ASN:HD22	2.06	0.40
14:I:38:LYS:HB3	29:X:954:U:P	2.62	0.40
15:J:122:ALA:HA	15:J:125:LYS:HD3	2.03	0.40
16:K:3:HIS:HB3	16:K:5:LYS:HG3	2.04	0.40
16:K:99:ARG:HH21	29:X:2792:C:P	2.44	0.40
17:L:46:SER:OG	17:L:47:ARG:HG3	2.22	0.40
17:L:41:GLN:HG3	17:L:50:THR:HG21	2.03	0.40
17:L:40:ALA:CB	17:L:75:LEU:HD22	2.42	0.40
18:M:105:TYR:O	18:M:107:LEU:N	2.55	0.40
19:N:18:LEU:HA	19:N:18:LEU:HD13	1.88	0.40
20:O:34:GLU:HB2	20:O:56:VAL:HG23	2.03	0.40
21:P:36:ARG:HA	21:P:39:ARG:HD3	2.03	0.40
23:R:105:ARG:HH12	23:R:113:THR:N	2.16	0.40
24:S:61:THR:O	24:S:62:PHE:HD2	2.04	0.40
24:S:99:HIS:O	24:S:136:VAL:HB	2.22	0.40
25:T:69:PHE:CE2	25:T:79:ILE:HG12	2.56	0.40
29:X:1023:U:H3'	29:X:1023:U:H6	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1082:G:O2'	29:X:1100:G:H3'	2.21	0.40
29:X:1226:A:C8	29:X:1250:A:C2	3.09	0.40
29:X:1460:G:N3	29:X:1460:G:H2'	2.36	0.40
29:X:1551:U:OP2	29:X:1553:G:N2	2.48	0.40
29:X:1544:A:N3	29:X:1560:A:C6	2.90	0.40
29:X:1514:C:O4'	29:X:1593:C:C5'	2.69	0.40
29:X:17:G:C2	29:X:18:U:N3	2.89	0.40
29:X:2018:G:HO2'	29:X:2019:C:P	2.45	0.40
29:X:2060:A:C5	29:X:2414:A:C5	3.10	0.40
29:X:2202:G:N2	29:X:2203:G:H1'	2.36	0.40
29:X:2326:C:H2'	29:X:2327:U:C5	2.56	0.40
29:X:2424:G:C6	29:X:2425:G:C5	3.09	0.40
29:X:2542:U:H1'	29:X:2545:A:C6	2.56	0.40
29:X:2751:C:H2'	29:X:2752:C:C6	2.57	0.40
29:X:2811:G:C6	29:X:2812:A:N6	2.90	0.40
29:X:2827:G:C2	29:X:2828:C:O2	2.74	0.40
29:X:2860:C:H2'	29:X:2861:A:C5'	2.51	0.40
29:X:29:U:H6	29:X:29:U:O5'	2.05	0.40
29:X:312:G:C4	29:X:313:U:C4	3.10	0.40
29:X:36:G:HO2'	29:X:462:G:H2'	1.86	0.40
29:X:46:C:O2'	29:X:47:G:H5'	2.21	0.40
29:X:518:A:OP2	29:X:518:A:H4'	2.21	0.40
29:X:559:C:H2'	29:X:560:G:C4'	2.52	0.40
29:X:749:C:N3	29:X:750:C:C5	2.89	0.40
29:X:82:G:N1	29:X:100:G:H2'	2.37	0.40
29:X:872:G:H22	29:X:929:A:P	2.43	0.40
29:X:936:A:H2'	29:X:937:C:O4'	2.21	0.40
6:A:179:SER:HB3	29:X:1790:G:O6	2.21	0.40
7:B:115:GLY:O	7:B:119:ARG:HB3	2.22	0.40
7:B:141:ILE:HG21	7:B:154:LYS:NZ	2.34	0.40
7:B:5:LEU:HD22	7:B:49:ILE:HG23	2.03	0.40
8:C:47:THR:HG23	8:C:82:VAL:O	2.21	0.40
10:E:156:ALA:C	10:E:157:TYR:CD1	2.95	0.40
10:E:95:ARG:CZ	10:E:97:LYS:CE	2.93	0.40
11:F:122:ALA:HB1	29:X:1092:U:H4'	2.03	0.40
14:I:133:VAL:HG21	14:I:140:VAL:HG22	2.01	0.40
14:I:76:LYS:HB3	14:I:79:GLN:CG	2.49	0.40
14:I:92:THR:O	14:I:94:GLU:N	2.54	0.40
15:J:11:ARG:HG3	15:J:11:ARG:NH1	2.37	0.40
15:J:27:TYR:O	15:J:28:VAL:C	2.59	0.40
16:K:103:ARG:NH1	16:K:110:MET:CE	2.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:15:ARG:NH2	17:L:18:ARG:NH1	2.70	0.40
19:N:82:GLY:O	19:N:83:LEU:C	2.59	0.40
19:N:43:ALA:HB3	20:O:74:TYR:HB3	2.03	0.40
22:Q:11:VAL:HG23	22:Q:27:PHE:CA	2.47	0.40
22:Q:61:LYS:HB2	22:Q:72:ARG:CD	2.51	0.40
23:R:103:LYS:CG	23:R:104:VAL:N	2.85	0.40
24:S:125:PRO:CG	24:S:126:GLY:H	2.32	0.40
24:S:1:MET:HE1	24:S:52:PHE:HB3	2.03	0.40
24:S:80:HIS:CG	24:S:81:VAL:N	2.89	0.40
28:W:12:ARG:CG	28:W:12:ARG:NH1	2.79	0.40
29:X:103:U:H6	29:X:103:U:O5'	2.04	0.40
29:X:1050:G:C2'	29:X:1051:U:H5'	2.49	0.40
16:K:105:GLY:CA	29:X:1301:U:O4	2.69	0.40
29:X:1336:G:O6	29:X:1337:G:C6	2.74	0.40
29:X:1436:G:C5	29:X:1437:A:N7	2.89	0.40
29:X:1438:G:C5	29:X:1439:G:C5	3.10	0.40
29:X:1534:A:O2'	29:X:1535:C:H5'	2.21	0.40
29:X:1778:U:C2	29:X:1779:C:C5	3.10	0.40
29:X:1812:U:O2	29:X:1812:U:C2'	2.70	0.40
29:X:1850:G:C2'	29:X:1851:A:C8	2.95	0.40
29:X:1927:U:O2	29:X:1938:U:H5''	2.22	0.40
29:X:2016:A:C5	29:X:2019:C:C4	3.09	0.40
29:X:2085:G:N1	29:X:2171:U:O2	2.55	0.40
29:X:2202:G:H2'	29:X:2203:G:O4'	2.21	0.40
29:X:2240:C:H2'	29:X:2241:U:H5'	2.02	0.40
29:X:2457:A:H2'	29:X:2458:U:O4'	2.21	0.40
29:X:2526:U:C2	29:X:2527:G:C8	3.09	0.40
29:X:2564:U:C4'	29:X:2565:C:OP1	2.70	0.40
29:X:2594:U:H5'	29:X:2594:U:C6	2.56	0.40
29:X:2599:U:C2'	29:X:2600:A:O5'	2.69	0.40
29:X:2705:A:O2'	29:X:2706:U:P	2.80	0.40
29:X:2728:A:H2'	29:X:2729:A:C8	2.56	0.40
12:G:125:ARG:NH1	29:X:2760:G:N1	2.69	0.40
29:X:464:G:C2	29:X:469:G:C5	3.10	0.40
19:N:28:ARG:NE	29:X:542:A:H3'	2.35	0.40
29:X:631:G:N3	29:X:631:G:O4'	2.54	0.40
29:X:640:C:H4'	29:X:660:G:N2	2.37	0.40
29:X:683:A:O2'	29:X:684:C:O5'	2.37	0.40
29:X:73:A:H4'	29:X:74:G:O5'	2.21	0.40
29:X:834:A:H5''	29:X:835:U:C6	2.56	0.40
31:Z:7:C:H2'	31:Z:8:C:C6	2.56	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%)	10 (29%)	5 (14%)	0	1
5	5	5/19 (26%)	4 (80%)	1 (20%)	0	100	100
6	A	238/274 (87%)	154 (65%)	50 (21%)	34 (14%)	0	1
7	B	203/211 (96%)	148 (73%)	32 (16%)	23 (11%)	0	2
8	C	195/205 (95%)	97 (50%)	54 (28%)	44 (23%)	0	0
9	D	175/180 (97%)	95 (54%)	48 (27%)	32 (18%)	0	1
10	E	169/185 (91%)	100 (59%)	38 (22%)	31 (18%)	0	1
11	F	142/144 (99%)	94 (66%)	29 (20%)	19 (13%)	0	1
12	G	140/174 (80%)	76 (54%)	34 (24%)	30 (21%)	0	0
13	H	132/134 (98%)	105 (80%)	18 (14%)	9 (7%)	1	8
14	I	139/156 (89%)	59 (42%)	45 (32%)	35 (25%)	0	0
15	J	134/142 (94%)	82 (61%)	31 (23%)	21 (16%)	0	1
16	K	111/116 (96%)	74 (67%)	25 (22%)	12 (11%)	0	2
17	L	102/114 (90%)	59 (58%)	19 (19%)	24 (24%)	0	0
18	M	106/166 (64%)	70 (66%)	23 (22%)	13 (12%)	0	1
19	N	115/118 (98%)	57 (50%)	40 (35%)	18 (16%)	0	1
20	O	92/100 (92%)	57 (62%)	10 (11%)	25 (27%)	0	0
21	P	125/134 (93%)	89 (71%)	21 (17%)	15 (12%)	0	2
22	Q	91/95 (96%)	39 (43%)	28 (31%)	24 (26%)	0	0
23	R	108/115 (94%)	62 (57%)	27 (25%)	19 (18%)	0	1
24	S	173/237 (73%)	93 (54%)	46 (27%)	34 (20%)	0	0
25	T	82/91 (90%)	47 (57%)	19 (23%)	16 (20%)	0	0

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
26	U	70/81 (86%)	35 (50%)	16 (23%)	19 (27%)	0	0
27	V	64/67 (96%)	35 (55%)	16 (25%)	13 (20%)	0	0
28	W	53/55 (96%)	38 (72%)	9 (17%)	6 (11%)	0	2
30	Y	56/60 (93%)	40 (71%)	9 (16%)	7 (12%)	0	1
All	All	3055/3410 (90%)	1829 (60%)	698 (23%)	528 (17%)	0	1

All (528) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	A	59	LYS
6	A	145	LEU
6	A	168	LYS
6	A	217	ARG
6	A	220	HIS
7	B	71	GLY
7	B	73	ALA
7	B	85	ALA
7	B	86	PRO
7	B	122	PHE
7	B	132	LYS
7	B	137	ARG
7	B	147	PRO
7	B	179	GLU
8	C	9	GLN
8	C	10	ASN
8	C	13	ARG
8	C	30	VAL
8	C	31	VAL
8	C	66	ASN
8	C	67	ALA
8	C	75	PRO
8	C	121	ASP
8	C	138	LYS
8	C	161	ALA
8	C	164	VAL
8	C	165	SER
8	C	166	TRP
8	C	172	VAL
8	C	175	VAL
8	C	192	ALA
8	C	195	ILE

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Mol	Chain	Res	Type
9	D	10	ASP
9	D	120	ASN
9	D	123	ASP
9	D	137	ILE
9	D	149	THR
10	E	13	SER
10	E	14	GLY
10	E	15	VAL
10	E	16	THR
10	E	55	PRO
10	E	58	ALA
10	E	93	GLY
10	E	98	LEU
10	E	110	SER
10	E	126	PRO
10	E	129	THR
10	E	143	GLN
10	E	165	VAL
11	F	14	ALA
11	F	20	ALA
11	F	26	ALA
11	F	50	ASP
11	F	82	ALA
11	F	117	ALA
11	F	120	VAL
12	G	33	ILE
12	G	34	PRO
12	G	36	ASN
12	G	37	ASP
12	G	65	LYS
12	G	67	ARG
12	G	72	PRO
12	G	73	ASN
12	G	97	ASP
12	G	104	THR
12	G	107	GLN
12	G	118	ALA
12	G	163	PRO
12	G	170	PRO
13	H	27	SER
13	H	42	LYS
14	I	17	LYS

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Mol	Chain	Res	Type
14	I	38	LYS
14	I	39	SER
14	I	54	SER
14	I	65	PHE
14	I	86	THR
14	I	91	ASP
14	I	103	ASN
14	I	114	ILE
14	I	127	ALA
14	I	131	LYS
15	J	11	ARG
15	J	22	ALA
15	J	26	ASP
15	J	29	ALA
15	J	80	ALA
15	J	82	THR
15	J	87	GLY
15	J	117	GLU
16	K	6	ALA
16	K	11	ASN
16	K	92	GLY
17	L	26	ARG
17	L	31	VAL
17	L	38	ILE
17	L	40	ALA
17	L	45	ASP
17	L	55	SER
17	L	56	SER
17	L	60	LYS
17	L	68	ALA
17	L	94	TYR
17	L	102	ALA
17	L	104	ALA
18	M	25	PRO
18	M	28	ARG
18	M	29	PRO
18	M	39	VAL
18	M	46	ARG
18	M	53	VAL
18	M	102	ALA
19	N	5	LYS
19	N	8	ILE

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Mol	Chain	Res	Type
19	N	76	TYR
19	N	94	VAL
20	O	7	THR
20	O	9	GLY
20	O	10	LYS
20	O	13	ARG
20	O	21	ARG
20	O	25	LEU
20	O	26	GLN
20	O	29	ALA
20	O	30	GLY
20	O	35	LEU
20	O	36	LYS
20	O	48	GLY
20	O	49	GLU
20	O	97	GLY
21	P	9	ARG
21	P	11	LYS
21	P	32	ARG
21	P	81	HIS
22	Q	33	ALA
22	Q	40	ASP
22	Q	41	ALA
22	Q	63	LYS
22	Q	67	ARG
22	Q	69	ILE
22	Q	74	ASP
22	Q	87	SER
23	R	7	GLY
23	R	12	ASP
23	R	26	SER
23	R	60	PRO
23	R	65	PRO
23	R	75	ALA
23	R	83	LEU
23	R	96	LYS
24	S	6	LYS
24	S	12	GLN
24	S	26	LYS
24	S	36	ARG
24	S	49	THR
24	S	88	TYR

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Mol	Chain	Res	Type
24	S	92	VAL
24	S	118	HIS
24	S	124	ALA
24	S	125	PRO
25	T	3	HIS
25	T	4	LYS
25	T	7	VAL
25	T	10	SER
25	T	19	LYS
25	T	21	LEU
25	T	31	VAL
25	T	75	GLY
26	U	13	LEU
26	U	14	VAL
26	U	16	ASN
26	U	29	GLY
26	U	30	VAL
26	U	34	THR
26	U	41	VAL
26	U	56	GLN
26	U	60	VAL
27	V	2	LYS
27	V	8	ASN
27	V	19	ASP
27	V	36	GLN
28	W	54	GLN
30	Y	4	HIS
30	Y	20	ARG
30	Y	36	CYS
30	Y	52	TYR
30	Y	53	ASP
4	4	14	CYS
4	4	21	GLY
6	A	45	ASN
6	A	47	GLY
6	A	52	ARG
6	A	56	GLY
6	A	109	GLU
6	A	125	PRO
6	A	159	ALA
6	A	160	GLY
6	A	187	SER

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Mol	Chain	Res	Type
6	A	214	TRP
6	A	232	PRO
6	A	240	THR
6	A	243	GLY
6	A	244	ARG
6	A	252	LYS
7	B	2	LYS
7	B	69	LYS
7	B	74	PRO
7	B	76	ARG
7	B	123	ALA
7	B	145	LYS
7	B	152	LYS
7	B	180	ASN
8	C	11	GLY
8	C	15	ILE
8	C	22	VAL
8	C	103	GLY
8	C	117	LEU
8	C	129	LYS
8	C	139	GLN
8	C	152	THR
8	C	153	ASP
8	C	159	ARG
8	C	178	TYR
8	C	196	VAL
9	D	9	ASN
9	D	71	LYS
9	D	77	PHE
9	D	94	GLU
9	D	107	GLY
9	D	119	PRO
9	D	124	GLY
9	D	145	MET
10	E	19	ALA
10	E	106	ASN
10	E	112	PRO
10	E	119	ALA
10	E	139	GLN
11	F	24	GLY
11	F	51	ALA
11	F	61	ALA

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Mol	Chain	Res	Type
11	F	118	GLY
12	G	55	ALA
12	G	86	ALA
12	G	105	GLY
12	G	139	ARG
13	H	37	GLY
13	H	79	HIS
13	H	101	ASN
14	I	29	THR
14	I	43	ALA
14	I	44	GLY
14	I	47	ALA
14	I	56	LEU
14	I	98	LEU
14	I	99	VAL
14	I	105	PRO
14	I	106	VAL
14	I	115	SER
14	I	128	ALA
14	I	135	ALA
15	J	13	GLN
15	J	27	TYR
15	J	81	GLU
15	J	83	ARG
16	K	7	GLY
16	K	32	GLY
16	K	95	THR
17	L	33	ARG
17	L	53	ALA
17	L	82	LYS
17	L	91	ARG
17	L	108	ARG
18	M	27	PHE
18	M	47	SER
18	M	95	GLU
19	N	51	ARG
19	N	110	VAL
20	O	8	GLY
20	O	14	VAL
20	O	15	SER
20	O	66	GLY
21	P	10	ASN

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Mol	Chain	Res	Type
21	P	12	LYS
21	P	77	ALA
21	P	82	ASN
21	P	89	ARG
21	P	113	SER
22	Q	4	TYR
22	Q	12	ILE
22	Q	42	ILE
22	Q	60	GLY
22	Q	61	LYS
22	Q	65	VAL
22	Q	86	GLN
22	Q	93	GLY
23	R	6	ALA
23	R	9	HIS
23	R	50	GLY
23	R	61	SER
23	R	63	THR
23	R	89	GLY
24	S	17	SER
24	S	43	PHE
24	S	45	GLN
24	S	46	GLN
24	S	128	ARG
24	S	134	LEU
24	S	156	GLU
25	T	11	LYS
25	T	30	VAL
25	T	73	GLY
25	T	74	LYS
25	T	83	ALA
26	U	10	LYS
26	U	27	ASP
26	U	42	GLN
26	U	65	ASN
26	U	76	LYS
27	V	65	GLU
30	Y	37	HIS
4	4	9	LYS
4	4	35	ARG
6	A	81	ALA
6	A	154	GLN

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Mol	Chain	Res	Type
6	A	197	GLY
6	A	241	GLY
6	A	258	LYS
7	B	121	ASN
7	B	135	HIS
8	C	179	ASP
9	D	5	LYS
9	D	53	ALA
9	D	68	THR
9	D	152	MET
9	D	168	ALA
10	E	7	GLN
10	E	76	VAL
10	E	77	LYS
10	E	149	ARG
10	E	156	ALA
10	E	173	ALA
12	G	169	GLN
13	H	32	LYS
14	I	10	PRO
14	I	18	ARG
14	I	37	GLN
14	I	40	ARG
14	I	49	PHE
14	I	62	LYS
14	I	132	ALA
15	J	106	GLU
16	K	20	LEU
16	K	56	LYS
16	K	91	PRO
18	M	17	GLU
18	M	105	TYR
19	N	3	ARG
19	N	13	ARG
19	N	75	ASN
19	N	77	SER
19	N	78	THR
20	O	39	PHE
20	O	87	ARG
21	P	79	ALA
21	P	101	PRO
22	Q	3	HIS

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Mol	Chain	Res	Type
22	Q	13	SER
22	Q	91	LEU
23	R	49	GLU
24	S	13	LYS
24	S	25	ASN
24	S	63	PRO
24	S	110	GLY
24	S	133	GLU
24	S	165	GLU
25	T	54	GLY
26	U	32	ARG
26	U	47	HIS
26	U	72	LYS
27	V	57	LYS
28	W	8	SER
28	W	15	ASN
28	W	23	LEU
28	W	49	HIS
6	A	54	ILE
6	A	55	GLY
6	A	58	HIS
6	A	219	PRO
7	B	131	SER
8	C	20	PRO
8	C	89	ARG
8	C	105	ALA
8	C	114	GLY
8	C	126	ALA
8	C	127	ASP
8	C	190	ALA
9	D	41	GLY
9	D	146	VAL
9	D	164	GLU
11	F	19	PRO
11	F	22	PRO
11	F	84	ILE
11	F	122	ALA
11	F	135	GLY
12	G	68	PRO
12	G	70	PHE
12	G	143	ALA
12	G	154	GLU

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Mol	Chain	Res	Type
12	G	155	THR
13	H	61	ARG
14	I	33	GLY
14	I	64	GLY
15	J	52	ARG
15	J	56	SER
15	J	114	GLN
15	J	122	ALA
16	K	45	ARG
17	L	21	THR
17	L	67	THR
19	N	12	ARG
19	N	28	ARG
19	N	46	GLU
19	N	73	GLY
19	N	88	ILE
19	N	108	ALA
20	O	12	TYR
20	O	24	SER
20	O	44	GLN
20	O	96	LEU
21	P	87	GLU
22	Q	44	GLN
23	R	16	PHE
23	R	91	ALA
23	R	108	VAL
24	S	42	ALA
24	S	47	SER
24	S	91	PRO
24	S	106	GLY
24	S	107	GLU
24	S	138	VAL
25	T	13	GLY
26	U	15	VAL
27	V	39	GLN
27	V	43	VAL
27	V	61	ALA
4	4	19	ARG
6	A	153	ALA
6	A	198	ASN
6	A	249	PRO
7	B	108	SER

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Mol	Chain	Res	Type
8	C	61	GLN
8	C	91	TYR
8	C	123	PHE
8	C	125	ILE
8	C	154	ASP
9	D	13	ARG
9	D	19	GLN
9	D	40	LEU
9	D	47	SER
9	D	141	ILE
10	E	25	LYS
10	E	140	LEU
10	E	152	ARG
12	G	40	ASN
12	G	48	GLY
12	G	53	ARG
12	G	162	LYS
13	H	33	GLY
13	H	47	VAL
14	I	84	GLU
14	I	90	ARG
15	J	15	ARG
15	J	57	ARG
15	J	89	GLY
15	J	90	ALA
16	K	21	ALA
17	L	97	HIS
17	L	103	LEU
18	M	56	ALA
22	Q	34	THR
24	S	3	LEU
24	S	76	ARG
25	T	84	ALA
26	U	40	ARG
27	V	32	ALA
27	V	37	LEU
27	V	56	VAL
30	Y	21	SER
6	A	190	TYR
6	A	271	VAL
9	D	15	ALA
9	D	54	ALA

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Mol	Chain	Res	Type
9	D	76	ASN
10	E	11	VAL
12	G	84	ASN
12	G	165	VAL
14	I	19	VAL
17	L	9	ARG
17	L	46	SER
17	L	64	LYS
28	W	38	PRO
7	B	126	PRO
8	C	55	GLY
11	F	25	PRO
16	K	100	VAL
9	D	12	VAL
10	E	128	PRO
11	F	87	GLY
22	Q	6	ILE
22	Q	47	GLY
24	S	174	PRO
7	B	83	GLY
9	D	21	GLY
11	F	140	GLY
19	N	65	ILE
20	O	60	VAL
21	P	68	VAL
22	Q	9	ALA
23	R	85	ASP
24	S	102	GLY
24	S	164	PRO
9	D	14	PRO
10	E	43	VAL
10	E	144	VAL
27	V	35	GLY
21	P	92	VAL

### 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%)	32 (91%)	3 (9%)	10	35
5	5	3/4 (75%)	3 (100%)	0	100	100
6	A	185/215 (86%)	161 (87%)	24 (13%)	4	17
7	B	155/157 (99%)	132 (85%)	23 (15%)	3	13
8	C	157/163 (96%)	131 (83%)	26 (17%)	2	10
9	D	153/156 (98%)	138 (90%)	15 (10%)	8	29
10	E	136/144 (94%)	128 (94%)	8 (6%)	19	49
11	F	107/107 (100%)	100 (94%)	7 (6%)	17	46
12	G	118/146 (81%)	96 (81%)	22 (19%)	1	7
13	H	103/103 (100%)	88 (85%)	15 (15%)	3	14
14	I	108/121 (89%)	91 (84%)	17 (16%)	2	12
15	J	110/116 (95%)	89 (81%)	21 (19%)	1	6
16	K	90/93 (97%)	76 (84%)	14 (16%)	2	12
17	L	74/82 (90%)	54 (73%)	20 (27%)	0	1
18	M	94/134 (70%)	72 (77%)	22 (23%)	1	3
19	N	96/97 (99%)	83 (86%)	13 (14%)	4	16
20	O	75/79 (95%)	70 (93%)	5 (7%)	16	45
21	P	109/115 (95%)	100 (92%)	9 (8%)	11	36
22	Q	75/76 (99%)	67 (89%)	8 (11%)	6	25
23	R	91/96 (95%)	72 (79%)	19 (21%)	1	4
24	S	149/192 (78%)	137 (92%)	12 (8%)	11	36
25	T	62/67 (92%)	57 (92%)	5 (8%)	11	36
26	U	57/66 (86%)	44 (77%)	13 (23%)	1	3
27	V	54/55 (98%)	48 (89%)	6 (11%)	6	23
28	W	48/48 (100%)	38 (79%)	10 (21%)	1	4
30	Y	51/53 (96%)	48 (94%)	3 (6%)	19	49
All	All	2495/2720 (92%)	2155 (86%)	340 (14%)	3	16

All (340) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	4	22	ARG
4	4	27	CYS
4	4	31	LYS

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Mol	Chain	Res	Type
6	A	40	THR
6	A	43	ARG
6	A	44	ASN
6	A	48	ARG
6	A	49	ILE
6	A	68	LYS
6	A	101	GLU
6	A	122	GLU
6	A	157	ARG
6	A	161	THR
6	A	162	SER
6	A	164	GLN
6	A	183	ARG
6	A	196	VAL
6	A	208	LYS
6	A	211	ARG
6	A	214	TRP
6	A	215	LEU
6	A	218	LYS
6	A	231	HIS
6	A	232	PRO
6	A	244	ARG
6	A	252	LYS
6	A	260	ARG
7	B	53	PRO
7	B	69	LYS
7	B	75	THR
7	B	79	ARG
7	B	86	PRO
7	B	87	ASP
7	B	91	VAL
7	B	94	ASP
7	B	105	THR
7	B	126	PRO
7	B	131	SER
7	B	133	LYS
7	B	134	TRP
7	B	136	ARG
7	B	137	ARG
7	B	140	SER
7	B	143	GLN
7	B	147	PRO

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Mol	Chain	Res	Type
7	B	150	VAL
7	B	155	ARG
7	B	159	HIS
7	B	162	MET
7	B	200	SER
8	C	5	ASN
8	C	13	ARG
8	C	17	LEU
8	C	45	THR
8	C	59	TYR
8	C	62	LYS
8	C	64	THR
8	C	66	ASN
8	C	82	VAL
8	C	91	TYR
8	C	92	ASP
8	C	93	TYR
8	C	94	THR
8	C	95	LEU
8	C	104	LEU
8	C	113	GLU
8	C	121	ASP
8	C	124	ASP
8	C	136	TRP
8	C	139	GLN
8	C	153	ASP
8	C	154	ASP
8	C	155	GLU
8	C	158	ARG
8	C	166	TRP
8	C	176	ASN
9	D	6	THR
9	D	10	ASP
9	D	40	LEU
9	D	51	ASP
9	D	80	ARG
9	D	89	VAL
9	D	112	ARG
9	D	123	ASP
9	D	125	ARG
9	D	130	LEU
9	D	137	ILE

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Mol	Chain	Res	Type
9	D	138	PHE
9	D	144	ASP
9	D	147	ASP
9	D	156	ILE
10	E	35	VAL
10	E	67	LEU
10	E	72	VAL
10	E	80	SER
10	E	107	ILE
10	E	129	THR
10	E	136	ILE
10	E	163	ARG
11	F	2	LYS
11	F	10	LEU
11	F	63	ARG
11	F	99	LEU
11	F	103	GLN
11	F	119	SER
11	F	137	THR
12	G	31	THR
12	G	34	PRO
12	G	37	ASP
12	G	38	GLU
12	G	41	TRP
12	G	61	ARG
12	G	70	PHE
12	G	71	THR
12	G	93	LYS
12	G	94	LYS
12	G	100	TYR
12	G	101	THR
12	G	102	ARG
12	G	104	THR
12	G	106	TYR
12	G	110	LEU
12	G	113	GLU
12	G	123	PRO
12	G	132	PHE
12	G	154	GLU
12	G	157	PRO
12	G	169	GLN
13	H	1	MET

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Mol	Chain	Res	Type
13	H	22	ILE
13	H	23	ARG
13	H	25	LEU
13	H	26	ASN
13	H	27	SER
13	H	41	ASN
13	H	57	ASP
13	H	81	ILE
13	H	89	ILE
13	H	92	ASP
13	H	104	GLU
13	H	120	ASP
13	H	127	VAL
13	H	132	GLU
14	I	7	LYS
14	I	10	PRO
14	I	13	ARG
14	I	23	PRO
14	I	26	THR
14	I	32	ARG
14	I	34	HIS
14	I	45	LYS
14	I	53	ARG
14	I	61	PRO
14	I	65	PHE
14	I	84	GLU
14	I	88	PHE
14	I	89	ASP
14	I	94	GLU
14	I	103	ASN
14	I	142	LEU
15	J	8	THR
15	J	11	ARG
15	J	21	ASP
15	J	26	ASP
15	J	27	TYR
15	J	32	ASP
15	J	60	ARG
15	J	64	LYS
15	J	68	ARG
15	J	78	LYS
15	J	79	PRO

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Mol	Chain	Res	Type
15	J	81	GLU
15	J	82	THR
15	J	91	VAL
15	J	93	TYR
15	J	94	TRP
15	J	103	VAL
15	J	106	GLU
15	J	111	THR
15	J	125	LYS
15	J	132	MET
16	K	3	HIS
16	K	5	LYS
16	K	11	ASN
16	K	13	ASN
16	K	17	ARG
16	K	37	THR
16	K	43	GLU
16	K	51	LEU
16	K	71	HIS
16	K	83	VAL
16	K	95	THR
16	K	98	LEU
16	K	102	THR
16	K	104	ARG
17	L	8	ARG
17	L	13	THR
17	L	15	ARG
17	L	31	VAL
17	L	37	HIS
17	L	38	ILE
17	L	39	TYR
17	L	42	ILE
17	L	44	ASP
17	L	45	ASP
17	L	51	LEU
17	L	59	LEU
17	L	60	LYS
17	L	64	LYS
17	L	65	THR
17	L	67	THR
17	L	71	VAL
17	L	89	PHE

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Mol	Chain	Res	Type
17	L	91	ARG
17	L	93	SER
18	M	6	LYS
18	M	7	ILE
18	M	22	ARG
18	M	25	PRO
18	M	26	ASP
18	M	28	ARG
18	M	31	ASP
18	M	34	ARG
18	M	43	ASN
18	M	46	ARG
18	M	48	GLN
18	M	51	GLU
18	M	63	ARG
18	M	69	ARG
18	M	72	SER
18	M	79	ARG
18	M	80	VAL
18	M	87	LEU
18	M	89	ASN
18	M	92	THR
18	M	98	LYS
18	M	100	ARG
19	N	3	ARG
19	N	9	VAL
19	N	13	ARG
19	N	18	LEU
19	N	22	LYS
19	N	33	ARG
19	N	47	TYR
19	N	60	LEU
19	N	71	LEU
19	N	85	ARG
19	N	90	LEU
19	N	93	LYS
19	N	111	ASP
20	O	18	ASP
20	O	20	ILE
20	O	28	GLU
20	O	47	PHE
20	O	54	TYR

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Mol	Chain	Res	Type
21	P	16	GLN
21	P	32	ARG
21	P	46	ARG
21	P	65	SER
21	P	67	PRO
21	P	86	LEU
21	P	87	GLU
21	P	126	ILE
21	P	133	ASN
22	Q	5	ASP
22	Q	7	LEU
22	Q	10	PRO
22	Q	12	ILE
22	Q	15	LYS
22	Q	27	PHE
22	Q	38	ILE
22	Q	62	ARG
23	R	11	ASN
23	R	18	LYS
23	R	23	ILE
23	R	25	LEU
23	R	26	SER
23	R	32	GLN
23	R	44	GLN
23	R	56	LYS
23	R	65	PRO
23	R	79	SER
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	108	VAL
23	R	112	LYS
23	R	113	THR
24	S	3	LEU
24	S	9	THR
24	S	13	LYS
24	S	28	ASN
24	S	49	THR
24	S	51	LEU

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Mol	Chain	Res	Type
24	S	63	PRO
24	S	71	MET
24	S	92	VAL
24	S	104	SER
24	S	119	ASN
24	S	120	LEU
25	T	5	LYS
25	T	18	PRO
25	T	31	VAL
25	T	41	ARG
25	T	71	ASN
26	U	13	LEU
26	U	14	VAL
26	U	32	ARG
26	U	35	THR
26	U	37	ILE
26	U	42	GLN
26	U	47	HIS
26	U	53	GLU
26	U	54	ASN
26	U	60	VAL
26	U	69	THR
26	U	70	LEU
26	U	78	ILE
27	V	2	LYS
27	V	6	MET
27	V	13	ASP
27	V	19	ASP
27	V	21	ARG
27	V	41	HIS
28	W	6	VAL
28	W	8	SER
28	W	12	ARG
28	W	15	ASN
28	W	26	ARG
28	W	32	ARG
28	W	35	SER
28	W	36	ASP
28	W	45	LYS
28	W	46	THR
30	Y	19	ARG
30	Y	57	VAL

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Mol	Chain	Res	Type
30	Y	58	LEU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (78) such sidechains are listed below:

Mol	Chain	Res	Type
4	4	34	GLN
4	4	36	GLN
6	A	44	ASN
6	A	96	HIS
6	A	129	ASN
6	A	166	GLN
6	A	231	HIS
7	B	135	HIS
7	B	143	GLN
7	B	192	ASN
8	C	3	GLN
8	C	5	ASN
8	C	50	GLN
8	C	61	GLN
8	C	98	GLN
8	C	112	GLN
8	C	132	ASN
8	C	139	GLN
8	C	140	ASN
9	D	120	ASN
9	D	129	ASN
10	E	18	ASN
10	E	45	GLN
10	E	61	HIS
10	E	111	HIS
10	E	139	GLN
11	F	29	GLN
11	F	42	ASN
11	F	92	ASN
12	G	73	ASN
12	G	107	GLN
12	G	122	HIS
12	G	140	GLN
12	G	158	HIS
13	H	5	GLN
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	66	ASN
14	I	79	GLN
14	I	81	GLN
15	J	13	GLN
16	K	13	ASN
17	L	37	HIS
17	L	49	GLN
17	L	97	HIS
18	M	48	GLN
19	N	31	GLN
19	N	72	HIS
19	N	75	ASN
19	N	115	ASN
20	O	11	GLN
20	O	57	GLN
21	P	73	ASN
21	P	78	ASN
21	P	81	HIS
21	P	133	ASN
22	Q	73	ASN
23	R	10	HIS
23	R	11	ASN
23	R	29	HIS
23	R	64	ASN
23	R	71	GLN
24	S	45	GLN
24	S	70	GLN
24	S	146	HIS
25	T	3	HIS
25	T	17	ASN
25	T	35	ASN
25	T	71	ASN
27	V	41	HIS
27	V	45	GLN
28	W	15	ASN
28	W	49	HIS
30	Y	29	ASN
30	Y	43	HIS
30	Y	44	HIS

## 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
29	X	2680/2880 (93%)	688 (25%)	313 (11%)
31	Z	121/123 (98%)	24 (19%)	1 (0%)
All	All	2801/3003 (93%)	712 (25%)	314 (11%)

All (712) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
29	X	2	G
29	X	4	C
29	X	13	A
29	X	14	A
29	X	27	G
29	X	34	U
29	X	35	G
29	X	39	C
29	X	45	C
29	X	49	U
29	X	59	G
29	X	63	A
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
29	X	99	U
29	X	100	G
29	X	105	G
29	X	110	U
29	X	116	A
29	X	117	A
29	X	118	U
29	X	119	G
29	X	123	A

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Mol	Chain	Res	Type
29	X	124	A
29	X	126	C
29	X	127	C
29	X	135	U
29	X	143	A
29	X	147	G
29	X	149	A
29	X	158	A
29	X	173	A
29	X	181	A
29	X	182	G
29	X	183	U
29	X	193	A
29	X	199	A
29	X	200	A
29	X	205	A
29	X	206	U
29	X	207	U
29	X	210	A
29	X	218	A
29	X	219	G
29	X	220	U
29	X	225	G
29	X	226	C
29	X	227	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	323	G
29	X	333	A
29	X	334	G
29	X	335	A
29	X	340	G
29	X	341	A
29	X	342	G
29	X	343	A
29	X	399	G
29	X	400	U
29	X	401	G

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Mol	Chain	Res	Type
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	424	G
29	X	425	A
29	X	441	A
29	X	447	U
29	X	448	C
29	X	453	U
29	X	455	A
29	X	456	C
29	X	458	G
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	491	A
29	X	492	G
29	X	497	C
29	X	498	C
29	X	514	G
29	X	515	A
29	X	517	A
29	X	519	C
29	X	523	A
29	X	534	U
29	X	537	C
29	X	538	A
29	X	539	A
29	X	540	G
29	X	541	C
29	X	542	A
29	X	554	U
29	X	555	U

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Mol	Chain	Res	Type
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	580	A
29	X	581	A
29	X	582	G
29	X	583	C
29	X	584	A
29	X	587	A
29	X	595	A
29	X	601	A
29	X	613	A
29	X	614	G
29	X	617	U
29	X	624	A
29	X	625	A
29	X	626	A
29	X	627	A
29	X	628	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	684	C
29	X	699	G
29	X	700	C
29	X	718	A
29	X	728	G

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Mol	Chain	Res	Type
29	X	729	A
29	X	730	C
29	X	731	A
29	X	732	G
29	X	740	A
29	X	741	G
29	X	742	G
29	X	743	A
29	X	752	G
29	X	753	U
29	X	759	C
29	X	760	U
29	X	766	A
29	X	775	U
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	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	833	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	873	U
29	X	878	C
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	939	C
29	X	940	G
29	X	944	A
29	X	952	A
29	X	955	G
29	X	956	A
29	X	957	G
29	X	968	C
29	X	969	U
29	X	970	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	1000	G
29	X	1006	C
29	X	1007	A
29	X	1016	C
29	X	1019	U
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

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Mol	Chain	Res	Type
29	X	1054	C
29	X	1055	A
29	X	1056	U
29	X	1057	A
29	X	1058	G
29	X	1059	A
29	X	1060	C
29	X	1069	G
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	1096	A
29	X	1097	A
29	X	1098	G
29	X	1099	A
29	X	1107	A
29	X	1108	U
29	X	1119	U
29	X	1123	G
29	X	1128	G
29	X	1129	A
29	X	1133	G
29	X	1137	A
29	X	1139	A
29	X	1140	A
29	X	1142	G
29	X	1145	C
29	X	1146	G
29	X	1149	G
29	X	1152	C
29	X	1153	A
29	X	1154	A
29	X	1155	G
29	X	1167	A
29	X	1168	G

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Mol	Chain	Res	Type
29	X	1182	U
29	X	1183	C
29	X	1185	C
29	X	1187	A
29	X	1189	G
29	X	1192	A
29	X	1194	U
29	X	1195	U
29	X	1213	U
29	X	1220	G
29	X	1224	A
29	X	1225	G
29	X	1234	C
29	X	1250	A
29	X	1251	G
29	X	1253	C
29	X	1261	G
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	1282	A
29	X	1284	G
29	X	1285	A
29	X	1286	U
29	X	1288	A
29	X	1289	A
29	X	1300	A
29	X	1302	C
29	X	1313	U
29	X	1314	A
29	X	1315	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

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Mol	Chain	Res	Type
29	X	1339	U
29	X	1342	U
29	X	1343	C
29	X	1345	G
29	X	1346	C
29	X	1353	A
29	X	1354	A
29	X	1355	A
29	X	1356	G
29	X	1358	C
29	X	1359	G
29	X	1378	A
29	X	1381	G
29	X	1391	A
29	X	1392	U
29	X	1398	G
29	X	1404	C
29	X	1409	U
29	X	1410	U
29	X	1411	C
29	X	1413	U
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	1473	U
29	X	1474	A
29	X	1475	U
29	X	1482	U
29	X	1489	C
29	X	1490	U

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Mol	Chain	Res	Type
29	X	1497	C
29	X	1498	G
29	X	1513	U
29	X	1514	C
29	X	1522	C
29	X	1523	A
29	X	1524	C
29	X	1525	A
29	X	1528	C
29	X	1531	C
29	X	1551	U
29	X	1553	G
29	X	1554	G
29	X	1562	G
29	X	1570	C
29	X	1571	G
29	X	1574	A
29	X	1575	C
29	X	1576	G
29	X	1582	A
29	X	1583	A
29	X	1585	A
29	X	1594	U
29	X	1601	U
29	X	1602	G
29	X	1603	A
29	X	1608	U
29	X	1614	C
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	1634	A
29	X	1635	G
29	X	1648	C
29	X	1651	U
29	X	1652	G
29	X	1657	A
29	X	1664	G
29	X	1665	C

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Mol	Chain	Res	Type
29	X	1668	G
29	X	1671	A
29	X	1686	A
29	X	1691	G
29	X	1692	C
29	X	1699	A
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	1718	A
29	X	1724	C
29	X	1732	U
29	X	1733	U
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	1773	C
29	X	1776	A
29	X	1778	U
29	X	1782	A
29	X	1790	G
29	X	1791	C
29	X	1792	C
29	X	1793	A
29	X	1800	A
29	X	1801	C
29	X	1802	A
29	X	1807	A
29	X	1808	C
29	X	1812	U
29	X	1813	A
29	X	1821	A

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Mol	Chain	Res	Type
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	1869	A
29	X	1871	G
29	X	1883	A
29	X	1910	A
29	X	1912	G
29	X	1914	U
29	X	1919	A
29	X	1920	A
29	X	1922	U
29	X	1923	U
29	X	1924	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

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
29	X	1979	C
29	X	1980	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	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	2052	G
29	X	2075	U
29	X	2076	G
29	X	2083	G
29	X	2089	C
29	X	2171	U
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	2230	G
29	X	2238	G
29	X	2245	A
29	X	2246	A
29	X	2247	A
29	X	2252	A

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Mol	Chain	Res	Type
29	X	2257	A
29	X	2261	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	2305	C
29	X	2306	A
29	X	2313	G
29	X	2314	A
29	X	2315	A
29	X	2318	U
29	X	2320	G
29	X	2322	U
29	X	2323	U
29	X	2324	G
29	X	2325	A
29	X	2326	C
29	X	2328	G
29	X	2351	G
29	X	2358	C
29	X	2362	G
29	X	2364	C
29	X	2368	G
29	X	2369	U
29	X	2381	A
29	X	2386	G
29	X	2396	C
29	X	2402	U
29	X	2403	C
29	X	2405	A
29	X	2406	C
29	X	2408	G

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Mol	Chain	Res	Type
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	2469	G
29	X	2470	U
29	X	2476	A
29	X	2477	C
29	X	2480	C
29	X	2481	G
29	X	2482	A
29	X	2483	U
29	X	2484	G
29	X	2485	U
29	X	2486	C
29	X	2497	A
29	X	2498	U
29	X	2499	C
29	X	2508	G
29	X	2521	A
29	X	2522	G
29	X	2545	A
29	X	2546	G
29	X	2552	C
29	X	2556	A
29	X	2560	G
29	X	2561	G
29	X	2564	U
29	X	2565	C
29	X	2580	C
29	X	2581	A
29	X	2582	G
29	X	2588	U
29	X	2591	C
29	X	2592	U

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Mol	Chain	Res	Type
29	X	2593	A
29	X	2594	U
29	X	2608	A
29	X	2609	G
29	X	2625	U
29	X	2633	A
29	X	2634	G
29	X	2650	G
29	X	2661	G
29	X	2666	U
29	X	2668	U
29	X	2669	C
29	X	2670	C
29	X	2691	C
29	X	2692	A
29	X	2693	U
29	X	2694	G
29	X	2700	U
29	X	2706	U
29	X	2707	G
29	X	2708	U
29	X	2712	G
29	X	2713	A
29	X	2728	A
29	X	2730	A
29	X	2731	G
29	X	2732	C
29	X	2736	U
29	X	2737	A
29	X	2738	A
29	X	2744	A
29	X	2745	A
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	2774	U
29	X	2775	U
29	X	2777	A

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Mol	Chain	Res	Type
29	X	2778	U
29	X	2779	C
29	X	2780	A
29	X	2782	G
29	X	2795	A
29	X	2796	A
29	X	2798	A
29	X	2808	U
29	X	2809	A
29	X	2810	A
29	X	2811	G
29	X	2824	C
29	X	2825	A
29	X	2827	G
29	X	2841	U
29	X	2842	C
29	X	2847	G
29	X	2850	U
29	X	2854	G
29	X	2855	C
29	X	2858	A
29	X	2859	U
29	X	2867	G
29	X	2868	G
31	Z	4	C
31	Z	14	C
31	Z	15	A
31	Z	17	A
31	Z	18	G
31	Z	26	G
31	Z	27	A
31	Z	28	A
31	Z	37	C
31	Z	38	C
31	Z	43	G
31	Z	44	C
31	Z	46	G
31	Z	47	A
31	Z	59	A
31	Z	68	A
31	Z	69	G
31	Z	93	G

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Mol	Chain	Res	Type
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 (314) 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	62	U
29	X	69	G
29	X	71	A
29	X	73	A
29	X	82	G
29	X	117	A
29	X	118	U
29	X	154	U
29	X	173	A
29	X	176	A
29	X	181	A
29	X	182	G
29	X	192	G
29	X	198	A
29	X	199	A
29	X	218	A
29	X	219	G
29	X	226	C
29	X	312	G
29	X	322	A
29	X	332	C
29	X	333	A
29	X	334	G
29	X	340	G
29	X	341	A
29	X	342	G
29	X	399	G

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Mol	Chain	Res	Type
29	X	400	U
29	X	403	A
29	X	417	C
29	X	424	G
29	X	454	G
29	X	458	G
29	X	459	A
29	X	460	U
29	X	466	A
29	X	467	U
29	X	468	A
29	X	469	G
29	X	490	A
29	X	513	A
29	X	516	G
29	X	522	G
29	X	538	A
29	X	539	A
29	X	541	C
29	X	542	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	596	C
29	X	613	A
29	X	631	G
29	X	638	A
29	X	648	A
29	X	664	C
29	X	682	G
29	X	683	A
29	X	698	A
29	X	699	G
29	X	717	G
29	X	729	A
29	X	730	C

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Mol	Chain	Res	Type
29	X	739	G
29	X	741	G
29	X	751	G
29	X	752	G
29	X	765	C
29	X	775	U
29	X	777	A
29	X	780	U
29	X	788	G
29	X	789	G
29	X	795	A
29	X	797	A
29	X	801	A
29	X	802	A
29	X	803	C
29	X	804	C
29	X	805	G
29	X	806	A
29	X	813	A
29	X	814	G
29	X	818	G
29	X	824	U
29	X	842	A
29	X	843	G
29	X	872	G
29	X	878	C
29	X	925	U
29	X	938	G
29	X	939	C
29	X	955	G
29	X	956	A
29	X	968	C
29	X	969	U
29	X	972	C
29	X	984	A
29	X	985	G
29	X	994	A
29	X	1000	G
29	X	1006	C
29	X	1023	U
29	X	1031	C
29	X	1033	G

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Mol	Chain	Res	Type
29	X	1036	G
29	X	1044	U
29	X	1053	G
29	X	1054	C
29	X	1055	A
29	X	1071	U
29	X	1072	U
29	X	1096	A
29	X	1122	A
29	X	1137	A
29	X	1139	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	1188	A
29	X	1194	U
29	X	1212	U
29	X	1223	G
29	X	1224	A
29	X	1233	A
29	X	1249	G
29	X	1260	A
29	X	1261	G
29	X	1263	G
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	1314	A
29	X	1315	A
29	X	1324	G
29	X	1325	U
29	X	1333	G
29	X	1337	G
29	X	1338	G

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Mol	Chain	Res	Type
29	X	1342	U
29	X	1345	G
29	X	1353	A
29	X	1354	A
29	X	1355	A
29	X	1357	U
29	X	1391	A
29	X	1409	U
29	X	1410	U
29	X	1412	C
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	1581	C
29	X	1582	A
29	X	1583	A
29	X	1601	U
29	X	1607	A
29	X	1618	U
29	X	1623	C
29	X	1624	A
29	X	1625	A
29	X	1626	A
29	X	1632	A
29	X	1633	C
29	X	1634	A
29	X	1651	U
29	X	1664	G
29	X	1670	G
29	X	1685	A
29	X	1691	G
29	X	1698	C
29	X	1710	U
29	X	1711	C
29	X	1712	G

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Mol	Chain	Res	Type
29	X	1715	A
29	X	1716	G
29	X	1723	U
29	X	1732	U
29	X	1749	G
29	X	1771	A
29	X	1772	C
29	X	1775	A
29	X	1777	A
29	X	1790	G
29	X	1791	C
29	X	1799	A
29	X	1807	A
29	X	1811	A
29	X	1820	G
29	X	1867	A
29	X	1913	G
29	X	1920	A
29	X	1921	A
29	X	1922	U
29	X	1923	U
29	X	1926	U
29	X	1927	U
29	X	1937	G
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	2016	A
29	X	2018	G
29	X	2034	A
29	X	2044	G
29	X	2045	A
29	X	2050	G
29	X	2075	U
29	X	2088	U

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Mol	Chain	Res	Type
29	X	2196	U
29	X	2197	U
29	X	2204	A
29	X	2217	G
29	X	2228	U
29	X	2229	G
29	X	2237	C
29	X	2245	A
29	X	2254	C
29	X	2261	G
29	X	2265	A
29	X	2267	A
29	X	2275	U
29	X	2312	A
29	X	2313	G
29	X	2315	A
29	X	2322	U
29	X	2323	U
29	X	2324	G
29	X	2325	A
29	X	2370	G
29	X	2396	C
29	X	2402	U
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	2476	A
29	X	2482	A
29	X	2485	U
29	X	2496	C
29	X	2497	A
29	X	2498	U
29	X	2521	A
29	X	2551	A
29	X	2560	G
29	X	2564	U
29	X	2580	C
29	X	2589	C

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Mol	Chain	Res	Type
29	X	2592	U
29	X	2593	A
29	X	2594	U
29	X	2608	A
29	X	2624	G
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	2700	U
29	X	2705	A
29	X	2706	U
29	X	2712	G
29	X	2736	U
29	X	2756	A
29	X	2758	A
29	X	2759	U
29	X	2760	G
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 ⓘ

11 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
5	BB9	5	15	5	3,5,6	3.69	1 (33%)	1,5,7	3.99	1 (100%)
5	TS9	5	10	5	6,8,10	0.89	0	5,12,15	1.14	0
5	BB9	5	6	5	3,5,6	1.82	1 (33%)	1,5,7	2.55	1 (100%)
5	BB9	5	11	5	3,5,6	1.31	0	1,5,7	2.53	1 (100%)
5	DHA	5	3	5	4,4,5	2.01	2 (50%)	2,4,6	1.79	1 (50%)
5	DHA	5	16	5	4,4,5	4.20	2 (50%)	2,4,6	5.51	1 (50%)
5	BB9	5	13	5	2,4,6	1.67	1 (50%)	3,4,7	2.70	3 (100%)
5	DHA	5	17	5	4,4,5	1.82	1 (25%)	2,4,6	2.55	1 (50%)
5	MH6	5	14	5	3,3,6	1.53	1 (33%)	1,3,7	0.42	0
5	DBU	5	8	5	4,4,6	3.15	2 (50%)	4,4,7	1.52	1 (25%)

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	15	5	-	0/0/4/6	-
5	TS9	5	10	5	-	0/9/12/16	-
5	BB9	5	6	5	-	0/0/4/6	-
5	BB9	5	11	5	-	0/0/4/6	-
5	DHA	5	3	5	-	0/0/2/4	-
5	DHA	5	16	5	-	0/0/2/4	-
5	BB9	5	13	5	-	0/0/2/6	-
5	DHA	5	17	5	-	0/0/2/4	-
5	DBU	5	8	5	-	0/1/2/6	-

All (11) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	5	16	DHA	CA-N	7.94	1.55	1.35
5	5	15	BB9	O-C	-6.34	1.07	1.22
5	5	8	DBU	CA-N	5.83	1.47	1.33
5	5	17	DHA	CA-N	3.10	1.43	1.35
5	5	6	BB9	O-C	2.87	1.28	1.22
5	5	3	DHA	CA-N	2.82	1.42	1.35
5	5	16	DHA	C-CA	-2.60	1.40	1.45
5	5	13	BB9	CA-N	2.35	1.39	1.33
5	5	3	DHA	C-CA	2.27	1.48	1.45
5	5	8	DBU	C-CA	-2.07	1.43	1.49

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	5	14	MH6	C-CA	2.01	1.53	1.49

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	5	16	DHA	O-C-CA	-7.75	111.08	125.54
5	5	15	BB9	O-C-CA	3.99	130.46	125.39
5	5	17	DHA	O-C-CA	-3.01	119.92	125.54
5	5	13	BB9	C-CA-CB	2.89	126.66	121.39
5	5	8	DBU	CB-CA-N	2.75	124.53	122.87
5	5	13	BB9	CB-CA-N	-2.67	113.96	122.50
5	5	6	BB9	O-C-CA	-2.55	122.15	125.39
5	5	11	BB9	O-C-CA	-2.53	122.17	125.39
5	5	3	DHA	O-C-CA	-2.53	120.82	125.54
5	5	13	BB9	C-CA-N	2.53	119.35	116.53

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

5 monomers are involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	5	15	BB9	1	0
5	5	10	TS9	1	0
5	5	6	BB9	1	0
5	5	13	BB9	1	0
5	5	14	MH6	1	0

## 5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

## 5.6 Ligand geometry [i](#)

Of 36 ligands modelled in this entry, 36 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

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

There are no such residues in this entry.

## 5.8 Polymer linkage issues

There are no chain breaks in this entry.

## 6 Fit of model and data [i](#)

### 6.1 Protein, DNA and RNA chains [i](#)

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%)	3.45	39 (73%) 0 0	48, 56, 77, 82	0
2	2	46/47 (97%)	5.52	46 (100%) 0 0	9, 29, 38, 40	0
3	3	63/66 (95%)	5.06	59 (93%) 0 0	23, 41, 51, 57	0
4	4	37/37 (100%)	1.16	7 (18%) 1 1	60, 69, 77, 81	0
5	5	6/19 (31%)	1.08	1 (16%) 1 1	79, 83, 86, 86	0
6	A	240/274 (87%)	-0.11	6 (2%) 57 54	25, 63, 77, 84	0
7	B	205/211 (97%)	-0.69	1 (0%) 91 91	3, 22, 49, 63	0
8	C	197/205 (96%)	-0.30	4 (2%) 65 64	8, 51, 73, 83	0
9	D	177/180 (98%)	0.03	10 (5%) 24 23	60, 75, 85, 91	0
10	E	171/185 (92%)	-0.34	3 (1%) 68 67	44, 66, 79, 88	0
11	F	144/144 (100%)	1.48	41 (28%) 0 0	74, 89, 98, 102	0
12	G	142/174 (81%)	-0.29	3 (2%) 63 62	22, 43, 67, 72	0
13	H	134/134 (100%)	-0.78	0 100 100	3, 16, 37, 45	0
14	I	141/156 (90%)	0.25	12 (8%) 10 10	22, 62, 77, 85	0
15	J	136/142 (95%)	-0.33	2 (1%) 73 72	27, 51, 73, 80	0
16	K	113/116 (97%)	-0.83	0 100 100	3, 9, 24, 34	0
17	L	104/114 (91%)	-0.06	4 (3%) 40 37	43, 62, 72, 75	0
18	M	108/166 (65%)	-0.74	0 100 100	4, 19, 43, 64	0
19	N	117/118 (99%)	-0.57	0 100 100	4, 40, 62, 73	0
20	O	94/100 (94%)	-0.43	0 100 100	18, 53, 71, 81	0
21	P	127/134 (94%)	-0.72	0 100 100	4, 18, 53, 76	0
22	Q	93/95 (97%)	-0.41	1 (1%) 80 81	32, 50, 69, 80	0
23	R	110/115 (95%)	-0.15	5 (4%) 33 32	36, 54, 80, 87	0
24	S	175/237 (73%)	0.23	13 (7%) 14 14	61, 71, 82, 87	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
25	T	84/91 (92%)	0.02	8 (9%) 8 8	35, 51, 80, 90	0
26	U	72/81 (88%)	0.09	3 (4%) 36 34	45, 61, 72, 78	0
27	V	66/67 (98%)	-0.49	0 100 100	49, 61, 81, 88	0
28	W	55/55 (100%)	-0.42	0 100 100	23, 41, 61, 78	0
29	X	2686/2880 (93%)	-0.37	60 (2%) 62 60	4, 41, 116, 151	0
30	Y	58/60 (96%)	-0.52	1 (1%) 70 68	4, 17, 44, 52	0
31	Z	122/123 (99%)	-0.11	3 (2%) 57 54	30, 75, 102, 129	0
All	All	6076/6581 (92%)	-0.15	332 (5%) 25 23	3, 49, 95, 151	0

All (332) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	3	39	ASP	15.9
2	2	26	SER	9.7
1	1	2	ALA	9.6
3	3	31	HIS	9.6
2	2	4	THR	9.5
2	2	36	ALA	9.3
3	3	33	ASN	9.2
3	3	41	ILE	9.1
2	2	1	MET	8.8
3	3	32	GLN	8.8
3	3	37	SER	8.6
3	3	7	HIS	8.6
3	3	42	ARG	8.5
3	3	30	ARG	8.5
2	2	29	ASN	8.3
3	3	34	THR	8.3
2	2	37	LYS	8.1
1	1	25	THR	8.0
3	3	35	GLY	8.0
2	2	24	THR	8.0
2	2	7	PRO	7.9
3	3	27	SER	7.9
2	2	9	ASN	7.8
2	2	2	LYS	7.8
3	3	28	GLY	7.7
3	3	63	PRO	7.7
1	1	43	VAL	7.6
2	2	8	ASN	7.6

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Mol	Chain	Res	Type	RSRZ
31	Z	123	U	7.3
1	1	42	PRO	6.8
2	2	35	ARG	6.7
2	2	22	MET	6.7
2	2	25	LYS	6.6
1	1	41	ASP	6.5
3	3	8	LYS	6.4
3	3	44	LYS	6.4
3	3	40	GLU	6.2
1	1	23	THR	6.1
3	3	36	LYS	6.1
3	3	10	ALA	6.1
3	3	11	LYS	6.1
3	3	6	THR	6.0
3	3	4	MET	6.0
1	1	47	HIS	6.0
1	1	44	ALA	6.0
29	X	731	A	5.9
24	S	91	PRO	5.8
2	2	3	ARG	5.8
2	2	40	HIS	5.7
2	2	20	ALA	5.6
2	2	32	ALA	5.6
1	1	24	THR	5.5
3	3	2	PRO	5.5
2	2	15	THR	5.5
2	2	16	HIS	5.5
2	2	23	LYS	5.5
1	1	27	ASN	5.4
2	2	28	ARG	5.4
11	F	137	THR	5.4
1	1	9	ILE	5.3
29	X	1085	G	5.3
3	3	38	GLY	5.2
3	3	46	LYS	5.2
9	D	43	SER	5.1
3	3	58	MET	5.1
1	1	40	TYR	5.0
2	2	6	GLN	5.0
14	I	6	LEU	5.0
2	2	33	ARG	5.0
1	1	26	LYS	4.9

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Mol	Chain	Res	Type	RSRZ
2	2	42	LEU	4.9
2	2	10	ARG	4.9
2	2	45	SER	4.8
2	2	5	TYR	4.8
3	3	9	MET	4.7
3	3	55	TRP	4.7
3	3	51	ALA	4.7
29	X	2780	A	4.7
1	1	20	PHE	4.7
3	3	18	GLY	4.6
14	I	5	ASP	4.6
3	3	45	GLY	4.6
1	1	10	VAL	4.5
2	2	43	THR	4.5
11	F	18	THR	4.5
2	2	11	LYS	4.4
3	3	47	GLY	4.4
11	F	114	ASP	4.3
29	X	891	A	4.3
8	C	19	LEU	4.3
24	S	92	VAL	4.3
29	X	1187	A	4.2
6	A	250	TRP	4.2
11	F	84	ILE	4.2
3	3	54	GLU	4.2
2	2	13	ALA	4.2
3	3	19	THR	4.2
3	3	5	LYS	4.2
2	2	12	ARG	4.1
11	F	125	ASN	4.1
3	3	62	LEU	4.1
3	3	17	THR	4.1
2	2	44	VAL	4.1
2	2	38	GLY	4.1
29	X	2088	U	4.1
3	3	53	ALA	4.0
29	X	2779	C	4.0
1	1	38	LYS	4.0
2	2	31	LEU	4.0
14	I	52	GLY	4.0
11	F	119	SER	4.0
2	2	41	GLN	4.0

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Mol	Chain	Res	Type	RSRZ
12	G	97	ASP	4.0
30	Y	2	ALA	4.0
2	2	46	ASP	3.9
23	R	58	VAL	3.9
11	F	83	GLY	3.9
14	I	10	PRO	3.9
9	D	147	ASP	3.9
29	X	558	G	3.9
3	3	25	PHE	3.8
11	F	129	GLY	3.8
1	1	19	GLY	3.8
1	1	45	LYS	3.8
3	3	64	ARG	3.8
1	1	31	THR	3.8
29	X	514	G	3.8
3	3	61	MET	3.8
9	D	42	SER	3.8
29	X	1086	C	3.8
1	1	30	ASN	3.8
29	X	1057	A	3.7
11	F	32	ALA	3.7
2	2	27	GLY	3.7
14	I	8	PRO	3.7
1	1	22	TYR	3.7
11	F	97	GLY	3.7
29	X	1067	G	3.7
3	3	12	ARG	3.6
3	3	26	LYS	3.6
1	1	14	SER	3.6
2	2	18	PHE	3.6
29	X	1552	C	3.6
1	1	36	GLU	3.6
1	1	21	TYR	3.6
3	3	56	ALA	3.6
4	4	20	HIS	3.5
25	T	7	VAL	3.5
11	F	136	VAL	3.5
1	1	46	LYS	3.5
29	X	248	A	3.5
11	F	122	ALA	3.5
11	F	144	ALA	3.5
1	1	39	LYS	3.5

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Mol	Chain	Res	Type	RSRZ
3	3	49	VAL	3.5
4	4	24	LEU	3.5
1	1	28	ARG	3.5
2	2	14	LYS	3.5
2	2	17	GLY	3.5
2	2	21	ARG	3.4
6	A	203	ASN	3.4
4	4	22	ARG	3.4
11	F	35	MET	3.4
29	X	1077	U	3.4
2	2	30	ILE	3.4
11	F	80	LYS	3.4
9	D	145	MET	3.4
29	X	1058	G	3.3
2	2	34	ARG	3.3
11	F	10	LEU	3.3
1	1	11	LYS	3.3
1	1	37	LEU	3.3
11	F	27	LEU	3.2
14	I	29	THR	3.2
2	2	39	ARG	3.2
29	X	1553	G	3.2
29	X	1095	A	3.2
15	J	84	MET	3.2
29	X	730	C	3.2
11	F	67	PHE	3.1
1	1	16	ALA	3.1
29	X	2409	A	3.1
29	X	2776	U	3.1
5	5	1	ILE	3.1
25	T	15	ASP	3.1
3	3	52	LYS	3.1
25	T	9	SER	3.1
29	X	727	U	3.0
29	X	1037	U	3.0
23	R	57	ASN	3.0
29	X	1523	A	3.0
3	3	3	LYS	3.0
29	X	1055	A	3.0
3	3	57	ARG	3.0
3	3	29	LYS	3.0
7	B	205	SER	3.0

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Mol	Chain	Res	Type	RSRZ
12	G	156	HIS	3.0
11	F	143	ASN	2.9
23	R	67	GLY	2.9
11	F	96	VAL	2.9
29	X	2778	U	2.9
3	3	23	MET	2.9
29	X	2170	C	2.9
8	C	20	PRO	2.9
8	C	165	SER	2.9
3	3	59	LYS	2.8
26	U	16	ASN	2.8
29	X	2775	U	2.8
3	3	24	ALA	2.8
24	S	174	PRO	2.8
9	D	73	SER	2.8
1	1	12	MET	2.8
11	F	111	LYS	2.8
14	I	9	THR	2.8
1	1	48	VAL	2.8
11	F	120	VAL	2.8
31	Z	2	C	2.7
8	C	197	GLU	2.7
12	G	155	THR	2.7
24	S	32	PHE	2.7
11	F	128	ALA	2.7
29	X	2781	G	2.7
6	A	249	PRO	2.6
3	3	43	GLY	2.6
4	4	36	GLN	2.6
29	X	2774	U	2.6
9	D	142	THR	2.6
3	3	60	LEU	2.6
24	S	155	PRO	2.6
14	I	53	ARG	2.6
15	J	141	ALA	2.6
1	1	15	SER	2.6
11	F	113	PRO	2.6
3	3	50	LEU	2.6
17	L	58	ALA	2.6
29	X	1090	C	2.6
29	X	2173	G	2.5
11	F	126	THR	2.5

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
25	T	3	HIS	2.5
4	4	37	GLY	2.5
11	F	12	LEU	2.5
11	F	52	ILE	2.5
25	T	10	SER	2.5
2	2	19	ARG	2.5
29	X	2877	A	2.5
11	F	121	GLU	2.5
1	1	17	GLY	2.5
29	X	1054	C	2.5
11	F	130	THR	2.5
4	4	21	GLY	2.5
24	S	23	ALA	2.5
24	S	143	ILE	2.5
14	I	68	VAL	2.4
3	3	48	PHE	2.4
11	F	28	GLY	2.4
29	X	2290	A	2.4
9	D	146	VAL	2.4
17	L	62	GLY	2.4
29	X	729	A	2.4
23	R	82	ALA	2.4
11	F	34	ILE	2.4
29	X	1524	C	2.4
29	X	665	A	2.4
11	F	17	ALA	2.4
11	F	82	ALA	2.4
25	T	8	GLY	2.4
1	1	13	GLU	2.4
1	1	52	GLU	2.4
3	3	16	ILE	2.4
11	F	123	ALA	2.4
4	4	35	ARG	2.4
14	I	48	PHE	2.3
25	T	6	GLY	2.3
6	A	242	ALA	2.3
3	3	20	GLY	2.3
24	S	86	VAL	2.3
11	F	127	VAL	2.3
1	1	4	ASP	2.3
11	F	13	PRO	2.3
29	X	2087	U	2.3

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Mol	Chain	Res	Type	RSRZ
29	X	1069	G	2.3
10	E	46	ASP	2.3
22	Q	64	ARG	2.3
29	X	2090	U	2.3
10	E	37	TYR	2.3
17	L	57	ALA	2.3
29	X	1114	A	2.3
29	X	2773	G	2.2
29	X	1551	U	2.2
29	X	1120	C	2.2
1	1	8	ILE	2.2
29	X	1099	A	2.2
29	X	1104	G	2.2
24	S	123	VAL	2.2
29	X	1068	A	2.2
14	I	7	LYS	2.2
3	3	13	ARG	2.2
29	X	1080	A	2.2
29	X	1084	A	2.2
9	D	144	ASP	2.2
1	1	49	VAL	2.2
11	F	56	GLU	2.2
26	U	28	GLY	2.2
26	U	27	ASP	2.2
9	D	44	LYS	2.2
11	F	14	ALA	2.1
24	S	171	VAL	2.1
29	X	1100	G	2.1
29	X	1188	A	2.1
29	X	418	C	2.1
29	X	1071	U	2.1
29	X	1909	U	2.1
10	E	58	ALA	2.1
6	A	219	PRO	2.1
17	L	34	SER	2.1
31	Z	4	C	2.1
11	F	116	ASN	2.1
25	T	4	LYS	2.1
14	I	4	HIS	2.1
29	X	2777	A	2.1
6	A	84	TYR	2.0
11	F	81	ALA	2.0

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Mol	Chain	Res	Type	RSRZ
29	X	1556	A	2.0
24	S	173	PRO	2.0
23	R	94	VAL	2.0
29	X	1103	C	2.0
29	X	1093	U	2.0
11	F	5	ALA	2.0
24	S	149	ALA	2.0
9	D	86	GLY	2.0
24	S	113	VAL	2.0
29	X	1189	G	2.0

## 6.2 Non-standard residues in protein, DNA, RNA chains [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(Å <sup>2</sup> )	Q<0.9
5	DHA	5	16	5/6	0.52	0.55	83,83,85,86	0
5	DHA	5	17	5/6	0.55	0.39	76,77,78,80	2
5	DHA	5	3	5/6	0.76	0.47	82,83,84,85	0
5	BB9	5	15	6/7	0.78	0.48	88,88,88,88	0
5	DCY	5	9	6/7	0.81	0.18	87,87,87,87	0
5	BB9	5	13	5/7	0.83	0.22	85,86,86,87	0
5	MH6	5	14	4/7	0.85	0.30	86,86,87,87	0
5	BB9	5	11	6/7	0.86	0.23	85,87,87,88	0
5	TS9	5	10	9/11	0.87	0.38	87,88,89,89	0
5	BB9	5	6	6/7	0.88	0.18	82,84,85,86	0
5	DBU	5	8	5/7	0.93	0.16	85,86,87,87	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
32	MG	X	2884	1/1	0.82	0.79	55,55,55,55	0
32	MG	X	2910	1/1	0.90	0.38	19,19,19,19	0
32	MG	X	2898	1/1	0.90	0.54	19,19,19,19	0
32	MG	X	2890	1/1	0.91	0.34	49,49,49,49	0
32	MG	X	2886	1/1	0.91	0.26	41,41,41,41	0
32	MG	X	2885	1/1	0.93	0.41	56,56,56,56	0
32	MG	Z	124	1/1	0.95	0.31	26,26,26,26	0
32	MG	Z	126	1/1	0.95	0.34	25,25,25,25	0
32	MG	X	2903	1/1	0.95	0.30	3,3,3,3	0
32	MG	X	2896	1/1	0.95	0.26	3,3,3,3	0
32	MG	X	2889	1/1	0.95	0.77	3,3,3,3	0
32	MG	X	2881	1/1	0.95	0.24	59,59,59,59	0
32	MG	Z	127	1/1	0.95	0.17	12,12,12,12	0
32	MG	X	2892	1/1	0.95	0.16	22,22,22,22	0
32	MG	X	2888	1/1	0.95	0.30	3,3,3,3	0
32	MG	X	2893	1/1	0.96	0.15	13,13,13,13	0
32	MG	X	2905	1/1	0.96	0.50	13,13,13,13	0
32	MG	X	2907	1/1	0.96	0.73	17,17,17,17	0
32	MG	X	2900	1/1	0.96	0.26	3,3,3,3	0
32	MG	X	2902	1/1	0.96	0.39	24,24,24,24	0
32	MG	Z	128	1/1	0.96	0.09	41,41,41,41	0
32	MG	X	2882	1/1	0.97	0.36	12,12,12,12	0
32	MG	X	2909	1/1	0.97	0.21	3,3,3,3	0
32	MG	X	2904	1/1	0.97	0.32	6,6,6,6	0
32	MG	X	2908	1/1	0.97	0.11	3,3,3,3	0
32	MG	X	2897	1/1	0.98	0.47	3,3,3,3	0
32	MG	M	167	1/1	0.98	0.54	3,3,3,3	0
32	MG	X	2895	1/1	0.98	0.25	3,3,3,3	0
32	MG	X	2887	1/1	0.98	0.18	3,3,3,3	0
32	MG	X	2901	1/1	0.98	0.09	60,60,60,60	0
32	MG	X	2906	1/1	0.98	0.19	58,58,58,58	0
32	MG	Z	125	1/1	0.98	0.29	9,9,9,9	0
32	MG	X	2894	1/1	0.99	0.40	15,15,15,15	0
32	MG	X	2883	1/1	0.99	0.10	49,49,49,49	0
32	MG	X	2891	1/1	0.99	0.41	12,12,12,12	0
32	MG	X	2899	1/1	0.99	0.53	3,3,3,3	0

## 6.5 Other polymers

There are no such residues in this entry.